

## **Supplementary Information**

### **Rapid and efficient access to novel bio-inspired 3-dimensional Tricyclic SpiroLactams as privileged structures via Meyers' lactamization**

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Marion Michel<sup>1</sup>, Marion Flipo<sup>1</sup>, Benoit Deprez<sup>1</sup>, Nicolas Willand<sup>1</sup>, Baptiste Villemagne<sup>1,\*</sup>**

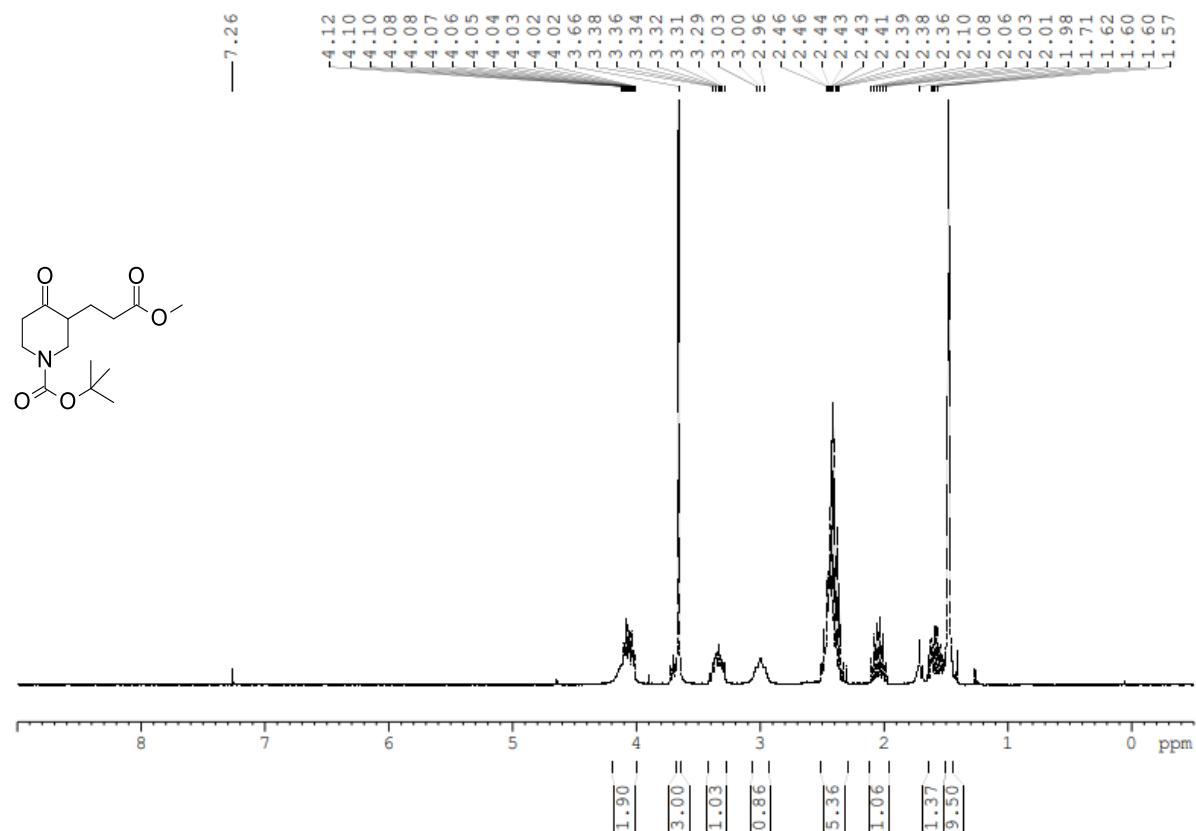
<sup>1</sup> Univ. Lille, Inserm, Institut Pasteur de Lille, U1177 - Drugs and Molecules for Living Systems, F-59000, Lille, France.

<sup>2</sup> Univ. Lille, CNRS, Centrale Lille, ENSCL, Univ. Artois, UMR 8181 - UCCS - Unité de Catalyse et Chimie du Solide, F-59000 Lille, France.

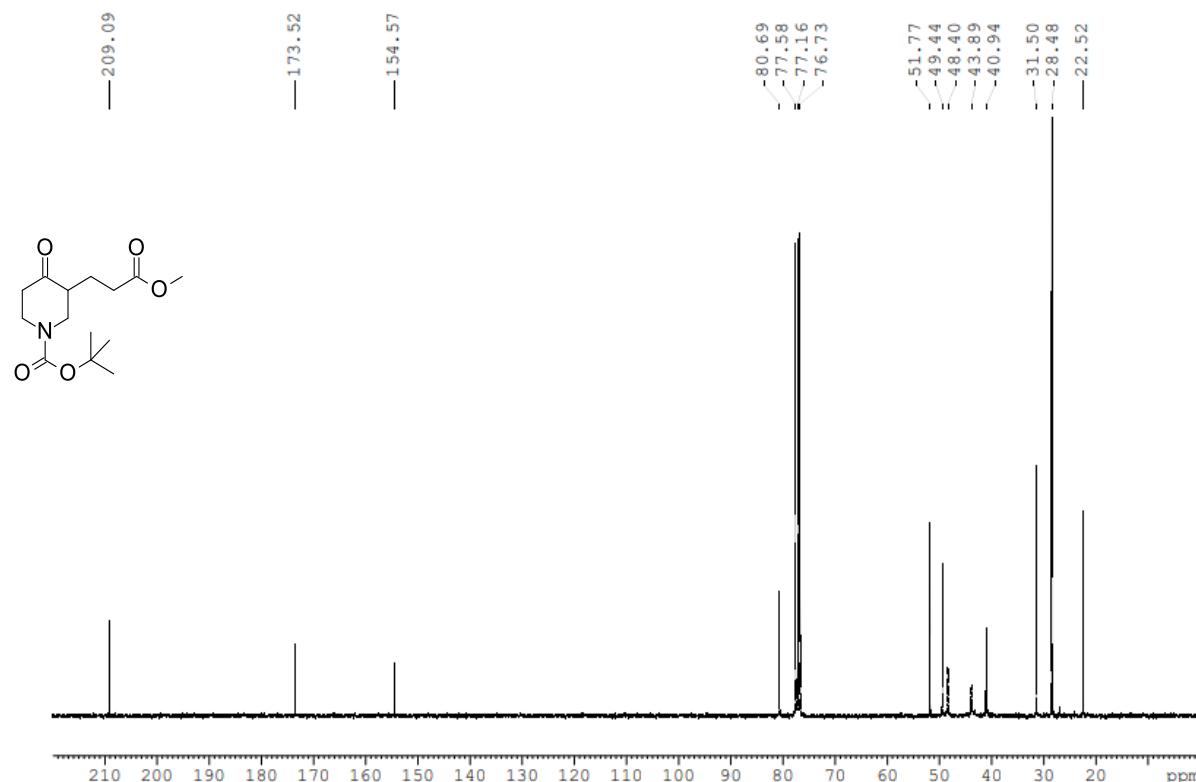
\*Correspondence: [baptiste.villemagne@univ-lille.fr](mailto:baptiste.villemagne@univ-lille.fr);

**<sup>1</sup>H and <sup>13</sup>C NMR Spectra:**

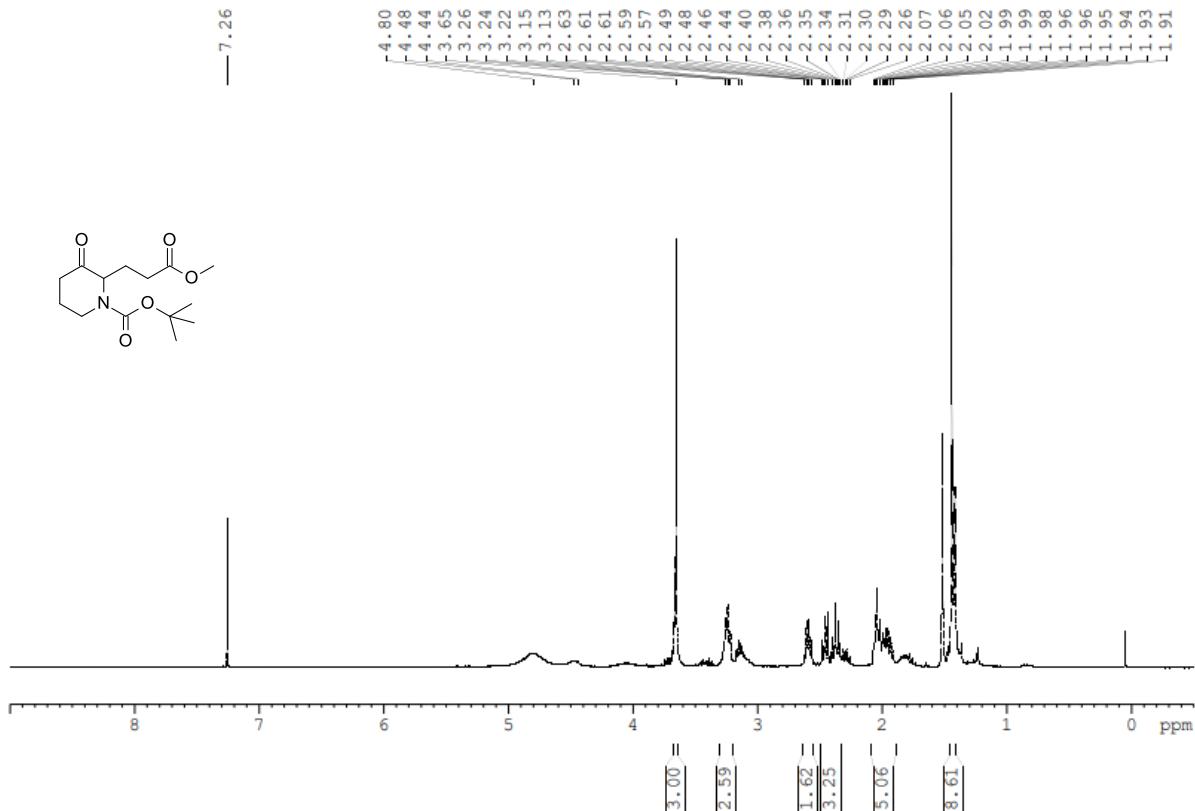
**16, <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>)**



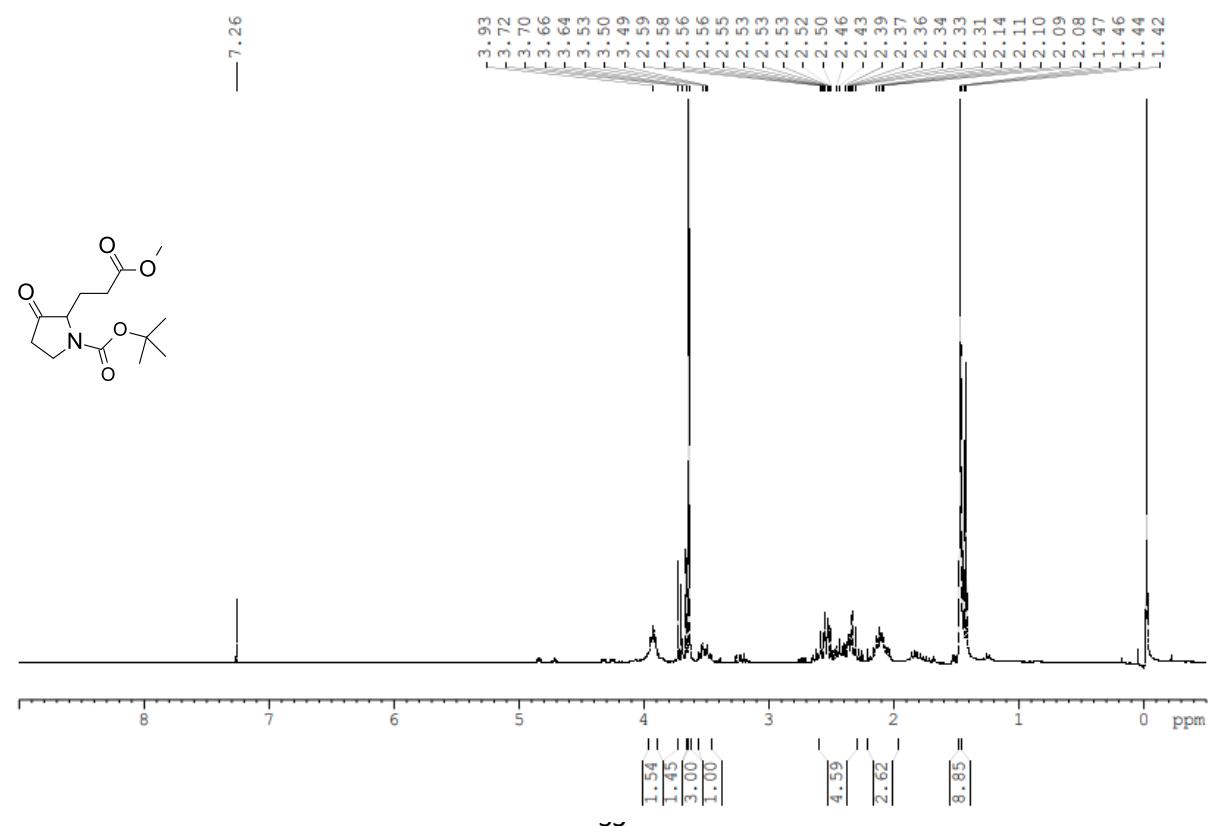
**16, <sup>13</sup>C NMR (75 MHz, CDCl<sub>3</sub>)**



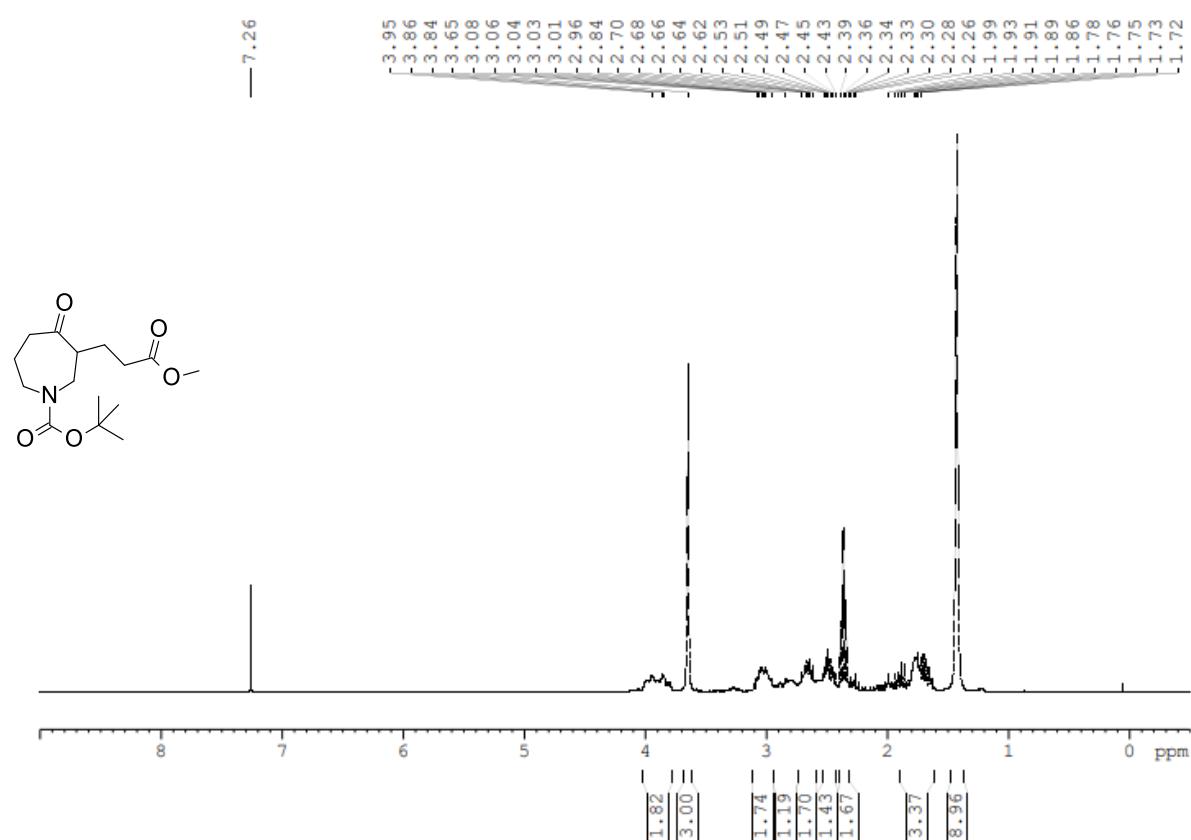
**30,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



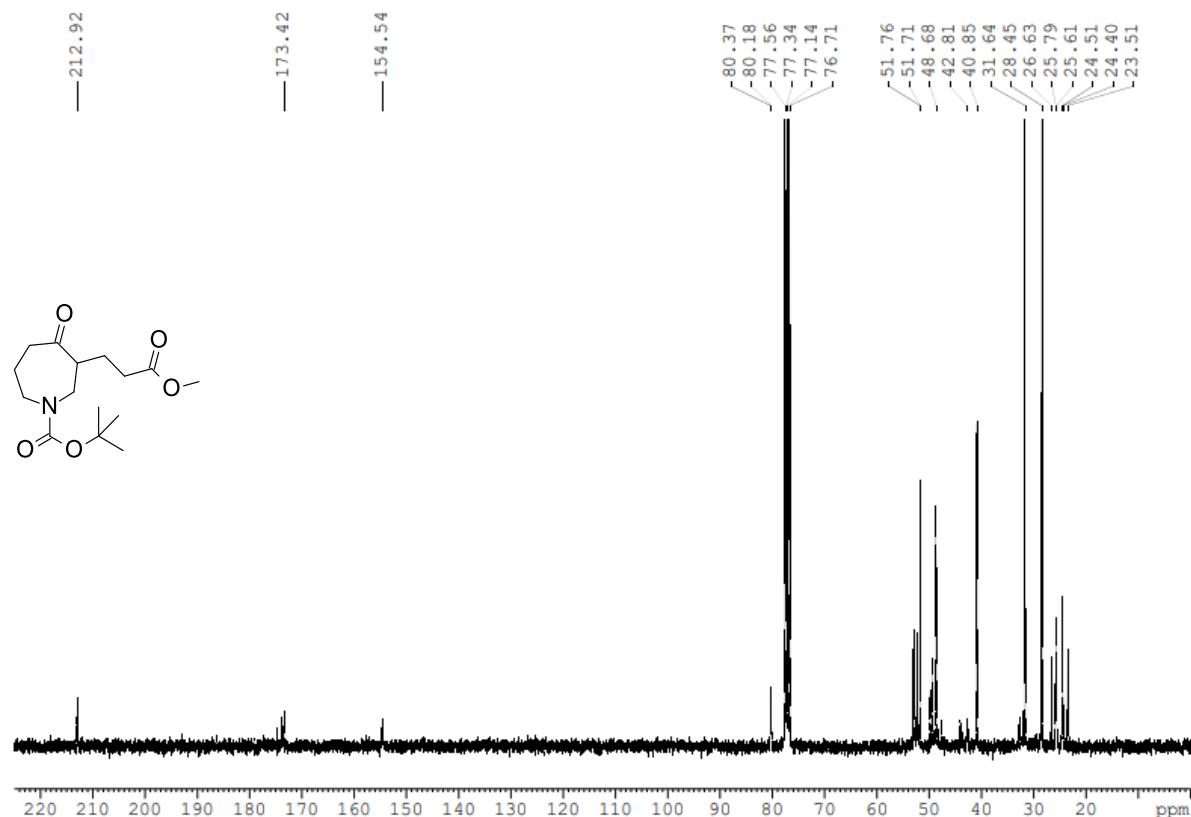
**32,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



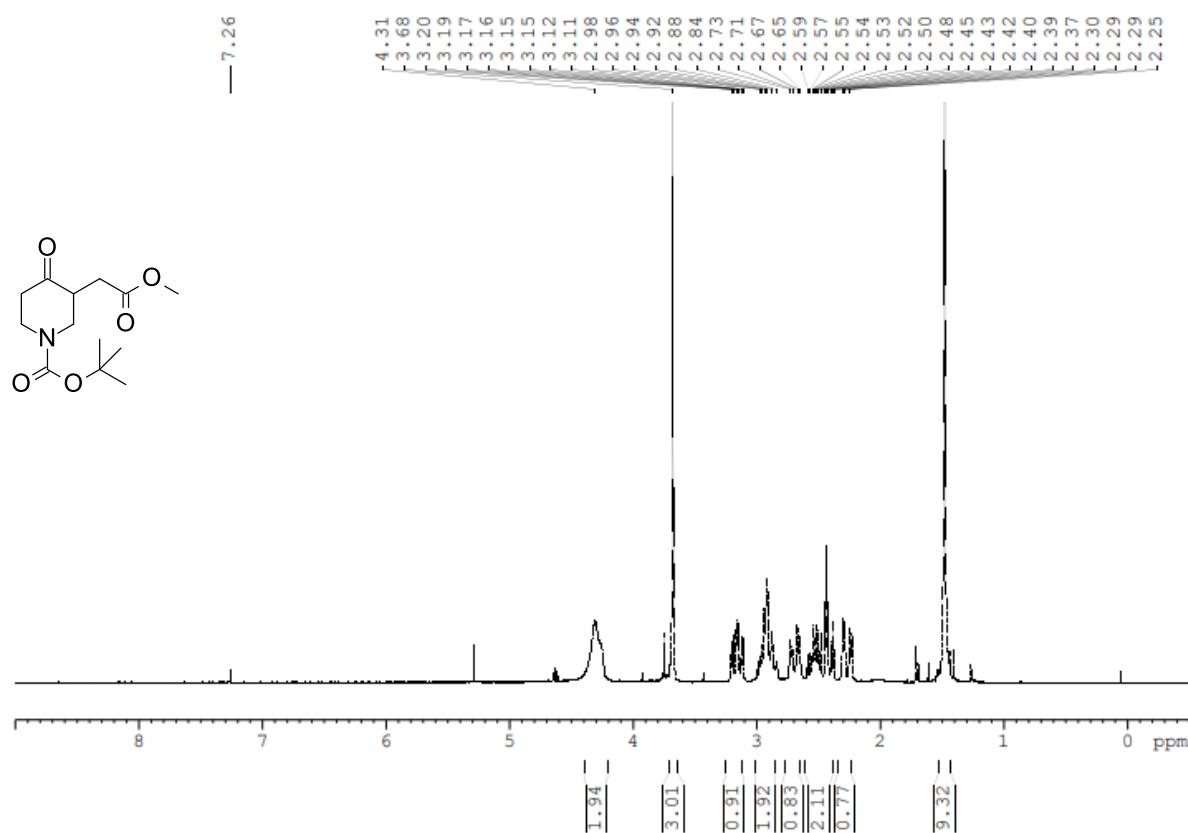
**34,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



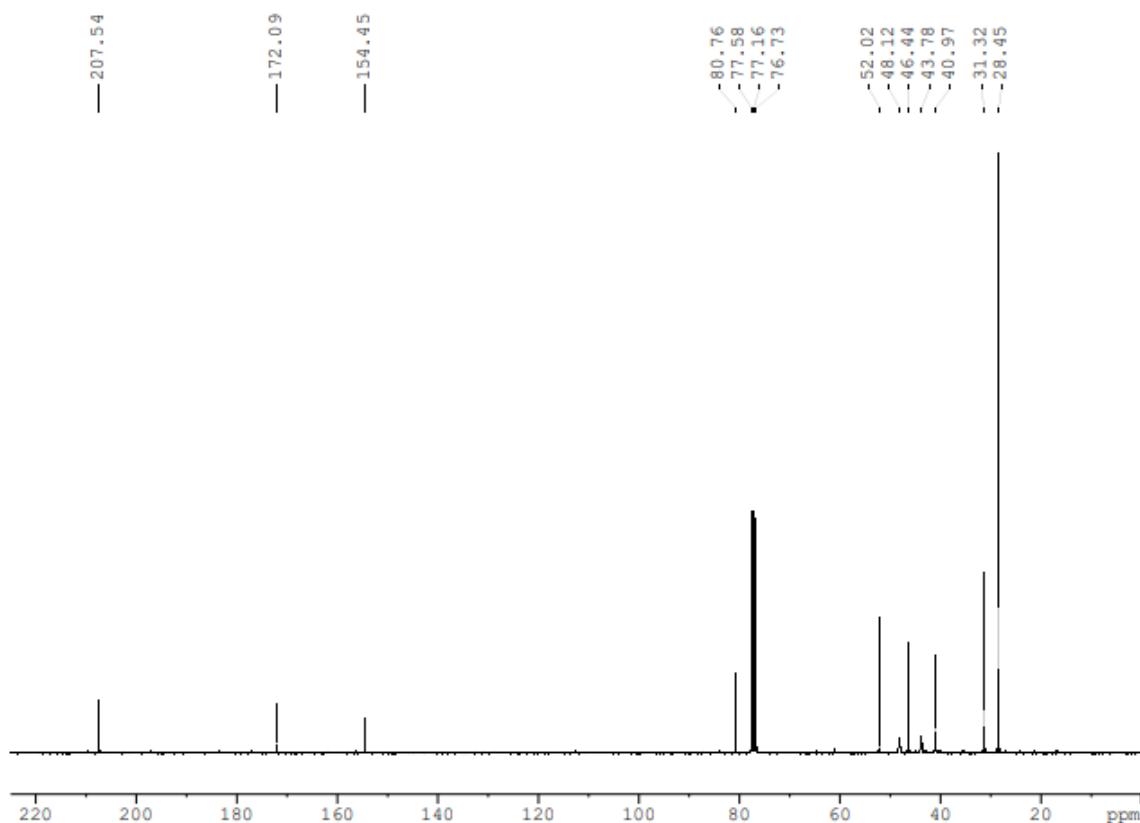
**34,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



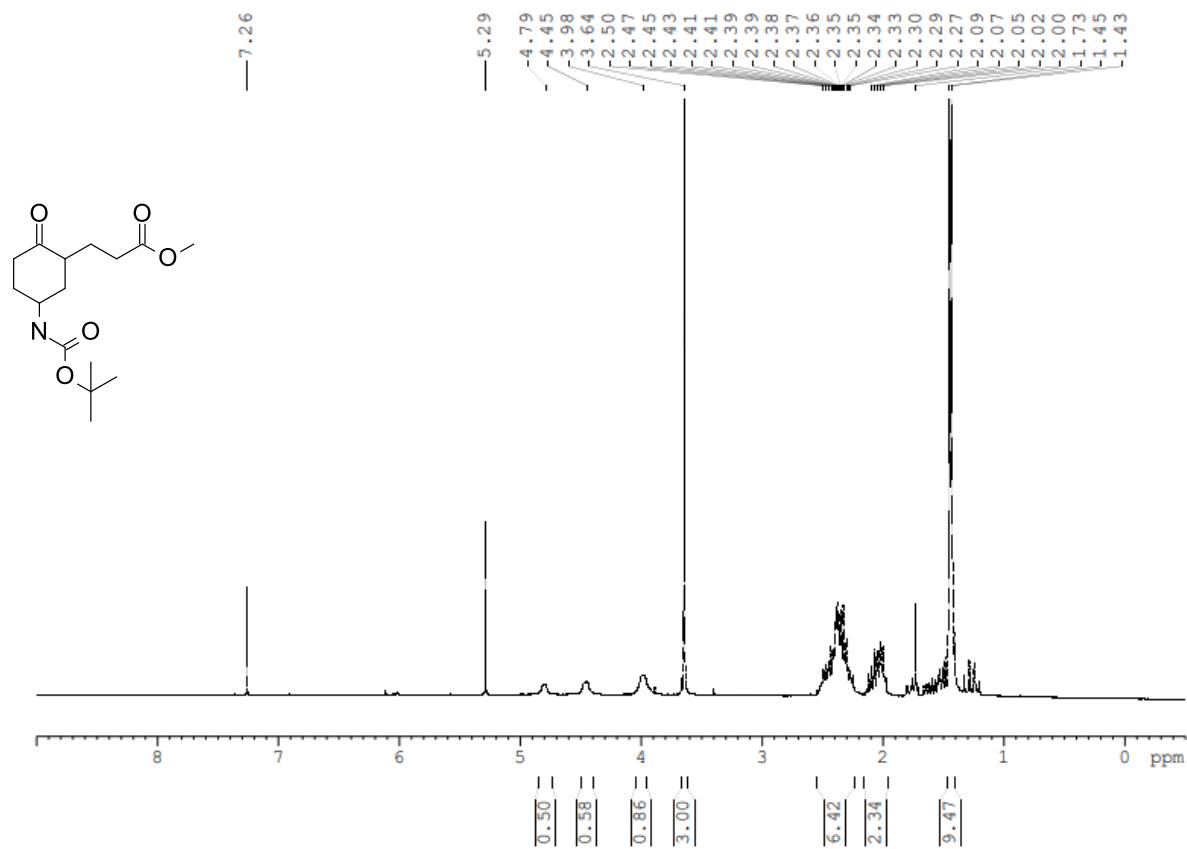
**36,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



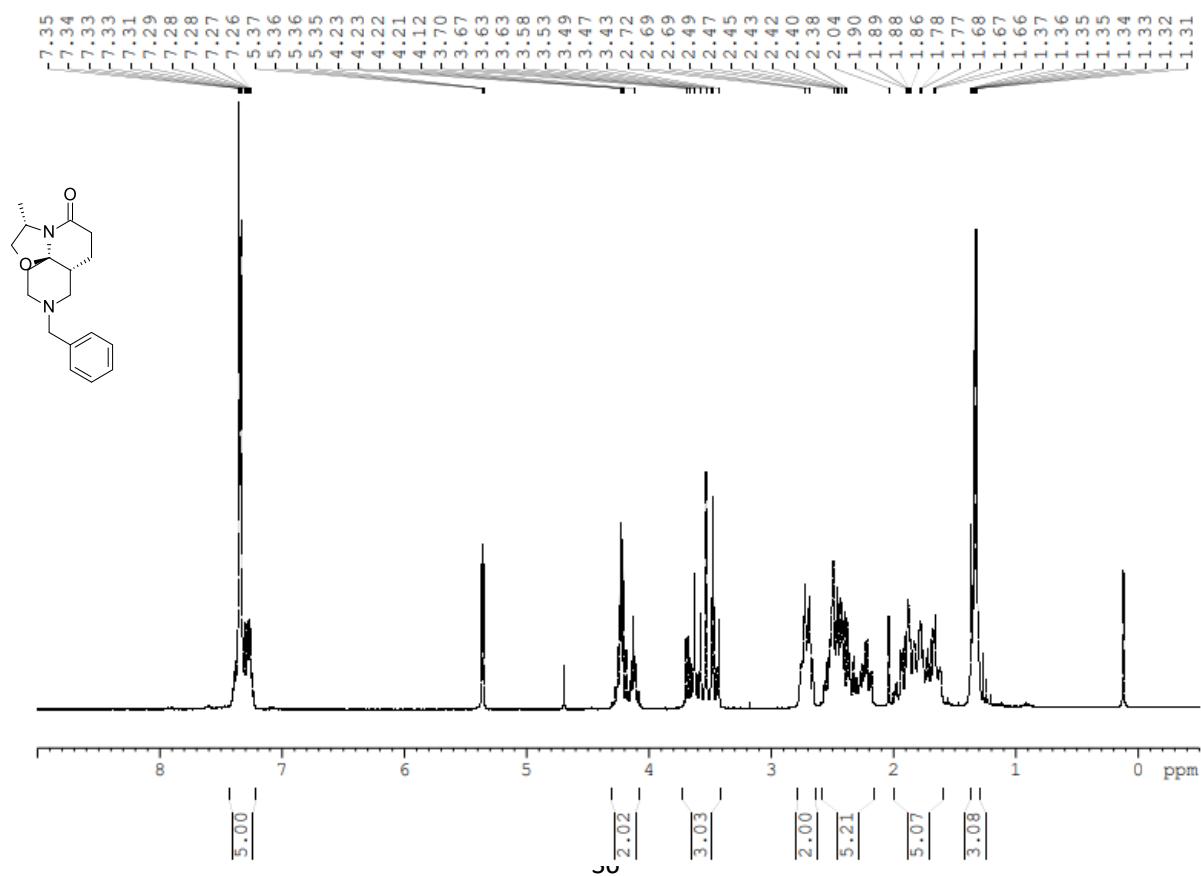
**36,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



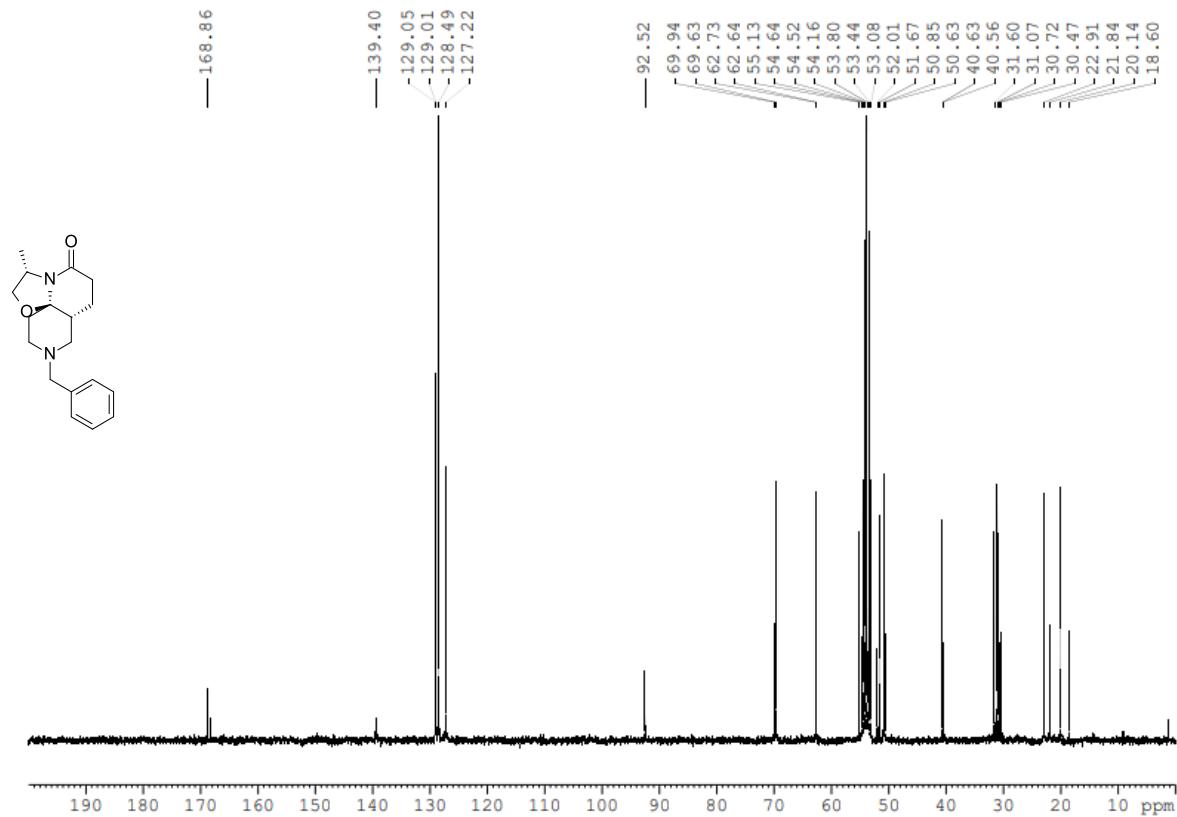
**38,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



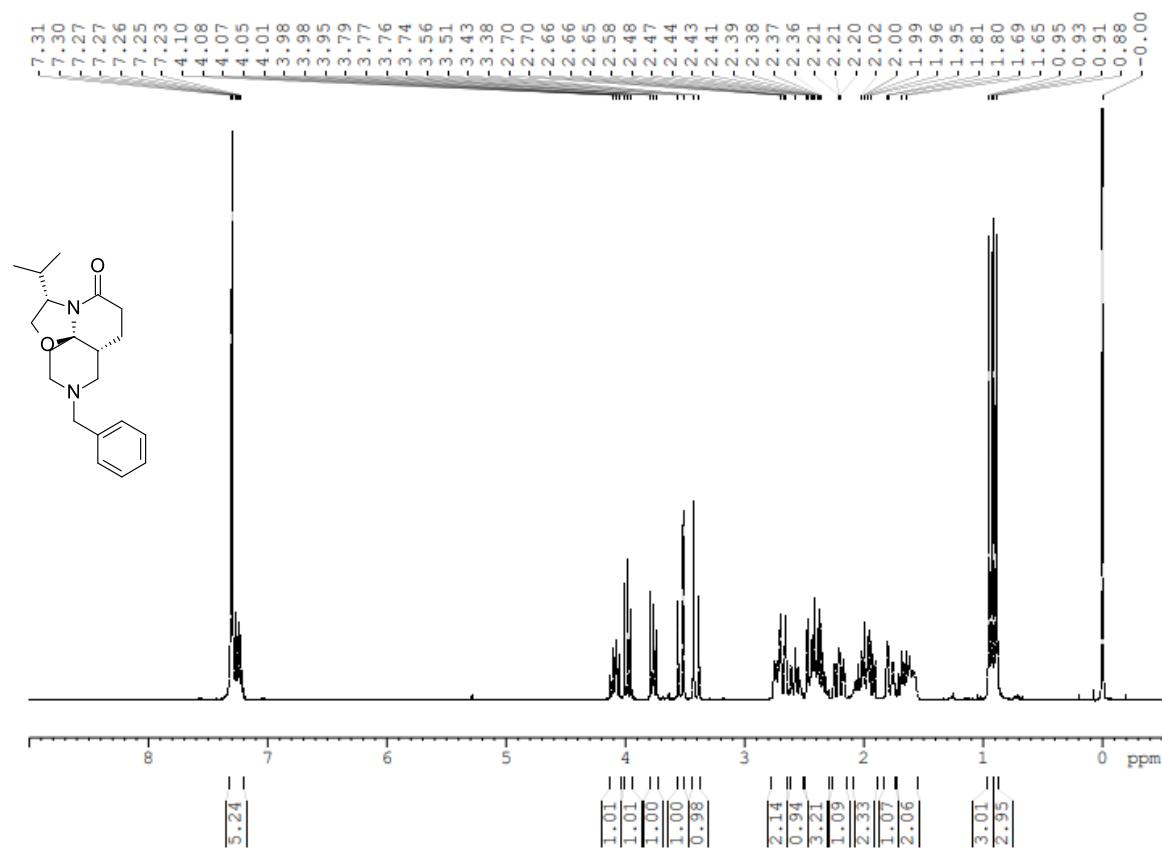
**11,  $^1\text{H}$  NMR (300 MHz,  $\text{CD}_2\text{Cl}_2$ )**



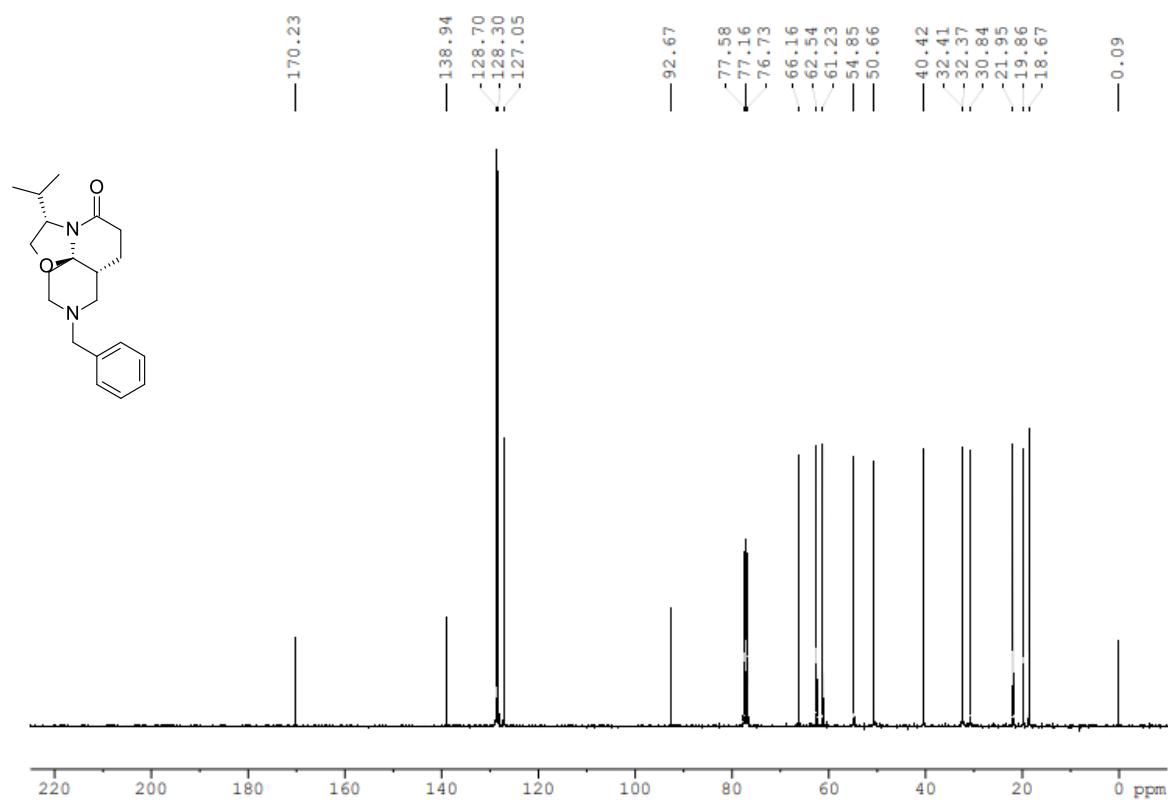
**11,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CD}_2\text{Cl}_2$ )**



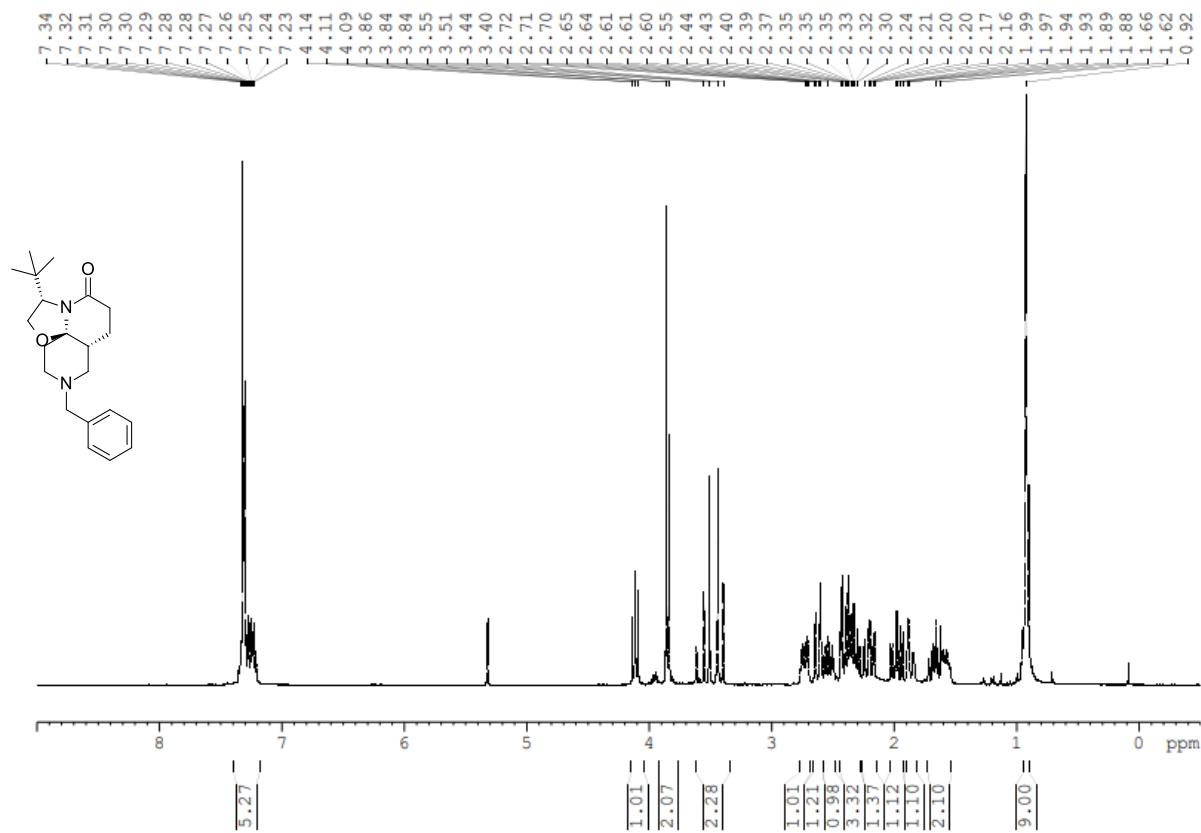
**12,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



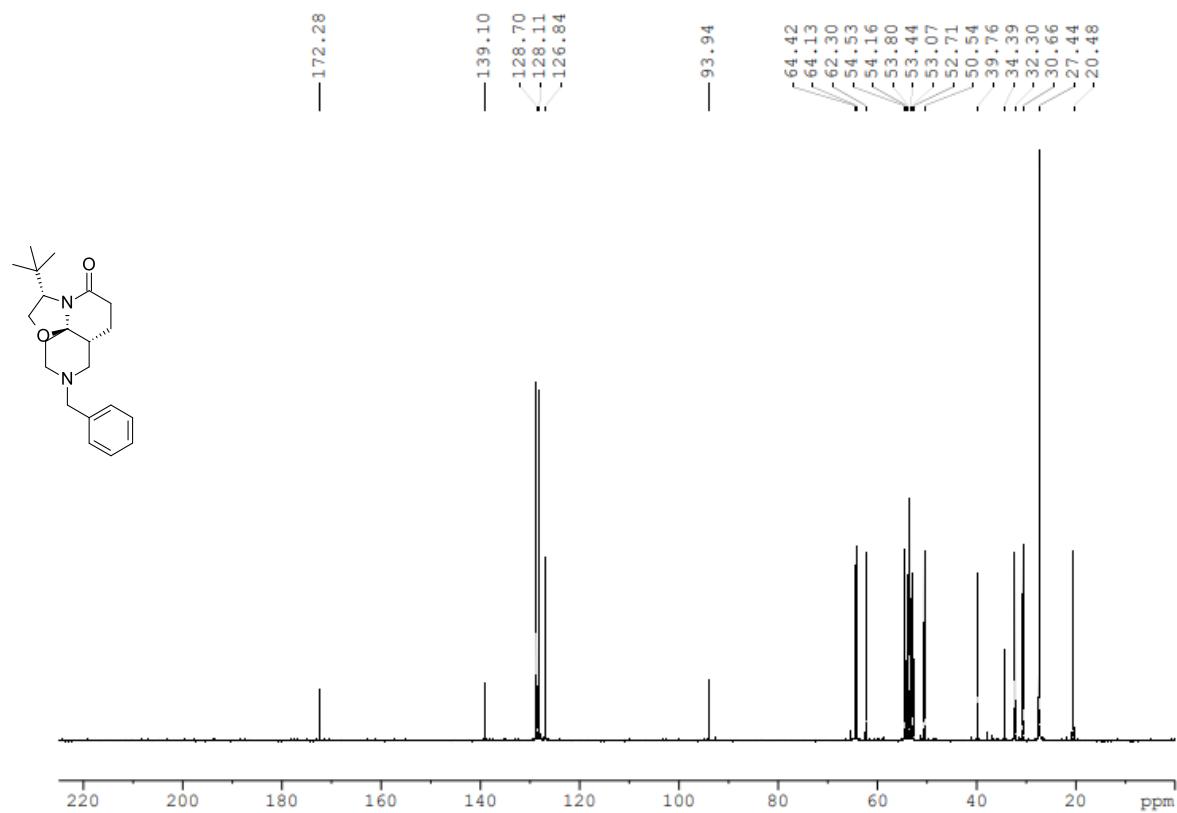
**12,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



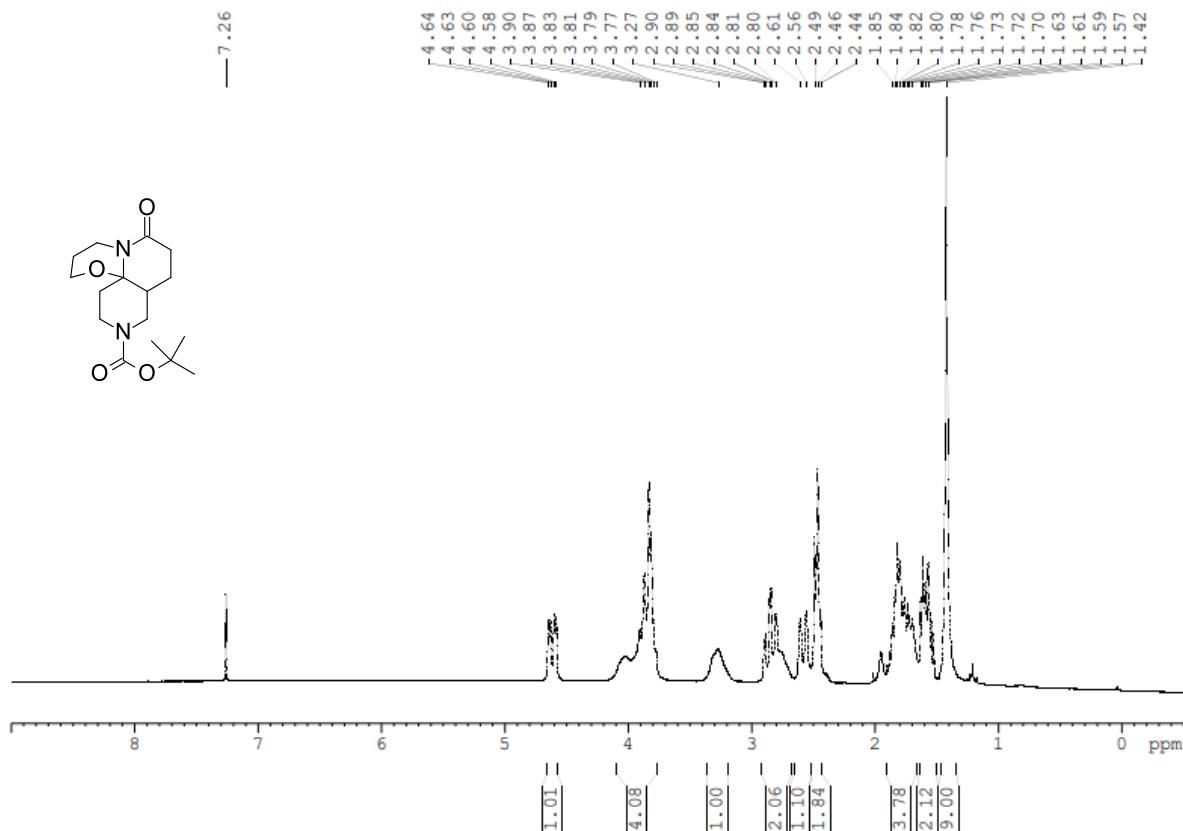
**13,  $^1\text{H}$  NMR (300 MHz,  $\text{CD}_2\text{Cl}_2$ )**



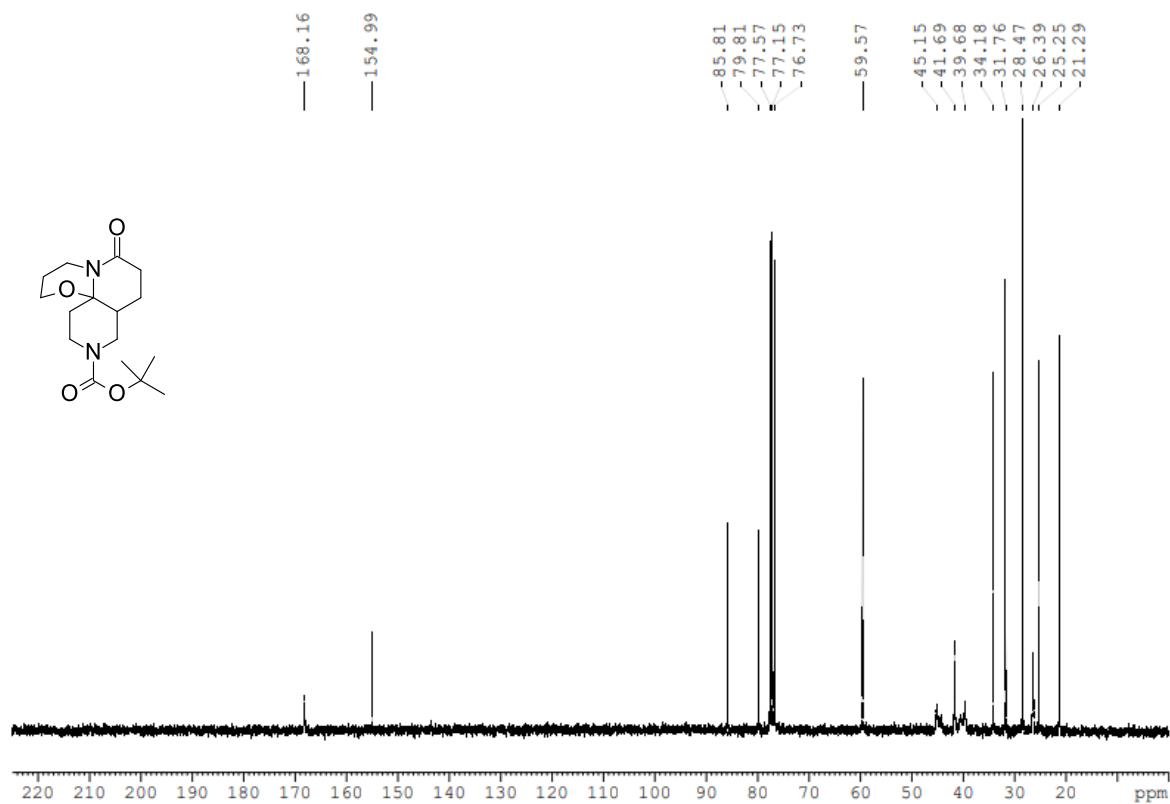
**13,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CD}_2\text{Cl}_2$ )**



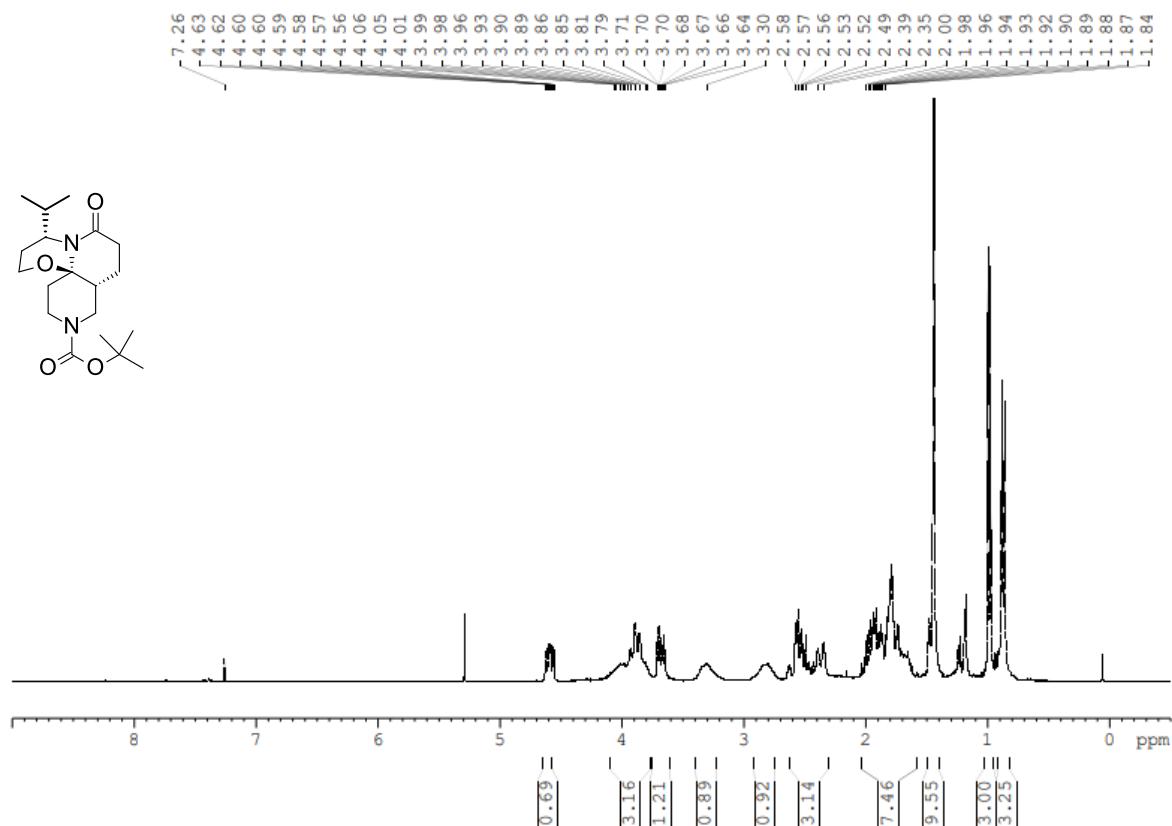
**17,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



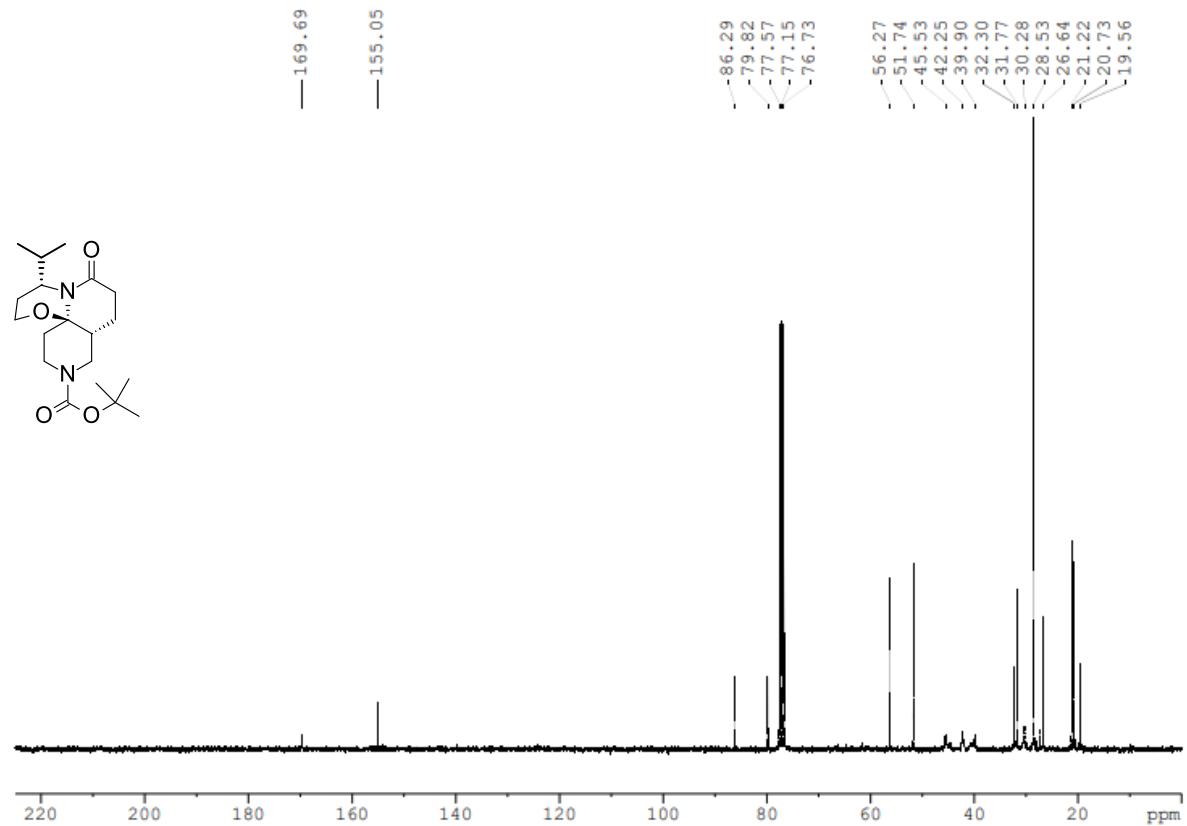
**17,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



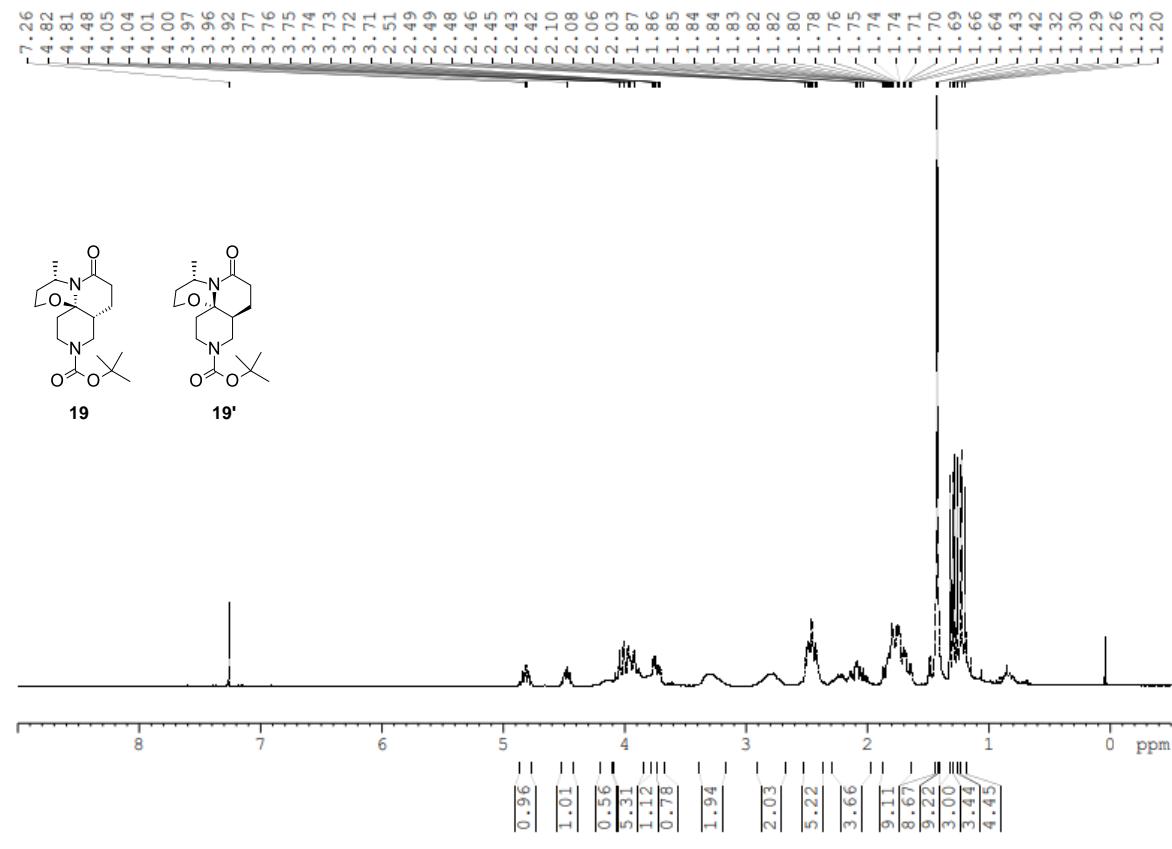
**18,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



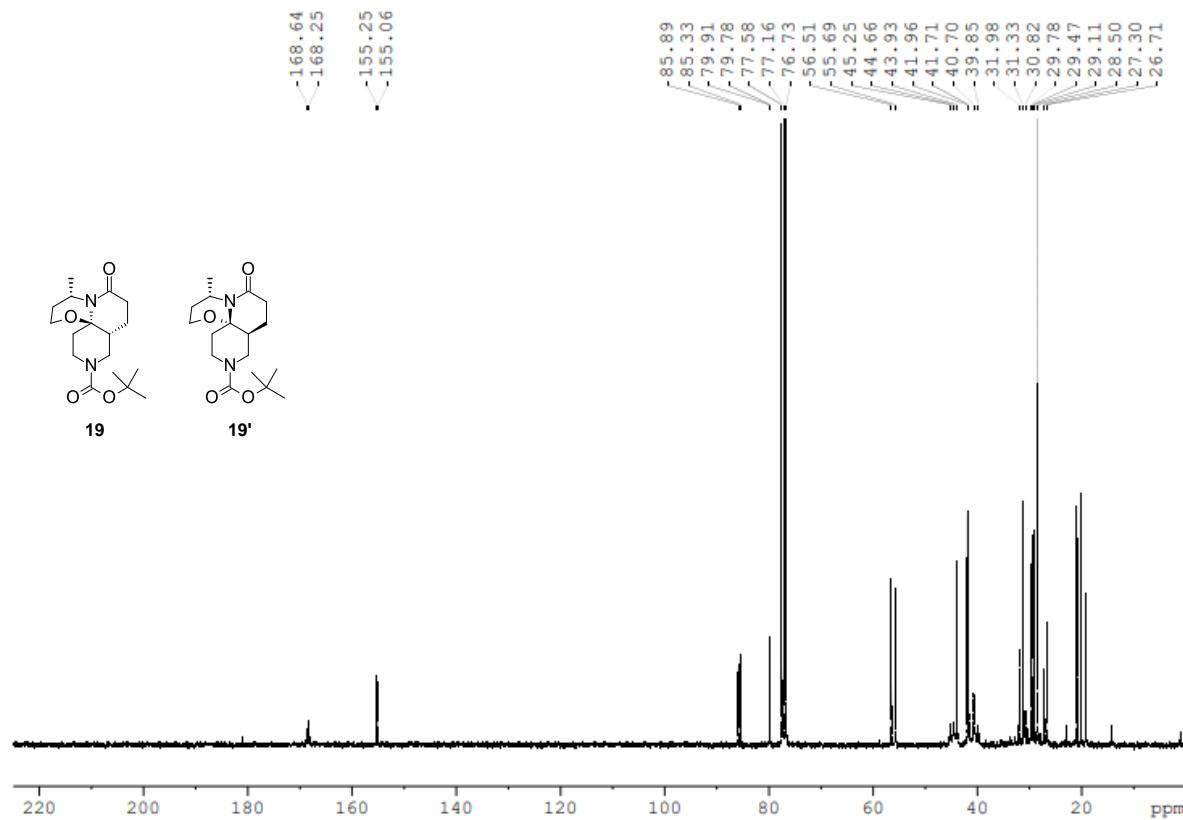
**18,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



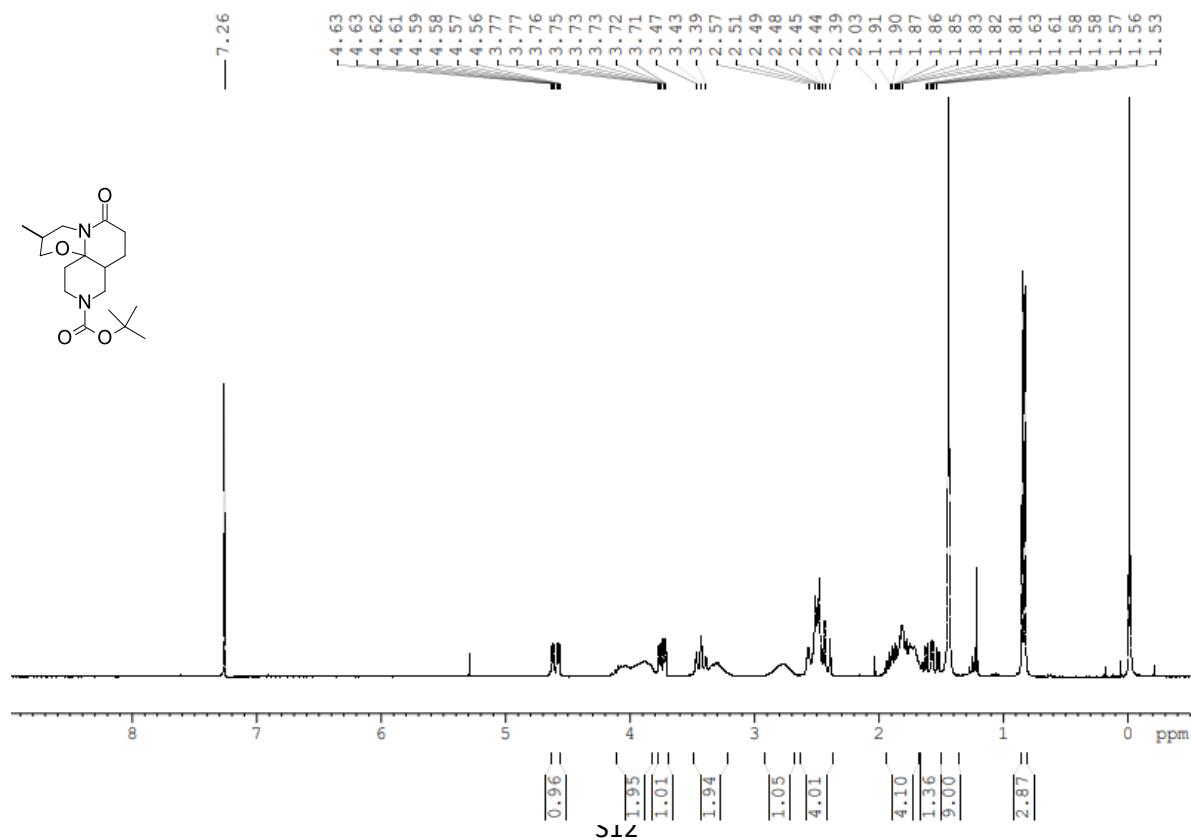
**19+19',  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



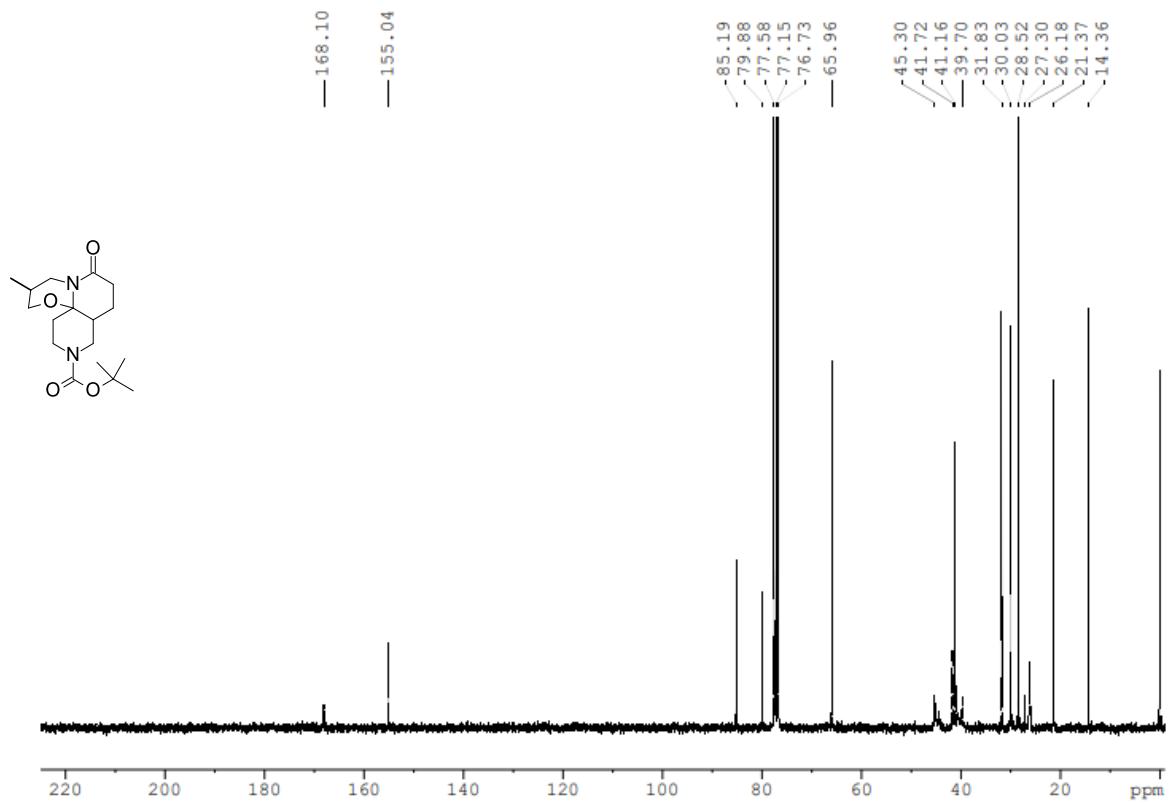
**19+19',  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



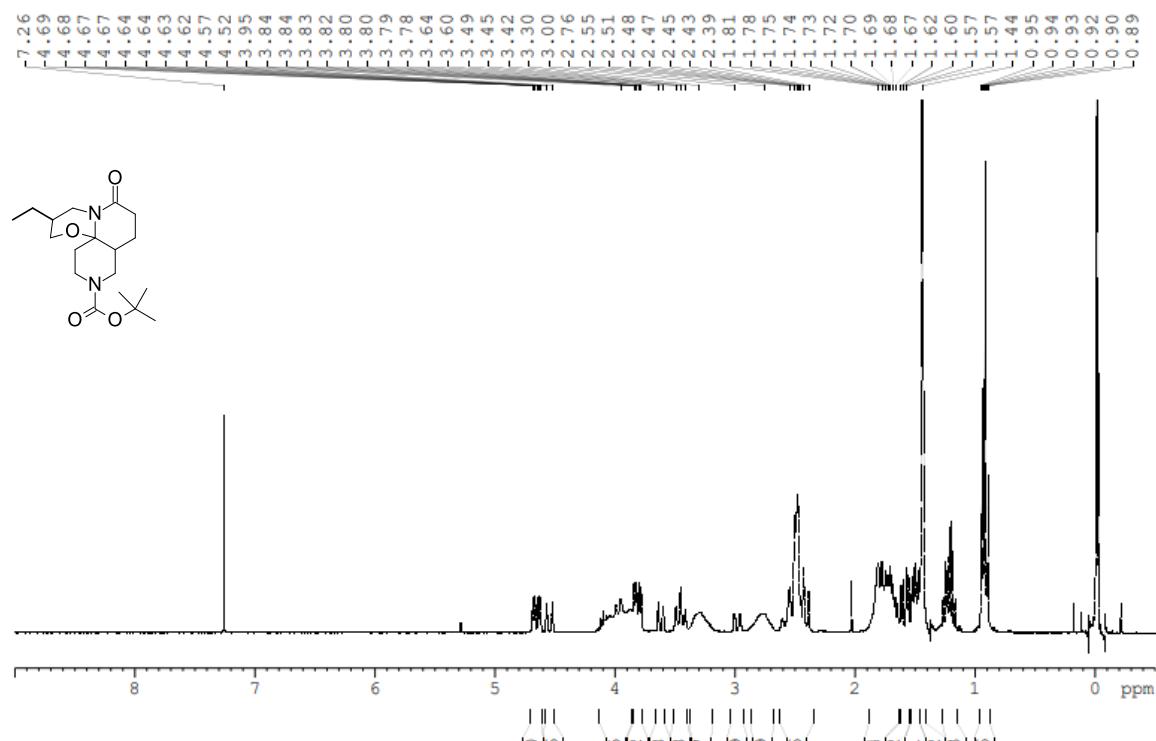
**20,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



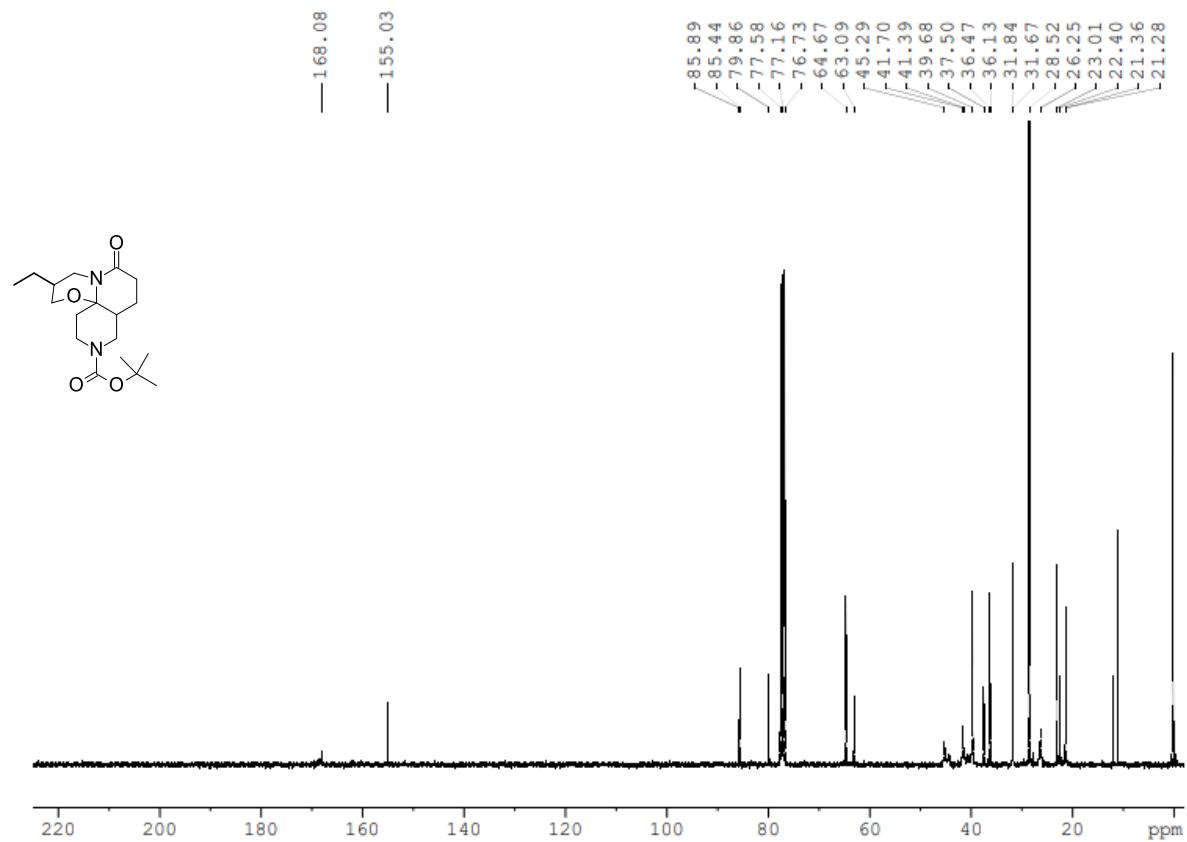
**20,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



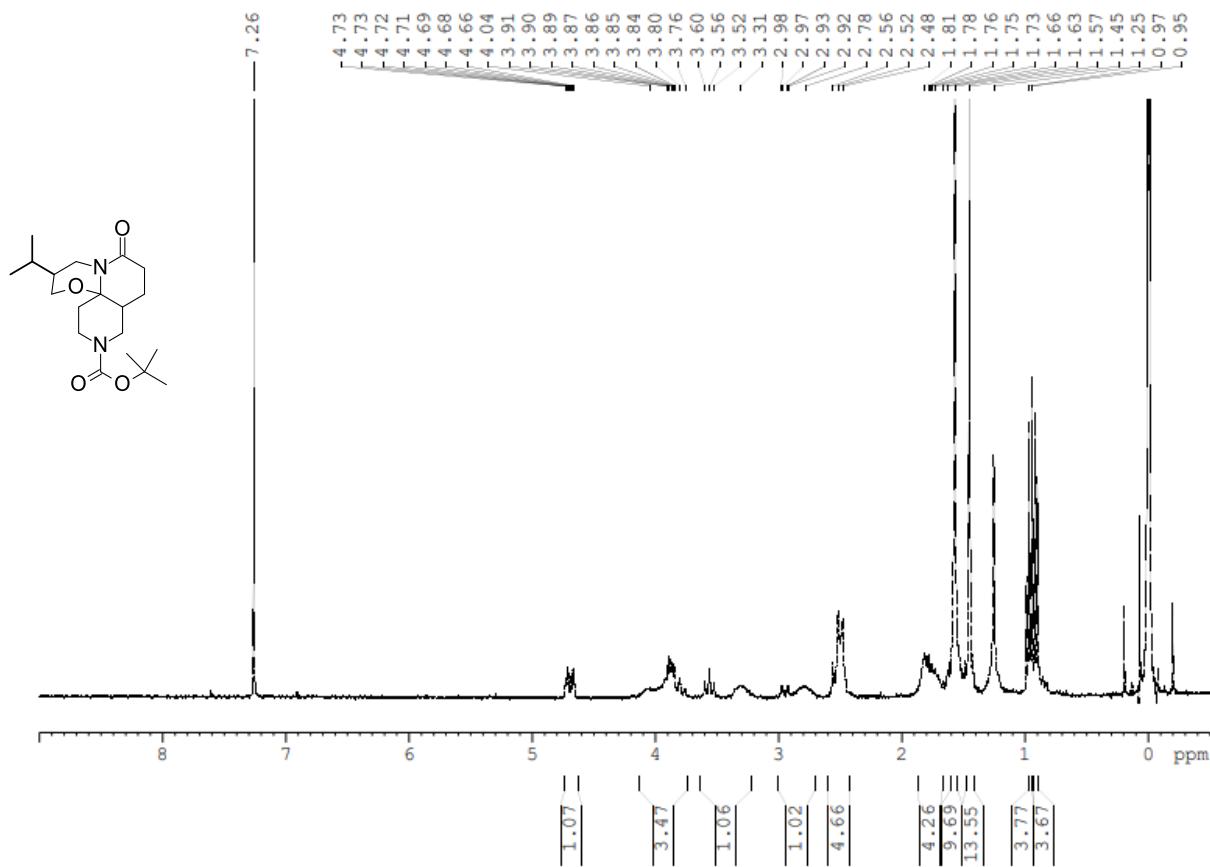
**21,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



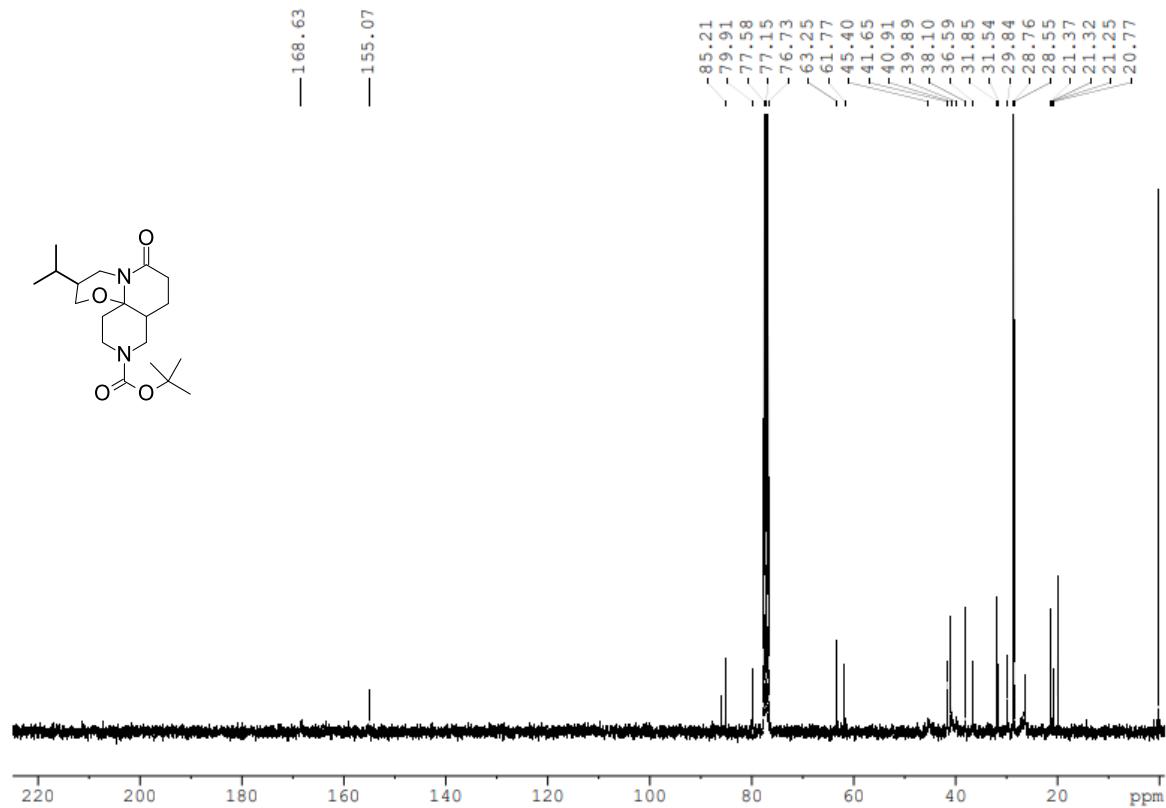
**21,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



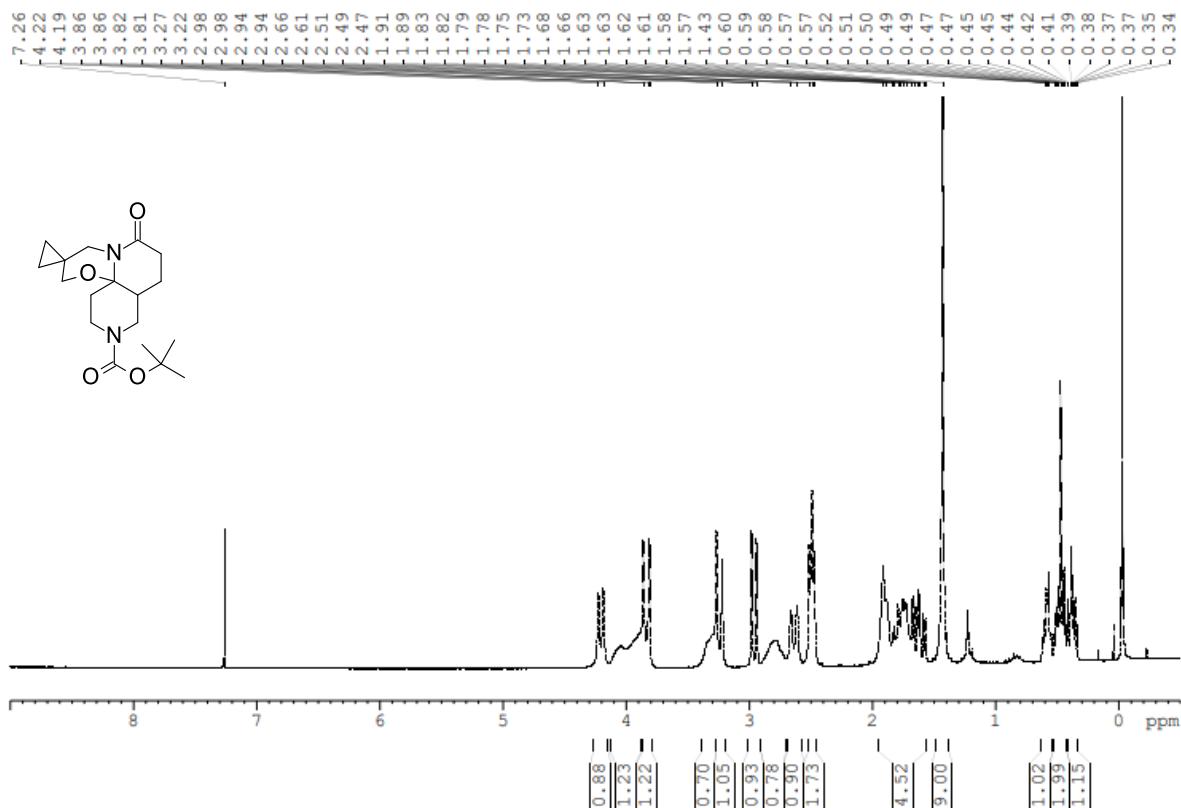
**22,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



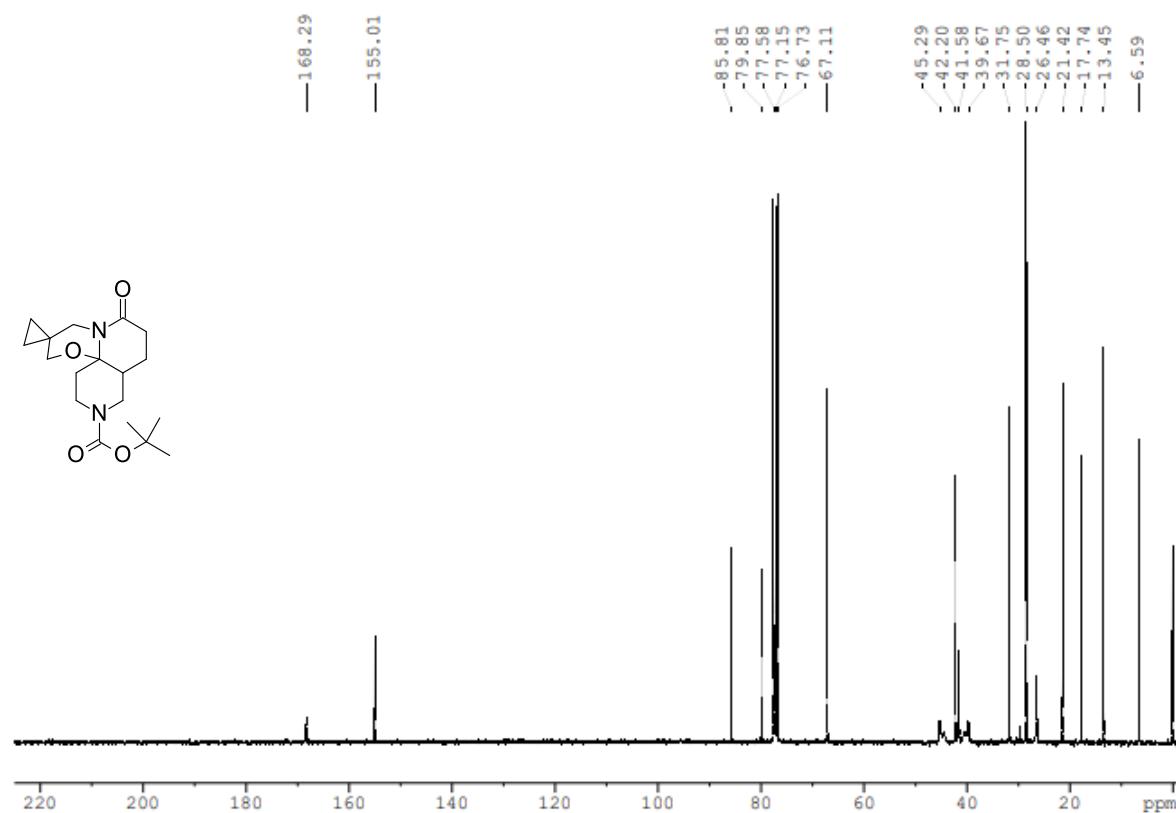
**22,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



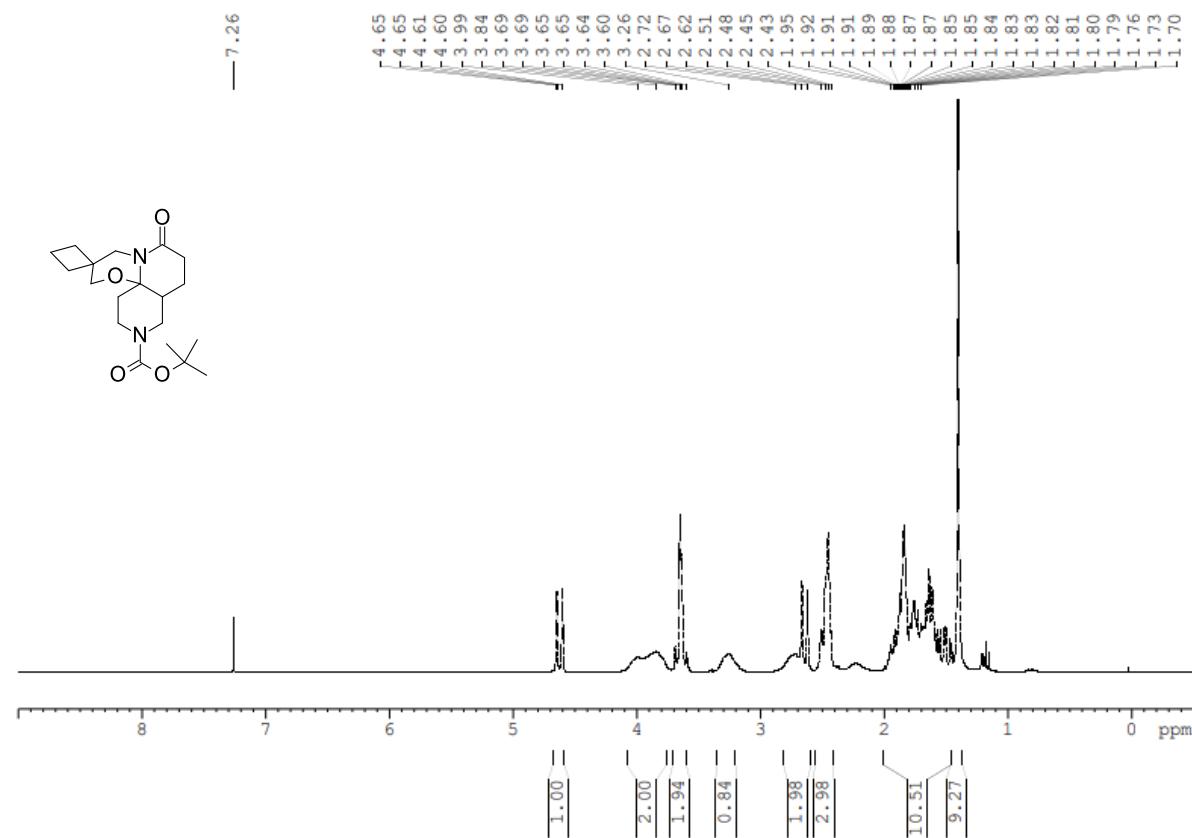
**23,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



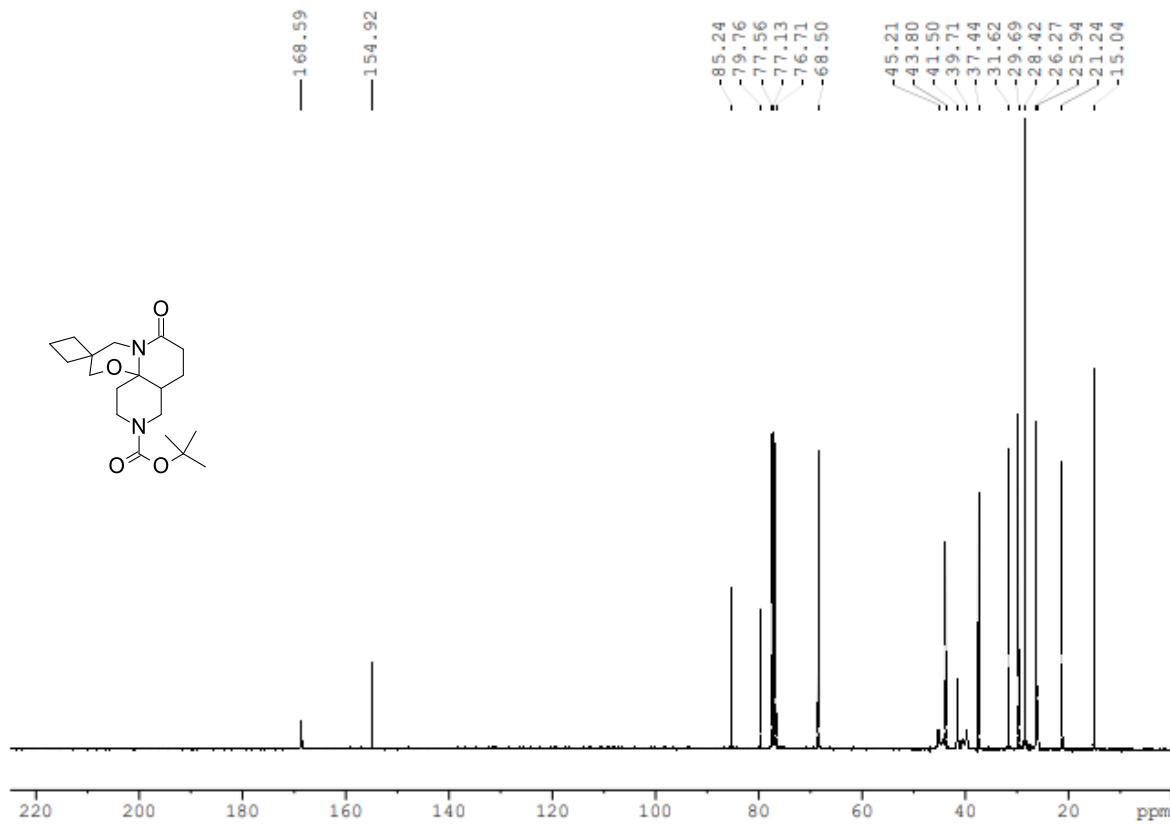
**23,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



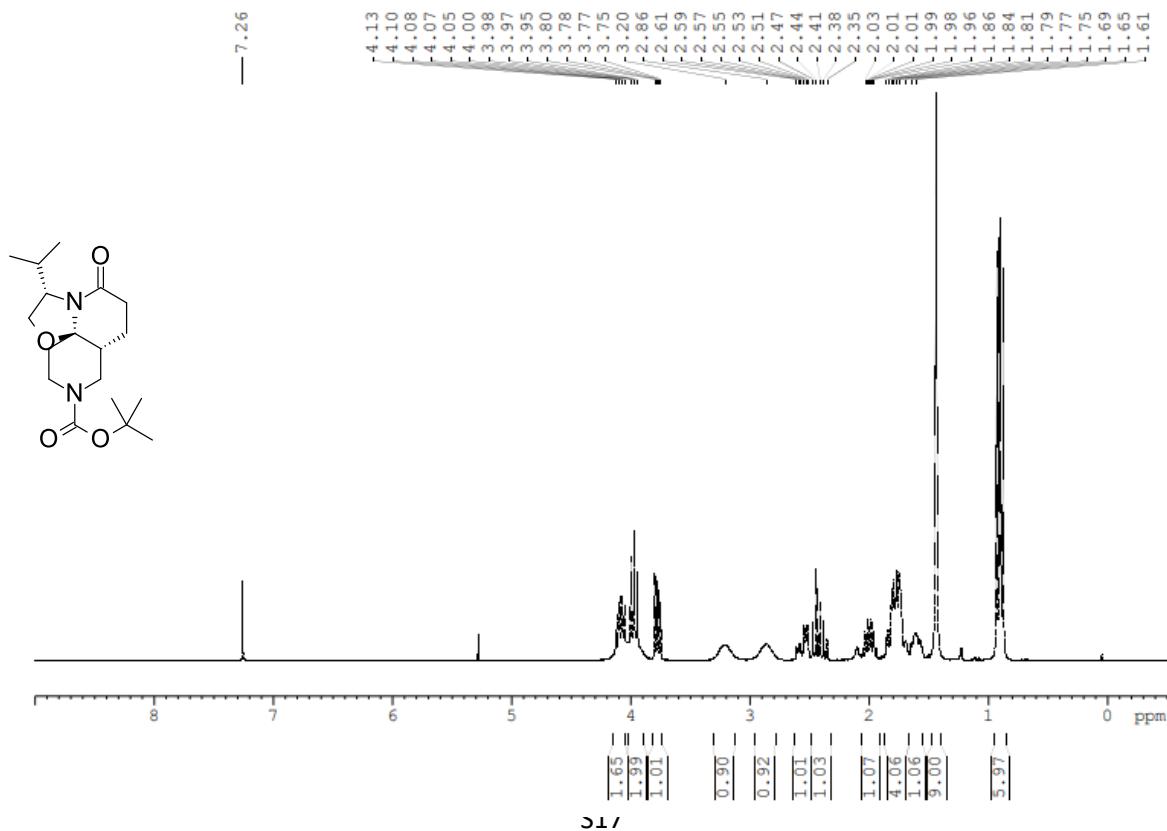
**24,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



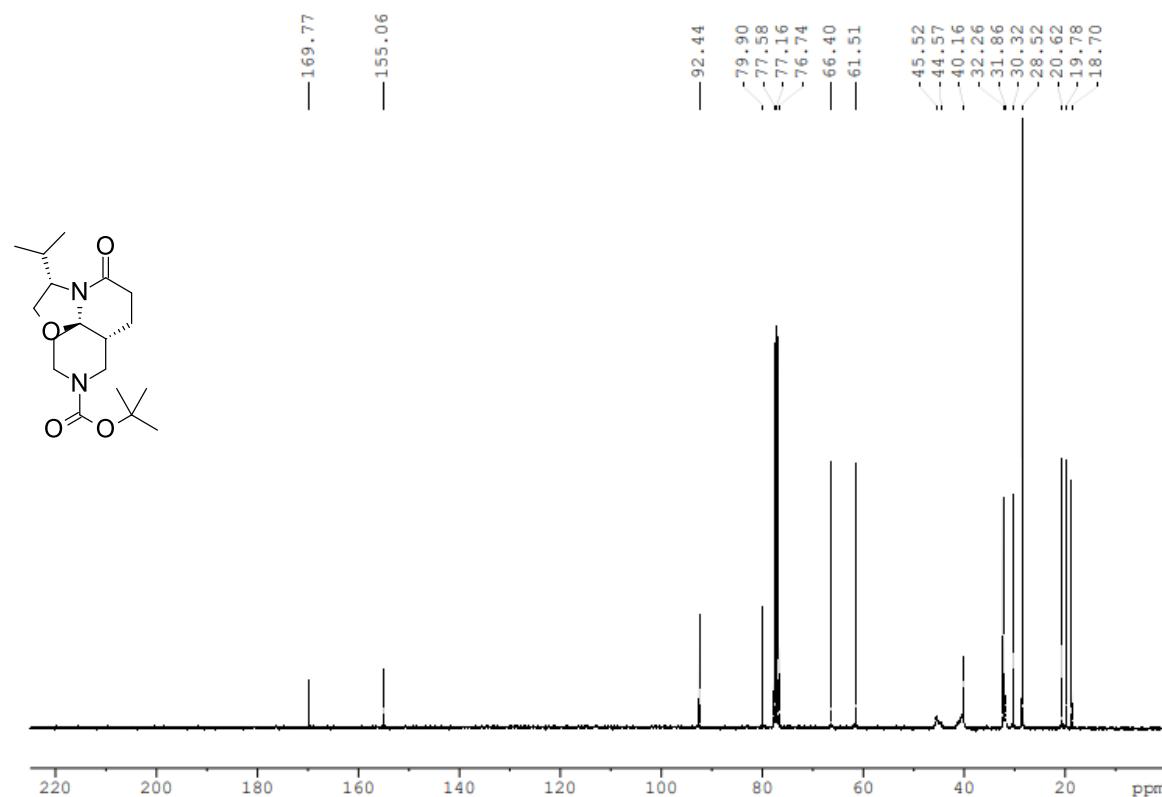
**24,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



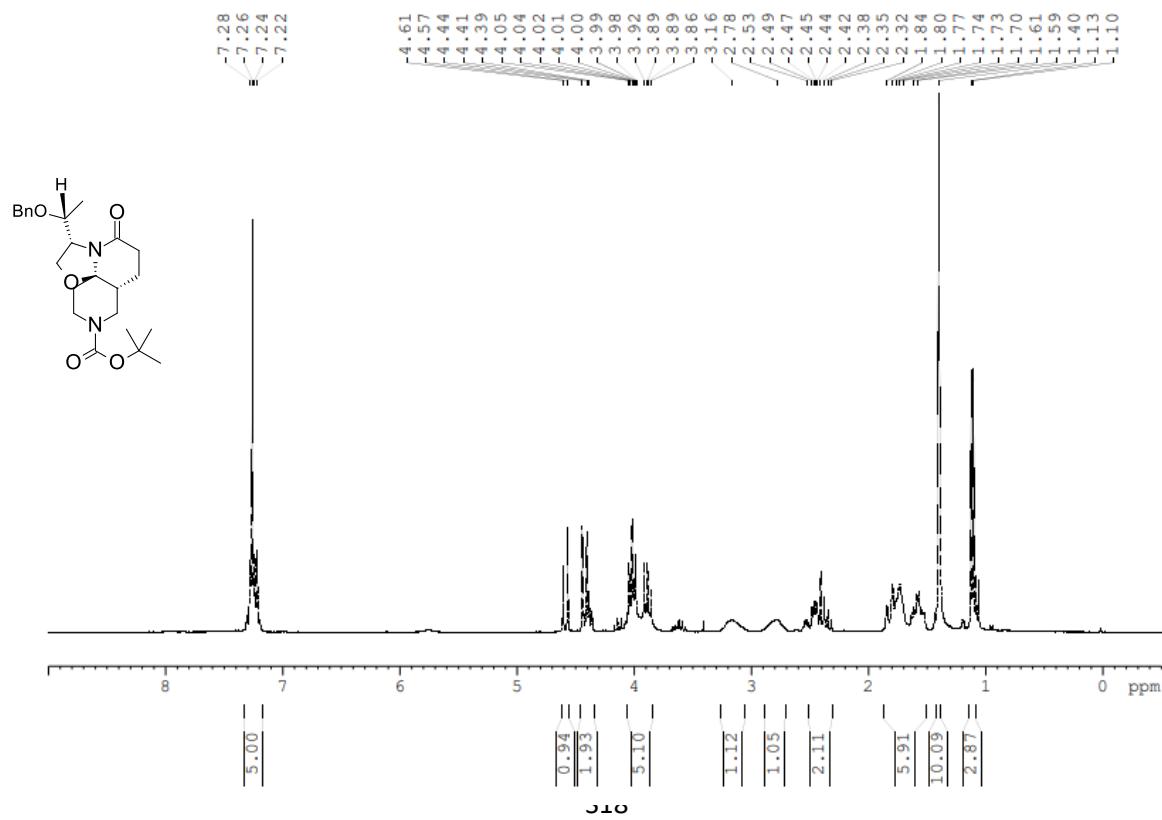
**25,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



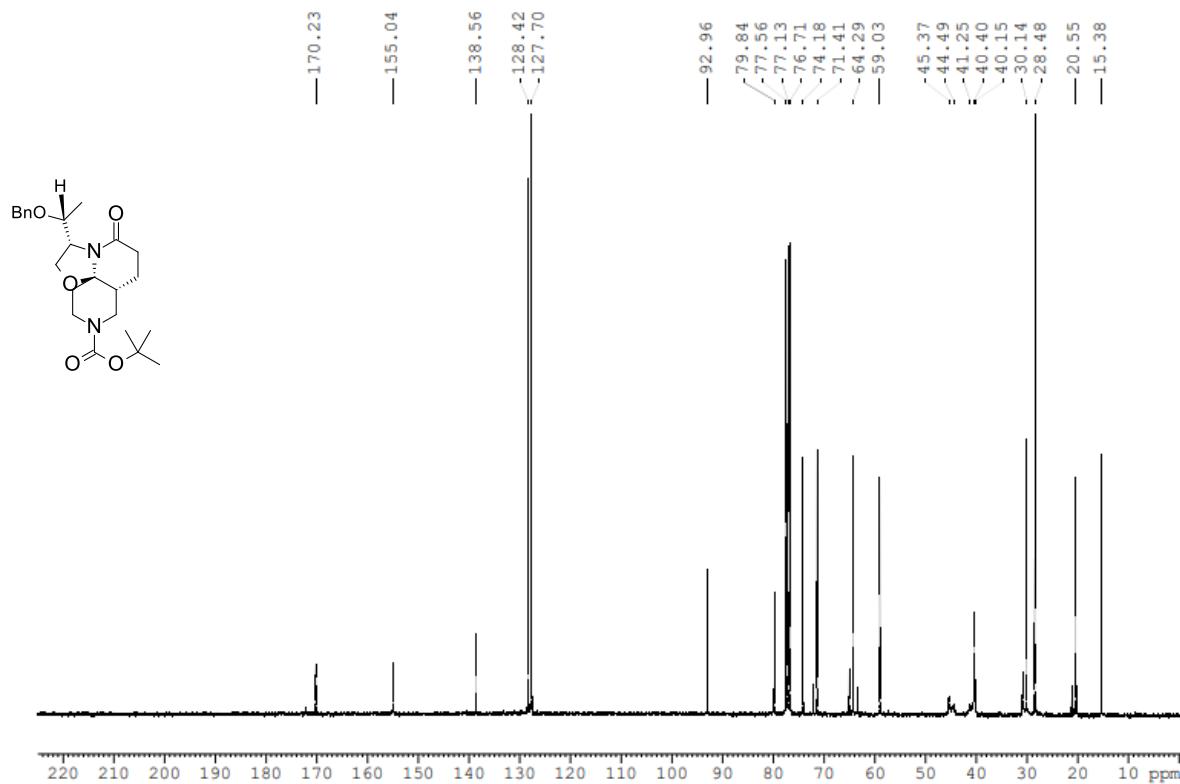
**25**,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )



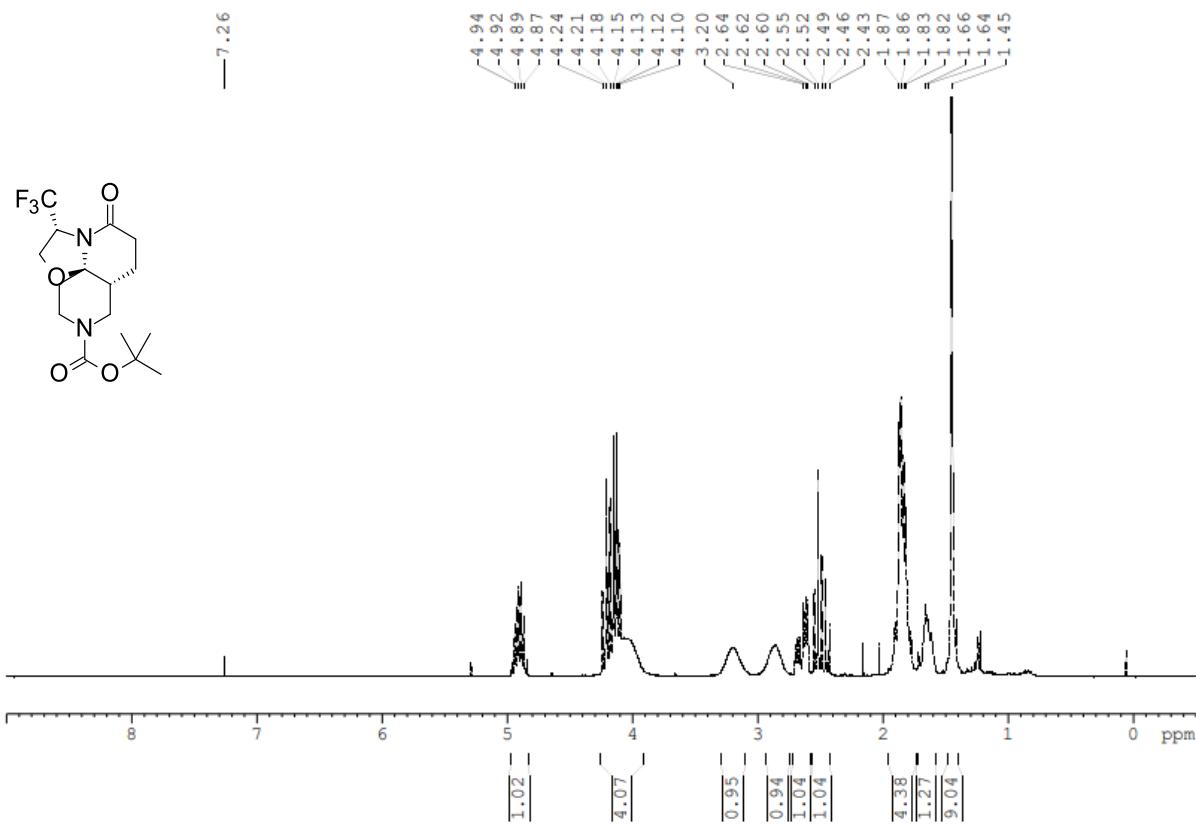
**26**,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )



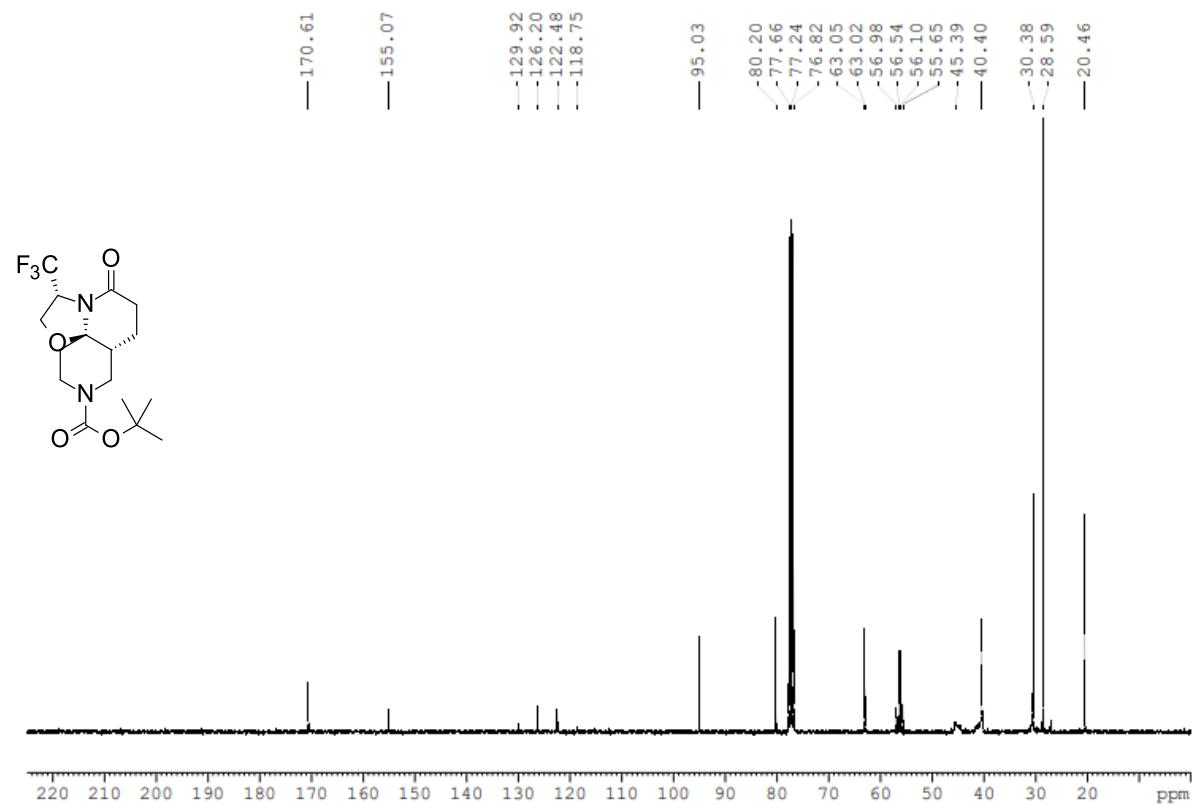
**26,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



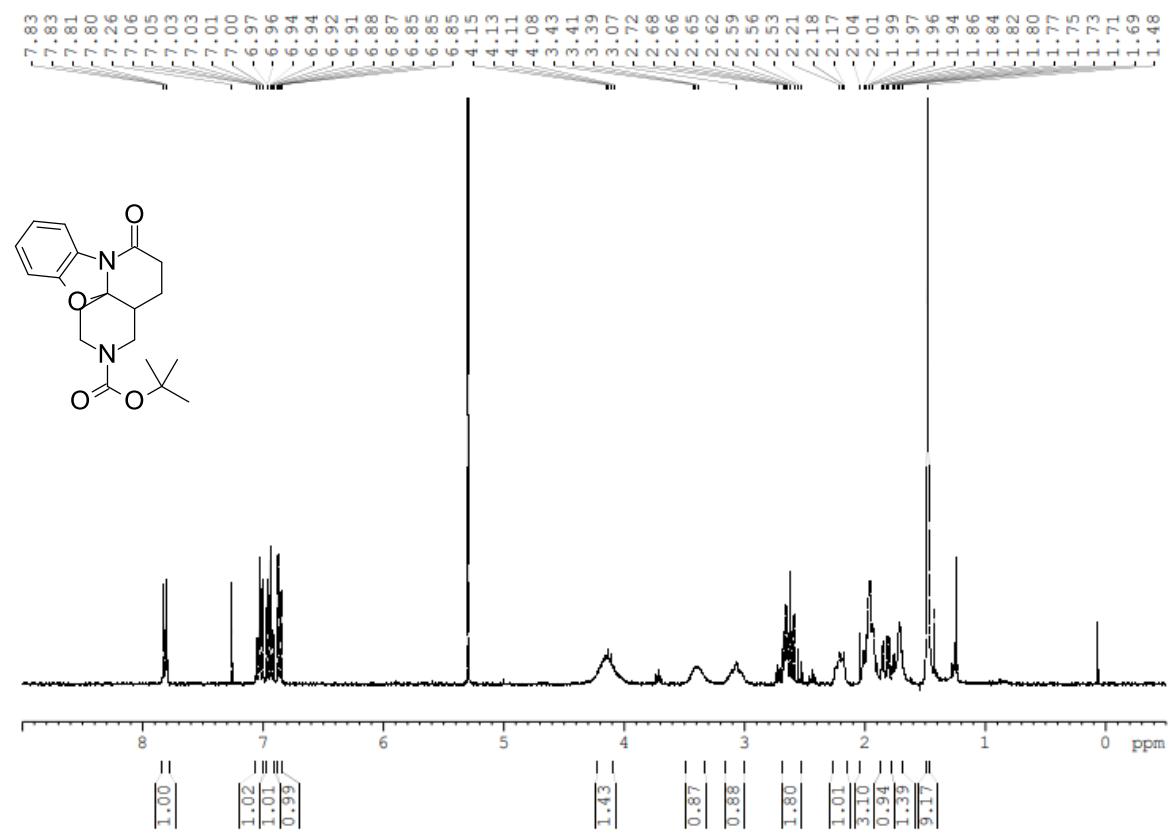
**27,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



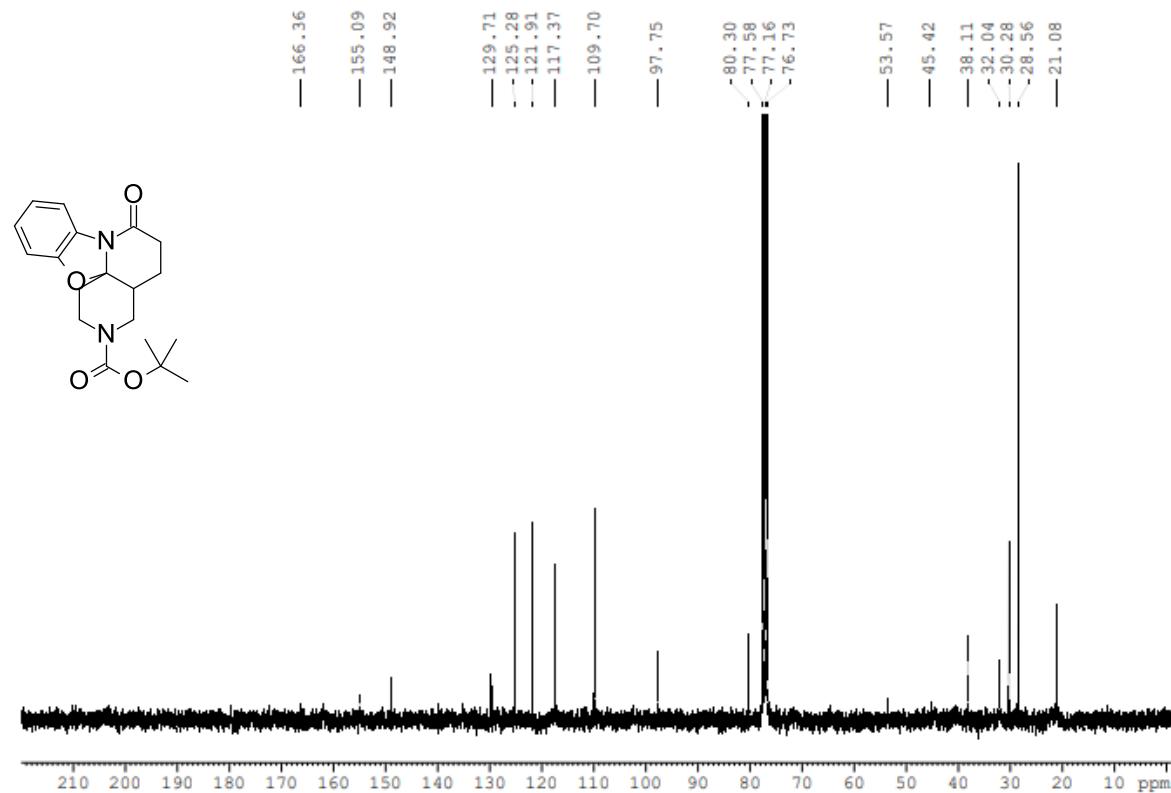
**27,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



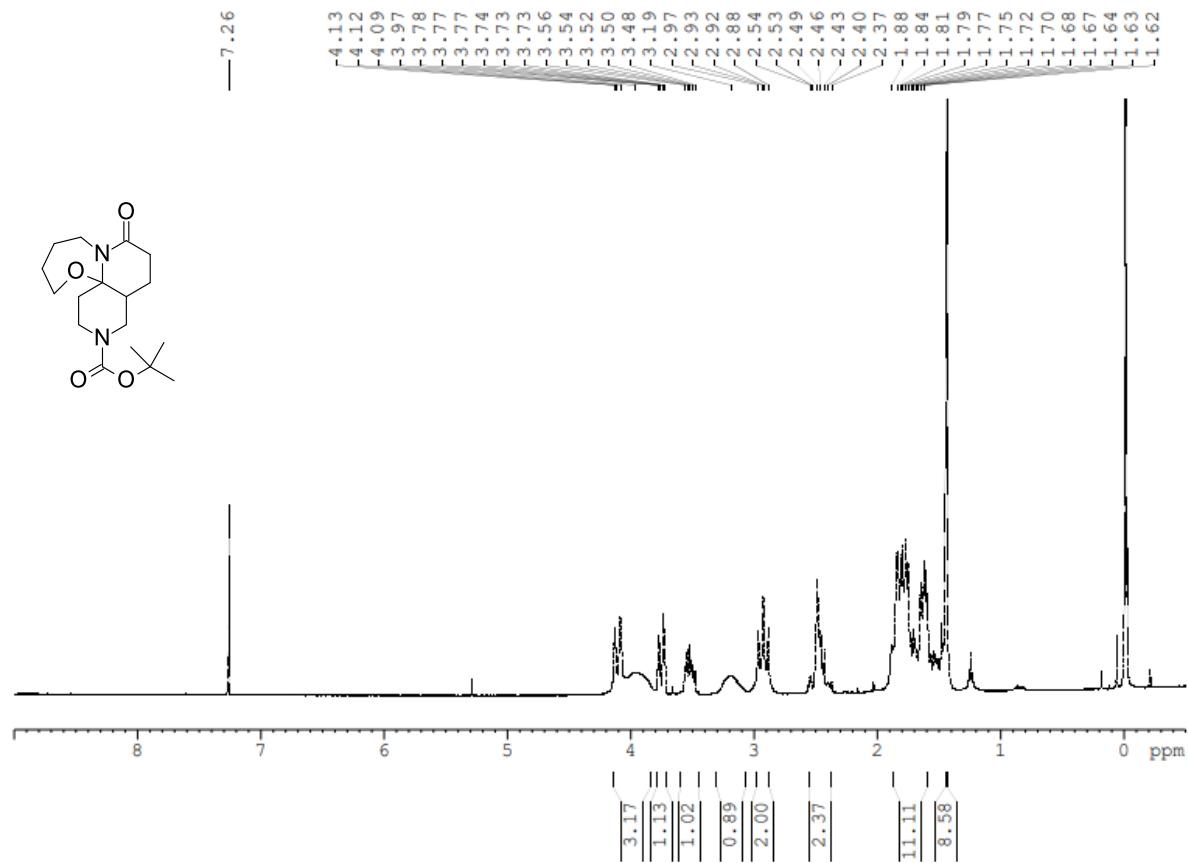
**28,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



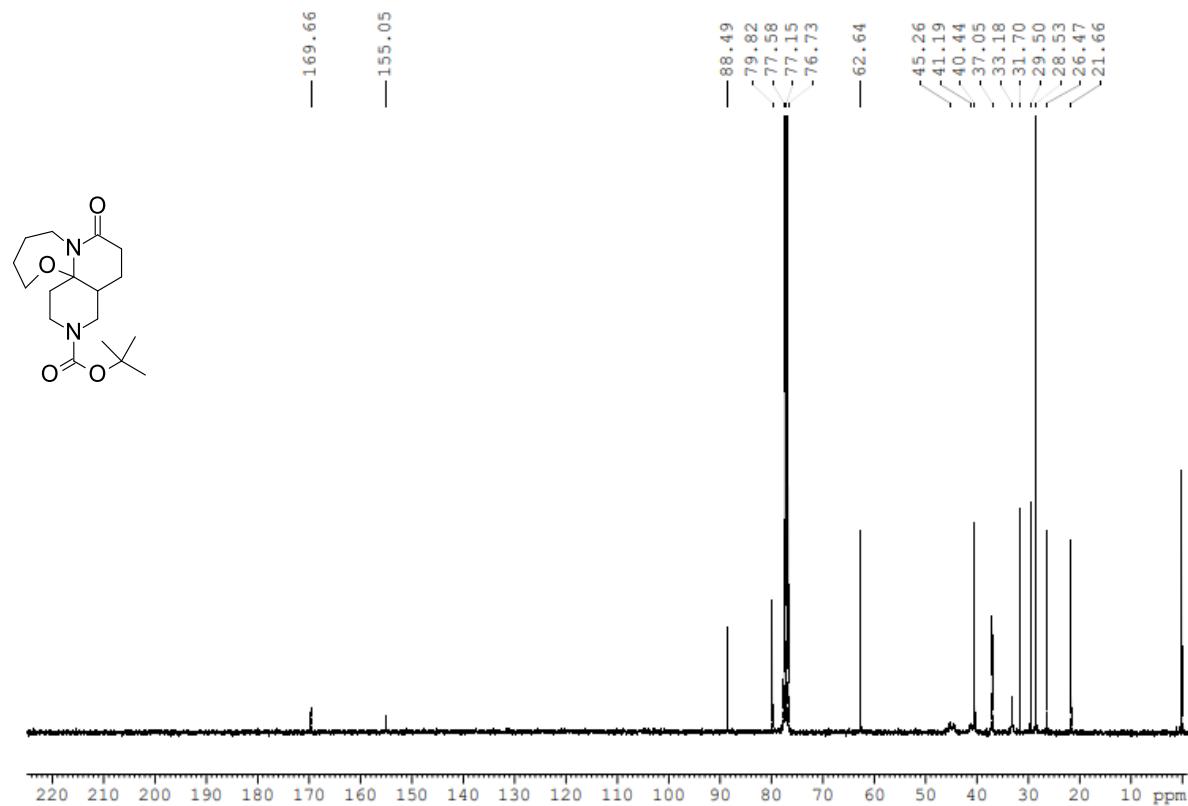
**28**,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )



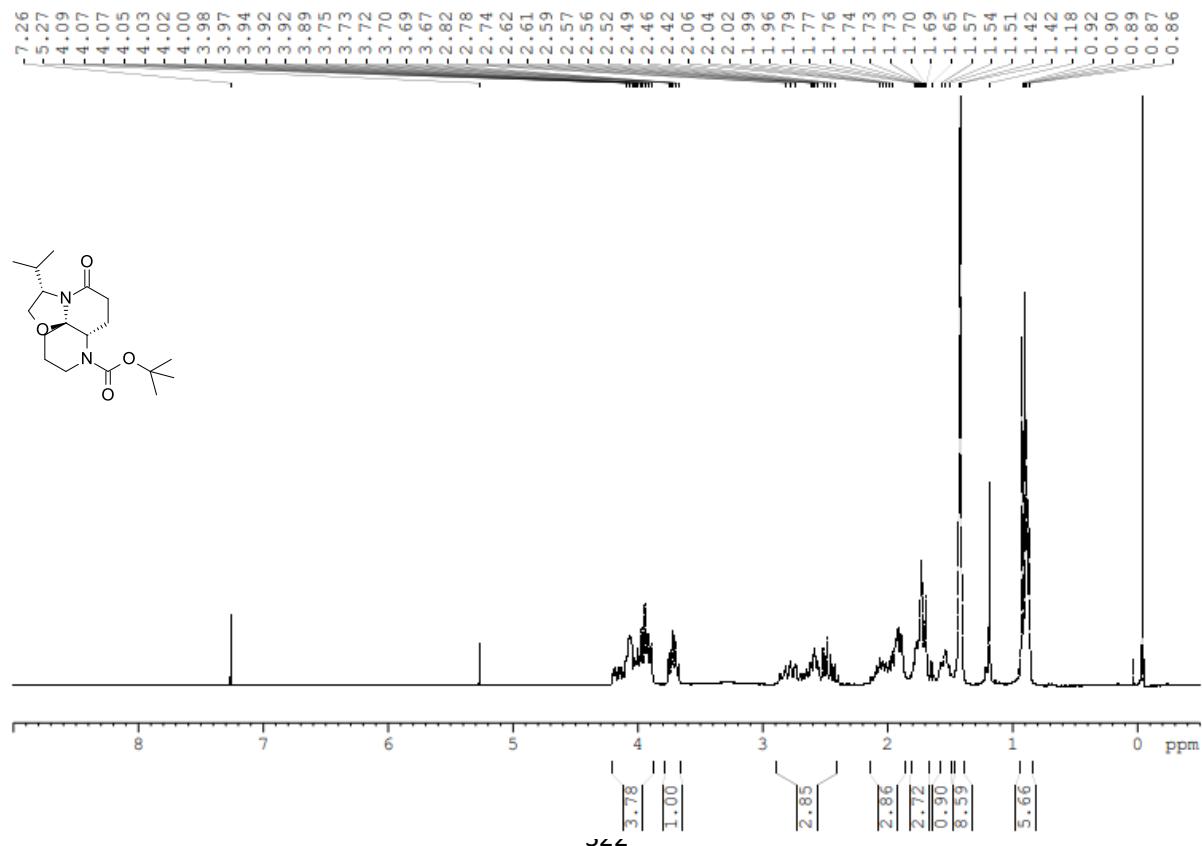
**29**,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )



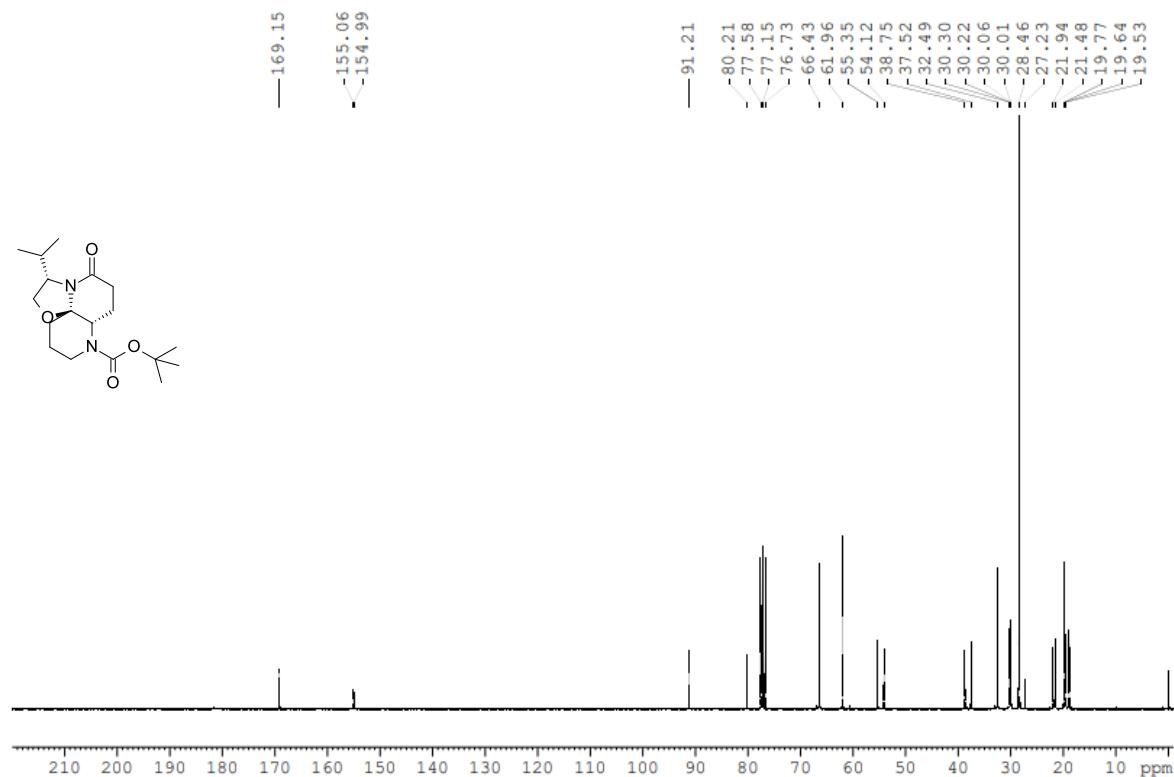
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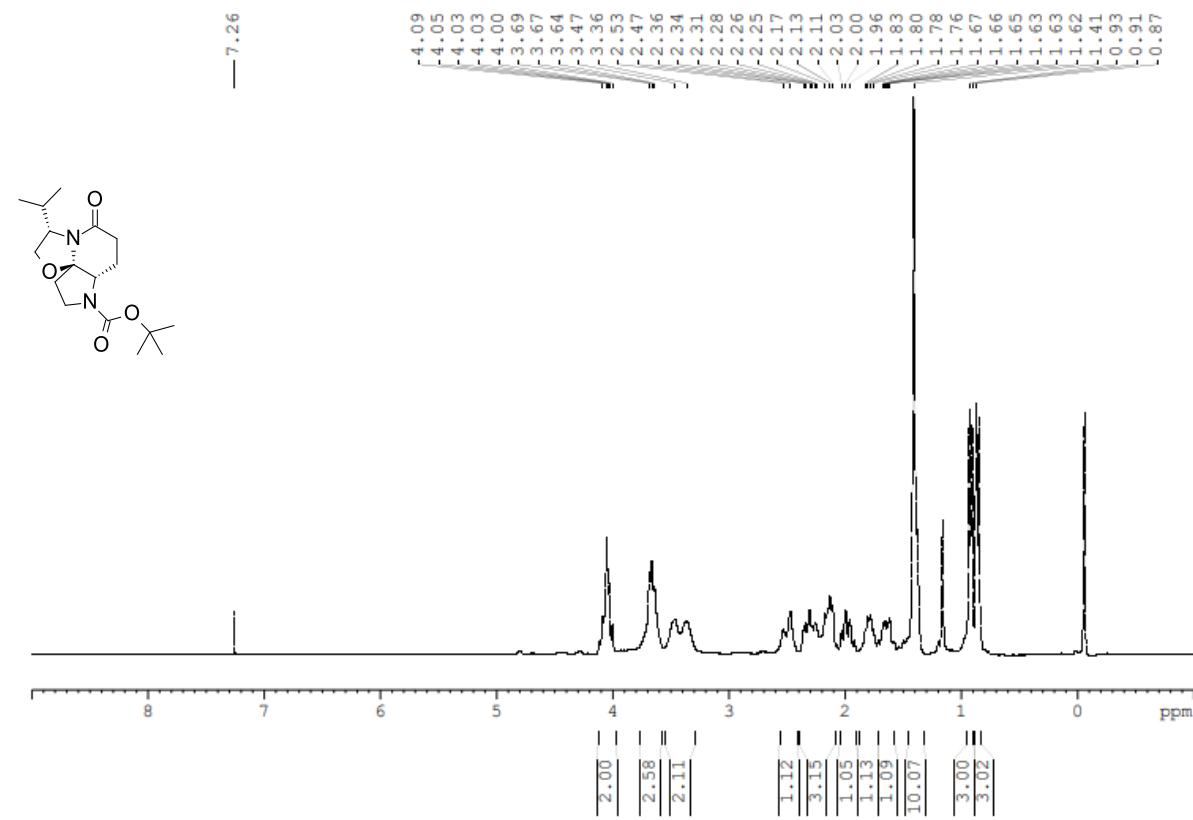
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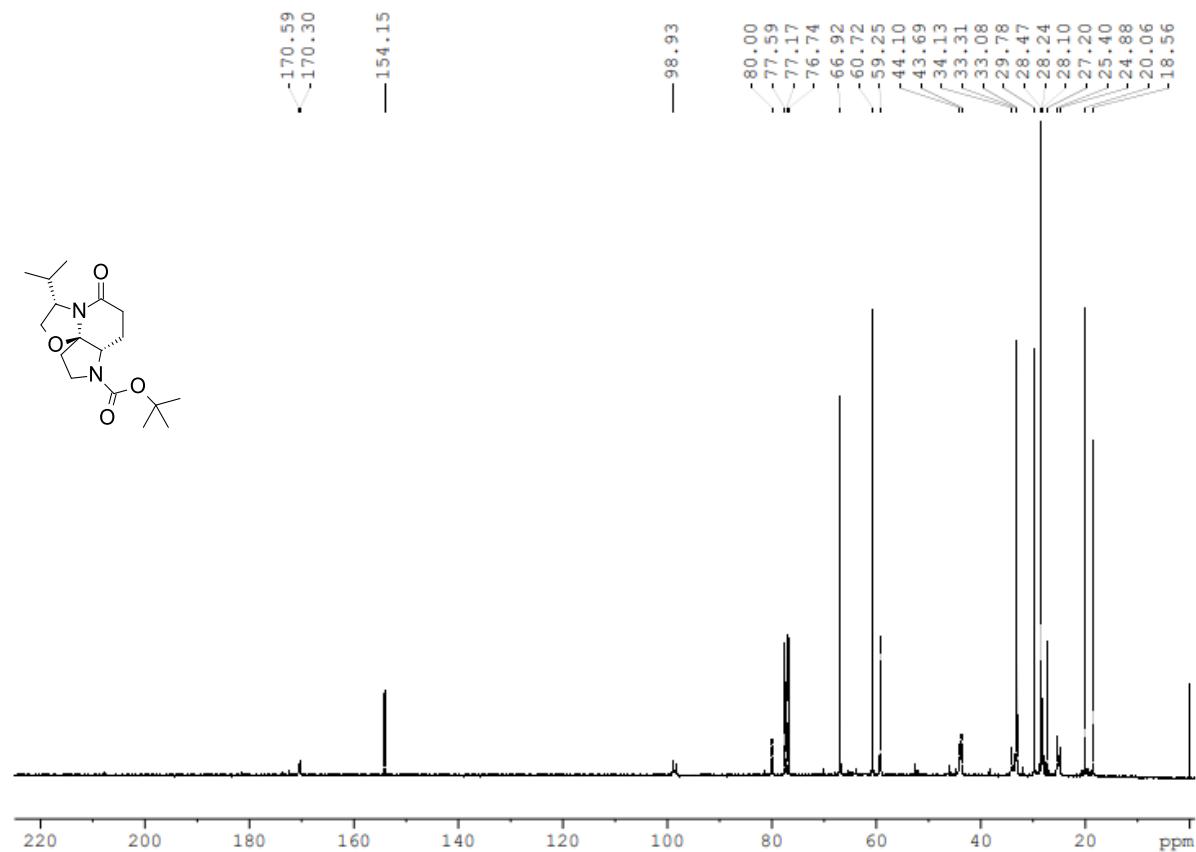
**31,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



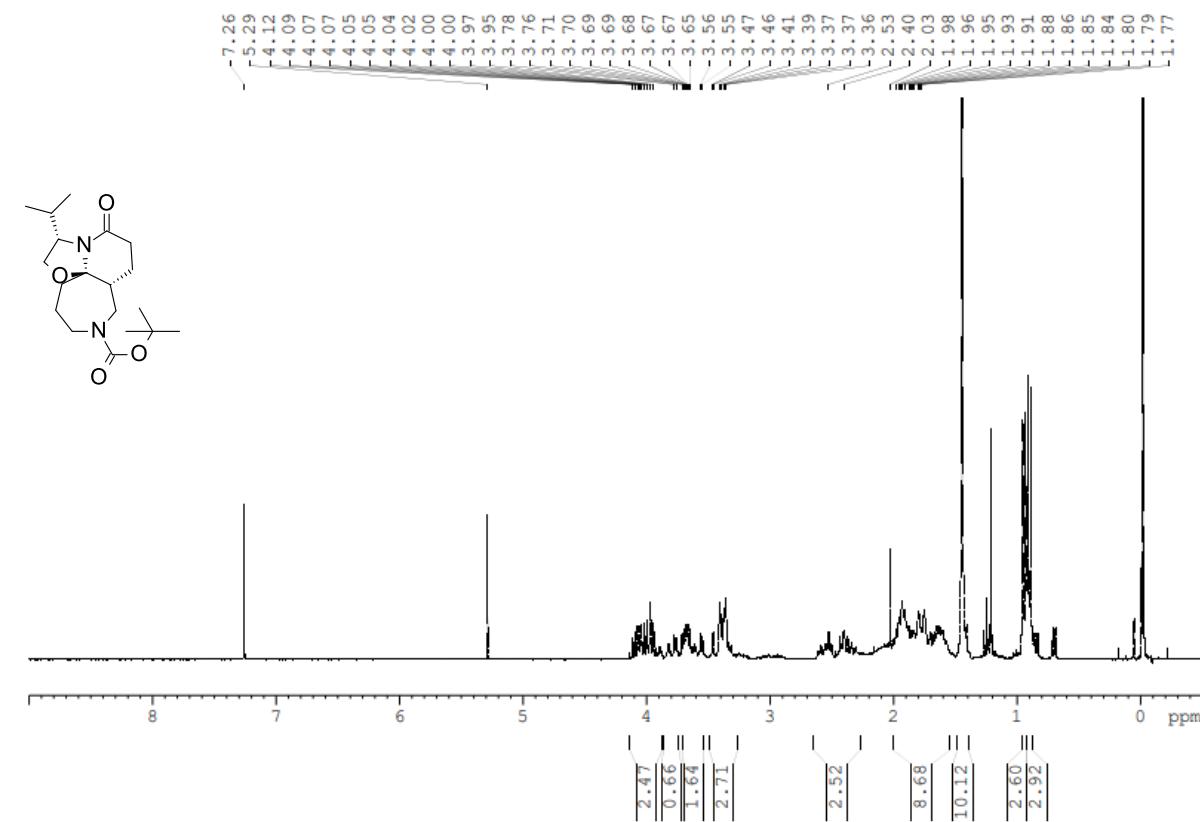
**33,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



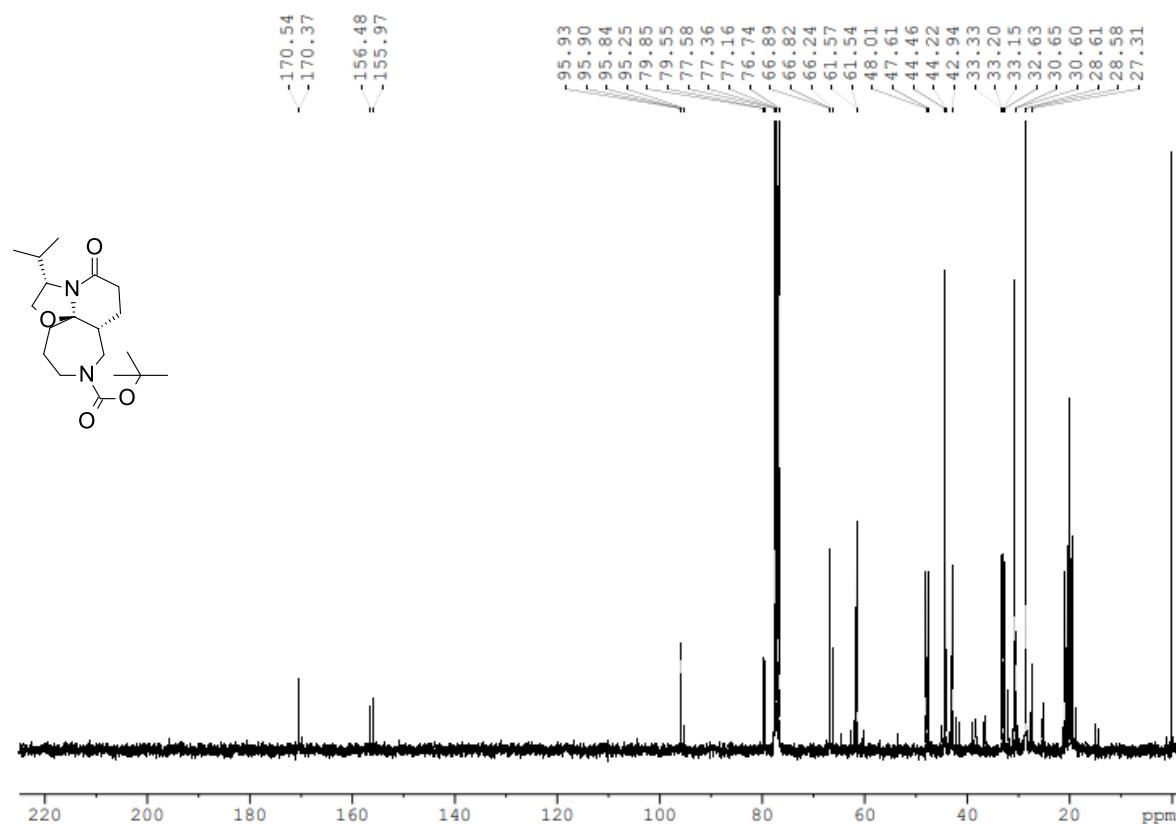
**33,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



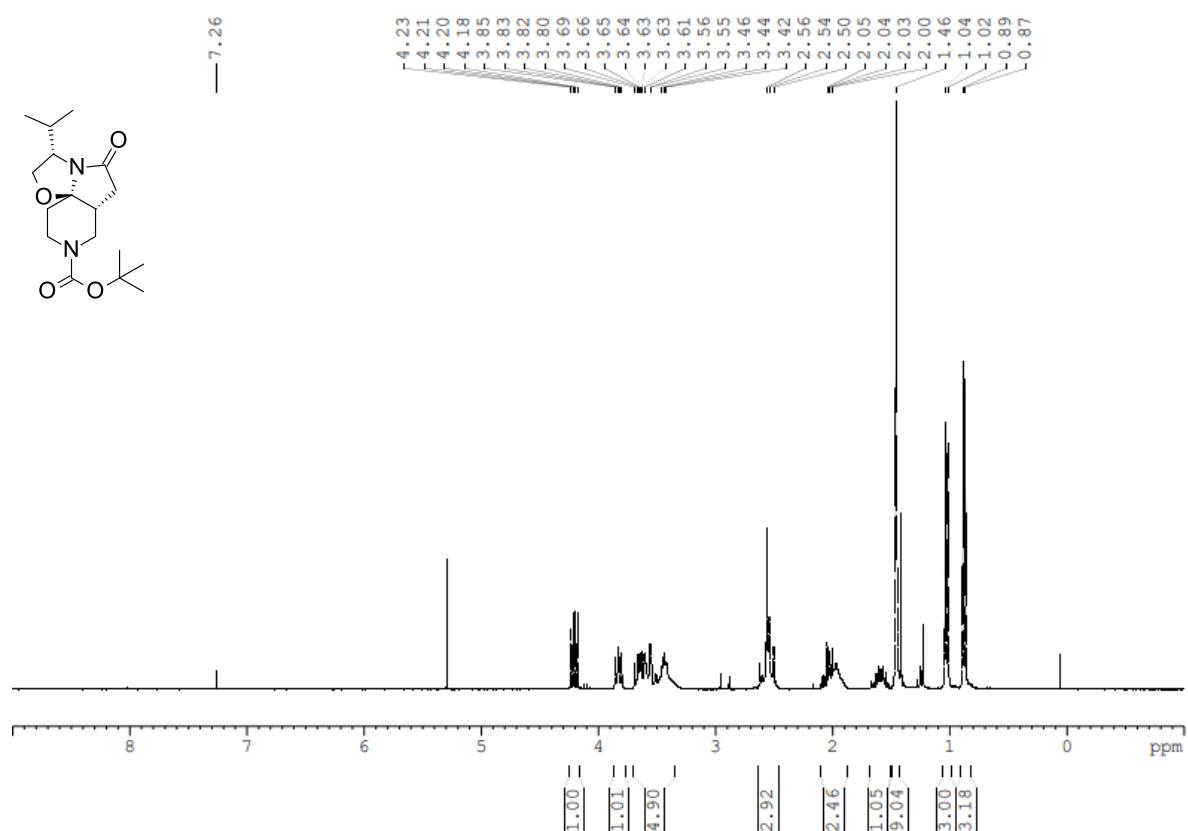
**35,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



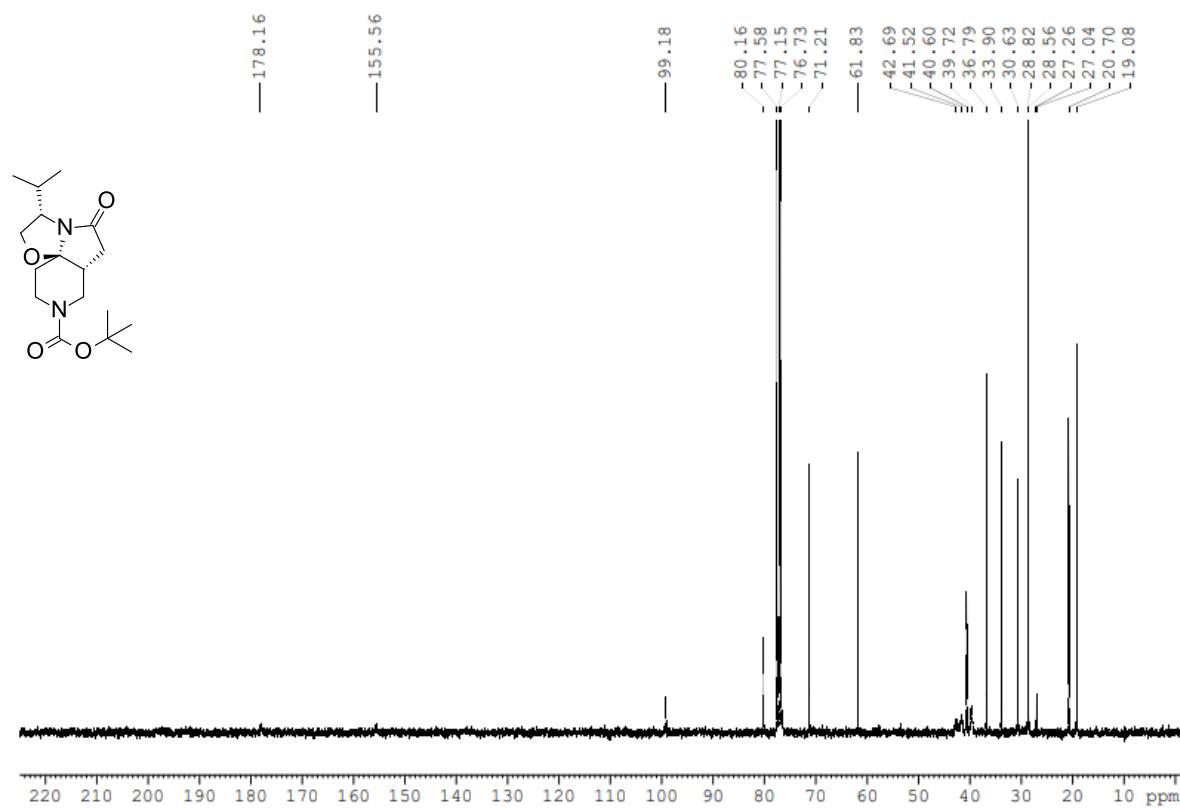
**35,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



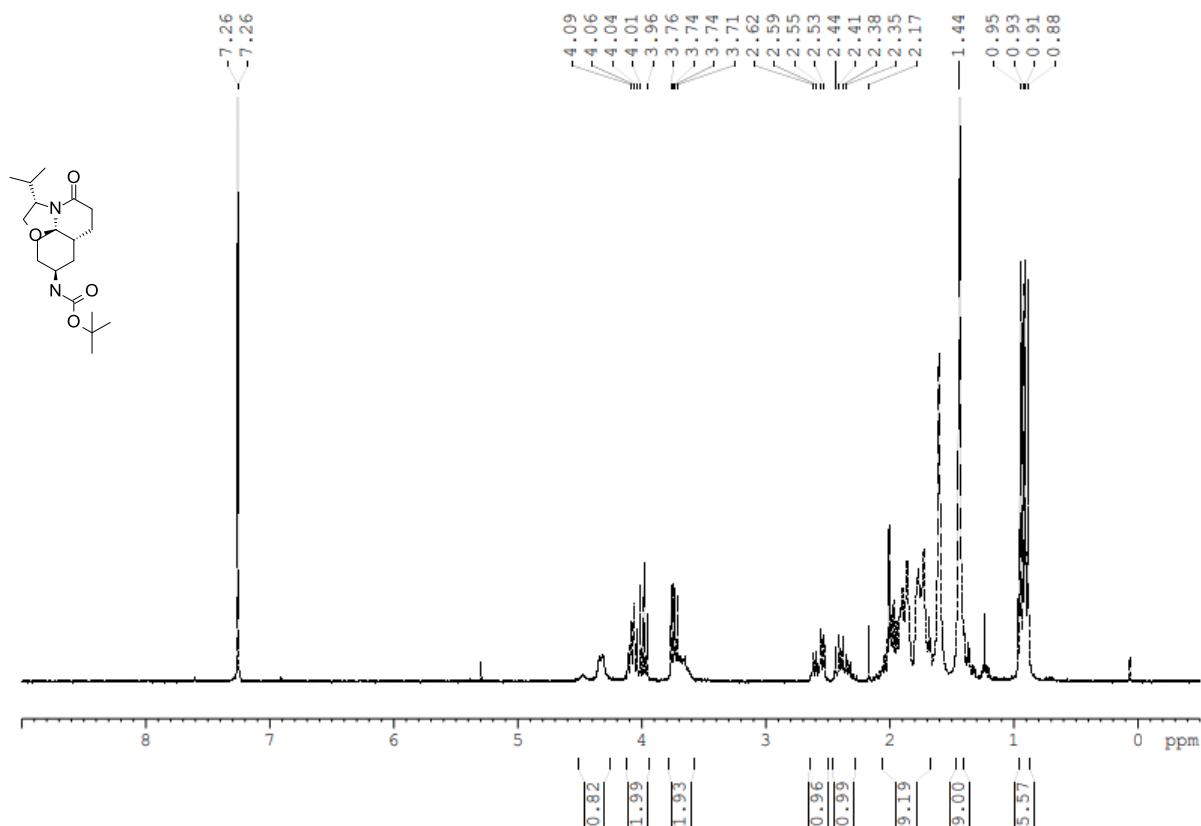
**37,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



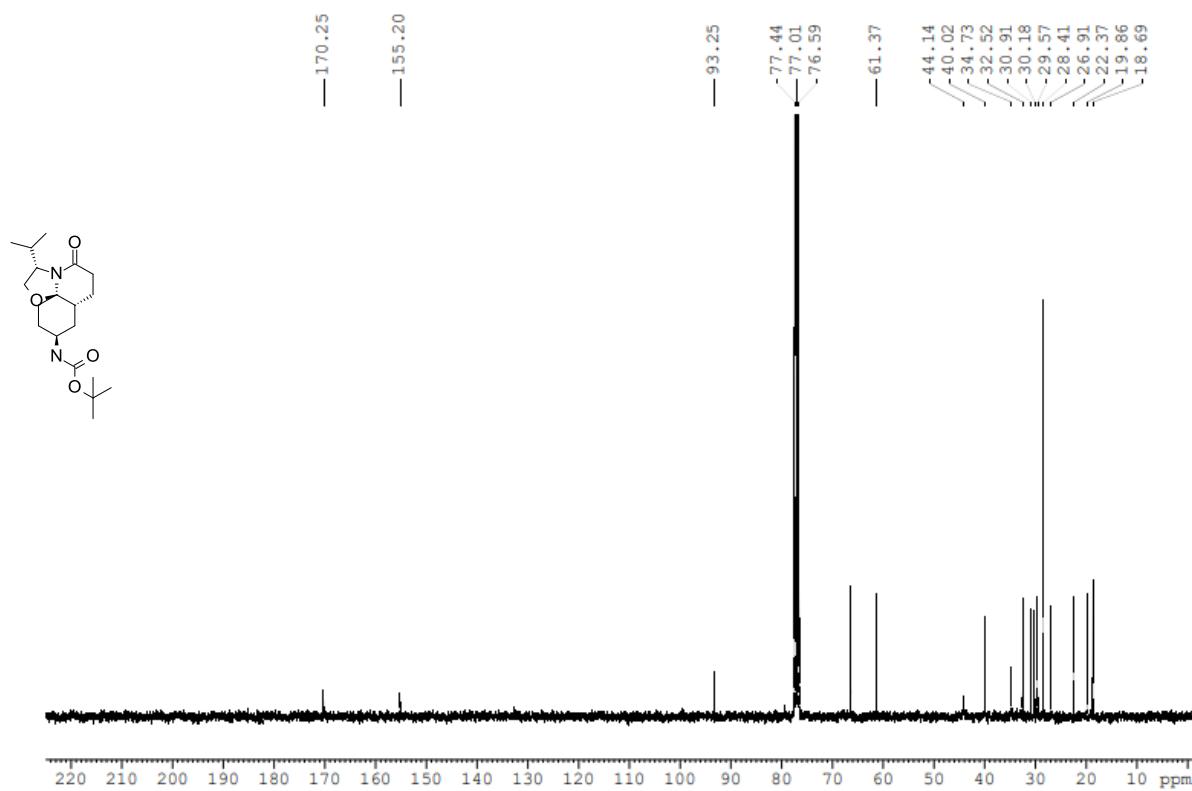
**37**,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )



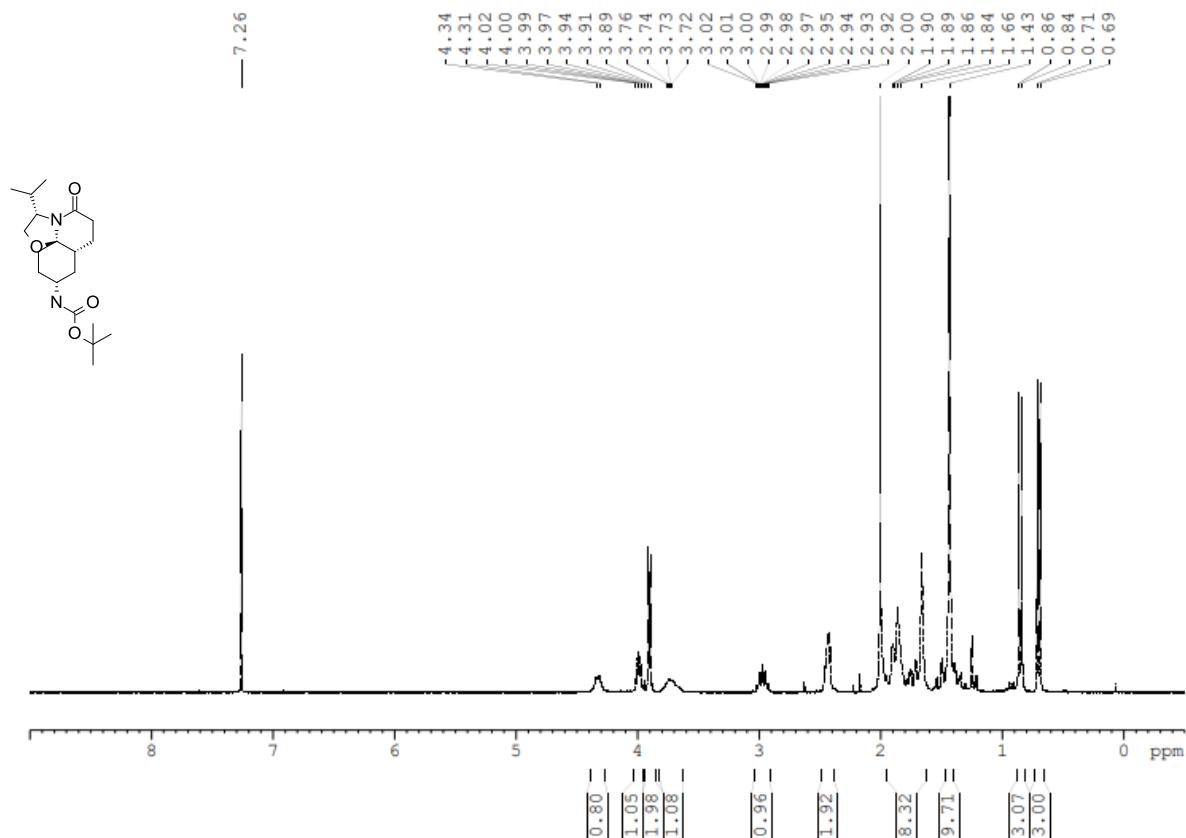
**39**,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )



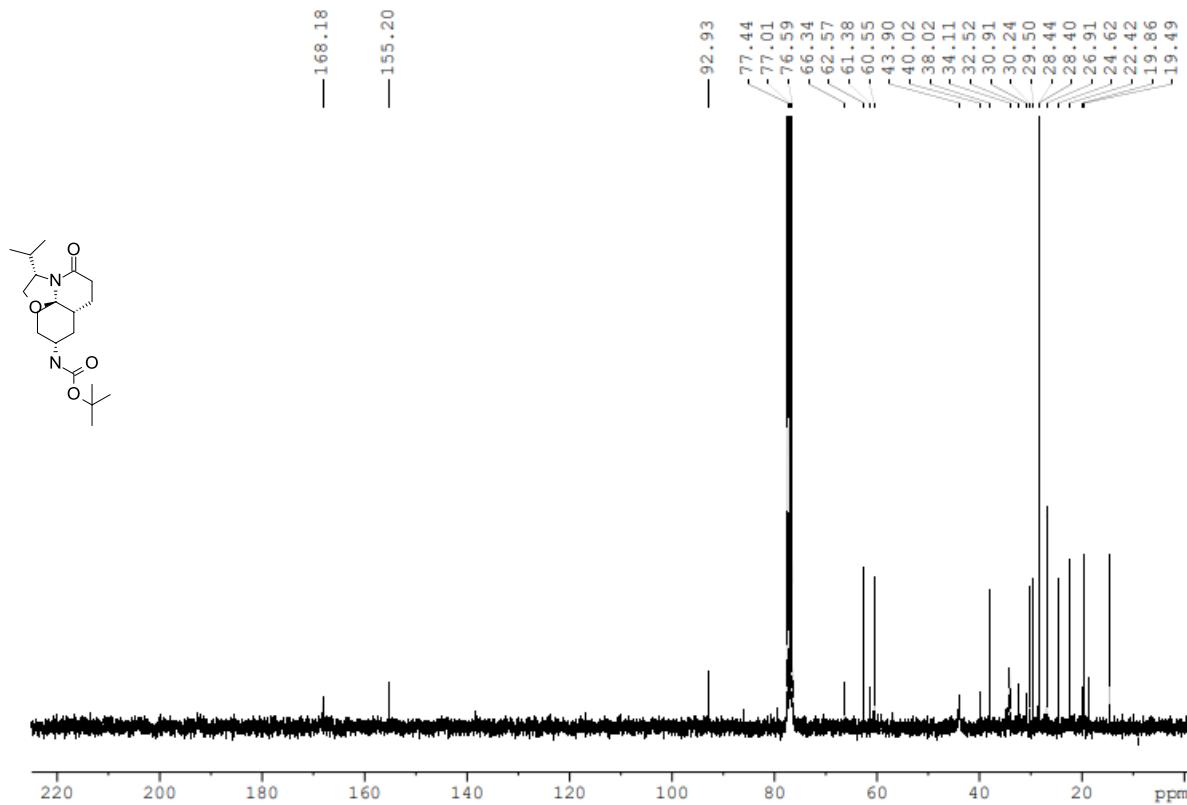
**39**,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )



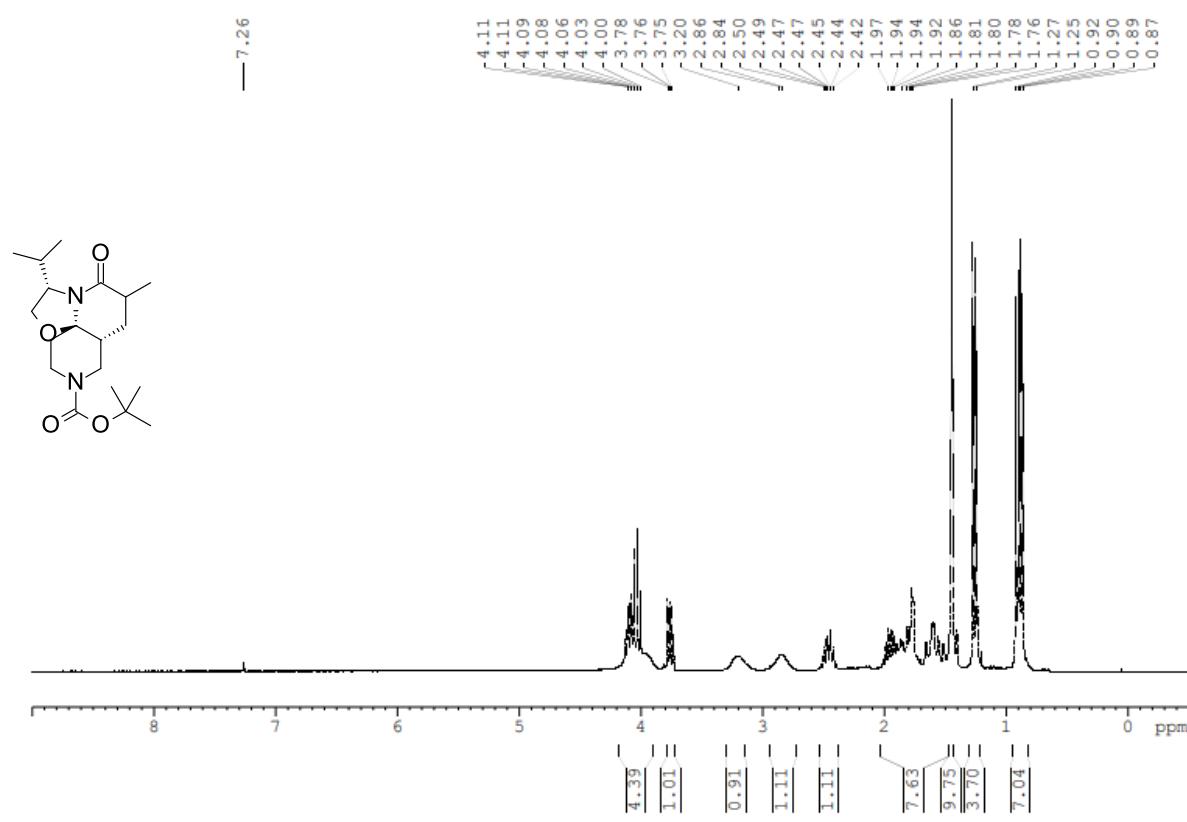
**40**,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )



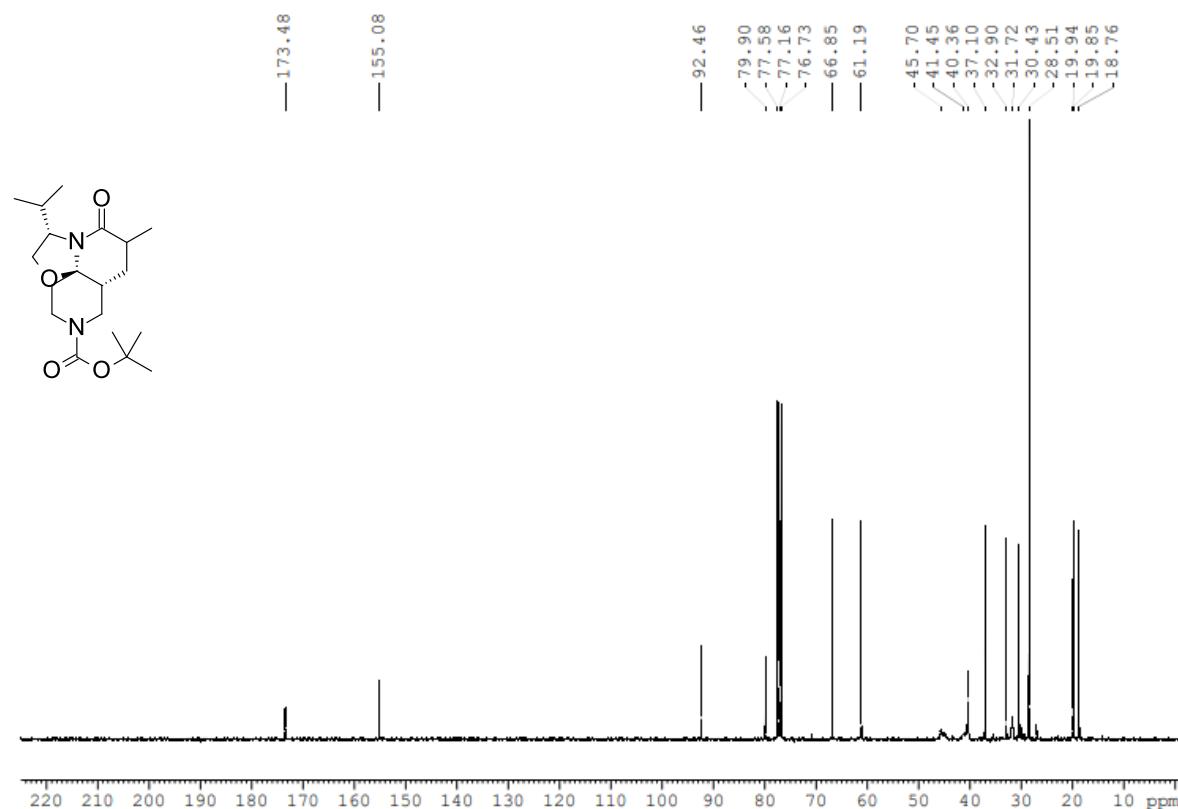
**40,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



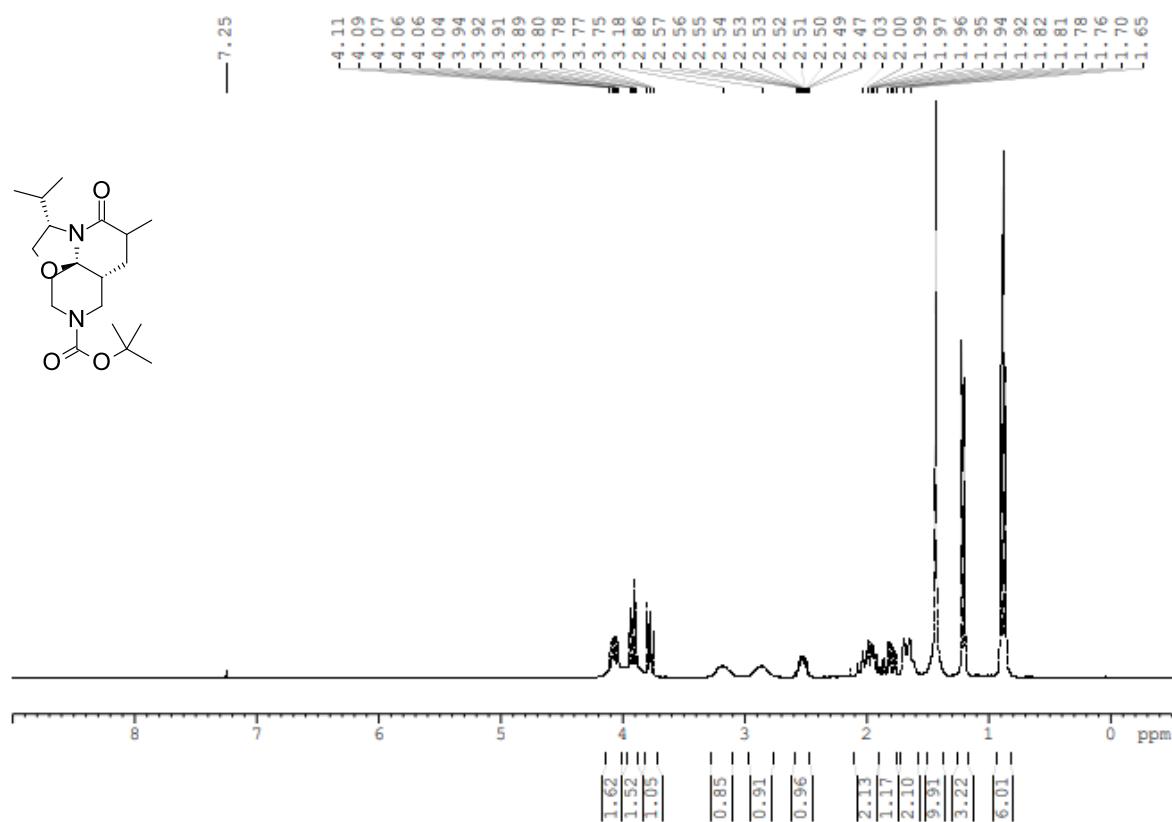
**41 or 41' (diastereoisomer 1),  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



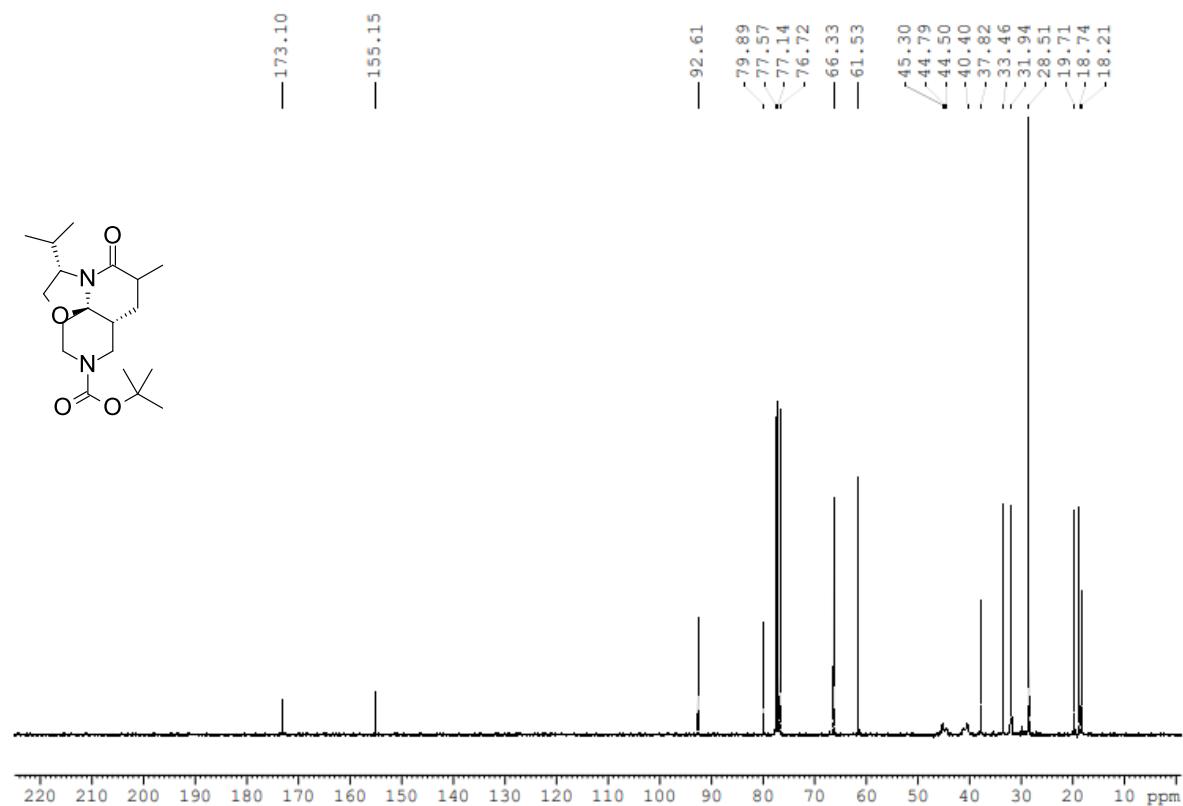
**41 or 41' (diastereoisomer 1),  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



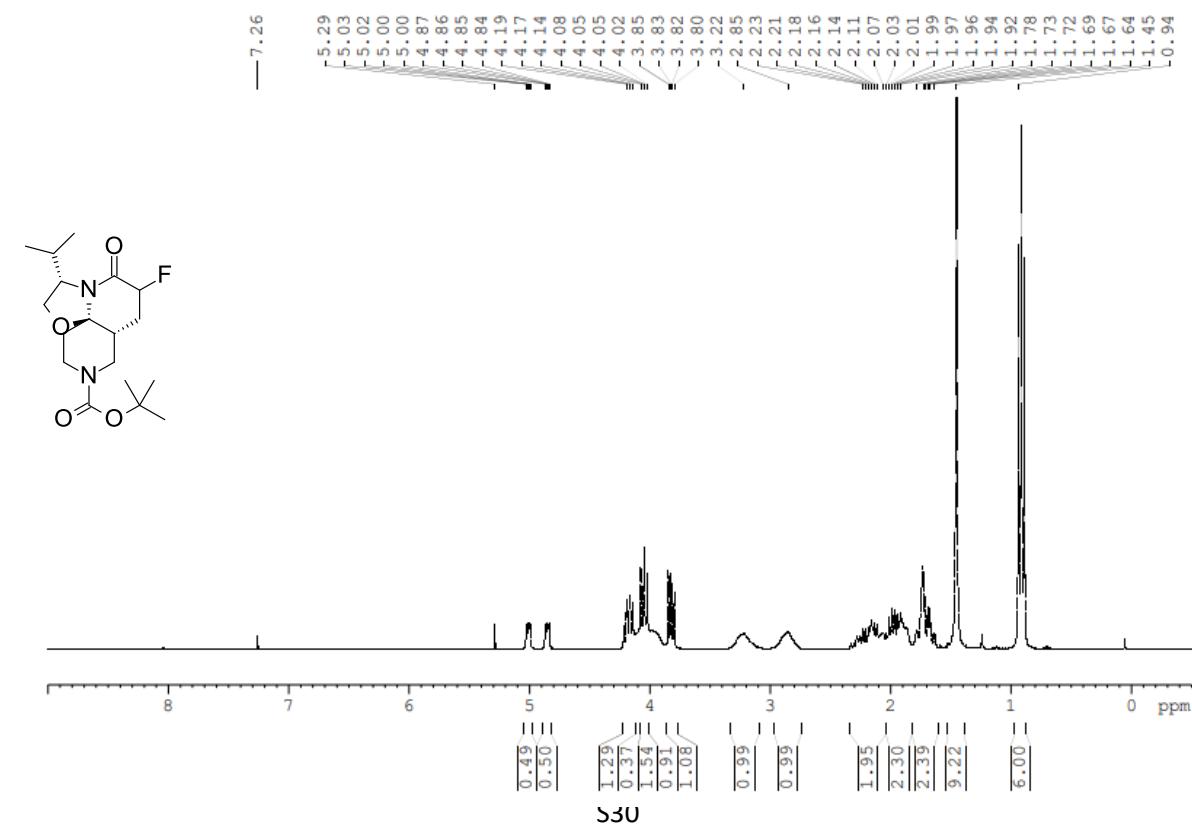
**41 or 41' (diastereoisomer 2),  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



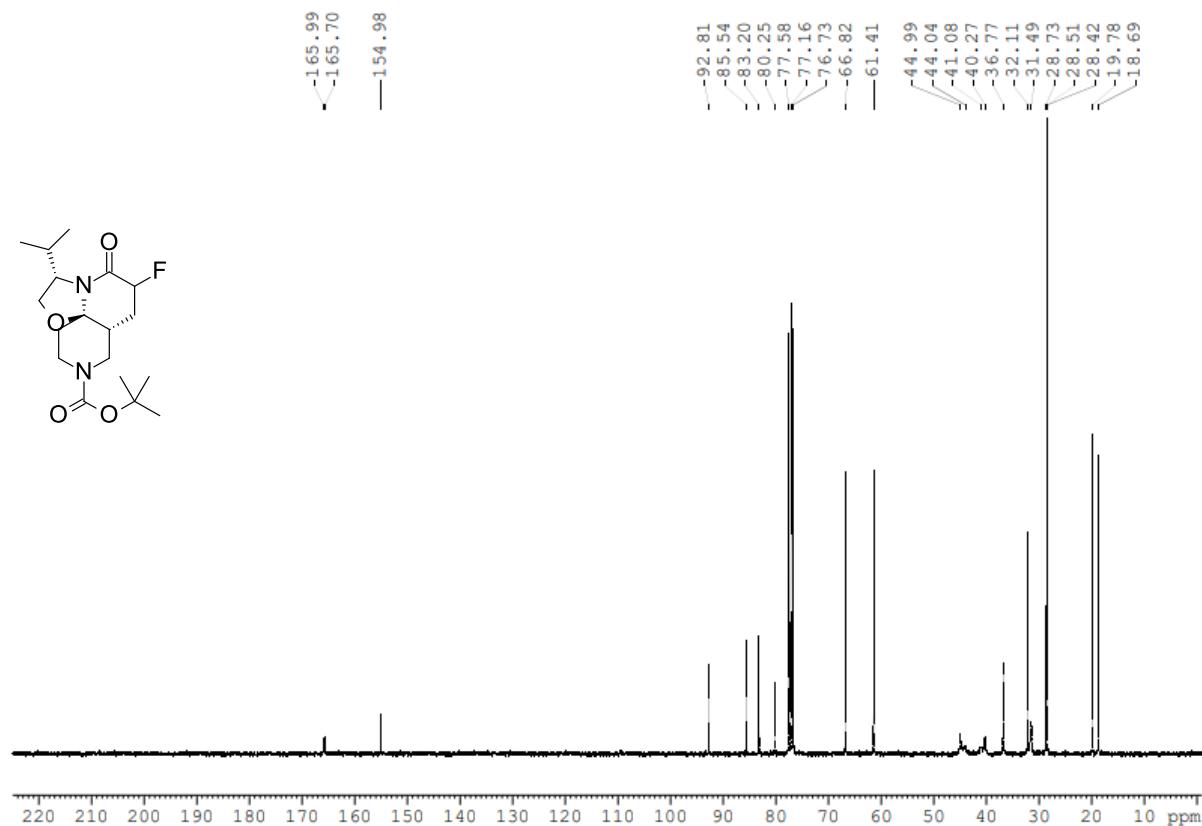
**41 or 41' (diastereoisomer 2),  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



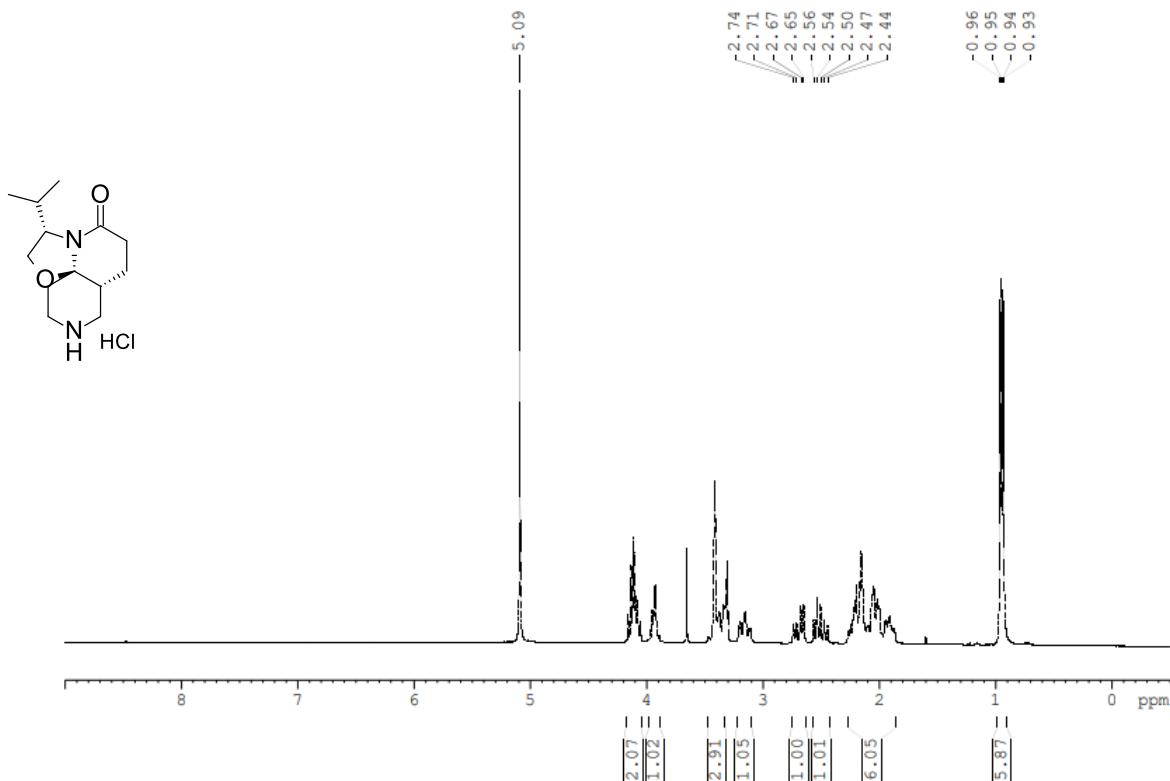
**42,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



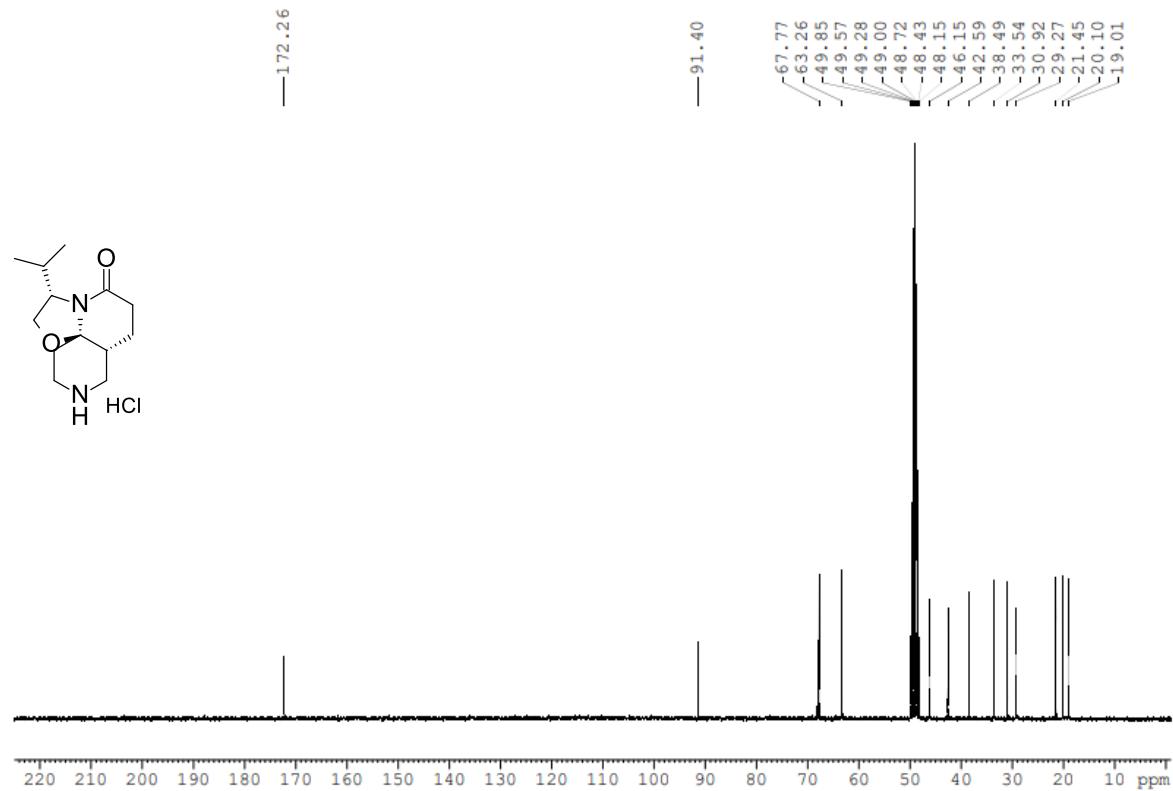
**42,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



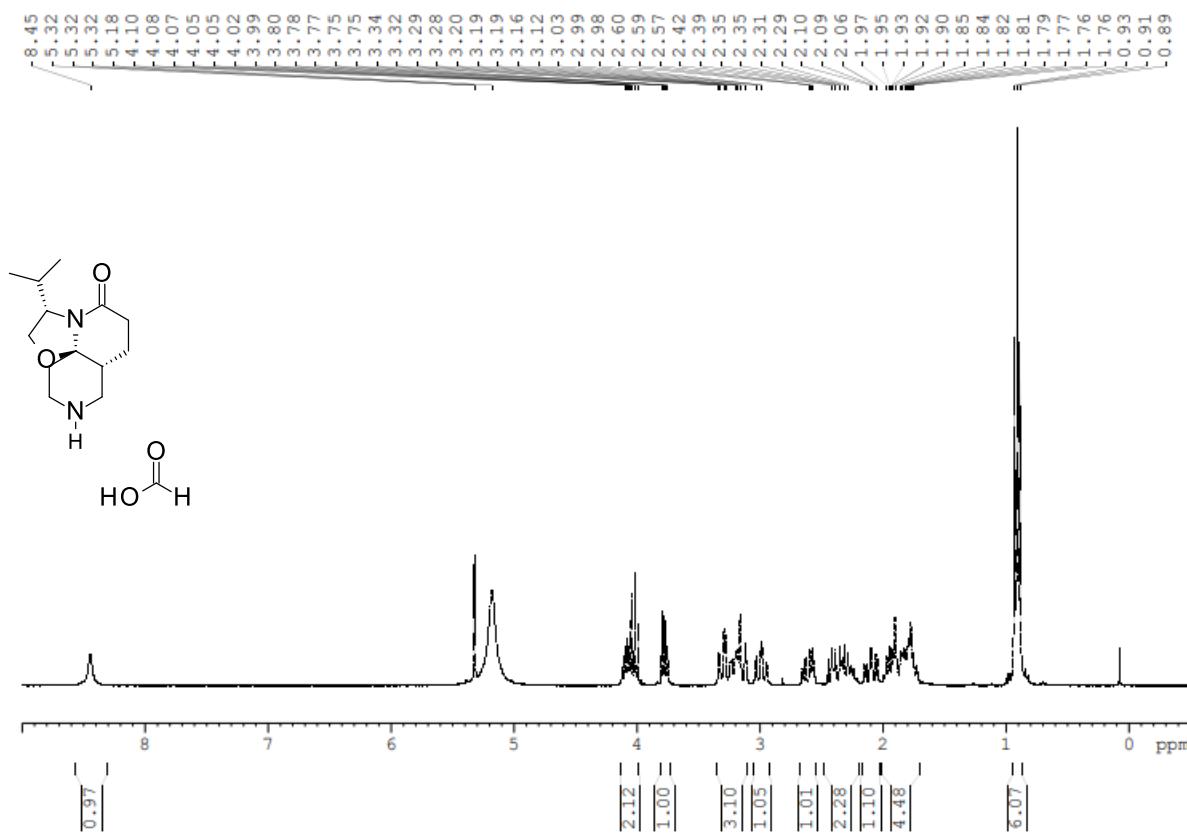
**43,  $^1\text{H}$  NMR (300 MHz,  $\text{CD}_3\text{OD}$ )**



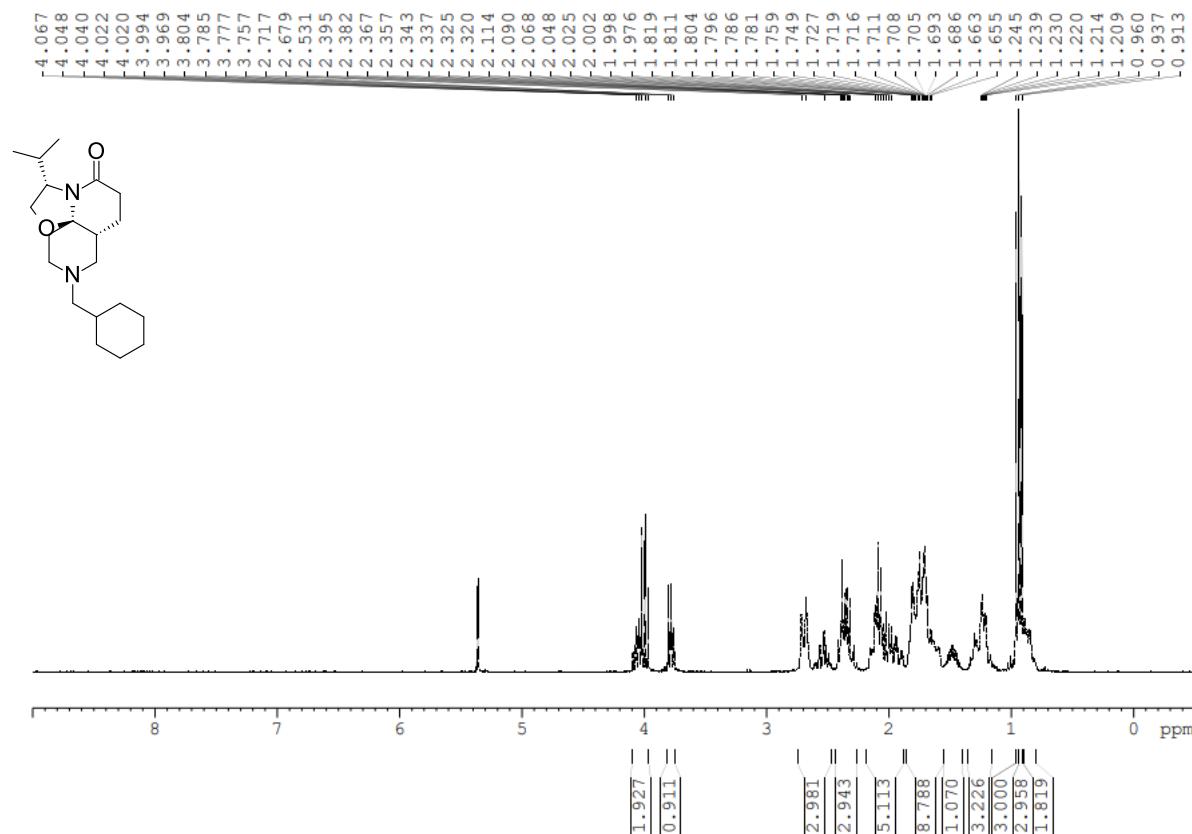
**43,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CD}_3\text{OD}$ )**



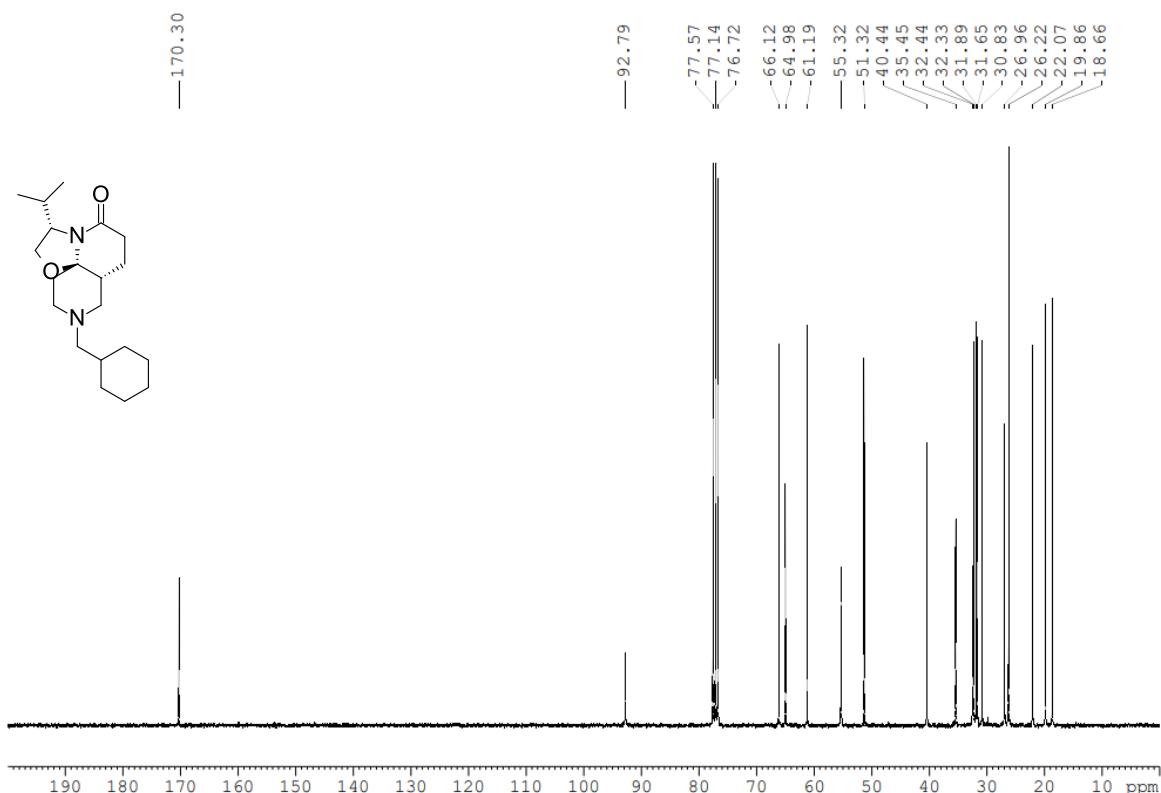
**44,  $^1\text{H}$  NMR (300 MHz,  $\text{CD}_2\text{Cl}_2$ )**



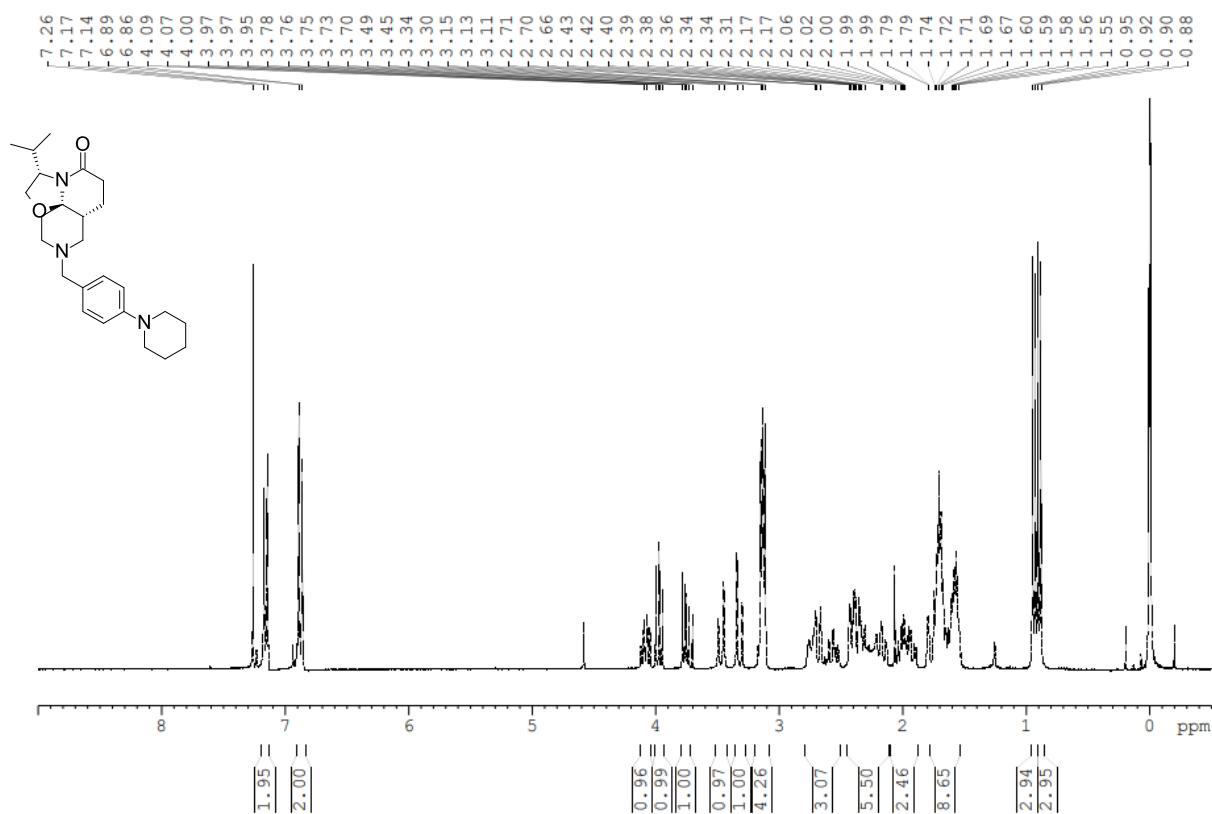
**45,  $^1\text{H}$  NMR (300 MHz,  $\text{CD}_2\text{Cl}_2$ )**



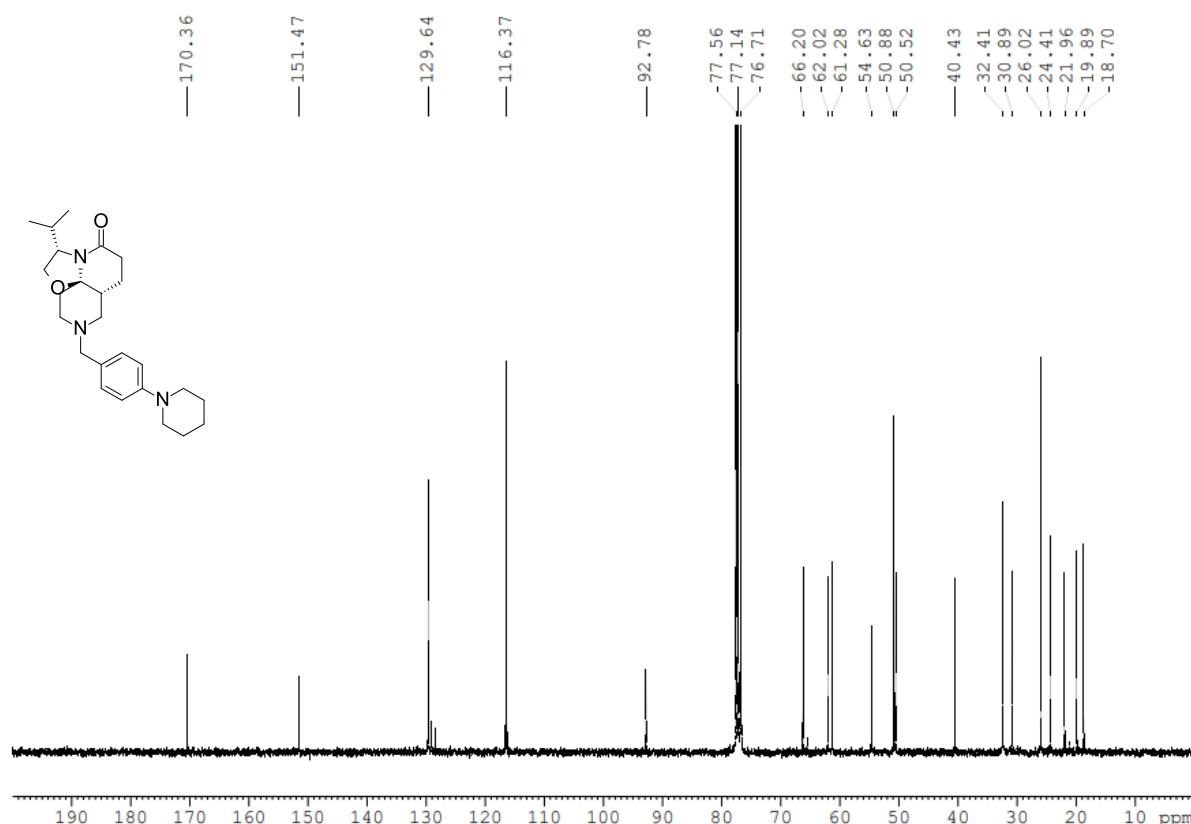
**45,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CD}_2\text{Cl}_2$ )**



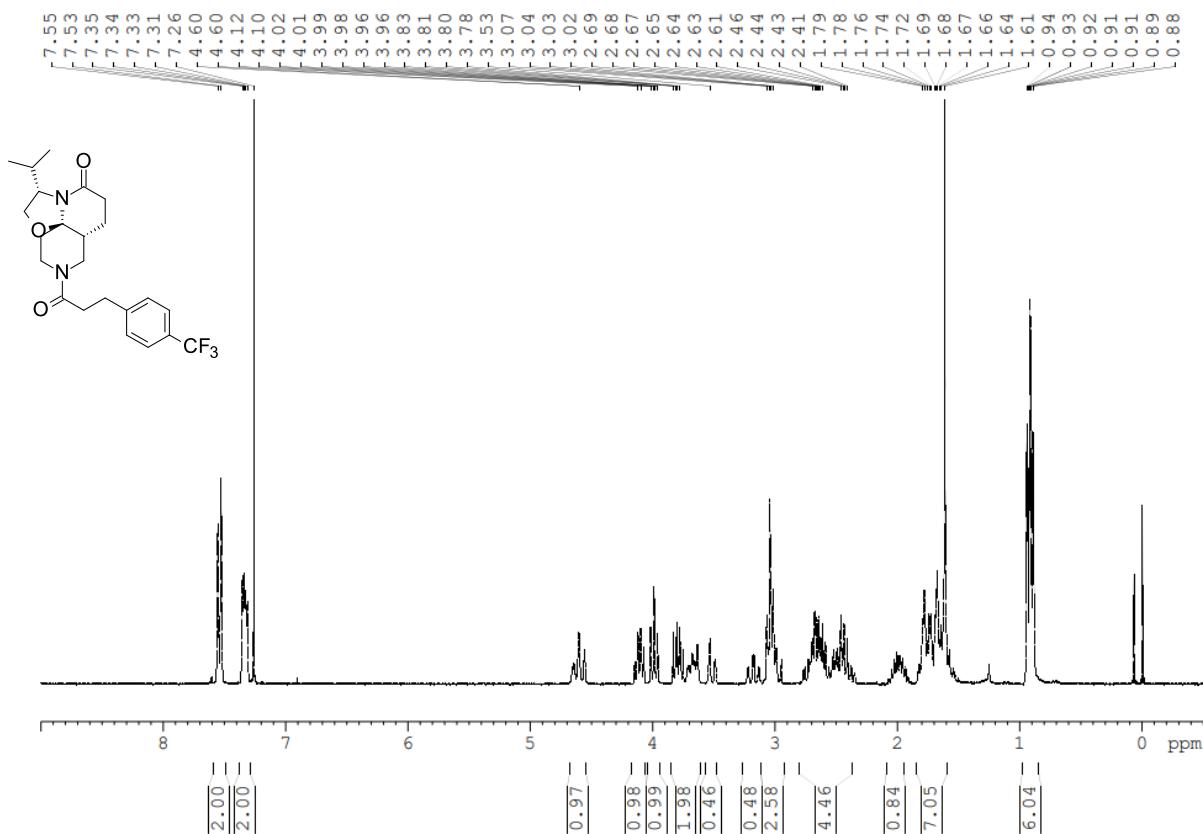
**46,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



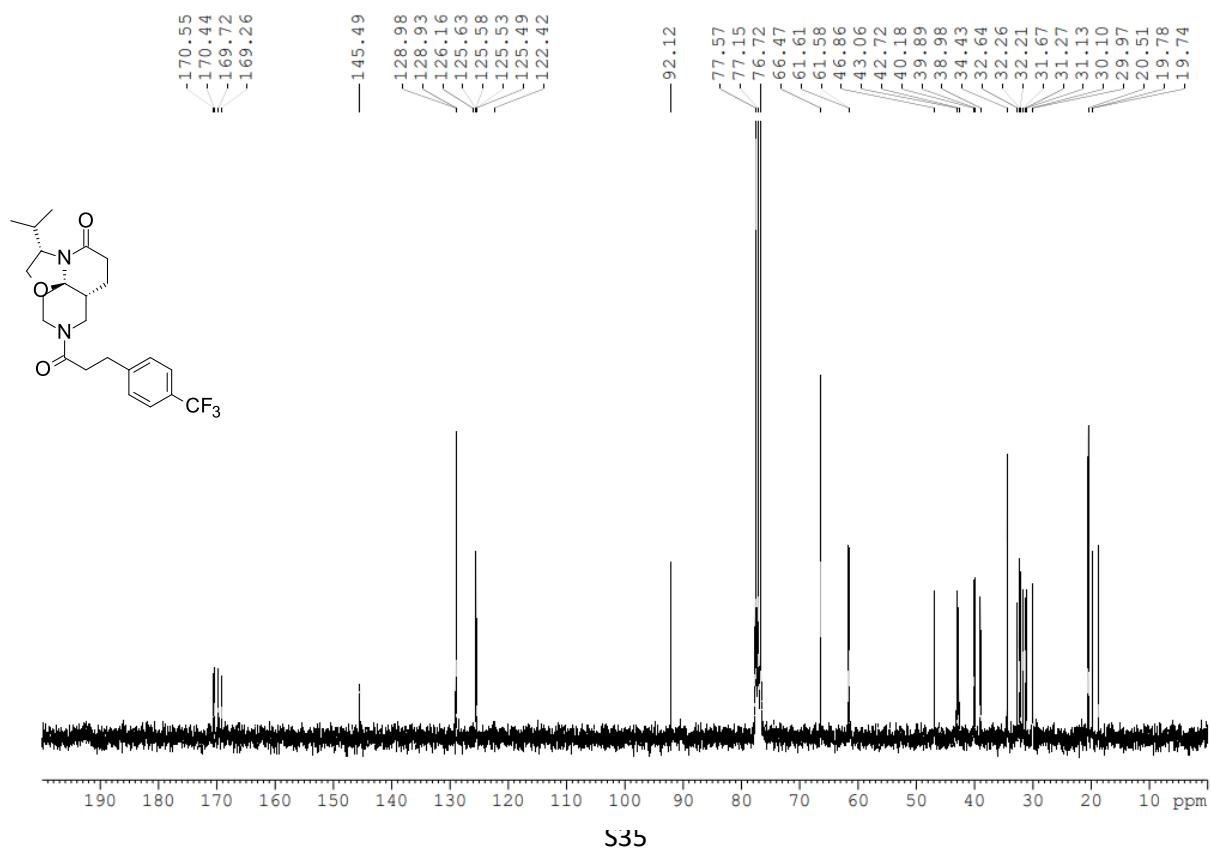
**46,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



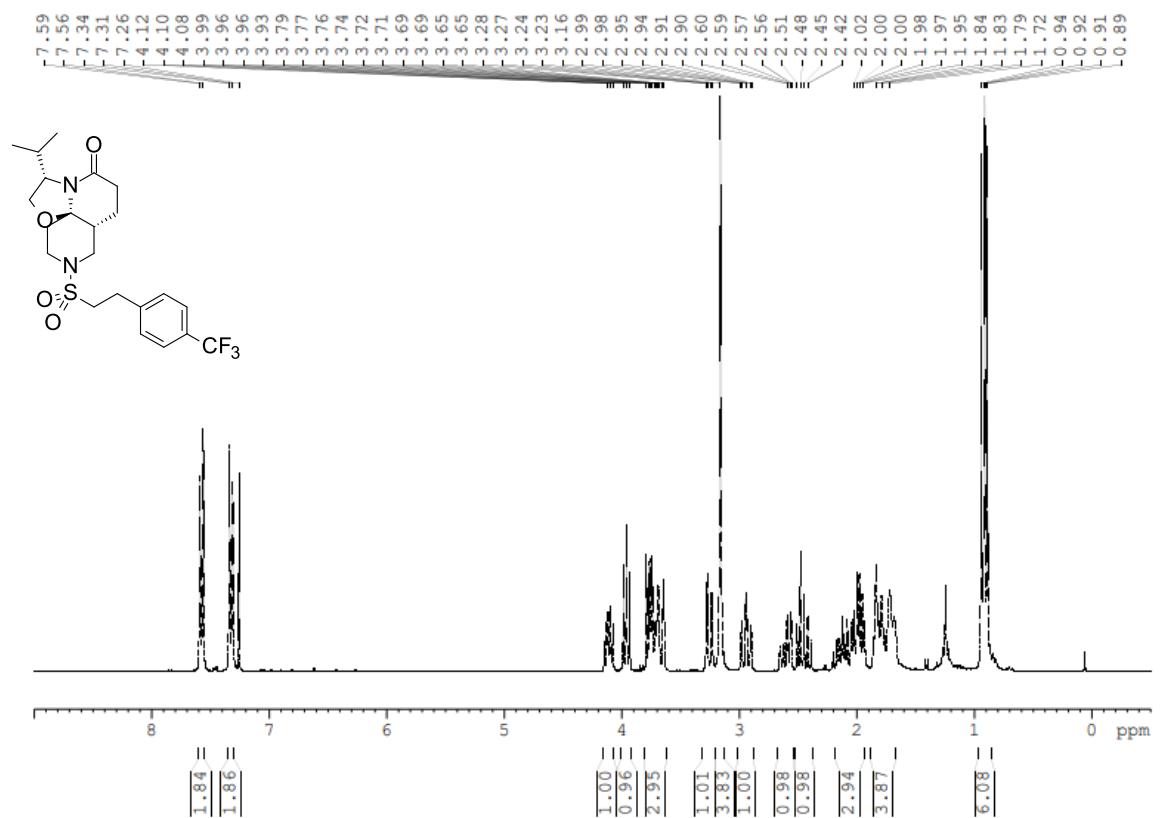
**47,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



**47,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**



**48,  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )**



**48,  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ )**

