

## Supplementary material 1

Line list of transitions of the ( $\nu_6=1$ ) state of  $\text{CH}_3^{35}\text{Cl}$ .

Electronic supplementary materials to:

### Effective dipole moment model for axially symmetric $C_{3v}$ molecules: Application to the precise study of absolute line strengths of the $\nu_6$ fundamental of $\text{CH}_3\text{Cl}$

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<sup>a)</sup> Experimental line position (in  $\text{cm}^{-1}$ ).

<sup>b)</sup> Differences  $\delta_\nu$ <sup>b)</sup> between the experimental and calculated line position (in  $10^{-5}\text{cm}^{-1}$ ).

<sup>c)</sup> Line intensity determined from the fit of experimental line shape with a Hartmann-Tran (qSDRP) profile (in  $\text{cm}^{-2}\cdot\text{atm}^{-1}$ ).

<sup>d)</sup> Experimental error  $\Delta_S$  (in per cent) in the line intensity determination.

<sup>e)</sup> Calculated line intensity with parameters from Table 11 (in  $\text{cm}^{-2}\cdot\text{atm}^{-1}$ ).

<sup>f)</sup> Differences  $\delta_S$  (in per cent) between the experimental line strengths and such calculated with the parameters from Table 11.

<sup>g)</sup> Parameter obtained from the fit of the experimental line shape with the Hartmann–Tran (qSDRP) profile. Value is absent in the column when corresponding parameter is insufficient for the fit. In this case, such parameter was taken as zero.

<sup>h)</sup> Here  $R = d_{\text{rms}}(\text{qSDVP})/d_{\text{rms}}(\text{qSDRP})$ ;  $d_{\text{rms}}(\text{qSDVP})$  and  $d_{\text{rms}}(\text{qSDRP})$  are obtained from the line shape fit.

List of transitions assigned to the  $\nu_6$  band of  $\text{CH}_3^{35}\text{Cl}$ 

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 29  | 15    | $E$      | 30   | 16     | $E$       | 888.61548  | -12               |                                   |                 | 0.4995E-05                         |                 |                 |                 |                        |        |
| 41  | 13    | $E$      | 42   | 14     | $E$       | 888.72740  | -48               |                                   |                 | 0.6048E-05                         |                 |                 |                 |                        |        |
| 22  | 16    | $E$      | 23   | 17     | $E$       | 889.46544  | -43               |                                   |                 | 0.2944E-05                         |                 |                 |                 |                        |        |
| 28  | 15    | $E$      | 29   | 16     | $E$       | 889.59274  | -41               |                                   |                 | 0.5697E-05                         |                 |                 |                 |                        |        |
| 40  | 13    | $E$      | 41   | 14     | $E$       | 889.73922  | -46               |                                   |                 | 0.7239E-05                         |                 |                 |                 |                        |        |
| 46  | 12    | $E$      | 47   | 13     | $E$       | 889.76661  | 11                |                                   |                 | 0.5313E-05                         |                 |                 |                 |                        |        |
| 52  | 11    | $A_1$    | 53   | 12     | $A_2$     | 889.76661  | -6                |                                   |                 | 0.3024E-05                         |                 |                 |                 |                        |        |
| 52  | 11    | $A_2$    | 53   | 12     | $A_1$     | 889.76661  | -6                |                                   |                 | 0.3024E-05                         |                 |                 |                 |                        |        |
| 21  | 16    | $E$      | 22   | 17     | $E$       | 890.42162  | -41               |                                   |                 | 0.3277E-05                         |                 |                 |                 |                        |        |
| 27  | 15    | $E$      | 28   | 16     | $E$       | 890.56777  | 12                |                                   |                 | 0.6469E-05                         |                 |                 |                 |                        |        |
| 39  | 13    | $E$      | 40   | 14     | $E$       | 890.74829  | -34               |                                   |                 | 0.8625E-05                         |                 |                 |                 |                        |        |
| 45  | 12    | $E$      | 46   | 13     | $E$       | 890.79172  | 5                 |                                   |                 | 0.6494E-05                         |                 |                 |                 |                        |        |
| 51  | 11    | $A_2$    | 52   | 12     | $A_1$     | 890.80755  | 9                 |                                   |                 | 0.3793E-05                         |                 |                 |                 |                        |        |
| 51  | 11    | $A_1$    | 52   | 12     | $A_2$     | 890.80755  | 9                 |                                   |                 | 0.3793E-05                         |                 |                 |                 |                        |        |
| 20  | 16    | $E$      | 21   | 17     | $E$       | 891.37516  | 16                |                                   |                 | 0.3633E-05                         |                 |                 |                 |                        |        |
| 26  | 15    | $E$      | 27   | 16     | $E$       | 891.53916  | 9                 |                                   |                 | 0.7314E-05                         |                 |                 |                 |                        |        |
| 38  | 13    | $E$      | 39   | 14     | $E$       | 891.75453  | -20               |                                   |                 | 0.1023E-04                         |                 |                 |                 |                        |        |
| 44  | 12    | $E$      | 45   | 13     | $E$       | 891.81409  | 0                 |                                   |                 | 0.7901E-05                         |                 |                 |                 |                        |        |
| 50  | 11    | $A_2$    | 51   | 12     | $A_1$     | 891.84553  | -5                |                                   |                 | 0.4736E-05                         |                 |                 |                 |                        |        |
| 50  | 11    | $A_1$    | 51   | 12     | $A_2$     | 891.84553  | -5                |                                   |                 | 0.4736E-05                         |                 |                 |                 |                        |        |
| 19  | 16    | $E$      | 20   | 17     | $E$       | 892.32476  | -2                |                                   |                 | 0.4011E-05                         |                 |                 |                 |                        |        |
| 25  | 15    | $E$      | 26   | 16     | $E$       | 892.50740  | -1                |                                   |                 | 0.8233E-05                         |                 |                 |                 |                        |        |
| 37  | 13    | $E$      | 38   | 14     | $E$       | 892.75773  | -22               |                                   |                 | 0.1208E-04                         |                 |                 |                 |                        |        |
| 43  | 12    | $E$      | 44   | 13     | $E$       | 892.83379  | 6                 |                                   |                 | 0.9569E-05                         |                 |                 |                 |                        |        |
| 49  | 11    | $A_1$    | 50   | 12     | $A_2$     | 892.88117  | 14                |                                   |                 | 0.5886E-05                         |                 |                 |                 |                        |        |
| 49  | 11    | $A_2$    | 50   | 12     | $A_1$     | 892.88117  | 14                |                                   |                 | 0.5886E-05                         |                 |                 |                 |                        |        |
| 18  | 16    | $E$      | 19   | 17     | $E$       | 893.27166  | 32                |                                   |                 | 0.4413E-05                         |                 |                 |                 |                        |        |
| 24  | 15    | $E$      | 25   | 16     | $E$       | 893.47294  | 28                |                                   |                 | 0.9228E-05                         |                 |                 |                 |                        |        |
| 36  | 13    | $E$      | 37   | 14     | $E$       | 893.75812  | -16               |                                   |                 | 0.1419E-04                         |                 |                 |                 |                        |        |
| 42  | 12    | $E$      | 43   | 13     | $E$       | 893.85045  | -14               |                                   |                 | 0.1154E-04                         |                 |                 |                 |                        |        |
| 48  | 11    | $A_2$    | 49   | 12     | $A_1$     | 893.91385  | 7                 |                                   |                 | 0.7282E-05                         |                 |                 |                 |                        |        |
| 48  | 11    | $A_1$    | 49   | 12     | $A_2$     | 893.91385  | 7                 |                                   |                 | 0.7282E-05                         |                 |                 |                 |                        |        |
| 17  | 16    | $E$      | 18   | 17     | $E$       | 894.21498  | 29                |                                   |                 | 0.4838E-05                         |                 |                 |                 |                        |        |
| 23  | 15    | $E$      | 24   | 16     | $E$       | 894.43493  | 14                |                                   |                 | 0.1030E-04                         |                 |                 |                 |                        |        |
| 35  | 13    | $E$      | 36   | 14     | $E$       | 894.75578  | 6                 |                                   |                 | 0.1661E-04                         |                 |                 |                 |                        |        |
| 41  | 12    | $E$      | 42   | 13     | $E$       | 894.86469  | 5                 |                                   |                 | 0.1384E-04                         |                 |                 |                 |                        |        |
| 47  | 11    | $A_1$    | 48   | 12     | $A_2$     | 894.94374  | -9                |                                   |                 | 0.8968E-05                         |                 |                 |                 |                        |        |
| 47  | 11    | $A_2$    | 48   | 12     | $A_1$     | 894.94374  | -9                |                                   |                 | 0.8968E-05                         |                 |                 |                 |                        |        |
| 16  | 16    | $E$      | 17   | 17     | $E$       | 895.15493  | 13                |                                   |                 | 0.5287E-05                         |                 |                 |                 |                        |        |
| 22  | 15    | $E$      | 23   | 16     | $E$       | 895.39392  | 12                |                                   |                 | 0.1145E-04                         |                 |                 |                 |                        |        |
| 28  | 14    | $A_2$    | 29   | 15     | $A_1$     | 895.59027  | -56               |                                   |                 | 0.1728E-04                         |                 |                 |                 |                        |        |
| 28  | 14    | $A_1$    | 29   | 15     | $A_2$     | 895.59027  | -56               |                                   |                 | 0.1728E-04                         |                 |                 |                 |                        |        |
| 34  | 13    | $E$      | 35   | 14     | $E$       | 895.75037  | 13                |                                   |                 | 0.1934E-04                         |                 |                 |                 |                        |        |
| 40  | 12    | $E$      | 41   | 13     | $E$       | 895.87567  | -22               |                                   |                 | 0.1654E-04                         |                 |                 |                 |                        |        |
| 46  | 11    | $A_2$    | 47   | 12     | $A_1$     | 895.97124  | 8                 |                                   |                 | 0.1099E-04                         |                 |                 |                 |                        |        |
| 46  | 11    | $A_1$    | 47   | 12     | $A_2$     | 895.97124  | 8                 |                                   |                 | 0.1099E-04                         |                 |                 |                 |                        |        |
| 21  | 15    | $E$      | 22   | 16     | $E$       | 896.34984  | 16                |                                   |                 | 0.1267E-04                         |                 |                 |                 |                        |        |
| 27  | 14    | $A_2$    | 28   | 15     | $A_1$     | 896.56451  | -42               |                                   |                 | 0.1956E-04                         |                 |                 |                 |                        |        |
| 27  | 14    | $A_1$    | 28   | 15     | $A_2$     | 896.56451  | -42               |                                   |                 | 0.1956E-04                         |                 |                 |                 |                        |        |
| 33  | 13    | $E$      | 34   | 14     | $E$       | 896.74196  | 11                |                                   |                 | 0.2243E-04                         |                 |                 |                 |                        |        |
| 39  | 12    | $E$      | 40   | 13     | $E$       | 896.88418  | -13               |                                   |                 | 0.1967E-04                         |                 |                 |                 |                        |        |
| 45  | 11    | $A_1$    | 46   | 12     | $A_2$     | 896.99584  | 7                 |                                   |                 | 0.1342E-04                         |                 |                 |                 |                        |        |
| 45  | 11    | $A_2$    | 46   | 12     | $A_1$     | 896.99584  | 7                 |                                   |                 | 0.1342E-04                         |                 |                 |                 |                        |        |
| 51  | 10    | $E$      | 52   | 11     | $E$       | 897.07938  | 10                |                                   |                 | 0.7198E-05                         |                 |                 |                 |                        |        |
| 20  | 15    | $E$      | 21   | 16     | $E$       | 897.30273  | 32                |                                   |                 | 0.1398E-04                         |                 |                 |                 |                        |        |
| 26  | 14    | $A_1$    | 27   | 15     | $A_2$     | 897.53560  | -40               |                                   |                 | 0.2203E-04                         |                 |                 |                 |                        |        |
| 26  | 14    | $A_2$    | 27   | 15     | $A_1$     | 897.53560  | -40               |                                   |                 | 0.2203E-04                         |                 |                 |                 |                        |        |
| 32  | 13    | $E$      | 33   | 14     | $E$       | 897.73072  | 21                |                                   |                 | 0.2588E-04                         |                 |                 |                 |                        |        |
| 38  | 12    | $E$      | 39   | 13     | $E$       | 897.88994  | 5                 |                                   |                 | 0.2328E-04                         |                 |                 |                 |                        |        |
| 44  | 11    | $A_1$    | 45   | 12     | $A_2$     | 898.01776  | 13                |                                   |                 | 0.1630E-04                         |                 |                 |                 |                        |        |
| 44  | 11    | $A_2$    | 45   | 12     | $A_1$     | 898.01776  | 13                |                                   |                 | 0.1630E-04                         |                 |                 |                 |                        |        |
| 50  | 10    | $E$      | 51   | 11     | $E$       | 898.11683  | 0                 |                                   |                 | 0.8976E-05                         |                 |                 |                 |                        |        |
| 19  | 15    | $E$      | 20   | 16     | $E$       | 898.25200  | 3                 |                                   |                 | 0.1535E-04                         |                 |                 |                 |                        |        |
| 25  | 14    | $A_2$    | 26   | 15     | $A_1$     | 898.50397  | -4                |                                   |                 | 0.2472E-04                         |                 |                 |                 |                        |        |
| 25  | 14    | $A_1$    | 26   | 15     | $A_2$     | 898.50397  | -4                |                                   |                 | 0.2472E-04                         |                 |                 |                 |                        |        |
| 31  | 13    | $E$      | 32   | 14     | $E$       | 898.71628  | 5                 |                                   |                 | 0.2974E-04                         |                 |                 |                 |                        |        |
| 37  | 12    | $E$      | 38   | 13     | $E$       | 898.89270  | 7                 |                                   |                 | 0.2744E-04                         |                 |                 |                 |                        |        |
| 43  | 11    | $A_1$    | 44   | 12     | $A_2$     | 899.03679  | 4                 |                                   |                 | 0.1971E-04                         |                 |                 |                 |                        |        |
| 43  | 11    | $A_2$    | 44   | 12     | $A_1$     | 899.03679  | 4                 |                                   |                 | 0.1971E-04                         |                 |                 |                 |                        |        |
| 49  | 10    | $E$      | 50   | 11     | $E$       | 899.15152  | -20               |                                   |                 | 0.1114E-04                         |                 |                 |                 |                        |        |
| 18  | 15    | $E$      | 19   | 16     | $E$       | 899.19860  | 24                |                                   |                 | 0.1680E-04                         |                 |                 |                 |                        |        |
| 24  | 14    | $A_1$    | 25   | 15     | $A_2$     | 899.46892  | -3                |                                   |                 | 0.2761E-04                         |                 |                 |                 |                        |        |
| 24  | 14    | $A_2$    | 25   | 15     | $A_1$     | 899.46892  | -3                |                                   |                 | 0.2761E-04                         |                 |                 |                 |                        |        |
| 30  | 13    | $E$      | 31   | 14     | $E$       | 899.69911  | 13                |                                   |                 | 0.3402E-04                         |                 |                 |                 |                        |        |
| 36  | 12    | $E$      | 37   | 13     | $E$       | 899.89256  | 6                 |                                   |                 | 0.3218E-04                         |                 |                 |                 |                        |        |
| 42  | 11    | $A_2$    | 43   | 12     | $A_1$     | 900.05315  | 6                 |                                   |                 | 0.2373E-04                         |                 |                 |                 |                        |        |
| 42  | 11    | $A_1$    | 43   | 12     | $A_2$     | 900.05315  | 6                 |                                   |                 | 0.2373E-04                         |                 |                 |                 |                        |        |
| 17  | 15    | $E$      | 18   | 16     | $E$       | 900.14159  | 3                 |                                   |                 | 0.1833E-04                         |                 |                 |                 |                        |        |
| 48  | 10    | $E$      | 49   | 11     | $E$       | 900.18412  | 18                |                                   |                 | 0.1377E-04                         |                 |                 |                 |                        |        |
| 54  | 9     | $E$      | 55   | 10     | $E$       | 900.28794  | 11                |                                   |                 | 0.6335E-05                         |                 |                 |                 |                        |        |
| 23  | 14    | $A_1$    | 24   | 15     | $A_2$     | 900.43072  | -9                |                                   |                 | 0.3071E-04                         |                 |                 |                 |                        |        |
| 23  | 14    | $A_2$    | 24   | 15     | $A_1$     | 900.43072  | -9                |                                   |                 | 0.3071E-04                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 29  | 13    | $E$      | 30   | 14     | $E$       | 900.67894  | 18                |                                   |                 | 0.3874E-04                         |                 |                 |                 |                        |        |
| 35  | 12    | $E$      | 36   | 13     | $E$       | 900.88961  | 11                |                                   |                 | 0.3758E-04                         |                 |                 |                 |                        |        |
| 41  | 11    | $A_2$    | 42   | 12     | $A_1$     | 901.06677  | 11                |                                   |                 | 0.2843E-04                         |                 |                 |                 |                        |        |
| 41  | 11    | $A_1$    | 42   | 12     | $A_2$     | 901.06677  | 11                |                                   |                 | 0.2843E-04                         |                 |                 |                 |                        |        |
| 16  | 15    | $E$      | 17   | 16     | $E$       | 901.08147  | -9                |                                   |                 | 0.1993E-04                         |                 |                 |                 |                        |        |
| 47  | 10    | $E$      | 48   | 11     | $E$       | 901.21359  | 12                |                                   |                 | 0.1693E-04                         |                 |                 |                 |                        |        |
| 53  | 9     | $E$      | 54   | 10     | $E$       | 901.33295  | 19                |                                   |                 | 0.7999E-05                         |                 |                 |                 |                        |        |
| 22  | 14    | $A_2$    | 23   | 15     | $A_1$     | 901.38954  | -4                |                                   |                 | 0.3402E-04                         |                 |                 |                 |                        |        |
| 22  | 14    | $A_1$    | 23   | 15     | $A_2$     | 901.38954  | -4                |                                   |                 | 0.3402E-04                         |                 |                 |                 |                        |        |
| 28  | 13    | $E$      | 29   | 14     | $E$       | 901.65571  | 16                |                                   |                 | 0.4392E-04                         |                 |                 |                 |                        |        |
| 34  | 12    | $E$      | 35   | 13     | $E$       | 901.88376  | 15                |                                   |                 | 0.4369E-04                         |                 |                 |                 |                        |        |
| 15  | 15    | $E$      | 16   | 16     | $E$       | 902.01818  | -16               |                                   |                 | 0.2160E-04                         |                 |                 |                 |                        |        |
| 40  | 11    | $A_1$    | 41   | 12     | $A_2$     | 902.07757  | 13                |                                   |                 | 0.3391E-04                         |                 |                 |                 |                        |        |
| 40  | 11    | $A_2$    | 41   | 12     | $A_1$     | 902.07757  | 13                |                                   |                 | 0.3391E-04                         |                 |                 |                 |                        |        |
| 46  | 10    | $E$      | 47   | 11     | $E$       | 902.24033  | 2                 |                                   |                 | 0.2073E-04                         |                 |                 |                 |                        |        |
| 21  | 14    | $A_1$    | 22   | 15     | $A_2$     | 902.34528  | 4                 |                                   |                 | 0.3754E-04                         |                 |                 |                 |                        |        |
| 21  | 14    | $A_2$    | 22   | 15     | $A_1$     | 902.34528  | 4                 |                                   |                 | 0.3754E-04                         |                 |                 |                 |                        |        |
| 52  | 9     | $E$      | 53   | 10     | $E$       | 902.37507  | -1                |                                   |                 | 0.1006E-04                         |                 |                 |                 |                        |        |
| 58  | 8     | $A_2$    | 59   | 9      | $A_1$     | 902.48422  | -3                |                                   |                 | 0.3891E-05                         |                 |                 |                 |                        |        |
| 58  | 8     | $A_1$    | 59   | 9      | $A_2$     | 902.48422  | -3                |                                   |                 | 0.3891E-05                         |                 |                 |                 |                        |        |
| 27  | 13    | $E$      | 28   | 14     | $E$       | 902.62950  | 17                |                                   |                 | 0.4958E-04                         |                 |                 |                 |                        |        |
| 33  | 12    | $E$      | 34   | 13     | $E$       | 902.87496  | 14                |                                   |                 | 0.5055E-04                         |                 |                 |                 |                        |        |
| 39  | 11    | $A_1$    | 40   | 12     | $A_2$     | 903.08530  | -12               |                                   |                 | 0.4026E-04                         |                 |                 |                 |                        |        |
| 39  | 11    | $A_2$    | 40   | 12     | $A_1$     | 903.08530  | -12               |                                   |                 | 0.4026E-04                         |                 |                 |                 |                        |        |
| 45  | 10    | $E$      | 46   | 11     | $E$       | 903.26450  | 7                 |                                   |                 | 0.2527E-04                         |                 |                 |                 |                        |        |
| 20  | 14    | $A_1$    | 21   | 15     | $A_2$     | 903.29779  | 1                 |                                   |                 | 0.4125E-04                         |                 |                 |                 |                        |        |
| 20  | 14    | $A_2$    | 21   | 15     | $A_1$     | 903.29779  | 1                 |                                   |                 | 0.4125E-04                         |                 |                 |                 |                        |        |
| 51  | 9     | $E$      | 52   | 10     | $E$       | 903.41494  | 15                |                                   |                 | 0.1258E-04                         |                 |                 |                 |                        |        |
| 57  | 8     | $A_2$    | 58   | 9      | $A_1$     | 903.53884  | -16               |                                   |                 | 0.4999E-05                         |                 |                 |                 |                        |        |
| 57  | 8     | $A_1$    | 58   | 9      | $A_2$     | 903.53884  | -16               |                                   |                 | 0.4999E-05                         |                 |                 |                 |                        |        |
| 26  | 13    | $E$      | 27   | 14     | $E$       | 903.60012  | 1                 |                                   |                 | 0.5572E-04                         |                 |                 |                 |                        |        |
| 32  | 12    | $E$      | 33   | 13     | $E$       | 903.86321  | 10                |                                   |                 | 0.5823E-04                         |                 |                 |                 |                        |        |
| 38  | 11    | $A_1$    | 39   | 12     | $A_2$     | 904.09066  | 9                 |                                   |                 | 0.4759E-04                         |                 |                 |                 |                        |        |
| 38  | 11    | $A_2$    | 39   | 12     | $A_1$     | 904.09066  | 9                 |                                   |                 | 0.4759E-04                         |                 |                 |                 |                        |        |
| 19  | 14    | $A_2$    | 20   | 15     | $A_1$     | 904.24715  | -4                |                                   |                 | 0.4516E-04                         |                 |                 |                 |                        |        |
| 19  | 14    | $A_1$    | 20   | 15     | $A_2$     | 904.24715  | -4                |                                   |                 | 0.4516E-04                         |                 |                 |                 |                        |        |
| 44  | 10    | $E$      | 45   | 11     | $E$       | 904.28593  | 10                |                                   |                 | 0.3066E-04                         |                 |                 |                 |                        |        |
| 50  | 9     | $E$      | 51   | 10     | $E$       | 904.45192  | 6                 |                                   |                 | 0.1567E-04                         |                 |                 |                 |                        |        |
| 25  | 13    | $E$      | 26   | 14     | $E$       | 904.56800  | 15                |                                   |                 | 0.6234E-04                         |                 |                 |                 |                        |        |
| 56  | 8     | $A_1$    | 57   | 9      | $A_2$     | 904.59141  | 21                |                                   |                 | 0.6393E-05                         |                 |                 |                 |                        |        |
| 56  | 8     | $A_2$    | 57   | 9      | $A_1$     | 904.59141  | 21                |                                   |                 | 0.6393E-05                         |                 |                 |                 |                        |        |
| 31  | 12    | $E$      | 32   | 13     | $E$       | 904.84863  | 15                |                                   |                 | 0.6678E-04                         |                 |                 |                 |                        |        |
| 37  | 11    | $A_1$    | 38   | 12     | $A_2$     | 905.09298  | 8                 |                                   |                 | 0.5599E-04                         |                 |                 |                 |                        |        |
| 37  | 11    | $A_2$    | 38   | 12     | $A_1$     | 905.09298  | 8                 |                                   |                 | 0.5599E-04                         |                 |                 |                 |                        |        |
| 18  | 14    | $A_1$    | 19   | 15     | $A_2$     | 905.19343  | -2                |                                   |                 | 0.4925E-04                         |                 |                 |                 |                        |        |
| 18  | 14    | $A_2$    | 19   | 15     | $A_1$     | 905.19343  | -2                |                                   |                 | 0.4925E-04                         |                 |                 |                 |                        |        |
| 43  | 10    | $E$      | 44   | 11     | $E$       | 905.30453  | 3                 |                                   |                 | 0.3702E-04                         |                 |                 |                 |                        |        |
| 49  | 9     | $E$      | 50   | 10     | $E$       | 905.48627  | -1                |                                   |                 | 0.1943E-04                         |                 |                 |                 |                        |        |
| 24  | 13    | $E$      | 25   | 14     | $E$       | 905.53265  | 9                 |                                   |                 | 0.6946E-04                         |                 |                 |                 |                        |        |
| 55  | 8     | $A_1$    | 56   | 9      | $A_2$     | 905.64051  | -33               |                                   |                 | 0.8138E-05                         |                 |                 |                 |                        |        |
| 55  | 8     | $A_2$    | 56   | 9      | $A_1$     | 905.64051  | -33               |                                   |                 | 0.8138E-05                         |                 |                 |                 |                        |        |
| 30  | 12    | $E$      | 31   | 13     | $E$       | 905.83101  | 10                |                                   |                 | 0.7623E-04                         |                 |                 |                 |                        |        |
| 36  | 11    | $A_1$    | 37   | 12     | $A_2$     | 906.09247  | 8                 |                                   |                 | 0.6557E-04                         |                 |                 |                 |                        |        |
| 36  | 11    | $A_2$    | 37   | 12     | $A_1$     | 906.09247  | 8                 |                                   |                 | 0.6557E-04                         |                 |                 |                 |                        |        |
| 17  | 14    | $A_2$    | 18   | 15     | $A_1$     | 906.13646  | -10               |                                   |                 | 0.5352E-04                         |                 |                 |                 |                        |        |
| 17  | 14    | $A_1$    | 18   | 15     | $A_2$     | 906.13646  | -10               |                                   |                 | 0.5352E-04                         |                 |                 |                 |                        |        |
| 42  | 10    | $E$      | 43   | 11     | $E$       | 906.32042  | 0                 |                                   |                 | 0.4451E-04                         |                 |                 |                 |                        |        |
| 23  | 13    | $E$      | 24   | 14     | $E$       | 906.49430  | 10                |                                   |                 | 0.7706E-04                         |                 |                 |                 |                        |        |
| 48  | 9     | $E$      | 49   | 10     | $E$       | 906.51810  | 6                 |                                   |                 | 0.2398E-04                         |                 |                 |                 |                        |        |
| 54  | 8     | $A_1$    | 55   | 9      | $A_2$     | 906.68792  | 1                 |                                   |                 | 0.1031E-04                         |                 |                 |                 |                        |        |
| 54  | 8     | $A_2$    | 55   | 9      | $A_1$     | 906.68792  | 1                 |                                   |                 | 0.1031E-04                         |                 |                 |                 |                        |        |
| 29  | 12    | $E$      | 30   | 13     | $E$       | 906.81052  | 13                |                                   |                 | 0.8664E-04                         |                 |                 |                 |                        |        |
| 16  | 14    | $A_2$    | 17   | 15     | $A_1$     | 907.07633  | -15               |                                   |                 | 0.5798E-04                         |                 |                 |                 |                        |        |
| 16  | 14    | $A_1$    | 17   | 15     | $A_2$     | 907.07633  | -15               |                                   |                 | 0.5798E-04                         |                 |                 |                 |                        |        |
| 35  | 11    | $A_2$    | 36   | 12     | $A_1$     | 907.08913  | 11                |                                   |                 | 0.7645E-04                         |                 |                 |                 |                        |        |
| 35  | 11    | $A_1$    | 36   | 12     | $A_2$     | 907.08913  | 11                |                                   |                 | 0.7645E-04                         |                 |                 |                 |                        |        |
| 41  | 10    | $E$      | 42   | 11     | $E$       | 907.33360  | 2                 |                                   |                 | 0.5326E-04                         |                 |                 |                 |                        |        |
| 22  | 13    | $E$      | 23   | 14     | $E$       | 907.45287  | 9                 |                                   |                 | 0.8514E-04                         |                 |                 |                 |                        |        |
| 53  | 8     | $A_1$    | 54   | 9      | $A_2$     | 907.73244  | 4                 |                                   |                 | 0.1301E-04                         |                 |                 |                 |                        |        |
| 53  | 8     | $A_2$    | 54   | 9      | $A_1$     | 907.73244  | 4                 |                                   |                 | 0.1301E-04                         |                 |                 |                 |                        |        |
| 28  | 12    | $E$      | 29   | 13     | $E$       | 907.78702  | 12                |                                   |                 | 0.9802E-04                         |                 |                 |                 |                        |        |
| 59  | 7     | $E$      | 60   | 8      | $E$       | 907.89207  | 44                |                                   |                 | 0.4607E-05                         |                 |                 |                 |                        |        |
| 15  | 14    | $A_2$    | 16   | 15     | $A_1$     | 908.01304  | -18               |                                   |                 | 0.6261E-04                         |                 |                 |                 |                        |        |
| 15  | 14    | $A_1$    | 16   | 15     | $A_2$     | 908.01304  | -18               |                                   |                 | 0.6261E-04                         |                 |                 |                 |                        |        |
| 34  | 11    | $A_2$    | 35   | 12     | $A_1$     | 908.08288  | 9                 |                                   |                 | 0.8872E-04                         |                 |                 |                 |                        |        |
| 34  | 11    | $A_1$    | 35   | 12     | $A_2$     | 908.08288  | 9                 |                                   |                 | 0.8872E-04                         |                 |                 |                 |                        |        |
| 40  | 10    | $E$      | 41   | 11     | $E$       | 908.34402  | 5                 |                                   |                 | 0.6345E-04                         |                 |                 |                 |                        |        |
| 21  | 13    | $E$      | 22   | 14     | $E$       | 908.40828  | 0                 |                                   |                 | 0.9368E-04                         |                 |                 |                 |                        |        |
| 46  | 9     | $E$      | 47   | 10     | $E$       | 908.57364  | 9                 |                                   |                 | 0.3604E-04                         |                 |                 |                 |                        |        |
| 27  | 12    | $E$      | 28   | 13     | $E$       | 908.76052  | 9                 |                                   |                 | 0.1104E-03                         |                 |                 |                 |                        |        |
| 52  | 8     | $A_2$    | 53   | 9      | $A_1$     | 908.77436  | 7                 |                                   |                 | 0.1634E-04                         |                 |                 |                 |                        |        |
| 52  | 8     | $A_1$    | 53   | 9      | $A_2$     | 908.77436  | 7                 |                                   |                 | 0.1634E-04                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 14  | 14    | $A_1$    | 15   | 15     | $A_2$     | 908.94651  | -25               |                                   |                 | 0.6742E-04                         |                 |                 |                 |                        |        |
| 14  | 14    | $A_2$    | 15   | 15     | $A_1$     | 908.94651  | -25               |                                   |                 | 0.6742E-04                         |                 |                 |                 |                        |        |
| 33  | 11    | $A_2$    | 34   | 12     | $A_1$     | 909.07375  | 8                 | .189225E-03                       | 2.7             | 0.1025E-03                         | -8.32           | 4.880E-04       |                 |                        | 1.0    |
| 33  | 11    | $A_1$    | 34   | 12     | $A_2$     | 909.07375  | 8                 |                                   |                 | 0.1025E-03                         |                 |                 |                 |                        |        |
| 39  | 10    | $E$      | 40   | 11     | $E$       | 909.35161  | 5                 |                                   |                 | 0.7523E-04                         |                 |                 |                 |                        |        |
| 20  | 13    | $E$      | 21   | 14     | $E$       | 909.36063  | -6                |                                   |                 | 0.1027E-03                         |                 |                 |                 |                        |        |
| 45  | 9     | $E$      | 46   | 10     | $E$       | 909.59729  | 2                 |                                   |                 | 0.4388E-04                         |                 |                 |                 |                        |        |
| 26  | 12    | $E$      | 27   | 13     | $E$       | 909.73106  | 9                 |                                   |                 | 0.1238E-03                         |                 |                 |                 |                        |        |
| 51  | 8     | $A_2$    | 52   | 9      | $A_1$     | 909.81361  | 4                 |                                   |                 | 0.2043E-04                         |                 |                 |                 |                        |        |
| 51  | 8     | $A_1$    | 52   | 9      | $A_2$     | 909.81361  | 4                 |                                   |                 | 0.2043E-04                         |                 |                 |                 |                        |        |
| 57  | 7     | $E$      | 58   | 8      | $E$       | 910.00284  | 1                 |                                   |                 | 0.7625E-05                         |                 |                 |                 |                        |        |
| 32  | 11    | $A_2$    | 33   | 12     | $A_1$     | 910.06173  | 7                 | .218294E-03                       | 2.9             | 0.1179E-03                         | -7.98           | 1.375E-04       |                 | -.847E+00              | 1.1    |
| 32  | 11    | $A_1$    | 33   | 12     | $A_2$     | 910.06173  | 7                 |                                   |                 | 0.1179E-03                         |                 |                 |                 |                        |        |
| 19  | 13    | $E$      | 20   | 14     | $E$       | 910.30994  | -4                |                                   |                 | 0.1121E-03                         |                 |                 |                 |                        |        |
| 38  | 10    | $E$      | 39   | 11     | $E$       | 910.35639  | 2                 |                                   |                 | 0.8880E-04                         |                 |                 |                 |                        |        |
| 44  | 9     | $E$      | 45   | 10     | $E$       | 910.61831  | 3                 |                                   |                 | 0.5317E-04                         |                 |                 |                 |                        |        |
| 25  | 12    | $E$      | 26   | 13     | $E$       | 910.69850  | -1                |                                   |                 | 0.1383E-03                         |                 |                 |                 |                        |        |
| 50  | 8     | $A_2$    | 51   | 9      | $A_1$     | 910.85050  | 27                |                                   |                 | 0.2542E-04                         |                 |                 |                 |                        |        |
| 50  | 8     | $A_1$    | 51   | 9      | $A_2$     | 910.85050  | 27                |                                   |                 | 0.2542E-04                         |                 |                 |                 |                        |        |
| 31  | 11    | $A_2$    | 32   | 12     | $A_1$     | 911.04684  | 9                 | .250136E-03                       | 1.4             | 0.1349E-03                         | -7.88           | 4.599E-04       | -.645E+00       | .321E+01               | 1.2    |
| 31  | 11    | $A_1$    | 32   | 12     | $A_2$     | 911.04684  | 9                 |                                   |                 | 0.1349E-03                         |                 |                 |                 |                        |        |
| 56  | 7     | $E$      | 57   | 8      | $E$       | 911.05468  | 6                 |                                   |                 | 0.9743E-05                         |                 |                 |                 |                        |        |
| 18  | 13    | $E$      | 19   | 14     | $E$       | 911.25614  | -2                |                                   |                 | 0.1219E-03                         |                 |                 |                 |                        |        |
| 37  | 10    | $E$      | 38   | 11     | $E$       | 911.35838  | 2                 |                                   |                 | 0.1043E-03                         |                 |                 |                 |                        |        |
| 43  | 9     | $E$      | 44   | 10     | $E$       | 911.63658  | 1                 |                                   |                 | 0.6414E-04                         |                 |                 |                 |                        |        |
| 24  | 12    | $E$      | 25   | 13     | $E$       | 911.66305  | 3                 |                                   |                 | 0.1537E-03                         |                 |                 |                 |                        |        |
| 49  | 8     | $A_1$    | 50   | 9      | $A_2$     | 911.88423  | -3                |                                   |                 | 0.3149E-04                         |                 |                 |                 |                        |        |
| 49  | 8     | $A_2$    | 50   | 9      | $A_1$     | 911.88423  | -3                |                                   |                 | 0.3149E-04                         |                 |                 |                 |                        |        |
| 30  | 11    | $A_2$    | 31   | 12     | $A_1$     | 912.02898  | 7                 | .287560E-03                       | 2.5             | 0.1538E-03                         | -6.94           | 2.447E-04       | .268E+00        |                        | 1.3    |
| 30  | 11    | $A_1$    | 31   | 12     | $A_2$     | 912.02898  | 7                 |                                   |                 | 0.1538E-03                         |                 |                 |                 |                        |        |
| 55  | 7     | $E$      | 56   | 8      | $E$       | 912.10398  | 11                |                                   |                 | 0.1239E-04                         |                 |                 |                 |                        |        |
| 17  | 13    | $E$      | 18   | 14     | $E$       | 912.19910  | -10               |                                   |                 | 0.1321E-03                         |                 |                 |                 |                        |        |
| 36  | 10    | $E$      | 37   | 11     | $E$       | 912.35758  | 6                 |                                   |                 | 0.1220E-03                         |                 |                 |                 |                        |        |
| 23  | 12    | $E$      | 24   | 13     | $E$       | 912.62452  | 1                 |                                   |                 | 0.1701E-03                         |                 |                 |                 |                        |        |
| 42  | 9     | $E$      | 43   | 10     | $E$       | 912.65214  | 1                 |                                   |                 | 0.7702E-04                         |                 |                 |                 |                        |        |
| 48  | 8     | $A_1$    | 49   | 9      | $A_2$     | 912.91566  | 2                 |                                   |                 | 0.3883E-04                         |                 |                 |                 |                        |        |
| 48  | 8     | $A_2$    | 49   | 9      | $A_1$     | 912.91566  | 2                 |                                   |                 | 0.3883E-04                         |                 |                 |                 |                        |        |
| 29  | 11    | $A_2$    | 30   | 12     | $A_1$     | 913.00822  | 7                 | .370203E-03                       | 3.0             | 0.1744E-03                         | 5.76            | 8.392E-05       |                 |                        | 1.0    |
| 29  | 11    | $A_1$    | 30   | 12     | $A_2$     | 913.00822  | 7                 |                                   |                 | 0.1744E-03                         |                 |                 |                 |                        |        |
| 16  | 13    | $E$      | 17   | 14     | $E$       | 913.13898  | -11               |                                   |                 | 0.1426E-03                         |                 |                 |                 |                        |        |
| 54  | 7     | $E$      | 55   | 8      | $E$       | 913.15040  | -15               |                                   |                 | 0.1569E-04                         |                 |                 |                 |                        |        |
| 35  | 10    | $E$      | 36   | 11     | $E$       | 913.35386  | 1                 |                                   |                 | 0.1420E-03                         |                 |                 |                 |                        |        |
| 22  | 12    | $E$      | 23   | 13     | $E$       | 913.58295  | 1                 |                                   |                 | 0.1875E-03                         |                 |                 |                 |                        |        |
| 41  | 9     | $E$      | 42   | 10     | $E$       | 913.66495  | 1                 |                                   |                 | 0.9206E-04                         |                 |                 |                 |                        |        |
| 47  | 8     | $A_2$    | 48   | 9      | $A_1$     | 913.94436  | -1                |                                   |                 | 0.4766E-04                         |                 |                 |                 |                        |        |
| 47  | 8     | $A_1$    | 48   | 9      | $A_2$     | 913.94436  | -1                |                                   |                 | 0.4766E-04                         |                 |                 |                 |                        |        |
| 28  | 11    | $A_2$    | 29   | 12     | $A_1$     | 913.98448  | 5                 | .388979E-03                       | 1.5             | 0.1970E-03                         | -1.29           | 3.686E-04       | .344E+00        | .223E+01               | 1.1    |
| 28  | 11    | $A_1$    | 29   | 12     | $A_2$     | 913.98448  | 5                 |                                   |                 | 0.1970E-03                         |                 |                 |                 |                        |        |
| 15  | 13    | $E$      | 16   | 14     | $E$       | 914.07565  | -16               |                                   |                 | 0.1535E-03                         |                 |                 |                 |                        |        |
| 53  | 7     | $E$      | 54   | 8      | $E$       | 914.19484  | 18                |                                   |                 | 0.1978E-04                         |                 |                 |                 |                        |        |
| 34  | 10    | $E$      | 35   | 11     | $E$       | 914.34736  | 3                 |                                   |                 | 0.1646E-03                         |                 |                 |                 |                        |        |
| 21  | 12    | $E$      | 22   | 13     | $E$       | 914.53833  | 1                 |                                   |                 | 0.2059E-03                         |                 |                 |                 |                        |        |
| 40  | 9     | $E$      | 41   | 10     | $E$       | 914.67503  | 3                 |                                   |                 | 0.1095E-03                         |                 |                 |                 |                        |        |
| 31  | 15    | $E$      | 31   | 16     | $E$       | 914.84283  | -19               |                                   |                 | 0.3445E-05                         |                 |                 |                 |                        |        |
| 27  | 11    | $A_2$    | 28   | 12     | $A_1$     | 914.95780  | 4                 | .446083E-03                       | 0.9             | 0.2215E-03                         | .69             | 2.013E-04       | -.441E+00       |                        | 1.3    |
| 27  | 11    | $A_1$    | 28   | 12     | $A_2$     | 914.95780  | 4                 |                                   |                 | 0.2215E-03                         |                 |                 |                 |                        |        |
| 46  | 8     | $A_1$    | 47   | 9      | $A_2$     | 914.97045  | 3                 |                                   |                 | 0.5822E-04                         |                 |                 |                 |                        |        |
| 46  | 8     | $A_2$    | 47   | 9      | $A_1$     | 914.97045  | 3                 |                                   |                 | 0.5822E-04                         |                 |                 |                 |                        |        |
| 14  | 13    | $E$      | 15   | 14     | $E$       | 915.00916  | -21               |                                   |                 | 0.1648E-03                         |                 |                 |                 |                        |        |
| 29  | 15    | $E$      | 29   | 16     | $E$       | 915.05424  | 2                 |                                   |                 | 0.4077E-05                         |                 |                 |                 |                        |        |
| 28  | 15    | $E$      | 28   | 16     | $E$       | 915.15462  | 2                 |                                   |                 | 0.4377E-05                         |                 |                 |                 |                        |        |
| 52  | 7     | $E$      | 53   | 8      | $E$       | 915.23614  | -5                |                                   |                 | 0.2482E-04                         |                 |                 |                 |                        |        |
| 27  | 15    | $E$      | 27   | 16     | $E$       | 915.25165  | 15                |                                   |                 | 0.4652E-05                         |                 |                 |                 |                        |        |
| 33  | 10    | $E$      | 34   | 11     | $E$       | 915.33795  | 1                 |                                   |                 | 0.1899E-03                         |                 |                 |                 |                        |        |
| 25  | 15    | $E$      | 25   | 16     | $E$       | 915.43542  | 53                |                                   |                 | 0.5082E-05                         |                 |                 |                 |                        |        |
| 58  | 6     | $E$      | 59   | 7      | $E$       | 915.47455  | 13                |                                   |                 | 0.8518E-05                         |                 |                 |                 |                        |        |
| 20  | 12    | $E$      | 21   | 13     | $E$       | 915.49064  | 2                 |                                   |                 | 0.2250E-03                         |                 |                 |                 |                        |        |
| 24  | 15    | $E$      | 24   | 16     | $E$       | 915.52151  | 13                |                                   |                 | 0.5209E-05                         |                 |                 |                 |                        |        |
| 23  | 15    | $E$      | 23   | 16     | $E$       | 915.60477  | 38                |                                   |                 | 0.5254E-05                         |                 |                 |                 |                        |        |
| 39  | 9     | $E$      | 40   | 10     | $E$       | 915.68271  | 43                |                                   |                 | 0.1297E-03                         |                 |                 |                 |                        |        |
| 21  | 15    | $E$      | 21   | 16     | $E$       | 915.75991  | -10               |                                   |                 | 0.5022E-05                         |                 |                 |                 |                        |        |
| 19  | 15    | $E$      | 19   | 16     | $E$       | 915.90191  | 14                |                                   |                 | 0.4214E-05                         |                 |                 |                 |                        |        |
| 26  | 11    | $A_2$    | 27   | 12     | $A_1$     | 915.92819  | 8                 | .492470E-03                       | 1.2             | 0.2479E-03                         | -.69            | 3.606E-04       | -.411E+00       | .268E+00               | 1.2    |
| 26  | 11    | $A_1$    | 27   | 12     | $A_2$     | 915.92819  | 8                 |                                   |                 | 0.2479E-03                         |                 |                 |                 |                        |        |
| 13  | 13    | $E$      | 14   | 14     | $E$       | 915.93948  | -24               |                                   |                 | 0.1764E-03                         |                 |                 |                 |                        |        |
| 18  | 15    | $E$      | 18   | 16     | $E$       | 915.96716  | -29               |                                   |                 | 0.3531E-05                         |                 |                 |                 |                        |        |
| 45  | 8     | $A_2$    | 46   | 9      | $A_1$     | 915.99379  | -1                |                                   |                 | 0.7081E-04                         |                 |                 |                 |                        |        |
| 45  | 8     | $A_1$    | 46   | 9      | $A_2$     | 915.99379  | -1                |                                   |                 | 0.7081E-04                         |                 |                 |                 |                        |        |
| 17  | 15    | $E$      | 17   | 16     | $E$       | 916.02925  | -42               |                                   |                 | 0.2623E-05                         |                 |                 |                 |                        |        |
| 51  | 7     | $E$      | 52   | 8      | $E$       | 916.27531  | 20                |                                   |                 | 0.3100E-04                         |                 |                 |                 |                        |        |
| 32  | 10    | $E$      | 33   | 11     | $E$       | 916.32573  | 5                 |                                   |                 | 0.2180E-03                         |                 |                 |                 |                        |        |
| 19  | 12    | $E$      | 20   | 13     | $E$       | 916.43982  | -2                |                                   |                 | 0.2450E-03                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 38  | 9     | $E$      | 39   | 10     | $E$       | 916.68680  | 2                 |                                   |                 | 0.1529E-03                         |                 |                 |                 |                        |        |
| 25  | 11    | $A_2$    | 26   | 12     | $A_1$     | 916.89553  | 5                 | .516927E-03                       | 1.2             | 0.2763E-03                         | -6.89           | 1.721E-04       | -.128E+01       |                        | 1.4    |
| 25  | 11    | $A_1$    | 26   | 12     | $A_2$     | 916.89553  | 5                 |                                   |                 | 0.2763E-03                         |                 |                 |                 |                        |        |
| 44  | 8     | $A_1$    | 45   | 9      | $A_2$     | 917.01450  | 2                 |                                   |                 | 0.8572E-04                         |                 |                 |                 |                        |        |
| 44  | 8     | $A_2$    | 45   | 9      | $A_1$     | 917.01450  | 2                 |                                   |                 | 0.8572E-04                         |                 |                 |                 |                        |        |
| 31  | 10    | $E$      | 32   | 11     | $E$       | 917.31074  | 21                | .247671E-03                       | 2.5             | 0.2492E-03                         | -.61            | 6.942E-04       |                 |                        | 1.0    |
| 50  | 7     | $E$      | 51   | 8      | $E$       | 917.31074  | -69               |                                   |                 | 0.3854E-04                         |                 |                 |                 |                        |        |
| 18  | 12    | $E$      | 19   | 13     | $E$       | 917.38592  | -4                |                                   |                 | 0.2658E-03                         |                 |                 |                 |                        |        |
| 56  | 6     | $E$      | 57   | 7      | $E$       | 917.58005  | 18                |                                   |                 | 0.1395E-04                         |                 |                 |                 |                        |        |
| 37  | 9     | $E$      | 38   | 10     | $E$       | 917.68853  | 4                 |                                   |                 | 0.1794E-03                         |                 |                 |                 |                        |        |
| 24  | 11    | $A_2$    | 25   | 12     | $A_1$     | 917.85987  | 3                 | .607182E-03                       | 1.0             | 0.3065E-03                         | -.97            | 2.735E-04       | -.557E+00       |                        | 1.4    |
| 24  | 11    | $A_1$    | 25   | 12     | $A_2$     | 917.85987  | 3                 |                                   |                 | 0.3065E-03                         |                 |                 |                 |                        |        |
| 43  | 8     | $A_2$    | 44   | 9      | $A_1$     | 918.03246  | 1                 |                                   |                 | 0.1033E-03                         |                 |                 |                 |                        |        |
| 43  | 8     | $A_1$    | 44   | 9      | $A_2$     | 918.03246  | 1                 |                                   |                 | 0.1033E-03                         |                 |                 |                 |                        |        |
| 30  | 10    | $E$      | 31   | 11     | $E$       | 918.29255  | 7                 | .293817E-03                       | 4.8             | 0.2835E-03                         | 3.50            | 2.128E-04       |                 |                        | 1.0    |
| 17  | 12    | $E$      | 18   | 13     | $E$       | 918.32892  | -5                |                                   |                 | 0.2872E-03                         |                 |                 |                 |                        |        |
| 49  | 7     | $E$      | 50   | 8      | $E$       | 918.34515  | 3                 |                                   |                 | 0.4770E-04                         |                 |                 |                 |                        |        |
| 55  | 6     | $E$      | 56   | 7      | $E$       | 918.62854  | -24               |                                   |                 | 0.1773E-04                         |                 |                 |                 |                        |        |
| 36  | 9     | $E$      | 37   | 10     | $E$       | 918.68742  | 4                 |                                   |                 | 0.2096E-03                         |                 |                 |                 |                        |        |
| 23  | 11    | $A_2$    | 24   | 12     | $A_1$     | 918.82124  | 4                 | .638351E-03                       | 1.9             | 0.3386E-03                         | -6.08           | 3.950E-04       | -.578E+00       |                        | 1.3    |
| 23  | 11    | $A_1$    | 24   | 12     | $A_2$     | 918.82124  | 4                 |                                   |                 | 0.3386E-03                         |                 |                 |                 |                        |        |
| 42  | 8     | $A_2$    | 43   | 9      | $A_1$     | 919.04775  | 5                 | .266540E-03                       | 1.6             | 0.1239E-03                         | 7.03            | 2.480E-04       | -.125E+01       |                        | 2.1    |
| 42  | 8     | $A_1$    | 43   | 9      | $A_2$     | 919.04775  | 5                 |                                   |                 | 0.1239E-03                         |                 |                 |                 |                        |        |
| 16  | 12    | $E$      | 17   | 13     | $E$       | 919.26927  | 43                |                                   |                 | 0.3093E-03                         |                 |                 |                 |                        |        |
| 48  | 7     | $E$      | 49   | 8      | $E$       | 919.37618  | 0                 |                                   |                 | 0.5876E-04                         |                 |                 |                 |                        |        |
| 54  | 6     | $E$      | 55   | 7      | $E$       | 919.67546  | 32                |                                   |                 | 0.2243E-04                         |                 |                 |                 |                        |        |
| 35  | 9     | $E$      | 36   | 10     | $E$       | 919.68349  | 3                 |                                   |                 | 0.2436E-03                         |                 |                 |                 |                        |        |
| 22  | 11    | $A_2$    | 23   | 12     | $A_1$     | 919.77964  | 11                | .784661E-03                       | 1.2             | 0.3724E-03                         | 5.08            | 4.778E-04       | -.104E+00       |                        | 1.3    |
| 22  | 11    | $A_1$    | 23   | 12     | $A_2$     | 919.77964  | 11                |                                   |                 | 0.3724E-03                         |                 |                 |                 |                        |        |
| 41  | 8     | $A_2$    | 42   | 9      | $A_1$     | 920.06021  | -1                |                                   |                 | 0.1479E-03                         |                 |                 |                 |                        |        |
| 41  | 8     | $A_1$    | 42   | 9      | $A_2$     | 920.06021  | -1                |                                   |                 | 0.1479E-03                         |                 |                 |                 |                        |        |
| 15  | 12    | $E$      | 16   | 13     | $E$       | 920.20544  | -14               | .344599E-03                       | 1.9             | 0.3319E-03                         | 3.68            | 1.546E-04       | -.151E+01       |                        | 1.5    |
| 28  | 10    | $E$      | 29   | 11     | $E$       | 920.24762  | 1                 | .345733E-03                       | 2.1             | 0.3620E-03                         | -4.72           | 2.022E-04       |                 |                        | 1.0    |
| 47  | 7     | $E$      | 48   | 8      | $E$       | 920.40454  | -5                |                                   |                 | 0.7206E-04                         |                 |                 |                 |                        |        |
| 34  | 9     | $E$      | 35   | 10     | $E$       | 920.67676  | 7                 |                                   |                 | 0.2819E-03                         |                 |                 |                 |                        |        |
| 53  | 6     | $E$      | 54   | 7      | $E$       | 920.71901  | 7                 |                                   |                 | 0.2825E-04                         |                 |                 |                 |                        |        |
| 21  | 11    | $A_2$    | 22   | 12     | $A_1$     | 920.73481  | 0                 | 0.809794E-03                      | 1.0             | 0.4079E-03                         | 0.74            | 2.221E-04       | -.428E+00       | -.357E+00              | 1.4    |
| 21  | 11    | $A_1$    | 22   | 12     | $A_2$     | 920.73481  | 0                 |                                   |                 | 0.4079E-03                         |                 |                 |                 |                        |        |
| 59  | 5     | $A_2$    | 60   | 6      | $A_1$     | 921.00523  | 12                |                                   |                 | 0.8954E-05                         |                 |                 |                 |                        |        |
| 59  | 5     | $A_1$    | 60   | 6      | $A_2$     | 921.00523  | 12                |                                   |                 | 0.8954E-05                         |                 |                 |                 |                        |        |
| 40  | 8     | $A_2$    | 41   | 9      | $A_1$     | 921.07000  | 0                 | .337152E-03                       | 3.3             | 0.1758E-03                         | -4.29           | 1.401E-04       |                 |                        | 1.0    |
| 40  | 8     | $A_1$    | 41   | 9      | $A_2$     | 921.07000  | 0                 |                                   |                 | 0.1758E-03                         |                 |                 |                 |                        |        |
| 14  | 12    | $E$      | 15   | 13     | $E$       | 921.13902  | -14               | .376616E-03                       | 1.2             | 0.3552E-03                         | 5.69            | 2.053E-04       |                 |                        | 1.0    |
| 28  | 14    | $A_1$    | 28   | 15     | $A_2$     | 921.16341  | -47               |                                   |                 | 0.1422E-04                         |                 |                 |                 |                        |        |
| 28  | 14    | $A_2$    | 28   | 15     | $A_1$     | 921.16341  | -47               |                                   |                 | 0.1422E-04                         |                 |                 |                 |                        |        |
| 27  | 10    | $E$      | 28   | 11     | $E$       | 921.22085  | 8                 | .415145E-03                       | 1.1             | 0.4063E-03                         | 2.12            | 3.241E-04       |                 | -.838E+00              | 1.2    |
| 27  | 14    | $A_2$    | 27   | 15     | $A_1$     | 921.25962  | -38               |                                   |                 | 0.1517E-04                         |                 |                 |                 |                        |        |
| 27  | 14    | $A_1$    | 27   | 15     | $A_2$     | 921.25962  | -38               |                                   |                 | 0.1517E-04                         |                 |                 |                 |                        |        |
| 46  | 7     | $E$      | 47   | 8      | $E$       | 921.43032  | -3                |                                   |                 | 0.8795E-04                         |                 |                 |                 |                        |        |
| 25  | 14    | $A_2$    | 25   | 15     | $A_1$     | 921.44167  | -23               |                                   |                 | 0.1677E-04                         |                 |                 |                 |                        |        |
| 25  | 14    | $A_1$    | 25   | 15     | $A_2$     | 921.44167  | -23               |                                   |                 | 0.1677E-04                         |                 |                 |                 |                        |        |
| 24  | 14    | $A_1$    | 24   | 15     | $A_2$     | 921.52765  | -3                |                                   |                 | 0.1733E-04                         |                 |                 |                 |                        |        |
| 24  | 14    | $A_2$    | 24   | 15     | $A_1$     | 921.52765  | -3                |                                   |                 | 0.1733E-04                         |                 |                 |                 |                        |        |
| 23  | 14    | $A_1$    | 23   | 15     | $A_2$     | 921.61041  | 38                |                                   |                 | 0.1767E-04                         |                 |                 |                 |                        |        |
| 23  | 14    | $A_2$    | 23   | 15     | $A_1$     | 921.61041  | 38                |                                   |                 | 0.1767E-04                         |                 |                 |                 |                        |        |
| 33  | 9     | $E'$     | 34   | 10     | $E'$      | 921.66709  | 1                 |                                   |                 | 0.3248E-03                         |                 |                 |                 |                        |        |
| 20  | 11    | $A_2$    | 21   | 12     | $A_1$     | 921.68712  | 7                 | .878167E-03                       | 0.6             | 0.4449E-03                         | -1.32           | 3.782E-04       | -.821E-01       | -.461E+00              | 1.2    |
| 20  | 11    | $A_1$    | 21   | 12     | $A_2$     | 921.68712  | 7                 |                                   |                 | 0.4449E-03                         |                 |                 |                 |                        |        |
| 52  | 6     | $E'$     | 53   | 7      | $E'$      | 921.76020  | 4                 |                                   |                 | 0.3542E-04                         |                 |                 |                 |                        |        |
| 21  | 14    | $A_2$    | 21   | 15     | $A_1$     | 921.76440  | 0                 |                                   |                 | 0.1745E-04                         |                 |                 |                 |                        |        |
| 21  | 14    | $A_1$    | 21   | 15     | $A_2$     | 921.76440  | 0                 |                                   |                 | 0.1745E-04                         |                 |                 |                 |                        |        |
| 20  | 14    | $A_1$    | 20   | 15     | $A_2$     | 921.83651  | 9                 |                                   |                 | 0.1678E-04                         |                 |                 |                 |                        |        |
| 20  | 14    | $A_2$    | 20   | 15     | $A_1$     | 921.83651  | 9                 |                                   |                 | 0.1678E-04                         |                 |                 |                 |                        |        |
| 19  | 14    | $A_1$    | 19   | 15     | $A_2$     | 921.90520  | 19                |                                   |                 | 0.1564E-04                         |                 |                 |                 |                        |        |
| 19  | 14    | $A_2$    | 19   | 15     | $A_1$     | 921.90520  | 19                |                                   |                 | 0.1564E-04                         |                 |                 |                 |                        |        |
| 18  | 14    | $A_1$    | 18   | 15     | $A_2$     | 921.96996  | -21               |                                   |                 | 0.1395E-04                         |                 |                 |                 |                        |        |
| 18  | 14    | $A_2$    | 18   | 15     | $A_1$     | 921.96996  | -21               |                                   |                 | 0.1395E-04                         |                 |                 |                 |                        |        |
| 17  | 14    | $A_2$    | 17   | 15     | $A_1$     | 922.03187  | -1                |                                   |                 | 0.1164E-04                         |                 |                 |                 |                        |        |
| 17  | 14    | $A_1$    | 17   | 15     | $A_2$     | 922.03187  | -1                |                                   |                 | 0.1164E-04                         |                 |                 |                 |                        |        |
| 58  | 5     | $A_1$    | 59   | 6      | $A_2$     | 922.06164  | 31                |                                   |                 | 0.1153E-04                         |                 |                 |                 |                        |        |
| 58  | 5     | $A_2$    | 59   | 6      | $A_1$     | 922.06164  | 31                |                                   |                 | 0.1153E-04                         |                 |                 |                 |                        |        |
| 13  | 12    | $E'$     | 14   | 13     | $E'$      | 922.06942  | -15               | .405038E-03                       | 2.0             | 0.3790E-03                         | 6.42            | 2.379E-04       | -.125E+01       | -.191E+00              | 1.4    |
| 39  | 8     | $A_2$    | 40   | 9      | $A_1$     | 922.07702  | 1                 | .434997E-03                       | 2.4             | 0.2080E-03                         | 4.39            | 2.831E-04       | -.133E+01       | -.248E+00              | 1.4    |
| 39  | 8     | $A_1$    | 40   | 9      | $A_2$     | 922.07702  | 1                 |                                   |                 | 0.2080E-03                         |                 |                 |                 |                        |        |
| 15  | 14    | $A_1$    | 15   | 15     | $A_2$     | 922.14468  | -34               |                                   |                 | 0.4771E-05                         |                 |                 |                 |                        |        |
| 15  | 14    | $A_2$    | 15   | 15     | $A_1$     | 922.14468  | -34               |                                   |                 | 0.4771E-05                         |                 |                 |                 |                        |        |
| 26  | 10    | $E'$     | 27   | 11     | $E'$      | 922.19101  | 4                 | .465330E-03                       | 1.5             | 0.4540E-03                         | 2.43            | 1.960E-04       |                 |                        | 1.0    |
| 45  | 7     | $E'$     | 46   | 8      | $E'$      | 922.45343  | 0                 |                                   |                 | 0.1069E-03                         |                 |                 |                 |                        |        |
| 19  | 11    | $A_2$    | 20   | 12     | $A_1$     | 922.63621  | -1                | .100429E-02                       | 0.9             | 0.4832E-03                         | 3.77            | 3.309E-04       | -.674E+00       | -.234E+00              | 1.6    |
| 19  | 11    | $A_1$    | 20   | 12     | $A_2$     | 922.63621  | -1                |                                   |                 | 0.4832E-03                         |                 |                 |                 |                        |        |
| 32  | 9     | $E'$     | 33   | 10     | $E'$      | 922.65463  | 2                 |                                   |                 | 0.3724E-03                         |                 |                 |                 |                        |        |
| 51  | 6     | $E'$     | 52   | 7      | $E'$      | 922.79868  | -10               |                                   |                 | 0.4420E-04                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 12  | 12    | $E$      | 13   | 13     | $E$       | 922.99663  | -18               | .433811E-03                       | 3.1             | 0.4036E-03                         | 6.97            | 3.757E-04       | -.607E+00       |                        | 1.1    |
| 38  | 8     | $A_2$    | 39   | 9      | $A_1$     | 923.08125  | -1                | .457364E-03                       | 10.4            | 0.2449E-03                         | -7.07           | 1.529E-04       |                 |                        | 1.0    |
| 38  | 8     | $A_1$    | 39   | 9      | $A_2$     | 923.08125  | -1                |                                   |                 | 0.2449E-03                         |                 |                 |                 |                        |        |
| 57  | 5     | $A_2$    | 58   | 6      | $A_1$     | 923.11512  | 8                 |                                   |                 | 0.1477E-04                         |                 |                 |                 |                        |        |
| 57  | 5     | $A_1$    | 58   | 6      | $A_2$     | 923.11512  | 8                 |                                   |                 | 0.1477E-04                         |                 |                 |                 |                        |        |
| 25  | 10    | $E$      | 26   | 11     | $E$       | 923.15824  | 4                 | .470968E-03                       | 2.0             | 0.5050E-03                         | -7.22           | 2.248E-04       |                 |                        | 1.0    |
| 44  | 7     | $E$      | 45   | 8      | $E$       | 923.47384  | 1                 |                                   |                 | 0.1292E-03                         |                 |                 |                 |                        |        |
| 18  | 11    | $A_2$    | 19   | 12     | $A_1$     | 923.58228  | -2                | .104996E-02                       | 1.2             | 0.5228E-03                         | .41             | 2.714E-04       | -.801E+00       | -.222E+00              | 1.3    |
| 18  | 11    | $A_1$    | 19   | 12     | $A_2$     | 923.58228  | -2                |                                   |                 | 0.5228E-03                         |                 |                 |                 |                        |        |
| 31  | 9     | $E$      | 32   | 10     | $E$       | 923.63928  | 2                 |                                   |                 | 0.4250E-03                         |                 |                 |                 |                        |        |
| 50  | 6     | $E$      | 51   | 7      | $E$       | 923.83478  | -3                |                                   |                 | 0.5490E-04                         |                 |                 |                 |                        |        |
| 37  | 8     | $A_2$    | 38   | 9      | $A_1$     | 924.08272  | 0                 | .543839E-03                       | 1.4             | 0.2870E-03                         | -5.53           | 2.472E-04       |                 |                        | 1.0    |
| 37  | 8     | $A_1$    | 38   | 9      | $A_2$     | 924.08272  | 0                 |                                   |                 | 0.2870E-03                         |                 |                 |                 |                        |        |
| 24  | 10    | $E$      | 25   | 11     | $E$       | 924.12249  | 3                 | .546516E-03                       | 1.5             | 0.5592E-03                         | -2.32           | 3.117E-04       |                 |                        | 1.0    |
| 56  | 5     | $A_2$    | 57   | 6      | $A_1$     | 924.16625  | 3                 |                                   |                 | 0.1885E-04                         |                 |                 |                 |                        |        |
| 56  | 5     | $A_1$    | 57   | 6      | $A_2$     | 924.16625  | 3                 |                                   |                 | 0.1885E-04                         |                 |                 |                 |                        |        |
| 62  | 4     | $E$      | 63   | 5      | $E$       | 924.47007  | 72                |                                   |                 | 0.5255E-05                         |                 |                 |                 |                        |        |
| 43  | 7     | $E$      | 44   | 8      | $E$       | 924.49159  | 6                 |                                   |                 | 0.1556E-03                         |                 |                 |                 |                        |        |
| 17  | 11    | $A_2$    | 18   | 12     | $A_1$     | 924.52525  | -5                | .110948E-02                       | 0.7             | 0.5635E-03                         | -1.57           | 3.486E-04       | -.354E+00       |                        | 1.1    |
| 17  | 11    | $A_1$    | 18   | 12     | $A_2$     | 924.52525  | -5                |                                   |                 | 0.5635E-03                         |                 |                 |                 |                        |        |
| 30  | 9     | $E$      | 31   | 10     | $E$       | 924.62105  | 2                 | .472879E-03                       | 1.7             | 0.4828E-03                         | -2.10           | 1.858E-04       |                 |                        | 1.0    |
| 49  | 6     | $E$      | 50   | 7      | $E$       | 924.86821  | -1                |                                   |                 | 0.6789E-04                         |                 |                 |                 |                        |        |
| 36  | 8     | $A_2$    | 37   | 9      | $A_1$     | 925.08174  | 35                |                                   |                 | 0.3347E-03                         |                 |                 |                 |                        |        |
| 36  | 8     | $A_1$    | 37   | 9      | $A_2$     | 925.08174  | 35                |                                   |                 | 0.3347E-03                         |                 |                 |                 |                        |        |
| 55  | 5     | $A_2$    | 56   | 6      | $A_1$     | 925.21487  | 1                 |                                   |                 | 0.2394E-04                         |                 |                 |                 |                        |        |
| 55  | 5     | $A_1$    | 56   | 6      | $A_2$     | 925.21487  | 1                 |                                   |                 | 0.2394E-04                         |                 |                 |                 |                        |        |
| 16  | 11    | $A_2$    | 17   | 12     | $A_1$     | 925.46515  | -3                | .125062E-02                       | 0.9             | 0.6050E-03                         | 3.24            | 2.502E-04       | -.851E+00       |                        | 1.8    |
| 16  | 11    | $A_1$    | 17   | 12     | $A_2$     | 925.46515  | -3                |                                   |                 | 0.6050E-03                         |                 |                 |                 |                        |        |
| 42  | 7     | $E$      | 43   | 8      | $E$       | 925.50650  | -2                |                                   |                 | 0.1864E-03                         |                 |                 |                 |                        |        |
| 29  | 9     | $E$      | 30   | 10     | $E$       | 925.59995  | 6                 | .540235E-03                       | 1.8             | 0.5460E-03                         | -1.06           | 5.708E-04       | -.442E+00       | -.198E+00              | 1.1    |
| 40  | 13    | $E$      | 40   | 14     | $E$       | 925.82656  | -50               |                                   |                 | 0.9806E-05                         |                 |                 |                 |                        |        |
| 48  | 6     | $E$      | 49   | 7      | $E$       | 925.89905  | 4                 |                                   |                 | 0.8356E-04                         |                 |                 |                 |                        |        |
| 39  | 13    | $E$      | 39   | 14     | $E$       | 925.96334  | -31               |                                   |                 | 0.1138E-04                         |                 |                 |                 |                        |        |
| 22  | 10    | $E$      | 23   | 11     | $E$       | 926.04201  | 5                 | .662828E-03                       | 1.3             | 0.6766E-03                         | -2.08           | 3.015E-04       |                 |                        | 1.0    |
| 35  | 8     | $A_2$    | 36   | 9      | $A_1$     | 926.07727  | 3                 | .712265E-03                       | 1.4             | 0.3887E-03                         | -9.14           | 1.928E-04       |                 |                        | 1.0    |
| 35  | 8     | $A_1$    | 36   | 9      | $A_2$     | 926.07727  | 3                 |                                   |                 | 0.3887E-03                         |                 |                 |                 |                        |        |
| 38  | 13    | $E$      | 38   | 14     | $E$       | 926.09626  | -54               |                                   |                 | 0.1313E-04                         |                 |                 |                 |                        |        |
| 37  | 13    | $E$      | 37   | 14     | $E$       | 926.22622  | -28               |                                   |                 | 0.1507E-04                         |                 |                 |                 |                        |        |
| 54  | 5     | $A_2$    | 55   | 6      | $A_1$     | 926.26099  | 3                 |                                   |                 | 0.3026E-04                         |                 |                 |                 |                        |        |
| 54  | 5     | $A_1$    | 55   | 6      | $A_2$     | 926.26099  | 3                 |                                   |                 | 0.3026E-04                         |                 |                 |                 |                        |        |
| 36  | 13    | $E$      | 36   | 14     | $E$       | 926.35258  | -20               |                                   |                 | 0.1718E-04                         |                 |                 |                 |                        |        |
| 15  | 11    | $A_2$    | 16   | 12     | $A_1$     | 926.40190  | -4                | .131638E-02                       | 0.4             | 0.6475E-03                         | 1.63            | 5.728E-04       | .482E+00        | .269E+01               | 1.1    |
| 15  | 11    | $A_1$    | 16   | 12     | $A_2$     | 926.40190  | -4                |                                   |                 | 0.6475E-03                         |                 |                 |                 |                        |        |
| 35  | 13    | $E$      | 35   | 14     | $E$       | 926.47546  | -16               |                                   |                 | 0.1948E-04                         |                 |                 |                 |                        |        |
| 41  | 7     | $E$      | 42   | 8      | $E$       | 926.51882  | 3                 |                                   |                 | 0.2223E-03                         |                 |                 |                 |                        |        |
| 28  | 9     | $E$      | 29   | 10     | $E$       | 926.57590  | 6                 | .572551E-03                       | 1.2             | 0.6145E-03                         | -7.33           | 1.384E-04       |                 |                        | 1.0    |
| 60  | 4     | $E$      | 61   | 5      | $E$       | 926.59445  | 64                |                                   |                 | 0.8896E-05                         |                 |                 |                 |                        |        |
| 34  | 13    | $E$      | 34   | 14     | $E$       | 926.59445  | -58               |                                   |                 | 0.2194E-04                         |                 |                 |                 |                        |        |
| 33  | 13    | $E$      | 33   | 14     | $E$       | 926.71089  | -12               |                                   |                 | 0.2457E-04                         |                 |                 |                 |                        |        |
| 32  | 13    | $E$      | 32   | 14     | $E$       | 926.82352  | -4                |                                   |                 | 0.2732E-04                         |                 |                 |                 |                        |        |
| 47  | 6     | $E$      | 48   | 7      | $E$       | 926.92721  | 6                 |                                   |                 | 0.1024E-03                         |                 |                 |                 |                        |        |
| 31  | 13    | $E$      | 31   | 14     | $E$       | 926.93225  | -43               |                                   |                 | 0.3018E-04                         |                 |                 |                 |                        |        |
| 21  | 10    | $E$      | 22   | 11     | $E$       | 926.99722  | 4                 | .714553E-03                       | 1.5             | 0.7394E-03                         | -3.48           | 5.546E-04       |                 |                        | 1.0    |
| 30  | 13    | $E$      | 30   | 14     | $E$       | 927.03848  | 11                |                                   |                 | 0.3310E-04                         |                 |                 |                 |                        |        |
| 34  | 8     | $A_2$    | 35   | 9      | $A_1$     | 927.07031  | 3                 | .850043E-03                       | 0.8             | 0.4492E-03                         | -5.69           | 2.874E-04       | .552E+00        | .706E+00               | 1.1    |
| 34  | 8     | $A_1$    | 35   | 9      | $A_2$     | 927.07031  | 3                 |                                   |                 | 0.4492E-03                         |                 |                 |                 |                        |        |
| 29  | 13    | $E$      | 29   | 14     | $E$       | 927.14071  | 7                 |                                   |                 | 0.3604E-04                         |                 |                 |                 |                        |        |
| 28  | 13    | $E$      | 28   | 14     | $E$       | 927.23969  | 20                |                                   |                 | 0.3893E-04                         |                 |                 |                 |                        |        |
| 53  | 5     | $A_1$    | 54   | 6      | $A_2$     | 927.30452  | 3                 |                                   |                 | 0.3808E-04                         |                 |                 |                 |                        |        |
| 53  | 5     | $A_2$    | 54   | 6      | $A_1$     | 927.30452  | 3                 |                                   |                 | 0.3808E-04                         |                 |                 |                 |                        |        |
| 27  | 13    | $E$      | 27   | 14     | $E$       | 927.33549  | 57                |                                   |                 | 0.4170E-04                         |                 |                 |                 |                        |        |
| 14  | 11    | $A_2$    | 15   | 12     | $A_1$     | 927.33549  | -8                | .146883E-02                       | 0.5             | 0.6906E-03                         | 5.96            | 3.575E-04       | .198E-01        | -.332E+00              | 1.1    |
| 14  | 11    | $A_1$    | 15   | 12     | $A_2$     | 927.33549  | -8                |                                   |                 | 0.6906E-03                         |                 |                 |                 |                        |        |
| 26  | 13    | $E$      | 26   | 14     | $E$       | 927.42713  | 20                |                                   |                 | 0.4428E-04                         |                 |                 |                 |                        |        |
| 25  | 13    | $E$      | 25   | 14     | $E$       | 927.51531  | -21               |                                   |                 | 0.4657E-04                         |                 |                 |                 |                        |        |
| 40  | 7     | $E$      | 41   | 8      | $E$       | 927.52836  | 4                 | .252855E-03                       | 4.0             | 0.2639E-03                         | -4.37           | 3.581E-04       |                 |                        | 1.0    |
| 27  | 9     | $E$      | 28   | 10     | $E$       | 927.54894  | 7                 | .654266E-03                       | 0.9             | 0.6886E-03                         | -5.24           | 3.240E-04       |                 |                        | 1.0    |
| 24  | 13    | $E$      | 24   | 14     | $E$       | 927.60086  | 17                |                                   |                 | 0.4846E-04                         |                 |                 |                 |                        |        |
| 59  | 4     | $E$      | 60   | 5      | $E$       | 927.65233  | 1                 |                                   |                 | 0.1150E-04                         |                 |                 |                 |                        |        |
| 23  | 13    | $E$      | 23   | 14     | $E$       | 927.68251  | 7                 |                                   |                 | 0.4983E-04                         |                 |                 |                 |                        |        |
| 22  | 13    | $E$      | 22   | 14     | $E$       | 927.76079  | 0                 |                                   |                 | 0.5056E-04                         |                 |                 |                 |                        |        |
| 20  | 13    | $E$      | 20   | 14     | $E$       | 927.90712  | -11               |                                   |                 | 0.4949E-04                         |                 |                 |                 |                        |        |
| 20  | 10    | $E$      | 21   | 11     | $E$       | 927.94935  | -2                | .804244E-03                       | 0.7             | 0.8046E-03                         | -.04            | 1.382E-04       | .168E+01        | .291E+00               | 1.2    |
| 19  | 13    | $E$      | 19   | 14     | $E$       | 927.97533  | 0                 |                                   |                 | 0.4737E-04                         |                 |                 |                 |                        |        |
| 18  | 13    | $E$      | 18   | 14     | $E$       | 928.03979  | -23               |                                   |                 | 0.4396E-04                         |                 |                 |                 |                        |        |
| 33  | 8     | $A_2$    | 34   | 9      | $A_1$     | 928.06052  | 4                 | .108118E-02                       | 1.2             | 0.5167E-03                         | 4.41            | 4.339E-04       | .640E+00        | .378E+00               | 1.2    |
| 33  | 8     | $A_1$    | 34   | 9      | $A_2$     | 928.06052  | 4                 |                                   |                 | 0.5167E-03                         |                 |                 |                 |                        |        |
| 17  | 13    | $E$      | 17   | 14     | $E$       | 928.10132  | 2                 |                                   |                 | 0.3907E-04                         |                 |                 |                 |                        |        |
| 16  | 13    | $E$      | 16   | 14     | $E$       | 928.15908  | -9                |                                   |                 | 0.3247E-04                         |                 |                 |                 |                        |        |
| 15  | 13    | $E$      | 15   | 14     | $E$       | 928.21352  | -11               |                                   |                 | 0.2395E-04                         |                 |                 |                 |                        |        |
| 13  | 11    | $A_2$    | 14   | 12     | $A_1$     | 928.26600  | -4                | .152701E-02                       | 0.4             | 0.7346E-03                         | 3.79            | 3.075E-04       | .651E-01        | -.390E+00              | 1.2    |
| 13  | 11    | $A_1$    | 14   | 12     | $A_2$     | 928.26600  | -4                |                                   |                 | 0.7346E-03                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 52  | 5     | $A_2$    | 53   | 6      | $A_1$     | 928.34551  | 5                 |                                   |                 | 0.4770E-04                         |                 |                 |                 |                        |        |
| 52  | 5     | $A_1$    | 53   | 6      | $A_2$     | 928.34551  | 5                 |                                   |                 | 0.4770E-04                         |                 |                 |                 |                        |        |
| 26  | 9     | $E$      | 27   | 10     | $E$       | 928.51898  | 3                 | .728541E-03                       | 2.2             | 0.7680E-03                         | -5.41           | 2.943E-04       | .420E+00        |                        | 1.1    |
| 39  | 7     | $E$      | 40   | 8      | $E$       | 928.53516  | 5                 | .301795E-03                       | 2.2             | 0.3118E-03                         | -3.32           | 2.845E-04       |                 |                        | 1.0    |
| 58  | 4     | $E$      | 59   | 5      | $E$       | 928.70856  | 24                |                                   |                 | 0.1479E-04                         |                 |                 |                 |                        |        |
| 19  | 10    | $E$      | 20   | 11     | $E$       | 928.89853  | 3                 | .884679E-03                       | 1.2             | 0.8719E-03                         | 1.45            | 3.301E-04       | -.167E+00       | -.468E+00              | 1.1    |
| 45  | 6     | $E$      | 46   | 7      | $E$       | 928.97550  | 2                 |                                   |                 | 0.1515E-03                         |                 |                 |                 |                        |        |
| 32  | 8     | $A_2$    | 33   | 9      | $A_1$     | 929.04787  | 4                 | .111890E-02                       | 0.4             | 0.5916E-03                         | -5.75           | 3.270E-04       | .775E-01        | .529E+00               | 1.3    |
| 32  | 8     | $A_1$    | 33   | 9      | $A_2$     | 929.04787  | 4                 |                                   |                 | 0.5916E-03                         |                 |                 |                 |                        |        |
| 12  | 11    | $A_2$    | 13   | 12     | $A_1$     | 929.19334  | -2                | .164842E-02                       | 0.6             | 0.7794E-03                         | 5.43            | 2.911E-04       | .742E-01        | -.234E+00              | 1.1    |
| 12  | 11    | $A_1$    | 13   | 12     | $A_2$     | 929.19334  | -2                |                                   |                 | 0.7794E-03                         |                 |                 |                 |                        |        |
| 51  | 5     | $A_2$    | 52   | 6      | $A_1$     | 929.38390  | 6                 |                                   |                 | 0.5947E-04                         |                 |                 |                 |                        |        |
| 51  | 5     | $A_1$    | 52   | 6      | $A_2$     | 929.38390  | 6                 |                                   |                 | 0.5947E-04                         |                 |                 |                 |                        |        |
| 25  | 9     | $E$      | 26   | 10     | $E$       | 929.48611  | 4                 | .799063E-03                       | 0.7             | 0.8526E-03                         | -6.70           | 2.741E-04       | -.122E+00       | -.293E+00              | 1.1    |
| 38  | 7     | $E$      | 39   | 8      | $E$       | 929.53921  | 7                 | .340294E-03                       | 2.3             | 0.3667E-03                         | -7.77           | 3.186E-04       |                 | -.112E+01              | 1.2    |
| 57  | 4     | $E$      | 58   | 5      | $E$       | 929.76182  | 0                 |                                   |                 | 0.1894E-04                         |                 |                 |                 |                        |        |
| 18  | 10    | $E$      | 19   | 11     | $E$       | 929.84460  | 3                 | .103319E-02                       | 1.0             | 0.9409E-03                         | 8.93            | 4.704E-04       | .539E+00        | .176E+00               | 1.2    |
| 44  | 6     | $E$      | 45   | 7      | $E$       | 929.99568  | 4                 |                                   |                 | 0.1831E-03                         |                 |                 |                 |                        |        |
| 31  | 8     | $A_2$    | 32   | 9      | $A_1$     | 930.03237  | 5                 | .131552E-02                       | 1.0             | 0.6743E-03                         | -2.51           | 3.497E-04       |                 |                        | 1.0    |
| 31  | 8     | $A_1$    | 32   | 9      | $A_2$     | 930.03237  | 5                 |                                   |                 | 0.6743E-03                         |                 |                 |                 |                        |        |
| 11  | 11    | $A_2$    | 12   | 12     | $A_1$     | 930.11743  | -6                | .175755E-02                       | 0.8             | 0.8255E-03                         | 6.06            | 2.540E-04       |                 |                        | 1.0    |
| 11  | 11    | $A_1$    | 12   | 12     | $A_2$     | 930.11743  | -6                |                                   |                 | 0.8255E-03                         |                 |                 |                 |                        |        |
| 50  | 5     | $A_1$    | 51   | 6      | $A_2$     | 930.41966  | 4                 |                                   |                 | 0.7381E-04                         |                 |                 |                 |                        |        |
| 50  | 5     | $A_2$    | 51   | 6      | $A_1$     | 930.41966  | 4                 |                                   |                 | 0.7381E-04                         |                 |                 |                 |                        |        |
| 24  | 9     | $E$      | 25   | 10     | $E$       | 930.45028  | 5                 | .946427E-03                       | 1.3             | 0.9423E-03                         | .43             | 3.703E-04       | -.323E+00       | -.188E+00              | 1.1    |
| 37  | 7     | $E$      | 38   | 8      | $E$       | 930.54047  | 7                 | .453452E-03                       | 2.9             | 0.4293E-03                         | 5.33            | 3.195E-04       | -.559E+00       |                        | 1.1    |
| 48  | 12    | $E$      | 48   | 13     | $E$       | 930.76852  | -15               |                                   |                 | 0.5815E-05                         |                 |                 |                 |                        |        |
| 17  | 10    | $E$      | 18   | 11     | $E$       | 930.78760  | 3                 | .104442E-02                       | 1.2             | 0.1011E-02                         | 3.17            | 2.846E-04       | -.100E+01       | -.197E+00              | 1.4    |
| 56  | 4     | $E$      | 57   | 5      | $E$       | 930.81274  | -5                |                                   |                 | 0.2414E-04                         |                 |                 |                 |                        |        |
| 47  | 12    | $E$      | 47   | 13     | $E$       | 930.93180  | 2                 |                                   |                 | 0.7043E-05                         |                 |                 |                 |                        |        |
| 30  | 8     | $A_2$    | 31   | 9      | $A_1$     | 931.01389  | -4                | .183218E-02                       | 0.7             | 0.7648E-03                         | 4.50            | 3.504E-04       | -.520E+00       | -.165E+00              | 1.3    |
| 30  | 8     | $A_1$    | 31   | 9      | $A_2$     | 931.01389  | -4                |                                   |                 | 0.7648E-03                         |                 |                 |                 |                        |        |
| 46  | 12    | $E$      | 46   | 13     | $E$       | 931.09111  | -36               |                                   |                 | 0.8486E-05                         |                 |                 |                 |                        |        |
| 45  | 12    | $E$      | 45   | 13     | $E$       | 931.24779  | 7                 |                                   |                 | 0.1017E-04                         |                 |                 |                 |                        |        |
| 44  | 12    | $E$      | 44   | 13     | $E$       | 931.40097  | 42                |                                   |                 | 0.1213E-04                         |                 |                 |                 |                        |        |
| 23  | 9     | $E$      | 24   | 10     | $E$       | 931.41148  | 7                 | .997183E-03                       | 0.8             | 0.1037E-02                         | -3.97           | 3.723E-04       | -.292E+00       | .510E+00               | 1.2    |
| 49  | 5     | $A_2$    | 50   | 6      | $A_1$     | 931.45284  | 4                 |                                   |                 | 0.9119E-04                         |                 |                 |                 |                        |        |
| 49  | 5     | $A_1$    | 50   | 6      | $A_2$     | 931.45284  | 4                 |                                   |                 | 0.9119E-04                         |                 |                 |                 |                        |        |
| 25  | 16    | $E$      | 24   | 17     | $E$       | 931.53323  | 26                |                                   |                 | 0.1554E-06                         |                 |                 |                 |                        |        |
| 36  | 7     | $E$      | 37   | 8      | $E$       | 931.53891  | 4                 | .480814E-03                       | 1.3             | 0.5002E-03                         | -4.02           | 2.512E-04       | -.411E+00       |                        | 1.2    |
| 43  | 12    | $E$      | 43   | 13     | $E$       | 931.54995  | 0                 |                                   |                 | 0.1439E-04                         |                 |                 |                 |                        |        |
| 42  | 12    | $E$      | 42   | 13     | $E$       | 931.69571  | -21               |                                   |                 | 0.1698E-04                         |                 |                 |                 |                        |        |
| 16  | 10    | $E$      | 17   | 11     | $E$       | 931.72748  | 1                 | .111691E-02                       | 1.1             | 0.1083E-02                         | 3.04            | 3.583E-04       |                 |                        | 1.0    |
| 41  | 12    | $E$      | 41   | 13     | $E$       | 931.83842  | -5                |                                   |                 | 0.1992E-04                         |                 |                 |                 |                        |        |
| 40  | 12    | $E$      | 40   | 13     | $E$       | 931.97769  | 9                 |                                   |                 | 0.2325E-04                         |                 |                 |                 |                        |        |
| 29  | 8     | $A_2$    | 30   | 9      | $A_1$     | 931.99273  | 7                 | .171710E-02                       | 0.5             | 0.8635E-03                         | -5.58           | 2.517E-04       | .226E+00        | -.131E+00              | 1.3    |
| 29  | 8     | $A_1$    | 30   | 9      | $A_2$     | 931.99273  | 7                 |                                   |                 | 0.8635E-03                         |                 |                 |                 |                        |        |
| 42  | 6     | $E$      | 43   | 7      | $E$       | 932.02791  | 3                 | .258155E-03                       | 1.7             | 0.2635E-03                         | -2.08           | 3.513E-04       | .106E+01        | .592E+00               | 1.6    |
| 38  | 12    | $E$      | 38   | 13     | $E$       | 932.24560  | 0                 |                                   |                 | 0.3116E-04                         |                 |                 |                 |                        |        |
| 22  | 9     | $E$      | 23   | 10     | $E$       | 932.36965  | 5                 | .108060E-02                       | 1.4             | 0.1136E-02                         | -5.08           | 3.023E-04       | .424E+00        |                        | 1.1    |
| 48  | 5     | $A_1$    | 49   | 6      | $A_2$     | 932.48341  | 5                 |                                   |                 | 0.1121E-03                         |                 |                 |                 |                        |        |
| 48  | 5     | $A_2$    | 49   | 6      | $A_1$     | 932.48341  | 5                 |                                   |                 | 0.1121E-03                         |                 |                 |                 |                        |        |
| 36  | 12    | $E$      | 36   | 13     | $E$       | 932.50010  | 15                |                                   |                 | 0.4082E-04                         |                 |                 |                 |                        |        |
| 35  | 7     | $E$      | 36   | 8      | $E$       | 932.53460  | 6                 | .540429E-03                       | 0.9             | 0.5800E-03                         | -7.32           | 3.271E-04       | -.226E+00       |                        | 1.1    |
| 35  | 12    | $E$      | 35   | 13     | $E$       | 932.62209  | 8                 |                                   |                 | 0.4631E-04                         |                 |                 |                 |                        |        |
| 15  | 10    | $E$      | 16   | 11     | $E$       | 932.66429  | 2                 | .111624E-02                       | 1.1             | 0.1155E-02                         | -3.51           | 1.891E-04       |                 | -.704E+00              | 1.1    |
| 34  | 12    | $E$      | 34   | 13     | $E$       | 932.74075  | 10                |                                   |                 | 0.5223E-04                         |                 |                 |                 |                        |        |
| 33  | 12    | $E$      | 33   | 13     | $E$       | 932.85600  | 11                |                                   |                 | 0.5854E-04                         |                 |                 |                 |                        |        |
| 54  | 4     | $E$      | 55   | 5      | $E$       | 932.90708  | -3                |                                   |                 | 0.3869E-04                         |                 |                 |                 |                        |        |
| 28  | 8     | $A_2$    | 29   | 9      | $A_1$     | 932.96853  | 5                 | .197517E-02                       | 0.6             | 0.9704E-03                         | -1.56           | 3.810E-04       |                 |                        | 1.0    |
| 28  | 8     | $A_1$    | 29   | 9      | $A_2$     | 932.96853  | 5                 |                                   |                 | 0.9704E-03                         |                 |                 |                 |                        |        |
| 32  | 12    | $E$      | 32   | 13     | $E$       | 932.96853  | 81                |                                   |                 | 0.6520E-04                         |                 |                 |                 |                        |        |
| 41  | 6     | $E$      | 42   | 7      | $E$       | 933.04001  | 7                 | .343996E-03                       | 3.2             | 0.3139E-03                         | 8.73            | 3.439E-04       | .951E+00        | .341E+00               | 1.2    |
| 31  | 12    | $E$      | 31   | 13     | $E$       | 933.07626  | 11                |                                   |                 | 0.7214E-04                         |                 |                 |                 |                        |        |
| 30  | 12    | $E$      | 30   | 13     | $E$       | 933.18130  | 13                |                                   |                 | 0.7928E-04                         |                 |                 |                 |                        |        |
| 29  | 12    | $E$      | 29   | 13     | $E$       | 933.28302  | 22                |                                   |                 | 0.8652E-04                         |                 |                 |                 |                        |        |
| 60  | 3     | $E$      | 61   | 4      | $E$       | 933.30011  | 11                |                                   |                 | 0.1089E-04                         |                 |                 |                 |                        |        |
| 21  | 9     | $E$      | 22   | 10     | $E$       | 933.32483  | 6                 | .124285E-02                       | 1.0             | 0.1238E-02                         | .38             | 2.300E-04       | -.103E+00       | -.400E+00              | 1.1    |
| 28  | 12    | $E$      | 28   | 13     | $E$       | 933.38106  | 4                 |                                   |                 | 0.9373E-04                         |                 |                 |                 |                        |        |
| 27  | 12    | $E$      | 27   | 13     | $E$       | 933.47584  | 0                 |                                   |                 | 0.1008E-03                         |                 |                 |                 |                        |        |
| 47  | 5     | $A_2$    | 48   | 6      | $A_1$     | 933.51132  | 4                 |                                   |                 | 0.1372E-03                         |                 |                 |                 |                        |        |
| 47  | 5     | $A_1$    | 48   | 6      | $A_2$     | 933.51132  | 4                 |                                   |                 | 0.1372E-03                         |                 |                 |                 |                        |        |
| 34  | 7     | $E$      | 35   | 8      | $E$       | 933.52747  | 7                 | .639358E-03                       | 1.8             | 0.6694E-03                         | -4.70           | 2.092E-04       | .627E+00        | .418E+00               | 1.1    |
| 26  | 12    | $E$      | 26   | 13     | $E$       | 933.56734  | 7                 |                                   |                 | 0.1074E-03                         |                 |                 |                 |                        |        |
| 14  | 10    | $E$      | 15   | 11     | $E$       | 933.59794  | -1                | .131414E-02                       | 0.6             | 0.1228E-02                         | 6.52            | 3.497E-04       | -.125E+00       | -.877E-01              | 1.1    |
| 25  | 12    | $E$      | 25   | 13     | $E$       | 933.65503  | -27               |                                   |                 | 0.1135E-03                         |                 |                 |                 |                        |        |
| 24  | 12    | $E$      | 24   | 13     | $E$       | 933.73997  | 4                 |                                   |                 | 0.1188E-03                         |                 |                 |                 |                        |        |
| 23  | 12    | $E$      | 23   | 13     | $E$       | 933.82120  | 3                 |                                   |                 | 0.1231E-03                         |                 |                 |                 |                        |        |
| 22  | 12    | $E$      | 22   | 13     | $E$       | 933.89879  | -23               |                                   |                 | 0.1260E-03                         |                 |                 |                 |                        |        |
| 27  | 8     | $A_2$    | 28   | 9      | $A_1$     | 933.94146  | 7                 | .212687E-02                       | 0.9             | 0.1085E-02                         | -2.07           | 2.756E-04       | -.271E+00       | -.363E+00              | 1.2    |
| 27  | 8     | $A_1$    | 28   | 9      | $A_2$     | 933.94146  | 7                 |                                   |                 | 0.1085E-02                         |                 |                 |                 |                        |        |
| 53  | 4     | $E$      | 54   | 5      | $E$       | 933.95049  | 5                 |                                   |                 | 0.4864E-04                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 21  | 12    | $E$      | 21   | 13     | $E$       | 933.97346  | -1                |                                   |                 | 0.1272E-03                         |                 |                 |                 |                        |        |
| 20  | 12    | $E$      | 20   | 13     | $E$       | 934.04476  | 22                |                                   |                 | 0.1265E-03                         |                 |                 |                 |                        |        |
| 40  | 6     | $E$      | 41   | 7      | $E$       | 934.04930  | 3                 |                                   |                 | 0.3723E-03                         |                 |                 |                 |                        |        |
| 19  | 12    | $E$      | 19   | 13     | $E$       | 934.11229  | 8                 |                                   |                 | 0.1235E-03                         |                 |                 |                 |                        |        |
| 18  | 12    | $E$      | 18   | 13     | $E$       | 934.17642  | -8                |                                   |                 | 0.1177E-03                         |                 |                 |                 |                        |        |
| 17  | 12    | $E$      | 17   | 13     | $E$       | 934.23733  | -6                |                                   |                 | 0.1088E-03                         |                 |                 |                 |                        |        |
| 20  | 9     | $E$      | 21   | 10     | $E$       | 934.27700  | 7                 | .127591E-02                       | 1.0             | 0.1344E-02                         | -5.35           | 2.312E-04       |                 | -.511E+00              | 1.1    |
| 16  | 12    | $E$      | 16   | 13     | $E$       | 934.29475  | -15               |                                   |                 | 0.9634E-04                         |                 |                 |                 |                        |        |
| 15  | 12    | $E$      | 15   | 13     | $E$       | 934.34883  | -19               |                                   |                 | 0.7981E-04                         |                 |                 |                 |                        |        |
| 59  | 3     | $E$      | 60   | 4      | $E$       | 934.35872  | 35                |                                   |                 | 0.1406E-04                         |                 |                 |                 |                        |        |
| 14  | 12    | $E$      | 14   | 13     | $E$       | 934.39966  | -10               |                                   |                 | 0.5868E-04                         |                 |                 |                 |                        |        |
| 13  | 12    | $E$      | 13   | 13     | $E$       | 934.44682  | -29               |                                   |                 | 0.3232E-04                         |                 |                 |                 |                        |        |
| 33  | 7     | $E$      | 34   | 8      | $E$       | 934.51752  | 8                 | .719970E-03                       | 1.9             | 0.7690E-03                         | -6.81           | 1.184E-04       |                 | -.989E+00              | 1.2    |
| 13  | 10    | $E$      | 14   | 11     | $E$       | 934.52856  | 7                 | .141607E-02                       | 1.0             | 0.1302E-02                         | 8.04            | 3.540E-04       | .361E+00        | -.237E+00              | 1.2    |
| 46  | 5     | $A_2$    | 47   | 6      | $A_1$     | 934.53659  | 3                 | .352643E-03                       | 2.7             | 0.1672E-03                         | 5.17            | 3.101E-04       |                 |                        | 1.2    |
| 46  | 5     | $A_1$    | 47   | 6      | $A_2$     | 934.53659  | 3                 |                                   |                 | 0.1672E-03                         |                 |                 |                 |                        |        |
| 26  | 8     | $A_2$    | 27   | 9      | $A_1$     | 934.91145  | 8                 | .226675E-02                       | 0.6             | 0.1208E-02                         | -6.62           | 2.682E-04       | .824E-01        | -.323E+00              | 1.1    |
| 26  | 8     | $A_1$    | 27   | 9      | $A_2$     | 934.91145  | 8                 |                                   |                 | 0.1208E-02                         |                 |                 |                 |                        |        |
| 52  | 4     | $E$      | 53   | 5      | $E$       | 934.99124  | 3                 |                                   |                 | 0.6088E-04                         |                 |                 |                 |                        |        |
| 39  | 6     | $E$      | 40   | 7      | $E$       | 935.05592  | 6                 | .455010E-03                       | 2.8             | 0.4394E-03                         | 3.43            | 2.942E-04       | -.178E+00       |                        | 1.0    |
| 19  | 9     | $E$      | 20   | 10     | $E$       | 935.22611  | 6                 | .146362E-02                       | 1.1             | 0.1453E-02                         | .72             | 4.126E-04       |                 | -.437E+00              | 1.0    |
| 58  | 3     | $E$      | 59   | 4      | $E$       | 935.41437  | 13                |                                   |                 | 0.1807E-04                         |                 |                 |                 |                        |        |
| 12  | 10    | $E$      | 13   | 11     | $E$       | 935.45591  | 2                 | .143054E-02                       | 0.3             | 0.1377E-02                         | 3.77            | 3.134E-04       | -.280E+00       |                        | 2.2    |
| 32  | 7     | $E$      | 33   | 8      | $E$       | 935.50473  | 9                 | .875612E-03                       | 0.8             | 0.8793E-03                         | -.42            | 2.913E-04       | -.218E+00       | -.158E+00              | 1.2    |
| 45  | 5     | $A_2$    | 46   | 6      | $A_1$     | 935.55925  | 7                 | .406831E-03                       | 1.6             | 0.2028E-03                         | .32             | 2.125E-04       |                 | -.199E+00              | 1.0    |
| 45  | 5     | $A_1$    | 46   | 6      | $A_2$     | 935.55925  | 7                 |                                   |                 | 0.2028E-03                         |                 |                 |                 |                        |        |
| 56  | 11    | $A_2$    | 56   | 12     | $A_1$     | 935.56990  | 19                |                                   |                 | 0.2244E-05                         |                 |                 |                 |                        |        |
| 56  | 11    | $A_1$    | 56   | 12     | $A_2$     | 935.56990  | 19                |                                   |                 | 0.2244E-05                         |                 |                 |                 |                        |        |
| 55  | 11    | $A_1$    | 55   | 12     | $A_2$     | 935.75933  | 3                 |                                   |                 | 0.2827E-05                         |                 |                 |                 |                        |        |
| 55  | 11    | $A_2$    | 55   | 12     | $A_1$     | 935.75933  | 3                 |                                   |                 | 0.2827E-05                         |                 |                 |                 |                        |        |
| 25  | 8     | $A_2$    | 26   | 9      | $A_1$     | 935.87851  | 10                | .251476E-02                       | 0.7             | 0.1339E-02                         | -6.50           | 3.617E-04       | -.275E+00       |                        | 1.3    |
| 25  | 8     | $A_1$    | 26   | 9      | $A_2$     | 935.87851  | 10                |                                   |                 | 0.1339E-02                         |                 |                 |                 |                        |        |
| 51  | 4     | $E$      | 52   | 5      | $E$       | 936.02931  | -8                |                                   |                 | 0.7584E-04                         |                 |                 |                 |                        |        |
| 38  | 6     | $E$      | 39   | 7      | $E$       | 936.05978  | 8                 | .519504E-03                       | 1.0             | 0.5161E-03                         | .65             | 1.470E-04       | -.361E+00       | -.174E+00              | 1.3    |
| 53  | 11    | $A_2$    | 53   | 12     | $A_1$     | 936.12792  | -25               |                                   |                 | 0.4421E-05                         |                 |                 |                 |                        |        |
| 53  | 11    | $A_1$    | 53   | 12     | $A_2$     | 936.12792  | -25               |                                   |                 | 0.4421E-05                         |                 |                 |                 |                        |        |
| 18  | 9     | $E$      | 19   | 10     | $E$       | 936.17218  | 7                 | .149318E-02                       | 0.4             | 0.1564E-02                         | -4.74           | 3.711E-04       | -.680E-01       | -.305E+00              | 1.1    |
| 52  | 11    | $A_1$    | 52   | 12     | $A_2$     | 936.30710  | -36               |                                   |                 | 0.5489E-05                         |                 |                 |                 |                        |        |
| 52  | 11    | $A_2$    | 52   | 12     | $A_1$     | 936.30710  | -36               |                                   |                 | 0.5489E-05                         |                 |                 |                 |                        |        |
| 11  | 10    | $E$      | 12   | 11     | $E$       | 936.38019  | 6                 | .134604E-02                       | 0.6             | 0.1452E-02                         | -7.89           | 1.396E-04       |                 | -.565E+00              | 1.2    |
| 57  | 3     | $E$      | 58   | 4      | $E$       | 936.46775  | 15                |                                   |                 | 0.2312E-04                         |                 |                 |                 |                        |        |
| 31  | 7     | $E$      | 32   | 8      | $E$       | 936.48906  | 7                 | .100242E-02                       | 1.2             | 0.1001E-02                         | .19             | 4.133E-04       |                 |                        | 1.0    |
| 44  | 5     | $A_2$    | 45   | 6      | $A_1$     | 936.57922  | 8                 | .497807E-03                       | 1.3             | 0.2447E-03                         | 1.68            | 6.262E-05       |                 | -.754E+00              | 1.2    |
| 44  | 5     | $A_1$    | 45   | 6      | $A_2$     | 936.57922  | 8                 |                                   |                 | 0.2447E-03                         |                 |                 |                 |                        |        |
| 49  | 11    | $A_2$    | 49   | 12     | $A_1$     | 936.82477  | -3                |                                   |                 | 0.1020E-04                         |                 |                 |                 |                        |        |
| 49  | 11    | $A_1$    | 49   | 12     | $A_2$     | 936.82477  | -3                |                                   |                 | 0.1020E-04                         |                 |                 |                 |                        |        |
| 24  | 8     | $A_2$    | 25   | 9      | $A_1$     | 936.84257  | 7                 | .297152E-02                       | 0.3             | 0.1477E-02                         | .58             | 2.930E-04       | -.247E+00       | -.467E+00              | 1.4    |
| 24  | 8     | $A_1$    | 25   | 9      | $A_2$     | 936.84257  | 7                 |                                   |                 | 0.1477E-02                         |                 |                 |                 |                        |        |
| 48  | 11    | $A_2$    | 48   | 12     | $A_1$     | 936.99046  | 6                 |                                   |                 | 0.1241E-04                         |                 |                 |                 |                        |        |
| 48  | 11    | $A_1$    | 48   | 12     | $A_2$     | 936.99046  | 6                 |                                   |                 | 0.1241E-04                         |                 |                 |                 |                        |        |
| 37  | 6     | $E$      | 38   | 7      | $E$       | 937.06087  | 9                 | .603382E-03                       | 3.7             | 0.6035E-03                         | -.01            | 1.332E-04       |                 |                        | 1.0    |
| 50  | 4     | $E$      | 51   | 5      | $E$       | 937.06497  | -1                |                                   |                 | 0.9404E-04                         |                 |                 |                 |                        |        |
| 17  | 9     | $E$      | 18   | 10     | $E$       | 937.11521  | 9                 | .164025E-02                       | 0.7             | 0.1676E-02                         | -2.21           | 2.944E-04       | -.797E+00       | -.312E+00              | 1.7    |
| 47  | 11    | $A_1$    | 47   | 12     | $A_2$     | 937.15285  | 26                |                                   |                 | 0.1503E-04                         |                 |                 |                 |                        |        |
| 47  | 11    | $A_2$    | 47   | 12     | $A_1$     | 937.15285  | 26                |                                   |                 | 0.1503E-04                         |                 |                 |                 |                        |        |
| 10  | 10    | $E$      | 11   | 11     | $E$       | 937.30122  | 3                 | .162436E-02                       | 0.6             | 0.1530E-02                         | 5.83            | 2.777E-04       | -.519E+00       | .168E+00               | 1.9    |
| 46  | 11    | $A_1$    | 46   | 12     | $A_2$     | 937.31151  | 14                |                                   |                 | 0.1810E-04                         |                 |                 |                 |                        |        |
| 46  | 11    | $A_2$    | 46   | 12     | $A_1$     | 937.31151  | 14                |                                   |                 | 0.1810E-04                         |                 |                 |                 |                        |        |
| 30  | 7     | $E$      | 31   | 8      | $E$       | 937.47063  | 16                | .111382E-02                       | 1.1             | 0.1133E-02                         | -1.74           | 4.564E-04       | -.339E+00       | .927E+00               | 1.1    |
| 56  | 3     | $E$      | 57   | 4      | $E$       | 937.51847  | 3                 |                                   |                 | 0.2944E-04                         |                 |                 |                 |                        |        |
| 43  | 5     | $A_2$    | 44   | 6      | $A_1$     | 937.59650  | 9                 | .573650E-03                       | 1.9             | 0.2940E-03                         | -2.50           | 2.968E-04       | -.440E+00       | .667E+00               | 1.1    |
| 43  | 5     | $A_1$    | 44   | 6      | $A_2$     | 937.59650  | 9                 |                                   |                 | 0.2940E-03                         |                 |                 |                 |                        |        |
| 44  | 11    | $A_1$    | 44   | 12     | $A_2$     | 937.61870  | 1                 |                                   |                 | 0.2587E-04                         |                 |                 |                 |                        |        |
| 44  | 11    | $A_2$    | 44   | 12     | $A_1$     | 937.61870  | 1                 |                                   |                 | 0.2587E-04                         |                 |                 |                 |                        |        |
| 43  | 11    | $A_1$    | 43   | 12     | $A_2$     | 937.76725  | 1                 |                                   |                 | 0.3070E-04                         |                 |                 |                 |                        |        |
| 43  | 11    | $A_2$    | 43   | 12     | $A_1$     | 937.76725  | 1                 |                                   |                 | 0.3070E-04                         |                 |                 |                 |                        |        |
| 23  | 8     | $A_2$    | 24   | 9      | $A_1$     | 937.80371  | 9                 | .317741E-02                       | 0.6             | 0.1622E-02                         | -2.08           | 3.008E-04       | -.932E+00       |                        | 1.2    |
| 23  | 8     | $A_1$    | 24   | 9      | $A_2$     | 937.80371  | 9                 |                                   |                 | 0.1622E-02                         |                 |                 |                 |                        |        |
| 42  | 11    | $A_1$    | 42   | 12     | $A_2$     | 937.91237  | -1                |                                   |                 | 0.3622E-04                         |                 |                 |                 |                        |        |
| 42  | 11    | $A_2$    | 42   | 12     | $A_1$     | 937.91237  | -1                |                                   |                 | 0.3622E-04                         |                 |                 |                 |                        |        |
| 16  | 9     | $E$      | 17   | 10     | $E$       | 938.05508  | 3                 | .208008E-02                       | 0.8             | 0.1790E-02                         | 9.86            | 6.122E-04       | -.394E+00       | .223E+01               | 1.2    |
| 41  | 11    | $A_1$    | 41   | 12     | $A_2$     | 938.05508  | 96                |                                   |                 | 0.4252E-04                         |                 |                 |                 |                        |        |
| 41  | 11    | $A_2$    | 41   | 12     | $A_1$     | 938.05508  | 96                |                                   |                 | 0.4252E-04                         |                 |                 |                 |                        |        |
| 36  | 6     | $E$      | 37   | 7      | $E$       | 938.05896  | -13               |                                   |                 | 0.7022E-03                         |                 |                 |                 |                        |        |
| 49  | 4     | $E$      | 50   | 5      | $E$       | 938.09806  | 9                 |                                   |                 | 0.1161E-03                         |                 |                 |                 |                        |        |
| 40  | 11    | $A_2$    | 40   | 12     | $A_1$     | 938.19252  | 6                 |                                   |                 | 0.4965E-04                         |                 |                 |                 |                        |        |
| 40  | 11    | $A_1$    | 40   | 12     | $A_2$     | 938.19252  | 6                 |                                   |                 | 0.4965E-04                         |                 |                 |                 |                        |        |
| 39  | 11    | $A_1$    | 39   | 12     | $A_2$     | 938.32744  | 3                 |                                   |                 | 0.5766E-04                         |                 |                 |                 |                        |        |
| 39  | 11    | $A_2$    | 39   | 12     | $A_1$     | 938.32744  | 3                 |                                   |                 | 0.5766E-04                         |                 |                 |                 |                        |        |
| 29  | 7     | $E$      | 30   | 8      | $E$       | 938.44917  | 9                 | .129789E-02                       | 1.9             | 0.1277E-02                         | 1.58            | 2.988E-04       | .701E+00        |                        | 1.1    |
| 38  | 11    | $A_2$    | 38   | 12     | $A_1$     | 938.45906  | 11                |                                   |                 | 0.6660E-04                         |                 |                 |                 |                        |        |
| 38  | 11    | $A_1$    | 38   | 12     | $A_2$     | 938.45906  | 11                |                                   |                 | 0.6660E-04                         |                 |                 |                 |                        |        |



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| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 55  | 3     | $E$      | 56   | 4      | $E$       | 938.56678  | 4                 |                                   |                 | 0.3732E-04                         |                 |                 |                 |                        |        |
| 37  | 11    | $A_2$    | 37   | 12     | $A_1$     | 938.58716  | 5                 |                                   |                 | 0.7649E-04                         |                 |                 |                 |                        |        |
| 37  | 11    | $A_1$    | 37   | 12     | $A_2$     | 938.58716  | 5                 |                                   |                 | 0.7649E-04                         |                 |                 |                 |                        |        |
| 42  | 5     | $A_2$    | 43   | 6      | $A_1$     | 938.61110  | 10                | .690356E-03                       | 2.0             | 0.3515E-03                         | -1.84           | 3.033E-04       |                 |                        | 1.0    |
| 42  | 5     | $A_1$    | 43   | 6      | $A_2$     | 938.61110  | 10                |                                   |                 | 0.3515E-03                         |                 |                 |                 |                        |        |
| 36  | 11    | $A_2$    | 36   | 12     | $A_1$     | 938.71195  | 8                 | .182968E-03                       | 3.0             | 0.8736E-04                         | .00             | 6.532E-04       | -.109E+01       | .602E+00               | 1.1    |
| 36  | 11    | $A_1$    | 36   | 12     | $A_2$     | 938.71195  | 8                 |                                   |                 | 0.8736E-04                         |                 |                 |                 |                        |        |
| 22  | 8     | $A_2$    | 23   | 9      | $A_1$     | 938.76185  | 10                | .349954E-02                       | 0.7             | 0.1773E-02                         | -1.30           | 5.445E-04       | .425E-01        | .223E+01               | 1.1    |
| 22  | 8     | $A_1$    | 23   | 9      | $A_2$     | 938.76185  | 10                |                                   |                 | 0.1773E-02                         |                 |                 |                 |                        |        |
| 35  | 11    | $A_2$    | 35   | 12     | $A_1$     | 938.83329  | 6                 | .215654E-03                       | 3.0             | 0.9920E-04                         | .00             | 4.396E-04       | .141E+01        |                        | 1.3    |
| 35  | 11    | $A_1$    | 35   | 12     | $A_2$     | 938.83329  | 6                 |                                   |                 | 0.9920E-04                         |                 |                 |                 |                        |        |
| 34  | 11    | $A_2$    | 34   | 12     | $A_1$     | 938.95125  | 4                 | .238878E-03                       | 4.2             | 0.1120E-03                         | 6.24            | 6.754E-04       |                 |                        | 1.0    |
| 34  | 11    | $A_1$    | 34   | 12     | $A_2$     | 938.95125  | 4                 |                                   |                 | 0.1120E-03                         |                 |                 |                 |                        |        |
| 15  | 9     | $E$      | 16   | 10     | $E$       | 938.99202  | 13                | .198031E-02                       | 1.6             | 0.1904E-02                         | 3.87            | 4.370E-04       | -.761E+00       | -.234E+00              | 1.3    |
| 35  | 6     | $E$      | 36   | 7      | $E$       | 939.05478  | 18                |                                   |                 | 0.8133E-03                         |                 |                 |                 |                        |        |
| 33  | 11    | $A_2$    | 33   | 12     | $A_1$     | 939.06584  | 4                 | .270264E-03                       | 2.2             | 0.1257E-03                         | 7.00            | 1.580E-04       |                 |                        | 1.0    |
| 33  | 11    | $A_1$    | 33   | 12     | $A_2$     | 939.06584  | 4                 |                                   |                 | 0.1257E-03                         |                 |                 |                 |                        |        |
| 48  | 4     | $E$      | 49   | 5      | $E$       | 939.12856  | 22                |                                   |                 | 0.1426E-03                         |                 |                 |                 |                        |        |
| 32  | 11    | $A_2$    | 32   | 12     | $A_1$     | 939.17705  | 4                 | .280786E-03                       | 2.7             | 0.1402E-03                         | .16             | 1.284E-04       |                 |                        | 1.0    |
| 32  | 11    | $A_1$    | 32   | 12     | $A_2$     | 939.17705  | 4                 |                                   |                 | 0.1402E-03                         |                 |                 |                 |                        |        |
| 31  | 11    | $A_2$    | 31   | 12     | $A_1$     | 939.28487  | 4                 | .306596E-03                       | 3.3             | 0.1553E-03                         | -1.33           | 5.619E-04       |                 |                        | 1.0    |
| 31  | 11    | $A_1$    | 31   | 12     | $A_2$     | 939.28487  | 4                 |                                   |                 | 0.1553E-03                         |                 |                 |                 |                        |        |
| 30  | 11    | $A_2$    | 30   | 12     | $A_1$     | 939.38931  | 5                 | .322368E-03                       | 2.1             | 0.1710E-03                         | -6.12           | 5.122E-04       |                 |                        | 1.0    |
| 30  | 11    | $A_1$    | 30   | 12     | $A_2$     | 939.38931  | 5                 |                                   |                 | 0.1710E-03                         |                 |                 |                 |                        |        |
| 28  | 7     | $E$      | 29   | 8      | $E$       | 939.42487  | 7                 | .140043E-02                       | 0.9             | 0.1433E-02                         | -2.34           | 3.233E-04       | -.835E+00       | -.320E+00              | 1.6    |
| 29  | 11    | $A_2$    | 29   | 12     | $A_1$     | 939.49007  | -25               |                                   |                 | 0.1871E-03                         |                 |                 |                 |                        |        |
| 29  | 11    | $A_1$    | 29   | 12     | $A_2$     | 939.49007  | -25               |                                   |                 | 0.1871E-03                         |                 |                 |                 |                        |        |
| 28  | 11    | $A_2$    | 28   | 12     | $A_1$     | 939.58806  | 7                 | .412116E-03                       | 1.3             | 0.2032E-03                         | 1.40            | 2.497E-04       | -.537E+00       |                        | 1.1    |
| 28  | 11    | $A_1$    | 28   | 12     | $A_2$     | 939.58806  | 7                 |                                   |                 | 0.2032E-03                         |                 |                 |                 |                        |        |
| 54  | 3     | $E$      | 55   | 4      | $E$       | 939.61245  | -5                |                                   |                 | 0.4709E-04                         |                 |                 |                 |                        |        |
| 41  | 5     | $A_2$    | 42   | 6      | $A_1$     | 939.62297  | 10                | .831558E-03                       | 1.0             | 0.4184E-03                         | -.62            | 1.217E-04       | -.450E+00       |                        | 1.6    |
| 41  | 5     | $A_1$    | 42   | 6      | $A_2$     | 939.62297  | 10                |                                   |                 | 0.4184E-03                         |                 |                 |                 |                        |        |
| 27  | 11    | $A_2$    | 27   | 12     | $A_1$     | 939.68232  | 4                 | .426604E-03                       | 1.7             | 0.2191E-03                         | -2.70           | 2.216E-04       | -.379E+00       |                        | 1.1    |
| 27  | 11    | $A_1$    | 27   | 12     | $A_2$     | 939.68232  | 4                 |                                   |                 | 0.2191E-03                         |                 |                 |                 |                        |        |
| 21  | 8     | $A_2$    | 22   | 9      | $A_1$     | 939.71701  | 12                | .376963E-02                       | 0.6             | 0.1928E-02                         | -2.31           | 3.888E-04       |                 |                        | 1.0    |
| 21  | 8     | $A_1$    | 22   | 9      | $A_2$     | 939.71701  | 12                |                                   |                 | 0.1928E-02                         |                 |                 |                 |                        |        |
| 26  | 11    | $A_2$    | 26   | 12     | $A_1$     | 939.77323  | 3                 | .487903E-03                       | 2.2             | 0.2344E-03                         | 3.93            | 2.909E-04       | -.658E+00       |                        | 1.3    |
| 26  | 11    | $A_1$    | 26   | 12     | $A_2$     | 939.77323  | 3                 |                                   |                 | 0.2344E-03                         |                 |                 |                 |                        |        |
| 25  | 11    | $A_2$    | 25   | 12     | $A_1$     | 939.86073  | -1                | .514786E-03                       | 1.4             | 0.2487E-03                         | 3.38            | 4.609E-04       |                 |                        | 1.0    |
| 25  | 11    | $A_1$    | 25   | 12     | $A_2$     | 939.86073  | -1                |                                   |                 | 0.2487E-03                         |                 |                 |                 |                        |        |
| 14  | 9     | $E$      | 15   | 10     | $E$       | 939.92575  | 13                | .190597E-02                       | 0.9             | 0.2017E-02                         | -5.84           | 3.122E-04       | .122E+00        | -.467E+00              | 1.2    |
| 24  | 11    | $A_2$    | 24   | 12     | $A_1$     | 939.94488  | -2                | .544073E-03                       | 1.6             | 0.2616E-03                         | 3.85            | 2.990E-04       | .234E+00        |                        | 1.1    |
| 24  | 11    | $A_1$    | 24   | 12     | $A_2$     | 939.94488  | -2                |                                   |                 | 0.2616E-03                         |                 |                 |                 |                        |        |
| 23  | 11    | $A_2$    | 23   | 12     | $A_1$     | 940.02566  | -3                |                                   |                 | 0.2725E-03                         |                 |                 |                 |                        |        |
| 23  | 11    | $A_1$    | 23   | 12     | $A_2$     | 940.02566  | -3                |                                   |                 | 0.2725E-03                         |                 |                 |                 |                        |        |
| 34  | 6     | $E$      | 35   | 7      | $E$       | 940.04740  | 9                 | .909591E-03                       | 0.9             | 0.9374E-03                         | -3.06           | 3.067E-04       | -.180E+00       | .206E+00               | 1.1    |
| 22  | 11    | $A_2$    | 22   | 12     | $A_1$     | 940.10309  | -1                | .593698E-03                       | 1.7             | 0.2810E-03                         | 5.34            | 2.247E-04       |                 |                        | 1.0    |
| 22  | 11    | $A_1$    | 22   | 12     | $A_2$     | 940.10309  | -1                |                                   |                 | 0.2810E-03                         |                 |                 |                 |                        |        |
| 47  | 4     | $E$      | 48   | 5      | $E$       | 940.15616  | 7                 |                                   |                 | 0.1744E-03                         |                 |                 |                 |                        |        |
| 21  | 11    | $A_2$    | 21   | 12     | $A_1$     | 940.17713  | -1                | .590183E-03                       | 1.4             | 0.2864E-03                         | 2.95            | 5.216E-04       | .890E+00        | .598E+00               | 1.1    |
| 21  | 11    | $A_1$    | 21   | 12     | $A_2$     | 940.17713  | -1                |                                   |                 | 0.2864E-03                         |                 |                 |                 |                        |        |
| 20  | 11    | $A_2$    | 20   | 12     | $A_1$     | 940.24784  | 3                 | .592271E-03                       | 1.4             | 0.2880E-03                         | 2.75            | 3.942E-04       | -.672E+00       | -.353E+00              | 1.2    |
| 20  | 11    | $A_1$    | 20   | 12     | $A_2$     | 940.24784  | 3                 |                                   |                 | 0.2880E-03                         |                 |                 |                 |                        |        |
| 19  | 11    | $A_2$    | 19   | 12     | $A_1$     | 940.31505  | -6                | .622525E-03                       | 1.8             | 0.2852E-03                         | 8.38            | 4.440E-04       |                 |                        | 1.0    |
| 19  | 11    | $A_1$    | 19   | 12     | $A_2$     | 940.31505  | -6                |                                   |                 | 0.2852E-03                         |                 |                 |                 |                        |        |
| 18  | 11    | $A_2$    | 18   | 12     | $A_1$     | 940.37907  | 3                 | .595550E-03                       | 1.3             | 0.2772E-03                         | 6.91            | 2.140E-05       |                 | -.101E+01              | 1.4    |
| 18  | 11    | $A_1$    | 18   | 12     | $A_2$     | 940.37907  | 3                 |                                   |                 | 0.2772E-03                         |                 |                 |                 |                        |        |
| 27  | 7     | $E$      | 28   | 8      | $E$       | 940.39772  | 11                | .154292E-02                       | 0.5             | 0.1600E-02                         | -3.72           | 2.571E-04       | -.376E-01       | -.381E+00              | 1.2    |
| 17  | 11    | $A_2$    | 17   | 12     | $A_1$     | 940.43958  | -1                | .528993E-03                       | 1.8             | 0.2632E-03                         | .48             | 2.685E-04       |                 |                        | 1.0    |
| 17  | 11    | $A_1$    | 17   | 12     | $A_2$     | 940.43958  | -1                |                                   |                 | 0.2632E-03                         |                 |                 |                 |                        |        |
| 16  | 11    | $A_2$    | 16   | 12     | $A_1$     | 940.49674  | -4                | .495686E-03                       | 0.9             | 0.2424E-03                         | 2.18            | 4.227E-04       | .405E+00        | -.196E+00              | 1.4    |
| 16  | 11    | $A_1$    | 16   | 12     | $A_2$     | 940.49674  | -4                |                                   |                 | 0.2424E-03                         |                 |                 |                 |                        |        |
| 15  | 11    | $A_2$    | 15   | 12     | $A_1$     | 940.55060  | 0                 | .449344E-03                       | 1.2             | 0.2139E-03                         | 4.79            | 4.670E-04       | -.480E+00       | .103E+01               | 1.3    |
| 15  | 11    | $A_1$    | 15   | 12     | $A_2$     | 940.55060  | 0                 |                                   |                 | 0.2139E-03                         |                 |                 |                 |                        |        |
| 14  | 11    | $A_2$    | 14   | 12     | $A_1$     | 940.60103  | -3                | .385046E-03                       | 4.3             | 0.1767E-03                         | 8.24            | 4.776E-04       |                 |                        | 1.0    |
| 14  | 11    | $A_1$    | 14   | 12     | $A_2$     | 940.60103  | -3                |                                   |                 | 0.1767E-03                         |                 |                 |                 |                        |        |
| 40  | 5     | $A_2$    | 41   | 6      | $A_1$     | 940.63213  | 10                | .101527E-02                       | 0.7             | 0.4955E-03                         | 2.38            | 3.070E-04       |                 |                        | 1.0    |
| 40  | 5     | $A_1$    | 41   | 6      | $A_2$     | 940.63213  | 10                |                                   |                 | 0.4955E-03                         |                 |                 |                 |                        |        |
| 13  | 11    | $A_2$    | 13   | 12     | $A_1$     | 940.64812  | -3                | .242922E-03                       | 2.1             | 0.1295E-03                         | -6.65           | 1.894E-04       |                 |                        | 1.0    |
| 13  | 11    | $A_1$    | 13   | 12     | $A_2$     | 940.64812  | -3                |                                   |                 | 0.1295E-03                         |                 |                 |                 |                        |        |
| 53  | 3     | $E$      | 54   | 4      | $E$       | 940.65595  | 26                |                                   |                 | 0.5916E-04                         |                 |                 |                 |                        |        |
| 20  | 8     | $A_2$    | 21   | 9      | $A_1$     | 940.66911  | 9                 | .401425E-02                       | 0.6             | 0.2089E-02                         | -4.06           | 4.216E-04       | .235E+00        | .401E+00               | 1.1    |
| 20  | 8     | $A_1$    | 21   | 9      | $A_2$     | 940.66911  | 9                 |                                   |                 | 0.2089E-02                         |                 |                 |                 |                        |        |
| 12  | 11    | $A_1$    | 12   | 12     | $A_2$     | 940.69185  | -2                |                                   |                 | 0.7120E-04                         |                 |                 |                 |                        |        |
| 12  | 11    | $A_2$    | 12   | 12     | $A_1$     | 940.69185  | -2                |                                   |                 | 0.7120E-04                         |                 |                 |                 |                        |        |
| 13  | 9     | $E$      | 14   | 10     | $E$       | 940.85636  | 12                | .197919E-02                       | 0.6             | 0.2131E-02                         | -7.65           | 1.988E-04       |                 | -.671E+00              | 1.3    |
| 33  | 6     | $E$      | 34   | 7      | $E$       | 941.03730  | 9                 | .108228E-02                       | 1.0             | 0.1075E-02                         | .64             | 2.741E-04       | -.476E-01       |                        | .9     |
| 59  | 2     | $A_1$    | 60   | 3      | $A_2$     | 941.11783  | 29                |                                   |                 | 0.1647E-04                         |                 |                 |                 |                        |        |
| 46  | 4     | $E$      | 47   | 5      | $E$       | 941.18123  | 4                 |                                   |                 | 0.2122E-03                         |                 |                 |                 |                        |        |
| 26  | 7     | $E$      | 27   | 8      | $E$       | 941.36762  | 11                | .173595E-02                       | 0.9             | 0.1778E-02                         | -2.45           | 2.890E-04       |                 | -.522E+00              | 1.1    |
| 19  | 8     | $A_2$    | 20   | 9      | $A_1$     | 941.61825  | 12                | .439970E-02                       | 0.4             | 0.2252E-02                         | -2.36           | 2.942E-04       |                 | -.604E+00              | 1.8    |
| 19  | 8     | $A_1$    | 20   | 9      | $A_2$     | 941.61825  | 12                |                                   |                 | 0.2252E-02                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 39  | 5     | $A_2$    | 40   | 6      | $A_1$     | 941.63852  | 7                 | .118603E-02                       | 0.7             | 0.5842E-03                         | 1.49            | 3.781E-04       |                 |                        | 1.0    |
| 39  | 5     | $A_1$    | 40   | 6      | $A_2$     | 941.63852  | 7                 |                                   |                 | 0.5842E-03                         |                 |                 |                 |                        |        |
| 52  | 3     | $E$      | 53   | 4      | $E$       | 941.69645  | 13                |                                   |                 | 0.7396E-04                         |                 |                 |                 |                        |        |
| 12  | 9     | $E$      | 13   | 10     | $E$       | 941.78383  | 11                | .225566E-02                       | 0.7             | 0.2244E-02                         | .53             | 3.895E-04       | .233E+00        | .449E-01               | 1.1    |
| 56  | 10    | $E$      | 56   | 11     | $E$       | 941.86184  | 21                |                                   |                 | 0.4377E-05                         |                 |                 |                 |                        |        |
| 23  | 14    | $A_2$    | 22   | 15     | $A_1$     | 941.90926  | -12               |                                   |                 | 0.2333E-05                         |                 |                 |                 |                        |        |
| 23  | 14    | $A_1$    | 22   | 15     | $A_2$     | 941.90926  | -12               |                                   |                 | 0.2333E-05                         |                 |                 |                 |                        |        |
| 32  | 6     | $E$      | 33   | 7      | $E$       | 942.02436  | 8                 | .126693E-02                       | 0.8             | 0.1228E-02                         | 3.09            | 3.460E-04       | -.547E+00       | .359E+00               | 1.2    |
| 58  | 2     | $A_1$    | 59   | 3      | $A_2$     | 942.18150  | 24                |                                   |                 | 0.2115E-04                         |                 |                 |                 |                        |        |
| 45  | 4     | $E$      | 46   | 5      | $E$       | 942.20366  | 2                 |                                   |                 | 0.2571E-03                         |                 |                 |                 |                        |        |
| 54  | 10    | $E$      | 54   | 11     | $E$       | 942.23518  | -30               |                                   |                 | 0.6909E-05                         |                 |                 |                 |                        |        |
| 25  | 7     | $E$      | 26   | 8      | $E$       | 942.33456  | 8                 | .193480E-02                       | 0.4             | 0.1967E-02                         | -1.67           | 3.919E-04       | -.144E+00       | .145E+00               | 1.2    |
| 53  | 10    | $E$      | 53   | 11     | $E$       | 942.41772  | 43                |                                   |                 | 0.8618E-05                         |                 |                 |                 |                        |        |
| 18  | 8     | $A_2$    | 19   | 9      | $A_1$     | 942.56432  | 11                | .479878E-02                       | 0.3             | 0.2417E-02                         | -.74            | 3.684E-04       | -.250E+00       | -.230E+00              | 1.8    |
| 18  | 8     | $A_1$    | 19   | 9      | $A_2$     | 942.56432  | 11                |                                   |                 | 0.2417E-02                         |                 |                 |                 |                        |        |
| 52  | 10    | $E$      | 52   | 11     | $E$       | 942.59573  | 5                 |                                   |                 | 0.1070E-04                         |                 |                 |                 |                        |        |
| 38  | 5     | $A_2$    | 39   | 6      | $A_1$     | 942.64225  | 11                | .134225E-02                       | 0.5             | 0.6854E-03                         | -2.13           | 3.173E-04       | -.462E+00       | .266E+00               | 1.6    |
| 38  | 5     | $A_1$    | 39   | 6      | $A_2$     | 942.64225  | 11                |                                   |                 | 0.6854E-03                         |                 |                 |                 |                        |        |
| 11  | 9     | $E$      | 12   | 10     | $E$       | 942.70832  | 26                |                                   |                 | 0.2357E-02                         |                 |                 |                 |                        |        |
| 51  | 3     | $E$      | 52   | 4      | $E$       | 942.73448  | 11                |                                   |                 | 0.9205E-04                         |                 |                 |                 |                        |        |
| 51  | 10    | $E$      | 51   | 11     | $E$       | 942.77091  | 25                |                                   |                 | 0.1321E-04                         |                 |                 |                 |                        |        |
| 31  | 6     | $E$      | 32   | 7      | $E$       | 943.00860  | 9                 | .139777E-02                       | 1.0             | 0.1395E-02                         | .19             | 2.300E-04       |                 |                        | 1.0    |
| 44  | 4     | $E$      | 45   | 5      | $E$       | 943.22353  | 10                | .333536E-03                       | 2.2             | 0.3099E-03                         | 7.07            | 5.143E-04       | -.815E+00       | .169E+01               | 1.3    |
| 57  | 2     | $A_1$    | 58   | 3      | $A_2$     | 943.22739  | 38                |                                   |                 | 0.2703E-04                         |                 |                 |                 |                        |        |
| 57  | 2     | $A_2$    | 58   | 3      | $A_1$     | 943.23449  | 2                 |                                   |                 | 0.2703E-04                         |                 |                 |                 |                        |        |
| 48  | 10    | $E$      | 48   | 11     | $E$       | 943.27521  | 1                 |                                   |                 | 0.2418E-04                         |                 |                 |                 |                        |        |
| 24  | 7     | $E$      | 25   | 8      | $E$       | 943.29866  | 16                | .204301E-02                       | 0.9             | 0.2165E-02                         | -5.99           | 3.802E-04       |                 |                        | 1.0    |
| 47  | 10    | $E$      | 47   | 11     | $E$       | 943.43656  | -1                |                                   |                 | 0.2928E-04                         |                 |                 |                 |                        |        |
| 25  | 14    | $A_2$    | 24   | 15     | $A_1$     | 943.50099  | 36                |                                   |                 | 0.2676E-05                         |                 |                 |                 |                        |        |
| 25  | 14    | $A_1$    | 24   | 15     | $A_2$     | 943.50099  | 36                |                                   |                 | 0.2676E-05                         |                 |                 |                 |                        |        |
| 17  | 8     | $A_2$    | 18   | 9      | $A_1$     | 943.50736  | 13                | .515328E-02                       | 0.3             | 0.2584E-02                         | -.27            | 2.921E-04       | -.978E-02       | -.506E+00              | 1.3    |
| 17  | 8     | $A_1$    | 18   | 9      | $A_2$     | 943.50736  | 13                |                                   |                 | 0.2584E-02                         |                 |                 |                 |                        |        |
| 46  | 10    | $E$      | 46   | 11     | $E$       | 943.59462  | 6                 |                                   |                 | 0.3528E-04                         |                 |                 |                 |                        |        |
| 10  | 9     | $E$      | 11   | 10     | $E$       | 943.62936  | 12                | .240307E-02                       | 0.6             | 0.2471E-02                         | -2.83           | 2.778E-04       | -.184E+00       | -.404E+00              | 1.3    |
| 37  | 5     | $A_2$    | 38   | 6      | $A_1$     | 943.64320  | 14                | .156793E-02                       | 1.1             | 0.8004E-03                         | -2.10           | 1.486E-04       |                 | -.706E+00              | 1.1    |
| 37  | 5     | $A_1$    | 38   | 6      | $A_2$     | 943.64320  | 14                |                                   |                 | 0.8004E-03                         |                 |                 |                 |                        |        |
| 45  | 10    | $E$      | 45   | 11     | $E$       | 943.74921  | 6                 |                                   |                 | 0.4229E-04                         |                 |                 |                 |                        |        |
| 50  | 3     | $E$      | 51   | 4      | $E$       | 943.76996  | 14                |                                   |                 | 0.1140E-03                         |                 |                 |                 |                        |        |
| 44  | 10    | $E$      | 44   | 11     | $E$       | 943.90046  | 12                |                                   |                 | 0.5044E-04                         |                 |                 |                 |                        |        |
| 18  | 13    | $E$      | 17   | 14     | $E$       | 943.94170  | -42               |                                   |                 | 0.3271E-05                         |                 |                 |                 |                        |        |
| 30  | 6     | $E$      | 31   | 7      | $E$       | 943.98997  | 9                 | .161190E-02                       | 0.9             | 0.1578E-02                         | 2.13            | 2.965E-04       | -.360E+00       | -.247E+00              | 1.2    |
| 43  | 10    | $E$      | 43   | 11     | $E$       | 944.04816  | 1                 |                                   |                 | 0.5985E-04                         |                 |                 |                 |                        |        |
| 42  | 10    | $E$      | 42   | 11     | $E$       | 944.19268  | 11                |                                   |                 | 0.7065E-04                         |                 |                 |                 |                        |        |
| 43  | 4     | $E$      | 44   | 5      | $E$       | 944.24066  | 12                | .373283E-03                       | 2.1             | 0.3719E-03                         | .36             | 1.773E-04       | -.351E+00       |                        | 1.1    |
| 23  | 7     | $E$      | 24   | 8      | $E$       | 944.25972  | 15                | .224948E-02                       | 0.6             | 0.2372E-02                         | -5.47           | 4.011E-04       | -.697E-01       | .481E+00               | 1.1    |
| 56  | 2     | $A_2$    | 57   | 3      | $A_1$     | 944.27810  | 10                |                                   |                 | 0.3438E-04                         |                 |                 |                 |                        |        |
| 56  | 2     | $A_1$    | 57   | 3      | $A_2$     | 944.28524  | 12                |                                   |                 | 0.3438E-04                         |                 |                 |                 |                        |        |
| 41  | 10    | $E$      | 41   | 11     | $E$       | 944.33356  | -5                |                                   |                 | 0.8297E-04                         |                 |                 |                 |                        |        |
| 16  | 8     | $A_2$    | 17   | 9      | $A_1$     | 944.44731  | 12                | .546535E-02                       | 0.4             | 0.2750E-02                         | -.63            | 3.477E-04       | .111E+00        | -.223E+00              | 1.1    |
| 16  | 8     | $A_1$    | 17   | 9      | $A_2$     | 944.44731  | 12                |                                   |                 | 0.2750E-02                         |                 |                 |                 |                        |        |
| 40  | 10    | $E$      | 40   | 11     | $E$       | 944.47127  | 0                 |                                   |                 | 0.9691E-04                         |                 |                 |                 |                        |        |
| 9   | 9     | $E$      | 10   | 10     | $E$       | 944.54737  | 13                | .254830E-02                       | 0.4             | 0.2589E-02                         | -1.59           | 2.825E-04       | -.134E+00       | -.374E+00              | 1.4    |
| 39  | 10    | $E$      | 39   | 11     | $E$       | 944.60554  | 0                 |                                   |                 | 0.1126E-03                         |                 |                 |                 |                        |        |
| 36  | 5     | $A_2$    | 37   | 6      | $A_1$     | 944.64135  | 13                | .189208E-02                       | 0.7             | 0.9302E-03                         | 1.67            | 2.852E-04       | -.256E+00       | -.136E+00              | 1.3    |
| 36  | 5     | $A_1$    | 37   | 6      | $A_2$     | 944.64135  | 13                |                                   |                 | 0.9302E-03                         |                 |                 |                 |                        |        |
| 38  | 10    | $E$      | 38   | 11     | $E$       | 944.73639  | -4                |                                   |                 | 0.1301E-03                         |                 |                 |                 |                        |        |
| 62  | 1     | $E$      | 63   | 2      | $E$       | 944.75463  | 6                 |                                   |                 | 0.8636E-05                         |                 |                 |                 |                        |        |
| 49  | 3     | $E$      | 50   | 4      | $E$       | 944.80279  | 11                |                                   |                 | 0.1406E-03                         |                 |                 |                 |                        |        |
| 37  | 10    | $E$      | 37   | 11     | $E$       | 944.86403  | 8                 |                                   |                 | 0.1496E-03                         |                 |                 |                 |                        |        |
| 29  | 6     | $E$      | 30   | 7      | $E$       | 944.96850  | 12                | .182864E-02                       | 0.9             | 0.1775E-02                         | 2.91            | 2.149E-04       |                 | -.574E+00              | 1.2    |
| 36  | 10    | $E$      | 36   | 11     | $E$       | 944.98813  | 4                 |                                   |                 | 0.1709E-03                         |                 |                 |                 |                        |        |
| 35  | 10    | $E$      | 35   | 11     | $E$       | 945.10883  | -2                |                                   |                 | 0.1943E-03                         |                 |                 |                 |                        |        |
| 22  | 7     | $E$      | 23   | 8      | $E$       | 945.21782  | 15                | .248624E-02                       | 1.0             | 0.2587E-02                         | -4.06           | 1.916E-04       |                 | -.952E+00              | 1.3    |
| 34  | 10    | $E$      | 34   | 11     | $E$       | 945.22612  | -13               |                                   |                 | 0.2196E-03                         |                 |                 |                 |                        |        |
| 42  | 4     | $E$      | 43   | 5      | $E$       | 945.25506  | 9                 | .451710E-03                       | 2.1             | 0.4443E-03                         | 1.65            | 4.160E-05       |                 |                        | 1.0    |
| 55  | 2     | $A_1$    | 56   | 3      | $A_2$     | 945.32649  | 2                 |                                   |                 | 0.4354E-04                         |                 |                 |                 |                        |        |
| 55  | 2     | $A_2$    | 56   | 3      | $A_1$     | 945.33309  | -13               |                                   |                 | 0.4354E-04                         |                 |                 |                 |                        |        |
| 33  | 10    | $E$      | 33   | 11     | $E$       | 945.34031  | 4                 |                                   |                 | 0.2467E-03                         |                 |                 |                 |                        |        |
| 15  | 8     | $A_2$    | 16   | 9      | $A_1$     | 945.38419  | 12                | .596650E-02                       | 0.6             | 0.2915E-02                         | 2.29            | 3.482E-04       | -.752E+00       |                        | 1.2    |
| 15  | 8     | $A_1$    | 16   | 9      | $A_2$     | 945.38419  | 12                |                                   |                 | 0.2915E-02                         |                 |                 |                 |                        |        |
| 32  | 10    | $E$      | 32   | 11     | $E$       | 945.45094  | 1                 |                                   |                 | 0.2755E-03                         |                 |                 |                 |                        |        |
| 31  | 10    | $E$      | 31   | 11     | $E$       | 945.55820  | -1                |                                   |                 | 0.3057E-03                         |                 |                 |                 |                        |        |
| 20  | 13    | $E$      | 19   | 14     | $E$       | 945.57256  | -1                |                                   |                 | 0.5274E-05                         |                 |                 |                 |                        |        |
| 35  | 5     | $A_2$    | 36   | 6      | $A_1$     | 945.63671  | 12                | .220756E-02                       | 0.8             | 0.1076E-02                         | 2.53            | 1.602E-04       |                 | -.737E+00              | 1.7    |
| 35  | 5     | $A_1$    | 36   | 6      | $A_2$     | 945.63671  | 12                |                                   |                 | 0.1076E-02                         |                 |                 |                 |                        |        |
| 30  | 10    | $E$      | 30   | 11     | $E$       | 945.66213  | 0                 |                                   |                 | 0.3372E-03                         |                 |                 |                 |                        |        |
| 29  | 10    | $E$      | 29   | 11     | $E$       | 945.76268  | 0                 |                                   |                 | 0.3696E-03                         |                 |                 |                 |                        |        |
| 48  | 3     | $E$      | 49   | 4      | $E$       | 945.83311  | 19                |                                   |                 | 0.1725E-03                         |                 |                 |                 |                        |        |
| 28  | 10    | $E$      | 28   | 11     | $E$       | 945.85986  | -2                | .403329E-03                       | 2.4             | 0.4023E-03                         | .26             | 3.009E-04       | .655E+00        |                        | 1.3    |
| 28  | 6     | $E$      | 29   | 7      | $E$       | 945.94386  | -15               |                                   |                 | 0.1989E-02                         |                 |                 |                 |                        |        |
| 27  | 10    | $E$      | 27   | 11     | $E$       | 945.95370  | 0                 |                                   |                 | 0.4348E-03                         |                 |                 |                 |                        |        |
| 26  | 10    | $E$      | 26   | 11     | $E$       | 946.04415  | -2                | .486106E-03                       | 0.7             | 0.4666E-03                         | 4.01            | 3.571E-04       | -.381E+00       | -.379E+00              | 1.4    |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 25  | 10    | $E$      | 25   | 11     | $E$       | 946.13129  | 1                 | .478472E-03                       | 1.5             | 0.4969E-03                         | -3.85           | 4.619E-04       |                 |                        | 1.0    |
| 21  | 7     | $E$      | 22   | 8      | $E$       | 946.17292  | 14                | .271144E-02                       | 1.0             | 0.2808E-02                         | -3.56           | 1.942E-04       |                 | -.676E+00              | 1.3    |
| 24  | 10    | $E$      | 24   | 11     | $E$       | 946.21506  | 4                 | .516799E-03                       | 2.6             | 0.5249E-03                         | -1.56           | 1.778E-04       |                 | -.935E+00              | 1.1    |
| 41  | 4     | $E$      | 42   | 5      | $E$       | 946.26691  | 22                | .547245E-03                       | 1.4             | 0.5281E-03                         | 3.50            | 2.167E-04       |                 | -.712E+00              | 1.1    |
| 23  | 10    | $E$      | 23   | 11     | $E$       | 946.29540  | -1                | .535352E-03                       | 1.2             | 0.5496E-03                         | -2.65           | 4.308E-04       | -.173E+00       | -.144E+00              | 1.1    |
| 14  | 8     | $A_2$    | 15   | 9      | $A_1$     | 946.31800  | 14                | .608850E-02                       | 0.5             | 0.3078E-02                         | -1.11           | 3.302E-04       | -.203E+00       | -.471E+00              | 1.3    |
| 14  | 8     | $A_1$    | 15   | 9      | $A_2$     | 946.31800  | 14                |                                   |                 | 0.3078E-02                         |                 |                 |                 |                        |        |
| 22  | 10    | $E$      | 22   | 11     | $E$       | 946.37244  | 0                 | .555074E-03                       | 0.8             | 0.5700E-03                         | -2.69           | 1.154E-04       |                 |                        | 1.0    |
| 54  | 2     | $A_2$    | 55   | 3      | $A_1$     | 946.37244  | 5                 |                                   |                 | 0.5488E-04                         |                 |                 |                 |                        |        |
| 21  | 10    | $E$      | 21   | 11     | $E$       | 946.44612  | 0                 | .569680E-03                       | 1.0             | 0.5851E-03                         | -2.71           | 2.705E-04       |                 | -.583E+00              | 1.1    |
| 20  | 10    | $E$      | 20   | 11     | $E$       | 946.51645  | 1                 | .578573E-03                       | 1.3             | 0.5937E-03                         | -2.62           | 3.701E-04       |                 | -.886E+00              | 1.1    |
| 19  | 10    | $E$      | 19   | 11     | $E$       | 946.58341  | 0                 | .578801E-03                       | 1.3             | 0.5946E-03                         | -2.72           | 1.455E-04       |                 | -.809E+00              | 1.2    |
| 34  | 5     | $A_2$    | 35   | 6      | $A_1$     | 946.62931  | 13                | .248699E-02                       | 0.4             | 0.1238E-02                         | .41             | 2.644E-04       |                 | .130E+00               | 1.1    |
| 34  | 5     | $A_1$    | 35   | 6      | $A_2$     | 946.62931  | 13                |                                   |                 | 0.1238E-02                         |                 |                 |                 |                        |        |
| 18  | 10    | $E$      | 18   | 11     | $E$       | 946.64702  | 0                 | .570780E-03                       | 1.4             | 0.5863E-03                         | -2.73           | 4.415E-04       |                 |                        | 1.0    |
| 17  | 10    | $E$      | 17   | 11     | $E$       | 946.70729  | 1                 | .553068E-03                       | 1.5             | 0.5676E-03                         | -2.64           | 2.416E-04       |                 |                        | 1.0    |
| 16  | 10    | $E$      | 16   | 11     | $E$       | 946.76422  | 3                 | .525554E-03                       | 1.2             | 0.5370E-03                         | -2.18           | 3.811E-04       |                 |                        | 1.0    |
| 15  | 10    | $E$      | 15   | 11     | $E$       | 946.81773  | -2                | .485362E-03                       | 2.2             | 0.4928E-03                         | -1.54           | 8.032E-05       | -.168E+01       |                        | 1.5    |
| 47  | 3     | $E$      | 48   | 4      | $E$       | 946.86069  | 16                |                                   |                 | 0.2107E-03                         |                 |                 |                 |                        |        |
| 14  | 10    | $E$      | 14   | 11     | $E$       | 946.86791  | -5                | .424998E-03                       | 2.2             | 0.4335E-03                         | -1.99           | 3.961E-04       | -.165E+01       |                        | 1.8    |
| 27  | 6     | $E$      | 28   | 7      | $E$       | 946.91682  | 8                 | .241083E-02                       | 6.4             | 0.2216E-02                         | -6.74           | 7.437E-05       |                 |                        | 1.0    |
| 13  | 10    | $E$      | 13   | 11     | $E$       | 946.91682  | 201               |                                   |                 | 0.3570E-03                         |                 |                 |                 |                        |        |
| 12  | 10    | $E$      | 12   | 11     | $E$       | 946.95833  | 1                 |                                   |                 | 0.2611E-03                         |                 |                 |                 |                        |        |
| 11  | 10    | $E$      | 11   | 11     | $E$       | 946.99849  | 1                 |                                   |                 | 0.1433E-03                         |                 |                 |                 |                        |        |
| 20  | 7     | $E$      | 21   | 8      | $E$       | 947.12503  | 14                | .289649E-02                       | 0.4             | 0.3034E-02                         | -4.73           | 3.642E-04       | -.417E+00       | -.376E+00              | 1.6    |
| 22  | 13    | $E$      | 21   | 14     | $E$       | 947.18791  | -30               |                                   |                 | 0.6888E-05                         |                 |                 |                 |                        |        |
| 13  | 8     | $A_2$    | 14   | 9      | $A_1$     | 947.24869  | 15                | .639745E-02                       | 0.3             | 0.3238E-02                         | -1.24           | 3.703E-04       | -.262E+00       | -.268E+00              | 1.8    |
| 13  | 8     | $A_1$    | 14   | 9      | $A_2$     | 947.24869  | 15                |                                   |                 | 0.3238E-02                         |                 |                 |                 |                        |        |
| 40  | 4     | $E$      | 41   | 5      | $E$       | 947.27580  | 10                | .649838E-03                       | 1.9             | 0.6248E-03                         | 3.85            | 9.453E-06       |                 | -.862E+00              | 1.1    |
| 53  | 2     | $A_1$    | 54   | 3      | $A_2$     | 947.41608  | 31                |                                   |                 | 0.6885E-04                         |                 |                 |                 |                        |        |
| 53  | 2     | $A_2$    | 54   | 3      | $A_1$     | 947.42161  | -9                |                                   |                 | 0.6885E-04                         |                 |                 |                 |                        |        |
| 15  | 12    | $E$      | 14   | 13     | $E$       | 947.61022  | 60                |                                   |                 | 0.3303E-05                         |                 |                 |                 |                        |        |
| 33  | 5     | $A_2$    | 34   | 6      | $A_1$     | 947.61907  | 12                | .284958E-02                       | 0.5             | 0.1419E-02                         | .43             | 3.233E-04       |                 |                        | 1.0    |
| 33  | 5     | $A_1$    | 34   | 6      | $A_2$     | 947.61907  | 12                |                                   |                 | 0.1419E-02                         |                 |                 |                 |                        |        |
| 26  | 6     | $E$      | 27   | 7      | $E$       | 947.88659  | 3                 | .264599E-02                       | 0.5             | 0.2458E-02                         | -2.60           | 3.313E-04       |                 | -.791E+00              | 1.5    |
| 59  | 1     | $E$      | 60   | 2      | $E$       | 947.93832  | 12                |                                   |                 | 0.1870E-04                         |                 |                 |                 |                        |        |
| 23  | 13    | $E$      | 22   | 14     | $E$       | 947.99021  | -23               |                                   |                 | 0.7489E-05                         |                 |                 |                 |                        |        |
| 57  | 9     | $E$      | 57   | 10     | $E$       | 948.02410  | 0                 |                                   |                 | 0.6218E-05                         |                 |                 |                 |                        |        |
| 19  | 7     | $E$      | 20   | 8      | $E$       | 948.07405  | 5                 | .325599E-02                       | 0.7             | 0.3262E-02                         | -.18            | 2.833E-04       |                 | -.633E+00              | 1.3    |
| 12  | 8     | $A_2$    | 13   | 9      | $A_1$     | 948.17616  | 5                 | .673929E-02                       | 0.4             | 0.3396E-02                         | -.78            | 2.699E-04       |                 | -.613E+00              | 1.6    |
| 12  | 8     | $A_1$    | 13   | 9      | $A_2$     | 948.17616  | 5                 |                                   |                 | 0.3396E-02                         |                 |                 |                 |                        |        |
| 56  | 9     | $E$      | 56   | 10     | $E$       | 948.21505  | -27               |                                   |                 | 0.7869E-05                         |                 |                 |                 |                        |        |
| 39  | 4     | $E$      | 40   | 5      | $E$       | 948.28208  | 10                | .800709E-03                       | 1.0             | 0.7357E-03                         | 8.12            | 1.072E-04       |                 | -.717E+00              | 1.4    |
| 55  | 9     | $E$      | 55   | 10     | $E$       | 948.40320  | 8                 |                                   |                 | 0.9910E-05                         |                 |                 |                 |                        |        |
| 52  | 2     | $A_2$    | 53   | 3      | $A_1$     | 948.45690  | 33                |                                   |                 | 0.8599E-04                         |                 |                 |                 |                        |        |
| 52  | 2     | $A_1$    | 53   | 3      | $A_2$     | 948.46198  | -9                |                                   |                 | 0.8599E-04                         |                 |                 |                 |                        |        |
| 32  | 5     | $A_2$    | 33   | 6      | $A_1$     | 948.60596  | 6                 | .316558E-02                       | 0.6             | 0.1617E-02                         | -2.18           | 1.939E-04       |                 | -.726E+00              | 1.5    |
| 32  | 5     | $A_1$    | 33   | 6      | $A_2$     | 948.60596  | 6                 |                                   |                 | 0.1617E-02                         |                 |                 |                 |                        |        |
| 24  | 13    | $E$      | 23   | 14     | $E$       | 948.78906  | 13                |                                   |                 | 0.7942E-05                         |                 |                 |                 |                        |        |
| 25  | 6     | $E$      | 26   | 7      | $E$       | 948.85351  | 4                 | .259568E-02                       | 0.7             | 0.2714E-02                         | -4.55           | 2.629E-04       |                 | -.638E+00              | 1.5    |
| 45  | 3     | $E$      | 46   | 4      | $E$       | 948.90795  | 13                | .312838E-03                       | 2.3             | 0.3100E-03                         | .89             | 2.053E-04       |                 |                        | 1.0    |
| 52  | 9     | $E$      | 52   | 10     | $E$       | 948.94620  | 5                 |                                   |                 | 0.1923E-04                         |                 |                 |                 |                        |        |
| 58  | 1     | $E$      | 59   | 2      | $E$       | 948.99460  | 24                |                                   |                 | 0.2396E-04                         |                 |                 |                 |                        |        |
| 18  | 7     | $E$      | 19   | 8      | $E$       | 949.02013  | 5                 | .344810E-02                       | 0.4             | 0.3492E-02                         | -1.26           | 3.492E-04       | -.162E-01       | -.433E+00              | 1.2    |
| 11  | 8     | $A_2$    | 12   | 9      | $A_1$     | 949.10061  | 7                 | .715433E-02                       | 0.3             | 0.3551E-02                         | .73             | 3.471E-04       |                 |                        | 1.0    |
| 11  | 8     | $A_1$    | 12   | 9      | $A_2$     | 949.10061  | 7                 |                                   |                 | 0.3551E-02                         |                 |                 |                 |                        |        |
| 51  | 9     | $E$      | 51   | 10     | $E$       | 949.12002  | -35               |                                   |                 | 0.2376E-04                         |                 |                 |                 |                        |        |
| 38  | 4     | $E$      | 39   | 5      | $E$       | 949.28554  | 1                 | .854971E-03                       | 1.1             | 0.8621E-03                         | -.83            | 2.697E-04       |                 |                        | 1.0    |
| 50  | 9     | $E$      | 50   | 10     | $E$       | 949.29042  | -78               |                                   |                 | 0.2920E-04                         |                 |                 |                 |                        |        |
| 49  | 9     | $E$      | 49   | 10     | $E$       | 949.45876  | 12                |                                   |                 | 0.3572E-04                         |                 |                 |                 |                        |        |
| 64  | 0     | $E$      | 65   | 1      | $E$       | 949.46799  | 0                 |                                   |                 | 0.5843E-05                         |                 |                 |                 |                        |        |
| 51  | 2     | $A_1$    | 52   | 3      | $A_2$     | 949.49515  | 36                |                                   |                 | 0.1069E-03                         |                 |                 |                 |                        |        |
| 51  | 2     | $A_2$    | 52   | 3      | $A_1$     | 949.49982  | -4                |                                   |                 | 0.1069E-03                         |                 |                 |                 |                        |        |
| 31  | 5     | $A_2$    | 32   | 6      | $A_1$     | 949.59007  | 5                 | .361911E-02                       | 0.5             | 0.1835E-02                         | -1.40           | 3.264E-04       | -.128E+00       |                        | 1.1    |
| 31  | 5     | $A_1$    | 32   | 6      | $A_2$     | 949.59007  | 5                 |                                   |                 | 0.1835E-02                         |                 |                 |                 |                        |        |
| 48  | 9     | $E$      | 48   | 10     | $E$       | 949.62269  | 0                 |                                   |                 | 0.4348E-04                         |                 |                 |                 |                        |        |
| 47  | 9     | $E$      | 47   | 10     | $E$       | 949.78331  | -5                |                                   |                 | 0.5266E-04                         |                 |                 |                 |                        |        |
| 24  | 6     | $E$      | 25   | 7      | $E$       | 949.81752  | 8                 | .283043E-02                       | 0.3             | 0.2981E-02                         | -5.33           | 3.350E-04       |                 | -.555E+00              | 1.2    |
| 44  | 3     | $E$      | 45   | 4      | $E$       | 949.92761  | 12                |                                   |                 | 0.3734E-03                         |                 |                 |                 |                        |        |
| 46  | 9     | $E$      | 46   | 10     | $E$       | 949.94067  | 1                 |                                   |                 | 0.6346E-04                         |                 |                 |                 |                        |        |
| 17  | 7     | $E$      | 18   | 8      | $E$       | 949.96317  | 5                 | .359402E-02                       | 0.3             | 0.3721E-02                         | -3.52           | 3.541E-04       | -.614E-01       | -.385E+00              | 1.3    |
| 10  | 8     | $A_2$    | 11   | 9      | $A_1$     | 950.02190  | 7                 | .772797E-02                       | 0.3             | 0.3705E-02                         | 4.11            | 2.605E-04       |                 | -.500E+00              | 1.3    |
| 10  | 8     | $A_1$    | 11   | 9      | $A_2$     | 950.02190  | 7                 |                                   |                 | 0.3705E-02                         |                 |                 |                 |                        |        |
| 57  | 1     | $E$      | 58   | 2      | $E$       | 950.04814  | 16                |                                   |                 | 0.3058E-04                         |                 |                 |                 |                        |        |
| 45  | 9     | $E$      | 45   | 10     | $E$       | 950.09455  | -2                |                                   |                 | 0.7609E-04                         |                 |                 |                 |                        |        |
| 44  | 9     | $E$      | 44   | 10     | $E$       | 950.24510  | -1                |                                   |                 | 0.9077E-04                         |                 |                 |                 |                        |        |
| 37  | 4     | $E$      | 38   | 5      | $E$       | 950.28642  | 10                | .102426E-02                       | 1.1             | 0.1005E-02                         | 1.84            | 3.142E-04       |                 |                        | 1.0    |
| 26  | 13    | $E$      | 25   | 14     | $E$       | 950.37433  | -26               |                                   |                 | 0.8408E-05                         |                 |                 |                 |                        |        |
| 43  | 9     | $E$      | 43   | 10     | $E$       | 950.39228  | 1                 |                                   |                 | 0.1077E-03                         |                 |                 |                 |                        |        |
| 50  | 2     | $A_2$    | 51   | 3      | $A_1$     | 950.53111  | 69                |                                   |                 | 0.1322E-03                         |                 |                 |                 |                        |        |
| 50  | 2     | $A_1$    | 51   | 3      | $A_2$     | 950.53561  | 55                |                                   |                 | 0.1322E-03                         |                 |                 |                 |                        |        |
| 50  | 2     | $A_1$    | 51   | 3      | $A_2$     | 950.53559  | 53                |                                   |                 | 0.1322E-03                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 42  | 9     | $E$      | 42   | 10     | $E$       | 950.53559  | -47               |                                   |                 | 0.1272E-03                         |                 |                 |                 |                        |        |
| 30  | 5     | $A_2$    | 31   | 6      | $A_1$     | 950.57136  | 6                 | .409472E-02                       | 0.8             | 0.2072E-02                         | -1.18           | 3.506E-04       | -.201E+00       |                        | 1.1    |
| 30  | 5     | $A_1$    | 31   | 6      | $A_2$     | 950.57136  | 6                 |                                   |                 | 0.2072E-02                         |                 |                 |                 |                        |        |
| 41  | 9     | $E$      | 41   | 10     | $E$       | 950.67648  | 0                 |                                   |                 | 0.1495E-03                         |                 |                 |                 |                        |        |
| 23  | 6     | $E$      | 24   | 7      | $E$       | 950.77854  | 8                 | .337784E-02                       | 0.3             | 0.3259E-02                         | 3.51            | 3.616E-04       |                 |                        | 1.0    |
| 40  | 9     | $E$      | 40   | 10     | $E$       | 950.81353  | 0                 |                                   |                 | 0.1747E-03                         |                 |                 |                 |                        |        |
| 16  | 7     | $E$      | 17   | 8      | $E$       | 950.90318  | 8                 | .372059E-02                       | 0.5             | 0.3947E-02                         | -6.46           | 3.640E-04       | -.159E+00       | -.280E+00              | 1.2    |
| 19  | 12    | $E$      | 18   | 13     | $E$       | 950.90318  | 43                |                                   |                 | 0.1376E-04                         |                 |                 |                 |                        |        |
| 9   | 8     | $A_2$    | 10   | 9      | $A_1$     | 950.94003  | 8                 | .744989E-02                       | 0.5             | 0.3860E-02                         | -3.63           | 2.822E-04       | -.142E+00       |                        | 1.1    |
| 9   | 8     | $A_1$    | 10   | 9      | $A_2$     | 950.94003  | 8                 |                                   |                 | 0.3860E-02                         |                 |                 |                 |                        |        |
| 43  | 3     | $E$      | 44   | 4      | $E$       | 950.94408  | -39               |                                   |                 | 0.4476E-03                         |                 |                 |                 |                        |        |
| 38  | 9     | $E$      | 38   | 10     | $E$       | 951.07745  | -9                |                                   |                 | 0.2348E-03                         |                 |                 |                 |                        |        |
| 56  | 1     | $E$      | 57   | 2      | $E$       | 951.09906  | 1                 |                                   |                 | 0.3882E-04                         |                 |                 |                 |                        |        |
| 27  | 13    | $E$      | 26   | 14     | $E$       | 951.16155  | -19               |                                   |                 | 0.8438E-05                         |                 |                 |                 |                        |        |
| 37  | 9     | $E$      | 37   | 10     | $E$       | 951.20440  | -10               |                                   |                 | 0.2700E-03                         |                 |                 |                 |                        |        |
| 36  | 4     | $E$      | 37   | 5      | $E$       | 951.28447  | 12                | .120065E-02                       | 0.9             | 0.1167E-02                         | 2.81            | 1.934E-04       | -.229E+00       | -.108E+00              | 1.2    |
| 36  | 9     | $E$      | 36   | 10     | $E$       | 951.32802  | -8                | .300122E-03                       | 3.0             | 0.3089E-03                         | -2.92           | 3.973E-04       |                 |                        | 1.0    |
| 35  | 9     | $E$      | 35   | 10     | $E$       | 951.44824  | -10               | .362267E-03                       | 3.8             | 0.3514E-03                         | 3.01            | 3.990E-04       |                 |                        | 1.0    |
| 29  | 5     | $A_2$    | 30   | 6      | $A_1$     | 951.54977  | 6                 | .456467E-02                       | 0.4             | 0.2327E-02                         | -1.97           | 3.593E-04       |                 |                        | 1.0    |
| 29  | 5     | $A_1$    | 30   | 6      | $A_2$     | 951.54977  | 6                 |                                   |                 | 0.2327E-02                         |                 |                 |                 |                        |        |
| 34  | 9     | $E$      | 34   | 10     | $E$       | 951.56463  | -59               |                                   |                 | 0.3974E-03                         |                 |                 |                 |                        |        |
| 33  | 9     | $E$      | 33   | 10     | $E$       | 951.67866  | -8                | .453005E-03                       | 1.1             | 0.4470E-03                         | 1.34            | 2.637E-04       | .135E+00        | .450E+00               | 1.1    |
| 22  | 6     | $E$      | 23   | 7      | $E$       | 951.73660  | 8                 | .351601E-02                       | 0.4             | 0.3546E-02                         | -.85            | 3.919E-04       |                 |                        | 1.0    |
| 32  | 9     | $E$      | 32   | 10     | $E$       | 951.78885  | -6                | .503019E-03                       | 2.2             | 0.4997E-03                         | .65             | 2.222E-04       |                 |                        | 1.0    |
| 15  | 7     | $E$      | 16   | 8      | $E$       | 951.84012  | 9                 | .395962E-02                       | 1.0             | 0.4169E-02                         | -5.29           | 3.829E-04       | .280E+00        |                        | 1.1    |
| 8   | 8     | $A_2$    | 9    | 9      | $A_1$     | 951.85498  | 8                 | .777550E-02                       | 0.4             | 0.4020E-02                         | -3.41           | 2.826E-04       | .100E+00        |                        | 1.1    |
| 8   | 8     | $A_1$    | 9    | 9      | $A_2$     | 951.85498  | 8                 |                                   |                 | 0.4020E-02                         |                 |                 |                 |                        |        |
| 31  | 9     | $E$      | 31   | 10     | $E$       | 951.89568  | -5                | .558149E-03                       | 9.8             | 0.5554E-03                         | .49             | 6.668E-04       |                 |                        | 1.0    |
| 28  | 13    | $E$      | 27   | 14     | $E$       | 951.94511  | 3                 |                                   |                 | 0.8349E-05                         |                 |                 |                 |                        |        |
| 42  | 3     | $E$      | 43   | 4      | $E$       | 951.95882  | 5                 | .539456E-03                       | 2.4             | 0.5340E-03                         | 1.02            | 1.767E-04       |                 |                        | 1.0    |
| 30  | 9     | $E$      | 30   | 10     | $E$       | 951.99914  | -6                | .620868E-03                       | 1.2             | 0.6136E-03                         | 1.17            | 3.421E-04       | .636E+00        |                        | 1.1    |
| 29  | 9     | $E$      | 29   | 10     | $E$       | 952.09922  | -9                | .679238E-03                       | 1.0             | 0.6736E-03                         | .83             | 2.716E-04       | .350E+00        |                        | 1.2    |
| 55  | 1     | $E$      | 56   | 2      | $E$       | 952.14757  | 1                 |                                   |                 | 0.4910E-04                         |                 |                 |                 |                        |        |
| 28  | 9     | $E$      | 28   | 10     | $E$       | 952.19602  | -6                | .730155E-03                       | 1.4             | 0.7347E-03                         | -.62            | 5.376E-04       |                 |                        | 1.0    |
| 35  | 4     | $E$      | 36   | 5      | $E$       | 952.27972  | 11                | .137531E-02                       | 1.8             | 0.1348E-02                         | 2.00            | 3.493E-04       |                 |                        | 1.0    |
| 27  | 9     | $E$      | 27   | 10     | $E$       | 952.28942  | -8                | .782615E-03                       | 1.7             | 0.7959E-03                         | -1.70           | 4.479E-04       |                 |                        | 1.0    |
| 26  | 9     | $E$      | 26   | 10     | $E$       | 952.37950  | -7                | .848507E-03                       | 1.2             | 0.8564E-03                         | -.93            | 5.279E-04       | .510E+00        | .299E+00               | 1.2    |
| 25  | 9     | $E$      | 25   | 10     | $E$       | 952.46604  | -26               | .897622E-03                       | 4.6             | 0.9147E-03                         | -1.90           | 3.733E-04       |                 |                        | 1.0    |
| 28  | 5     | $A_2$    | 29   | 6      | $A_1$     | 952.52533  | 8                 | .509770E-02                       | 0.5             | 0.2602E-02                         | -2.08           | 3.572E-04       |                 |                        | 1.0    |
| 28  | 5     | $A_1$    | 29   | 6      | $A_2$     | 952.52533  | 8                 |                                   |                 | 0.2602E-02                         |                 |                 |                 |                        |        |
| 24  | 9     | $E$      | 24   | 10     | $E$       | 952.54963  | -5                | .962843E-03                       | 0.8             | 0.9696E-03                         | -.70            | 3.409E-04       |                 |                        | 1.0    |
| 48  | 2     | $A_2$    | 49   | 3      | $A_1$     | 952.59404  | 23                |                                   |                 | 0.1996E-03                         |                 |                 |                 |                        |        |
| 48  | 2     | $A_1$    | 49   | 3      | $A_2$     | 952.59764  | 1                 |                                   |                 | 0.1996E-03                         |                 |                 |                 |                        |        |
| 23  | 9     | $E$      | 23   | 10     | $E$       | 952.62962  | -10               | .100798E-02                       | 1.1             | 0.1019E-02                         | -1.13           | 3.101E-04       |                 |                        | 1.0    |
| 61  | 0     | $E$      | 62   | 1      | $E$       | 952.67191  | 14                |                                   |                 | 0.1286E-04                         |                 |                 |                 |                        |        |
| 21  | 6     | $E$      | 22   | 7      | $E$       | 952.69170  | 9                 | .386749E-02                       | 0.8             | 0.3839E-02                         | .74             | 3.812E-04       |                 |                        | 1.0    |
| 22  | 9     | $E$      | 22   | 10     | $E$       | 952.70637  | -4                | .107869E-02                       | 13.6            | 0.1063E-02                         | 1.50            | 1.628E-03       |                 |                        | 1.0    |
| 29  | 13    | $E$      | 28   | 14     | $E$       | 952.72442  | -17               |                                   |                 | 0.8157E-05                         |                 |                 |                 |                        |        |
| 14  | 7     | $E$      | 15   | 8      | $E$       | 952.77393  | 6                 | .423940E-02                       | 0.8             | 0.4386E-02                         | -3.45           | 4.329E-04       |                 |                        | 1.0    |
| 21  | 9     | $E$      | 21   | 10     | $E$       | 952.77955  | -22               | .110493E-02                       | 3.3             | 0.1097E-02                         | .70             | 4.414E-04       |                 |                        | 1.0    |
| 20  | 9     | $E$      | 20   | 10     | $E$       | 952.84974  | -4                | .111951E-02                       | 2.1             | 0.1121E-02                         | -.16            | 3.707E-04       |                 |                        | 1.0    |
| 19  | 9     | $E$      | 19   | 10     | $E$       | 952.91642  | -4                | .112552E-02                       | 1.3             | 0.1133E-02                         | -.65            | 4.071E-04       |                 | -.572E+00              | 1.1    |
| 41  | 3     | $E$      | 42   | 4      | $E$       | 952.97042  | 4                 | .660539E-03                       | 2.0             | 0.6340E-03                         | 4.02            | 3.474E-04       |                 |                        | 1.0    |
| 18  | 9     | $E$      | 18   | 10     | $E$       | 952.97976  | -3                | .112193E-02                       | 1.2             | 0.1130E-02                         | -.70            | 4.176E-04       |                 |                        | 1.0    |
| 17  | 9     | $E$      | 17   | 10     | $E$       | 953.03976  | -3                | .109914E-02                       | 1.3             | 0.1110E-02                         | -.95            | 4.347E-04       |                 |                        | 1.0    |
| 16  | 9     | $E$      | 16   | 10     | $E$       | 953.09641  | -4                | .106268E-02                       | 1.0             | 0.1070E-02                         | -.69            | 4.364E-04       | -.156E+00       |                        | 1.1    |
| 15  | 9     | $E$      | 15   | 10     | $E$       | 953.14981  | 4                 | .987611E-03                       | 0.7             | 0.1009E-02                         | -2.12           | 2.347E-04       |                 |                        | 1.0    |
| 54  | 1     | $E$      | 55   | 2      | $E$       | 953.19386  | 36                |                                   |                 | 0.6177E-04                         |                 |                 |                 |                        |        |
| 14  | 9     | $E$      | 14   | 10     | $E$       | 953.19978  | 2                 | .920685E-03                       | 0.9             | 0.9224E-03                         | -.19            | 3.718E-04       |                 |                        | 1.0    |
| 13  | 9     | $E$      | 13   | 10     | $E$       | 953.24641  | 0                 | .802121E-03                       | 1.1             | 0.8088E-03                         | -.83            | 2.526E-04       | -.281E+00       |                        | 1.2    |
| 34  | 4     | $E$      | 35   | 5      | $E$       | 953.27215  | 7                 | .150498E-02                       | 1.0             | 0.1549E-02                         | -2.94           | 3.124E-04       |                 |                        | 1.0    |
| 12  | 9     | $E$      | 12   | 10     | $E$       | 953.28972  | -1                | .674317E-03                       | 1.5             | 0.6643E-03                         | 1.49            | 4.215E-04       |                 |                        | 1.0    |
| 11  | 9     | $E$      | 11   | 10     | $E$       | 953.32974  | 2                 | .476860E-03                       | 3.1             | 0.4850E-03                         | -1.70           | 2.191E-04       |                 |                        | 1.0    |
| 10  | 9     | $E$      | 10   | 10     | $E$       | 953.36633  | -4                |                                   |                 | 0.2658E-03                         |                 |                 |                 |                        |        |
| 27  | 5     | $A_2$    | 28   | 6      | $A_1$     | 953.49798  | 7                 | .562726E-02                       | 0.4             | 0.2895E-02                         | -2.88           | 3.230E-04       | .123E+00        | -.182E+00              | 1.1    |
| 27  | 5     | $A_1$    | 28   | 6      | $A_2$     | 953.49798  | 7                 |                                   |                 | 0.2895E-02                         |                 |                 |                 |                        |        |
| 47  | 2     | $A_1$    | 48   | 3      | $A_2$     | 953.62151  | -5                |                                   |                 | 0.2436E-03                         |                 |                 |                 |                        |        |
| 47  | 2     | $A_2$    | 48   | 3      | $A_1$     | 953.62521  | 22                |                                   |                 | 0.2436E-03                         |                 |                 |                 |                        |        |
| 20  | 6     | $E$      | 21   | 7      | $E$       | 953.64379  | 8                 | .411232E-02                       | 0.6             | 0.4136E-02                         | -.58            | 3.787E-04       | -.937E+00       |                        | 1.3    |
| 13  | 7     | $E$      | 14   | 8      | $E$       | 953.70466  | 4                 | .440285E-02                       | 0.5             | 0.4595E-02                         | -4.37           | 3.342E-04       | -.611E+00       |                        | 1.8    |
| 60  | 0     | $E$      | 61   | 1      | $E$       | 953.73445  | -7                |                                   |                 | 0.1658E-04                         |                 |                 |                 |                        |        |
| 40  | 3     | $E$      | 41   | 4      | $E$       | 953.97928  | 1                 | .752331E-03                       | 1.1             | 0.7491E-03                         | .43             | 2.915E-04       | -.736E+00       | -.144E+00              | 1.9    |
| 23  | 12    | $E$      | 22   | 13     | $E$       | 954.13714  | -11               |                                   |                 | 0.2090E-04                         |                 |                 |                 |                        |        |
| 53  | 1     | $E$      | 54   | 2      | $E$       | 954.23692  | 7                 |                                   |                 | 0.7740E-04                         |                 |                 |                 |                        |        |
| 58  | 8     | $A_1$    | 58   | 9      | $A_2$     | 954.24605  | 0                 |                                   |                 | 0.8169E-05                         |                 |                 |                 |                        |        |
| 58  | 8     | $A_2$    | 58   | 9      | $A_1$     | 954.24605  | 0                 |                                   |                 | 0.8169E-05                         |                 |                 |                 |                        |        |
| 33  | 4     | $E$      | 34   | 5      | $E$       | 954.26177  | 2                 | .170378E-02                       | 1.3             | 0.1772E-02                         | -4.00           | 3.008E-04       | -.475E+00       |                        | 1.4    |
| 31  | 13    | $E$      | 30   | 14     | $E$       | 954.27205  | -2                |                                   |                 | 0.7525E-05                         |                 |                 |                 |                        |        |
| 65  | 1     | $A_2$    | 66   | 0      | $A_1$     | 954.38769  | -26               |                                   |                 | 0.1280E-04                         |                 |                 |                 |                        |        |
| 26  | 5     | $A_2$    | 27   | 6      | $A_1$     | 954.46768  | 1                 | .632384E-02                       | 0.3             | 0.3205E-02                         | -1.35           | 3.096E-04       | -.296E+00       | -.409E+00              | 1.9    |
| 26  | 5     | $A_1$    | 27   | 6      | $A_2$     | 954.46768  | 1                 |                                   |                 | 0.3205E-02                         |                 |                 |                 |                        |        |
| 19  | 6     | $E$      | 20   | 7      | $E$       | 954.59284  | 3                 | .440154E-02                       | 0.5             | 0.4435E-02                         | -.77            | 3.798E-04       | -.310E+00       |                        | 1.4    |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 12  | 7     | $E$      | 13   | 8      | $E$       | 954.63229  | 3                 | .455186E-02                       | 0.2             | 0.4797E-02                         | -5.38           | 3.068E-04       | -.223E+00       | -.420E+00              | 2.1    |
| 46  | 2     | $A_2$    | 47   | 3      | $A_1$     | 954.64649  | -16               |                                   |                 | 0.2957E-03                         |                 |                 |                 |                        |        |
| 46  | 2     | $A_1$    | 47   | 3      | $A_2$     | 954.64993  | 21                |                                   |                 | 0.2957E-03                         |                 |                 |                 |                        |        |
| 59  | 0     | $E$      | 60   | 1      | $E$       | 954.79463  | -4                |                                   |                 | 0.2129E-04                         |                 |                 |                 |                        |        |
| 55  | 8     | $A_1$    | 55   | 9      | $A_2$     | 954.81755  | 4                 |                                   |                 | 0.1656E-04                         |                 |                 |                 |                        |        |
| 55  | 8     | $A_2$    | 55   | 9      | $A_1$     | 954.81755  | 4                 |                                   |                 | 0.1656E-04                         |                 |                 |                 |                        |        |
| 24  | 12    | $E$      | 23   | 13     | $E$       | 954.93656  | -4                |                                   |                 | 0.2176E-04                         |                 |                 |                 |                        |        |
| 39  | 3     | $E$      | 40   | 4      | $E$       | 954.98543  | -2                | .886789E-03                       | 0.8             | 0.8809E-03                         | .66             | 2.572E-04       | -.359E+00       | .475E+00               | 1.4    |
| 54  | 8     | $A_2$    | 54   | 9      | $A_1$     | 955.00095  | -26               |                                   |                 | 0.2075E-04                         |                 |                 |                 |                        |        |
| 54  | 8     | $A_1$    | 54   | 9      | $A_2$     | 955.00095  | -26               |                                   |                 | 0.2075E-04                         |                 |                 |                 |                        |        |
| 53  | 8     | $A_2$    | 53   | 9      | $A_1$     | 955.18221  | 68                |                                   |                 | 0.2588E-04                         |                 |                 |                 |                        |        |
| 53  | 8     | $A_1$    | 53   | 9      | $A_2$     | 955.18221  | 68                |                                   |                 | 0.2588E-04                         |                 |                 |                 |                        |        |
| 32  | 4     | $E$      | 33   | 5      | $E$       | 955.24864  | 4                 |                                   |                 | 0.2017E-02                         |                 |                 |                 |                        |        |
| 52  | 1     | $E$      | 53   | 2      | $E$       | 955.27755  | -7                |                                   |                 | 0.9649E-04                         |                 |                 |                 |                        |        |
| 52  | 8     | $A_2$    | 52   | 9      | $A_1$     | 955.35835  | -12               |                                   |                 | 0.3213E-04                         |                 |                 |                 |                        |        |
| 52  | 8     | $A_1$    | 52   | 9      | $A_2$     | 955.35835  | -12               |                                   |                 | 0.3213E-04                         |                 |                 |                 |                        |        |
| 25  | 5     | $A_2$    | 26   | 6      | $A_1$     | 955.43453  | 2                 | .694315E-02                       | 0.5             | 0.3530E-02                         | -1.69           | 2.931E-04       | .946E-01        | -.470E+00              | 1.2    |
| 25  | 5     | $A_1$    | 26   | 6      | $A_2$     | 955.43453  | 2                 |                                   |                 | 0.3530E-02                         |                 |                 |                 |                        |        |
| 17  | 11    | $A_1$    | 16   | 12     | $A_2$     | 955.47096  | -24               |                                   |                 | 0.2647E-04                         |                 |                 |                 |                        |        |
| 17  | 11    | $A_2$    | 16   | 12     | $A_1$     | 955.47096  | -24               |                                   |                 | 0.2647E-04                         |                 |                 |                 |                        |        |
| 64  | 1     | $A_1$    | 65   | 0      | $A_2$     | 955.48655  | -17               |                                   |                 | 0.1662E-04                         |                 |                 |                 |                        |        |
| 51  | 8     | $A_1$    | 51   | 9      | $A_2$     | 955.53205  | 3                 |                                   |                 | 0.3970E-04                         |                 |                 |                 |                        |        |
| 51  | 8     | $A_2$    | 51   | 9      | $A_1$     | 955.53205  | 3                 |                                   |                 | 0.3970E-04                         |                 |                 |                 |                        |        |
| 18  | 6     | $E$      | 19   | 7      | $E$       | 955.53894  | 5                 | .470863E-02                       | 0.7             | 0.4733E-02                         | -.52            | 3.215E-04       | .219E+00        | -.337E+00              | 1.2    |
| 11  | 7     | $E$      | 12   | 8      | $E$       | 955.55681  | 3                 | .471626E-02                       | 0.5             | 0.4991E-02                         | -5.83           | 3.302E-04       | -.130E-01       | -.271E+00              | 1.1    |
| 45  | 2     | $A_1$    | 46   | 3      | $A_2$     | 955.66901  | -7                |                                   |                 | 0.3574E-03                         |                 |                 |                 |                        |        |
| 45  | 2     | $A_2$    | 46   | 3      | $A_1$     | 955.67196  | 16                |                                   |                 | 0.3574E-03                         |                 |                 |                 |                        |        |
| 50  | 8     | $A_1$    | 50   | 9      | $A_2$     | 955.70217  | -3                |                                   |                 | 0.4880E-04                         |                 |                 |                 |                        |        |
| 50  | 8     | $A_2$    | 50   | 9      | $A_1$     | 955.70217  | -3                |                                   |                 | 0.4880E-04                         |                 |                 |                 |                        |        |
| 25  | 12    | $E$      | 24   | 13     | $E$       | 955.73228  | 8                 |                                   |                 | 0.2224E-04                         |                 |                 |                 |                        |        |
| 58  | 0     | $E$      | 59   | 1      | $E$       | 955.85234  | 13                |                                   |                 | 0.2720E-04                         |                 |                 |                 |                        |        |
| 49  | 8     | $A_1$    | 49   | 9      | $A_2$     | 955.86888  | -12               |                                   |                 | 0.5970E-04                         |                 |                 |                 |                        |        |
| 49  | 8     | $A_2$    | 49   | 9      | $A_1$     | 955.86888  | -12               |                                   |                 | 0.5970E-04                         |                 |                 |                 |                        |        |
| 38  | 3     | $E$      | 39   | 4      | $E$       | 955.98887  | 0                 | .102102E-02                       | 0.6             | 0.1031E-02                         | -.97            | 2.697E-04       |                 |                        | 1.0    |
| 48  | 8     | $A_1$    | 48   | 9      | $A_2$     | 956.03229  | -14               |                                   |                 | 0.7268E-04                         |                 |                 |                 |                        |        |
| 48  | 8     | $A_2$    | 48   | 9      | $A_1$     | 956.03229  | -14               |                                   |                 | 0.7268E-04                         |                 |                 |                 |                        |        |
| 47  | 8     | $A_2$    | 47   | 9      | $A_1$     | 956.19236  | -13               |                                   |                 | 0.8805E-04                         |                 |                 |                 |                        |        |
| 47  | 8     | $A_1$    | 47   | 9      | $A_2$     | 956.19236  | -13               |                                   |                 | 0.8805E-04                         |                 |                 |                 |                        |        |
| 31  | 4     | $E$      | 32   | 5      | $E$       | 956.23257  | -5                | .224330E-02                       | 0.5             | 0.2285E-02                         | -1.84           | 3.096E-04       | .128E+00        | -.183E+00              | 1.1    |
| 18  | 11    | $A_2$    | 17   | 12     | $A_1$     | 956.29305  | -28               |                                   |                 | 0.3253E-04                         |                 |                 |                 |                        |        |
| 18  | 11    | $A_1$    | 17   | 12     | $A_2$     | 956.29305  | -28               |                                   |                 | 0.3253E-04                         |                 |                 |                 |                        |        |
| 51  | 1     | $E$      | 52   | 2      | $E$       | 956.31581  | 3                 |                                   |                 | 0.1198E-03                         |                 |                 |                 |                        |        |
| 46  | 8     | $A_2$    | 46   | 9      | $A_1$     | 956.34900  | -18               |                                   |                 | 0.1061E-03                         |                 |                 |                 |                        |        |
| 46  | 8     | $A_1$    | 46   | 9      | $A_2$     | 956.34900  | -18               |                                   |                 | 0.1061E-03                         |                 |                 |                 |                        |        |
| 24  | 5     | $A_2$    | 25   | 6      | $A_1$     | 956.39845  | 2                 | .774610E-02                       | 0.2             | 0.3869E-02                         | .09             | 3.129E-04       | -.130E+00       | -.433E+00              | 1.5    |
| 24  | 5     | $A_1$    | 25   | 6      | $A_2$     | 956.39845  | 2                 |                                   |                 | 0.3869E-02                         |                 |                 |                 |                        |        |
| 10  | 7     | $E$      | 11   | 8      | $E$       | 956.47823  | 7                 | .503129E-02                       | 0.5             | 0.5179E-02                         | -2.94           | 3.345E-04       |                 |                        | 1.0    |
| 17  | 6     | $E$      | 18   | 7      | $E$       | 956.48197  | 2                 | .521666E-02                       | 0.5             | 0.5027E-02                         | 3.64            | 3.345E-04       |                 |                        | 1.0    |
| 45  | 8     | $A_2$    | 45   | 9      | $A_1$     | 956.50227  | -24               |                                   |                 | 0.1273E-03                         |                 |                 |                 |                        |        |
| 45  | 8     | $A_1$    | 45   | 9      | $A_2$     | 956.50227  | -24               |                                   |                 | 0.1273E-03                         |                 |                 |                 |                        |        |
| 26  | 12    | $E$      | 25   | 13     | $E$       | 956.52371  | -35               |                                   |                 | 0.2239E-04                         |                 |                 |                 |                        |        |
| 34  | 13    | $E$      | 33   | 14     | $E$       | 956.56435  | 16                |                                   |                 | 0.6196E-05                         |                 |                 |                 |                        |        |
| 63  | 1     | $A_2$    | 64   | 0      | $A_1$     | 956.58268  | -1                |                                   |                 | 0.2149E-04                         |                 |                 |                 |                        |        |
| 44  | 8     | $A_1$    | 44   | 9      | $A_2$     | 956.65234  | -13               |                                   |                 | 0.1519E-03                         |                 |                 |                 |                        |        |
| 44  | 8     | $A_2$    | 44   | 9      | $A_1$     | 956.65234  | -13               |                                   |                 | 0.1519E-03                         |                 |                 |                 |                        |        |
| 44  | 2     | $A_2$    | 45   | 3      | $A_1$     | 956.68860  | -24               |                                   |                 | 0.4299E-03                         |                 |                 |                 |                        |        |
| 43  | 8     | $A_2$    | 43   | 9      | $A_1$     | 956.79898  | -9                |                                   |                 | 0.1804E-03                         |                 |                 |                 |                        |        |
| 43  | 8     | $A_1$    | 43   | 9      | $A_2$     | 956.79898  | -9                |                                   |                 | 0.1804E-03                         |                 |                 |                 |                        |        |
| 57  | 0     | $E$      | 58   | 1      | $E$       | 956.90748  | 34                |                                   |                 | 0.3459E-04                         |                 |                 |                 |                        |        |
| 42  | 8     | $A_2$    | 42   | 9      | $A_1$     | 956.94222  | -9                |                                   |                 | 0.2131E-03                         |                 |                 |                 |                        |        |
| 42  | 8     | $A_1$    | 42   | 9      | $A_2$     | 956.94222  | -9                |                                   |                 | 0.2131E-03                         |                 |                 |                 |                        |        |
| 37  | 3     | $E$      | 38   | 4      | $E$       | 956.98969  | 13                | .123771E-02                       | 1.1             | 0.1201E-02                         | 3.00            | 2.452E-04       |                 |                        | 1.0    |
| 41  | 8     | $A_2$    | 41   | 9      | $A_1$     | 957.08223  | 4                 |                                   |                 | 0.2504E-03                         |                 |                 |                 |                        |        |
| 41  | 8     | $A_1$    | 41   | 9      | $A_2$     | 957.08223  | 4                 |                                   |                 | 0.2504E-03                         |                 |                 |                 |                        |        |
| 19  | 11    | $A_2$    | 18   | 12     | $A_1$     | 957.11138  | -46               |                                   |                 | 0.3803E-04                         |                 |                 |                 |                        |        |
| 19  | 11    | $A_1$    | 18   | 12     | $A_2$     | 957.11138  | -46               |                                   |                 | 0.3803E-04                         |                 |                 |                 |                        |        |
| 30  | 4     | $E$      | 31   | 5      | $E$       | 957.21382  | 1                 | .242653E-02                       | 0.9             | 0.2575E-02                         | -6.11           | 3.292E-04       |                 |                        | 1.0    |
| 40  | 8     | $A_2$    | 40   | 9      | $A_1$     | 957.21849  | -22               | .585964E-03                       | 3.7             | 0.2928E-03                         | .07             | 1.384E-04       |                 |                        | 1.0    |
| 40  | 8     | $A_1$    | 40   | 9      | $A_2$     | 957.21849  | -22               |                                   |                 | 0.2928E-03                         |                 |                 |                 |                        |        |
| 35  | 13    | $E$      | 34   | 14     | $E$       | 957.32113  | 72                |                                   |                 | 0.5707E-05                         |                 |                 |                 |                        |        |
| 50  | 1     | $E$      | 51   | 2      | $E$       | 957.35179  | 46                |                                   |                 | 0.1479E-03                         |                 |                 |                 |                        |        |
| 50  | 1     | $E$      | 51   | 2      | $E$       | 957.35167  | 34                |                                   |                 | 0.1479E-03                         |                 |                 |                 |                        |        |
| 39  | 8     | $A_1$    | 39   | 9      | $A_2$     | 957.35179  | -10               |                                   |                 | 0.3405E-03                         |                 |                 |                 |                        |        |
| 39  | 8     | $A_2$    | 39   | 9      | $A_1$     | 957.35179  | -10               |                                   |                 | 0.3405E-03                         |                 |                 |                 |                        |        |
| 39  | 8     | $A_1$    | 39   | 9      | $A_2$     | 957.35167  | -22               |                                   |                 | 0.3405E-03                         |                 |                 |                 |                        |        |
| 39  | 8     | $A_2$    | 39   | 9      | $A_1$     | 957.35167  | -22               |                                   |                 | 0.3405E-03                         |                 |                 |                 |                        |        |
| 23  | 5     | $A_2$    | 24   | 6      | $A_1$     | 957.35945  | 3                 | .823090E-02                       | 0.4             | 0.4220E-02                         | -2.55           | 3.596E-04       |                 |                        | 1.0    |
| 23  | 5     | $A_1$    | 24   | 6      | $A_2$     | 957.35945  | 3                 |                                   |                 | 0.4220E-02                         |                 |                 |                 |                        |        |
| 9   | 7     | $E$      | 10   | 8      | $E$       | 957.39644  | 5                 | .511906E-02                       | 0.4             | 0.5363E-02                         | -4.77           | 3.577E-04       |                 |                        | 1.0    |
| 16  | 6     | $E$      | 17   | 7      | $E$       | 957.42201  | 5                 | .527180E-02                       | 0.2             | 0.5314E-02                         | -.81            | 4.118E-04       | -.164E+00       |                        | 1.4    |
| 38  | 8     | $A_2$    | 38   | 9      | $A_1$     | 957.48161  | -10               | .814126E-03                       | 0.7             | 0.3940E-03                         | 3.21            | 1.039E-04       |                 | -.848E+00              | 1.7    |
| 38  | 8     | $A_1$    | 38   | 9      | $A_2$     | 957.48161  | -10               |                                   |                 | 0.3940E-03                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 12  | 10    | $E$      | 11   | 11     | $E$       | 957.57697  | 30                |                                   |                 | 0.6427E-05                         |                 |                 |                 |                        |        |
| 37  | 8     | $A_2$    | 37   | 9      | $A_1$     | 957.60807  | -11               | .933762E-03                       | 0.8             | 0.4534E-03                         | 2.88            | 1.578E-04       |                 | -.848E+00              | 1.7    |
| 37  | 8     | $A_1$    | 37   | 9      | $A_2$     | 957.60807  | -11               |                                   |                 | 0.4534E-03                         |                 |                 |                 |                        |        |
| 62  | 1     | $A_1$    | 63   | 0      | $A_2$     | 957.67600  | 17                |                                   |                 | 0.2767E-04                         |                 |                 |                 |                        |        |
| 43  | 2     | $A_1$    | 44   | 3      | $A_2$     | 957.70581  | -10               |                                   |                 | 0.5146E-03                         |                 |                 |                 |                        |        |
| 36  | 8     | $A_2$    | 36   | 9      | $A_1$     | 957.73122  | -8                | .107831E-02                       | 0.6             | 0.5190E-03                         | 3.74            | 2.881E-04       | -.153E+00       | .504E+00               | 1.3    |
| 36  | 8     | $A_1$    | 36   | 9      | $A_2$     | 957.73122  | -8                |                                   |                 | 0.5190E-03                         |                 |                 |                 |                        |        |
| 35  | 8     | $A_2$    | 35   | 9      | $A_1$     | 957.85091  | -17               | .125151E-02                       | 0.9             | 0.5908E-03                         | 5.58            | 2.985E-04       |                 |                        | 1.0    |
| 35  | 8     | $A_1$    | 35   | 9      | $A_2$     | 957.85091  | -17               |                                   |                 | 0.5908E-03                         |                 |                 |                 |                        |        |
| 20  | 11    | $A_2$    | 19   | 12     | $A_1$     | 957.92667  | -3                |                                   |                 | 0.4280E-04                         |                 |                 |                 |                        |        |
| 20  | 11    | $A_1$    | 19   | 12     | $A_2$     | 957.92667  | -3                |                                   |                 | 0.4280E-04                         |                 |                 |                 |                        |        |
| 56  | 0     | $E$      | 57   | 1      | $E$       | 957.95947  | 2                 |                                   |                 | 0.4380E-04                         |                 |                 |                 |                        |        |
| 34  | 8     | $A_2$    | 34   | 9      | $A_1$     | 957.96740  | -11               | .143241E-02                       | 0.9             | 0.6689E-03                         | 6.61            | 3.122E-04       |                 |                        | 1.0    |
| 34  | 8     | $A_1$    | 34   | 9      | $A_2$     | 957.96740  | -11               |                                   |                 | 0.6689E-03                         |                 |                 |                 |                        |        |
| 36  | 3     | $E$      | 37   | 4      | $E$       | 957.98749  | 0                 | .137142E-02                       | 0.8             | 0.1391E-02                         | -1.46           | 3.014E-04       | .116E+00        |                        | 1.1    |
| 33  | 8     | $A_2$    | 33   | 9      | $A_1$     | 958.08046  | -14               | .156949E-02                       | 0.4             | 0.7530E-03                         | 4.05            | 2.529E-04       | -.134E+00       | -.908E-01              | 1.4    |
| 33  | 8     | $A_1$    | 33   | 9      | $A_2$     | 958.08046  | -14               |                                   |                 | 0.7530E-03                         |                 |                 |                 |                        |        |
| 28  | 12    | $E$      | 27   | 13     | $E$       | 958.09593  | -50               |                                   |                 | 0.2178E-04                         |                 |                 |                 |                        |        |
| 29  | 4     | $E$      | 30   | 5      | $E$       | 958.19164  | -50               |                                   |                 | 0.2888E-02                         |                 |                 |                 |                        |        |
| 31  | 8     | $A_2$    | 31   | 9      | $A_1$     | 958.29669  | -6                | .197633E-02                       | 1.0             | 0.9379E-03                         | 5.09            | 2.910E-04       | -.400E+00       | -.360E+00              | 1.4    |
| 31  | 8     | $A_1$    | 31   | 9      | $A_2$     | 958.29669  | -6                |                                   |                 | 0.9379E-03                         |                 |                 |                 |                        |        |
| 8   | 7     | $E$      | 9    | 8      | $E$       | 958.31149  | 3                 | .524211E-02                       | 1.2             | 0.5549E-02                         | -5.85           | 3.418E-04       |                 |                        | 1.0    |
| 22  | 5     | $A_2$    | 23   | 6      | $A_1$     | 958.31755  | 10                | .930439E-02                       | 0.7             | 0.4580E-02                         | 1.55            | 5.414E-04       |                 |                        | 1.0    |
| 22  | 5     | $A_1$    | 23   | 6      | $A_2$     | 958.31755  | 10                |                                   |                 | 0.4580E-02                         |                 |                 |                 |                        |        |
| 15  | 6     | $E$      | 16   | 7      | $E$       | 958.35897  | 5                 | .544280E-02                       | 0.7             | 0.5592E-02                         | -2.74           | 4.099E-04       | -.239E+00       |                        | 1.2    |
| 49  | 1     | $E$      | 50   | 2      | $E$       | 958.38444  | 18                |                                   |                 | 0.1819E-03                         |                 |                 |                 |                        |        |
| 30  | 8     | $A_2$    | 30   | 9      | $A_1$     | 958.40004  | 22                |                                   |                 | 0.1037E-02                         |                 |                 |                 |                        |        |
| 30  | 8     | $A_1$    | 30   | 9      | $A_2$     | 958.40004  | 22                |                                   |                 | 0.1037E-02                         |                 |                 |                 |                        |        |
| 29  | 8     | $A_2$    | 29   | 9      | $A_1$     | 958.49946  | -9                | .227430E-02                       | 0.4             | 0.1141E-02                         | -.31            | 2.614E-04       | -.974E-01       | -.397E+00              | 1.1    |
| 29  | 8     | $A_1$    | 29   | 9      | $A_2$     | 958.49946  | -9                |                                   |                 | 0.1141E-02                         |                 |                 |                 |                        |        |
| 28  | 8     | $A_2$    | 28   | 9      | $A_1$     | 958.59591  | -3                | .264629E-02                       | 0.2             | 0.1246E-02                         | 5.81            | 3.836E-04       | -.108E+00       | .147E+00               | 1.1    |
| 28  | 8     | $A_1$    | 28   | 9      | $A_2$     | 958.59591  | -3                |                                   |                 | 0.1246E-02                         |                 |                 |                 |                        |        |
| 27  | 8     | $A_2$    | 27   | 9      | $A_1$     | 958.68900  | 0                 | .276591E-02                       | 0.5             | 0.1353E-02                         | 2.17            | 3.349E-04       |                 |                        | 1.0    |
| 27  | 8     | $A_1$    | 27   | 9      | $A_2$     | 958.68900  | 0                 |                                   |                 | 0.1353E-02                         |                 |                 |                 |                        |        |
| 42  | 2     | $A_1$    | 43   | 3      | $A_2$     | 958.72241  | 31                |                                   |                 | 0.6131E-03                         |                 |                 |                 |                        |        |
| 21  | 11    | $A_1$    | 20   | 12     | $A_2$     | 958.73763  | -27               |                                   |                 | 0.4674E-04                         |                 |                 |                 |                        |        |
| 21  | 11    | $A_2$    | 20   | 12     | $A_1$     | 958.73763  | -27               |                                   |                 | 0.4674E-04                         |                 |                 |                 |                        |        |
| 26  | 8     | $A_2$    | 26   | 9      | $A_1$     | 958.77869  | -3                | .304558E-02                       | 0.7             | 0.1459E-02                         | 4.20            | 3.485E-04       |                 |                        | 1.0    |
| 26  | 8     | $A_1$    | 26   | 9      | $A_2$     | 958.77869  | -3                |                                   |                 | 0.1459E-02                         |                 |                 |                 |                        |        |
| 25  | 8     | $A_2$    | 25   | 9      | $A_1$     | 958.86510  | -1                | .307905E-02                       | 0.6             | 0.1562E-02                         | -1.48           | 2.948E-04       | -.203E+00       | -.209E+00              | 1.1    |
| 25  | 8     | $A_1$    | 25   | 9      | $A_2$     | 958.86510  | -1                |                                   |                 | 0.1562E-02                         |                 |                 |                 |                        |        |
| 24  | 8     | $A_2$    | 24   | 9      | $A_1$     | 958.94822  | 5                 | .329521E-02                       | 1.1             | 0.1661E-02                         | -.81            | 3.113E-04       |                 |                        | 1.0    |
| 24  | 8     | $A_1$    | 24   | 9      | $A_2$     | 958.94822  | 5                 |                                   |                 | 0.1661E-02                         |                 |                 |                 |                        |        |
| 35  | 3     | $E$      | 36   | 4      | $E$       | 958.98261  | -4                |                                   |                 | 0.1605E-02                         |                 |                 |                 |                        |        |
| 55  | 0     | $E$      | 56   | 1      | $E$       | 959.00918  | 5                 |                                   |                 | 0.5521E-04                         |                 |                 |                 |                        |        |
| 23  | 8     | $A_2$    | 23   | 9      | $A_1$     | 959.02793  | 3                 | .346274E-02                       | 0.4             | 0.1752E-02                         | -1.22           | 4.151E-04       |                 |                        | 1.0    |
| 23  | 8     | $A_1$    | 23   | 9      | $A_2$     | 959.02793  | 3                 |                                   |                 | 0.1752E-02                         |                 |                 |                 |                        |        |
| 22  | 8     | $A_2$    | 22   | 9      | $A_1$     | 959.10443  | 13                |                                   |                 | 0.1834E-02                         |                 |                 |                 |                        |        |
| 22  | 8     | $A_1$    | 22   | 9      | $A_2$     | 959.10443  | 13                |                                   |                 | 0.1834E-02                         |                 |                 |                 |                        |        |
| 28  | 4     | $E$      | 29   | 5      | $E$       | 959.16756  | -5                | .310509E-02                       | 0.9             | 0.3222E-02                         | -3.77           | 6.279E-04       |                 |                        | 1.0    |
| 21  | 8     | $A_2$    | 21   | 9      | $A_1$     | 959.17739  | 2                 | .371183E-02                       | 1.0             | 0.1903E-02                         | -2.54           | 4.038E-04       |                 |                        | 1.0    |
| 21  | 8     | $A_1$    | 21   | 9      | $A_2$     | 959.17739  | 2                 |                                   |                 | 0.1903E-02                         |                 |                 |                 |                        |        |
| 7   | 7     | $E$      | 8    | 8      | $E$       | 959.22347  | 12                | .553062E-02                       | 0.6             | 0.5744E-02                         | -3.86           | 3.458E-04       |                 |                        | 1.0    |
| 20  | 8     | $A_2$    | 20   | 9      | $A_1$     | 959.24712  | 0                 | .389621E-02                       | 0.4             | 0.1956E-02                         | -.42            | 3.940E-04       |                 |                        | 1.0    |
| 20  | 8     | $A_1$    | 20   | 9      | $A_2$     | 959.24712  | 0                 |                                   |                 | 0.1956E-02                         |                 |                 |                 |                        |        |
| 21  | 5     | $A_2$    | 22   | 6      | $A_1$     | 959.27261  | 10                | .955103E-02                       | 0.1             | 0.4946E-02                         | -3.56           | 3.721E-04       | -.112E+00       | -.254E+00              | 1.8    |
| 21  | 5     | $A_1$    | 22   | 6      | $A_2$     | 959.27261  | 10                |                                   |                 | 0.4946E-02                         |                 |                 |                 |                        |        |
| 14  | 6     | $E$      | 15   | 7      | $E$       | 959.29292  | 11                | .583889E-02                       | 0.3             | 0.5858E-02                         | -.33            | 3.837E-04       | -.139E+00       |                        | 1.2    |
| 19  | 8     | $A_2$    | 19   | 9      | $A_1$     | 959.31357  | 4                 | .394211E-02                       | 0.3             | 0.1990E-02                         | -.98            | 3.500E-04       | -.192E+00       | -.437E+00              | 1.6    |
| 19  | 8     | $A_1$    | 19   | 9      | $A_2$     | 959.31357  | 4                 |                                   |                 | 0.1990E-02                         |                 |                 |                 |                        |        |
| 18  | 8     | $A_2$    | 18   | 9      | $A_1$     | 959.37666  | 4                 | .396426E-02                       | 0.3             | 0.2002E-02                         | -1.02           | 3.566E-04       | -.143E+00       | -.199E+00              | 1.4    |
| 18  | 8     | $A_1$    | 18   | 9      | $A_2$     | 959.37666  | 4                 |                                   |                 | 0.2002E-02                         |                 |                 |                 |                        |        |
| 48  | 1     | $E$      | 49   | 2      | $E$       | 959.41463  | 7                 |                                   |                 | 0.2226E-03                         |                 |                 |                 |                        |        |
| 17  | 8     | $A_2$    | 17   | 9      | $A_1$     | 959.43643  | 4                 | .384351E-02                       | 0.3             | 0.1988E-02                         | -3.46           | 3.104E-04       | -.299E+00       | -.427E+00              | 2.1    |
| 17  | 8     | $A_1$    | 17   | 9      | $A_2$     | 959.43643  | 4                 |                                   |                 | 0.1988E-02                         |                 |                 |                 |                        |        |
| 16  | 8     | $A_2$    | 16   | 9      | $A_1$     | 959.49288  | 5                 | .391930E-02                       | 0.4             | 0.1945E-02                         | .75             | 4.074E-04       | -.151E+00       | .811E-01               | 1.2    |
| 16  | 8     | $A_1$    | 16   | 9      | $A_2$     | 959.49288  | 5                 |                                   |                 | 0.1945E-02                         |                 |                 |                 |                        |        |
| 22  | 11    | $A_1$    | 21   | 12     | $A_2$     | 959.54600  | 58                | .375640E-02                       | 0.2             | 0.4979E-04                         | -.80            | 3.481E-04       | -.124E+00       | -.330E+00              | 1.5    |
| 22  | 11    | $A_2$    | 21   | 12     | $A_1$     | 959.54600  | 58                |                                   |                 | 0.4979E-04                         |                 |                 |                 |                        |        |
| 15  | 8     | $A_1$    | 15   | 9      | $A_2$     | 959.54600  | 5                 |                                   |                 | 0.1868E-02                         |                 |                 |                 |                        |        |
| 15  | 8     | $A_2$    | 15   | 9      | $A_1$     | 959.54600  | 5                 |                                   |                 | 0.1868E-02                         |                 |                 |                 |                        |        |
| 14  | 8     | $A_2$    | 14   | 9      | $A_1$     | 959.59581  | 7                 | .343924E-02                       | 0.4             | 0.1754E-02                         | -2.03           | 3.543E-04       | -.132E+00       |                        | 1.2    |
| 14  | 8     | $A_1$    | 14   | 9      | $A_2$     | 959.59581  | 7                 |                                   |                 | 0.1754E-02                         |                 |                 |                 |                        |        |
| 13  | 8     | $A_2$    | 13   | 9      | $A_1$     | 959.64231  | 9                 | .310250E-02                       | 0.4             | 0.1599E-02                         | -3.10           | 3.462E-04       | -.126E+00       |                        | 1.1    |
| 13  | 8     | $A_1$    | 13   | 9      | $A_2$     | 959.64231  | 9                 |                                   |                 | 0.1599E-02                         |                 |                 |                 |                        |        |
| 12  | 8     | $A_2$    | 12   | 9      | $A_1$     | 959.68546  | 9                 | .279964E-02                       | 0.5             | 0.1398E-02                         | .11             | 4.150E-04       |                 |                        | 1.0    |
| 12  | 8     | $A_1$    | 12   | 9      | $A_2$     | 959.68546  | 9                 |                                   |                 | 0.1398E-02                         |                 |                 |                 |                        |        |
| 11  | 8     | $A_2$    | 11   | 9      | $A_1$     | 959.72528  | 9                 | .229305E-02                       | 0.5             | 0.1146E-02                         | .07             | 3.856E-04       |                 |                        | 1.0    |
| 11  | 8     | $A_1$    | 11   | 9      | $A_2$     | 959.72528  | 9                 |                                   |                 | 0.1146E-02                         |                 |                 |                 |                        |        |
| 41  | 2     | $A_1$    | 42   | 3      | $A_2$     | 959.73249  | 56                |                                   |                 | 0.7269E-03                         |                 |                 |                 |                        |        |
| 10  | 8     | $A_2$    | 10   | 9      | $A_1$     | 959.76176  | 6                 | .169809E-02                       | 0.7             | 0.8351E-03                         | 1.64            | 3.399E-04       | .185E+00        |                        | 1.2    |
| 10  | 8     | $A_1$    | 10   | 9      | $A_2$     | 959.76176  | 6                 |                                   |                 | 0.8351E-03                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 9   | 8     | $A_2$    | 9    | 9      | $A_1$     | 959.79501  | 12                | .900656E-03                       | 1.2             | 0.4575E-03                         | -1.58           | 2.971E-04       | -.421E+00       |                        | 1.3    |
| 9   | 8     | $A_1$    | 9    | 9      | $A_2$     | 959.79501  | 12                |                                   |                 | 0.4575E-03                         |                 |                 |                 |                        |        |
| 60  | 1     | $A_1$    | 61   | 0      | $A_2$     | 959.85382  | 23                |                                   |                 | 0.4526E-04                         |                 |                 |                 |                        |        |
| 34  | 3     | $E$      | 35   | 4      | $E$       | 959.97514  | 12                | .179420E-02                       | 0.5             | 0.1842E-02                         | -2.65           | 2.126E-04       | -.207E+00       |                        | 1.2    |
| 54  | 0     | $E$      | 55   | 1      | $E$       | 960.05652  | 35                |                                   |                 | 0.6926E-04                         |                 |                 |                 |                        |        |
| 27  | 4     | $E$      | 28   | 5      | $E$       | 960.14031  | 12                | .340065E-02                       | 0.3             | 0.3578E-02                         | -5.21           | 3.361E-04       | -.532E-01       | -.230E+00              | 1.1    |
| 13  | 6     | $E$      | 14   | 7      | $E$       | 960.22435  | 74                | .156739E-01                       | 0.2             | 0.6110E-02                         | -6.79           | 4.693E-04       | -.684E-01       | -.776E+00              | 1.8    |
| 20  | 5     | $A_1$    | 21   | 6      | $A_2$     | 960.22435  | -24               |                                   |                 | 0.5314E-02                         |                 |                 |                 |                        |        |
| 20  | 5     | $A_2$    | 21   | 6      | $A_1$     | 960.22435  | -24               |                                   |                 | 0.5314E-02                         |                 |                 |                 |                        |        |
| 23  | 11    | $A_2$    | 22   | 12     | $A_1$     | 960.34919  | -7                |                                   |                 | 0.5196E-04                         |                 |                 |                 |                        |        |
| 23  | 11    | $A_1$    | 22   | 12     | $A_2$     | 960.34919  | -7                |                                   |                 | 0.5196E-04                         |                 |                 |                 |                        |        |
| 31  | 12    | $E$      | 30   | 13     | $E$       | 960.42607  | -34               |                                   |                 | 0.1919E-04                         |                 |                 |                 |                        |        |
| 47  | 1     | $E$      | 48   | 2      | $E$       | 960.44229  | 8                 |                                   |                 | 0.2712E-03                         |                 |                 |                 |                        |        |
| 40  | 2     | $A_2$    | 41   | 3      | $A_1$     | 960.74165  | 78                | .169691E-02                       | 2.9             | 0.8578E-03                         | -1.10           | 1.236E-03       |                 |                        | 1.0    |
| 40  | 2     | $A_1$    | 41   | 3      | $A_2$     | 960.74165  | -56               |                                   |                 | 0.8578E-03                         |                 |                 |                 |                        |        |
| 57  | 7     | $E$      | 57   | 8      | $E$       | 960.91685  | 26                |                                   |                 | 0.1621E-04                         |                 |                 |                 |                        |        |
| 59  | 1     | $A_2$    | 60   | 0      | $A_1$     | 960.93829  | 10                |                                   |                 | 0.5750E-04                         |                 |                 |                 |                        |        |
| 33  | 3     | $E$      | 34   | 4      | $E$       | 960.96471  | 12                | .203788E-02                       | 0.9             | 0.2103E-02                         | -3.21           | 3.464E-04       |                 |                        | 1.0    |
| 53  | 0     | $E$      | 54   | 1      | $E$       | 961.10058  | 1                 |                                   |                 | 0.8651E-04                         |                 |                 |                 |                        |        |
| 26  | 4     | $E$      | 27   | 5      | $E$       | 961.10998  | 9                 | .372761E-02                       | 0.6             | 0.3952E-02                         | -6.03           | 3.073E-04       |                 |                        | 1.0    |
| 12  | 6     | $E$      | 13   | 7      | $E$       | 961.15143  | 11                | .629317E-02                       | 0.3             | 0.6347E-02                         | -.86            | 3.802E-04       | -.283E+00       | -.192E+00              | 1.6    |
| 19  | 5     | $A_2$    | 20   | 6      | $A_1$     | 961.17380  | 12                | .107998E-01                       | 0.2             | 0.5680E-02                         | -5.20           | 3.584E-04       | -.189E+00       | -.395E+00              | 1.6    |
| 19  | 5     | $A_1$    | 20   | 6      | $A_2$     | 961.17380  | 12                |                                   |                 | 0.5680E-02                         |                 |                 |                 |                        |        |
| 46  | 1     | $E$      | 47   | 2      | $E$       | 961.46723  | 2                 |                                   |                 | 0.3287E-03                         |                 |                 |                 |                        |        |
| 53  | 7     | $E$      | 53   | 8      | $E$       | 961.65560  | -17               |                                   |                 | 0.4042E-04                         |                 |                 |                 |                        |        |
| 39  | 2     | $A_1$    | 40   | 3      | $A_2$     | 961.74772  | 65                |                                   |                 | 0.1007E-02                         |                 |                 |                 |                        |        |
| 39  | 2     | $A_2$    | 40   | 3      | $A_1$     | 961.74772  | -48               |                                   |                 | 0.1007E-02                         |                 |                 |                 |                        |        |
| 52  | 7     | $E$      | 52   | 8      | $E$       | 961.83193  | -19               |                                   |                 | 0.5019E-04                         |                 |                 |                 |                        |        |
| 25  | 11    | $A_1$    | 24   | 12     | $A_2$     | 961.94550  | -29               |                                   |                 | 0.5376E-04                         |                 |                 |                 |                        |        |
| 25  | 11    | $A_2$    | 24   | 12     | $A_1$     | 961.94550  | -29               |                                   |                 | 0.5376E-04                         |                 |                 |                 |                        |        |
| 32  | 3     | $E$      | 33   | 4      | $E$       | 961.95146  | 10                | .240786E-02                       | 1.0             | 0.2390E-02                         | .74             | 1.638E-04       |                 | -.578E+00              | 1.1    |
| 33  | 12    | $E$      | 32   | 13     | $E$       | 961.96031  | -19               |                                   |                 | 0.1682E-04                         |                 |                 |                 |                        |        |
| 51  | 7     | $E$      | 51   | 8      | $E$       | 962.00507  | -3                |                                   |                 | 0.6201E-04                         |                 |                 |                 |                        |        |
| 58  | 1     | $A_1$    | 59   | 0      | $A_2$     | 962.01975  | -16               |                                   |                 | 0.7273E-04                         |                 |                 |                 |                        |        |
| 11  | 6     | $E$      | 12   | 7      | $E$       | 962.07620  | 29                | .102308E-01                       | 0.2             | 0.6568E-02                         | -6.67           | 3.969E-04       |                 | -.543E+00              | 1.5    |
| 25  | 4     | $E$      | 26   | 5      | $E$       | 962.07620  | -48               |                                   |                 | 0.4344E-02                         |                 |                 |                 |                        |        |
| 18  | 5     | $A_2$    | 19   | 6      | $A_1$     | 962.11976  | -1                | .114465E-01                       | 0.2             | 0.6042E-02                         | -5.57           | 3.494E-04       | -.994E-01       | -.469E+00              | 1.6    |
| 18  | 5     | $A_1$    | 19   | 6      | $A_2$     | 962.11976  | -1                |                                   |                 | 0.6042E-02                         |                 |                 |                 |                        |        |
| 52  | 0     | $E$      | 53   | 1      | $E$       | 962.14221  | -11               |                                   |                 | 0.1075E-03                         |                 |                 |                 |                        |        |
| 50  | 7     | $E$      | 50   | 8      | $E$       | 962.17446  | -26               |                                   |                 | 0.7625E-04                         |                 |                 |                 |                        |        |
| 49  | 7     | $E$      | 49   | 8      | $E$       | 962.34080  | -17               |                                   |                 | 0.9330E-04                         |                 |                 |                 |                        |        |
| 45  | 1     | $E$      | 46   | 2      | $E$       | 962.48954  | 0                 |                                   |                 | 0.3967E-03                         |                 |                 |                 |                        |        |
| 48  | 7     | $E$      | 48   | 8      | $E$       | 962.50362  | -23               |                                   |                 | 0.1136E-03                         |                 |                 |                 |                        |        |
| 18  | 10    | $E$      | 17   | 11     | $E$       | 962.56685  | 12                |                                   |                 | 0.8267E-04                         |                 |                 |                 |                        |        |
| 47  | 7     | $E$      | 47   | 8      | $E$       | 962.66316  | -22               |                                   |                 | 0.1377E-03                         |                 |                 |                 |                        |        |
| 34  | 12    | $E$      | 33   | 13     | $E$       | 962.72153  | -19               |                                   |                 | 0.1555E-04                         |                 |                 |                 |                        |        |
| 26  | 11    | $A_2$    | 25   | 12     | $A_1$     | 962.73835  | -11               |                                   |                 | 0.5350E-04                         |                 |                 |                 |                        |        |
| 26  | 11    | $A_1$    | 25   | 12     | $A_2$     | 962.73835  | -11               |                                   |                 | 0.5350E-04                         |                 |                 |                 |                        |        |
| 38  | 2     | $A_2$    | 39   | 3      | $A_1$     | 962.75084  | 32                | .237684E-02                       | 1.6             | 0.1177E-02                         | .96             | 8.727E-04       |                 |                        | 1.0    |
| 38  | 2     | $A_1$    | 39   | 3      | $A_2$     | 962.75084  | -63               |                                   | 1.6             | 0.1177E-02                         |                 | 8.727E-04       |                 |                        | 1.0    |
| 31  | 3     | $E$      | 32   | 4      | $E$       | 962.93526  | -4                | .276751E-02                       | 0.5             | 0.2702E-02                         | 2.36            | 4.473E-04       |                 |                        | 1.0    |
| 45  | 7     | $E$      | 45   | 8      | $E$       | 962.97218  | -18               |                                   |                 | 0.1991E-03                         |                 |                 |                 |                        |        |
| 10  | 6     | $E$      | 11   | 7      | $E$       | 962.99739  | 1                 | .672918E-02                       | 0.3             | 0.6775E-02                         | -.68            | 3.562E-04       | -.272E+00       |                        | 1.3    |
| 24  | 4     | $E$      | 25   | 5      | $E$       | 963.04052  | -3                | .455156E-02                       | 0.4             | 0.4751E-02                         | -4.38           | 3.549E-04       | -.585E-01       | -.308E+00              | 1.2    |
| 17  | 5     | $A_2$    | 18   | 6      | $A_1$     | 963.06283  | -1                | .120594E-01                       | 0.2             | 0.6395E-02                         | -6.06           | 3.564E-04       | -.227E+00       | -.296E+00              | 1.9    |
| 17  | 5     | $A_1$    | 18   | 6      | $A_2$     | 963.06283  | -1                |                                   |                 | 0.6395E-02                         |                 |                 |                 |                        |        |
| 57  | 1     | $A_2$    | 58   | 0      | $A_1$     | 963.09866  | -8                |                                   |                 | 0.9160E-04                         |                 |                 |                 |                        |        |
| 44  | 7     | $E$      | 44   | 8      | $E$       | 963.12164  | -18               |                                   |                 | 0.2377E-03                         |                 |                 |                 |                        |        |
| 51  | 0     | $E$      | 52   | 1      | $E$       | 963.18138  | -2                |                                   |                 | 0.1331E-03                         |                 |                 |                 |                        |        |
| 43  | 7     | $E$      | 43   | 8      | $E$       | 963.26754  | -39               |                                   |                 | 0.2824E-03                         |                 |                 |                 |                        |        |
| 19  | 10    | $E$      | 18   | 11     | $E$       | 963.38613  | 27                |                                   |                 | 0.9317E-04                         |                 |                 |                 |                        |        |
| 42  | 7     | $E$      | 42   | 8      | $E$       | 963.41051  | -18               |                                   |                 | 0.3337E-03                         |                 |                 |                 |                        |        |
| 35  | 12    | $E$      | 34   | 13     | $E$       | 963.47881  | -24               |                                   |                 | 0.1426E-04                         |                 |                 |                 |                        |        |
| 44  | 1     | $E$      | 45   | 2      | $E$       | 963.50911  | -9                | .500197E-03                       | 2.3             | 0.4763E-03                         | 4.77            | 9.870E-05       | -.114E+01       |                        | 1.4    |
| 27  | 11    | $A_1$    | 26   | 12     | $A_2$     | 963.52763  | 26                |                                   |                 | 0.5259E-04                         |                 |                 |                 |                        |        |
| 27  | 11    | $A_2$    | 26   | 12     | $A_1$     | 963.52763  | 26                |                                   |                 | 0.5259E-04                         |                 |                 |                 |                        |        |
| 41  | 7     | $E$      | 41   | 8      | $E$       | 963.54990  | -20               | .415532E-03                       | 1.0             | 0.3923E-03                         | 5.58            | 1.269E-04       | -.665E+00       |                        | 1.6    |
| 40  | 7     | $E$      | 40   | 8      | $E$       | 963.68602  | -15               | .502050E-03                       | 3.7             | 0.4589E-03                         | 8.59            | 4.170E-04       |                 |                        | 1.0    |
| 37  | 2     | $A_1$    | 38   | 3      | $A_2$     | 963.75156  | 34                |                                   | 1.4             | 0.1369E-02                         |                 | 8.504E-04       |                 |                        | 1.0    |
| 37  | 2     | $A_2$    | 38   | 3      | $A_1$     | 963.75156  | -45               | .278024E-02                       | 1.4             | 0.1369E-02                         | 1.55            | 8.504E-04       |                 |                        | 1.0    |
| 39  | 7     | $E$      | 39   | 8      | $E$       | 963.81873  | -17               | .573909E-03                       | 1.8             | 0.5340E-03                         | 6.95            | 3.458E-04       |                 |                        | 1.0    |
| 30  | 3     | $E$      | 31   | 4      | $E$       | 963.91592  | -48               | .954697E-02                       | 0.4             | 0.3040E-02                         | -4.84           | 4.333E-04       |                 |                        | 1.0    |
| 9   | 6     | $E$      | 10   | 7      | $E$       | 963.91592  | 21                |                                   |                 | 0.6969E-02                         |                 |                 |                 |                        |        |
| 38  | 7     | $E$      | 38   | 8      | $E$       | 963.94814  | -14               | .664237E-03                       | 2.0             | 0.6182E-03                         | 6.93            | 2.930E-04       |                 |                        | 1.0    |
| 16  | 5     | $A_2$    | 17   | 6      | $A_1$     | 964.00255  | -32               | .179932E-01                       | 0.5             | 0.6735E-02                         | -3.59           | 6.563E-04       | -.489E+00       |                        | 1.2    |
| 16  | 5     | $A_1$    | 17   | 6      | $A_2$     | 964.00255  | -32               |                                   |                 | 0.6735E-02                         |                 |                 |                 |                        |        |
| 37  | 7     | $E$      | 37   | 8      | $E$       | 964.07416  | -17               | .734585E-03                       | 1.5             | 0.7119E-03                         | 3.09            | 2.681E-04       |                 |                        | 1.0    |
| 56  | 1     | $A_1$    | 57   | 0      | $A_2$     | 964.17463  | -3                |                                   |                 | 0.1148E-03                         |                 |                 |                 |                        |        |
| 36  | 7     | $E$      | 36   | 8      | $E$       | 964.19691  | -12               | .835393E-03                       | 2.2             | 0.8154E-03                         | 2.40            | 2.072E-04       | -.586E+00       |                        | 1.1    |
| 20  | 10    | $E$      | 19   | 11     | $E$       | 964.20096  | -39               |                                   |                 | 0.1019E-03                         |                 |                 |                 |                        |        |
| 50  | 0     | $E$      | 51   | 1      | $E$       | 964.21772  | -9                |                                   |                 | 0.1639E-03                         |                 |                 |                 |                        |        |
| 36  | 12    | $E$      | 35   | 13     | $E$       | 964.23166  | -80               |                                   |                 | 0.1298E-04                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 35  | 7     | $E$      | 35   | 8      | $E$       | 964.31627  | -14               | .988106E-03                       | 1.6             | 0.9289E-03                         | 6.00            | 2.217E-04       | -.107E+01       | .453E+00               | 1.2    |
| 34  | 7     | $E$      | 34   | 8      | $E$       | 964.43226  | -18               |                                   |                 | 0.1052E-02                         |                 |                 |                 |                        |        |
| 43  | 1     | $E$      | 44   | 2      | $E$       | 964.52610  | -7                | .593079E-03                       | 2.3             | 0.5693E-03                         | 4.01            | 2.653E-04       |                 |                        | 1.0    |
| 33  | 7     | $E$      | 33   | 8      | $E$       | 964.54501  | -14               | .112458E-02                       | 0.9             | 0.1186E-02                         | -5.44           | 2.231E-04       |                 |                        | 1.0    |
| 32  | 7     | $E$      | 32   | 8      | $E$       | 964.65440  | -12               | .127729E-02                       | 1.5             | 0.1329E-02                         | -4.01           | 4.216E-04       |                 |                        | 1.0    |
| 36  | 2     | $A_2$    | 37   | 3      | $A_1$     | 964.74943  | 28                | .325111E-02                       | 1.1             | 0.1584E-02                         | 2.58            | 6.304E-04       |                 |                        | 1.0    |
| 36  | 2     | $A_1$    | 37   | 3      | $A_2$     | 964.74943  | -36               |                                   |                 | 0.1584E-02                         |                 |                 |                 |                        |        |
| 31  | 7     | $E$      | 31   | 8      | $E$       | 964.76049  | -8                | .142779E-02                       | 2.1             | 0.1480E-02                         | -3.66           | 3.044E-04       |                 |                        | 1.0    |
| 8   | 6     | $E$      | 9    | 7      | $E$       | 964.83089  | 0                 | .727141E-02                       | 0.3             | 0.7155E-02                         | 1.60            | 3.195E-04       |                 |                        | 1.0    |
| 30  | 7     | $E$      | 30   | 8      | $E$       | 964.86320  | -8                | .159542E-02                       | 1.8             | 0.1639E-02                         | -2.74           | 3.496E-04       |                 |                        | 1.0    |
| 29  | 3     | $E$      | 30   | 4      | $E$       | 964.89467  | 1                 | .326233E-02                       | 0.6             | 0.3403E-02                         | -4.31           | 3.325E-04       |                 |                        | 1.0    |
| 15  | 5     | $A_2$    | 16   | 6      | $A_1$     | 964.93984  | -1                | .136387E-01                       | 0.3             | 0.7058E-02                         | -3.50           | 3.586E-04       | .113E+00        | -.261E+00              | 1.2    |
| 15  | 5     | $A_1$    | 16   | 6      | $A_2$     | 964.93984  | -1                |                                   |                 | 0.7058E-02                         |                 |                 |                 |                        |        |
| 22  | 4     | $E$      | 23   | 5      | $E$       | 964.95948  | -1                | .547645E-02                       | 3.3             | 0.5594E-02                         | -2.15           | 2.836E-04       |                 |                        | 1.0    |
| 29  | 7     | $E$      | 29   | 8      | $E$       | 964.96248  | -19               |                                   |                 | 0.1805E-02                         |                 |                 |                 |                        |        |
| 37  | 12    | $E$      | 36   | 13     | $E$       | 964.98216  | 23                |                                   |                 | 0.1173E-04                         |                 |                 |                 |                        |        |
| 21  | 10    | $E$      | 20   | 11     | $E$       | 965.01306  | -14               |                                   |                 | 0.1088E-03                         |                 |                 |                 |                        |        |
| 28  | 7     | $E$      | 28   | 8      | $E$       | 965.05862  | -12               | .203231E-02                       | 0.6             | 0.1975E-02                         | 2.84            | 3.442E-04       | -.363E+00       |                        | 1.2    |
| 29  | 11    | $A_2$    | 28   | 12     | $A_1$     | 965.09404  | 16                |                                   |                 | 0.4914E-04                         |                 |                 |                 |                        |        |
| 29  | 11    | $A_1$    | 28   | 12     | $A_2$     | 965.09404  | 16                |                                   |                 | 0.4914E-04                         |                 |                 |                 |                        |        |
| 27  | 7     | $E$      | 27   | 8      | $E$       | 965.15136  | -12               | .215744E-02                       | 0.5             | 0.2147E-02                         | .47             | 3.013E-04       | -.512E-01       | -.319E+00              | 1.1    |
| 26  | 7     | $E$      | 26   | 8      | $E$       | 965.24111  | 22                |                                   |                 | 0.2320E-02                         |                 |                 |                 |                        |        |
| 49  | 0     | $E$      | 50   | 1      | $E$       | 965.25152  | -3                |                                   |                 | 0.2010E-03                         |                 |                 |                 |                        |        |
| 25  | 7     | $E$      | 25   | 8      | $E$       | 965.32689  | -10               | .261108E-02                       | 0.5             | 0.2490E-02                         | 4.64            | 4.025E-04       |                 |                        | 1.0    |
| 24  | 7     | $E$      | 24   | 8      | $E$       | 965.40969  | -8                | .267921E-02                       | 0.5             | 0.2654E-02                         | .95             | 3.684E-04       |                 |                        | 1.0    |
| 23  | 7     | $E$      | 23   | 8      | $E$       | 965.48916  | -6                | .287196E-02                       | 0.4             | 0.2808E-02                         | 2.22            | 3.271E-04       | -.331E+00       | -.293E+00              | 1.1    |
| 42  | 1     | $E$      | 43   | 2      | $E$       | 965.54040  | -5                | .729237E-03                       | 0.7             | 0.6771E-03                         | 7.16            | 4.878E-04       | .209E-01        | .188E+01               | 1.3    |
| 22  | 7     | $E$      | 22   | 8      | $E$       | 965.56511  | -25               |                                   |                 | 0.2949E-02                         |                 |                 |                 |                        |        |
| 21  | 7     | $E$      | 21   | 8      | $E$       | 965.63812  | -6                | .308182E-02                       | 0.4             | 0.3072E-02                         | .32             | 3.960E-04       |                 |                        | 1.0    |
| 62  | 2     | $E$      | 63   | 1      | $E$       | 965.66086  | -13               |                                   |                 | 0.1159E-04                         |                 |                 |                 |                        |        |
| 20  | 7     | $E$      | 20   | 8      | $E$       | 965.70762  | -6                | .314687E-02                       | 0.6             | 0.3173E-02                         | -.82            | 3.685E-04       |                 |                        | 1.0    |
| 38  | 12    | $E$      | 37   | 13     | $E$       | 965.72704  | -42               |                                   |                 | 0.1053E-04                         |                 |                 |                 |                        |        |
| 7   | 6     | $E$      | 8    | 7      | $E$       | 965.74318  | 28                |                                   |                 | 0.7344E-02                         |                 |                 |                 |                        |        |
| 19  | 7     | $E$      | 19   | 8      | $E$       | 965.77382  | -5                | .320877E-02                       | 1.0             | 0.3247E-02                         | -1.18           | 3.049E-04       | -.848E+00       | -.240E+00              | 1.6    |
| 22  | 10    | $E$      | 21   | 11     | $E$       | 965.82173  | 35                |                                   |                 | 0.1138E-03                         |                 |                 |                 |                        |        |
| 18  | 7     | $E$      | 18   | 8      | $E$       | 965.83668  | -6                | .326575E-02                       | 0.9             | 0.3289E-02                         | -.70            | 4.052E-04       |                 |                        | 1.0    |
| 28  | 3     | $E$      | 29   | 4      | $E$       | 965.87018  | 12                |                                   | 0.3             | 0.3790E-02                         |                 | 3.992E-04       |                 |                        | 1.0    |
| 14  | 5     | $A_2$    | 15   | 6      | $A_1$     | 965.87378  | 0                 | .143469E-01                       | 0.3             | 0.7360E-02                         | -2.61           | 3.992E-04       |                 |                        | 1.0    |
| 14  | 5     | $A_1$    | 15   | 6      | $A_2$     | 965.87378  | 0                 |                                   |                 | 0.7360E-02                         |                 |                 |                 |                        |        |
| 17  | 7     | $E$      | 17   | 8      | $E$       | 965.89630  | 0                 | .323186E-02                       | 0.5             | 0.3294E-02                         | -1.91           | 3.380E-04       | -.269E+00       | -.307E+00              | 1.3    |
| 21  | 4     | $E$      | 22   | 5      | $E$       | 965.91450  | -3                | .575385E-02                       | 0.3             | 0.6024E-02                         | -4.69           | 3.891E-04       |                 |                        | 1.0    |
| 16  | 7     | $E$      | 16   | 8      | $E$       | 965.95252  | -3                | .319140E-02                       | 0.5             | 0.3257E-02                         | -2.05           | 3.496E-04       | -.188E+00       | -.292E+00              | 1.1    |
| 15  | 7     | $E$      | 15   | 8      | $E$       | 966.00547  | -2                | .311095E-02                       | 0.4             | 0.3172E-02                         | -1.98           | 3.267E-04       | -.640E-01       | -.367E+00              | 1.2    |
| 14  | 7     | $E$      | 14   | 8      | $E$       | 966.05511  | 0                 | .299287E-02                       | 0.7             | 0.3036E-02                         | -1.43           | 3.804E-04       | -.226E+00       |                        | 1.1    |
| 13  | 7     | $E$      | 13   | 8      | $E$       | 966.10138  | -4                | .283793E-02                       | 0.6             | 0.2840E-02                         | -.09            | 4.044E-04       | -.336E+00       |                        | 1.4    |
| 12  | 7     | $E$      | 12   | 8      | $E$       | 966.14441  | -1                | .256272E-02                       | 0.5             | 0.2581E-02                         | -.71            | 4.006E-04       | -.289E+00       | -.126E+00              | 1.3    |
| 11  | 7     | $E$      | 11   | 8      | $E$       | 966.18409  | -3                | .223527E-02                       | 0.5             | 0.2250E-02                         | -.66            | 3.767E-04       |                 |                        | 1.0    |
| 10  | 7     | $E$      | 10   | 8      | $E$       | 966.22049  | -1                | .181799E-02                       | 0.4             | 0.1840E-02                         | -1.21           | 3.539E-04       |                 |                        | 1.0    |
| 9   | 7     | $E$      | 9    | 8      | $E$       | 966.25359  | 2                 | .132760E-02                       | 1.3             | 0.1340E-02                         | -.91            | 3.531E-04       |                 |                        | 1.0    |
| 48  | 0     | $E$      | 49   | 1      | $E$       | 966.28305  | 45                |                                   |                 | 0.2452E-03                         |                 |                 |                 |                        |        |
| 8   | 7     | $E$      | 8    | 8      | $E$       | 966.28308  | -25               |                                   |                 | 0.7340E-03                         |                 |                 |                 |                        |        |
| 54  | 1     | $A_1$    | 55   | 0      | $A_2$     | 966.31768  | -5                |                                   |                 | 0.1781E-03                         |                 |                 |                 |                        |        |
| 15  | 9     | $E$      | 14   | 10     | $E$       | 966.42383  | -8                |                                   |                 | 0.1155E-03                         |                 |                 |                 |                        |        |
| 62  | 6     | $E$      | 62   | 7      | $E$       | 966.45673  | 59                |                                   |                 | 0.6809E-05                         |                 |                 |                 |                        |        |
| 39  | 12    | $E$      | 38   | 13     | $E$       | 966.46890  | -12               |                                   |                 | 0.9385E-05                         |                 |                 |                 |                        |        |
| 41  | 1     | $E$      | 42   | 2      | $E$       | 966.55199  | -2                | .827592E-03                       | 1.8             | 0.8014E-03                         | 3.16            | 2.612E-04       |                 |                        | 1.0    |
| 23  | 10    | $E$      | 22   | 11     | $E$       | 966.62540  | -50               |                                   |                 | 0.1169E-03                         |                 |                 |                 |                        |        |
| 31  | 11    | $A_1$    | 30   | 12     | $A_2$     | 966.64532  | 14                |                                   |                 | 0.4415E-04                         |                 |                 |                 |                        |        |
| 31  | 11    | $A_2$    | 30   | 12     | $A_1$     | 966.64532  | 14                |                                   |                 | 0.4415E-04                         |                 |                 |                 |                        |        |
| 6   | 6     | $E$      | 7    | 7      | $E$       | 966.65174  | 2                 | .783896E-02                       | 0.5             | 0.7551E-02                         | 3.67            | 2.690E-04       | -.317E+00       |                        | 1.3    |
| 61  | 6     | $E$      | 61   | 7      | $E$       | 966.66287  | 48                |                                   |                 | 0.8825E-05                         |                 |                 |                 |                        |        |
| 61  | 2     | $E$      | 62   | 1      | $E$       | 966.71829  | 2                 |                                   |                 | 0.1489E-04                         |                 |                 |                 |                        |        |
| 34  | 2     | $A_2$    | 35   | 3      | $A_1$     | 966.73683  | 18                | .424930E-02                       | 0.6             | 0.2089E-02                         | 1.67            | 4.767E-04       | -.204E+00       |                        | 1.1    |
| 34  | 2     | $A_1$    | 35   | 3      | $A_2$     | 966.73683  | -23               |                                   |                 | 0.2089E-02                         |                 |                 |                 |                        |        |
| 13  | 5     | $A_2$    | 14   | 6      | $A_1$     | 966.80468  | 5                 | .149146E-01                       | 0.2             | 0.7639E-02                         | -2.44           | 5.242E-04       | -.713E-01       | -.145E+00              | 1.1    |
| 13  | 5     | $A_1$    | 14   | 6      | $A_2$     | 966.80468  | 5                 |                                   |                 | 0.7639E-02                         |                 |                 |                 |                        |        |
| 27  | 3     | $E$      | 28   | 4      | $E$       | 966.84258  | 0                 | .401844E-02                       | 0.3             | 0.4199E-02                         | -4.49           | 3.359E-04       | -.208E+00       |                        | 1.1    |
| 60  | 6     | $E$      | 60   | 7      | $E$       | 966.86636  | 111               |                                   |                 | 0.1138E-04                         |                 |                 |                 |                        |        |
| 20  | 4     | $E$      | 21   | 5      | $E$       | 966.86657  | -2                | .616392E-02                       | 0.3             | 0.6453E-02                         | -4.68           | 4.022E-04       | -.186E+00       |                        | 1.1    |
| 40  | 12    | $E$      | 39   | 13     | $E$       | 967.20648  | -12               |                                   |                 | 0.8309E-05                         |                 |                 |                 |                        |        |
| 16  | 9     | $E$      | 15   | 10     | $E$       | 967.25422  | -11               |                                   |                 | 0.1421E-03                         |                 |                 |                 |                        |        |
| 47  | 0     | $E$      | 48   | 1      | $E$       | 967.31096  | 0                 |                                   |                 | 0.2978E-03                         |                 |                 |                 |                        |        |
| 53  | 1     | $A_2$    | 54   | 0      | $A_1$     | 967.38486  | 0                 |                                   |                 | 0.2204E-03                         |                 |                 |                 |                        |        |
| 32  | 11    | $A_1$    | 31   | 12     | $A_2$     | 967.41453  | -56               |                                   |                 | 0.4130E-04                         |                 |                 |                 |                        |        |
| 32  | 11    | $A_2$    | 31   | 12     | $A_1$     | 967.41453  | -56               |                                   |                 | 0.4130E-04                         |                 |                 |                 |                        |        |
| 24  | 10    | $E$      | 23   | 11     | $E$       | 967.42647  | -25               |                                   |                 | 0.1183E-03                         |                 |                 |                 |                        |        |
| 40  | 1     | $E$      | 41   | 2      | $E$       | 967.56082  | -4                | .101765E-02                       | 0.7             | 0.9440E-03                         | 7.24            | 3.128E-04       |                 |                        | 1.0    |
| 33  | 2     | $A_2$    | 34   | 3      | $A_1$     | 967.72632  | -20               | .479032E-02                       | 1.0             | 0.2382E-02                         | .57             | 4.019E-04       |                 |                        | 1.0    |
| 33  | 2     | $A_1$    | 34   | 3      | $A_2$     | 967.72632  | 12                |                                   |                 | 0.2382E-02                         |                 |                 |                 |                        |        |
| 12  | 5     | $A_2$    | 13   | 6      | $A_1$     | 967.73239  | 0                 | .152526E-01                       | 0.3             | 0.7893E-02                         | -3.49           | 3.804E-04       |                 |                        | 1.0    |
| 12  | 5     | $A_1$    | 13   | 6      | $A_2$     | 967.73239  | 0                 |                                   |                 | 0.7893E-02                         |                 |                 |                 |                        |        |
| 26  | 3     | $E$      | 27   | 4      | $E$       | 967.81223  | 1                 | .440656E-02                       | 1.2             | 0.4628E-02                         | -5.03           | 4.531E-04       |                 |                        | 1.0    |



(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 19  | 4     | $E$      | 20   | 5      | $E$       | 967.81570  | 3                 | .657779E-02                       | 1.2             | 0.6876E-02                         | -4.53           | 4.531E-04       |                 |                        | 1.0    |
| 54  | 6     | $E$      | 54   | 7      | $E$       | 968.01102  | -38               |                                   |                 | 0.4750E-04                         |                 |                 |                 |                        |        |
| 17  | 9     | $E$      | 16   | 10     | $E$       | 968.08115  | -4                |                                   |                 | 0.1664E-03                         |                 |                 |                 |                        |        |
| 33  | 11    | $A_1$    | 32   | 12     | $A_2$     | 968.18095  | -20               |                                   |                 | 0.3831E-04                         |                 |                 |                 |                        |        |
| 33  | 11    | $A_2$    | 32   | 12     | $A_1$     | 968.18095  | -20               |                                   |                 | 0.3831E-04                         |                 |                 |                 |                        |        |
| 53  | 6     | $E$      | 53   | 7      | $E$       | 968.19049  | -13               |                                   |                 | 0.5927E-04                         |                 |                 |                 |                        |        |
| 25  | 10    | $E$      | 24   | 11     | $E$       | 968.22368  | -16               |                                   |                 | 0.1181E-03                         |                 |                 |                 |                        |        |
| 46  | 0     | $E$      | 47   | 1      | $E$       | 968.33658  | -3                |                                   |                 | 0.3601E-03                         |                 |                 |                 |                        |        |
| 52  | 6     | $E$      | 52   | 7      | $E$       | 968.36630  | -18               |                                   |                 | 0.7360E-04                         |                 |                 |                 |                        |        |
| 52  | 1     | $A_1$    | 53   | 0      | $A_2$     | 968.44901  | -1                |                                   |                 | 0.2714E-03                         |                 |                 |                 |                        |        |
| 51  | 6     | $E$      | 51   | 7      | $E$       | 968.53889  | -8                |                                   |                 | 0.9096E-04                         |                 |                 |                 |                        |        |
| 39  | 1     | $E$      | 40   | 2      | $E$       | 968.56692  | -6                | .115899E-02                       | 1.0             | 0.1107E-02                         | 4.53            | 3.036E-04       |                 |                        | 1.0    |
| 11  | 5     | $A_2$    | 12   | 6      | $A_1$     | 968.65706  | 1                 | .153658E-01                       | 0.3             | 0.8119E-02                         | -5.67           | 3.218E-04       | -.308E+00       | -.395E+00              | 1.9    |
| 11  | 5     | $A_1$    | 12   | 6      | $A_2$     | 968.65706  | 1                 |                                   |                 | 0.8119E-02                         |                 |                 |                 |                        |        |
| 32  | 2     | $A_2$    | 33   | 3      | $A_1$     | 968.71306  | 13                | .532616E-02                       | 0.6             | 0.2701E-02                         | -1.44           | 4.329E-04       | -.185E+00       |                        | 1.1    |
| 32  | 2     | $A_1$    | 33   | 3      | $A_2$     | 968.71306  | -12               |                                   |                 | 0.2701E-02                         |                 |                 |                 |                        |        |
| 18  | 4     | $E$      | 19   | 5      | $E$       | 968.76175  | 0                 | .693495E-02                       | 0.3             | 0.7288E-02                         | -5.09           | 4.290E-04       |                 |                        | 1.0    |
| 25  | 3     | $E$      | 26   | 4      | $E$       | 968.77897  | 1                 | .495151E-02                       | 0.6             | 0.5075E-02                         | -2.50           | 4.112E-04       | -.216E+00       |                        | 1.2    |
| 49  | 6     | $E$      | 49   | 7      | $E$       | 968.87351  | -37               |                                   |                 | 0.1369E-03                         |                 |                 |                 |                        |        |
| 18  | 9     | $E$      | 17   | 10     | $E$       | 968.90459  | 13                |                                   |                 | 0.1878E-03                         |                 |                 |                 |                        |        |
| 34  | 11    | $A_2$    | 33   | 12     | $A_1$     | 968.94316  | -18               |                                   |                 | 0.3526E-04                         |                 |                 |                 |                        |        |
| 34  | 11    | $A_1$    | 33   | 12     | $A_2$     | 968.94316  | -18               |                                   |                 | 0.3526E-04                         |                 |                 |                 |                        |        |
| 26  | 10    | $E$      | 25   | 11     | $E$       | 969.01712  | -12               |                                   |                 | 0.1164E-03                         |                 |                 |                 |                        |        |
| 48  | 6     | $E$      | 48   | 7      | $E$       | 969.03649  | 19                |                                   |                 | 0.1668E-03                         |                 |                 |                 |                        |        |
| 47  | 6     | $E$      | 47   | 7      | $E$       | 969.19522  | -15               |                                   |                 | 0.2021E-03                         |                 |                 |                 |                        |        |
| 46  | 6     | $E$      | 46   | 7      | $E$       | 969.35096  | -12               |                                   |                 | 0.2438E-03                         |                 |                 |                 |                        |        |
| 45  | 0     | $E$      | 46   | 1      | $E$       | 969.35952  | -3                | .440667E-03                       | 1.8             | 0.4332E-03                         | 1.69            | 3.074E-04       |                 |                        | 1.0    |
| 43  | 12    | $E$      | 42   | 13     | $E$       | 969.39499  | -29               |                                   |                 | 0.5552E-05                         |                 |                 |                 |                        |        |
| 45  | 6     | $E$      | 45   | 7      | $E$       | 969.50324  | -22               |                                   |                 | 0.2926E-03                         |                 |                 |                 |                        |        |
| 51  | 1     | $A_2$    | 52   | 0      | $A_1$     | 969.51026  | 5                 |                                   |                 | 0.3328E-03                         |                 |                 |                 |                        |        |
| 38  | 1     | $E$      | 39   | 2      | $E$       | 969.57024  | -11               |                                   |                 | 0.1291E-02                         |                 |                 |                 |                        |        |
| 10  | 5     | $A_2$    | 11   | 6      | $A_1$     | 969.57861  | 2                 | .156182E-01                       | 1.1             | 0.8318E-02                         | -6.51           | 3.307E-04       | .322E+00        |                        | 1.1    |
| 10  | 5     | $A_1$    | 11   | 6      | $A_2$     | 969.57861  | 2                 |                                   |                 | 0.8318E-02                         |                 |                 |                 |                        |        |
| 44  | 6     | $E$      | 44   | 7      | $E$       | 969.65231  | -17               |                                   |                 | 0.3494E-03                         |                 |                 |                 |                        |        |
| 31  | 2     | $A_2$    | 32   | 3      | $A_1$     | 969.69692  | -10               | .597870E-02                       | 0.5             | 0.3049E-02                         | -1.98           | 4.178E-04       |                 |                        | 1.0    |
| 31  | 2     | $A_1$    | 32   | 3      | $A_2$     | 969.69692  | 7                 |                                   |                 | 0.3049E-02                         |                 |                 |                 |                        |        |
| 17  | 4     | $E$      | 18   | 5      | $E$       | 969.70483  | 1                 | .719955E-02                       | 0.5             | 0.7684E-02                         | -6.73           | 4.336E-04       |                 |                        | 1.0    |
| 24  | 3     | $E$      | 25   | 4      | $E$       | 969.74277  | -1                | .529546E-02                       | 0.8             | 0.5536E-02                         | -4.54           | 3.536E-04       | -.383E+00       |                        | 1.1    |
| 43  | 6     | $E$      | 43   | 7      | $E$       | 969.79802  | -15               |                                   |                 | 0.4151E-03                         |                 |                 |                 |                        |        |
| 27  | 10    | $E$      | 26   | 11     | $E$       | 969.80660  | -30               |                                   |                 | 0.1135E-03                         |                 |                 |                 |                        |        |
| 58  | 2     | $E$      | 59   | 1      | $E$       | 969.87608  | -52               |                                   |                 | 0.3075E-04                         |                 |                 |                 |                        |        |
| 42  | 6     | $E$      | 42   | 7      | $E$       | 969.94037  | -14               | .517273E-03                       | 0.6             | 0.4908E-03                         | 5.12            | 6.979E-04       | -.117E+00       | .530E+01               | 1.6    |
| 41  | 6     | $E$      | 41   | 7      | $E$       | 970.07941  | -11               | .629242E-03                       | 1.9             | 0.5773E-03                         | 8.26            | 1.052E-04       | .143E+01        |                        | 1.3    |
| 40  | 6     | $E$      | 40   | 7      | $E$       | 970.21507  | -12               | .712966E-03                       | 2.1             | 0.6756E-03                         | 5.25            | 3.113E-04       |                 |                        | 1.0    |
| 12  | 8     | $A_2$    | 11   | 9      | $A_1$     | 970.31023  | 21                |                                   |                 | 0.1126E-03                         |                 |                 |                 |                        |        |
| 12  | 8     | $A_1$    | 11   | 9      | $A_2$     | 970.31023  | 21                |                                   |                 | 0.1126E-03                         |                 |                 |                 |                        |        |
| 39  | 6     | $E$      | 39   | 7      | $E$       | 970.34741  | -11               | .759234E-03                       | 1.0             | 0.7865E-03                         | -3.59           | 5.314E-04       |                 |                        | 1.0    |
| 44  | 0     | $E$      | 45   | 1      | $E$       | 970.37978  | 1                 | .543390E-03                       | 2.5             | 0.5187E-03                         | 4.54            | 2.282E-04       |                 |                        | 1.0    |
| 36  | 11    | $A_1$    | 35   | 12     | $A_2$     | 970.45596  | -12               |                                   |                 | 0.2922E-04                         |                 |                 |                 |                        |        |
| 36  | 11    | $A_2$    | 35   | 12     | $A_1$     | 970.45596  | -12               |                                   |                 | 0.2922E-04                         |                 |                 |                 |                        |        |
| 38  | 6     | $E$      | 38   | 7      | $E$       | 970.47653  | 1                 | .996476E-03                       | 1.8             | 0.9109E-03                         | 8.58            | 6.244E-04       |                 |                        | 1.0    |
| 9   | 5     | $A_2$    | 10   | 6      | $A_1$     | 970.49700  | 0                 | .159359E-01                       | 0.8             | 0.8491E-02                         | -6.57           | 3.454E-04       | -.678E+00       | -.184E+00              | 1.3    |
| 9   | 5     | $A_1$    | 10   | 6      | $A_2$     | 970.49700  | 0                 |                                   |                 | 0.8491E-02                         |                 |                 |                 |                        |        |
| 20  | 9     | $E$      | 19   | 10     | $E$       | 970.54014  | -5                |                                   |                 | 0.2201E-03                         |                 |                 |                 |                        |        |
| 64  | 3     | $E$      | 65   | 2      | $E$       | 970.55062  | -29               |                                   |                 | 0.6660E-05                         |                 |                 |                 |                        |        |
| 37  | 1     | $E$      | 38   | 2      | $E$       | 970.57097  | 0                 | .152216E-02                       | 1.5             | 0.1498E-02                         | 1.58            | 5.645E-04       |                 |                        | 1.0    |
| 37  | 6     | $E$      | 37   | 7      | $E$       | 970.60209  | -11               | .101333E-02                       | 2.4             | 0.1050E-02                         | -3.57           | 1.789E-04       |                 |                        | 1.0    |
| 16  | 4     | $E$      | 17   | 5      | $E$       | 970.64487  | 1                 | .769207E-02                       | 0.3             | 0.8059E-02                         | -4.77           | 4.141E-04       |                 |                        | 1.0    |
| 30  | 2     | $A_2$    | 31   | 3      | $A_1$     | 970.67797  | 5                 | .678892E-02                       | 0.4             | 0.3423E-02                         | -.83            | 4.144E-04       |                 |                        | 1.0    |
| 30  | 2     | $A_1$    | 31   | 3      | $A_2$     | 970.67797  | -7                |                                   |                 | 0.3423E-02                         |                 |                 |                 |                        |        |
| 23  | 3     | $E$      | 24   | 4      | $E$       | 970.70369  | 1                 | .571097E-02                       | 1.0             | 0.6007E-02                         | -5.18           | 6.268E-04       |                 |                        | 1.0    |
| 36  | 6     | $E$      | 36   | 7      | $E$       | 970.72445  | -9                | .124364E-02                       | 2.3             | 0.1203E-02                         | 3.28            | 3.238E-04       |                 |                        | 1.0    |
| 35  | 6     | $E$      | 35   | 7      | $E$       | 970.84343  | -13               | .145280E-02                       | 0.7             | 0.1371E-02                         | 5.62            | 2.729E-04       | -.476E+00       | -.123E+00              | 1.4    |
| 57  | 2     | $E$      | 58   | 1      | $E$       | 970.92485  | 4                 |                                   |                 | 0.3881E-04                         |                 |                 |                 |                        |        |
| 34  | 6     | $E$      | 34   | 7      | $E$       | 970.95913  | -12               | .164694E-02                       | 1.0             | 0.1555E-02                         | 5.60            | 3.744E-04       | -.651E+00       | -.231E+00              | 1.4    |
| 33  | 6     | $E$      | 33   | 7      | $E$       | 971.07154  | -8                | .185301E-02                       | 0.8             | 0.1753E-02                         | 5.39            | 2.697E-04       | -.133E+00       |                        | 1.1    |
| 13  | 8     | $A_1$    | 12   | 9      | $A_2$     | 971.15152  | 5                 |                                   |                 | 0.1645E-03                         |                 |                 |                 |                        |        |
| 13  | 8     | $A_2$    | 12   | 9      | $A_1$     | 971.15152  | 5                 |                                   |                 | 0.1645E-03                         |                 |                 |                 |                        |        |
| 32  | 6     | $E$      | 32   | 7      | $E$       | 971.18054  | -13               | .203974E-02                       | 0.4             | 0.1966E-02                         | 3.62            | 3.134E-04       |                 |                        | 1.0    |
| 37  | 11    | $A_2$    | 36   | 12     | $A_1$     | 971.20653  | -5                |                                   |                 | 0.2632E-04                         |                 |                 |                 |                        |        |
| 37  | 11    | $A_1$    | 36   | 12     | $A_2$     | 971.20653  | -5                |                                   |                 | 0.2632E-04                         |                 |                 |                 |                        |        |
| 31  | 6     | $E$      | 31   | 7      | $E$       | 971.28630  | -9                | .228139E-02                       | 0.9             | 0.2192E-02                         | 3.91            | 3.748E-04       |                 |                        | 1.0    |
| 21  | 9     | $E$      | 20   | 10     | $E$       | 971.35230  | -32               |                                   |                 | 0.2306E-03                         |                 |                 |                 |                        |        |
| 29  | 10    | $E$      | 28   | 11     | $E$       | 971.37490  | -5                |                                   |                 | 0.1045E-03                         |                 |                 |                 |                        |        |
| 30  | 6     | $E$      | 30   | 7      | $E$       | 971.38879  | -1                | .259494E-02                       | 0.8             | 0.2430E-02                         | 6.34            | 3.560E-04       |                 |                        | 1.0    |
| 43  | 0     | $E$      | 44   | 1      | $E$       | 971.39741  | 14                | .655777E-03                       | 4.7             | 0.6182E-03                         | 5.73            | 4.495E-04       |                 |                        | 1.0    |
| 8   | 5     | $A_2$    | 9    | 6      | $A_1$     | 971.41227  | 1                 | .172931E-01                       | 0.2             | 0.8645E-02                         | .02             | 3.314E-04       |                 |                        | 1.0    |
| 8   | 5     | $A_1$    | 9    | 6      | $A_2$     | 971.41227  | 1                 |                                   |                 | 0.8645E-02                         |                 |                 |                 |                        |        |
| 29  | 6     | $E$      | 29   | 7      | $E$       | 971.48784  | -5                | .276450E-02                       | 0.7             | 0.2679E-02                         | 3.10            | 3.639E-04       | -.235E+00       |                        | 1.3    |
| 36  | 1     | $E$      | 37   | 2      | $E$       | 971.56884  | 2                 | .172399E-02                       | 4.3             | 0.1730E-02                         | -.36            | 3.192E-04       |                 |                        | 1.0    |
| 28  | 6     | $E$      | 28   | 7      | $E$       | 971.58205  | -162              | .120085E-01                       | 0.6             | 0.2935E-02                         | 5.55            | 7.715E-04       |                 |                        | 1.0    |
| 15  | 4     | $E$      | 16   | 5      | $E$       | 971.58205  | 18                |                                   |                 | 0.8408E-02                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 49  | 1     | $A_2$    | 50   | 0      | $A_1$     | 971.62362  | 1                 |                                   |                 | 0.4935E-03                         |                 |                 |                 |                        |        |
| 29  | 2     | $A_2$    | 30   | 3      | $A_1$     | 971.65615  | -6                |                                   |                 | 0.3823E-02                         |                 |                 |                 |                        |        |
| 29  | 2     | $A_1$    | 30   | 3      | $A_2$     | 971.65615  | 2                 |                                   |                 | 0.3823E-02                         |                 |                 |                 |                        |        |
| 22  | 3     | $E$      | 23   | 4      | $E$       | 971.66167  | 3                 |                                   |                 | 0.6483E-02                         |                 |                 |                 |                        |        |
| 27  | 6     | $E$      | 27   | 7      | $E$       | 971.67610  | -3                | .309270E-02                       | 0.8             | 0.3196E-02                         | -3.35           | 2.801E-04       | -.542E+00       | -.308E+00              | 1.4    |
| 26  | 6     | $E$      | 26   | 7      | $E$       | 971.76523  | -5                | .351819E-02                       | 0.5             | 0.3459E-02                         | 1.68            | 3.794E-04       |                 |                        | 1.0    |
| 25  | 6     | $E$      | 25   | 7      | $E$       | 971.85113  | 2                 | .383499E-02                       | 2.1             | 0.3719E-02                         | 3.02            | 2.545E-04       |                 |                        | 1.0    |
| 56  | 2     | $E$      | 57   | 1      | $E$       | 971.97026  | -45               |                                   |                 | 0.4877E-04                         |                 |                 |                 |                        |        |
| 14  | 8     | $A_2$    | 13   | 9      | $A_1$     | 971.98966  | 25                |                                   |                 | 0.2167E-03                         |                 |                 |                 |                        |        |
| 14  | 8     | $A_1$    | 13   | 9      | $A_2$     | 971.98966  | 25                |                                   |                 | 0.2167E-03                         |                 |                 |                 |                        |        |
| 23  | 6     | $E$      | 23   | 7      | $E$       | 972.01298  | 13                |                                   |                 | 0.4214E-02                         |                 |                 |                 |                        |        |
| 22  | 6     | $E$      | 22   | 7      | $E$       | 972.08871  | -5                | .440342E-02                       | 0.4             | 0.4437E-02                         | -.77            | 3.815E-04       | -.152E+00       |                        | 1.1    |
| 22  | 9     | $E$      | 21   | 10     | $E$       | 972.16131  | -10               | .479228E-02                       | 0.6             | 0.2375E-03                         | -1.73           | 3.518E-04       |                 |                        | 1.0    |
| 21  | 6     | $E$      | 21   | 7      | $E$       | 972.16131  | -5                |                                   |                 | 0.4638E-02                         |                 |                 |                 |                        |        |
| 20  | 6     | $E$      | 20   | 7      | $E$       | 972.23062  | -3                | .473936E-02                       | 0.4             | 0.4808E-02                         | -1.46           | 3.947E-04       |                 |                        | 1.0    |
| 47  | 12    | $E$      | 46   | 13     | $E$       | 972.25695  | 19                |                                   |                 | 0.2982E-05                         |                 |                 |                 |                        |        |
| 19  | 6     | $E$      | 19   | 7      | $E$       | 972.29664  | 0                 | .500490E-02                       | 0.5             | 0.4943E-02                         | 1.24            | 4.145E-04       | .159E+00        | -.235E+00              | 1.2    |
| 7   | 5     | $A_2$    | 8    | 6      | $A_1$     | 972.32439  | 2                 | .176202E-01                       | 0.2             | 0.8787E-02                         | .26             | 3.105E-04       |                 |                        | 1.0    |
| 7   | 5     | $A_1$    | 8    | 6      | $A_2$     | 972.32439  | 2                 |                                   |                 | 0.8787E-02                         |                 |                 |                 |                        |        |
| 18  | 6     | $E$      | 18   | 7      | $E$       | 972.35924  | -8                | .509280E-02                       | 0.4             | 0.5034E-02                         | 1.15            | 4.341E-04       | -.111E+00       |                        | 1.1    |
| 42  | 0     | $E$      | 43   | 1      | $E$       | 972.41210  | 8                 | .789096E-03                       | 3.6             | 0.7332E-03                         | 7.09            | 7.422E-05       |                 |                        | 1.0    |
| 17  | 6     | $E$      | 17   | 7      | $E$       | 972.41868  | -2                | .506992E-02                       | 0.7             | 0.5076E-02                         | -.12            | 3.840E-04       |                 |                        | 1.0    |
| 16  | 6     | $E$      | 16   | 7      | $E$       | 972.47475  | -2                | .505345E-02                       | 0.6             | 0.5061E-02                         | -.15            | 3.961E-04       |                 |                        | 1.0    |
| 14  | 4     | $E$      | 15   | 5      | $E$       | 972.51583  | 1                 | .818999E-02                       | 0.5             | 0.8725E-02                         | -6.53           | 4.102E-04       |                 |                        | 1.0    |
| 15  | 6     | $E$      | 15   | 7      | $E$       | 972.52756  | 1                 | .490045E-02                       | 1.0             | 0.4982E-02                         | -1.67           | 3.765E-04       |                 |                        | 1.0    |
| 35  | 1     | $E$      | 36   | 2      | $E$       | 972.56388  | -2                | .199622E-02                       | 1.3             | 0.1988E-02                         | .40             | 2.783E-04       |                 |                        | 1.0    |
| 14  | 6     | $E$      | 14   | 7      | $E$       | 972.57703  | 1                 | .481236E-02                       | 0.6             | 0.4833E-02                         | -.43            | 3.801E-04       |                 |                        | 1.0    |
| 21  | 3     | $E$      | 22   | 4      | $E$       | 972.61671  | 6                 | .677066E-02                       | 0.4             | 0.6959E-02                         | -2.79           | 3.858E-04       |                 |                        | 1.0    |
| 13  | 6     | $E$      | 13   | 7      | $E$       | 972.62314  | -5                | .469578E-02                       | 0.6             | 0.4606E-02                         | 1.91            | 3.931E-04       |                 |                        | 1.0    |
| 28  | 2     | $A_2$    | 29   | 3      | $A_1$     | 972.63152  | 3                 | .828270E-02                       | 0.4             | 0.4248E-02                         | -2.58           | 4.180E-04       |                 |                        | 1.0    |
| 28  | 2     | $A_1$    | 29   | 3      | $A_2$     | 972.63152  | -2                |                                   |                 | 0.4248E-02                         |                 |                 |                 |                        |        |
| 12  | 6     | $E$      | 12   | 7      | $E$       | 972.66607  | 1                 | .434287E-02                       | 0.5             | 0.4294E-02                         | 1.13            | 4.451E-04       |                 |                        | 1.0    |
| 62  | 3     | $E$      | 63   | 2      | $E$       | 972.67575  | 11                |                                   |                 | 0.1109E-04                         |                 |                 |                 |                        |        |
| 48  | 1     | $A_1$    | 49   | 0      | $A_2$     | 972.67575  | -5                |                                   |                 | 0.5968E-03                         |                 |                 |                 |                        |        |
| 11  | 6     | $E$      | 11   | 7      | $E$       | 972.70565  | 2                 | .379421E-02                       | 0.5             | 0.3889E-02                         | -2.49           | 2.676E-04       | -.336E+00       | -.396E+00              | 2.0    |
| 10  | 6     | $E$      | 10   | 7      | $E$       | 972.74191  | 1                 | .332321E-02                       | 0.8             | 0.3382E-02                         | -1.75           | 3.190E-04       | -.493E+00       | -.265E+00              | 1.6    |
| 9   | 6     | $E$      | 9    | 7      | $E$       | 972.77479  | -8                | .278765E-02                       | 0.6             | 0.2760E-02                         | .99             | 4.234E-04       | -.458E+00       | -.500E+00              | 1.7    |
| 8   | 6     | $E$      | 8    | 7      | $E$       | 972.80457  | 3                 | .198958E-02                       | 0.4             | 0.2009E-02                         | -.96            | 2.997E-04       | -.454E+00       | -.320E+00              | 2.4    |
| 15  | 8     | $A_2$    | 14   | 9      | $A_1$     | 972.82405  | 22                | .545066E-03                       | 5.1             | 0.2667E-03                         | 2.16            | 1.255E-04       |                 |                        | 1.0    |
| 15  | 8     | $A_1$    | 14   | 9      | $A_2$     | 972.82405  | 22                |                                   |                 | 0.2667E-03                         |                 |                 |                 |                        |        |
| 7   | 6     | $E$      | 7    | 7      | $E$       | 972.83078  | -14               |                                   |                 | 0.1102E-02                         |                 |                 |                 |                        |        |
| 63  | 5     | $A_2$    | 63   | 6      | $A_1$     | 972.84648  | 77                |                                   |                 | 0.7212E-05                         |                 |                 |                 |                        |        |
| 63  | 5     | $A_1$    | 63   | 6      | $A_2$     | 972.84648  | 77                |                                   |                 | 0.7212E-05                         |                 |                 |                 |                        |        |
| 31  | 10    | $E$      | 30   | 11     | $E$       | 972.92745  | -42               |                                   |                 | 0.9286E-04                         |                 |                 |                 |                        |        |
| 23  | 9     | $E$      | 22   | 10     | $E$       | 972.96639  | -14               |                                   |                 | 0.2409E-03                         |                 |                 |                 |                        |        |
| 55  | 2     | $E$      | 56   | 1      | $E$       | 973.01427  | -2                |                                   |                 | 0.6101E-04                         |                 |                 |                 |                        |        |
| 6   | 5     | $A_2$    | 7    | 6      | $A_1$     | 973.23332  | 1                 | .178009E-01                       | 0.2             | 0.8934E-02                         | -.38            | 2.723E-04       | -.106E+00       | -.157E+00              | 1.3    |
| 6   | 5     | $A_1$    | 7    | 6      | $A_2$     | 973.23332  | 1                 |                                   |                 | 0.8934E-02                         |                 |                 |                 |                        |        |
| 41  | 0     | $E$      | 42   | 1      | $E$       | 973.42397  | -6                |                                   |                 | 0.8654E-03                         |                 |                 |                 |                        |        |
| 13  | 4     | $E$      | 14   | 5      | $E$       | 973.44672  | 2                 | .904072E-02                       | 0.3             | 0.9006E-02                         | .38             | 3.460E-04       | -.225E+00       | -.294E+00              | 1.4    |
| 60  | 5     | $A_1$    | 60   | 6      | $A_2$     | 973.46414  | 106               |                                   |                 | 0.1571E-04                         |                 |                 |                 |                        |        |
| 60  | 5     | $A_2$    | 60   | 6      | $A_1$     | 973.46414  | 106               |                                   |                 | 0.1571E-04                         |                 |                 |                 |                        |        |
| 34  | 1     | $E$      | 35   | 2      | $E$       | 973.55623  | 4                 | .228571E-02                       | 2.4             | 0.2273E-02                         | .54             | 3.035E-04       |                 |                        | 1.0    |
| 20  | 3     | $E$      | 21   | 4      | $E$       | 973.56849  | -20               |                                   |                 | 0.7430E-02                         |                 |                 |                 |                        |        |
| 27  | 2     | $A_2$    | 28   | 3      | $A_1$     | 973.60400  | 1                 | .928031E-02                       | 0.2             | 0.4696E-02                         | -1.21           | 3.606E-04       | -.455E-01       | -.257E+00              | 1.2    |
| 27  | 2     | $A_1$    | 28   | 3      | $A_2$     | 973.60400  | 3                 |                                   |                 | 0.4696E-02                         |                 |                 |                 |                        |        |
| 16  | 8     | $A_1$    | 15   | 9      | $A_2$     | 973.65478  | 7                 |                                   |                 | 0.3125E-03                         |                 |                 |                 |                        |        |
| 16  | 8     | $A_2$    | 15   | 9      | $A_1$     | 973.65478  | 7                 |                                   |                 | 0.3125E-03                         |                 |                 |                 |                        |        |
| 61  | 3     | $E$      | 62   | 2      | $E$       | 973.73462  | 7                 |                                   |                 | 0.1423E-04                         |                 |                 |                 |                        |        |
| 24  | 9     | $E$      | 23   | 10     | $E$       | 973.76805  | 7                 |                                   |                 | 0.2411E-03                         |                 |                 |                 |                        |        |
| 57  | 5     | $A_1$    | 57   | 6      | $A_2$     | 974.05031  | 31                |                                   |                 | 0.3280E-04                         |                 |                 |                 |                        |        |
| 57  | 5     | $A_2$    | 57   | 6      | $A_1$     | 974.05031  | 31                |                                   |                 | 0.3280E-04                         |                 |                 |                 |                        |        |
| 54  | 2     | $E$      | 55   | 1      | $E$       | 974.05541  | -11               |                                   |                 | 0.7598E-04                         |                 |                 |                 |                        |        |
| 5   | 5     | $A_2$    | 6    | 6      | $A_1$     | 974.13908  | 3                 | .182698E-01                       | 0.2             | 0.9113E-02                         | .23             | 2.353E-04       | -.236E+00       | -.372E+00              | 2.3    |
| 5   | 5     | $A_1$    | 6    | 6      | $A_2$     | 974.13908  | 3                 |                                   |                 | 0.9113E-02                         |                 |                 |                 |                        |        |
| 41  | 11    | $A_1$    | 40   | 12     | $A_2$     | 974.16885  | -30               |                                   |                 | 0.1621E-04                         |                 |                 |                 |                        |        |
| 41  | 11    | $A_2$    | 40   | 12     | $A_1$     | 974.16885  | -30               |                                   |                 | 0.1621E-04                         |                 |                 |                 |                        |        |
| 9   | 7     | $E$      | 8    | 8      | $E$       | 974.22547  | 3                 |                                   |                 | 0.4397E-04                         |                 |                 |                 |                        |        |
| 56  | 5     | $A_1$    | 56   | 6      | $A_2$     | 974.23869  | -20               |                                   |                 | 0.4153E-04                         |                 |                 |                 |                        |        |
| 56  | 5     | $A_2$    | 56   | 6      | $A_1$     | 974.23869  | -20               |                                   |                 | 0.4153E-04                         |                 |                 |                 |                        |        |
| 12  | 4     | $E$      | 13   | 5      | $E$       | 974.37453  | 3                 | .920490E-02                       | 0.2             | 0.9249E-02                         | -.48            | 3.334E-04       | -.109E+00       | -.511E+00              | 1.8    |
| 55  | 5     | $A_2$    | 55   | 6      | $A_1$     | 974.42423  | -18               |                                   |                 | 0.5233E-04                         |                 |                 |                 |                        |        |
| 55  | 5     | $A_1$    | 55   | 6      | $A_2$     | 974.42423  | -18               |                                   |                 | 0.5233E-04                         |                 |                 |                 |                        |        |
| 40  | 0     | $E$      | 41   | 1      | $E$       | 974.43335  | 7                 |                                   |                 | 0.1016E-02                         |                 |                 |                 |                        |        |
| 33  | 10    | $E$      | 32   | 11     | $E$       | 974.46542  | -10               |                                   |                 | 0.7983E-04                         |                 |                 |                 |                        |        |
| 17  | 8     | $A_2$    | 16   | 9      | $A_1$     | 974.48187  | -16               |                                   |                 | 0.3529E-03                         |                 |                 |                 |                        |        |
| 17  | 8     | $A_1$    | 16   | 9      | $A_2$     | 974.48187  | -16               |                                   |                 | 0.3529E-03                         |                 |                 |                 |                        |        |
| 19  | 3     | $E$      | 20   | 4      | $E$       | 974.51774  | -1                |                                   |                 | 0.7890E-02                         |                 |                 |                 |                        |        |
| 33  | 1     | $E$      | 34   | 2      | $E$       | 974.54566  | -2                | .254317E-02                       | 0.6             | 0.2586E-02                         | -1.70           | 2.597E-04       |                 |                        | 1.0    |
| 25  | 9     | $E$      | 24   | 10     | $E$       | 974.56529  | -45               |                                   |                 | 0.2383E-03                         |                 |                 |                 |                        |        |
| 26  | 2     | $A_2$    | 27   | 3      | $A_1$     | 974.57356  | -1                | .103265E-01                       | 0.4             | 0.5164E-02                         | -.01            | 2.903E-04       |                 | -.608E+00              | 1.4    |
| 26  | 2     | $A_1$    | 27   | 3      | $A_2$     | 974.57356  | -1                |                                   |                 | 0.5164E-02                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 54  | 5     | $A_2$    | 54   | 6      | $A_1$     | 974.60640  | -17               |                                   |                 | 0.6563E-04                         |                 |                 |                 |                        |        |
| 54  | 5     | $A_1$    | 54   | 6      | $A_2$     | 974.60640  | -17               |                                   |                 | 0.6563E-04                         |                 |                 |                 |                        |        |
| 46  | 1     | $A_1$    | 47   | 0      | $A_2$     | 974.77106  | 0                 |                                   |                 | 0.8610E-03                         |                 |                 |                 |                        |        |
| 53  | 5     | $A_2$    | 53   | 6      | $A_1$     | 974.78515  | -21               |                                   |                 | 0.8192E-04                         |                 |                 |                 |                        |        |
| 53  | 5     | $A_1$    | 53   | 6      | $A_2$     | 974.78515  | -21               |                                   |                 | 0.8192E-04                         |                 |                 |                 |                        |        |
| 42  | 11    | $A_1$    | 41   | 12     | $A_2$     | 974.89914  | -70               |                                   |                 | 0.1414E-04                         |                 |                 |                 |                        |        |
| 42  | 11    | $A_2$    | 41   | 12     | $A_1$     | 974.89914  | -70               |                                   |                 | 0.1414E-04                         |                 |                 |                 |                        |        |
| 52  | 5     | $A_2$    | 52   | 6      | $A_1$     | 974.96062  | -18               |                                   |                 | 0.1018E-03                         |                 |                 |                 |                        |        |
| 52  | 5     | $A_1$    | 52   | 6      | $A_2$     | 974.96062  | -18               |                                   |                 | 0.1018E-03                         |                 |                 |                 |                        |        |
| 10  | 7     | $E$      | 9    | 8      | $E$       | 975.07705  | -62               |                                   |                 | 0.1143E-03                         |                 |                 |                 |                        |        |
| 51  | 5     | $A_1$    | 51   | 6      | $A_2$     | 975.13274  | -14               |                                   |                 | 0.1258E-03                         |                 |                 |                 |                        |        |
| 51  | 5     | $A_2$    | 51   | 6      | $A_1$     | 975.13274  | -14               |                                   |                 | 0.1258E-03                         |                 |                 |                 |                        |        |
| 34  | 10    | $E$      | 33   | 11     | $E$       | 975.22845  | -13               |                                   |                 | 0.7319E-04                         |                 |                 |                 |                        |        |
| 11  | 4     | $E$      | 12   | 5      | $E$       | 975.29924  | 3                 | .933201E-02                       | 0.1             | 0.9450E-02                         | -1.27           | 4.469E-04       |                 |                        | 1.0    |
| 18  | 8     | $A_2$    | 17   | 9      | $A_1$     | 975.30573  | -6                | .790158E-03                       | 1.7             | 0.3871E-03                         | 2.02            | 3.643E-04       |                 |                        | 1.0    |
| 18  | 8     | $A_1$    | 17   | 9      | $A_2$     | 975.30573  | -6                |                                   |                 | 0.3871E-03                         |                 |                 |                 |                        |        |
| 26  | 9     | $E$      | 25   | 10     | $E$       | 975.35956  | -23               |                                   |                 | 0.2329E-03                         |                 |                 |                 |                        |        |
| 39  | 0     | $E$      | 40   | 1      | $E$       | 975.43977  | 0                 |                                   |                 | 0.1188E-02                         |                 |                 |                 |                        |        |
| 18  | 3     | $E$      | 19   | 4      | $E$       | 975.46382  | 0                 | .805854E-02                       | 0.6             | 0.8331E-02                         | -3.38           | 4.861E-04       |                 |                        | 1.0    |
| 32  | 1     | $E$      | 33   | 2      | $E$       | 975.53233  | -3                | .288277E-02                       | 1.2             | 0.2927E-02                         | -1.54           | 2.565E-04       |                 |                        | 1.0    |
| 25  | 2     | $A_2$    | 26   | 3      | $A_1$     | 975.54026  | 1                 | .111225E-01                       | 0.3             | 0.5648E-02                         | -1.56           | 3.894E-04       |                 |                        | 1.0    |
| 25  | 2     | $A_1$    | 26   | 3      | $A_2$     | 975.54026  | -1                |                                   |                 | 0.5648E-02                         |                 |                 |                 |                        |        |
| 48  | 5     | $A_2$    | 48   | 6      | $A_1$     | 975.62839  | -61               |                                   |                 | 0.2308E-03                         |                 |                 |                 |                        |        |
| 48  | 5     | $A_1$    | 48   | 6      | $A_2$     | 975.62839  | -61               |                                   |                 | 0.2308E-03                         |                 |                 |                 |                        |        |
| 47  | 5     | $A_2$    | 47   | 6      | $A_1$     | 975.78756  | -11               |                                   |                 | 0.2798E-03                         |                 |                 |                 |                        |        |
| 47  | 5     | $A_1$    | 47   | 6      | $A_2$     | 975.78756  | -11               |                                   |                 | 0.2798E-03                         |                 |                 |                 |                        |        |
| 45  | 1     | $A_2$    | 46   | 0      | $A_1$     | 975.81414  | 4                 | .106146E-02                       | 1.0             | 0.1027E-02                         | 3.24            | 2.782E-04       |                 |                        | 1.0    |
| 59  | 3     | $E$      | 60   | 2      | $E$       | 975.84516  | -22               |                                   |                 | 0.2308E-04                         |                 |                 |                 |                        |        |
| 11  | 7     | $E$      | 10   | 8      | $E$       | 975.92630  | -15               |                                   |                 | 0.1992E-03                         |                 |                 |                 |                        |        |
| 46  | 5     | $A_2$    | 46   | 6      | $A_1$     | 975.94294  | -7                |                                   |                 | 0.3376E-03                         |                 |                 |                 |                        |        |
| 46  | 5     | $A_1$    | 46   | 6      | $A_2$     | 975.94294  | -7                |                                   |                 | 0.3376E-03                         |                 |                 |                 |                        |        |
| 35  | 10    | $E$      | 34   | 11     | $E$       | 975.98759  | -19               |                                   |                 | 0.6661E-04                         |                 |                 |                 |                        |        |
| 45  | 5     | $A_2$    | 45   | 6      | $A_1$     | 976.09490  | -10               | .899215E-03                       | 0.8             | 0.4053E-03                         | 9.86            | 2.428E-04       |                 |                        | 1.0    |
| 45  | 5     | $A_1$    | 45   | 6      | $A_2$     | 976.09490  | -10               |                                   |                 | 0.4053E-03                         |                 |                 |                 |                        |        |
| 19  | 8     | $A_2$    | 18   | 9      | $A_1$     | 976.12595  | 0                 |                                   |                 | 0.4146E-03                         |                 |                 |                 |                        |        |
| 19  | 8     | $A_1$    | 18   | 9      | $A_2$     | 976.12595  | 0                 |                                   |                 | 0.4146E-03                         |                 |                 |                 |                        |        |
| 52  | 2     | $E$      | 53   | 1      | $E$       | 976.13041  | -48               |                                   |                 | 0.1163E-03                         |                 |                 |                 |                        |        |
| 27  | 9     | $E$      | 26   | 10     | $E$       | 976.15000  | -12               |                                   |                 | 0.2253E-03                         |                 |                 |                 |                        |        |
| 10  | 4     | $E$      | 11   | 5      | $E$       | 976.22093  | 12                | .946999E-02                       | 0.3             | 0.9609E-02                         | -1.47           | 3.744E-04       |                 |                        | 1.0    |
| 44  | 5     | $A_2$    | 44   | 6      | $A_1$     | 976.24366  | 0                 | .106425E-02                       | 1.6             | 0.4841E-03                         | 9.02            | 2.943E-04       |                 |                        | 1.0    |
| 44  | 5     | $A_1$    | 44   | 6      | $A_2$     | 976.24366  | 0                 |                                   |                 | 0.4841E-03                         |                 |                 |                 |                        |        |
| 44  | 11    | $A_2$    | 43   | 12     | $A_1$     | 976.34861  | -56               |                                   |                 | 0.1057E-04                         |                 |                 |                 |                        |        |
| 44  | 11    | $A_1$    | 43   | 12     | $A_2$     | 976.34861  | -56               |                                   |                 | 0.1057E-04                         |                 |                 |                 |                        |        |
| 43  | 5     | $A_2$    | 43   | 6      | $A_1$     | 976.38901  | 3                 | .126971E-02                       | 1.1             | 0.5755E-03                         | 9.36            | 2.868E-04       | .264E+00        |                        | 1.2    |
| 43  | 5     | $A_1$    | 43   | 6      | $A_2$     | 976.38901  | 3                 |                                   |                 | 0.5755E-03                         |                 |                 |                 |                        |        |
| 17  | 3     | $E$      | 18   | 4      | $E$       | 976.40699  | 11                | .862848E-02                       | 0.5             | 0.8747E-02                         | -1.38           | 3.815E-04       | .186E+00        | -.301E+00              | 1.3    |
| 38  | 0     | $E$      | 39   | 1      | $E$       | 976.44358  | 11                | .139580E-02                       | 1.2             | 0.1382E-02                         | 1.00            | 2.827E-04       |                 |                        | 1.0    |
| 24  | 2     | $A_2$    | 25   | 3      | $A_1$     | 976.50416  | 11                | .122374E-01                       | 0.2             | 0.6144E-02                         | -4.1            | 3.829E-04       |                 |                        | 1.0    |
| 24  | 2     | $A_1$    | 25   | 3      | $A_2$     | 976.50416  | 14                |                                   |                 | 0.6144E-02                         |                 |                 |                 |                        |        |
| 31  | 1     | $E$      | 32   | 2      | $E$       | 976.51630  | 9                 | .323190E-02                       | 0.9             | 0.3296E-02                         | -1.99           | 2.956E-04       |                 |                        | 1.0    |
| 42  | 5     | $A_2$    | 42   | 6      | $A_1$     | 976.53094  | -3                | .147344E-02                       | 0.5             | 0.6806E-03                         | 7.62            | 3.155E-04       |                 |                        | 1.0    |
| 42  | 5     | $A_1$    | 42   | 6      | $A_2$     | 976.53094  | -3                |                                   |                 | 0.6806E-03                         |                 |                 |                 |                        |        |
| 41  | 5     | $A_2$    | 41   | 6      | $A_1$     | 976.66960  | -2                | .173604E-02                       | 0.4             | 0.8008E-03                         | 7.74            | 2.481E-04       |                 |                        | 1.0    |
| 41  | 5     | $A_1$    | 41   | 6      | $A_2$     | 976.66960  | -2                |                                   |                 | 0.8008E-03                         |                 |                 |                 |                        |        |
| 36  | 10    | $E$      | 35   | 11     | $E$       | 976.74297  | -12               |                                   |                 | 0.6021E-04                         |                 |                 |                 |                        |        |
| 12  | 7     | $E$      | 11   | 8      | $E$       | 976.77182  | 6                 |                                   |                 | 0.2903E-03                         |                 |                 |                 |                        |        |
| 40  | 5     | $A_2$    | 40   | 6      | $A_1$     | 976.80493  | -2                | .196219E-02                       | 1.2             | 0.9376E-03                         | 4.44            | 2.391E-04       |                 |                        | 1.0    |
| 40  | 5     | $A_1$    | 40   | 6      | $A_2$     | 976.80493  | -2                |                                   |                 | 0.9376E-03                         |                 |                 |                 |                        |        |
| 44  | 1     | $A_1$    | 45   | 0      | $A_2$     | 976.85420  | 12                | .127788E-02                       | 0.9             | 0.1219E-02                         | 4.58            | 2.561E-04       |                 |                        | 1.0    |
| 28  | 9     | $E$      | 27   | 10     | $E$       | 976.93696  | 25                | .256434E-02                       | 0.5             | 0.2159E-03                         | 6.41            | 3.228E-04       |                 |                        | 1.0    |
| 39  | 5     | $A_2$    | 39   | 6      | $A_1$     | 976.93696  | 1                 |                                   |                 | 0.1092E-02                         |                 |                 |                 |                        |        |
| 39  | 5     | $A_1$    | 39   | 6      | $A_2$     | 976.93696  | 1                 |                                   |                 | 0.1092E-02                         |                 |                 |                 |                        |        |
| 20  | 8     | $A_2$    | 19   | 9      | $A_1$     | 976.94255  | 3                 | .869373E-03                       | 1.9             | 0.4353E-03                         | -1.15           | 2.738E-04       |                 |                        | 1.0    |
| 20  | 8     | $A_1$    | 19   | 9      | $A_2$     | 976.94255  | 3                 |                                   |                 | 0.4353E-03                         |                 |                 |                 |                        |        |
| 38  | 5     | $A_2$    | 38   | 6      | $A_1$     | 977.06562  | 0                 | .279786E-02                       | 0.6             | 0.1265E-02                         | 9.54            | 2.885E-04       |                 |                        | 1.0    |
| 38  | 5     | $A_1$    | 38   | 6      | $A_2$     | 977.06562  | 0                 |                                   |                 | 0.1265E-02                         |                 |                 |                 |                        |        |
| 9   | 4     | $E$      | 10   | 5      | $E$       | 977.13940  | 12                | .948782E-02                       | 0.6             | 0.9727E-02                         | -2.52           | 3.526E-04       |                 |                        | 1.0    |
| 51  | 2     | $E$      | 52   | 1      | $E$       | 977.16499  | 0                 |                                   |                 | 0.1428E-03                         |                 |                 |                 |                        |        |
| 37  | 5     | $A_2$    | 37   | 6      | $A_1$     | 977.19059  | -38               |                                   |                 | 0.1459E-02                         |                 |                 |                 |                        |        |
| 37  | 5     | $A_1$    | 37   | 6      | $A_2$     | 977.19059  | -38               |                                   |                 | 0.1459E-02                         |                 |                 |                 |                        |        |
| 36  | 5     | $A_2$    | 36   | 6      | $A_1$     | 977.31303  | 3                 | .345130E-02                       | 0.8             | 0.1673E-02                         | 3.07            | 2.642E-04       | -.147E+00       |                        | 1.1    |
| 36  | 5     | $A_1$    | 36   | 6      | $A_2$     | 977.31303  | 3                 |                                   |                 | 0.1673E-02                         |                 |                 |                 |                        |        |
| 16  | 3     | $E$      | 17   | 4      | $E$       | 977.34706  | 13                | .856891E-02                       | 0.2             | 0.9133E-02                         | -6.58           | 4.193E-04       | -.170E+00       |                        | 1.2    |
| 35  | 5     | $A_2$    | 35   | 6      | $A_1$     | 977.43172  | 1                 | .413521E-02                       | 0.5             | 0.1908E-02                         | 7.72            | 3.164E-04       |                 |                        | 1.0    |
| 35  | 5     | $A_1$    | 35   | 6      | $A_2$     | 977.43172  | 1                 |                                   |                 | 0.1908E-02                         |                 |                 |                 |                        |        |
| 37  | 0     | $E$      | 38   | 1      | $E$       | 977.44449  | 9                 | .160341E-02                       | 1.2             | 0.1599E-02                         | .25             | 2.679E-04       |                 |                        | 1.0    |
| 23  | 2     | $A_2$    | 24   | 3      | $A_1$     | 977.46500  | 12                | .129620E-01                       | 0.2             | 0.6647E-02                         | -2.56           | 3.334E-04       |                 | -.490E+00              | 1.6    |
| 23  | 2     | $A_1$    | 24   | 3      | $A_2$     | 977.46500  | 9                 |                                   |                 | 0.6647E-02                         |                 |                 |                 |                        |        |
| 30  | 1     | $E$      | 31   | 2      | $E$       | 977.49729  | 6                 |                                   |                 | 0.3692E-02                         |                 |                 |                 |                        |        |
| 34  | 5     | $A_2$    | 34   | 6      | $A_1$     | 977.54713  | 3                 | .450660E-02                       | 0.4             | 0.2165E-02                         | 3.94            | 2.891E-04       | -.269E+00       |                        | 1.4    |
| 34  | 5     | $A_1$    | 34   | 6      | $A_2$     | 977.54713  | 3                 |                                   |                 | 0.2165E-02                         |                 |                 |                 |                        |        |
| 64  | 4     | $A_2$    | 65   | 3      | $A_1$     | 977.63675  | -4                |                                   |                 | 0.5900E-05                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 64  | 4     | $A_1$    | 65   | 3      | $A_2$     | 977.63675  | -4                |                                   |                 | 0.5900E-05                         |                 |                 |                 |                        |        |
| 33  | 5     | $A_2$    | 33   | 6      | $A_1$     | 977.65922  | 4                 | .501635E-02                       | 0.4             | 0.2443E-02                         | 2.62            | 2.937E-04       | -.153E+00       |                        | 1.2    |
| 33  | 5     | $A_1$    | 33   | 6      | $A_2$     | 977.65922  | 4                 |                                   |                 | 0.2443E-02                         |                 |                 |                 |                        |        |
| 29  | 9     | $E$      | 28   | 10     | $E$       | 977.71903  | -52               |                                   |                 | 0.2050E-03                         |                 |                 |                 |                        |        |
| 21  | 8     | $A_2$    | 20   | 9      | $A_1$     | 977.75553  | 6                 | .925762E-03                       | 2.1             | 0.4493E-03                         | 2.94            | 4.330E-04       |                 |                        | 1.0    |
| 21  | 8     | $A_1$    | 20   | 9      | $A_2$     | 977.75553  | 6                 |                                   |                 | 0.4493E-03                         |                 |                 |                 |                        |        |
| 32  | 5     | $A_2$    | 32   | 6      | $A_1$     | 977.76797  | 3                 | .561198E-02                       | 0.3             | 0.2741E-02                         | 2.31            | 2.978E-04       |                 |                        | 1.0    |
| 32  | 5     | $A_1$    | 32   | 6      | $A_2$     | 977.76797  | 3                 |                                   |                 | 0.2741E-02                         |                 |                 |                 |                        |        |
| 46  | 11    | $A_2$    | 45   | 12     | $A_1$     | 977.78273  | 40                |                                   |                 | 0.7716E-05                         |                 |                 |                 |                        |        |
| 46  | 11    | $A_1$    | 45   | 12     | $A_2$     | 977.78273  | 40                |                                   |                 | 0.7716E-05                         |                 |                 |                 |                        |        |
| 31  | 5     | $A_1$    | 31   | 6      | $A_2$     | 977.87347  | 8                 |                                   |                 | 0.3059E-02                         |                 |                 |                 |                        |        |
| 31  | 5     | $A_2$    | 31   | 6      | $A_1$     | 977.87347  | 8                 |                                   |                 | 0.3059E-02                         |                 |                 |                 |                        |        |
| 43  | 1     | $A_2$    | 44   | 0      | $A_1$     | 977.89103  | 7                 | .147286E-02                       | 3.0             | 0.1441E-02                         | 2.17            | 1.245E-04       |                 |                        | 1.0    |
| 30  | 5     | $A_2$    | 30   | 6      | $A_1$     | 977.97558  | 5                 | .668427E-02                       | 0.4             | 0.3395E-02                         | -1.57           | 2.506E-04       | -.314E+00       | -.371E+00              | 1.6    |
| 30  | 5     | $A_1$    | 30   | 6      | $A_2$     | 977.97558  | 5                 |                                   |                 | 0.3395E-02                         |                 |                 |                 |                        |        |
| 8   | 4     | $E$      | 9    | 5      | $E$       | 978.05475  | 13                |                                   |                 | 0.9807E-02                         |                 |                 |                 |                        |        |
| 29  | 5     | $A_2$    | 29   | 6      | $A_1$     | 978.07443  | 7                 | .732654E-02                       | 0.2             | 0.3745E-02                         | -2.24           | 2.632E-04       | -.244E+00       | -.371E+00              | 2.5    |
| 29  | 5     | $A_1$    | 29   | 6      | $A_2$     | 978.07443  | 7                 |                                   |                 | 0.3745E-02                         |                 |                 |                 |                        |        |
| 28  | 5     | $A_2$    | 28   | 6      | $A_1$     | 978.16990  | 2                 | .844286E-02                       | 0.5             | 0.4108E-02                         | 2.68            | 3.135E-04       | -.324E+00       | -.454E+00              | 1.7    |
| 28  | 5     | $A_1$    | 28   | 6      | $A_2$     | 978.16990  | 2                 |                                   |                 | 0.4108E-02                         |                 |                 |                 |                        |        |
| 50  | 2     | $E$      | 51   | 1      | $E$       | 978.19650  | -18               |                                   |                 | 0.1747E-03                         |                 |                 |                 |                        |        |
| 38  | 10    | $E$      | 37   | 11     | $E$       | 978.24205  | 3                 |                                   |                 | 0.4822E-04                         |                 |                 |                 |                        |        |
| 27  | 5     | $A_1$    | 27   | 6      | $A_2$     | 978.26218  | 8                 |                                   |                 | 0.4479E-02                         |                 |                 |                 |                        |        |
| 27  | 5     | $A_2$    | 27   | 6      | $A_1$     | 978.26218  | 8                 |                                   |                 | 0.4479E-02                         |                 |                 |                 |                        |        |
| 15  | 3     | $E$      | 16   | 4      | $E$       | 978.28406  | 12                | .876015E-02                       | 0.3             | 0.9481E-02                         | -8.22           | 3.758E-04       | -.211E+00       | -.228E+00              | 1.5    |
| 26  | 5     | $A_2$    | 26   | 6      | $A_1$     | 978.35107  | 6                 | .957201E-02                       | 0.2             | 0.4854E-02                         | -1.43           | 3.377E-04       | -.163E+00       |                        | 1.2    |
| 26  | 5     | $A_1$    | 26   | 6      | $A_2$     | 978.35107  | 6                 |                                   |                 | 0.4854E-02                         |                 |                 |                 |                        |        |
| 22  | 2     | $A_2$    | 23   | 3      | $A_1$     | 978.42291  | 8                 | .139213E-01                       | 0.3             | 0.7152E-02                         | -2.74           | 3.874E-04       |                 |                        | 1.0    |
| 22  | 2     | $A_1$    | 23   | 3      | $A_2$     | 978.42291  | 11                |                                   |                 | 0.7152E-02                         |                 |                 |                 |                        |        |
| 25  | 5     | $A_2$    | 25   | 6      | $A_1$     | 978.43668  | 6                 | .102274E-01                       | 0.3             | 0.5228E-02                         | -2.23           | 3.579E-04       |                 |                        | 1.0    |
| 25  | 5     | $A_1$    | 25   | 6      | $A_2$     | 978.43668  | 6                 |                                   |                 | 0.5228E-02                         |                 |                 |                 |                        |        |
| 36  | 0     | $E$      | 37   | 1      | $E$       | 978.44271  | 18                | .187224E-02                       | 1.7             | 0.1842E-02                         | 1.63            | 3.024E-04       |                 |                        | 1.0    |
| 29  | 1     | $E$      | 30   | 2      | $E$       | 978.47553  | 13                | .406575E-02                       | 0.7             | 0.4114E-02                         | -1.19           | 3.701E-04       | -.197E+00       |                        | 1.1    |
| 30  | 9     | $E$      | 29   | 10     | $E$       | 978.49846  | -16               |                                   |                 | 0.1930E-03                         |                 |                 |                 |                        |        |
| 24  | 5     | $A_2$    | 24   | 6      | $A_1$     | 978.51896  | 4                 | .107713E-01                       | 0.3             | 0.5594E-02                         | -3.86           | 3.551E-04       |                 |                        | 1.0    |
| 24  | 5     | $A_1$    | 24   | 6      | $A_2$     | 978.51896  | 4                 |                                   |                 | 0.5594E-02                         |                 |                 |                 |                        |        |
| 23  | 5     | $A_1$    | 23   | 6      | $A_2$     | 978.59818  | 26                |                                   |                 | 0.5945E-02                         |                 |                 |                 |                        |        |
| 23  | 5     | $A_2$    | 23   | 6      | $A_1$     | 978.59818  | 26                |                                   |                 | 0.5945E-02                         |                 |                 |                 |                        |        |
| 22  | 5     | $A_2$    | 22   | 6      | $A_1$     | 978.67369  | 6                 | .121561E-01                       | 0.4             | 0.6275E-02                         | -3.25           | 3.610E-04       |                 |                        | 1.0    |
| 22  | 5     | $A_1$    | 22   | 6      | $A_2$     | 978.67369  | 6                 |                                   |                 | 0.6275E-02                         |                 |                 |                 |                        |        |
| 21  | 5     | $A_2$    | 21   | 6      | $A_1$     | 978.74610  | 7                 | .129450E-01                       | 0.2             | 0.6576E-02                         | -1.60           | 3.872E-04       |                 |                        | 1.0    |
| 21  | 5     | $A_1$    | 21   | 6      | $A_2$     | 978.74610  | 7                 |                                   |                 | 0.6576E-02                         |                 |                 |                 |                        |        |
| 20  | 5     | $A_2$    | 20   | 6      | $A_1$     | 978.81504  | -10               | .132956E-01                       | 0.3             | 0.6839E-02                         | -2.88           | 3.542E-04       | -.190E+00       | -.376E+00              | 1.4    |
| 20  | 5     | $A_1$    | 20   | 6      | $A_2$     | 978.81504  | -10               |                                   |                 | 0.6839E-02                         |                 |                 |                 |                        |        |
| 19  | 5     | $A_2$    | 19   | 6      | $A_1$     | 978.88085  | -9                | .138658E-01                       | 0.2             | 0.7056E-02                         | -1.78           | 4.023E-04       |                 |                        | 1.0    |
| 19  | 5     | $A_1$    | 19   | 6      | $A_2$     | 978.88085  | -9                |                                   |                 | 0.7056E-02                         |                 |                 |                 |                        |        |
| 42  | 1     | $A_1$    | 43   | 0      | $A_2$     | 978.92462  | -13               | .171091E-02                       | 1.7             | 0.1695E-02                         | .94             | 3.424E-04       |                 |                        | 1.0    |
| 18  | 5     | $A_2$    | 18   | 6      | $A_1$     | 978.94336  | -10               | .139040E-01                       | 0.2             | 0.7218E-02                         | -3.83           | 3.851E-04       |                 |                        | 1.0    |
| 18  | 5     | $A_1$    | 18   | 6      | $A_2$     | 978.94336  | -10               |                                   |                 | 0.7218E-02                         |                 |                 |                 |                        |        |
| 7   | 4     | $E$      | 8    | 5      | $E$       | 978.96675  | -6                | .971160E-02                       | 2.0             | 0.9857E-02                         | -1.50           | 1.568E-04       |                 |                        | 1.0    |
| 39  | 10    | $E$      | 38   | 11     | $E$       | 978.98560  | 0                 |                                   |                 | 0.4274E-04                         |                 |                 |                 |                        |        |
| 56  | 3     | $E$      | 57   | 2      | $E$       | 978.99388  | -8                |                                   |                 | 0.4614E-04                         |                 |                 |                 |                        |        |
| 17  | 5     | $A_2$    | 17   | 6      | $A_1$     | 979.00257  | -10               | .142709E-01                       | 0.4             | 0.7317E-02                         | -2.54           | 3.346E-04       | -.247E+00       | -.388E+00              | 1.5    |
| 17  | 5     | $A_1$    | 17   | 6      | $A_2$     | 979.00257  | -10               |                                   |                 | 0.7317E-02                         |                 |                 |                 |                        |        |
| 16  | 5     | $A_2$    | 16   | 6      | $A_1$     | 979.05851  | -9                | .142257E-01                       | 0.3             | 0.7342E-02                         | -3.22           | 3.398E-04       | -.195E+00       | -.488E+00              | 1.5    |
| 16  | 5     | $A_1$    | 16   | 6      | $A_2$     | 979.05851  | -9                |                                   |                 | 0.7342E-02                         |                 |                 |                 |                        |        |
| 15  | 5     | $A_1$    | 15   | 6      | $A_2$     | 979.11114  | -8                |                                   | 0.2             | 0.7286E-02                         |                 | 3.545E-04       | -.179E+00       | -.455E+00              | 2.0    |
| 15  | 5     | $A_2$    | 15   | 6      | $A_1$     | 979.11114  | -8                | .140400E-01                       | 0.2             | 0.7286E-02                         | -3.79           | 3.545E-04       | -.179E+00       | -.455E+00              | 2.0    |
| 14  | 5     | $A_2$    | 14   | 6      | $A_1$     | 979.16048  | -8                | .137861E-01                       | 0.2             | 0.7140E-02                         | -3.58           | 3.358E-04       | -.198E+00       | -.492E+00              | 1.9    |
| 14  | 5     | $A_1$    | 14   | 6      | $A_2$     | 979.16048  | -8                |                                   |                 | 0.7140E-02                         |                 |                 |                 |                        |        |
| 13  | 5     | $A_2$    | 13   | 6      | $A_1$     | 979.20652  | -8                | .133023E-01                       | 0.3             | 0.6895E-02                         | -3.67           | 3.638E-04       |                 |                        | 1.0    |
| 13  | 5     | $A_1$    | 13   | 6      | $A_2$     | 979.20652  | -8                |                                   |                 | 0.6895E-02                         |                 |                 |                 |                        |        |
| 14  | 3     | $E$      | 15   | 4      | $E$       | 979.21785  | -5                | .893603E-02                       | 0.4             | 0.9785E-02                         | -9.50           | 3.997E-04       |                 |                        | 1.0    |
| 12  | 5     | $A_2$    | 12   | 6      | $A_1$     | 979.24928  | -8                | .132608E-01                       | 1.5             | 0.6544E-02                         | 1.31            | 2.579E-04       |                 |                        | 1.0    |
| 12  | 5     | $A_1$    | 12   | 6      | $A_2$     | 979.24928  | -8                |                                   |                 | 0.6544E-02                         |                 |                 |                 |                        |        |
| 31  | 9     | $E$      | 30   | 10     | $E$       | 979.27383  | -7                |                                   |                 | 0.1802E-03                         |                 |                 |                 |                        |        |
| 11  | 5     | $A_1$    | 11   | 6      | $A_2$     | 979.28872  | -10               |                                   |                 | 0.6077E-02                         |                 |                 |                 |                        |        |
| 11  | 5     | $A_2$    | 11   | 6      | $A_1$     | 979.28872  | -10               |                                   |                 | 0.6077E-02                         |                 |                 |                 |                        |        |
| 10  | 5     | $A_2$    | 10   | 6      | $A_1$     | 979.32491  | -8                | .105820E-01                       | 0.6             | 0.5486E-02                         | -3.68           | 2.969E-04       | -.206E+00       | -.412E+00              | 1.3    |
| 10  | 5     | $A_1$    | 10   | 6      | $A_2$     | 979.32491  | -8                |                                   |                 | 0.5486E-02                         |                 |                 |                 |                        |        |
| 9   | 5     | $A_2$    | 9    | 6      | $A_1$     | 979.35780  | -7                | .938350E-02                       | 0.4             | 0.4757E-02                         | -1.40           | 3.556E-04       | -.333E+00       |                        | 1.4    |
| 9   | 5     | $A_1$    | 9    | 6      | $A_2$     | 979.35780  | -7                |                                   |                 | 0.4757E-02                         |                 |                 |                 |                        |        |
| 23  | 8     | $A_2$    | 22   | 9      | $A_1$     | 979.37023  | -22               | .943639E-03                       | 7.9             | 0.4581E-03                         | 2.91            | 1.642E-04       |                 |                        | 1.0    |
| 23  | 8     | $A_1$    | 22   | 9      | $A_2$     | 979.37023  | -22               |                                   |                 | 0.4581E-03                         |                 |                 |                 |                        |        |
| 21  | 2     | $A_2$    | 22   | 3      | $A_1$     | 979.37773  | -4                | .148891E-01                       | 0.4             | 0.7651E-02                         | -2.78           | 3.921E-04       |                 |                        | 1.0    |
| 21  | 2     | $A_1$    | 22   | 3      | $A_2$     | 979.37773  | -8                |                                   |                 | 0.7651E-02                         |                 |                 |                 |                        |        |
| 8   | 5     | $A_2$    | 8    | 6      | $A_1$     | 979.38737  | -9                | .751945E-02                       | 0.8             | 0.3878E-02                         | -3.13           | 3.570E-04       |                 |                        | 1.0    |
| 8   | 5     | $A_1$    | 8    | 6      | $A_2$     | 979.38737  | -9                |                                   |                 | 0.3878E-02                         |                 |                 |                 |                        |        |
| 7   | 5     | $A_2$    | 7    | 6      | $A_1$     | 979.41371  | -5                | .557986E-02                       | 0.5             | 0.2822E-02                         | -1.16           | 3.841E-04       | -.122E+00       | .263E+00               | 1.1    |
| 7   | 5     | $A_1$    | 7    | 6      | $A_2$     | 979.41371  | -5                |                                   |                 | 0.2822E-02                         |                 |                 |                 |                        |        |
| 6   | 5     | $A_2$    | 6    | 6      | $A_1$     | 979.43712  | 34                | .544342E-02                       | 0.7             | 0.1553E-02                         | 4.17            | 5.834E-04       |                 |                        | 1.0    |
| 6   | 5     | $A_1$    | 6    | 6      | $A_2$     | 979.43712  | 34                |                                   |                 | 0.1553E-02                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 28  | 1     | $E$      | 29   | 2      | $E$       | 979.45056  | -15               |                                   |                 | 0.4560E-02                         |                 |                 |                 |                        |        |
| 40  | 10    | $E$      | 39   | 11     | $E$       | 979.72507  | -17               |                                   |                 | 0.3765E-04                         |                 |                 |                 |                        |        |
| 6   | 4     | $E$      | 7    | 5      | $E$       | 979.87576  | -7                | .973011E-02                       | 0.3             | 0.9892E-02                         | -1.67           | 3.552E-04       |                 |                        | 1.0    |
| 8   | 6     | $E$      | 7    | 7      | $E$       | 979.89325  | 69                |                                   |                 | 0.7458E-04                         |                 |                 |                 |                        |        |
| 49  | 11    | $A_1$    | 48   | 12     | $A_2$     | 979.90144  | 2                 |                                   |                 | 0.4617E-05                         |                 |                 |                 |                        |        |
| 49  | 11    | $A_2$    | 48   | 12     | $A_1$     | 979.90144  | 2                 |                                   |                 | 0.4617E-05                         |                 |                 |                 |                        |        |
| 41  | 1     | $A_2$    | 42   | 0      | $A_1$     | 979.95529  | -13               | .197318E-02                       | 0.6             | 0.1984E-02                         | -.55            | 2.384E-04       |                 |                        | 1.0    |
| 55  | 3     | $E$      | 56   | 2      | $E$       | 980.03848  | -23               |                                   |                 | 0.5760E-04                         |                 |                 |                 |                        |        |
| 32  | 9     | $E$      | 31   | 10     | $E$       | 980.04513  | -25               |                                   |                 | 0.1670E-03                         |                 |                 |                 |                        |        |
| 16  | 7     | $E$      | 15   | 8      | $E$       | 980.11793  | -8                |                                   |                 | 0.6214E-03                         |                 |                 |                 |                        |        |
| 13  | 3     | $E$      | 14   | 4      | $E$       | 980.14873  | -7                | .928481E-02                       | 0.4             | 0.1004E-01                         | -8.13           | 3.762E-04       | -.143E+00       | -.182E+00              | 1.1    |
| 24  | 8     | $A_2$    | 23   | 9      | $A_1$     | 980.17228  | -18               |                                   |                 | 0.4540E-03                         |                 |                 |                 |                        |        |
| 24  | 8     | $A_1$    | 23   | 9      | $A_2$     | 980.17228  | -18               |                                   |                 | 0.4540E-03                         |                 |                 |                 |                        |        |
| 48  | 2     | $E$      | 49   | 1      | $E$       | 980.25284  | 9                 |                                   |                 | 0.2577E-03                         |                 |                 |                 |                        |        |
| 20  | 2     | $A_2$    | 21   | 3      | $A_1$     | 980.32972  | -10               | .159856E-01                       | 0.2             | 0.8140E-02                         | -1.84           | 3.849E-04       | -.587E-01       | -.137E+00              | 1.1    |
| 20  | 2     | $A_1$    | 21   | 3      | $A_2$     | 980.32972  | -6                |                                   |                 | 0.8140E-02                         |                 |                 |                 |                        |        |
| 27  | 1     | $E$      | 28   | 2      | $E$       | 980.42307  | -8                | .492410E-02                       | 0.4             | 0.5028E-02                         | -2.11           | 3.510E-04       |                 |                        | 1.0    |
| 34  | 0     | $E$      | 35   | 1      | $E$       | 980.43021  | -16               | .244456E-02                       | 0.8             | 0.2406E-02                         | 1.58            | 3.460E-04       |                 |                        | 1.0    |
| 50  | 11    | $A_2$    | 49   | 12     | $A_1$     | 980.59945  | -9                |                                   |                 | 0.3849E-05                         |                 |                 |                 |                        |        |
| 50  | 11    | $A_1$    | 49   | 12     | $A_2$     | 980.59945  | -9                |                                   |                 | 0.3849E-05                         |                 |                 |                 |                        |        |
| 57  | 4     | $E$      | 57   | 5      | $E$       | 980.70504  | -8                |                                   |                 | 0.4282E-04                         |                 |                 |                 |                        |        |
| 9   | 6     | $E$      | 8    | 7      | $E$       | 980.74789  | -63               |                                   |                 | 0.1923E-03                         |                 |                 |                 |                        |        |
| 5   | 4     | $E$      | 6    | 5      | $E$       | 980.78160  | -8                | .976019E-02                       | 0.2             | 0.9936E-02                         | -1.80           | 2.409E-04       |                 | -.502E+00              | 1.6    |
| 33  | 9     | $E$      | 32   | 10     | $E$       | 980.81291  | -14               |                                   |                 | 0.1536E-03                         |                 |                 |                 |                        |        |
| 61  | 4     | $A_1$    | 62   | 3      | $A_2$     | 980.82101  | -64               |                                   |                 | 0.1257E-04                         |                 |                 |                 |                        |        |
| 61  | 4     | $A_2$    | 62   | 3      | $A_1$     | 980.82101  | -64               |                                   |                 | 0.1257E-04                         |                 |                 |                 |                        |        |
| 17  | 7     | $E$      | 16   | 8      | $E$       | 980.94579  | 4                 | .692061E-03                       | 1.4             | 0.6822E-03                         | 1.43            | 5.437E-04       | .122E+01        |                        | 1.2    |
| 25  | 8     | $A_2$    | 24   | 9      | $A_1$     | 980.97062  | -17               | .925743E-03                       | 1.6             | 0.4449E-03                         | 3.88            | 3.897E-04       |                 |                        | 1.0    |
| 25  | 8     | $A_1$    | 24   | 9      | $A_2$     | 980.97062  | -17               |                                   |                 | 0.4449E-03                         |                 |                 |                 |                        |        |
| 40  | 1     | $A_1$    | 41   | 0      | $A_2$     | 980.98284  | -12               | .226783E-02                       | 0.9             | 0.2312E-02                         | -1.93           | 2.428E-04       |                 |                        | 1.0    |
| 12  | 3     | $E$      | 13   | 4      | $E$       | 981.07655  | -8                | .968161E-02                       | 0.2             | 0.1024E-01                         | -5.78           | 3.997E-04       | -.672E-01       |                        | 1.1    |
| 42  | 10    | $E$      | 41   | 11     | $E$       | 981.19238  | -23               |                                   |                 | 0.2869E-04                         |                 |                 |                 |                        |        |
| 54  | 4     | $E$      | 54   | 5      | $E$       | 981.26058  | -6                |                                   |                 | 0.8576E-04                         |                 |                 |                 |                        |        |
| 47  | 2     | $E$      | 48   | 1      | $E$       | 981.27777  | 66                |                                   |                 | 0.3108E-03                         |                 |                 |                 |                        |        |
| 19  | 2     | $A_2$    | 20   | 3      | $A_1$     | 981.27874  | -8                | .169031E-01                       | 0.3             | 0.8610E-02                         | -1.87           | 4.546E-04       |                 |                        | 1.0    |
| 19  | 2     | $A_1$    | 20   | 3      | $A_2$     | 981.27874  | -12               |                                   |                 | 0.8610E-02                         |                 |                 |                 |                        |        |
| 26  | 1     | $E$      | 27   | 2      | $E$       | 981.39261  | -9                | .531832E-02                       | 0.4             | 0.5513E-02                         | -3.67           | 3.475E-04       | -.169E+00       | -.194E+00              | 1.2    |
| 33  | 0     | $E$      | 34   | 1      | $E$       | 981.41998  | -7                | .269252E-02                       | 0.4             | 0.2729E-02                         | -1.35           | 2.607E-04       | -.332E+00       | -.349E+00              | 1.9    |
| 34  | 9     | $E$      | 33   | 10     | $E$       | 981.57651  | -37               |                                   |                 | 0.1403E-03                         |                 |                 |                 |                        |        |
| 10  | 6     | $E$      | 9    | 7      | $E$       | 981.60085  | -20               |                                   |                 | 0.3331E-03                         |                 |                 |                 |                        |        |
| 52  | 4     | $E$      | 52   | 5      | $E$       | 981.61402  | -17               |                                   |                 | 0.1330E-03                         |                 |                 |                 |                        |        |
| 4   | 4     | $E$      | 5    | 5      | $E$       | 981.68426  | -7                | .984339E-02                       | 0.5             | 0.1003E-01                         | -1.94           | 2.583E-04       | -.404E+00       |                        | 1.4    |
| 26  | 8     | $A_1$    | 25   | 9      | $A_2$     | 981.76523  | -20               |                                   |                 | 0.4316E-03                         |                 |                 |                 |                        |        |
| 26  | 8     | $A_2$    | 25   | 9      | $A_1$     | 981.76523  | -20               |                                   |                 | 0.4316E-03                         |                 |                 |                 |                        |        |
| 18  | 7     | $E$      | 17   | 8      | $E$       | 981.76979  | -14               |                                   |                 | 0.7316E-03                         |                 |                 |                 |                        |        |
| 51  | 4     | $E$      | 51   | 5      | $E$       | 981.78557  | -36               |                                   |                 | 0.1645E-03                         |                 |                 |                 |                        |        |
| 60  | 4     | $A_2$    | 61   | 3      | $A_1$     | 981.87839  | -20               |                                   |                 | 0.1603E-04                         |                 |                 |                 |                        |        |
| 60  | 4     | $A_1$    | 61   | 3      | $A_2$     | 981.87839  | -20               |                                   |                 | 0.1603E-04                         |                 |                 |                 |                        |        |
| 43  | 10    | $E$      | 42   | 11     | $E$       | 981.92005  | -26               |                                   |                 | 0.2482E-04                         |                 |                 |                 |                        |        |
| 50  | 4     | $E$      | 50   | 5      | $E$       | 981.95421  | -11               |                                   |                 | 0.2024E-03                         |                 |                 |                 |                        |        |
| 11  | 3     | $E$      | 12   | 4      | $E$       | 982.00129  | -9                | .982341E-02                       | 0.2             | 0.1039E-01                         | -5.72           | 3.949E-04       |                 |                        | 1.0    |
| 39  | 1     | $A_2$    | 40   | 0      | $A_1$     | 982.00726  | -9                | .261983E-02                       | 0.9             | 0.2680E-02                         | -2.30           | 3.733E-04       |                 |                        | 1.0    |
| 49  | 4     | $E$      | 49   | 5      | $E$       | 982.11939  | 3                 |                                   |                 | 0.2479E-03                         |                 |                 |                 |                        |        |
| 18  | 2     | $A_2$    | 19   | 3      | $A_1$     | 982.22480  | -11               | .177704E-01                       | 0.3             | 0.9053E-02                         | -1.89           | 3.952E-04       |                 |                        | 1.0    |
| 18  | 2     | $A_1$    | 19   | 3      | $A_2$     | 982.22480  | -7                |                                   |                 | 0.9053E-02                         |                 |                 |                 |                        |        |
| 48  | 4     | $E$      | 48   | 5      | $E$       | 982.28083  | -23               |                                   |                 | 0.3021E-03                         |                 |                 |                 |                        |        |
| 46  | 2     | $E$      | 47   | 1      | $E$       | 982.29886  | -12               |                                   |                 | 0.3731E-03                         |                 |                 |                 |                        |        |
| 35  | 9     | $E$      | 34   | 10     | $E$       | 982.33662  | -24               |                                   |                 | 0.1273E-03                         |                 |                 |                 |                        |        |
| 25  | 1     | $E$      | 26   | 2      | $E$       | 982.35927  | -9                | .577952E-02                       | 0.3             | 0.6012E-02                         | -4.03           | 3.637E-04       | -.138E+00       |                        | 1.1    |
| 32  | 0     | $E$      | 33   | 1      | $E$       | 982.40680  | -11               | .305691E-02                       | 0.4             | 0.3079E-02                         | -.73            | 2.933E-04       | -.177E+00       | -.255E+00              | 1.5    |
| 47  | 4     | $E$      | 47   | 5      | $E$       | 982.43927  | -14               |                                   |                 | 0.3664E-03                         |                 |                 |                 |                        |        |
| 11  | 6     | $E$      | 10   | 7      | $E$       | 982.45006  | -8                | .523541E-03                       | 1.8             | 0.4837E-03                         | 7.61            | 1.119E-04       |                 |                        | 1.0    |
| 27  | 8     | $A_2$    | 26   | 9      | $A_1$     | 982.55614  | -21               | .863546E-03                       | 1.4             | 0.4147E-03                         | 3.95            | 2.854E-04       | -.630E+00       |                        | 1.2    |
| 27  | 8     | $A_1$    | 26   | 9      | $A_2$     | 982.55614  | -21               |                                   |                 | 0.4147E-03                         |                 |                 |                 |                        |        |
| 19  | 7     | $E$      | 18   | 8      | $E$       | 982.59045  | -9                | .789247E-03                       | 2.9             | 0.7693E-03                         | 2.53            | 2.049E-04       |                 |                        | 1.0    |
| 46  | 4     | $E$      | 46   | 5      | $E$       | 982.59418  | -25               | .486082E-03                       | 2.9             | 0.4422E-03                         | 9.03            | 2.049E-04       |                 |                        | 1.0    |
| 44  | 10    | $E$      | 43   | 11     | $E$       | 982.64378  | -22               |                                   |                 | 0.2135E-04                         |                 |                 |                 |                        |        |
| 53  | 11    | $A_2$    | 52   | 12     | $A_1$     | 982.66887  | -9                |                                   |                 | 0.2159E-05                         |                 |                 |                 |                        |        |
| 53  | 11    | $A_1$    | 52   | 12     | $A_2$     | 982.66887  | -9                |                                   |                 | 0.2159E-05                         |                 |                 |                 |                        |        |
| 45  | 4     | $E$      | 45   | 5      | $E$       | 982.74598  | -13               | .571755E-03                       | 3.5             | 0.5311E-03                         | 7.12            | 2.349E-04       |                 |                        | 1.0    |
| 44  | 4     | $E$      | 44   | 5      | $E$       | 982.89432  | -13               |                                   |                 | 0.6346E-03                         |                 |                 |                 |                        |        |
| 10  | 3     | $E$      | 11   | 4      | $E$       | 982.92295  | -6                | .101130E-01                       | 0.7             | 0.1047E-01                         | -3.53           | 4.043E-04       | .294E+00        | .274E+00               | 1.1    |
| 38  | 1     | $A_1$    | 39   | 0      | $A_2$     | 983.02848  | -11               | .303643E-02                       | 0.4             | 0.3093E-02                         | -1.85           | 3.342E-04       |                 |                        | 1.0    |
| 43  | 4     | $E$      | 43   | 5      | $E$       | 983.03935  | -12               | .737329E-03                       | 1.3             | 0.7546E-03                         | -2.34           | 3.042E-04       |                 |                        | 1.0    |
| 36  | 9     | $E$      | 35   | 10     | $E$       | 983.09282  | -16               |                                   |                 | 0.1147E-03                         |                 |                 |                 |                        |        |
| 52  | 3     | $E$      | 53   | 2      | $E$       | 983.15861  | 16                |                                   |                 | 0.1091E-03                         |                 |                 |                 |                        |        |
| 17  | 2     | $A_2$    | 18   | 3      | $A_1$     | 983.16785  | -7                | .189192E-01                       | 0.2             | 0.9462E-02                         | -.03            | 3.851E-04       | -.254E+00       | -.261E+00              | 2.3    |
| 17  | 2     | $A_1$    | 18   | 3      | $A_2$     | 983.16785  | -10               |                                   |                 | 0.9462E-02                         |                 |                 |                 |                        |        |
| 42  | 4     | $E$      | 42   | 5      | $E$       | 983.18094  | -22               |                                   |                 | 0.8927E-03                         |                 |                 |                 |                        |        |
| 12  | 6     | $E$      | 11   | 7      | $E$       | 983.29561  | -16               | .663525E-03                       | 1.1             | 0.6345E-03                         | 4.38            | 5.790E-04       |                 |                        | 1.0    |
| 41  | 4     | $E$      | 41   | 5      | $E$       | 983.31927  | -25               |                                   |                 | 0.1051E-02                         |                 |                 |                 |                        |        |
| 24  | 1     | $E$      | 25   | 2      | $E$       | 983.32301  | -10               | .619312E-02                       | 0.4             | 0.6520E-02                         | -5.28           | 3.826E-04       |                 |                        | 1.0    |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 28  | 8     | $A_2$    | 27   | 9      | $A_1$     | 983.34329  | -26               | .823946E-03                       | 1.7             | 0.3950E-03                         | 4.12            | 6.939E-04       | -.624E-01       | .502E+01               | 1.1    |
| 28  | 8     | $A_1$    | 27   | 9      | $A_2$     | 983.34329  | -26               |                                   |                 | 0.3950E-03                         |                 |                 |                 |                        |        |
| 45  | 10    | $E$      | 44   | 11     | $E$       | 983.36337  | -28               |                                   |                 | 0.1827E-04                         |                 |                 |                 |                        |        |
| 31  | 0     | $E$      | 32   | 1      | $E$       | 983.39081  | -10               | .353594E-02                       | 0.6             | 0.3457E-02                         | 2.25            | 3.423E-04       |                 |                        | 1.0    |
| 20  | 7     | $E$      | 19   | 8      | $E$       | 983.40722  | -34               | .774525E-03                       | 1.8             | 0.7953E-03                         | -2.68           | 8.404E-04       |                 |                        | 1.0    |
| 40  | 4     | $E$      | 40   | 5      | $E$       | 983.45486  | 31                |                                   |                 | 0.1231E-02                         |                 |                 |                 |                        |        |
| 39  | 4     | $E$      | 39   | 5      | $E$       | 983.58624  | -2                | .151386E-02                       | 0.9             | 0.1434E-02                         | 5.26            | 2.205E-04       | -.662E-01       |                        | 1.0    |
| 38  | 4     | $E$      | 38   | 5      | $E$       | 983.71469  | 3                 | .173929E-02                       | 0.5             | 0.1663E-02                         | 4.41            | 3.374E-04       | -.879E-01       | -.823E-01              | 1.0    |
| 9   | 3     | $E$      | 10   | 4      | $E$       | 983.84149  | -5                | .129171E-01                       | 0.4             | 0.1050E-01                         | 3.90            | 5.534E-04       | -.107E+01       | -.302E+00              | 2.9    |
| 36  | 4     | $E$      | 36   | 5      | $E$       | 983.96149  | 0                 | .236746E-02                       | 0.5             | 0.2200E-02                         | 7.08            | 4.967E-04       |                 |                        | 1.0    |
| 58  | 4     | $A_1$    | 59   | 3      | $A_2$     | 983.98551  | 13                |                                   |                 | 0.2573E-04                         |                 |                 |                 |                        |        |
| 58  | 4     | $A_2$    | 59   | 3      | $A_1$     | 983.98551  | 14                |                                   |                 | 0.2573E-04                         |                 |                 |                 |                        |        |
| 37  | 1     | $A_2$    | 38   | 0      | $A_1$     | 984.04668  | 3                 | .350621E-02                       | 0.7             | 0.3551E-02                         | -1.29           | 2.939E-04       | -.831E+00       | .164E+00               | 1.4    |
| 35  | 4     | $E$      | 35   | 5      | $E$       | 984.08000  | 6                 | .273988E-02                       | 0.6             | 0.2511E-02                         | 7.80            | 5.971E-04       |                 |                        | 1.0    |
| 46  | 10    | $E$      | 45   | 11     | $E$       | 984.08000  | 73                |                                   |                 | 0.1554E-04                         |                 |                 |                 |                        |        |
| 16  | 2     | $A_2$    | 17   | 3      | $A_1$     | 984.10803  | 4                 | .192823E-01                       | 0.4             | 0.9830E-02                         | -1.96           | 3.814E-04       | -.589E+00       | -.207E+00              | 1.6    |
| 16  | 2     | $A_1$    | 17   | 3      | $A_2$     | 984.10803  | 7                 |                                   |                 | 0.9830E-02                         |                 |                 |                 |                        |        |
| 29  | 8     | $A_2$    | 28   | 9      | $A_1$     | 984.12692  | -9                | .768753E-03                       | 2.1             | 0.3730E-03                         | 2.95            | 3.081E-04       |                 |                        | 1.0    |
| 29  | 8     | $A_1$    | 28   | 9      | $A_2$     | 984.12692  | -9                |                                   |                 | 0.3730E-03                         |                 |                 |                 |                        |        |
| 13  | 6     | $E$      | 12   | 7      | $E$       | 984.13790  | -2                | .731352E-03                       | 1.7             | 0.7787E-03                         | -6.48           | 4.188E-04       |                 |                        | 1.0    |
| 34  | 4     | $E$      | 34   | 5      | $E$       | 984.19508  | 0                 | .294301E-02                       | 0.5             | 0.2850E-02                         | 3.16            | 3.857E-04       |                 |                        | 1.0    |
| 21  | 7     | $E$      | 20   | 8      | $E$       | 984.22099  | 2                 | .858269E-03                       | 1.1             | 0.8101E-03                         | 5.61            | 4.987E-04       |                 |                        | 1.0    |
| 23  | 1     | $E$      | 24   | 2      | $E$       | 984.28399  | 6                 | .671427E-02                       | 0.3             | 0.7031E-02                         | -4.72           | 3.439E-04       | .479E-01        | -.343E+00              | 1.1    |
| 33  | 4     | $E$      | 33   | 5      | $E$       | 984.30696  | 6                 | .331256E-02                       | 0.5             | 0.3218E-02                         | 2.85            | 2.569E-04       | -.466E-01       | -.326E+00              | 1.1    |
| 44  | 2     | $E$      | 45   | 1      | $E$       | 984.33523  | 1                 |                                   |                 | 0.5302E-03                         |                 |                 |                 |                        |        |
| 30  | 0     | $E$      | 31   | 1      | $E$       | 984.37211  | 5                 | .385149E-02                       | 0.5             | 0.3860E-02                         | -.21            | 3.247E-04       |                 |                        | 1.0    |
| 32  | 4     | $E$      | 32   | 5      | $E$       | 984.41548  | 6                 | .360048E-02                       | 1.3             | 0.3614E-02                         | -.37            | 1.911E-04       |                 |                        | 1.0    |
| 31  | 4     | $E$      | 31   | 5      | $E$       | 984.52066  | 3                 | .397447E-02                       | 0.6             | 0.4036E-02                         | -1.54           | 2.428E-04       | .109E+00        | -.257E+00              | 1.1    |
| 38  | 9     | $E$      | 37   | 10     | $E$       | 984.59336  | -19               |                                   |                 | 0.9133E-04                         |                 |                 |                 |                        |        |
| 30  | 4     | $E$      | 30   | 5      | $E$       | 984.62223  | -31               |                                   |                 | 0.4482E-02                         |                 |                 |                 |                        |        |
| 29  | 4     | $E$      | 29   | 5      | $E$       | 984.72118  | 4                 | .492311E-02                       | 0.6             | 0.4949E-02                         | -.53            | 3.027E-04       |                 | -.191E+00              | 1.0    |
| 8   | 3     | $E$      | 9    | 4      | $E$       | 984.75702  | 9                 | .101922E-01                       | 0.2             | 0.1046E-01                         | -2.67           | 3.807E-04       | -.190E+00       |                        | 1.4    |
| 28  | 4     | $E$      | 28   | 5      | $E$       | 984.81647  | 3                 | .561014E-02                       | 0.3             | 0.5434E-02                         | 3.14            | 3.447E-04       |                 |                        | 1.0    |
| 27  | 4     | $E$      | 27   | 5      | $E$       | 984.90841  | -4                | .681858E-02                       | 0.5             | 0.5931E-02                         | 2.76            | 4.428E-04       | -.535E+00       | -.510E+00              | 2.0    |
| 30  | 8     | $A_2$    | 29   | 9      | $A_1$     | 984.90841  | 170               |                                   |                 | 0.3495E-03                         |                 |                 |                 |                        |        |
| 30  | 8     | $A_1$    | 29   | 9      | $A_2$     | 984.90841  | 170               |                                   |                 | 0.3495E-03                         |                 |                 |                 |                        |        |
| 14  | 6     | $E$      | 13   | 7      | $E$       | 984.97669  | 10                | .905969E-03                       | 1.3             | 0.9117E-03                         | -.63            | 3.191E-04       |                 |                        | 1.0    |
| 26  | 4     | $E$      | 26   | 5      | $E$       | 984.99717  | 2                 | .653047E-02                       | 0.9             | 0.6435E-02                         | 1.46            | 3.177E-04       |                 |                        | 1.0    |
| 22  | 7     | $E$      | 21   | 8      | $E$       | 985.03071  | -5                |                                   |                 | 0.8144E-03                         |                 |                 |                 |                        |        |
| 15  | 2     | $A_2$    | 16   | 3      | $A_1$     | 985.04507  | 10                | .201664E-01                       | 0.2             | 0.1015E-01                         | -.65            | 3.734E-04       | -.120E+00       | -.394E+00              | 1.8    |
| 15  | 2     | $A_1$    | 16   | 3      | $A_2$     | 985.04507  | 8                 |                                   |                 | 0.1015E-01                         |                 |                 |                 |                        |        |
| 36  | 1     | $A_1$    | 37   | 0      | $A_2$     | 985.06161  | 8                 | .394219E-02                       | 1.0             | 0.4058E-02                         | -2.94           | 2.082E-04       |                 |                        | 1.0    |
| 25  | 4     | $E$      | 25   | 5      | $E$       | 985.08259  | 3                 | .687054E-02                       | 0.5             | 0.6939E-02                         | -1.00           | 3.249E-04       | -.353E+00       | -.156E+00              | 1.5    |
| 24  | 4     | $E$      | 24   | 5      | $E$       | 985.16473  | 6                 | .730889E-02                       | 0.2             | 0.7435E-02                         | -1.73           | 3.636E-04       |                 |                        | 1.0    |
| 22  | 4     | $E$      | 22   | 5      | $E$       | 985.31907  | 6                 | .866643E-02                       | 1.9             | 0.8371E-02                         | 3.41            | 2.346E-04       |                 |                        | 1.0    |
| 39  | 9     | $E$      | 38   | 10     | $E$       | 985.33832  | 34                |                                   |                 | 0.8074E-04                         |                 |                 |                 |                        |        |
| 29  | 0     | $E$      | 30   | 1      | $E$       | 985.35030  | -5                | .494530E-02                       | 0.5             | 0.4287E-02                         | .62             | 3.880E-04       | -.215E+00       |                        | 1.3    |
| 43  | 2     | $E$      | 44   | 1      | $E$       | 985.35030  | 74                |                                   |                 | 0.6276E-03                         |                 |                 |                 |                        |        |
| 21  | 4     | $E$      | 21   | 5      | $E$       | 985.39131  | 7                 | .852451E-02                       | 0.3             | 0.8791E-02                         | -3.13           | 4.116E-04       |                 |                        | 1.0    |
| 20  | 4     | $E$      | 20   | 5      | $E$       | 985.46013  | -5                |                                   |                 | 0.9166E-02                         |                 |                 |                 |                        |        |
| 19  | 4     | $E$      | 19   | 5      | $E$       | 985.52575  | -9                |                                   |                 | 0.9484E-02                         |                 |                 |                 |                        |        |
| 18  | 4     | $E$      | 18   | 5      | $E$       | 985.58813  | -7                | .940714E-02                       | 0.4             | 0.9735E-02                         | -3.48           | 4.052E-04       |                 |                        | 1.0    |
| 7   | 5     | $A_2$    | 6    | 6      | $A_1$     | 985.61688  | -36               |                                   |                 | 0.1209E-03                         |                 |                 |                 |                        |        |
| 7   | 5     | $A_1$    | 6    | 6      | $A_2$     | 985.61688  | -36               |                                   |                 | 0.1209E-03                         |                 |                 |                 |                        |        |
| 17  | 4     | $E$      | 17   | 5      | $E$       | 985.64719  | -8                | .953856E-02                       | 0.5             | 0.9908E-02                         | -3.87           | 3.830E-04       |                 |                        | 1.0    |
| 31  | 8     | $A_2$    | 30   | 9      | $A_1$     | 985.68242  | -22               |                                   |                 | 0.3249E-03                         |                 |                 |                 |                        |        |
| 31  | 8     | $A_1$    | 30   | 9      | $A_2$     | 985.68242  | -22               |                                   |                 | 0.3249E-03                         |                 |                 |                 |                        |        |
| 16  | 4     | $E$      | 16   | 5      | $E$       | 985.70300  | -6                | .963974E-02                       | 0.2             | 0.9991E-02                         | -3.65           | 3.478E-04       | -.134E+00       | -.430E+00              | 1.8    |
| 15  | 4     | $E$      | 15   | 5      | $E$       | 985.75552  | -4                | .943478E-02                       | 1.6             | 0.9975E-02                         | -5.73           | 3.600E-04       |                 |                        | 1.0    |
| 14  | 4     | $E$      | 14   | 5      | $E$       | 985.80473  | -5                | .994469E-02                       | 0.4             | 0.9850E-02                         | .96             | 4.572E-04       |                 |                        | 1.0    |
| 15  | 6     | $E$      | 14   | 7      | $E$       | 985.81152  | -23               | .109548E-02                       | 3.7             | 0.1030E-02                         | 5.99            | 3.350E-04       |                 |                        | 1.0    |
| 23  | 7     | $E$      | 22   | 8      | $E$       | 985.83661  | -30               | .772397E-03                       | 4.3             | 0.8090E-03                         | -4.74           | 3.866E-04       |                 |                        | 1.0    |
| 13  | 4     | $E$      | 13   | 5      | $E$       | 985.85064  | -7                | .937736E-02                       | 0.4             | 0.9605E-02                         | -2.42           | 4.154E-04       |                 |                        | 1.0    |
| 12  | 4     | $E$      | 12   | 5      | $E$       | 985.89328  | -8                | .895981E-02                       | 0.8             | 0.9232E-02                         | -3.03           | 3.569E-04       |                 |                        | 1.0    |
| 11  | 4     | $E$      | 11   | 5      | $E$       | 985.93266  | -7                | .863883E-02                       | 0.3             | 0.8722E-02                         | -.96            | 4.241E-04       | .297E-01        | .731E-01               | 1.0    |
| 10  | 4     | $E$      | 10   | 5      | $E$       | 985.96878  | -3                | .780161E-02                       | 0.4             | 0.8066E-02                         | -3.39           | 3.583E-04       |                 |                        | 1.0    |
| 14  | 2     | $A_2$    | 15   | 3      | $A_1$     | 985.97885  | -11               | .208782E-01                       | 0.2             | 0.1041E-01                         | .27             | 4.161E-04       |                 |                        | 1.0    |
| 14  | 2     | $A_1$    | 15   | 3      | $A_2$     | 985.97885  | -9                |                                   |                 | 0.1041E-01                         |                 |                 |                 |                        |        |
| 9   | 4     | $E$      | 9    | 5      | $E$       | 986.00156  | -5                | .700451E-02                       | 0.2             | 0.7255E-02                         | -3.58           | 3.169E-04       | -.160E+00       | -.290E+00              | 1.9    |
| 8   | 4     | $E$      | 8    | 5      | $E$       | 986.03107  | -6                | .594866E-02                       | 0.4             | 0.6275E-02                         | -5.49           | 2.870E-04       | -.320E-01       | -.360E+00              | 1.2    |
| 7   | 4     | $E$      | 7    | 5      | $E$       | 986.05732  | -5                | .493666E-02                       | 0.5             | 0.5108E-02                         | -3.47           | 3.680E-04       | -.115E+00       |                        | 1.1    |
| 35  | 1     | $A_2$    | 36   | 0      | $A_1$     | 986.07311  | -9                | .446430E-02                       | 0.6             | 0.4614E-02                         | -3.35           | 2.844E-04       |                 |                        | 1.0    |
| 6   | 4     | $E$      | 6    | 5      | $E$       | 986.08024  | -9                | .366933E-02                       | 0.7             | 0.3722E-02                         | -1.43           | 4.279E-04       |                 |                        | 1.0    |
| 5   | 4     | $E$      | 5    | 5      | $E$       | 986.09991  | -9                | .199071E-02                       | 2.2             | 0.2059E-02                         | -3.41           | 3.882E-04       |                 |                        | 1.0    |
| 21  | 1     | $E$      | 22   | 2      | $E$       | 986.19671  | -6                | .769606E-02                       | 0.2             | 0.8036E-02                         | -4.41           | 3.776E-04       | -.138E+00       | -.127E+00              | 1.1    |
| 63  | 3     | $E$      | 63   | 4      | $E$       | 986.21753  | 45                |                                   |                 | 0.1160E-04                         |                 |                 |                 |                        |        |
| 49  | 3     | $E$      | 50   | 2      | $E$       | 986.25612  | 3                 |                                   |                 | 0.1982E-03                         |                 |                 |                 |                        |        |
| 28  | 0     | $E$      | 29   | 1      | $E$       | 986.32567  | -9                | .459267E-02                       | 1.0             | 0.4736E-02                         | -3.12           | 2.251E-04       |                 | -.527E+00              | 1.1    |
| 42  | 2     | $E$      | 43   | 1      | $E$       | 986.36120  | -14               |                                   |                 | 0.7393E-03                         |                 |                 |                 |                        |        |
| 32  | 8     | $A_2$    | 31   | 9      | $A_1$     | 986.45451  | -27               | .633098E-03                       | 1.7             | 0.2999E-03                         | 5.26            | 6.486E-04       |                 |                        | 1.0    |
| 32  | 8     | $A_1$    | 31   | 9      | $A_2$     | 986.45451  | -27               |                                   |                 | 0.2999E-03                         |                 |                 |                 |                        |        |
| 8   | 5     | $A_2$    | 7    | 6      | $A_1$     | 986.47683  | -3                | .613624E-03                       | 2.4             | 0.3082E-03                         | -.46            | 5.469E-04       |                 |                        | 1.0    |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 8   | 5     | $A_1$    | 7    | 6      | $A_2$     | 986.47683  | -3                |                                   |                 | 0.3082E-03                         |                 |                 |                 |                        |        |
| 6   | 3     | $E$      | 7    | 4      | $E$       | 986.57821  | -7                | .936326E-02                       | 0.3             | 0.1026E-01                         | -9.57           | 2.982E-04       |                 | -.317E+00              | 1.1    |
| 24  | 7     | $E$      | 23   | 8      | $E$       | 986.63932  | -10               |                                   |                 | 0.7949E-03                         |                 |                 |                 |                        |        |
| 16  | 6     | $E$      | 15   | 7      | $E$       | 986.64329  | -11               |                                   |                 | 0.1131E-02                         |                 |                 |                 |                        |        |
| 41  | 9     | $E$      | 40   | 10     | $E$       | 986.81486  | -15               |                                   |                 | 0.6198E-04                         |                 |                 |                 |                        |        |
| 60  | 3     | $E$      | 60   | 4      | $E$       | 986.83281  | 18                |                                   |                 | 0.2533E-04                         |                 |                 |                 |                        |        |
| 13  | 2     | $A_2$    | 14   | 3      | $A_1$     | 986.90979  | -6                | .213711E-01                       | 0.3             | 0.1061E-01                         | .71             | 3.666E-04       | -.317E-01       | -.474E+00              | 1.2    |
| 13  | 2     | $A_1$    | 14   | 3      | $A_2$     | 986.90979  | -7                |                                   |                 | 0.1061E-01                         |                 |                 |                 |                        |        |
| 34  | 1     | $A_1$    | 35   | 0      | $A_2$     | 987.08155  | -11               | .497547E-02                       | 0.3             | 0.5220E-02                         | -4.92           | 2.881E-04       |                 |                        | 1.0    |
| 55  | 4     | $A_1$    | 56   | 3      | $A_2$     | 987.12755  | -4                |                                   |                 | 0.5058E-04                         |                 |                 |                 |                        |        |
| 55  | 4     | $A_2$    | 56   | 3      | $A_1$     | 987.12755  | -5                |                                   |                 | 0.5058E-04                         |                 |                 |                 |                        |        |
| 20  | 1     | $E$      | 21   | 2      | $E$       | 987.14870  | -6                | .807667E-02                       | 0.3             | 0.8514E-02                         | -5.42           | 3.526E-04       |                 | -.582E+00              | 1.5    |
| 33  | 8     | $A_2$    | 32   | 9      | $A_1$     | 987.22279  | -33               | .582024E-03                       | 2.7             | 0.2748E-03                         | 5.56            | 6.917E-05       |                 |                        | 1.0    |
| 33  | 8     | $A_1$    | 32   | 9      | $A_2$     | 987.22279  | -33               |                                   |                 | 0.2748E-03                         |                 |                 |                 |                        |        |
| 48  | 3     | $E$      | 49   | 2      | $E$       | 987.28357  | -9                |                                   |                 | 0.2397E-03                         |                 |                 |                 |                        |        |
| 27  | 0     | $E$      | 28   | 1      | $E$       | 987.29817  | -11               | .538071E-02                       | 0.4             | 0.5203E-02                         | 3.30            | 3.688E-04       |                 |                        | 1.0    |
| 9   | 5     | $A_2$    | 8    | 6      | $A_1$     | 987.33301  | -6                | .104203E-02                       | 2.5             | 0.5297E-03                         | -1.66           | 7.606E-04       | -.923E-01       | .328E+01               | 1.1    |
| 9   | 5     | $A_1$    | 8    | 6      | $A_2$     | 987.33301  | -6                |                                   |                 | 0.5297E-03                         |                 |                 |                 |                        |        |
| 41  | 2     | $E$      | 42   | 1      | $E$       | 987.37044  | -12               |                                   |                 | 0.8666E-03                         |                 |                 |                 |                        |        |
| 57  | 3     | $E$      | 57   | 4      | $E$       | 987.41753  | -21               |                                   |                 | 0.5300E-04                         |                 |                 |                 |                        |        |
| 25  | 7     | $E$      | 24   | 8      | $E$       | 987.43809  | -16               | .724540E-03                       | 1.5             | 0.7732E-03                         | -6.72           | 2.827E-04       | -.233E+00       |                        | 1.1    |
| 17  | 6     | $E$      | 16   | 7      | $E$       | 987.47151  | 0                 | .117629E-02                       | 3.0             | 0.1214E-02                         | -3.21           | 4.523E-04       |                 |                        | 1.0    |
| 5   | 3     | $E$      | 6    | 4      | $E$       | 987.48413  | -7                | .948207E-02                       | 0.4             | 0.1012E-01                         | -6.68           | 3.217E-04       |                 |                        | 1.0    |
| 42  | 9     | $E$      | 41   | 10     | $E$       | 987.54750  | -10               |                                   |                 | 0.5383E-04                         |                 |                 |                 |                        |        |
| 56  | 3     | $E$      | 56   | 4      | $E$       | 987.60589  | -14               |                                   |                 | 0.6714E-04                         |                 |                 |                 |                        |        |
| 12  | 2     | $A_2$    | 13   | 3      | $A_1$     | 987.83763  | -7                | .217168E-01                       | 0.2             | 0.1074E-01                         | 1.08            | 4.177E-04       | -.124E+00       | .281E+00               | 1.2    |
| 12  | 2     | $A_1$    | 13   | 3      | $A_2$     | 987.83763  | -6                |                                   |                 | 0.1074E-01                         |                 |                 |                 |                        |        |
| 54  | 3     | $E$      | 54   | 4      | $E$       | 987.97224  | -27               |                                   |                 | 0.1062E-03                         |                 |                 |                 |                        |        |
| 34  | 8     | $A_2$    | 33   | 9      | $A_1$     | 987.98738  | -25               |                                   |                 | 0.2502E-03                         |                 |                 |                 |                        |        |
| 34  | 8     | $A_1$    | 33   | 9      | $A_2$     | 987.98738  | -25               |                                   |                 | 0.2502E-03                         |                 |                 |                 |                        |        |
| 33  | 1     | $A_2$    | 34   | 0      | $A_1$     | 988.08677  | -11               | .564422E-02                       | 0.5             | 0.5876E-02                         | -4.11           | 3.613E-04       |                 |                        | 1.0    |
| 19  | 1     | $E$      | 20   | 2      | $E$       | 988.09771  | -6                | .846092E-02                       | 0.4             | 0.8967E-02                         | -5.98           | 4.141E-04       |                 |                        | 1.0    |
| 53  | 3     | $E$      | 53   | 4      | $E$       | 988.15059  | -12               |                                   |                 | 0.1327E-03                         |                 |                 |                 |                        |        |
| 54  | 4     | $A_1$    | 55   | 3      | $A_2$     | 988.17013  | -3                |                                   |                 | 0.6279E-04                         |                 |                 |                 |                        |        |
| 54  | 4     | $A_2$    | 55   | 3      | $A_1$     | 988.17013  | -3                |                                   |                 | 0.6279E-04                         |                 |                 |                 |                        |        |
| 10  | 5     | $A_2$    | 9    | 6      | $A_1$     | 988.18586  | 0                 | .154666E-02                       | 0.9             | 0.7646E-03                         | 1.13            | 3.325E-04       |                 | -.977E+00              | 1.6    |
| 10  | 5     | $A_1$    | 9    | 6      | $A_2$     | 988.18586  | 0                 |                                   |                 | 0.7646E-03                         |                 |                 |                 |                        |        |
| 26  | 7     | $E$      | 25   | 8      | $E$       | 988.23306  | -34               | .697041E-03                       | 1.2             | 0.7451E-03                         | -6.90           | 4.477E-04       | -.325E+00       | -.731E+00              | 1.2    |
| 26  | 0     | $E$      | 27   | 1      | $E$       | 988.26782  | -9                | .560346E-02                       | 0.7             | 0.5685E-02                         | -1.46           | 3.175E-04       |                 |                        | 1.0    |
| 18  | 6     | $E$      | 17   | 7      | $E$       | 988.29598  | -9                | .122895E-02                       | 0.7             | 0.1278E-02                         | -4.00           | 3.793E-04       | -.225E+00       | -.497E+00              | 1.4    |
| 47  | 3     | $E$      | 48   | 2      | $E$       | 988.30875  | 4                 |                                   |                 | 0.2884E-03                         |                 |                 |                 |                        |        |
| 52  | 3     | $E$      | 52   | 4      | $E$       | 988.32542  | -13               |                                   |                 | 0.1649E-03                         |                 |                 |                 |                        |        |
| 40  | 2     | $E$      | 41   | 1      | $E$       | 988.37726  | 6                 | .106595E-02                       | 2.1             | 0.1011E-02                         | 5.16            | 4.232E-04       |                 |                        | 1.0    |
| 4   | 3     | $E$      | 5    | 4      | $E$       | 988.38688  | -5                | .103232E-01                       | 0.2             | 0.9987E-02                         | 3.26            | 4.176E-04       |                 |                        | 1.0    |
| 51  | 3     | $E$      | 51   | 4      | $E$       | 988.49674  | -30               |                                   |                 | 0.2040E-03                         |                 |                 |                 |                        |        |
| 50  | 3     | $E$      | 50   | 4      | $E$       | 988.66505  | -13               |                                   |                 | 0.2512E-03                         |                 |                 |                 |                        |        |
| 35  | 8     | $A_1$    | 34   | 9      | $A_2$     | 988.74815  | -16               |                                   |                 | 0.2262E-03                         |                 |                 |                 |                        |        |
| 35  | 8     | $A_2$    | 34   | 9      | $A_1$     | 988.74815  | -16               |                                   |                 | 0.2262E-03                         |                 |                 |                 |                        |        |
| 11  | 2     | $A_2$    | 12   | 3      | $A_1$     | 988.76239  | -6                | .218358E-01                       | 0.3             | 0.1080E-01                         | 1.09            | 3.512E-04       | -.246E+00       | -.198E+00              | 1.4    |
| 11  | 2     | $A_1$    | 12   | 3      | $A_2$     | 988.76239  | -7                |                                   |                 | 0.1080E-01                         |                 |                 |                 |                        |        |
| 49  | 3     | $E$      | 49   | 4      | $E$       | 988.82988  | -9                |                                   |                 | 0.3077E-03                         |                 |                 |                 |                        |        |
| 48  | 3     | $E$      | 48   | 4      | $E$       | 988.99130  | -12               |                                   |                 | 0.3751E-03                         |                 |                 |                 |                        |        |
| 44  | 9     | $E$      | 43   | 10     | $E$       | 989.00061  | -19               |                                   |                 | 0.3992E-04                         |                 |                 |                 |                        |        |
| 27  | 7     | $E$      | 26   | 8      | $E$       | 989.02478  | -8                | .683539E-03                       | 5.2             | 0.7117E-03                         | -4.12           | 4.757E-04       |                 |                        | 1.0    |
| 11  | 5     | $A_2$    | 10   | 6      | $A_1$     | 989.03512  | -10               | .196397E-02                       | 1.8             | 0.9990E-03                         | -1.73           | 3.332E-04       |                 |                        | 1.0    |
| 11  | 5     | $A_1$    | 10   | 6      | $A_2$     | 989.03512  | -10               |                                   |                 | 0.9990E-03                         |                 |                 |                 |                        |        |
| 18  | 1     | $E$      | 19   | 2      | $E$       | 989.04374  | -6                | .883902E-02                       | 0.5             | 0.9385E-02                         | -6.17           | 3.949E-04       |                 |                        | 1.0    |
| 32  | 1     | $A_1$    | 33   | 0      | $A_2$     | 989.08877  | -10               | .630750E-02                       | 0.4             | 0.6581E-02                         | -4.33           | 3.129E-04       |                 |                        | 1.0    |
| 19  | 6     | $E$      | 18   | 7      | $E$       | 989.11699  | -7                | .129337E-02                       | 0.8             | 0.1323E-02                         | -2.32           | 5.110E-04       | -.852E+00       | .541E+00               | 1.7    |
| 47  | 3     | $E$      | 47   | 4      | $E$       | 989.14947  | -6                |                                   |                 | 0.4551E-03                         |                 |                 |                 |                        |        |
| 53  | 4     | $A_1$    | 54   | 3      | $A_2$     | 989.21016  | -11               |                                   |                 | 0.7760E-04                         |                 |                 |                 |                        |        |
| 53  | 4     | $A_2$    | 54   | 3      | $A_1$     | 989.21016  | -11               |                                   |                 | 0.7760E-04                         |                 |                 |                 |                        |        |
| 25  | 0     | $E$      | 26   | 1      | $E$       | 989.23454  | -8                | .587905E-02                       | 0.3             | 0.6177E-02                         | -5.06           | 3.825E-04       |                 |                        | 1.0    |
| 3   | 3     | $E$      | 4    | 4      | $E$       | 989.28640  | -7                | .937477E-02                       | 0.3             | 0.9941E-02                         | -6.04           | 2.598E-04       | -.385E-01       | -.380E+00              | 1.4    |
| 46  | 3     | $E$      | 46   | 4      | $E$       | 989.30418  | -12               |                                   |                 | 0.5494E-03                         |                 |                 |                 |                        |        |
| 46  | 3     | $E$      | 47   | 2      | $E$       | 989.33110  | -13               |                                   |                 | 0.3455E-03                         |                 |                 |                 |                        |        |
| 39  | 2     | $E$      | 40   | 1      | $E$       | 989.38107  | -17               | .113060E-02                       | 1.4             | 0.1174E-02                         | -3.81           | 2.301E-04       | .237E+00        |                        | 1.1    |
| 45  | 3     | $E$      | 45   | 4      | $E$       | 989.45563  | -10               |                                   |                 | 0.6601E-03                         |                 |                 |                 |                        |        |
| 36  | 8     | $A_2$    | 35   | 9      | $A_1$     | 989.50483  | -31               | .429338E-03                       | 4.4             | 0.2032E-03                         | 5.34            | 1.403E-04       |                 |                        | 1.0    |
| 36  | 8     | $A_1$    | 35   | 9      | $A_2$     | 989.50483  | -31               |                                   |                 | 0.2032E-03                         |                 |                 |                 |                        |        |
| 44  | 3     | $E$      | 44   | 4      | $E$       | 989.60377  | -6                |                                   |                 | 0.7891E-03                         |                 |                 |                 |                        |        |
| 10  | 2     | $A_2$    | 11   | 3      | $A_1$     | 989.68405  | -8                | .229955E-01                       | 0.2             | 0.1078E-01                         | 6.23            | 3.938E-04       |                 |                        | 1.0    |
| 10  | 2     | $A_1$    | 11   | 3      | $A_2$     | 989.68405  | -7                |                                   |                 | 0.1078E-01                         |                 |                 |                 |                        |        |
| 45  | 9     | $E$      | 44   | 10     | $E$       | 989.72113  | -26               |                                   |                 | 0.3409E-04                         |                 |                 |                 |                        |        |
| 43  | 3     | $E$      | 43   | 4      | $E$       | 989.74854  | -7                |                                   |                 | 0.9386E-03                         |                 |                 |                 |                        |        |
| 28  | 7     | $E$      | 27   | 8      | $E$       | 989.81246  | -14               | .675232E-03                       | 2.2             | 0.6742E-03                         | .15             | 2.338E-04       |                 |                        | 1.0    |
| 12  | 5     | $A_2$    | 11   | 6      | $A_1$     | 989.88106  | -7                | .233450E-02                       | 1.6             | 0.1223E-02                         | -4.77           | 4.144E-04       |                 |                        | 1.0    |
| 12  | 5     | $A_1$    | 11   | 6      | $A_2$     | 989.88106  | -7                |                                   |                 | 0.1223E-02                         |                 |                 |                 |                        |        |
| 42  | 3     | $E$      | 42   | 4      | $E$       | 989.88994  | -11               | .119974E-02                       | 1.0             | 0.1111E-02                         | 7.40            | 2.777E-04       |                 |                        | 1.0    |
| 20  | 6     | $E$      | 19   | 7      | $E$       | 989.93425  | -23               | .131591E-02                       | 0.9             | 0.1351E-02                         | -2.63           | 5.774E-04       |                 |                        | 1.0    |
| 17  | 1     | $E$      | 18   | 2      | $E$       | 989.98675  | -8                | .952081E-02                       | 0.2             | 0.9759E-02                         | -2.50           | 4.117E-04       |                 |                        | 1.0    |
| 41  | 3     | $E$      | 41   | 4      | $E$       | 990.02815  | -3                | .143692E-02                       | 1.0             | 0.1308E-02                         | 8.96            | 1.898E-04       |                 | -.705E+00              | 1.3    |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 31  | 1     | $A_2$    | 32   | 0      | $A_1$     | 990.08753  | -6                | .697780E-02                       | 0.5             | 0.7332E-02                         | -5.08           | 2.931E-04       | .132E+00        | -.160E+00              | 1.1    |
| 40  | 3     | $E$      | 40   | 4      | $E$       | 990.16289  | -9                | .160498E-02                       | 1.0             | 0.1533E-02                         | 4.49            | 6.050E-05       |                 |                        | 1.0    |
| 24  | 0     | $E$      | 25   | 1      | $E$       | 990.19837  | -4                | .641382E-02                       | 0.2             | 0.6672E-02                         | -4.03           | 3.292E-04       | -.121E+00       | -.429E+00              | 1.4    |
| 37  | 8     | $A_2$    | 36   | 9      | $A_1$     | 990.25787  | -23               | .381363E-03                       | 3.2             | 0.1814E-03                         | 4.86            | 3.090E-04       |                 |                        | 1.0    |
| 37  | 8     | $A_1$    | 36   | 9      | $A_2$     | 990.25787  | -23               |                                   |                 | 0.1814E-03                         |                 |                 |                 |                        |        |
| 39  | 3     | $E$      | 39   | 4      | $E$       | 990.29434  | -12               | .190858E-02                       | 1.2             | 0.1787E-02                         | 6.37            | 3.035E-04       |                 |                        | 1.0    |
| 45  | 3     | $E$      | 46   | 2      | $E$       | 990.35121  | 0                 | .416209E-03                       | 2.3             | 0.4119E-03                         | 1.04            | 3.059E-04       |                 |                        | 1.0    |
| 38  | 2     | $E$      | 39   | 1      | $E$       | 990.38264  | -3                | .132574E-02                       | 1.1             | 0.1356E-02                         | -2.27           | 2.575E-04       |                 |                        | 1.0    |
| 38  | 3     | $E$      | 38   | 4      | $E$       | 990.42251  | -12               | .221769E-02                       | 0.5             | 0.2072E-02                         | 6.55            | 2.309E-04       |                 |                        | 1.0    |
| 46  | 9     | $E$      | 45   | 10     | $E$       | 990.43793  | -2                |                                   |                 | 0.2895E-04                         |                 |                 |                 |                        |        |
| 37  | 3     | $E$      | 37   | 4      | $E$       | 990.54740  | -8                | .254001E-02                       | 0.4             | 0.2391E-02                         | 5.86            | 2.205E-04       | -.737E-01       | -.337E+00              | 1.2    |
| 29  | 7     | $E$      | 28   | 8      | $E$       | 990.59617  | -44               |                                   |                 | 0.6336E-03                         |                 |                 |                 |                        |        |
| 9   | 2     | $A_2$    | 10   | 3      | $A_1$     | 990.60264  | -3                | .219424E-01                       | 0.2             | 0.1069E-01                         | 2.59            | 3.767E-04       |                 |                        | 1.0    |
| 9   | 2     | $A_1$    | 10   | 3      | $A_2$     | 990.60264  | -4                |                                   |                 | 0.1069E-01                         |                 |                 |                 |                        |        |
| 36  | 3     | $E$      | 36   | 4      | $E$       | 990.66896  | -6                | .292317E-02                       | 0.3             | 0.2745E-02                         | 6.10            | 2.917E-04       | -.704E-01       | -.269E+00              | 1.2    |
| 13  | 5     | $A_2$    | 12   | 6      | $A_1$     | 990.72354  | -3                | .284856E-02                       | 0.4             | 0.1429E-02                         | -3.36           | 4.368E-04       | -.272E+00       |                        | 1.4    |
| 13  | 5     | $A_1$    | 12   | 6      | $A_2$     | 990.72354  | -3                |                                   |                 | 0.1429E-02                         |                 |                 |                 |                        |        |
| 35  | 3     | $E$      | 35   | 4      | $E$       | 990.78719  | -6                | .328142E-02                       | 1.0             | 0.3134E-02                         | 4.49            | 2.524E-04       |                 |                        | 1.0    |
| 34  | 3     | $E$      | 34   | 4      | $E$       | 990.90209  | -8                | .380867E-02                       | 0.4             | 0.3560E-02                         | 6.54            | 3.076E-04       |                 |                        | 1.0    |
| 16  | 1     | $E$      | 17   | 2      | $E$       | 990.92681  | -4                | .970182E-02                       | 0.2             | 0.1008E-01                         | -3.91           | 3.744E-04       | -.344E-01       | -.471E+00              | 1.4    |
| 38  | 8     | $A_2$    | 37   | 9      | $A_1$     | 991.00715  | -2                | .342439E-03                       | 6.7             | 0.1610E-03                         | 5.98            | 2.681E-04       |                 |                        | 1.0    |
| 38  | 8     | $A_1$    | 37   | 9      | $A_2$     | 991.00715  | -2                |                                   |                 | 0.1610E-03                         |                 |                 |                 |                        |        |
| 33  | 3     | $E$      | 33   | 4      | $E$       | 991.01372  | -6                | .426811E-02                       | 0.6             | 0.4021E-02                         | 5.78            | 3.300E-04       |                 |                        | 1.0    |
| 30  | 1     | $A_1$    | 31   | 0      | $A_2$     | 991.08298  | -6                | .783055E-02                       | 1.7             | 0.8127E-02                         | -3.78           | 1.518E-04       |                 |                        | 1.0    |
| 32  | 3     | $E$      | 32   | 4      | $E$       | 991.12206  | -4                | .479849E-02                       | 0.5             | 0.4518E-02                         | 5.84            | 3.127E-04       | -.334E+00       | -.225E+00              | 1.8    |
| 47  | 9     | $E$      | 46   | 10     | $E$       | 991.15066  | 19                |                                   |                 | 0.2445E-04                         |                 |                 |                 |                        |        |
| 23  | 0     | $E$      | 24   | 1      | $E$       | 991.15896  | -32               |                                   |                 | 0.7166E-02                         |                 |                 |                 |                        |        |
| 31  | 3     | $E$      | 31   | 4      | $E$       | 991.22703  | -8                | .521165E-02                       | 0.4             | 0.5049E-02                         | 3.11            | 2.746E-04       | -.164E+00       | -.324E+00              | 1.3    |
| 51  | 4     | $A_1$    | 52   | 3      | $A_2$     | 991.28247  | -64               |                                   |                 | 0.1169E-03                         |                 |                 |                 |                        |        |
| 51  | 4     | $A_2$    | 52   | 3      | $A_1$     | 991.28247  | -64               |                                   |                 | 0.1169E-03                         |                 |                 |                 |                        |        |
| 30  | 3     | $E$      | 30   | 4      | $E$       | 991.32873  | -9                | .561453E-02                       | 0.5             | 0.5612E-02                         | .05             | 2.037E-04       |                 | -.662E+00              | 1.8    |
| 44  | 3     | $E$      | 45   | 2      | $E$       | 991.36856  | -7                |                                   |                 | 0.4887E-03                         |                 |                 |                 |                        |        |
| 30  | 7     | $E$      | 29   | 8      | $E$       | 991.37681  | -6                | .615752E-03                       | 1.3             | 0.5910E-03                         | 4.02            | 2.892E-04       |                 |                        | 1.0    |
| 37  | 2     | $E$      | 38   | 1      | $E$       | 991.38133  | -13               | .154643E-02                       | 0.4             | 0.1558E-02                         | -7.8            | 3.313E-04       |                 |                        | 1.0    |
| 6   | 4     | $E$      | 5    | 5      | $E$       | 991.39873  | 8                 |                                   |                 | 0.1889E-03                         |                 |                 |                 |                        |        |
| 29  | 3     | $E$      | 29   | 4      | $E$       | 991.42745  | 22                |                                   |                 | 0.6201E-02                         |                 |                 |                 |                        |        |
| 8   | 2     | $A_2$    | 9    | 3      | $A_1$     | 991.51809  | -2                | .212389E-01                       | 1.3             | 0.1052E-01                         | .97             | 2.124E-04       |                 |                        | 1.0    |
| 8   | 2     | $A_1$    | 9    | 3      | $A_2$     | 991.51809  | -1                |                                   |                 | 0.1052E-01                         |                 |                 |                 |                        |        |
| 28  | 3     | $E$      | 28   | 4      | $E$       | 991.52224  | -10               | .667883E-02                       | 1.3             | 0.6814E-02                         | -2.02           | 2.124E-04       |                 |                        | 1.0    |
| 22  | 6     | $E$      | 21   | 7      | $E$       | 991.55855  | 4                 | .137926E-02                       | 0.7             | 0.1354E-02                         | 1.80            | 3.685E-04       |                 |                        | 1.0    |
| 14  | 5     | $A_2$    | 13   | 6      | $A_1$     | 991.56248  | -6                | .311819E-02                       | 0.7             | 0.1613E-02                         | -3.48           | 3.685E-04       |                 |                        | 1.0    |
| 14  | 5     | $A_1$    | 13   | 6      | $A_2$     | 991.56248  | -6                |                                   |                 | 0.1613E-02                         |                 |                 |                 |                        |        |
| 27  | 3     | $E$      | 27   | 4      | $E$       | 991.61411  | -5                | .733234E-02                       | 0.3             | 0.7444E-02                         | -1.52           | 2.849E-04       | -.130E+00       | -.422E+00              | 1.6    |
| 26  | 3     | $E$      | 26   | 4      | $E$       | 991.70258  | -11               | .789053E-02                       | 0.7             | 0.8084E-02                         | -2.45           | 4.505E-04       | -.844E+00       | -.313E+00              | 2.0    |
| 39  | 8     | $A_1$    | 38   | 9      | $A_2$     | 991.75206  | -28               |                                   |                 | 0.1420E-03                         |                 |                 |                 |                        |        |
| 39  | 8     | $A_2$    | 38   | 9      | $A_1$     | 991.75206  | -28               |                                   |                 | 0.1420E-03                         |                 |                 |                 |                        |        |
| 25  | 3     | $E$      | 25   | 4      | $E$       | 991.78788  | -5                | .859426E-02                       | 0.3             | 0.8726E-02                         | -1.53           | 3.305E-04       |                 |                        | 1.0    |
| 15  | 1     | $E$      | 16   | 2      | $E$       | 991.86381  | -3                | .999204E-02                       | 0.4             | 0.1034E-01                         | -3.52           | 3.865E-04       |                 |                        | 1.0    |
| 24  | 3     | $E$      | 24   | 4      | $E$       | 991.86985  | -2                | .942381E-02                       | 0.4             | 0.9361E-02                         | .66             | 3.781E-04       |                 |                        | 1.0    |
| 23  | 3     | $E$      | 23   | 4      | $E$       | 991.94846  | -7                | .101346E-01                       | 0.3             | 0.9979E-02                         | 1.53            | 3.659E-04       |                 |                        | 1.0    |
| 22  | 3     | $E$      | 22   | 4      | $E$       | 992.02385  | -5                | .103216E-01                       | 0.3             | 0.1057E-01                         | -2.39           | 3.173E-04       | -.807E-01       | -.502E+00              | 1.3    |
| 29  | 1     | $A_2$    | 30   | 0      | $A_1$     | 992.07517  | -3                | .858006E-02                       | 0.3             | 0.8959E-02                         | -4.42           | 4.345E-04       | .184E+00        | .308E+00               | 1.4    |
| 21  | 3     | $E$      | 21   | 4      | $E$       | 992.09592  | -6                | .111133E-01                       | 0.4             | 0.1112E-01                         | -.04            | 3.876E-04       |                 |                        | 1.0    |
| 22  | 0     | $E$      | 23   | 1      | $E$       | 992.11712  | -8                | .749613E-02                       | 0.6             | 0.7650E-02                         | -2.06           | 4.197E-04       | -.131E+00       | .271E+00               | 1.1    |
| 31  | 7     | $E$      | 30   | 8      | $E$       | 992.15321  | -17               | .561258E-03                       | 6.0             | 0.5472E-03                         | 2.50            | 2.579E-04       |                 |                        | 1.0    |
| 20  | 3     | $E$      | 20   | 4      | $E$       | 992.16474  | -4                | .113360E-01                       | 0.2             | 0.1161E-01                         | -2.45           | 3.556E-04       | -.137E+00       | -.308E+00              | 1.6    |
| 19  | 3     | $E$      | 19   | 4      | $E$       | 992.23024  | -6                | .116804E-01                       | 0.4             | 0.1204E-01                         | -3.12           | 4.047E-04       |                 |                        | 1.0    |
| 7   | 4     | $E$      | 6    | 5      | $E$       | 992.26176  | -10               |                                   |                 | 0.4738E-03                         |                 |                 |                 |                        |        |
| 18  | 3     | $E$      | 18   | 4      | $E$       | 992.29249  | -4                | .119217E-01                       | 0.4             | 0.1240E-01                         | -3.98           | 3.181E-04       |                 | -.548E+00              | 1.3    |
| 50  | 4     | $A_1$    | 51   | 3      | $A_2$     | 992.31566  | -15               |                                   |                 | 0.1425E-03                         |                 |                 |                 |                        |        |
| 50  | 4     | $A_2$    | 51   | 3      | $A_1$     | 992.31566  | -15               |                                   |                 | 0.1425E-03                         |                 |                 |                 |                        |        |
| 17  | 3     | $E$      | 17   | 4      | $E$       | 992.35143  | -5                | .120870E-01                       | 0.4             | 0.1266E-01                         | -4.70           | 4.283E-04       |                 |                        | 1.0    |
| 23  | 6     | $E$      | 22   | 7      | $E$       | 992.36469  | -40               |                                   |                 | 0.1334E-02                         |                 |                 |                 |                        |        |
| 36  | 2     | $E$      | 37   | 1      | $E$       | 992.37750  | -11               |                                   |                 | 0.1782E-02                         |                 |                 |                 |                        |        |
| 43  | 3     | $E$      | 44   | 2      | $E$       | 992.38338  | -9                |                                   |                 | 0.5771E-03                         |                 |                 |                 |                        |        |
| 15  | 5     | $A_2$    | 14   | 6      | $A_1$     | 992.39797  | -4                | .352736E-02                       | 2.2             | 0.1772E-02                         | -.46            | 3.423E-04       |                 |                        | 1.0    |
| 15  | 5     | $A_1$    | 14   | 6      | $A_2$     | 992.39797  | -4                |                                   | 2.2             | 0.1772E-02                         |                 | 3.423E-04       |                 |                        | 1.0    |
| 16  | 3     | $E$      | 16   | 4      | $E$       | 992.40711  | -4                | .124034E-01                       | 0.7             | 0.1281E-01                         | -3.28           | 3.980E-04       |                 |                        | 1.0    |
| 7   | 2     | $A_2$    | 8    | 3      | $A_1$     | 992.43036  | -4                | .217180E-01                       | 0.2             | 0.1027E-01                         | 5.39            | 3.370E-04       | -.422E-01       | -.111E+00              | 1.1    |
| 7   | 2     | $A_1$    | 8    | 3      | $A_2$     | 992.43036  | -4                |                                   |                 | 0.1027E-01                         |                 |                 |                 |                        |        |
| 15  | 3     | $E$      | 15   | 4      | $E$       | 992.45950  | -4                | .124269E-01                       | 0.2             | 0.1285E-01                         | -3.38           | 3.461E-04       | -.117E+00       | -.450E+00              | 1.6    |
| 40  | 8     | $A_1$    | 39   | 9      | $A_2$     | 992.49350  | -9                |                                   |                 | 0.1245E-03                         |                 |                 |                 |                        |        |
| 40  | 8     | $A_2$    | 39   | 9      | $A_1$     | 992.49350  | -9                |                                   |                 | 0.1245E-03                         |                 |                 |                 |                        |        |
| 14  | 3     | $E$      | 14   | 4      | $E$       | 992.50860  | -5                | .126038E-01                       | 0.2             | 0.1276E-01                         | -1.21           | 3.996E-04       |                 |                        | 1.0    |
| 13  | 3     | $E$      | 13   | 4      | $E$       | 992.55445  | -4                | .121711E-01                       | 0.6             | 0.1253E-01                         | -2.92           | 3.696E-04       |                 |                        | 1.0    |
| 12  | 3     | $E$      | 12   | 4      | $E$       | 992.59699  | -5                | .118075E-01                       | 0.4             | 0.1215E-01                         | -2.89           | 3.743E-04       |                 |                        | 1.0    |
| 11  | 3     | $E$      | 11   | 4      | $E$       | 992.63628  | -4                | .111869E-01                       | 0.3             | 0.1162E-01                         | -3.83           | 3.261E-04       |                 | -.532E+00              | 1.5    |
| 10  | 3     | $E$      | 10   | 4      | $E$       | 992.67231  | -2                | .109051E-01                       | 0.4             | 0.1092E-01                         | -.12            | 3.943E-04       | .100E+00        | -.274E+00              | 1.2    |
| 9   | 3     | $E$      | 9    | 4      | $E$       | 992.70502  | -4                | .974796E-02                       | 0.4             | 0.1005E-01                         | -3.09           | 3.323E-04       | -.139E+00       | -.470E+00              | 1.4    |
| 8   | 3     | $E$      | 8    | 4      | $E$       | 992.73450  | -1                | .906950E-02                       | 0.4             | 0.9001E-02                         | .76             | 3.810E-04       | -.958E-01       | -.989E-01              | 1.1    |
| 6   | 3     | $E$      | 6    | 4      | $E$       | 992.78355  | -5                | .618550E-02                       | 0.6             | 0.6310E-02                         | -2.00           | 3.468E-04       |                 |                        | 1.0    |
| 14  | 1     | $E$      | 15   | 2      | $E$       | 992.79774  | -6                | .991192E-02                       | 0.4             | 0.1054E-01                         | -6.32           | 3.729E-04       |                 |                        | 1.0    |



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| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 5   | 3     | $E$      | 5    | 4      | $E$       | 992.80326  | 2                 | .441329E-02                       | 1.1             | 0.4607E-02                         | -4.38           | 3.389E-04       |                 |                        | 1.0    |
| 4   | 3     | $E$      | 4    | 4      | $E$       | 992.81960  | 0                 | .261970E-02                       | 0.7             | 0.2570E-02                         | 1.91            | 4.792E-04       | -.258E+00       |                        | 1.2    |
| 32  | 7     | $E$      | 31   | 8      | $E$       | 992.92592  | -18               | .526942E-03                       | 1.2             | 0.5032E-03                         | 4.51            | 1.746E-04       | -.173E+00       |                        | 1.0    |
| 28  | 1     | $A_1$    | 29   | 0      | $A_2$     | 993.06396  | -10               | .930782E-02                       | 0.4             | 0.9825E-02                         | -5.55           | 3.856E-04       |                 |                        | 1.0    |
| 21  | 0     | $E$      | 22   | 1      | $E$       | 993.07213  | -3                | .776866E-02                       | 0.5             | 0.8118E-02                         | -4.49           | 4.232E-04       |                 |                        | 1.0    |
| 8   | 4     | $E$      | 7    | 5      | $E$       | 993.12202  | 33                |                                   |                 | 0.8050E-03                         |                 |                 |                 |                        |        |
| 24  | 6     | $E$      | 23   | 7      | $E$       | 993.16777  | -26               |                                   |                 | 0.1301E-02                         |                 |                 |                 |                        |        |
| 16  | 5     | $A_2$    | 15   | 6      | $A_1$     | 993.22998  | 1                 | .40263E-02                        | 0.3             | 0.1902E-02                         | 0.13            | 4.127E-04       |                 |                        | 1.0    |
| 16  | 5     | $A_1$    | 15   | 6      | $A_2$     | 993.22998  | 1                 |                                   |                 | 0.1902E-02                         |                 |                 |                 |                        |        |
| 41  | 8     | $A_2$    | 40   | 9      | $A_1$     | 993.22998  | -93               |                                   |                 | 0.1085E-03                         |                 |                 |                 |                        |        |
| 41  | 8     | $A_1$    | 40   | 9      | $A_2$     | 993.22998  | -93               |                                   |                 | 0.1085E-03                         |                 |                 |                 |                        |        |
| 50  | 9     | $E$      | 49   | 10     | $E$       | 993.26359  | 4                 |                                   |                 | 0.1427E-04                         |                 |                 |                 |                        |        |
| 6   | 2     | $A_2$    | 7    | 3      | $A_1$     | 993.33950  | -4                | .205239E-01                       | 0.8             | 0.9966E-02                         | 2.88            | 3.014E-04       |                 |                        | 1.0    |
| 6   | 2     | $A_1$    | 7    | 3      | $A_2$     | 993.33950  | -4                |                                   |                 | 0.9966E-02                         |                 |                 |                 |                        |        |
| 49  | 4     | $A_2$    | 50   | 3      | $A_1$     | 993.34558  | -42               |                                   |                 | 0.1729E-03                         |                 |                 |                 |                        |        |
| 49  | 4     | $A_1$    | 50   | 3      | $A_2$     | 993.34558  | -42               |                                   |                 | 0.1729E-03                         |                 |                 |                 |                        |        |
| 35  | 2     | $E$      | 36   | 1      | $E$       | 993.37098  | -11               | .201667E-02                       | 1.5             | 0.2028E-02                         | -.57            | 3.280E-04       |                 |                        | 1.0    |
| 42  | 3     | $E$      | 43   | 2      | $E$       | 993.39567  | -6                |                                   |                 | 0.6782E-03                         |                 |                 |                 |                        |        |
| 33  | 7     | $E$      | 32   | 8      | $E$       | 993.69491  | -12               |                                   |                 | 0.4595E-03                         |                 |                 |                 |                        |        |
| 13  | 1     | $E$      | 14   | 2      | $E$       | 993.72867  | -3                | .102211E-01                       | 0.2             | 0.1066E-01                         | -4.28           | 3.593E-04       | -.286E-01       | -.420E+00              | 1.6    |
| 25  | 6     | $E$      | 24   | 7      | $E$       | 993.96727  | -4                |                                   |                 | 0.1257E-02                         |                 |                 |                 |                        |        |
| 9   | 4     | $E$      | 8    | 5      | $E$       | 993.97809  | -3                |                                   |                 | 0.1153E-02                         |                 |                 |                 |                        |        |
| 58  | 2     | $A_1$    | 58   | 3      | $A_2$     | 993.99852  | 2                 |                                   |                 | 0.4886E-04                         |                 |                 |                 |                        |        |
| 20  | 0     | $E$      | 21   | 1      | $E$       | 994.02412  | -4                | .848234E-02                       | 0.3             | 0.8560E-02                         | -.91            | 4.290E-04       | .689E-01        | -.166E+00              | 1.1    |
| 27  | 1     | $A_2$    | 28   | 0      | $A_1$     | 994.04955  | -5                | .103290E-01                       | 0.4             | 0.1071E-01                         | -3.73           | 3.618E-04       |                 |                        | 1.0    |
| 17  | 5     | $A_2$    | 16   | 6      | $A_1$     | 994.05839  | -1                | .411629E-02                       | 0.9             | 0.2005E-02                         | 2.61            | 5.516E-04       |                 |                        | 1.0    |
| 17  | 5     | $A_1$    | 16   | 6      | $A_2$     | 994.05839  | -1                |                                   |                 | 0.2005E-02                         |                 |                 |                 |                        |        |
| 57  | 2     | $A_1$    | 57   | 3      | $A_2$     | 994.18298  | 51                |                                   |                 | 0.6224E-04                         |                 |                 |                 |                        |        |
| 57  | 2     | $A_2$    | 57   | 3      | $A_1$     | 994.18985  | -8                |                                   |                 | 0.6224E-04                         |                 |                 |                 |                        |        |
| 5   | 2     | $A_2$    | 6    | 3      | $A_1$     | 994.24547  | -5                | .212501E-01                       | 0.2             | 0.9607E-02                         | 9.58            | 3.222E-04       | .689E-01        | -.359E+00              | 1.3    |
| 5   | 2     | $A_1$    | 6    | 3      | $A_2$     | 994.24547  | -5                |                                   |                 | 0.9607E-02                         |                 |                 |                 |                        |        |
| 55  | 5     | $E$      | 56   | 4      | $E$       | 994.26963  | -14               |                                   |                 | 0.4229E-04                         |                 |                 |                 |                        |        |
| 34  | 2     | $E$      | 35   | 1      | $E$       | 994.36182  | -7                | .236828E-02                       | 0.6             | 0.2296E-02                         | 3.05            | 2.208E-04       |                 | -.405E+00              | 1.2    |
| 48  | 4     | $A_1$    | 49   | 3      | $A_2$     | 994.37356  | -12               |                                   |                 | 0.2087E-03                         |                 |                 |                 |                        |        |
| 48  | 4     | $A_2$    | 49   | 3      | $A_1$     | 994.37356  | -12               |                                   |                 | 0.2087E-03                         |                 |                 |                 |                        |        |
| 56  | 2     | $A_1$    | 56   | 3      | $A_2$     | 994.37805  | 11                |                                   |                 | 0.7889E-04                         |                 |                 |                 |                        |        |
| 41  | 3     | $E$      | 42   | 2      | $E$       | 994.40526  | -12               | .772225E-03                       | 1.4             | 0.7931E-03                         | -2.71           | 1.579E-04       | -.209E+00       |                        | 1.1    |
| 34  | 7     | $E$      | 33   | 8      | $E$       | 994.46011  | -4                |                                   |                 | 0.4169E-03                         |                 |                 |                 |                        |        |
| 55  | 2     | $A_1$    | 55   | 3      | $A_2$     | 994.55558  | -24               |                                   |                 | 0.9953E-04                         |                 |                 |                 |                        |        |
| 12  | 1     | $E$      | 13   | 2      | $E$       | 994.65650  | -4                | .102262E-01                       | 0.3             | 0.1070E-01                         | -4.60           | 3.872E-04       |                 | -.228E+00              | 1.0    |
| 43  | 8     | $A_1$    | 42   | 9      | $A_2$     | 994.69356  | -11               |                                   |                 | 0.8107E-04                         |                 |                 |                 |                        |        |
| 43  | 8     | $A_2$    | 42   | 9      | $A_1$     | 994.69356  | -11               |                                   |                 | 0.8107E-04                         |                 |                 |                 |                        |        |
| 54  | 2     | $A_2$    | 54   | 3      | $A_1$     | 994.73727  | -19               |                                   |                 | 0.1250E-03                         |                 |                 |                 |                        |        |
| 54  | 2     | $A_1$    | 54   | 3      | $A_2$     | 994.74380  | -1                |                                   |                 | 0.1250E-03                         |                 |                 |                 |                        |        |
| 26  | 6     | $E$      | 25   | 7      | $E$       | 994.76280  | -12               | .117585E-02                       | 1.2             | 0.1204E-02                         | -2.40           | 3.474E-04       | -.286E+00       |                        | 1.2    |
| 10  | 4     | $E$      | 9    | 5      | $E$       | 994.83111  | -3                | .147846E-02                       | 0.6             | 0.1497E-02                         | -1.28           | 3.125E-04       | .327E-01        | -.289E+00              | 1.1    |
| 18  | 5     | $A_2$    | 17   | 6      | $A_1$     | 994.88326  | -3                | .413309E-02                       | 0.2             | 0.2078E-02                         | -.56            | 4.000E-04       | -.134E+00       | -.398E-01              | 1.2    |
| 18  | 5     | $A_1$    | 17   | 6      | $A_2$     | 994.88326  | -3                |                                   |                 | 0.2078E-02                         |                 |                 |                 |                        |        |
| 53  | 2     | $A_1$    | 53   | 3      | $A_2$     | 994.91588  | 13                |                                   |                 | 0.1562E-03                         |                 |                 |                 |                        |        |
| 53  | 2     | $A_2$    | 53   | 3      | $A_1$     | 994.92142  | -26               |                                   |                 | 0.1562E-03                         |                 |                 |                 |                        |        |
| 19  | 0     | $E$      | 20   | 1      | $E$       | 994.97313  | -5                | .861013E-02                       | 0.3             | 0.8968E-02                         | -4.15           | 3.607E-04       | -.217E+00       | -.306E+00              | 1.5    |
| 26  | 1     | $A_1$    | 27   | 0      | $A_2$     | 995.03175  | -6                | .111030E-01                       | 0.3             | 0.1162E-01                         | -4.66           | 3.780E-04       |                 |                        | 1.0    |
| 52  | 2     | $A_2$    | 52   | 3      | $A_1$     | 995.09073  | 5                 |                                   |                 | 0.1942E-03                         |                 |                 |                 |                        |        |
| 52  | 2     | $A_1$    | 52   | 3      | $A_2$     | 995.09587  | -30               |                                   |                 | 0.1942E-03                         |                 |                 |                 |                        |        |
| 4   | 2     | $A_2$    | 5    | 3      | $A_1$     | 995.14828  | -3                | .183413E-01                       | 0.1             | 0.9220E-02                         | -.54            | 2.830E-04       | -.545E-01       | -.483E+00              | 2.0    |
| 4   | 2     | $A_1$    | 5    | 3      | $A_2$     | 995.14828  | -3                |                                   |                 | 0.9220E-02                         |                 |                 |                 |                        |        |
| 35  | 7     | $E$      | 34   | 8      | $E$       | 995.22139  | -5                |                                   |                 | 0.3759E-03                         |                 |                 |                 |                        |        |
| 51  | 2     | $A_1$    | 51   | 3      | $A_2$     | 995.26228  | 3                 |                                   |                 | 0.2404E-03                         |                 |                 |                 |                        |        |
| 51  | 2     | $A_2$    | 51   | 3      | $A_1$     | 995.26711  | -20               |                                   |                 | 0.2404E-03                         |                 |                 |                 |                        |        |
| 54  | 5     | $E$      | 55   | 4      | $E$       | 995.31227  | -6                |                                   |                 | 0.5245E-04                         |                 |                 |                 |                        |        |
| 33  | 2     | $E$      | 34   | 1      | $E$       | 995.34991  | -7                | .263548E-02                       | 0.4             | 0.2586E-02                         | 1.89            | 2.853E-04       | -.232E+00       | -.442E+00              | 1.8    |
| 47  | 4     | $A_1$    | 48   | 3      | $A_2$     | 995.39869  | -14               |                                   |                 | 0.2509E-03                         |                 |                 |                 |                        |        |
| 47  | 4     | $A_2$    | 48   | 3      | $A_1$     | 995.39869  | -14               |                                   |                 | 0.2509E-03                         |                 |                 |                 |                        |        |
| 40  | 3     | $E$      | 41   | 2      | $E$       | 995.41228  | -13               |                                   |                 | 0.9230E-03                         |                 |                 |                 |                        |        |
| 44  | 8     | $A_1$    | 43   | 9      | $A_2$     | 995.41893  | -15               |                                   |                 | 0.6949E-04                         |                 |                 |                 |                        |        |
| 44  | 8     | $A_2$    | 43   | 9      | $A_1$     | 995.41893  | -15               |                                   |                 | 0.6949E-04                         |                 |                 |                 |                        |        |
| 50  | 2     | $A_2$    | 50   | 3      | $A_1$     | 995.43044  | -2                |                                   |                 | 0.2960E-03                         |                 |                 |                 |                        |        |
| 50  | 2     | $A_1$    | 50   | 3      | $A_2$     | 995.43494  | -16               |                                   |                 | 0.2960E-03                         |                 |                 |                 |                        |        |
| 27  | 6     | $E$      | 26   | 7      | $E$       | 995.55477  | -8                | .113625E-02                       | 1.4             | 0.1144E-02                         | -.68            | 3.279E-04       |                 |                        | 1.0    |
| 11  | 1     | $E$      | 12   | 2      | $E$       | 995.58127  | -4                | .103401E-01                       | 0.4             | 0.1065E-01                         | -2.99           | 3.639E-04       | .218E-01        | -.472E+00              | 1.3    |
| 49  | 2     | $A_1$    | 49   | 3      | $A_2$     | 995.59524  | -8                |                                   |                 | 0.3628E-03                         |                 |                 |                 |                        |        |
| 49  | 2     | $A_2$    | 49   | 3      | $A_1$     | 995.59944  | -10               |                                   |                 | 0.3629E-03                         |                 |                 |                 |                        |        |
| 11  | 4     | $E$      | 10   | 5      | $E$       | 995.68069  | -4                | .181446E-02                       | 2.1             | 0.1826E-02                         | -.62            | 3.258E-04       |                 |                        | 1.0    |
| 19  | 5     | $A_2$    | 18   | 6      | $A_1$     | 995.70458  | -5                | .416643E-02                       | 0.4             | 0.2124E-02                         | -1.95           | 4.129E-04       | -.259E+00       | -.357E-01              | 1.5    |
| 19  | 5     | $A_1$    | 18   | 6      | $A_2$     | 995.70458  | -5                |                                   |                 | 0.2124E-02                         |                 |                 |                 |                        |        |
| 48  | 2     | $A_2$    | 48   | 3      | $A_1$     | 995.75683  | 1                 |                                   |                 | 0.4426E-03                         |                 |                 |                 |                        |        |
| 48  | 2     | $A_1$    | 48   | 3      | $A_2$     | 995.76111  | 47                |                                   |                 | 0.4426E-03                         |                 |                 |                 |                        |        |
| 47  | 2     | $A_1$    | 47   | 3      | $A_2$     | 995.91526  | 28                |                                   |                 | 0.5372E-03                         |                 |                 |                 |                        |        |
| 47  | 2     | $A_2$    | 47   | 3      | $A_1$     | 995.91847  | 6                 |                                   |                 | 0.5372E-03                         |                 |                 |                 |                        |        |
| 18  | 0     | $E$      | 19   | 1      | $E$       | 995.91911  | -10               | .959691E-02                       | 0.2             | 0.9333E-02                         | 2.75            | 4.421E-04       |                 |                        | 1.0    |
| 36  | 7     | $E$      | 35   | 8      | $E$       | 995.97878  | -12               |                                   |                 | 0.3368E-03                         |                 |                 |                 |                        |        |
| 25  | 1     | $A_2$    | 26   | 0      | $A_1$     | 996.01036  | -32               | .130299E-01                       | 0.6             | 0.1253E-01                         | 3.83            | 6.367E-04       | -.405E+00       |                        | 1.3    |

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| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 3   | 2     | $A_2$    | 4    | 3      | $A_1$     | 996.04788  | -4                | .177172E-01                       | 0.2             | 0.8849E-02                         | .11             | 2.892E-04       |                 | -.453E+00              | 1.7    |
| 3   | 2     | $A_1$    | 4    | 3      | $A_2$     | 996.04788  | -4                |                                   |                 | 0.8849E-02                         |                 |                 |                 |                        |        |
| 46  | 2     | $A_2$    | 46   | 3      | $A_1$     | 996.06957  | -21               |                                   |                 | 0.6489E-03                         |                 |                 |                 |                        |        |
| 46  | 2     | $A_1$    | 46   | 3      | $A_2$     | 996.07290  | 6                 |                                   |                 | 0.6489E-03                         |                 |                 |                 |                        |        |
| 45  | 8     | $A_2$    | 44   | 9      | $A_1$     | 996.14032  | -17               |                                   |                 | 0.5924E-04                         |                 |                 |                 |                        |        |
| 45  | 8     | $A_1$    | 44   | 9      | $A_2$     | 996.14032  | -17               |                                   |                 | 0.5924E-04                         |                 |                 |                 |                        |        |
| 45  | 2     | $A_1$    | 45   | 3      | $A_2$     | 996.22109  | -14               |                                   |                 | 0.7799E-03                         |                 |                 |                 |                        |        |
| 45  | 2     | $A_2$    | 45   | 3      | $A_1$     | 996.22401  | 6                 |                                   |                 | 0.7799E-03                         |                 |                 |                 |                        |        |
| 32  | 2     | $E$      | 33   | 1      | $E$       | 996.33532  | -5                | .292960E-02                       | 0.5             | 0.2897E-02                         | 1.12            | 3.286E-04       |                 |                        | 1.0    |
| 28  | 6     | $E$      | 27   | 7      | $E$       | 996.34297  | -9                | .106009E-02                       | 1.1             | 0.1078E-02                         | -1.72           | 3.669E-04       |                 |                        | 1.0    |
| 53  | 5     | $E$      | 54   | 4      | $E$       | 996.35203  | -39               |                                   |                 | 0.6477E-04                         |                 |                 |                 |                        |        |
| 44  | 2     | $A_2$    | 44   | 3      | $A_1$     | 996.36907  | -26               |                                   |                 | 0.9327E-03                         |                 |                 |                 |                        |        |
| 44  | 2     | $A_1$    | 44   | 3      | $A_2$     | 996.37188  | 15                |                                   |                 | 0.9327E-03                         |                 |                 |                 |                        |        |
| 39  | 3     | $E$      | 40   | 2      | $E$       | 996.41673  | -8                | .112898E-02                       | 0.8             | 0.1069E-02                         | 5.32            | 1.964E-04       |                 |                        | 1.0    |
| 46  | 4     | $A_2$    | 47   | 3      | $A_1$     | 996.42128  | -15               | .592147E-03                       | 1.8             | 0.3001E-03                         | -1.37           | 3.816E-04       |                 |                        | 1.0    |
| 46  | 4     | $A_1$    | 47   | 3      | $A_2$     | 996.42128  | -15               |                                   |                 | 0.3001E-03                         |                 |                 |                 |                        |        |
| 10  | 1     | $E$      | 11   | 2      | $E$       | 996.50293  | -5                | .103210E-01                       | 0.3             | 0.1051E-01                         | -1.86           | 4.953E-04       | -.486E+00       | .501E+00               | 1.2    |
| 43  | 2     | $A_2$    | 43   | 3      | $A_1$     | 996.51614  | -6                |                                   |                 | 0.1110E-02                         |                 |                 |                 |                        |        |
| 20  | 5     | $A_1$    | 19   | 6      | $A_2$     | 996.52239  | 0                 |                                   |                 | 0.2143E-02                         |                 |                 |                 |                        |        |
| 20  | 5     | $A_2$    | 19   | 6      | $A_1$     | 996.52239  | 0                 |                                   |                 | 0.2143E-02                         |                 |                 |                 |                        |        |
| 12  | 4     | $E$      | 11   | 5      | $E$       | 996.52671  | -17               |                                   |                 | 0.2128E-02                         |                 |                 |                 |                        |        |
| 42  | 2     | $A_2$    | 42   | 3      | $A_1$     | 996.65562  | 10                |                                   |                 | 0.1314E-02                         |                 |                 |                 |                        |        |
| 37  | 7     | $E$      | 36   | 8      | $E$       | 996.73227  | -22               |                                   |                 | 0.2999E-03                         |                 |                 |                 |                        |        |
| 41  | 2     | $A_1$    | 41   | 3      | $A_2$     | 996.79435  | 74                |                                   |                 | 0.1549E-02                         |                 |                 |                 |                        |        |
| 17  | 0     | $E$      | 18   | 1      | $E$       | 996.86220  | -4                | .939113E-02                       | 0.5             | 0.9647E-02                         | -2.72           | 4.175E-04       | -.498E+00       | -.214E+00              | 1.2    |
| 40  | 2     | $A_2$    | 40   | 3      | $A_1$     | 996.92907  | 71                |                                   |                 | 0.1815E-02                         |                 |                 |                 |                        |        |
| 40  | 2     | $A_1$    | 40   | 3      | $A_2$     | 996.92907  | -63               |                                   |                 | 0.1815E-02                         |                 |                 |                 |                        |        |
| 2   | 2     | $A_2$    | 3    | 3      | $A_1$     | 996.94427  | -4                | .172617E-01                       | 0.2             | 0.8589E-02                         | .48             | 2.740E-04       |                 | -.548E+00              | 1.8    |
| 2   | 2     | $A_1$    | 3    | 3      | $A_2$     | 996.94427  | -4                |                                   |                 | 0.8589E-02                         |                 |                 |                 |                        |        |
| 24  | 1     | $A_1$    | 25   | 0      | $A_2$     | 996.98613  | -5                | .127475E-01                       | 0.3             | 0.1344E-01                         | -5.40           | 3.329E-04       |                 | -.470E+00              | 1.5    |
| 39  | 2     | $A_1$    | 39   | 3      | $A_2$     | 997.06024  | 46                |                                   |                 | 0.2117E-02                         |                 |                 |                 |                        |        |
| 39  | 2     | $A_2$    | 39   | 3      | $A_1$     | 997.06024  | -68               |                                   |                 | 0.2117E-02                         |                 |                 |                 |                        |        |
| 29  | 6     | $E$      | 28   | 7      | $E$       | 997.12739  | -17               | .982866E-03                       | 0.6             | 0.1009E-02                         | -2.65           | 3.477E-04       | -.235E+00       | -.138E+00              | 1.4    |
| 38  | 2     | $A_2$    | 38   | 3      | $A_1$     | 997.18826  | 39                | .528984E-02                       | 0.6             | 0.2457E-02                         | 7.12            | 7.854E-04       |                 |                        | 1.0    |
| 38  | 2     | $A_1$    | 38   | 3      | $A_2$     | 997.18826  | -57               |                                   |                 | 0.2457E-02                         |                 |                 |                 |                        |        |
| 5   | 3     | $E$      | 4    | 4      | $E$       | 997.23619  | 29                |                                   |                 | 0.2876E-03                         |                 |                 |                 |                        |        |
| 37  | 2     | $A_2$    | 37   | 3      | $A_1$     | 997.31295  | -48               | .601107E-02                       | 0.4             | 0.2836E-02                         | 5.64            | 8.123E-04       |                 |                        | 1.0    |
| 37  | 2     | $A_1$    | 37   | 3      | $A_2$     | 997.31295  | 31                |                                   |                 | 0.2836E-02                         |                 |                 |                 |                        |        |
| 31  | 2     | $E$      | 32   | 1      | $E$       | 997.31793  | -9                |                                   |                 | 0.3228E-02                         |                 |                 |                 |                        |        |
| 21  | 5     | $A_2$    | 20   | 6      | $A_1$     | 997.33652  | -5                | .418278E-02                       | 0.7             | 0.2138E-02                         | -2.24           | 3.943E-04       | -.824E+00       | -.946E-01              | 2.0    |
| 21  | 5     | $A_1$    | 20   | 6      | $A_2$     | 997.33652  | -5                |                                   |                 | 0.2138E-02                         |                 |                 |                 |                        |        |
| 52  | 5     | $E$      | 53   | 4      | $E$       | 997.39034  | 29                |                                   |                 | 0.7960E-04                         |                 |                 |                 |                        |        |
| 9   | 1     | $E$      | 10   | 2      | $E$       | 997.42153  | -1                | .102947E-01                       | 1.2             | 0.1028E-01                         | .10             | 6.660E-04       |                 |                        | 1.0    |
| 36  | 2     | $A_2$    | 36   | 3      | $A_1$     | 997.43432  | 23                | .689993E-02                       | 1.9             | 0.3257E-02                         | 5.60            | 5.631E-04       |                 |                        | 1.0    |
| 36  | 2     | $A_1$    | 36   | 3      | $A_2$     | 997.43432  | -42               |                                   |                 | 0.3257E-02                         |                 |                 |                 |                        |        |
| 45  | 4     | $A_2$    | 46   | 3      | $A_1$     | 997.44127  | -20               |                                   |                 | 0.3573E-03                         |                 |                 |                 |                        |        |
| 45  | 4     | $A_1$    | 46   | 3      | $A_2$     | 997.44127  | -20               |                                   |                 | 0.3573E-03                         |                 |                 |                 |                        |        |
| 38  | 7     | $E$      | 37   | 8      | $E$       | 997.48187  | -34               |                                   |                 | 0.2654E-03                         |                 |                 |                 |                        |        |
| 35  | 2     | $A_2$    | 35   | 3      | $A_1$     | 997.55241  | -33               | .777126E-02                       | 0.8             | 0.3720E-02                         | 4.25            | 5.703E-04       |                 |                        | 1.0    |
| 35  | 2     | $A_1$    | 35   | 3      | $A_2$     | 997.55241  | 19                |                                   |                 | 0.3720E-02                         |                 |                 |                 |                        |        |
| 47  | 8     | $A_2$    | 46   | 9      | $A_1$     | 997.57128  | 3                 |                                   |                 | 0.4237E-04                         |                 |                 |                 |                        |        |
| 47  | 8     | $A_1$    | 46   | 9      | $A_2$     | 997.57128  | 3                 |                                   |                 | 0.4237E-04                         |                 |                 |                 |                        |        |
| 34  | 2     | $A_2$    | 34   | 3      | $A_1$     | 997.66717  | 14                | .882073E-02                       | 0.4             | 0.4228E-02                         | 4.14            | 3.678E-04       |                 | -.877E+00              | 1.8    |
| 34  | 2     | $A_1$    | 34   | 3      | $A_2$     | 997.66717  | -28               |                                   |                 | 0.4228E-02                         |                 |                 |                 |                        |        |
| 33  | 2     | $A_1$    | 33   | 3      | $A_2$     | 997.77833  | -21               |                                   |                 | 0.4779E-02                         |                 |                 |                 |                        |        |
| 33  | 2     | $A_2$    | 33   | 3      | $A_1$     | 997.77833  | -53               |                                   |                 | 0.4779E-02                         |                 |                 |                 |                        |        |
| 16  | 0     | $E$      | 17   | 1      | $E$       | 997.80222  | -3                | .943699E-02                       | 0.4             | 0.9900E-02                         | -4.91           | 3.627E-04       | -.151E+00       | -.401E+00              | 1.3    |
| 32  | 2     | $A_2$    | 32   | 3      | $A_1$     | 997.88677  | 4                 | .111172E-01                       | 0.3             | 0.5373E-02                         | 3.34            | 3.308E-04       |                 | -.829E+00              | 1.6    |
| 32  | 2     | $A_1$    | 32   | 3      | $A_2$     | 997.88677  | -20               |                                   |                 | 0.5373E-02                         |                 |                 |                 |                        |        |
| 30  | 6     | $E$      | 29   | 7      | $E$       | 997.90819  | -12               | .941875E-03                       | 1.0             | 0.9372E-03                         | .49             | 1.599E-04       |                 | -.775E+00              | 1.4    |
| 23  | 1     | $A_2$    | 24   | 0      | $A_1$     | 997.95825  | -6                | .139668E-01                       | 2.1             | 0.1432E-01                         | -2.53           | 1.937E-04       |                 |                        | 1.0    |
| 31  | 2     | $A_2$    | 31   | 3      | $A_1$     | 997.99165  | -14               | .123277E-01                       | 0.3             | 0.6008E-02                         | 2.54            | 3.721E-04       | -.230E+00       | -.454E+00              | 1.9    |
| 31  | 2     | $A_1$    | 31   | 3      | $A_2$     | 997.99165  | 4                 |                                   |                 | 0.6008E-02                         |                 |                 |                 |                        |        |
| 30  | 2     | $A_2$    | 30   | 3      | $A_1$     | 998.09319  | 0                 | .136497E-01                       | 0.3             | 0.6680E-02                         | 2.12            | 4.004E-04       |                 |                        | 1.0    |
| 30  | 2     | $A_1$    | 30   | 3      | $A_2$     | 998.09319  | -13               |                                   |                 | 0.6680E-02                         |                 |                 |                 |                        |        |
| 6   | 3     | $E$      | 5    | 4      | $E$       | 998.10261  | -3                | .674130E-03                       | 6.3             | 0.7042E-03                         | -4.46           | 6.924E-04       |                 |                        | 1.0    |
| 22  | 5     | $A_2$    | 21   | 6      | $A_1$     | 998.14709  | -6                | .415317E-02                       | 0.5             | 0.2111E-02                         | -1.65           | 4.178E-04       |                 |                        | 1.0    |
| 22  | 5     | $A_1$    | 21   | 6      | $A_2$     | 998.14709  | -6                |                                   |                 | 0.2111E-02                         |                 |                 |                 |                        |        |
| 29  | 2     | $A_2$    | 29   | 3      | $A_1$     | 998.19147  | -9                | .150381E-01                       | 0.3             | 0.7387E-02                         | 1.75            | 3.365E-04       | -.448E-01       | -.389E+00              | 1.5    |
| 29  | 2     | $A_1$    | 29   | 3      | $A_2$     | 998.19147  | -1                |                                   |                 | 0.7387E-02                         |                 |                 |                 |                        |        |
| 14  | 4     | $E$      | 13   | 5      | $E$       | 998.20886  | 7                 | .274100E-02                       | 0.7             | 0.2632E-02                         | 3.98            | 4.012E-04       |                 |                        | 1.0    |
| 39  | 7     | $E$      | 38   | 8      | $E$       | 998.22779  | -25               |                                   |                 | 0.2336E-03                         |                 |                 |                 |                        |        |
| 48  | 8     | $A_2$    | 47   | 9      | $A_1$     | 998.28054  | -1                |                                   |                 | 0.3555E-04                         |                 |                 |                 |                        |        |
| 48  | 8     | $A_1$    | 47   | 9      | $A_2$     | 998.28054  | -1                |                                   |                 | 0.3555E-04                         |                 |                 |                 |                        |        |
| 28  | 2     | $A_2$    | 28   | 3      | $A_1$     | 998.28643  | -3                | .166041E-01                       | 1.7             | 0.8123E-02                         | 2.16            | 2.794E-04       |                 |                        | 1.0    |
| 28  | 2     | $A_1$    | 28   | 3      | $A_2$     | 998.28643  | -7                |                                   |                 | 0.8123E-02                         |                 |                 |                 |                        |        |
| 30  | 2     | $E$      | 31   | 1      | $E$       | 998.29790  | -2                | .351994E-02                       | 1.1             | 0.3577E-02                         | -1.63           | 4.278E-04       |                 |                        | 1.0    |
| 8   | 1     | $E$      | 9    | 2      | $E$       | 998.33696  | -3                | .973439E-02                       | 0.2             | 0.9965E-02                         | -2.37           | 3.614E-04       | -.179E+00       | -.306E+00              | 1.5    |
| 27  | 2     | $A_2$    | 27   | 3      | $A_1$     | 998.37810  | -6                | .176807E-01                       | 0.4             | 0.8880E-02                         | -.45            | 3.671E-04       |                 |                        | 1.0    |
| 27  | 2     | $A_1$    | 27   | 3      | $A_2$     | 998.37810  | -5                |                                   |                 | 0.8880E-02                         |                 |                 |                 |                        |        |
| 37  | 3     | $E$      | 38   | 2      | $E$       | 998.41756  | -7                |                                   |                 | 0.1412E-02                         |                 |                 |                 |                        |        |
| 51  | 5     | $E$      | 52   | 4      | $E$       | 998.42502  | -18               |                                   |                 | 0.9738E-04                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 44  | 4     | $A_2$    | 45   | 3      | $A_1$     | 998.45900  | 6                 | .849419E-03                       | 7.2             | 0.4233E-03                         | .32             | 1.831E-04       |                 |                        | 1.0    |
| 44  | 4     | $A_1$    | 45   | 3      | $A_2$     | 998.45900  | 5                 |                                   |                 | 0.4233E-03                         |                 |                 |                 |                        |        |
| 26  | 2     | $A_2$    | 26   | 3      | $A_1$     | 998.46648  | -6                | .191889E-01                       | 0.3             | 0.9651E-02                         | -5.9            | 3.622E-04       |                 |                        | 1.0    |
| 26  | 2     | $A_1$    | 26   | 3      | $A_2$     | 998.46648  | -6                |                                   |                 | 0.9651E-02                         |                 |                 |                 |                        |        |
| 25  | 2     | $A_2$    | 25   | 3      | $A_1$     | 998.55159  | -3                | .205691E-01                       | 0.2             | 0.1043E-01                         | -1.39           | 3.532E-04       | -.118E+00       | -.178E+00              | 2.2    |
| 25  | 2     | $A_1$    | 25   | 3      | $A_2$     | 998.55159  | -5                |                                   |                 | 0.1043E-01                         |                 |                 |                 |                        |        |
| 24  | 2     | $A_2$    | 24   | 3      | $A_1$     | 998.63342  | -4                | .225855E-01                       | 0.2             | 0.1120E-01                         | .85             | 4.145E-04       |                 |                        | 1.0    |
| 24  | 2     | $A_1$    | 24   | 3      | $A_2$     | 998.63342  | -1                |                                   |                 | 0.1120E-01                         |                 |                 |                 |                        |        |
| 31  | 6     | $E$      | 30   | 7      | $E$       | 998.68561  | 29                |                                   |                 | 0.8646E-03                         |                 |                 |                 |                        |        |
| 23  | 2     | $A_2$    | 23   | 3      | $A_1$     | 998.71190  | -5                | .233266E-01                       | 0.2             | 0.1195E-01                         | -2.44           | 3.616E-04       | -.749E-01       | -.127E+00              | 1.3    |
| 23  | 2     | $A_1$    | 23   | 3      | $A_2$     | 998.71190  | -8                |                                   |                 | 0.1195E-01                         |                 |                 |                 |                        |        |
| 15  | 0     | $E$      | 16   | 1      | $E$       | 998.73975  | 51                |                                   |                 | 0.1008E-01                         |                 |                 |                 |                        |        |
| 22  | 2     | $A_2$    | 22   | 3      | $A_1$     | 998.78716  | -6                | .247108E-01                       | 0.1             | 0.1267E-01                         | -2.54           | 4.028E-04       |                 |                        | 1.0    |
| 22  | 2     | $A_1$    | 22   | 3      | $A_2$     | 998.78716  | -3                |                                   |                 | 0.1267E-01                         |                 |                 |                 |                        |        |
| 21  | 2     | $A_2$    | 21   | 3      | $A_1$     | 998.85912  | -2                | .254887E-01                       | 0.2             | 0.1334E-01                         | -4.71           | 3.602E-04       | -.837E-01       | -.404E+00              | 1.3    |
| 21  | 2     | $A_1$    | 21   | 3      | $A_2$     | 998.85912  | -6                |                                   |                 | 0.1334E-01                         |                 |                 |                 |                        |        |
| 22  | 1     | $A_1$    | 23   | 0      | $A_2$     | 998.92736  | 31                |                                   |                 | 0.1517E-01                         |                 |                 |                 |                        |        |
| 20  | 2     | $A_1$    | 20   | 3      | $A_2$     | 998.92736  | -46               |                                   |                 | 0.1396E-01                         |                 |                 |                 |                        |        |
| 20  | 2     | $A_2$    | 20   | 3      | $A_1$     | 998.92736  | -50               |                                   |                 | 0.1396E-01                         |                 |                 |                 |                        |        |
| 23  | 5     | $A_2$    | 22   | 6      | $A_1$     | 998.95400  | -11               | .405769E-02                       | 1.0             | 0.2063E-02                         | -1.71           | 3.784E-04       |                 |                        | 1.0    |
| 23  | 5     | $A_1$    | 22   | 6      | $A_2$     | 998.95400  | -11               |                                   |                 | 0.2063E-02                         |                 |                 |                 |                        |        |
| 40  | 7     | $E$      | 39   | 8      | $E$       | 998.96933  | -63               |                                   |                 | 0.2044E-03                         |                 |                 |                 |                        |        |
| 19  | 2     | $A_2$    | 19   | 3      | $A_1$     | 998.99320  | -2                | .290552E-01                       | 0.2             | 0.1450E-01                         | .17             | 3.932E-04       |                 |                        | 1.0    |
| 19  | 2     | $A_1$    | 19   | 3      | $A_2$     | 998.99320  | -6                |                                   |                 | 0.1450E-01                         |                 |                 |                 |                        |        |
| 15  | 4     | $E$      | 14   | 5      | $E$       | 999.04452  | -1                | .274443E-02                       | 2.4             | 0.2826E-02                         | -2.96           | 5.453E-04       |                 |                        | 1.0    |
| 18  | 2     | $A_2$    | 18   | 3      | $A_1$     | 999.05532  | -6                | .299621E-01                       | 0.2             | 0.1496E-01                         | .17             | 3.935E-04       |                 |                        | 1.0    |
| 18  | 2     | $A_1$    | 18   | 3      | $A_2$     | 999.05532  | -2                |                                   |                 | 0.1496E-01                         |                 |                 |                 |                        |        |
| 17  | 2     | $A_2$    | 17   | 3      | $A_1$     | 999.11415  | -4                | .296526E-01                       | 0.1             | 0.1530E-01                         | -3.22           | 3.993E-04       |                 |                        | 1.0    |
| 17  | 2     | $A_1$    | 17   | 3      | $A_2$     | 999.11415  | -7                |                                   |                 | 0.1530E-01                         |                 |                 |                 |                        |        |
| 16  | 2     | $A_2$    | 16   | 3      | $A_1$     | 999.16972  | -7                | .301658E-01                       | 0.2             | 0.1553E-01                         | -2.98           | 4.072E-04       |                 |                        | 1.0    |
| 16  | 2     | $A_1$    | 16   | 3      | $A_2$     | 999.16972  | -4                |                                   |                 | 0.1553E-01                         |                 |                 |                 |                        |        |
| 15  | 2     | $A_2$    | 15   | 3      | $A_1$     | 999.22202  | -4                | .311615E-01                       | 0.1             | 0.1563E-01                         | -.30            | 3.891E-04       | .201E-01        | -.191E+00              | 1.2    |
| 15  | 2     | $A_1$    | 15   | 3      | $A_2$     | 999.22202  | -6                |                                   |                 | 0.1563E-01                         |                 |                 |                 |                        |        |
| 7   | 1     | $E$      | 8    | 2      | $E$       | 999.24926  | -5                | .909580E-02                       | 0.3             | 0.9555E-02                         | -5.05           | 3.095E-04       | -.105E+00       | -.444E+00              | 1.5    |
| 14  | 2     | $A_2$    | 14   | 3      | $A_1$     | 999.27106  | -4                | .305141E-01                       | 2.3             | 0.1558E-01                         | -2.11           | 5.437E-04       |                 |                        | 1.0    |
| 14  | 2     | $A_1$    | 14   | 3      | $A_2$     | 999.27106  | -2                |                                   |                 | 0.1558E-01                         |                 |                 |                 |                        |        |
| 29  | 2     | $E$      | 30   | 1      | $E$       | 999.27495  | -11               |                                   |                 | 0.3943E-02                         |                 |                 |                 |                        |        |
| 13  | 2     | $A_2$    | 13   | 3      | $A_1$     | 999.31680  | -3                | .301950E-01                       | 0.7             | 0.1537E-01                         | -1.83           | 3.780E-04       | -.103E+01       | .374E+00               | 1.4    |
| 13  | 2     | $A_1$    | 13   | 3      | $A_2$     | 999.31680  | -4                |                                   |                 | 0.1537E-01                         |                 |                 |                 |                        |        |
| 12  | 2     | $A_2$    | 12   | 3      | $A_1$     | 999.35927  | -5                | .298048E-01                       | 0.1             | 0.1500E-01                         | -.68            | 3.848E-04       |                 |                        | 1.0    |
| 12  | 2     | $A_1$    | 12   | 3      | $A_2$     | 999.35927  | -4                |                                   |                 | 0.1500E-01                         |                 |                 |                 |                        |        |
| 11  | 2     | $A_2$    | 11   | 3      | $A_1$     | 999.39848  | -4                | .271743E-01                       | 0.1             | 0.1446E-01                         | -6.43           | 3.465E-04       | -.640E-01       | -.211E+00              | 1.3    |
| 11  | 2     | $A_1$    | 11   | 3      | $A_2$     | 999.39848  | -4                |                                   |                 | 0.1446E-01                         |                 |                 |                 |                        |        |
| 36  | 3     | $E$      | 37   | 2      | $E$       | 999.41394  | -10               | .172993E-02                       | 0.9             | 0.1611E-02                         | 6.89            | 1.391E-04       | -.138E+00       | -.155E+00              | 1.2    |
| 10  | 2     | $A_2$    | 10   | 3      | $A_1$     | 999.43441  | -5                | .255818E-01                       | 0.1             | 0.1374E-01                         | -7.41           | 3.612E-04       | .291E-01        | -.230E+00              | 1.1    |
| 10  | 2     | $A_1$    | 10   | 3      | $A_2$     | 999.43441  | -4                |                                   |                 | 0.1374E-01                         |                 |                 |                 |                        |        |
| 50  | 5     | $E$      | 51   | 4      | $E$       | 999.45836  | 51                |                                   |                 | 0.1186E-03                         |                 |                 |                 |                        |        |
| 32  | 6     | $E$      | 31   | 7      | $E$       | 999.45836  | -20               |                                   |                 | 0.7923E-03                         |                 |                 |                 |                        |        |
| 9   | 2     | $A_2$    | 9    | 3      | $A_1$     | 999.46709  | -3                | .248214E-01                       | 0.2             | 0.1283E-01                         | -3.40           | 3.631E-04       |                 |                        | 1.0    |
| 9   | 2     | $A_1$    | 9    | 3      | $A_2$     | 999.46709  | -4                |                                   |                 | 0.1283E-01                         |                 |                 |                 |                        |        |
| 43  | 4     | $A_2$    | 44   | 3      | $A_1$     | 999.47364  | -19               | .105201E-02                       | 5.6             | 0.4992E-03                         | 5.10            | 3.015E-04       |                 |                        | 1.0    |
| 43  | 4     | $A_1$    | 44   | 3      | $A_2$     | 999.47364  | -19               |                                   |                 | 0.4992E-03                         |                 |                 |                 |                        |        |
| 8   | 2     | $A_2$    | 8    | 3      | $A_1$     | 999.49649  | -3                | .222496E-01                       | 0.3             | 0.1174E-01                         | -5.54           | 3.391E-04       |                 |                        | 1.0    |
| 8   | 2     | $A_1$    | 8    | 3      | $A_2$     | 999.49649  | -3                |                                   |                 | 0.1174E-01                         |                 |                 |                 |                        |        |
| 7   | 2     | $A_2$    | 7    | 3      | $A_1$     | 999.52261  | -4                | .199209E-01                       | 0.3             | 0.1046E-01                         | -5.01           | 3.514E-04       |                 |                        | 1.0    |
| 7   | 2     | $A_1$    | 7    | 3      | $A_2$     | 999.52261  | -4                |                                   |                 | 0.1046E-01                         |                 |                 |                 |                        |        |
| 6   | 2     | $A_2$    | 6    | 3      | $A_1$     | 999.54547  | -5                | .172833E-01                       | 0.3             | 0.8980E-02                         | -3.91           | 3.551E-04       |                 |                        | 1.0    |
| 6   | 2     | $A_1$    | 6    | 3      | $A_2$     | 999.54547  | -5                |                                   |                 | 0.8980E-02                         |                 |                 |                 |                        |        |
| 5   | 2     | $A_2$    | 5    | 3      | $A_1$     | 999.56509  | -2                | .138964E-01                       | 0.3             | 0.7285E-02                         | -4.85           | 2.699E-04       |                 | -.601E+00              | 1.9    |
| 5   | 2     | $A_1$    | 5    | 3      | $A_2$     | 999.56509  | -2                |                                   |                 | 0.7285E-02                         |                 |                 |                 |                        |        |
| 4   | 2     | $A_2$    | 4    | 3      | $A_1$     | 999.58140  | -4                | .102959E-01                       | 0.5             | 0.5333E-02                         | -3.60           | 3.397E-04       | .491E-01        | -.262E+00              | 1.1    |
| 4   | 2     | $A_1$    | 4    | 3      | $A_2$     | 999.58140  | -4                |                                   |                 | 0.5333E-02                         |                 |                 |                 |                        |        |
| 3   | 2     | $A_2$    | 3    | 3      | $A_1$     | 999.59444  | -7                | .610267E-02                       | 0.3             | 0.3017E-02                         | 1.14            | 4.427E-04       | -.188E+00       | -.508E+00              | 1.5    |
| 3   | 2     | $A_1$    | 3    | 3      | $A_2$     | 999.59444  | -7                |                                   |                 | 0.3017E-02                         |                 |                 |                 |                        |        |
| 14  | 0     | $E$      | 15   | 1      | $E$       | 999.67315  | -4                | .987562E-02                       | 0.5             | 0.1019E-01                         | -3.20           | 3.850E-04       |                 |                        | 1.0    |
| 50  | 8     | $A_1$    | 49   | 9      | $A_2$     | 999.68647  | -47               |                                   |                 | 0.2463E-04                         |                 |                 |                 |                        |        |
| 50  | 8     | $A_2$    | 49   | 9      | $A_1$     | 999.68647  | -47               |                                   |                 | 0.2463E-04                         |                 |                 |                 |                        |        |
| 41  | 7     | $E$      | 40   | 8      | $E$       | 999.70776  | -19               |                                   |                 | 0.1778E-03                         |                 |                 |                 |                        |        |
| 24  | 5     | $A_2$    | 23   | 6      | $A_1$     | 999.75737  | -6                | .404426E-02                       | 1.1             | 0.1999E-02                         | 1.15            | 2.679E-04       |                 | -.496E+00              | 1.1    |
| 24  | 5     | $A_1$    | 23   | 6      | $A_2$     | 999.75737  | -6                |                                   |                 | 0.1999E-02                         |                 |                 |                 |                        |        |
| 8   | 3     | $E$      | 7    | 4      | $E$       | 999.82596  | -6                | .169261E-02                       | 1.8             | 0.1666E-02                         | 1.55            | 5.057E-04       |                 |                        | 1.0    |
| 16  | 4     | $E$      | 15   | 5      | $E$       | 999.87670  | -6                | .289916E-02                       | 0.6             | 0.2978E-02                         | -2.73           | 4.834E-04       | -.605E+00       | -.458E+00              | 2.7    |
| 21  | 1     | $A_2$    | 22   | 0      | $A_1$     | 999.89233  | -6                | .150533E-01                       | 0.2             | 0.1597E-01                         | -6.08           | 3.793E-04       | -.305E+00       | -.233E+00              | 2.5    |
| 6   | 1     | $E$      | 7    | 2      | $E$       | 1000.15849 | 2                 | .896278E-02                       | 0.2             | 0.9061E-02                         | -1.10           | 3.558E-04       | -.156E+00       |                        | 1.2    |
| 33  | 6     | $E$      | 32   | 7      | $E$       | 1000.22786 | -15               | .734875E-03                       | 1.6             | 0.7213E-03                         | 1.85            | 2.253E-04       |                 |                        | 1.0    |
| 28  | 2     | $E$      | 29   | 1      | $E$       | 1000.24937 | -4                | .410847E-02                       | 0.5             | 0.4322E-02                         | -5.20           | 3.505E-04       | -.256E+00       | -.212E+00              | 1.1    |
| 51  | 8     | $A_2$    | 50   | 9      | $A_1$     | 1000.38376 | -23               |                                   |                 | 0.2035E-04                         |                 |                 |                 |                        |        |
| 51  | 8     | $A_1$    | 50   | 9      | $A_2$     | 1000.38376 | -23               |                                   |                 | 0.2035E-04                         |                 |                 |                 |                        |        |
| 35  | 3     | $E$      | 36   | 2      | $E$       | 1000.40771 | -3                | .187024E-02                       | 3.7             | 0.1828E-02                         | 2.27            | 3.589E-04       |                 |                        | 1.0    |
| 42  | 7     | $E$      | 41   | 8      | $E$       | 1000.44181 | -20               |                                   |                 | 0.1538E-03                         |                 |                 |                 |                        |        |
| 42  | 4     | $A_2$    | 43   | 3      | $A_1$     | 1000.48612 | 1                 | .118033E-02                       | 1.1             | 0.5857E-03                         | .75             | 5.811E-04       |                 |                        | 1.0    |
| 42  | 4     | $A_1$    | 43   | 3      | $A_2$     | 1000.48612 | 1                 |                                   |                 | 0.5857E-03                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 25  | 5     | $A_2$    | 24   | 6      | $A_1$     | 1000.55708 | -2                | .398912E-02                       | 0.4             | 0.1920E-02                         | 3.74            | 4.048E-04       |                 |                        | 1.0    |
| 25  | 5     | $A_1$    | 24   | 6      | $A_2$     | 1000.55708 | -2                |                                   |                 | 0.1920E-02                         |                 |                 |                 |                        |        |
| 13  | 0     | $E$      | 14   | 1      | $E$       | 1000.60409 | 0                 | .103007E-01                       | 0.4             | 0.1022E-01                         | .83             | 4.233E-04       |                 |                        | 1.0    |
| 9   | 3     | $E$      | 8    | 4      | $E$       | 1000.68262 | -2                | .211763E-02                       | 0.6             | 0.2147E-02                         | -1.40           | 3.945E-04       |                 |                        | 1.0    |
| 17  | 4     | $E$      | 16   | 5      | $E$       | 1000.70548 | 1                 | .292080E-02                       | 0.8             | 0.3090E-02                         | -5.81           | 6.044E-04       | -.841E+00       | .549E+00               | 1.6    |
| 58  | 1     | $E$      | 58   | 2      | $E$       | 1000.81583 | 36                |                                   |                 | 0.5420E-04                         |                 |                 |                 |                        |        |
| 20  | 1     | $A_1$    | 21   | 0      | $A_2$     | 1000.85430 | -1                | .156781E-01                       | 0.2             | 0.1670E-01                         | -6.53           | 3.927E-04       | -.754E-01       | -.141E+00              | 1.2    |
| 34  | 6     | $E$      | 33   | 7      | $E$       | 1000.99353 | -13               | .695924E-03                       | 11.4            | 0.6525E-03                         | 6.25            | 3.826E-04       |                 |                        | 1.0    |
| 57  | 1     | $E$      | 57   | 2      | $E$       | 1001.00728 | 4                 |                                   |                 | 0.6908E-04                         |                 |                 |                 |                        |        |
| 5   | 1     | $E$      | 6    | 2      | $E$       | 1001.06450 | 2                 | .815829E-02                       | 0.2             | 0.8491E-02                         | -4.07           | 2.840E-04       | -.192E+00       | -.424E+00              | 2.4    |
| 43  | 7     | $E$      | 42   | 8      | $E$       | 1001.17187 | -23               |                                   |                 | 0.1323E-03                         |                 |                 |                 |                        |        |
| 56  | 1     | $E$      | 56   | 2      | $E$       | 1001.19561 | 0                 |                                   |                 | 0.8769E-04                         |                 |                 |                 |                        |        |
| 27  | 2     | $E$      | 28   | 1      | $E$       | 1001.22094 | -3                | .444841E-02                       | 0.3             | 0.4710E-02                         | -5.89           | 3.144E-04       | -.952E-01       | -.353E+00              | 1.3    |
| 26  | 5     | $A_2$    | 25   | 6      | $A_1$     | 1001.35307 | -4                | .374202E-02                       | 0.3             | 0.1829E-02                         | 2.23            | 4.122E-04       | -.244E+00       | -.645E-01              | 1.9    |
| 26  | 5     | $A_1$    | 25   | 6      | $A_2$     | 1001.35307 | -4                |                                   |                 | 0.1829E-02                         |                 |                 |                 |                        |        |
| 55  | 1     | $E$      | 55   | 2      | $E$       | 1001.38051 | -8                |                                   |                 | 0.1107E-03                         |                 |                 |                 |                        |        |
| 34  | 3     | $E$      | 35   | 2      | $E$       | 1001.39871 | -3                | .200919E-02                       | 0.9             | 0.2063E-02                         | -2.70           | 3.845E-04       |                 |                        | 1.0    |
| 55  | 6     | $E$      | 56   | 5      | $E$       | 1001.46199 | 25                |                                   |                 | 0.3378E-04                         |                 |                 |                 |                        |        |
| 41  | 4     | $A_2$    | 42   | 3      | $A_1$     | 1001.49566 | -12               | .137132E-02                       | 0.9             | 0.6839E-03                         | .26             | 2.512E-04       | .537E-01        | -.336E+00              | 1.1    |
| 41  | 4     | $A_1$    | 42   | 3      | $A_2$     | 1001.49566 | -12               |                                   |                 | 0.6839E-03                         |                 |                 |                 |                        |        |
| 48  | 5     | $E$      | 49   | 4      | $E$       | 1001.51572 | 10                |                                   |                 | 0.1733E-03                         |                 |                 |                 |                        |        |
| 12  | 0     | $E$      | 13   | 1      | $E$       | 1001.53171 | -21               |                                   |                 | 0.1015E-01                         |                 |                 |                 |                        |        |
| 10  | 3     | $E$      | 9    | 4      | $E$       | 1001.53581 | -4                | .273375E-02                       | 0.4             | 0.2603E-02                         | 4.77            | 7.852E-04       |                 |                        | 1.0    |
| 54  | 1     | $E$      | 54   | 2      | $E$       | 1001.56197 | -21               |                                   |                 | 0.1392E-03                         |                 |                 |                 |                        |        |
| 53  | 1     | $E$      | 53   | 2      | $E$       | 1001.74059 | 21                |                                   |                 | 0.1740E-03                         |                 |                 |                 |                        |        |
| 35  | 6     | $E$      | 34   | 7      | $E$       | 1001.75534 | -16               | .558676E-03                       | 1.9             | 0.5866E-03                         | -5.00           | 1.421E-04       |                 | -.953E+00              | 1.2    |
| 53  | 8     | $A_2$    | 52   | 9      | $A_1$     | 1001.76567 | -4                |                                   |                 | 0.1367E-04                         |                 |                 |                 |                        |        |
| 53  | 8     | $A_1$    | 52   | 9      | $A_2$     | 1001.76567 | -4                |                                   |                 | 0.1367E-04                         |                 |                 |                 |                        |        |
| 19  | 1     | $A_2$    | 20   | 0      | $A_1$     | 1001.81279 | -1                | .164724E-01                       | 0.2             | 0.1735E-01                         | -5.34           | 3.578E-04       | -.102E+00       | -.443E+00              | 2.0    |
| 44  | 7     | $E$      | 43   | 8      | $E$       | 1001.89803 | -20               |                                   |                 | 0.1133E-03                         |                 |                 |                 |                        |        |
| 52  | 1     | $E$      | 52   | 2      | $E$       | 1001.91528 | 8                 |                                   |                 | 0.2167E-03                         |                 |                 |                 |                        |        |
| 4   | 1     | $E$      | 5    | 2      | $E$       | 1001.96732 | 0                 | .755106E-02                       | 0.4             | 0.7856E-02                         | -4.04           | 2.820E-04       |                 | -.384E+00              | 1.2    |
| 51  | 1     | $E$      | 51   | 2      | $E$       | 1002.08658 | -7                |                                   |                 | 0.2684E-03                         |                 |                 |                 |                        |        |
| 27  | 5     | $A_2$    | 26   | 6      | $A_1$     | 1002.14541 | -3                | .355591E-02                       | 0.5             | 0.1729E-02                         | 2.73            | 3.699E-04       |                 |                        | 1.0    |
| 27  | 5     | $A_1$    | 26   | 6      | $A_2$     | 1002.14541 | -3                |                                   |                 | 0.1729E-02                         |                 |                 |                 |                        |        |
| 26  | 2     | $E$      | 27   | 1      | $E$       | 1002.18970 | -1                | .486129E-02                       | 0.3             | 0.5104E-02                         | -4.98           | 3.091E-04       | -.169E+00       | -.250E+00              | 1.6    |
| 50  | 1     | $E$      | 50   | 2      | $E$       | 1002.25468 | -5                |                                   |                 | 0.3309E-03                         |                 |                 |                 |                        |        |
| 19  | 4     | $E$      | 18   | 5      | $E$       | 1002.35228 | 0                 | .310619E-02                       | 0.5             | 0.3196E-02                         | -2.90           | 3.800E-04       | -.574E-01       | -.347E+00              | 1.1    |
| 11  | 3     | $E$      | 10   | 4      | $E$       | 1002.38619 | 55                | .555331E-02                       | 0.5             | 0.3023E-02                         | 3.85            | 6.908E-04       | -.639E-01       | -.860E+00              | 1.4    |
| 49  | 1     | $E$      | 49   | 2      | $E$       | 1002.41940 | -4                |                                   |                 | 0.4058E-03                         |                 |                 |                 |                        |        |
| 11  | 0     | $E$      | 12   | 1      | $E$       | 1002.45669 | 1                 | .959563E-02                       | 0.4             | 0.9987E-02                         | -4.08           | 3.469E-04       | .105E+00        | -.447E+00              | 1.3    |
| 40  | 4     | $A_2$    | 41   | 3      | $A_1$     | 1002.50276 | -5                | .162034E-02                       | 2.4             | 0.7946E-03                         | 1.92            | 2.804E-04       |                 |                        | 1.0    |
| 40  | 4     | $A_1$    | 41   | 3      | $A_2$     | 1002.50276 | -5                |                                   |                 | 0.7946E-03                         |                 |                 |                 |                        |        |
| 36  | 6     | $E$      | 35   | 7      | $E$       | 1002.51334 | -16               | .519786E-03                       | 2.2             | 0.5242E-03                         | -.85            | 3.062E-04       |                 |                        | 1.0    |
| 48  | 1     | $E$      | 48   | 2      | $E$       | 1002.58075 | -4                |                                   |                 | 0.4955E-03                         |                 |                 |                 |                        |        |
| 45  | 7     | $E$      | 44   | 8      | $E$       | 1002.61959 | -77               |                                   |                 | 0.9640E-04                         |                 |                 |                 |                        |        |
| 47  | 1     | $E$      | 47   | 2      | $E$       | 1002.73875 | -4                |                                   |                 | 0.6018E-03                         |                 |                 |                 |                        |        |
| 18  | 1     | $A_1$    | 19   | 0      | $A_2$     | 1002.76784 | 0                 | .170252E-01                       | 0.4             | 0.1790E-01                         | -5.15           | 3.859E-04       | -.611E+00       |                        | 1.3    |
| 3   | 1     | $E$      | 4    | 2      | $E$       | 1002.86698 | 2                 | .704912E-02                       | 0.4             | 0.7179E-02                         | -1.85           | 3.178E-04       | -.263E+00       | -.308E+00              | 1.4    |
| 46  | 1     | $E$      | 46   | 2      | $E$       | 1002.89339 | -4                | .788948E-03                       | 2.2             | 0.7276E-03                         | 7.77            | 1.694E-04       | -.201E+00       |                        | 1.1    |
| 28  | 5     | $A_2$    | 27   | 6      | $A_1$     | 1002.93402 | -5                | .335397E-02                       | 0.5             | 0.1623E-02                         | 3.22            | 3.283E-04       |                 | -.585E+00              | 1.4    |
| 28  | 5     | $A_1$    | 27   | 6      | $A_2$     | 1002.93402 | -5                |                                   |                 | 0.1623E-02                         |                 |                 |                 |                        |        |
| 45  | 1     | $E$      | 45   | 2      | $E$       | 1003.04467 | -5                | .943786E-03                       | 0.8             | 0.8751E-03                         | 7.28            | 3.128E-04       | .746E-01        | -.415E+00              | 1.1    |
| 4   | 2     | $A_2$    | 3    | 3      | $A_1$     | 1003.12800 | -3                | .871751E-03                       | 1.6             | 0.4333E-03                         | .60             | 5.533E-04       |                 |                        | 1.0    |
| 4   | 2     | $A_1$    | 3    | 3      | $A_2$     | 1003.12800 | -3                |                                   |                 | 0.4333E-03                         |                 |                 |                 |                        |        |
| 25  | 2     | $E$      | 26   | 1      | $E$       | 1003.15561 | -1                | .545622E-02                       | 0.6             | 0.5497E-02                         | -.75            | 4.134E-04       |                 |                        | 1.0    |
| 20  | 4     | $E$      | 19   | 5      | $E$       | 1003.17070 | 35                |                                   |                 | 0.3194E-02                         |                 |                 |                 |                        |        |
| 44  | 1     | $E$      | 44   | 2      | $E$       | 1003.19262 | -4                | .108577E-02                       | 0.6             | 0.1048E-02                         | 3.52            | 1.027E-04       |                 | -.612E+00              | 1.3    |
| 12  | 3     | $E$      | 11   | 4      | $E$       | 1003.23217 | 18                |                                   |                 | 0.3397E-02                         |                 |                 |                 |                        |        |
| 37  | 6     | $E$      | 36   | 7      | $E$       | 1003.26751 | -14               | .453606E-03                       | 2.8             | 0.4656E-03                         | -2.65           | 1.553E-04       | -.156E+00       |                        | 1.0    |
| 43  | 1     | $E$      | 43   | 2      | $E$       | 1003.33734 | 8                 | .145784E-02                       | 0.9             | 0.1247E-02                         | 8.84            | 3.228E-04       |                 |                        | 1.0    |
| 46  | 7     | $E$      | 45   | 8      | $E$       | 1003.33734 | -114              |                                   |                 | 0.8161E-04                         |                 |                 |                 |                        |        |
| 32  | 3     | $E$      | 33   | 2      | $E$       | 1003.37245 | -10               | .263710E-02                       | 0.9             | 0.2588E-02                         | 1.86            | 1.703E-04       |                 |                        | 1.0    |
| 10  | 0     | $E$      | 11   | 1      | $E$       | 1003.37837 | 2                 | .992377E-02                       | 0.2             | 0.9728E-02                         | 1.98            | 4.115E-04       |                 |                        | 1.0    |
| 42  | 1     | $E$      | 42   | 2      | $E$       | 1003.47852 | -1                | .159137E-02                       | 1.1             | 0.1478E-02                         | 7.11            | 2.567E-04       |                 |                        | 1.0    |
| 39  | 4     | $A_1$    | 40   | 3      | $A_2$     | 1003.50729 | 9                 |                                   |                 | 0.9186E-03                         |                 |                 |                 |                        |        |
| 39  | 4     | $A_2$    | 40   | 3      | $A_1$     | 1003.50729 | 9                 |                                   |                 | 0.9186E-03                         |                 |                 |                 |                        |        |
| 53  | 6     | $E$      | 54   | 5      | $E$       | 1003.54408 | -9                |                                   |                 | 0.5165E-04                         |                 |                 |                 |                        |        |
| 46  | 5     | $E$      | 47   | 4      | $E$       | 1003.56315 | -9                |                                   |                 | 0.2487E-03                         |                 |                 |                 |                        |        |
| 41  | 1     | $E$      | 41   | 2      | $E$       | 1003.61675 | 29                |                                   |                 | 0.1743E-02                         |                 |                 |                 |                        |        |
| 17  | 1     | $A_2$    | 18   | 0      | $A_1$     | 1003.71934 | -8                | .206472E-01                       | 0.1             | 0.1834E-01                         | -3.45           | 4.026E-04       | -.124E+00       | -.357E+00              | 2.5    |
| 29  | 5     | $A_1$    | 28   | 6      | $A_2$     | 1003.71934 | 35                |                                   |                 | 0.1512E-02                         |                 |                 |                 |                        |        |
| 29  | 5     | $A_2$    | 28   | 6      | $A_1$     | 1003.71934 | 35                |                                   |                 | 0.1512E-02                         |                 |                 |                 |                        |        |
| 40  | 1     | $E$      | 40   | 2      | $E$       | 1003.75104 | -2                | .218717E-02                       | 1.5             | 0.2044E-02                         | 6.52            | 2.360E-04       |                 |                        | 1.0    |
| 2   | 1     | $E$      | 3    | 2      | $E$       | 1003.76340 | -1                | .639347E-02                       | 0.7             | 0.6503E-02                         | -1.71           | 3.819E-04       |                 |                        | 1.0    |
| 39  | 1     | $E$      | 39   | 2      | $E$       | 1003.88229 | -4                | .246182E-02                       | 0.9             | 0.2386E-02                         | 3.08            | 3.026E-04       |                 |                        | 1.0    |
| 21  | 4     | $E$      | 20   | 5      | $E$       | 1003.98491 | 7                 | .332894E-02                       | 0.7             | 0.3160E-02                         | 5.08            | 4.171E-04       |                 |                        | 1.0    |
| 5   | 2     | $A_2$    | 4    | 3      | $A_1$     | 1003.99824 | 0                 | .208604E-02                       | 1.6             | 0.1023E-02                         | 1.94            | 4.529E-04       |                 |                        | 1.0    |
| 5   | 2     | $A_1$    | 4    | 3      | $A_2$     | 1003.99824 | 0                 |                                   |                 | 0.1023E-02                         |                 |                 |                 |                        |        |
| 38  | 1     | $E$      | 38   | 2      | $E$       | 1004.01026 | -2                | .283291E-02                       | 0.7             | 0.2771E-02                         | 2.20            | 3.217E-04       |                 |                        | 1.0    |
| 38  | 6     | $E$      | 37   | 7      | $E$       | 1004.01776 | -18               | .390432E-03                       | 3.3             | 0.4112E-03                         | -5.33           | 5.402E-04       |                 |                        | 1.0    |
| 47  | 7     | $E$      | 46   | 8      | $E$       | 1004.05229 | -29               |                                   |                 | 0.6873E-04                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 13  | 3     | $E$      | 12   | 4      | $E$       | 1004.07492 | 3                 | .379958E-02                       | 0.3             | 0.3722E-02                         | 2.05            | 3.624E-04       | -.702E-01       | -.474E+00              | 1.5    |
| 24  | 2     | $E$      | 25   | 1      | $E$       | 1004.11890 | 22                |                                   |                 | 0.5884E-02                         |                 |                 |                 |                        |        |
| 37  | 1     | $E$      | 37   | 2      | $E$       | 1004.13489 | -1                | .336577E-02                       | 1.0             | 0.3200E-02                         | 4.92            | 3.459E-04       |                 |                        | 1.0    |
| 36  | 1     | $E$      | 36   | 2      | $E$       | 1004.25620 | -1                | .385286E-02                       | 0.4             | 0.3678E-02                         | 4.54            | 3.184E-04       |                 |                        | 1.0    |
| 9   | 0     | $E$      | 10   | 1      | $E$       | 1004.29692 | 1                 | .904039E-02                       | 0.1             | 0.9368E-02                         | -3.62           | 3.226E-04       | -.127E+00       | -.430E+00              | 1.9    |
| 31  | 3     | $E$      | 32   | 2      | $E$       | 1004.35527 | -5                | .277984E-02                       | 0.7             | 0.2875E-02                         | -3.43           | 3.789E-04       |                 |                        | 1.0    |
| 35  | 1     | $E$      | 35   | 2      | $E$       | 1004.37420 | 0                 | .428993E-02                       | 0.2             | 0.4204E-02                         | 2.00            | 2.726E-04       |                 |                        | 1.0    |
| 34  | 1     | $E$      | 34   | 2      | $E$       | 1004.48885 | -4                | .474761E-02                       | 0.5             | 0.4781E-02                         | -.70            | 3.044E-04       |                 |                        | 1.0    |
| 30  | 5     | $A_2$    | 29   | 6      | $A_1$     | 1004.50016 | -2                | .283323E-02                       | 0.9             | 0.1400E-02                         | 1.20            | 3.208E-04       |                 |                        | 1.0    |
| 30  | 5     | $A_1$    | 29   | 6      | $A_2$     | 1004.50016 | -2                |                                   |                 | 0.1400E-02                         |                 |                 |                 |                        |        |
| 38  | 4     | $A_2$    | 39   | 3      | $A_1$     | 1004.50891 | -2                | .228693E-02                       | 1.6             | 0.1057E-02                         | 7.60            | 2.964E-04       |                 |                        | 1.0    |
| 38  | 4     | $A_1$    | 39   | 3      | $A_2$     | 1004.50891 | -2                |                                   | 1.6             | 0.1057E-02                         |                 | 2.964E-04       |                 |                        | 1.0    |
| 45  | 5     | $E$      | 46   | 4      | $E$       | 1004.58295 | -26               |                                   |                 | 0.2957E-03                         |                 |                 |                 |                        |        |
| 33  | 1     | $E$      | 33   | 2      | $E$       | 1004.60025 | -1                | .568283E-02                       | 0.2             | 0.5407E-02                         | 4.85            | 3.909E-04       | -.182E+00       | .213E+00               | 1.4    |
| 1   | 1     | $E$      | 2    | 2      | $E$       | 1004.65662 | -1                | .605004E-02                       | 0.7             | 0.5938E-02                         | 1.86            | 3.833E-04       |                 |                        | 1.0    |
| 16  | 1     | $A_1$    | 17   | 0      | $A_2$     | 1004.66754 | 1                 | .179278E-01                       | 0.3             | 0.1864E-01                         | -3.95           | 4.215E-04       |                 |                        | 1.0    |
| 32  | 1     | $E$      | 32   | 2      | $E$       | 1004.70833 | 0                 | .592968E-02                       | 0.3             | 0.6083E-02                         | -2.59           | 3.245E-04       |                 |                        | 1.0    |
| 48  | 7     | $E$      | 47   | 8      | $E$       | 1004.76249 | -15               |                                   |                 | 0.5759E-04                         |                 |                 |                 |                        |        |
| 22  | 4     | $E$      | 21   | 5      | $E$       | 1004.79575 | 2                 | .310747E-02                       | 0.9             | 0.3096E-02                         | .37             | 4.130E-04       |                 |                        | 1.0    |
| 31  | 1     | $E$      | 31   | 2      | $E$       | 1004.81307 | -2                | .692630E-02                       | 0.5             | 0.6806E-02                         | 1.73            | 3.430E-04       |                 |                        | 1.0    |
| 6   | 2     | $A_2$    | 5    | 3      | $A_1$     | 1004.86512 | 1                 | .345761E-02                       | 0.9             | 0.1669E-02                         | 3.44            | 4.964E-04       |                 |                        | 1.0    |
| 6   | 2     | $A_1$    | 5    | 3      | $A_2$     | 1004.86512 | 1                 |                                   |                 | 0.1669E-02                         |                 |                 |                 |                        |        |
| 14  | 3     | $A_1$    | 13   | 4      | $E$       | 1004.91449 | 16                | .118033E-01                       | 0.3             | 0.3993E-02                         | 2.01            | 3.451E-04       | -.171E+00       | -.151E+00              | 1.4    |
| 30  | 1     | $E$      | 30   | 2      | $E$       | 1004.91449 | -7                |                                   |                 | 0.7574E-02                         |                 |                 |                 |                        |        |
| 29  | 1     | $E$      | 29   | 2      | $E$       | 1005.01272 | 0                 | .864150E-02                       | 0.3             | 0.8381E-02                         | 3.02            | 2.975E-04       |                 | -.361E+00              | 1.2    |
| 23  | 2     | $E$      | 24   | 1      | $E$       | 1005.07888 | -1                | .583298E-02                       | 1.0             | 0.6260E-02                         | -7.32           | 4.500E-04       |                 |                        | 1.0    |
| 28  | 1     | $E$      | 28   | 2      | $E$       | 1005.10759 | 0                 | .938409E-02                       | 0.5             | 0.9222E-02                         | 1.73            | 3.204E-04       |                 |                        | 1.0    |
| 27  | 1     | $E$      | 27   | 2      | $E$       | 1005.19906 | -11               | .110323E-01                       | 0.4             | 0.1009E-01                         | 8.55            | 4.428E-04       |                 |                        | 1.0    |
| 8   | 0     | $E$      | 9    | 1      | $E$       | 1005.21234 | -2                | .879452E-02                       | 0.6             | 0.8907E-02                         | -1.28           | 4.208E-04       |                 |                        | 1.0    |
| 26  | 1     | $E$      | 26   | 2      | $E$       | 1005.28745 | -1                | .110853E-01                       | 1.0             | 0.1097E-01                         | 1.01            | 3.248E-04       |                 |                        | 1.0    |
| 30  | 3     | $E$      | 31   | 2      | $E$       | 1005.33527 | -6                | .308492E-02                       | 1.1             | 0.3176E-02                         | -2.96           | 2.442E-04       |                 |                        | 1.0    |
| 25  | 1     | $E$      | 25   | 2      | $E$       | 1005.37244 | -1                | .120283E-01                       | 0.2             | 0.1186E-01                         | 1.36            | 3.398E-04       |                 |                        | 1.0    |
| 24  | 1     | $E$      | 24   | 2      | $E$       | 1005.45415 | -1                | .132305E-01                       | 0.3             | 0.1275E-01                         | 3.62            | 3.691E-04       |                 |                        | 1.0    |
| 49  | 7     | $E$      | 48   | 8      | $E$       | 1005.46863 | -1                |                                   |                 | 0.4800E-04                         |                 |                 |                 |                        |        |
| 37  | 4     | $A_1$    | 38   | 3      | $A_2$     | 1005.50780 | -19               | .275159E-02                       | 1.0             | 0.1209E-02                         | .66             | 4.566E-04       |                 |                        | 1.0    |
| 37  | 4     | $A_2$    | 38   | 3      | $A_1$     | 1005.50780 | -19               |                                   |                 | 0.1209E-02                         |                 |                 |                 |                        |        |
| 40  | 6     | $E$      | 39   | 7      | $E$       | 1005.50780 | 96                |                                   |                 | 0.3153E-03                         |                 |                 |                 |                        |        |
| 23  | 1     | $E$      | 23   | 2      | $E$       | 1005.53261 | 2                 | .140906E-01                       | 0.3             | 0.1362E-01                         | 3.35            | 4.005E-04       |                 |                        | 1.0    |
| 58  | 7     | $A_1$    | 59   | 6      | $A_2$     | 1005.55966 | -6                |                                   |                 | 0.1321E-04                         |                 |                 |                 |                        |        |
| 58  | 7     | $A_2$    | 59   | 6      | $A_1$     | 1005.55966 | -6                |                                   |                 | 0.1321E-04                         |                 |                 |                 |                        |        |
| 23  | 4     | $E$      | 22   | 5      | $E$       | 1005.60303 | 2                 |                                   |                 | 0.3007E-02                         |                 |                 |                 |                        |        |
| 22  | 1     | $E$      | 22   | 2      | $E$       | 1005.60777 | 3                 | .142739E-01                       | 0.3             | 0.1445E-01                         | -1.26           | 4.075E-04       |                 |                        | 1.0    |
| 15  | 1     | $A_2$    | 16   | 0      | $A_1$     | 1005.61211 | -3                | .182691E-01                       | 0.3             | 0.1879E-01                         | -2.84           | 4.075E-04       |                 |                        | 1.0    |
| 51  | 6     | $E$      | 52   | 5      | $E$       | 1005.61726 | 54                |                                   |                 | 0.7752E-04                         |                 |                 |                 |                        |        |
| 21  | 1     | $E$      | 21   | 2      | $E$       | 1005.67981 | 21                |                                   |                 | 0.1524E-01                         |                 |                 |                 |                        |        |
| 7   | 2     | $A_2$    | 6    | 3      | $A_1$     | 1005.72865 | 2                 | .477271E-02                       | 2.9             | 0.2325E-02                         | 2.56            | 5.008E-04       |                 |                        | 1.0    |
| 7   | 2     | $A_1$    | 6    | 3      | $A_2$     | 1005.72865 | 2                 |                                   |                 | 0.2325E-02                         |                 |                 |                 |                        |        |
| 20  | 1     | $E$      | 20   | 2      | $E$       | 1005.74829 | 10                | .188446E-01                       | 0.6             | 0.1596E-01                         | -7.04           | 7.217E-04       | .145E+01        | .373E+00               | 2.5    |
| 19  | 1     | $E$      | 19   | 2      | $E$       | 1005.81348 | -1                | .163758E-01                       | 0.4             | 0.1660E-01                         | -1.39           | 4.127E-04       |                 |                        | 1.0    |
| 18  | 1     | $E$      | 18   | 2      | $E$       | 1005.87549 | -4                |                                   |                 | 0.1715E-01                         |                 |                 |                 |                        |        |
| 17  | 1     | $E$      | 17   | 2      | $E$       | 1005.93428 | 0                 | .172036E-01                       | 0.4             | 0.1757E-01                         | -2.15           | 4.053E-04       |                 |                        | 1.0    |
| 16  | 1     | $E$      | 16   | 2      | $E$       | 1005.98975 | -2                | .176566E-01                       | 0.1             | 0.1787E-01                         | -1.20           | 4.088E-04       |                 |                        | 1.0    |
| 22  | 2     | $E$      | 23   | 1      | $E$       | 1006.03617 | -4                | .650149E-02                       | 1.2             | 0.6616E-02                         | -1.76           | 4.592E-04       |                 |                        | 1.0    |
| 15  | 1     | $E$      | 15   | 2      | $E$       | 1006.04201 | 2                 | .186056E-01                       | 0.6             | 0.1802E-01                         | 3.15            | 4.676E-04       |                 |                        | 1.0    |
| 32  | 5     | $A_2$    | 31   | 6      | $A_1$     | 1006.05124 | -7                | .234784E-02                       | 2.4             | 0.1175E-02                         | -.12            | 3.393E-04       |                 |                        | 1.0    |
| 32  | 5     | $A_1$    | 31   | 6      | $A_2$     | 1006.05124 | -7                |                                   |                 | 0.1175E-02                         |                 |                 |                 |                        |        |
| 14  | 1     | $E$      | 14   | 2      | $E$       | 1006.09093 | 0                 | .173904E-01                       | 0.2             | 0.1801E-01                         | -3.57           | 3.553E-04       | -.195E+00       | -.420E+00              | 1.9    |
| 7   | 0     | $E$      | 8    | 1      | $E$       | 1006.12471 | 3                 | .839079E-02                       | 0.5             | 0.8348E-02                         | .51             | 3.728E-04       |                 |                        | 1.0    |
| 13  | 1     | $E$      | 13   | 2      | $E$       | 1006.13662 | 1                 | .177713E-01                       | 0.3             | 0.1783E-01                         | -.34            | 4.365E-04       |                 |                        | 1.0    |
| 50  | 7     | $E$      | 49   | 8      | $E$       | 1006.17015 | -41               |                                   |                 | 0.3980E-04                         |                 |                 |                 |                        |        |
| 12  | 1     | $E$      | 12   | 2      | $E$       | 1006.17901 | -1                | .170035E-01                       | 0.1             | 0.1747E-01                         | -2.75           | 3.865E-04       | -.711E-01       | -.614E-01              | 1.3    |
| 11  | 1     | $E$      | 11   | 2      | $E$       | 1006.21817 | 1                 | .166706E-01                       | 0.1             | 0.1692E-01                         | -1.52           | 3.791E-04       | -.623E-01       | -.142E+00              | 1.7    |
| 41  | 6     | $E$      | 40   | 7      | $E$       | 1006.24570 | 27                |                                   |                 | 0.2738E-03                         |                 |                 |                 |                        |        |
| 10  | 1     | $E$      | 10   | 2      | $E$       | 1006.25404 | 0                 | .153652E-01                       | 0.4             | 0.1619E-01                         | -5.34           | 2.955E-04       |                 | -.660E+00              | 1.5    |
| 9   | 1     | $E$      | 9    | 2      | $E$       | 1006.28665 | 0                 | .144863E-01                       | 0.3             | 0.1525E-01                         | -5.30           | 3.181E-04       | -.763E-01       | -.499E+00              | 2.9    |
| 29  | 3     | $E$      | 30   | 2      | $E$       | 1006.31262 | 7                 | .350137E-02                       | 0.9             | 0.3489E-02                         | .34             | 3.462E-04       |                 |                        | 1.0    |
| 8   | 1     | $E$      | 8    | 2      | $E$       | 1006.31602 | 2                 | .135787E-01                       | 0.9             | 0.1413E-01                         | -4.07           | 3.462E-04       |                 |                        | 1.0    |
| 7   | 1     | $E$      | 7    | 2      | $E$       | 1006.34208 | -1                | .130896E-01                       | 0.3             | 0.1282E-01                         | 2.07            | 3.835E-04       | -.168E+00       | -.143E+00              | 1.5    |
| 6   | 1     | $E$      | 6    | 2      | $E$       | 1006.36493 | 2                 | .113255E-01                       | 0.3             | 0.1132E-01                         | .02             | 3.576E-04       | -.980E-01       | -.112E+00              | 1.3    |
| 5   | 1     | $E$      | 5    | 2      | $E$       | 1006.38451 | 3                 | .963203E-02                       | 0.4             | 0.9646E-02                         | -.15            | 3.867E-04       |                 |                        | 1.0    |
| 4   | 1     | $E$      | 4    | 2      | $E$       | 1006.40081 | 3                 | .782340E-02                       | 1.1             | 0.7784E-02                         | .51             | 3.588E-04       |                 |                        | 1.0    |
| 24  | 4     | $E$      | 23   | 5      | $E$       | 1006.40669 | 3                 |                                   |                 | 0.2895E-02                         |                 |                 |                 |                        |        |
| 3   | 1     | $E$      | 3    | 2      | $E$       | 1006.41381 | -1                | .576134E-02                       | 1.1             | 0.5707E-02                         | .94             | 4.719E-04       |                 |                        | 1.0    |
| 2   | 1     | $E$      | 2    | 2      | $E$       | 1006.42360 | 0                 | .334752E-02                       | 2.2             | 0.3306E-02                         | 1.26            | 5.368E-04       |                 |                        | 1.0    |
| 36  | 4     | $A_2$    | 37   | 3      | $A_1$     | 1006.50429 | -7                | .264700E-02                       | 0.7             | 0.1376E-02                         | -4.00           | 2.978E-04       |                 |                        | 1.0    |
| 36  | 4     | $A_1$    | 37   | 3      | $A_2$     | 1006.50429 | -7                |                                   |                 | 0.1376E-02                         |                 |                 |                 |                        |        |
| 14  | 1     | $A_1$    | 15   | 0      | $A_2$     | 1006.55326 | 1                 | .183252E-01                       | 0.2             | 0.1878E-01                         | -2.47           | 3.806E-04       | -.420E-01       | -.418E+00              | 1.3    |
| 16  | 3     | $E$      | 15   | 4      | $E$       | 1006.58272 | -3                | .433695E-02                       | 0.9             | 0.4368E-02                         | -.73            | 3.545E-04       |                 |                        | 1.0    |
| 8   | 2     | $A_2$    | 7    | 3      | $A_1$     | 1006.58879 | 1                 | .595517E-02                       | 0.6             | 0.2962E-02                         | .52             | 3.732E-04       |                 |                        | 1.0    |
| 8   | 2     | $A_1$    | 7    | 3      | $A_2$     | 1006.58879 | 2                 |                                   |                 | 0.2962E-02                         |                 |                 |                 |                        |        |
| 43  | 5     | $E$      | 44   | 4      | $E$       | 1006.61563 | 24                |                                   |                 | 0.4120E-03                         |                 |                 |                 |                        |        |
| 50  | 6     | $E$      | 51   | 5      | $E$       | 1006.64921 | -3                |                                   |                 | 0.9431E-04                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 63  | 0     | $E$      | 63   | 1      | $E$       | 1006.65800 | -14               |                                   |                 | 0.1485E-04                         |                 |                 |                 |                        |        |
| 33  | 5     | $A_2$    | 32   | 6      | $A_1$     | 1006.82114 | -8                | .200825E-02                       | 0.8             | 0.1067E-02                         | -6.24           | 3.496E-04       |                 |                        | 1.0    |
| 33  | 5     | $A_1$    | 32   | 6      | $A_2$     | 1006.82114 | -8                |                                   |                 | 0.1067E-02                         |                 |                 |                 |                        |        |
| 51  | 7     | $E$      | 50   | 8      | $E$       | 1006.86844 | 5                 |                                   |                 | 0.3284E-04                         |                 |                 |                 |                        |        |
| 42  | 6     | $E$      | 41   | 7      | $E$       | 1006.97981 | -28               |                                   |                 | 0.2365E-03                         |                 |                 |                 |                        |        |
| 42  | 6     | $E$      | 41   | 7      | $E$       | 1006.98013 | 4                 |                                   |                 | 0.2365E-03                         |                 |                 |                 |                        |        |
| 21  | 2     | $E$      | 22   | 1      | $E$       | 1006.99062 | -1                | .675240E-02                       | 0.8             | 0.6946E-02                         | -2.87           | 2.308E-04       |                 | -608E+00               | 1.2    |
| 6   | 0     | $E$      | 7    | 1      | $E$       | 1007.03386 | 0                 | .772322E-02                       | 0.3             | 0.7694E-02                         | .38             | 3.805E-04       |                 |                        | 1.0    |
| 61  | 0     | $E$      | 61   | 1      | $E$       | 1007.07604 | 41                |                                   |                 | 0.2540E-04                         |                 |                 |                 |                        |        |
| 25  | 4     | $E$      | 24   | 5      | $E$       | 1007.20665 | -3                | .283580E-02                       | 7.6             | 0.2766E-02                         | 2.46            | 2.428E-04       |                 |                        | 1.0    |
| 60  | 0     | $E$      | 60   | 1      | $E$       | 1007.27894 | -19               |                                   |                 | 0.3297E-04                         |                 |                 |                 |                        |        |
| 28  | 3     | $E$      | 29   | 2      | $E$       | 1007.28694 | -4                | .367738E-02                       | 0.9             | 0.3811E-02                         | -3.64           | 3.508E-04       | -.220E+00       |                        | 1.2    |
| 17  | 3     | $E$      | 16   | 4      | $E$       | 1007.41172 | 2                 |                                   |                 | 0.4474E-02                         |                 |                 |                 |                        |        |
| 9   | 2     | $A_2$    | 8    | 3      | $A_1$     | 1007.44556 | 2                 | .714292E-02                       | 0.4             | 0.3562E-02                         | .26             | 3.918E-04       |                 |                        | 1.0    |
| 9   | 2     | $A_1$    | 8    | 3      | $A_2$     | 1007.44556 | 2                 |                                   |                 | 0.3562E-02                         |                 |                 |                 |                        |        |
| 59  | 0     | $E$      | 59   | 1      | $E$       | 1007.47920 | 7                 |                                   |                 | 0.4259E-04                         |                 |                 |                 |                        |        |
| 13  | 1     | $A_2$    | 14   | 0      | $A_1$     | 1007.49085 | 1                 | .181178E-01                       | 0.2             | 0.1859E-01                         | -2.62           | 4.290E-04       |                 |                        | 1.0    |
| 35  | 4     | $A_2$    | 36   | 3      | $A_1$     | 1007.49789 | -14               | .313175E-02                       | 1.2             | 0.1559E-02                         | .45             | 3.715E-04       |                 |                        | 1.0    |
| 35  | 4     | $A_1$    | 36   | 3      | $A_2$     | 1007.49789 | -14               |                                   |                 | 0.1559E-02                         |                 |                 |                 |                        |        |
| 52  | 7     | $E$      | 51   | 8      | $E$       | 1007.56212 | 1                 |                                   |                 | 0.2696E-04                         |                 |                 |                 |                        |        |
| 34  | 5     | $A_2$    | 33   | 6      | $A_1$     | 1007.58727 | -6                | .189848E-02                       | 5.6             | 0.9624E-03                         | -1.38           | 3.149E-04       |                 |                        | 1.0    |
| 34  | 5     | $A_1$    | 33   | 6      | $A_2$     | 1007.58727 | -6                |                                   |                 | 0.9624E-03                         |                 |                 |                 |                        |        |
| 42  | 5     | $E$      | 43   | 4      | $E$       | 1007.62729 | -29               |                                   |                 | 0.4828E-03                         |                 |                 |                 |                        |        |
| 58  | 0     | $E$      | 58   | 1      | $E$       | 1007.67568 | 4                 |                                   |                 | 0.5475E-04                         |                 |                 |                 |                        |        |
| 49  | 6     | $E$      | 50   | 5      | $E$       | 1007.67956 | 30                |                                   |                 | 0.1142E-03                         |                 |                 |                 |                        |        |
| 43  | 6     | $E$      | 42   | 7      | $E$       | 1007.71037 | -43               |                                   |                 | 0.2031E-03                         |                 |                 |                 |                        |        |
| 57  | 0     | $E$      | 57   | 1      | $E$       | 1007.86871 | 3                 |                                   |                 | 0.7003E-04                         |                 |                 |                 |                        |        |
| 5   | 0     | $E$      | 6    | 1      | $E$       | 1007.94033 | 45                |                                   |                 | 0.6949E-02                         |                 |                 |                 |                        |        |
| 26  | 4     | $E$      | 25   | 5      | $E$       | 1008.00299 | -4                | .261490E-02                       | 0.5             | 0.2623E-02                         | -.29            | 3.842E-04       |                 |                        | 1.0    |
| 56  | 0     | $E$      | 56   | 1      | $E$       | 1008.05806 | -20               |                                   |                 | 0.8915E-04                         |                 |                 |                 |                        |        |
| 18  | 3     | $E$      | 17   | 4      | $E$       | 1008.23717 | 5                 | .449044E-02                       | 0.7             | 0.4528E-02                         | -.83            | 4.282E-04       |                 |                        | 1.0    |
| 55  | 0     | $E$      | 55   | 1      | $E$       | 1008.24389 | -47               |                                   |                 | 0.1129E-03                         |                 |                 |                 |                        |        |
| 27  | 3     | $E$      | 28   | 2      | $E$       | 1008.25852 | -6                | .409763E-02                       | 0.4             | 0.4138E-02                         | -.99            | 4.049E-04       | -.117E+00       |                        | 1.1    |
| 10  | 2     | $A_2$    | 9    | 3      | $A_1$     | 1008.29891 | 0                 | .843473E-02                       | 0.5             | 0.4113E-02                         | 2.48            | 3.883E-04       | -.140E+00       |                        | 1.0    |
| 10  | 2     | $A_1$    | 9    | 3      | $A_2$     | 1008.29891 | 1                 |                                   |                 | 0.4113E-02                         |                 |                 |                 |                        |        |
| 35  | 5     | $A_2$    | 34   | 6      | $A_1$     | 1008.34956 | -7                | .169651E-02                       | 13.4            | 0.8630E-03                         | -1.74           | 5.786E-04       |                 |                        | 1.0    |
| 35  | 5     | $A_1$    | 34   | 6      | $A_2$     | 1008.34956 | -7                |                                   |                 | 0.8630E-03                         |                 |                 |                 |                        |        |
| 12  | 1     | $A_1$    | 13   | 0      | $A_2$     | 1008.42490 | 0                 | .178319E-01                       | 0.2             | 0.1822E-01                         | -2.20           | 4.009E-04       | -.133E+00       | -.252E+00              | 1.5    |
| 44  | 6     | $E$      | 43   | 7      | $E$       | 1008.43716 | -38               |                                   |                 | 0.1735E-03                         |                 |                 |                 |                        |        |
| 34  | 4     | $A_2$    | 35   | 3      | $A_1$     | 1008.48893 | -5                | .337862E-02                       | 0.4             | 0.1756E-02                         | -3.95           | 3.084E-04       | -.223E+00       | -.390E+00              | 1.5    |
| 34  | 4     | $A_1$    | 35   | 3      | $A_2$     | 1008.48893 | -5                |                                   |                 | 0.1756E-02                         |                 |                 |                 |                        |        |
| 53  | 0     | $E$      | 53   | 1      | $E$       | 1008.60613 | -9                |                                   |                 | 0.1786E-03                         |                 |                 |                 |                        |        |
| 41  | 5     | $E$      | 42   | 4      | $E$       | 1008.63724 | 9                 |                                   |                 | 0.5629E-03                         |                 |                 |                 |                        |        |
| 48  | 6     | $E$      | 49   | 5      | $E$       | 1008.70657 | -18               |                                   |                 | 0.1376E-03                         |                 |                 |                 |                        |        |
| 52  | 0     | $E$      | 52   | 1      | $E$       | 1008.78208 | 9                 |                                   |                 | 0.2229E-03                         |                 |                 |                 |                        |        |
| 27  | 4     | $E$      | 26   | 5      | $E$       | 1008.79569 | -2                | .262888E-02                       | 0.6             | 0.2468E-02                         | 6.10            | 3.611E-04       |                 |                        | 1.0    |
| 4   | 0     | $E$      | 5    | 1      | $E$       | 1008.84275 | 2                 | .593576E-02                       | 0.7             | 0.6122E-02                         | -3.14           | 2.688E-04       | -.218E+00       | -.391E+00              | 1.2    |
| 19  | 2     | $E$      | 20   | 1      | $E$       | 1008.89073 | 0                 | .749292E-02                       | 0.4             | 0.7495E-02                         | -.03            | 4.643E-04       |                 |                        | 1.0    |
| 51  | 0     | $E$      | 51   | 1      | $E$       | 1008.95457 | 25                |                                   |                 | 0.2769E-03                         |                 |                 |                 |                        |        |
| 19  | 3     | $E$      | 18   | 4      | $E$       | 1009.05900 | 0                 | .448763E-02                       | 0.8             | 0.4532E-02                         | -.99            | 4.300E-04       | -.220E+00       |                        | 1.1    |
| 3   | 1     | $E$      | 2    | 2      | $E$       | 1009.07401 | 0                 |                                   |                 | 0.6635E-03                         |                 |                 |                 |                        |        |
| 36  | 5     | $A_2$    | 35   | 6      | $A_1$     | 1009.10804 | -7                | .146122E-02                       | 0.5             | 0.7693E-03                         | -5.30           | 1.984E-04       | -.316E+00       | -.303E+00              | 2.1    |
| 36  | 5     | $A_1$    | 35   | 6      | $A_2$     | 1009.10804 | -7                |                                   |                 | 0.7693E-03                         |                 |                 |                 |                        |        |
| 50  | 0     | $E$      | 50   | 1      | $E$       | 1009.12320 | -2                |                                   |                 | 0.3422E-03                         |                 |                 |                 |                        |        |
| 11  | 2     | $A_2$    | 10   | 3      | $A_1$     | 1009.14860 | -25               |                                   |                 | 0.4604E-02                         |                 |                 |                 |                        |        |
| 11  | 2     | $A_1$    | 10   | 3      | $A_2$     | 1009.14860 | -26               |                                   |                 | 0.4604E-02                         |                 |                 |                 |                        |        |
| 26  | 3     | $E$      | 27   | 2      | $E$       | 1009.22734 | -2                | .431570E-02                       | 0.8             | 0.4467E-02                         | -3.50           | 3.872E-04       | -.161E+00       |                        | 1.1    |
| 49  | 0     | $E$      | 49   | 1      | $E$       | 1009.28867 | -3                |                                   |                 | 0.4209E-03                         |                 |                 |                 |                        |        |
| 11  | 1     | $A_2$    | 12   | 0      | $A_1$     | 1009.35541 | 0                 | .173563E-01                       | 0.1             | 0.1766E-01                         | -1.77           | 3.513E-04       | -.911E-01       | -.371E+00              | 1.2    |
| 48  | 0     | $E$      | 48   | 1      | $E$       | 1009.45063 | -14               |                                   |                 | 0.5150E-03                         |                 |                 |                 |                        |        |
| 33  | 4     | $A_2$    | 34   | 3      | $A_1$     | 1009.47721 | 2                 | .399029E-02                       | 0.5             | 0.1968E-02                         | 1.39            | 3.328E-04       | -.241E+00       |                        | 1.2    |
| 33  | 4     | $A_1$    | 34   | 3      | $A_2$     | 1009.47721 | 2                 |                                   |                 | 0.1968E-02                         |                 |                 |                 |                        |        |
| 28  | 4     | $E$      | 27   | 5      | $E$       | 1009.58469 | -1                | .238830E-02                       | 0.4             | 0.2307E-02                         | 3.40            | 3.912E-04       |                 |                        | 1.0    |
| 47  | 0     | $E$      | 47   | 1      | $E$       | 1009.60941 | -2                |                                   |                 | 0.6271E-03                         |                 |                 |                 |                        |        |
| 40  | 5     | $E$      | 41   | 4      | $E$       | 1009.64395 | -14               | .715478E-03                       | 2.0             | 0.6531E-03                         | 8.72            | 2.555E-04       |                 |                        | 1.0    |
| 47  | 6     | $E$      | 48   | 5      | $E$       | 1009.73173 | 2                 |                                   |                 | 0.1650E-03                         |                 |                 |                 |                        |        |
| 3   | 0     | $E$      | 4    | 1      | $E$       | 1009.74241 | 2                 | .534844E-02                       | 0.5             | 0.5220E-02                         | 2.40            | 3.912E-04       |                 |                        | 1.0    |
| 46  | 0     | $E$      | 46   | 1      | $E$       | 1009.76467 | -1                | .681859E-03                       | 1.3             | 0.7598E-03                         | -11.43          | 3.447E-04       | .197E+00        |                        | 1.1    |
| 18  | 2     | $E$      | 19   | 1      | $E$       | 1009.83638 | 0                 | .762136E-02                       | 0.4             | 0.7699E-02                         | -1.02           | 4.255E-04       | -.964E-01       |                        | 1.1    |
| 37  | 5     | $A_1$    | 36   | 6      | $A_2$     | 1009.86268 | -7                |                                   |                 | 0.6819E-03                         |                 |                 |                 |                        |        |
| 37  | 5     | $A_2$    | 36   | 6      | $A_1$     | 1009.86268 | -7                |                                   |                 | 0.6819E-03                         |                 |                 |                 |                        |        |
| 20  | 3     | $E$      | 19   | 4      | $E$       | 1009.87734 | 1                 | .448945E-02                       | 0.4             | 0.4492E-02                         | -2.82           | 3.953E-04       | .887E-01        | -.356E+00              | 1.1    |
| 46  | 6     | $E$      | 45   | 7      | $E$       | 1009.87734 | -172              |                                   |                 | 0.1247E-03                         |                 |                 |                 |                        |        |
| 45  | 0     | $E$      | 45   | 1      | $E$       | 1009.91656 | 2                 | .999236E-03                       | 1.4             | 0.9159E-03                         | 8.34            | 2.899E-04       | -.282E+00       |                        | 1.1    |
| 4   | 1     | $E$      | 3    | 2      | $E$       | 1009.94769 | 6                 | .145417E-02                       | 0.9             | 0.1475E-02                         | -1.42           | 4.347E-04       |                 |                        | 1.0    |
| 12  | 2     | $A_2$    | 11   | 3      | $A_1$     | 1009.99538 | 0                 | .104046E-01                       | 0.3             | 0.5031E-02                         | 3.29            | 4.214E-04       |                 |                        | 1.0    |
| 12  | 2     | $A_1$    | 11   | 3      | $A_2$     | 1009.99538 | 1                 |                                   |                 | 0.5031E-02                         |                 |                 |                 |                        |        |
| 44  | 0     | $E$      | 44   | 1      | $E$       | 1010.06488 | -13               | .121343E-02                       | 2.4             | 0.1099E-02                         | 9.46            | 2.635E-04       |                 |                        | 1.0    |
| 25  | 3     | $E$      | 26   | 2      | $E$       | 1010.19326 | -3                | .467079E-02                       | 0.5             | 0.4791E-02                         | -2.58           | 3.491E-04       |                 |                        | 1.0    |
| 43  | 0     | $E$      | 43   | 1      | $E$       | 1010.21006 | -4                | .145604E-02                       | 0.4             | 0.1311E-02                         | 9.96            | 2.927E-04       |                 |                        | 1.0    |
| 10  | 1     | $A_1$    | 11   | 0      | $A_2$     | 1010.28238 | 3                 | .169280E-01                       | 0.3             | 0.1691E-01                         | .11             | 5.116E-04       |                 |                        | 1.0    |
| 42  | 0     | $E$      | 42   | 1      | $E$       | 1010.35181 | 1                 |                                   |                 | 0.1557E-02                         |                 |                 |                 |                        |        |

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| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 29  | 4     | $E$      | 28   | 5      | $E$       | 1010.36995 | -3                | .219279E-02                       | 0.5             | 0.2142E-02                         | 2.32            | 4.054E-04       |                 |                        | 1.0    |
| 32  | 4     | $A_2$    | 33   | 3      | $A_1$     | 1010.46262 | -4                | .431181E-02                       | 0.4             | 0.2192E-02                         | -1.69           | 2.879E-04       | -.353E+00       | -.221E+00              | 1.7    |
| 32  | 4     | $A_1$    | 33   | 3      | $A_2$     | 1010.46262 | -4                |                                   |                 | 0.2192E-02                         |                 |                 |                 |                        |        |
| 41  | 0     | $E$      | 41   | 1      | $E$       | 1010.49016 | 3                 | .198431E-02                       | 0.5             | 0.1839E-02                         | 7.33            | 2.465E-04       | -.341E+00       |                        | 1.5    |
| 47  | 6     | $E$      | 46   | 7      | $E$       | 1010.59360 | -20               |                                   |                 | 0.1049E-03                         |                 |                 |                 |                        |        |
| 38  | 5     | $A_2$    | 37   | 6      | $A_1$     | 1010.61346 | -7                | .124875E-02                       | 1.4             | 0.6009E-03                         | 3.76            | 2.900E-04       |                 |                        | 1.0    |
| 38  | 5     | $A_1$    | 37   | 6      | $A_2$     | 1010.61346 | -7                |                                   |                 | 0.6009E-03                         |                 |                 |                 |                        |        |
| 40  | 0     | $E$      | 40   | 1      | $E$       | 1010.62475 | -35               |                                   |                 | 0.2161E-02                         |                 |                 |                 |                        |        |
| 2   | 0     | $E$      | 3    | 1      | $E$       | 1010.63890 | 4                 | .435566E-02                       | 0.4             | 0.4255E-02                         | 2.32            | 4.296E-04       |                 |                        | 1.0    |
| 39  | 5     | $E$      | 40   | 4      | $E$       | 1010.64835 | -3                | .813530E-03                       | 2.3             | 0.7538E-03                         | 7.34            | 1.915E-04       |                 |                        | 1.0    |
| 21  | 3     | $E$      | 20   | 4      | $E$       | 1010.69208 | 0                 | .443902E-02                       | 0.5             | 0.4410E-02                         | .65             | 4.016E-04       |                 |                        | 1.0    |
| 39  | 0     | $E$      | 39   | 1      | $E$       | 1010.75668 | -2                | .279646E-02                       | 3.8             | 0.2527E-02                         | 9.64            | 1.087E-04       |                 |                        | 1.0    |
| 17  | 2     | $E$      | 18   | 1      | $E$       | 1010.77903 | -3                | .766731E-02                       | 0.4             | 0.7845E-02                         | -2.31           | 4.336E-04       |                 |                        | 1.0    |
| 5   | 1     | $E$      | 4    | 2      | $E$       | 1010.81799 | 5                 | .231768E-02                       | 0.5             | 0.2321E-02                         | -.15            | 2.987E-04       | -.224E+00       | -.422E+00              | 1.3    |
| 13  | 2     | $A_2$    | 12   | 3      | $A_1$     | 1010.83845 | 1                 | .108382E-01                       | 0.2             | 0.5389E-02                         | .56             | 3.525E-04       | -.150E+00       | -.449E+00              | 1.7    |
| 13  | 2     | $A_1$    | 12   | 3      | $A_2$     | 1010.83845 | -1                |                                   |                 | 0.5389E-02                         |                 |                 |                 |                        |        |
| 38  | 0     | $E$      | 38   | 1      | $E$       | 1010.88494 | 0                 | .320599E-02                       | 3.9             | 0.2939E-02                         | 8.32            | 2.815E-04       |                 |                        | 1.0    |
| 37  | 0     | $E$      | 37   | 1      | $E$       | 1011.00984 | 0                 | .366556E-02                       | 0.4             | 0.3401E-02                         | 7.22            | 3.206E-04       |                 |                        | 1.0    |
| 36  | 0     | $E$      | 36   | 1      | $E$       | 1011.13137 | -1                | .422301E-02                       | 0.6             | 0.3915E-02                         | 7.30            | 2.999E-04       | .136E+00        |                        | 1.1    |
| 30  | 4     | $E$      | 29   | 5      | $E$       | 1011.15162 | 8                 | .206013E-02                       | 1.0             | 0.1975E-02                         | 4.11            | 2.808E-04       |                 |                        | 1.0    |
| 24  | 3     | $E$      | 25   | 2      | $E$       | 1011.15634 | -2                | .499552E-02                       | 0.4             | 0.5107E-02                         | -2.23           | 3.976E-04       |                 |                        | 1.0    |
| 9   | 1     | $A_2$    | 10   | 0      | $A_1$     | 1011.20573 | 1                 | .157995E-01                       | 0.2             | 0.1596E-01                         | -.99            | 4.175E-04       |                 |                        | 1.0    |
| 35  | 0     | $E$      | 35   | 1      | $E$       | 1011.24956 | -3                | .476969E-02                       | 0.3             | 0.4482E-02                         | 6.03            | 2.332E-04       | -.750E-01       | -.315E+00              | 1.2    |
| 48  | 6     | $E$      | 47   | 7      | $E$       | 1011.30392 | -59               |                                   |                 | 0.8773E-04                         |                 |                 |                 |                        |        |
| 39  | 5     | $A_2$    | 38   | 6      | $A_1$     | 1011.36055 | 12                | .109227E-02                       | 0.4             | 0.5266E-03                         | 3.57            | 2.970E-04       |                 |                        | 1.0    |
| 39  | 5     | $A_1$    | 38   | 6      | $A_2$     | 1011.36055 | 12                |                                   |                 | 0.5266E-03                         |                 |                 |                 |                        |        |
| 34  | 0     | $E$      | 34   | 1      | $E$       | 1011.36443 | -2                | .549711E-02                       | 0.4             | 0.5104E-02                         | 7.14            | 2.970E-04       |                 |                        | 1.0    |
| 31  | 4     | $A_2$    | 32   | 3      | $A_1$     | 1011.44531 | -6                | .464102E-02                       | 0.6             | 0.2429E-02                         | -4.69           | 3.126E-04       | -.159E+00       |                        | 1.1    |
| 31  | 4     | $A_1$    | 32   | 3      | $A_2$     | 1011.44531 | -6                |                                   |                 | 0.2429E-02                         |                 |                 |                 |                        |        |
| 33  | 0     | $E$      | 33   | 1      | $E$       | 1011.47598 | 0                 | .614718E-02                       | 0.2             | 0.5782E-02                         | 5.94            | 2.449E-04       | -.129E+00       | -.317E+00              | 2.0    |
| 22  | 3     | $E$      | 21   | 4      | $E$       | 1011.50323 | 0                 | .426391E-02                       | 0.6             | 0.4292E-02                         | -.67            | 4.391E-04       |                 |                        | 1.0    |
| 1   | 0     | $E$      | 2    | 1      | $E$       | 1011.53211 | -1                | .336528E-02                       | 0.5             | 0.3237E-02                         | 3.82            | 4.895E-04       |                 |                        | 1.0    |
| 32  | 0     | $E$      | 32   | 1      | $E$       | 1011.58418 | -1                | .703075E-02                       | 0.4             | 0.6514E-02                         | 7.35            | 3.079E-04       |                 |                        | 1.0    |
| 38  | 5     | $E$      | 39   | 4      | $E$       | 1011.64991 | -9                | .916940E-03                       | 2.7             | 0.8656E-03                         | 5.60            | 2.000E-04       |                 |                        | 1.0    |
| 14  | 2     | $A_2$    | 13   | 3      | $A_1$     | 1011.67808 | 0                 | .117754E-01                       | 0.3             | 0.5676E-02                         | 3.60            | 3.914E-04       |                 |                        | 1.0    |
| 14  | 2     | $A_1$    | 13   | 3      | $A_2$     | 1011.67808 | 2                 |                                   |                 | 0.5676E-02                         |                 |                 |                 |                        |        |
| 6   | 1     | $E$      | 5    | 2      | $E$       | 1011.68498 | 7                 | .323333E-02                       | 0.5             | 0.3157E-02                         | 2.37            | 3.697E-04       |                 |                        | 1.0    |
| 31  | 0     | $E$      | 31   | 1      | $E$       | 1011.68904 | -2                | .781218E-02                       | 0.5             | 0.7299E-02                         | 6.57            | 3.697E-04       |                 |                        | 1.0    |
| 16  | 2     | $E$      | 17   | 1      | $E$       | 1011.71876 | -1                | .789033E-02                       | 0.3             | 0.7925E-02                         | -.44            | 4.412E-04       | -.549E-01       | -.266E+00              | 1.1    |
| 45  | 6     | $E$      | 46   | 5      | $E$       | 1011.77417 | 24                |                                   |                 | 0.2339E-03                         |                 |                 |                 |                        |        |
| 30  | 0     | $E$      | 30   | 1      | $E$       | 1011.79061 | -1                | .854407E-02                       | 0.5             | 0.8133E-02                         | 4.81            | 3.123E-04       |                 |                        | 1.0    |
| 29  | 0     | $E$      | 29   | 1      | $E$       | 1011.88885 | -1                | .938728E-02                       | 0.5             | 0.9012E-02                         | 4.00            | 3.487E-04       |                 |                        | 1.0    |
| 31  | 4     | $E$      | 30   | 5      | $E$       | 1011.92937 | 1                 | .180529E-02                       | 1.4             | 0.1810E-02                         | -.28            | 3.587E-04       |                 |                        | 1.0    |
| 28  | 0     | $E$      | 28   | 1      | $E$       | 1011.98378 | -1                | .103528E-01                       | 0.3             | 0.9928E-02                         | 4.10            | 3.298E-04       |                 |                        | 1.0    |
| 49  | 6     | $E$      | 48   | 7      | $E$       | 1012.01167 | 50                |                                   |                 | 0.7303E-04                         |                 |                 |                 |                        |        |
| 27  | 0     | $E$      | 27   | 1      | $E$       | 1012.07540 | -2                | .113670E-01                       | 0.3             | 0.1088E-01                         | 4.32            | 3.385E-04       | -.460E-01       |                        | 1.0    |
| 23  | 3     | $E$      | 24   | 2      | $E$       | 1012.11658 | 2                 | .543566E-02                       | 2.1             | 0.5407E-02                         | .52             | 2.513E-04       |                 |                        | 1.0    |
| 8   | 1     | $A_1$    | 9    | 0      | $A_2$     | 1012.12549 | -1                | .148480E-01                       | 1.0             | 0.1481E-01                         | .26             | 5.645E-04       |                 |                        | 1.0    |
| 26  | 0     | $E$      | 26   | 1      | $E$       | 1012.16373 | 0                 | .121391E-01                       | 0.3             | 0.1184E-01                         | 2.43            | 3.368E-04       |                 |                        | 1.0    |
| 25  | 0     | $E$      | 25   | 1      | $E$       | 1012.24876 | 1                 | .132844E-01                       | 0.3             | 0.1282E-01                         | 3.49            | 3.874E-04       |                 |                        | 1.0    |
| 23  | 3     | $E$      | 22   | 4      | $E$       | 1012.31077 | -2                | .412168E-02                       | 0.7             | 0.4144E-02                         | -.53            | 4.361E-04       |                 |                        | 1.0    |
| 24  | 0     | $E$      | 24   | 1      | $E$       | 1012.33046 | -1                | .140661E-01                       | 0.3             | 0.1380E-01                         | 1.92            | 3.575E-04       |                 |                        | 1.0    |
| 23  | 0     | $E$      | 23   | 1      | $E$       | 1012.40886 | -3                | .155432E-01                       | 0.4             | 0.1475E-01                         | 5.09            | 4.009E-04       |                 |                        | 1.0    |
| 22  | 0     | $E$      | 22   | 1      | $E$       | 1012.48402 | 0                 | .156463E-01                       | 0.3             | 0.1568E-01                         | -.18            | 3.981E-04       |                 |                        | 1.0    |
| 15  | 2     | $A_2$    | 14   | 3      | $A_1$     | 1012.51422 | 2                 | .120447E-01                       | 0.3             | 0.5891E-02                         | 2.18            | 4.247E-04       |                 |                        | 1.0    |
| 15  | 2     | $A_1$    | 14   | 3      | $A_2$     | 1012.51422 | 0                 |                                   |                 | 0.5891E-02                         |                 |                 |                 |                        |        |
| 7   | 1     | $E$      | 6    | 2      | $E$       | 1012.54857 | 4                 | .409399E-02                       | 1.8             | 0.3957E-02                         | 3.35            | 3.694E-04       |                 |                        | 1.0    |
| 21  | 0     | $E$      | 21   | 1      | $E$       | 1012.55592 | 5                 | .181626E-01                       | 0.4             | 0.1655E-01                         | 8.89            | 4.316E-04       |                 |                        | 1.0    |
| 20  | 0     | $E$      | 20   | 1      | $E$       | 1012.62436 | -6                |                                   |                 | 0.1735E-01                         |                 |                 |                 |                        |        |
| 37  | 5     | $E$      | 38   | 4      | $E$       | 1012.64895 | 0                 | .100346E-02                       | 3.7             | 0.9888E-03                         | 1.46            | 2.232E-04       |                 |                        | 1.0    |
| 15  | 2     | $E$      | 16   | 1      | $E$       | 1012.65548 | -1                | .769755E-02                       | 0.4             | 0.7933E-02                         | -3.06           | 4.206E-04       |                 |                        | 1.0    |
| 19  | 0     | $E$      | 19   | 1      | $E$       | 1012.68971 | 1                 | .183362E-01                       | 0.2             | 0.1807E-01                         | 1.45            | 4.151E-04       |                 |                        | 1.0    |
| 18  | 0     | $E$      | 18   | 1      | $E$       | 1012.75169 | 0                 | .185118E-01                       | 0.2             | 0.1869E-01                         | -.94            | 4.063E-04       |                 |                        | 1.0    |
| 44  | 6     | $E$      | 45   | 5      | $E$       | 1012.79120 | 2                 |                                   |                 | 0.2765E-03                         |                 |                 |                 |                        |        |
| 17  | 0     | $E$      | 17   | 1      | $E$       | 1012.81040 | -1                | .189665E-01                       | 0.3             | 0.1918E-01                         | -1.11           | 4.040E-04       |                 |                        | 1.0    |
| 41  | 5     | $A_2$    | 40   | 6      | $A_1$     | 1012.84258 | 4                 | .828447E-03                       | 0.8             | 0.3978E-03                         | 3.96            | 3.595E-04       |                 |                        | 1.0    |
| 41  | 5     | $A_1$    | 40   | 6      | $A_2$     | 1012.84258 | 4                 |                                   |                 | 0.3978E-03                         |                 |                 |                 |                        |        |
| 51  | 7     | $A_2$    | 52   | 6      | $A_1$     | 1012.85586 | 34                |                                   |                 | 0.5900E-04                         |                 |                 |                 |                        |        |
| 51  | 7     | $A_1$    | 52   | 6      | $A_2$     | 1012.85586 | 34                |                                   |                 | 0.5900E-04                         |                 |                 |                 |                        |        |
| 16  | 0     | $E$      | 16   | 1      | $E$       | 1012.86580 | -5                |                                   |                 | 0.1953E-01                         |                 |                 |                 |                        |        |
| 15  | 0     | $E$      | 15   | 1      | $E$       | 1012.91802 | 0                 | .192935E-01                       | 0.4             | 0.1972E-01                         | -2.22           | 4.036E-04       |                 |                        | 1.0    |
| 14  | 0     | $E$      | 14   | 1      | $E$       | 1012.96692 | 0                 | .193372E-01                       | 0.2             | 0.1975E-01                         | -2.12           | 3.423E-04       | -.959E-01       | -.523E+00              | 1.7    |
| 13  | 0     | $E$      | 13   | 1      | $E$       | 1013.01256 | 1                 | .190503E-01                       | 0.2             | 0.1959E-01                         | -2.82           | 3.742E-04       | -.147E+00       | -.179E+00              | 1.7    |
| 7   | 1     | $A_2$    | 8    | 0      | $A_1$     | 1013.04167 | 0                 | .133670E-01                       | 0.2             | 0.1347E-01                         | -.79            | 3.899E-04       |                 |                        | 1.0    |
| 12  | 0     | $E$      | 12   | 1      | $E$       | 1013.05491 | -1                | .192027E-01                       | 0.2             | 0.1924E-01                         | -.18            | 4.049E-04       |                 |                        | 1.0    |
| 22  | 3     | $E$      | 23   | 2      | $E$       | 1013.07384 | -3                | .556807E-02                       | 0.6             | 0.5687E-02                         | -2.13           | 4.343E-04       |                 |                        | 1.0    |
| 11  | 0     | $E$      | 11   | 1      | $E$       | 1013.09403 | 1                 | .182774E-01                       | 0.2             | 0.1869E-01                         | -2.24           | 3.672E-04       | -.227E+00       | -.281E+00              | 1.7    |
| 24  | 3     | $E$      | 23   | 4      | $E$       | 1013.11472 | 0                 | .393990E-02                       | 1.5             | 0.3969E-02                         | -.74            | 3.611E-04       |                 |                        | 1.0    |
| 10  | 0     | $E$      | 10   | 1      | $E$       | 1013.12986 | 1                 | .173616E-01                       | 0.4             | 0.1793E-01                         | -3.29           | 3.705E-04       |                 |                        | 1.0    |
| 9   | 0     | $E$      | 9    | 1      | $E$       | 1013.16243 | 1                 | .166659E-01                       | 0.1             | 0.1698E-01                         | -1.87           | 3.615E-04       | -.957E-01       | -.149E+00              | 1.7    |
| 8   | 0     | $E$      | 8    | 1      | $E$       | 1013.19175 | 2                 | .158588E-01                       | 0.3             | 0.1582E-01                         | .23             | 3.925E-04       | -.188E+00       | .832E-01               | 1.2    |
| 7   | 0     | $E$      | 7    | 1      | $E$       | 1013.21778 | 0                 | .151619E-01                       | 0.3             | 0.1448E-01                         | 4.53            | 4.101E-04       | -.470E+00       |                        | 2.4    |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 6   | 0     | $E$      | 6    | 1      | $E$       | 1013.24059 | 1                 | .126589E-01                       | 0.2             | 0.1295E-01                         | -2.29           | 3.193E-04       | -.153E+00       | -.290E+00              | 2.1    |
| 5   | 0     | $E$      | 5    | 1      | $E$       | 1013.26013 | 2                 | .110490E-01                       | 0.2             | 0.1126E-01                         | -1.90           | 3.007E-04       | -.157E+00       | -.464E+00              | 2.5    |
| 4   | 0     | $E$      | 4    | 1      | $E$       | 1013.27643 | 4                 | .937230E-02                       | 0.5             | 0.9423E-02                         | -.54            | 4.751E-04       |                 |                        | 1.0    |
| 3   | 0     | $E$      | 3    | 1      | $E$       | 1013.28940 | -1                | .716085E-02                       | 0.5             | 0.7463E-02                         | -4.22           | 4.034E-04       |                 |                        | 1.0    |
| 2   | 0     | $E$      | 2    | 1      | $E$       | 1013.29920 | 3                 | .541553E-02                       | 0.7             | 0.5403E-02                         | .22             | 4.248E-04       |                 |                        | 1.0    |
| 1   | 0     | $E$      | 1    | 1      | $E$       | 1013.30571 | 2                 | .304315E-02                       | 1.2             | 0.3272E-02                         | -7.51           | 7.584E-04       |                 |                        | 1.0    |
| 16  | 2     | $A_2$    | 15   | 3      | $A_1$     | 1013.34686 | -1                | .123541E-01                       | 0.3             | 0.6036E-02                         | 2.28            | 3.799E-04       |                 |                        | 1.0    |
| 16  | 2     | $A_1$    | 15   | 3      | $A_2$     | 1013.34686 | 1                 |                                   |                 | 0.6036E-02                         |                 |                 |                 |                        |        |
| 29  | 4     | $A_2$    | 30   | 3      | $A_1$     | 1013.40242 | -3                | .553475E-02                       | 0.5             | 0.2932E-02                         | -5.95           | 3.083E-04       |                 |                        | 1.0    |
| 29  | 4     | $A_1$    | 30   | 3      | $A_2$     | 1013.40242 | -3                |                                   |                 | 0.2932E-02                         |                 |                 |                 |                        |        |
| 8   | 1     | $E$      | 7    | 2      | $E$       | 1013.40880 | 2                 | .483342E-02                       | 0.6             | 0.4705E-02                         | 2.66            | 4.197E-04       |                 |                        | 1.0    |
| 33  | 4     | $E$      | 32   | 5      | $E$       | 1013.47369 | -3                | .145879E-02                       | 1.0             | 0.1492E-02                         | -2.30           | 3.126E-04       |                 |                        | 1.0    |
| 42  | 5     | $A_2$    | 41   | 6      | $A_1$     | 1013.57774 | 2                 |                                   |                 | 0.3430E-03                         |                 |                 |                 |                        |        |
| 42  | 5     | $A_1$    | 41   | 6      | $A_2$     | 1013.57774 | 2                 |                                   |                 | 0.3430E-03                         |                 |                 |                 |                        |        |
| 14  | 2     | $E$      | 15   | 1      | $E$       | 1013.58919 | -1                | .756483E-02                       | 0.3             | 0.7862E-02                         | -3.93           | 4.256E-04       |                 |                        | 1.0    |
| 36  | 5     | $E$      | 37   | 4      | $E$       | 1013.64517 | -3                |                                   |                 | 0.1124E-02                         |                 |                 |                 |                        |        |
| 43  | 6     | $E$      | 44   | 5      | $E$       | 1013.80575 | -9                |                                   |                 | 0.3252E-03                         |                 |                 |                 |                        |        |
| 50  | 7     | $A_2$    | 51   | 6      | $A_1$     | 1013.88750 | -39               |                                   |                 | 0.7170E-04                         |                 |                 |                 |                        |        |
| 50  | 7     | $A_1$    | 51   | 6      | $A_2$     | 1013.88750 | -39               |                                   |                 | 0.7170E-04                         |                 |                 |                 |                        |        |
| 57  | 8     | $E$      | 58   | 7      | $E$       | 1013.89447 | -20               |                                   |                 | 0.1212E-04                         |                 |                 |                 |                        |        |
| 25  | 3     | $E$      | 24   | 4      | $E$       | 1013.91501 | -1                |                                   |                 | 0.3773E-02                         |                 |                 |                 |                        |        |
| 6   | 1     | $A_1$    | 7    | 0      | $A_2$     | 1013.95424 | 2                 | .115991E-01                       | 0.4             | 0.1196E-01                         | -3.08           | 3.558E-04       |                 |                        | 1.0    |
| 21  | 3     | $E$      | 22   | 2      | $E$       | 1014.02824 | -3                | .571983E-02                       | 0.4             | 0.5938E-02                         | -3.81           | 3.077E-04       |                 | -.547E+00              | 1.4    |
| 52  | 6     | $E$      | 51   | 7      | $E$       | 1014.10669 | 2                 |                                   |                 | 0.4088E-04                         |                 |                 |                 |                        |        |
| 17  | 2     | $A_2$    | 16   | 3      | $A_1$     | 1014.17599 | 0                 | .120683E-01                       | 0.6             | 0.6114E-02                         | -1.33           | 3.727E-04       | -.717E-01       |                        | 1.0    |
| 17  | 2     | $A_1$    | 16   | 3      | $A_2$     | 1014.17599 | -3                |                                   |                 | 0.6114E-02                         |                 |                 |                 |                        |        |
| 34  | 4     | $E$      | 33   | 5      | $E$       | 1014.24021 | -2                |                                   |                 | 0.1343E-02                         |                 |                 |                 |                        |        |
| 9   | 1     | $E$      | 8    | 2      | $E$       | 1014.26568 | 2                 | .549613E-02                       | 0.4             | 0.5388E-02                         | 1.96            | 3.913E-04       |                 |                        | 1.0    |
| 43  | 5     | $A_2$    | 42   | 6      | $A_1$     | 1014.30879 | -16               | .633795E-03                       | 1.0             | 0.2941E-03                         | 7.18            | 2.337E-04       |                 |                        | 1.0    |
| 43  | 5     | $A_1$    | 42   | 6      | $A_2$     | 1014.30879 | -16               |                                   |                 | 0.2941E-03                         |                 |                 |                 |                        |        |
| 28  | 4     | $A_2$    | 29   | 3      | $A_1$     | 1014.37676 | -4                | .603108E-02                       | 0.9             | 0.3193E-02                         | -5.88           | 2.777E-04       |                 |                        | 1.0    |
| 28  | 4     | $A_1$    | 29   | 3      | $A_2$     | 1014.37676 | -4                |                                   |                 | 0.3193E-02                         |                 |                 |                 |                        |        |
| 13  | 2     | $E$      | 14   | 1      | $E$       | 1014.51985 | -4                | .784649E-02                       | 0.5             | 0.7708E-02                         | 1.76            | 4.182E-04       |                 |                        | 1.0    |
| 35  | 5     | $E$      | 36   | 4      | $E$       | 1014.63863 | -12               | .125067E-02                       | 0.6             | 0.1270E-02                         | -1.54           | 2.463E-04       | .423E-01        | -.278E+00              | 1.1    |
| 26  | 3     | $E$      | 25   | 4      | $E$       | 1014.71165 | -1                | .352746E-02                       | 0.9             | 0.3562E-02                         | -.98            | 5.080E-04       |                 |                        | 1.0    |
| 62  | 1     | $A_2$    | 62   | 0      | $A_1$     | 1014.80037 | 3                 |                                   |                 | 0.7761E-04                         |                 |                 |                 |                        |        |
| 42  | 6     | $E$      | 43   | 5      | $E$       | 1014.81758 | -30               |                                   |                 | 0.3805E-03                         |                 |                 |                 |                        |        |
| 5   | 1     | $A_2$    | 6    | 0      | $A_1$     | 1014.86315 | 1                 | .104711E-01                       | 0.3             | 0.1027E-01                         | 1.90            | 4.047E-04       | .598E-01        | -.243E+00              | 1.1    |
| 49  | 7     | $A_2$    | 50   | 6      | $A_1$     | 1014.91742 | -31               |                                   |                 | 0.8673E-04                         |                 |                 |                 |                        |        |
| 49  | 7     | $A_1$    | 50   | 6      | $A_2$     | 1014.91742 | -31               |                                   |                 | 0.8673E-04                         |                 |                 |                 |                        |        |
| 20  | 3     | $E$      | 21   | 2      | $E$       | 1014.97972 | -3                | .590533E-02                       | 0.3             | 0.6154E-02                         | -4.22           | 3.552E-04       | .936E-01        | -.326E+00              | 1.3    |
| 18  | 2     | $A_2$    | 17   | 3      | $A_1$     | 1015.00172 | 8                 | .141026E-01                       | 0.2             | 0.6128E-02                         | 4.57            | 4.207E-04       |                 | -.650E+00              | 1.7    |
| 18  | 2     | $A_1$    | 17   | 3      | $A_2$     | 1015.00172 | 11                |                                   |                 | 0.6128E-02                         |                 |                 |                 |                        |        |
| 44  | 5     | $A_1$    | 43   | 6      | $A_2$     | 1015.03610 | -12               |                                   |                 | 0.2509E-03                         |                 |                 |                 |                        |        |
| 44  | 5     | $A_2$    | 43   | 6      | $A_1$     | 1015.03610 | -12               |                                   |                 | 0.2509E-03                         |                 |                 |                 |                        |        |
| 2   | 0     | $E$      | 1    | 1      | $E$       | 1015.07259 | -15               | .106842E-02                       | 2.0             | 0.1093E-02                         | -2.30           | 6.534E-04       |                 |                        | 1.0    |
| 10  | 1     | $E$      | 9    | 2      | $E$       | 1015.11914 | -1                | .608493E-02                       | 0.4             | 0.5999E-02                         | 1.42            | 2.925E-04       |                 | -.724E+00              | 1.6    |
| 60  | 1     | $A_2$    | 60   | 0      | $A_1$     | 1015.14520 | -14               |                                   |                 | 0.1257E-03                         |                 |                 |                 |                        |        |
| 59  | 1     | $A_1$    | 59   | 0      | $A_2$     | 1015.31350 | -2                |                                   |                 | 0.1589E-03                         |                 |                 |                 |                        |        |
| 27  | 4     | $A_2$    | 28   | 3      | $A_1$     | 1015.34827 | -5                | .654518E-02                       | 0.4             | 0.3456E-02                         | -5.59           | 2.788E-04       | -.164E+00       | -.356E+00              | 1.2    |
| 27  | 4     | $A_1$    | 28   | 3      | $A_2$     | 1015.34827 | -5                |                                   |                 | 0.3456E-02                         |                 |                 |                 |                        |        |
| 12  | 2     | $E$      | 13   | 1      | $E$       | 1015.44755 | 1                 | .740535E-02                       | 0.6             | 0.7467E-02                         | -.83            | 4.265E-04       |                 |                        | 1.0    |
| 27  | 3     | $E$      | 26   | 4      | $E$       | 1015.50462 | -1                | .336875E-02                       | 0.7             | 0.3339E-02                         | .88             | 2.326E-04       |                 | -.604E+00              | 1.3    |
| 34  | 5     | $E$      | 35   | 4      | $E$       | 1015.62946 | -12               | .141695E-02                       | 1.7             | 0.1428E-02                         | -.75            | 1.854E-04       |                 |                        | 1.0    |
| 57  | 1     | $A_1$    | 57   | 0      | $A_2$     | 1015.64115 | -6                |                                   |                 | 0.2505E-03                         |                 |                 |                 |                        |        |
| 36  | 4     | $E$      | 35   | 5      | $E$       | 1015.76186 | 4                 |                                   |                 | 0.1069E-02                         |                 |                 |                 |                        |        |
| 4   | 1     | $A_1$    | 5    | 0      | $A_2$     | 1015.76843 | 2                 | .835856E-02                       | 0.5             | 0.8437E-02                         | -.94            | 3.709E-04       |                 |                        | 1.0    |
| 56  | 1     | $A_2$    | 56   | 0      | $A_1$     | 1015.80100 | 25                |                                   |                 | 0.3125E-03                         |                 |                 |                 |                        |        |
| 19  | 2     | $A_2$    | 18   | 3      | $A_1$     | 1015.82372 | 3                 | .119445E-01                       | 0.4             | 0.6083E-02                         | -1.86           | 4.834E-04       | .903E-01        | .251E+00               | 1.1    |
| 19  | 2     | $A_1$    | 18   | 3      | $A_2$     | 1015.82372 | -1                |                                   |                 | 0.6083E-02                         |                 |                 |                 |                        |        |
| 19  | 3     | $E$      | 20   | 2      | $E$       | 1015.92828 | -2                | .628814E-02                       | 0.7             | 0.6329E-02                         | -.65            | 4.668E-04       | -.212E+00       |                        | 1.2    |
| 3   | 0     | $E$      | 2    | 1      | $E$       | 1015.94981 | 9                 | .224231E-02                       | 1.6             | 0.2169E-02                         | 3.27            | 5.674E-04       |                 |                        | 1.0    |
| 55  | 1     | $A_1$    | 55   | 0      | $A_2$     | 1015.95732 | -9                |                                   |                 | 0.3881E-03                         |                 |                 |                 |                        |        |
| 11  | 1     | $E$      | 10   | 2      | $E$       | 1015.96923 | 1                 | .668577E-02                       | 0.3             | 0.6529E-02                         | 2.34            | 3.798E-04       | -.213E+00       |                        | 1.2    |
| 54  | 1     | $A_2$    | 54   | 0      | $A_1$     | 1016.11121 | 0                 |                                   |                 | 0.4799E-03                         |                 |                 |                 |                        |        |
| 55  | 6     | $E$      | 54   | 7      | $E$       | 1016.16606 | 98                |                                   |                 | 0.2188E-04                         |                 |                 |                 |                        |        |
| 53  | 1     | $A_1$    | 53   | 0      | $A_2$     | 1016.26211 | -5                |                                   |                 | 0.5907E-03                         |                 |                 |                 |                        |        |
| 28  | 3     | $E$      | 27   | 4      | $E$       | 1016.29394 | 2                 | .313782E-02                       | 0.4             | 0.3109E-02                         | .90             | 3.058E-04       |                 |                        | 1.0    |
| 26  | 4     | $A_2$    | 27   | 3      | $A_1$     | 1016.31699 | -2                | .735441E-02                       | 0.5             | 0.3717E-02                         | -1.07           | 4.047E-04       | -.321E+00       | -.113E+00              | 1.4    |
| 26  | 4     | $A_1$    | 27   | 3      | $A_2$     | 1016.31699 | -2                |                                   |                 | 0.3717E-02                         |                 |                 |                 |                        |        |
| 11  | 2     | $E$      | 12   | 1      | $E$       | 1016.37225 | 11                |                                   |                 | 0.7135E-02                         |                 |                 |                 |                        |        |
| 52  | 1     | $A_2$    | 52   | 0      | $A_1$     | 1016.41020 | -4                |                                   |                 | 0.7238E-03                         |                 |                 |                 |                        |        |
| 46  | 5     | $A_2$    | 45   | 6      | $A_1$     | 1016.47866 | -17               |                                   |                 | 0.1798E-03                         |                 |                 |                 |                        |        |
| 46  | 5     | $A_1$    | 45   | 6      | $A_2$     | 1016.47866 | -17               |                                   |                 | 0.1798E-03                         |                 |                 |                 |                        |        |
| 37  | 4     | $E$      | 36   | 5      | $E$       | 1016.51707 | 20                |                                   |                 | 0.9451E-03                         |                 |                 |                 |                        |        |
| 51  | 1     | $A_1$    | 51   | 0      | $A_2$     | 1016.55543 | -3                |                                   |                 | 0.8829E-03                         |                 |                 |                 |                        |        |
| 33  | 5     | $E$      | 34   | 4      | $E$       | 1016.61755 | -12               | .160930E-02                       | 0.8             | 0.1596E-02                         | .82             | 3.558E-04       |                 |                        | 1.0    |
| 20  | 2     | $A_2$    | 19   | 3      | $A_1$     | 1016.64227 | 1                 | .117275E-01                       | 0.3             | 0.5984E-02                         | -2.05           | 4.482E-04       |                 |                        | 1.0    |
| 20  | 2     | $A_1$    | 19   | 3      | $A_2$     | 1016.64227 | 5                 |                                   |                 | 0.5984E-02                         |                 |                 |                 |                        |        |
| 3   | 1     | $A_2$    | 4    | 0      | $A_1$     | 1016.67005 | 4                 | .644261E-02                       | 0.3             | 0.6469E-02                         | -.41            | 3.179E-04       | -.699E-01       | -.434E+00              | 1.7    |
| 50  | 1     | $A_2$    | 50   | 0      | $A_1$     | 1016.69788 | 4                 |                                   |                 | 0.1072E-02                         |                 |                 |                 |                        |        |
| 12  | 1     | $E$      | 11   | 2      | $E$       | 1016.81588 | 1                 | .684343E-02                       | 0.6             | 0.6976E-02                         | -1.93           | 4.993E-04       |                 |                        | 1.0    |



(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 4   | 0     | $E$      | 3    | 1      | $E$       | 1016.82337 | -3                | .325914E-02                       | 1.4             | 0.3214E-02                         | 1.37            | 5.054E-04       |                 |                        | 1.0    |
| 40  | 6     | $E$      | 41   | 5      | $E$       | 1016.83408 | -1                |                                   |                 | 0.5132E-03                         |                 |                 |                 |                        |        |
| 49  | 1     | $A_1$    | 49   | 0      | $A_2$     | 1016.83736 | -1                |                                   |                 | 0.1296E-02                         |                 |                 |                 |                        |        |
| 18  | 3     | $E$      | 19   | 2      | $E$       | 1016.87391 | 1                 | .634270E-02                       | 0.5             | 0.6455E-02                         | -1.77           | 3.649E-04       | -.839E-01       | -.297E+00              | 1.1    |
| 47  | 7     | $A_2$    | 48   | 6      | $A_1$     | 1016.96983 | 0                 |                                   |                 | 0.1251E-03                         |                 |                 |                 |                        |        |
| 47  | 7     | $A_1$    | 48   | 6      | $A_2$     | 1016.96983 | 0                 |                                   |                 | 0.1251E-03                         |                 |                 |                 |                        |        |
| 48  | 1     | $A_2$    | 48   | 0      | $A_1$     | 1016.97405 | -1                |                                   |                 | 0.1560E-02                         |                 |                 |                 |                        |        |
| 54  | 8     | $E$      | 55   | 7      | $E$       | 1017.02781 | -45               |                                   |                 | 0.2328E-04                         |                 |                 |                 |                        |        |
| 29  | 3     | $E$      | 28   | 4      | $E$       | 1017.07954 | 3                 | .289861E-02                       | 0.5             | 0.2877E-02                         | .75             | 3.402E-04       |                 |                        | 1.0    |
| 47  | 1     | $A_1$    | 47   | 0      | $A_2$     | 1017.10789 | -2                |                                   |                 | 0.1868E-02                         |                 |                 |                 |                        |        |
| 47  | 5     | $A_1$    | 46   | 6      | $A_2$     | 1017.19389 | -23               |                                   |                 | 0.1510E-03                         |                 |                 |                 |                        |        |
| 47  | 5     | $A_2$    | 46   | 6      | $A_1$     | 1017.19389 | -23               |                                   |                 | 0.1510E-03                         |                 |                 |                 |                        |        |
| 46  | 1     | $A_2$    | 46   | 0      | $A_1$     | 1017.23888 | -4                | .224061E-02                       | 0.8             | 0.2228E-02                         | .57             | 2.398E-04       |                 |                        | 1.0    |
| 38  | 4     | $E$      | 37   | 5      | $E$       | 1017.26807 | 0                 | .867094E-03                       | 1.4             | 0.8313E-03                         | 4.13            | 2.767E-04       |                 |                        | 1.0    |
| 25  | 4     | $A_1$    | 26   | 3      | $A_2$     | 1017.28276 | -9                |                                   |                 | 0.3972E-02                         |                 |                 |                 |                        |        |
| 25  | 4     | $A_2$    | 26   | 3      | $A_1$     | 1017.28276 | -9                |                                   |                 | 0.3972E-02                         |                 |                 |                 |                        |        |
| 10  | 2     | $E$      | 11   | 1      | $E$       | 1017.29372 | 5                 | .668299E-02                       | 0.4             | 0.6712E-02                         | -.43            | 4.153E-04       |                 |                        | 1.0    |
| 45  | 1     | $A_1$    | 45   | 0      | $A_2$     | 1017.36709 | -1                | .278856E-02                       | 0.9             | 0.2644E-02                         | 5.18            | 1.626E-04       | -.137E+00       |                        | 1.1    |
| 21  | 2     | $A_2$    | 20   | 3      | $A_1$     | 1017.45721 | 3                 | .115435E-01                       | 0.4             | 0.5837E-02                         | -1.13           | 3.520E-04       | .106E+00        | -.505E+00              | 1.3    |
| 21  | 2     | $A_1$    | 20   | 3      | $A_2$     | 1017.45721 | -1                |                                   |                 | 0.5837E-02                         |                 |                 |                 |                        |        |
| 44  | 1     | $A_2$    | 44   | 0      | $A_1$     | 1017.49240 | -5                | .323843E-02                       | 0.5             | 0.3124E-02                         | 3.55            | 1.504E-04       |                 | -.366E+00              | 1.2    |
| 2   | 1     | $A_1$    | 3    | 0      | $A_2$     | 1017.56797 | 3                 | .432565E-02                       | 0.4             | 0.4391E-02                         | -1.50           | 4.075E-04       | -.133E+00       | -.279E+00              | 1.2    |
| 32  | 5     | $E$      | 33   | 4      | $E$       | 1017.60296 | -6                | .177193E-02                       | 1.1             | 0.1774E-02                         | -.13            | 3.618E-04       |                 |                        | 1.0    |
| 43  | 1     | $A_1$    | 43   | 0      | $A_2$     | 1017.61493 | -4                | .364889E-02                       | 0.6             | 0.3673E-02                         | -.66            | 2.497E-04       |                 |                        | 1.0    |
| 13  | 1     | $E$      | 12   | 2      | $E$       | 1017.65912 | 4                 | .744173E-02                       | 0.2             | 0.7336E-02                         | 1.42            | 3.900E-04       | -.173E+00       | -.150E+00              | 1.5    |
| 5   | 0     | $E$      | 4    | 1      | $E$       | 1017.69376 | -1                | .424007E-02                       | 0.3             | 0.4216E-02                         | .58             | 4.018E-04       | -.288E+00       | -.403E+00              | 1.9    |
| 42  | 1     | $A_2$    | 42   | 0      | $A_1$     | 1017.73501 | 35                |                                   |                 | 0.4299E-02                         |                 |                 |                 |                        |        |
| 17  | 3     | $E$      | 18   | 2      | $E$       | 1017.81655 | 2                 | .642514E-02                       | 0.3             | 0.6525E-02                         | -1.56           | 3.635E-04       | -.231E+00       | -.410E+00              | 2.0    |
| 39  | 6     | $E$      | 40   | 5      | $E$       | 1017.83826 | 3                 | .622988E-03                       | 4.0             | 0.5914E-03                         | 5.08            | 3.956E-04       |                 |                        | 1.0    |
| 41  | 1     | $A_1$    | 41   | 0      | $A_2$     | 1017.85153 | -1                | .494786E-02                       | 0.4             | 0.5007E-02                         | -1.20           | 2.657E-04       |                 |                        | 1.0    |
| 30  | 3     | $E$      | 29   | 4      | $E$       | 1017.86135 | -3                | .261580E-02                       | 0.6             | 0.2645E-02                         | -1.12           | 4.393E-04       |                 |                        | 1.0    |
| 48  | 5     | $A_2$    | 47   | 6      | $A_1$     | 1017.90518 | -21               |                                   |                 | 0.1262E-03                         |                 |                 |                 |                        |        |
| 48  | 5     | $A_1$    | 47   | 6      | $A_2$     | 1017.90518 | -21               |                                   |                 | 0.1262E-03                         |                 |                 |                 |                        |        |
| 40  | 1     | $A_2$    | 40   | 0      | $A_1$     | 1017.96557 | -3                | .571614E-02                       | 0.5             | 0.5805E-02                         | -1.55           | 2.017E-04       | -.323E+00       | -.306E+00              | 2.0    |
| 46  | 7     | $A_2$    | 47   | 6      | $A_1$     | 1017.99237 | 31                |                                   |                 | 0.1491E-03                         |                 |                 |                 |                        |        |
| 46  | 7     | $A_1$    | 47   | 6      | $A_2$     | 1017.99237 | 31                |                                   |                 | 0.1491E-03                         |                 |                 |                 |                        |        |
| 39  | 4     | $E$      | 38   | 5      | $E$       | 1018.01530 | -9                | .699450E-03                       | 1.8             | 0.7271E-03                         | -3.96           | 2.905E-04       | .258E+00        |                        | 1.1    |
| 53  | 8     | $E$      | 54   | 7      | $E$       | 1018.06787 | -2                |                                   |                 | 0.2868E-04                         |                 |                 |                 |                        |        |
| 39  | 1     | $A_1$    | 39   | 0      | $A_2$     | 1018.07682 | -2                | .681564E-02                       | 0.4             | 0.6698E-02                         | 1.73            | 2.908E-04       |                 |                        | 1.0    |
| 38  | 1     | $A_2$    | 38   | 0      | $A_1$     | 1018.18524 | -2                | .757715E-02                       | 0.4             | 0.7691E-02                         | -1.50           | 2.342E-04       | -.366E+00       | -.262E+00              | 2.3    |
| 9   | 2     | $E$      | 10   | 1      | $E$       | 1018.21212 | 0                 | .638397E-02                       | 0.5             | 0.6198E-02                         | 2.91            | 4.046E-04       | -.358E+00       | -.222E+00              | 1.8    |
| 24  | 4     | $A_2$    | 25   | 3      | $A_1$     | 1018.24586 | 4                 | .815666E-02                       | 0.9             | 0.4216E-02                         | -3.37           | 3.130E-04       |                 |                        | 1.0    |
| 24  | 4     | $A_1$    | 25   | 3      | $A_2$     | 1018.24586 | 4                 |                                   |                 | 0.4216E-02                         |                 |                 |                 |                        |        |
| 22  | 2     | $A_2$    | 21   | 3      | $A_1$     | 1018.26859 | -1                | .111356E-01                       | 0.4             | 0.5648E-02                         | -1.44           | 3.789E-04       |                 | -.390E+00              | 1.2    |
| 22  | 2     | $A_1$    | 21   | 3      | $A_2$     | 1018.26859 | 3                 |                                   |                 | 0.5648E-02                         |                 |                 |                 |                        |        |
| 37  | 1     | $A_1$    | 37   | 0      | $A_2$     | 1018.29088 | 0                 | .869125E-02                       | 0.7             | 0.8788E-02                         | -1.11           | 2.921E-04       |                 |                        | 1.0    |
| 36  | 1     | $A_2$    | 36   | 0      | $A_1$     | 1018.39368 | -1                | .978358E-02                       | 0.2             | 0.9993E-02                         | -2.14           | 2.575E-04       | -.931E-01       | -.287E+00              | 1.5    |
| 1   | 1     | $A_2$    | 2    | 0      | $A_1$     | 1018.46220 | 3                 | .219025E-02                       | 0.8             | 0.2225E-02                         | -1.61           | 6.119E-04       | -.224E+00       |                        | 1.1    |
| 35  | 1     | $A_1$    | 35   | 0      | $A_2$     | 1018.49365 | -4                | .111579E-01                       | 0.3             | 0.1131E-01                         | -1.34           | 2.938E-04       |                 |                        | 1.0    |
| 14  | 1     | $E$      | 13   | 2      | $E$       | 1018.49886 | 2                 | .746205E-02                       | 0.6             | 0.7609E-02                         | -1.97           | 4.333E-04       |                 |                        | 1.0    |
| 6   | 0     | $E$      | 5    | 1      | $E$       | 1018.56085 | 4                 | .516293E-02                       | 0.5             | 0.5161E-02                         | .05             | 3.842E-04       |                 |                        | 1.0    |
| 31  | 5     | $E$      | 32   | 4      | $E$       | 1018.58554 | -7                | .198352E-02                       | 2.5             | 0.1961E-02                         | 1.13            | 5.416E-05       |                 |                        | 1.0    |
| 34  | 1     | $A_2$    | 34   | 0      | $A_1$     | 1018.59091 | 2                 | .122351E-01                       | 0.3             | 0.1273E-01                         | -4.05           | 2.746E-04       |                 |                        | 1.0    |
| 49  | 5     | $A_2$    | 48   | 6      | $A_1$     | 1018.61241 | -20               |                                   |                 | 0.1049E-03                         |                 |                 |                 |                        |        |
| 49  | 5     | $A_1$    | 48   | 6      | $A_2$     | 1018.61241 | -20               |                                   |                 | 0.1049E-03                         |                 |                 |                 |                        |        |
| 31  | 3     | $E$      | 30   | 4      | $E$       | 1018.63952 | 0                 | .243559E-02                       | 0.4             | 0.2417E-02                         | .77             | 3.750E-04       | .621E-01        | .227E+00               | 1.1    |
| 33  | 1     | $A_1$    | 33   | 0      | $A_2$     | 1018.68531 | 2                 | .139567E-01                       | 0.3             | 0.1426E-01                         | -2.19           | 3.026E-04       |                 |                        | 1.0    |
| 40  | 4     | $E$      | 39   | 5      | $E$       | 1018.75834 | -49               |                                   |                 | 0.6326E-03                         |                 |                 |                 |                        |        |
| 32  | 1     | $A_2$    | 32   | 0      | $A_1$     | 1018.77687 | -2                | .155057E-01                       | 0.3             | 0.1590E-01                         | -2.52           | 3.000E-04       |                 |                        | 1.0    |
| 38  | 6     | $E$      | 39   | 5      | $E$       | 1018.83929 | -41               |                                   |                 | 0.6779E-03                         |                 |                 |                 |                        |        |
| 31  | 1     | $A_1$    | 31   | 0      | $A_2$     | 1018.86569 | 0                 | .172495E-01                       | 0.3             | 0.1763E-01                         | -2.19           | 3.125E-04       | -.248E+00       |                        | 1.7    |
| 30  | 1     | $A_2$    | 30   | 0      | $A_1$     | 1018.95169 | -1                | .187365E-01                       | 0.2             | 0.1944E-01                         | -3.78           | 2.797E-04       | -.265E-01       | -.396E+00              | 2.3    |
| 45  | 7     | $A_1$    | 46   | 6      | $A_2$     | 1019.01162 | -9                |                                   |                 | 0.1769E-03                         |                 |                 |                 |                        |        |
| 45  | 7     | $A_2$    | 46   | 6      | $A_1$     | 1019.01162 | -9                |                                   |                 | 0.1769E-03                         |                 |                 |                 |                        |        |
| 29  | 1     | $A_1$    | 29   | 0      | $A_2$     | 1019.03492 | 1                 | .208474E-01                       | 0.2             | 0.2134E-01                         | -2.35           | 3.364E-04       |                 |                        | 1.0    |
| 23  | 2     | $A_2$    | 22   | 3      | $A_1$     | 1019.07637 | 3                 | .106689E-01                       | 0.3             | 0.5423E-02                         | -1.67           | 3.870E-04       | -.801E-01       | -.153E+00              | 1.1    |
| 23  | 2     | $A_1$    | 22   | 3      | $A_2$     | 1019.07637 | 0                 |                                   |                 | 0.5423E-02                         |                 |                 |                 |                        |        |
| 28  | 1     | $A_2$    | 28   | 0      | $A_1$     | 1019.11524 | -10               |                                   |                 | 0.2329E-01                         |                 |                 |                 |                        |        |
| 8   | 2     | $E$      | 9    | 1      | $E$       | 1019.12748 | 1                 | .549266E-02                       | 0.8             | 0.5597E-02                         | -1.90           | 3.171E-04       |                 |                        | 1.0    |
| 27  | 1     | $A_1$    | 27   | 0      | $A_2$     | 1019.19298 | 1                 | .243482E-01                       | 0.3             | 0.2528E-01                         | -3.83           | 3.458E-04       |                 |                        | 1.0    |
| 23  | 4     | $A_2$    | 24   | 3      | $A_1$     | 1019.20588 | -5                | .853883E-02                       | 0.9             | 0.4444E-02                         | -4.09           | 3.974E-04       |                 |                        | 1.0    |
| 23  | 4     | $A_1$    | 24   | 3      | $A_2$     | 1019.20588 | -5                |                                   |                 | 0.4444E-02                         |                 |                 |                 |                        |        |
| 26  | 1     | $A_2$    | 26   | 0      | $A_1$     | 1019.26781 | -1                | .262475E-01                       | 0.2             | 0.2729E-01                         | -3.99           | 3.574E-04       |                 |                        | 1.0    |
| 50  | 5     | $A_2$    | 49   | 6      | $A_1$     | 1019.31565 | -12               |                                   |                 | 0.8679E-04                         |                 |                 |                 |                        |        |
| 50  | 5     | $A_1$    | 49   | 6      | $A_2$     | 1019.31565 | -12               |                                   |                 | 0.8679E-04                         |                 |                 |                 |                        |        |
| 15  | 1     | $E$      | 14   | 2      | $E$       | 1019.33521 | 9                 | .791417E-02                       | 1.2             | 0.7797E-02                         | 1.48            | 4.172E-04       |                 |                        | 1.0    |
| 25  | 1     | $A_1$    | 25   | 0      | $A_2$     | 1019.33988 | 0                 | .283325E-01                       | 0.2             | 0.2930E-01                         | -3.42           | 3.455E-04       |                 |                        | 1.0    |
| 24  | 1     | $A_2$    | 24   | 0      | $A_1$     | 1019.40914 | -1                | .304255E-01                       | 0.1             | 0.3128E-01                         | -2.80           | 3.752E-04       |                 |                        | 1.0    |
| 32  | 3     | $E$      | 31   | 4      | $E$       | 1019.41377 | -14               |                                   |                 | 0.2195E-02                         |                 |                 |                 |                        |        |
| 7   | 0     | $E$      | 6    | 1      | $E$       | 1019.42453 | 3                 | .611561E-02                       | 0.7             | 0.6038E-02                         | 1.27            | 4.286E-04       |                 |                        | 1.0    |
| 23  | 1     | $A_1$    | 23   | 0      | $A_2$     | 1019.47565 | 0                 | .317889E-01                       | 0.1             | 0.3319E-01                         | -4.40           | 3.346E-04       | -.594E-01       | -.334E+00              | 1.9    |
| 41  | 4     | $E$      | 40   | 5      | $E$       | 1019.49817 | -20               |                                   |                 | 0.5474E-03                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 22  | 1     | $A_2$    | 22   | 0      | $A_1$     | 1019.53905 | -31               |                                   |                 | 0.3501E-01                         |                 |                 |                 |                        |        |
| 30  | 5     | $E$      | 31   | 4      | $E$       | 1019.56543 | 1                 | .213239E-02                       | 1.9             | 0.2155E-02                         | -1.06           | 3.110E-04       |                 |                        | 1.0    |
| 21  | 1     | $A_1$    | 21   | 0      | $A_2$     | 1019.60028 | -1                | .356256E-01                       | 0.6             | 0.3670E-01                         | -3.01           | 2.991E-04       | .176E-01        | -.472E+00              | 1.2    |
| 20  | 1     | $A_2$    | 20   | 0      | $A_1$     | 1019.65846 | 1                 | .365027E-01                       | 0.2             | 0.3823E-01                         | -4.72           | 3.979E-04       |                 |                        | 1.0    |
| 15  | 3     | $E$      | 16   | 2      | $E$       | 1019.69286 | 1                 | .637162E-02                       | 0.6             | 0.6476E-02                         | -1.63           | 4.434E-04       |                 |                        | 1.0    |
| 19  | 1     | $A_1$    | 19   | 0      | $A_2$     | 1019.71401 | 19                | .395450E-01                       | 0.2             | 0.3956E-01                         | -.03            | 5.127E-04       | .221E+00        | -.490E+00              | 2.0    |
| 18  | 1     | $A_2$    | 18   | 0      | $A_1$     | 1019.76645 | 3                 | .401106E-01                       | 0.2             | 0.4066E-01                         | -1.36           | 4.153E-04       | -.106E+00       |                        | 1.1    |
| 17  | 1     | $A_1$    | 17   | 0      | $A_2$     | 1019.81627 | 3                 | .415461E-01                       | 0.2             | 0.4149E-01                         | .14             | 3.980E-04       |                 |                        | 1.0    |
| 16  | 1     | $A_2$    | 16   | 0      | $A_1$     | 1019.86325 | -5                | .417674E-01                       | 0.7             | 0.4202E-01                         | -.60            | 4.883E-04       |                 |                        | 1.0    |
| 24  | 2     | $A_2$    | 23   | 3      | $A_1$     | 1019.88052 | -1                | .102448E-01                       | 0.2             | 0.5170E-02                         | -.93            | 4.002E-04       | .105E+00        | -.143E+00              | 1.5    |
| 24  | 2     | $A_1$    | 23   | 3      | $A_2$     | 1019.88052 | 2                 |                                   |                 | 0.5170E-02                         |                 |                 |                 |                        |        |
| 15  | 1     | $A_1$    | 15   | 0      | $A_2$     | 1019.90758 | 1                 | .403133E-01                       | 0.1             | 0.4223E-01                         | -4.74           | 4.082E-04       |                 |                        | 1.0    |
| 14  | 1     | $A_2$    | 14   | 0      | $A_1$     | 1019.94908 | 0                 | .399817E-01                       | 0.1             | 0.4208E-01                         | -5.24           | 3.944E-04       | -.470E-01       | -.223E+00              | 1.3    |
| 13  | 1     | $A_1$    | 13   | 0      | $A_2$     | 1019.98782 | 1                 | .394403E-01                       | 0.1             | 0.4156E-01                         | -5.36           | 3.911E-04       | -.225E+00       | -.147E+00              | 2.4    |
| 12  | 1     | $A_2$    | 12   | 0      | $A_1$     | 1020.02380 | 2                 | .385353E-01                       | 0.3             | 0.4064E-01                         | -5.47           | 4.331E-04       |                 |                        | 1.0    |
| 7   | 2     | $E$      | 8    | 1      | $E$       | 1020.03972 | 1                 | .487882E-02                       | 1.6             | 0.4914E-02                         | -.72            | 3.453E-04       |                 |                        | 1.0    |
| 11  | 1     | $A_1$    | 11   | 0      | $A_2$     | 1020.05699 | 2                 | .376166E-01                       | 0.3             | 0.3933E-01                         | -4.56           | 3.823E-04       |                 |                        | 1.0    |
| 10  | 1     | $A_2$    | 10   | 0      | $A_1$     | 1020.08742 | 2                 | .358272E-01                       | 0.1             | 0.3762E-01                         | -4.99           | 3.689E-04       | -.157E+00       | -.337E+00              | 2.4    |
| 9   | 1     | $A_1$    | 9    | 0      | $A_2$     | 1020.11508 | 2                 | .345286E-01                       | 0.2             | 0.3550E-01                         | -2.81           | 3.800E-04       |                 |                        | 1.0    |
| 51  | 8     | $E$      | 52   | 7      | $E$       | 1020.13996 | 25                |                                   |                 | 0.4289E-04                         |                 |                 |                 |                        |        |
| 8   | 1     | $A_2$    | 8    | 0      | $A_1$     | 1020.13996 | 1                 | .316774E-01                       | 0.1             | 0.3299E-01                         | -4.14           | 3.423E-04       | -.165E+00       | -.366E+00              | 2.7    |
| 7   | 1     | $A_1$    | 7    | 0      | $A_2$     | 1020.16225 | 18                | .388468E-01                       | 0.3             | 0.3011E-01                         | -1.44           | 5.233E-04       |                 |                        | 1.0    |
| 16  | 1     | $E$      | 15   | 2      | $E$       | 1020.16790 | -2                | .781285E-02                       | 1.7             | 0.7902E-02                         | -1.14           | 3.195E-04       |                 |                        | 1.0    |
| 6   | 1     | $A_2$    | 6    | 0      | $A_1$     | 1020.18143 | 0                 | .264980E-01                       | 9.8             | 0.2687E-01                         | -1.41           | 4.934E-04       |                 |                        | 1.0    |
| 5   | 1     | $A_1$    | 5    | 0      | $A_2$     | 1020.19804 | 2                 | .237776E-01                       | 0.4             | 0.2332E-01                         | 1.92            | 3.589E-04       |                 |                        | 1.0    |
| 4   | 1     | $A_2$    | 4    | 0      | $A_1$     | 1020.21187 | 2                 | .196615E-01                       | 0.3             | 0.1949E-01                         | .89             | 3.778E-04       |                 |                        | 1.0    |
| 3   | 1     | $A_1$    | 3    | 0      | $A_2$     | 1020.22295 | 4                 | .158255E-01                       | 0.4             | 0.1541E-01                         | 2.60            | 4.142E-04       |                 |                        | 1.0    |
| 2   | 1     | $A_2$    | 2    | 0      | $A_1$     | 1020.23125 | 5                 | .114172E-01                       | 0.6             | 0.1115E-01                         | 2.34            | 5.319E-04       |                 |                        | 1.0    |
| 1   | 1     | $A_1$    | 1    | 0      | $A_2$     | 1020.23680 | 7                 | .709695E-02                       | -1.0            | 0.6747E-02                         | 4.93            | 6.796E-04       |                 |                        | 1.0    |
| 8   | 0     | $E$      | 7    | 1      | $E$       | 1020.28488 | 5                 | .693580E-02                       | 0.3             | 0.6838E-02                         | 1.41            | 4.024E-04       | -.850E-01       |                        | 1.1    |
| 29  | 5     | $E$      | 30   | 4      | $E$       | 1020.54239 | -4                | .228758E-02                       | 0.7             | 0.2354E-02                         | -2.89           | 3.326E-04       | -.145E+00       |                        | 1.1    |
| 14  | 3     | $E$      | 15   | 2      | $E$       | 1020.62634 | -16               |                                   |                 | 0.6345E-02                         |                 |                 |                 |                        |        |
| 25  | 2     | $A_2$    | 24   | 3      | $A_1$     | 1020.68104 | 1                 | .964111E-02                       | 0.5             | 0.4894E-02                         | -1.52           | 5.117E-04       |                 |                        | 1.0    |
| 25  | 2     | $A_1$    | 24   | 3      | $A_2$     | 1020.68104 | -1                |                                   |                 | 0.4894E-02                         |                 |                 |                 |                        |        |
| 63  | 2     | $E$      | 63   | 1      | $E$       | 1020.72107 | -7                |                                   |                 | 0.3268E-04                         |                 |                 |                 |                        |        |
| 36  | 6     | $E$      | 37   | 5      | $E$       | 1020.83452 | -8                |                                   |                 | 0.8768E-03                         |                 |                 |                 |                        |        |
| 62  | 2     | $E$      | 62   | 1      | $E$       | 1020.92319 | -2                |                                   |                 | 0.4178E-04                         |                 |                 |                 |                        |        |
| 6   | 2     | $E$      | 7    | 1      | $E$       | 1020.94892 | 11                |                                   |                 | 0.4156E-02                         |                 |                 |                 |                        |        |
| 43  | 4     | $E$      | 42   | 5      | $E$       | 1020.96555 | -11               |                                   |                 | 0.4035E-03                         |                 |                 |                 |                        |        |
| 17  | 1     | $E$      | 16   | 2      | $E$       | 1020.99721 | 0                 | .783399E-02                       | 0.5             | 0.7928E-02                         | -1.21           | 3.422E-04       | .199E+00        | -.370E+00              | 1.3    |
| 43  | 7     | $A_1$    | 44   | 6      | $A_2$     | 1021.04310 | -16               |                                   |                 | 0.2452E-03                         |                 |                 |                 |                        |        |
| 43  | 7     | $A_2$    | 44   | 6      | $A_1$     | 1021.04310 | -16               |                                   |                 | 0.2452E-03                         |                 |                 |                 |                        |        |
| 21  | 4     | $A_2$    | 22   | 3      | $A_1$     | 1021.11742 | -2                |                                   |                 | 0.4830E-02                         |                 |                 |                 |                        |        |
| 21  | 4     | $A_1$    | 22   | 3      | $A_2$     | 1021.11742 | -2                |                                   |                 | 0.4830E-02                         |                 |                 |                 |                        |        |
| 1   | 1     | $A_2$    | 0    | 0      | $A_1$     | 1021.12258 | 1                 |                                   | 1               | 0.4521E-02                         |                 |                 |                 |                        |        |
| 9   | 0     | $E$      | 8    | 1      | $E$       | 1021.14180 | 1                 | .763373E-02                       | 0.4             | 0.7553E-02                         | 1.05            | 3.194E-04       |                 | -.659E+00              | 1.4    |
| 57  | 9     | $E$      | 58   | 8      | $E$       | 1021.22225 | -141              |                                   |                 | 0.8453E-05                         |                 |                 |                 |                        |        |
| 60  | 2     | $E$      | 60   | 1      | $E$       | 1021.31793 | 1                 |                                   |                 | 0.6736E-04                         |                 |                 |                 |                        |        |
| 26  | 2     | $A_2$    | 25   | 3      | $A_1$     | 1021.47793 | 1                 | .918779E-02                       | 0.5             | 0.4601E-02                         | -.16            | 3.956E-04       |                 |                        | 1.0    |
| 26  | 2     | $A_1$    | 25   | 3      | $A_2$     | 1021.47793 | 2                 |                                   |                 | 0.4601E-02                         |                 |                 |                 |                        |        |
| 28  | 5     | $E$      | 29   | 4      | $E$       | 1021.51663 | -2                | .242945E-02                       | 1.1             | 0.2555E-02                         | -5.17           | 2.710E-04       |                 |                        | 1.0    |
| 13  | 3     | $E$      | 14   | 2      | $E$       | 1021.55713 | 1                 | .613027E-02                       | 0.6             | 0.6139E-02                         | -.14            | 4.193E-04       |                 |                        | 1.0    |
| 44  | 4     | $E$      | 43   | 5      | $E$       | 1021.69378 | 40                |                                   |                 | 0.3437E-03                         |                 |                 |                 |                        |        |
| 58  | 2     | $E$      | 58   | 1      | $E$       | 1021.69987 | -16               |                                   |                 | 0.1067E-03                         |                 |                 |                 |                        |        |
| 35  | 3     | $E$      | 34   | 4      | $E$       | 1021.71443 | 3                 |                                   |                 | 0.1588E-02                         |                 |                 |                 |                        |        |
| 18  | 1     | $E$      | 17   | 2      | $E$       | 1021.82300 | 2                 | .780221E-02                       | 0.3             | 0.7881E-02                         | -1.01           | 4.144E-04       |                 |                        | 1.0    |
| 35  | 6     | $E$      | 36   | 5      | $E$       | 1021.82768 | -31               | .102176E-02                       | 3.1             | 0.9890E-03                         | 3.20            | 1.562E-04       |                 |                        | 1.0    |
| 5   | 2     | $E$      | 6    | 1      | $E$       | 1021.85479 | 1                 | .342083E-02                       | 0.4             | 0.3335E-02                         | 2.52            | 3.904E-04       | -.219E-01       | -.196E+00              | 1.1    |
| 57  | 2     | $E$      | 57   | 1      | $E$       | 1021.88639 | 4                 |                                   |                 | 0.1334E-03                         |                 |                 |                 |                        |        |
| 10  | 0     | $E$      | 9    | 1      | $E$       | 1021.99539 | 3                 | .830776E-02                       | 0.4             | 0.8177E-02                         | 1.57            | 3.815E-04       |                 |                        | 1.0    |
| 2   | 1     | $A_1$    | 1    | 0      | $A_2$     | 1022.00189 | 1                 | .695543E-02                       | 0.5             | 0.6760E-02                         | 2.80            | 5.476E-04       |                 |                        | 1.0    |
| 42  | 7     | $A_2$    | 43   | 6      | $A_1$     | 1022.05495 | -18               |                                   |                 | 0.2866E-03                         |                 |                 |                 |                        |        |
| 42  | 7     | $A_1$    | 43   | 6      | $A_2$     | 1022.05495 | -18               |                                   |                 | 0.2866E-03                         |                 |                 |                 |                        |        |
| 20  | 4     | $A_2$    | 21   | 3      | $A_1$     | 1022.06884 | 2                 | .958316E-02                       | 0.5             | 0.4976E-02                         | -3.85           | 4.118E-04       |                 |                        | 1.0    |
| 20  | 4     | $A_1$    | 21   | 3      | $A_2$     | 1022.06884 | 2                 |                                   |                 | 0.4976E-02                         |                 |                 |                 |                        |        |
| 56  | 2     | $E$      | 56   | 1      | $E$       | 1022.06996 | 45                |                                   |                 | 0.1661E-03                         |                 |                 |                 |                        |        |
| 54  | 5     | $A_2$    | 53   | 6      | $A_1$     | 1022.08720 | -24               |                                   |                 | 0.3870E-04                         |                 |                 |                 |                        |        |
| 54  | 5     | $A_1$    | 53   | 6      | $A_2$     | 1022.08720 | -24               |                                   |                 | 0.3870E-04                         |                 |                 |                 |                        |        |
| 49  | 8     | $E$      | 50   | 7      | $E$       | 1022.20186 | 34                |                                   |                 | 0.6293E-04                         |                 |                 |                 |                        |        |
| 55  | 2     | $E$      | 55   | 1      | $E$       | 1022.24946 | -6                |                                   |                 | 0.2058E-03                         |                 |                 |                 |                        |        |
| 56  | 9     | $E$      | 57   | 8      | $E$       | 1022.27010 | -31               |                                   |                 | 0.1055E-04                         |                 |                 |                 |                        |        |
| 27  | 2     | $A_2$    | 26   | 3      | $A_1$     | 1022.27114 | 1                 | .857834E-02                       | 0.3             | 0.4298E-02                         | -.20            | 4.020E-04       |                 |                        | 1.0    |
| 27  | 2     | $A_1$    | 26   | 3      | $A_2$     | 1022.27114 | 2                 |                                   |                 | 0.4298E-02                         |                 |                 |                 |                        |        |
| 45  | 4     | $E$      | 44   | 5      | $E$       | 1022.41705 | -8                |                                   |                 | 0.2913E-03                         |                 |                 |                 |                        |        |
| 54  | 2     | $E$      | 54   | 1      | $E$       | 1022.42640 | 4                 |                                   |                 | 0.2538E-03                         |                 |                 |                 |                        |        |
| 36  | 3     | $E$      | 35   | 4      | $E$       | 1022.47339 | -23               |                                   |                 | 0.1410E-02                         |                 |                 |                 |                        |        |
| 12  | 3     | $E$      | 13   | 2      | $E$       | 1022.48475 | 4                 |                                   |                 | 0.5854E-02                         |                 |                 |                 |                        |        |
| 27  | 5     | $E$      | 28   | 4      | $E$       | 1022.48807 | 3                 |                                   |                 | 0.2756E-02                         |                 |                 |                 |                        |        |
| 53  | 2     | $E$      | 53   | 1      | $E$       | 1022.59997 | -8                |                                   |                 | 0.3118E-03                         |                 |                 |                 |                        |        |
| 19  | 1     | $E$      | 18   | 2      | $E$       | 1022.64524 | 2                 | .767473E-02                       | 0.5             | 0.7766E-02                         | -1.19           | 3.750E-04       | -.480E+00       | -.209E+00              | 1.7    |
| 4   | 2     | $E$      | 5    | 1      | $E$       | 1022.75760 | 2                 | .250564E-02                       | 0.4             | 0.2466E-02                         | 1.57            | 3.403E-04       | -.173E+00       | -.182E+00              | 1.4    |
| 55  | 5     | $A_1$    | 54   | 6      | $A_2$     | 1022.77040 | 38                |                                   |                 | 0.3123E-04                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 55  | 5     | $A_2$    | 54   | 6      | $A_1$     | 1022.77040 | 38                |                                   |                 | 0.3123E-04                         |                 |                 |                 |                        |        |
| 52  | 2     | $E$      | 52   | 1      | $E$       | 1022.77040 | -16               |                                   |                 | 0.3812E-03                         |                 |                 |                 |                        |        |
| 34  | 6     | $E$      | 35   | 5      | $E$       | 1022.81855 | -11               | .112386E-02                       | 1.3             | 0.1109E-02                         | 1.28            | 3.866E-04       |                 |                        | 1.0    |
| 11  | 0     | $E$      | 10   | 1      | $E$       | 1022.84555 | 4                 | .884671E-02                       | 0.3             | 0.8705E-02                         | 1.61            | 4.052E-04       | -.936E-01       |                        | 1.1    |
| 3   | 1     | $A_2$    | 2    | 0      | $A_1$     | 1022.87745 | 2                 | .922872E-02                       | 0.3             | 0.8947E-02                         | 3.05            | 4.497E-04       | -.123E+00       |                        | 1.1    |
| 51  | 2     | $E$      | 51   | 1      | $E$       | 1022.93789 | -2                |                                   |                 | 0.4639E-03                         |                 |                 |                 |                        |        |
| 19  | 4     | $A_2$    | 20   | 3      | $A_1$     | 1023.01727 | 0                 | .103910E-01                       | 0.3             | 0.5083E-02                         | 2.16            | 4.424E-04       |                 | -.268E+00              | 1.1    |
| 19  | 4     | $A_1$    | 20   | 3      | $A_2$     | 1023.01727 | 0                 |                                   |                 | 0.5083E-02                         |                 |                 |                 |                        |        |
| 28  | 2     | $A_2$    | 27   | 3      | $A_1$     | 1023.06066 | 3                 | .808510E-02                       | 0.1             | 0.3989E-02                         | 1.32            | 4.566E-04       |                 |                        | 1.0    |
| 28  | 2     | $A_1$    | 27   | 3      | $A_2$     | 1023.06066 | -1                |                                   |                 | 0.3989E-02                         |                 |                 |                 |                        |        |
| 41  | 7     | $A_1$    | 42   | 6      | $A_2$     | 1023.06434 | -4                |                                   |                 | 0.3332E-03                         |                 |                 |                 |                        |        |
| 41  | 7     | $A_2$    | 42   | 6      | $A_1$     | 1023.06434 | -4                |                                   |                 | 0.3332E-03                         |                 |                 |                 |                        |        |
| 50  | 2     | $E$      | 50   | 1      | $E$       | 1023.10205 | -4                |                                   |                 | 0.5621E-03                         |                 |                 |                 |                        |        |
| 46  | 4     | $E$      | 45   | 5      | $E$       | 1023.13720 | 31                |                                   |                 | 0.2456E-03                         |                 |                 |                 |                        |        |
| 48  | 8     | $E$      | 49   | 7      | $E$       | 1023.22905 | 41                |                                   |                 | 0.7567E-04                         |                 |                 |                 |                        |        |
| 37  | 3     | $E$      | 36   | 4      | $E$       | 1023.22905 | 4                 | .125352E-02                       | 0.8             | 0.1245E-02                         | .71             | 2.974E-04       |                 |                        | 1.0    |
| 49  | 2     | $E$      | 49   | 1      | $E$       | 1023.26306 | -3                |                                   |                 | 0.6779E-03                         |                 |                 |                 |                        |        |
| 11  | 3     | $E$      | 12   | 2      | $E$       | 1023.40928 | 3                 | .544674E-02                       | 0.3             | 0.5491E-02                         | -0.80           | 3.595E-04       | -.127E+00       | -.311E+00              | 1.4    |
| 48  | 2     | $E$      | 48   | 1      | $E$       | 1023.42105 | 13                |                                   |                 | 0.8139E-03                         |                 |                 |                 |                        |        |
| 56  | 5     | $A_1$    | 55   | 6      | $A_2$     | 1023.44853 | 9                 |                                   |                 | 0.2509E-04                         |                 |                 |                 |                        |        |
| 56  | 5     | $A_2$    | 55   | 6      | $A_1$     | 1023.44853 | 9                 |                                   |                 | 0.2509E-04                         |                 |                 |                 |                        |        |
| 26  | 5     | $E$      | 27   | 4      | $E$       | 1023.45660 | 1                 | .303663E-02                       | 1.2             | 0.2953E-02                         | 2.74            | 3.983E-04       |                 |                        | 1.0    |
| 20  | 1     | $E$      | 19   | 2      | $E$       | 1023.46390 | -1                | .749747E-02                       | 0.4             | 0.7590E-02                         | -1.24           | 4.242E-04       |                 |                        | 1.0    |
| 47  | 2     | $E$      | 47   | 1      | $E$       | 1023.57535 | -23               |                                   |                 | 0.9728E-03                         |                 |                 |                 |                        |        |
| 3   | 2     | $E$      | 4    | 1      | $E$       | 1023.65727 | 6                 | .157456E-02                       | 0.6             | 0.1577E-02                         | -0.13           | 3.908E-04       |                 | -.572E+00              | 1.2    |
| 12  | 0     | $E$      | 11   | 1      | $E$       | 1023.69226 | 1                 | .916448E-02                       | 0.2             | 0.9134E-02                         | .34             | 3.483E-04       | -.791E-01       | -.467E+00              | 1.8    |
| 46  | 2     | $E$      | 46   | 1      | $E$       | 1023.72687 | -18               | .122404E-02                       | 1.5             | 0.1157E-02                         | 5.45            | 2.991E-04       |                 |                        | 1.0    |
| 4   | 1     | $A_1$    | 3    | 0      | $A_2$     | 1023.74923 | 3                 | .108181E-01                       | 0.4             | 0.1105E-01                         | -2.19           | 2.956E-04       | -.427E-01       | -.479E+00              | 1.7    |
| 29  | 2     | $A_2$    | 28   | 3      | $A_1$     | 1023.84648 | -4                | .732690E-02                       | 0.5             | 0.3679E-02                         | -0.44           | 3.244E-04       | -.538E-01       | -.437E+00              | 1.2    |
| 29  | 2     | $A_1$    | 28   | 3      | $A_2$     | 1023.84648 | 4                 |                                   |                 | 0.3679E-02                         |                 |                 |                 |                        |        |
| 47  | 4     | $E$      | 46   | 5      | $E$       | 1023.85266 | 1                 |                                   |                 | 0.2060E-03                         |                 |                 |                 |                        |        |
| 45  | 2     | $E$      | 45   | 1      | $E$       | 1023.87529 | -6                | .139920E-02                       | 0.9             | 0.1370E-02                         | 2.05            | 2.530E-04       | .139E+00        |                        | 1.1    |
| 18  | 4     | $A_2$    | 19   | 3      | $A_1$     | 1023.96277 | 1                 | .103313E-01                       | 0.3             | 0.5146E-02                         | .38             | 4.110E-04       |                 |                        | 1.0    |
| 18  | 4     | $A_1$    | 19   | 3      | $A_2$     | 1023.96277 | 1                 |                                   |                 | 0.5146E-02                         |                 |                 |                 |                        |        |
| 38  | 3     | $E$      | 37   | 4      | $E$       | 1023.98049 | -5                | .108136E-02                       | 2.2             | 0.1093E-02                         | -1.05           | 1.818E-04       | -.117E+00       |                        | 1.0    |
| 44  | 2     | $E$      | 44   | 1      | $E$       | 1024.02052 | 6                 |                                   |                 | 0.1615E-02                         |                 |                 |                 |                        |        |
| 40  | 7     | $A_2$    | 41   | 6      | $A_1$     | 1024.07091 | -7                | .746818E-03                       | 0.6             | 0.3854E-03                         | -3.20           | 2.753E-04       | -.963E+00       | .266E+00               | 1.7    |
| 40  | 7     | $A_1$    | 41   | 6      | $A_2$     | 1024.07091 | -7                |                                   |                 | 0.3854E-03                         |                 |                 |                 |                        |        |
| 57  | 5     | $A_2$    | 56   | 6      | $A_1$     | 1024.12280 | 13                |                                   |                 | 0.2006E-04                         |                 |                 |                 |                        |        |
| 57  | 5     | $A_1$    | 56   | 6      | $A_2$     | 1024.12280 | 13                |                                   |                 | 0.2006E-04                         |                 |                 |                 |                        |        |
| 43  | 2     | $E$      | 43   | 1      | $E$       | 1024.16242 | 4                 | .192985E-02                       | 0.9             | 0.1895E-02                         | 1.80            | 2.557E-04       |                 |                        | 1.0    |
| 21  | 1     | $E$      | 20   | 2      | $E$       | 1024.27905 | 2                 | .728114E-02                       | 0.3             | 0.7361E-02                         | -1.10           | 3.212E-04       |                 | -.613E+00              | 1.8    |
| 42  | 2     | $E$      | 42   | 1      | $E$       | 1024.30116 | 4                 | .225226E-02                       | 1.0             | 0.2213E-02                         | 1.74            | 3.028E-04       | -.163E+00       |                        | 1.1    |
| 10  | 3     | $E$      | 11   | 2      | $E$       | 1024.33073 | 2                 | .496978E-02                       | 0.3             | 0.5049E-02                         | -1.59           | 3.358E-04       | -.216E+00       | -.172E+00              | 1.5    |
| 25  | 5     | $E$      | 26   | 4      | $E$       | 1024.42229 | -1                | .301829E-02                       | 0.5             | 0.3144E-02                         | -4.15           | 3.169E-04       | -.355E-01       | -.318E+00              | 1.2    |
| 41  | 2     | $E$      | 41   | 1      | $E$       | 1024.43664 | -3                | .258016E-02                       | 0.8             | 0.2572E-02                         | .31             | 2.662E-04       | -.316E+00       |                        | 1.5    |
| 13  | 0     | $E$      | 12   | 1      | $E$       | 1024.53558 | 3                 | .954921E-02                       | 0.2             | 0.9463E-02                         | .91             | 3.803E-04       | .234E-01        | -.206E+00              | 1.1    |
| 2   | 2     | $E$      | 3    | 1      | $E$       | 1024.55353 | -13               |                                   |                 | 0.7136E-03                         |                 |                 |                 |                        |        |
| 48  | 4     | $E$      | 47   | 5      | $E$       | 1024.56449 | 11                |                                   |                 | 0.1720E-03                         |                 |                 |                 |                        |        |
| 40  | 2     | $E$      | 40   | 1      | $E$       | 1024.56903 | 1                 | .291382E-02                       | 0.4             | 0.2975E-02                         | -2.11           | 2.666E-04       |                 |                        | 1.0    |
| 5   | 1     | $A_2$    | 4    | 0      | $A_1$     | 1024.61721 | 3                 | .134918E-01                       | 0.3             | 0.1306E-01                         | 3.22            | 3.527E-04       |                 |                        | 1.0    |
| 30  | 2     | $A_1$    | 29   | 3      | $A_2$     | 1024.62870 | 4                 |                                   |                 | 0.3373E-02                         |                 |                 |                 |                        |        |
| 30  | 2     | $A_2$    | 29   | 3      | $A_1$     | 1024.62870 | 16                |                                   |                 | 0.3373E-02                         |                 |                 |                 |                        |        |
| 39  | 2     | $E$      | 39   | 1      | $E$       | 1024.69818 | 0                 | .336210E-02                       | 0.6             | 0.3425E-02                         | -1.88           | 2.831E-04       | -.108E+00       |                        | 1.1    |
| 39  | 3     | $E$      | 38   | 4      | $E$       | 1024.72821 | -1                | .984913E-03                       | 1.2             | 0.9542E-03                         | 3.12            | 4.937E-04       |                 |                        | 1.0    |
| 38  | 2     | $E$      | 38   | 1      | $E$       | 1024.82409 | -5                | .403758E-02                       | 0.5             | 0.3925E-02                         | 2.80            | 2.952E-04       | -.250E+00       | -.293E+00              | 1.4    |
| 17  | 4     | $A_2$    | 18   | 3      | $A_1$     | 1024.90529 | -1                | .102950E-01                       | 0.2             | 0.5158E-02                         | -0.21           | 4.117E-04       | -.133E+00       |                        | 1.1    |
| 17  | 4     | $A_1$    | 18   | 3      | $A_2$     | 1024.90529 | -1                |                                   |                 | 0.5158E-02                         |                 |                 |                 |                        |        |
| 37  | 2     | $E$      | 37   | 1      | $E$       | 1024.94692 | 2                 | .444302E-02                       | 0.5             | 0.4475E-02                         | -0.72           | 2.854E-04       | -.137E+00       |                        | 1.2    |
| 36  | 2     | $E$      | 36   | 1      | $E$       | 1025.06639 | -7                | .524993E-02                       | 0.6             | 0.5078E-02                         | 3.28            | 3.014E-04       |                 |                        | 1.0    |
| 39  | 7     | $A_2$    | 40   | 6      | $A_1$     | 1025.07494 | 0                 | .891376E-03                       | 2.6             | 0.4434E-03                         | .52             | 3.249E-04       |                 |                        | 1.0    |
| 39  | 7     | $A_1$    | 40   | 6      | $A_2$     | 1025.07494 | 0                 |                                   |                 | 0.4434E-03                         |                 |                 |                 |                        |        |
| 22  | 1     | $E$      | 21   | 2      | $E$       | 1025.09049 | -8                | .705192E-02                       | 0.4             | 0.7086E-02                         | -0.48           | 4.215E-04       |                 |                        | 1.0    |
| 35  | 2     | $E$      | 35   | 1      | $E$       | 1025.18300 | 18                |                                   |                 | 0.5733E-02                         |                 |                 |                 |                        |        |
| 9   | 3     | $E$      | 10   | 2      | $E$       | 1025.24902 | -8                | .434784E-02                       | 0.4             | 0.4532E-02                         | -4.24           | 4.089E-04       |                 |                        | 1.0    |
| 49  | 4     | $E$      | 48   | 5      | $E$       | 1025.27192 | -15               |                                   |                 | 0.1428E-03                         |                 |                 |                 |                        |        |
| 46  | 8     | $E$      | 47   | 7      | $E$       | 1025.27527 | 3                 |                                   |                 | 0.1078E-03                         |                 |                 |                 |                        |        |
| 34  | 2     | $E$      | 34   | 1      | $E$       | 1025.29591 | -6                | .622806E-02                       | 0.5             | 0.6442E-02                         | -3.43           | 2.895E-04       |                 |                        | 1.0    |
| 14  | 0     | $E$      | 13   | 1      | $E$       | 1025.37533 | -6                | .992365E-02                       | 0.4             | 0.9693E-02                         | 2.32            | 4.179E-04       |                 |                        | 1.0    |
| 24  | 5     | $E$      | 25   | 4      | $E$       | 1025.38561 | 46                |                                   |                 | 0.3322E-02                         |                 |                 |                 |                        |        |
| 33  | 2     | $E$      | 33   | 1      | $E$       | 1025.40630 | 39                | .136228E-01                       | 0.2             | 0.7202E-02                         | 2.00            | 4.968E-04       | .123E+00        | -.783E+00              | 3.4    |
| 31  | 2     | $A_2$    | 30   | 3      | $A_1$     | 1025.40630 | -77               |                                   |                 | 0.3074E-02                         |                 |                 |                 |                        |        |
| 40  | 3     | $E$      | 39   | 4      | $E$       | 1025.47210 | 10                | .857686E-03                       | 5.6             | 0.8288E-03                         | 3.37            | 1.548E-04       |                 |                        | 1.0    |
| 6   | 1     | $A_1$    | 5    | 0      | $A_2$     | 1025.48137 | 2                 |                                   |                 | 0.1493E-01                         |                 |                 |                 |                        |        |
| 32  | 2     | $E$      | 32   | 1      | $E$       | 1025.51256 | -9                | .780160E-02                       | 0.3             | 0.8010E-02                         | -2.68           | 2.946E-04       | -.612E-01       | -.190E+00              | 1.1    |
| 31  | 2     | $E$      | 31   | 1      | $E$       | 1025.61626 | 9                 | .957173E-02                       | 0.7             | 0.8865E-02                         | 7.39            | 6.173E-04       | .129E+01        | -.309E+00              | 2.2    |
| 30  | 2     | $E$      | 30   | 1      | $E$       | 1025.71641 | -7                | .953285E-02                       | 0.4             | 0.9759E-02                         | -2.38           | 3.338E-04       | -.350E-01       |                        | 1.0    |
| 31  | 6     | $E$      | 32   | 5      | $E$       | 1025.77411 | -11               | .149039E-02                       | 1.8             | 0.1513E-02                         | -1.51           | 4.317E-04       |                 |                        | 1.0    |
| 29  | 2     | $E$      | 29   | 1      | $E$       | 1025.81350 | -7                | .104401E-01                       | 0.5             | 0.1069E-01                         | -2.38           | 3.490E-04       |                 |                        | 1.0    |
| 16  | 4     | $A_2$    | 17   | 3      | $A_1$     | 1025.84477 | -8                | .100305E-01                       | 0.5             | 0.5116E-02                         | -2.00           | 4.231E-04       |                 |                        | 1.0    |
| 16  | 4     | $A_1$    | 17   | 3      | $A_2$     | 1025.84477 | -8                |                                   |                 | 0.5116E-02                         |                 |                 |                 |                        |        |
| 23  | 1     | $E$      | 22   | 2      | $E$       | 1025.89844 | -6                | .681804E-02                       | 0.5             | 0.6773E-02                         | .67             | 3.691E-04       |                 |                        | 1.0    |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 28  | 2     | $E$      | 28   | 1      | $E$       | 1025.90740 | -5                | .114558E-01                       | 0.9             | 0.1164E-01                         | -1.64           | 3.110E-04       |                 |                        | 1.0    |
| 50  | 4     | $E$      | 49   | 5      | $E$       | 1025.97587 | 17                |                                   |                 | 0.1180E-03                         |                 |                 |                 |                        |        |
| 27  | 2     | $E$      | 27   | 1      | $E$       | 1025.99800 | -10               | .125440E-01                       | 0.5             | 0.1262E-01                         | -.57            | 3.909E-04       |                 |                        | 1.0    |
| 38  | 7     | $A_2$    | 39   | 6      | $A_1$     | 1026.07617 | -6                | .107635E-02                       | 7.1             | 0.5074E-03                         | 5.72            | 4.276E-04       |                 |                        | 1.0    |
| 38  | 7     | $A_1$    | 39   | 6      | $A_2$     | 1026.07617 | -6                |                                   |                 | 0.5074E-03                         |                 |                 |                 |                        |        |
| 26  | 2     | $E$      | 26   | 1      | $E$       | 1026.08547 | -7                | .132599E-01                       | 0.4             | 0.1359E-01                         | -2.52           | 3.618E-04       |                 |                        | 1.0    |
| 8   | 3     | $E$      | 9    | 2      | $E$       | 1026.16430 | -8                | .387333E-02                       | 1.5             | 0.3946E-02                         | -1.87           | 3.580E-04       |                 |                        | 1.0    |
| 25  | 2     | $E$      | 25   | 1      | $E$       | 1026.16969 | -6                | .145766E-01                       | 0.4             | 0.1457E-01                         | .07             | 3.740E-04       |                 |                        | 1.0    |
| 32  | 2     | $A_2$    | 31   | 3      | $A_1$     | 1026.18155 | 5                 | .547281E-02                       | 1.0             | 0.2786E-02                         | -1.80           | 4.210E-04       |                 |                        | 1.0    |
| 32  | 2     | $A_1$    | 31   | 3      | $A_2$     | 1026.18155 | -19               |                                   |                 | 0.2786E-02                         |                 |                 |                 |                        |        |
| 15  | 0     | $E$      | 14   | 1      | $E$       | 1026.21171 | -5                |                                   |                 | 0.9827E-02                         |                 |                 |                 |                        |        |
| 41  | 3     | $E$      | 40   | 4      | $E$       | 1026.21171 | -18               |                                   |                 | 0.7161E-03                         |                 |                 |                 |                        |        |
| 24  | 2     | $E$      | 24   | 1      | $E$       | 1026.25067 | -7                | .157453E-01                       | 0.3             | 0.1552E-01                         | 1.43            | 4.082E-04       |                 |                        | 1.0    |
| 45  | 8     | $E$      | 46   | 7      | $E$       | 1026.29465 | -4                |                                   |                 | 0.1278E-03                         |                 |                 |                 |                        |        |
| 23  | 2     | $E$      | 23   | 1      | $E$       | 1026.32844 | -6                | .160236E-01                       | 0.2             | 0.1644E-01                         | -2.59           | 3.600E-04       |                 |                        | 1.0    |
| 7   | 1     | $A_2$    | 6    | 0      | $A_1$     | 1026.34164 | -5                | .173286E-01                       | 2.2             | 0.1665E-01                         | 3.89            | 1.923E-04       |                 |                        | 1.0    |
| 23  | 5     | $E$      | 24   | 4      | $E$       | 1026.34511 | -1                | .350566E-02                       | 2.2             | 0.3485E-02                         | .58             | 1.923E-04       |                 |                        | 1.0    |
| 22  | 2     | $E$      | 22   | 1      | $E$       | 1026.40298 | -5                | .171398E-01                       | 0.4             | 0.1731E-01                         | -.99            | 3.679E-04       | -.413E-01       | -.479E+00              | 1.3    |
| 21  | 2     | $E$      | 21   | 1      | $E$       | 1026.47426 | -8                | .181276E-01                       | 0.2             | 0.1811E-01                         | .09             | 3.961E-04       |                 |                        | 1.0    |
| 20  | 2     | $E$      | 20   | 1      | $E$       | 1026.54235 | -6                | .180928E-01                       | 0.3             | 0.1883E-01                         | -4.09           | 3.877E-04       |                 |                        | 1.0    |
| 19  | 2     | $E$      | 19   | 1      | $E$       | 1026.60718 | -7                | .191307E-01                       | 0.3             | 0.1945E-01                         | -1.68           | 3.811E-04       |                 |                        | 1.0    |
| 18  | 2     | $E$      | 18   | 1      | $E$       | 1026.66878 | -8                | .192755E-01                       | 0.3             | 0.1996E-01                         | -3.53           | 4.034E-04       |                 |                        | 1.0    |
| 51  | 4     | $E$      | 50   | 5      | $E$       | 1026.67526 | 0                 |                                   |                 | 0.9707E-04                         |                 |                 |                 |                        |        |
| 24  | 1     | $E$      | 23   | 2      | $E$       | 1026.70276 | -7                | .638621E-02                       | 0.5             | 0.6429E-02                         | -.67            | 3.876E-04       | -.766E-01       | -.973E-01              | 1.1    |
| 17  | 2     | $E$      | 17   | 1      | $E$       | 1026.72703 | -20               |                                   |                 | 0.2032E-01                         |                 |                 |                 |                        |        |
| 30  | 6     | $E$      | 31   | 5      | $E$       | 1026.75387 | 0                 |                                   |                 | 0.1658E-02                         |                 |                 |                 |                        |        |
| 15  | 4     | $A_2$    | 16   | 3      | $A_1$     | 1026.78200 | 59                |                                   |                 | 0.5014E-02                         |                 |                 |                 |                        |        |
| 15  | 4     | $A_1$    | 16   | 3      | $A_2$     | 1026.78200 | 59                |                                   |                 | 0.5014E-02                         |                 |                 |                 |                        |        |
| 16  | 2     | $E$      | 16   | 1      | $E$       | 1026.78200 | -37               |                                   |                 | 0.2055E-01                         |                 |                 |                 |                        |        |
| 15  | 2     | $E$      | 15   | 1      | $E$       | 1026.83422 | -5                |                                   |                 | 0.2060E-01                         |                 |                 |                 |                        |        |
| 14  | 2     | $E$      | 14   | 1      | $E$       | 1026.88287 | -6                | .202653E-01                       | 0.3             | 0.2049E-01                         | -1.09           | 4.127E-04       |                 |                        | 1.0    |
| 13  | 2     | $E$      | 13   | 1      | $E$       | 1026.92829 | -6                | .206226E-01                       | 0.3             | 0.2018E-01                         | 2.13            | 4.606E-04       | -.166E+00       | .838E+00               | 1.2    |
| 42  | 3     | $E$      | 41   | 4      | $E$       | 1026.94795 | 9                 |                                   |                 | 0.6155E-03                         |                 |                 |                 |                        |        |
| 33  | 2     | $A_2$    | 32   | 3      | $A_1$     | 1026.95242 | -23               | .499612E-02                       | 0.5             | 0.2509E-02                         | -.46            | 4.968E-04       |                 |                        | 1.0    |
| 33  | 2     | $A_1$    | 32   | 3      | $A_2$     | 1026.95242 | 9                 |                                   |                 | 0.2509E-02                         |                 |                 |                 |                        |        |
| 12  | 2     | $E$      | 12   | 1      | $E$       | 1026.97048 | -5                | .199146E-01                       | 0.2             | 0.1969E-01                         | 1.15            | 3.967E-04       | -.914E-02       |                        | 1.4    |
| 11  | 2     | $E$      | 11   | 1      | $E$       | 1027.00950 | 3                 | .186600E-01                       | 0.2             | 0.1899E-01                         | -1.76           | 3.468E-04       | -.697E-01       | -.364E+00              | 1.6    |
| 16  | 0     | $E$      | 15   | 1      | $E$       | 1027.04501 | 37                | .279190E-01                       | 0.1             | 0.9869E-02                         | -.15            | 4.120E-04       | -.515E-01       | -.395E+00              | 1.7    |
| 10  | 2     | $E$      | 10   | 1      | $E$       | 1027.04501 | -16               |                                   |                 | 0.1809E-01                         |                 |                 |                 |                        |        |
| 9   | 2     | $E$      | 9    | 1      | $E$       | 1027.07752 | -11               | .212118E-01                       | 0.2             | 0.1699E-01                         | 4.35            | 5.213E-04       | -.673E+00       | -.194E+00              | 2.7    |
| 7   | 3     | $E$      | 8    | 2      | $E$       | 1027.07752 | 96                |                                   |                 | 0.3298E-02                         |                 |                 |                 |                        |        |
| 8   | 2     | $E$      | 8    | 1      | $E$       | 1027.10687 | 3                 | .160128E-01                       | 0.2             | 0.1569E-01                         | 2.02            | 3.776E-04       | -.859E-01       | .155E+00               | 1.1    |
| 7   | 2     | $E$      | 7    | 1      | $E$       | 1027.13283 | 2                 | .145874E-01                       | 0.3             | 0.1419E-01                         | 2.70            | 3.963E-04       | -.160E+00       | .133E+00               | 1.5    |
| 6   | 2     | $E$      | 6    | 1      | $E$       | 1027.15556 | 3                 | .126696E-01                       | 0.2             | 0.1251E-01                         | 1.28            | 3.387E-04       | -.120E+00       | -.312E+00              | 2.4    |
| 5   | 2     | $E$      | 5    | 1      | $E$       | 1027.17507 | 6                 | .108990E-01                       | 0.2             | 0.1063E-01                         | 2.45            | 3.216E-04       | -.192E+00       | -.454E+00              | 2.6    |
| 4   | 2     | $E$      | 4    | 1      | $E$       | 1027.19133 | 9                 |                                   |                 | 0.8564E-02                         |                 |                 |                 |                        |        |
| 8   | 1     | $A_1$    | 7    | 0      | $A_2$     | 1027.19821 | 1                 | .188646E-01                       | 0.2             | 0.1821E-01                         | 3.47            | 3.833E-04       |                 |                        | 1.0    |
| 3   | 2     | $E$      | 3    | 1      | $E$       | 1027.20430 | 7                 | .654860E-02                       | 0.7             | 0.6271E-02                         | 4.24            | 5.088E-04       |                 |                        | 1.0    |
| 2   | 2     | $E$      | 2    | 1      | $E$       | 1027.21399 | 2                 | .332514E-02                       | 1.3             | 0.3628E-02                         | -9.11           | 5.889E-04       |                 |                        | 1.0    |
| 22  | 5     | $E$      | 23   | 4      | $E$       | 1027.30219 | -1                | .349924E-02                       | 0.6             | 0.3628E-02                         | -3.68           | 3.048E-04       |                 |                        | 1.0    |
| 44  | 8     | $E$      | 45   | 7      | $E$       | 1027.31162 | 6                 |                                   |                 | 0.1506E-03                         |                 |                 |                 |                        |        |
| 52  | 4     | $E$      | 51   | 5      | $E$       | 1027.37137 | 65                |                                   |                 | 0.7944E-04                         |                 |                 |                 |                        |        |
| 51  | 9     | $E$      | 52   | 8      | $E$       | 1027.46744 | 7                 |                                   |                 | 0.2976E-04                         |                 |                 |                 |                        |        |
| 25  | 1     | $E$      | 24   | 2      | $E$       | 1027.50357 | 6                 | .597998E-02                       | 0.4             | 0.6063E-02                         | -1.39           | 6.340E-04       | .350E+00        | .829E+00               | 1.2    |
| 43  | 3     | $E$      | 42   | 4      | $E$       | 1027.67989 | 0                 |                                   |                 | 0.5264E-03                         |                 |                 |                 |                        |        |
| 14  | 4     | $A_2$    | 15   | 3      | $A_1$     | 1027.71500 | 4                 | .985649E-02                       | 0.7             | 0.4849E-02                         | 1.60            | 4.218E-04       |                 |                        | 1.0    |
| 14  | 4     | $A_1$    | 15   | 3      | $A_2$     | 1027.71500 | 4                 |                                   |                 | 0.4849E-02                         |                 |                 |                 |                        |        |
| 34  | 2     | $A_2$    | 33   | 3      | $A_1$     | 1027.71951 | 14                | .452712E-02                       | 0.7             | 0.2248E-02                         | .68             | 4.218E-04       |                 |                        | 1.0    |
| 34  | 2     | $A_1$    | 33   | 3      | $A_2$     | 1027.71951 | -27               |                                   |                 | 0.2248E-02                         |                 |                 |                 |                        |        |
| 29  | 6     | $E$      | 30   | 5      | $E$       | 1027.73071 | -2                | .189510E-02                       | 3.7             | 0.1805E-02                         | 4.75            | 6.109E-04       |                 |                        | 1.0    |
| 17  | 0     | $E$      | 16   | 1      | $E$       | 1027.87404 | 3                 | .100692E-01                       | 0.4             | 0.9824E-02                         | 2.44            | 3.724E-04       |                 | -.374E+00              | 1.2    |
| 62  | 3     | $E$      | 62   | 2      | $E$       | 1027.93541 | 3                 |                                   |                 | 0.3743E-04                         |                 |                 |                 |                        |        |
| 6   | 3     | $E$      | 7    | 2      | $E$       | 1027.98566 | 6                 | .257614E-02                       | 0.4             | 0.2603E-02                         | -1.06           | 3.386E-04       |                 |                        | 1.0    |
| 9   | 1     | $A_2$    | 8    | 0      | $A_1$     | 1028.05088 | 3                 | .188937E-01                       | 0.4             | 0.1958E-01                         | -3.64           | 3.099E-04       | .101E+00        | -.466E+00              | 1.3    |
| 63  | 5     | $A_2$    | 62   | 6      | $A_1$     | 1028.07991 | 79                |                                   |                 | 0.4738E-05                         |                 |                 |                 |                        |        |
| 63  | 5     | $A_1$    | 62   | 6      | $A_2$     | 1028.07991 | 79                |                                   |                 | 0.4738E-05                         |                 |                 |                 |                        |        |
| 21  | 5     | $E$      | 22   | 4      | $E$       | 1028.25635 | -2                | .363546E-02                       | 0.7             | 0.3746E-02                         | -3.04           | 3.992E-04       | -.115E+00       | -.293E+00              | 1.1    |
| 26  | 1     | $E$      | 25   | 2      | $E$       | 1028.30057 | 2                 | .560538E-02                       | 0.4             | 0.5681E-02                         | -1.34           | 3.802E-04       | -.254E+00       |                        | 1.2    |
| 44  | 3     | $E$      | 43   | 4      | $E$       | 1028.40790 | -7                |                                   |                 | 0.4478E-03                         |                 |                 |                 |                        |        |
| 35  | 2     | $A_2$    | 34   | 3      | $A_1$     | 1028.48288 | -25               | .389456E-02                       | 0.9             | 0.2003E-02                         | -2.85           | 5.967E-04       | -.263E+00       |                        | 1.1    |
| 35  | 2     | $A_1$    | 34   | 3      | $A_2$     | 1028.48288 | 28                |                                   |                 | 0.2003E-02                         |                 |                 |                 |                        |        |
| 50  | 9     | $E$      | 51   | 8      | $E$       | 1028.49900 | -31               |                                   |                 | 0.3610E-04                         |                 |                 |                 |                        |        |
| 57  | 10    | $A_1$    | 58   | 9      | $A_2$     | 1028.59324 | -111              |                                   |                 | 0.5623E-05                         |                 |                 |                 |                        |        |
| 57  | 10    | $A_2$    | 58   | 9      | $A_1$     | 1028.59324 | -111              |                                   |                 | 0.5623E-05                         |                 |                 |                 |                        |        |
| 13  | 4     | $A_2$    | 14   | 3      | $A_1$     | 1028.64552 | 3                 | .933363E-02                       | 0.2             | 0.4620E-02                         | 1.00            | 4.428E-04       |                 |                        | 1.0    |
| 13  | 4     | $A_1$    | 14   | 3      | $A_2$     | 1028.64552 | 3                 |                                   |                 | 0.4620E-02                         |                 |                 |                 |                        |        |
| 18  | 0     | $E$      | 17   | 1      | $E$       | 1028.69989 | 2                 | .968809E-02                       | 0.4             | 0.9698E-02                         | -.10            | 4.534E-04       |                 |                        | 1.0    |
| 28  | 6     | $E$      | 29   | 5      | $E$       | 1028.70479 | 1                 |                                   |                 | 0.1953E-02                         |                 |                 |                 |                        |        |
| 5   | 3     | $E$      | 6    | 2      | $E$       | 1028.89142 | -9                | .194441E-02                       | 2.5             | 0.1880E-02                         | 3.32            | 3.821E-04       |                 |                        | 1.0    |
| 10  | 1     | $A_1$    | 9    | 0      | $A_2$     | 1028.89967 | 3                 | .205601E-01                       | 0.2             | 0.2076E-01                         | -.97            | 3.753E-04       |                 |                        | 1.0    |
| 57  | 3     | $E$      | 57   | 2      | $E$       | 1028.90616 | 9                 |                                   |                 | 0.1201E-03                         |                 |                 |                 |                        |        |
| 2   | 2     | $E$      | 1    | 1      | $E$       | 1028.98759 | 6                 | .679101E-02                       | 0.3             | 0.6599E-02                         | 2.83            | 3.741E-04       | -.102E+00       | -.394E+00              | 1.6    |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 35  | 7     | $A_2$    | 36   | 6      | $A_1$     | 1029.06392 | -5                | .138853E-02                       | 1.5             | 0.7358E-03                         | -5.99           | 2.277E-04       |                 |                        | 1.0    |
| 35  | 7     | $A_1$    | 36   | 6      | $A_2$     | 1029.06392 | -5                |                                   |                 | 0.7358E-03                         |                 |                 |                 |                        |        |
| 27  | 1     | $E$      | 26   | 2      | $E$       | 1029.09398 | 5                 | .528791E-02                       | 4.9             | 0.5289E-02                         | -.03            | 6.640E-04       |                 |                        | 1.0    |
| 45  | 3     | $E$      | 44   | 4      | $E$       | 1029.13211 | 3                 |                                   |                 | 0.3790E-03                         |                 |                 |                 |                        |        |
| 20  | 5     | $E$      | 21   | 4      | $E$       | 1029.20772 | 10                |                                   |                 | 0.3834E-02                         |                 |                 |                 |                        |        |
| 36  | 2     | $A_2$    | 35   | 3      | $A_1$     | 1029.24234 | 32                | .361754E-02                       | 0.7             | 0.1774E-02                         | 1.90            | 6.366E-04       |                 |                        | 1.0    |
| 36  | 2     | $A_1$    | 35   | 3      | $A_2$     | 1029.24234 | -32               |                                   |                 | 0.1774E-02                         |                 |                 |                 |                        |        |
| 55  | 3     | $E$      | 55   | 2      | $E$       | 1029.27165 | -9                |                                   |                 | 0.1856E-03                         |                 |                 |                 |                        |        |
| 42  | 8     | $E$      | 43   | 7      | $E$       | 1029.33745 | -5                |                                   |                 | 0.2061E-03                         |                 |                 |                 |                        |        |
| 55  | 4     | $E$      | 54   | 5      | $E$       | 1029.43232 | -4                |                                   |                 | 0.4228E-04                         |                 |                 |                 |                        |        |
| 54  | 3     | $E$      | 54   | 2      | $E$       | 1029.44966 | -7                |                                   |                 | 0.2291E-03                         |                 |                 |                 |                        |        |
| 19  | 0     | $E$      | 18   | 1      | $E$       | 1029.52221 | 3                 | .988714E-02                       | 0.4             | 0.9499E-02                         | 3.92            | 4.211E-04       |                 |                        | 1.0    |
| 49  | 9     | $E$      | 50   | 8      | $E$       | 1029.52842 | -32               |                                   |                 | 0.4357E-04                         |                 |                 |                 |                        |        |
| 12  | 4     | $A_2$    | 13   | 3      | $A_1$     | 1029.57300 | 2                 | .833231E-02                       | 0.4             | 0.4326E-02                         | -3.83           | 3.180E-04       |                 | -.389E+00              | 1.2    |
| 12  | 4     | $A_1$    | 13   | 3      | $A_2$     | 1029.57300 | 2                 |                                   |                 | 0.4326E-02                         |                 |                 |                 |                        |        |
| 53  | 3     | $E$      | 53   | 2      | $E$       | 1029.62447 | -3                |                                   |                 | 0.2817E-03                         |                 |                 |                 |                        |        |
| 56  | 10    | $A_2$    | 57   | 9      | $A_1$     | 1029.64000 | -86               |                                   |                 | 0.7012E-05                         |                 |                 |                 |                        |        |
| 56  | 10    | $A_1$    | 57   | 9      | $A_2$     | 1029.64000 | -86               |                                   |                 | 0.7012E-05                         |                 |                 |                 |                        |        |
| 27  | 6     | $E$      | 28   | 5      | $E$       | 1029.67596 | -6                | .209266E-02                       | 1.0             | 0.2099E-02                         | -.31            | 3.588E-04       |                 |                        | 1.0    |
| 11  | 1     | $A_2$    | 10   | 0      | $A_1$     | 1029.74459 | 4                 | .218855E-01                       | 0.2             | 0.2173E-01                         | .69             | 3.894E-04       | .117E+00        |                        | 1.2    |
| 4   | 3     | $E$      | 5    | 2      | $E$       | 1029.79455 | 29                | .110071E-02                       | 1.1             | 0.1158E-02                         | -5.25           | 7.570E-04       |                 |                        | 1.0    |
| 46  | 3     | $E$      | 45   | 4      | $E$       | 1029.85221 | 1                 |                                   |                 | 0.3192E-03                         |                 |                 |                 |                        |        |
| 3   | 2     | $E$      | 2    | 1      | $E$       | 1029.86459 | 5                 | .745731E-02                       | 0.5             | 0.7278E-02                         | 2.41            | 3.866E-04       | -.714E+00       |                        | 2.0    |
| 28  | 1     | $E$      | 27   | 2      | $E$       | 1029.88342 | -20               |                                   |                 | 0.4895E-02                         |                 |                 |                 |                        |        |
| 51  | 3     | $E$      | 51   | 2      | $E$       | 1029.96436 | 2                 |                                   |                 | 0.4200E-03                         |                 |                 |                 |                        |        |
| 37  | 2     | $A_2$    | 36   | 3      | $A_1$     | 1029.99800 | -38               | .316476E-02                       | 1.0             | 0.1564E-02                         | 1.18            | 7.334E-04       |                 |                        | 1.0    |
| 37  | 2     | $A_1$    | 36   | 3      | $A_2$     | 1029.99800 | 41                |                                   |                 | 0.1564E-02                         |                 |                 |                 |                        |        |
| 56  | 4     | $E$      | 55   | 5      | $E$       | 1030.11182 | 55                |                                   |                 | 0.3393E-04                         |                 |                 |                 |                        |        |
| 50  | 3     | $E$      | 50   | 2      | $E$       | 1030.12944 | 2                 |                                   |                 | 0.5093E-03                         |                 |                 |                 |                        |        |
| 19  | 5     | $E$      | 20   | 4      | $E$       | 1030.15592 | -2                | .386174E-02                       | 1.0             | 0.3888E-02                         | -.68            | 4.339E-04       |                 |                        | 1.0    |
| 49  | 3     | $E$      | 49   | 2      | $E$       | 1030.29120 | -7                |                                   |                 | 0.6149E-03                         |                 |                 |                 |                        |        |
| 20  | 0     | $E$      | 19   | 1      | $E$       | 1030.34097 | 3                 | .926913E-02                       | 0.3             | 0.9235E-02                         | .37             | 4.052E-04       |                 |                        | 1.0    |
| 48  | 3     | $E$      | 48   | 2      | $E$       | 1030.45003 | 14                |                                   |                 | 0.7390E-03                         |                 |                 |                 |                        |        |
| 11  | 4     | $A_2$    | 12   | 3      | $A_1$     | 1030.49744 | 2                 | .788896E-02                       | 0.6             | 0.3967E-02                         | -.57            | 4.198E-04       |                 |                        | 1.0    |
| 11  | 4     | $A_1$    | 12   | 3      | $A_2$     | 1030.49744 | 2                 |                                   |                 | 0.3967E-02                         |                 |                 |                 |                        |        |
| 48  | 9     | $E$      | 49   | 8      | $E$       | 1030.55514 | -49               |                                   |                 | 0.5234E-04                         |                 |                 |                 |                        |        |
| 47  | 3     | $E$      | 46   | 4      | $E$       | 1030.56843 | 11                |                                   |                 | 0.2675E-03                         |                 |                 |                 |                        |        |
| 12  | 1     | $A_1$    | 11   | 0      | $A_2$     | 1030.58558 | 2                 | .225157E-01                       | 0.2             | 0.2250E-01                         | .07             | 3.609E-04       | -.151E+00       | -.442E+00              | 1.6    |
| 47  | 3     | $E$      | 47   | 2      | $E$       | 1030.60528 | 0                 |                                   |                 | 0.8841E-03                         |                 |                 |                 |                        |        |
| 26  | 6     | $E$      | 27   | 5      | $E$       | 1030.64433 | -9                | .224576E-02                       | 0.6             | 0.2241E-02                         | .23             | 4.282E-04       |                 |                        | 1.0    |
| 29  | 1     | $E$      | 28   | 2      | $E$       | 1030.66962 | 1                 | .456139E-02                       | 0.3             | 0.4503E-02                         | 1.28            | 2.658E-04       |                 | -.406E+00              | 1.4    |
| 3   | 3     | $E$      | 4    | 2      | $E$       | 1030.69356 | -28               |                                   |                 | 0.4937E-03                         |                 |                 |                 |                        |        |
| 4   | 2     | $E$      | 3    | 1      | $E$       | 1030.73829 | 3                 | .859557E-02                       | 0.6             | 0.8092E-02                         | 5.86            | 3.842E-04       |                 |                        | 1.0    |
| 38  | 2     | $A_2$    | 37   | 3      | $A_1$     | 1030.74993 | 63                |                                   |                 | 0.1371E-02                         |                 |                 |                 |                        |        |
| 38  | 2     | $A_1$    | 37   | 3      | $A_2$     | 1030.74993 | -32               |                                   |                 | 0.1371E-02                         |                 |                 |                 |                        |        |
| 46  | 3     | $E$      | 46   | 2      | $E$       | 1030.75696 | -49               |                                   |                 | 0.1053E-02                         |                 |                 |                 |                        |        |
| 45  | 3     | $E$      | 45   | 2      | $E$       | 1030.90636 | -2                | .130007E-02                       | 4.1             | 0.1248E-02                         | 4.02            | 8.018E-05       |                 |                        | 1.0    |
| 33  | 7     | $A_2$    | 34   | 6      | $A_1$     | 1031.04219 | -3                | .179418E-02                       | 0.5             | 0.9164E-03                         | -2.15           | 3.022E-04       |                 |                        | 1.0    |
| 33  | 7     | $A_1$    | 34   | 6      | $A_2$     | 1031.04219 | -3                |                                   |                 | 0.9164E-03                         |                 |                 |                 |                        |        |
| 44  | 3     | $E$      | 44   | 2      | $E$       | 1031.05202 | -7                | .148884E-02                       | 0.6             | 0.1472E-02                         | 1.11            | 3.218E-04       |                 |                        | 1.0    |
| 18  | 5     | $E$      | 19   | 4      | $E$       | 1031.10132 | 1                 | .394886E-02                       | 0.6             | 0.3903E-02                         | 1.16            | 4.272E-04       | -.272E+00       |                        | 1.2    |
| 21  | 0     | $E$      | 20   | 1      | $E$       | 1031.15614 | 1                 | .897479E-02                       | 0.2             | 0.8915E-02                         | .67             | 4.123E-04       | -.141E+00       |                        | 1.1    |
| 43  | 3     | $E$      | 43   | 2      | $E$       | 1031.19454 | -2                | .175277E-02                       | 0.6             | 0.1729E-02                         | 1.36            | 2.688E-04       |                 |                        | 1.0    |
| 42  | 3     | $E$      | 42   | 2      | $E$       | 1031.33383 | 2                 | .203705E-02                       | 0.6             | 0.2021E-02                         | .80             | 2.593E-04       | -.321E+00       |                        | 1.7    |
| 40  | 8     | $E$      | 41   | 7      | $E$       | 1031.35292 | -3                |                                   |                 | 0.2763E-03                         |                 |                 |                 |                        |        |
| 10  | 4     | $A_2$    | 11   | 3      | $A_1$     | 1031.41900 | 21                |                                   |                 | 0.3546E-02                         |                 |                 |                 |                        |        |
| 10  | 4     | $A_1$    | 11   | 3      | $A_2$     | 1031.41900 | 21                |                                   |                 | 0.3546E-02                         |                 |                 |                 |                        |        |
| 13  | 1     | $A_2$    | 12   | 0      | $A_1$     | 1031.42270 | 4                 | .224722E-01                       | 0.4             | 0.2306E-01                         | -2.61           | 3.652E-04       |                 |                        | 1.0    |
| 30  | 1     | $E$      | 29   | 2      | $E$       | 1031.45190 | 2                 | .416097E-02                       | 0.4             | 0.4119E-02                         | 1.02            | 3.066E-04       | -.187E+00       | -.124E+00              | 1.4    |
| 41  | 3     | $E$      | 41   | 2      | $E$       | 1031.46981 | -1                | .233941E-02                       | 0.6             | 0.2351E-02                         | -.49            | 2.592E-04       | -.421E+00       |                        | 1.6    |
| 39  | 2     | $A_1$    | 38   | 3      | $A_2$     | 1031.49770 | 57                |                                   |                 | 0.1195E-02                         |                 |                 |                 |                        |        |
| 39  | 2     | $A_2$    | 38   | 3      | $A_1$     | 1031.49770 | -57               |                                   |                 | 0.1195E-02                         |                 |                 |                 |                        |        |
| 40  | 3     | $E$      | 40   | 2      | $E$       | 1031.60258 | -3                | .265822E-02                       | 1.7             | 0.2722E-02                         | -2.39           | 1.764E-04       |                 |                        | 1.0    |
| 5   | 2     | $E$      | 4    | 1      | $E$       | 1031.60889 | 22                | .116380E-01                       | 0.4             | 0.8919E-02                         | 3.40            | 5.190E-04       |                 |                        | 1.0    |
| 25  | 6     | $E$      | 26   | 5      | $E$       | 1031.60889 | -108              |                                   |                 | 0.2375E-02                         |                 |                 |                 |                        |        |
| 39  | 3     | $E$      | 39   | 2      | $E$       | 1031.73214 | -2                | .309031E-02                       | 0.3             | 0.3136E-02                         | -1.49           | 2.192E-04       | -.116E+00       | -.318E+00              | 1.6    |
| 38  | 3     | $E$      | 38   | 2      | $E$       | 1031.85847 | -1                | .363684E-02                       | 0.4             | 0.3597E-02                         | 1.11            | 3.054E-04       |                 |                        | 1.0    |
| 22  | 0     | $E$      | 21   | 1      | $E$       | 1031.96774 | 1                 | .862146E-02                       | 0.3             | 0.8546E-02                         | .87             | 4.220E-04       |                 |                        | 1.0    |
| 37  | 3     | $E$      | 37   | 2      | $E$       | 1031.98157 | 0                 | .403059E-02                       | 0.9             | 0.4104E-02                         | -1.83           | 2.671E-04       |                 |                        | 1.0    |
| 49  | 3     | $E$      | 48   | 4      | $E$       | 1031.98826 | -22               |                                   |                 | 0.1850E-03                         |                 |                 |                 |                        |        |
| 32  | 7     | $A_1$    | 33   | 6      | $A_2$     | 1032.02782 | 59                |                                   |                 | 0.1014E-02                         |                 |                 |                 |                        |        |
| 32  | 7     | $A_2$    | 33   | 6      | $A_1$     | 1032.02782 | 59                |                                   |                 | 0.1014E-02                         |                 |                 |                 |                        |        |
| 17  | 5     | $E$      | 18   | 4      | $E$       | 1032.04375 | 4                 | .369764E-02                       | 1.2             | 0.3875E-02                         | -4.81           | 3.176E-04       |                 |                        | 1.0    |
| 36  | 3     | $E$      | 36   | 2      | $E$       | 1032.10141 | -1                | .466251E-02                       | 0.4             | 0.4661E-02                         | .03             | 2.976E-04       |                 |                        | 1.0    |
| 35  | 3     | $E$      | 35   | 2      | $E$       | 1032.21807 | 2                 | .540952E-02                       | 0.9             | 0.5267E-02                         | 2.63            | 3.847E-04       |                 |                        | 1.0    |
| 31  | 1     | $E$      | 30   | 2      | $E$       | 1032.23044 | 2                 | .371001E-02                       | 1.0             | 0.3745E-02                         | -.95            | 3.880E-04       |                 |                        | 1.0    |
| 40  | 2     | $A_2$    | 39   | 3      | $A_1$     | 1032.24180 | 73                |                                   |                 | 0.1037E-02                         |                 |                 |                 |                        |        |
| 40  | 2     | $A_1$    | 39   | 3      | $A_2$     | 1032.24180 | -62               |                                   |                 | 0.1037E-02                         |                 |                 |                 |                        |        |
| 14  | 1     | $A_1$    | 13   | 0      | $A_2$     | 1032.25585 | 2                 | .231228E-01                       | 0.3             | 0.2341E-01                         | -1.26           | 4.159E-04       |                 |                        | 1.0    |
| 34  | 3     | $E$      | 34   | 2      | $E$       | 1032.33140 | -4                | .594432E-02                       | 0.3             | 0.5922E-02                         | .37             | 2.877E-04       |                 |                        | 1.0    |
| 9   | 4     | $A_2$    | 10   | 3      | $A_1$     | 1032.33716 | 8                 | .601153E-02                       | 0.3             | 0.3070E-02                         | -2.13           | 4.030E-04       |                 |                        | 1.0    |
| 9   | 4     | $A_1$    | 10   | 3      | $A_2$     | 1032.33716 | 8                 |                                   |                 | 0.3070E-02                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 39  | 8     | $E$      | 40   | 7      | $E$       | 1032.35662 | -8                |                                   |                 | 0.3173E-03                         |                 |                 |                 |                        |        |
| 33  | 3     | $E$      | 33   | 2      | $E$       | 1032.44190 | 31                |                                   |                 | 0.6626E-02                         |                 |                 |                 |                        |        |
| 6   | 2     | $E$      | 5    | 1      | $E$       | 1032.47581 | 5                 | .995055E-02                       | 0.2             | 0.9711E-02                         | 2.41            | 3.523E-04       | -.137E+00       |                        | 1.2    |
| 32  | 3     | $E$      | 32   | 2      | $E$       | 1032.54853 | 1                 | .756276E-02                       | 0.5             | 0.7375E-02                         | 2.48            | 3.529E-04       |                 |                        | 1.0    |
| 24  | 6     | $E$      | 25   | 5      | $E$       | 1032.57258 | -8                | .247818E-02                       | 0.7             | 0.2498E-02                         | -.79            | 3.531E-04       | .476E-01        | -.401E+00              | 1.1    |
| 46  | 9     | $E$      | 47   | 8      | $E$       | 1032.60145 | -33               |                                   |                 | 0.7440E-04                         |                 |                 |                 |                        |        |
| 31  | 3     | $E$      | 31   | 2      | $E$       | 1032.65225 | 4                 | .828189E-02                       | 0.4             | 0.8167E-02                         | 1.39            | 4.245E-04       | .173E+00        |                        | 1.1    |
| 50  | 3     | $E$      | 49   | 4      | $E$       | 1032.69269 | 22                |                                   |                 | 0.1528E-03                         |                 |                 |                 |                        |        |
| 30  | 3     | $E$      | 30   | 2      | $E$       | 1032.75266 | 0                 | .881590E-02                       | 0.4             | 0.8997E-02                         | -2.05           | 2.952E-04       |                 |                        | 1.0    |
| 23  | 0     | $E$      | 22   | 1      | $E$       | 1032.77574 | 3                 | .822353E-02                       | 0.3             | 0.8139E-02                         | 1.03            | 4.080E-04       | -.237E+00       |                        | 1.8    |
| 29  | 3     | $E$      | 29   | 2      | $E$       | 1032.84988 | 0                 | .100259E-01                       | 0.3             | 0.9859E-02                         | 1.66            | 3.564E-04       |                 |                        | 1.0    |
| 28  | 3     | $E$      | 28   | 2      | $E$       | 1032.94382 | -4                | .107931E-01                       | 0.4             | 0.1075E-01                         | .44             | 5.039E-04       | -.567E+00       |                        | 1.4    |
| 41  | 2     | $A_2$    | 40   | 3      | $A_1$     | 1032.98306 | 39                |                                   |                 | 0.8945E-03                         |                 |                 |                 |                        |        |
| 16  | 5     | $E$      | 17   | 4      | $E$       | 1032.98306 | -8                |                                   |                 | 0.3801E-02                         |                 |                 |                 |                        |        |
| 32  | 1     | $E$      | 31   | 2      | $E$       | 1033.00528 | 7                 | .338779E-02                       | 1.6             | 0.3386E-02                         | .04             | 2.642E-04       |                 |                        | 1.0    |
| 31  | 7     | $A_2$    | 32   | 6      | $A_1$     | 1033.00937 | -11               | .214242E-02                       | 1.6             | 0.1114E-02                         | -4.02           | 2.642E-04       |                 |                        | 1.0    |
| 31  | 7     | $A_1$    | 32   | 6      | $A_2$     | 1033.00937 | -11               |                                   |                 | 0.1114E-02                         |                 |                 |                 |                        |        |
| 27  | 3     | $E$      | 27   | 2      | $E$       | 1033.03460 | -1                | .116560E-01                       | 0.3             | 0.1165E-01                         | .06             | 3.544E-04       |                 |                        | 1.0    |
| 15  | 1     | $A_2$    | 14   | 0      | $A_1$     | 1033.08508 | 1                 | .236470E-01                       | 0.1             | 0.2357E-01                         | .34             | 4.169E-04       | -.453E-01       | -.131E+00              | 1.2    |
| 26  | 3     | $E$      | 26   | 2      | $E$       | 1033.12213 | 1                 | .122407E-01                       | 0.5             | 0.1256E-01                         | -2.59           | 3.409E-04       |                 |                        | 1.0    |
| 25  | 3     | $E$      | 25   | 2      | $E$       | 1033.20639 | 0                 | .131822E-01                       | 0.4             | 0.1346E-01                         | -2.11           | 3.102E-04       | -.219E+00       | -.264E+00              | 1.6    |
| 8   | 4     | $A_2$    | 9    | 3      | $A_1$     | 1033.25231 | 3                 | .515253E-02                       | 0.9             | 0.2545E-02                         | 1.20            | 2.893E-04       |                 |                        | 1.0    |
| 8   | 4     | $A_1$    | 9    | 3      | $A_2$     | 1033.25231 | 3                 |                                   |                 | 0.2545E-02                         |                 |                 |                 |                        |        |
| 24  | 3     | $E$      | 24   | 2      | $E$       | 1033.28742 | 0                 | .140395E-01                       | 0.2             | 0.1434E-01                         | -2.17           | 3.131E-04       | -.161E+00       | -.375E+00              | 1.7    |
| 7   | 2     | $E$      | 6    | 1      | $E$       | 1033.33957 | 5                 | .105867E-01                       | 0.5             | 0.1044E-01                         | 1.36            | 3.887E-04       |                 |                        | 1.0    |
| 38  | 8     | $E$      | 39   | 7      | $E$       | 1033.35758 | -20               |                                   |                 | 0.3625E-03                         |                 |                 |                 |                        |        |
| 23  | 3     | $E$      | 23   | 2      | $E$       | 1033.36523 | 1                 | .155601E-01                       | 0.4             | 0.1520E-01                         | 2.34            | 3.981E-04       |                 |                        | 1.0    |
| 51  | 3     | $E$      | 50   | 4      | $E$       | 1033.39224 | -16               |                                   |                 | 0.1255E-03                         |                 |                 |                 |                        |        |
| 22  | 3     | $E$      | 22   | 2      | $E$       | 1033.43970 | -8                |                                   |                 | 0.1600E-01                         |                 |                 |                 |                        |        |
| 21  | 3     | $E$      | 21   | 2      | $E$       | 1033.51111 | 1                 | .170133E-01                       | 0.3             | 0.1674E-01                         | 1.59            | 4.042E-04       | -.113E+00       |                        | 1.1    |
| 23  | 6     | $E$      | 24   | 5      | $E$       | 1033.53242 | -5                | .266383E-02                       | 1.2             | 0.2607E-02                         | 2.15            | 4.025E-04       |                 |                        | 1.0    |
| 20  | 3     | $E$      | 20   | 2      | $E$       | 1033.57944 | 26                | .257222E-01                       | 0.3             | 0.1740E-01                         | 2.40            | 5.180E-04       |                 |                        | 1.0    |
| 24  | 0     | $E$      | 23   | 1      | $E$       | 1033.57944 | -64               |                                   |                 | 0.7701E-02                         |                 |                 |                 |                        |        |
| 19  | 3     | $E$      | 19   | 2      | $E$       | 1033.64405 | 3                 | .178225E-01                       | 0.3             | 0.1797E-01                         | -.83            | 4.181E-04       |                 |                        | 1.0    |
| 18  | 3     | $E$      | 18   | 2      | $E$       | 1033.70563 | 0                 | .185234E-01                       | 0.2             | 0.1842E-01                         | .53             | 3.958E-04       |                 |                        | 1.0    |
| 17  | 3     | $E$      | 17   | 2      | $E$       | 1033.76400 | 1                 | .186864E-01                       | 0.3             | 0.1875E-01                         | -.34            | 4.153E-04       |                 |                        | 1.0    |
| 33  | 1     | $E$      | 32   | 2      | $E$       | 1033.77623 | 0                 | .309877E-02                       | 1.2             | 0.3045E-02                         | 1.73            | 3.477E-04       |                 |                        | 1.0    |
| 16  | 3     | $E$      | 16   | 2      | $E$       | 1033.81913 | 2                 | .184681E-01                       | 0.3             | 0.1893E-01                         | -2.52           | 3.964E-04       |                 |                        | 1.0    |
| 15  | 3     | $E$      | 15   | 2      | $E$       | 1033.87101 | 2                 | .193401E-01                       | 0.2             | 0.1896E-01                         | 1.98            | 4.367E-04       |                 |                        | 1.0    |
| 16  | 1     | $A_1$    | 15   | 0      | $A_2$     | 1033.91037 | 2                 | .235834E-01                       | 0.5             | 0.2353E-01                         | .23             | 4.564E-04       |                 |                        | 1.0    |
| 15  | 5     | $E$      | 16   | 4      | $E$       | 1033.91963 | 6                 | .216716E-01                       | 0.6             | 0.3678E-02                         | -3.78           | 4.347E-04       |                 |                        | 1.0    |
| 14  | 3     | $E$      | 14   | 2      | $E$       | 1033.91963 | 0                 |                                   |                 | 0.1881E-01                         |                 |                 |                 |                        |        |
| 13  | 3     | $E$      | 13   | 2      | $E$       | 1033.96504 | 1                 | .185547E-01                       | 4.6             | 0.1849E-01                         | .37             | 4.630E-04       |                 |                        | 1.0    |
| 30  | 7     | $A_2$    | 31   | 6      | $A_1$     | 1033.98895 | 0                 | .235256E-02                       | 0.4             | 0.1217E-02                         | -3.48           | 3.039E-04       | -.252E+00       |                        | 1.2    |
| 30  | 7     | $A_1$    | 31   | 6      | $A_2$     | 1033.98895 | 0                 |                                   |                 | 0.1217E-02                         |                 |                 |                 |                        |        |
| 12  | 3     | $E$      | 12   | 2      | $E$       | 1034.00721 | 2                 | .180056E-01                       | 0.1             | 0.1797E-01                         | .20             | 3.871E-04       | -.282E-01       | -.105E+00              | 1.1    |
| 11  | 3     | $E$      | 11   | 2      | $E$       | 1034.04614 | 4                 | .172490E-01                       | 0.2             | 0.1726E-01                         | -.04            | 3.421E-04       | -.883E-01       | -.493E+00              | 1.7    |
| 10  | 3     | $E$      | 10   | 2      | $E$       | 1034.08182 | 5                 | .164191E-01                       | 0.2             | 0.1634E-01                         | .48             | 4.278E-04       | -.123E+00       |                        | 1.3    |
| 52  | 3     | $E$      | 51   | 4      | $E$       | 1034.08823 | 0                 |                                   |                 | 0.1026E-03                         |                 |                 |                 |                        |        |
| 9   | 3     | $E$      | 9    | 2      | $E$       | 1034.11423 | 2                 | .149588E-01                       | 0.3             | 0.1522E-01                         | -1.72           | 3.472E-04       | -.155E+00       | -.220E+00              | 1.5    |
| 8   | 3     | $E$      | 8    | 2      | $E$       | 1034.14343 | 4                 | .137889E-01                       | 0.5             | 0.1388E-01                         | -.69            | 3.838E-04       |                 |                        | 1.0    |
| 7   | 4     | $A_2$    | 8    | 3      | $A_1$     | 1034.16443 | 6                 | .409409E-02                       | 2.0             | 0.1986E-02                         | 2.98            | 4.967E-04       |                 |                        | 1.0    |
| 7   | 4     | $A_1$    | 8    | 3      | $A_2$     | 1034.16443 | 6                 |                                   |                 | 0.1986E-02                         |                 |                 |                 |                        |        |
| 7   | 3     | $E$      | 7    | 2      | $E$       | 1034.16936 | 2                 | .125741E-01                       | 0.5             | 0.1234E-01                         | 1.88            | 3.556E-04       |                 |                        | 1.0    |
| 6   | 3     | $E$      | 6    | 2      | $E$       | 1034.19209 | 5                 | .105439E-01                       | 0.4             | 0.1057E-01                         | -.25            | 3.793E-04       |                 |                        | 1.0    |
| 8   | 2     | $E$      | 7    | 1      | $E$       | 1034.19999 | 5                 | .112307E-01                       | 0.3             | 0.1110E-01                         | 1.20            | 4.290E-04       |                 |                        | 1.0    |
| 5   | 3     | $E$      | 5    | 2      | $E$       | 1034.21157 | 7                 | .862715E-02                       | 0.6             | 0.8560E-02                         | .78             | 3.937E-04       |                 |                        | 1.0    |
| 4   | 3     | $E$      | 4    | 2      | $E$       | 1034.22776 | 4                 | .636773E-02                       | 0.5             | 0.6257E-02                         | 1.74            | 3.026E-04       |                 | -.488E+00              | 1.3    |
| 3   | 3     | $E$      | 3    | 2      | $E$       | 1034.24067 | -2                | .358453E-02                       | 1.2             | 0.3535E-02                         | 1.39            | 4.931E-04       |                 |                        | 1.0    |
| 37  | 8     | $E$      | 38   | 7      | $E$       | 1034.35606 | -13               |                                   |                 | 0.4118E-03                         |                 |                 |                 |                        |        |
| 25  | 0     | $E$      | 24   | 1      | $E$       | 1034.38083 | 3                 | .742985E-02                       | 0.5             | 0.7241E-02                         | 2.54            | 3.520E-04       |                 |                        | 1.0    |
| 22  | 6     | $E$      | 23   | 5      | $E$       | 1034.48935 | -5                | .270049E-02                       | 0.8             | 0.2698E-02                         | .10             | 5.283E-04       | -.434E+00       |                        | 1.2    |
| 34  | 1     | $E$      | 33   | 2      | $E$       | 1034.54345 | -2                |                                   |                 | 0.2723E-02                         |                 |                 |                 |                        |        |
| 64  | 4     | $A_2$    | 64   | 3      | $A_1$     | 1034.60617 | 4                 |                                   |                 | 0.2020E-04                         |                 |                 |                 |                        |        |
| 64  | 4     | $A_1$    | 64   | 3      | $A_2$     | 1034.60617 | 3                 |                                   |                 | 0.2020E-04                         |                 |                 |                 |                        |        |
| 44  | 9     | $E$      | 45   | 8      | $E$       | 1034.63750 | -16               |                                   |                 | 0.1037E-03                         |                 |                 |                 |                        |        |
| 17  | 1     | $A_2$    | 16   | 0      | $A_1$     | 1034.73168 | 2                 | .234069E-01                       | 0.2             | 0.2331E-01                         | .40             | 4.197E-04       |                 |                        | 1.0    |
| 53  | 3     | $E$      | 52   | 4      | $E$       | 1034.77988 | -6                |                                   |                 | 0.8351E-04                         |                 |                 |                 |                        |        |
| 63  | 4     | $A_1$    | 63   | 3      | $A_2$     | 1034.81341 | -28               |                                   |                 | 0.2596E-04                         |                 |                 |                 |                        |        |
| 63  | 4     | $A_2$    | 63   | 3      | $A_1$     | 1034.81341 | -28               |                                   |                 | 0.2596E-04                         |                 |                 |                 |                        |        |
| 14  | 5     | $E$      | 15   | 4      | $E$       | 1034.85309 | 9                 |                                   |                 | 0.3503E-02                         |                 |                 |                 |                        |        |
| 29  | 7     | $A_2$    | 30   | 6      | $A_1$     | 1034.96557 | -6                | .253719E-02                       | 0.8             | 0.1321E-02                         | -4.14           | 2.957E-04       | -.149E+00       |                        | 1.1    |
| 29  | 7     | $A_1$    | 30   | 6      | $A_2$     | 1034.96557 | -6                |                                   |                 | 0.1321E-02                         |                 |                 |                 |                        |        |
| 9   | 2     | $E$      | 8    | 1      | $E$       | 1035.05706 | 6                 | .118160E-01                       | 0.4             | 0.1166E-01                         | 1.30            | 3.157E-04       | -.102E+00       | -.428E+00              | 1.4    |
| 6   | 4     | $A_2$    | 7    | 3      | $A_1$     | 1035.07321 | -12               | .275005E-02                       | 0.7             | 0.1411E-02                         | -2.60           | 4.899E-04       | -.171E+01       |                        | 2.5    |
| 6   | 4     | $A_1$    | 7    | 3      | $A_2$     | 1035.07321 | -12               |                                   |                 | 0.1411E-02                         |                 |                 |                 |                        |        |
| 26  | 0     | $E$      | 25   | 1      | $E$       | 1035.17788 | 2                 | .814736E-02                       | 0.3             | 0.6768E-02                         | 3.25            | 5.419E-04       | .387E+00        |                        | 1.4    |
| 44  | 2     | $A_2$    | 43   | 3      | $A_1$     | 1035.17788 | 35                |                                   |                 | 0.5574E-03                         |                 |                 |                 |                        |        |
| 61  | 4     | $A_1$    | 61   | 3      | $A_2$     | 1035.21856 | -46               |                                   |                 | 0.4233E-04                         |                 |                 |                 |                        |        |
| 61  | 4     | $A_2$    | 61   | 3      | $A_1$     | 1035.21856 | -47               |                                   |                 | 0.4233E-04                         |                 |                 |                 |                        |        |
| 35  | 1     | $E$      | 34   | 2      | $E$       | 1035.30678 | -12               | .248939E-02                       | 0.4             | 0.2422E-02                         | 2.71            | 4.305E-04       | -.220E+00       | -.562E+00              | 1.7    |
| 36  | 8     | $E$      | 37   | 7      | $E$       | 1035.35188 | -3                |                                   |                 | 0.4652E-03                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 21  | 6     | $E$      | 22   | 5      | $E$       | 1035.44351 | 9                 |                                   |                 | 0.2767E-02                         |                 |                 |                 |                        |        |
| 54  | 3     | $E$      | 53   | 4      | $E$       | 1035.46747 | -6                |                                   |                 | 0.6762E-04                         |                 |                 |                 |                        |        |
| 18  | 1     | $A_1$    | 17   | 0      | $A_2$     | 1035.54902 | 3                 | .225968E-01                       | 0.1             | 0.2293E-01                         | -1.48           | 3.770E-04       | -.470E-01       | -.258E+00              | 1.1    |
| 59  | 4     | $A_1$    | 59   | 3      | $A_2$     | 1035.61103 | -31               |                                   |                 | 0.6782E-04                         |                 |                 |                 |                        |        |
| 59  | 4     | $A_2$    | 59   | 3      | $A_1$     | 1035.61103 | -31               |                                   |                 | 0.6782E-04                         |                 |                 |                 |                        |        |
| 13  | 5     | $E$      | 14   | 4      | $E$       | 1035.78347 | 7                 | .336931E-02                       | 0.8             | 0.3277E-02                         | 2.73            | 4.055E-04       |                 |                        | 1.0    |
| 58  | 4     | $A_2$    | 58   | 3      | $A_1$     | 1035.80249 | -13               |                                   |                 | 0.8527E-04                         |                 |                 |                 |                        |        |
| 58  | 4     | $A_1$    | 58   | 3      | $A_2$     | 1035.80249 | -13               |                                   |                 | 0.8527E-04                         |                 |                 |                 |                        |        |
| 45  | 2     | $A_1$    | 44   | 3      | $A_2$     | 1035.90201 | 29                |                                   |                 | 0.4713E-03                         |                 |                 |                 |                        |        |
| 45  | 2     | $A_2$    | 44   | 3      | $A_1$     | 1035.90459 | 15                |                                   |                 | 0.4713E-03                         |                 |                 |                 |                        |        |
| 10  | 2     | $E$      | 9    | 1      | $E$       | 1035.91074 | 6                 | .120158E-01                       | 0.5             | 0.1213E-01                         | -9.97           | 3.637E-04       |                 |                        | 1.0    |
| 28  | 7     | $A_2$    | 29   | 6      | $A_1$     | 1035.93952 | 2                 |                                   |                 | 0.1424E-02                         |                 |                 |                 |                        |        |
| 28  | 7     | $A_1$    | 29   | 6      | $A_2$     | 1035.93952 | 2                 |                                   |                 | 0.1424E-02                         |                 |                 |                 |                        |        |
| 27  | 0     | $E$      | 26   | 1      | $E$       | 1035.97127 | 3                 | .633986E-02                       | 0.4             | 0.6287E-02                         | .83             | 3.659E-04       |                 |                        | 1.0    |
| 5   | 4     | $A_2$    | 6    | 3      | $A_1$     | 1035.97930 | 15                | .166748E-02                       | 4.6             | 0.8489E-03                         | -1.82           | 1.985E-04       |                 |                        | 1.0    |
| 5   | 4     | $A_1$    | 6    | 3      | $A_2$     | 1035.97930 | 15                |                                   |                 | 0.8489E-03                         |                 |                 |                 |                        |        |
| 57  | 4     | $A_1$    | 57   | 3      | $A_2$     | 1035.99065 | 0                 |                                   |                 | 0.1067E-03                         |                 |                 |                 |                        |        |
| 57  | 4     | $A_2$    | 57   | 3      | $A_1$     | 1035.99065 | 0                 |                                   |                 | 0.1067E-03                         |                 |                 |                 |                        |        |
| 36  | 1     | $E$      | 35   | 2      | $E$       | 1036.06655 | 4                 | .213201E-02                       | 0.5             | 0.2143E-02                         | -.50            | 2.999E-04       |                 |                        | 1.0    |
| 55  | 3     | $E$      | 54   | 4      | $E$       | 1036.15096 | -1                |                                   |                 | 0.5450E-04                         |                 |                 |                 |                        |        |
| 56  | 4     | $A_2$    | 56   | 3      | $A_1$     | 1036.17538 | -4                |                                   |                 | 0.1330E-03                         |                 |                 |                 |                        |        |
| 56  | 4     | $A_1$    | 56   | 3      | $A_2$     | 1036.17538 | -4                |                                   |                 | 0.1330E-03                         |                 |                 |                 |                        |        |
| 35  | 8     | $E$      | 36   | 7      | $E$       | 1036.34496 | 4                 |                                   |                 | 0.5224E-03                         |                 |                 |                 |                        |        |
| 19  | 1     | $A_2$    | 18   | 0      | $A_1$     | 1036.36236 | 4                 | .220411E-01                       | 0.2             | 0.2240E-01                         | -1.61           | 3.843E-04       | .258E-01        | -.192E+00              | 1.2    |
| 20  | 6     | $E$      | 21   | 5      | $E$       | 1036.39455 | 4                 | .275671E-02                       | 0.6             | 0.2812E-02                         | -2.00           | 4.756E-04       |                 | -.463E+00              | 1.2    |
| 54  | 4     | $A_1$    | 54   | 3      | $A_2$     | 1036.53575 | 52                |                                   |                 | 0.2039E-03                         |                 |                 |                 |                        |        |
| 54  | 4     | $A_2$    | 54   | 3      | $A_1$     | 1036.53575 | 53                |                                   |                 | 0.2039E-03                         |                 |                 |                 |                        |        |
| 46  | 2     | $A_2$    | 45   | 3      | $A_1$     | 1036.62186 | -6                |                                   |                 | 0.3965E-03                         |                 |                 |                 |                        |        |
| 46  | 2     | $A_1$    | 45   | 3      | $A_2$     | 1036.62517 | 19                |                                   |                 | 0.3965E-03                         |                 |                 |                 |                        |        |
| 42  | 9     | $E$      | 43   | 8      | $E$       | 1036.66305 | -10               |                                   |                 | 0.1414E-03                         |                 |                 |                 |                        |        |
| 53  | 4     | $A_1$    | 53   | 3      | $A_2$     | 1036.71054 | 29                |                                   |                 | 0.2507E-03                         |                 |                 |                 |                        |        |
| 53  | 4     | $A_1$    | 53   | 3      | $A_2$     | 1036.71070 | 45                |                                   |                 | 0.2507E-03                         |                 |                 |                 |                        |        |
| 53  | 4     | $A_2$    | 53   | 3      | $A_1$     | 1036.71070 | 45                |                                   |                 | 0.2507E-03                         |                 |                 |                 |                        |        |
| 12  | 5     | $E$      | 13   | 4      | $E$       | 1036.71070 | -7                |                                   |                 | 0.3001E-02                         |                 |                 |                 |                        |        |
| 28  | 0     | $E$      | 27   | 1      | $E$       | 1036.76099 | 6                 | .184930E-01                       | 0.2             | 0.5807E-02                         | .99             | 3.154E-04       |                 | -.548E+00              | 1.6    |
| 11  | 2     | $E$      | 10   | 1      | $E$       | 1036.76099 | 2                 |                                   |                 | 0.1250E-01                         |                 |                 |                 |                        |        |
| 37  | 1     | $E$      | 36   | 2      | $E$       | 1036.82235 | 6                 | .190931E-02                       | 0.8             | 0.1886E-02                         | 1.24            | 2.837E-04       | -.255E+00       |                        | 1.3    |
| 4   | 4     | $A_1$    | 5    | 3      | $A_2$     | 1036.88190 | 8                 |                                   |                 | 0.3488E-03                         |                 |                 |                 |                        |        |
| 4   | 4     | $A_2$    | 5    | 3      | $A_1$     | 1036.88190 | 8                 |                                   |                 | 0.3488E-03                         |                 |                 |                 |                        |        |
| 52  | 4     | $A_2$    | 52   | 3      | $A_1$     | 1036.88190 | -13               |                                   |                 | 0.3069E-03                         |                 |                 |                 |                        |        |
| 52  | 4     | $A_1$    | 52   | 3      | $A_2$     | 1036.88190 | -13               |                                   |                 | 0.3069E-03                         |                 |                 |                 |                        |        |
| 3   | 3     | $E$      | 2    | 2      | $E$       | 1036.90094 | 5                 | .101152E-01                       | 0.3             | 0.1026E-01                         | -1.47           | 3.676E-04       |                 |                        | 1.0    |
| 27  | 7     | $A_2$    | 28   | 6      | $A_1$     | 1036.91052 | -3                | .296773E-02                       | 1.0             | 0.1525E-02                         | -2.77           | 3.891E-04       |                 |                        | 1.0    |
| 27  | 7     | $A_1$    | 28   | 6      | $A_2$     | 1036.91052 | -3                |                                   |                 | 0.1525E-02                         |                 |                 |                 |                        |        |
| 51  | 4     | $A_2$    | 51   | 3      | $A_1$     | 1037.05057 | 0                 |                                   |                 | 0.3740E-03                         |                 |                 |                 |                        |        |
| 51  | 4     | $A_1$    | 51   | 3      | $A_2$     | 1037.05057 | 1                 |                                   |                 | 0.3740E-03                         |                 |                 |                 |                        |        |
| 20  | 1     | $A_1$    | 19   | 0      | $A_2$     | 1037.17168 | 4                 | .216029E-01                       | 0.1             | 0.2173E-01                         | -.58            | 3.939E-04       |                 | -.141E+00              | 1.1    |
| 50  | 4     | $A_1$    | 50   | 3      | $A_2$     | 1037.21585 | 0                 |                                   |                 | 0.4537E-03                         |                 |                 |                 |                        |        |
| 50  | 4     | $A_2$    | 50   | 3      | $A_1$     | 1037.21585 | 0                 |                                   |                 | 0.4537E-03                         |                 |                 |                 |                        |        |
| 34  | 8     | $E$      | 35   | 7      | $E$       | 1037.33541 | 20                |                                   |                 | 0.5833E-03                         |                 |                 |                 |                        |        |
| 19  | 6     | $E$      | 20   | 5      | $E$       | 1037.34250 | -18               | .281551E-02                       | 1.3             | 0.2828E-02                         | -.43            | 4.533E-04       |                 |                        | 1.0    |
| 49  | 4     | $A_1$    | 49   | 3      | $A_2$     | 1037.37785 | -5                |                                   |                 | 0.5479E-03                         |                 |                 |                 |                        |        |
| 49  | 4     | $A_2$    | 49   | 3      | $A_1$     | 1037.37785 | -5                |                                   |                 | 0.5479E-03                         |                 |                 |                 |                        |        |
| 48  | 4     | $A_1$    | 48   | 3      | $A_2$     | 1037.53662 | -7                |                                   |                 | 0.6587E-03                         |                 |                 |                 |                        |        |
| 48  | 4     | $A_2$    | 48   | 3      | $A_1$     | 1037.53662 | -7                |                                   |                 | 0.6587E-03                         |                 |                 |                 |                        |        |
| 29  | 0     | $E$      | 28   | 1      | $E$       | 1037.54693 | 3                 | .554289E-02                       | 2.0             | 0.5333E-02                         | 3.79            | 1.933E-04       |                 |                        | 1.0    |
| 38  | 1     | $E$      | 37   | 2      | $E$       | 1037.57424 | 3                 | .168123E-02                       | 0.5             | 0.1651E-02                         | 1.81            | 2.267E-04       |                 |                        | 1.0    |
| 12  | 2     | $E$      | 11   | 1      | $E$       | 1037.60792 | 5                 | .126123E-01                       | 0.3             | 0.1277E-01                         | -1.25           | 4.239E-04       |                 |                        | 1.0    |
| 11  | 5     | $E$      | 12   | 4      | $E$       | 1037.63515 | 5                 | .268958E-02                       | 0.5             | 0.2675E-02                         | .53             | 3.245E-04       | -.224E+00       | -.413E+00              | 1.4    |
| 41  | 9     | $E$      | 42   | 8      | $E$       | 1037.67194 | -3                |                                   |                 | 0.1639E-03                         |                 |                 |                 |                        |        |
| 47  | 4     | $A_2$    | 47   | 3      | $A_1$     | 1037.69224 | 0                 |                                   |                 | 0.7882E-03                         |                 |                 |                 |                        |        |
| 47  | 4     | $A_1$    | 47   | 3      | $A_2$     | 1037.69224 | 0                 |                                   |                 | 0.7882E-03                         |                 |                 |                 |                        |        |
| 4   | 3     | $E$      | 3    | 2      | $E$       | 1037.77465 | 8                 | .106400E-01                       | 0.1             | 0.1065E-01                         | -.14            | 2.829E-04       | -.515E-01       | -.408E+00              | 1.9    |
| 46  | 4     | $A_2$    | 46   | 3      | $A_1$     | 1037.84455 | 0                 | .198904E-02                       | 0.7             | 0.9388E-03                         | 5.60            | 3.489E-04       | -.211E+00       |                        | 1.2    |
| 46  | 4     | $A_1$    | 46   | 3      | $A_2$     | 1037.84455 | 0                 |                                   |                 | 0.9388E-03                         |                 |                 |                 |                        |        |
| 26  | 7     | $A_1$    | 27   | 6      | $A_2$     | 1037.87855 | -23               |                                   |                 | 0.1621E-02                         |                 |                 |                 |                        |        |
| 26  | 7     | $A_2$    | 27   | 6      | $A_1$     | 1037.87855 | -23               |                                   |                 | 0.1621E-02                         |                 |                 |                 |                        |        |
| 48  | 10    | $A_1$    | 49   | 9      | $A_2$     | 1037.92407 | -6                |                                   |                 | 0.3452E-04                         |                 |                 |                 |                        |        |
| 48  | 10    | $A_2$    | 49   | 9      | $A_1$     | 1037.92407 | -6                |                                   |                 | 0.3452E-04                         |                 |                 |                 |                        |        |
| 21  | 1     | $A_2$    | 20   | 0      | $A_1$     | 1037.97695 | 2                 | .206923E-01                       | 0.2             | 0.2095E-01                         | -1.22           | 3.619E-04       | .571E-01        | -.366E+00              | 1.4    |
| 45  | 4     | $A_2$    | 45   | 3      | $A_1$     | 1037.99361 | -1                | .227391E-02                       | 1.0             | 0.1113E-02                         | 2.10            | 1.853E-04       | .656E-01        | -.368E+00              | 1.1    |
| 45  | 4     | $A_1$    | 45   | 3      | $A_2$     | 1037.99361 | -1                |                                   |                 | 0.1113E-02                         |                 |                 |                 |                        |        |
| 48  | 2     | $A_2$    | 47   | 3      | $A_1$     | 1038.05024 | 0                 |                                   |                 | 0.2765E-03                         |                 |                 |                 |                        |        |
| 48  | 2     | $A_1$    | 47   | 3      | $A_2$     | 1038.05414 | 8                 |                                   |                 | 0.2765E-03                         |                 |                 |                 |                        |        |
| 44  | 4     | $A_2$    | 44   | 3      | $A_1$     | 1038.13941 | -3                | .268169E-02                       | 0.8             | 0.1314E-02                         | 2.04            | 1.992E-04       |                 |                        | 1.0    |
| 44  | 4     | $A_1$    | 44   | 3      | $A_2$     | 1038.13941 | -3                |                                   |                 | 0.1314E-02                         |                 |                 |                 |                        |        |
| 43  | 4     | $A_2$    | 43   | 3      | $A_1$     | 1038.28182 | -20               | .336462E-02                       | 1.2             | 0.1543E-02                         | 10.44           | 5.021E-04       |                 |                        | 1.0    |
| 43  | 4     | $A_1$    | 43   | 3      | $A_2$     | 1038.28182 | -20               |                                   |                 | 0.1543E-02                         |                 |                 |                 |                        |        |
| 18  | 6     | $E$      | 19   | 5      | $E$       | 1038.28816 | 27                |                                   |                 | 0.2812E-02                         |                 |                 |                 |                        |        |
| 39  | 1     | $E$      | 38   | 2      | $E$       | 1038.32244 | 19                | .226408E-02                       | 1.0             | 0.1438E-02                         | 7.90            | 2.926E-04       |                 |                        | 1.0    |
| 33  | 8     | $E$      | 34   | 7      | $E$       | 1038.32244 | -32               |                                   |                 | 0.6474E-03                         |                 |                 |                 |                        |        |
| 30  | 0     | $E$      | 29   | 1      | $E$       | 1038.32918 | 4                 | .514187E-02                       | 0.5             | 0.4870E-02                         | 5.29            | 3.405E-04       |                 |                        | 1.0    |

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| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 42  | 4     | $A_2$    | 42   | 3      | $A_1$     | 1038.42107 | -29               |                                   |                 | 0.1804E-02                         |                 |                 |                 |                        |        |
| 42  | 4     | $A_1$    | 42   | 3      | $A_2$     | 1038.42107 | -29               |                                   |                 | 0.1804E-02                         |                 |                 |                 |                        |        |
| 13  | 2     | $E$      | 12   | 1      | $E$       | 1038.45138 | 4                 | .127678E-01                       | 0.3             | 0.1293E-01                         | -1.30           | 3.729E-04       |                 | -.422E+00              | 1.4    |
| 41  | 4     | $A_2$    | 41   | 3      | $A_1$     | 1038.55712 | -33               | .672395E-02                       | 0.9             | 0.2099E-02                         | 3.27            | 5.200E-04       |                 |                        | 1.0    |
| 41  | 4     | $A_1$    | 41   | 3      | $A_2$     | 1038.55712 | -33               |                                   |                 | 0.2099E-02                         |                 |                 |                 |                        |        |
| 5   | 3     | $E$      | 4    | 2      | $E$       | 1038.64503 | 7                 | .111753E-01                       | 0.3             | 0.1119E-01                         | -1.11           | 2.898E-04       | -.279E-01       | -.332E+00              | 1.2    |
| 40  | 9     | $E$      | 41   | 8      | $E$       | 1038.67803 | -12               |                                   |                 | 0.1890E-03                         |                 |                 |                 |                        |        |
| 40  | 4     | $A_2$    | 40   | 3      | $A_1$     | 1038.69030 | 0                 | .480276E-02                       | 0.3             | 0.2430E-02                         | -1.21           | 2.507E-04       |                 |                        | 1.0    |
| 40  | 4     | $A_1$    | 40   | 3      | $A_2$     | 1038.69030 | 0                 |                                   |                 | 0.2430E-02                         |                 |                 |                 |                        |        |
| 49  | 2     | $A_1$    | 48   | 3      | $A_2$     | 1038.75819 | -14               |                                   |                 | 0.2293E-03                         |                 |                 |                 |                        |        |
| 49  | 2     | $A_2$    | 48   | 3      | $A_1$     | 1038.76270 | 14                |                                   |                 | 0.2293E-03                         |                 |                 |                 |                        |        |
| 22  | 1     | $A_1$    | 21   | 0      | $A_2$     | 1038.77821 | 3                 | .198787E-01                       | 0.2             | 0.2006E-01                         | -.93            | 3.505E-04       | -.471E-01       | -.380E+00              | 1.4    |
| 39  | 4     | $A_2$    | 39   | 3      | $A_1$     | 1038.81992 | 0                 | .565031E-02                       | 0.4             | 0.2801E-02                         | .86             | 3.116E-04       | .128E+00        | .182E+00               | 1.2    |
| 39  | 4     | $A_1$    | 39   | 3      | $A_2$     | 1038.81992 | 0                 |                                   |                 | 0.2801E-02                         |                 |                 |                 |                        |        |
| 59  | 3     | $E$      | 58   | 4      | $E$       | 1038.84401 | 113               |                                   |                 | 0.2192E-04                         |                 |                 |                 |                        |        |
| 25  | 7     | $A_2$    | 26   | 6      | $A_1$     | 1038.84413 | -2                | .332104E-02                       | 0.4             | 0.1710E-02                         | -2.95           | 3.132E-04       | -.859E-01       | -.402E+00              | 1.3    |
| 25  | 7     | $A_1$    | 26   | 6      | $A_2$     | 1038.84413 | -2                |                                   |                 | 0.1710E-02                         |                 |                 |                 |                        |        |
| 38  | 4     | $A_2$    | 38   | 3      | $A_1$     | 1038.94629 | 0                 | .633212E-02                       | 0.4             | 0.3212E-02                         | -1.47           | 2.044E-04       |                 | -.512E+00              | 1.4    |
| 38  | 4     | $A_1$    | 38   | 3      | $A_2$     | 1038.94629 | 0                 |                                   |                 | 0.3212E-02                         |                 |                 |                 |                        |        |
| 37  | 4     | $A_2$    | 37   | 3      | $A_1$     | 1039.06941 | -1                | .743521E-02                       | 1.2             | 0.3666E-02                         | 1.37            | 3.075E-04       |                 |                        | 1.0    |
| 37  | 4     | $A_1$    | 37   | 3      | $A_2$     | 1039.06941 | -1                |                                   |                 | 0.3666E-02                         |                 |                 |                 |                        |        |
| 31  | 0     | $E$      | 30   | 1      | $E$       | 1039.10769 | 7                 | .448751E-02                       | 0.7             | 0.4423E-02                         | 1.44            | 3.661E-04       |                 |                        | 1.0    |
| 36  | 4     | $A_2$    | 36   | 3      | $A_1$     | 1039.18931 | 0                 | .840894E-02                       | 0.4             | 0.4164E-02                         | .96             | 2.996E-04       |                 |                        | 1.0    |
| 36  | 4     | $A_1$    | 36   | 3      | $A_2$     | 1039.18931 | 0                 |                                   |                 | 0.4164E-02                         |                 |                 |                 |                        |        |
| 17  | 6     | $E$      | 18   | 5      | $E$       | 1039.23015 | 0                 | .277663E-02                       | 0.5             | 0.2761E-02                         | .55             | 4.057E-04       |                 |                        | 1.0    |
| 14  | 2     | $E$      | 13   | 1      | $E$       | 1039.29143 | 4                 | .128793E-01                       | 0.3             | 0.1300E-01                         | -.91            | 4.240E-04       |                 |                        | 1.0    |
| 35  | 4     | $A_2$    | 35   | 3      | $A_1$     | 1039.30600 | 5                 | .948718E-02                       | 0.4             | 0.4706E-02                         | .79             | 4.017E-04       |                 |                        | 1.0    |
| 35  | 4     | $A_1$    | 35   | 3      | $A_2$     | 1039.30600 | 5                 |                                   |                 | 0.4706E-02                         |                 |                 |                 |                        |        |
| 34  | 4     | $A_2$    | 34   | 3      | $A_1$     | 1039.41936 | 0                 | .105662E-01                       | 0.2             | 0.5292E-02                         | -1.16           | 2.769E-04       |                 |                        | 1.0    |
| 34  | 4     | $A_1$    | 34   | 3      | $A_2$     | 1039.41936 | 0                 |                                   |                 | 0.5292E-02                         |                 |                 |                 |                        |        |
| 50  | 2     | $A_2$    | 49   | 3      | $A_1$     | 1039.46245 | 9                 |                                   |                 | 0.1891E-03                         |                 |                 |                 |                        |        |
| 50  | 2     | $A_1$    | 49   | 3      | $A_2$     | 1039.46699 | 0                 |                                   |                 | 0.1891E-03                         |                 |                 |                 |                        |        |
| 9   | 5     | $E$      | 10   | 4      | $E$       | 1039.47459 | 6                 | .184420E-02                       | 1.0             | 0.1901E-02                         | -3.11           | 3.573E-04       | -.369E+00       | -.324E+00              | 1.3    |
| 60  | 3     | $E$      | 59   | 4      | $E$       | 1039.50609 | 79                |                                   |                 | 0.1725E-04                         |                 |                 |                 |                        |        |
| 6   | 3     | $E$      | 5    | 2      | $E$       | 1039.51210 | 6                 | .116971E-01                       | 0.3             | 0.1175E-01                         | -.45            | 3.162E-04       | -.163E+00       | -.339E+00              | 1.7    |
| 33  | 4     | $A_2$    | 33   | 3      | $A_1$     | 1039.52953 | 0                 | .121162E-01                       | 0.4             | 0.5920E-02                         | 2.27            | 3.317E-04       | -.522E+00       | -.246E+00              | 2.8    |
| 33  | 4     | $A_1$    | 33   | 3      | $A_2$     | 1039.52953 | 0                 |                                   |                 | 0.5920E-02                         |                 |                 |                 |                        |        |
| 23  | 1     | $A_2$    | 22   | 0      | $A_1$     | 1039.57533 | -4                |                                   |                 | 0.1910E-01                         |                 |                 |                 |                        |        |
| 32  | 4     | $A_2$    | 32   | 3      | $A_1$     | 1039.63647 | 1                 | .133391E-01                       | 0.3             | 0.6590E-02                         | 1.20            | 3.323E-04       |                 |                        | 1.0    |
| 32  | 4     | $A_1$    | 32   | 3      | $A_2$     | 1039.63647 | 1                 |                                   |                 | 0.6590E-02                         |                 |                 |                 |                        |        |
| 31  | 4     | $A_1$    | 31   | 3      | $A_2$     | 1039.73980 | -34               |                                   |                 | 0.7297E-02                         |                 |                 |                 |                        |        |
| 31  | 4     | $A_2$    | 31   | 3      | $A_1$     | 1039.73980 | -34               |                                   |                 | 0.7297E-02                         |                 |                 |                 |                        |        |
| 24  | 7     | $A_2$    | 25   | 6      | $A_1$     | 1039.80667 | 1                 | .474678E-02                       | 0.5             | 0.1789E-02                         | 2.00            | 3.357E-04       | -.139E+00       |                        | 1.0    |
| 24  | 7     | $A_1$    | 25   | 6      | $A_2$     | 1039.80667 | 1                 |                                   |                 | 0.1789E-02                         |                 |                 |                 |                        |        |
| 41  | 1     | $E$      | 40   | 2      | $E$       | 1039.80667 | 2                 |                                   |                 | 0.1074E-02                         |                 |                 |                 |                        |        |
| 30  | 4     | $A_2$    | 30   | 3      | $A_1$     | 1039.84052 | -7                | .165071E-01                       | 0.4             | 0.8038E-02                         | 2.62            | 3.984E-04       |                 |                        | 1.0    |
| 30  | 4     | $A_1$    | 30   | 3      | $A_2$     | 1039.84052 | -7                |                                   |                 | 0.8038E-02                         |                 |                 |                 |                        |        |
| 32  | 0     | $E$      | 31   | 1      | $E$       | 1039.88240 | 6                 | .408447E-02                       | 0.2             | 0.3995E-02                         | 2.20            | 2.694E-04       | -.858E-01       | -.391E+00              | 1.9    |
| 29  | 4     | $A_2$    | 29   | 3      | $A_1$     | 1039.93781 | 1                 | .173186E-01                       | 0.2             | 0.8806E-02                         | -1.70           | 3.316E-04       |                 |                        | 1.0    |
| 29  | 4     | $A_1$    | 29   | 3      | $A_2$     | 1039.93781 | 1                 |                                   |                 | 0.8806E-02                         |                 |                 |                 |                        |        |
| 46  | 10    | $A_1$    | 47   | 9      | $A_2$     | 1039.96988 | 8                 |                                   |                 | 0.4894E-04                         |                 |                 |                 |                        |        |
| 46  | 10    | $A_2$    | 47   | 9      | $A_1$     | 1039.96988 | 8                 |                                   |                 | 0.4894E-04                         |                 |                 |                 |                        |        |
| 28  | 4     | $A_2$    | 28   | 3      | $A_1$     | 1040.03176 | 0                 | .184089E-01                       | 0.2             | 0.9596E-02                         | -4.26           | 2.973E-04       | -.124E+00       | -.389E+00              | 1.7    |
| 28  | 4     | $A_1$    | 28   | 3      | $A_2$     | 1040.03176 | 0                 |                                   |                 | 0.9596E-02                         |                 |                 |                 |                        |        |
| 27  | 4     | $A_2$    | 27   | 3      | $A_1$     | 1040.12248 | -1                | .201799E-01                       | 0.2             | 0.1040E-01                         | -3.07           | 3.376E-04       |                 |                        | 1.0    |
| 27  | 4     | $A_1$    | 27   | 3      | $A_2$     | 1040.12248 | -1                |                                   |                 | 0.1040E-01                         |                 |                 |                 |                        |        |
| 15  | 2     | $E$      | 14   | 1      | $E$       | 1040.12807 | 7                 | .128583E-01                       | 0.4             | 0.1296E-01                         | -.81            | 4.181E-04       |                 |                        | 1.0    |
| 51  | 2     | $A_1$    | 50   | 3      | $A_2$     | 1040.16242 | 13                |                                   |                 | 0.1553E-03                         |                 |                 |                 |                        |        |
| 16  | 6     | $E$      | 17   | 5      | $E$       | 1040.16943 | 0                 | .266149E-02                       | 1.4             | 0.2674E-02                         | -.46            | 4.429E-04       | -.350E+00       |                        | 1.1    |
| 26  | 4     | $A_2$    | 26   | 3      | $A_1$     | 1040.20998 | 1                 | .216369E-01                       | 0.3             | 0.1121E-01                         | -3.59           | 3.043E-04       | -.193E+00       | -.355E+00              | 1.4    |
| 26  | 4     | $A_1$    | 26   | 3      | $A_2$     | 1040.20998 | 1                 |                                   |                 | 0.1121E-01                         |                 |                 |                 |                        |        |
| 25  | 4     | $A_1$    | 25   | 3      | $A_2$     | 1040.29435 | 13                |                                   |                 | 0.1201E-01                         |                 |                 |                 |                        |        |
| 25  | 4     | $A_2$    | 25   | 3      | $A_1$     | 1040.29435 | 13                |                                   |                 | 0.1201E-01                         |                 |                 |                 |                        |        |
| 24  | 1     | $A_1$    | 23   | 0      | $A_2$     | 1040.36854 | 4                 | .182805E-01                       | 0.5             | 0.1808E-01                         | 1.10            | 3.573E-04       |                 |                        | 1.0    |
| 24  | 4     | $A_2$    | 24   | 3      | $A_1$     | 1040.37541 | 18                | .367159E-01                       | 0.4             | 0.1279E-01                         | -3.14           | 4.423E-04       |                 |                        | 1.0    |
| 24  | 4     | $A_1$    | 24   | 3      | $A_2$     | 1040.37541 | 18                |                                   |                 | 0.1279E-01                         |                 |                 |                 |                        |        |
| 7   | 3     | $E$      | 6    | 2      | $E$       | 1040.37541 | -37               |                                   |                 | 0.1229E-01                         |                 |                 |                 |                        |        |
| 8   | 5     | $E$      | 9    | 4      | $E$       | 1040.38948 | -13               | .149107E-02                       | 1.7             | 0.1472E-02                         | 1.30            | 2.879E-04       |                 |                        | 1.0    |
| 23  | 4     | $A_2$    | 23   | 3      | $A_1$     | 1040.45301 | 1                 | .265153E-01                       | 0.1             | 0.1354E-01                         | -2.14           | 3.802E-04       |                 |                        | 1.0    |
| 23  | 4     | $A_1$    | 23   | 3      | $A_2$     | 1040.45301 | 1                 |                                   |                 | 0.1354E-01                         |                 |                 |                 |                        |        |
| 22  | 4     | $A_2$    | 22   | 3      | $A_1$     | 1040.52753 | 1                 | .279694E-01                       | 0.2             | 0.1425E-01                         | -1.87           | 4.074E-04       | -.167E+00       | .320E+00               | 1.6    |
| 22  | 4     | $A_1$    | 22   | 3      | $A_2$     | 1040.52753 | 1                 |                                   |                 | 0.1425E-01                         |                 |                 |                 |                        |        |
| 21  | 4     | $A_1$    | 21   | 3      | $A_2$     | 1040.59892 | 11                |                                   |                 | 0.1489E-01                         |                 |                 |                 |                        |        |
| 21  | 4     | $A_2$    | 21   | 3      | $A_1$     | 1040.59892 | 11                |                                   |                 | 0.1489E-01                         |                 |                 |                 |                        |        |
| 33  | 0     | $E$      | 32   | 1      | $E$       | 1040.65330 | 4                 | .366047E-02                       | 4.2             | 0.3588E-02                         | 1.97            | 1.165E-04       |                 |                        | 1.0    |
| 20  | 4     | $A_2$    | 20   | 3      | $A_1$     | 1040.66690 | 4                 | .299596E-01                       | 0.4             | 0.1546E-01                         | -3.23           | 3.727E-04       |                 |                        | 1.0    |
| 20  | 4     | $A_1$    | 20   | 3      | $A_2$     | 1040.66690 | 4                 |                                   |                 | 0.1546E-01                         |                 |                 |                 |                        |        |
| 38  | 9     | $E$      | 39   | 8      | $E$       | 1040.68232 | -22               |                                   |                 | 0.2470E-03                         |                 |                 |                 |                        |        |
| 19  | 4     | $A_2$    | 19   | 3      | $A_1$     | 1040.73168 | 2                 | .308782E-01                       | 0.1             | 0.1595E-01                         | -3.28           | 3.944E-04       |                 |                        | 1.0    |
| 19  | 4     | $A_1$    | 19   | 3      | $A_2$     | 1040.73168 | 2                 |                                   |                 | 0.1595E-01                         |                 |                 |                 |                        |        |
| 23  | 7     | $A_2$    | 24   | 6      | $A_1$     | 1040.76627 | -3                | .356051E-02                       | 1.0             | 0.1856E-02                         | -4.26           | 2.628E-04       |                 |                        | 1.0    |
| 23  | 7     | $A_1$    | 24   | 6      | $A_2$     | 1040.76627 | -3                |                                   |                 | 0.1856E-02                         |                 |                 |                 |                        |        |



(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 18  | 4     | $A_1$    | 18   | 3      | $A_2$     | 1040.79334 | 11                |                                   |                 | 0.1632E-01                         |                 |                 |                 |                        |        |
| 18  | 4     | $A_2$    | 18   | 3      | $A_1$     | 1040.79334 | 11                |                                   |                 | 0.1632E-01                         |                 |                 |                 |                        |        |
| 17  | 4     | $A_2$    | 17   | 3      | $A_1$     | 1040.85157 | 1                 | .329431E-01                       | 0.2             | 0.1658E-01                         | -0.64           | 3.902E-04       |                 |                        | 1.0    |
| 17  | 4     | $A_1$    | 17   | 3      | $A_2$     | 1040.85157 | 1                 |                                   |                 | 0.1658E-01                         |                 |                 |                 |                        |        |
| 52  | 2     | $A_1$    | 51   | 3      | $A_2$     | 1040.86367 | 4                 |                                   |                 | 0.1269E-03                         |                 |                 |                 |                        |        |
| 16  | 4     | $A_2$    | 16   | 3      | $A_1$     | 1040.90667 | 2                 | .325386E-01                       | 0.2             | 0.1670E-01                         | -2.64           | 3.968E-04       |                 |                        | 1.0    |
| 16  | 4     | $A_1$    | 16   | 3      | $A_2$     | 1040.90667 | 2                 |                                   |                 | 0.1670E-01                         |                 |                 |                 |                        |        |
| 15  | 4     | $A_1$    | 15   | 3      | $A_2$     | 1040.95855 | 6                 |                                   |                 | 0.1667E-01                         |                 |                 |                 |                        |        |
| 15  | 4     | $A_2$    | 15   | 3      | $A_1$     | 1040.95855 | 6                 |                                   |                 | 0.1667E-01                         |                 |                 |                 |                        |        |
| 14  | 4     | $A_2$    | 14   | 3      | $A_1$     | 1041.00712 | 2                 | .320887E-01                       | 0.2             | 0.1648E-01                         | -2.72           | 4.305E-04       |                 |                        | 1.3    |
| 14  | 4     | $A_1$    | 14   | 3      | $A_2$     | 1041.00712 | 2                 |                                   |                 | 0.1648E-01                         |                 |                 |                 |                        |        |
| 13  | 4     | $A_2$    | 13   | 3      | $A_1$     | 1041.05249 | 2                 | .327278E-01                       | 0.2             | 0.1612E-01                         | 1.49            | 4.612E-04       |                 |                        | 1.0    |
| 13  | 4     | $A_1$    | 13   | 3      | $A_2$     | 1041.05249 | 2                 |                                   |                 | 0.1612E-01                         |                 |                 |                 |                        |        |
| 12  | 4     | $A_2$    | 12   | 3      | $A_1$     | 1041.09462 | 3                 | .309124E-01                       | 0.2             | 0.1558E-01                         | -0.77           | 4.095E-04       |                 |                        | 1.0    |
| 12  | 4     | $A_1$    | 12   | 3      | $A_2$     | 1041.09462 | 3                 |                                   |                 | 0.1558E-01                         |                 |                 |                 |                        |        |
| 15  | 6     | $E'$     | 16   | 5      | $E'$      | 1041.10574 | 3                 | .262797E-02                       | 2.2             | 0.2548E-02                         | 3.04            | 6.613E-04       |                 |                        | 1.8    |
| 11  | 4     | $A_2$    | 11   | 3      | $A_1$     | 1041.13352 | 4                 | .291531E-01                       | 0.2             | 0.1484E-01                         | -1.81           | 3.732E-04       |                 |                        | 1.0    |
| 11  | 4     | $A_1$    | 11   | 3      | $A_2$     | 1041.13352 | 4                 |                                   |                 | 0.1484E-01                         |                 |                 |                 |                        |        |
| 25  | 1     | $A_2$    | 24   | 0      | $A_1$     | 1041.15756 | 3                 | .172735E-01                       | 0.2             | 0.1701E-01                         | 1.51            | 3.690E-04       |                 |                        | 1.0    |
| 10  | 4     | $A_2$    | 10   | 3      | $A_1$     | 1041.16917 | 5                 | .274566E-01                       | 0.2             | 0.1391E-01                         | -1.29           | 3.793E-04       |                 |                        | 1.0    |
| 10  | 4     | $A_1$    | 10   | 3      | $A_2$     | 1041.16917 | 5                 |                                   |                 | 0.1391E-01                         |                 |                 |                 |                        |        |
| 9   | 4     | $A_2$    | 9    | 3      | $A_1$     | 1041.20157 | 4                 | .253504E-01                       | 0.2             | 0.1276E-01                         | -0.69           | 3.704E-04       |                 |                        | 1.0    |
| 9   | 4     | $A_1$    | 9    | 3      | $A_2$     | 1041.20157 | 4                 |                                   |                 | 0.1276E-01                         |                 |                 |                 |                        |        |
| 8   | 4     | $A_2$    | 8    | 3      | $A_1$     | 1041.23074 | 5                 | .222043E-01                       | 0.5             | 0.1140E-01                         | -2.70           | 3.302E-04       |                 |                        | 1.0    |
| 8   | 4     | $A_1$    | 8    | 3      | $A_2$     | 1041.23074 | 5                 |                                   |                 | 0.1140E-01                         |                 |                 |                 |                        |        |
| 8   | 3     | $E'$     | 7    | 2      | $E'$      | 1041.23592 | -26               |                                   |                 | 0.1277E-01                         |                 |                 |                 |                        |        |
| 7   | 4     | $A_2$    | 7    | 3      | $A_1$     | 1041.25665 | 3                 | .190941E-01                       | 0.5             | 0.9809E-02                         | -2.74           | 3.068E-04       |                 |                        | 1.0    |
| 7   | 4     | $A_1$    | 7    | 3      | $A_2$     | 1041.25665 | 3                 |                                   |                 | 0.9809E-02                         |                 |                 |                 |                        |        |
| 30  | 8     | $E'$     | 31   | 7      | $E'$      | 1041.26904 | 16                |                                   |                 | 0.8522E-03                         |                 |                 |                 |                        |        |
| 30  | 8     | $E'$     | 31   | 7      | $E'$      | 1041.26882 | -6                |                                   |                 | 0.8522E-03                         |                 |                 |                 |                        |        |
| 6   | 4     | $A_2$    | 6    | 3      | $A_1$     | 1041.27934 | 4                 | .153925E-01                       | 0.8             | 0.7958E-02                         | -3.40           | 4.310E-04       |                 |                        | 1.0    |
| 6   | 4     | $A_1$    | 6    | 3      | $A_2$     | 1041.27934 | 4                 |                                   |                 | 0.7958E-02                         |                 |                 |                 |                        |        |
| 5   | 4     | $A_1$    | 5    | 3      | $A_2$     | 1041.29881 | 6                 | .126344E-01                       | 0.5             | 0.5800E-02                         | 1.50            | 5.697E-04       | .325E+00        | .509E+00               | 1.3    |
| 5   | 4     | $A_2$    | 5    | 3      | $A_1$     | 1041.29881 | 6                 |                                   |                 | 0.5800E-02                         |                 |                 |                 |                        |        |
| 7   | 5     | $E'$     | 8    | 4      | $E'$      | 1041.29881 | -278              |                                   |                 | 0.1034E-02                         |                 |                 |                 |                        |        |
| 4   | 4     | $A_2$    | 4    | 3      | $A_1$     | 1041.31500 | 5                 | .601187E-02                       | 0.5             | 0.3231E-02                         | -7.48           | 4.020E-04       | -.284E+00       |                        | 1.2    |
| 4   | 4     | $A_1$    | 4    | 3      | $A_2$     | 1041.31500 | 5                 |                                   |                 | 0.3231E-02                         |                 |                 |                 |                        |        |
| 34  | 0     | $E'$     | 33   | 1      | $E'$      | 1041.42040 | 2                 | .331288E-02                       | 0.7             | 0.3207E-02                         | 3.21            | 3.877E-04       | -.352E+00       | .226E+00               | 1.3    |
| 53  | 2     | $A_1$    | 52   | 3      | $A_2$     | 1041.55023 | 38                |                                   |                 | 0.1032E-03                         |                 |                 |                 |                        |        |
| 53  | 2     | $A_2$    | 52   | 3      | $A_1$     | 1041.55532 | -46               |                                   |                 | 0.1032E-03                         |                 |                 |                 |                        |        |
| 37  | 9     | $E'$     | 38   | 8      | $E'$      | 1041.68079 | 6                 |                                   |                 | 0.2800E-03                         |                 |                 |                 |                        |        |
| 22  | 7     | $A_2$    | 23   | 6      | $A_1$     | 1041.72304 | 0                 | .365580E-02                       | 0.4             | 0.1909E-02                         | -4.41           | 3.191E-04       | -.222E+00       | -.382E+00              | 1.4    |
| 22  | 7     | $A_1$    | 23   | 6      | $A_2$     | 1041.72304 | 0                 |                                   |                 | 0.1909E-02                         |                 |                 |                 |                        |        |
| 17  | 2     | $E'$     | 16   | 1      | $E'$      | 1041.79087 | 4                 | .125112E-01                       | 7.1             | 0.1262E-01                         | -.88            | 4.245E-04       |                 |                        | 1.0    |
| 26  | 1     | $A_1$    | 25   | 0      | $A_2$     | 1041.94252 | 5                 | .160282E-01                       | 0.3             | 0.1592E-01                         | .69             | 3.181E-04       | -.242E+00       | -.393E+00              | 1.8    |
| 44  | 1     | $E'$     | 43   | 2      | $E'$      | 1042.00396 | 21                |                                   |                 | 0.6674E-03                         |                 |                 |                 |                        |        |
| 14  | 6     | $E'$     | 15   | 5      | $E'$      | 1042.03899 | 0                 | .231850E-02                       | 1.6             | 0.2383E-02                         | -2.79           | 5.334E-04       |                 |                        | 1.0    |
| 9   | 3     | $E'$     | 8    | 2      | $E'$      | 1042.09333 | 11                | .130778E-01                       | 0.2             | 0.1319E-01                         | -.82            | 4.297E-04       |                 | -.294E+00              | 1.2    |
| 64  | 3     | $E'$     | 63   | 4      | $E'$      | 1042.11386 | 165               |                                   |                 | 0.6318E-05                         |                 |                 |                 |                        |        |
| 62  | 5     | $E'$     | 62   | 4      | $E'$      | 1042.15415 | -5                |                                   |                 | 0.2853E-04                         |                 |                 |                 |                        |        |
| 35  | 0     | $E'$     | 34   | 1      | $E'$      | 1042.18372 | 5                 | .285387E-02                       | 0.6             | 0.2850E-02                         | .13             | 3.327E-04       |                 |                        | 1.0    |
| 6   | 5     | $E'$     | 7    | 4      | $E'$      | 1042.21029 | -15               | .587270E-03                       | 1.0             | 0.6118E-03                         | -4.19           | 5.572E-04       | -.728E+00       |                        | 1.5    |
| 54  | 2     | $A_2$    | 53   | 3      | $A_1$     | 1042.23772 | 28                |                                   |                 | 0.8349E-04                         |                 |                 |                 |                        |        |
| 51  | 11    | $E'$     | 52   | 10     | $E'$      | 1042.24510 | -34               |                                   |                 | 0.1241E-04                         |                 |                 |                 |                        |        |
| 51  | 11    | $E'$     | 52   | 10     | $E'$      | 1042.24521 | -23               |                                   |                 | 0.1241E-04                         |                 |                 |                 |                        |        |
| 29  | 8     | $E'$     | 30   | 7      | $E'$      | 1042.24521 | -15               | .963695E-03                       | 2.0             | 0.9216E-03                         | 4.37            | 3.499E-04       | -.536E+00       | -.548E+00              | 1.2    |
| 60  | 5     | $E'$     | 60   | 4      | $E'$      | 1042.55327 | -4                |                                   |                 | 0.4612E-04                         |                 |                 |                 |                        |        |
| 18  | 2     | $E'$     | 17   | 1      | $E'$      | 1042.61707 | 4                 | .119089E-01                       | 0.3             | 0.1233E-01                         | -3.53           | 4.205E-04       | -.368E+00       | -.188E+00              | 1.8    |
| 36  | 9     | $E'$     | 37   | 8      | $E'$      | 1042.67683 | 61                | .417396E-02                       | 0.6             | 0.3155E-03                         | -.69            | 4.012E-04       | -.218E+00       |                        | 1.3    |
| 21  | 7     | $A_2$    | 22   | 6      | $A_2$     | 1042.67683 | -6                |                                   |                 | 0.1944E-02                         |                 |                 |                 |                        |        |
| 21  | 7     | $A_1$    | 22   | 6      | $A_1$     | 1042.67683 | -6                |                                   |                 | 0.1944E-02                         |                 |                 |                 |                        |        |
| 27  | 1     | $A_2$    | 26   | 0      | $A_1$     | 1042.72332 | 3                 | .151498E-01                       | 0.2             | 0.1481E-01                         | 2.24            | 3.731E-04       |                 |                        | 1.0    |
| 45  | 1     | $E'$     | 44   | 2      | $E'$      | 1042.72765 | -52               |                                   |                 | 0.5640E-03                         |                 |                 |                 |                        |        |
| 59  | 5     | $E'$     | 59   | 4      | $E'$      | 1042.74799 | 2                 |                                   |                 | 0.5826E-04                         |                 |                 |                 |                        |        |
| 55  | 2     | $A_1$    | 54   | 3      | $A_2$     | 1042.92102 | 13                |                                   |                 | 0.6725E-04                         |                 |                 |                 |                        |        |
| 55  | 2     | $A_2$    | 54   | 3      | $A_1$     | 1042.92771 | 7                 |                                   |                 | 0.6725E-04                         |                 |                 |                 |                        |        |
| 36  | 0     | $E'$     | 35   | 1      | $E'$      | 1042.94333 | 22                |                                   |                 | 0.2520E-02                         |                 |                 |                 |                        |        |
| 10  | 3     | $E'$     | 9    | 2      | $E'$      | 1042.94692 | 4                 | .133698E-01                       | 0.3             | 0.1352E-01                         | -1.09           | 3.864E-04       |                 |                        | 1.0    |
| 13  | 6     | $E'$     | 14   | 5      | $E'$      | 1042.96930 | 4                 | .217305E-02                       | 1.2             | 0.2180E-02                         | -.32            | 4.432E-04       | -.192E+00       |                        | 1.1    |
| 43  | 10    | $A_2$    | 44   | 9      | $A_1$     | 1043.01893 | -7                |                                   |                 | 0.7951E-04                         |                 |                 |                 |                        |        |
| 43  | 10    | $A_1$    | 44   | 9      | $A_2$     | 1043.01893 | -7                |                                   |                 | 0.7951E-04                         |                 |                 |                 |                        |        |
| 5   | 5     | $E'$     | 6    | 4      | $E'$      | 1043.11575 | -41               |                                   |                 | 0.2455E-03                         |                 |                 |                 |                        |        |
| 57  | 5     | $E'$     | 57   | 4      | $E'$      | 1043.12753 | 3                 |                                   |                 | 0.9172E-04                         |                 |                 |                 |                        |        |
| 28  | 8     | $E'$     | 29   | 7      | $E'$      | 1043.21901 | -2                |                                   |                 | 0.9897E-03                         |                 |                 |                 |                        |        |
| 19  | 2     | $E'$     | 18   | 1      | $E'$      | 1043.43976 | 3                 | .116224E-01                       | 0.2             | 0.1197E-01                         | -2.96           | 4.282E-04       |                 |                        | 1.0    |
| 46  | 1     | $E'$     | 45   | 2      | $E'$      | 1043.44871 | 11                |                                   |                 | 0.4742E-03                         |                 |                 |                 |                        |        |
| 55  | 5     | $E'$     | 55   | 4      | $E'$      | 1043.49368 | -31               |                                   |                 | 0.1419E-03                         |                 |                 |                 |                        |        |
| 28  | 1     | $A_1$    | 27   | 0      | $A_2$     | 1043.50001 | 3                 | .138569E-01                       | 0.2             | 0.1370E-01                         | 1.10            | 3.142E-04       |                 | -.269E+00              | 1.2    |
| 56  | 2     | $A_2$    | 55   | 3      | $A_1$     | 1043.60017 | -1                |                                   |                 | 0.5391E-04                         |                 |                 |                 |                        |        |
| 56  | 2     | $A_1$    | 55   | 3      | $A_2$     | 1043.60729 | -1                |                                   |                 | 0.5391E-04                         |                 |                 |                 |                        |        |
| 20  | 7     | $A_2$    | 21   | 6      | $A_1$     | 1043.62784 | 3                 | .403394E-02                       | 0.6             | 0.1958E-02                         | 2.90            | 4.933E-04       |                 |                        | 1.0    |
| 20  | 7     | $A_1$    | 21   | 6      | $A_2$     | 1043.62784 | 3                 |                                   |                 | 0.1958E-02                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 35  | 9     | $E$      | 36   | 8      | $E$       | 1043.66923 | 22                |                                   |                 | 0.3535E-03                         |                 |                 |                 |                        |        |
| 37  | 0     | $E$      | 36   | 1      | $E$       | 1043.69874 | 5                 | .228110E-02                       | 0.7             | 0.2217E-02                         | 2.80            | 2.950E-04       | -.259E+00       | -.115E+00              | 1.3    |
| 11  | 3     | $E$      | 10   | 2      | $E$       | 1043.79721 | 5                 | .135505E-01                       | 0.2             | 0.1376E-01                         | -1.51           | 3.970E-04       |                 |                        | 1.0    |
| 53  | 5     | $E$      | 53   | 4      | $E$       | 1043.84763 | 19                |                                   |                 | 0.2155E-03                         |                 |                 |                 |                        |        |
| 12  | 6     | $E$      | 13   | 5      | $E$       | 1043.89648 | 0                 | .189058E-02                       | 0.8             | 0.1941E-02                         | -2.65           | 3.522E-04       |                 |                        | 1.0    |
| 52  | 5     | $E$      | 52   | 4      | $E$       | 1044.01924 | -5                |                                   |                 | 0.2638E-03                         |                 |                 |                 |                        |        |
| 42  | 10    | $A_2$    | 43   | 9      | $A_1$     | 1044.03017 | -3                |                                   |                 | 0.9249E-04                         |                 |                 |                 |                        |        |
| 42  | 10    | $A_1$    | 43   | 9      | $A_2$     | 1044.03017 | -3                |                                   |                 | 0.9249E-04                         |                 |                 |                 |                        |        |
| 47  | 1     | $E$      | 46   | 2      | $E$       | 1044.16500 | 0                 |                                   |                 | 0.3968E-03                         |                 |                 |                 |                        |        |
| 27  | 8     | $E$      | 28   | 7      | $E$       | 1044.18971 | -18               |                                   |                 | 0.1055E-02                         |                 |                 |                 |                        |        |
| 20  | 2     | $E$      | 19   | 1      | $E$       | 1044.25895 | 2                 | .112712E-01                       | 0.3             | 0.1154E-01                         | -2.39           | 4.431E-04       |                 |                        | 1.0    |
| 29  | 1     | $A_2$    | 28   | 0      | $A_1$     | 1044.27256 | 3                 | .134947E-01                       | 0.2             | 0.1261E-01                         | 6.53            | 3.647E-04       |                 |                        | 1.0    |
| 49  | 11    | $E$      | 50   | 10     | $E$       | 1044.30561 | -19               |                                   |                 | 0.1809E-04                         |                 |                 |                 |                        |        |
| 50  | 5     | $E$      | 50   | 4      | $E$       | 1044.35352 | 31                |                                   |                 | 0.3901E-03                         |                 |                 |                 |                        |        |
| 38  | 0     | $E$      | 37   | 1      | $E$       | 1044.45040 | 2                 | .203182E-02                       | 0.9             | 0.1941E-02                         | 4.49            | 3.937E-04       |                 |                        | 1.0    |
| 49  | 5     | $E$      | 49   | 4      | $E$       | 1044.51525 | -4                |                                   |                 | 0.4711E-03                         |                 |                 |                 |                        |        |
| 19  | 7     | $A_2$    | 20   | 6      | $A_1$     | 1044.57580 | 0                 | .401890E-02                       | 0.5             | 0.1951E-02                         | 2.91            | 4.559E-04       | -.577E-01       | -.314E+00              | 1.1    |
| 19  | 7     | $A_1$    | 20   | 6      | $A_2$     | 1044.57580 | 0                 |                                   |                 | 0.1951E-02                         |                 |                 |                 |                        |        |
| 12  | 3     | $E$      | 11   | 2      | $E$       | 1044.64408 | 4                 | .139832E-01                       | 0.2             | 0.1390E-01                         | .58             | 3.952E-04       |                 |                        | 1.0    |
| 34  | 9     | $E$      | 35   | 8      | $E$       | 1044.65898 | -10               |                                   |                 | 0.3937E-03                         |                 |                 |                 |                        |        |
| 48  | 5     | $E$      | 48   | 4      | $E$       | 1044.67409 | -3                |                                   |                 | 0.5664E-03                         |                 |                 |                 |                        |        |
| 11  | 6     | $E$      | 12   | 5      | $E$       | 1044.82067 | 1                 | .175887E-02                       | 0.6             | 0.1669E-02                         | 5.13            | 4.700E-04       |                 |                        | 1.0    |
| 47  | 5     | $E$      | 47   | 4      | $E$       | 1044.82966 | -4                |                                   |                 | 0.6778E-03                         |                 |                 |                 |                        |        |
| 4   | 4     | $A_2$    | 3    | 3      | $A_1$     | 1044.86159 | 5                 | .259564E-01                       | 0.2             | 0.1285E-01                         | 1.02            | 3.294E-04       | -.966E-01       |                        | 1.1    |
| 4   | 4     | $A_1$    | 3    | 3      | $A_2$     | 1044.86159 | 5                 |                                   |                 | 0.1285E-01                         |                 |                 |                 |                        |        |
| 48  | 1     | $E$      | 47   | 2      | $E$       | 1044.87736 | -1                |                                   |                 | 0.3304E-03                         |                 |                 |                 |                        |        |
| 58  | 2     | $A_1$    | 57   | 3      | $A_2$     | 1044.95395 | -1                |                                   |                 | 0.3416E-04                         |                 |                 |                 |                        |        |
| 41  | 10    | $A_2$    | 42   | 9      | $A_1$     | 1045.03874 | -3                |                                   |                 | 0.1070E-03                         |                 |                 |                 |                        |        |
| 41  | 10    | $A_1$    | 42   | 9      | $A_2$     | 1045.03874 | -3                |                                   |                 | 0.1070E-03                         |                 |                 |                 |                        |        |
| 30  | 1     | $A_1$    | 29   | 0      | $A_2$     | 1045.04076 | -16               |                                   |                 | 0.1155E-01                         |                 |                 |                 |                        |        |
| 21  | 2     | $E$      | 20   | 1      | $E$       | 1045.07464 | 4                 | .108931E-01                       | 0.2             | 0.1106E-01                         | -1.56           | 3.798E-04       | -.133E+00       | -.219E+00              | 1.4    |
| 45  | 5     | $E$      | 45   | 4      | $E$       | 1045.13110 | -1                | .104843E-02                       | 1.3             | 0.9573E-03                         | 8.69            | 3.472E-04       | -.277E+00       |                        | 1.1    |
| 26  | 8     | $E$      | 27   | 7      | $E$       | 1045.15793 | 2                 | .114521E-02                       | 0.8             | 0.1116E-02                         | 2.54            | 3.771E-04       |                 |                        | 1.0    |
| 39  | 0     | $E$      | 38   | 1      | $E$       | 1045.19822 | 5                 | .178575E-02                       | 0.8             | 0.1690E-02                         | 5.37            | 1.957E-04       |                 |                        | 1.0    |
| 44  | 5     | $E$      | 44   | 4      | $E$       | 1045.27692 | -2                | .122437E-02                       | 0.8             | 0.1130E-02                         | 7.73            | 3.184E-04       | -.367E+00       |                        | 1.5    |
| 48  | 11    | $E$      | 49   | 10     | $E$       | 1045.33233 | 14                |                                   |                 | 0.2168E-04                         |                 |                 |                 |                        |        |
| 43  | 5     | $E$      | 43   | 4      | $E$       | 1045.41950 | -3                | .132497E-02                       | 0.9             | 0.1327E-02                         | -.15            | 2.608E-04       | -.232E+00       |                        | 1.2    |
| 13  | 3     | $E$      | 12   | 2      | $E$       | 1045.48755 | 5                 | .139893E-01                       | 0.2             | 0.1396E-01                         | .24             | 3.905E-04       | -.565E-01       | -.175E+00              | 1.2    |
| 18  | 7     | $A_2$    | 19   | 6      | $A_1$     | 1045.52086 | 2                 | .391861E-02                       | 0.4             | 0.1919E-02                         | 2.07            | 4.287E-04       |                 |                        | 1.0    |
| 18  | 7     | $A_1$    | 19   | 6      | $A_2$     | 1045.52086 | 2                 |                                   |                 | 0.1919E-02                         |                 |                 |                 |                        |        |
| 42  | 5     | $E$      | 42   | 4      | $E$       | 1045.55884 | -3                | .160191E-02                       | 0.6             | 0.1551E-02                         | 3.16            | 2.840E-04       |                 |                        | 1.0    |
| 49  | 1     | $E$      | 48   | 2      | $E$       | 1045.58561 | -7                |                                   |                 | 0.2738E-03                         |                 |                 |                 |                        |        |
| 33  | 9     | $E$      | 34   | 8      | $E$       | 1045.64640 | -1                |                                   |                 | 0.4358E-03                         |                 |                 |                 |                        |        |
| 41  | 5     | $E$      | 41   | 4      | $E$       | 1045.69495 | 0                 | .191669E-02                       | 1.4             | 0.1805E-02                         | 5.83            | 3.404E-04       |                 |                        | 1.0    |
| 5   | 4     | $A_2$    | 4    | 3      | $A_1$     | 1045.73192 | 5                 | .262661E-01                       | 0.1             | 0.1301E-01                         | .95             | 3.189E-04       |                 |                        | 1.0    |
| 5   | 4     | $A_1$    | 4    | 3      | $A_2$     | 1045.73192 | 5                 |                                   |                 | 0.1301E-01                         |                 |                 |                 |                        |        |
| 10  | 6     | $E$      | 11   | 5      | $E$       | 1045.74178 | 0                 | .136952E-02                       | 2.4             | 0.1370E-02                         | -.04            | 5.323E-04       |                 |                        | 1.0    |
| 31  | 1     | $A_2$    | 30   | 0      | $A_1$     | 1045.80527 | 14                |                                   |                 | 0.1052E-01                         |                 |                 |                 |                        |        |
| 40  | 5     | $E$      | 40   | 4      | $E$       | 1045.82800 | 20                |                                   |                 | 0.2090E-02                         |                 |                 |                 |                        |        |
| 22  | 2     | $E$      | 21   | 1      | $E$       | 1045.88676 | 2                 | .102726E-01                       | 0.2             | 0.1054E-01                         | -2.62           | 3.429E-04       | -.128E+00       | -.443E+00              | 1.9    |
| 40  | 0     | $E$      | 39   | 1      | $E$       | 1045.94210 | 7                 | .148965E-02                       | 0.9             | 0.1464E-02                         | 1.70            | 3.172E-04       |                 |                        | 1.0    |
| 39  | 5     | $E$      | 39   | 4      | $E$       | 1045.95738 | -2                | .239262E-02                       | 0.8             | 0.2409E-02                         | -.67            | 3.033E-04       |                 |                        | 1.0    |
| 38  | 5     | $E$      | 38   | 4      | $E$       | 1046.08375 | 0                 | .274264E-02                       | 0.7             | 0.2762E-02                         | -.71            | 2.741E-04       | -.179E+00       |                        | 1.1    |
| 25  | 8     | $E$      | 26   | 7      | $E$       | 1046.12305 | -3                | .120476E-02                       | 1.1             | 0.1171E-02                         | 2.78            | 5.025E-04       | -.189E+00       | .124E+01               | 1.1    |
| 37  | 5     | $E$      | 37   | 4      | $E$       | 1046.20690 | 4                 | .336082E-02                       | 1.1             | 0.3152E-02                         | 6.21            | 1.401E-04       |                 |                        | 1.0    |
| 50  | 1     | $E$      | 49   | 2      | $E$       | 1046.29011 | 20                |                                   |                 | 0.2258E-03                         |                 |                 |                 |                        |        |
| 36  | 5     | $E$      | 36   | 4      | $E$       | 1046.32740 | 67                | .177772E-01                       | 0.3             | 0.3579E-02                         | 1.59            | 4.231E-04       | -.349E+00       | -.549E+00              | 2.1    |
| 14  | 3     | $E$      | 13   | 2      | $E$       | 1046.32740 | -14               |                                   |                 | 0.1391E-01                         |                 |                 |                 |                        |        |
| 47  | 11    | $E$      | 48   | 10     | $E$       | 1046.35583 | -21               |                                   |                 | 0.2585E-04                         |                 |                 |                 |                        |        |
| 35  | 5     | $E$      | 35   | 4      | $E$       | 1046.44333 | -2                | .406702E-02                       | 0.5             | 0.4045E-02                         | .55             | 2.763E-04       | -.249E+00       | -.168E+00              | 1.3    |
| 17  | 7     | $A_2$    | 18   | 6      | $A_1$     | 1046.46284 | -9                |                                   |                 | 0.1860E-02                         |                 |                 |                 |                        |        |
| 17  | 7     | $A_1$    | 18   | 6      | $A_2$     | 1046.46284 | -9                |                                   |                 | 0.1860E-02                         |                 |                 |                 |                        |        |
| 34  | 5     | $E$      | 34   | 4      | $E$       | 1046.55669 | -4                | .448932E-02                       | 0.8             | 0.4547E-02                         | -1.28           | 2.678E-04       |                 |                        | 1.0    |
| 32  | 1     | $A_1$    | 31   | 0      | $A_2$     | 1046.56521 | 5                 | .953200E-02                       | 0.4             | 0.9528E-02                         | .04             | 3.334E-04       |                 |                        | 1.0    |
| 6   | 4     | $A_2$    | 5    | 3      | $A_1$     | 1046.59895 | 5                 | .269062E-01                       | 0.2             | 0.1328E-01                         | 1.25            | 3.237E-04       |                 |                        | 1.0    |
| 6   | 4     | $A_1$    | 5    | 3      | $A_2$     | 1046.59895 | 5                 |                                   |                 | 0.1328E-01                         |                 |                 |                 |                        |        |
| 32  | 9     | $E$      | 33   | 8      | $E$       | 1046.63127 | 28                |                                   |                 | 0.4792E-03                         |                 |                 |                 |                        |        |
| 9   | 6     | $E$      | 10   | 5      | $E$       | 1046.65990 | 8                 | .100204E-02                       | 3.1             | 0.1054E-02                         | -5.22           | 3.845E-04       |                 |                        | 1.0    |
| 33  | 5     | $E$      | 33   | 4      | $E$       | 1046.66686 | -1                | .507701E-02                       | 0.7             | 0.5086E-02                         | -.17            | 3.388E-04       |                 |                        | 1.0    |
| 41  | 0     | $E$      | 40   | 1      | $E$       | 1046.68193 | -2                | .135667E-02                       | 2.0             | 0.1262E-02                         | 6.95            | 3.595E-04       |                 |                        | 1.0    |
| 23  | 2     | $E$      | 22   | 1      | $E$       | 1046.69536 | 4                 | .988967E-02                       | 0.3             | 0.9987E-02                         | -.98            | 3.889E-04       |                 |                        | 1.0    |
| 32  | 5     | $E$      | 32   | 4      | $E$       | 1046.77376 | 0                 | .555119E-02                       | 0.4             | 0.5659E-02                         | -1.95           | 2.725E-04       |                 |                        | 1.3    |
| 31  | 5     | $E$      | 31   | 4      | $E$       | 1046.87740 | -2                | .631196E-02                       | 0.3             | 0.6264E-02                         | .75             | 3.107E-04       | -.201E+00       | -.210E+00              | 1.9    |
| 30  | 5     | $E$      | 30   | 4      | $E$       | 1046.97780 | -3                | .704004E-02                       | 0.3             | 0.6898E-02                         | 2.02            | 3.655E-04       |                 |                        | 1.0    |
| 51  | 1     | $E$      | 50   | 2      | $E$       | 1046.98983 | -22               |                                   |                 | 0.1854E-03                         |                 |                 |                 |                        |        |
| 39  | 10    | $A_2$    | 40   | 9      | $A_1$     | 1047.04787 | -12               |                                   |                 | 0.1409E-03                         |                 |                 |                 |                        |        |
| 39  | 10    | $A_1$    | 40   | 9      | $A_2$     | 1047.04787 | -12               |                                   |                 | 0.1409E-03                         |                 |                 |                 |                        |        |
| 29  | 5     | $E$      | 29   | 4      | $E$       | 1047.07496 | -4                | .779352E-02                       | 0.6             | 0.7554E-02                         | 3.08            | 3.431E-04       |                 |                        | 1.0    |
| 24  | 8     | $E$      | 25   | 7      | $E$       | 1047.08528 | -12               | .121724E-02                       | 2.3             | 0.1219E-02                         | -.10            | 4.881E-04       |                 |                        | 1.0    |
| 15  | 3     | $E$      | 14   | 2      | $E$       | 1047.16416 | 3                 | .137446E-01                       | 0.4             | 0.1378E-01                         | -.29            | 4.275E-04       |                 |                        | 1.0    |
| 28  | 5     | $E$      | 28   | 4      | $E$       | 1047.16887 | -6                | .818179E-02                       | 0.5             | 0.8227E-02                         | -.55            | 3.340E-04       |                 |                        | 1.0    |
| 27  | 5     | $E$      | 27   | 4      | $E$       | 1047.25962 | 0                 | .900279E-02                       | 0.3             | 0.8910E-02                         | 1.03            | 3.441E-04       |                 |                        | 1.0    |

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| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 33  | 1     | $A_2$    | 32   | 0      | $A_1$     | 1047.32102 | 4                 | .874264E-02                       | 0.7             | 0.8589E-02                         | 1.76            | 3.434E-04       |                 |                        | 1.0    |
| 26  | 5     | $E$      | 26   | 4      | $E$       | 1047.34704 | -2                | .991335E-02                       | 0.2             | 0.9595E-02                         | 3.21            | 3.831E-04       | -.131E+00       | .153E+00               | 1.2    |
| 16  | 7     | $A_2$    | 17   | 6      | $A_1$     | 1047.40206 | 2                 | .371394E-02                       | 0.6             | 0.1774E-02                         | 4.46            | 5.071E-04       | -.467E+00       |                        | 1.5    |
| 16  | 7     | $A_1$    | 17   | 6      | $A_2$     | 1047.40206 | 2                 |                                   |                 | 0.1774E-02                         |                 |                 |                 |                        |        |
| 42  | 0     | $E$      | 41   | 1      | $E$       | 1047.41784 | -6                |                                   |                 | 0.1083E-02                         |                 |                 |                 |                        |        |
| 25  | 5     | $E$      | 25   | 4      | $E$       | 1047.43126 | -1                | .104087E-01                       | 0.4             | 0.1027E-01                         | 1.31            | 3.424E-04       | -.378E+00       | -.219E+00              | 1.6    |
| 7   | 4     | $A_2$    | 6    | 3      | $A_1$     | 1047.46261 | 2                 | .272973E-01                       | 0.4             | 0.1359E-01                         | .45             | 3.516E-04       |                 |                        | 1.0    |
| 7   | 4     | $A_1$    | 6    | 3      | $A_2$     | 1047.46261 | 2                 |                                   |                 | 0.1359E-01                         |                 |                 |                 |                        |        |
| 24  | 2     | $E$      | 23   | 1      | $E$       | 1047.50035 | 0                 | .932208E-02                       | 0.4             | 0.9407E-02                         | -.91            | 4.496E-04       |                 |                        | 1.0    |
| 24  | 5     | $E$      | 24   | 4      | $E$       | 1047.51224 | 0                 | .109842E-01                       | 0.3             | 0.1093E-01                         | .48             | 3.883E-04       |                 |                        | 1.0    |
| 8   | 6     | $E$      | 9    | 5      | $E$       | 1047.57482 | 6                 | .765300E-03                       | 5.9             | 0.7345E-03                         | 4.03            | 1.380E-04       |                 |                        | 1.0    |
| 23  | 5     | $E$      | 23   | 4      | $E$       | 1047.58997 | 0                 | .115812E-01                       | 0.4             | 0.1156E-01                         | .18             | 4.062E-04       |                 |                        | 1.0    |
| 31  | 9     | $E$      | 32   | 8      | $E$       | 1047.61278 | -4                |                                   |                 | 0.5235E-03                         |                 |                 |                 |                        |        |
| 22  | 5     | $E$      | 22   | 4      | $E$       | 1047.66445 | -1                | .118936E-01                       | 0.4             | 0.1215E-01                         | -2.13           | 3.244E-04       | -.317E-01       | -.457E+00              | 1.3    |
| 52  | 1     | $E$      | 51   | 2      | $E$       | 1047.68597 | -10               |                                   |                 | 0.1514E-03                         |                 |                 |                 |                        |        |
| 21  | 5     | $E$      | 21   | 4      | $E$       | 1047.73569 | -2                | .126130E-01                       | 0.2             | 0.1268E-01                         | -.53            | 4.107E-04       | -.328E+00       | -.264E+00              | 2.6    |
| 20  | 5     | $E$      | 20   | 4      | $E$       | 1047.80374 | 3                 | .129703E-01                       | 3.7             | 0.1314E-01                         | -1.33           | 2.042E-04       |                 |                        | 1.0    |
| 19  | 5     | $E$      | 19   | 4      | $E$       | 1047.86850 | 2                 | .129312E-01                       | 0.5             | 0.1352E-01                         | -4.59           | 3.837E-04       |                 |                        | 1.0    |
| 18  | 5     | $E$      | 18   | 4      | $E$       | 1047.93002 | 1                 | .133013E-01                       | 0.2             | 0.1381E-01                         | -3.82           | 4.097E-04       |                 |                        | 1.0    |
| 17  | 5     | $E$      | 17   | 4      | $E$       | 1047.98831 | 0                 | .136902E-01                       | 0.5             | 0.1398E-01                         | -2.15           | 4.106E-04       |                 |                        | 1.0    |
| 16  | 3     | $E$      | 15   | 2      | $E$       | 1047.99727 | 1                 | .135681E-01                       | 0.5             | 0.1357E-01                         | -.01            | 4.465E-04       |                 |                        | 1.0    |
| 16  | 5     | $E$      | 16   | 4      | $E$       | 1048.04350 | 14                | .145720E-01                       | 0.4             | 0.1404E-01                         | -4.94           | 6.616E-04       | .132E+01        | -.141E+00              | 2.7    |
| 23  | 8     | $E$      | 24   | 7      | $E$       | 1048.04350 | -134              |                                   |                 | 0.1256E-02                         |                 |                 |                 |                        |        |
| 34  | 1     | $A_1$    | 33   | 0      | $A_2$     | 1048.07282 | 24                |                                   |                 | 0.7703E-02                         |                 |                 |                 |                        |        |
| 15  | 5     | $E$      | 15   | 4      | $E$       | 1048.09519 | 2                 | .134980E-01                       | 0.2             | 0.1395E-01                         | -3.36           | 4.195E-04       |                 |                        | 1.0    |
| 14  | 5     | $E$      | 14   | 4      | $E$       | 1048.14376 | 1                 | .149281E-01                       | 0.5             | 0.1372E-01                         | 1.91            | 4.959E-04       |                 |                        | 1.0    |
| 43  | 0     | $E$      | 42   | 1      | $E$       | 1048.14993 | 5                 |                                   |                 | 0.9246E-03                         |                 |                 |                 |                        |        |
| 13  | 5     | $E$      | 13   | 4      | $E$       | 1048.18910 | 1                 | .131895E-01                       | 0.3             | 0.1333E-01                         | -1.03           | 3.353E-04       | .724E-01        | -.374E+00              | 1.1    |
| 12  | 5     | $E$      | 12   | 4      | $E$       | 1048.23119 | 1                 | .124111E-01                       | 0.2             | 0.1276E-01                         | -2.83           | 3.941E-04       |                 |                        | 1.0    |
| 11  | 5     | $E$      | 11   | 4      | $E$       | 1048.26977 | -27               | .128644E-01                       | 0.6             | 0.1202E-01                         | 6.58            | 6.522E-04       | -.370E+00       |                        | 1.1    |
| 25  | 2     | $E$      | 24   | 1      | $E$       | 1048.30186 | 6                 | .916404E-02                       | 0.4             | 0.8812E-02                         | 3.84            | 4.164E-04       |                 |                        | 1.0    |
| 10  | 5     | $E$      | 10   | 4      | $E$       | 1048.30574 | 8                 | .113877E-01                       | 0.4             | 0.1108E-01                         | 2.70            | 4.164E-04       |                 |                        | 1.0    |
| 8   | 4     | $A_2$    | 7    | 3      | $A_1$     | 1048.32297 | 2                 | .283518E-01                       | 0.3             | 0.1387E-01                         | 2.17            | 3.621E-04       | -.331E+00       |                        | 1.9    |
| 8   | 4     | $A_1$    | 7    | 3      | $A_2$     | 1048.32297 | 2                 |                                   |                 | 0.1387E-01                         |                 |                 |                 |                        |        |
| 15  | 7     | $A_2$    | 16   | 6      | $A_1$     | 1048.33809 | -6                | .135704E-01                       | 0.5             | 0.1660E-02                         | 2.30            | 3.667E-04       | -.398E+00       | -.192E+00              | 2.0    |
| 15  | 7     | $A_1$    | 16   | 6      | $A_2$     | 1048.33809 | -6                |                                   |                 | 0.1660E-02                         |                 |                 |                 |                        |        |
| 9   | 5     | $E$      | 9    | 4      | $E$       | 1048.33809 | 4                 |                                   |                 | 0.9938E-02                         |                 |                 |                 |                        |        |
| 8   | 5     | $E$      | 8    | 4      | $E$       | 1048.36722 | 3                 | .878120E-02                       | 0.3             | 0.8575E-02                         | 2.35            | 3.343E-04       | -.235E+00       | -.363E+00              | 1.8    |
| 53  | 1     | $E$      | 52   | 2      | $E$       | 1048.37795 | -1                |                                   |                 | 0.1231E-03                         |                 |                 |                 |                        |        |
| 7   | 5     | $E$      | 7    | 4      | $E$       | 1048.39311 | 1                 | .723360E-02                       | 0.3             | 0.6965E-02                         | 3.72            | 3.233E-04       | -.248E+00       | -.305E+00              | 1.9    |
| 6   | 5     | $E$      | 6    | 4      | $E$       | 1048.41575 | -2                | .526527E-02                       | 0.5             | 0.5065E-02                         | 3.81            | 4.862E-04       |                 |                        | 1.0    |
| 5   | 5     | $E$      | 5    | 4      | $E$       | 1048.43523 | 4                 | .283535E-02                       | 0.9             | 0.2797E-02                         | 1.36            | 3.859E-04       | -.178E+00       |                        | 1.1    |
| 7   | 6     | $E$      | 8    | 5      | $E$       | 1048.48670 | 10                |                                   |                 | 0.4299E-03                         |                 |                 |                 |                        |        |
| 30  | 9     | $E$      | 31   | 8      | $E$       | 1048.59174 | -12               |                                   |                 | 0.5680E-03                         |                 |                 |                 |                        |        |
| 35  | 1     | $A_2$    | 34   | 0      | $A_1$     | 1048.82002 | 7                 | .707875E-02                       | 0.5             | 0.6874E-02                         | 2.89            | 2.803E-04       |                 |                        | 1.0    |
| 17  | 3     | $E$      | 16   | 2      | $E$       | 1048.82690 | -1                | .132655E-01                       | 0.3             | 0.1327E-01                         | -.07            | 4.294E-04       |                 |                        | 1.0    |
| 44  | 0     | $E$      | 43   | 1      | $E$       | 1048.87788 | 4                 |                                   |                 | 0.7855E-03                         |                 |                 |                 |                        |        |
| 22  | 8     | $E$      | 23   | 7      | $E$       | 1049.00135 | -4                | .128839E-02                       | 1.0             | 0.1282E-02                         | .48             | 4.283E-04       | -.226E+00       |                        | 1.1    |
| 37  | 10    | $A_1$    | 38   | 9      | $A_2$     | 1049.04624 | -32               |                                   |                 | 0.1813E-03                         |                 |                 |                 |                        |        |
| 37  | 10    | $A_2$    | 38   | 9      | $A_1$     | 1049.04624 | -32               |                                   |                 | 0.1813E-03                         |                 |                 |                 |                        |        |
| 54  | 1     | $E$      | 53   | 2      | $E$       | 1049.06572 | 2                 |                                   |                 | 0.9956E-04                         |                 |                 |                 |                        |        |
| 26  | 2     | $E$      | 25   | 1      | $E$       | 1049.09966 | -1                | .812949E-02                       | 0.6             | 0.8209E-02                         | -.97            | 2.975E-04       |                 |                        | 1.0    |
| 9   | 4     | $A_2$    | 8    | 3      | $A_1$     | 1049.17997 | 2                 | .288209E-01                       | 0.2             | 0.1410E-01                         | 2.13            | 3.786E-04       |                 |                        | 1.0    |
| 9   | 4     | $A_1$    | 8    | 3      | $A_2$     | 1049.17997 | 2                 |                                   |                 | 0.1410E-01                         |                 |                 |                 |                        |        |
| 14  | 7     | $A_2$    | 15   | 6      | $A_1$     | 1049.27126 | -1                | .302059E-02                       | 0.4             | 0.1518E-02                         | -.53            | 3.491E-04       | -.200E+00       | -.309E+00              | 1.7    |
| 14  | 7     | $A_1$    | 15   | 6      | $A_2$     | 1049.27126 | -1                |                                   | 0.4             | 0.1518E-02                         |                 | 3.491E-04       | -.200E+00       | -.309E+00              | 1.7    |
| 6   | 6     | $E$      | 7    | 5      | $E$       | 1049.39478 | -54               |                                   |                 | 0.1697E-03                         |                 |                 |                 |                        |        |
| 44  | 11    | $E$      | 45   | 10     | $E$       | 1049.41149 | -71               |                                   |                 | 0.4247E-04                         |                 |                 |                 |                        |        |
| 61  | 6     | $E$      | 61   | 5      | $E$       | 1049.54056 | -4                |                                   |                 | 0.3002E-04                         |                 |                 |                 |                        |        |
| 36  | 1     | $A_1$    | 35   | 0      | $A_2$     | 1049.56308 | 0                 | .630985E-02                       | 0.2             | 0.6104E-02                         | 3.27            | 3.543E-04       |                 |                        | 1.0    |
| 45  | 0     | $E$      | 44   | 1      | $E$       | 1049.60186 | 8                 |                                   |                 | 0.6641E-03                         |                 |                 |                 |                        |        |
| 18  | 3     | $E$      | 17   | 2      | $E$       | 1049.65309 | 1                 | .128665E-01                       | 0.3             | 0.1291E-01                         | -.32            | 3.862E-04       | -.445E-01       | -.298E+00              | 1.2    |
| 27  | 2     | $E$      | 26   | 1      | $E$       | 1049.89352 | -41               |                                   |                 | 0.7606E-02                         |                 |                 |                 |                        |        |
| 21  | 8     | $E$      | 22   | 7      | $E$       | 1049.95501 | -2                | .126718E-02                       | 0.8             | 0.1295E-02                         | -2.19           | 4.109E-04       | -.665E+00       | .295E+00               | 1.5    |
| 10  | 4     | $A_2$    | 9    | 3      | $A_1$     | 1050.03360 | 3                 | .286430E-01                       | 0.2             | 0.1427E-01                         | .33             | 3.846E-04       | -.143E+00       | -.133E+00              | 1.4    |
| 10  | 4     | $A_1$    | 9    | 3      | $A_2$     | 1050.03360 | 3                 |                                   |                 | 0.1427E-01                         |                 |                 |                 |                        |        |
| 36  | 10    | $A_1$    | 37   | 9      | $A_2$     | 1050.04181 | 0                 |                                   |                 | 0.2038E-03                         |                 |                 |                 |                        |        |
| 36  | 10    | $A_2$    | 37   | 9      | $A_1$     | 1050.04181 | 0                 |                                   |                 | 0.2038E-03                         |                 |                 |                 |                        |        |
| 58  | 6     | $E$      | 58   | 5      | $E$       | 1050.12480 | 12                |                                   |                 | 0.6050E-04                         |                 |                 |                 |                        |        |
| 13  | 7     | $A_2$    | 14   | 6      | $A_1$     | 1050.20132 | -4                | .274068E-02                       | 0.7             | 0.1350E-02                         | 1.45            | 4.536E-04       |                 |                        | 1.0    |
| 13  | 7     | $A_1$    | 14   | 6      | $A_2$     | 1050.20132 | -4                |                                   |                 | 0.1350E-02                         |                 |                 |                 |                        |        |
| 37  | 1     | $A_2$    | 36   | 0      | $A_1$     | 1050.30197 | 4                 | .554975E-02                       | 0.6             | 0.5393E-02                         | 2.82            | 2.756E-04       |                 |                        | 1.0    |
| 57  | 6     | $E$      | 57   | 5      | $E$       | 1050.31262 | -22               |                                   |                 | 0.7575E-04                         |                 |                 |                 |                        |        |
| 46  | 0     | $E$      | 45   | 1      | $E$       | 1050.32164 | -3                |                                   |                 | 0.5587E-03                         |                 |                 |                 |                        |        |
| 19  | 3     | $E$      | 18   | 2      | $E$       | 1050.47577 | 2                 | .125506E-01                       | 0.2             | 0.1248E-01                         | .59             | 3.907E-04       | -.462E-01       | -.268E+00              | 1.2    |
| 56  | 6     | $E$      | 56   | 5      | $E$       | 1050.49757 | -15               |                                   |                 | 0.9442E-04                         |                 |                 |                 |                        |        |
| 28  | 9     | $E$      | 29   | 8      | $E$       | 1050.54151 | -6                |                                   |                 | 0.6544E-03                         |                 |                 |                 |                        |        |
| 28  | 2     | $E$      | 27   | 1      | $E$       | 1050.68461 | 3                 | .708826E-02                       | 0.3             | 0.7009E-02                         | 1.12            | 3.540E-04       |                 |                        | 1.0    |
| 54  | 6     | $E$      | 54   | 5      | $E$       | 1050.85767 | -5                |                                   |                 | 0.1447E-03                         |                 |                 |                 |                        |        |
| 11  | 4     | $A_2$    | 10   | 3      | $A_1$     | 1050.88382 | 1                 | .286143E-01                       | 0.2             | 0.1437E-01                         | -.45            | 3.620E-04       | .527E-01        | -.862E-01              | 1.1    |
| 11  | 4     | $A_1$    | 10   | 3      | $A_2$     | 1050.88382 | 1                 |                                   |                 | 0.1437E-01                         |                 |                 |                 |                        |        |
| 20  | 8     | $E$      | 21   | 7      | $E$       | 1050.90577 | 1                 | .126134E-02                       | 1.1             | 0.1293E-02                         | -2.47           | 4.349E-04       |                 |                        | 1.0    |

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| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 38  | 1     | $A_1$    | 37   | 0      | $A_2$     | 1051.03662 | 11                | .469916E-02                       | 0.3             | 0.4743E-02                         | -.92            | 5.368E-04       | -.611E+00       | .380E+00               | 2.4    |
| 57  | 1     | $E$      | 56   | 2      | $E$       | 1051.10381 | 1                 |                                   |                 | 0.5130E-04                         |                 |                 |                 |                        |        |
| 12  | 7     | $A_2$    | 13   | 6      | $A_1$     | 1051.12843 | 1                 | .237743E-02                       | 0.4             | 0.1159E-02                         | 2.48            | 4.498E-04       |                 | -.346E+00              | 1.1    |
| 12  | 7     | $A_1$    | 13   | 6      | $A_2$     | 1051.12843 | 1                 |                                   |                 | 0.1159E-02                         |                 |                 |                 |                        |        |
| 52  | 6     | $E$      | 52   | 5      | $E$       | 1051.20480 | 14                |                                   |                 | 0.2179E-03                         |                 |                 |                 |                        |        |
| 20  | 3     | $E$      | 19   | 2      | $E$       | 1051.29494 | 4                 | .120464E-01                       | 0.2             | 0.1199E-01                         | .46             | 3.820E-04       | -.333E-01       | -.425E+00              | 1.5    |
| 51  | 6     | $E$      | 51   | 5      | $E$       | 1051.37322 | -3                |                                   |                 | 0.2656E-03                         |                 |                 |                 |                        |        |
| 29  | 2     | $E$      | 28   | 1      | $E$       | 1051.47161 | 0                 | .651515E-02                       | 0.3             | 0.6425E-02                         | 1.38            | 3.361E-04       | -.664E-01       | -.162E+00              | 1.1    |
| 27  | 9     | $E$      | 28   | 8      | $E$       | 1051.51230 | 9                 | .685800E-03                       | 1.6             | 0.6943E-03                         | -1.24           | 4.601E-04       |                 |                        | 1.0    |
| 50  | 6     | $E$      | 50   | 5      | $E$       | 1051.53853 | -5                |                                   |                 | 0.3222E-03                         |                 |                 |                 |                        |        |
| 49  | 6     | $E$      | 49   | 5      | $E$       | 1051.70055 | -10               |                                   |                 | 0.3891E-03                         |                 |                 |                 |                        |        |
| 12  | 4     | $A_2$    | 11   | 3      | $A_1$     | 1051.73066 | 1                 | .285917E-01                       | 0.1             | 0.1439E-01                         | -.66            | 3.625E-04       | -.145E+00       | -.357E+00              | 1.4    |
| 12  | 4     | $A_1$    | 11   | 3      | $A_2$     | 1051.73066 | 1                 |                                   |                 | 0.1439E-01                         |                 |                 |                 |                        |        |
| 48  | 0     | $E$      | 47   | 1      | $E$       | 1051.74920 | -4                |                                   |                 | 0.3899E-03                         |                 |                 |                 |                        |        |
| 39  | 1     | $A_2$    | 38   | 0      | $A_1$     | 1051.76684 | 4                 | .435268E-02                       | 0.3             | 0.4150E-02                         | 4.66            | 2.646E-04       | -.157E+00       | -.173E+00              | 1.2    |
| 19  | 8     | $E$      | 20   | 7      | $E$       | 1051.85345 | -11               | .126652E-02                       | 0.9             | 0.1274E-02                         | -.55            | 4.492E-04       |                 |                        | 1.0    |
| 48  | 6     | $E$      | 48   | 5      | $E$       | 1051.85931 | -15               |                                   |                 | 0.4678E-03                         |                 |                 |                 |                        |        |
| 47  | 6     | $E$      | 47   | 5      | $E$       | 1052.01494 | -9                |                                   |                 | 0.5597E-03                         |                 |                 |                 |                        |        |
| 34  | 10    | $A_1$    | 35   | 9      | $A_2$     | 1052.02408 | -11               |                                   |                 | 0.2530E-03                         |                 |                 |                 |                        |        |
| 34  | 10    | $A_2$    | 35   | 9      | $A_1$     | 1052.02408 | -11               |                                   |                 | 0.2530E-03                         |                 |                 |                 |                        |        |
| 11  | 7     | $A_2$    | 12   | 6      | $A_1$     | 1052.05241 | -3                | .190006E-02                       | 0.6             | 0.9494E-03                         | .07             | 4.574E-04       | -.310E+00       |                        | 1.2    |
| 11  | 7     | $A_1$    | 12   | 6      | $A_2$     | 1052.05241 | -3                |                                   |                 | 0.9494E-03                         |                 |                 |                 |                        |        |
| 21  | 3     | $E$      | 20   | 2      | $E$       | 1052.11054 | 1                 | .113396E-01                       | 0.2             | 0.1146E-01                         | -1.05           | 3.822E-04       | -.166E+00       | -.310E+00              | 2.1    |
| 46  | 6     | $E$      | 46   | 5      | $E$       | 1052.16725 | -9                | .666376E-03                       | 0.8             | 0.6667E-03                         | -.05            | 3.421E-04       |                 |                        | 1.0    |
| 30  | 2     | $E$      | 29   | 1      | $E$       | 1052.25499 | 0                 | .581870E-02                       | 0.5             | 0.5860E-02                         | -.70            | 2.531E-04       |                 | -.540E+00              | 1.4    |
| 45  | 6     | $E$      | 45   | 5      | $E$       | 1052.31640 | 0                 | .861522E-03                       | 1.7             | 0.7904E-03                         | 8.26            | 4.307E-04       | .264E+00        | -.412E+00              | 1.1    |
| 59  | 1     | $E$      | 58   | 2      | $E$       | 1052.44172 | 31                |                                   |                 | 0.3220E-04                         |                 |                 |                 |                        |        |
| 49  | 0     | $E$      | 48   | 1      | $E$       | 1052.45692 | 5                 |                                   |                 | 0.3233E-03                         |                 |                 |                 |                        |        |
| 44  | 6     | $E$      | 44   | 5      | $E$       | 1052.46210 | -11               | .941474E-03                       | 1.3             | 0.9327E-03                         | .94             | 2.134E-04       |                 |                        | 1.0    |
| 26  | 9     | $E$      | 27   | 8      | $E$       | 1052.47999 | -2                | .735090E-03                       | 1.1             | 0.7307E-03                         | .60             | 3.348E-04       |                 |                        | 1.0    |
| 40  | 1     | $A_1$    | 39   | 0      | $A_2$     | 1052.49284 | 6                 | .372922E-02                       | 1.2             | 0.3614E-02                         | 3.09            | 2.511E-04       |                 |                        | 1.0    |
| 13  | 4     | $A_2$    | 12   | 3      | $A_1$     | 1052.57409 | 1                 | .288872E-01                       | 0.2             | 0.1433E-01                         | .80             | 3.693E-04       |                 |                        | 1.0    |
| 13  | 4     | $A_1$    | 12   | 3      | $A_2$     | 1052.57409 | 1                 |                                   |                 | 0.1433E-01                         |                 |                 |                 |                        |        |
| 43  | 6     | $E$      | 43   | 5      | $E$       | 1052.60472 | -4                | .111883E-02                       | 0.8             | 0.1095E-02                         | 2.10            | 2.293E-04       |                 |                        | 1.0    |
| 42  | 6     | $E$      | 42   | 5      | $E$       | 1052.74410 | 3                 | .135225E-02                       | 1.0             | 0.1280E-02                         | 5.31            | 4.615E-04       | .225E+00        | .421E+00               | 1.1    |
| 18  | 8     | $E$      | 19   | 7      | $E$       | 1052.79846 | 5                 |                                   |                 | 0.1237E-02                         |                 |                 |                 |                        |        |
| 5   | 5     | $E$      | 4    | 4      | $E$       | 1052.86789 | 3                 | .142334E-01                       | 0.2             | 0.1412E-01                         | .78             | 3.427E-04       |                 |                        | 1.0    |
| 41  | 6     | $E$      | 41   | 5      | $E$       | 1052.88006 | -7                | .154949E-02                       | 2.0             | 0.1490E-02                         | 3.87            | 2.873E-04       |                 |                        | 1.0    |
| 22  | 3     | $E$      | 21   | 2      | $E$       | 1052.92264 | 3                 | .108313E-01                       | 0.6             | 0.1089E-01                         | -.53            | 3.692E-04       |                 |                        | 1.0    |
| 10  | 7     | $A_2$    | 11   | 6      | $A_1$     | 1052.97345 | 6                 | .136909E-02                       | 1.0             | 0.7277E-03                         | -6.30           | 6.153E-04       | .267E+00        |                        | 1.1    |
| 10  | 7     | $A_1$    | 11   | 6      | $A_2$     | 1052.97345 | 6                 |                                   |                 | 0.7277E-03                         |                 |                 |                 |                        |        |
| 40  | 6     | $E$      | 40   | 5      | $E$       | 1053.01267 | -28               | .221312E-02                       | 1.7             | 0.1724E-02                         | -3.15           | 6.386E-04       |                 |                        | 1.0    |
| 33  | 10    | $A_1$    | 34   | 9      | $A_2$     | 1053.01267 | 139               |                                   |                 | 0.2791E-03                         |                 |                 |                 |                        |        |
| 33  | 10    | $A_2$    | 34   | 9      | $A_1$     | 1053.01267 | 139               |                                   |                 | 0.2791E-03                         |                 |                 |                 |                        |        |
| 31  | 2     | $E$      | 30   | 1      | $E$       | 1053.03462 | -11               | .533865E-02                       | 0.4             | 0.5316E-02                         | .42             | 4.599E-04       |                 |                        | 1.0    |
| 60  | 1     | $E$      | 59   | 2      | $E$       | 1053.10401 | 19                |                                   |                 | 0.2533E-04                         |                 |                 |                 |                        |        |
| 39  | 6     | $E$      | 39   | 5      | $E$       | 1053.14247 | -4                | .205837E-02                       | 0.4             | 0.1987E-02                         | 3.47            | 2.807E-04       |                 |                        | 1.0    |
| 50  | 0     | $E$      | 49   | 1      | $E$       | 1053.16034 | -4                |                                   |                 | 0.2669E-03                         |                 |                 |                 |                        |        |
| 41  | 1     | $A_2$    | 40   | 0      | $A_1$     | 1053.21447 | 3                 | .325604E-02                       | 0.5             | 0.3132E-02                         | 3.79            | 2.647E-04       |                 | -.440E+00              | 1.3    |
| 38  | 6     | $E$      | 38   | 5      | $E$       | 1053.26882 | -1                | .250398E-02                       | 0.6             | 0.2278E-02                         | 9.02            | 4.981E-04       |                 |                        | 1.0    |
| 37  | 6     | $E$      | 37   | 5      | $E$       | 1053.39186 | -5                | .251311E-02                       | 0.6             | 0.2599E-02                         | -3.42           | 3.148E-04       |                 |                        | 1.0    |
| 14  | 4     | $A_2$    | 13   | 3      | $A_1$     | 1053.41410 | 2                 | .280998E-01                       | 0.1             | 0.1419E-01                         | -.97            | 3.827E-04       | .291E-01        | -.304E+00              | 1.3    |
| 14  | 4     | $A_1$    | 13   | 3      | $A_2$     | 1053.41410 | 2                 |                                   |                 | 0.1419E-01                         |                 |                 |                 |                        |        |
| 25  | 9     | $E$      | 26   | 8      | $E$       | 1053.44487 | -10               |                                   |                 | 0.7623E-03                         |                 |                 |                 |                        |        |
| 36  | 6     | $E$      | 36   | 5      | $E$       | 1053.51169 | -5                | .303650E-02                       | 0.8             | 0.2951E-02                         | 2.83            | 2.951E-04       |                 |                        | 1.0    |
| 35  | 6     | $E$      | 35   | 5      | $E$       | 1053.62832 | 0                 | .333359E-02                       | 0.5             | 0.3333E-02                         | .03             | 3.270E-04       |                 |                        | 1.0    |
| 23  | 3     | $E$      | 22   | 2      | $E$       | 1053.73120 | 7                 |                                   |                 | 0.1029E-01                         |                 |                 |                 |                        |        |
| 6   | 5     | $E$      | 5    | 4      | $E$       | 1053.73488 | 8                 |                                   |                 | 0.1410E-01                         |                 |                 |                 |                        |        |
| 34  | 6     | $E$      | 34   | 5      | $E$       | 1053.74141 | -25               |                                   |                 | 0.3745E-02                         |                 |                 |                 |                        |        |
| 32  | 2     | $E$      | 31   | 1      | $E$       | 1053.81060 | -20               |                                   |                 | 0.4799E-02                         |                 |                 |                 |                        |        |
| 33  | 6     | $E$      | 33   | 5      | $E$       | 1053.85173 | -3                | .423601E-02                       | 0.7             | 0.4187E-02                         | 1.15            | 3.164E-04       | -.125E+00       |                        | 1.1    |
| 51  | 0     | $E$      | 50   | 1      | $E$       | 1053.85968 | -5                |                                   |                 | 0.2193E-03                         |                 |                 |                 |                        |        |
| 9   | 7     | $A_1$    | 10   | 6      | $A_2$     | 1053.89076 | -51               |                                   |                 | 0.5040E-03                         |                 |                 |                 |                        |        |
| 9   | 7     | $A_2$    | 10   | 6      | $A_1$     | 1053.89076 | -51               |                                   |                 | 0.5040E-03                         |                 |                 |                 |                        |        |
| 42  | 1     | $A_1$    | 41   | 0      | $A_2$     | 1053.93181 | 5                 | .286140E-02                       | 0.3             | 0.2702E-02                         | 5.57            | 3.204E-04       |                 |                        | 1.0    |
| 32  | 6     | $E$      | 32   | 5      | $E$       | 1053.95857 | -5                | .451311E-02                       | 0.4             | 0.4657E-02                         | -3.20           | 2.538E-04       |                 | -.371E+00              | 1.1    |
| 32  | 10    | $A_2$    | 33   | 9      | $A_1$     | 1053.99553 | -9                |                                   |                 | 0.3060E-03                         |                 |                 |                 |                        |        |
| 32  | 10    | $A_1$    | 33   | 9      | $A_2$     | 1053.99553 | -9                |                                   |                 | 0.3060E-03                         |                 |                 |                 |                        |        |
| 31  | 6     | $E$      | 31   | 5      | $E$       | 1054.06218 | -5                | .521624E-02                       | 0.3             | 0.5153E-02                         | 1.22            | 3.177E-04       | -.524E-01       | -.177E+00              | 1.1    |
| 30  | 6     | $E$      | 30   | 5      | $E$       | 1054.16256 | -4                | .557397E-02                       | 0.4             | 0.5670E-02                         | -1.72           | 3.017E-04       | -.122E+00       |                        | 1.1    |
| 15  | 4     | $A_2$    | 14   | 3      | $A_1$     | 1054.25062 | -2                | .283542E-01                       | 0.2             | 0.1396E-01                         | 1.50            | 4.194E-04       |                 |                        | 1.0    |
| 15  | 4     | $A_1$    | 14   | 3      | $A_2$     | 1054.25062 | -2                |                                   |                 | 0.1396E-01                         |                 |                 |                 |                        |        |
| 29  | 6     | $E$      | 29   | 5      | $E$       | 1054.25970 | -3                | .622545E-02                       | 0.9             | 0.6205E-02                         | .33             | 3.763E-04       |                 |                        | 1.0    |
| 28  | 6     | $E$      | 28   | 5      | $E$       | 1054.35360 | -2                | .667974E-02                       | 0.4             | 0.6753E-02                         | -1.10           | 3.924E-04       |                 |                        | 1.0    |
| 24  | 9     | $E$      | 25   | 8      | $E$       | 1054.40701 | -5                | .774728E-03                       | 1.6             | 0.7879E-03                         | -1.71           | 1.007E-04       |                 | -.525E+00              | 1.0    |
| 27  | 6     | $E$      | 27   | 5      | $E$       | 1054.44417 | -10               | .759985E-02                       | 0.5             | 0.7307E-02                         | 3.85            | 3.654E-04       |                 |                        | 1.0    |
| 39  | 11    | $E$      | 40   | 10     | $E$       | 1054.45342 | -29               |                                   |                 | 0.8718E-04                         |                 |                 |                 |                        |        |
| 26  | 6     | $E$      | 26   | 5      | $E$       | 1054.53168 | 0                 | .767185E-02                       | 0.6             | 0.7861E-02                         | -2.47           | 2.890E-04       |                 |                        | 1.0    |
| 24  | 3     | $E$      | 23   | 2      | $E$       | 1054.53601 | -7                | .956482E-02                       | 0.6             | 0.9672E-02                         | -1.12           | 2.890E-04       |                 |                        | 1.0    |
| 33  | 2     | $E$      | 32   | 1      | $E$       | 1054.58325 | 5                 | .434712E-02                       | 1.4             | 0.4310E-02                         | .86             | 2.623E-04       |                 |                        | 1.0    |
| 7   | 5     | $E$      | 6    | 4      | $E$       | 1054.59842 | 0                 | .141485E-01                       | 0.4             | 0.1416E-01                         | -.12            | 3.531E-04       |                 |                        | 1.0    |
| 25  | 6     | $E$      | 25   | 5      | $E$       | 1054.61580 | -5                | .819299E-02                       | 0.3             | 0.8406E-02                         | -2.60           | 5.659E-04       | .200E+00        | .534E+00               | 1.3    |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 43  | 1     | $A_2$    | 42   | 0      | $A_1$     | 1054.64469 | -3                | .243119E-02                       | 0.8             | 0.2320E-02                         | 4.57            | 2.829E-04       |                 |                        | 1.0    |
| 16  | 8     | $E$      | 17   | 7      | $E$       | 1054.67958 | 36                |                                   |                 | 0.1106E-02                         |                 |                 |                 |                        |        |
| 24  | 6     | $E$      | 24   | 5      | $E$       | 1054.69673 | -5                | .897703E-02                       | 0.4             | 0.8934E-02                         | .48             | 3.869E-04       |                 |                        | 1.0    |
| 23  | 6     | $E$      | 23   | 5      | $E$       | 1054.77442 | -5                | .952833E-02                       | 0.2             | 0.9434E-02                         | .99             | 3.586E-04       | -.502E-01       | -.721E-01              | 1.1    |
| 8   | 7     | $A_2$    | 9    | 6      | $A_1$     | 1054.80592 | -14               | .593619E-03                       | 1.7             | 0.2926E-03                         | 1.42            | 4.498E-04       |                 |                        | 1.0    |
| 8   | 7     | $A_1$    | 9    | 6      | $A_2$     | 1054.80592 | -14               |                                   |                 | 0.2926E-03                         |                 |                 |                 |                        |        |
| 46  | 12    | $E$      | 47   | 11     | $E$       | 1054.82184 | -53               |                                   |                 | 0.1828E-04                         |                 |                 |                 |                        |        |
| 22  | 6     | $E$      | 22   | 5      | $E$       | 1054.84871 | -21               |                                   |                 | 0.9896E-02                         |                 |                 |                 |                        |        |
| 21  | 6     | $E$      | 21   | 5      | $E$       | 1054.92009 | -4                | .102297E-01                       | 0.3             | 0.1031E-01                         | -.77            | 3.944E-04       |                 |                        | 1.0    |
| 31  | 10    | $A_2$    | 32   | 9      | $A_1$     | 1054.97720 | 0                 |                                   |                 | 0.3331E-03                         |                 |                 |                 |                        |        |
| 31  | 10    | $A_1$    | 32   | 9      | $A_2$     | 1054.97720 | 0                 |                                   |                 | 0.3331E-03                         |                 |                 |                 |                        |        |
| 20  | 6     | $E$      | 20   | 5      | $E$       | 1054.98807 | -4                | .107702E-01                       | 0.3             | 0.1066E-01                         | 1.02            | 3.890E-04       |                 |                        | 1.0    |
| 19  | 6     | $E$      | 19   | 5      | $E$       | 1055.05281 | -3                | .101661E-01                       | 1.6             | 0.1094E-01                         | -7.60           | 1.154E-03       |                 |                        | 1.0    |
| 16  | 4     | $A_2$    | 15   | 3      | $A_1$     | 1055.08370 | -3                | .269819E-01                       | 0.2             | 0.1367E-01                         | -1.33           | 3.792E-04       |                 |                        | 1.0    |
| 16  | 4     | $A_1$    | 15   | 3      | $A_2$     | 1055.08370 | -3                |                                   |                 | 0.1367E-01                         |                 |                 |                 |                        |        |
| 18  | 6     | $E$      | 18   | 5      | $E$       | 1055.11431 | -3                | .111900E-01                       | 0.4             | 0.1113E-01                         | .51             | 4.107E-04       |                 |                        | 1.0    |
| 17  | 6     | $E$      | 17   | 5      | $E$       | 1055.17257 | -3                | .116414E-01                       | 0.3             | 0.1123E-01                         | 3.54            | 3.928E-04       |                 |                        | 1.0    |
| 16  | 6     | $E$      | 16   | 5      | $E$       | 1055.22760 | -3                | .116788E-01                       | 0.4             | 0.1122E-01                         | 3.96            | 4.252E-04       |                 |                        | 1.0    |
| 15  | 6     | $E$      | 15   | 5      | $E$       | 1055.27924 | -17               |                                   |                 | 0.1108E-01                         |                 |                 |                 |                        |        |
| 14  | 6     | $E$      | 14   | 5      | $E$       | 1055.32792 | -4                | .107197E-01                       | 0.6             | 0.1082E-01                         | -.90            | 5.098E-04       |                 |                        | 1.0    |
| 25  | 3     | $E$      | 24   | 2      | $E$       | 1055.33740 | -5                | .899543E-02                       | 0.9             | 0.9043E-02                         | -.52            | 3.690E-04       |                 |                        | 1.0    |
| 34  | 2     | $E$      | 33   | 1      | $E$       | 1055.35226 | 36                |                                   |                 | 0.3851E-02                         |                 |                 |                 |                        |        |
| 23  | 9     | $E$      | 24   | 8      | $E$       | 1055.36643 | 15                |                                   |                 | 0.8064E-03                         |                 |                 |                 |                        |        |
| 13  | 6     | $E$      | 13   | 5      | $E$       | 1055.37386 | 59                |                                   |                 | 0.1041E-01                         |                 |                 |                 |                        |        |
| 12  | 6     | $E$      | 12   | 5      | $E$       | 1055.41532 | -2                | .983428E-02                       | 0.4             | 0.9841E-02                         | -.07            | 5.773E-04       | .437E+00        | .145E+01               | 1.4    |
| 38  | 11    | $E$      | 39   | 10     | $E$       | 1055.45419 | 12                | .965171E-02                       | 0.6             | 0.9896E-04                         | 4.59            | 4.092E-04       |                 |                        | 1.0    |
| 11  | 6     | $E$      | 11   | 5      | $E$       | 1055.45419 | 1                 |                                   |                 | 0.9109E-02                         |                 |                 |                 |                        |        |
| 8   | 5     | $E$      | 7    | 4      | $E$       | 1055.45866 | -4                | .156349E-01                       | 0.6             | 0.1424E-01                         | 8.91            | 4.092E-04       |                 |                        | 1.0    |
| 10  | 6     | $E$      | 10   | 5      | $E$       | 1055.48980 | 2                 | .862382E-02                       | 0.2             | 0.8198E-02                         | 4.94            | 3.218E-04       | -.127E+00       | -.442E+00              | 1.5    |
| 9   | 6     | $E$      | 9    | 5      | $E$       | 1055.52212 | -2                | .749188E-02                       | 0.3             | 0.7091E-02                         | 5.35            | 3.431E-04       | -.208E+00       | -.234E+00              | 1.8    |
| 8   | 6     | $E$      | 8    | 5      | $E$       | 1055.55128 | 1                 | .605326E-02                       | 0.3             | 0.5765E-02                         | 4.76            | 3.179E-04       | -.215E+00       | -.288E+00              | 1.8    |
| 7   | 6     | $E$      | 7    | 5      | $E$       | 1055.57712 | -4                | .417492E-02                       | 0.5             | 0.4187E-02                         | -.29            | 3.524E-04       | -.239E+00       | -.299E+00              | 1.5    |
| 6   | 6     | $E$      | 6    | 5      | $E$       | 1055.59982 | 0                 | .236804E-02                       | 1.6             | 0.2300E-02                         | 2.88            | 4.865E-04       |                 |                        | 1.0    |
| 15  | 8     | $E$      | 16   | 7      | $E$       | 1055.61503 | -11               | .102621E-02                       | 0.5             | 0.1012E-02                         | 1.40            | 3.944E-04       | -.375E+00       |                        | 1.5    |
| 64  | 1     | $E$      | 63   | 2      | $E$       | 1055.71048 | 14                |                                   |                 | 0.9273E-05                         |                 |                 |                 |                        |        |
| 7   | 7     | $A_1$    | 8    | 6      | $A_2$     | 1055.71797 | 23                |                                   |                 | 0.1142E-03                         |                 |                 |                 |                        |        |
| 7   | 7     | $A_2$    | 8    | 6      | $A_1$     | 1055.71797 | 23                |                                   |                 | 0.1142E-03                         |                 |                 |                 |                        |        |
| 17  | 4     | $A_2$    | 16   | 3      | $A_1$     | 1055.91333 | -3                | .265122E-01                       | 0.2             | 0.1331E-01                         | -.38            | 4.435E-04       |                 |                        | 1.0    |
| 17  | 4     | $A_1$    | 16   | 3      | $A_2$     | 1055.91333 | -3                |                                   |                 | 0.1331E-01                         |                 |                 |                 |                        |        |
| 54  | 0     | $E$      | 53   | 1      | $E$       | 1055.93249 | -18               |                                   |                 | 0.1183E-03                         |                 |                 |                 |                        |        |
| 30  | 10    | $A_1$    | 31   | 9      | $A_2$     | 1055.95596 | -5                |                                   |                 | 0.3600E-03                         |                 |                 |                 |                        |        |
| 30  | 10    | $A_2$    | 31   | 9      | $A_1$     | 1055.95596 | -5                |                                   |                 | 0.3600E-03                         |                 |                 |                 |                        |        |
| 45  | 1     | $A_2$    | 44   | 0      | $A_1$     | 1056.05753 | 0                 | .169822E-02                       | 1.3             | 0.1686E-02                         | .70             | 1.811E-04       |                 |                        | 1.0    |
| 35  | 2     | $E$      | 34   | 1      | $E$       | 1056.11693 | 3                 | .334821E-02                       | 1.1             | 0.3425E-02                         | -2.28           | 1.785E-04       |                 |                        | 1.0    |
| 26  | 3     | $E$      | 25   | 2      | $E$       | 1056.13520 | -1                | .834387E-02                       | 0.2             | 0.8410E-02                         | -.79            | 3.821E-04       | -.133E+00       |                        | 1.2    |
| 9   | 5     | $E$      | 8    | 4      | $E$       | 1056.31561 | -2                | .137546E-01                       | 0.2             | 0.1430E-01                         | -3.96           | 3.635E-04       |                 |                        | 1.0    |
| 22  | 9     | $E$      | 23   | 8      | $E$       | 1056.32232 | -30               | .846416E-03                       | 5.6             | 0.8163E-03                         | 3.56            | 6.973E-04       |                 |                        | 1.0    |
| 37  | 11    | $E$      | 38   | 10     | $E$       | 1056.45173 | -2                |                                   |                 | 0.1117E-03                         |                 |                 |                 |                        |        |
| 14  | 8     | $E$      | 15   | 7      | $E$       | 1056.54795 | -12               |                                   |                 | 0.8998E-03                         |                 |                 |                 |                        |        |
| 55  | 0     | $E$      | 54   | 1      | $E$       | 1056.61526 | 5                 |                                   |                 | 0.9537E-04                         |                 |                 |                 |                        |        |
| 18  | 4     | $A_1$    | 17   | 3      | $A_2$     | 1056.73960 | 10                |                                   |                 | 0.1288E-01                         |                 |                 |                 |                        |        |
| 18  | 4     | $A_2$    | 17   | 3      | $A_1$     | 1056.73960 | 10                |                                   |                 | 0.1288E-01                         |                 |                 |                 |                        |        |
| 46  | 1     | $A_1$    | 45   | 0      | $A_2$     | 1056.75735 | 1                 | .152530E-02                       | 1.1             | 0.1428E-02                         | 6.40            | 3.305E-04       | -.383E+00       | .981E+00               | 1.5    |
| 44  | 12    | $E$      | 45   | 11     | $E$       | 1056.85647 | -21               |                                   |                 | 0.2523E-04                         |                 |                 |                 |                        |        |
| 36  | 2     | $E$      | 35   | 1      | $E$       | 1056.87818 | -1                | .303573E-02                       | 1.5             | 0.3030E-02                         | .18             | 2.904E-04       | .115E+00        |                        | 1.0    |
| 27  | 3     | $E$      | 26   | 2      | $E$       | 1056.92934 | -2                | .765210E-02                       | 0.4             | 0.7780E-02                         | -1.67           | 5.526E-04       | .402E+00        | .256E+00               | 1.6    |
| 10  | 5     | $E$      | 9    | 4      | $E$       | 1057.16916 | -2                | .136782E-01                       | 0.3             | 0.1432E-01                         | -4.66           | 3.449E-04       | -.251E+00       | -.162E+00              | 1.3    |
| 21  | 9     | $E$      | 22   | 8      | $E$       | 1057.27601 | -4                |                                   |                 | 0.8166E-03                         |                 |                 |                 |                        |        |
| 56  | 0     | $E$      | 55   | 1      | $E$       | 1057.29345 | -4                |                                   |                 | 0.7656E-04                         |                 |                 |                 |                        |        |
| 58  | 7     | $A_2$    | 58   | 6      | $A_1$     | 1057.35605 | -8                |                                   |                 | 0.4791E-04                         |                 |                 |                 |                        |        |
| 58  | 7     | $A_1$    | 58   | 6      | $A_2$     | 1057.35605 | -8                |                                   |                 | 0.4791E-04                         |                 |                 |                 |                        |        |
| 47  | 1     | $A_2$    | 46   | 0      | $A_1$     | 1057.45276 | 2                 |                                   |                 | 0.1203E-02                         |                 |                 |                 |                        |        |
| 13  | 8     | $E$      | 14   | 7      | $E$       | 1057.47795 | -2                | .839351E-03                       | 1.6             | 0.7718E-03                         | 8.05            | 6.982E-04       |                 |                        | 1.0    |
| 57  | 7     | $A_2$    | 57   | 6      | $A_1$     | 1057.54428 | 1                 |                                   |                 | 0.5998E-04                         |                 |                 |                 |                        |        |
| 57  | 7     | $A_1$    | 57   | 6      | $A_2$     | 1057.54428 | 1                 |                                   |                 | 0.5998E-04                         |                 |                 |                 |                        |        |
| 19  | 4     | $A_2$    | 18   | 3      | $A_1$     | 1057.56211 | -2                | .256438E-01                       | 0.3             | 0.1240E-01                         | 3.27            | 4.562E-04       |                 |                        | 1.0    |
| 19  | 4     | $A_1$    | 18   | 3      | $A_2$     | 1057.56211 | -2                |                                   |                 | 0.1240E-01                         |                 |                 |                 |                        |        |
| 37  | 2     | $E$      | 36   | 1      | $E$       | 1057.63574 | -2                | .269921E-02                       | 1.0             | 0.2668E-02                         | 1.15            | 2.553E-04       | -.250E+00       | -.371E+00              | 1.3    |
| 28  | 3     | $E$      | 27   | 2      | $E$       | 1057.71985 | -3                | .715362E-02                       | 0.6             | 0.7161E-02                         | -.10            | 2.648E-04       |                 | -.458E+00              | 1.1    |
| 43  | 12    | $E$      | 44   | 11     | $E$       | 1057.86910 | -85               |                                   |                 | 0.2941E-04                         |                 |                 |                 |                        |        |
| 28  | 10    | $A_2$    | 29   | 9      | $A_1$     | 1057.90522 | -2                |                                   |                 | 0.4110E-03                         |                 |                 |                 |                        |        |
| 28  | 10    | $A_1$    | 29   | 9      | $A_2$     | 1057.90522 | -2                |                                   |                 | 0.4110E-03                         |                 |                 |                 |                        |        |
| 55  | 7     | $A_2$    | 55   | 6      | $A_1$     | 1057.91050 | -25               |                                   |                 | 0.9276E-04                         |                 |                 |                 |                        |        |
| 55  | 7     | $A_1$    | 55   | 6      | $A_2$     | 1057.91050 | -25               |                                   |                 | 0.9276E-04                         |                 |                 |                 |                        |        |
| 57  | 0     | $E$      | 56   | 1      | $E$       | 1057.96743 | -6                |                                   |                 | 0.6117E-04                         |                 |                 |                 |                        |        |
| 11  | 5     | $E$      | 10   | 4      | $E$       | 1058.01934 | -2                | .136041E-01                       | 0.3             | 0.1428E-01                         | -4.96           | 3.544E-04       | .411E-01        | -.327E+00              | 1.3    |
| 54  | 7     | $A_1$    | 54   | 6      | $A_2$     | 1058.08903 | -7                |                                   |                 | 0.1146E-03                         |                 |                 |                 |                        |        |
| 54  | 7     | $A_2$    | 54   | 6      | $A_1$     | 1058.08903 | -7                |                                   |                 | 0.1146E-03                         |                 |                 |                 |                        |        |
| 48  | 1     | $A_1$    | 47   | 0      | $A_2$     | 1058.14374 | 3                 |                                   |                 | 0.1009E-02                         |                 |                 |                 |                        |        |
| 20  | 9     | $E$      | 21   | 8      | $E$       | 1058.22649 | -7                | .750794E-03                       | 1.8             | 0.8062E-03                         | -7.39           | 4.458E-04       | .301E+00        |                        | 1.1    |
| 53  | 7     | $A_1$    | 53   | 6      | $A_2$     | 1058.26406 | -12               |                                   |                 | 0.1409E-03                         |                 |                 |                 |                        |        |
| 53  | 7     | $A_2$    | 53   | 6      | $A_1$     | 1058.26406 | -12               |                                   |                 | 0.1409E-03                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 20  | 4     | $A_2$    | 19   | 3      | $A_1$     | 1058.38124 | -2                | .237535E-01                       | 0.1             | 0.1188E-01                         | .01             | 4.206E-04       |                 |                        | 1.0    |
| 20  | 4     | $A_1$    | 19   | 3      | $A_2$     | 1058.38124 | -2                |                                   |                 | 0.1188E-01                         |                 |                 |                 |                        |        |
| 38  | 2     | $E$      | 37   | 1      | $E$       | 1058.38956 | -2                | .234912E-02                       | 1.4             | 0.2338E-02                         | .47             | 3.669E-04       |                 |                        | 1.0    |
| 12  | 8     | $E$      | 13   | 7      | $E$       | 1058.40515 | 30                | .656436E-03                       | 4.2             | 0.6310E-03                         | 3.87            | 5.280E-04       |                 |                        | 1.0    |
| 52  | 7     | $A_1$    | 52   | 6      | $A_2$     | 1058.43591 | -9                |                                   |                 | 0.1725E-03                         |                 |                 |                 |                        |        |
| 52  | 7     | $A_2$    | 52   | 6      | $A_1$     | 1058.43591 | -9                |                                   |                 | 0.1725E-03                         |                 |                 |                 |                        |        |
| 29  | 3     | $E'$     | 28   | 2      | $E'$      | 1058.50674 | -2                | .669816E-02                       | 0.3             | 0.6557E-02                         | 2.10            | 3.031E-04       | -.808E-01       | -.276E+00              | 1.2    |
| 58  | 0     | $E$      | 57   | 1      | $E$       | 1058.63711 | -7                |                                   |                 | 0.4866E-04                         |                 |                 |                 |                        |        |
| 50  | 7     | $A_2$    | 50   | 6      | $A_1$     | 1058.76980 | -6                |                                   |                 | 0.2550E-03                         |                 |                 |                 |                        |        |
| 50  | 7     | $A_1$    | 50   | 6      | $A_2$     | 1058.76980 | -6                |                                   |                 | 0.2550E-03                         |                 |                 |                 |                        |        |
| 49  | 1     | $A_2$    | 48   | 0      | $A_1$     | 1058.83024 | 0                 |                                   |                 | 0.8428E-03                         |                 |                 |                 |                        |        |
| 12  | 5     | $E$      | 11   | 4      | $E$       | 1058.86612 | -1                | .132973E-01                       | 0.2             | 0.1418E-01                         | -6.64           | 3.954E-04       |                 |                        | 1.0    |
| 27  | 10    | $A_1$    | 28   | 9      | $A_2$     | 1058.87524 | -40               |                                   |                 | 0.4338E-03                         |                 |                 |                 |                        |        |
| 27  | 10    | $A_2$    | 28   | 9      | $A_1$     | 1058.87524 | -40               |                                   |                 | 0.4338E-03                         |                 |                 |                 |                        |        |
| 49  | 7     | $A_1$    | 49   | 6      | $A_2$     | 1058.93184 | -7                |                                   |                 | 0.3079E-03                         |                 |                 |                 |                        |        |
| 49  | 7     | $A_2$    | 49   | 6      | $A_1$     | 1058.93184 | -7                |                                   |                 | 0.3079E-03                         |                 |                 |                 |                        |        |
| 48  | 7     | $A_1$    | 48   | 6      | $A_2$     | 1059.09064 | -5                |                                   |                 | 0.3701E-03                         |                 |                 |                 |                        |        |
| 48  | 7     | $A_2$    | 48   | 6      | $A_1$     | 1059.09064 | -5                |                                   |                 | 0.3701E-03                         |                 |                 |                 |                        |        |
| 39  | 2     | $E'$     | 38   | 1      | $E'$      | 1059.13960 | -5                | .211192E-02                       | 0.6             | 0.2039E-02                         | 3.46            | 2.557E-04       | .123E+00        | -.252E+00              | 1.1    |
| 19  | 9     | $E'$     | 20   | 8      | $E'$      | 1059.17411 | -3                | .759854E-03                       | 1.5             | 0.7843E-03                         | -3.21           | 3.886E-04       | .331E+00        |                        | 1.1    |
| 21  | 4     | $A_2$    | 20   | 3      | $A_1$     | 1059.19681 | -4                | .226616E-01                       | 0.2             | 0.1131E-01                         | .17             | 3.833E-04       |                 | -.276E+00              | 1.1    |
| 21  | 4     | $A_1$    | 20   | 3      | $A_2$     | 1059.19681 | -4                |                                   |                 | 0.1131E-01                         |                 |                 |                 |                        |        |
| 47  | 7     | $A_2$    | 47   | 6      | $A_1$     | 1059.24601 | -22               |                                   |                 | 0.4428E-03                         |                 |                 |                 |                        |        |
| 47  | 7     | $A_1$    | 47   | 6      | $A_2$     | 1059.24601 | -22               |                                   |                 | 0.4428E-03                         |                 |                 |                 |                        |        |
| 30  | 3     | $E'$     | 29   | 2      | $E'$      | 1059.28993 | -5                | .617395E-02                       | 0.6             | 0.5974E-02                         | 3.23            | 3.759E-04       | .213E+00        |                        | 1.2    |
| 59  | 0     | $E$      | 58   | 1      | $E$       | 1059.30231 | -25               |                                   |                 | 0.3853E-04                         |                 |                 |                 |                        |        |
| 11  | 8     | $E$      | 12   | 7      | $E$       | 1059.32852 | -16               | .465585E-03                       | 3.3             | 0.4824E-03                         | -3.61           | 2.879E-04       |                 |                        | 1.0    |
| 46  | 7     | $A_2$    | 46   | 6      | $A_1$     | 1059.39844 | -6                | .112742E-02                       | 3.0             | 0.5274E-03                         | 6.45            | 1.211E-04       |                 |                        | 1.0    |
| 46  | 7     | $A_1$    | 46   | 6      | $A_2$     | 1059.39844 | -6                |                                   |                 | 0.5274E-03                         |                 |                 |                 |                        |        |
| 34  | 11    | $E'$     | 35   | 10     | $E'$      | 1059.42849 | -11               |                                   |                 | 0.1545E-03                         |                 |                 |                 |                        |        |
| 50  | 1     | $A_1$    | 49   | 0      | $A_2$     | 1059.51230 | -1                |                                   |                 | 0.7006E-03                         |                 |                 |                 |                        |        |
| 45  | 7     | $A_2$    | 45   | 6      | $A_1$     | 1059.54746 | -7                | .125600E-02                       | 0.7             | 0.6251E-03                         | .46             | 2.951E-04       | -.190E+00       |                        | 1.1    |
| 45  | 7     | $A_1$    | 45   | 6      | $A_2$     | 1059.54746 | -7                |                                   |                 | 0.6251E-03                         |                 |                 |                 |                        |        |
| 44  | 7     | $A_2$    | 44   | 6      | $A_1$     | 1059.69320 | -10               | .146513E-02                       | 1.4             | 0.7375E-03                         | -.67            | 1.991E-04       |                 |                        | 1.0    |
| 44  | 7     | $A_1$    | 44   | 6      | $A_2$     | 1059.69320 | -10               |                                   |                 | 0.7375E-03                         |                 |                 |                 |                        |        |
| 13  | 5     | $E'$     | 12   | 4      | $E'$      | 1059.70949 | -1                | .130446E-01                       | 0.3             | 0.1402E-01                         | -7.46           | 3.756E-04       | -.336E-01       | -.326E+00              | 1.1    |
| 43  | 7     | $A_2$    | 43   | 6      | $A_1$     | 1059.83577 | -6                | .174625E-02                       | 0.6             | 0.8660E-03                         | .82             | 2.777E-04       |                 |                        | 1.0    |
| 43  | 7     | $A_1$    | 43   | 6      | $A_2$     | 1059.83577 | -6                |                                   |                 | 0.8660E-03                         |                 |                 |                 |                        |        |
| 26  | 10    | $A_2$    | 27   | 9      | $A_1$     | 1059.84313 | -7                | .898734E-03                       | 1.1             | 0.4539E-03                         | -1.01           | 5.164E-04       |                 |                        | 1.0    |
| 26  | 10    | $A_1$    | 27   | 9      | $A_2$     | 1059.84313 | -7                |                                   |                 | 0.4539E-03                         |                 |                 |                 |                        |        |
| 40  | 2     | $E'$     | 39   | 1      | $E'$      | 1059.88595 | 0                 | .184459E-02                       | 0.8             | 0.1770E-02                         | 4.07            | 2.431E-04       |                 | -.656E+00              | 1.2    |
| 60  | 0     | $E$      | 59   | 1      | $E$       | 1059.96354 | -4                |                                   |                 | 0.3037E-04                         |                 |                 |                 |                        |        |
| 42  | 7     | $A_2$    | 42   | 6      | $A_1$     | 1059.97503 | -7                | .202331E-02                       | 0.9             | 0.1012E-02                         | -.04            | 3.207E-04       |                 |                        | 1.0    |
| 42  | 7     | $A_1$    | 42   | 6      | $A_2$     | 1059.97503 | -7                |                                   |                 | 0.1012E-02                         |                 |                 |                 |                        |        |
| 22  | 4     | $A_2$    | 21   | 3      | $A_1$     | 1060.00905 | 15                | .215835E-01                       | 0.2             | 0.1072E-01                         | .70             | 4.040E-04       | .813E-01        | .219E+00               | 1.1    |
| 22  | 4     | $A_1$    | 21   | 3      | $A_2$     | 1060.00905 | 15                |                                   |                 | 0.1072E-01                         |                 |                 |                 |                        |        |
| 31  | 3     | $E'$     | 30   | 2      | $E'$      | 1060.06959 | 5                 |                                   |                 | 0.5416E-02                         |                 |                 |                 |                        |        |
| 41  | 7     | $A_2$    | 41   | 6      | $A_1$     | 1060.11129 | 17                | .246048E-02                       | 0.6             | 0.1177E-02                         | 4.33            | 3.104E-04       |                 |                        | 1.0    |
| 41  | 7     | $A_1$    | 41   | 6      | $A_2$     | 1060.11129 | 17                |                                   |                 | 0.1177E-02                         |                 |                 |                 |                        |        |
| 18  | 9     | $E'$     | 19   | 8      | $E'$      | 1060.11867 | -11               | .731958E-03                       | 2.4             | 0.7500E-03                         | -2.47           | 5.119E-04       |                 |                        | 1.0    |
| 51  | 1     | $A_2$    | 50   | 0      | $A_1$     | 1060.18998 | 8                 |                                   |                 | 0.5797E-03                         |                 |                 |                 |                        |        |
| 40  | 7     | $A_2$    | 40   | 6      | $A_1$     | 1060.24400 | 10                | .278735E-02                       | 0.4             | 0.1362E-02                         | 2.25            | 3.020E-04       |                 |                        | 1.0    |
| 40  | 7     | $A_1$    | 40   | 6      | $A_2$     | 1060.24400 | 10                |                                   |                 | 0.1362E-02                         |                 |                 |                 |                        |        |
| 10  | 8     | $E'$     | 11   | 7      | $E'$      | 1060.24924 | -21               |                                   |                 | 0.3328E-03                         |                 |                 |                 |                        |        |
| 39  | 7     | $A_2$    | 39   | 6      | $A_1$     | 1060.37355 | 12                | .310525E-02                       | 0.5             | 0.1569E-02                         | -1.06           | 2.241E-04       |                 | -.310E+00              | 1.1    |
| 39  | 7     | $A_1$    | 39   | 6      | $A_2$     | 1060.37355 | 12                |                                   |                 | 0.1569E-02                         |                 |                 |                 |                        |        |
| 33  | 11    | $E'$     | 34   | 10     | $E'$      | 1060.41536 | -7                |                                   |                 | 0.1700E-03                         |                 |                 |                 |                        |        |
| 38  | 7     | $A_2$    | 38   | 6      | $A_1$     | 1060.49980 | 9                 | .351315E-02                       | 0.5             | 0.1798E-02                         | -2.39           | 2.743E-04       |                 |                        | 1.0    |
| 38  | 7     | $A_1$    | 38   | 6      | $A_2$     | 1060.49980 | 9                 |                                   |                 | 0.1798E-02                         |                 |                 |                 |                        |        |
| 14  | 5     | $E'$     | 13   | 4      | $E'$      | 1060.54961 | 18                | .128167E-01                       | 0.3             | 0.1379E-01                         | -7.60           | 4.145E-04       |                 |                        | 1.0    |
| 37  | 7     | $A_2$    | 37   | 6      | $A_1$     | 1060.62286 | 11                | .411408E-02                       | 0.5             | 0.2051E-02                         | .29             | 2.807E-04       |                 |                        | 1.0    |
| 37  | 7     | $A_1$    | 37   | 6      | $A_2$     | 1060.62286 | 11                |                                   |                 | 0.2051E-02                         |                 |                 |                 |                        |        |
| 41  | 2     | $E'$     | 40   | 1      | $E'$      | 1060.62868 | 20                | .159285E-02                       | 1.2             | 0.1529E-02                         | 4.04            | 2.291E-04       |                 |                        | 1.0    |
| 36  | 7     | $A_2$    | 36   | 6      | $A_1$     | 1060.74266 | 12                | .466433E-02                       | 0.5             | 0.2328E-02                         | .20             | 2.975E-04       |                 |                        | 1.0    |
| 36  | 7     | $A_1$    | 36   | 6      | $A_2$     | 1060.74266 | 12                |                                   |                 | 0.2328E-02                         |                 |                 |                 |                        |        |
| 25  | 10    | $A_2$    | 26   | 9      | $A_1$     | 1060.80828 | 36                | .927114E-03                       | 4.5             | 0.4705E-03                         | -1.50           | 3.349E-04       |                 |                        | 1.0    |
| 25  | 10    | $A_1$    | 26   | 9      | $A_2$     | 1060.80828 | 36                |                                   |                 | 0.4705E-03                         |                 |                 |                 |                        |        |
| 23  | 4     | $A_2$    | 22   | 3      | $A_1$     | 1060.81753 | 14                | .196040E-01                       | 0.2             | 0.1010E-01                         | -3.04           | 3.886E-04       |                 |                        | 1.0    |
| 23  | 4     | $A_1$    | 22   | 3      | $A_2$     | 1060.81753 | 14                |                                   |                 | 0.1010E-01                         |                 |                 |                 |                        |        |
| 32  | 3     | $E'$     | 31   | 2      | $E'$      | 1060.84555 | 15                | .479321E-02                       | 0.6             | 0.4886E-02                         | -1.93           | 3.431E-04       | -.163E+00       |                        | 1.1    |
| 35  | 7     | $A_2$    | 35   | 6      | $A_1$     | 1060.85901 | -8                |                                   |                 | 0.2628E-02                         |                 |                 |                 |                        |        |
| 35  | 7     | $A_1$    | 35   | 6      | $A_2$     | 1060.85901 | -8                |                                   |                 | 0.2628E-02                         |                 |                 |                 |                        |        |
| 6   | 6     | $E'$     | 5    | 5      | $E'$      | 1060.91832 | 18                | .142575E-01                       | 0.3             | 0.1410E-01                         | 1.10            | 2.528E-04       |                 | -.447E+00              | 1.4    |
| 34  | 7     | $A_2$    | 34   | 6      | $A_1$     | 1060.97250 | 11                | .565687E-02                       | 0.7             | 0.2952E-02                         | -4.36           | 2.760E-04       |                 |                        | 1.0    |
| 34  | 7     | $A_1$    | 34   | 6      | $A_2$     | 1060.97250 | 11                |                                   |                 | 0.2952E-02                         |                 |                 |                 |                        |        |
| 17  | 9     | $E'$     | 18   | 8      | $E'$      | 1061.06059 | 13                | .742336E-03                       | 1.4             | 0.7032E-03                         | 5.27            | 3.238E-04       |                 |                        | 1.0    |
| 33  | 7     | $A_2$    | 33   | 6      | $A_1$     | 1061.08256 | 11                | .677862E-02                       | 0.3             | 0.3298E-02                         | 2.69            | 3.512E-04       | -.256E+00       | -.956E-01              | 1.3    |
| 33  | 7     | $A_1$    | 33   | 6      | $A_2$     | 1061.08256 | 11                |                                   |                 | 0.3298E-02                         |                 |                 |                 |                        |        |
| 9   | 8     | $E'$     | 10   | 7      | $E'$      | 1061.16675 | -39               |                                   |                 | 0.1921E-03                         |                 |                 |                 |                        |        |
| 32  | 7     | $A_2$    | 32   | 6      | $A_1$     | 1061.18939 | 12                | .718043E-02                       | 0.3             | 0.3666E-02                         | -2.11           | 2.974E-04       | -.219E+00       | -.159E+00              | 1.8    |
| 32  | 7     | $A_1$    | 32   | 6      | $A_2$     | 1061.18939 | 12                |                                   |                 | 0.3666E-02                         |                 |                 |                 |                        |        |
| 62  | 0     | $E'$     | 61   | 1      | $E'$      | 1061.27256 | 5                 |                                   |                 | 0.1861E-04                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 47  | 13    | $A_2$    | 48   | 12     | $A_1$     | 1061.28101 | -109              |                                   |                 | 0.8755E-05                         |                 |                 |                 |                        |        |
| 47  | 13    | $A_1$    | 48   | 12     | $A_2$     | 1061.28101 | -109              |                                   |                 | 0.8755E-05                         |                 |                 |                 |                        |        |
| 31  | 7     | $A_2$    | 31   | 6      | $A_1$     | 1061.29297 | 12                | .800858E-02                       | 0.3             | 0.4053E-02                         | -1.21           | 3.080E-04       | -.253E+00       | -.319E+00              | 2.1    |
| 31  | 7     | $A_1$    | 31   | 6      | $A_2$     | 1061.29297 | 12                |                                   |                 | 0.4053E-02                         |                 |                 |                 |                        |        |
| 42  | 2     | $E$      | 41   | 1      | $E$       | 1061.36745 | 23                | .133309E-02                       | 1.0             | 0.1314E-02                         | 1.43            | 3.083E-04       | -.515E+00       | -.152E+00              | 1.7    |
| 15  | 5     | $E$      | 14   | 4      | $E$       | 1061.38612 | 20                | .127058E-01                       | 0.4             | 0.1350E-01                         | -6.24           | 4.182E-04       |                 |                        | 1.0    |
| 30  | 7     | $A_2$    | 30   | 6      | $A_1$     | 1061.39328 | 10                | .868644E-02                       | 0.7             | 0.4456E-02                         | -2.60           | 3.325E-04       |                 |                        | 1.0    |
| 30  | 7     | $A_1$    | 30   | 6      | $A_2$     | 1061.39328 | 10                |                                   |                 | 0.4456E-02                         |                 |                 |                 |                        |        |
| 32  | 11    | $E$      | 33   | 10     | $E$       | 1061.39982 | 30                |                                   |                 | 0.1856E-03                         |                 |                 |                 |                        |        |
| 29  | 7     | $A_2$    | 29   | 6      | $A_1$     | 1061.49020 | -8                | .963112E-02                       | 0.3             | 0.4873E-02                         | -1.18           | 3.236E-04       |                 | -.200E+00              | 1.1    |
| 29  | 7     | $A_1$    | 29   | 6      | $A_2$     | 1061.49020 | -8                |                                   |                 | 0.4873E-02                         |                 |                 |                 |                        |        |
| 53  | 1     | $A_2$    | 52   | 0      | $A_1$     | 1061.53134 | -25               |                                   |                 | 0.3916E-03                         |                 |                 |                 |                        |        |
| 28  | 7     | $A_2$    | 28   | 6      | $A_1$     | 1061.58405 | -8                | .104365E-01                       | 0.4             | 0.5297E-02                         | -1.52           | 3.265E-04       |                 |                        | 1.0    |
| 28  | 7     | $A_1$    | 28   | 6      | $A_2$     | 1061.58405 | -8                |                                   |                 | 0.5297E-02                         |                 |                 |                 |                        |        |
| 33  | 3     | $E$      | 32   | 2      | $E$       | 1061.61758 | 1                 | .448997E-02                       | 2.2             | 0.4386E-02                         | 2.33            | 2.404E-04       |                 |                        | 1.0    |
| 24  | 4     | $A_2$    | 23   | 3      | $A_1$     | 1061.62217 | -13               | .191312E-01                       | 0.4             | 0.9470E-02                         | 1.00            | 4.517E-04       |                 |                        | 1.0    |
| 24  | 4     | $A_1$    | 23   | 3      | $A_2$     | 1061.62217 | -13               |                                   |                 | 0.9470E-02                         |                 |                 |                 |                        |        |
| 27  | 7     | $A_2$    | 27   | 6      | $A_1$     | 1061.67465 | -9                | .114545E-01                       | 0.4             | 0.5726E-02                         | .02             | 3.431E-04       |                 |                        | 1.0    |
| 27  | 7     | $A_1$    | 27   | 6      | $A_2$     | 1061.67465 | -9                |                                   |                 | 0.5726E-02                         |                 |                 |                 |                        |        |
| 26  | 7     | $A_2$    | 26   | 6      | $A_1$     | 1061.76223 | 11                | .130717E-01                       | 1.0             | 0.6152E-02                         | 5.87            | 8.492E-04       |                 |                        | 1.0    |
| 26  | 7     | $A_1$    | 26   | 6      | $A_2$     | 1061.76223 | 11                |                                   |                 | 0.6152E-02                         |                 |                 |                 |                        |        |
| 24  | 10    | $A_2$    | 25   | 9      | $A_1$     | 1061.76963 | -15               |                                   |                 | 0.4828E-03                         |                 |                 |                 |                        |        |
| 24  | 10    | $A_1$    | 25   | 9      | $A_2$     | 1061.76963 | -15               |                                   |                 | 0.4828E-03                         |                 |                 |                 |                        |        |
| 7   | 6     | $E$      | 6    | 5      | $E$       | 1061.78163 | -2                | .140076E-01                       | 2.4             | 0.1395E-01                         | .42             | 1.795E-04       |                 |                        | 1.0    |
| 25  | 7     | $A_2$    | 25   | 6      | $A_1$     | 1061.84616 | -9                | .128023E-01                       | 0.5             | 0.6569E-02                         | -2.62           | 3.862E-04       |                 |                        | 1.0    |
| 25  | 7     | $A_1$    | 25   | 6      | $A_2$     | 1061.84616 | -9                |                                   |                 | 0.6569E-02                         |                 |                 |                 |                        |        |
| 24  | 7     | $A_2$    | 24   | 6      | $A_1$     | 1061.92707 | -8                | .135671E-01                       | 0.3             | 0.6969E-02                         | -2.74           | 2.961E-04       | -.119E+00       | -.416E+00              | 2.0    |
| 24  | 7     | $A_1$    | 24   | 6      | $A_2$     | 1061.92707 | -8                |                                   |                 | 0.6969E-02                         |                 |                 |                 |                        |        |
| 16  | 9     | $E$      | 17   | 8      | $E$       | 1061.99899 | -17               |                                   |                 | 0.6440E-03                         |                 |                 |                 |                        |        |
| 23  | 7     | $A_2$    | 23   | 6      | $A_1$     | 1062.00473 | -7                | .144044E-01                       | 0.2             | 0.7345E-02                         | -1.99           | 3.777E-04       |                 |                        | 1.0    |
| 23  | 7     | $A_1$    | 23   | 6      | $A_2$     | 1062.00473 | -7                |                                   |                 | 0.7345E-02                         |                 |                 |                 |                        |        |
| 22  | 7     | $A_2$    | 22   | 6      | $A_1$     | 1062.07914 | -8                | .155075E-01                       | 0.2             | 0.7688E-02                         | .85             | 4.070E-04       | -.738E-01       | .114E+00               | 1.1    |
| 22  | 7     | $A_1$    | 22   | 6      | $A_2$     | 1062.07914 | -8                |                                   |                 | 0.7688E-02                         |                 |                 |                 |                        |        |
| 43  | 2     | $E$      | 42   | 1      | $E$       | 1062.10205 | -11               | .119616E-02                       | 2.4             | 0.1124E-02                         | 6.00            | 2.400E-04       |                 |                        | 1.0    |
| 21  | 7     | $A_2$    | 21   | 6      | $A_1$     | 1062.15033 | -8                | .162679E-01                       | 0.2             | 0.7988E-02                         | 1.79            | 4.241E-04       |                 |                        | 1.0    |
| 21  | 7     | $A_1$    | 21   | 6      | $A_2$     | 1062.15033 | -8                |                                   |                 | 0.7988E-02                         |                 |                 |                 |                        |        |
| 54  | 1     | $A_1$    | 53   | 0      | $A_2$     | 1062.19580 | 14                |                                   |                 | 0.3197E-03                         |                 |                 |                 |                        |        |
| 20  | 7     | $A_2$    | 20   | 6      | $A_1$     | 1062.21854 | 19                | .298237E-01                       | 0.2             | 0.8236E-02                         | .69             | 4.670E-04       |                 |                        | 1.0    |
| 20  | 7     | $A_1$    | 20   | 6      | $A_2$     | 1062.21854 | 19                |                                   |                 | 0.8236E-02                         |                 |                 |                 |                        |        |
| 16  | 5     | $E$      | 15   | 4      | $E$       | 1062.21854 | -42               |                                   |                 | 0.1315E-01                         |                 |                 |                 |                        |        |
| 19  | 7     | $A_2$    | 19   | 6      | $A_1$     | 1062.28298 | -8                | .168079E-01                       | 0.2             | 0.8421E-02                         | -2.20           | 3.945E-04       | -.667E-01       | -.950E-01              | 1.1    |
| 19  | 7     | $A_1$    | 19   | 6      | $A_2$     | 1062.28298 | -8                |                                   |                 | 0.8421E-02                         |                 |                 |                 |                        |        |
| 18  | 7     | $A_2$    | 18   | 6      | $A_1$     | 1062.34444 | -9                | .170228E-01                       | 0.2             | 0.8533E-02                         | -2.26           | 3.921E-04       |                 |                        | 1.0    |
| 18  | 7     | $A_1$    | 18   | 6      | $A_2$     | 1062.34444 | -9                |                                   |                 | 0.8533E-02                         |                 |                 |                 |                        |        |
| 34  | 3     | $E$      | 33   | 2      | $E$       | 1062.38597 | -5                | .403842E-02                       | 2.1             | 0.3917E-02                         | 3.00            | 3.613E-04       |                 |                        | 1.0    |
| 17  | 7     | $A_2$    | 17   | 6      | $A_1$     | 1062.40270 | -6                | .166928E-01                       | 0.5             | 0.8563E-02                         | -2.59           | 4.175E-04       |                 |                        | 1.0    |
| 17  | 7     | $A_1$    | 17   | 6      | $A_2$     | 1062.40270 | -6                |                                   |                 | 0.8563E-02                         |                 |                 |                 |                        |        |
| 25  | 4     | $A_2$    | 24   | 3      | $A_1$     | 1062.42355 | -8                | .179725E-01                       | 0.2             | 0.8833E-02                         | 1.70            | 3.858E-04       |                 |                        | 1.0    |
| 25  | 4     | $A_1$    | 24   | 3      | $A_2$     | 1062.42355 | -8                |                                   |                 | 0.8833E-02                         |                 |                 |                 |                        |        |
| 16  | 7     | $A_2$    | 16   | 6      | $A_1$     | 1062.45771 | -5                | .173242E-01                       | 0.3             | 0.8498E-02                         | 1.89            | 4.265E-04       |                 |                        | 1.0    |
| 16  | 7     | $A_1$    | 16   | 6      | $A_2$     | 1062.45771 | -5                |                                   |                 | 0.8498E-02                         |                 |                 |                 |                        |        |
| 15  | 7     | $A_2$    | 15   | 6      | $A_1$     | 1062.50944 | -8                | .164009E-01                       | 0.3             | 0.8331E-02                         | -1.59           | 3.758E-04       |                 |                        | 1.0    |
| 15  | 7     | $A_1$    | 15   | 6      | $A_2$     | 1062.50944 | -8                |                                   |                 | 0.8331E-02                         |                 |                 |                 |                        |        |
| 14  | 7     | $A_2$    | 14   | 6      | $A_1$     | 1062.55798 | -7                | .165414E-01                       | 0.3             | 0.8049E-02                         | 2.69            | 4.185E-04       |                 |                        | 1.0    |
| 14  | 7     | $A_1$    | 14   | 6      | $A_2$     | 1062.55798 | -7                |                                   |                 | 0.8049E-02                         |                 |                 |                 |                        |        |
| 13  | 7     | $A_2$    | 13   | 6      | $A_1$     | 1062.60325 | -9                | .157467E-01                       | 0.3             | 0.7642E-02                         | 2.94            | 4.041E-04       |                 |                        | 1.0    |
| 13  | 7     | $A_1$    | 13   | 6      | $A_2$     | 1062.60325 | -9                |                                   |                 | 0.7642E-02                         |                 |                 |                 |                        |        |
| 8   | 6     | $E$      | 7    | 5      | $E$       | 1062.64182 | -1                | .142908E-01                       | 1.4             | 0.1385E-01                         | 3.11            | 3.515E-04       |                 |                        | 1.0    |
| 12  | 7     | $A_2$    | 12   | 6      | $A_1$     | 1062.64535 | -4                | .139476E-01                       | 1.4             | 0.7099E-02                         | -1.80           | 3.515E-04       |                 |                        | 1.0    |
| 12  | 7     | $A_1$    | 12   | 6      | $A_2$     | 1062.64535 | -4                |                                   |                 | 0.7099E-02                         |                 |                 |                 |                        |        |
| 11  | 7     | $A_2$    | 11   | 6      | $A_1$     | 1062.68415 | -6                | .130698E-01                       | 0.3             | 0.6409E-02                         | 1.93            | 4.008E-04       |                 |                        | 1.0    |
| 11  | 7     | $A_1$    | 11   | 6      | $A_2$     | 1062.68415 | -6                |                                   |                 | 0.6409E-02                         |                 |                 |                 |                        |        |
| 10  | 7     | $A_2$    | 10   | 6      | $A_1$     | 1062.71974 | -5                | .111340E-01                       | 0.2             | 0.5557E-02                         | .19             | 3.111E-04       | -.122E+00       | -.307E+00              | 1.6    |
| 10  | 7     | $A_1$    | 10   | 6      | $A_2$     | 1062.71974 | -5                |                                   |                 | 0.5557E-02                         |                 |                 |                 |                        |        |
| 23  | 10    | $A_2$    | 24   | 9      | $A_1$     | 1062.72855 | -21               |                                   |                 | 0.4900E-03                         |                 |                 |                 |                        |        |
| 23  | 10    | $A_1$    | 24   | 9      | $A_2$     | 1062.72855 | -21               |                                   |                 | 0.4900E-03                         |                 |                 |                 |                        |        |
| 9   | 7     | $A_2$    | 9    | 6      | $A_1$     | 1062.75206 | -8                | .917907E-02                       | 0.3             | 0.4524E-02                         | 1.44            | 3.082E-04       | -.147E+00       | -.373E+00              | 1.8    |
| 9   | 7     | $A_1$    | 9    | 6      | $A_2$     | 1062.75206 | -8                |                                   |                 | 0.4524E-02                         |                 |                 |                 |                        |        |
| 8   | 7     | $A_2$    | 8    | 6      | $A_1$     | 1062.78119 | -6                | .676532E-02                       | 0.3             | 0.3284E-02                         | 2.92            | 3.194E-04       | -.122E+00       | -.287E+00              | 1.2    |
| 8   | 7     | $A_1$    | 8    | 6      | $A_2$     | 1062.78119 | -6                |                                   |                 | 0.3284E-02                         |                 |                 |                 |                        |        |
| 7   | 7     | $A_2$    | 7    | 6      | $A_1$     | 1062.80707 | -6                | .372297E-02                       | 0.6             | 0.1798E-02                         | 3.41            | 3.821E-04       |                 |                        | 1.0    |
| 7   | 7     | $A_1$    | 7    | 6      | $A_2$     | 1062.80707 | -6                |                                   |                 | 0.1798E-02                         |                 |                 |                 |                        |        |
| 44  | 2     | $E$      | 43   | 1      | $E$       | 1062.83329 | 0                 | .100179E-02                       | 1.3             | 0.9577E-03                         | 4.40            | 2.223E-04       |                 |                        | 1.0    |
| 55  | 1     | $A_2$    | 54   | 0      | $A_1$     | 1062.85520 | 0                 |                                   |                 | 0.2598E-03                         |                 |                 |                 |                        |        |
| 38  | 12    | $E$      | 39   | 11     | $E$       | 1062.89667 | -22               |                                   |                 | 0.5808E-04                         |                 |                 |                 |                        |        |
| 15  | 9     | $E$      | 16   | 8      | $E$       | 1062.93482 | -6                |                                   |                 | 0.5729E-03                         |                 |                 |                 |                        |        |
| 17  | 5     | $E$      | 16   | 4      | $E$       | 1063.04847 | -6                | .121539E-01                       | 0.2             | 0.1274E-01                         | -4.81           | 4.057E-04       | -.148E+00       | -.111E+00              | 1.3    |
| 35  | 3     | $E$      | 34   | 2      | $E$       | 1063.15070 | -5                | .350433E-02                       | 0.4             | 0.3482E-02                         | .63             | 3.281E-04       | -.261E+00       | -.384E+00              | 1.8    |
| 65  | 0     | $E$      | 64   | 1      | $E$       | 1063.20262 | -12               |                                   |                 | 0.8633E-05                         |                 |                 |                 |                        |        |
| 26  | 4     | $A_2$    | 25   | 3      | $A_1$     | 1063.22131 | -4                | .166573E-01                       | 0.2             | 0.8198E-02                         | 1.57            | 3.685E-04       | -.528E-01       | -.391E+00              | 1.6    |
| 26  | 4     | $A_1$    | 25   | 3      | $A_2$     | 1063.22131 | -4                |                                   |                 | 0.8198E-02                         |                 |                 |                 |                        |        |
| 45  | 13    | $A_2$    | 46   | 12     | $A_1$     | 1063.32093 | -6                |                                   |                 | 0.1218E-04                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 45  | 13    | $A_1$    | 46   | 12     | $A_2$     | 1063.32093 | -6                |                                   |                 | 0.1218E-04                         |                 |                 |                 |                        |        |
| 9   | 6     | $E$      | 8    | 5      | $E$       | 1063.49860 | -5                | .139356E-01                       | 0.3             | 0.1375E-01                         | 1.32            | 3.083E-04       |                 | -.375E+00              | 1.3    |
| 56  | 1     | $A_1$    | 55   | 0      | $A_2$     | 1063.50997 | -21               |                                   |                 | 0.2102E-03                         |                 |                 |                 |                        |        |
| 45  | 2     | $E$      | 44   | 1      | $E$       | 1063.56062 | 4                 | .862816E-03                       | 1.5             | 0.8118E-03                         | 5.91            | 3.809E-04       |                 |                        | 1.0    |
| 22  | 10    | $A_1$    | 23   | 9      | $A_2$     | 1063.68474 | -12               |                                   |                 | 0.4914E-03                         |                 |                 |                 |                        |        |
| 22  | 10    | $A_2$    | 23   | 9      | $A_1$     | 1063.68474 | -12               |                                   |                 | 0.4914E-03                         |                 |                 |                 |                        |        |
| 18  | 5     | $E$      | 17   | 4      | $E$       | 1063.87456 | -5                | .119559E-01                       | 0.4             | 0.1228E-01                         | -2.72           | 4.251E-04       |                 |                        | 1.0    |
| 36  | 3     | $E$      | 35   | 2      | $E$       | 1063.91167 | -6                | .318005E-02                       | 0.7             | 0.3081E-02                         | 3.12            | 2.750E-04       | -.866E-01       | -.316E+00              | 1.1    |
| 27  | 4     | $A_2$    | 26   | 3      | $A_1$     | 1064.01540 | -6                | .153741E-01                       | 0.1             | 0.7570E-02                         | 1.53            | 3.510E-04       | -.154E+00       | -.835E-01              | 1.7    |
| 27  | 4     | $A_1$    | 26   | 3      | $A_2$     | 1064.01540 | -6                |                                   |                 | 0.7570E-02                         |                 |                 |                 |                        |        |
| 57  | 1     | $A_2$    | 56   | 0      | $A_1$     | 1064.16015 | -44               |                                   |                 | 0.1694E-03                         |                 |                 |                 |                        |        |
| 46  | 2     | $E$      | 45   | 1      | $E$       | 1064.28411 | 7                 |                                   |                 | 0.6850E-03                         |                 |                 |                 |                        |        |
| 29  | 11    | $E$      | 30   | 10     | $E$       | 1064.33492 | -23               |                                   |                 | 0.2313E-03                         |                 |                 |                 |                        |        |
| 10  | 6     | $E$      | 9    | 5      | $E$       | 1064.35206 | -5                | .140459E-01                       | 0.1             | 0.1364E-01                         | 2.90            | 3.614E-04       | -.135E+00       | -.121E+00              | 1.9    |
| 21  | 10    | $A_2$    | 22   | 9      | $A_1$     | 1064.63803 | -2                | .911479E-03                       | 2.7             | 0.4862E-03                         | -6.68           | 2.962E-04       |                 |                        | 1.0    |
| 21  | 10    | $A_1$    | 22   | 9      | $A_2$     | 1064.63803 | -2                |                                   |                 | 0.4862E-03                         |                 |                 |                 |                        |        |
| 37  | 3     | $E$      | 36   | 2      | $E$       | 1064.66889 | -7                | .280875E-02                       | 0.9             | 0.2712E-02                         | 3.43            | 3.044E-04       | -.200E+00       |                        | 1.2    |
| 19  | 5     | $E$      | 18   | 4      | $E$       | 1064.69714 | -5                | .115329E-01                       | 0.4             | 0.1178E-01                         | -2.14           | 4.158E-04       | -.159E+00       | -.134E+00              | 1.5    |
| 13  | 9     | $E$      | 14   | 8      | $E$       | 1064.79719 | -10               |                                   |                 | 0.4014E-03                         |                 |                 |                 |                        |        |
| 28  | 4     | $A_2$    | 27   | 3      | $A_1$     | 1064.80588 | -5                | .139468E-01                       | 0.4             | 0.6955E-02                         | .27             | 3.045E-04       | -.700E-01       | -.242E+00              | 1.1    |
| 28  | 4     | $A_1$    | 27   | 3      | $A_2$     | 1064.80588 | -5                |                                   |                 | 0.6955E-02                         |                 |                 |                 |                        |        |
| 36  | 12    | $E$      | 37   | 11     | $E$       | 1064.88895 | -6                |                                   |                 | 0.7310E-04                         |                 |                 |                 |                        |        |
| 47  | 2     | $E$      | 46   | 1      | $E$       | 1065.00375 | 10                |                                   |                 | 0.5754E-03                         |                 |                 |                 |                        |        |
| 56  | 8     | $E$      | 56   | 7      | $E$       | 1065.00375 | -88               |                                   |                 | 0.5663E-04                         |                 |                 |                 |                        |        |
| 55  | 8     | $E$      | 55   | 7      | $E$       | 1065.18551 | -70               |                                   |                 | 0.7027E-04                         |                 |                 |                 |                        |        |
| 11  | 6     | $E$      | 10   | 5      | $E$       | 1065.20214 | -4                | .139426E-01                       | 0.2             | 0.1349E-01                         | 3.24            | 3.393E-04       | -.782E-01       | -.387E+00              | 1.6    |
| 28  | 11    | $E$      | 29   | 10     | $E$       | 1065.30804 | -6                |                                   |                 | 0.2449E-03                         |                 |                 |                 |                        |        |
| 54  | 8     | $E$      | 54   | 7      | $E$       | 1065.36450 | -2                |                                   |                 | 0.8679E-04                         |                 |                 |                 |                        |        |
| 38  | 3     | $E$      | 37   | 2      | $E$       | 1065.42233 | -8                | .241882E-02                       | 0.8             | 0.2377E-02                         | 1.74            | 2.811E-04       |                 |                        | 1.0    |
| 59  | 1     | $A_2$    | 58   | 0      | $A_1$     | 1065.44764 | 0                 |                                   |                 | 0.1084E-03                         |                 |                 |                 |                        |        |
| 20  | 5     | $E$      | 19   | 4      | $E$       | 1065.51622 | -4                | .111643E-01                       | 0.5             | 0.1124E-01                         | -.69            | 3.216E-04       | -.232E+00       | -.399E+00              | 1.4    |
| 53  | 8     | $E$      | 53   | 7      | $E$       | 1065.53952 | -6                |                                   |                 | 0.1067E-03                         |                 |                 |                 |                        |        |
| 20  | 10    | $A_2$    | 21   | 9      | $A_1$     | 1065.58881 | 48                |                                   |                 | 0.4739E-03                         |                 |                 |                 |                        |        |
| 20  | 10    | $A_1$    | 21   | 9      | $A_2$     | 1065.58881 | 48                |                                   |                 | 0.4739E-03                         |                 |                 |                 |                        |        |
| 29  | 4     | $A_2$    | 28   | 3      | $A_1$     | 1065.59270 | -6                | .128051E-01                       | 0.3             | 0.6358E-02                         | .69             | 3.607E-04       |                 |                        | 1.0    |
| 29  | 4     | $A_1$    | 28   | 3      | $A_2$     | 1065.59270 | -6                |                                   |                 | 0.6358E-02                         |                 |                 |                 |                        |        |
| 52  | 8     | $E$      | 52   | 7      | $E$       | 1065.71139 | 3                 |                                   |                 | 0.1306E-03                         |                 |                 |                 |                        |        |
| 48  | 2     | $E$      | 47   | 1      | $E$       | 1065.71949 | 9                 |                                   |                 | 0.4811E-03                         |                 |                 |                 |                        |        |
| 12  | 9     | $E$      | 13   | 8      | $E$       | 1065.72391 | -4                |                                   |                 | 0.3064E-03                         |                 |                 |                 |                        |        |
| 51  | 8     | $E$      | 51   | 7      | $E$       | 1065.87975 | -14               |                                   |                 | 0.1592E-03                         |                 |                 |                 |                        |        |
| 35  | 12    | $E$      | 36   | 11     | $E$       | 1065.88048 | -54               |                                   |                 | 0.8122E-04                         |                 |                 |                 |                        |        |
| 12  | 6     | $E$      | 11   | 5      | $E$       | 1066.04881 | -5                | .135657E-01                       | 0.2             | 0.1330E-01                         | 1.94            | 4.300E-04       | -.419E-01       | .252E+00               | 1.1    |
| 60  | 1     | $A_1$    | 59   | 0      | $A_2$     | 1066.08497 | 72                |                                   |                 | 0.8620E-04                         |                 |                 |                 |                        |        |
| 39  | 3     | $E$      | 38   | 2      | $E$       | 1066.17204 | -4                | .204876E-02                       | 1.0             | 0.2073E-02                         | -1.18           | 2.697E-04       | -.203E+00       |                        | 1.1    |
| 49  | 8     | $E$      | 49   | 7      | $E$       | 1066.20722 | 5                 |                                   |                 | 0.2331E-03                         |                 |                 |                 |                        |        |
| 27  | 11    | $E$      | 28   | 10     | $E$       | 1066.27822 | -2                |                                   |                 | 0.2570E-03                         |                 |                 |                 |                        |        |
| 21  | 5     | $E$      | 20   | 4      | $E$       | 1066.33175 | -5                | .106866E-01                       | 0.5             | 0.1067E-01                         | .13             | 4.103E-04       | .429E-01        | -.257E+00              | 1.1    |
| 48  | 8     | $E$      | 48   | 7      | $E$       | 1066.36610 | 17                |                                   |                 | 0.2801E-03                         |                 |                 |                 |                        |        |
| 30  | 4     | $A_2$    | 29   | 3      | $A_1$     | 1066.37587 | -6                | .118401E-01                       | 0.4             | 0.5785E-02                         | 2.29            | 3.048E-04       | -.248E+00       | -.458E+00              | 1.9    |
| 30  | 4     | $A_1$    | 29   | 3      | $A_2$     | 1066.37587 | -6                |                                   |                 | 0.5785E-02                         |                 |                 |                 |                        |        |
| 49  | 2     | $E$      | 48   | 1      | $E$       | 1066.43135 | 9                 |                                   |                 | 0.4004E-03                         |                 |                 |                 |                        |        |
| 47  | 8     | $E$      | 47   | 7      | $E$       | 1066.52141 | -2                |                                   |                 | 0.3351E-03                         |                 |                 |                 |                        |        |
| 19  | 10    | $A_2$    | 20   | 9      | $A_1$     | 1066.53560 | -8                | .940314E-03                       | 1.1             | 0.4540E-03                         | 3.43            | 4.153E-04       |                 |                        | 1.0    |
| 19  | 10    | $A_1$    | 20   | 9      | $A_2$     | 1066.53560 | -8                |                                   |                 | 0.4540E-03                         |                 |                 |                 |                        |        |
| 11  | 9     | $E$      | 12   | 8      | $E$       | 1066.64749 | -8                |                                   |                 | 0.2108E-03                         |                 |                 |                 |                        |        |
| 46  | 8     | $E$      | 46   | 7      | $E$       | 1066.67361 | -6                |                                   |                 | 0.3990E-03                         |                 |                 |                 |                        |        |
| 61  | 1     | $A_2$    | 60   | 0      | $A_1$     | 1066.71616 | -6                |                                   |                 | 0.6822E-04                         |                 |                 |                 |                        |        |
| 45  | 8     | $E$      | 45   | 7      | $E$       | 1066.82270 | 4                 | .469317E-03                       | 1.6             | 0.4728E-03                         | -.74            | 3.524E-04       |                 |                        | 1.0    |
| 34  | 12    | $E$      | 35   | 11     | $E$       | 1066.87080 | 49                |                                   |                 | 0.8963E-04                         |                 |                 |                 |                        |        |
| 13  | 6     | $E$      | 12   | 5      | $E$       | 1066.89208 | -5                | .133365E-01                       | 0.2             | 0.1307E-01                         | 2.03            | 4.122E-04       | -.137E+00       | .868E-01               | 1.1    |
| 40  | 3     | $E$      | 39   | 2      | $E$       | 1066.91794 | -2                | .174720E-02                       | 1.0             | 0.1799E-02                         | -2.99           | 1.909E-04       | -.316E+00       | -.179E+00              | 1.3    |
| 44  | 8     | $E$      | 44   | 7      | $E$       | 1066.96842 | 2                 |                                   |                 | 0.5577E-03                         |                 |                 |                 |                        |        |
| 43  | 8     | $E$      | 43   | 7      | $E$       | 1067.11090 | 1                 |                                   |                 | 0.6546E-03                         |                 |                 |                 |                        |        |
| 22  | 5     | $E$      | 21   | 4      | $E$       | 1067.14373 | -6                | .101583E-01                       | 0.4             | 0.1008E-01                         | .74             | 3.887E-04       |                 |                        | 1.0    |
| 31  | 4     | $A_2$    | 30   | 3      | $A_1$     | 1067.15537 | -5                | .106024E-01                       | 0.4             | 0.5237E-02                         | 1.21            | 3.363E-04       |                 |                        | 1.0    |
| 31  | 4     | $A_1$    | 30   | 3      | $A_2$     | 1067.15537 | -5                |                                   |                 | 0.5237E-02                         |                 |                 |                 |                        |        |
| 26  | 11    | $E$      | 27   | 10     | $E$       | 1067.24575 | 20                |                                   |                 | 0.2671E-03                         |                 |                 |                 |                        |        |
| 42  | 8     | $E$      | 42   | 7      | $E$       | 1067.25008 | -5                |                                   |                 | 0.7648E-03                         |                 |                 |                 |                        |        |
| 62  | 1     | $A_1$    | 61   | 0      | $A_2$     | 1067.34360 | 5                 |                                   |                 | 0.5376E-04                         |                 |                 |                 |                        |        |
| 41  | 8     | $E$      | 41   | 7      | $E$       | 1067.38661 | 49                |                                   |                 | 0.8892E-03                         |                 |                 |                 |                        |        |
| 18  | 10    | $A_2$    | 19   | 9      | $A_1$     | 1067.48004 | -4                | .820475E-03                       | 1.2             | 0.4264E-03                         | -3.93           | 3.701E-04       | -.212E+00       |                        | 1.1    |
| 18  | 10    | $A_1$    | 19   | 9      | $A_2$     | 1067.48004 | -4                |                                   |                 | 0.4264E-03                         |                 |                 |                 |                        |        |
| 40  | 8     | $E$      | 40   | 7      | $E$       | 1067.51886 | 0                 | .100814E-02                       | 0.9             | 0.1029E-02                         | -2.05           | 2.846E-04       | -.226E+00       |                        | 1.2    |
| 10  | 9     | $E$      | 11   | 8      | $E$       | 1067.56804 | -9                |                                   |                 | 0.1212E-03                         |                 |                 |                 |                        |        |
| 39  | 8     | $E$      | 39   | 7      | $E$       | 1067.64827 | -9                | .118849E-02                       | 0.8             | 0.1185E-02                         | .34             | 2.796E-04       |                 |                        | 1.0    |
| 41  | 3     | $E$      | 40   | 2      | $E$       | 1067.66005 | 3                 | .151893E-02                       | 0.7             | 0.1555E-02                         | -2.35           | 3.150E-04       |                 |                        | 1.0    |
| 14  | 6     | $E$      | 13   | 5      | $E$       | 1067.73199 | 2                 | .131271E-01                       | 0.2             | 0.1278E-01                         | 2.65            | 3.913E-04       |                 | -.314E+00              | 1.2    |
| 38  | 8     | $E$      | 38   | 7      | $E$       | 1067.77462 | 2                 | .137521E-02                       | 0.7             | 0.1357E-02                         | 1.32            | 5.622E-04       | -.134E+00       | .189E+01               | 1.2    |
| 51  | 2     | $E$      | 50   | 1      | $E$       | 1067.84337 | 5                 |                                   |                 | 0.2736E-03                         |                 |                 |                 |                        |        |
| 33  | 12    | $E$      | 34   | 11     | $E$       | 1067.85687 | 0                 |                                   |                 | 0.9822E-04                         |                 |                 |                 |                        |        |
| 37  | 8     | $E$      | 37   | 7      | $E$       | 1067.89760 | -1                | .158022E-02                       | 0.9             | 0.1547E-02                         | 2.11            | 3.287E-04       | -.461E+00       | -.118E+00              | 1.4    |
| 32  | 4     | $A_2$    | 31   | 3      | $A_1$     | 1067.93127 | 5                 | .988340E-02                       | 0.2             | 0.4718E-02                         | 4.53            | 3.072E-04       | -.215E+00       | -.173E+00              | 2.0    |



(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 32  | 4     | $A_1$    | 31   | 3      | $A_2$     | 1067.93127 | 5                 |                                   |                 | 0.4718E-02                         |                 |                 |                 |                        |        |
| 23  | 5     | $E$      | 22   | 4      | $E$       | 1067.95225 | 2                 | .953290E-02                       | 0.4             | 0.9478E-02                         | .58             | 4.131E-04       | -.208E+00       | -.196E+00              | 1.2    |
| 36  | 8     | $E$      | 36   | 7      | $E$       | 1068.01737 | 1                 | .174274E-02                       | 0.6             | 0.1754E-02                         | -.67            | 3.002E-04       | -.144E+00       |                        | 1.1    |
| 35  | 8     | $E$      | 35   | 7      | $E$       | 1068.13385 | -3                | .189311E-02                       | 1.2             | 0.1980E-02                         | -4.57           | 2.276E-04       | -.167E+00       |                        | 1.1    |
| 25  | 11    | $E$      | 26   | 10     | $E$       | 1068.20980 | -21               |                                   |                 | 0.2749E-03                         |                 |                 |                 |                        |        |
| 34  | 8     | $E$      | 34   | 7      | $E$       | 1068.24708 | -7                | .218964E-02                       | 0.7             | 0.2222E-02                         | -1.48           | 3.012E-04       |                 |                        | 1.0    |
| 33  | 8     | $E$      | 33   | 7      | $E$       | 1068.35740 | 23                |                                   |                 | 0.2481E-02                         |                 |                 |                 |                        |        |
| 40  | 13    | $A_2$    | 41   | 12     | $A_1$     | 1068.37283 | 7                 |                                   |                 | 0.2521E-04                         |                 |                 |                 |                        |        |
| 40  | 13    | $A_1$    | 41   | 12     | $A_2$     | 1068.37283 | 7                 |                                   |                 | 0.2521E-04                         |                 |                 |                 |                        |        |
| 42  | 3     | $E$      | 41   | 2      | $E$       | 1068.39823 | -2                | .135825E-02                       | 0.6             | 0.1337E-02                         | 1.57            | 3.485E-04       | -.121E+00       |                        | 1.1    |
| 17  | 10    | $A_2$    | 18   | 9      | $A_1$     | 1068.42154 | 2                 | .775618E-03                       | 0.8             | 0.3909E-03                         | -.80            | 3.780E-04       | .137E+00        |                        | 1.1    |
| 17  | 10    | $A_1$    | 18   | 9      | $A_2$     | 1068.42154 | 2                 |                                   |                 | 0.3909E-03                         |                 |                 |                 |                        |        |
| 32  | 8     | $E$      | 32   | 7      | $E$       | 1068.46397 | 1                 | .288056E-02                       | 0.7             | 0.2756E-02                         | 4.33            | 3.655E-04       |                 |                        | 1.0    |
| 9   | 9     | $E$      | 10   | 8      | $E$       | 1068.48566 | 4                 |                                   |                 | 0.4664E-04                         |                 |                 |                 |                        |        |
| 52  | 2     | $E$      | 51   | 1      | $E$       | 1068.54360 | 12                |                                   |                 | 0.2246E-03                         |                 |                 |                 |                        |        |
| 31  | 8     | $E$      | 31   | 7      | $E$       | 1068.56822 | 72                | .161339E-01                       | 0.3             | 0.3044E-02                         | 4.00            | 4.288E-04       | -.294E+00       | -.624E+00              | 2.2    |
| 15  | 6     | $E$      | 14   | 5      | $E$       | 1068.56822 | -15               |                                   |                 | 0.1245E-01                         |                 |                 |                 |                        |        |
| 30  | 8     | $E$      | 30   | 7      | $E$       | 1068.66773 | -8                | .342154E-02                       | 0.9             | 0.3344E-02                         | 2.28            | 3.995E-04       |                 |                        | 1.0    |
| 33  | 4     | $A_2$    | 32   | 3      | $A_1$     | 1068.70332 | 0                 | .880202E-02                       | 0.3             | 0.4230E-02                         | 3.88            | 3.859E-04       | -.228E+00       |                        | 1.5    |
| 33  | 4     | $A_1$    | 32   | 3      | $A_2$     | 1068.70332 | 0                 |                                   |                 | 0.4230E-02                         |                 |                 |                 |                        |        |
| 24  | 5     | $E$      | 23   | 4      | $E$       | 1068.75710 | 1                 | .890469E-02                       | 0.5             | 0.8865E-02                         | .45             | 3.773E-04       |                 |                        | 1.0    |
| 29  | 8     | $E$      | 29   | 7      | $E$       | 1068.76485 | -2                | .367559E-02                       | 1.3             | 0.3652E-02                         | .65             | 3.798E-04       |                 |                        | 1.0    |
| 32  | 12    | $E$      | 33   | 11     | $E$       | 1068.84045 | -23               |                                   |                 | 0.1069E-03                         |                 |                 |                 |                        |        |
| 28  | 8     | $E$      | 28   | 7      | $E$       | 1068.85868 | -1                | .397304E-02                       | 0.5             | 0.3965E-02                         | .19             | 3.238E-04       | .811E-01        | -.376E+00              | 1.2    |
| 27  | 8     | $E$      | 27   | 7      | $E$       | 1068.94928 | 0                 | .419161E-02                       | 0.6             | 0.4280E-02                         | -2.11           | 3.744E-04       |                 |                        | 1.0    |
| 7   | 7     | $A_2$    | 6    | 6      | $A_1$     | 1069.01062 | 2                 | .255173E-01                       | 0.2             | 0.1299E-01                         | -1.80           | 2.552E-04       | -.294E+00       | -.340E+00              | 2.1    |
| 7   | 7     | $A_1$    | 6    | 6      | $A_2$     | 1069.01062 | 2                 |                                   |                 | 0.1299E-01                         |                 |                 |                 |                        |        |
| 26  | 8     | $E$      | 26   | 7      | $E$       | 1069.03660 | -2                | .458797E-02                       | 0.4             | 0.4591E-02                         | -.07            | 4.355E-04       | -.469E+00       | -.364E+00              | 2.0    |
| 25  | 8     | $E$      | 25   | 7      | $E$       | 1069.12072 | -1                | .509120E-02                       | 0.8             | 0.4894E-02                         | 3.88            | 3.861E-04       |                 |                        | 1.0    |
| 43  | 3     | $E$      | 42   | 2      | $E$       | 1069.13210 | -54               |                                   |                 | 0.1144E-02                         |                 |                 |                 |                        |        |
| 24  | 11    | $E$      | 25   | 10     | $E$       | 1069.17157 | -4                |                                   |                 | 0.2797E-03                         |                 |                 |                 |                        |        |
| 24  | 8     | $E$      | 24   | 7      | $E$       | 1069.20142 | -18               |                                   |                 | 0.5181E-02                         |                 |                 |                 |                        |        |
| 53  | 2     | $E$      | 52   | 1      | $E$       | 1069.23980 | 8                 |                                   |                 | 0.1836E-03                         |                 |                 |                 |                        |        |
| 23  | 8     | $E$      | 23   | 7      | $E$       | 1069.27923 | 0                 | .543066E-02                       | 0.6             | 0.5448E-02                         | -.32            | 3.728E-04       |                 |                        | 1.0    |
| 22  | 8     | $E$      | 22   | 7      | $E$       | 1069.35365 | 3                 | .585150E-02                       | 0.4             | 0.5686E-02                         | 2.82            | 4.159E-04       |                 |                        | 1.0    |
| 16  | 10    | $A_1$    | 17   | 9      | $A_2$     | 1069.35999 | 0                 |                                   |                 | 0.3481E-03                         |                 |                 |                 |                        |        |
| 16  | 10    | $A_2$    | 17   | 9      | $A_1$     | 1069.35999 | 0                 |                                   |                 | 0.3481E-03                         |                 |                 |                 |                        |        |
| 39  | 13    | $A_1$    | 40   | 12     | $A_2$     | 1069.37528 | 6                 |                                   |                 | 0.2865E-04                         |                 |                 |                 |                        |        |
| 39  | 13    | $A_2$    | 40   | 12     | $A_1$     | 1069.37528 | 6                 |                                   |                 | 0.2865E-04                         |                 |                 |                 |                        |        |
| 16  | 6     | $E$      | 15   | 5      | $E$       | 1069.40134 | 2                 | .126697E-01                       | 0.4             | 0.1206E-01                         | 4.77            | 4.194E-04       |                 |                        | 1.0    |
| 21  | 8     | $E$      | 21   | 7      | $E$       | 1069.42477 | -1                | .593657E-02                       | 0.4             | 0.5889E-02                         | .80             | 3.853E-04       | -.153E+00       |                        | 1.1    |
| 34  | 4     | $A_2$    | 33   | 3      | $A_1$     | 1069.47171 | 1                 | .783045E-02                       | 0.3             | 0.3775E-02                         | 3.59            | 3.015E-04       |                 |                        | 1.0    |
| 34  | 4     | $A_1$    | 33   | 3      | $A_2$     | 1069.47171 | 1                 |                                   |                 | 0.3775E-02                         |                 |                 |                 |                        |        |
| 20  | 8     | $E$      | 20   | 7      | $E$       | 1069.49270 | 0                 | .605183E-02                       | 0.4             | 0.6049E-02                         | .05             | 4.041E-04       |                 |                        | 1.0    |
| 19  | 8     | $E$      | 19   | 7      | $E$       | 1069.55797 | 58                | .148769E-01                       | 0.3             | 0.6157E-02                         | 3.16            | 6.249E-04       |                 |                        | 1.0    |
| 25  | 5     | $E$      | 24   | 4      | $E$       | 1069.55797 | -39               |                                   |                 | 0.8250E-02                         |                 |                 |                 |                        |        |
| 18  | 8     | $E$      | 18   | 7      | $E$       | 1069.61883 | -1                | .609432E-02                       | 0.2             | 0.6205E-02                         | -1.81           | 3.201E-04       | -.132E+00       | -.409E+00              | 1.7    |
| 17  | 8     | $E$      | 17   | 7      | $E$       | 1069.67704 | -1                | .646871E-02                       | 0.3             | 0.6185E-02                         | 4.39            | 4.309E-04       |                 |                        | 1.0    |
| 16  | 8     | $E$      | 16   | 7      | $E$       | 1069.73210 | 7                 |                                   |                 | 0.6088E-02                         |                 |                 |                 |                        |        |
| 15  | 8     | $E$      | 15   | 7      | $E$       | 1069.78373 | -4                | .625250E-02                       | 0.4             | 0.5905E-02                         | 5.55            | 4.273E-04       |                 |                        | 1.0    |
| 31  | 12    | $E$      | 32   | 11     | $E$       | 1069.82112 | -60               |                                   |                 | 0.1154E-03                         |                 |                 |                 |                        |        |
| 14  | 8     | $E$      | 14   | 7      | $E$       | 1069.83227 | 0                 | .561748E-02                       | 0.6             | 0.5628E-02                         | -.19            | 3.762E-04       |                 |                        | 1.0    |
| 44  | 3     | $E$      | 43   | 2      | $E$       | 1069.86336 | 18                |                                   |                 | 0.9751E-03                         |                 |                 |                 |                        |        |
| 8   | 7     | $A_2$    | 7    | 6      | $A_1$     | 1069.87065 | 0                 | .248541E-01                       | 0.2             | 0.1275E-01                         | -2.62           | 3.076E-04       |                 |                        | 1.0    |
| 8   | 7     | $A_1$    | 7    | 6      | $A_2$     | 1069.87065 | 0                 |                                   |                 | 0.1275E-01                         |                 |                 |                 |                        |        |
| 13  | 8     | $E$      | 13   | 7      | $E$       | 1069.87754 | -1                | .556322E-02                       | 1.0             | 0.5247E-02                         | 5.69            | 4.403E-04       |                 |                        | 1.0    |
| 12  | 8     | $E$      | 12   | 7      | $E$       | 1069.91956 | -3                | .478583E-02                       | 0.3             | 0.4751E-02                         | .73             | 3.218E-04       | .365E-01        | -.322E+00              | 1.2    |
| 54  | 2     | $E$      | 53   | 1      | $E$       | 1069.93217 | 15                |                                   |                 | 0.1494E-03                         |                 |                 |                 |                        |        |
| 11  | 8     | $E$      | 11   | 7      | $E$       | 1069.95839 | 0                 | .419577E-02                       | 0.3             | 0.4129E-02                         | 1.59            | 3.177E-04       | -.174E+00       | -.374E+00              | 2.0    |
| 10  | 8     | $E$      | 10   | 7      | $E$       | 1069.99398 | 2                 | .359714E-02                       | 0.7             | 0.3366E-02                         | 6.41            | 4.692E-04       | .231E+00        |                        | 1.2    |
| 9   | 8     | $E$      | 9    | 7      | $E$       | 1070.02629 | 0                 | .256624E-02                       | 0.7             | 0.2445E-02                         | 4.74            | 3.311E-04       | -.414E+00       | -.352E+00              | 1.7    |
| 8   | 8     | $E$      | 8    | 7      | $E$       | 1070.05538 | -2                | .144578E-02                       | 0.7             | 0.1336E-02                         | 7.58            | 4.198E-04       | -.386E+00       | -.144E+00              | 1.6    |
| 23  | 11    | $E$      | 24   | 10     | $E$       | 1070.13035 | 1                 |                                   |                 | 0.2812E-03                         |                 |                 |                 |                        |        |
| 17  | 6     | $E$      | 16   | 5      | $E$       | 1070.23067 | -13               |                                   |                 | 0.1164E-01                         |                 |                 |                 |                        |        |
| 35  | 4     | $A_2$    | 34   | 3      | $A_1$     | 1070.23638 | 4                 | .687854E-02                       | 0.8             | 0.3352E-02                         | 2.53            | 2.907E-04       |                 |                        | 1.0    |
| 35  | 4     | $A_1$    | 34   | 3      | $A_2$     | 1070.23638 | 4                 |                                   |                 | 0.3352E-02                         |                 |                 |                 |                        |        |
| 15  | 10    | $A_2$    | 16   | 9      | $A_1$     | 1070.29543 | -5                |                                   |                 | 0.2986E-03                         |                 |                 |                 |                        |        |
| 15  | 10    | $A_1$    | 16   | 9      | $A_2$     | 1070.29543 | -5                |                                   |                 | 0.2986E-03                         |                 |                 |                 |                        |        |
| 26  | 5     | $E$      | 25   | 4      | $E$       | 1070.35601 | -3                | .789910E-02                       | 0.5             | 0.7641E-02                         | 3.27            | 3.981E-04       |                 |                        | 1.0    |
| 38  | 13    | $A_2$    | 39   | 12     | $A_1$     | 1070.37484 | -17               |                                   |                 | 0.3236E-04                         |                 |                 |                 |                        |        |
| 38  | 13    | $A_1$    | 39   | 12     | $A_2$     | 1070.37484 | -17               |                                   |                 | 0.3236E-04                         |                 |                 |                 |                        |        |
| 45  | 3     | $E$      | 44   | 2      | $E$       | 1070.58988 | 4                 | .882544E-03                       | 1.3             | 0.8270E-03                         | 6.29            | 3.202E-04       | .927E-01        | .176E+00               | 1.0    |
| 55  | 2     | $E$      | 54   | 1      | $E$       | 1070.62023 | -13               |                                   |                 | 0.1210E-03                         |                 |                 |                 |                        |        |
| 9   | 7     | $A_2$    | 8    | 6      | $A_1$     | 1070.72735 | 1                 | .246542E-01                       | 0.4             | 0.1255E-01                         | -1.78           | 3.051E-04       | -.266E+00       | -.960E-01              | 1.6    |
| 9   | 7     | $A_1$    | 8    | 6      | $A_2$     | 1070.72735 | 1                 |                                   |                 | 0.1255E-01                         |                 |                 |                 |                        |        |
| 30  | 12    | $E$      | 31   | 11     | $E$       | 1070.80002 | 2                 |                                   |                 | 0.1236E-03                         |                 |                 |                 |                        |        |
| 36  | 4     | $A_2$    | 35   | 3      | $A_1$     | 1070.99726 | 3                 | .600240E-02                       | 0.4             | 0.2963E-02                         | 1.27            | 2.306E-04       |                 | -.432E+00              | 1.3    |
| 36  | 4     | $A_1$    | 35   | 3      | $A_2$     | 1070.99726 | 3                 |                                   |                 | 0.2963E-02                         |                 |                 |                 |                        |        |
| 18  | 6     | $E$      | 17   | 5      | $E$       | 1071.05682 | 3                 | .117695E-01                       | 0.2             | 0.1118E-01                         | 5.00            | 4.095E-04       | -.817E-01       | -.191E+00              | 1.2    |
| 22  | 11    | $E$      | 23   | 10     | $E$       | 1071.08587 | -31               |                                   |                 | 0.2789E-03                         |                 |                 |                 |                        |        |
| 27  | 5     | $E$      | 26   | 4      | $E$       | 1071.15009 | 0                 | .727898E-02                       | 0.2             | 0.7042E-02                         | 3.25            | 3.987E-04       | -.237E+00       |                        | 1.7    |
| 14  | 10    | $A_2$    | 15   | 9      | $A_1$     | 1071.22792 | -4                |                                   |                 | 0.2439E-03                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 14  | 10    | $A_1$    | 15   | 9      | $A_2$     | 1071.22792 | -4                |                                   |                 | 0.2439E-03                         |                 |                 |                 |                        |        |
| 56  | 2     | $E$      | 55   | 1      | $E$       | 1071.30503 | 28                |                                   |                 | 0.9760E-04                         |                 |                 |                 |                        |        |
| 46  | 3     | $E$      | 45   | 2      | $E$       | 1071.31263 | 1                 |                                   |                 | 0.6983E-03                         |                 |                 |                 |                        |        |
| 37  | 13    | $A_1$    | 38   | 12     | $A_2$     | 1071.37205 | -8                |                                   |                 | 0.3631E-04                         |                 |                 |                 |                        |        |
| 37  | 13    | $A_2$    | 38   | 12     | $A_1$     | 1071.37205 | -8                |                                   |                 | 0.3631E-04                         |                 |                 |                 |                        |        |
| 10  | 7     | $A_2$    | 9    | 6      | $A_1$     | 1071.58068 | 1                 | .243543E-01                       | 0.1             | 0.1234E-01                         | -1.34           | 3.432E-04       | -.562E-01       | -.178E+00              | 1.4    |
| 10  | 7     | $A_1$    | 9    | 6      | $A_2$     | 1071.58068 | 1                 |                                   |                 | 0.1234E-01                         |                 |                 |                 |                        |        |
| 37  | 4     | $A_2$    | 36   | 3      | $A_1$     | 1071.75438 | 2                 | .542061E-02                       | 0.6             | 0.2607E-02                         | 3.83            | 2.947E-04       | .115E+00        |                        | 1.1    |
| 37  | 4     | $A_1$    | 36   | 3      | $A_2$     | 1071.75438 | 2                 |                                   |                 | 0.2607E-02                         |                 |                 |                 |                        |        |
| 29  | 12    | $E$      | 30   | 11     | $E$       | 1071.77528 | -20               |                                   |                 | 0.1313E-03                         |                 |                 |                 |                        |        |
| 19  | 6     | $E$      | 18   | 5      | $E$       | 1071.87932 | 3                 | .112528E-01                       | 0.2             | 0.1069E-01                         | 5.03            | 4.120E-04       | -.155E+00       |                        | 1.2    |
| 28  | 5     | $E$      | 27   | 4      | $E$       | 1071.94052 | 1                 | .647969E-02                       | 0.4             | 0.6459E-02                         | .32             | 3.475E-04       | -.104E+00       | -.250E+00              | 1.2    |
| 57  | 2     | $E$      | 56   | 1      | $E$       | 1071.98513 | -2                |                                   |                 | 0.7836E-04                         |                 |                 |                 |                        |        |
| 21  | 11    | $E$      | 22   | 10     | $E$       | 1072.03865 | -46               |                                   |                 | 0.2725E-03                         |                 |                 |                 |                        |        |
| 11  | 7     | $A_2$    | 10   | 6      | $A_1$     | 1072.43062 | 1                 | .236504E-01                       | 0.3             | 0.1212E-01                         | -2.49           | 3.484E-04       | .181E+00        | -.282E+00              | 1.2    |
| 11  | 7     | $A_1$    | 10   | 6      | $A_2$     | 1072.43062 | 1                 |                                   |                 | 0.1212E-01                         |                 |                 |                 |                        |        |
| 38  | 4     | $A_2$    | 37   | 3      | $A_1$     | 1072.50773 | 2                 | .468378E-02                       | 0.3             | 0.2282E-02                         | 2.54            | 2.632E-04       | -.228E+00       | -.392E+00              | 1.8    |
| 38  | 4     | $A_1$    | 37   | 3      | $A_2$     | 1072.50773 | 2                 |                                   |                 | 0.2282E-02                         |                 |                 |                 |                        |        |
| 58  | 2     | $E$      | 57   | 1      | $E$       | 1072.66168 | 11                |                                   |                 | 0.6264E-04                         |                 |                 |                 |                        |        |
| 54  | 9     | $E$      | 54   | 8      | $E$       | 1072.68214 | 6                 |                                   |                 | 0.6281E-04                         |                 |                 |                 |                        |        |
| 20  | 6     | $E$      | 19   | 5      | $E$       | 1072.69830 | 3                 | .105802E-01                       | 0.1             | 0.1017E-01                         | 3.91            | 4.044E-04       | -.147E+00       | -.260E+00              | 1.7    |
| 29  | 5     | $E$      | 28   | 4      | $E$       | 1072.72729 | 1                 | .611304E-02                       | 0.2             | 0.5895E-02                         | 3.57            | 3.081E-04       | -.134E+00       | -.321E+00              | 2.0    |
| 48  | 3     | $E$      | 47   | 2      | $E$       | 1072.74660 | 13                |                                   |                 | 0.4910E-03                         |                 |                 |                 |                        |        |
| 43  | 14    | $E$      | 44   | 13     | $E$       | 1072.86207 | -30               |                                   |                 | 0.8866E-05                         |                 |                 |                 |                        |        |
| 20  | 11    | $E$      | 21   | 10     | $E$       | 1072.98909 | -5                |                                   |                 | 0.2616E-03                         |                 |                 |                 |                        |        |
| 52  | 9     | $E$      | 52   | 8      | $E$       | 1073.02917 | 31                |                                   |                 | 0.9451E-04                         |                 |                 |                 |                        |        |
| 12  | 10    | $A_1$    | 13   | 9      | $A_2$     | 1073.08378 | -7                |                                   |                 | 0.1278E-03                         |                 |                 |                 |                        |        |
| 12  | 10    | $A_2$    | 13   | 9      | $A_1$     | 1073.08378 | -7                |                                   |                 | 0.1278E-03                         |                 |                 |                 |                        |        |
| 51  | 9     | $E$      | 51   | 8      | $E$       | 1073.19733 | -3                |                                   |                 | 0.1151E-03                         |                 |                 |                 |                        |        |
| 39  | 4     | $A_2$    | 38   | 3      | $A_1$     | 1073.25727 | 0                 | .407125E-02                       | 0.4             | 0.1989E-02                         | 2.28            | 2.627E-04       | -.162E+00       | -.186E+00              | 1.2    |
| 39  | 4     | $A_1$    | 38   | 3      | $A_2$     | 1073.25727 | 0                 |                                   |                 | 0.1989E-02                         |                 |                 |                 |                        |        |
| 12  | 7     | $A_2$    | 11   | 6      | $A_1$     | 1073.27718 | 2                 | .235542E-01                       | 0.1             | 0.1187E-01                         | -.81            | 3.503E-04       | -.403E-01       | -.228E+00              | 1.2    |
| 12  | 7     | $A_1$    | 11   | 6      | $A_2$     | 1073.27718 | 2                 |                                   |                 | 0.1187E-01                         |                 |                 |                 |                        |        |
| 59  | 2     | $E$      | 58   | 1      | $E$       | 1073.33396 | -2                |                                   |                 | 0.4985E-04                         |                 |                 |                 |                        |        |
| 35  | 13    | $A_2$    | 36   | 12     | $A_1$     | 1073.35813 | -13               |                                   |                 | 0.4484E-04                         |                 |                 |                 |                        |        |
| 35  | 13    | $A_1$    | 36   | 12     | $A_2$     | 1073.35813 | -13               |                                   |                 | 0.4484E-04                         |                 |                 |                 |                        |        |
| 50  | 9     | $E$      | 50   | 8      | $E$       | 1073.36257 | -3                |                                   |                 | 0.1396E-03                         |                 |                 |                 |                        |        |
| 49  | 3     | $E$      | 48   | 2      | $E$       | 1073.45755 | 5                 |                                   |                 | 0.4089E-03                         |                 |                 |                 |                        |        |
| 30  | 5     | $E$      | 29   | 4      | $E$       | 1073.51044 | 5                 | .554221E-02                       | 1.4             | 0.5355E-02                         | 3.38            | 2.901E-04       |                 |                        | 1.0    |
| 21  | 6     | $E$      | 20   | 5      | $E$       | 1073.51375 | 2                 | .908847E-02                       | 1.4             | 0.9624E-02                         | -5.89           | 2.901E-04       |                 |                        | 1.0    |
| 48  | 9     | $E$      | 48   | 8      | $E$       | 1073.68347 | 17                |                                   |                 | 0.2025E-03                         |                 |                 |                 |                        |        |
| 27  | 12    | $E$      | 28   | 11     | $E$       | 1073.71793 | -9                |                                   |                 | 0.1441E-03                         |                 |                 |                 |                        |        |
| 47  | 9     | $E$      | 47   | 8      | $E$       | 1073.83878 | 1                 |                                   |                 | 0.2422E-03                         |                 |                 |                 |                        |        |
| 19  | 11    | $E$      | 20   | 10     | $E$       | 1073.93616 | -7                |                                   |                 | 0.2461E-03                         |                 |                 |                 |                        |        |
| 46  | 9     | $E$      | 46   | 8      | $E$       | 1073.99095 | -4                |                                   |                 | 0.2883E-03                         |                 |                 |                 |                        |        |
| 60  | 2     | $E$      | 59   | 1      | $E$       | 1074.00295 | 57                |                                   |                 | 0.3950E-04                         |                 |                 |                 |                        |        |
| 40  | 4     | $A_2$    | 39   | 3      | $A_1$     | 1074.00295 | -7                | .353218E-02                       | 0.6             | 0.1726E-02                         | 2.29            | 4.221E-04       | -.345E+00       | -.225E+00              | 1.6    |
| 40  | 4     | $A_1$    | 39   | 3      | $A_2$     | 1074.00295 | -7                |                                   |                 | 0.1726E-02                         |                 |                 |                 |                        |        |
| 11  | 10    | $A_1$    | 12   | 9      | $A_2$     | 1074.00698 | -26               |                                   |                 | 0.7327E-04                         |                 |                 |                 |                        |        |
| 11  | 10    | $A_2$    | 12   | 9      | $A_1$     | 1074.00698 | -26               |                                   |                 | 0.7327E-04                         |                 |                 |                 |                        |        |
| 13  | 7     | $A_2$    | 12   | 6      | $A_1$     | 1074.12031 | 0                 | .230562E-01                       | 0.1             | 0.1160E-01                         | -.58            | 3.684E-04       | -.106E+00       | -.301E+00              | 2.5    |
| 13  | 7     | $A_1$    | 12   | 6      | $A_2$     | 1074.12031 | 0                 |                                   |                 | 0.1160E-01                         |                 |                 |                 |                        |        |
| 45  | 9     | $E$      | 45   | 8      | $E$       | 1074.13989 | -6                |                                   |                 | 0.3415E-03                         |                 |                 |                 |                        |        |
| 50  | 3     | $E$      | 49   | 2      | $E$       | 1074.16462 | 2                 |                                   |                 | 0.3390E-03                         |                 |                 |                 |                        |        |
| 31  | 5     | $E$      | 30   | 4      | $E$       | 1074.28984 | 1                 | .497127E-02                       | 0.4             | 0.4841E-02                         | 2.62            | 3.759E-04       |                 |                        | 1.0    |
| 22  | 6     | $E$      | 21   | 5      | $E$       | 1074.32565 | 1                 | .938315E-02                       | 0.2             | 0.9068E-02                         | 3.36            | 3.555E-04       | -.520E-01       | -.392E+00              | 1.2    |
| 34  | 13    | $A_1$    | 35   | 12     | $A_2$     | 1074.34714 | -12               |                                   |                 | 0.4931E-04                         |                 |                 |                 |                        |        |
| 34  | 13    | $A_2$    | 35   | 12     | $A_1$     | 1074.34714 | -12               |                                   |                 | 0.4931E-04                         |                 |                 |                 |                        |        |
| 43  | 9     | $E$      | 43   | 8      | $E$       | 1074.42818 | 6                 |                                   |                 | 0.4725E-03                         |                 |                 |                 |                        |        |
| 42  | 9     | $E$      | 42   | 8      | $E$       | 1074.56721 | -12               | .545872E-03                       | 2.5             | 0.5518E-03                         | -1.09           | 2.233E-04       |                 |                        | 1.0    |
| 26  | 12    | $E$      | 27   | 11     | $E$       | 1074.68507 | 3                 |                                   |                 | 0.1487E-03                         |                 |                 |                 |                        |        |
| 41  | 9     | $E$      | 41   | 8      | $E$       | 1074.70328 | -1                |                                   |                 | 0.6413E-03                         |                 |                 |                 |                        |        |
| 41  | 4     | $A_2$    | 40   | 3      | $A_1$     | 1074.74492 | -2                | .310026E-02                       | 0.6             | 0.1490E-02                         | 3.88            | 2.811E-04       |                 |                        | 1.0    |
| 41  | 4     | $A_1$    | 40   | 3      | $A_2$     | 1074.74492 | -2                |                                   |                 | 0.1490E-02                         |                 |                 |                 |                        |        |
| 40  | 9     | $E$      | 40   | 8      | $E$       | 1074.83599 | -1                |                                   |                 | 0.7417E-03                         |                 |                 |                 |                        |        |
| 51  | 3     | $E$      | 50   | 2      | $E$       | 1074.86775 | 1                 |                                   |                 | 0.2798E-03                         |                 |                 |                 |                        |        |
| 18  | 11    | $E$      | 19   | 10     | $E$       | 1074.88033 | -4                |                                   |                 | 0.2260E-03                         |                 |                 |                 |                        |        |
| 10  | 10    | $A_2$    | 11   | 9      | $A_1$     | 1074.92796 | 39                |                                   |                 | 0.2809E-04                         |                 |                 |                 |                        |        |
| 10  | 10    | $A_1$    | 11   | 9      | $A_2$     | 1074.92796 | 39                |                                   |                 | 0.2809E-04                         |                 |                 |                 |                        |        |
| 14  | 7     | $A_2$    | 13   | 6      | $A_1$     | 1074.96003 | 0                 | .226893E-01                       | 0.2             | 0.1128E-01                         | .54             | 4.038E-04       |                 |                        | 1.0    |
| 14  | 7     | $A_1$    | 13   | 6      | $A_2$     | 1074.96003 | 0                 |                                   |                 | 0.1128E-01                         |                 |                 |                 |                        |        |
| 39  | 9     | $E$      | 39   | 8      | $E$       | 1074.96546 | 0                 | .835825E-03                       | 5.8             | 0.8535E-03                         | -2.12           | 1.813E-04       |                 |                        | 1.0    |
| 32  | 5     | $E$      | 31   | 4      | $E$       | 1075.06560 | 3                 | .449886E-02                       | 0.5             | 0.4355E-02                         | 3.19            | 2.727E-04       | -.189E+00       | -.403E+00              | 1.6    |
| 38  | 9     | $E$      | 38   | 8      | $E$       | 1075.09166 | -2                | .996161E-03                       | 1.4             | 0.9773E-03                         | 1.89            | 2.406E-04       |                 |                        | 1.0    |
| 23  | 6     | $E$      | 22   | 5      | $E$       | 1075.13400 | 1                 | .883646E-02                       | 0.4             | 0.8502E-02                         | 3.78            | 3.929E-04       |                 |                        | 1.0    |
| 37  | 9     | $E$      | 37   | 8      | $E$       | 1075.21464 | -2                | .111509E-02                       | 0.8             | 0.1113E-02                         | .15             | 2.501E-04       | -.174E+00       | -.217E+00              | 1.1    |
| 35  | 9     | $E$      | 35   | 8      | $E$       | 1075.45084 | -3                | .138961E-02                       | 1.0             | 0.1423E-02                         | -2.40           | 2.024E-04       |                 |                        | 1.0    |
| 36  | 9     | $E$      | 36   | 8      | $E$       | 1075.33429 | -10               |                                   |                 | 0.1262E-02                         |                 |                 |                 |                        |        |
| 42  | 4     | $A_2$    | 41   | 3      | $A_1$     | 1075.48303 | 0                 | .274174E-02                       | 0.6             | 0.1281E-02                         | 6.58            | 2.935E-04       |                 |                        | 1.0    |
| 42  | 4     | $A_1$    | 41   | 3      | $A_2$     | 1075.48303 | 0                 |                                   |                 | 0.1281E-02                         |                 |                 |                 |                        |        |
| 34  | 9     | $E$      | 34   | 8      | $E$       | 1075.56412 | 1                 | .157533E-02                       | 1.0             | 0.1596E-02                         | -1.31           | 4.661E-04       | .139E+01        | .550E+00               | 1.9    |
| 25  | 12    | $E$      | 26   | 11     | $E$       | 1075.64907 | -16               |                                   |                 | 0.1517E-03                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 33  | 9     | $E$      | 33   | 8      | $E$       | 1075.67411 | -1                | .181548E-02                       | 0.7             | 0.1781E-02                         | 1.93            | 3.630E-04       | -.335E+00       |                        | 1.3    |
| 32  | 9     | $E$      | 32   | 8      | $E$       | 1075.78087 | 0                 | .188043E-02                       | 2.9             | 0.1976E-02                         | -5.06           | 2.397E-04       |                 |                        | 1.0    |
| 15  | 7     | $A_2$    | 14   | 6      | $A_1$     | 1075.79632 | 1                 | .217608E-01                       | 0.3             | 0.1094E-01                         | -.52            | 4.691E-04       |                 |                        | 1.0    |
| 15  | 7     | $A_1$    | 14   | 6      | $A_2$     | 1075.79632 | 1                 |                                   |                 | 0.1094E-01                         |                 |                 |                 |                        |        |
| 17  | 11    | $E$      | 18   | 10     | $E$       | 1075.82121 | -35               |                                   |                 | 0.2014E-03                         |                 |                 |                 |                        |        |
| 33  | 5     | $E$      | 32   | 4      | $E$       | 1075.83762 | 1                 | .402410E-02                       | 0.5             | 0.3900E-02                         | 3.08            | 2.756E-04       | .890E-01        | -.430E+00              | 1.3    |
| 40  | 14    | $E$      | 41   | 13     | $E$       | 1075.88432 | -35               |                                   |                 | 0.1339E-04                         |                 |                 |                 |                        |        |
| 40  | 14    | $E$      | 41   | 13     | $E$       | 1075.88442 | -25               |                                   |                 | 0.1339E-04                         |                 |                 |                 |                        |        |
| 31  | 9     | $E$      | 31   | 8      | $E$       | 1075.88442 | 3                 |                                   |                 | 0.2180E-02                         |                 |                 |                 |                        |        |
| 31  | 9     | $E$      | 31   | 8      | $E$       | 1075.88432 | -7                |                                   |                 | 0.2180E-02                         |                 |                 |                 |                        |        |
| 24  | 6     | $E$      | 23   | 5      | $E$       | 1075.93877 | 0                 | .823338E-02                       | 0.3             | 0.7934E-02                         | 3.63            | 3.980E-04       |                 |                        | 1.0    |
| 30  | 9     | $E$      | 30   | 8      | $E$       | 1075.98462 | -5                | .236146E-02                       | 0.4             | 0.2392E-02                         | -1.28           | 4.009E-04       |                 |                        | 1.0    |
| 29  | 9     | $E$      | 29   | 8      | $E$       | 1076.08172 | 1                 | .267088E-02                       | 0.4             | 0.2609E-02                         | 2.33            | 3.630E-04       |                 |                        | 1.0    |
| 28  | 9     | $E$      | 28   | 8      | $E$       | 1076.17548 | -3                | .267652E-02                       | 1.0             | 0.2828E-02                         | -5.67           | 3.498E-04       |                 |                        | 1.0    |
| 43  | 4     | $A_2$    | 42   | 3      | $A_1$     | 1076.21732 | 6                 | .230225E-02                       | 0.6             | 0.1096E-02                         | 4.81            | 2.633E-04       | -.106E+00       | -.315E+00              | 1.2    |
| 43  | 4     | $A_1$    | 42   | 3      | $A_2$     | 1076.21732 | 6                 |                                   |                 | 0.1096E-02                         |                 |                 |                 |                        |        |
| 27  | 9     | $E$      | 27   | 8      | $E$       | 1076.26606 | -1                | .292794E-02                       | 0.9             | 0.3048E-02                         | -4.09           | 3.821E-04       |                 |                        | 1.0    |
| 32  | 13    | $A_2$    | 33   | 12     | $A_1$     | 1076.31744 | 41                |                                   |                 | 0.5831E-04                         |                 |                 |                 |                        |        |
| 32  | 13    | $A_1$    | 33   | 12     | $A_2$     | 1076.31744 | 41                |                                   |                 | 0.5831E-04                         |                 |                 |                 |                        |        |
| 47  | 15    | $E$      | 48   | 14     | $E$       | 1076.33955 | -173              |                                   |                 | 0.2412E-05                         |                 |                 |                 |                        |        |
| 26  | 9     | $E$      | 26   | 8      | $E$       | 1076.35340 | 1                 | .320346E-02                       | 0.8             | 0.3263E-02                         | -1.86           | 3.697E-04       | .182E+00        | -.380E+00              | 1.1    |
| 25  | 9     | $E$      | 25   | 8      | $E$       | 1076.43745 | -3                | .337832E-02                       | 0.5             | 0.3470E-02                         | -2.72           | 3.509E-04       |                 |                        | 1.0    |
| 24  | 9     | $E$      | 24   | 8      | $E$       | 1076.51832 | -1                | .358080E-02                       | 0.3             | 0.3665E-02                         | -2.35           | 3.428E-04       | -.582E-01       | -.339E+00              | 1.3    |
| 23  | 9     | $E$      | 23   | 8      | $E$       | 1076.59594 | 0                 | .382827E-02                       | 0.6             | 0.3842E-02                         | -.37            | 3.550E-04       |                 |                        | 1.0    |
| 34  | 5     | $E$      | 33   | 4      | $E$       | 1076.60583 | -10               | .347850E-02                       | 3.2             | 0.3476E-02                         | .07             | 3.398E-04       |                 |                        | 1.0    |
| 24  | 12    | $E$      | 25   | 11     | $E$       | 1076.61005 | -50               |                                   |                 | 0.1529E-03                         |                 |                 |                 |                        |        |
| 16  | 7     | $A_2$    | 15   | 6      | $A_1$     | 1076.62914 | 1                 | .212258E-01                       | 0.2             | 0.1056E-01                         | .51             | 4.018E-04       |                 |                        | 1.0    |
| 16  | 7     | $A_1$    | 15   | 6      | $A_2$     | 1076.62914 | 1                 |                                   |                 | 0.1056E-01                         |                 |                 |                 |                        |        |
| 22  | 9     | $E$      | 22   | 8      | $E$       | 1076.67033 | 2                 | .391825E-02                       | 2.2             | 0.3997E-02                         | -2.01           | 3.864E-04       |                 |                        | 1.0    |
| 25  | 6     | $E$      | 24   | 5      | $E$       | 1076.74034 | 37                | .104814E-01                       | 0.7             | 0.7369E-02                         | -9.64           | 7.155E-04       |                 |                        | 1.0    |
| 21  | 9     | $E$      | 21   | 8      | $E$       | 1076.74034 | -111              |                                   |                 | 0.4123E-02                         |                 |                 |                 |                        |        |
| 16  | 11    | $E$      | 17   | 10     | $E$       | 1076.75953 | -24               |                                   |                 | 0.1730E-03                         |                 |                 |                 |                        |        |
| 20  | 9     | $E$      | 20   | 8      | $E$       | 1076.80933 | -2                | .406976E-02                       | 1.5             | 0.4215E-02                         | -3.57           | 3.751E-04       |                 |                        | 1.0    |
| 19  | 9     | $E$      | 19   | 8      | $E$       | 1076.87399 | -3                | .429858E-02                       | 0.5             | 0.4266E-02                         | .76             | 4.062E-04       |                 |                        | 1.0    |
| 18  | 9     | $E$      | 18   | 8      | $E$       | 1076.93557 | 12                |                                   |                 | 0.4270E-02                         |                 |                 |                 |                        |        |
| 44  | 4     | $A_2$    | 43   | 3      | $A_1$     | 1076.94766 | 3                 | .195278E-02                       | 2.5             | 0.9333E-03                         | 4.42            | 3.410E-04       |                 |                        | 1.0    |
| 44  | 4     | $A_1$    | 43   | 3      | $A_2$     | 1076.94766 | 3                 |                                   |                 | 0.9333E-03                         |                 |                 |                 |                        |        |
| 54  | 3     | $E$      | 53   | 2      | $E$       | 1076.95306 | -20               |                                   |                 | 0.1532E-03                         |                 |                 |                 |                        |        |
| 17  | 9     | $E$      | 17   | 8      | $E$       | 1076.99362 | -3                | .442197E-02                       | 1.1             | 0.4220E-02                         | 4.57            | 4.049E-04       |                 |                        | 1.0    |
| 16  | 9     | $E$      | 16   | 8      | $E$       | 1077.04856 | -5                | .431359E-02                       | 0.3             | 0.4109E-02                         | 4.74            | 4.375E-04       |                 |                        | 1.0    |
| 15  | 9     | $E$      | 15   | 8      | $E$       | 1077.10029 | -5                | .397894E-02                       | 0.6             | 0.3931E-02                         | 1.21            | 5.101E-04       |                 |                        | 1.0    |
| 8   | 8     | $E$      | 7    | 7      | $E$       | 1077.14342 | 0                 | .114499E-01                       | 0.3             | 0.1113E-01                         | 2.79            | 2.739E-04       |                 |                        | 1.0    |
| 14  | 9     | $E$      | 14   | 8      | $E$       | 1077.14888 | 5                 | .374112E-02                       | 1.0             | 0.3677E-02                         | 1.72            | 3.558E-04       |                 |                        | 1.0    |
| 13  | 9     | $E$      | 13   | 8      | $E$       | 1077.19404 | -5                | .350937E-02                       | 0.4             | 0.3339E-02                         | 4.84            | 4.247E-04       |                 |                        | 1.0    |
| 12  | 9     | $E$      | 12   | 8      | $E$       | 1077.23607 | -5                | .296327E-02                       | 0.6             | 0.2909E-02                         | 1.82            | 3.486E-04       | -.219E+00       | -.459E+00              | 1.5    |
| 11  | 9     | $E$      | 11   | 8      | $E$       | 1077.27491 | 0                 | .244546E-02                       | 0.7             | 0.2377E-02                         | 2.82            | 3.891E-04       | -.156E+00       |                        | 1.1    |
| 31  | 13    | $A_1$    | 32   | 12     | $A_2$     | 1077.29789 | 10                |                                   |                 | 0.6266E-04                         |                 |                 |                 |                        |        |
| 31  | 13    | $A_2$    | 32   | 12     | $A_1$     | 1077.29789 | 10                |                                   |                 | 0.6266E-04                         |                 |                 |                 |                        |        |
| 10  | 9     | $E$      | 10   | 8      | $E$       | 1077.31047 | 0                 | .172107E-02                       | 0.5             | 0.1727E-02                         | -.36            | 2.915E-04       | -.153E+00       | -.398E+00              | 1.4    |
| 9   | 9     | $E$      | 9    | 8      | $E$       | 1077.34272 | -7                | .984310E-03                       | 0.9             | 0.9436E-03                         | 4.14            | 4.316E-04       | .891E-01        | -.428E+00              | 1.1    |
| 35  | 5     | $E$      | 34   | 4      | $E$       | 1077.37051 | 1                 | .315603E-02                       | 0.5             | 0.3084E-02                         | 2.29            | 3.346E-04       | -.141E+00       |                        | 1.1    |
| 17  | 7     | $A_2$    | 16   | 6      | $A_1$     | 1077.45850 | 1                 | .203616E-01                       | 0.2             | 0.1015E-01                         | .31             | 3.955E-04       | .595E-01        |                        | 1.0    |
| 17  | 7     | $A_1$    | 16   | 6      | $A_2$     | 1077.45850 | 1                 |                                   |                 | 0.1015E-01                         |                 |                 |                 |                        |        |
| 26  | 6     | $E$      | 25   | 5      | $E$       | 1077.53758 | 2                 | .717708E-02                       | 0.4             | 0.6811E-02                         | 5.10            | 4.111E-04       | -.710E-01       |                        | 1.0    |
| 23  | 12    | $E$      | 24   | 11     | $E$       | 1077.56889 | -11               |                                   |                 | 0.1521E-03                         |                 |                 |                 |                        |        |
| 45  | 4     | $A_2$    | 44   | 3      | $A_1$     | 1077.67419 | 8                 | .169509E-02                       | 1.0             | 0.7912E-03                         | 6.64            | 3.025E-04       | -.179E+00       |                        | 1.1    |
| 45  | 4     | $A_1$    | 44   | 3      | $A_2$     | 1077.67419 | 8                 |                                   |                 | 0.7912E-03                         |                 |                 |                 |                        |        |
| 15  | 11    | $E$      | 16   | 10     | $E$       | 1077.69505 | 5                 |                                   |                 | 0.1413E-03                         |                 |                 |                 |                        |        |
| 38  | 14    | $E$      | 39   | 13     | $E$       | 1077.88644 | 14                |                                   |                 | 0.1710E-04                         |                 |                 |                 |                        |        |
| 9   | 8     | $E$      | 8    | 7      | $E$       | 1077.99994 | -1                | .110236E-01                       | 0.2             | 0.1086E-01                         | 1.48            | 2.786E-04       | -.109E+00       | -.327E+00              | 1.7    |
| 36  | 5     | $E$      | 35   | 4      | $E$       | 1078.13113 | -20               | .291584E-02                       | 0.7             | 0.2723E-02                         | 6.62            | 5.623E-04       | -.774E+00       | -.514E+00              | 2.2    |
| 18  | 7     | $A_2$    | 17   | 6      | $A_1$     | 1078.28437 | 0                 | .197469E-01                       | 0.1             | 0.9713E-02                         | 1.62            | 4.054E-04       | -.126E+00       |                        | 1.5    |
| 18  | 7     | $A_1$    | 17   | 6      | $A_2$     | 1078.28437 | 0                 |                                   |                 | 0.9713E-02                         |                 |                 |                 |                        |        |
| 56  | 3     | $E$      | 55   | 2      | $E$       | 1078.32295 | -59               |                                   |                 | 0.1003E-03                         |                 |                 |                 |                        |        |
| 27  | 6     | $E$      | 26   | 5      | $E$       | 1078.33154 | 1                 | .647304E-02                       | 0.4             | 0.6265E-02                         | 3.21            | 3.244E-04       | -.163E+00       | -.397E+00              | 1.5    |
| 46  | 4     | $A_2$    | 45   | 3      | $A_1$     | 1078.39669 | -1                | .143772E-02                       | 0.8             | 0.6678E-03                         | 7.10            | 3.434E-04       | -.175E+00       | .135E+00               | 1.1    |
| 46  | 4     | $A_1$    | 45   | 3      | $A_2$     | 1078.39669 | -1                |                                   |                 | 0.6678E-03                         |                 |                 |                 |                        |        |
| 22  | 12    | $E$      | 23   | 11     | $E$       | 1078.52453 | -4                |                                   |                 | 0.1489E-03                         |                 |                 |                 |                        |        |
| 14  | 11    | $E$      | 15   | 10     | $E$       | 1078.62717 | -6                |                                   |                 | 0.1078E-03                         |                 |                 |                 |                        |        |
| 10  | 8     | $E$      | 9    | 7      | $E$       | 1078.85312 | 1                 | .108850E-01                       | 0.3             | 0.1060E-01                         | 2.58            | 3.310E-04       | -.219E+00       |                        | 1.3    |
| 37  | 5     | $E$      | 36   | 4      | $E$       | 1078.88840 | 1                 | .252676E-02                       | 0.7             | 0.2393E-02                         | 5.29            | 3.325E-04       | -.208E+00       |                        | 1.2    |
| 57  | 3     | $E$      | 56   | 2      | $E$       | 1079.00259 | -4                |                                   |                 | 0.8059E-04                         |                 |                 |                 |                        |        |
| 19  | 7     | $A_2$    | 18   | 6      | $A_1$     | 1079.10674 | 0                 | .189130E-01                       | 0.2             | 0.9254E-02                         | 2.14            | 4.098E-04       |                 |                        | 1.0    |
| 19  | 7     | $A_1$    | 18   | 6      | $A_2$     | 1079.10674 | 0                 |                                   |                 | 0.9254E-02                         |                 |                 |                 |                        |        |
| 47  | 4     | $A_2$    | 46   | 3      | $A_1$     | 1079.11547 | 10                |                                   |                 | 0.5611E-03                         |                 |                 |                 |                        |        |
| 47  | 4     | $A_1$    | 46   | 3      | $A_2$     | 1079.11547 | 10                |                                   |                 | 0.5611E-03                         |                 |                 |                 |                        |        |
| 28  | 6     | $E$      | 27   | 5      | $E$       | 1079.12188 | 1                 | .593848E-02                       | 0.5             | 0.5736E-02                         | 3.40            | 3.809E-04       |                 |                        | 1.0    |
| 29  | 13    | $A_2$    | 30   | 12     | $A_1$     | 1079.25110 | 15                |                                   |                 | 0.7050E-04                         |                 |                 |                 |                        |        |
| 29  | 13    | $A_1$    | 30   | 12     | $A_2$     | 1079.25110 | 15                |                                   |                 | 0.7050E-04                         |                 |                 |                 |                        |        |
| 21  | 12    | $E$      | 22   | 11     | $E$       | 1079.47725 | 2                 |                                   |                 | 0.1433E-03                         |                 |                 |                 |                        |        |
| 57  | 10    | $A_1$    | 57   | 9      | $A_2$     | 1079.49430 | -98               |                                   |                 | 0.2274E-04                         |                 |                 |                 |                        |        |
| 57  | 10    | $A_2$    | 57   | 9      | $A_1$     | 1079.49430 | -98               |                                   |                 | 0.2274E-04                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 38  | 5     | $E$      | 37   | 4      | $E$       | 1079.64163 | -4                | .203259E-02                       | 0.8             | 0.2094E-02                         | -3.00           | 3.025E-04       | -.582E-01       |                        | 1.0    |
| 11  | 8     | $E$      | 10   | 7      | $E$       | 1079.70290 | 0                 | .102762E-01                       | 0.2             | 0.1035E-01                         | -.70            | 2.965E-04       |                 | -.427E+00              | 1.5    |
| 48  | 4     | $A_2$    | 47   | 3      | $A_1$     | 1079.83011 | 0                 |                                   |                 | 0.4693E-03                         |                 |                 |                 |                        |        |
| 48  | 4     | $A_1$    | 47   | 3      | $A_2$     | 1079.83011 | 0                 |                                   |                 | 0.4693E-03                         |                 |                 |                 |                        |        |
| 55  | 10    | $A_1$    | 55   | 9      | $A_2$     | 1079.86142 | -18               |                                   |                 | 0.3514E-04                         |                 |                 |                 |                        |        |
| 55  | 10    | $A_2$    | 55   | 9      | $A_1$     | 1079.86142 | -18               |                                   |                 | 0.3514E-04                         |                 |                 |                 |                        |        |
| 36  | 14    | $E$      | 37   | 13     | $E$       | 1079.87764 | 42                |                                   |                 | 0.2126E-04                         |                 |                 |                 |                        |        |
| 29  | 6     | $E$      | 28   | 5      | $E$       | 1079.90857 | 0                 | .553622E-02                       | 0.6             | 0.5227E-02                         | 5.58            | 3.869E-04       |                 |                        | 1.0    |
| 20  | 7     | $A_2$    | 19   | 6      | $A_1$     | 1079.92563 | 2                 | .175356E-01                       | 0.2             | 0.8777E-02                         | -.11            | 4.070E-04       |                 |                        | 1.0    |
| 20  | 7     | $A_1$    | 19   | 6      | $A_2$     | 1079.92563 | 2                 |                                   |                 | 0.8777E-02                         |                 |                 |                 |                        |        |
| 28  | 13    | $A_2$    | 29   | 12     | $A_1$     | 1080.22304 | -29               |                                   |                 | 0.7373E-04                         |                 |                 |                 |                        |        |
| 28  | 13    | $A_1$    | 29   | 12     | $A_2$     | 1080.22304 | -29               |                                   |                 | 0.7373E-04                         |                 |                 |                 |                        |        |
| 59  | 3     | $E$      | 58   | 2      | $E$       | 1080.34840 | -19               |                                   |                 | 0.5137E-04                         |                 |                 |                 |                        |        |
| 39  | 5     | $E$      | 38   | 4      | $E$       | 1080.39104 | -11               | .195779E-02                       | 1.1             | 0.1823E-02                         | 6.88            | 2.584E-04       | -.256E+00       | -.338E+00              | 1.1    |
| 20  | 12    | $E$      | 21   | 11     | $E$       | 1080.42700 | 3                 |                                   |                 | 0.1351E-03                         |                 |                 |                 |                        |        |
| 12  | 11    | $E$      | 13   | 10     | $E$       | 1080.48289 | 28                |                                   |                 | 0.4235E-04                         |                 |                 |                 |                        |        |
| 49  | 4     | $A_1$    | 48   | 3      | $A_2$     | 1080.54081 | -10               |                                   |                 | 0.3908E-03                         |                 |                 |                 |                        |        |
| 49  | 4     | $A_2$    | 48   | 3      | $A_1$     | 1080.54081 | -10               |                                   |                 | 0.3908E-03                         |                 |                 |                 |                        |        |
| 12  | 8     | $E$      | 11   | 7      | $E$       | 1080.54930 | 0                 | .103854E-01                       | 0.4             | 0.1008E-01                         | 2.95            | 3.665E-04       |                 |                        | 1.0    |
| 30  | 6     | $E$      | 29   | 5      | $E$       | 1080.69162 | 2                 | .505276E-02                       | 0.3             | 0.4741E-02                         | 6.17            | 3.293E-04       | -.117E+00       | -.341E+00              | 1.7    |
| 50  | 10    | $A_1$    | 50   | 9      | $A_2$     | 1080.72030 | 3                 |                                   |                 | 0.9634E-04                         |                 |                 |                 |                        |        |
| 50  | 10    | $A_2$    | 50   | 9      | $A_1$     | 1080.72030 | 3                 |                                   |                 | 0.9634E-04                         |                 |                 |                 |                        |        |
| 21  | 7     | $A_2$    | 20   | 6      | $A_1$     | 1080.74095 | 0                 | .166303E-01                       | 0.2             | 0.8287E-02                         | .34             | 3.658E-04       |                 | -.280E+00              | 1.2    |
| 21  | 7     | $A_1$    | 20   | 6      | $A_2$     | 1080.74095 | 0                 |                                   |                 | 0.8287E-02                         |                 |                 |                 |                        |        |
| 35  | 14    | $E$      | 36   | 13     | $E$       | 1080.86843 | -20               |                                   |                 | 0.2346E-04                         |                 |                 |                 |                        |        |
| 49  | 10    | $A_2$    | 49   | 9      | $A_1$     | 1080.88221 | -1                |                                   |                 | 0.1163E-03                         |                 |                 |                 |                        |        |
| 49  | 10    | $A_1$    | 49   | 9      | $A_2$     | 1080.88221 | -1                |                                   |                 | 0.1163E-03                         |                 |                 |                 |                        |        |
| 48  | 10    | $A_2$    | 48   | 9      | $A_1$     | 1081.04087 | -5                |                                   |                 | 0.1396E-03                         |                 |                 |                 |                        |        |
| 48  | 10    | $A_1$    | 48   | 9      | $A_2$     | 1081.04087 | -5                |                                   |                 | 0.1396E-03                         |                 |                 |                 |                        |        |
| 40  | 5     | $E$      | 39   | 4      | $E$       | 1081.13685 | 3                 | .158783E-02                       | 0.7             | 0.1580E-02                         | .48             | 1.972E-04       |                 | -.434E+00              | 1.2    |
| 27  | 13    | $A_1$    | 28   | 12     | $A_2$     | 1081.19273 | -17               |                                   |                 | 0.7632E-04                         |                 |                 |                 |                        |        |
| 27  | 13    | $A_2$    | 28   | 12     | $A_1$     | 1081.19273 | -17               |                                   |                 | 0.7632E-04                         |                 |                 |                 |                        |        |
| 47  | 10    | $A_1$    | 47   | 9      | $A_2$     | 1081.19634 | -3                |                                   |                 | 0.1670E-03                         |                 |                 |                 |                        |        |
| 47  | 10    | $A_2$    | 47   | 9      | $A_1$     | 1081.19634 | -3                |                                   |                 | 0.1670E-03                         |                 |                 |                 |                        |        |
| 50  | 4     | $A_2$    | 49   | 3      | $A_1$     | 1081.24776 | 1                 |                                   |                 | 0.3239E-03                         |                 |                 |                 |                        |        |
| 50  | 4     | $A_1$    | 49   | 3      | $A_2$     | 1081.24776 | 1                 |                                   |                 | 0.3239E-03                         |                 |                 |                 |                        |        |
| 46  | 10    | $A_1$    | 46   | 9      | $A_2$     | 1081.34855 | -1                |                                   |                 | 0.1987E-03                         |                 |                 |                 |                        |        |
| 46  | 10    | $A_2$    | 46   | 9      | $A_1$     | 1081.34855 | -1                |                                   |                 | 0.1987E-03                         |                 |                 |                 |                        |        |
| 19  | 12    | $E$      | 20   | 11     | $E$       | 1081.37372 | -6                |                                   |                 | 0.1242E-03                         |                 |                 |                 |                        |        |
| 13  | 8     | $E$      | 12   | 7      | $E$       | 1081.39227 | -1                | .964268E-02                       | 0.3             | 0.9792E-02                         | -1.55           | 3.709E-04       | .170E+00        | -.216E+00              | 1.1    |
| 31  | 6     | $E$      | 30   | 5      | $E$       | 1081.47097 | 1                 | .443701E-02                       | 0.3             | 0.4280E-02                         | 3.54            | 2.896E-04       | -.128E+00       | -.311E+00              | 1.4    |
| 45  | 10    | $A_2$    | 45   | 9      | $A_1$     | 1081.49776 | 27                |                                   |                 | 0.2353E-03                         |                 |                 |                 |                        |        |
| 45  | 10    | $A_1$    | 45   | 9      | $A_2$     | 1081.49776 | 27                |                                   |                 | 0.2353E-03                         |                 |                 |                 |                        |        |
| 22  | 7     | $A_2$    | 21   | 6      | $A_1$     | 1081.55276 | 1                 | .158396E-01                       | 0.2             | 0.7788E-02                         | 1.66            | 3.973E-04       |                 |                        | 1.0    |
| 22  | 7     | $A_1$    | 21   | 6      | $A_2$     | 1081.55276 | 1                 |                                   |                 | 0.7788E-02                         |                 |                 |                 |                        |        |
| 44  | 10    | $A_2$    | 44   | 9      | $A_1$     | 1081.64320 | 2                 |                                   |                 | 0.2773E-03                         |                 |                 |                 |                        |        |
| 44  | 10    | $A_1$    | 44   | 9      | $A_2$     | 1081.64320 | 2                 |                                   |                 | 0.2773E-03                         |                 |                 |                 |                        |        |
| 61  | 3     | $E$      | 60   | 2      | $E$       | 1081.67802 | -17               |                                   |                 | 0.3218E-04                         |                 |                 |                 |                        |        |
| 43  | 10    | $A_1$    | 43   | 9      | $A_2$     | 1081.78561 | 0                 |                                   |                 | 0.3253E-03                         |                 |                 |                 |                        |        |
| 43  | 10    | $A_2$    | 43   | 9      | $A_1$     | 1081.78561 | 0                 |                                   |                 | 0.3253E-03                         |                 |                 |                 |                        |        |
| 41  | 5     | $E$      | 40   | 4      | $E$       | 1081.87869 | 3                 | .140469E-02                       | 0.6             | 0.1364E-02                         | 2.93            | 2.475E-04       | -.960E-01       |                        | 1.0    |
| 42  | 10    | $A_1$    | 42   | 9      | $A_2$     | 1081.92477 | -3                |                                   |                 | 0.3797E-03                         |                 |                 |                 |                        |        |
| 42  | 10    | $A_2$    | 42   | 9      | $A_1$     | 1081.92477 | -3                |                                   |                 | 0.3797E-03                         |                 |                 |                 |                        |        |
| 51  | 4     | $A_1$    | 50   | 3      | $A_2$     | 1081.95075 | 14                |                                   |                 | 0.2673E-03                         |                 |                 |                 |                        |        |
| 51  | 4     | $A_2$    | 50   | 3      | $A_1$     | 1081.95075 | 14                |                                   |                 | 0.2673E-03                         |                 |                 |                 |                        |        |
| 41  | 10    | $A_2$    | 41   | 9      | $A_1$     | 1082.06072 | -2                | .876079E-03                       | 1.6             | 0.4411E-03                         | -.69            | 3.682E-04       |                 |                        | 1.0    |
| 41  | 10    | $A_1$    | 41   | 9      | $A_2$     | 1082.06072 | -2                |                                   |                 | 0.4411E-03                         |                 |                 |                 |                        |        |
| 40  | 10    | $A_2$    | 40   | 9      | $A_1$     | 1082.19341 | -2                | .101750E-02                       | 1.5             | 0.5098E-03                         | -.21            | 2.782E-04       |                 |                        | 1.0    |
| 40  | 10    | $A_1$    | 40   | 9      | $A_2$     | 1082.19341 | -2                |                                   |                 | 0.5098E-03                         |                 |                 |                 |                        |        |
| 14  | 8     | $E$      | 13   | 7      | $E$       | 1082.23185 | 0                 | .928328E-02                       | 0.3             | 0.9485E-02                         | -2.17           | 4.259E-04       |                 |                        | 1.0    |
| 32  | 6     | $E$      | 31   | 5      | $E$       | 1082.24662 | -1                | .395202E-02                       | 0.9             | 0.3846E-02                         | 2.69            | 3.361E-04       |                 |                        | 1.0    |
| 39  | 10    | $A_2$    | 39   | 9      | $A_1$     | 1082.32285 | -2                |                                   |                 | 0.5864E-03                         |                 |                 |                 |                        |        |
| 39  | 10    | $A_1$    | 39   | 9      | $A_2$     | 1082.32285 | -2                |                                   |                 | 0.5864E-03                         |                 |                 |                 |                        |        |
| 62  | 3     | $E$      | 61   | 2      | $E$       | 1082.33697 | 15                |                                   |                 | 0.2530E-04                         |                 |                 |                 |                        |        |
| 23  | 7     | $A_2$    | 22   | 6      | $A_1$     | 1082.36100 | 1                 | .145284E-01                       | 0.2             | 0.7286E-02                         | -.29            | 3.373E-04       | -.145E+00       | -.445E+00              | 1.9    |
| 23  | 7     | $A_1$    | 22   | 6      | $A_2$     | 1082.36100 | 1                 |                                   |                 | 0.7286E-02                         |                 |                 |                 |                        |        |
| 38  | 10    | $A_2$    | 38   | 9      | $A_1$     | 1082.44907 | 0                 | .132836E-02                       | 0.9             | 0.6710E-03                         | -1.02           | 2.152E-04       | -.183E+00       |                        | 1.1    |
| 38  | 10    | $A_1$    | 38   | 9      | $A_2$     | 1082.44907 | 0                 |                                   |                 | 0.6710E-03                         |                 |                 |                 |                        |        |
| 37  | 10    | $A_2$    | 37   | 9      | $A_1$     | 1082.57197 | -5                |                                   |                 | 0.7639E-03                         |                 |                 |                 |                        |        |
| 37  | 10    | $A_1$    | 37   | 9      | $A_2$     | 1082.57197 | -5                |                                   |                 | 0.7639E-03                         |                 |                 |                 |                        |        |
| 42  | 5     | $E$      | 41   | 4      | $E$       | 1082.61672 | 5                 | .117214E-02                       | 1.0             | 0.1171E-02                         | .08             | 2.604E-04       | -.417E+00       | -.351E+00              | 1.6    |
| 52  | 4     | $A_2$    | 51   | 3      | $A_1$     | 1082.64942 | -6                |                                   |                 | 0.2196E-03                         |                 |                 |                 |                        |        |
| 52  | 4     | $A_1$    | 51   | 3      | $A_2$     | 1082.64942 | -7                |                                   |                 | 0.2196E-03                         |                 |                 |                 |                        |        |
| 36  | 10    | $A_2$    | 36   | 9      | $A_1$     | 1082.69172 | -1                | .170448E-02                       | 1.5             | 0.8651E-03                         | -1.51           | 3.032E-04       |                 |                        | 1.0    |
| 36  | 10    | $A_1$    | 36   | 9      | $A_2$     | 1082.69172 | -1                |                                   |                 | 0.8651E-03                         |                 |                 |                 |                        |        |
| 35  | 10    | $A_2$    | 35   | 9      | $A_1$     | 1082.80819 | -1                | .193832E-02                       | 0.8             | 0.9746E-03                         | -.57            | 3.149E-04       | -.388E+00       |                        | 1.1    |
| 35  | 10    | $A_1$    | 35   | 9      | $A_2$     | 1082.80819 | -1                |                                   |                 | 0.9746E-03                         |                 |                 |                 |                        |        |
| 33  | 14    | $E$      | 34   | 13     | $E$       | 1082.84330 | 4                 |                                   |                 | 0.2793E-04                         |                 |                 |                 |                        |        |
| 34  | 10    | $A_2$    | 34   | 9      | $A_1$     | 1082.92133 | -9                | .215705E-02                       | 0.7             | 0.1092E-02                         | -1.26           | 2.757E-04       | -.269E+00       | -.389E+00              | 1.4    |
| 34  | 10    | $A_1$    | 34   | 9      | $A_2$     | 1082.92133 | -9                |                                   |                 | 0.1092E-02                         |                 |                 |                 |                        |        |
| 33  | 6     | $E$      | 32   | 5      | $E$       | 1083.01860 | 2                 | .362427E-02                       | 0.3             | 0.3440E-02                         | 5.10            | 3.366E-04       |                 |                        | 1.0    |
| 33  | 10    | $A_2$    | 33   | 9      | $A_1$     | 1083.03137 | -3                | .245686E-02                       | 0.5             | 0.1217E-02                         | .91             | 3.841E-04       |                 |                        | 1.0    |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 33  | 10    | $A_1$    | 33   | 9      | $A_2$     | 1083.03137 | -3                |                                   |                 | 0.1217E-02                         |                 |                 |                 |                        |        |
| 15  | 8     | $E$      | 14   | 7      | $E$       | 1083.06798 | 1                 | .898461E-02                       | 0.4             | 0.9155E-02                         | -1.90           | 5.749E-04       |                 |                        | 1.0    |
| 25  | 13    | $A_2$    | 26   | 12     | $A_1$     | 1083.12349 | -3                |                                   |                 | 0.7895E-04                         |                 |                 |                 |                        |        |
| 25  | 13    | $A_1$    | 26   | 12     | $A_2$     | 1083.12349 | -3                |                                   |                 | 0.7895E-04                         |                 |                 |                 |                        |        |
| 32  | 10    | $A_2$    | 32   | 9      | $A_1$     | 1083.13812 | -2                | .267566E-02                       | 0.6             | 0.1349E-02                         | -.84            | 3.293E-04       | -.450E+00       | -.381E+00              | 1.6    |
| 32  | 10    | $A_1$    | 32   | 9      | $A_2$     | 1083.13812 | -2                |                                   |                 | 0.1349E-02                         |                 |                 |                 |                        |        |
| 24  | 7     | $A_2$    | 23   | 6      | $A_1$     | 1083.16567 | 2                 | .134162E-01                       | 0.2             | 0.6784E-02                         | -1.13           | 4.250E-04       |                 |                        | 1.0    |
| 24  | 7     | $A_1$    | 23   | 6      | $A_2$     | 1083.16567 | 2                 |                                   |                 | 0.6784E-02                         |                 |                 |                 |                        |        |
| 31  | 10    | $A_2$    | 31   | 9      | $A_1$     | 1083.24161 | -3                | .303529E-02                       | 0.6             | 0.1487E-02                         | 2.04            | 6.312E-04       | .306E+00        | .203E+01               | 1.4    |
| 31  | 10    | $A_1$    | 31   | 9      | $A_2$     | 1083.24161 | -3                |                                   |                 | 0.1487E-02                         |                 |                 |                 |                        |        |
| 30  | 10    | $A_2$    | 30   | 9      | $A_1$     | 1083.34189 | -1                | .334294E-02                       | 0.9             | 0.1629E-02                         | 2.56            | 5.351E-04       |                 |                        | 1.0    |
| 30  | 10    | $A_1$    | 30   | 9      | $A_2$     | 1083.34189 | -1                |                                   |                 | 0.1629E-02                         |                 |                 |                 |                        |        |
| 43  | 5     | $E$      | 42   | 4      | $E$       | 1083.35085 | 4                 | .103783E-02                       | 1.8             | 0.1001E-02                         | 3.51            | 1.738E-04       |                 |                        | 1.0    |
| 29  | 10    | $A_2$    | 29   | 9      | $A_1$     | 1083.43891 | -1                | .358829E-02                       | 0.6             | 0.1774E-02                         | 1.14            | 3.635E-04       |                 |                        | 1.0    |
| 29  | 10    | $A_1$    | 29   | 9      | $A_2$     | 1083.43891 | -1                |                                   |                 | 0.1774E-02                         |                 |                 |                 |                        |        |
| 28  | 10    | $A_1$    | 28   | 9      | $A_2$     | 1083.53246 | -24               |                                   |                 | 0.1920E-02                         |                 |                 |                 |                        |        |
| 28  | 10    | $A_2$    | 28   | 9      | $A_1$     | 1083.53246 | -24               |                                   |                 | 0.1920E-02                         |                 |                 |                 |                        |        |
| 27  | 10    | $A_2$    | 27   | 9      | $A_1$     | 1083.62324 | -1                | .409820E-02                       | 0.6             | 0.2064E-02                         | -.74            | 3.798E-04       |                 |                        | 1.0    |
| 27  | 10    | $A_1$    | 27   | 9      | $A_2$     | 1083.62324 | -1                |                                   |                 | 0.2064E-02                         |                 |                 |                 |                        |        |
| 64  | 3     | $E$      | 63   | 2      | $E$       | 1083.64161 | -3                |                                   |                 | 0.1544E-04                         |                 |                 |                 |                        |        |
| 26  | 10    | $A_2$    | 26   | 9      | $A_1$     | 1083.71053 | -2                | .439017E-02                       | 0.2             | 0.2205E-02                         | -.46            | 3.544E-04       | -.166E+00       | -.189E+00              | 1.3    |
| 26  | 10    | $A_1$    | 26   | 9      | $A_2$     | 1083.71053 | -2                |                                   |                 | 0.2205E-02                         |                 |                 |                 |                        |        |
| 34  | 6     | $E$      | 33   | 5      | $E$       | 1083.78680 | -2                | .316032E-02                       | 0.7             | 0.3062E-02                         | 3.11            | 3.132E-04       |                 |                        | 1.0    |
| 25  | 10    | $A_2$    | 25   | 9      | $A_1$     | 1083.79460 | -2                | .469598E-02                       | 0.5             | 0.2339E-02                         | .38             | 4.240E-04       |                 |                        | 1.0    |
| 25  | 10    | $A_1$    | 25   | 9      | $A_2$     | 1083.79460 | -2                |                                   |                 | 0.2339E-02                         |                 |                 |                 |                        |        |
| 24  | 10    | $A_2$    | 24   | 9      | $A_1$     | 1083.87542 | -4                | .480506E-02                       | 0.6             | 0.2463E-02                         | -2.52           | 3.601E-04       |                 |                        | 1.0    |
| 24  | 10    | $A_1$    | 24   | 9      | $A_2$     | 1083.87542 | -4                |                                   |                 | 0.2463E-02                         |                 |                 |                 |                        |        |
| 16  | 8     | $E$      | 15   | 7      | $E$       | 1083.90065 | 0                 | .868818E-02                       | 0.2             | 0.8804E-02                         | -1.33           | 4.257E-04       |                 |                        | 1.0    |
| 23  | 10    | $A_2$    | 23   | 9      | $A_1$     | 1083.95300 | -5                | .515408E-02                       | 0.7             | 0.2573E-02                         | .15             | 3.656E-04       |                 |                        | 1.0    |
| 23  | 10    | $A_1$    | 23   | 9      | $A_2$     | 1083.95300 | -5                |                                   |                 | 0.2573E-02                         |                 |                 |                 |                        |        |
| 25  | 7     | $A_2$    | 24   | 6      | $A_1$     | 1083.96674 | 0                 | .126559E-01                       | 0.3             | 0.6288E-02                         | .64             | 3.850E-04       |                 |                        | 1.0    |
| 25  | 7     | $A_1$    | 24   | 6      | $A_2$     | 1083.96674 | 0                 |                                   |                 | 0.6288E-02                         |                 |                 |                 |                        |        |
| 22  | 10    | $A_2$    | 22   | 9      | $A_1$     | 1084.02743 | 2                 | .518198E-02                       | 0.7             | 0.2666E-02                         | -2.88           | 2.813E-04       |                 | -.444E+00              | 1.1    |
| 22  | 10    | $A_1$    | 22   | 9      | $A_2$     | 1084.02743 | 2                 |                                   | 0.7             | 0.2666E-02                         |                 | 2.813E-04       |                 | -.444E+00              | 1.1    |
| 54  | 4     | $A_1$    | 53   | 3      | $A_2$     | 1084.03509 | -11               |                                   |                 | 0.1463E-03                         |                 |                 |                 |                        |        |
| 54  | 4     | $A_2$    | 53   | 3      | $A_1$     | 1084.03509 | -11               |                                   |                 | 0.1463E-03                         |                 |                 |                 |                        |        |
| 44  | 5     | $E$      | 43   | 4      | $E$       | 1084.08112 | 4                 | .885729E-03                       | 3.0             | 0.8524E-03                         | 3.77            | 3.064E-04       |                 |                        | 1.0    |
| 21  | 10    | $A_2$    | 21   | 9      | $A_1$     | 1084.09856 | 2                 | .558037E-02                       | 0.3             | 0.2736E-02                         | 1.93            | 4.445E-04       |                 |                        | 1.0    |
| 21  | 10    | $A_1$    | 21   | 9      | $A_2$     | 1084.09856 | 2                 |                                   |                 | 0.2736E-02                         |                 |                 |                 |                        |        |
| 20  | 10    | $A_2$    | 20   | 9      | $A_1$     | 1084.16647 | 5                 | .550824E-02                       | 0.2             | 0.2781E-02                         | -.98            | 4.197E-04       |                 |                        | 1.0    |
| 20  | 10    | $A_1$    | 20   | 9      | $A_2$     | 1084.16647 | 5                 |                                   |                 | 0.2781E-02                         |                 |                 |                 |                        |        |
| 16  | 12    | $E$      | 17   | 11     | $E$       | 1084.19641 | -9                |                                   |                 | 0.7799E-04                         |                 |                 |                 |                        |        |
| 19  | 10    | $A_2$    | 19   | 9      | $A_1$     | 1084.23110 | 2                 | .581367E-02                       | 0.3             | 0.2795E-02                         | 3.85            | 3.835E-04       | -.156E+00       | -.290E+00              | 1.3    |
| 19  | 10    | $A_1$    | 19   | 9      | $A_2$     | 1084.23110 | 2                 |                                   |                 | 0.2795E-02                         |                 |                 |                 |                        |        |
| 18  | 10    | $A_2$    | 18   | 9      | $A_1$     | 1084.29253 | 3                 | .549260E-02                       | 0.2             | 0.2773E-02                         | -.98            | 3.798E-04       | -.271E+00       | -.926E-01              | 3.0    |
| 18  | 10    | $A_1$    | 18   | 9      | $A_2$     | 1084.29253 | 3                 |                                   |                 | 0.2773E-02                         |                 |                 |                 |                        |        |
| 17  | 10    | $A_2$    | 17   | 9      | $A_1$     | 1084.35073 | 5                 | .553348E-02                       | 0.3             | 0.2711E-02                         | 2.03            | 4.015E-04       |                 |                        | 1.0    |
| 17  | 10    | $A_1$    | 17   | 9      | $A_2$     | 1084.35073 | 5                 |                                   |                 | 0.2711E-02                         |                 |                 |                 |                        |        |
| 16  | 10    | $A_2$    | 16   | 9      | $A_1$     | 1084.40567 | 3                 | .503889E-02                       | 0.4             | 0.2602E-02                         | -3.28           | 3.714E-04       |                 |                        | 1.0    |
| 16  | 10    | $A_1$    | 16   | 9      | $A_2$     | 1084.40567 | 3                 |                                   |                 | 0.2602E-02                         |                 |                 |                 |                        |        |
| 39  | 15    | $E$      | 40   | 14     | $E$       | 1084.42861 | -79               |                                   |                 | 0.7622E-05                         |                 |                 |                 |                        |        |
| 15  | 10    | $A_2$    | 15   | 9      | $A_1$     | 1084.45737 | 2                 | .478113E-02                       | 0.3             | 0.2442E-02                         | -2.16           | 3.473E-04       | .379E-01        | -.366E+00              | 1.3    |
| 15  | 10    | $A_1$    | 15   | 9      | $A_2$     | 1084.45737 | 2                 |                                   |                 | 0.2442E-02                         |                 |                 |                 |                        |        |
| 14  | 10    | $A_2$    | 14   | 9      | $A_1$     | 1084.50587 | 3                 | .447677E-02                       | 0.3             | 0.2225E-02                         | .60             | 3.341E-04       | -.109E+00       | -.436E+00              | 1.6    |
| 14  | 10    | $A_1$    | 14   | 9      | $A_2$     | 1084.50587 | 3                 |                                   |                 | 0.2225E-02                         |                 |                 |                 |                        |        |
| 13  | 10    | $A_2$    | 13   | 9      | $A_1$     | 1084.55123 | 14                | .646086E-02                       | 0.2             | 0.1944E-02                         | -2.16           | 3.234E-04       | -.561E-01       | -.340E+00              | 1.8    |
| 13  | 10    | $A_1$    | 13   | 9      | $A_2$     | 1084.55123 | 14                |                                   |                 | 0.1944E-02                         |                 |                 |                 |                        |        |
| 35  | 6     | $E$      | 34   | 5      | $E$       | 1084.55123 | -9                |                                   |                 | 0.2713E-02                         |                 |                 |                 |                        |        |
| 12  | 10    | $A_2$    | 12   | 9      | $A_1$     | 1084.59314 | 3                 | .328559E-02                       | 0.5             | 0.1591E-02                         | 3.16            | 3.692E-04       |                 |                        | 1.0    |
| 12  | 10    | $A_1$    | 12   | 9      | $A_2$     | 1084.59314 | 3                 |                                   |                 | 0.1591E-02                         |                 |                 |                 |                        |        |
| 11  | 10    | $A_2$    | 11   | 9      | $A_1$     | 1084.63193 | 4                 | .235004E-02                       | 0.3             | 0.1158E-02                         | 1.47            | 3.390E-04       | -.698E-01       | -.222E+00              | 1.2    |
| 11  | 10    | $A_1$    | 11   | 9      | $A_2$     | 1084.63193 | 4                 |                                   |                 | 0.1158E-02                         |                 |                 |                 |                        |        |
| 10  | 10    | $A_1$    | 10   | 9      | $A_2$     | 1084.66741 | -4                |                                   |                 | 0.6326E-03                         |                 |                 |                 |                        |        |
| 10  | 10    | $A_2$    | 10   | 9      | $A_1$     | 1084.66741 | -4                |                                   |                 | 0.6326E-03                         |                 |                 |                 |                        |        |
| 55  | 4     | $A_1$    | 54   | 3      | $A_2$     | 1084.72249 | 48                |                                   |                 | 0.1186E-03                         |                 |                 |                 |                        |        |
| 55  | 4     | $A_2$    | 54   | 3      | $A_1$     | 1084.72249 | 47                |                                   |                 | 0.1186E-03                         |                 |                 |                 |                        |        |
| 17  | 8     | $E$      | 16   | 7      | $E$       | 1084.72993 | 7                 | .834884E-02                       | 0.5             | 0.8433E-02                         | -1.01           | 2.867E-04       |                 | -.565E+00              | 1.3    |
| 26  | 7     | $A_2$    | 25   | 6      | $A_1$     | 1084.76428 | 6                 | .117407E-01                       | 0.1             | 0.5801E-02                         | 1.19            | 3.319E-04       | -.842E-01       | -.248E+00              | 2.5    |
| 26  | 7     | $A_1$    | 25   | 6      | $A_2$     | 1084.76428 | 6                 |                                   |                 | 0.5801E-02                         |                 |                 |                 |                        |        |
| 31  | 14    | $E$      | 32   | 13     | $E$       | 1084.80745 | 55                |                                   |                 | 0.3219E-04                         |                 |                 |                 |                        |        |
| 45  | 5     | $E$      | 44   | 4      | $E$       | 1084.80745 | -1                | .723508E-03                       | 1.6             | 0.7222E-03                         | .18             | 4.101E-04       |                 |                        | 1.0    |
| 23  | 13    | $A_1$    | 24   | 12     | $A_2$     | 1085.04253 | -17               |                                   |                 | 0.7727E-04                         |                 |                 |                 |                        |        |
| 23  | 13    | $A_2$    | 24   | 12     | $A_1$     | 1085.04253 | -17               |                                   |                 | 0.7727E-04                         |                 |                 |                 |                        |        |
| 15  | 12    | $E$      | 16   | 11     | $E$       | 1085.13143 | -2                |                                   |                 | 0.5949E-04                         |                 |                 |                 |                        |        |
| 9   | 9     | $E$      | 8    | 8      | $E$       | 1085.31470 | 3                 | .830682E-02                       | 3.4             | 0.8916E-02                         | -7.34           | 1.844E-04       |                 |                        | 1.0    |
| 56  | 4     | $A_2$    | 55   | 3      | $A_1$     | 1085.40476 | -2                |                                   |                 | 0.9574E-04                         |                 |                 |                 |                        |        |
| 56  | 4     | $A_1$    | 55   | 3      | $A_2$     | 1085.40476 | -2                |                                   |                 | 0.9574E-04                         |                 |                 |                 |                        |        |
| 46  | 5     | $E$      | 45   | 4      | $E$       | 1085.52996 | 2                 | .656146E-03                       | 2.0             | 0.6092E-03                         | 7.15            | 2.458E-04       | -.494E+00       | .326E+00               | 1.2    |
| 27  | 7     | $A_2$    | 26   | 6      | $A_1$     | 1085.55801 | -7                |                                   |                 | 0.5327E-02                         |                 |                 |                 |                        |        |
| 27  | 7     | $A_1$    | 26   | 6      | $A_2$     | 1085.55801 | -7                |                                   |                 | 0.5327E-02                         |                 |                 |                 |                        |        |
| 30  | 14    | $E$      | 31   | 13     | $E$       | 1085.78487 | 31                |                                   |                 | 0.3410E-04                         |                 |                 |                 |                        |        |
| 22  | 13    | $A_2$    | 23   | 12     | $A_1$     | 1085.99740 | -56               |                                   |                 | 0.7452E-04                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 22  | 13    | $A_1$    | 23   | 12     | $A_2$     | 1085.99740 | -56               |                                   |                 | 0.7452E-04                         |                 |                 |                 |                        |        |
| 37  | 6     | $E$      | 36   | 5      | $E$       | 1086.06917 | 13                | .202456E-02                       | 1.4             | 0.2101E-02                         | -3.79           | 4.687E-04       |                 |                        | 1.0    |
| 57  | 4     | $A_1$    | 56   | 3      | $A_2$     | 1086.08360 | 13                |                                   |                 | 0.7694E-04                         |                 |                 |                 |                        |        |
| 57  | 4     | $A_2$    | 56   | 3      | $A_1$     | 1086.08360 | 13                |                                   |                 | 0.7694E-04                         |                 |                 |                 |                        |        |
| 10  | 9     | $E$      | 9    | 8      | $E$       | 1086.16769 | 5                 | .887897E-02                       | 0.5             | 0.8651E-02                         | 2.57            | 3.304E-04       |                 |                        | 1.0    |
| 47  | 5     | $E$      | 46   | 4      | $E$       | 1086.24851 | 1                 |                                   |                 | 0.5116E-03                         |                 |                 |                 |                        |        |
| 28  | 7     | $A_2$    | 27   | 6      | $A_1$     | 1086.34838 | 6                 | .986456E-02                       | 0.2             | 0.4869E-02                         | 1.28            | 3.266E-04       | -.242E-01       | -.299E+00              | 1.3    |
| 28  | 7     | $A_1$    | 27   | 6      | $A_2$     | 1086.34838 | 6                 |                                   |                 | 0.4869E-02                         |                 |                 |                 |                        |        |
| 19  | 8     | $E$      | 18   | 7      | $E$       | 1086.37786 | 5                 | .767580E-02                       | 0.2             | 0.7642E-02                         | .44             | 3.351E-04       | -.835E-01       | -.532E+00              | 1.7    |
| 58  | 4     | $A_2$    | 57   | 3      | $A_1$     | 1086.75818 | 10                |                                   |                 | 0.6156E-04                         |                 |                 |                 |                        |        |
| 58  | 4     | $A_1$    | 57   | 3      | $A_2$     | 1086.75818 | 10                |                                   |                 | 0.6156E-04                         |                 |                 |                 |                        |        |
| 38  | 6     | $E$      | 37   | 5      | $E$       | 1086.82236 | 12                | .181127E-02                       | 0.8             | 0.1837E-02                         | -1.40           | 3.018E-04       |                 |                        | 1.0    |
| 21  | 13    | $A_1$    | 22   | 12     | $A_2$     | 1086.95020 | -13               |                                   |                 | 0.7040E-04                         |                 |                 |                 |                        |        |
| 21  | 13    | $A_2$    | 22   | 12     | $A_1$     | 1086.95020 | -13               |                                   |                 | 0.7040E-04                         |                 |                 |                 |                        |        |
| 48  | 5     | $E$      | 47   | 4      | $E$       | 1086.96317 | 5                 |                                   |                 | 0.4277E-03                         |                 |                 |                 |                        |        |
| 11  | 9     | $E$      | 10   | 8      | $E$       | 1087.01729 | 4                 | .833229E-02                       | 0.3             | 0.8393E-02                         | -.73            | 2.809E-04       |                 | -.353E+00              | 1.5    |
| 29  | 7     | $A_2$    | 28   | 6      | $A_1$     | 1087.13498 | 8                 | .900081E-02                       | 0.3             | 0.4430E-02                         | 1.56            | 3.708E-04       | .793E-01        | -.305E+00              | 1.3    |
| 29  | 7     | $A_1$    | 28   | 6      | $A_2$     | 1087.13498 | 8                 |                                   |                 | 0.4430E-02                         |                 |                 |                 |                        |        |
| 20  | 8     | $E$      | 19   | 7      | $E$       | 1087.19659 | 6                 | .738959E-02                       | 0.3             | 0.7228E-02                         | 2.18            | 3.902E-04       | -.533E-01       | -.323E+00              | 1.4    |
| 59  | 4     | $A_2$    | 58   | 3      | $A_1$     | 1087.42861 | 2                 |                                   |                 | 0.4905E-04                         |                 |                 |                 |                        |        |
| 59  | 4     | $A_1$    | 58   | 3      | $A_2$     | 1087.42861 | 2                 |                                   |                 | 0.4905E-04                         |                 |                 |                 |                        |        |
| 39  | 6     | $E$      | 38   | 5      | $E$       | 1087.57170 | 6                 | .155601E-02                       | 0.9             | 0.1598E-02                         | -2.69           | 3.875E-04       | -.148E+00       |                        | 1.1    |
| 49  | 5     | $E$      | 48   | 4      | $E$       | 1087.67385 | 5                 |                                   |                 | 0.3560E-03                         |                 |                 |                 |                        |        |
| 28  | 14    | $E$      | 29   | 13     | $E$       | 1087.73142 | -8                |                                   |                 | 0.3714E-04                         |                 |                 |                 |                        |        |
| 12  | 9     | $E$      | 11   | 8      | $E$       | 1087.86350 | 5                 | .820262E-02                       | 0.2             | 0.8133E-02                         | .85             | 3.087E-04       | -.786E-01       | -.422E+00              | 1.6    |
| 20  | 13    | $A_2$    | 21   | 12     | $A_1$     | 1087.89982 | 5                 |                                   |                 | 0.6489E-04                         |                 |                 |                 |                        |        |
| 20  | 13    | $A_1$    | 21   | 12     | $A_2$     | 1087.89982 | 5                 |                                   |                 | 0.6489E-04                         |                 |                 |                 |                        |        |
| 30  | 7     | $A_2$    | 29   | 6      | $A_1$     | 1087.91790 | 7                 | .823692E-02                       | 0.2             | 0.4012E-02                         | 2.47            | 3.261E-04       | -.883E-01       | -.145E+00              | 1.3    |
| 30  | 7     | $A_1$    | 29   | 6      | $A_2$     | 1087.91790 | 7                 |                                   |                 | 0.4012E-02                         |                 |                 |                 |                        |        |
| 12  | 12    | $E$      | 13   | 11     | $E$       | 1087.91790 | -33               |                                   |                 | 0.8913E-05                         |                 |                 |                 |                        |        |
| 21  | 8     | $E$      | 20   | 7      | $E$       | 1088.01176 | 4                 | .705397E-02                       | 0.2             | 0.6807E-02                         | 3.50            | 3.949E-04       | -.441E-01       | -.212E+00              | 1.1    |
| 60  | 4     | $A_1$    | 59   | 3      | $A_2$     | 1088.09497 | -1                |                                   |                 | 0.3890E-04                         |                 |                 |                 |                        |        |
| 60  | 4     | $A_2$    | 59   | 3      | $A_1$     | 1088.09497 | -1                |                                   |                 | 0.3890E-04                         |                 |                 |                 |                        |        |
| 50  | 11    | $E$      | 50   | 10     | $E$       | 1088.11616 | -5                |                                   |                 | 0.6336E-04                         |                 |                 |                 |                        |        |
| 40  | 6     | $E$      | 39   | 5      | $E$       | 1088.31709 | -14               |                                   |                 | 0.1384E-02                         |                 |                 |                 |                        |        |
| 50  | 5     | $E$      | 49   | 4      | $E$       | 1088.38048 | -2                |                                   |                 | 0.2950E-03                         |                 |                 |                 |                        |        |
| 48  | 11    | $E$      | 48   | 10     | $E$       | 1088.43689 | 5                 |                                   |                 | 0.9178E-04                         |                 |                 |                 |                        |        |
| 47  | 11    | $E$      | 47   | 10     | $E$       | 1088.59226 | 0                 |                                   |                 | 0.1097E-03                         |                 |                 |                 |                        |        |
| 31  | 7     | $A_2$    | 30   | 6      | $A_1$     | 1088.69716 | 8                 | .735526E-02                       | 0.4             | 0.3617E-02                         | 1.65            | 3.377E-04       |                 |                        | 1.0    |
| 31  | 7     | $A_1$    | 30   | 6      | $A_2$     | 1088.69716 | 8                 |                                   |                 | 0.3617E-02                         |                 |                 |                 |                        |        |
| 13  | 9     | $E$      | 12   | 8      | $E$       | 1088.70631 | 5                 | .777370E-02                       | 0.4             | 0.7864E-02                         | -1.17           | 4.032E-04       |                 |                        | 1.0    |
| 46  | 11    | $E$      | 46   | 10     | $E$       | 1088.74439 | -5                |                                   |                 | 0.1305E-03                         |                 |                 |                 |                        |        |
| 61  | 4     | $A_1$    | 60   | 3      | $A_2$     | 1088.75714 | -10               |                                   |                 | 0.3072E-04                         |                 |                 |                 |                        |        |
| 61  | 4     | $A_2$    | 60   | 3      | $A_1$     | 1088.75714 | -11               |                                   |                 | 0.3072E-04                         |                 |                 |                 |                        |        |
| 22  | 8     | $E$      | 21   | 7      | $E$       | 1088.82344 | 7                 | .661340E-02                       | 0.4             | 0.6382E-02                         | 3.49            | 4.336E-04       |                 |                        | 1.0    |
| 19  | 13    | $A_1$    | 20   | 12     | $A_2$     | 1088.84603 | -26               |                                   |                 | 0.5804E-04                         |                 |                 |                 |                        |        |
| 19  | 13    | $A_2$    | 20   | 12     | $A_1$     | 1088.84603 | -26               |                                   |                 | 0.5804E-04                         |                 |                 |                 |                        |        |
| 45  | 11    | $E$      | 45   | 10     | $E$       | 1088.89344 | 8                 |                                   |                 | 0.1544E-03                         |                 |                 |                 |                        |        |
| 44  | 11    | $E$      | 44   | 10     | $E$       | 1089.03904 | 1                 |                                   |                 | 0.1820E-03                         |                 |                 |                 |                        |        |
| 41  | 6     | $E$      | 40   | 5      | $E$       | 1089.05908 | 10                | .118888E-02                       | 1.0             | 0.1193E-02                         | -.37            | 2.377E-04       |                 |                        | 1.0    |
| 51  | 5     | $E$      | 50   | 4      | $E$       | 1089.08326 | 3                 |                                   |                 | 0.2433E-03                         |                 |                 |                 |                        |        |
| 43  | 11    | $E$      | 43   | 10     | $E$       | 1089.18144 | 0                 |                                   |                 | 0.2133E-03                         |                 |                 |                 |                        |        |
| 42  | 11    | $E$      | 42   | 10     | $E$       | 1089.32061 | -1                |                                   |                 | 0.2489E-03                         |                 |                 |                 |                        |        |
| 34  | 15    | $E$      | 35   | 14     | $E$       | 1089.39824 | -3                |                                   |                 | 0.1267E-04                         |                 |                 |                 |                        |        |
| 62  | 4     | $A_2$    | 61   | 3      | $A_1$     | 1089.41544 | 8                 |                                   |                 | 0.2416E-04                         |                 |                 |                 |                        |        |
| 62  | 4     | $A_1$    | 61   | 3      | $A_2$     | 1089.41544 | 8                 |                                   |                 | 0.2416E-04                         |                 |                 |                 |                        |        |
| 41  | 11    | $E$      | 41   | 10     | $E$       | 1089.45626 | -28               |                                   |                 | 0.2889E-03                         |                 |                 |                 |                        |        |
| 32  | 7     | $A_2$    | 31   | 6      | $A_1$     | 1089.47273 | 9                 | .664305E-02                       | 0.4             | 0.3246E-02                         | 2.28            | 3.433E-04       | -.114E+00       |                        | 1.1    |
| 32  | 7     | $A_1$    | 31   | 6      | $A_2$     | 1089.47273 | 9                 |                                   |                 | 0.3246E-02                         |                 |                 |                 |                        |        |
| 14  | 9     | $E$      | 13   | 8      | $E$       | 1089.54569 | 6                 | .764259E-02                       | 0.2             | 0.7585E-02                         | .75             | 3.230E-04       | -.101E+00       | -.398E+00              | 1.7    |
| 40  | 11    | $E$      | 40   | 10     | $E$       | 1089.58923 | 2                 |                                   |                 | 0.3338E-03                         |                 |                 |                 |                        |        |
| 23  | 8     | $E$      | 22   | 7      | $E$       | 1089.63152 | 5                 | .605359E-02                       | 0.4             | 0.5958E-02                         | 1.59            | 3.435E-04       | -.190E+00       | -.374E+00              | 1.6    |
| 26  | 14    | $E$      | 27   | 13     | $E$       | 1089.66703 | -14               |                                   |                 | 0.3865E-04                         |                 |                 |                 |                        |        |
| 39  | 11    | $E$      | 39   | 10     | $E$       | 1089.71857 | -7                |                                   |                 | 0.3836E-03                         |                 |                 |                 |                        |        |
| 52  | 5     | $E$      | 51   | 4      | $E$       | 1089.78201 | 5                 |                                   |                 | 0.1998E-03                         |                 |                 |                 |                        |        |
| 18  | 13    | $A_2$    | 19   | 12     | $A_1$     | 1089.78972 | -14               |                                   |                 | 0.4997E-04                         |                 |                 |                 |                        |        |
| 18  | 13    | $A_1$    | 19   | 12     | $A_2$     | 1089.78972 | -14               |                                   |                 | 0.4997E-04                         |                 |                 |                 |                        |        |
| 42  | 6     | $E$      | 41   | 5      | $E$       | 1089.79688 | -2                | .110088E-02                       | 1.1             | 0.1024E-02                         | 6.97            | 3.704E-04       |                 |                        | 1.0    |
| 38  | 11    | $E$      | 38   | 10     | $E$       | 1089.84481 | -2                |                                   |                 | 0.4386E-03                         |                 |                 |                 |                        |        |
| 63  | 4     | $A_1$    | 62   | 3      | $A_2$     | 1090.06950 | 19                |                                   |                 | 0.1892E-04                         |                 |                 |                 |                        |        |
| 63  | 4     | $A_2$    | 62   | 3      | $A_1$     | 1090.06950 | 18                |                                   |                 | 0.1892E-04                         |                 |                 |                 |                        |        |
| 36  | 11    | $E$      | 36   | 10     | $E$       | 1090.08757 | 11                |                                   |                 | 0.5646E-03                         |                 |                 |                 |                        |        |
| 35  | 11    | $E$      | 35   | 10     | $E$       | 1090.20400 | 9                 | .631594E-03                       | 1.3             | 0.6354E-03                         | -.61            | 1.592E-04       |                 | -.564E+00              | 1.1    |
| 33  | 7     | $A_2$    | 32   | 6      | $A_1$     | 1090.24456 | 7                 | .593120E-02                       | 0.6             | 0.2900E-02                         | 2.23            | 3.351E-04       |                 |                        | 1.0    |
| 33  | 7     | $A_1$    | 32   | 6      | $A_2$     | 1090.24456 | 7                 |                                   |                 | 0.2900E-02                         |                 |                 |                 |                        |        |
| 34  | 11    | $E$      | 34   | 10     | $E$       | 1090.31713 | 1                 | .694168E-03                       | 2.4             | 0.7113E-03                         | -2.47           | 4.752E-04       |                 |                        | 1.0    |
| 15  | 9     | $E$      | 14   | 8      | $E$       | 1090.38165 | 7                 | .770295E-02                       | 0.6             | 0.7293E-02                         | 5.32            | 4.760E-04       | .364E+00        |                        | 1.2    |
| 33  | 11    | $E$      | 33   | 10     | $E$       | 1090.42720 | 11                | .760362E-03                       | 3.1             | 0.7918E-03                         | -4.13           | 2.303E-04       |                 |                        | 1.0    |
| 24  | 8     | $E$      | 23   | 7      | $E$       | 1090.43606 | 7                 | .575071E-02                       | 0.4             | 0.5536E-02                         | 3.73            | 3.951E-04       |                 |                        | 1.0    |
| 53  | 5     | $E$      | 52   | 4      | $E$       | 1090.47675 | 7                 |                                   |                 | 0.1634E-03                         |                 |                 |                 |                        |        |
| 43  | 6     | $E$      | 42   | 5      | $E$       | 1090.53117 | 22                |                                   |                 | 0.8751E-03                         |                 |                 |                 |                        |        |
| 31  | 11    | $E$      | 31   | 10     | $E$       | 1090.63736 | 5                 | .926251E-03                       | 1.6             | 0.9643E-03                         | -4.11           | 3.706E-04       | -.941E-01       |                        | 1.0    |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 30  | 11    | $E$      | 30   | 10     | $E$       | 1090.73755 | -1                |                                   |                 | 0.1055E-02                         |                 |                 |                 |                        |        |
| 29  | 11    | $E$      | 29   | 10     | $E$       | 1090.83460 | 3                 | .114375E-02                       | 0.9             | 0.1146E-02                         | -.24            | 2.785E-04       |                 |                        | 1.0    |
| 28  | 11    | $E$      | 28   | 10     | $E$       | 1090.92837 | 3                 | .123640E-02                       | 1.1             | 0.1238E-02                         | -.15            | 4.492E-04       | -.497E+00       | .323E+00               | 1.2    |
| 34  | 7     | $A_2$    | 33   | 6      | $A_1$     | 1091.01271 | 9                 | .533935E-02                       | 0.3             | 0.2578E-02                         | 3.42            | 3.290E-04       |                 |                        | 1.0    |
| 34  | 7     | $A_1$    | 33   | 6      | $A_2$     | 1091.01271 | 9                 |                                   |                 | 0.2578E-02                         |                 |                 |                 |                        |        |
| 27  | 11    | $E$      | 27   | 10     | $E$       | 1091.01896 | 9                 | .131494E-02                       | 1.6             | 0.1328E-02                         | -1.02           | 5.148E-04       |                 |                        | 1.0    |
| 26  | 11    | $E$      | 26   | 10     | $E$       | 1091.10630 | 13                |                                   |                 | 0.1415E-02                         |                 |                 |                 |                        |        |
| 54  | 5     | $E$      | 53   | 4      | $E$       | 1091.16746 | 10                |                                   |                 | 0.1330E-03                         |                 |                 |                 |                        |        |
| 25  | 11    | $E$      | 25   | 10     | $E$       | 1091.19032 | 9                 | .153097E-02                       | 0.9             | 0.1496E-02                         | 2.25            | 4.326E-04       |                 |                        | 1.0    |
| 16  | 9     | $E$      | 15   | 8      | $E$       | 1091.21412 | 5                 | .732447E-02                       | 0.2             | 0.6989E-02                         | 4.58            | 4.337E-04       | -.131E+00       |                        | 1.1    |
| 25  | 8     | $E$      | 24   | 7      | $E$       | 1091.23701 | 8                 | .535607E-02                       | 0.2             | 0.5121E-02                         | 4.38            | 3.899E-04       | -.200E+00       | -.904E-01              | 1.3    |
| 44  | 6     | $E$      | 43   | 5      | $E$       | 1091.26116 | 3                 | .793540E-03                       | 1.8             | 0.7443E-03                         | 6.20            | 3.703E-04       |                 |                        | 1.0    |
| 24  | 11    | $E$      | 24   | 10     | $E$       | 1091.27112 | 7                 | .155167E-02                       | 0.6             | 0.1570E-02                         | -1.18           | 3.623E-04       |                 |                        | 1.0    |
| 23  | 11    | $E$      | 23   | 10     | $E$       | 1091.34865 | 1                 | .160197E-02                       | 0.9             | 0.1633E-02                         | -1.95           | 3.457E-04       |                 | -.622E+00              | 1.2    |
| 22  | 11    | $E$      | 22   | 10     | $E$       | 1091.42300 | 1                 | .175308E-02                       | 1.0             | 0.1684E-02                         | 3.96            | 5.301E-04       | .191E+00        | .616E+00               | 1.1    |
| 21  | 11    | $E$      | 21   | 10     | $E$       | 1091.49413 | 2                 | .164531E-02                       | 0.8             | 0.1718E-02                         | -4.42           | 3.426E-04       | .555E-01        | -.261E+00              | 1.0    |
| 20  | 11    | $E$      | 20   | 10     | $E$       | 1091.56199 | 0                 | .172496E-02                       | 1.0             | 0.1733E-02                         | -.49            | 4.128E-04       | -.913E-01       |                        | 1.0    |
| 19  | 11    | $E$      | 19   | 10     | $E$       | 1091.62673 | 9                 |                                   |                 | 0.1727E-02                         |                 |                 |                 |                        |        |
| 16  | 13    | $A_1$    | 17   | 12     | $A_2$     | 1091.66818 | 7                 |                                   |                 | 0.3123E-04                         |                 |                 |                 |                        |        |
| 16  | 13    | $A_2$    | 17   | 12     | $A_1$     | 1091.66818 | 7                 |                                   |                 | 0.3123E-04                         |                 |                 |                 |                        |        |
| 18  | 11    | $E$      | 18   | 10     | $E$       | 1091.68802 | -3                | .168822E-02                       | 1.1             | 0.1694E-02                         | -.34            | 3.960E-04       |                 |                        | 1.0    |
| 17  | 11    | $E$      | 17   | 10     | $E$       | 1091.74624 | 1                 | .161703E-02                       | 0.8             | 0.1632E-02                         | -.93            | 3.595E-04       | -.224E+00       | -.313E+00              | 1.2    |
| 35  | 7     | $A_2$    | 34   | 6      | $A_1$     | 1091.77707 | 6                 | .460349E-02                       | 0.5             | 0.2282E-02                         | .85             | 3.574E-04       |                 |                        | 1.0    |
| 35  | 7     | $A_1$    | 34   | 6      | $A_2$     | 1091.77707 | 6                 |                                   |                 | 0.2282E-02                         |                 |                 |                 |                        |        |
| 16  | 11    | $E$      | 16   | 10     | $E$       | 1091.80119 | 2                 | .151292E-02                       | 1.0             | 0.1537E-02                         | -1.59           | 3.410E-04       | -.214E+00       |                        | 1.1    |
| 15  | 11    | $E$      | 15   | 10     | $E$       | 1091.85294 | 5                 | .151224E-02                       | 0.6             | 0.1404E-02                         | 7.13            | 4.620E-04       | -.204E+00       | -.198E+00              | 1.2    |
| 14  | 11    | $E$      | 14   | 10     | $E$       | 1091.90139 | 3                 | .123230E-02                       | 1.0             | 0.1230E-02                         | .16             | 3.572E-04       | -.248E+00       | -.349E+00              | 1.1    |
| 13  | 11    | $E$      | 13   | 10     | $E$       | 1091.94661 | 0                 | .977155E-03                       | 1.3             | 0.1009E-02                         | -3.29           | 2.148E-04       |                 | -.928E+00              | 1.2    |
| 12  | 11    | $E$      | 12   | 10     | $E$       | 1091.98790 | -72               | .148471E-02                       | 0.8             | 0.7358E-03                         | 7.99            | 7.169E-04       | .558E+00        |                        | 1.3    |
| 45  | 6     | $E$      | 44   | 5      | $E$       | 1091.98805 | 63                |                                   |                 | 0.6303E-03                         |                 |                 |                 |                        |        |
| 11  | 11    | $E$      | 11   | 10     | $E$       | 1092.02778 | 38                | .418656E-03                       | 6.1             | 0.4024E-03                         | 3.88            | 2.360E-04       |                 |                        | 1.0    |
| 26  | 8     | $E$      | 25   | 7      | $E$       | 1092.03434 | 7                 | .473739E-02                       | 0.5             | 0.4716E-02                         | .44             | 3.336E-04       |                 |                        | 1.0    |
| 17  | 9     | $E$      | 16   | 8      | $E$       | 1092.04315 | 6                 | .676366E-02                       | 0.4             | 0.6673E-02                         | 1.34            | 4.492E-04       |                 |                        | 1.0    |
| 31  | 15    | $E$      | 32   | 14     | $E$       | 1092.34714 | 27                |                                   |                 | 0.1562E-04                         |                 |                 |                 |                        |        |
| 36  | 7     | $A_2$    | 35   | 6      | $A_1$     | 1092.53769 | 4                 | .412763E-02                       | 0.4             | 0.2011E-02                         | 2.56            | 3.203E-04       | -.122E+00       |                        | 1.1    |
| 36  | 7     | $A_1$    | 35   | 6      | $A_2$     | 1092.53769 | 4                 |                                   |                 | 0.2011E-02                         |                 |                 |                 |                        |        |
| 23  | 14    | $E$      | 24   | 13     | $E$       | 1092.54933 | 4                 |                                   |                 | 0.3677E-04                         |                 |                 |                 |                        |        |
| 15  | 13    | $A_1$    | 16   | 12     | $A_2$     | 1092.60289 | 13                |                                   |                 | 0.2144E-04                         |                 |                 |                 |                        |        |
| 15  | 13    | $A_2$    | 16   | 12     | $A_1$     | 1092.60289 | 13                |                                   |                 | 0.2144E-04                         |                 |                 |                 |                        |        |
| 46  | 6     | $E$      | 45   | 5      | $E$       | 1092.70988 | 8                 | .563270E-03                       | 1.2             | 0.5314E-03                         | 5.66            | 2.069E-04       |                 |                        | 1.0    |
| 27  | 8     | $E$      | 26   | 7      | $E$       | 1092.82804 | 5                 | .447815E-02                       | 0.4             | 0.4324E-02                         | 3.44            | 3.891E-04       | -.213E+00       |                        | 1.2    |
| 18  | 9     | $E$      | 17   | 8      | $E$       | 1092.86869 | 5                 | .661453E-02                       | 0.2             | 0.6347E-02                         | 4.05            | 4.032E-04       | -.281E+00       | -.186E+00              | 1.6    |
| 57  | 5     | $E$      | 56   | 4      | $E$       | 1093.21527 | 18                |                                   |                 | 0.6991E-04                         |                 |                 |                 |                        |        |
| 37  | 7     | $A_2$    | 36   | 6      | $A_1$     | 1093.29462 | 9                 | .353287E-02                       | 0.7             | 0.1764E-02                         | .14             | 3.000E-04       | -.159E+00       |                        | 1.1    |
| 37  | 7     | $A_1$    | 36   | 6      | $A_2$     | 1093.29462 | 9                 |                                   |                 | 0.1764E-02                         |                 |                 |                 |                        |        |
| 47  | 6     | $E$      | 46   | 5      | $E$       | 1093.42831 | 5                 |                                   |                 | 0.4460E-03                         |                 |                 |                 |                        |        |
| 10  | 10    | $A_2$    | 9    | 9      | $A_1$     | 1093.52242 | 4                 | .131624E-01                       | 0.2             | 0.6696E-02                         | -1.75           | 2.610E-04       | -.116E+00       | -.143E+00              | 1.6    |
| 10  | 10    | $A_1$    | 9    | 9      | $A_2$     | 1093.52242 | 4                 |                                   |                 | 0.6696E-02                         |                 |                 |                 |                        |        |
| 14  | 13    | $A_2$    | 15   | 12     | $A_1$     | 1093.53445 | 4                 |                                   |                 | 0.1226E-04                         |                 |                 |                 |                        |        |
| 14  | 13    | $A_1$    | 15   | 12     | $A_2$     | 1093.53445 | 4                 |                                   |                 | 0.1226E-04                         |                 |                 |                 |                        |        |
| 28  | 8     | $E$      | 27   | 7      | $E$       | 1093.61816 | 7                 | .397312E-02                       | 0.3             | 0.3946E-02                         | .68             | 3.159E-04       | -.987E-01       | -.313E+00              | 1.5    |
| 19  | 9     | $E$      | 18   | 8      | $E$       | 1093.69074 | 5                 | .608762E-02                       | 0.4             | 0.6013E-02                         | 1.23            | 3.715E-04       | -.110E+00       | -.398E+00              | 1.4    |
| 58  | 5     | $E$      | 57   | 4      | $E$       | 1093.88952 | 1                 |                                   |                 | 0.5592E-04                         |                 |                 |                 |                        |        |
| 37  | 16    | $A_2$    | 38   | 15     | $A_1$     | 1093.99514 | -53               |                                   |                 | 0.4504E-05                         |                 |                 |                 |                        |        |
| 37  | 16    | $A_1$    | 38   | 15     | $A_2$     | 1093.99514 | -53               |                                   |                 | 0.4504E-05                         |                 |                 |                 |                        |        |
| 38  | 7     | $A_2$    | 37   | 6      | $A_1$     | 1094.04769 | 7                 | .318376E-02                       | 0.5             | 0.1540E-02                         | 3.24            | 3.319E-04       |                 |                        | 1.0    |
| 38  | 7     | $A_1$    | 37   | 6      | $A_2$     | 1094.04769 | 7                 |                                   |                 | 0.1540E-02                         |                 |                 |                 |                        |        |
| 48  | 6     | $E$      | 47   | 5      | $E$       | 1094.14284 | 5                 |                                   |                 | 0.3726E-03                         |                 |                 |                 |                        |        |
| 11  | 10    | $A_2$    | 10   | 9      | $A_1$     | 1094.37179 | 2                 | .127511E-01                       | 0.1             | 0.6463E-02                         | -1.37           | 2.874E-04       | -.939E-01       | -.295E+00              | 1.2    |
| 11  | 10    | $A_1$    | 10   | 9      | $A_2$     | 1094.37179 | 2                 |                                   |                 | 0.6463E-02                         |                 |                 |                 |                        |        |
| 29  | 8     | $E$      | 28   | 7      | $E$       | 1094.40460 | 7                 | .372795E-02                       | 0.2             | 0.3585E-02                         | 3.83            | 3.344E-04       | -.220E+00       | -.386E+00              | 1.7    |
| 21  | 14    | $E$      | 22   | 13     | $E$       | 1094.45642 | 14                |                                   |                 | 0.3216E-04                         |                 |                 |                 |                        |        |
| 20  | 9     | $E$      | 19   | 8      | $E$       | 1094.50927 | 5                 | .582482E-02                       | 0.3             | 0.5673E-02                         | 2.61            | 4.041E-04       | -.154E+00       | -.156E+00              | 1.4    |
| 59  | 5     | $E$      | 58   | 4      | $E$       | 1094.55998 | 17                |                                   |                 | 0.4454E-04                         |                 |                 |                 |                        |        |
| 39  | 7     | $A_2$    | 38   | 6      | $A_1$     | 1094.79697 | 6                 | .274185E-02                       | 0.5             | 0.1339E-02                         | 2.33            | 3.089E-04       |                 |                        | 1.0    |
| 39  | 7     | $A_1$    | 38   | 6      | $A_2$     | 1094.79697 | 6                 |                                   |                 | 0.1339E-02                         |                 |                 |                 |                        |        |
| 49  | 6     | $E$      | 48   | 5      | $E$       | 1094.85359 | 23                |                                   |                 | 0.3100E-03                         |                 |                 |                 |                        |        |
| 36  | 16    | $A_2$    | 37   | 15     | $A_1$     | 1094.98913 | 1                 |                                   |                 | 0.4967E-05                         |                 |                 |                 |                        |        |
| 36  | 16    | $A_1$    | 37   | 15     | $A_2$     | 1094.98913 | 1                 |                                   |                 | 0.4967E-05                         |                 |                 |                 |                        |        |
| 30  | 8     | $E$      | 29   | 7      | $E$       | 1095.18739 | 7                 | .342918E-02                       | 0.6             | 0.3242E-02                         | 5.44            | 3.950E-04       |                 |                        | 1.0    |
| 12  | 10    | $A_2$    | 11   | 9      | $A_1$     | 1095.21779 | 3                 | .123421E-01                       | 0.2             | 0.6234E-02                         | -1.01           | 3.276E-04       | -.646E-01       | -.208E+00              | 1.4    |
| 12  | 10    | $A_1$    | 11   | 9      | $A_2$     | 1095.21779 | 3                 |                                   |                 | 0.6234E-02                         |                 |                 |                 |                        |        |
| 28  | 15    | $E$      | 29   | 14     | $E$       | 1095.27058 | 10                |                                   |                 | 0.1762E-04                         |                 |                 |                 |                        |        |
| 21  | 9     | $E$      | 20   | 8      | $E$       | 1095.32431 | 7                 | .562364E-02                       | 0.3             | 0.5330E-02                         | 5.23            | 4.326E-04       |                 |                        | 1.0    |
| 40  | 7     | $A_2$    | 39   | 6      | $A_1$     | 1095.54245 | 6                 | .231551E-02                       | 0.6             | 0.1159E-02                         | -.09            | 2.274E-04       |                 | -.464E+00              | 1.2    |
| 40  | 7     | $A_1$    | 39   | 6      | $A_2$     | 1095.54245 | 6                 |                                   |                 | 0.1159E-02                         |                 |                 |                 |                        |        |
| 50  | 6     | $E$      | 49   | 5      | $E$       | 1095.56003 | 7                 |                                   |                 | 0.2567E-03                         |                 |                 |                 |                        |        |
| 49  | 12    | $E$      | 49   | 11     | $E$       | 1095.70968 | -68               |                                   |                 | 0.4784E-04                         |                 |                 |                 |                        |        |
| 48  | 12    | $E$      | 48   | 11     | $E$       | 1095.86907 | 4                 |                                   |                 | 0.5743E-04                         |                 |                 |                 |                        |        |
| 61  | 5     | $E$      | 60   | 4      | $E$       | 1095.88802 | 0                 |                                   |                 | 0.2789E-04                         |                 |                 |                 |                        |        |
| 31  | 8     | $E$      | 30   | 7      | $E$       | 1095.96651 | 8                 | .305916E-02                       | 0.6             | 0.2919E-02                         | 4.57            | 3.139E-04       | -.306E+00       | -.348E+00              | 1.6    |
| 47  | 12    | $E$      | 47   | 11     | $E$       | 1096.02452 | 7                 |                                   |                 | 0.6860E-04                         |                 |                 |                 |                        |        |

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| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 13  | 10    | $A_2$    | 12   | 9      | $A_1$     | 1096.06038 | 3                 | .118777E-01                       | 0.2             | 0.6003E-02                         | -1.07           | 3.210E-04       | -.223E+00       | -.224E+00              | 2.3    |
| 13  | 10    | $A_1$    | 12   | 9      | $A_2$     | 1096.06038 | 3                 |                                   |                 | 0.6003E-02                         |                 |                 |                 |                        |        |
| 22  | 9     | $E$      | 21   | 8      | $E$       | 1096.13578 | 7                 | .506913E-02                       | 0.2             | 0.4986E-02                         | 1.64            | 3.601E-04       | -.226E+00       | -.401E+00              | 2.1    |
| 46  | 12    | $E$      | 46   | 11     | $E$       | 1096.17669 | 7                 |                                   |                 | 0.8156E-04                         |                 |                 |                 |                        |        |
| 51  | 6     | $E$      | 50   | 5      | $E$       | 1096.26261 | 3                 |                                   |                 | 0.2117E-03                         |                 |                 |                 |                        |        |
| 41  | 7     | $A_2$    | 40   | 6      | $A_1$     | 1096.28412 | 8                 | .207409E-02                       | 0.6             | 0.9983E-03                         | 3.74            | 3.774E-04       |                 |                        | 1.0    |
| 41  | 7     | $A_1$    | 40   | 6      | $A_2$     | 1096.28412 | 8                 |                                   |                 | 0.9983E-03                         |                 |                 |                 |                        |        |
| 45  | 12    | $E$      | 45   | 11     | $E$       | 1096.32562 | 9                 |                                   |                 | 0.9650E-04                         |                 |                 |                 |                        |        |
| 19  | 14    | $E$      | 20   | 13     | $E$       | 1096.35148 | -13               |                                   |                 | 0.2486E-04                         |                 |                 |                 |                        |        |
| 44  | 12    | $E$      | 44   | 11     | $E$       | 1096.47122 | 3                 |                                   |                 | 0.1136E-03                         |                 |                 |                 |                        |        |
| 62  | 5     | $E$      | 61   | 4      | $E$       | 1096.54569 | -21               |                                   |                 | 0.2193E-04                         |                 |                 |                 |                        |        |
| 43  | 12    | $E$      | 43   | 11     | $E$       | 1096.61365 | 4                 |                                   |                 | 0.1331E-03                         |                 |                 |                 |                        |        |
| 32  | 8     | $E$      | 31   | 7      | $E$       | 1096.74194 | 9                 | .274517E-02                       | 0.4             | 0.2617E-02                         | 4.69            | 3.681E-04       | -.189E+00       |                        | 1.2    |
| 42  | 12    | $E$      | 42   | 11     | $E$       | 1096.75277 | 0                 |                                   |                 | 0.1552E-03                         |                 |                 |                 |                        |        |
| 41  | 12    | $E$      | 41   | 11     | $E$       | 1096.88904 | 36                |                                   |                 | 0.1801E-03                         |                 |                 |                 |                        |        |
| 14  | 10    | $A_2$    | 13   | 9      | $A_1$     | 1096.89954 | 3                 | .110458E-01                       | 0.2             | 0.5767E-02                         | -4.42           | 3.029E-04       | -.469E-01       | -.419E+00              | 1.3    |
| 14  | 10    | $A_1$    | 13   | 9      | $A_2$     | 1096.89954 | 3                 |                                   |                 | 0.5767E-02                         |                 |                 |                 |                        |        |
| 23  | 9     | $E$      | 22   | 8      | $E$       | 1096.94369 | 6                 | .474449E-02                       | 0.4             | 0.4645E-02                         | 2.10            | 3.673E-04       |                 | -.413E+00              | 1.4    |
| 52  | 6     | $E$      | 51   | 5      | $E$       | 1096.96123 | 3                 |                                   |                 | 0.1738E-03                         |                 |                 |                 |                        |        |
| 40  | 12    | $E$      | 40   | 11     | $E$       | 1097.02193 | 58                | .186268E-02                       | 1.7             | 0.2079E-03                         | -3.09           | 2.382E-04       |                 |                        | 1.0    |
| 42  | 7     | $A_1$    | 41   | 6      | $A_2$     | 1097.02193 | 8                 |                                   |                 | 0.8562E-03                         |                 |                 |                 |                        |        |
| 42  | 7     | $A_2$    | 41   | 6      | $A_1$     | 1097.02193 | 8                 |                                   |                 | 0.8562E-03                         |                 |                 |                 |                        |        |
| 39  | 12    | $E$      | 39   | 11     | $E$       | 1097.15075 | -3                |                                   |                 | 0.2387E-03                         |                 |                 |                 |                        |        |
| 38  | 12    | $E$      | 38   | 11     | $E$       | 1097.27726 | 31                |                                   |                 | 0.2727E-03                         |                 |                 |                 |                        |        |
| 18  | 14    | $E$      | 19   | 13     | $E$       | 1097.29506 | 20                |                                   |                 | 0.2039E-04                         |                 |                 |                 |                        |        |
| 37  | 12    | $E$      | 37   | 11     | $E$       | 1097.39993 | 4                 |                                   |                 | 0.3100E-03                         |                 |                 |                 |                        |        |
| 33  | 8     | $E$      | 32   | 7      | $E$       | 1097.51364 | 7                 | .244931E-02                       | 0.3             | 0.2335E-02                         | 4.68            | 3.830E-04       |                 |                        | 1.0    |
| 36  | 12    | $E$      | 36   | 11     | $E$       | 1097.51942 | -16               | .384493E-03                       | 2.2             | 0.3504E-03                         | 8.87            | 5.197E-04       |                 |                        | 1.0    |
| 35  | 12    | $E$      | 35   | 11     | $E$       | 1097.63597 | -6                |                                   |                 | 0.3939E-03                         |                 |                 |                 |                        |        |
| 53  | 6     | $E$      | 52   | 5      | $E$       | 1097.65582 | 2                 |                                   |                 | 0.1420E-03                         |                 |                 |                 |                        |        |
| 15  | 10    | $A_2$    | 14   | 9      | $A_1$     | 1097.73528 | 4                 | .112435E-01                       | 0.3             | 0.5526E-02                         | 1.71            | 3.969E-04       |                 |                        | 1.0    |
| 15  | 10    | $A_1$    | 14   | 9      | $A_2$     | 1097.73528 | 4                 |                                   |                 | 0.5526E-02                         |                 |                 |                 |                        |        |
| 24  | 9     | $E$      | 23   | 8      | $E$       | 1097.74808 | 10                | .482599E-02                       | 0.6             | 0.4308E-02                         | 1.61            | 4.737E-04       |                 |                        | 1.0    |
| 34  | 12    | $E$      | 34   | 11     | $E$       | 1097.74808 | -115              |                                   |                 | 0.4404E-03                         |                 |                 |                 |                        |        |
| 43  | 7     | $A_2$    | 42   | 6      | $A_1$     | 1097.75585 | 5                 | .150361E-02                       | 1.9             | 0.7310E-03                         | 2.76            | 3.447E-04       |                 |                        | 1.0    |
| 43  | 7     | $A_1$    | 42   | 6      | $A_2$     | 1097.75585 | 5                 |                                   |                 | 0.7310E-03                         |                 |                 |                 |                        |        |
| 33  | 12    | $E$      | 33   | 11     | $E$       | 1097.85921 | 1                 |                                   |                 | 0.4895E-03                         |                 |                 |                 |                        |        |
| 33  | 16    | $A_1$    | 34   | 15     | $A_2$     | 1097.95342 | 26                |                                   |                 | 0.6348E-05                         |                 |                 |                 |                        |        |
| 33  | 16    | $A_2$    | 34   | 15     | $A_1$     | 1097.95342 | 26                |                                   |                 | 0.6348E-05                         |                 |                 |                 |                        |        |
| 32  | 12    | $E$      | 32   | 11     | $E$       | 1097.96595 | 3                 |                                   |                 | 0.5410E-03                         |                 |                 |                 |                        |        |
| 31  | 12    | $E$      | 31   | 11     | $E$       | 1098.06943 | 3                 |                                   |                 | 0.5942E-03                         |                 |                 |                 |                        |        |
| 30  | 12    | $E$      | 30   | 11     | $E$       | 1098.16964 | -1                | .643061E-03                       | 2.3             | 0.6487E-03                         | -8.8            | 5.102E-04       |                 |                        | 1.0    |
| 17  | 14    | $E$      | 18   | 13     | $E$       | 1098.23453 | -63               |                                   |                 | 0.1558E-04                         |                 |                 |                 |                        |        |
| 29  | 12    | $E$      | 29   | 11     | $E$       | 1098.26665 | 0                 |                                   |                 | 0.7036E-03                         |                 |                 |                 |                        |        |
| 34  | 8     | $E$      | 33   | 7      | $E$       | 1098.28162 | 6                 | .217143E-02                       | 0.5             | 0.2074E-02                         | 4.50            | 3.503E-04       | -.141E+00       | .999E-01               | 1.2    |
| 54  | 6     | $E$      | 53   | 5      | $E$       | 1098.34641 | 5                 |                                   |                 | 0.1156E-03                         |                 |                 |                 |                        |        |
| 28  | 12    | $E$      | 28   | 11     | $E$       | 1098.36048 | 6                 | .750803E-03                       | 2.1             | 0.7581E-03                         | -9.7            | 3.786E-04       |                 |                        | 1.0    |
| 27  | 12    | $E$      | 27   | 11     | $E$       | 1098.45099 | 4                 | .807108E-03                       | 1.1             | 0.8110E-03                         | -4.8            | 3.406E-04       | -.163E+00       |                        | 1.1    |
| 44  | 7     | $A_2$    | 43   | 6      | $A_1$     | 1098.48591 | 4                 | .121707E-02                       | 0.6             | 0.6214E-03                         | -2.11           | 1.934E-04       |                 |                        | 1.0    |
| 44  | 7     | $A_1$    | 43   | 6      | $A_2$     | 1098.48591 | 4                 |                                   |                 | 0.6214E-03                         |                 |                 |                 |                        |        |
| 26  | 12    | $E$      | 26   | 11     | $E$       | 1098.53829 | 5                 | .861222E-03                       | 2.2             | 0.8612E-03                         | .00             | 3.762E-04       |                 |                        | 1.0    |
| 25  | 9     | $E$      | 24   | 8      | $E$       | 1098.54878 | 4                 | .391468E-02                       | 0.5             | 0.3978E-02                         | -1.62           | 3.769E-04       |                 |                        | 1.0    |
| 16  | 10    | $A_2$    | 15   | 9      | $A_1$     | 1098.56754 | 2                 | .102899E-01                       | 0.4             | 0.5278E-02                         | -2.59           | 3.489E-04       | -.610E-01       | -.211E+00              | 1.1    |
| 16  | 10    | $A_1$    | 15   | 9      | $A_2$     | 1098.56754 | 2                 |                                   |                 | 0.5278E-02                         |                 |                 |                 |                        |        |
| 25  | 12    | $E$      | 25   | 11     | $E$       | 1098.62229 | -1                | .913628E-03                       | 1.4             | 0.9073E-03                         | .69             | 3.932E-04       | -.298E+00       |                        | 1.1    |
| 24  | 12    | $E$      | 24   | 11     | $E$       | 1098.70319 | 7                 | .985143E-03                       | 0.8             | 0.9478E-03                         | 3.79            | 5.636E-04       |                 |                        | 1.0    |
| 23  | 12    | $E$      | 23   | 11     | $E$       | 1098.78051 | -19               |                                   |                 | 0.9810E-03                         |                 |                 |                 |                        |        |
| 22  | 12    | $E$      | 22   | 11     | $E$       | 1098.85505 | 0                 | .992155E-03                       | 1.8             | 0.1005E-02                         | -1.30           | 4.469E-04       |                 |                        | 1.0    |
| 21  | 12    | $E$      | 21   | 11     | $E$       | 1098.92619 | 2                 | .102600E-02                       | 1.4             | 0.1018E-02                         | .77             | 4.273E-04       | -.207E+00       | -.516E+00              | 1.1    |
| 20  | 12    | $E$      | 20   | 11     | $E$       | 1098.99404 | 0                 | .102193E-02                       | 0.9             | 0.1018E-02                         | .39             | 2.022E-04       |                 | -.105E+01              | 1.8    |
| 55  | 6     | $E$      | 54   | 5      | $E$       | 1099.03286 | -2                |                                   |                 | 0.9364E-04                         |                 |                 |                 |                        |        |
| 35  | 8     | $E$      | 34   | 7      | $E$       | 1099.04595 | 14                | .197959E-02                       | 0.7             | 0.1834E-02                         | 7.37            | 3.310E-04       |                 |                        | 1.0    |
| 19  | 12    | $E$      | 19   | 11     | $E$       | 1099.05868 | -1                | .102274E-02                       | 1.5             | 0.1002E-02                         | 1.99            | 4.360E-04       |                 |                        | 1.0    |
| 18  | 12    | $E$      | 18   | 11     | $E$       | 1099.11967 | -43               |                                   |                 | 0.9692E-03                         |                 |                 |                 |                        |        |
| 17  | 12    | $E$      | 17   | 11     | $E$       | 1099.17831 | 3                 |                                   |                 | 0.9158E-03                         |                 |                 |                 |                        |        |
| 45  | 7     | $A_2$    | 44   | 6      | $A_1$     | 1099.21203 | -2                | .110119E-02                       | 1.3             | 0.5259E-03                         | 4.49            | 3.204E-04       |                 |                        | 1.0    |
| 45  | 7     | $A_1$    | 44   | 6      | $A_2$     | 1099.21203 | -2                |                                   |                 | 0.5259E-03                         |                 |                 |                 |                        |        |
| 16  | 12    | $E$      | 16   | 11     | $E$       | 1099.23324 | 2                 | .906158E-03                       | 0.8             | 0.8396E-03                         | 7.35            | 1.174E-04       |                 | -.405E+00              | 1.1    |
| 15  | 12    | $E$      | 15   | 11     | $E$       | 1099.28493 | 0                 | .804913E-03                       | 1.2             | 0.7375E-03                         | 8.37            | 5.960E-04       | .314E+00        | .151E+01               | 1.2    |
| 14  | 12    | $E$      | 14   | 11     | $E$       | 1099.33342 | 1                 | .589840E-03                       | 2.6             | 0.6066E-03                         | -2.84           | 2.615E-04       | -.696E+00       |                        | 1.5    |
| 26  | 9     | $E$      | 25   | 8      | $E$       | 1099.34596 | 6                 | .369320E-02                       | 0.8             | 0.3657E-02                         | .97             | 3.901E-04       |                 |                        | 1.0    |
| 13  | 12    | $E$      | 13   | 11     | $E$       | 1099.37868 | 3                 |                                   |                 | 0.4431E-03                         |                 |                 |                 |                        |        |
| 17  | 10    | $A_2$    | 16   | 9      | $A_1$     | 1099.39637 | 4                 | .100468E-01                       | 0.3             | 0.5024E-02                         | -.02            | 3.919E-04       | .798E-01        |                        | 1.1    |
| 17  | 10    | $A_1$    | 16   | 9      | $A_2$     | 1099.39637 | 4                 |                                   |                 | 0.5024E-02                         |                 |                 |                 |                        |        |
| 12  | 12    | $E$      | 12   | 11     | $E$       | 1099.42062 | -4                |                                   |                 | 0.2427E-03                         |                 |                 |                 |                        |        |
| 56  | 6     | $E$      | 55   | 5      | $E$       | 1099.71541 | 7                 |                                   |                 | 0.7554E-04                         |                 |                 |                 |                        |        |
| 36  | 8     | $E$      | 35   | 7      | $E$       | 1099.80641 | 9                 | .174875E-02                       | 0.8             | 0.1614E-02                         | 7.70            | 4.026E-04       | -.182E+00       |                        | 1.1    |
| 46  | 7     | $A_2$    | 45   | 6      | $A_1$     | 1099.93438 | 6                 | .873974E-03                       | 1.4             | 0.4431E-03                         | -1.39           | 2.221E-04       | -.364E+00       |                        | 1.2    |
| 46  | 7     | $A_1$    | 45   | 6      | $A_2$     | 1099.93438 | 6                 |                                   |                 | 0.4431E-03                         |                 |                 |                 |                        |        |
| 23  | 15    | $E$      | 24   | 14     | $E$       | 1100.08639 | -21               |                                   |                 | 0.1632E-04                         |                 |                 |                 |                        |        |
| 15  | 14    | $E$      | 16   | 13     | $E$       | 1100.10699 | 19                |                                   |                 | 0.6125E-05                         |                 |                 |                 |                        |        |
| 27  | 9     | $E$      | 26   | 8      | $E$       | 1100.13952 | 7                 | .338649E-02                       | 0.6             | 0.3348E-02                         | 1.15            | 3.220E-04       | -.462E-01       | -.390E+00              | 1.1    |



(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 18  | 10    | $A_2$    | 17   | 9      | $A_1$     | 1100.22170 | 4                 | .931373E-02                       | 0.2             | 0.4766E-02                         | -2.34           | 3.359E-04       |                 | -.444E+00              | 1.6    |
| 18  | 10    | $A_1$    | 17   | 9      | $A_2$     | 1100.22170 | 4                 |                                   |                 | 0.4766E-02                         |                 |                 |                 |                        |        |
| 57  | 6     | $E$      | 56   | 5      | $E$       | 1100.39379 | 8                 |                                   |                 | 0.6067E-04                         |                 |                 |                 |                        |        |
| 37  | 8     | $E$      | 36   | 7      | $E$       | 1100.56319 | 13                | .137179E-02                       | 1.0             | 0.1415E-02                         | -3.12           | 2.636E-04       | -.382E+00       |                        | 1.3    |
| 47  | 7     | $A_1$    | 46   | 6      | $A_2$     | 1100.65272 | 5                 |                                   |                 | 0.3716E-03                         |                 |                 |                 |                        |        |
| 47  | 7     | $A_2$    | 46   | 6      | $A_1$     | 1100.65272 | 5                 |                                   |                 | 0.3716E-03                         |                 |                 |                 |                        |        |
| 28  | 9     | $E'$     | 27   | 8      | $E'$      | 1100.92942 | 5                 | .308705E-02                       | 0.4             | 0.3051E-02                         | 1.18            | 3.259E-04       | .345E-01        | -.405E+00              | 1.2    |
| 19  | 10    | $A_2$    | 18   | 9      | $A_1$     | 1101.04352 | 2                 | .881077E-02                       | 0.2             | 0.4503E-02                         | -2.22           | 3.557E-04       | -.357E-01       | -.387E+00              | 1.6    |
| 19  | 10    | $A_1$    | 18   | 9      | $A_2$     | 1101.04352 | 2                 |                                   |                 | 0.4503E-02                         |                 |                 |                 |                        |        |
| 58  | 6     | $E'$     | 57   | 5      | $E'$      | 1101.06793 | -5                |                                   |                 | 0.4852E-04                         |                 |                 |                 |                        |        |
| 38  | 8     | $E'$     | 37   | 7      | $E'$      | 1101.31608 | 6                 | .134414E-02                       | 1.0             | 0.1234E-02                         | 8.19            | 4.394E-04       | -.683E+00       | .274E+00               | 1.5    |
| 48  | 7     | $A_1$    | 47   | 6      | $A_2$     | 1101.36715 | 6                 |                                   |                 | 0.3103E-03                         |                 |                 |                 |                        |        |
| 48  | 7     | $A_2$    | 47   | 6      | $A_1$     | 1101.36715 | 6                 |                                   |                 | 0.3103E-03                         |                 |                 |                 |                        |        |
| 29  | 9     | $E'$     | 28   | 8      | $E'$      | 1101.71573 | 8                 | .279457E-02                       | 0.4             | 0.2768E-02                         | .96             | 3.094E-04       | -.183E+00       | -.326E+00              | 1.4    |
| 11  | 11    | $E$      | 10   | 10     | $E$       | 1101.76457 | 4                 | .473679E-02                       | 0.2             | 0.4723E-02                         | .29             | 2.572E-04       | -.168E+00       | -.269E+00              | 2.0    |
| 20  | 10    | $A_2$    | 19   | 9      | $A_1$     | 1101.86186 | 4                 | .838586E-02                       | 0.2             | 0.4239E-02                         | -1.09           | 3.583E-04       | -.797E-01       | -.251E+00              | 1.4    |
| 20  | 10    | $A_1$    | 19   | 9      | $A_2$     | 1101.86186 | 4                 |                                   |                 | 0.4239E-02                         |                 |                 |                 |                        |        |
| 21  | 15    | $E$      | 22   | 14     | $E$       | 1101.99260 | -32               |                                   |                 | 0.1357E-04                         |                 |                 |                 |                        |        |
| 39  | 8     | $E'$     | 38   | 7      | $E'$      | 1102.06526 | 9                 | .110688E-02                       | 0.9             | 0.1072E-02                         | 3.16            | 2.248E-04       | -.367E+00       |                        | 1.5    |
| 49  | 7     | $A_1$    | 48   | 6      | $A_2$     | 1102.07761 | 6                 |                                   |                 | 0.2580E-03                         |                 |                 |                 |                        |        |
| 49  | 7     | $A_2$    | 48   | 6      | $A_1$     | 1102.07761 | 6                 |                                   |                 | 0.2580E-03                         |                 |                 |                 |                        |        |
| 60  | 6     | $E'$     | 59   | 5      | $E'$      | 1102.40419 | 2                 |                                   |                 | 0.3063E-04                         |                 |                 |                 |                        |        |
| 30  | 9     | $E'$     | 29   | 8      | $E'$      | 1102.49829 | 3                 | .255903E-02                       | 0.5             | 0.2500E-02                         | 2.31            | 3.264E-04       | -.359E+00       | -.397E+00              | 1.5    |
| 12  | 11    | $E'$     | 11   | 10     | $E'$      | 1102.61027 | -1                | .442993E-02                       | 0.8             | 0.4536E-02                         | -2.39           | 2.939E-04       | -.179E+00       | -.336E+00              | 1.2    |
| 50  | 7     | $A_2$    | 49   | 6      | $A_1$     | 1102.78408 | 5                 |                                   |                 | 0.2136E-03                         |                 |                 |                 |                        |        |
| 50  | 7     | $A_1$    | 49   | 6      | $A_2$     | 1102.78408 | 5                 |                                   |                 | 0.2136E-03                         |                 |                 |                 |                        |        |
| 40  | 8     | $E'$     | 39   | 7      | $E'$      | 1102.81046 | -6                |                                   |                 | 0.9268E-03                         |                 |                 |                 |                        |        |
| 28  | 16    | $A_1$    | 29   | 15     | $A_2$     | 1102.83832 | 30                |                                   |                 | 0.7864E-05                         |                 |                 |                 |                        |        |
| 28  | 16    | $A_2$    | 29   | 15     | $A_1$     | 1102.83832 | 30                |                                   |                 | 0.7864E-05                         |                 |                 |                 |                        |        |
| 61  | 6     | $E'$     | 60   | 5      | $E'$      | 1103.06610 | 4                 |                                   |                 | 0.2418E-04                         |                 |                 |                 |                        |        |
| 31  | 9     | $E'$     | 30   | 8      | $E'$      | 1103.27724 | 4                 | .237948E-02                       | 0.8             | 0.2248E-02                         | 5.53            | 3.706E-04       | -.365E+00       |                        | 1.3    |
| 13  | 11    | $E'$     | 12   | 10     | $E'$      | 1103.45262 | 0                 | .443969E-02                       | 0.3             | 0.4351E-02                         | 2.00            | 3.525E-04       | -.221E+00       |                        | 1.5    |
| 41  | 8     | $E'$     | 40   | 7      | $E'$      | 1103.55210 | 6                 | .749429E-03                       | 1.3             | 0.7979E-03                         | -6.46           | 9.285E-05       | -.166E+00       |                        | 1.1    |
| 46  | 13    | $A_1$    | 46   | 12     | $A_2$     | 1103.64257 | -46               |                                   |                 | 0.4848E-04                         |                 |                 |                 |                        |        |
| 46  | 13    | $A_2$    | 46   | 12     | $A_1$     | 1103.64257 | -46               |                                   |                 | 0.4848E-04                         |                 |                 |                 |                        |        |
| 62  | 6     | $E'$     | 61   | 5      | $E'$      | 1103.72365 | -13               |                                   |                 | 0.1900E-04                         |                 |                 |                 |                        |        |
| 19  | 15    | $E'$     | 20   | 14     | $E'$      | 1103.88720 | -37               |                                   |                 | 0.9635E-05                         |                 |                 |                 |                        |        |
| 44  | 13    | $A_2$    | 44   | 12     | $A_1$     | 1103.93766 | 5                 |                                   |                 | 0.6747E-04                         |                 |                 |                 |                        |        |
| 44  | 13    | $A_1$    | 44   | 12     | $A_2$     | 1103.93766 | 5                 |                                   |                 | 0.6747E-04                         |                 |                 |                 |                        |        |
| 32  | 9     | $E'$     | 31   | 8      | $E'$      | 1104.05250 | 5                 | .211825E-02                       | 0.7             | 0.2012E-02                         | 4.99            | 3.525E-04       | -.429E+00       |                        | 1.5    |
| 43  | 13    | $A_2$    | 43   | 12     | $A_1$     | 1104.08002 | -1                |                                   |                 | 0.7900E-04                         |                 |                 |                 |                        |        |
| 43  | 13    | $A_1$    | 43   | 12     | $A_2$     | 1104.08002 | -1                |                                   |                 | 0.7900E-04                         |                 |                 |                 |                        |        |
| 52  | 7     | $A_2$    | 51   | 6      | $A_1$     | 1104.18517 | 13                |                                   |                 | 0.1444E-03                         |                 |                 |                 |                        |        |
| 52  | 7     | $A_1$    | 51   | 6      | $A_2$     | 1104.18517 | 13                |                                   |                 | 0.1444E-03                         |                 |                 |                 |                        |        |
| 42  | 13    | $A_2$    | 42   | 12     | $A_1$     | 1104.21927 | 7                 |                                   |                 | 0.9205E-04                         |                 |                 |                 |                        |        |
| 42  | 13    | $A_1$    | 42   | 12     | $A_2$     | 1104.21927 | 7                 |                                   |                 | 0.9205E-04                         |                 |                 |                 |                        |        |
| 14  | 11    | $E'$     | 13   | 10     | $E'$      | 1104.29153 | -1                | .432008E-02                       | 0.7             | 0.4166E-02                         | 3.57            | 2.770E-04       |                 |                        | 1.0    |
| 41  | 13    | $A_2$    | 41   | 12     | $A_1$     | 1104.35517 | 5                 |                                   |                 | 0.1067E-03                         |                 |                 |                 |                        |        |
| 41  | 13    | $A_1$    | 41   | 12     | $A_2$     | 1104.35517 | 5                 |                                   |                 | 0.1067E-03                         |                 |                 |                 |                        |        |
| 40  | 13    | $A_1$    | 40   | 12     | $A_2$     | 1104.48785 | 6                 |                                   |                 | 0.1231E-03                         |                 |                 |                 |                        |        |
| 40  | 13    | $A_2$    | 40   | 12     | $A_1$     | 1104.48785 | 6                 |                                   |                 | 0.1231E-03                         |                 |                 |                 |                        |        |
| 39  | 13    | $A_2$    | 39   | 12     | $A_1$     | 1104.61724 | 3                 |                                   |                 | 0.1412E-03                         |                 |                 |                 |                        |        |
| 39  | 13    | $A_1$    | 39   | 12     | $A_2$     | 1104.61724 | 3                 |                                   |                 | 0.1412E-03                         |                 |                 |                 |                        |        |
| 38  | 13    | $A_2$    | 38   | 12     | $A_1$     | 1104.74346 | 6                 |                                   |                 | 0.1612E-03                         |                 |                 |                 |                        |        |
| 38  | 13    | $A_1$    | 38   | 12     | $A_2$     | 1104.74346 | 6                 |                                   |                 | 0.1612E-03                         |                 |                 |                 |                        |        |
| 26  | 16    | $A_2$    | 27   | 15     | $A_1$     | 1104.77167 | -65               |                                   |                 | 0.7827E-05                         |                 |                 |                 |                        |        |
| 26  | 16    | $A_1$    | 27   | 15     | $A_2$     | 1104.77167 | -65               |                                   |                 | 0.7827E-05                         |                 |                 |                 |                        |        |
| 33  | 9     | $E'$     | 32   | 8      | $E'$      | 1104.82407 | 7                 | .182420E-02                       | 0.7             | 0.1794E-02                         | 1.68            | 3.286E-04       | -.128E+00       | -.255E+00              | 1.2    |
| 37  | 13    | $A_2$    | 37   | 12     | $A_1$     | 1104.86633 | 0                 |                                   |                 | 0.1830E-03                         |                 |                 |                 |                        |        |
| 37  | 13    | $A_1$    | 37   | 12     | $A_2$     | 1104.86633 | 0                 |                                   |                 | 0.1830E-03                         |                 |                 |                 |                        |        |
| 53  | 7     | $A_2$    | 52   | 6      | $A_1$     | 1104.87988 | 36                |                                   |                 | 0.1180E-03                         |                 |                 |                 |                        |        |
| 53  | 7     | $A_1$    | 52   | 6      | $A_2$     | 1104.87988 | 36                |                                   |                 | 0.1180E-03                         |                 |                 |                 |                        |        |
| 36  | 13    | $A_2$    | 36   | 12     | $A_1$     | 1104.98597 | -5                |                                   |                 | 0.2066E-03                         |                 |                 |                 |                        |        |
| 36  | 13    | $A_1$    | 36   | 12     | $A_2$     | 1104.98597 | -5                |                                   |                 | 0.2066E-03                         |                 |                 |                 |                        |        |
| 43  | 8     | $E'$     | 42   | 7      | $E'$      | 1105.02360 | 8                 |                                   |                 | 0.5834E-03                         |                 |                 |                 |                        |        |
| 15  | 11    | $E'$     | 14   | 10     | $E'$      | 1105.12703 | 1                 | .400751E-02                       | 0.3             | 0.3979E-02                         | .72             | 3.453E-04       | -.177E+00       | -.337E+00              | 1.6    |
| 34  | 13    | $A_2$    | 34   | 12     | $A_1$     | 1105.21546 | -22               |                                   |                 | 0.2589E-03                         |                 |                 |                 |                        |        |
| 34  | 13    | $A_1$    | 34   | 12     | $A_2$     | 1105.21546 | -22               |                                   |                 | 0.2589E-03                         |                 |                 |                 |                        |        |
| 33  | 13    | $A_2$    | 33   | 12     | $A_1$     | 1105.32567 | 2                 |                                   |                 | 0.2873E-03                         |                 |                 |                 |                        |        |
| 33  | 13    | $A_1$    | 33   | 12     | $A_2$     | 1105.32567 | 2                 |                                   |                 | 0.2873E-03                         |                 |                 |                 |                        |        |
| 32  | 13    | $A_2$    | 32   | 12     | $A_1$     | 1105.43239 | 1                 |                                   |                 | 0.3170E-03                         |                 |                 |                 |                        |        |
| 32  | 13    | $A_1$    | 32   | 12     | $A_2$     | 1105.43239 | 1                 |                                   |                 | 0.3170E-03                         |                 |                 |                 |                        |        |
| 31  | 13    | $A_2$    | 31   | 12     | $A_1$     | 1105.53589 | 3                 |                                   |                 | 0.3475E-03                         |                 |                 |                 |                        |        |
| 31  | 13    | $A_1$    | 31   | 12     | $A_2$     | 1105.53589 | 3                 |                                   |                 | 0.3475E-03                         |                 |                 |                 |                        |        |
| 54  | 7     | $A_1$    | 53   | 6      | $A_2$     | 1105.56971 | -26               |                                   |                 | 0.9598E-04                         |                 |                 |                 |                        |        |
| 54  | 7     | $A_2$    | 53   | 6      | $A_1$     | 1105.56971 | -26               |                                   |                 | 0.9598E-04                         |                 |                 |                 |                        |        |
| 34  | 9     | $E'$     | 33   | 8      | $E'$      | 1105.59188 | 6                 | .168779E-02                       | 1.3             | 0.1591E-02                         | 5.71            | 3.979E-04       | -.306E+00       |                        | 1.2    |
| 30  | 13    | $A_2$    | 30   | 12     | $A_1$     | 1105.63613 | 2                 | .739643E-03                       | 0.7             | 0.3785E-03                         | -2.35           | 3.585E-04       | -.688E+00       |                        | 2.3    |
| 30  | 13    | $A_1$    | 30   | 12     | $A_2$     | 1105.63613 | 2                 |                                   |                 | 0.3785E-03                         |                 |                 |                 |                        |        |
| 29  | 13    | $A_2$    | 29   | 12     | $A_1$     | 1105.73312 | 0                 | .852635E-03                       | 1.7             | 0.4095E-03                         | 3.94            | 6.411E-04       |                 |                        | 1.0    |
| 29  | 13    | $A_1$    | 29   | 12     | $A_2$     | 1105.73312 | 0                 |                                   |                 | 0.4095E-03                         |                 |                 |                 |                        |        |
| 44  | 8     | $E'$     | 43   | 7      | $E'$      | 1105.75352 | 6                 |                                   |                 | 0.4956E-03                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 28  | 13    | $A_2$    | 28   | 12     | $A_1$     | 1105.82691 | 2                 | .873582E-03                       | 1.4             | 0.4399E-03                         | -.72            | 4.349E-04       | -.414E+00       |                        | 1.2    |
| 28  | 13    | $A_1$    | 28   | 12     | $A_2$     | 1105.82691 | 2                 |                                   |                 | 0.4399E-03                         |                 |                 |                 |                        |        |
| 27  | 13    | $A_2$    | 27   | 12     | $A_1$     | 1105.91741 | -1                | .929038E-03                       | 1.6             | 0.4691E-03                         | -.99            | 2.929E-04       | -.364E+00       |                        | 1.2    |
| 27  | 13    | $A_1$    | 27   | 12     | $A_2$     | 1105.91741 | -1                |                                   |                 | 0.4691E-03                         |                 |                 |                 |                        |        |
| 16  | 11    | $E$      | 15   | 10     | $E$       | 1105.95908 | 2                 | .386033E-02                       | 0.3             | 0.3789E-02                         | 1.85            | 4.117E-04       |                 |                        | 1.0    |
| 26  | 13    | $A_2$    | 26   | 12     | $A_1$     | 1106.00472 | 0                 | .948366E-03                       | 1.3             | 0.4963E-03                         | -4.66           | 2.888E-04       |                 |                        | 1.0    |
| 26  | 13    | $A_1$    | 26   | 12     | $A_2$     | 1106.00472 | 0                 |                                   |                 | 0.4963E-03                         |                 |                 |                 |                        |        |
| 25  | 13    | $A_2$    | 25   | 12     | $A_1$     | 1106.08876 | -2                | .100092E-02                       | 0.7             | 0.5205E-03                         | -4.01           | 2.257E-04       |                 | -.794E+00              | 1.7    |
| 25  | 13    | $A_1$    | 25   | 12     | $A_2$     | 1106.08876 | -2                |                                   |                 | 0.5205E-03                         |                 |                 |                 |                        |        |
| 24  | 13    | $A_2$    | 24   | 12     | $A_1$     | 1106.16935 | -25               | .107808E-02                       | 1.8             | 0.5409E-03                         | -.35            | 4.031E-04       |                 |                        | 1.0    |
| 24  | 13    | $A_1$    | 24   | 12     | $A_2$     | 1106.16935 | -25               |                                   |                 | 0.5409E-03                         |                 |                 |                 |                        |        |
| 23  | 13    | $A_2$    | 23   | 12     | $A_1$     | 1106.24719 | 1                 | .111124E-02                       | 1.0             | 0.5564E-03                         | -.14            | 1.144E-04       |                 | -.847E+00              | 1.5    |
| 23  | 13    | $A_1$    | 23   | 12     | $A_2$     | 1106.24719 | 1                 |                                   |                 | 0.5564E-03                         |                 |                 |                 |                        |        |
| 55  | 7     | $A_2$    | 54   | 6      | $A_1$     | 1106.25632 | -4                |                                   |                 | 0.7774E-04                         |                 |                 |                 |                        |        |
| 55  | 7     | $A_1$    | 54   | 6      | $A_2$     | 1106.25632 | -4                |                                   |                 | 0.7774E-04                         |                 |                 |                 |                        |        |
| 22  | 13    | $A_1$    | 22   | 12     | $A_2$     | 1106.32155 | 1                 |                                   |                 | 0.5658E-03                         |                 |                 |                 |                        |        |
| 22  | 13    | $A_2$    | 22   | 12     | $A_1$     | 1106.32155 | 1                 |                                   |                 | 0.5658E-03                         |                 |                 |                 |                        |        |
| 35  | 9     | $E$      | 34   | 8      | $E$       | 1106.35597 | 6                 | .144844E-02                       | 1.1             | 0.1406E-02                         | 2.94            | 3.361E-04       |                 |                        | 1.0    |
| 21  | 13    | $A_2$    | 21   | 12     | $A_1$     | 1106.39278 | 13                |                                   |                 | 0.5679E-03                         |                 |                 |                 |                        |        |
| 21  | 13    | $A_1$    | 21   | 12     | $A_2$     | 1106.39278 | 13                |                                   |                 | 0.5679E-03                         |                 |                 |                 |                        |        |
| 20  | 13    | $A_2$    | 20   | 12     | $A_1$     | 1106.46053 | 0                 | .111709E-02                       | 1.5             | 0.5613E-03                         | -.50            | 4.744E-04       |                 |                        | 1.0    |
| 20  | 13    | $A_1$    | 20   | 12     | $A_2$     | 1106.46053 | 0                 |                                   |                 | 0.5613E-03                         |                 |                 |                 |                        |        |
| 45  | 8     | $E$      | 44   | 7      | $E$       | 1106.47946 | -5                | .423710E-03                       | 1.3             | 0.4191E-03                         | 1.08            | 1.306E-04       |                 | -.556E+00              | 1.3    |
| 19  | 13    | $A_2$    | 19   | 12     | $A_1$     | 1106.52513 | -5                | .108945E-02                       | 0.8             | 0.5447E-03                         | .01             | 2.843E-04       | .285E+00        | -.229E+00              | 1.3    |
| 19  | 13    | $A_1$    | 19   | 12     | $A_2$     | 1106.52513 | -5                |                                   |                 | 0.5447E-03                         |                 |                 |                 |                        |        |
| 18  | 13    | $A_2$    | 18   | 12     | $A_1$     | 1106.58658 | -1                | .103818E-02                       | 1.6             | 0.5164E-03                         | .51             | 3.238E-04       | .614E+00        | -.295E+00              | 1.4    |
| 18  | 13    | $A_1$    | 18   | 12     | $A_2$     | 1106.58658 | -1                |                                   |                 | 0.5164E-03                         |                 |                 |                 |                        |        |
| 17  | 13    | $A_2$    | 17   | 12     | $A_1$     | 1106.64474 | -3                | .961171E-03                       | 1.0             | 0.4750E-03                         | 1.17            | 6.000E-04       |                 | .236E+01               | 1.2    |
| 17  | 13    | $A_1$    | 17   | 12     | $A_2$     | 1106.64474 | -3                |                                   |                 | 0.4750E-03                         |                 |                 |                 |                        |        |
| 15  | 13    | $A_2$    | 15   | 12     | $A_1$     | 1106.75140 | -2                | .749077E-03                       | 1.9             | 0.3451E-03                         | 7.86            | 2.927E-04       |                 |                        | 1.0    |
| 15  | 13    | $A_1$    | 15   | 12     | $A_2$     | 1106.75140 | -2                |                                   |                 | 0.3451E-03                         |                 |                 |                 |                        |        |
| 17  | 11    | $E$      | 16   | 10     | $E$       | 1106.78766 | 3                 | .354621E-02                       | 0.3             | 0.3597E-02                         | -1.43           | 3.549E-04       | -.127E+00       | -.388E+00              | 1.6    |
| 14  | 13    | $A_1$    | 14   | 12     | $A_2$     | 1106.79986 | -4                |                                   |                 | 0.2526E-03                         |                 |                 |                 |                        |        |
| 14  | 13    | $A_2$    | 14   | 12     | $A_1$     | 1106.79986 | -4                |                                   |                 | 0.2526E-03                         |                 |                 |                 |                        |        |
| 13  | 13    | $A_1$    | 13   | 12     | $A_2$     | 1106.84513 | -2                |                                   |                 | 0.1386E-03                         |                 |                 |                 |                        |        |
| 13  | 13    | $A_2$    | 13   | 12     | $A_1$     | 1106.84513 | -2                |                                   |                 | 0.1386E-03                         |                 |                 |                 |                        |        |
| 56  | 7     | $A_1$    | 55   | 6      | $A_2$     | 1106.93885 | 16                |                                   |                 | 0.6268E-04                         |                 |                 |                 |                        |        |
| 56  | 7     | $A_2$    | 55   | 6      | $A_1$     | 1106.93885 | 16                |                                   |                 | 0.6268E-04                         |                 |                 |                 |                        |        |
| 36  | 9     | $E$      | 35   | 8      | $E$       | 1107.11630 | 5                 | .115542E-02                       | 1.7             | 0.1236E-02                         | -7.01           | 2.593E-04       | .238E+00        |                        | 1.1    |
| 46  | 8     | $E$      | 45   | 7      | $E$       | 1107.20133 | -32               |                                   |                 | 0.3529E-03                         |                 |                 |                 |                        |        |
| 18  | 11    | $E$      | 17   | 10     | $E$       | 1107.61274 | 2                 | .346136E-02                       | 0.4             | 0.3403E-02                         | 1.69            | 4.058E-04       | -.416E+00       | -.107E+00              | 1.9    |
| 37  | 9     | $E$      | 36   | 8      | $E$       | 1107.87289 | 7                 | .115302E-02                       | 1.3             | 0.1083E-02                         | 6.11            | 3.463E-04       | -.203E+00       |                        | 1.1    |
| 47  | 8     | $E$      | 46   | 7      | $E$       | 1107.91997 | 11                |                                   |                 | 0.2959E-03                         |                 |                 |                 |                        |        |
| 58  | 7     | $A_1$    | 57   | 6      | $A_2$     | 1108.29092 | -17               |                                   |                 | 0.4023E-04                         |                 |                 |                 |                        |        |
| 58  | 7     | $A_2$    | 57   | 6      | $A_1$     | 1108.29092 | -17               |                                   |                 | 0.4023E-04                         |                 |                 |                 |                        |        |
| 19  | 11    | $E$      | 18   | 10     | $E$       | 1108.43430 | -1                | .315213E-02                       | 0.3             | 0.3208E-02                         | -1.77           | 3.607E-04       | -.317E-01       | -.463E+00              | 1.5    |
| 38  | 9     | $E$      | 37   | 8      | $E$       | 1108.62571 | 10                | .948532E-03                       | 0.7             | 0.9436E-03                         | .52             | 5.909E-04       | -.143E+00       | .202E+01               | 1.7    |
| 48  | 8     | $E$      | 47   | 7      | $E$       | 1108.63418 | 4                 |                                   |                 | 0.2469E-03                         |                 |                 |                 |                        |        |
| 59  | 7     | $A_1$    | 58   | 6      | $A_2$     | 1108.96107 | -5                |                                   |                 | 0.3202E-04                         |                 |                 |                 |                        |        |
| 59  | 7     | $A_2$    | 58   | 6      | $A_1$     | 1108.96107 | -5                |                                   |                 | 0.3202E-04                         |                 |                 |                 |                        |        |
| 20  | 11    | $E$      | 19   | 10     | $E$       | 1109.25240 | 0                 | .291086E-02                       | 0.5             | 0.3013E-02                         | -3.50           | 3.199E-04       |                 | -.532E+00              | 1.4    |
| 49  | 8     | $E$      | 48   | 7      | $E$       | 1109.34451 | 5                 |                                   |                 | 0.2052E-03                         |                 |                 |                 |                        |        |
| 39  | 9     | $E$      | 38   | 8      | $E$       | 1109.37468 | 8                 | .849004E-03                       | 1.1             | 0.8189E-03                         | 3.54            | 3.163E-04       | -.272E+00       |                        | 1.2    |
| 21  | 16    | $A_2$    | 22   | 15     | $A_1$     | 1109.55816 | 17                |                                   |                 | 0.5241E-05                         |                 |                 |                 |                        |        |
| 21  | 16    | $A_1$    | 22   | 15     | $A_2$     | 1109.55816 | 17                |                                   |                 | 0.5241E-05                         |                 |                 |                 |                        |        |
| 60  | 7     | $A_1$    | 59   | 6      | $A_2$     | 1109.62686 | -16               |                                   |                 | 0.2538E-04                         |                 |                 |                 |                        |        |
| 60  | 7     | $A_2$    | 59   | 6      | $A_1$     | 1109.62686 | -16               |                                   |                 | 0.2538E-04                         |                 |                 |                 |                        |        |
| 12  | 12    | $E$      | 11   | 11     | $E$       | 1110.03899 | -2                |                                   |                 | 0.3132E-02                         |                 |                 |                 |                        |        |
| 50  | 8     | $E$      | 49   | 7      | $E$       | 1110.05090 | 8                 |                                   |                 | 0.1698E-03                         |                 |                 |                 |                        |        |
| 21  | 11    | $E$      | 20   | 10     | $E$       | 1110.06698 | 2                 | .276668E-02                       | 0.6             | 0.2819E-02                         | -1.88           | 3.316E-04       | -.170E+00       | -.395E+00              | 1.2    |
| 40  | 9     | $E$      | 39   | 8      | $E$       | 1110.11987 | 9                 | .716271E-03                       | 1.0             | 0.7076E-03                         | 1.22            | 3.460E-04       | -.242E+00       | .626E+00               | 1.2    |
| 51  | 8     | $E$      | 50   | 7      | $E$       | 1110.75302 | -17               |                                   |                 | 0.1398E-03                         |                 |                 |                 |                        |        |
| 41  | 9     | $E$      | 40   | 8      | $E$       | 1110.86137 | 24                |                                   |                 | 0.6086E-03                         |                 |                 |                 |                        |        |
| 22  | 11    | $E$      | 21   | 10     | $E$       | 1110.87805 | 6                 | .269863E-02                       | 2.3             | 0.2627E-02                         | 2.67            | 1.429E-04       |                 |                        | 1.0    |
| 13  | 12    | $E$      | 12   | 11     | $E$       | 1110.88108 | 0                 | .321711E-02                       | 2.3             | 0.2994E-02                         | 6.95            | 1.429E-04       |                 |                        | 1.0    |
| 52  | 8     | $E$      | 51   | 7      | $E$       | 1111.45160 | 5                 |                                   |                 | 0.1147E-03                         |                 |                 |                 |                        |        |
| 19  | 16    | $A_2$    | 20   | 15     | $A_1$     | 1111.45160 | -32               |                                   |                 | 0.3308E-05                         |                 |                 |                 |                        |        |
| 19  | 16    | $A_1$    | 20   | 15     | $A_2$     | 1111.45160 | -32               |                                   |                 | 0.3308E-05                         |                 |                 |                 |                        |        |
| 63  | 7     | $A_2$    | 62   | 6      | $A_1$     | 1111.59875 | -99               |                                   |                 | 0.1231E-04                         |                 |                 |                 |                        |        |
| 63  | 7     | $A_1$    | 62   | 6      | $A_2$     | 1111.59875 | -99               |                                   |                 | 0.1231E-04                         |                 |                 |                 |                        |        |
| 42  | 9     | $E$      | 41   | 8      | $E$       | 1111.59875 | 11                |                                   |                 | 0.5212E-03                         |                 |                 |                 |                        |        |
| 23  | 11    | $E$      | 22   | 10     | $E$       | 1111.68549 | 4                 | .241027E-02                       | 0.7             | 0.2438E-02                         | -1.13           | 3.457E-04       | -.236E+00       | -.416E+00              | 1.3    |
| 14  | 12    | $E$      | 13   | 11     | $E$       | 1111.71972 | -1                | .288382E-02                       | 0.4             | 0.2857E-02                         | .94             | 4.270E-04       | -.407E+00       |                        | 2.1    |
| 41  | 14    | $E$      | 41   | 13     | $E$       | 1111.85375 | 5                 |                                   |                 | 0.6004E-04                         |                 |                 |                 |                        |        |
| 40  | 14    | $E$      | 40   | 13     | $E$       | 1111.98648 | 10                |                                   |                 | 0.6918E-04                         |                 |                 |                 |                        |        |
| 39  | 14    | $E$      | 39   | 13     | $E$       | 1112.11584 | 2                 |                                   |                 | 0.7929E-04                         |                 |                 |                 |                        |        |
| 53  | 8     | $E$      | 52   | 7      | $E$       | 1112.14590 | 0                 |                                   |                 | 0.9366E-04                         |                 |                 |                 |                        |        |
| 38  | 14    | $E$      | 38   | 13     | $E$       | 1112.24202 | 0                 |                                   |                 | 0.9040E-04                         |                 |                 |                 |                        |        |
| 43  | 9     | $E$      | 42   | 8      | $E$       | 1112.33238 | 9                 |                                   |                 | 0.4444E-03                         |                 |                 |                 |                        |        |
| 37  | 14    | $E$      | 37   | 13     | $E$       | 1112.36474 | -23               |                                   |                 | 0.1025E-03                         |                 |                 |                 |                        |        |
| 37  | 14    | $E$      | 37   | 13     | $E$       | 1112.36500 | 3                 |                                   |                 | 0.1025E-03                         |                 |                 |                 |                        |        |
| 26  | 17    | $E$      | 27   | 16     | $E$       | 1112.36500 | -38               |                                   |                 | 0.3184E-05                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 26  | 17    | $E$      | 27   | 16     | $E$       | 1112.36474 | -64               |                                   |                 | 0.3184E-05                         |                 |                 |                 |                        |        |
| 24  | 11    | $E$      | 23   | 10     | $E$       | 1112.48933 | -2                | .214563E-02                       | 0.9             | 0.2253E-02                         | -5.00           | 3.399E-04       | .211E+00        | -.293E+00              | 1.2    |
| 15  | 12    | $E$      | 14   | 11     | $E$       | 1112.55489 | -5                | .269692E-02                       | 0.8             | 0.2720E-02                         | -.86            | 3.253E-04       | .185E+00        | -.507E+00              | 1.3    |
| 35  | 14    | $E$      | 35   | 13     | $E$       | 1112.60098 | -15               |                                   |                 | 0.1296E-03                         |                 |                 |                 |                        |        |
| 34  | 14    | $E$      | 34   | 13     | $E$       | 1112.71437 | 2                 |                                   |                 | 0.1444E-03                         |                 |                 |                 |                        |        |
| 33  | 14    | $E$      | 33   | 13     | $E$       | 1112.82436 | 3                 |                                   |                 | 0.1600E-03                         |                 |                 |                 |                        |        |
| 54  | 8     | $E$      | 53   | 7      | $E$       | 1112.83637 | 16                |                                   |                 | 0.7615E-04                         |                 |                 |                 |                        |        |
| 32  | 14    | $E$      | 32   | 13     | $E$       | 1112.93114 | 7                 |                                   |                 | 0.1761E-03                         |                 |                 |                 |                        |        |
| 31  | 14    | $E$      | 31   | 13     | $E$       | 1113.03470 | 14                |                                   |                 | 0.1926E-03                         |                 |                 |                 |                        |        |
| 44  | 9     | $E$      | 43   | 8      | $E$       | 1113.06218 | 12                | .365643E-03                       | 2.8             | 0.3773E-03                         | -3.19           | 4.190E-04       |                 |                        | 1.0    |
| 30  | 14    | $E$      | 30   | 13     | $E$       | 1113.13459 | -23               |                                   |                 | 0.2093E-03                         |                 |                 |                 |                        |        |
| 29  | 14    | $E$      | 29   | 13     | $E$       | 1113.23186 | 2                 |                                   |                 | 0.2257E-03                         |                 |                 |                 |                        |        |
| 25  | 11    | $E$      | 24   | 10     | $E$       | 1113.28968 | 1                 | .212829E-02                       | 0.6             | 0.2074E-02                         | 2.56            | 4.102E-04       | .168E+00        | -.258E+00              | 1.2    |
| 28  | 14    | $E$      | 28   | 13     | $E$       | 1113.32561 | -1                |                                   |                 | 0.2417E-03                         |                 |                 |                 |                        |        |
| 16  | 12    | $E$      | 15   | 11     | $E$       | 1113.38670 | 0                 | .262442E-02                       | 0.5             | 0.2583E-02                         | 1.56            | 4.350E-04       |                 |                        | 1.0    |
| 27  | 14    | $E$      | 27   | 13     | $E$       | 1113.41614 | -2                |                                   |                 | 0.2567E-03                         |                 |                 |                 |                        |        |
| 26  | 14    | $E$      | 26   | 13     | $E$       | 1113.50342 | -5                |                                   |                 | 0.2704E-03                         |                 |                 |                 |                        |        |
| 55  | 8     | $E$      | 54   | 7      | $E$       | 1113.52253 | 6                 |                                   |                 | 0.6165E-04                         |                 |                 |                 |                        |        |
| 25  | 14    | $E$      | 25   | 13     | $E$       | 1113.58754 | 1                 |                                   |                 | 0.2821E-03                         |                 |                 |                 |                        |        |
| 24  | 14    | $E$      | 24   | 13     | $E$       | 1113.66832 | -4                |                                   |                 | 0.2913E-03                         |                 |                 |                 |                        |        |
| 23  | 14    | $E$      | 23   | 13     | $E$       | 1113.74593 | -3                |                                   |                 | 0.2974E-03                         |                 |                 |                 |                        |        |
| 45  | 9     | $E$      | 44   | 8      | $E$       | 1113.78803 | 8                 |                                   |                 | 0.3189E-03                         |                 |                 |                 |                        |        |
| 22  | 14    | $E$      | 22   | 13     | $E$       | 1113.82026 | -5                |                                   |                 | 0.2996E-03                         |                 |                 |                 |                        |        |
| 21  | 14    | $E$      | 21   | 13     | $E$       | 1113.89143 | -1                |                                   |                 | 0.2972E-03                         |                 |                 |                 |                        |        |
| 20  | 14    | $E$      | 20   | 13     | $E$       | 1113.95935 | 2                 |                                   |                 | 0.2895E-03                         |                 |                 |                 |                        |        |
| 19  | 14    | $E$      | 19   | 13     | $E$       | 1114.02399 | 1                 |                                   |                 | 0.2754E-03                         |                 |                 |                 |                        |        |
| 26  | 11    | $E$      | 25   | 10     | $E$       | 1114.08636 | -3                | .205836E-02                       | 0.7             | 0.1901E-02                         | 7.66            | 5.281E-04       | -.751E+00       |                        | 1.6    |
| 17  | 14    | $E$      | 17   | 13     | $E$       | 1114.14358 | 0                 |                                   |                 | 0.2246E-03                         |                 |                 |                 |                        |        |
| 16  | 14    | $E$      | 16   | 13     | $E$       | 1114.19852 | -1                |                                   |                 | 0.1857E-03                         |                 |                 |                 |                        |        |
| 17  | 12    | $E$      | 16   | 11     | $E$       | 1114.21498 | -2                | .247525E-02                       | 0.7             | 0.2446E-02                         | 1.17            | 3.741E-04       | -.269E+00       | -.386E+00              | 1.4    |
| 15  | 14    | $E$      | 15   | 13     | $E$       | 1114.25020 | -5                |                                   |                 | 0.1363E-03                         |                 |                 |                 |                        |        |
| 14  | 14    | $E$      | 14   | 13     | $E$       | 1114.29867 | -6                |                                   |                 | 0.7493E-04                         |                 |                 |                 |                        |        |
| 36  | 10    | $A_2$    | 35   | 9      | $A_1$     | 1114.46563 | 6                 | .173931E-02                       | 0.4             | 0.9029E-03                         | -3.83           | 2.659E-04       | -.200E+00       | -.321E+00              | 1.4    |
| 36  | 10    | $A_1$    | 35   | 9      | $A_2$     | 1114.46563 | 6                 |                                   |                 | 0.9029E-03                         |                 |                 |                 |                        |        |
| 46  | 9     | $E$      | 45   | 8      | $E$       | 1114.50997 | 5                 |                                   |                 | 0.2683E-03                         |                 |                 |                 |                        |        |
| 27  | 11    | $E$      | 26   | 10     | $E$       | 1114.87950 | 1                 | .168902E-02                       | 0.6             | 0.1735E-02                         | -2.71           | 3.269E-04       | -.350E+00       | -.382E+00              | 1.6    |
| 18  | 12    | $E$      | 17   | 11     | $E$       | 1115.03981 | 0                 | .228601E-02                       | 0.4             | 0.2309E-02                         | -1.00           | 3.520E-04       | -.430E+00       | -.269E+00              | 1.5    |
| 37  | 10    | $A_2$    | 36   | 9      | $A_1$     | 1115.22200 | 6                 | .167843E-02                       | 0.6             | 0.7899E-03                         | 5.88            | 3.730E-04       |                 |                        | 1.0    |
| 37  | 10    | $A_1$    | 36   | 9      | $A_2$     | 1115.22200 | 6                 |                                   |                 | 0.7899E-03                         |                 |                 |                 |                        |        |
| 47  | 9     | $E$      | 46   | 8      | $E$       | 1115.22795 | -3                |                                   |                 | 0.2248E-03                         |                 |                 |                 |                        |        |
| 58  | 8     | $E$      | 57   | 7      | $E$       | 1115.55675 | -3                |                                   |                 | 0.3187E-04                         |                 |                 |                 |                        |        |
| 28  | 11    | $E$      | 27   | 10     | $E$       | 1115.66900 | 3                 | .160673E-02                       | 0.4             | 0.1577E-02                         | 1.87            | 4.073E-04       | -.169E+00       | .276E+00               | 1.1    |
| 19  | 12    | $E$      | 18   | 11     | $E$       | 1115.86114 | 0                 | .209372E-02                       | 0.5             | 0.2172E-02                         | -3.73           | 3.813E-04       | -.312E+00       |                        | 1.6    |
| 48  | 9     | $E$      | 47   | 8      | $E$       | 1115.94216 | 7                 |                                   |                 | 0.1875E-03                         |                 |                 |                 |                        |        |
| 38  | 10    | $A_2$    | 37   | 9      | $A_1$     | 1115.97458 | 5                 | .133158E-02                       | 0.5             | 0.6880E-03                         | -3.33           | 2.871E-04       | -.236E+00       |                        | 1.2    |
| 38  | 10    | $A_1$    | 37   | 9      | $A_2$     | 1115.97458 | 5                 |                                   |                 | 0.6880E-03                         |                 |                 |                 |                        |        |
| 29  | 11    | $E$      | 28   | 10     | $E$       | 1116.45486 | 5                 | .145769E-02                       | 1.0             | 0.1427E-02                         | 2.12            | 4.161E-04       | -.190E+00       | .230E+00               | 1.1    |
| 49  | 9     | $E$      | 48   | 8      | $E$       | 1116.65233 | 8                 |                                   |                 | 0.1558E-03                         |                 |                 |                 |                        |        |
| 20  | 12    | $E$      | 19   | 11     | $E$       | 1116.67889 | -6                |                                   |                 | 0.2036E-02                         |                 |                 |                 |                        |        |
| 39  | 10    | $A_2$    | 38   | 9      | $A_1$     | 1116.72340 | 8                 | .117701E-02                       | 1.0             | 0.5966E-03                         | -1.37           | 3.138E-04       | -.167E+00       |                        | 1.1    |
| 39  | 10    | $A_1$    | 38   | 9      | $A_2$     | 1116.72340 | 8                 |                                   |                 | 0.5966E-03                         |                 |                 |                 |                        |        |
| 30  | 11    | $E$      | 29   | 10     | $E$       | 1117.23704 | 6                 | .128392E-02                       | 1.1             | 0.1286E-02                         | -.13            | 2.222E-04       |                 | -.402E+00              | 1.1    |
| 50  | 9     | $E$      | 49   | 8      | $E$       | 1117.35853 | 8                 |                                   |                 | 0.1288E-03                         |                 |                 |                 |                        |        |
| 40  | 10    | $A_2$    | 39   | 9      | $A_1$     | 1117.46837 | 7                 | .999718E-03                       | 0.9             | 0.5151E-03                         | -3.04           | 2.959E-04       | -.181E+00       | -.249E+00              | 1.1    |
| 40  | 10    | $A_1$    | 39   | 9      | $A_2$     | 1117.46837 | 7                 |                                   |                 | 0.5151E-03                         |                 |                 |                 |                        |        |
| 21  | 12    | $E$      | 20   | 11     | $E$       | 1117.49327 | 3                 | .190824E-02                       | 0.3             | 0.1901E-02                         | .39             | 4.061E-04       | -.959E-01       | -.256E+00              | 1.1    |
| 31  | 11    | $E$      | 30   | 10     | $E$       | 1118.01552 | 4                 | .115415E-02                       | 0.8             | 0.1153E-02                         | .07             | 3.970E-04       |                 |                        | 1.0    |
| 51  | 9     | $E$      | 50   | 8      | $E$       | 1118.06070 | 5                 |                                   |                 | 0.1061E-03                         |                 |                 |                 |                        |        |
| 41  | 10    | $A_1$    | 40   | 9      | $A_2$     | 1118.20952 | 6                 |                                   |                 | 0.4427E-03                         |                 |                 |                 |                        |        |
| 41  | 10    | $A_1$    | 40   | 9      | $A_2$     | 1118.20955 | 9                 |                                   |                 | 0.4427E-03                         |                 |                 |                 |                        |        |
| 41  | 10    | $A_2$    | 40   | 9      | $A_1$     | 1118.20955 | 9                 |                                   |                 | 0.4427E-03                         |                 |                 |                 |                        |        |
| 41  | 10    | $A_2$    | 40   | 9      | $A_1$     | 1118.20952 | 6                 |                                   |                 | 0.4427E-03                         |                 |                 |                 |                        |        |
| 22  | 12    | $E$      | 21   | 11     | $E$       | 1118.30401 | 2                 | .173205E-02                       | 0.6             | 0.1768E-02                         | -2.08           | 3.751E-04       | -.189E+00       | -.236E+00              | 1.2    |
| 13  | 13    | $A_2$    | 12   | 12     | $A_1$     | 1118.34366 | 0                 | .380666E-02                       | 0.3             | 0.1953E-02                         | -2.63           | 2.352E-04       | -.131E+00       | -.347E+00              | 1.7    |
| 13  | 13    | $A_1$    | 12   | 12     | $A_2$     | 1118.34366 | 0                 |                                   |                 | 0.1953E-02                         |                 |                 |                 |                        |        |
| 52  | 9     | $E$      | 51   | 8      | $E$       | 1118.75853 | -32               |                                   |                 | 0.8694E-04                         |                 |                 |                 |                        |        |
| 32  | 11    | $E$      | 31   | 10     | $E$       | 1118.79031 | 2                 | .101543E-02                       | 1.5             | 0.1030E-02                         | -1.46           | 4.089E-04       | -.905E+00       |                        | 1.5    |
| 42  | 10    | $A_2$    | 41   | 9      | $A_1$     | 1118.94682 | 5                 |                                   |                 | 0.3789E-03                         |                 |                 |                 |                        |        |
| 42  | 10    | $A_1$    | 41   | 9      | $A_2$     | 1118.94682 | 5                 |                                   |                 | 0.3789E-03                         |                 |                 |                 |                        |        |
| 23  | 12    | $E$      | 22   | 11     | $E$       | 1119.11121 | 2                 | .157969E-02                       | 0.6             | 0.1638E-02                         | -3.70           | 3.254E-04       | -.132E+00       | -.275E+00              | 1.1    |
| 14  | 13    | $A_2$    | 13   | 12     | $A_1$     | 1119.18198 | -3                | .361305E-02                       | 0.3             | 0.1859E-02                         | -2.88           | 2.264E-04       |                 | -.543E+00              | 1.5    |
| 14  | 13    | $A_1$    | 13   | 12     | $A_2$     | 1119.18198 | -3                |                                   |                 | 0.1859E-02                         |                 |                 |                 |                        |        |
| 53  | 9     | $E$      | 52   | 8      | $E$       | 1119.45298 | -6                |                                   |                 | 0.7096E-04                         |                 |                 |                 |                        |        |
| 40  | 15    | $E$      | 40   | 14     | $E$       | 1119.51474 | -21               |                                   |                 | 0.3689E-04                         |                 |                 |                 |                        |        |
| 33  | 11    | $E$      | 32   | 10     | $E$       | 1119.56145 | 5                 | .890986E-03                       | 1.3             | 0.9163E-03                         | -2.84           | 4.527E-04       | -.362E+00       |                        | 1.2    |
| 39  | 15    | $E$      | 39   | 14     | $E$       | 1119.64395 | -47               |                                   |                 | 0.4223E-04                         |                 |                 |                 |                        |        |
| 38  | 15    | $E$      | 38   | 14     | $E$       | 1119.77014 | -49               |                                   |                 | 0.4808E-04                         |                 |                 |                 |                        |        |
| 37  | 15    | $E$      | 37   | 14     | $E$       | 1119.89361 | 1                 |                                   |                 | 0.5444E-04                         |                 |                 |                 |                        |        |
| 24  | 12    | $E$      | 23   | 11     | $E$       | 1119.91484 | 2                 | .150522E-02                       | 1.1             | 0.1512E-02                         | -.43            | 3.606E-04       | -.132E+00       | -.285E+00              | 1.1    |
| 15  | 13    | $A_2$    | 14   | 12     | $A_1$     | 1120.01694 | 2                 | .355440E-02                       | 0.4             | 0.1765E-02                         | .69             | 3.871E-04       | -.207E+00       | -.181E+00              | 1.6    |
| 15  | 13    | $A_1$    | 14   | 12     | $A_2$     | 1120.01694 | 2                 |                                   |                 | 0.1765E-02                         |                 |                 |                 |                        |        |
| 35  | 15    | $E$      | 35   | 14     | $E$       | 1120.12980 | -1                |                                   |                 | 0.6859E-04                         |                 |                 |                 |                        |        |

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| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 54  | 9     | $E$      | 53   | 8      | $E$       | 1120.14324 | 5                 |                                   |                 | 0.5767E-04                         |                 |                 |                 |                        |        |
| 34  | 15    | $E$      | 34   | 14     | $E$       | 1120.24300 | -5                |                                   |                 | 0.7631E-04                         |                 |                 |                 |                        |        |
| 34  | 11    | $E$      | 33   | 10     | $E$       | 1120.32886 | 8                 | .808190E-03                       | 1.0             | 0.8115E-03                         | -4.1            | 3.558E-04       | -.139E+00       |                        | 1.0    |
| 33  | 15    | $E$      | 33   | 14     | $E$       | 1120.35309 | 4                 |                                   |                 | 0.8436E-04                         |                 |                 |                 |                        |        |
| 44  | 10    | $A_2$    | 43   | 9      | $A_1$     | 1120.40986 | 6                 |                                   |                 | 0.2739E-03                         |                 |                 |                 |                        |        |
| 44  | 10    | $A_1$    | 43   | 9      | $A_2$     | 1120.40986 | 6                 |                                   |                 | 0.2739E-03                         |                 |                 |                 |                        |        |
| 32  | 15    | $E$      | 32   | 14     | $E$       | 1120.45987 | 6                 |                                   |                 | 0.9265E-04                         |                 |                 |                 |                        |        |
| 31  | 15    | $E$      | 31   | 14     | $E$       | 1120.56335 | 3                 |                                   |                 | 0.1011E-03                         |                 |                 |                 |                        |        |
| 30  | 15    | $E$      | 30   | 14     | $E$       | 1120.66365 | 5                 |                                   |                 | 0.1095E-03                         |                 |                 |                 |                        |        |
| 25  | 12    | $E$      | 24   | 11     | $E$       | 1120.71487 | 0                 | .134638E-02                       | 1.0             | 0.1389E-02                         | -3.19           | 3.984E-04       | -.422E+00       |                        | 1.2    |
| 29  | 15    | $E$      | 29   | 14     | $E$       | 1120.76066 | 3                 |                                   |                 | 0.1177E-03                         |                 |                 |                 |                        |        |
| 55  | 9     | $E$      | 54   | 8      | $E$       | 1120.82936 | 7                 |                                   |                 | 0.4667E-04                         |                 |                 |                 |                        |        |
| 16  | 13    | $A_2$    | 15   | 12     | $A_1$     | 1120.84835 | -3                | .330286E-02                       | 0.7             | 0.1672E-02                         | -1.24           | 3.579E-04       | -.412E+00       | -.347E+00              | 1.5    |
| 16  | 13    | $A_1$    | 15   | 12     | $A_2$     | 1120.84835 | -3                |                                   |                 | 0.1672E-02                         |                 |                 |                 |                        |        |
| 28  | 15    | $E$      | 28   | 14     | $E$       | 1120.85467 | 24                |                                   |                 | 0.1255E-03                         |                 |                 |                 |                        |        |
| 27  | 15    | $E$      | 27   | 14     | $E$       | 1120.94520 | 21                |                                   |                 | 0.1327E-03                         |                 |                 |                 |                        |        |
| 26  | 15    | $E$      | 26   | 14     | $E$       | 1121.03224 | -7                |                                   |                 | 0.1390E-03                         |                 |                 |                 |                        |        |
| 35  | 11    | $E$      | 34   | 10     | $E$       | 1121.09249 | 5                 |                                   |                 | 0.7155E-03                         |                 |                 |                 |                        |        |
| 25  | 15    | $E$      | 25   | 14     | $E$       | 1121.11640 | 1                 |                                   |                 | 0.1441E-03                         |                 |                 |                 |                        |        |
| 45  | 10    | $A_1$    | 44   | 9      | $A_2$     | 1121.13555 | 7                 |                                   |                 | 0.2314E-03                         |                 |                 |                 |                        |        |
| 45  | 10    | $A_2$    | 44   | 9      | $A_1$     | 1121.13555 | 7                 |                                   |                 | 0.2314E-03                         |                 |                 |                 |                        |        |
| 24  | 15    | $E$      | 24   | 14     | $E$       | 1121.19722 | -1                |                                   |                 | 0.1477E-03                         |                 |                 |                 |                        |        |
| 23  | 15    | $E$      | 23   | 14     | $E$       | 1121.27473 | -11               |                                   |                 | 0.1494E-03                         |                 |                 |                 |                        |        |
| 22  | 15    | $E$      | 22   | 14     | $E$       | 1121.34926 | 5                 |                                   |                 | 0.1488E-03                         |                 |                 |                 |                        |        |
| 21  | 15    | $E$      | 21   | 14     | $E$       | 1121.42043 | 8                 |                                   |                 | 0.1454E-03                         |                 |                 |                 |                        |        |
| 20  | 15    | $E$      | 20   | 14     | $E$       | 1121.48815 | -10               |                                   |                 | 0.1388E-03                         |                 |                 |                 |                        |        |
| 26  | 12    | $E$      | 25   | 11     | $E$       | 1121.51134 | 2                 | .122064E-02                       | 0.8             | 0.1272E-02                         | -4.18           | 2.757E-04       | -.562E+00       | -.404E+00              | 1.3    |
| 19  | 15    | $E$      | 19   | 14     | $E$       | 1121.55291 | 0                 |                                   |                 | 0.1285E-03                         |                 |                 |                 |                        |        |
| 18  | 15    | $E$      | 18   | 14     | $E$       | 1121.61429 | -5                |                                   |                 | 0.1139E-03                         |                 |                 |                 |                        |        |
| 17  | 13    | $A_2$    | 16   | 12     | $A_1$     | 1121.67637 | 0                 | .331960E-02                       | 0.4             | 0.1579E-02                         | 4.84            | 5.169E-04       | -.367E+00       | .861E+00               | 1.2    |
| 17  | 13    | $A_1$    | 16   | 12     | $A_2$     | 1121.67637 | 0                 |                                   |                 | 0.1579E-02                         |                 |                 |                 |                        |        |
| 16  | 15    | $E$      | 16   | 14     | $E$       | 1121.72750 | 0                 |                                   |                 | 0.6952E-04                         |                 |                 |                 |                        |        |
| 15  | 15    | $E$      | 15   | 14     | $E$       | 1121.77919 | -3                |                                   |                 | 0.3831E-04                         |                 |                 |                 |                        |        |
| 36  | 11    | $E$      | 35   | 10     | $E$       | 1121.85246 | 12                |                                   |                 | 0.6281E-03                         |                 |                 |                 |                        |        |
| 46  | 10    | $A_1$    | 45   | 9      | $A_2$     | 1121.85725 | -1                |                                   |                 | 0.1946E-03                         |                 |                 |                 |                        |        |
| 46  | 10    | $A_2$    | 45   | 9      | $A_1$     | 1121.85725 | -1                |                                   |                 | 0.1946E-03                         |                 |                 |                 |                        |        |
| 27  | 12    | $E$      | 26   | 11     | $E$       | 1122.30417 | 2                 | .110024E-02                       | 1.2             | 0.1159E-02                         | -5.35           | 2.768E-04       | -.244E+00       |                        | 1.1    |
| 18  | 13    | $A_2$    | 17   | 12     | $A_1$     | 1122.50086 | -3                | .287025E-02                       | 0.8             | 0.1488E-02                         | -3.65           | 3.841E-04       |                 |                        | 1.0    |
| 18  | 13    | $A_1$    | 17   | 12     | $A_2$     | 1122.50086 | -3                |                                   |                 | 0.1488E-02                         |                 |                 |                 |                        |        |
| 47  | 10    | $A_2$    | 46   | 9      | $A_1$     | 1122.57531 | 19                |                                   |                 | 0.1630E-03                         |                 |                 |                 |                        |        |
| 47  | 10    | $A_1$    | 46   | 9      | $A_2$     | 1122.57531 | 19                |                                   |                 | 0.1630E-03                         |                 |                 |                 |                        |        |
| 37  | 11    | $E$      | 36   | 10     | $E$       | 1122.60854 | 6                 |                                   |                 | 0.5490E-03                         |                 |                 |                 |                        |        |
| 28  | 12    | $E$      | 27   | 11     | $E$       | 1123.09338 | 2                 | .101895E-02                       | 1.2             | 0.1052E-02                         | -3.25           | 4.094E-04       | -.742E+00       | .275E+00               | 1.7    |
| 48  | 10    | $A_2$    | 47   | 9      | $A_1$     | 1123.28913 | 8                 |                                   |                 | 0.1359E-03                         |                 |                 |                 |                        |        |
| 48  | 10    | $A_1$    | 47   | 9      | $A_2$     | 1123.28913 | 8                 |                                   |                 | 0.1359E-03                         |                 |                 |                 |                        |        |
| 19  | 13    | $A_2$    | 18   | 12     | $A_1$     | 1123.32191 | 0                 | .272394E-02                       | 0.4             | 0.1396E-02                         | -2.53           | 3.551E-04       | -.275E+00       | -.353E+00              | 1.9    |
| 19  | 13    | $A_1$    | 18   | 12     | $A_2$     | 1123.32191 | 0                 |                                   |                 | 0.1396E-02                         |                 |                 |                 |                        |        |
| 38  | 11    | $E$      | 37   | 10     | $E$       | 1123.36089 | 5                 |                                   |                 | 0.4778E-03                         |                 |                 |                 |                        |        |
| 29  | 12    | $E$      | 28   | 11     | $E$       | 1123.87894 | 2                 | .961834E-03                       | 1.0             | 0.9510E-03                         | 1.13            | 4.487E-04       |                 |                        | 1.0    |
| 49  | 10    | $A_1$    | 48   | 9      | $A_2$     | 1123.99908 | 7                 |                                   |                 | 0.1128E-03                         |                 |                 |                 |                        |        |
| 49  | 10    | $A_2$    | 48   | 9      | $A_1$     | 1123.99908 | 7                 |                                   |                 | 0.1128E-03                         |                 |                 |                 |                        |        |
| 39  | 11    | $E$      | 38   | 10     | $E$       | 1124.10947 | 7                 |                                   |                 | 0.4140E-03                         |                 |                 |                 |                        |        |
| 20  | 13    | $A_2$    | 19   | 12     | $A_1$     | 1124.13945 | 3                 | .253255E-02                       | 0.5             | 0.1306E-02                         | -3.16           | 3.754E-04       | -.280E+00       | -.264E+00              | 1.2    |
| 20  | 13    | $A_1$    | 19   | 12     | $A_2$     | 1124.13945 | 3                 |                                   |                 | 0.1306E-02                         |                 |                 |                 |                        |        |
| 30  | 12    | $E$      | 29   | 11     | $E$       | 1124.66085 | 2                 | .846626E-03                       | 1.2             | 0.8559E-03                         | -1.10           | 2.886E-04       |                 |                        | 1.0    |
| 50  | 10    | $A_2$    | 49   | 9      | $A_1$     | 1124.70507 | 6                 |                                   |                 | 0.9322E-04                         |                 |                 |                 |                        |        |
| 50  | 10    | $A_1$    | 49   | 9      | $A_2$     | 1124.70507 | 6                 |                                   |                 | 0.9322E-04                         |                 |                 |                 |                        |        |
| 40  | 11    | $E$      | 39   | 10     | $E$       | 1124.85422 | 7                 |                                   |                 | 0.3572E-03                         |                 |                 |                 |                        |        |
| 21  | 13    | $A_2$    | 20   | 12     | $A_1$     | 1124.95341 | 0                 | .239813E-02                       | 0.6             | 0.1218E-02                         | -1.54           | 3.908E-04       | -.169E+00       |                        | 1.1    |
| 21  | 13    | $A_1$    | 20   | 12     | $A_2$     | 1124.95341 | 0                 |                                   |                 | 0.1218E-02                         |                 |                 |                 |                        |        |
| 51  | 10    | $A_2$    | 50   | 9      | $A_1$     | 1125.40710 | 8                 |                                   |                 | 0.7671E-04                         |                 |                 |                 |                        |        |
| 51  | 10    | $A_1$    | 50   | 9      | $A_2$     | 1125.40710 | 8                 |                                   |                 | 0.7671E-04                         |                 |                 |                 |                        |        |
| 31  | 12    | $E$      | 30   | 11     | $E$       | 1125.43909 | 3                 | .772699E-03                       | 1.0             | 0.7671E-03                         | .73             | 4.198E-04       |                 |                        | 1.0    |
| 41  | 11    | $E$      | 40   | 10     | $E$       | 1125.59515 | 8                 |                                   |                 | 0.3069E-03                         |                 |                 |                 |                        |        |
| 22  | 13    | $A_2$    | 21   | 12     | $A_1$     | 1125.76386 | 0                 | .220209E-02                       | 0.7             | 0.1131E-02                         | -2.69           | 3.765E-04       |                 |                        | 1.0    |
| 22  | 13    | $A_1$    | 21   | 12     | $A_2$     | 1125.76386 | 0                 |                                   |                 | 0.1131E-02                         |                 |                 |                 |                        |        |
| 52  | 10    | $A_2$    | 51   | 9      | $A_1$     | 1126.10457 | -47               |                                   |                 | 0.6286E-04                         |                 |                 |                 |                        |        |
| 52  | 10    | $A_1$    | 51   | 9      | $A_2$     | 1126.10457 | -47               |                                   |                 | 0.6286E-04                         |                 |                 |                 |                        |        |
| 32  | 12    | $E$      | 31   | 11     | $E$       | 1126.21363 | 3                 | .702667E-03                       | 1.3             | 0.6845E-03                         | 2.58            | 6.336E-04       | -.456E+00       | .493E+00               | 1.2    |
| 42  | 11    | $E$      | 41   | 10     | $E$       | 1126.33218 | 3                 |                                   |                 | 0.2624E-03                         |                 |                 |                 |                        |        |
| 23  | 13    | $A_2$    | 22   | 12     | $A_1$     | 1126.57071 | -5                | .209787E-02                       | 0.5             | 0.1046E-02                         | .29             | 4.181E-04       | -.361E+00       |                        | 1.7    |
| 23  | 13    | $A_1$    | 22   | 12     | $A_2$     | 1126.57071 | -5                |                                   |                 | 0.1046E-02                         |                 |                 |                 |                        |        |
| 14  | 14    | $E$      | 13   | 13     | $E$       | 1126.67625 | -2                | .115389E-02                       | 1.1             | 0.1147E-02                         | .64             | 3.123E-04       |                 |                        | 1.0    |
| 53  | 10    | $A_2$    | 52   | 9      | $A_1$     | 1126.79907 | 4                 |                                   |                 | 0.5129E-04                         |                 |                 |                 |                        |        |
| 53  | 10    | $A_1$    | 52   | 9      | $A_2$     | 1126.79907 | 4                 |                                   |                 | 0.5129E-04                         |                 |                 |                 |                        |        |
| 33  | 12    | $E$      | 32   | 11     | $E$       | 1126.98449 | 5                 | .625192E-03                       | 1.7             | 0.6083E-03                         | 2.71            | 4.017E-04       | .948E-01        | .921E+00               | 1.1    |
| 43  | 11    | $E$      | 42   | 10     | $E$       | 1127.06545 | 8                 |                                   |                 | 0.2235E-03                         |                 |                 |                 |                        |        |
| 24  | 13    | $A_2$    | 23   | 12     | $A_1$     | 1127.37407 | -1                | .182795E-02                       | 0.5             | 0.9638E-03                         | -5.45           | 3.369E-04       | -.257E+00       |                        | 1.5    |
| 24  | 13    | $A_1$    | 23   | 12     | $A_2$     | 1127.37407 | -1                |                                   |                 | 0.9638E-03                         |                 |                 |                 |                        |        |
| 54  | 10    | $A_1$    | 53   | 9      | $A_2$     | 1127.48871 | -28               |                                   |                 | 0.4166E-04                         |                 |                 |                 |                        |        |
| 54  | 10    | $A_2$    | 53   | 9      | $A_1$     | 1127.48871 | -28               |                                   |                 | 0.4166E-04                         |                 |                 |                 |                        |        |
| 15  | 14    | $E$      | 14   | 13     | $E$       | 1127.51087 | 2                 | .108481E-02                       | 1.3             | 0.1086E-02                         | -.11            | 3.067E-04       | -.488E+00       |                        | 1.3    |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 35  | 16    | $A_1$    | 35   | 15     | $A_2$     | 1127.68635 | 9                 |                                   |                 | 0.3439E-04                         |                 |                 |                 |                        |        |
| 35  | 16    | $A_2$    | 35   | 15     | $A_1$     | 1127.68635 | 9                 |                                   |                 | 0.3439E-04                         |                 |                 |                 |                        |        |
| 34  | 12    | $E$      | 33   | 11     | $E$       | 1127.75159 | 3                 |                                   |                 | 0.5382E-03                         |                 |                 |                 |                        |        |
| 44  | 11    | $E$      | 43   | 10     | $E$       | 1127.79479 | 7                 |                                   |                 | 0.1895E-03                         |                 |                 |                 |                        |        |
| 34  | 16    | $A_2$    | 34   | 15     | $A_1$     | 1127.79934 | -19               |                                   |                 | 0.3817E-04                         |                 |                 |                 |                        |        |
| 34  | 16    | $A_1$    | 34   | 15     | $A_2$     | 1127.79934 | -19               |                                   |                 | 0.3817E-04                         |                 |                 |                 |                        |        |
| 33  | 16    | $A_1$    | 33   | 15     | $A_2$     | 1127.90953 | -3                |                                   |                 | 0.4210E-04                         |                 |                 |                 |                        |        |
| 33  | 16    | $A_2$    | 33   | 15     | $A_1$     | 1127.90953 | -3                |                                   |                 | 0.4210E-04                         |                 |                 |                 |                        |        |
| 32  | 16    | $A_2$    | 32   | 15     | $A_1$     | 1128.01627 | -8                |                                   |                 | 0.4611E-04                         |                 |                 |                 |                        |        |
| 32  | 16    | $A_1$    | 32   | 15     | $A_2$     | 1128.01627 | -8                |                                   |                 | 0.4611E-04                         |                 |                 |                 |                        |        |
| 31  | 16    | $A_2$    | 31   | 15     | $A_1$     | 1128.11985 | -4                |                                   |                 | 0.5015E-04                         |                 |                 |                 |                        |        |
| 31  | 16    | $A_1$    | 31   | 15     | $A_2$     | 1128.11985 | -4                |                                   |                 | 0.5015E-04                         |                 |                 |                 |                        |        |
| 25  | 13    | $A_2$    | 24   | 12     | $A_1$     | 1128.17388 | 5                 | .178505E-02                       | 0.3             | 0.8845E-03                         | .90             | 3.843E-04       | -.944E-01       | -.335E+00              | 1.2    |
| 25  | 13    | $A_1$    | 24   | 12     | $A_2$     | 1128.17388 | 5                 |                                   |                 | 0.8845E-03                         |                 |                 |                 |                        |        |
| 55  | 10    | $A_1$    | 54   | 9      | $A_2$     | 1128.17388 | -101              |                                   |                 | 0.3370E-04                         |                 |                 |                 |                        |        |
| 55  | 10    | $A_2$    | 54   | 9      | $A_1$     | 1128.17388 | -101              |                                   |                 | 0.3370E-04                         |                 |                 |                 |                        |        |
| 30  | 16    | $A_1$    | 30   | 15     | $A_2$     | 1128.22025 | 6                 |                                   |                 | 0.5413E-04                         |                 |                 |                 |                        |        |
| 30  | 16    | $A_2$    | 30   | 15     | $A_1$     | 1128.22025 | 6                 |                                   |                 | 0.5413E-04                         |                 |                 |                 |                        |        |
| 29  | 16    | $A_1$    | 29   | 15     | $A_2$     | 1128.31728 | 3                 |                                   |                 | 0.5796E-04                         |                 |                 |                 |                        |        |
| 29  | 16    | $A_2$    | 29   | 15     | $A_1$     | 1128.31728 | 3                 |                                   |                 | 0.5796E-04                         |                 |                 |                 |                        |        |
| 16  | 14    | $E$      | 15   | 13     | $E$       | 1128.34200 | 2                 | .102605E-02                       | 1.3             | 0.1026E-02                         | -.03            | 3.363E-04       |                 |                        | 1.0    |
| 28  | 16    | $A_2$    | 28   | 15     | $A_1$     | 1128.41111 | 4                 |                                   |                 | 0.6153E-04                         |                 |                 |                 |                        |        |
| 28  | 16    | $A_1$    | 28   | 15     | $A_2$     | 1128.41111 | 4                 |                                   |                 | 0.6153E-04                         |                 |                 |                 |                        |        |
| 27  | 16    | $A_1$    | 27   | 15     | $A_2$     | 1128.50194 | 29                |                                   |                 | 0.6471E-04                         |                 |                 |                 |                        |        |
| 27  | 16    | $A_2$    | 27   | 15     | $A_1$     | 1128.50194 | 29                |                                   |                 | 0.6471E-04                         |                 |                 |                 |                        |        |
| 35  | 12    | $E$      | 34   | 11     | $E$       | 1128.51504 | 9                 |                                   |                 | 0.4741E-03                         |                 |                 |                 |                        |        |
| 45  | 11    | $E$      | 44   | 10     | $E$       | 1128.52024 | 6                 |                                   |                 | 0.1600E-03                         |                 |                 |                 |                        |        |
| 26  | 16    | $A_2$    | 26   | 15     | $A_1$     | 1128.58900 | 0                 |                                   |                 | 0.6735E-04                         |                 |                 |                 |                        |        |
| 26  | 16    | $A_1$    | 26   | 15     | $A_2$     | 1128.58900 | 0                 |                                   |                 | 0.6735E-04                         |                 |                 |                 |                        |        |
| 25  | 16    | $A_2$    | 25   | 15     | $A_1$     | 1128.67316 | 6                 |                                   |                 | 0.6929E-04                         |                 |                 |                 |                        |        |
| 25  | 16    | $A_1$    | 25   | 15     | $A_2$     | 1128.67316 | 6                 |                                   |                 | 0.6929E-04                         |                 |                 |                 |                        |        |
| 24  | 16    | $A_1$    | 24   | 15     | $A_2$     | 1128.75402 | 5                 |                                   |                 | 0.7034E-04                         |                 |                 |                 |                        |        |
| 24  | 16    | $A_2$    | 24   | 15     | $A_1$     | 1128.75402 | 5                 |                                   |                 | 0.7034E-04                         |                 |                 |                 |                        |        |
| 23  | 16    | $A_2$    | 23   | 15     | $A_1$     | 1128.83181 | 21                |                                   |                 | 0.7030E-04                         |                 |                 |                 |                        |        |
| 23  | 16    | $A_1$    | 23   | 15     | $A_2$     | 1128.83181 | 21                |                                   |                 | 0.7030E-04                         |                 |                 |                 |                        |        |
| 56  | 10    | $A_1$    | 55   | 9      | $A_2$     | 1128.85610 | -63               |                                   |                 | 0.2714E-04                         |                 |                 |                 |                        |        |
| 56  | 10    | $A_2$    | 55   | 9      | $A_1$     | 1128.85610 | -63               |                                   |                 | 0.2714E-04                         |                 |                 |                 |                        |        |
| 22  | 16    | $A_1$    | 22   | 15     | $A_2$     | 1128.90594 | -5                |                                   |                 | 0.6895E-04                         |                 |                 |                 |                        |        |
| 22  | 16    | $A_2$    | 22   | 15     | $A_1$     | 1128.90594 | -5                |                                   |                 | 0.6895E-04                         |                 |                 |                 |                        |        |
| 26  | 13    | $A_2$    | 25   | 12     | $A_1$     | 1128.96993 | -5                | .156607E-02                       | 1.0             | 0.8086E-03                         | -3.26           | 3.289E-04       | -.294E+00       | -.442E+00              | 1.2    |
| 26  | 13    | $A_1$    | 25   | 12     | $A_2$     | 1128.96993 | -5                |                                   |                 | 0.8086E-03                         |                 |                 |                 |                        |        |
| 21  | 16    | $A_1$    | 21   | 15     | $A_2$     | 1128.97674 | -40               |                                   |                 | 0.6606E-04                         |                 |                 |                 |                        |        |
| 21  | 16    | $A_2$    | 21   | 15     | $A_1$     | 1128.97674 | -40               |                                   |                 | 0.6606E-04                         |                 |                 |                 |                        |        |
| 20  | 16    | $A_1$    | 20   | 15     | $A_2$     | 1129.04485 | -21               |                                   |                 | 0.6137E-04                         |                 |                 |                 |                        |        |
| 20  | 16    | $A_2$    | 20   | 15     | $A_1$     | 1129.04485 | -21               |                                   |                 | 0.6137E-04                         |                 |                 |                 |                        |        |
| 19  | 16    | $A_1$    | 19   | 15     | $A_2$     | 1129.10973 | -1                |                                   |                 | 0.5458E-04                         |                 |                 |                 |                        |        |
| 19  | 16    | $A_2$    | 19   | 15     | $A_1$     | 1129.10973 | -1                |                                   |                 | 0.5458E-04                         |                 |                 |                 |                        |        |
| 17  | 14    | $E$      | 16   | 13     | $E$       | 1129.16973 | 9                 | .964861E-03                       | 1.0             | 0.9675E-03                         | -.27            | 4.841E-04       |                 |                        | 1.0    |
| 17  | 16    | $A_2$    | 17   | 15     | $A_1$     | 1129.22953 | 14                |                                   |                 | 0.3350E-04                         |                 |                 |                 |                        |        |
| 17  | 16    | $A_1$    | 17   | 15     | $A_2$     | 1129.22953 | 14                |                                   |                 | 0.3350E-04                         |                 |                 |                 |                        |        |
| 46  | 11    | $E$      | 45   | 10     | $E$       | 1129.24181 | 8                 |                                   |                 | 0.1345E-03                         |                 |                 |                 |                        |        |
| 36  | 12    | $E$      | 35   | 11     | $E$       | 1129.27498 | 40                |                                   |                 | 0.4159E-03                         |                 |                 |                 |                        |        |
| 16  | 16    | $A_1$    | 16   | 15     | $A_2$     | 1129.28422 | -15               |                                   |                 | 0.1851E-04                         |                 |                 |                 |                        |        |
| 16  | 16    | $A_2$    | 16   | 15     | $A_1$     | 1129.28422 | -15               |                                   |                 | 0.1851E-04                         |                 |                 |                 |                        |        |
| 27  | 13    | $A_2$    | 26   | 12     | $A_1$     | 1129.76251 | 0                 | .143406E-02                       | 0.9             | 0.7361E-03                         | -2.66           | 3.078E-04       | -.309E+00       |                        | 1.2    |
| 27  | 13    | $A_1$    | 26   | 12     | $A_2$     | 1129.76251 | 0                 |                                   |                 | 0.7361E-03                         |                 |                 |                 |                        |        |
| 47  | 11    | $E$      | 46   | 10     | $E$       | 1129.95943 | 7                 |                                   |                 | 0.1125E-03                         |                 |                 |                 |                        |        |
| 18  | 14    | $E$      | 17   | 13     | $E$       | 1129.99384 | 2                 | .905456E-03                       | 0.6             | 0.9093E-03                         | -.42            | 4.018E-04       | .191E+00        | -.247E+00              | 1.2    |
| 37  | 12    | $E$      | 36   | 11     | $E$       | 1130.03048 | 2                 |                                   |                 | 0.3632E-03                         |                 |                 |                 |                        |        |
| 28  | 13    | $A_2$    | 27   | 12     | $A_1$     | 1130.55142 | 0                 | .137903E-02                       | 0.7             | 0.6674E-03                         | 3.21            | 5.910E-04       | -.698E-01       | .147E+01               | 1.3    |
| 28  | 13    | $A_1$    | 27   | 12     | $A_2$     | 1130.55142 | 0                 |                                   |                 | 0.6674E-03                         |                 |                 |                 |                        |        |
| 48  | 11    | $E$      | 47   | 10     | $E$       | 1130.67313 | 7                 |                                   |                 | 0.9378E-04                         |                 |                 |                 |                        |        |
| 38  | 12    | $E$      | 37   | 11     | $E$       | 1130.78261 | 6                 |                                   |                 | 0.3159E-03                         |                 |                 |                 |                        |        |
| 19  | 14    | $E$      | 18   | 13     | $E$       | 1130.81451 | 0                 | .847331E-03                       | 1.2             | 0.8519E-03                         | -.54            | 4.799E-04       |                 |                        | 1.0    |
| 29  | 13    | $A_2$    | 28   | 12     | $A_1$     | 1131.33667 | -1                | .121683E-02                       | 1.0             | 0.6025E-03                         | .97             | 3.961E-04       | -.387E+00       |                        | 1.1    |
| 29  | 13    | $A_1$    | 28   | 12     | $A_2$     | 1131.33667 | -1                |                                   |                 | 0.6025E-03                         |                 |                 |                 |                        |        |
| 49  | 11    | $E$      | 48   | 10     | $E$       | 1131.38287 | 7                 |                                   |                 | 0.7781E-04                         |                 |                 |                 |                        |        |
| 39  | 12    | $E$      | 38   | 11     | $E$       | 1131.53092 | 8                 |                                   |                 | 0.2735E-03                         |                 |                 |                 |                        |        |
| 20  | 14    | $E$      | 19   | 13     | $E$       | 1131.63167 | -2                | .790713E-03                       | 1.6             | 0.7955E-03                         | -.61            | 4.764E-04       |                 |                        | 1.0    |
| 50  | 11    | $E$      | 49   | 10     | $E$       | 1132.08862 | 5                 |                                   |                 | 0.6429E-04                         |                 |                 |                 |                        |        |
| 30  | 13    | $A_2$    | 29   | 12     | $A_1$     | 1132.11828 | 0                 | .102648E-02                       | 1.0             | 0.5417E-03                         | -5.55           | 3.812E-04       | -.292E+00       |                        | 1.1    |
| 30  | 13    | $A_1$    | 29   | 12     | $A_2$     | 1132.11828 | 0                 |                                   |                 | 0.5417E-03                         |                 |                 |                 |                        |        |
| 40  | 12    | $E$      | 39   | 11     | $E$       | 1132.27538 | 5                 |                                   |                 | 0.2358E-03                         |                 |                 |                 |                        |        |
| 21  | 14    | $E$      | 20   | 13     | $E$       | 1132.44536 | 1                 | .734946E-03                       | 1.1             | 0.7403E-03                         | -.73            | 3.209E-04       |                 | -.459E+00              | 1.1    |
| 31  | 13    | $A_2$    | 30   | 12     | $A_1$     | 1132.89623 | 2                 | .977246E-03                       | 1.2             | 0.4850E-03                         | .73             | 4.633E-04       | -.457E+00       |                        | 1.2    |
| 31  | 13    | $A_1$    | 30   | 12     | $A_2$     | 1132.89623 | 2                 |                                   |                 | 0.4850E-03                         |                 |                 |                 |                        |        |
| 41  | 12    | $E$      | 40   | 11     | $E$       | 1133.01603 | 4                 |                                   |                 | 0.2024E-03                         |                 |                 |                 |                        |        |
| 22  | 14    | $E$      | 21   | 13     | $E$       | 1133.25548 | 1                 | .680171E-03                       | 1.2             | 0.6864E-03                         | -.91            | 6.702E-04       | -.118E+00       | .152E+01               | 1.2    |
| 32  | 13    | $A_2$    | 31   | 12     | $A_1$     | 1133.67047 | 2                 | .878418E-03                       | 0.9             | 0.4324E-03                         | 1.54            | 1.563E-04       |                 |                        | 1.0    |
| 32  | 13    | $A_1$    | 31   | 12     | $A_2$     | 1133.67047 | 2                 |                                   |                 | 0.4324E-03                         |                 |                 |                 |                        |        |
| 42  | 12    | $E$      | 41   | 11     | $E$       | 1133.75284 | 4                 |                                   |                 | 0.1730E-03                         |                 |                 |                 |                        |        |
| 23  | 14    | $E$      | 22   | 13     | $E$       | 1134.06205 | 2                 | .629560E-03                       | 1.3             | 0.6340E-03                         | -.71            | 8.778E-04       | -.510E+00       | .221E+01               | 1.2    |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 33  | 13    | $A_2$    | 32   | 12     | $A_1$     | 1134.44100 | 1                 | .789301E-03                       | 0.7             | 0.3839E-03                         | 2.72            | 1.663E-05       |                 | -.630E+00              | 1.4    |
| 33  | 13    | $A_1$    | 32   | 12     | $A_2$     | 1134.44100 | 1                 |                                   |                 | 0.3839E-03                         |                 |                 |                 |                        |        |
| 43  | 12    | $E$      | 42   | 11     | $E$       | 1134.48581 | 5                 |                                   |                 | 0.1473E-03                         |                 |                 |                 |                        |        |
| 24  | 14    | $E$      | 23   | 13     | $E$       | 1134.86499 | -4                | .576572E-03                       | 1.7             | 0.5834E-03                         | -1.18           | 1.853E-04       | -.124E+01       |                        | 1.5    |
| 15  | 15    | $E$      | 14   | 14     | $E$       | 1135.03459 | 4                 |                                   |                 | 0.6333E-03                         |                 |                 |                 |                        |        |
| 36  | 17    | $E$      | 36   | 16     | $E$       | 1135.15127 | -34               |                                   |                 | 0.1463E-04                         |                 |                 |                 |                        |        |
| 34  | 13    | $A_2$    | 33   | 12     | $A_1$     | 1135.20783 | 2                 | .693135E-03                       | 1.0             | 0.3394E-03                         | 2.07            | 5.128E-04       |                 |                        | 1.0    |
| 34  | 13    | $A_1$    | 33   | 12     | $A_2$     | 1135.20783 | 2                 |                                   |                 | 0.3394E-03                         |                 |                 |                 |                        |        |
| 44  | 12    | $E$      | 43   | 11     | $E$       | 1135.21505 | 21                |                                   |                 | 0.1248E-03                         |                 |                 |                 |                        |        |
| 32  | 17    | $E$      | 32   | 16     | $E$       | 1135.59847 | 9                 |                                   |                 | 0.2168E-04                         |                 |                 |                 |                        |        |
| 25  | 14    | $E$      | 24   | 13     | $E$       | 1135.66442 | -2                |                                   |                 | 0.5347E-03                         |                 |                 |                 |                        |        |
| 31  | 17    | $E$      | 31   | 16     | $E$       | 1135.70156 | -40               |                                   |                 | 0.2350E-04                         |                 |                 |                 |                        |        |
| 30  | 17    | $E$      | 30   | 16     | $E$       | 1135.80231 | 1                 |                                   |                 | 0.2526E-04                         |                 |                 |                 |                        |        |
| 16  | 15    | $E$      | 15   | 14     | $E$       | 1135.86534 | 2                 |                                   |                 | 0.5972E-03                         |                 |                 |                 |                        |        |
| 29  | 17    | $E$      | 29   | 16     | $E$       | 1135.89948 | 9                 |                                   |                 | 0.2692E-04                         |                 |                 |                 |                        |        |
| 45  | 12    | $E$      | 44   | 11     | $E$       | 1135.93990 | -14               |                                   |                 | 0.1053E-03                         |                 |                 |                 |                        |        |
| 35  | 13    | $A_2$    | 34   | 12     | $A_1$     | 1135.97092 | 2                 | .585076E-03                       | 2.6             | 0.2987E-03                         | -2.12           | 3.356E-04       |                 |                        | 1.0    |
| 35  | 13    | $A_1$    | 34   | 12     | $A_2$     | 1135.97092 | 2                 |                                   |                 | 0.2987E-03                         |                 |                 |                 |                        |        |
| 28  | 17    | $E$      | 28   | 16     | $E$       | 1135.99319 | -6                |                                   |                 | 0.2842E-04                         |                 |                 |                 |                        |        |
| 27  | 17    | $E$      | 27   | 16     | $E$       | 1136.08386 | 0                 |                                   |                 | 0.2970E-04                         |                 |                 |                 |                        |        |
| 26  | 17    | $E$      | 26   | 16     | $E$       | 1136.17132 | 8                 |                                   |                 | 0.3067E-04                         |                 |                 |                 |                        |        |
| 25  | 20    | $E$      | 26   | 19     | $E$       | 1136.23880 | -44               |                                   |                 | 0.1187E-06                         |                 |                 |                 |                        |        |
| 25  | 17    | $E$      | 25   | 16     | $E$       | 1136.25551 | 14                |                                   |                 | 0.3125E-04                         |                 |                 |                 |                        |        |
| 24  | 17    | $E$      | 24   | 16     | $E$       | 1136.33640 | 13                |                                   |                 | 0.3135E-04                         |                 |                 |                 |                        |        |
| 23  | 17    | $E$      | 23   | 16     | $E$       | 1136.41396 | 4                 |                                   |                 | 0.3086E-04                         |                 |                 |                 |                        |        |
| 26  | 14    | $E$      | 25   | 13     | $E$       | 1136.46024 | -1                |                                   |                 | 0.4882E-03                         |                 |                 |                 |                        |        |
| 22  | 17    | $E$      | 22   | 16     | $E$       | 1136.48851 | 17                |                                   |                 | 0.2967E-04                         |                 |                 |                 |                        |        |
| 21  | 17    | $E$      | 21   | 16     | $E$       | 1136.55956 | 4                 |                                   |                 | 0.2766E-04                         |                 |                 |                 |                        |        |
| 20  | 17    | $E$      | 20   | 16     | $E$       | 1136.62740 | -6                |                                   |                 | 0.2468E-04                         |                 |                 |                 |                        |        |
| 46  | 12    | $E$      | 45   | 11     | $E$       | 1136.66144 | 11                |                                   |                 | 0.8847E-04                         |                 |                 |                 |                        |        |
| 19  | 17    | $E$      | 19   | 16     | $E$       | 1136.69265 | 49                |                                   |                 | 0.2059E-04                         |                 |                 |                 |                        |        |
| 17  | 15    | $E$      | 16   | 14     | $E$       | 1136.69265 | 3                 |                                   |                 | 0.5618E-03                         |                 |                 |                 |                        |        |
| 36  | 13    | $A_2$    | 35   | 12     | $A_1$     | 1136.73025 | 1                 | .505775E-03                       | 1.8             | 0.2619E-03                         | -3.55           | 3.120E-04       |                 |                        | 1.0    |
| 36  | 13    | $A_1$    | 35   | 12     | $A_2$     | 1136.73025 | 1                 |                                   |                 | 0.2619E-03                         |                 |                 |                 |                        |        |
| 18  | 17    | $E$      | 18   | 16     | $E$       | 1136.75435 | 72                |                                   |                 | 0.1524E-04                         |                 |                 |                 |                        |        |
| 17  | 17    | $E$      | 17   | 16     | $E$       | 1136.81216 | 30                |                                   |                 | 0.8441E-05                         |                 |                 |                 |                        |        |
| 27  | 14    | $E$      | 26   | 13     | $E$       | 1137.25243 | -3                |                                   |                 | 0.4439E-03                         |                 |                 |                 |                        |        |
| 47  | 12    | $E$      | 46   | 11     | $E$       | 1137.37802 | -68               |                                   |                 | 0.7400E-04                         |                 |                 |                 |                        |        |
| 37  | 13    | $A_2$    | 36   | 12     | $A_1$     | 1137.48582 | 1                 |                                   |                 | 0.2285E-03                         |                 |                 |                 |                        |        |
| 37  | 13    | $A_1$    | 36   | 12     | $A_2$     | 1137.48582 | 1                 |                                   |                 | 0.2285E-03                         |                 |                 |                 |                        |        |
| 18  | 15    | $E$      | 17   | 14     | $E$       | 1137.51648 | 4                 |                                   |                 | 0.5270E-03                         |                 |                 |                 |                        |        |
| 28  | 14    | $E$      | 27   | 13     | $E$       | 1138.04103 | 0                 |                                   |                 | 0.4020E-03                         |                 |                 |                 |                        |        |
| 48  | 12    | $E$      | 47   | 11     | $E$       | 1138.09219 | 6                 |                                   |                 | 0.6164E-04                         |                 |                 |                 |                        |        |
| 38  | 13    | $A_1$    | 37   | 12     | $A_2$     | 1138.23764 | 4                 |                                   |                 | 0.1986E-03                         |                 |                 |                 |                        |        |
| 38  | 13    | $A_2$    | 37   | 12     | $A_1$     | 1138.23764 | 4                 |                                   |                 | 0.1986E-03                         |                 |                 |                 |                        |        |
| 19  | 15    | $E$      | 18   | 14     | $E$       | 1138.33672 | -5                |                                   |                 | 0.4929E-03                         |                 |                 |                 |                        |        |
| 29  | 14    | $E$      | 28   | 13     | $E$       | 1138.82596 | 0                 |                                   |                 | 0.3626E-03                         |                 |                 |                 |                        |        |
| 39  | 13    | $A_1$    | 38   | 12     | $A_2$     | 1138.98565 | 5                 |                                   |                 | 0.1719E-03                         |                 |                 |                 |                        |        |
| 39  | 13    | $A_2$    | 38   | 12     | $A_1$     | 1138.98565 | 5                 |                                   |                 | 0.1719E-03                         |                 |                 |                 |                        |        |
| 20  | 15    | $E$      | 19   | 14     | $E$       | 1139.15357 | -2                |                                   |                 | 0.4595E-03                         |                 |                 |                 |                        |        |
| 30  | 14    | $E$      | 29   | 13     | $E$       | 1139.60724 | 1                 |                                   |                 | 0.3257E-03                         |                 |                 |                 |                        |        |
| 40  | 13    | $A_1$    | 39   | 12     | $A_2$     | 1139.72985 | 7                 |                                   |                 | 0.1481E-03                         |                 |                 |                 |                        |        |
| 40  | 13    | $A_2$    | 39   | 12     | $A_1$     | 1139.72985 | 7                 |                                   |                 | 0.1481E-03                         |                 |                 |                 |                        |        |
| 21  | 15    | $E$      | 20   | 14     | $E$       | 1139.96689 | 0                 |                                   |                 | 0.4269E-03                         |                 |                 |                 |                        |        |
| 31  | 14    | $E$      | 30   | 13     | $E$       | 1140.38502 | 20                |                                   |                 | 0.2914E-03                         |                 |                 |                 |                        |        |
| 41  | 13    | $A_1$    | 40   | 12     | $A_2$     | 1140.47012 | -2                |                                   |                 | 0.1270E-03                         |                 |                 |                 |                        |        |
| 41  | 13    | $A_2$    | 40   | 12     | $A_1$     | 1140.47012 | -2                |                                   |                 | 0.1270E-03                         |                 |                 |                 |                        |        |
| 22  | 15    | $E$      | 21   | 14     | $E$       | 1140.77654 | -10               |                                   |                 | 0.3952E-03                         |                 |                 |                 |                        |        |
| 32  | 14    | $E$      | 31   | 13     | $E$       | 1141.15859 | -14               |                                   |                 | 0.2595E-03                         |                 |                 |                 |                        |        |
| 42  | 13    | $A_1$    | 41   | 12     | $A_2$     | 1141.20623 | -43               |                                   |                 | 0.1085E-03                         |                 |                 |                 |                        |        |
| 42  | 13    | $A_2$    | 41   | 12     | $A_1$     | 1141.20623 | -43               |                                   |                 | 0.1085E-03                         |                 |                 |                 |                        |        |
| 23  | 15    | $E$      | 22   | 14     | $E$       | 1141.58274 | -10               |                                   |                 | 0.3646E-03                         |                 |                 |                 |                        |        |
| 33  | 14    | $E$      | 32   | 13     | $E$       | 1141.92883 | -11               |                                   |                 | 0.2302E-03                         |                 |                 |                 |                        |        |
| 43  | 13    | $A_2$    | 42   | 12     | $A_1$     | 1141.93927 | -5                |                                   |                 | 0.9232E-04                         |                 |                 |                 |                        |        |
| 43  | 13    | $A_1$    | 42   | 12     | $A_2$     | 1141.93927 | -5                |                                   |                 | 0.9232E-04                         |                 |                 |                 |                        |        |
| 24  | 15    | $E$      | 23   | 14     | $E$       | 1142.38535 | -12               |                                   |                 | 0.3351E-03                         |                 |                 |                 |                        |        |
| 44  | 13    | $A_1$    | 43   | 12     | $A_2$     | 1142.66807 | -3                |                                   |                 | 0.7819E-04                         |                 |                 |                 |                        |        |
| 44  | 13    | $A_2$    | 43   | 12     | $A_1$     | 1142.66807 | -3                |                                   |                 | 0.7819E-04                         |                 |                 |                 |                        |        |
| 34  | 14    | $E$      | 33   | 13     | $E$       | 1142.69536 | -6                |                                   |                 | 0.2034E-03                         |                 |                 |                 |                        |        |
| 25  | 15    | $E$      | 24   | 14     | $E$       | 1143.18434 | -18               |                                   |                 | 0.3067E-03                         |                 |                 |                 |                        |        |
| 45  | 13    | $A_2$    | 44   | 12     | $A_1$     | 1143.39259 | -41               |                                   |                 | 0.6594E-04                         |                 |                 |                 |                        |        |
| 45  | 13    | $A_1$    | 44   | 12     | $A_2$     | 1143.39259 | -41               |                                   |                 | 0.6594E-04                         |                 |                 |                 |                        |        |
| 16  | 16    | $A_2$    | 15   | 15     | $A_1$     | 1143.41616 | -1                |                                   |                 | 0.3291E-03                         |                 |                 |                 |                        |        |
| 16  | 16    | $A_1$    | 15   | 15     | $A_2$     | 1143.41616 | -1                |                                   |                 | 0.3291E-03                         |                 |                 |                 |                        |        |
| 35  | 14    | $E$      | 34   | 13     | $E$       | 1143.45809 | -9                |                                   |                 | 0.1789E-03                         |                 |                 |                 |                        |        |
| 28  | 18    | $E$      | 28   | 17     | $E$       | 1143.59860 | 0                 |                                   |                 | 0.1234E-04                         |                 |                 |                 |                        |        |
| 26  | 15    | $E$      | 25   | 14     | $E$       | 1143.97987 | -10               |                                   |                 | 0.2797E-03                         |                 |                 |                 |                        |        |
| 36  | 14    | $E$      | 35   | 13     | $E$       | 1144.21712 | -6                |                                   |                 | 0.1567E-03                         |                 |                 |                 |                        |        |
| 17  | 16    | $A_2$    | 16   | 15     | $A_1$     | 1144.24306 | -2                |                                   |                 | 0.3090E-03                         |                 |                 |                 |                        |        |
| 17  | 16    | $A_1$    | 16   | 15     | $A_2$     | 1144.24306 | -2                |                                   |                 | 0.3090E-03                         |                 |                 |                 |                        |        |
| 27  | 15    | $E$      | 26   | 14     | $E$       | 1144.77169 | -12               |                                   |                 | 0.2541E-03                         |                 |                 |                 |                        |        |
| 37  | 14    | $E$      | 36   | 13     | $E$       | 1144.97237 | -5                |                                   |                 | 0.1366E-03                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^h)$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|--------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12     |
| 18  | 16    | $A_1$    | 17   | 15     | $A_2$     | 1145.06648 | -3                |                                   |                 | 0.2894E-03                         |                 |                 |                 |                        |        |
| 18  | 16    | $A_2$    | 17   | 15     | $A_1$     | 1145.06648 | -3                |                                   |                 | 0.2894E-03                         |                 |                 |                 |                        |        |
| 28  | 15    | $E$      | 27   | 14     | $E$       | 1145.55980 | -21               |                                   |                 | 0.2299E-03                         |                 |                 |                 |                        |        |
| 38  | 14    | $E$      | 37   | 13     | $E$       | 1145.72378 | -9                |                                   |                 | 0.1187E-03                         |                 |                 |                 |                        |        |
| 23  | 21    | $E$      | 24   | 20     | $E$       | 1145.82614 | 37                |                                   |                 | 0.1785E-07                         |                 |                 |                 |                        |        |
| 19  | 16    | $A_1$    | 18   | 15     | $A_2$     | 1145.88639 | -6                |                                   |                 | 0.2702E-03                         |                 |                 |                 |                        |        |
| 19  | 16    | $A_2$    | 18   | 15     | $A_1$     | 1145.88639 | -6                |                                   |                 | 0.2702E-03                         |                 |                 |                 |                        |        |
| 29  | 15    | $E$      | 28   | 14     | $E$       | 1146.34451 | -7                |                                   |                 | 0.2071E-03                         |                 |                 |                 |                        |        |
| 39  | 14    | $E$      | 38   | 13     | $E$       | 1146.47144 | -10               |                                   |                 | 0.1026E-03                         |                 |                 |                 |                        |        |
| 20  | 16    | $A_1$    | 19   | 15     | $A_2$     | 1146.70286 | -2                |                                   |                 | 0.2515E-03                         |                 |                 |                 |                        |        |
| 20  | 16    | $A_2$    | 19   | 15     | $A_1$     | 1146.70286 | -2                |                                   |                 | 0.2515E-03                         |                 |                 |                 |                        |        |
| 30  | 15    | $E$      | 29   | 14     | $E$       | 1147.12542 | -6                |                                   |                 | 0.1859E-03                         |                 |                 |                 |                        |        |
| 40  | 14    | $E$      | 39   | 13     | $E$       | 1147.21535 | -4                |                                   |                 | 0.8837E-04                         |                 |                 |                 |                        |        |
| 21  | 16    | $A_1$    | 20   | 15     | $A_2$     | 1147.51569 | -9                |                                   |                 | 0.2333E-03                         |                 |                 |                 |                        |        |
| 21  | 16    | $A_2$    | 20   | 15     | $A_1$     | 1147.51569 | -9                |                                   |                 | 0.2333E-03                         |                 |                 |                 |                        |        |
| 31  | 15    | $E$      | 30   | 14     | $E$       | 1147.90258 | -13               |                                   |                 | 0.1661E-03                         |                 |                 |                 |                        |        |
| 22  | 16    | $A_1$    | 21   | 15     | $A_2$     | 1148.32506 | -8                |                                   |                 | 0.2157E-03                         |                 |                 |                 |                        |        |
| 22  | 16    | $A_2$    | 21   | 15     | $A_1$     | 1148.32506 | -8                |                                   |                 | 0.2157E-03                         |                 |                 |                 |                        |        |
| 32  | 15    | $E$      | 31   | 14     | $E$       | 1148.67635 | 9                 |                                   |                 | 0.1479E-03                         |                 |                 |                 |                        |        |
| 23  | 16    | $A_2$    | 22   | 15     | $A_1$     | 1149.13089 | -6                |                                   |                 | 0.1987E-03                         |                 |                 |                 |                        |        |
| 23  | 16    | $A_1$    | 22   | 15     | $A_2$     | 1149.13089 | -6                |                                   |                 | 0.1987E-03                         |                 |                 |                 |                        |        |
| 43  | 14    | $E$      | 42   | 13     | $E$       | 1149.42387 | -5                |                                   |                 | 0.5500E-04                         |                 |                 |                 |                        |        |
| 33  | 15    | $E$      | 32   | 14     | $E$       | 1149.44578 | -31               |                                   |                 | 0.1311E-03                         |                 |                 |                 |                        |        |
| 33  | 15    | $E$      | 32   | 14     | $E$       | 1149.44589 | -20               |                                   |                 | 0.1311E-03                         |                 |                 |                 |                        |        |
| 24  | 16    | $A_2$    | 23   | 15     | $A_1$     | 1149.93296 | -22               |                                   |                 | 0.1824E-03                         |                 |                 |                 |                        |        |
| 24  | 16    | $A_1$    | 23   | 15     | $A_2$     | 1149.93296 | -22               |                                   |                 | 0.1824E-03                         |                 |                 |                 |                        |        |
| 34  | 15    | $E$      | 33   | 14     | $E$       | 1150.21204 | -17               |                                   |                 | 0.1157E-03                         |                 |                 |                 |                        |        |
| 25  | 16    | $A_1$    | 24   | 15     | $A_2$     | 1150.73167 | -17               |                                   |                 | 0.1668E-03                         |                 |                 |                 |                        |        |
| 25  | 16    | $A_2$    | 24   | 15     | $A_1$     | 1150.73167 | -17               |                                   |                 | 0.1668E-03                         |                 |                 |                 |                        |        |
| 31  | 19    | $A_2$    | 31   | 18     | $A_1$     | 1150.93235 | -73               |                                   |                 | 0.4313E-05                         |                 |                 |                 |                        |        |
| 31  | 19    | $A_1$    | 31   | 18     | $A_2$     | 1150.93235 | -73               |                                   |                 | 0.4313E-05                         |                 |                 |                 |                        |        |
| 35  | 15    | $E$      | 34   | 14     | $E$       | 1150.97434 | -26               |                                   |                 | 0.1017E-03                         |                 |                 |                 |                        |        |
| 26  | 19    | $A_1$    | 26   | 18     | $A_2$     | 1151.40288 | 0                 |                                   |                 | 0.5218E-05                         |                 |                 |                 |                        |        |
| 26  | 19    | $A_2$    | 26   | 18     | $A_1$     | 1151.40288 | 0                 |                                   |                 | 0.5218E-05                         |                 |                 |                 |                        |        |
| 25  | 19    | $A_1$    | 25   | 18     | $A_2$     | 1151.48771 | 60                |                                   |                 | 0.5174E-05                         |                 |                 |                 |                        |        |
| 25  | 19    | $A_2$    | 25   | 18     | $A_1$     | 1151.48771 | 60                |                                   |                 | 0.5174E-05                         |                 |                 |                 |                        |        |
| 26  | 16    | $A_1$    | 25   | 15     | $A_2$     | 1151.52684 | -5                |                                   |                 | 0.1520E-03                         |                 |                 |                 |                        |        |
| 26  | 16    | $A_2$    | 25   | 15     | $A_1$     | 1151.52684 | -5                |                                   |                 | 0.1520E-03                         |                 |                 |                 |                        |        |
| 24  | 19    | $A_1$    | 24   | 18     | $A_2$     | 1151.56874 | 65                |                                   |                 | 0.5010E-05                         |                 |                 |                 |                        |        |
| 24  | 19    | $A_2$    | 24   | 18     | $A_1$     | 1151.56874 | 65                |                                   |                 | 0.5010E-05                         |                 |                 |                 |                        |        |
| 36  | 15    | $E$      | 35   | 14     | $E$       | 1151.73306 | -17               |                                   |                 | 0.8900E-04                         |                 |                 |                 |                        |        |
| 17  | 17    | $E$      | 16   | 16     | $E$       | 1151.81877 | 4                 |                                   |                 | 0.1609E-03                         |                 |                 |                 |                        |        |
| 27  | 16    | $A_1$    | 26   | 15     | $A_2$     | 1152.31789 | -44               |                                   |                 | 0.1379E-03                         |                 |                 |                 |                        |        |
| 27  | 16    | $A_2$    | 26   | 15     | $A_1$     | 1152.31789 | -44               |                                   |                 | 0.1379E-03                         |                 |                 |                 |                        |        |
| 37  | 15    | $E$      | 36   | 14     | $E$       | 1152.48819 | 9                 |                                   |                 | 0.7757E-04                         |                 |                 |                 |                        |        |
| 18  | 17    | $E$      | 17   | 16     | $E$       | 1152.64150 | -24               |                                   |                 | 0.1504E-03                         |                 |                 |                 |                        |        |
| 28  | 16    | $A_2$    | 27   | 15     | $A_1$     | 1153.10622 | 8                 |                                   |                 | 0.1246E-03                         |                 |                 |                 |                        |        |
| 28  | 16    | $A_1$    | 27   | 15     | $A_2$     | 1153.10622 | 8                 |                                   |                 | 0.1246E-03                         |                 |                 |                 |                        |        |
| 38  | 15    | $E$      | 37   | 14     | $E$       | 1153.23913 | -6                |                                   |                 | 0.6733E-04                         |                 |                 |                 |                        |        |
| 19  | 17    | $E$      | 18   | 16     | $E$       | 1153.46159 | 33                |                                   |                 | 0.1402E-03                         |                 |                 |                 |                        |        |
| 29  | 16    | $A_1$    | 28   | 15     | $A_2$     | 1153.89036 | 6                 |                                   |                 | 0.1122E-03                         |                 |                 |                 |                        |        |
| 29  | 16    | $A_2$    | 28   | 15     | $A_1$     | 1153.89036 | 6                 |                                   |                 | 0.1122E-03                         |                 |                 |                 |                        |        |
| 20  | 17    | $E$      | 19   | 16     | $E$       | 1154.27736 | 10                |                                   |                 | 0.1303E-03                         |                 |                 |                 |                        |        |
| 30  | 16    | $A_1$    | 29   | 15     | $A_2$     | 1154.67069 | -12               |                                   |                 | 0.1006E-03                         |                 |                 |                 |                        |        |
| 30  | 16    | $A_2$    | 29   | 15     | $A_1$     | 1154.67069 | -12               |                                   |                 | 0.1006E-03                         |                 |                 |                 |                        |        |
| 40  | 15    | $E$      | 39   | 14     | $E$       | 1154.72967 | -29               |                                   |                 | 0.5008E-04                         |                 |                 |                 |                        |        |
| 21  | 17    | $E$      | 20   | 16     | $E$       | 1155.08963 | -11               |                                   |                 | 0.1208E-03                         |                 |                 |                 |                        |        |
| 31  | 16    | $A_2$    | 30   | 15     | $A_1$     | 1155.44753 | -11               |                                   |                 | 0.8984E-04                         |                 |                 |                 |                        |        |
| 31  | 16    | $A_1$    | 30   | 15     | $A_2$     | 1155.44753 | -11               |                                   |                 | 0.8984E-04                         |                 |                 |                 |                        |        |
| 22  | 17    | $E$      | 21   | 16     | $E$       | 1155.89817 | -50               |                                   |                 | 0.1115E-03                         |                 |                 |                 |                        |        |
| 32  | 16    | $A_1$    | 31   | 15     | $A_2$     | 1156.22093 | 15                |                                   |                 | 0.7990E-04                         |                 |                 |                 |                        |        |
| 32  | 16    | $A_2$    | 31   | 15     | $A_1$     | 1156.22093 | 15                |                                   |                 | 0.7990E-04                         |                 |                 |                 |                        |        |
| 23  | 17    | $E$      | 22   | 16     | $E$       | 1156.70397 | -9                |                                   |                 | 0.1026E-03                         |                 |                 |                 |                        |        |
| 24  | 17    | $E$      | 23   | 16     | $E$       | 1157.50601 | 14                |                                   |                 | 0.9407E-04                         |                 |                 |                 |                        |        |
| 34  | 16    | $A_1$    | 33   | 15     | $A_2$     | 1157.75587 | -7                |                                   |                 | 0.6242E-04                         |                 |                 |                 |                        |        |
| 34  | 16    | $A_2$    | 33   | 15     | $A_1$     | 1157.75587 | -7                |                                   |                 | 0.6242E-04                         |                 |                 |                 |                        |        |
| 25  | 17    | $E$      | 24   | 16     | $E$       | 1158.30406 | -3                |                                   |                 | 0.8593E-04                         |                 |                 |                 |                        |        |
| 35  | 16    | $A_1$    | 34   | 15     | $A_2$     | 1158.51779 | -13               |                                   |                 | 0.5483E-04                         |                 |                 |                 |                        |        |
| 35  | 16    | $A_2$    | 34   | 15     | $A_1$     | 1158.51779 | -13               |                                   |                 | 0.5483E-04                         |                 |                 |                 |                        |        |
| 26  | 17    | $E$      | 25   | 16     | $E$       | 1159.09796 | -76               |                                   |                 | 0.7820E-04                         |                 |                 |                 |                        |        |
| 23  | 20    | $E$      | 23   | 19     | $E$       | 1159.29137 | 83                |                                   |                 | 0.1595E-05                         |                 |                 |                 |                        |        |
| 27  | 17    | $E$      | 26   | 16     | $E$       | 1159.88897 | -76               |                                   |                 | 0.7090E-04                         |                 |                 |                 |                        |        |
| 37  | 16    | $A_2$    | 36   | 15     | $A_1$     | 1160.02987 | -74               |                                   |                 | 0.4178E-04                         |                 |                 |                 |                        |        |
| 37  | 16    | $A_1$    | 36   | 15     | $A_2$     | 1160.02987 | -74               |                                   |                 | 0.4178E-04                         |                 |                 |                 |                        |        |
| 18  | 18    | $E$      | 17   | 17     | $E$       | 1160.24009 | 31                |                                   |                 | 0.7393E-04                         |                 |                 |                 |                        |        |
| 28  | 17    | $E$      | 27   | 16     | $E$       | 1160.67710 | 0                 |                                   |                 | 0.6402E-04                         |                 |                 |                 |                        |        |
| 19  | 18    | $E$      | 18   | 17     | $E$       | 1161.05890 | 5                 |                                   |                 | 0.6883E-04                         |                 |                 |                 |                        |        |
| 29  | 17    | $E$      | 28   | 16     | $E$       | 1161.46078 | -6                |                                   |                 | 0.5759E-04                         |                 |                 |                 |                        |        |
| 20  | 18    | $E$      | 19   | 17     | $E$       | 1161.87441 | 1                 |                                   |                 | 0.6389E-04                         |                 |                 |                 |                        |        |
| 30  | 17    | $E$      | 29   | 16     | $E$       | 1162.24080 | -11               |                                   |                 | 0.5160E-04                         |                 |                 |                 |                        |        |
| 21  | 18    | $E$      | 20   | 17     | $E$       | 1162.68664 | 22                |                                   |                 | 0.5912E-04                         |                 |                 |                 |                        |        |
| 31  | 17    | $E$      | 30   | 16     | $E$       | 1163.01740 | 9                 |                                   |                 | 0.4604E-04                         |                 |                 |                 |                        |        |

(cont.)

| $J$ | $K_a$ | $\Gamma$ | $J'$ | $K'_a$ | $\Gamma'$ | $\nu^{a)}$ | $\delta_\nu^{b)}$ | $S_\nu^{\text{exp}}(294.45)^{c)}$ | $\Delta_S^{d)}$ | $S_\nu^{\text{calc}}(294.45)^{e)}$ | $\delta_S^{f)}$ | $\Gamma_0^{g)}$ | $\Delta_2^{g)}$ | $\nu_{\text{VC}}^{g)}$ | $R^{h)}$ |
|-----|-------|----------|------|--------|-----------|------------|-------------------|-----------------------------------|-----------------|------------------------------------|-----------------|-----------------|-----------------|------------------------|----------|
| 1   |       |          | 2    |        |           | 3          | 4                 | 5                                 | 6               | 7                                  | 8               | 9               | 10              | 11                     | 12       |
| 22  | 18    | $E$      | 21   | 17     | $E$       | 1163.49503 | 13                |                                   |                 | 0.5453E-04                         |                 |                 |                 |                        |          |
| 32  | 17    | $E$      | 31   | 16     | $E$       | 1163.78981 | -20               |                                   |                 | 0.4092E-04                         |                 |                 |                 |                        |          |
| 23  | 18    | $E$      | 22   | 17     | $E$       | 1164.29986 | 4                 |                                   |                 | 0.5012E-04                         |                 |                 |                 |                        |          |
| 33  | 17    | $E$      | 32   | 16     | $E$       | 1164.55903 | 2                 |                                   |                 | 0.3622E-04                         |                 |                 |                 |                        |          |
| 25  | 18    | $E$      | 24   | 17     | $E$       | 1165.89894 | 0                 |                                   |                 | 0.4190E-04                         |                 |                 |                 |                        |          |
| 26  | 18    | $E$      | 25   | 17     | $E$       | 1166.69323 | 13                |                                   |                 | 0.3809E-04                         |                 |                 |                 |                        |          |
| 23  | 21    | $E$      | 23   | 20     | $E$       | 1166.95096 | -14               |                                   |                 | 0.4785E-06                         |                 |                 |                 |                        |          |
| 27  | 18    | $E$      | 26   | 17     | $E$       | 1167.48342 | -23               |                                   |                 | 0.3450E-04                         |                 |                 |                 |                        |          |
| 37  | 17    | $E$      | 36   | 16     | $E$       | 1167.59704 | -61               |                                   |                 | 0.2133E-04                         |                 |                 |                 |                        |          |
| 28  | 18    | $E$      | 27   | 17     | $E$       | 1168.27080 | 24                |                                   |                 | 0.3113E-04                         |                 |                 |                 |                        |          |
| 19  | 19    | $A_2$    | 18   | 18     | $A_1$     | 1168.67688 | 5                 |                                   |                 | 0.3193E-04                         |                 |                 |                 |                        |          |
| 19  | 19    | $A_1$    | 18   | 18     | $A_2$     | 1168.67688 | 5                 |                                   |                 | 0.3193E-04                         |                 |                 |                 |                        |          |
| 29  | 18    | $E$      | 28   | 17     | $E$       | 1169.05385 | 3                 |                                   |                 | 0.2798E-04                         |                 |                 |                 |                        |          |
| 20  | 19    | $A_2$    | 19   | 18     | $A_1$     | 1169.49204 | 15                |                                   |                 | 0.2960E-04                         |                 |                 |                 |                        |          |
| 20  | 19    | $A_1$    | 19   | 18     | $A_2$     | 1169.49204 | 15                |                                   |                 | 0.2960E-04                         |                 |                 |                 |                        |          |
| 30  | 18    | $E$      | 29   | 17     | $E$       | 1169.83348 | 5                 |                                   |                 | 0.2505E-04                         |                 |                 |                 |                        |          |
| 21  | 19    | $A_2$    | 20   | 18     | $A_1$     | 1170.30359 | 16                |                                   |                 | 0.2736E-04                         |                 |                 |                 |                        |          |
| 21  | 19    | $A_1$    | 20   | 18     | $A_2$     | 1170.30359 | 16                |                                   |                 | 0.2736E-04                         |                 |                 |                 |                        |          |
| 22  | 19    | $A_2$    | 21   | 18     | $A_1$     | 1171.11167 | 25                |                                   |                 | 0.2521E-04                         |                 |                 |                 |                        |          |
| 22  | 19    | $A_1$    | 21   | 18     | $A_2$     | 1171.11167 | 25                |                                   |                 | 0.2521E-04                         |                 |                 |                 |                        |          |
| 32  | 18    | $E$      | 31   | 17     | $E$       | 1171.38086 | -73               |                                   |                 | 0.1984E-04                         |                 |                 |                 |                        |          |
| 23  | 19    | $A_1$    | 22   | 18     | $A_2$     | 1171.91583 | -2                |                                   |                 | 0.2315E-04                         |                 |                 |                 |                        |          |
| 23  | 19    | $A_2$    | 22   | 18     | $A_1$     | 1171.91583 | -2                |                                   |                 | 0.2315E-04                         |                 |                 |                 |                        |          |
| 24  | 19    | $A_2$    | 23   | 18     | $A_1$     | 1172.71630 | -41               |                                   |                 | 0.2118E-04                         |                 |                 |                 |                        |          |
| 24  | 19    | $A_1$    | 23   | 18     | $A_2$     | 1172.71630 | -41               |                                   |                 | 0.2118E-04                         |                 |                 |                 |                        |          |
| 25  | 19    | $A_1$    | 24   | 18     | $A_2$     | 1173.51422 | 25                |                                   |                 | 0.1931E-04                         |                 |                 |                 |                        |          |
| 25  | 19    | $A_2$    | 24   | 18     | $A_1$     | 1173.51422 | 25                |                                   |                 | 0.1931E-04                         |                 |                 |                 |                        |          |
| 26  | 19    | $A_2$    | 25   | 18     | $A_1$     | 1174.30760 | -4                |                                   |                 | 0.1754E-04                         |                 |                 |                 |                        |          |
| 26  | 19    | $A_1$    | 25   | 18     | $A_2$     | 1174.30760 | -4                |                                   |                 | 0.1754E-04                         |                 |                 |                 |                        |          |
| 27  | 19    | $A_2$    | 26   | 18     | $A_1$     | 1175.09785 | 17                |                                   |                 | 0.1588E-04                         |                 |                 |                 |                        |          |
| 27  | 19    | $A_1$    | 26   | 18     | $A_2$     | 1175.09785 | 17                |                                   |                 | 0.1588E-04                         |                 |                 |                 |                        |          |
| 28  | 19    | $A_2$    | 27   | 18     | $A_1$     | 1175.88408 | -1                |                                   |                 | 0.1432E-04                         |                 |                 |                 |                        |          |
| 28  | 19    | $A_1$    | 27   | 18     | $A_2$     | 1175.88408 | -1                |                                   |                 | 0.1432E-04                         |                 |                 |                 |                        |          |
| 29  | 19    | $A_2$    | 28   | 18     | $A_1$     | 1176.66679 | -6                |                                   |                 | 0.1286E-04                         |                 |                 |                 |                        |          |
| 29  | 19    | $A_1$    | 28   | 18     | $A_2$     | 1176.66679 | -6                |                                   |                 | 0.1286E-04                         |                 |                 |                 |                        |          |
| 20  | 20    | $E$      | 19   | 19     | $E$       | 1177.12792 | 62                |                                   |                 | 0.1294E-04                         |                 |                 |                 |                        |          |
| 22  | 20    | $E$      | 21   | 19     | $E$       | 1178.74584 | 6                 |                                   |                 | 0.1100E-04                         |                 |                 |                 |                        |          |
| 24  | 20    | $E$      | 23   | 19     | $E$       | 1180.34984 | -16               |                                   |                 | 0.9225E-05                         |                 |                 |                 |                        |          |
| 25  | 20    | $E$      | 24   | 19     | $E$       | 1181.14680 | 6                 |                                   |                 | 0.8405E-05                         |                 |                 |                 |                        |          |
| 26  | 20    | $E$      | 25   | 19     | $E$       | 1181.94005 | 18                |                                   |                 | 0.7629E-05                         |                 |                 |                 |                        |          |