

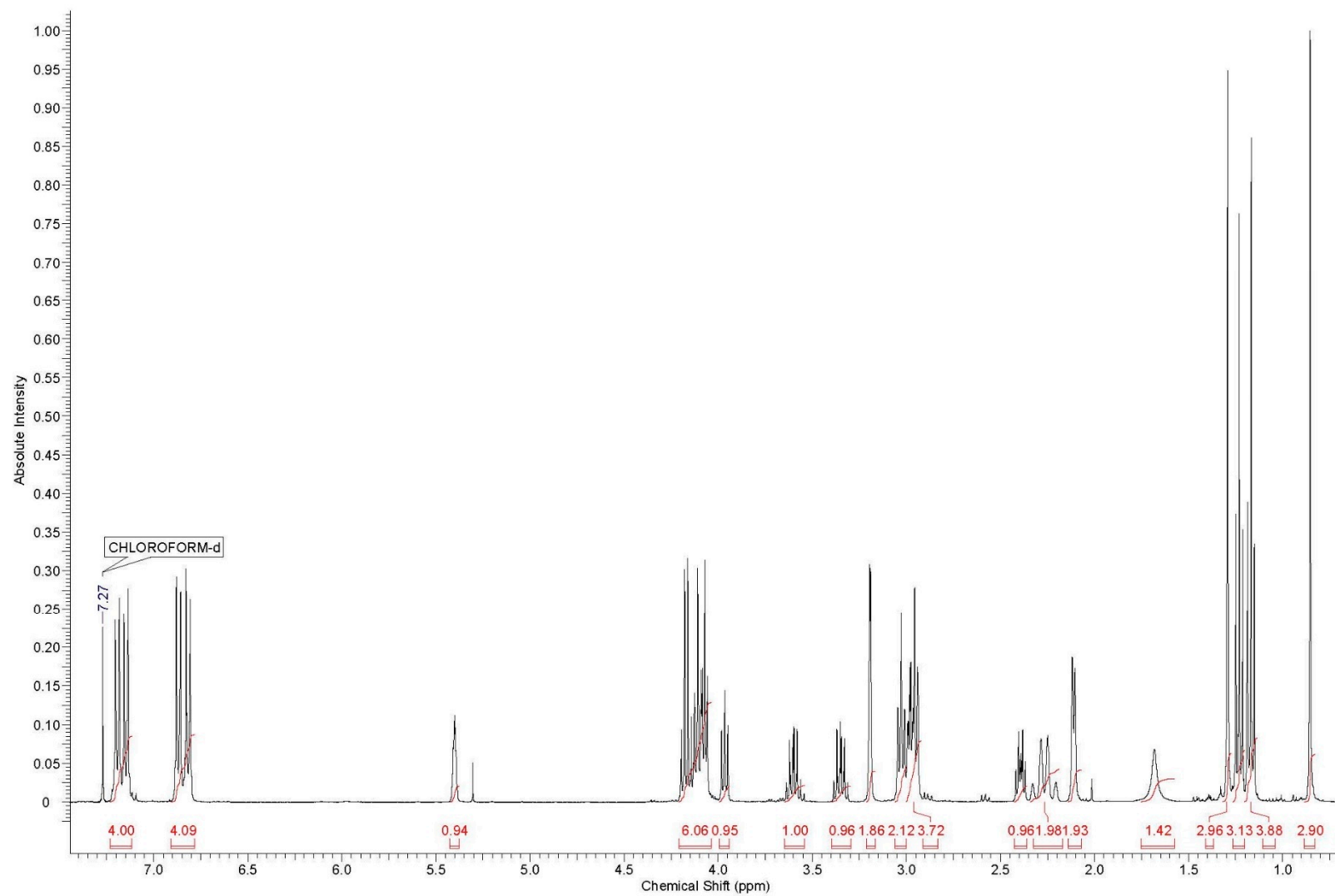
**Supporting Information for:**

# **Terpene-Containing Analogues of Glitazars as Potential Therapeutic Agents for Metabolic Syndrome**

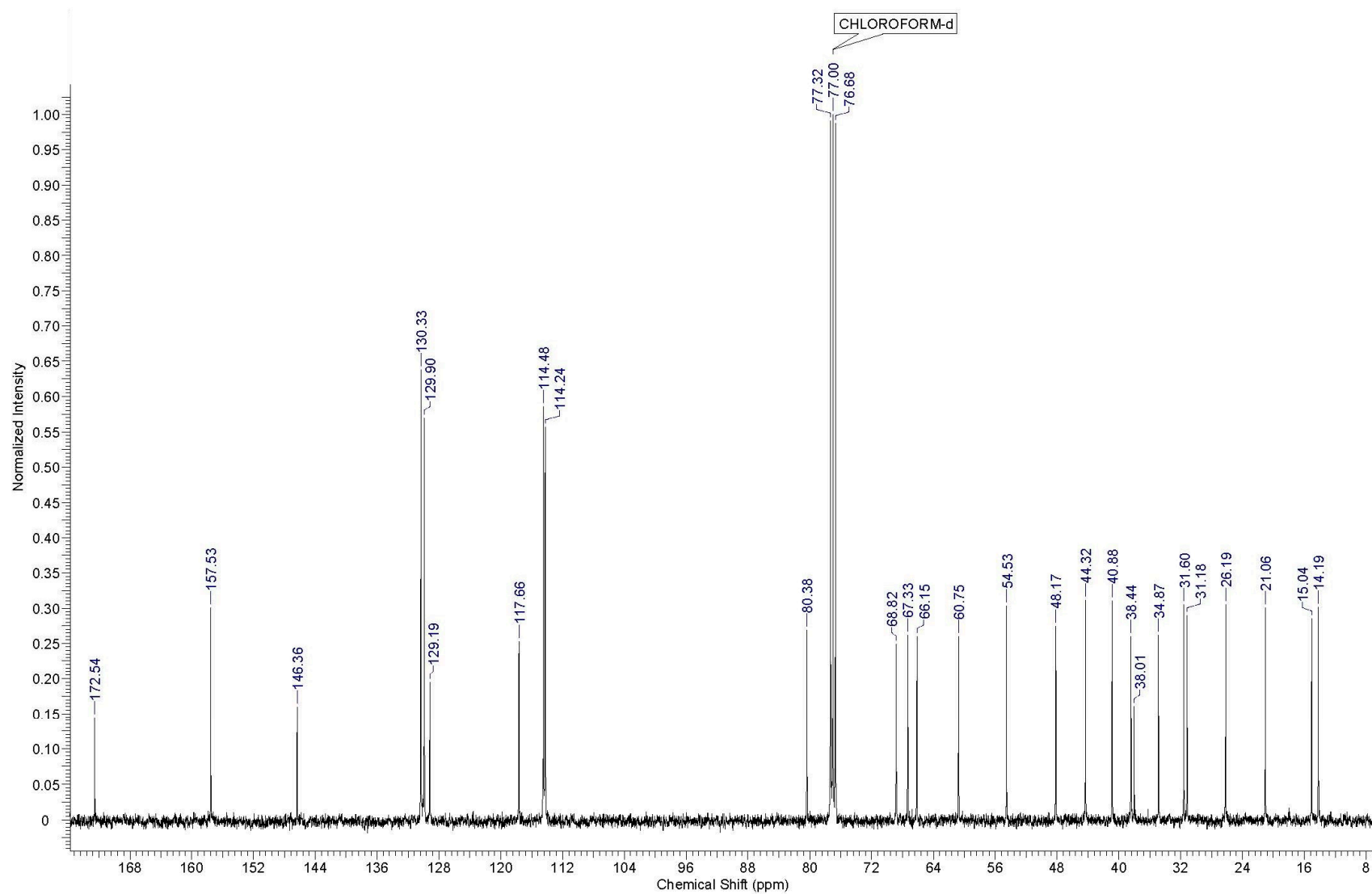
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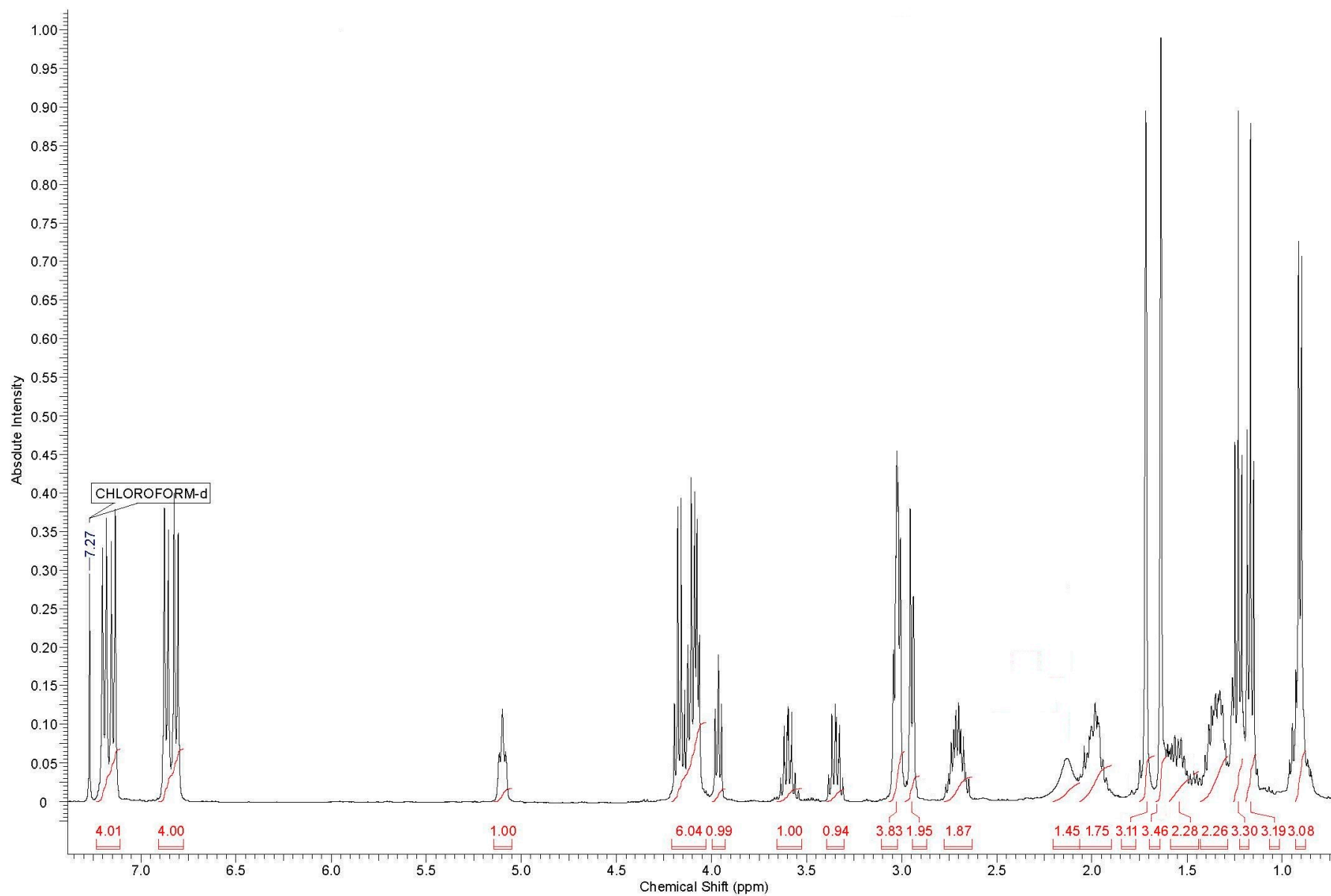
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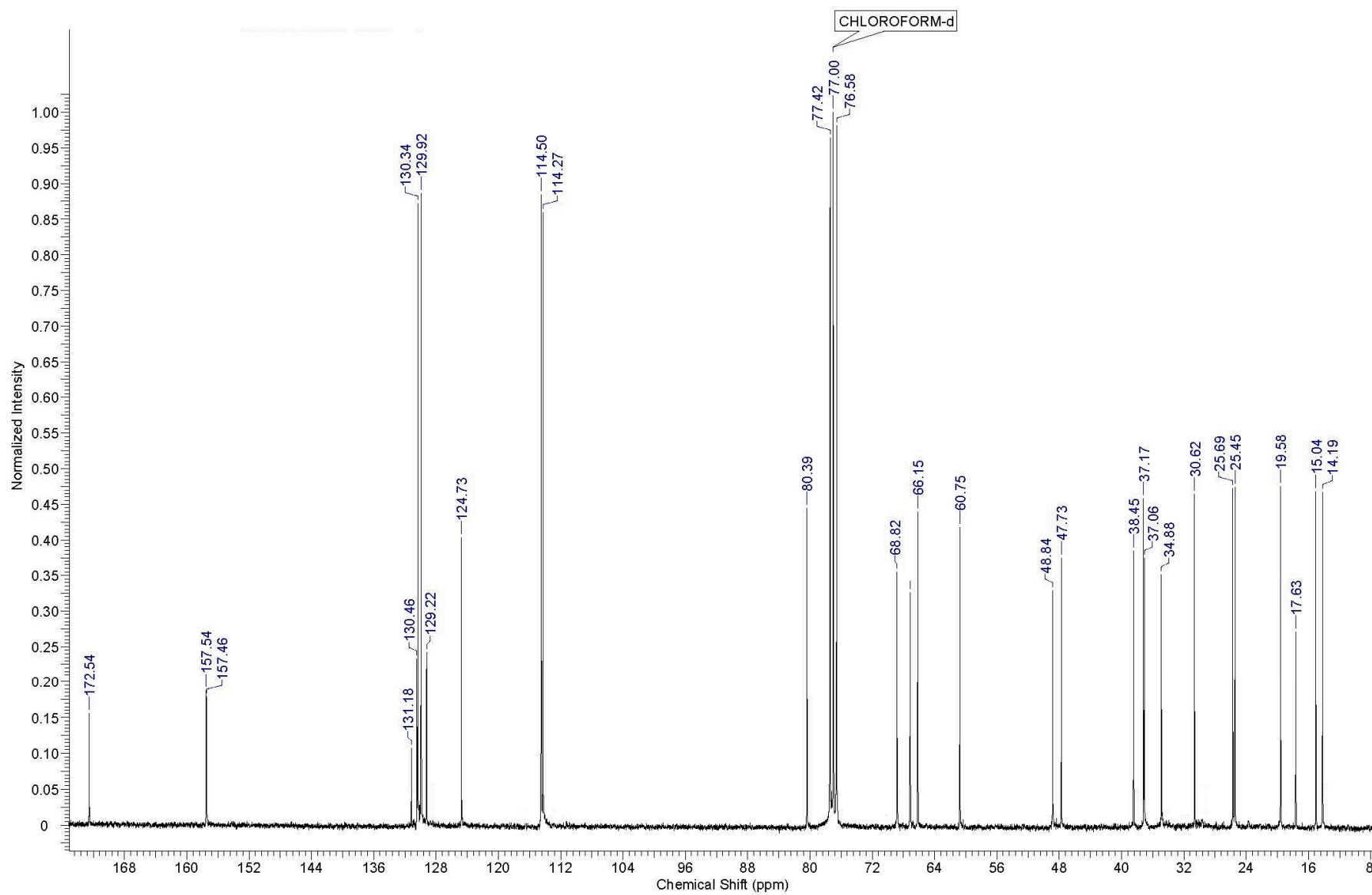
**Figure S1.** Ethyl (2S)-3-[4-(2-{4-[2-({[(1R,5S)-6,6-dimethylbicyclo[3.1.1]hept-2-en-2-yl]methyl} amino)ethoxy]phenyl}ethoxy)phenyl]-2-ethoxypropanoate (**6a**)  $^1\text{H}$  NMR spectrum



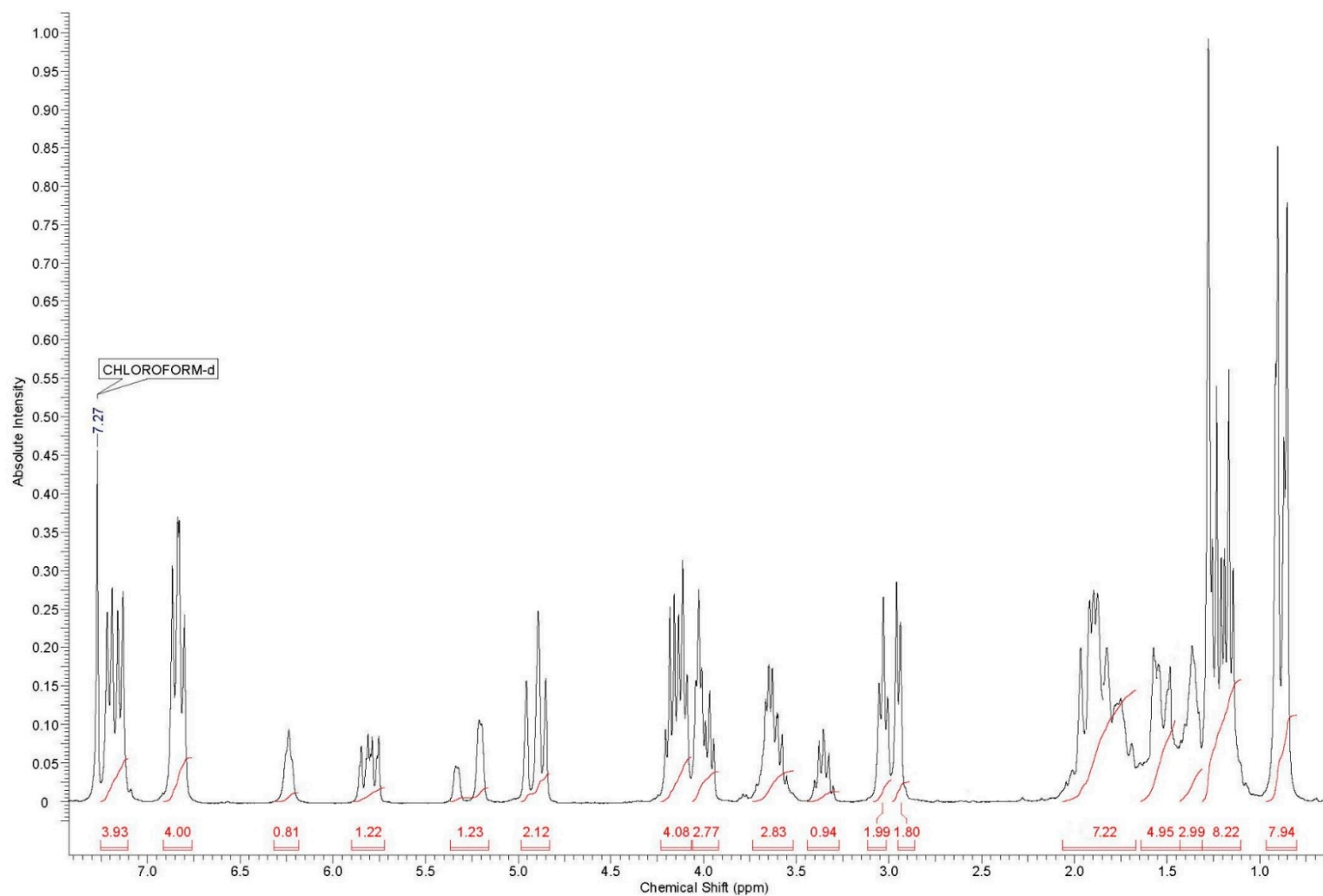
**Figure S2.** Ethyl (2S)-3-[4-(2-{4-[2-({[(1R,5S)-6,6-dimethylbicyclo[3.1.1]hept-2-en-2-yl]methyl} amino)ethoxy]phenyl} ethoxy)phenyl]-2-ethoxypropanoate (**6a**)  $^{13}\text{C}$  NMR spectrum



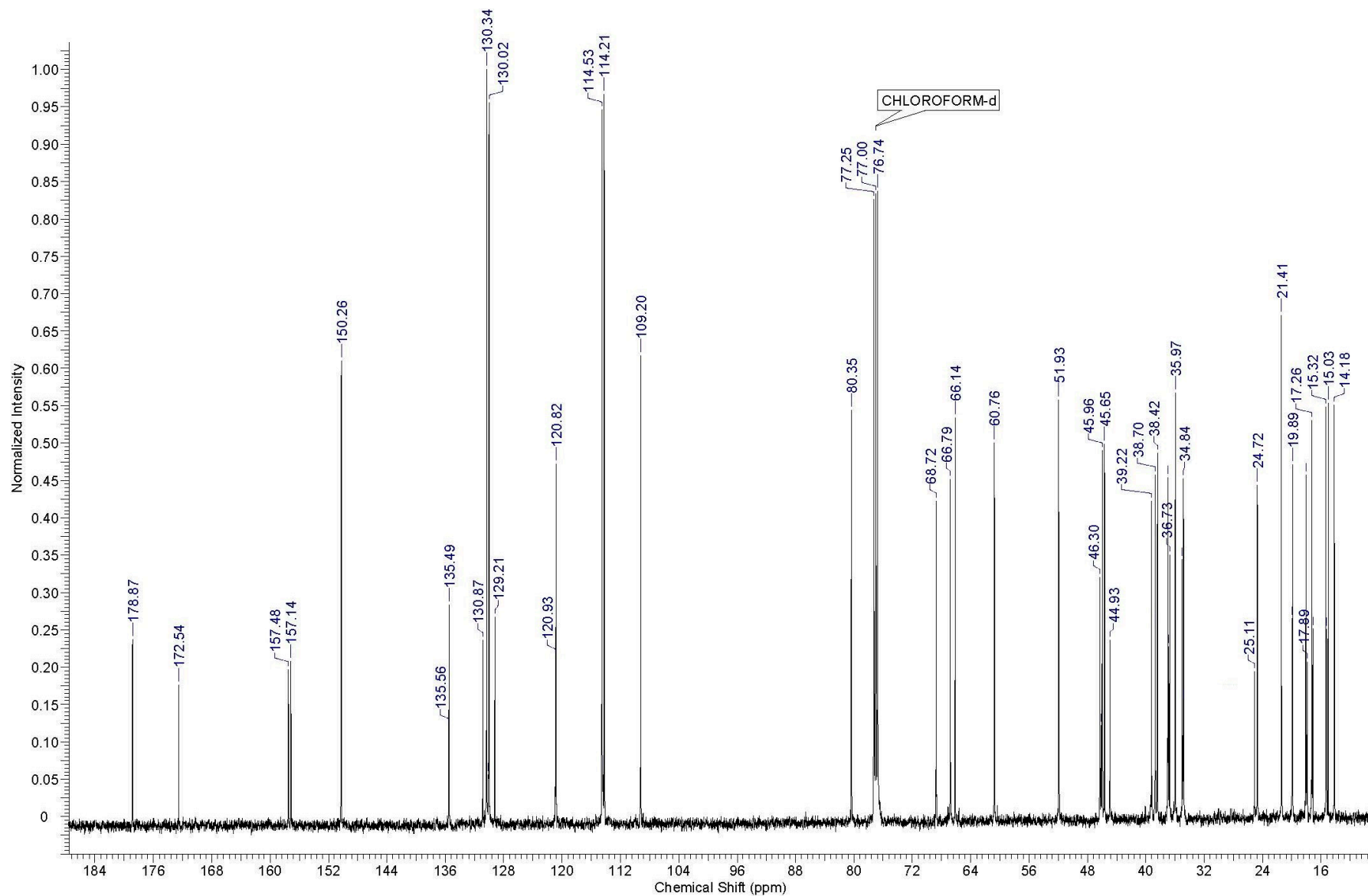
**Figure S3.** Ethyl (2S)-3-{4-[2-(4-{2-[(3,7-dimethyloct-6-en-1-yl)-amino]-ethoxy}-phenyl)-ethoxy] phenyl}-2-ethoxypropanoate (**6b**)  $^1\text{H}$  NMR spectrum



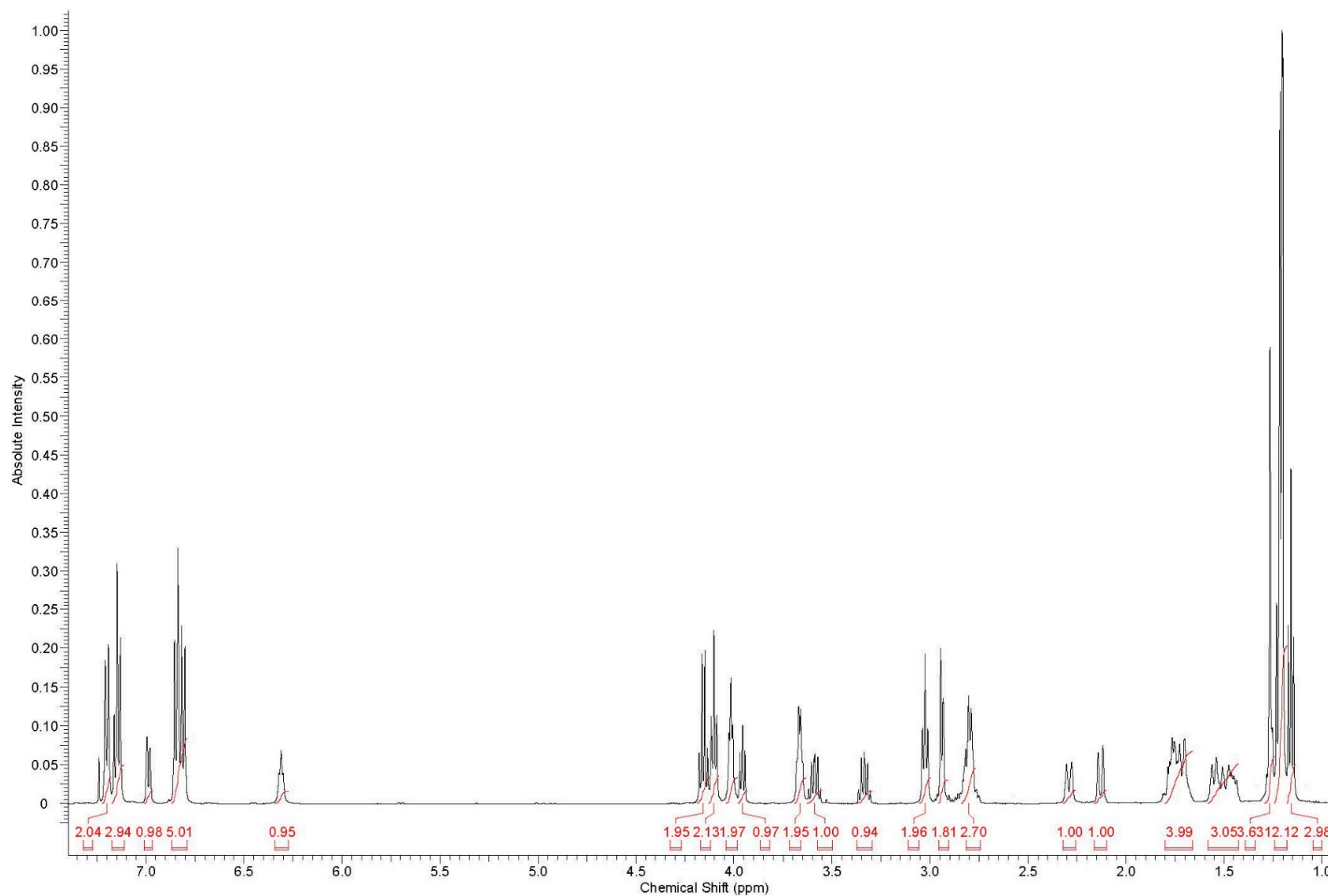
**Figure S4.** Ethyl (2S)-3-{4-[2-(4-{2-[(3,7-dimethyloct-6-en-1-yl)-amino]-ethoxy}-phenyl)-ethoxy] phenyl}-2-ethoxypropanoate (**6b**)  $^{13}\text{C}$  NMR spectrum



**Figure S5.** Ethyl (2S)-3-(4-{2-[4-(2-{[(1R,4aR,7S)-7-ethenyl-1,4a,7-trimethyl-1,2,3,4,4a,4b,5,6,7, 8,10,10a-dodecahydrophenanthren-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxypropanoate (**8a**) <sup>1</sup>H NMR spectrum

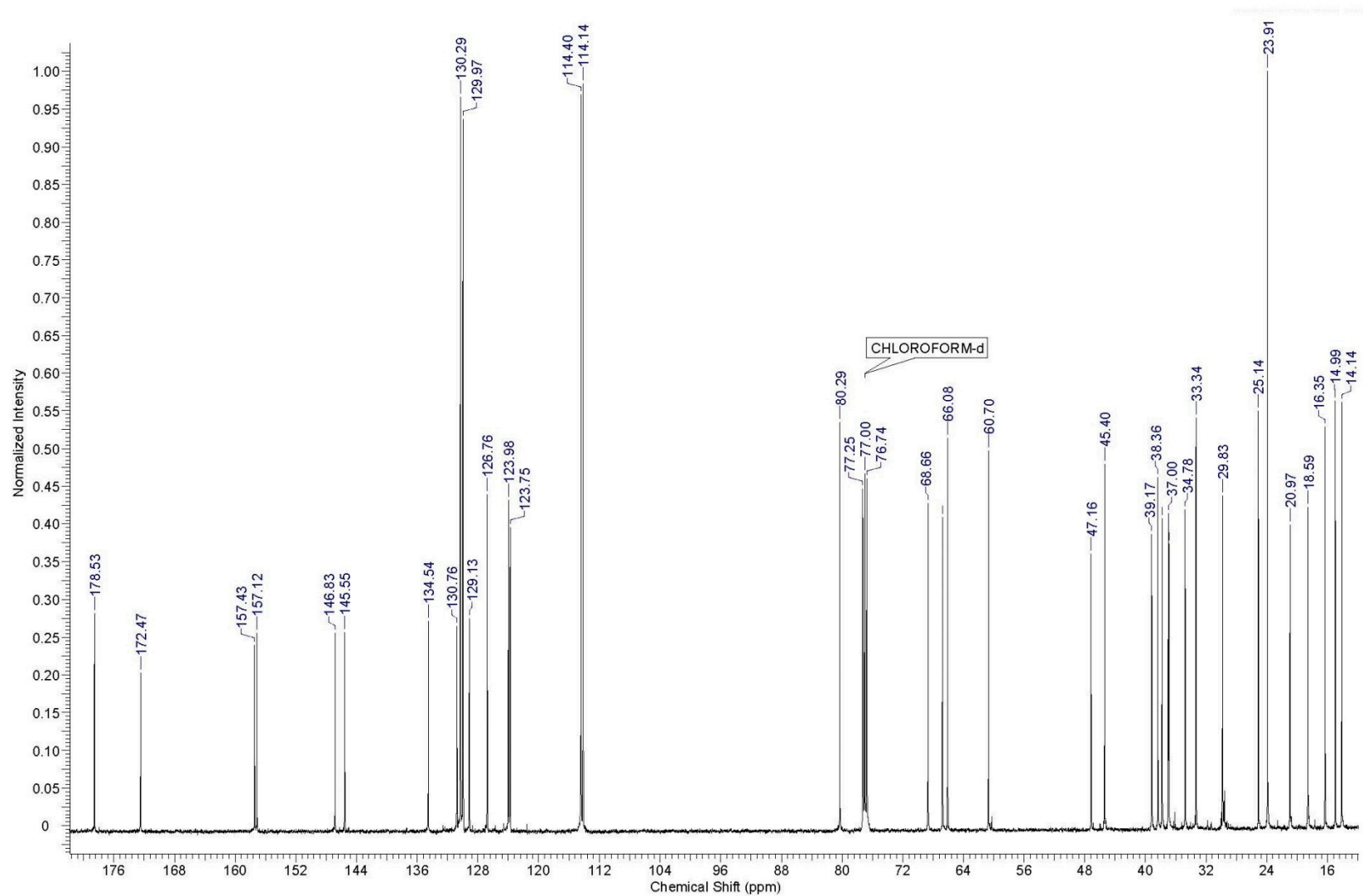


**Figure S6.** Ethyl (2S)-3-(4-{2-[4-(2-{[(1R,4aR,7S)-7-ethenyl-1,4a,7-trimethyl-1,2,3,4,4a,4b,5,6,7, 8,10,10a-dodecahydrophenanthren-1-yl]formamido} ethoxy)phenyl] ethoxy} phenyl)-2-ethoxypropanoate (**8a**)  $^{13}\text{C}$  NMR spectrum

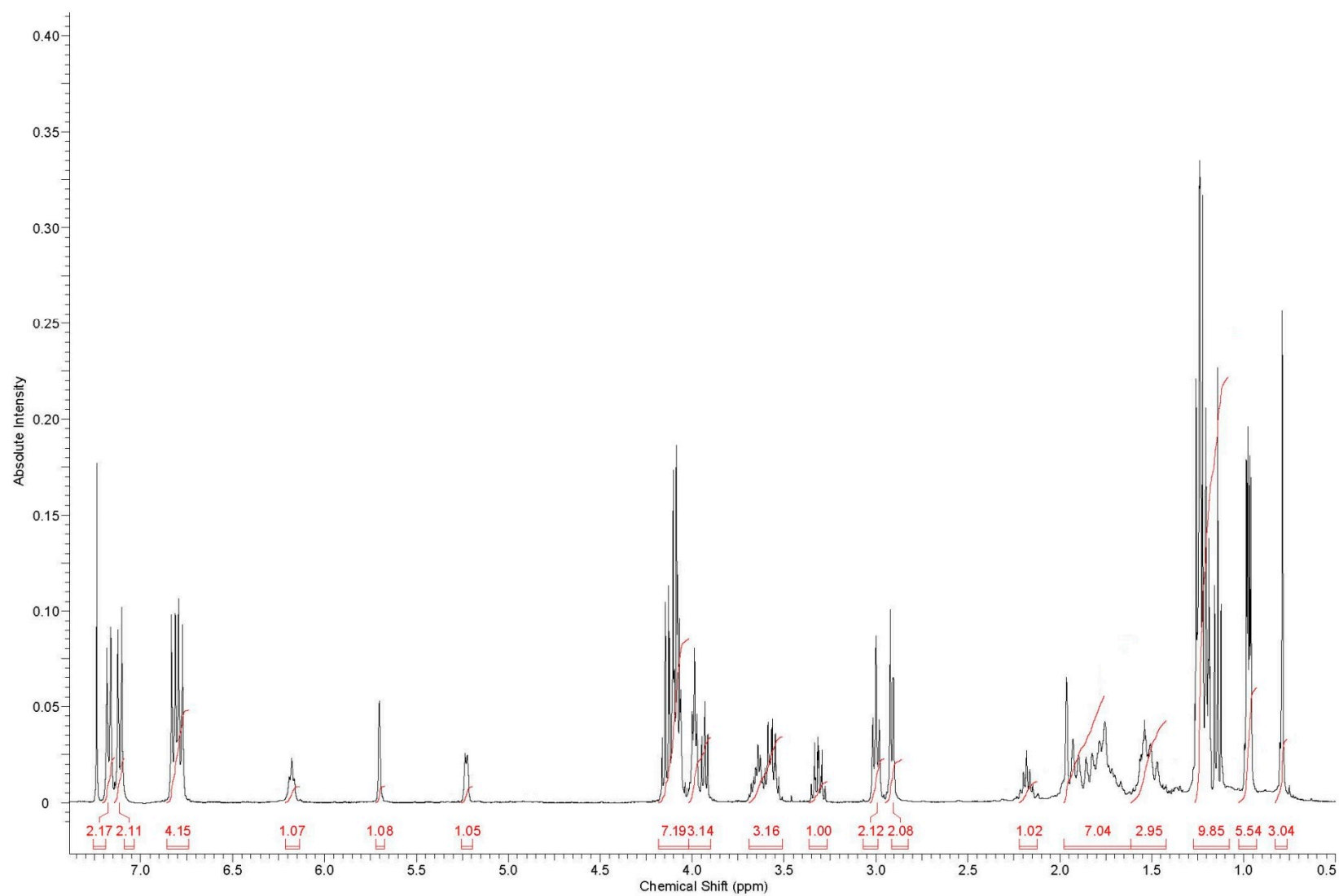


**Figure S7.** Ethyl (2S)-3-(4-{2-[4-(2-{[(1R,4aS,10aR)-1,4a-dimethyl-7-(propan-2-yl)-1,2,3,4,4a,9,10,10a-octahydrophenanthren-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxypropanoate (**8b**)  $^1\text{H}$  NMR spectrum

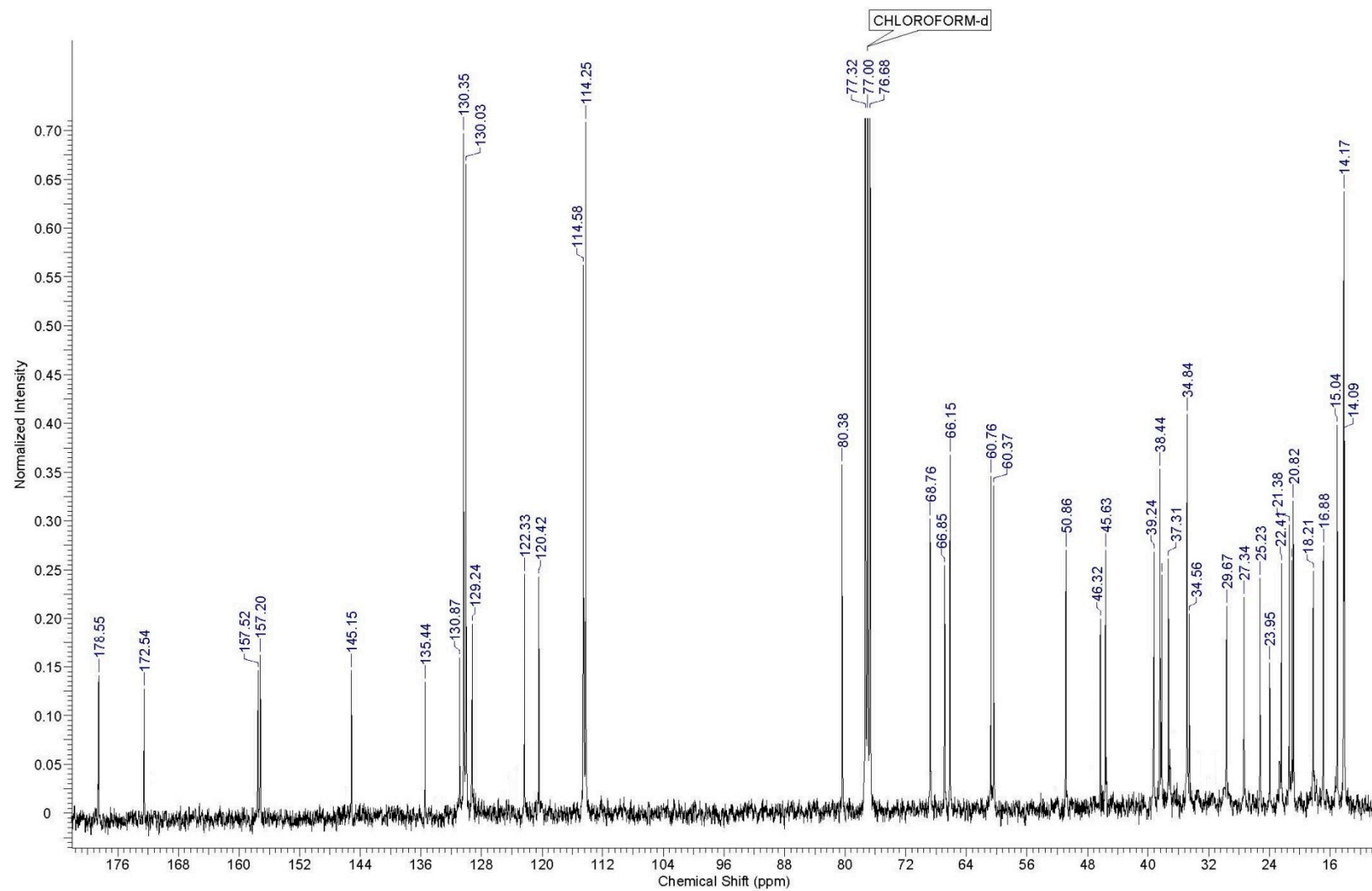




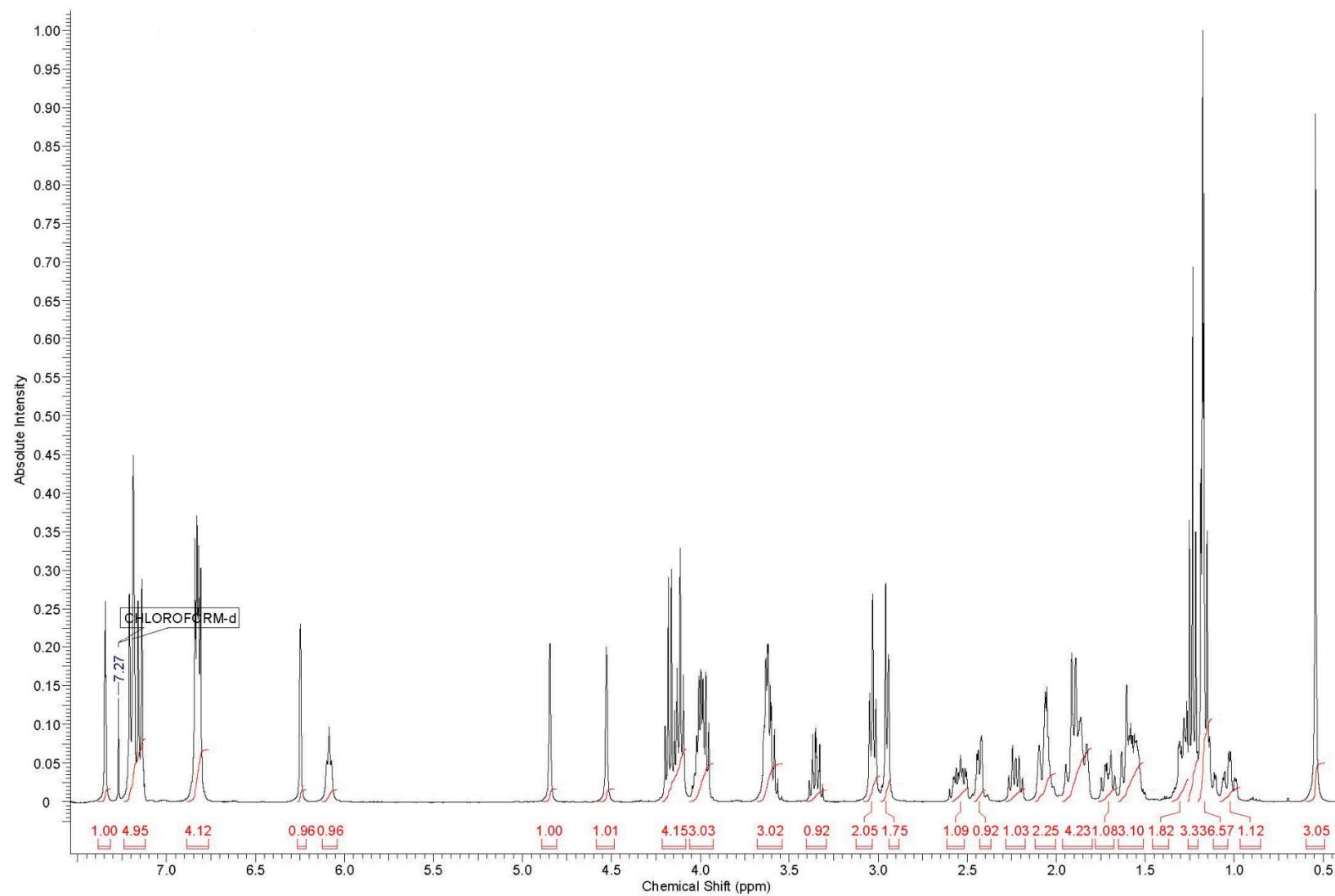
**Figure S8.** Ethyl (2S)-3-(4-{2-[4-(2-{[(1R,4aS,10aR)-1,4a-dimethyl-7-(propan-2-yl)-1,2,3,4,4a,9,10,10a-octahydrophenanthren-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxypropanoate (**8b**)  $^{13}\text{C}$  NMR spectrum



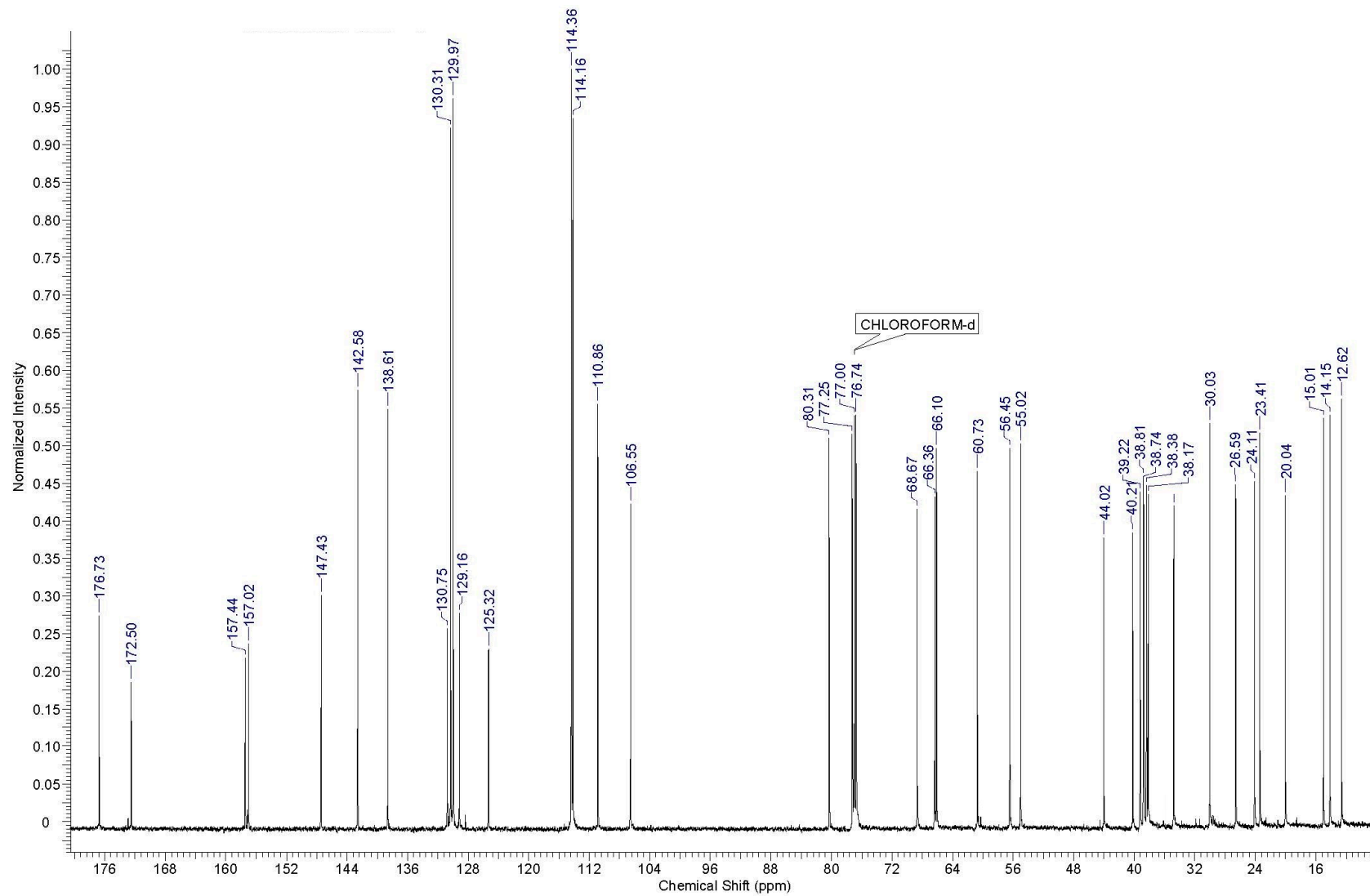
**Figure S9.** Ethyl (2S)-3-(4-{2-[4-(2-{{[(1R,4aR,10aR)-1,4a-dimethyl-7-(propan-2-yl)-1,2,3,4,4a,4b,5,6,10,10a-decahydrophenanthren-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxypropanoate (**8c**) <sup>1</sup>H NMR spectrum



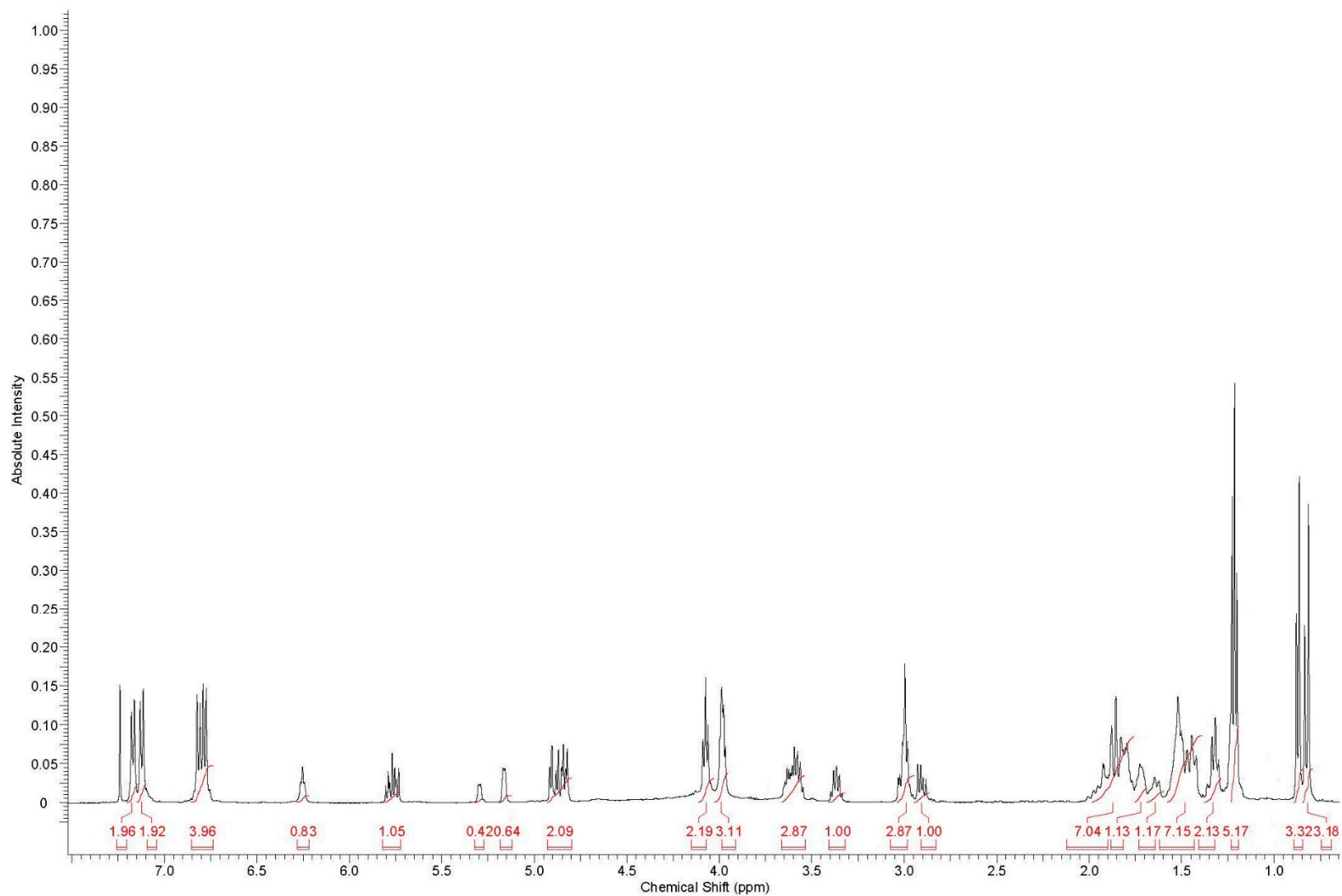
**Figure S10.** Ethyl (2S)-3-(4-{2-[4-(2-{[(1R,4aR,10aR)-1,4a-dimethyl-7-(propan-2-yl)-1,2,3,4,4a,4b,5, 6,10,10a-decahydrophenanthren-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxypropanoate (**8c**)  $^{13}\text{C}$  NMR spectrum



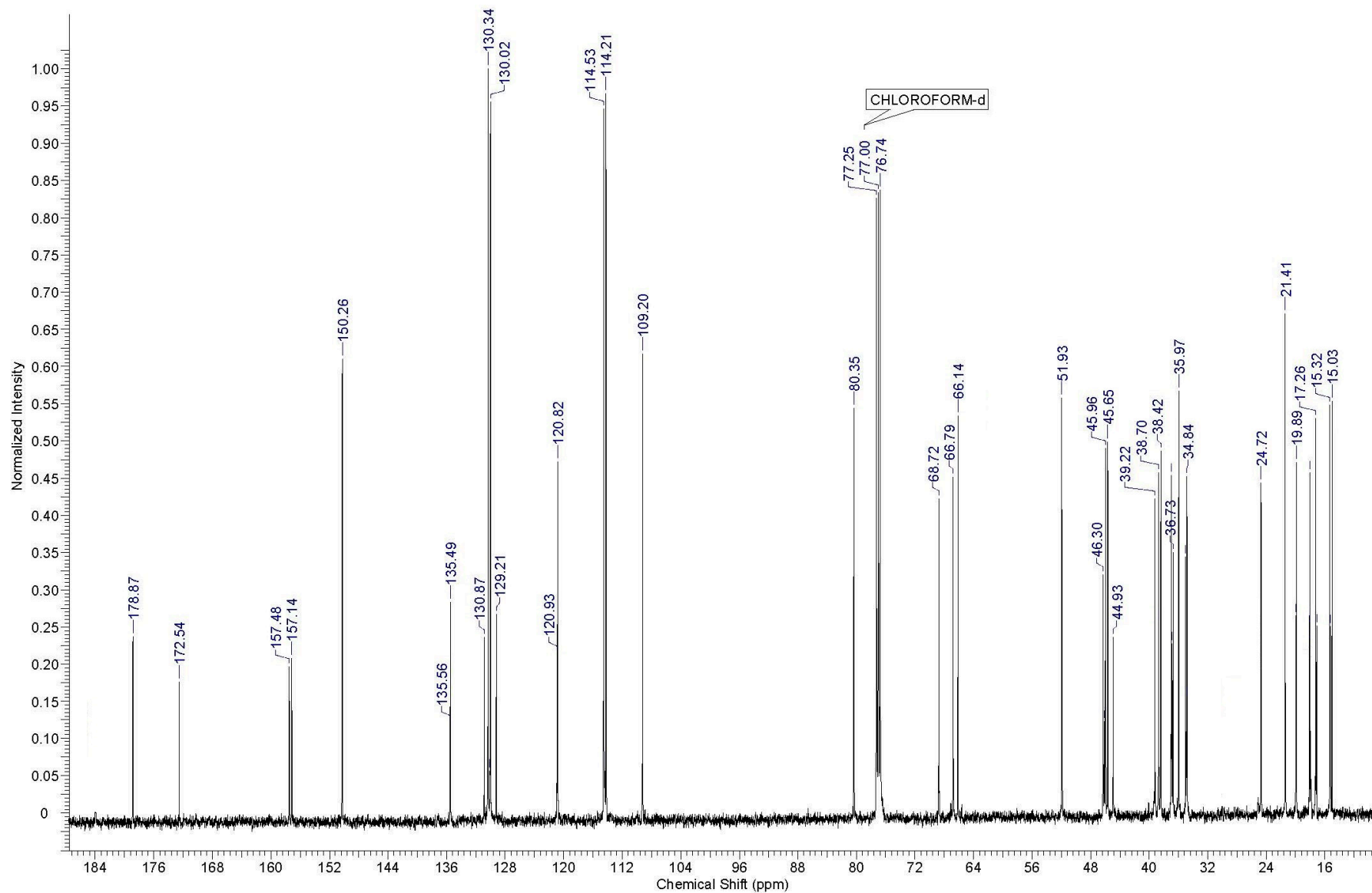
**Figure S11.** Ethyl (2S)-3-(4-{2-[4-(2-{[(1R,4aR,5S)-5-[2-(furan-3-yl)ethyl]-1,4a-dimethyl-6-methyl idenedecahydronaphthalen-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxypropanoate (**8d**)  $^1\text{H}$  NMR spectrum



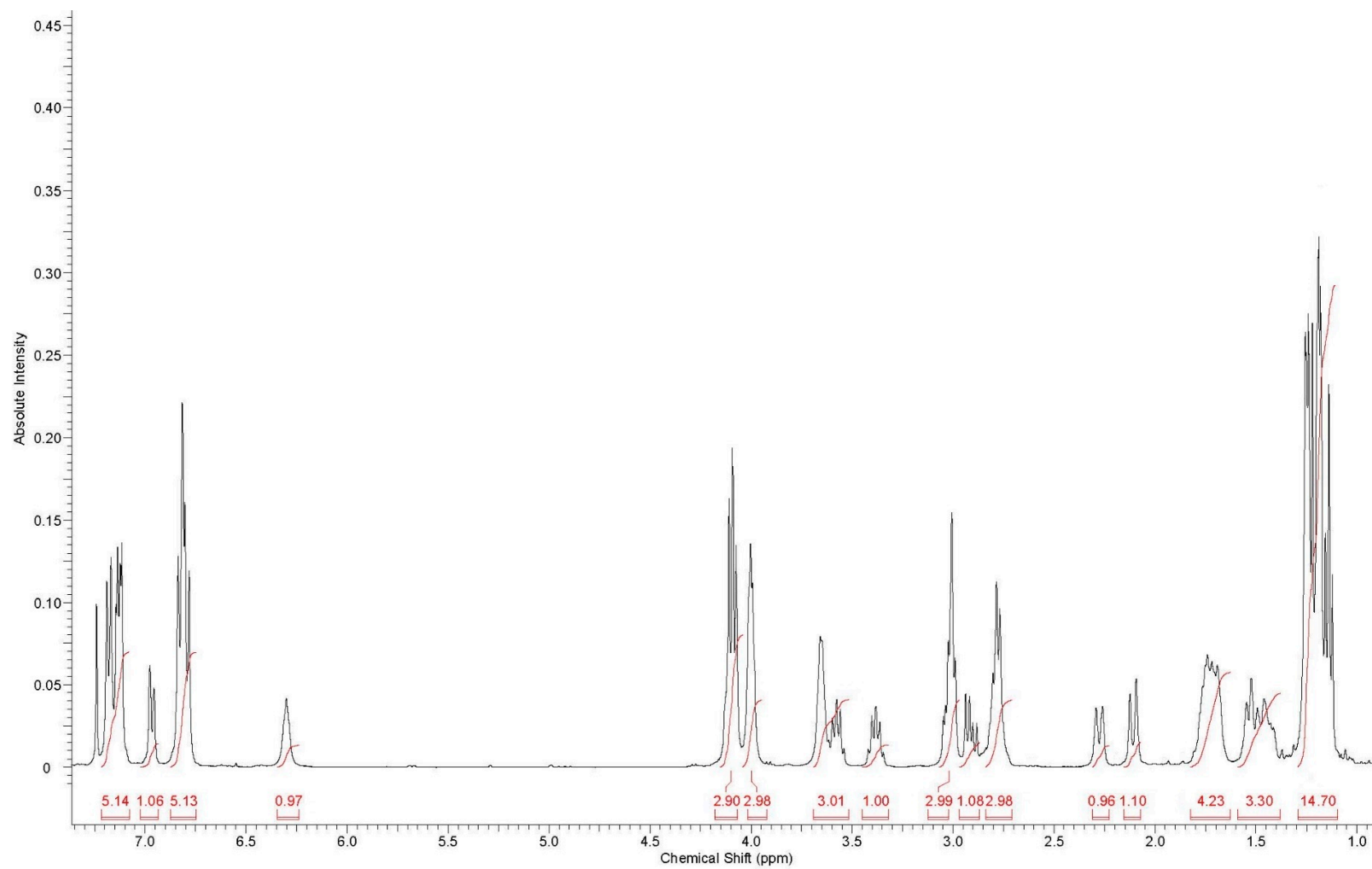
**Figure S12.** Ethyl (2S)-3-(4-{2-[4-(2-{[(1R,4aR,5S)-5-[2-(furan-3-yl)ethyl]-1,4a-dimethyl-6-methyl idenedecahydronaphthalen-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxypropanoate (**8d**)  $^{13}\text{C}$  NMR spectrum



**Figure S13.** (2S)-3-(4-{2-[4-(2-{[(1R,4aR,7S)-7-ethenyl-1,4a,7-trimethyl-1,2,3,4,4a,4b,5,6,7,8,10, 10a-dodecahydrophenanthren-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxy-propanoic acid (**9a**)  $^1\text{H}$  NMR spectrum

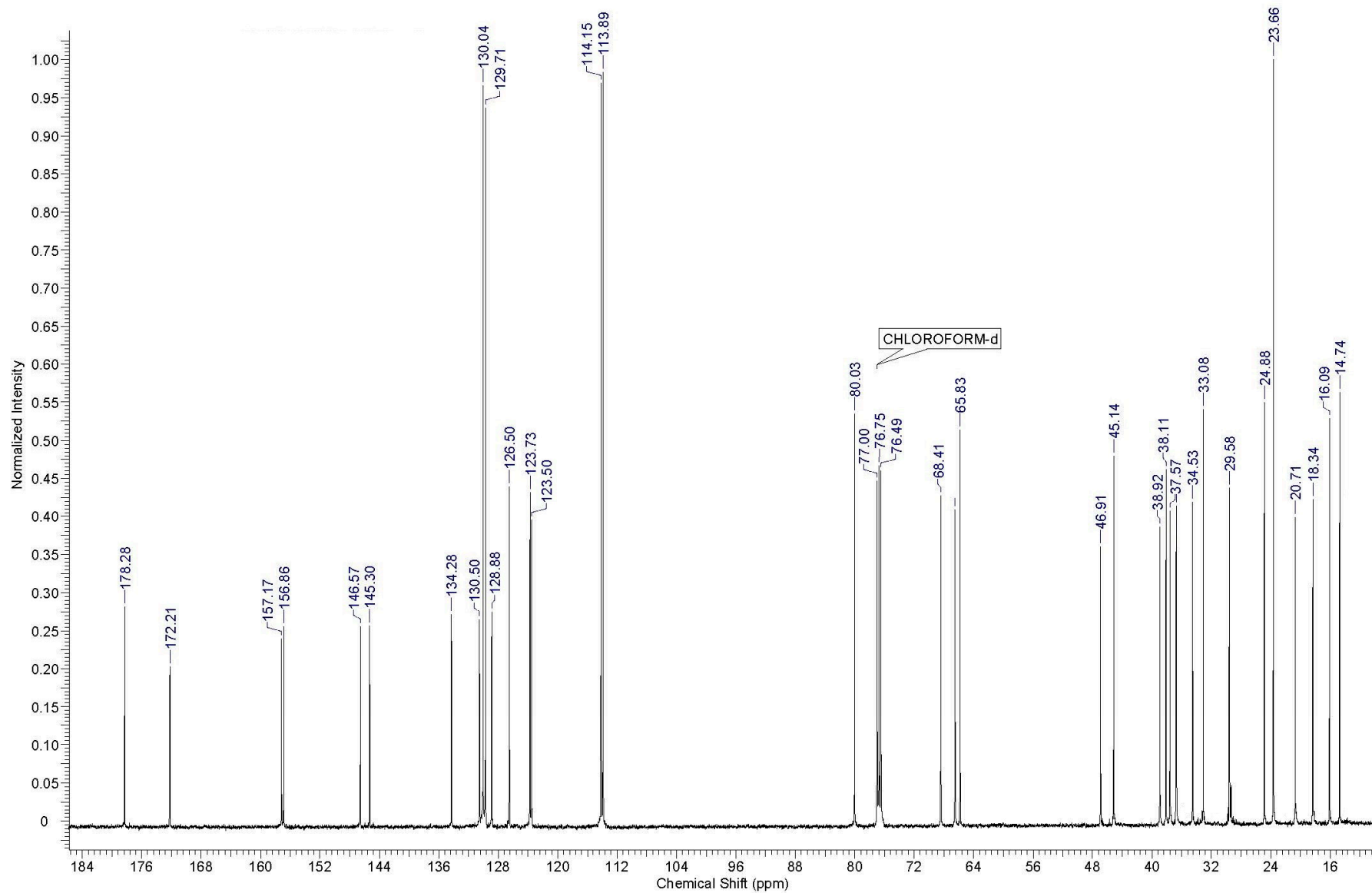


**Figure S14.** (2S)-3-(4-{2-[4-(2-{[(1R,4aR,7S)-7-ethenyl-1,4a,7-trimethyl-1,2,3,4,4a,4b,5,6,7,8,10, 10a-dodecahydrophenanthren-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxy-propanoic acid (**9a**)  $^{13}\text{C}$  NMR spectrum

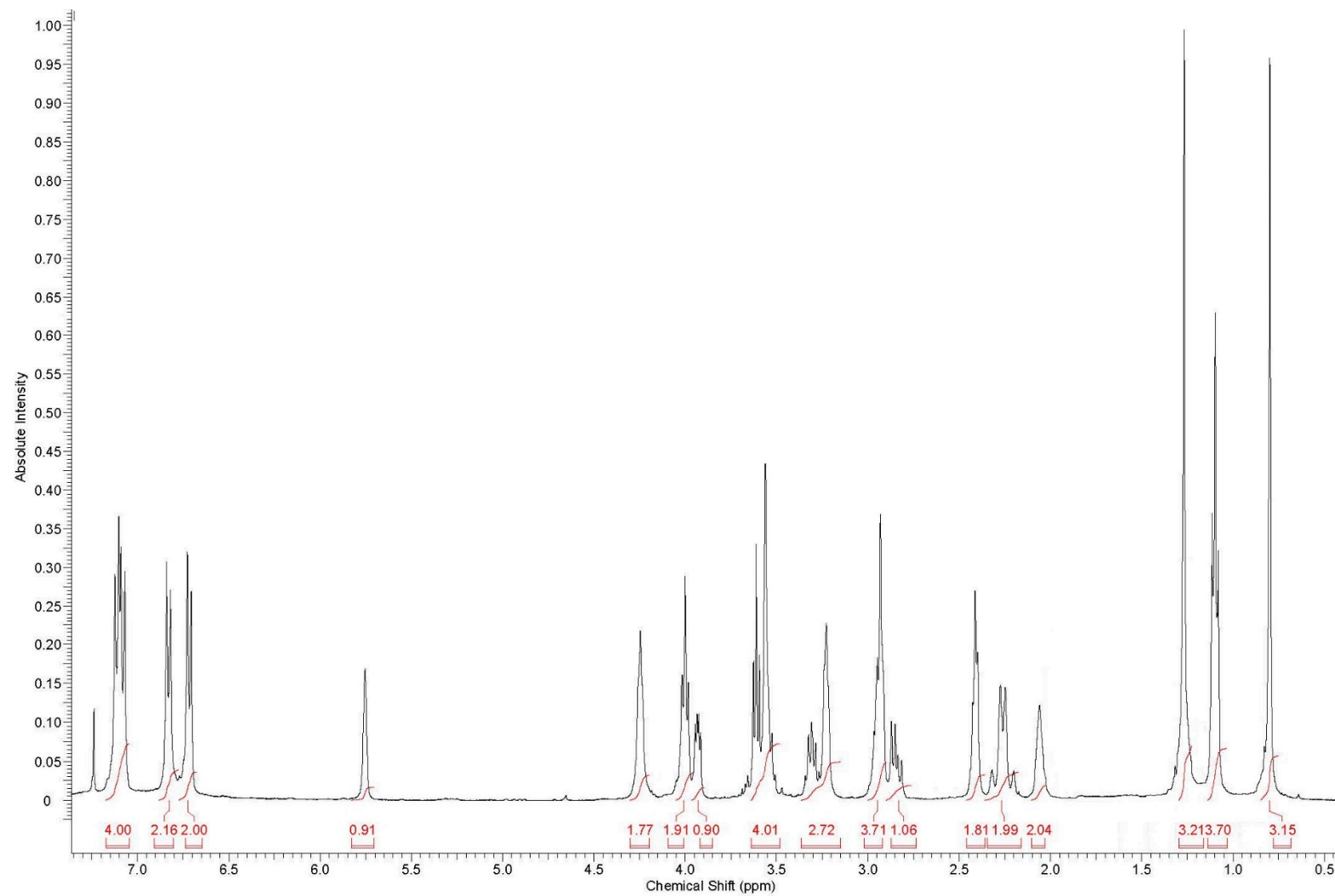


**Figure S15.** (2S)-3-(4-{2-[4-(2-{[(1R,4aS,10aR)-1,4a-dimethyl-7-(propan-2-yl)-1,2,3,4,4a,9,10,10a-octahydrophenanthren-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxypropanoic acid (**9b**)  $^1\text{H}$  NMR spectrum

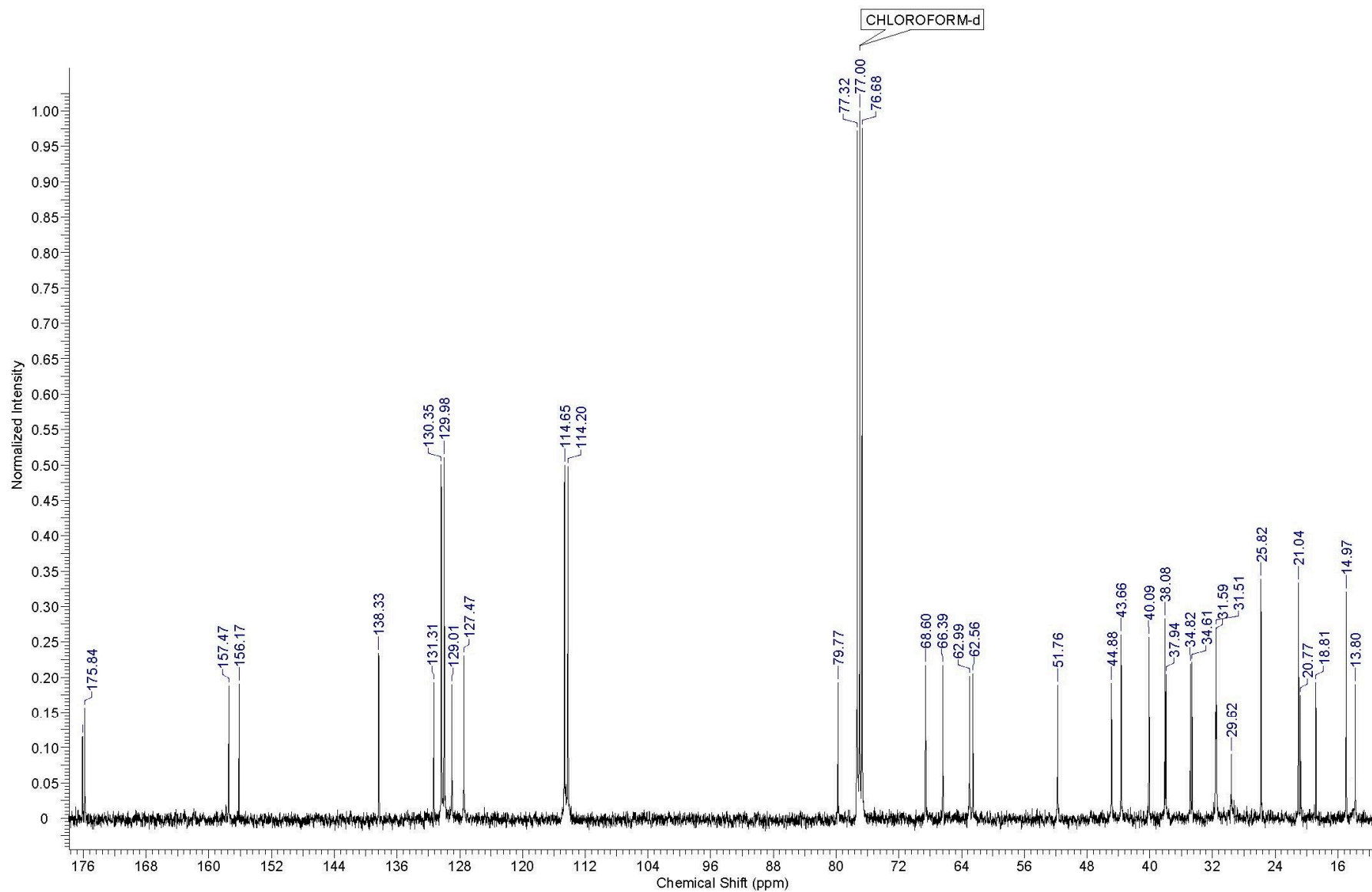




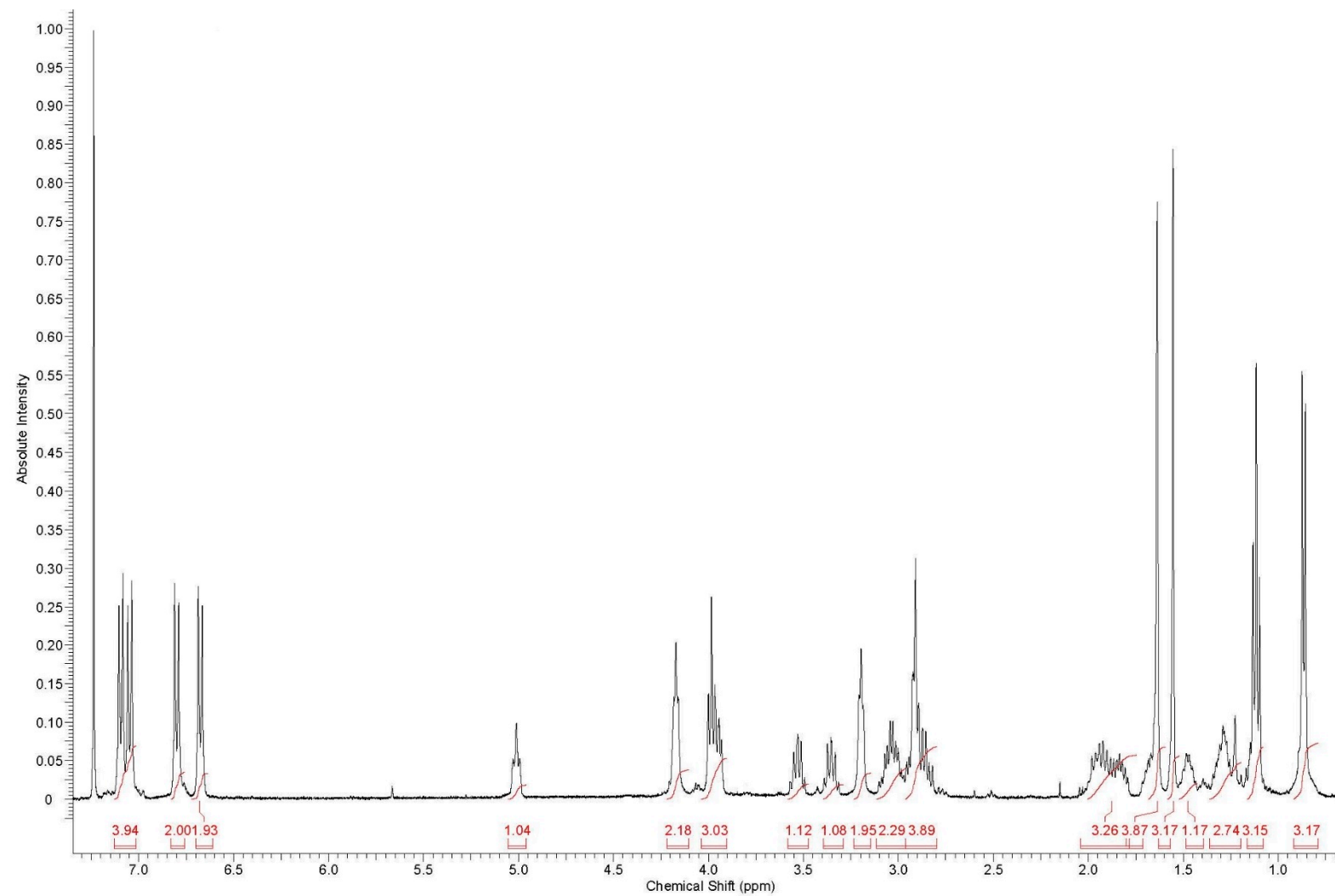
**Figure S16.** (2S)-3-(4-{2-[4-(2-{[(1R,4aS,10aR)-1,4a-dimethyl-7-(propan-2-yl)-1,2,3,4,4a,9,10,10a-octahydrophenanthren-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxypropanoic acid (**9b**)  $^{13}\text{C}$  NMR spectrum



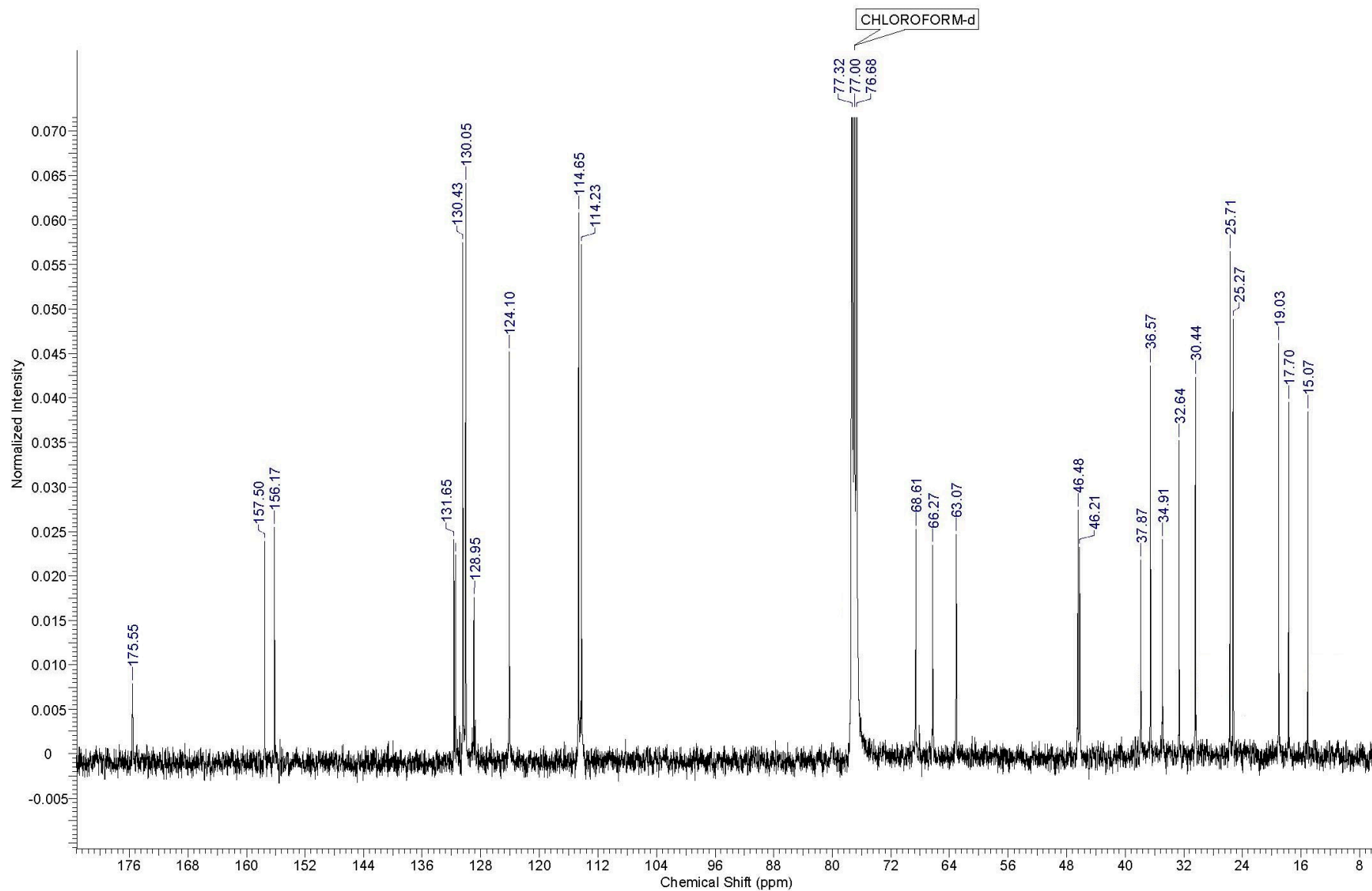
**Figure S17.** {2-[4-(2-{4-[(2S)-2-carboxy-2-ethoxyethyl]phenoxy}ethyl)phenoxy]ethyl}{[(1R,5S)-6,6-dimethylbicyclo[3.1.1]hept-2-en-2-yl)methyl]}azanium chloride (**7a**) <sup>1</sup>H NMR spectrum



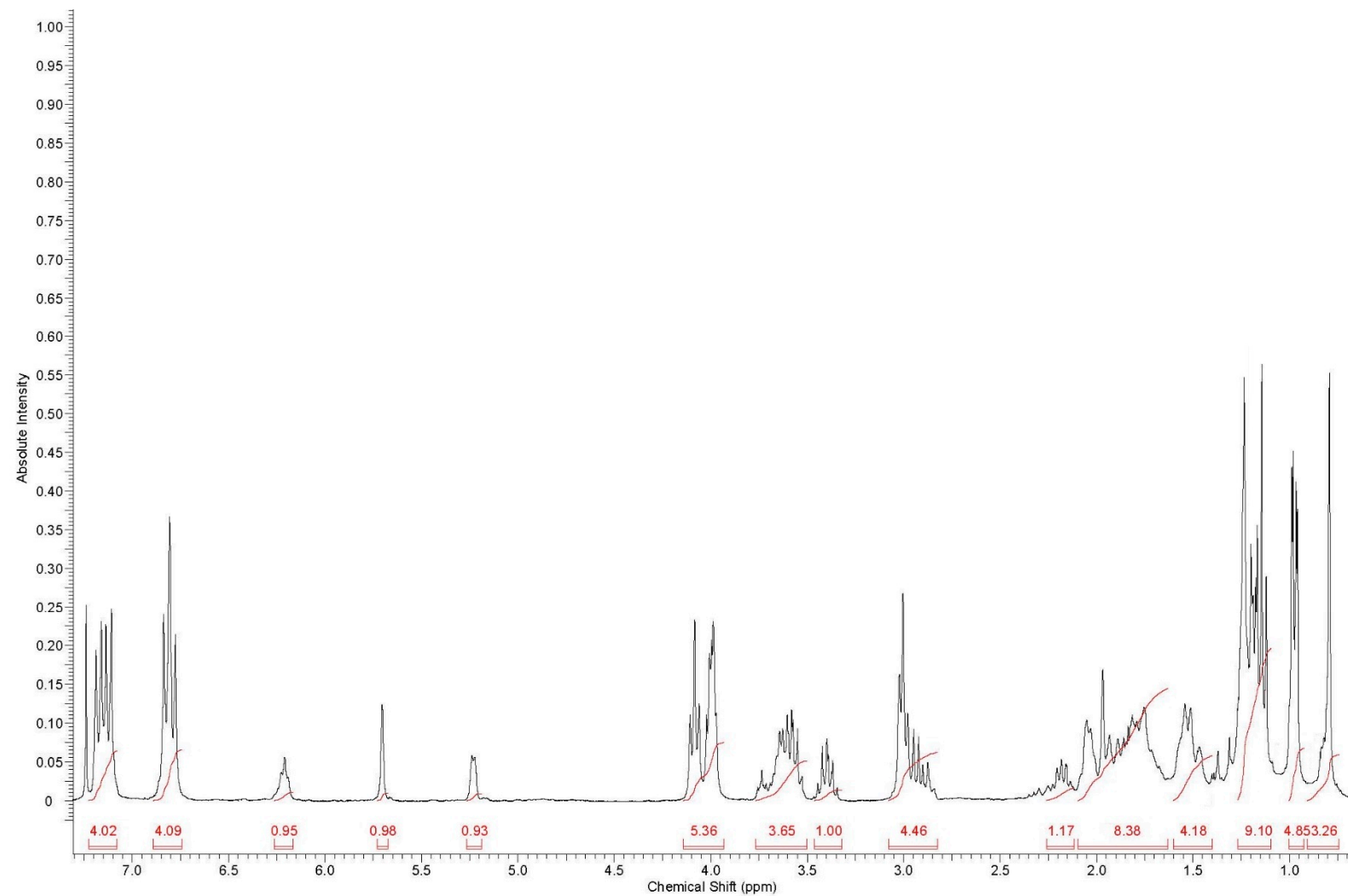
**Figure S18.** {2-[4-(2-{4-[(2S)-2-carboxy-2-ethoxyethyl]phenoxy}ethyl)phenoxy]ethyl}{[(1R,5S)-6,6-dimethylbicyclo[3.1.1]hept-2-en-2-yl]methyl}azanium chloride (**7a**)  $^{13}\text{C}$  NMR spectrum



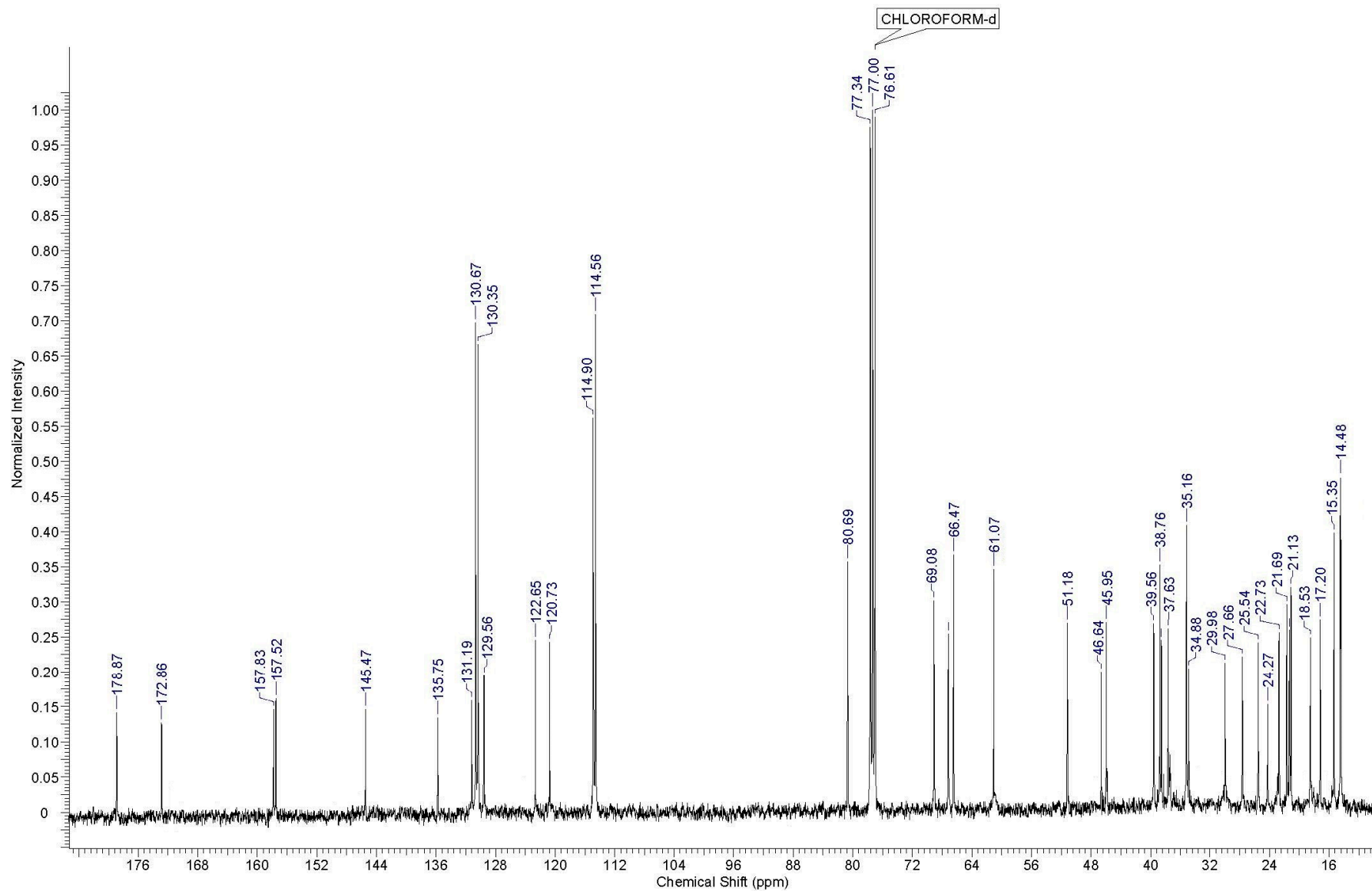
**Figure S19.** {2-[4-(2-{4-[(2S)-2-carboxy-2-ethoxyethyl]phenoxy}ethyl)phenoxy]ethyl}(3,7-dimethyloct-6-en-1-yl)azanium chloride (**7b**)  $^1\text{H}$  NMR spectrum



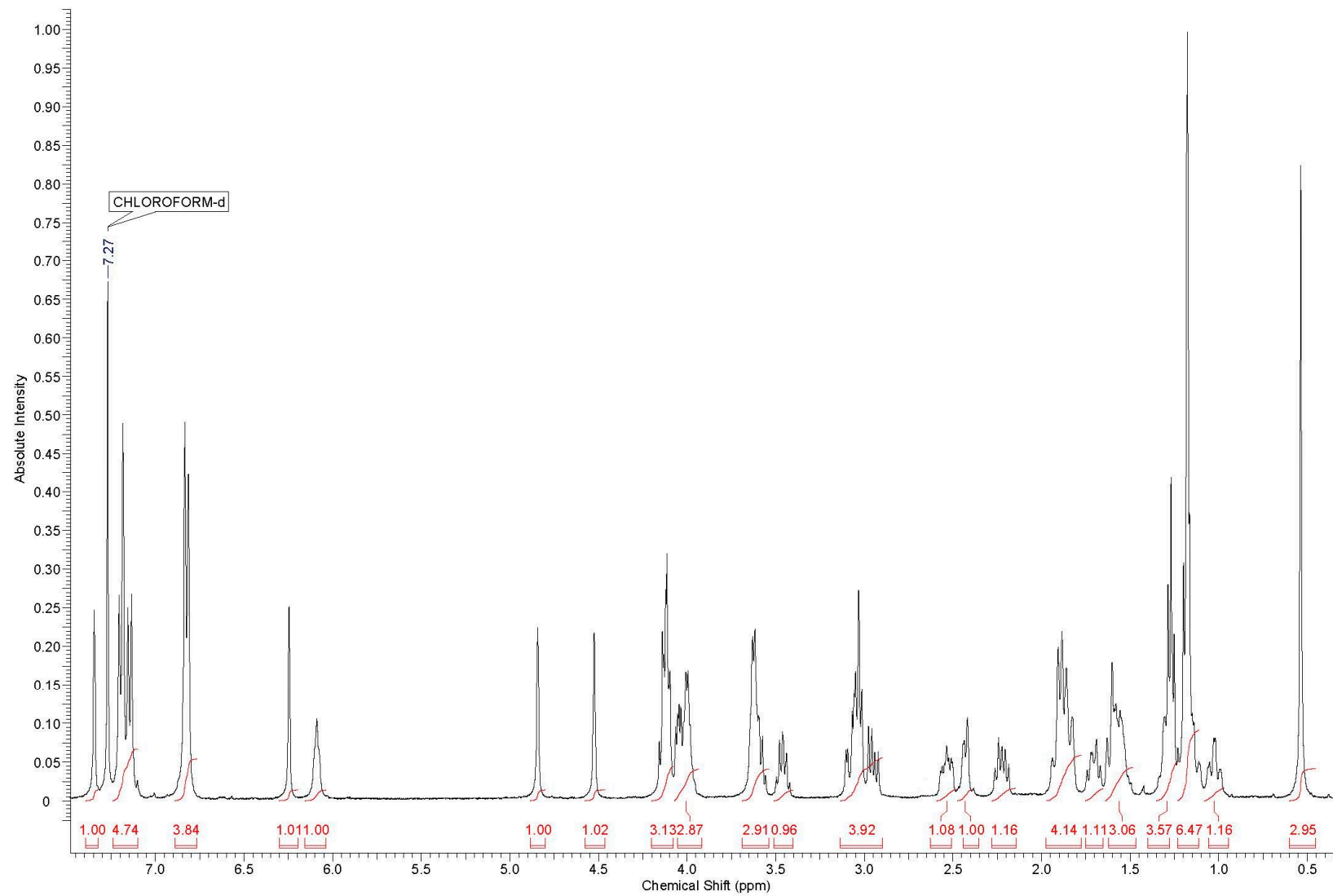
**Figure S20.** {2-[4-(2-{4-[(2S)-2-carboxy-2-ethoxyethyl]phenoxy}ethyl)phenoxy]ethyl}(3,7-dimethyloct-6-en-1-yl)azanium chloride (**7b**)  $^{13}\text{C}$  NMR spectrum



**Figure S21.** (2S)-3-(4-{2-[4-(2-{[(1R,4aR,10aR)-1,4a-dimethyl-7-(propan-2-yl)-1,2,3,4,4a,4b,5,6,10,10a-decahydrophenanthren-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxypropanoic acid (**9c**)  $^1\text{H}$  NMR spectrum

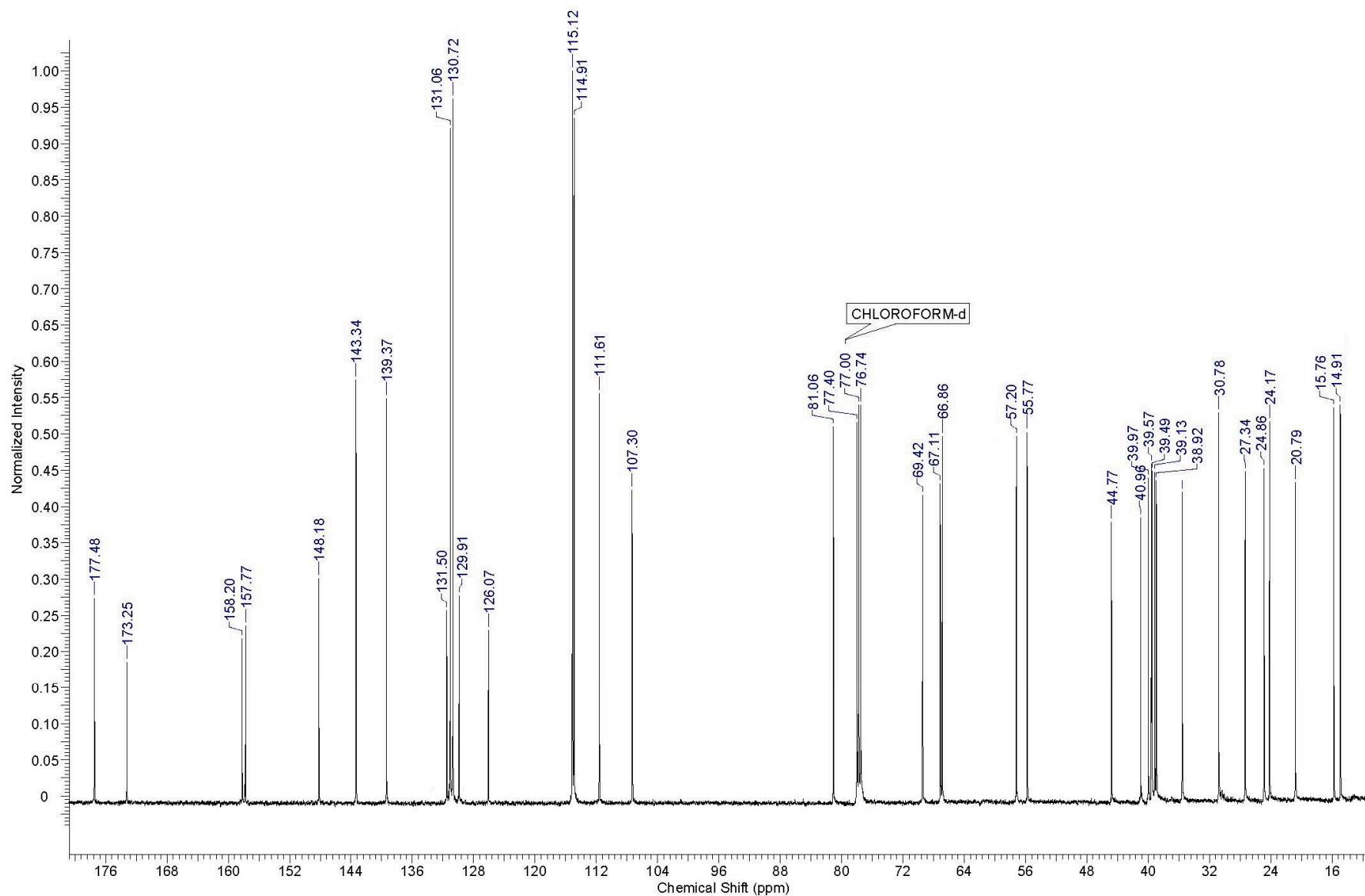


**Figure S22.** (2S)-3-(4-{2-[4-(2-{[(1R,4aR,10aR)-1,4a-dimethyl-7-(propan-2-yl)-1,2,3,4,4a,4b,5,6,10,10a-decahydrophenanthren-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxypropanoic acid (**9c**)  $^{13}\text{C}$  NMR spectrum



**Figure S23.** (2S)-3-(4-{2-[4-(2-[[[(1R,4aR,5S)-5-[2-(furan-3-yl)ethyl]-1,4a-dimethyl-6-methylidene-decahydronaphthalen-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxypropanoic acid (**9d**)  $^1\text{H}$  NMR spectrum





**Figure S24.** (2S)-3-(4-{2-[4-(2-[[[(1R,4aR,5S)-5-[2-(furan-3-yl)ethyl]-1,4a-dimethyl-6-methylidene-decahydronaphthalen-1-yl]formamido}ethoxy)phenyl]ethoxy}phenyl)-2-ethoxypropanoic acid (**9d**)  $^{13}\text{C}$  NMR spectrum