

## Supplementary Material

### High temperature bromination Part XXIII: Bromination of octahydro-1*H*-indene and octahydro-1*H*-4,7-methanoindene

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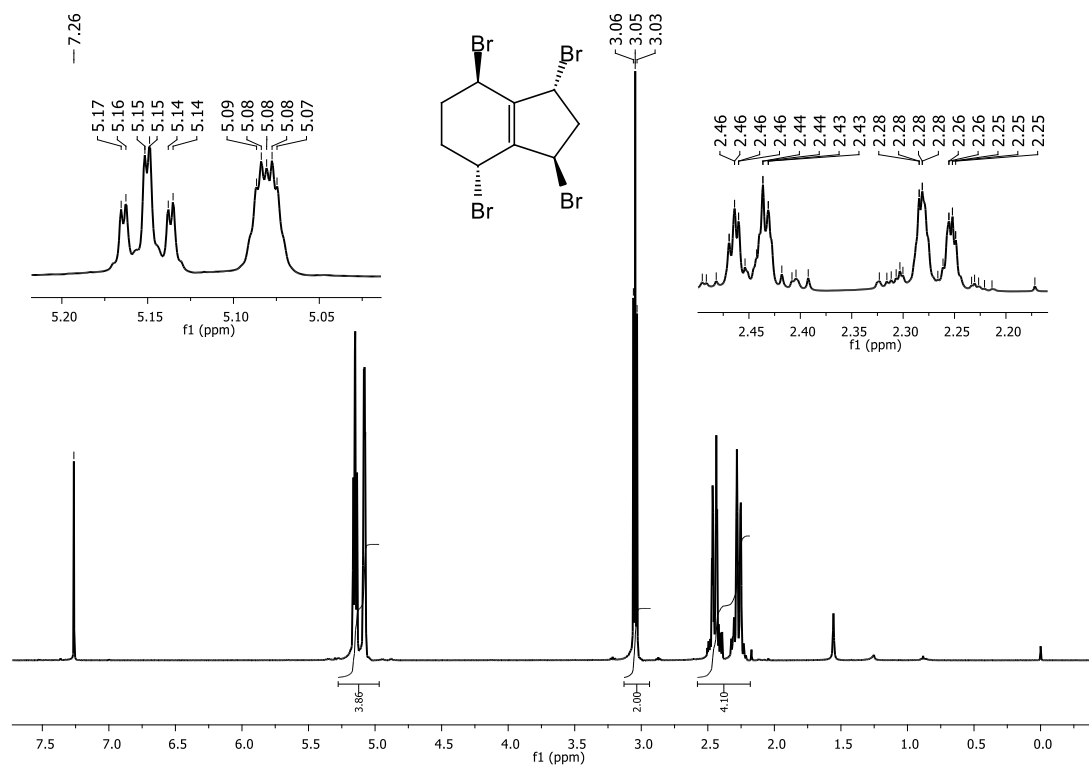
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**Figure S1.** <sup>1</sup>H-NMR Spectrum of compound **12**.

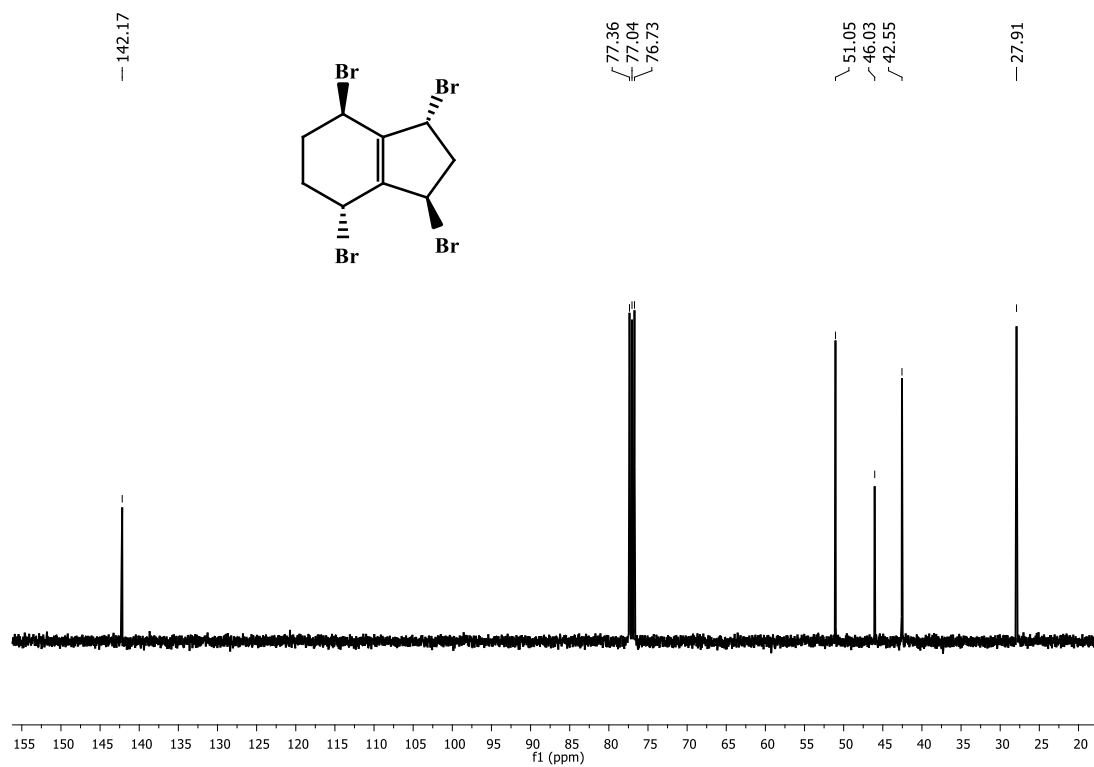


Figure S2. <sup>13</sup>C-NMR Spectrum of compound 12.

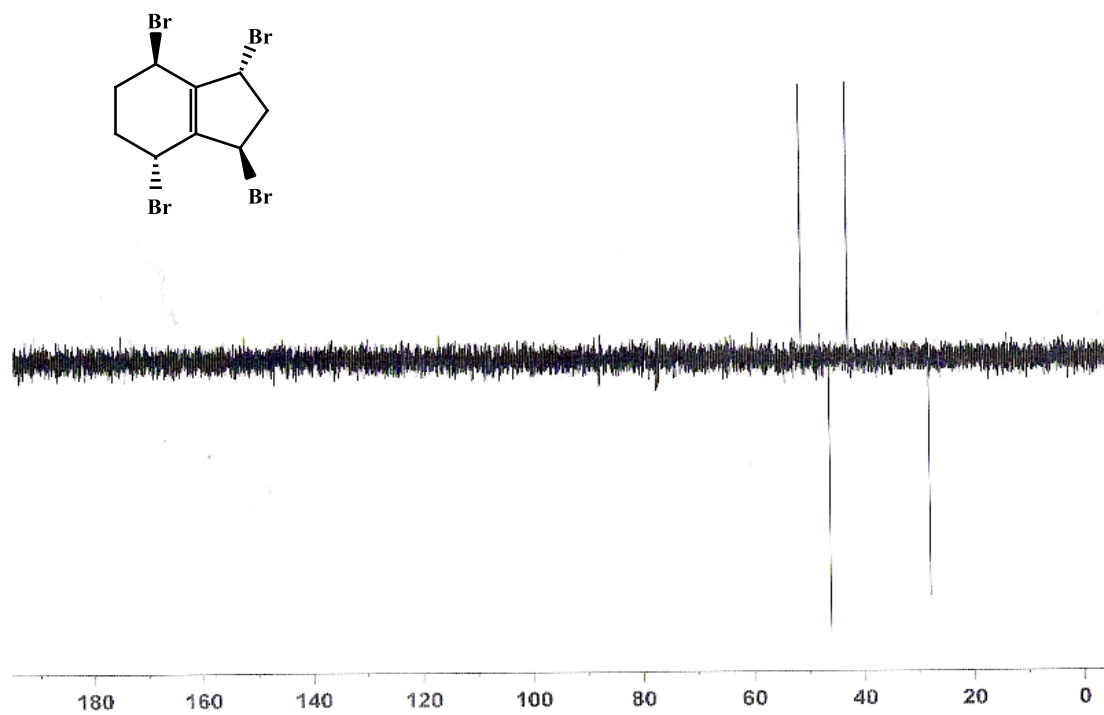
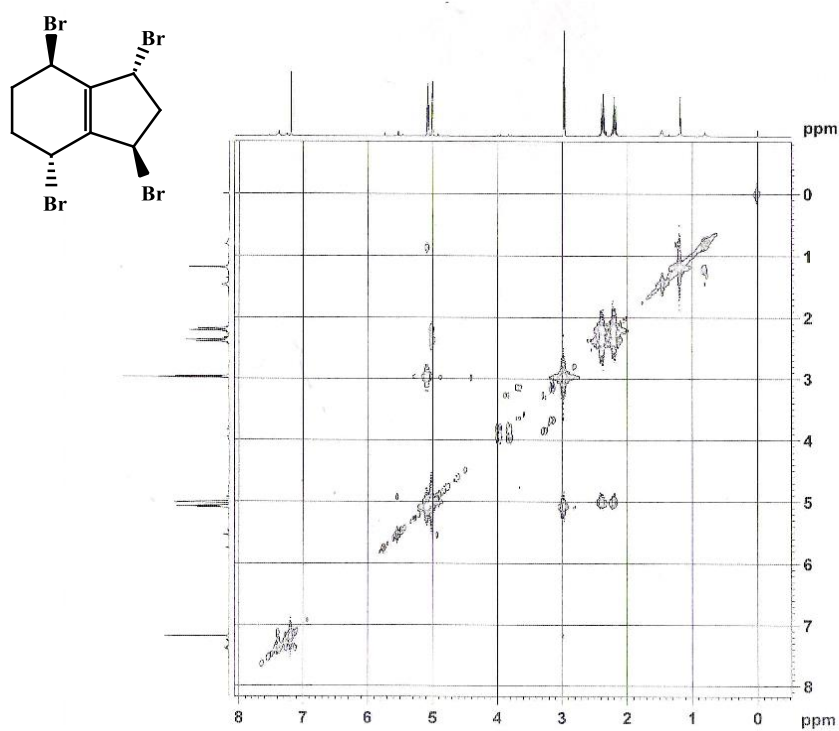


Figure S3. DEPT-135 Spectrum of compound 12.



**Figure S4.** COSY Spectrum of compound 12.

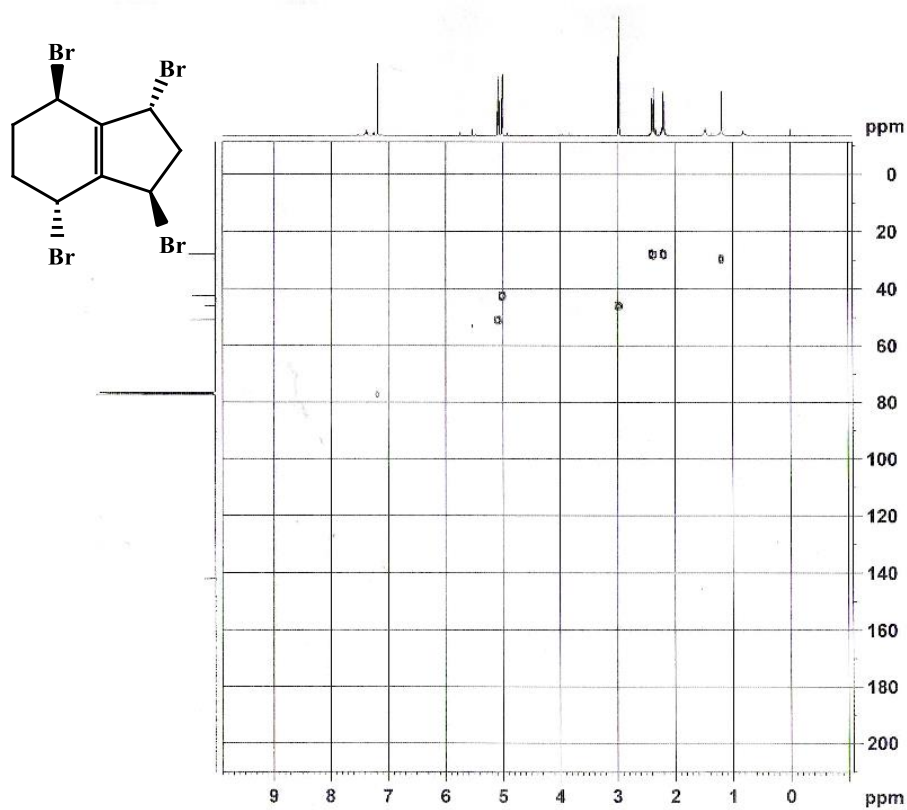


Figure S5. HSQC Spectrum of compound 12.

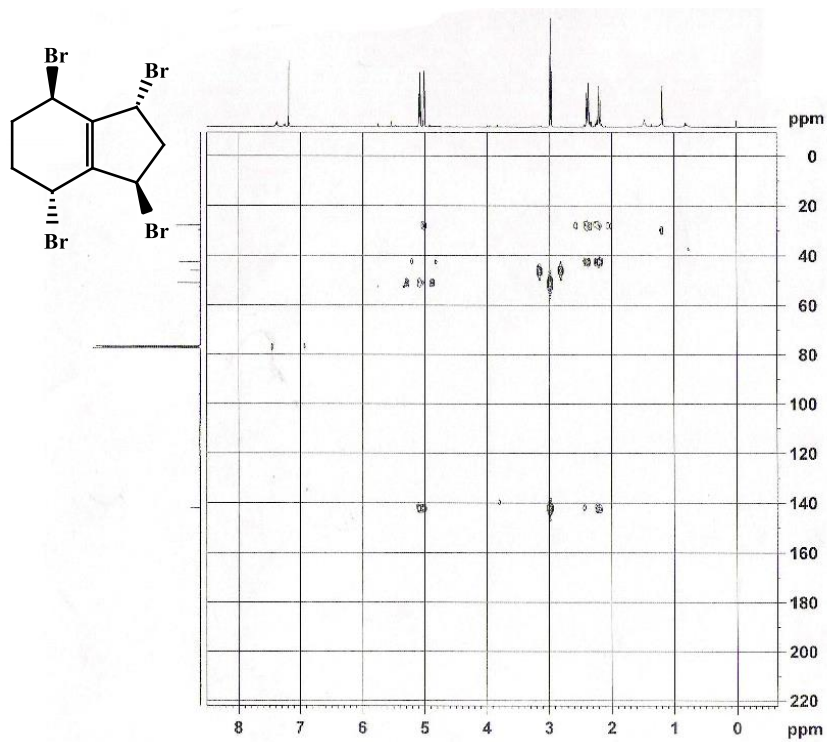


Figure S6. HMBC Spectrum of compound 12.

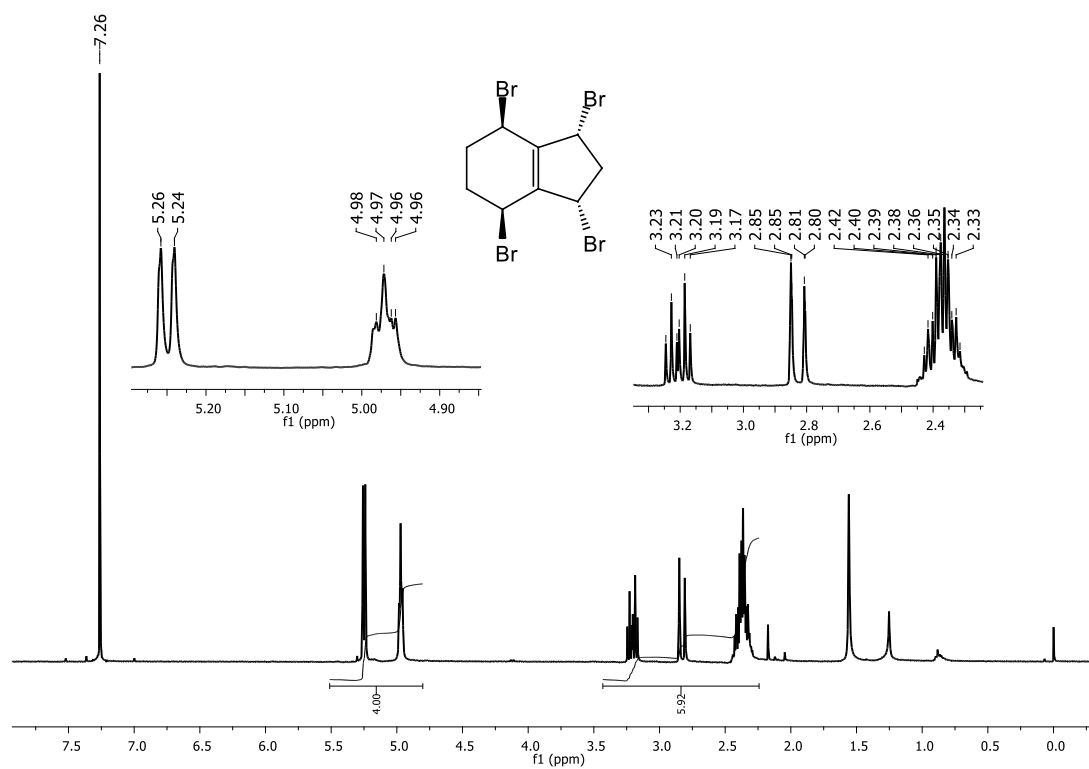


Figure S7. <sup>1</sup>H-NMR Spectrum of compound 13.

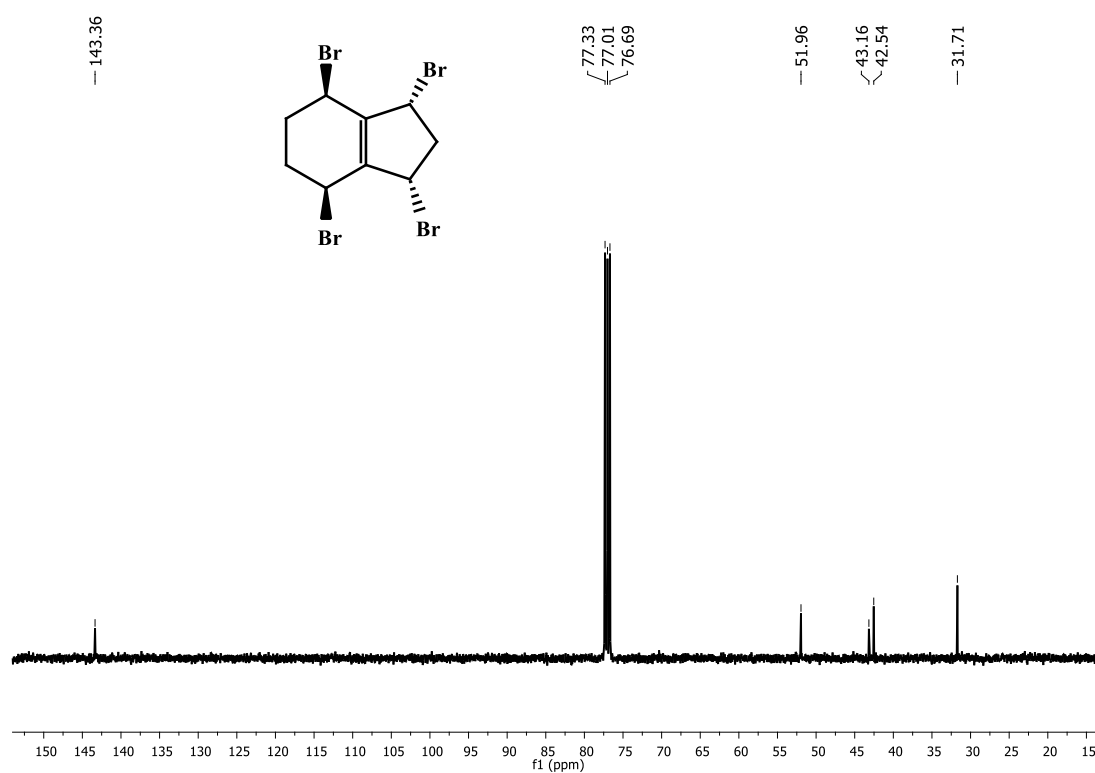


Figure S8. <sup>13</sup>C-NMR Spectrum of compound 13.

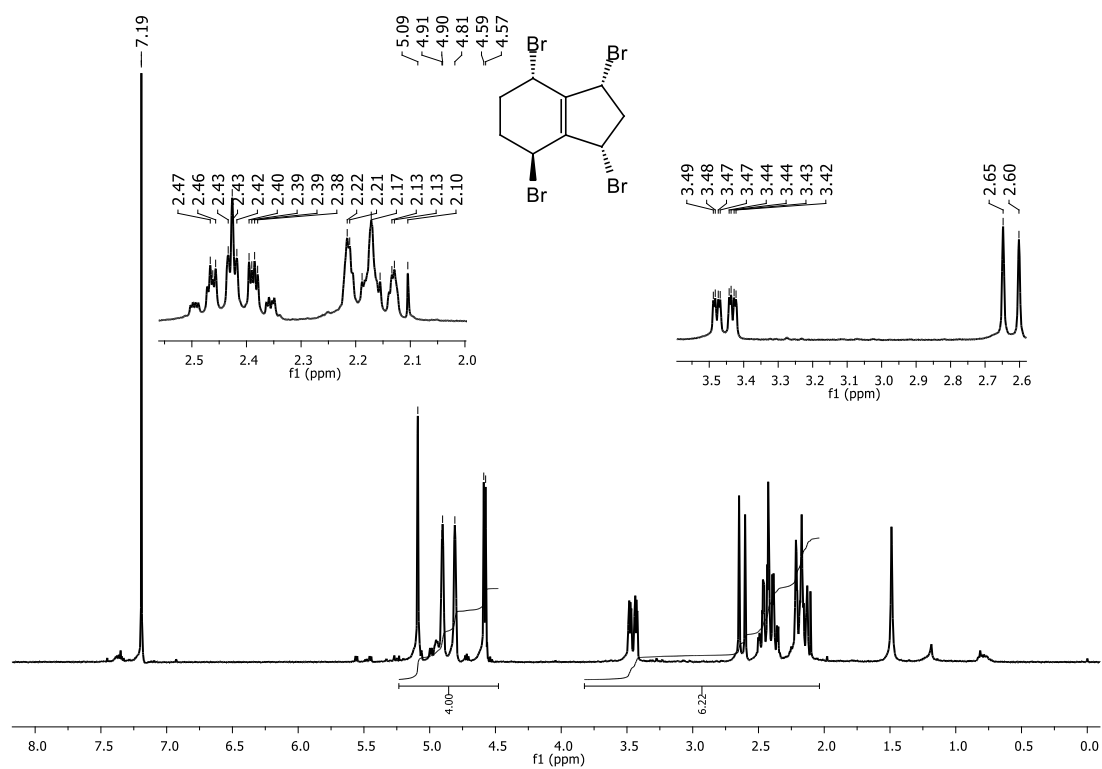


Figure S9.  $^1\text{H-NMR}$  Spectrum of compound 14.

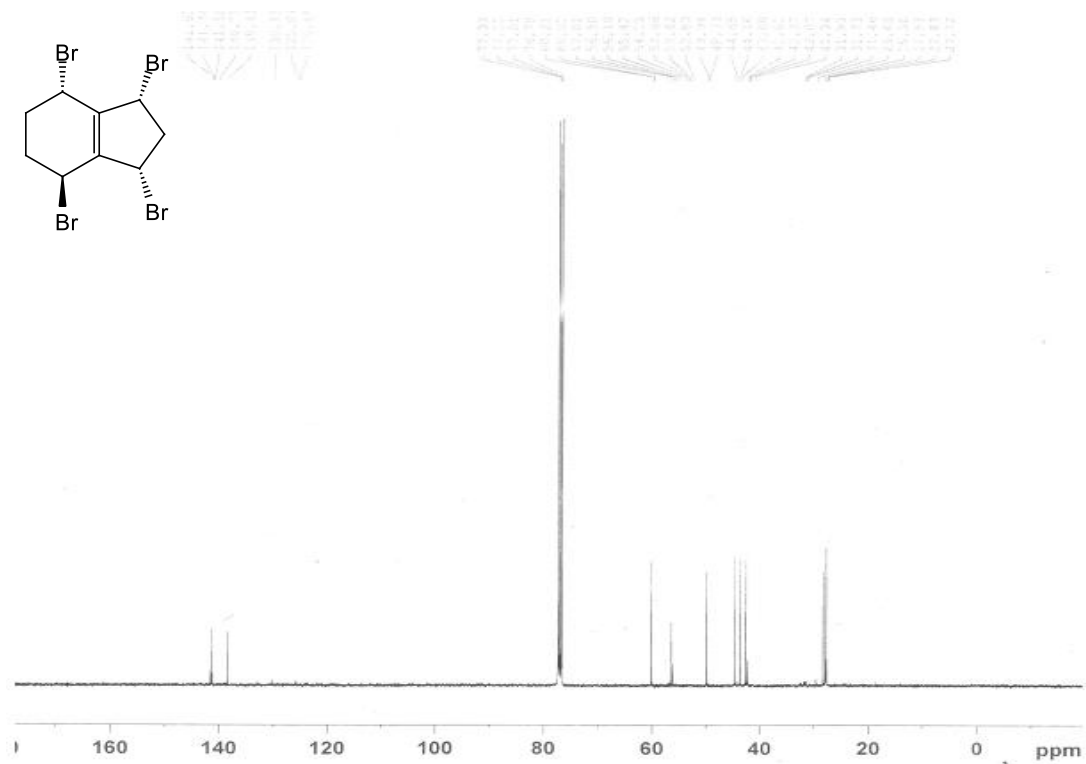


Figure S10.  $^{13}\text{C-NMR}$  Spectrum of compound 14.



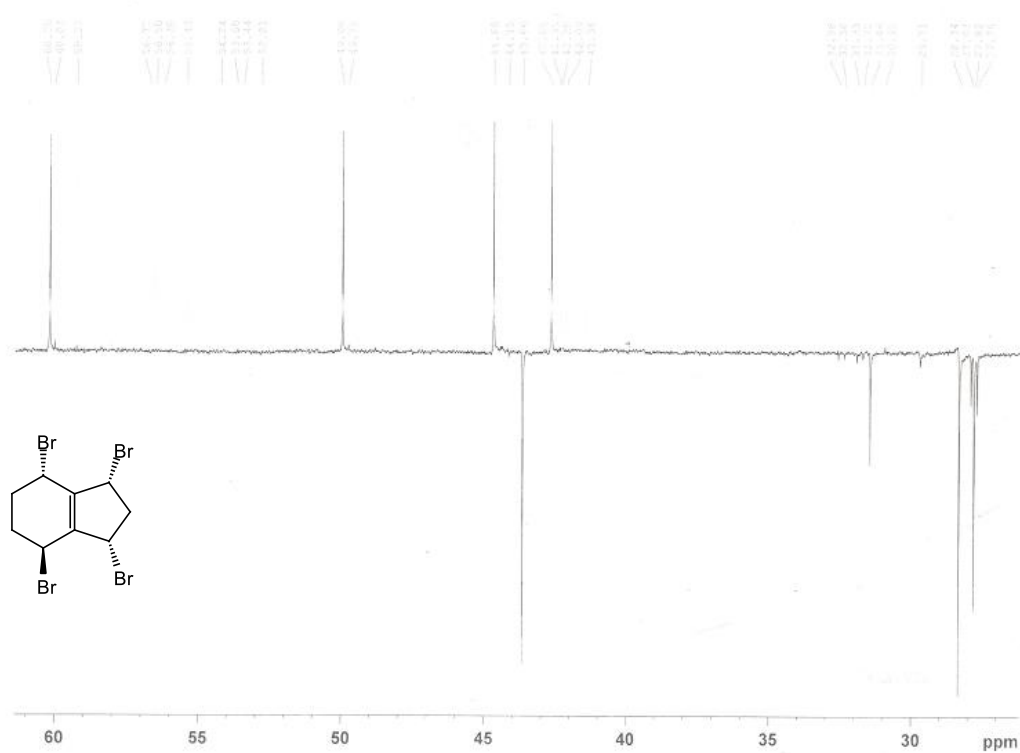


Figure S11. DEPT-135 Spectrum of compound 14.

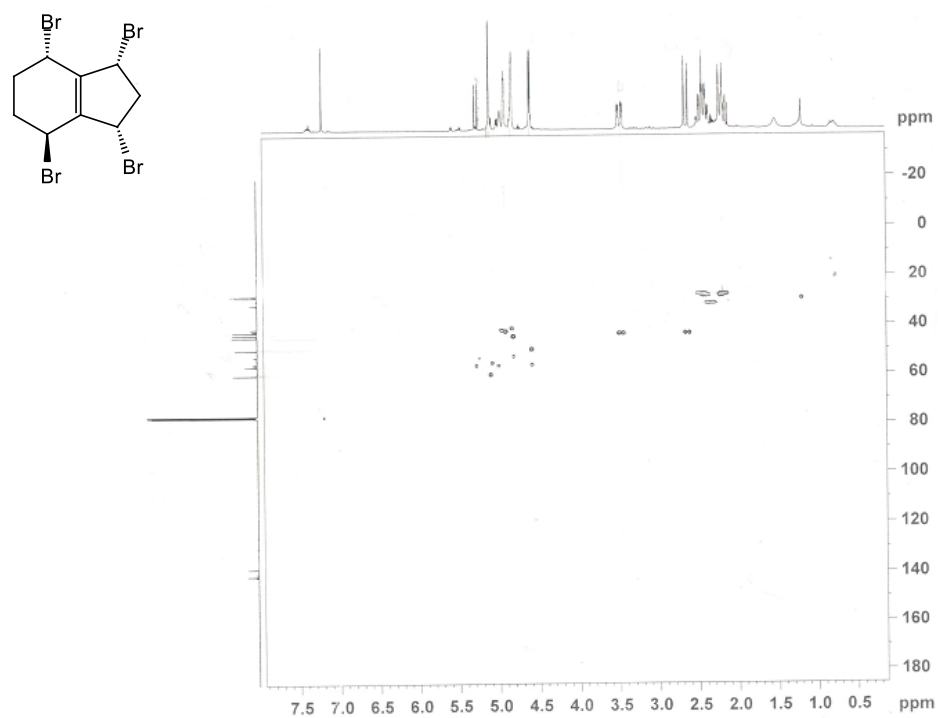
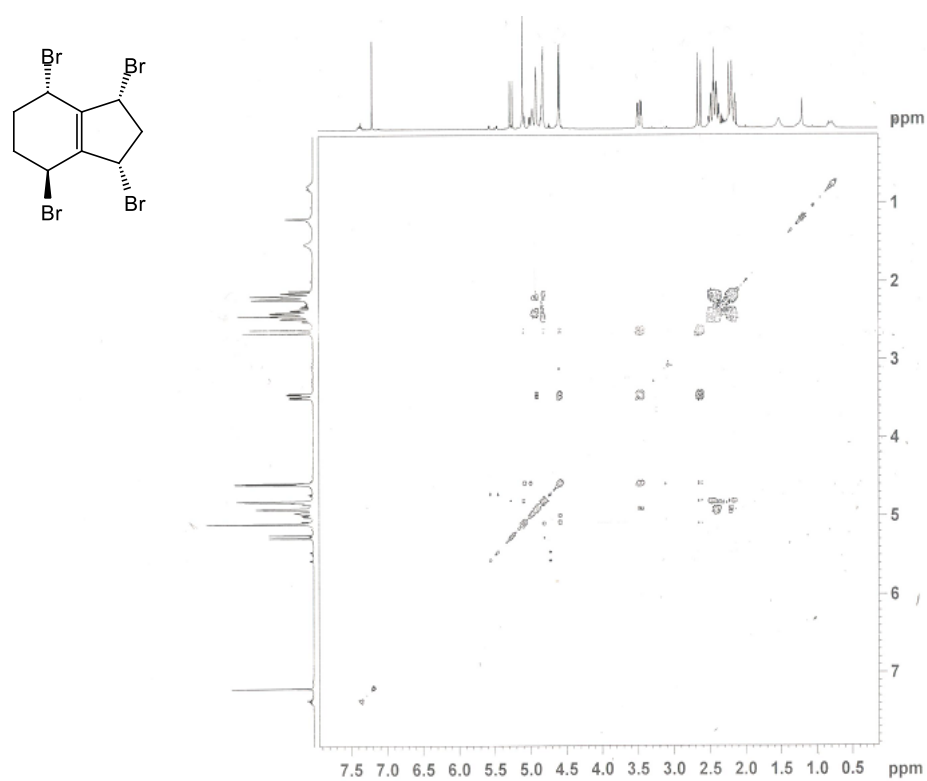
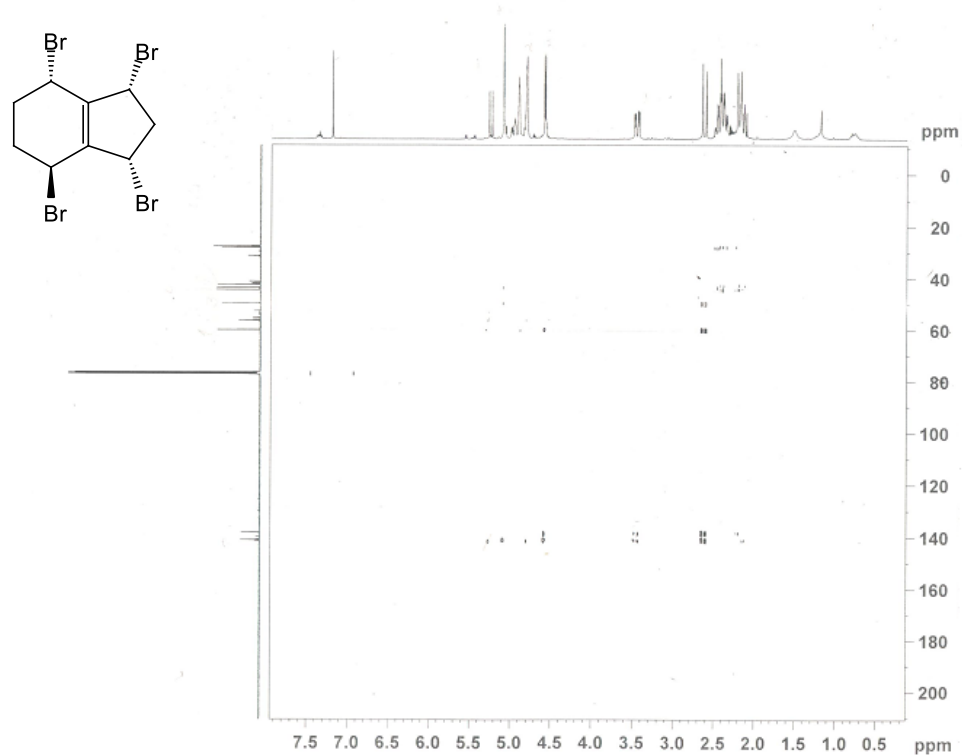


Figure S12. HSQC Spectrum of compound 14.



**Figure S13.** COSY Spectrum of compound 14.



**Figure S14.** HMBC Spectrum of compound 14.

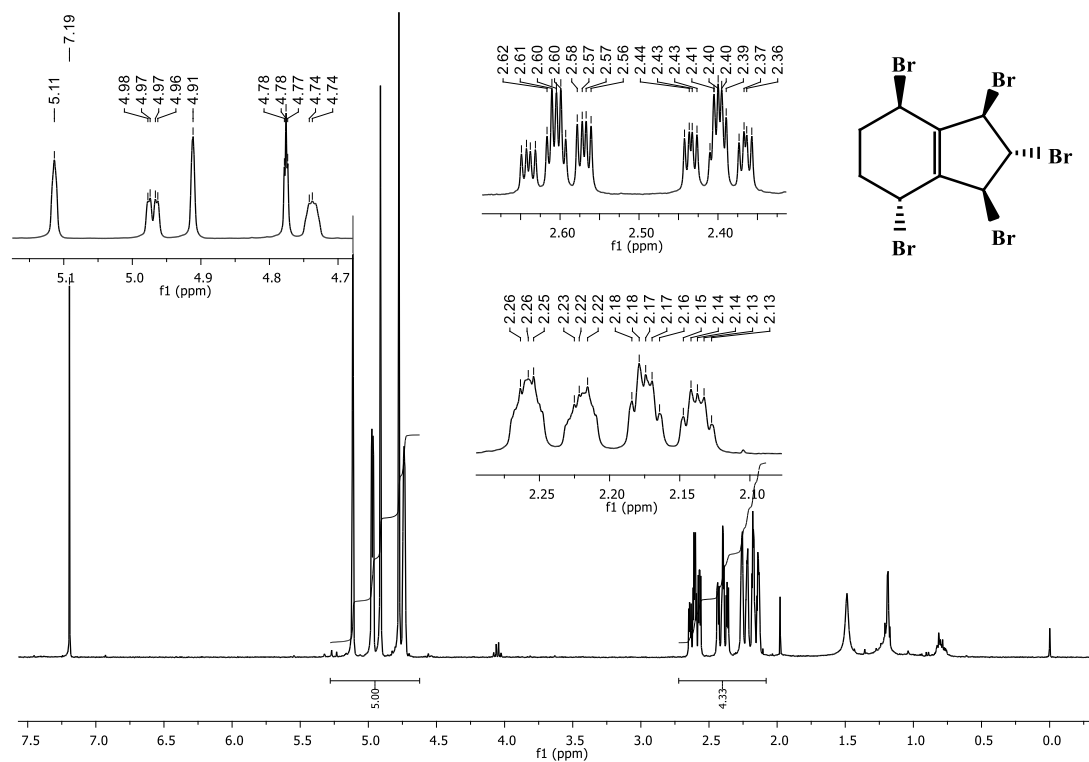


Figure S15. <sup>1</sup>H-NMR Spectrum of compound 15.

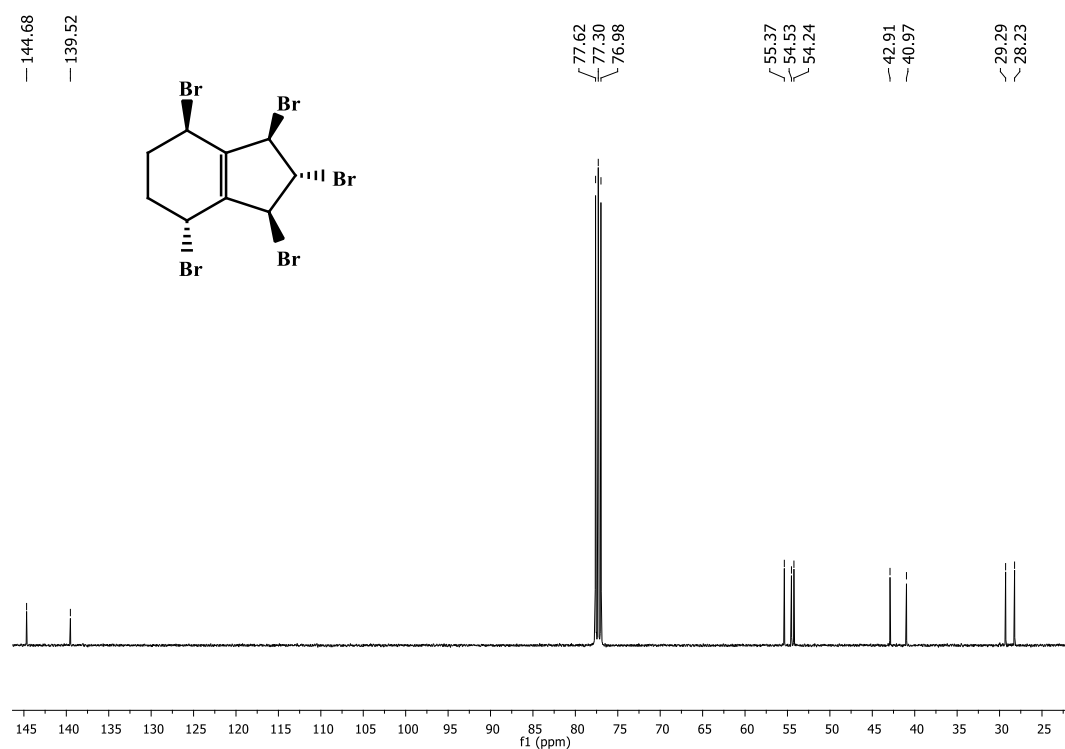


Figure S16. <sup>13</sup>C-NMR Spectrum of compound 15.

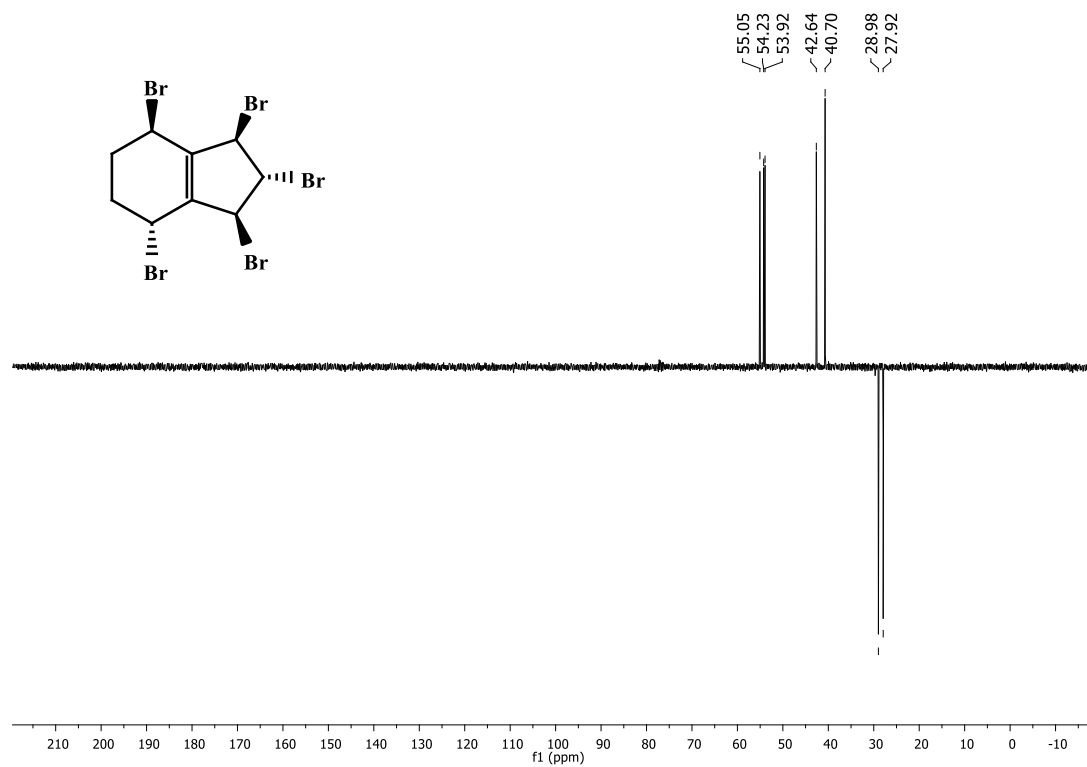


Figure S17. DEPT-135 Spectrum of compound 15.

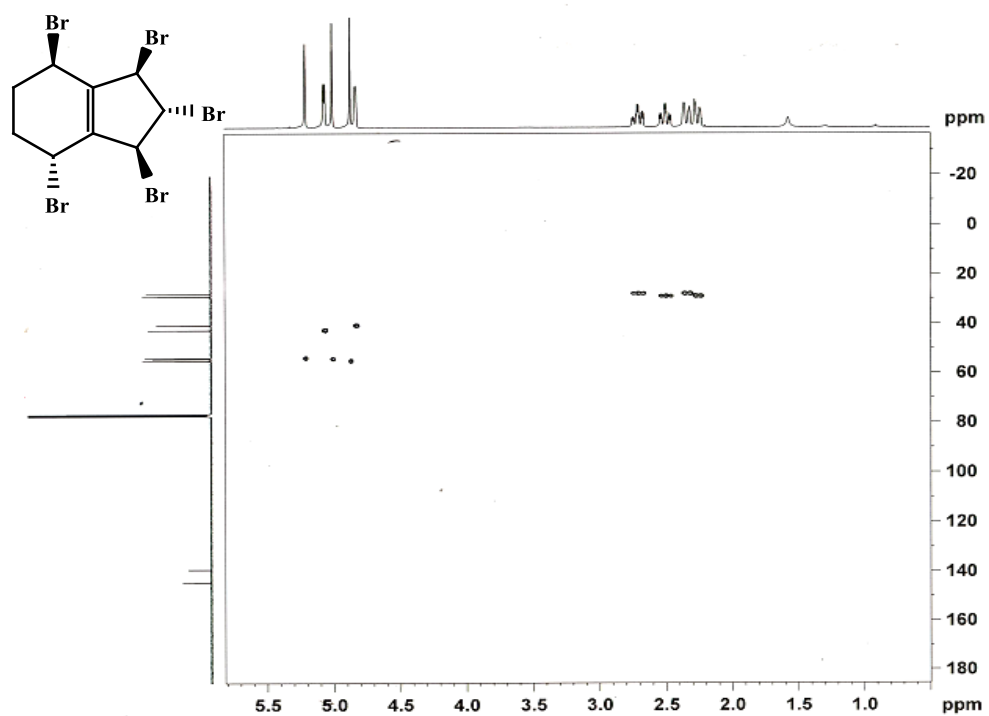


Figure S18. HSQC Spectrum of compound 15.

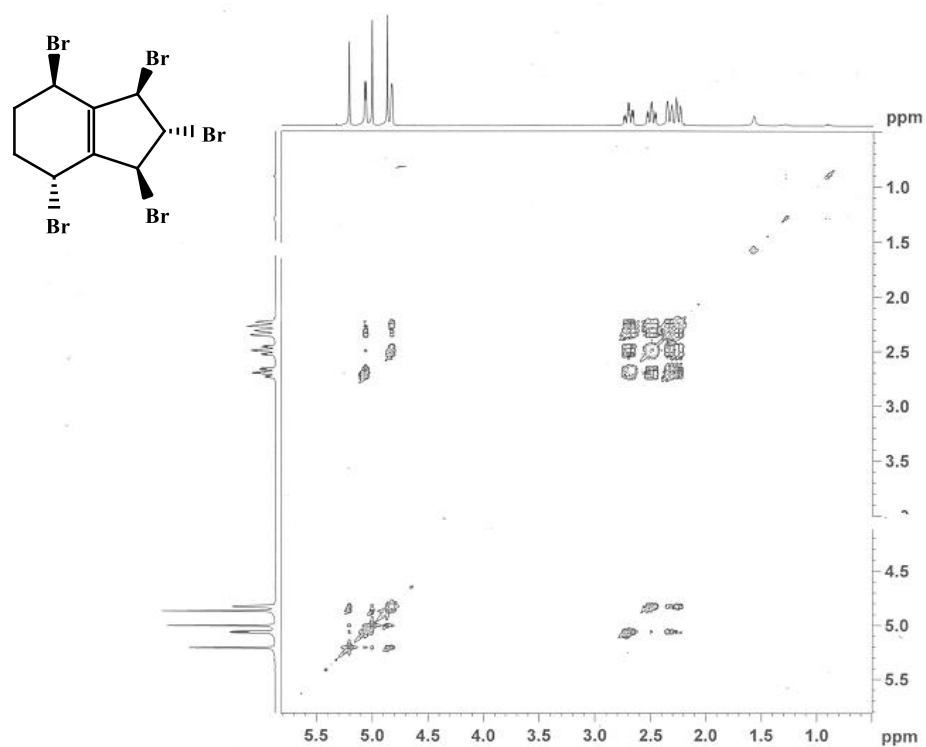


Figure S19. COSY Spectrum of compound 15.

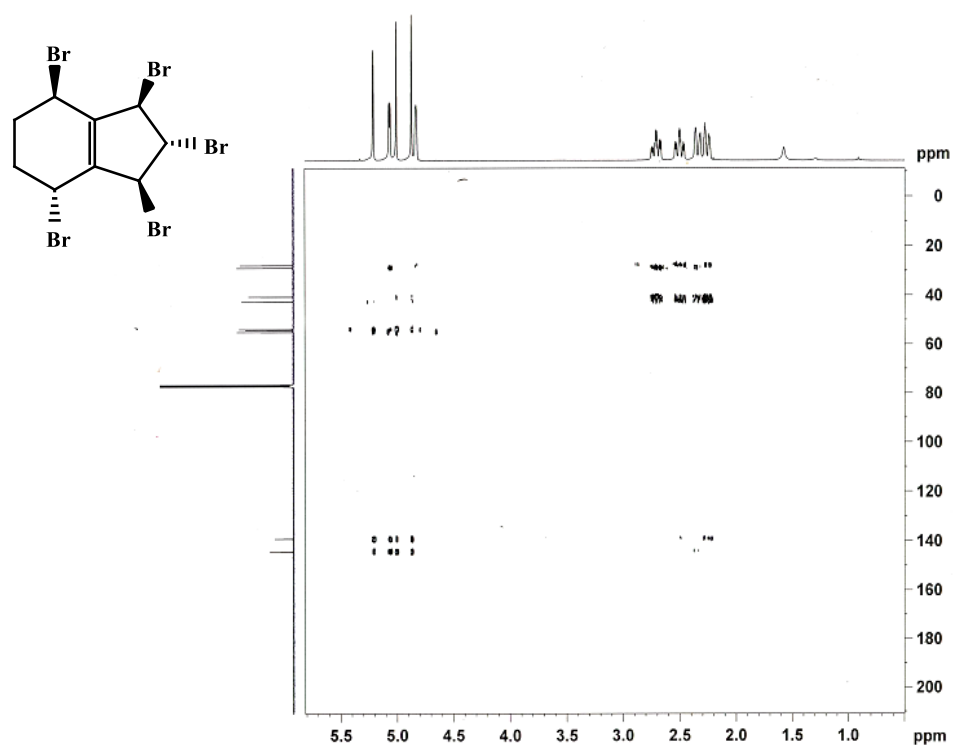


Figure S20. HMBC Spectrum of compound 15.

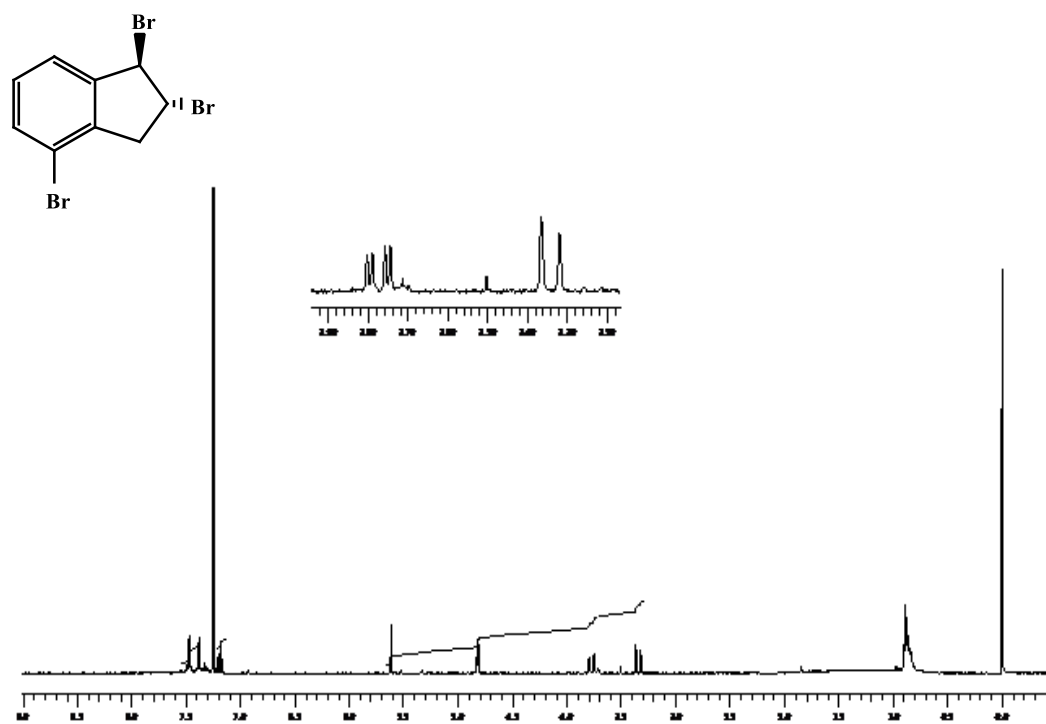


Figure S21. <sup>1</sup>H-NMR Spectrum of compound 16.

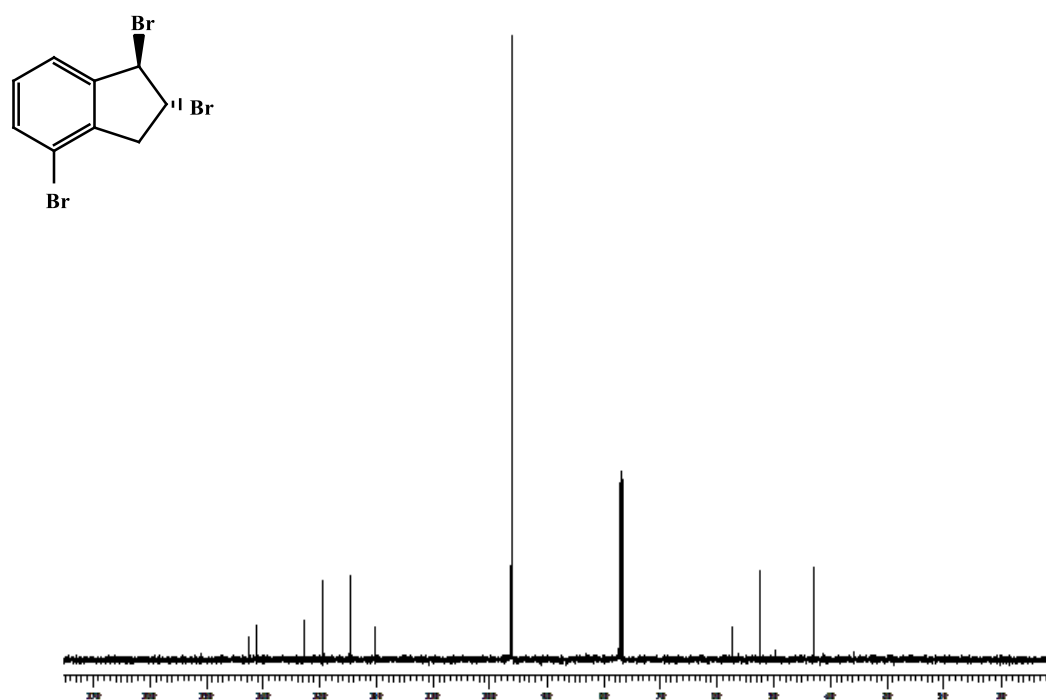


Figure S22. <sup>13</sup>C-NMR Spectrum of compound 16.

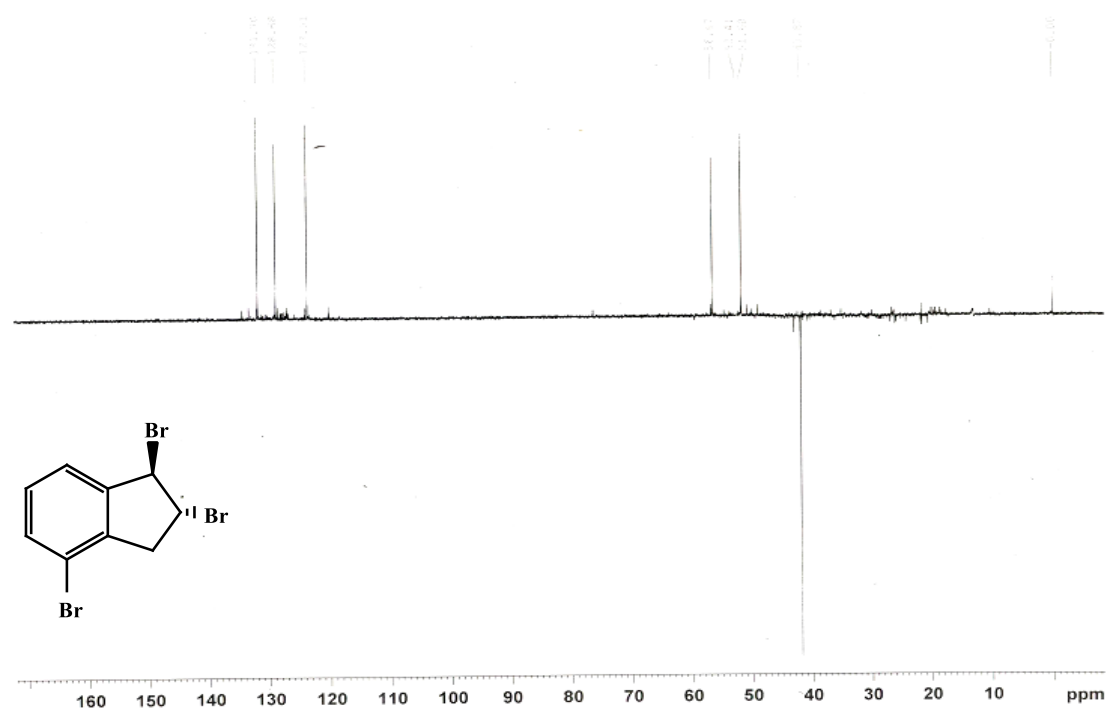


Figure S23. DEPT-135 Spectrum of compound 16.

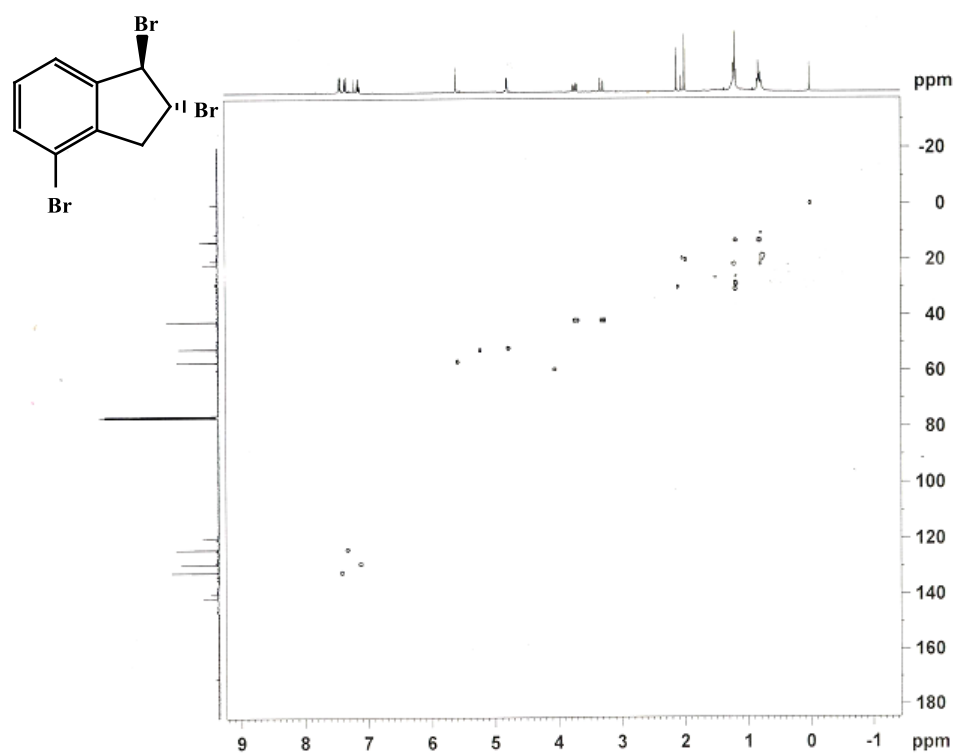


Figure S24. HSQC Spectrum of compound 16.

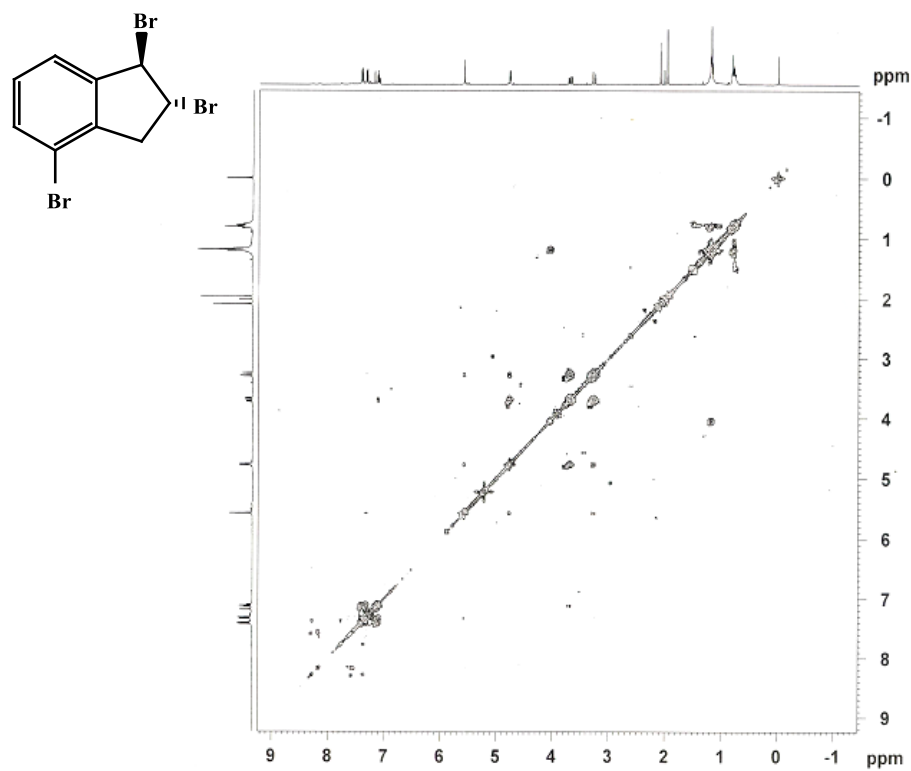


Figure S25. COSY Spectrum of compound 16.

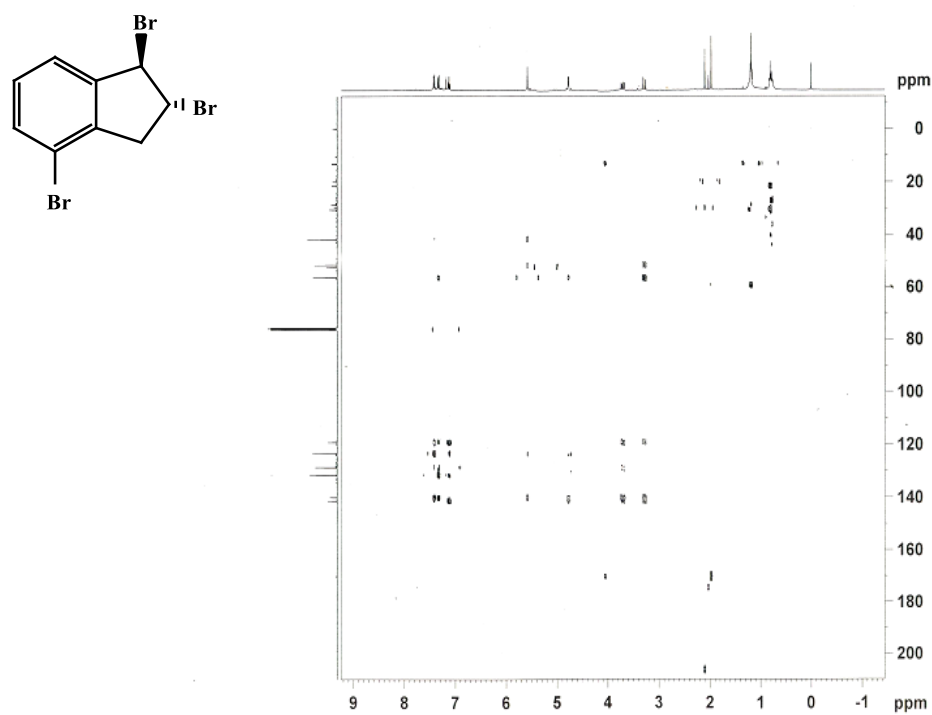
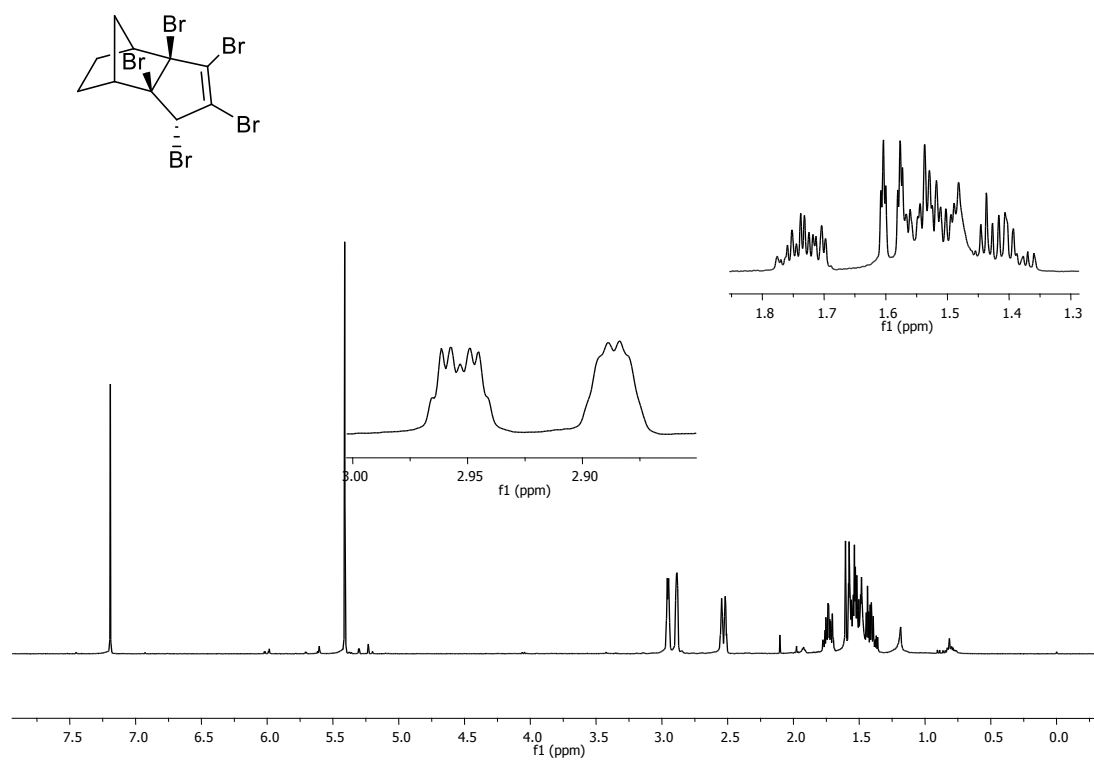
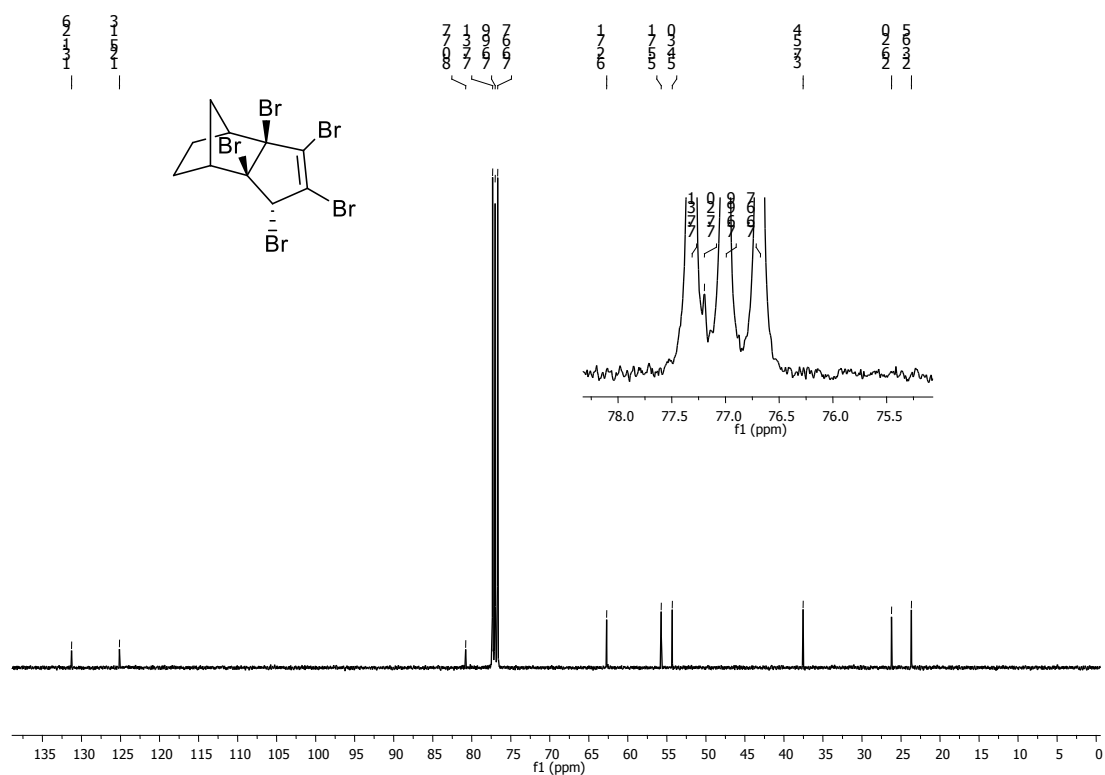


Figure S26. HMBC Spectrum of compound 16.





**Figure S27.**  $^1\text{H-NMR}$  Spectrum of compound **23**.



**Figure S28.**  $^{13}\text{C-NMR}$  Spectrum of compound **23**.

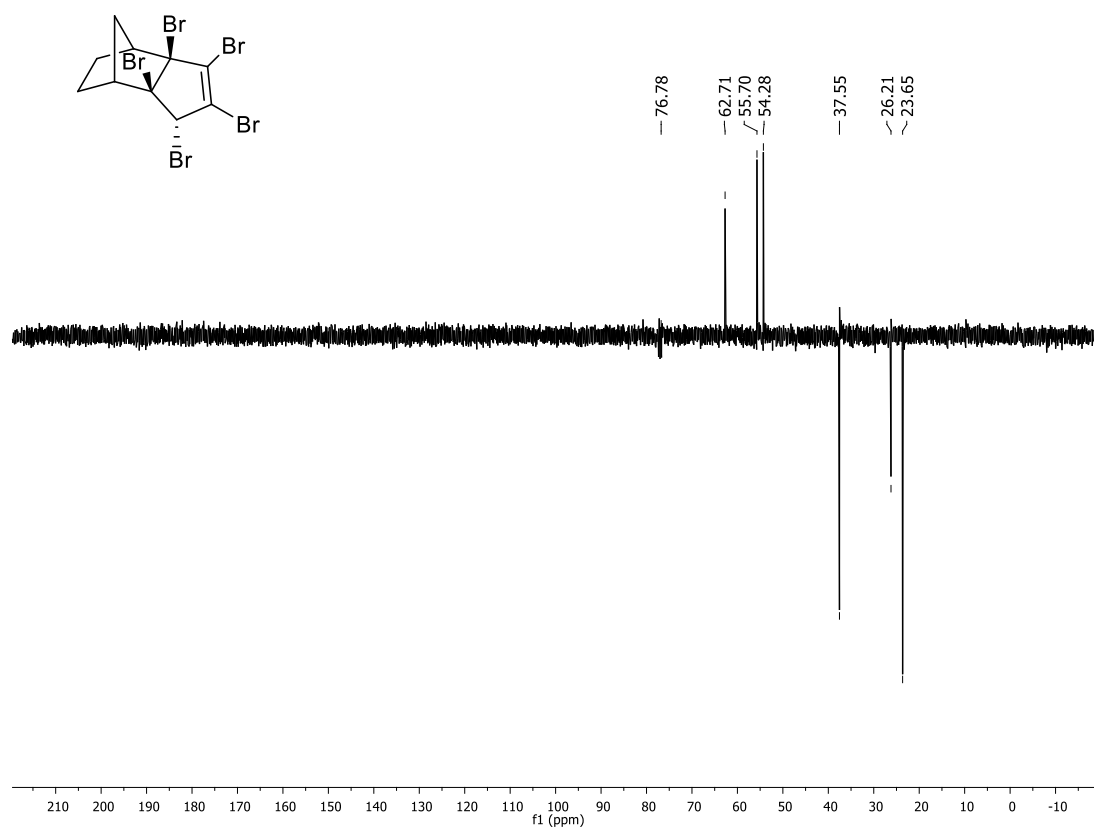


Figure S29. DEPT-135 Spectrum of compound 23.

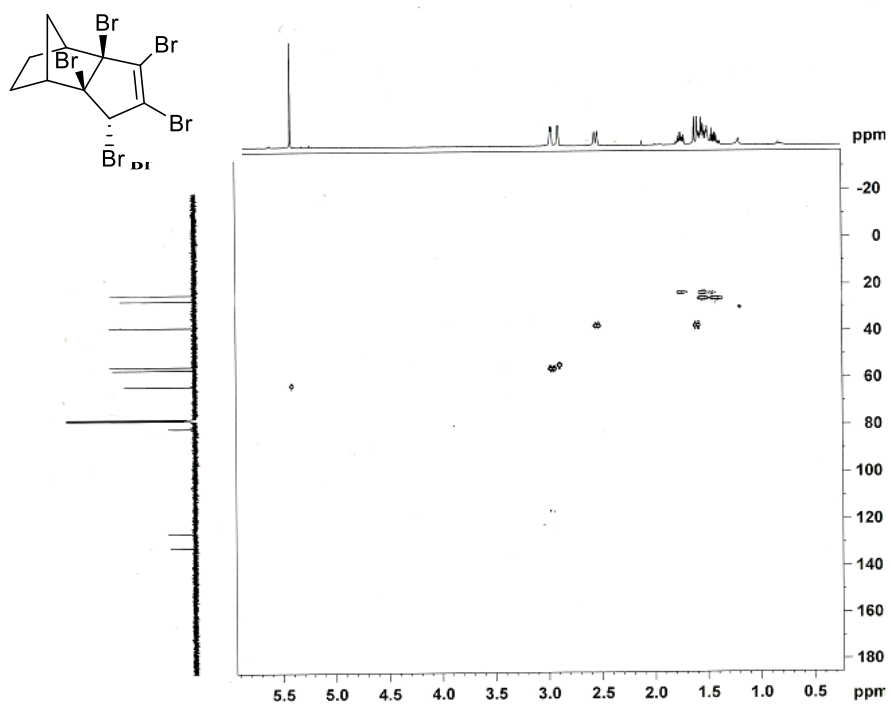


Figure S30. HSQC Spectrum of compound 23.

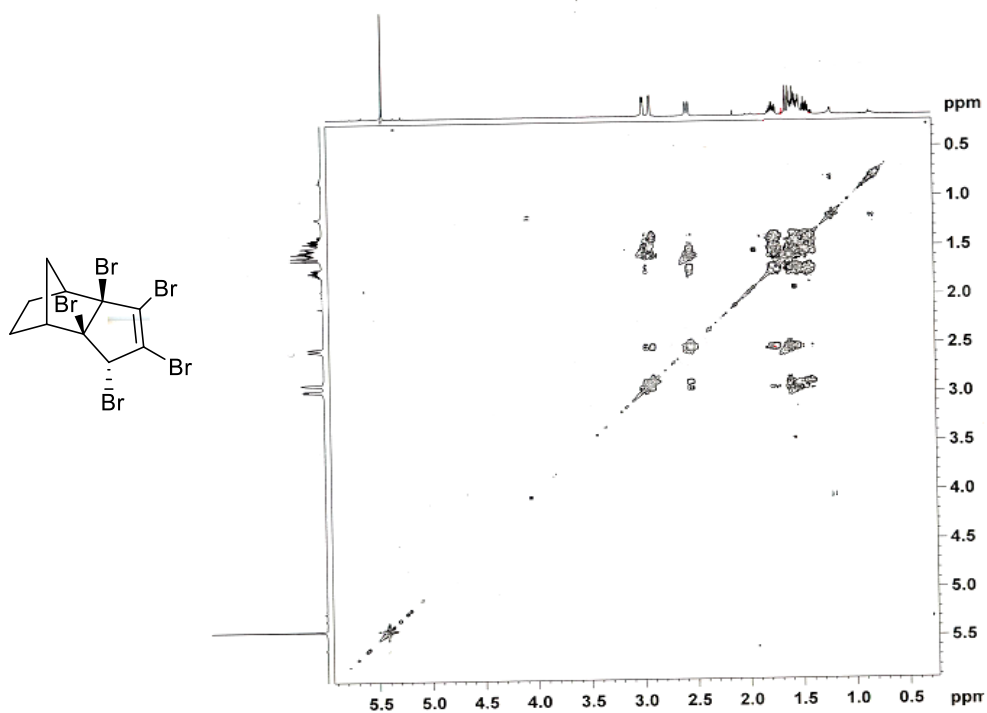


Figure S31. COSY Spectrum of compound 23.

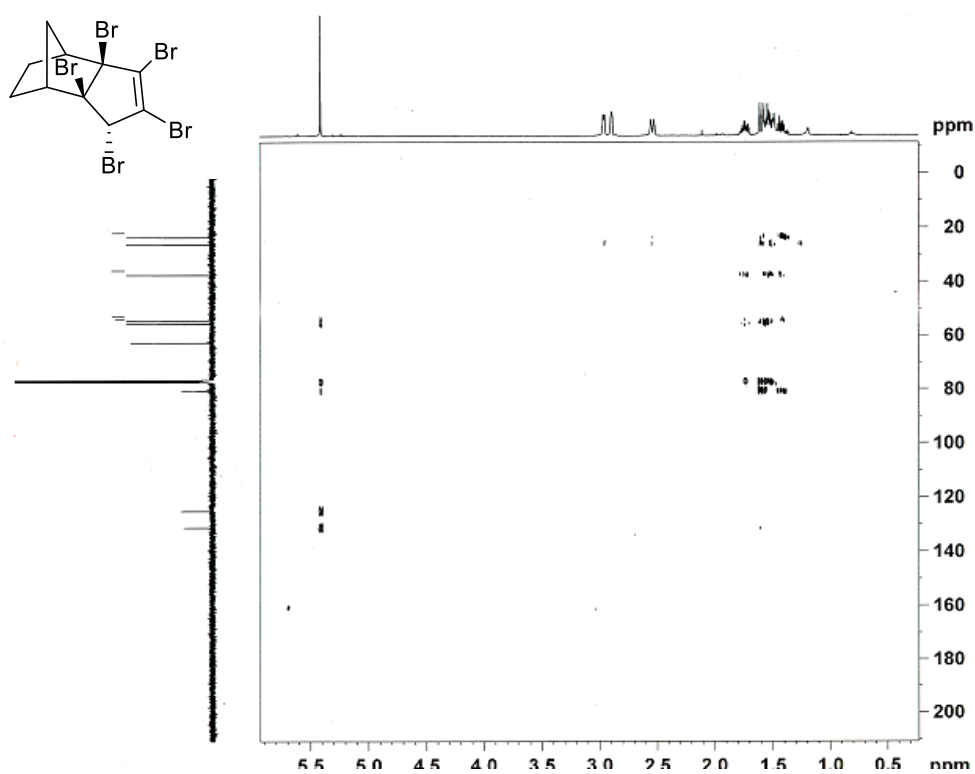


Figure S32. HMBC Spectrum of compound 23.

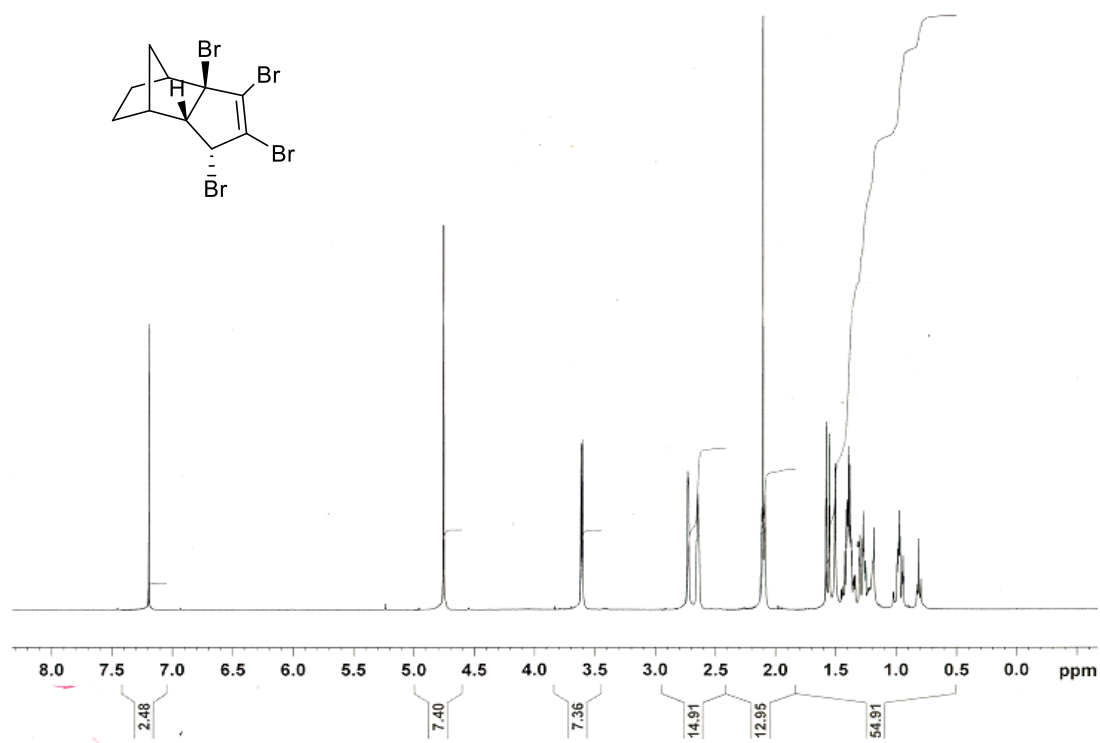


Figure S33. <sup>1</sup>H-NMR Spectrum of compound 25.

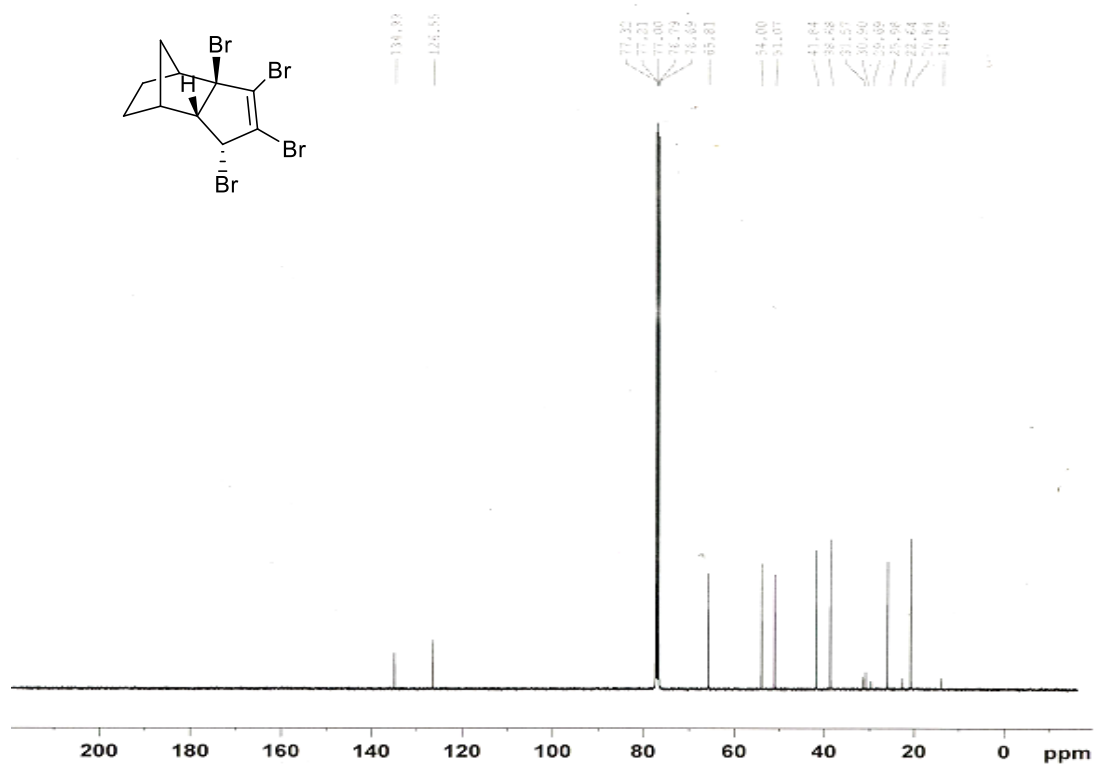


Figure S34. <sup>13</sup>C-NMR Spectrum of compound 25.

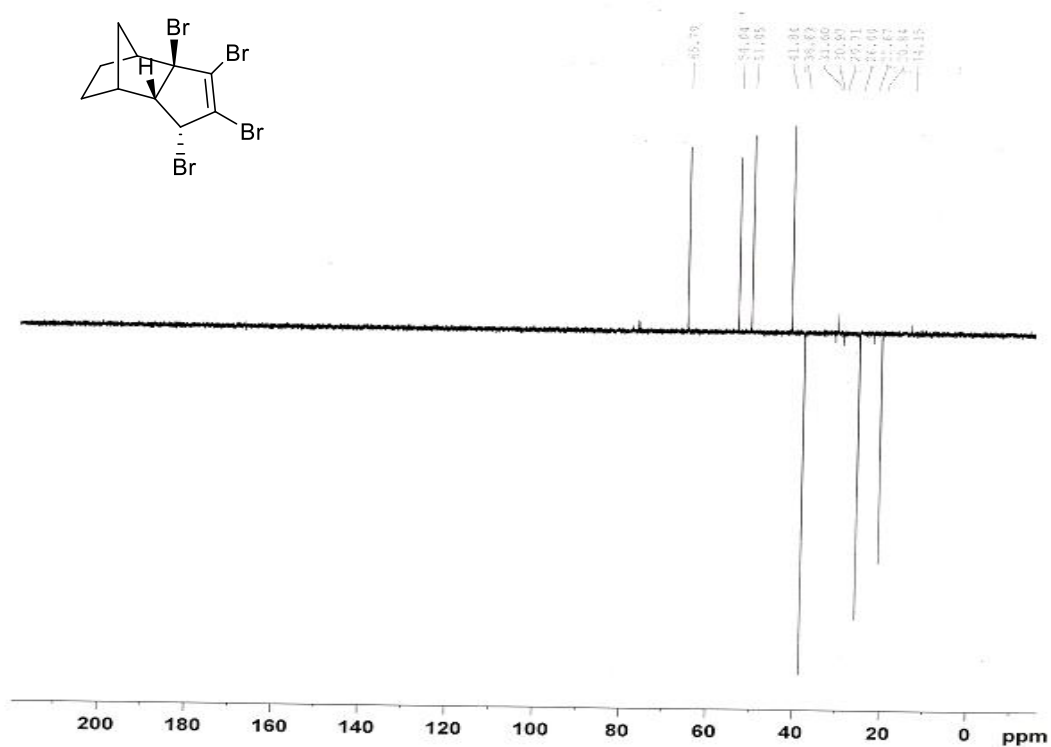


Figure S35. DEPT-135 Spectrum of compound 25.

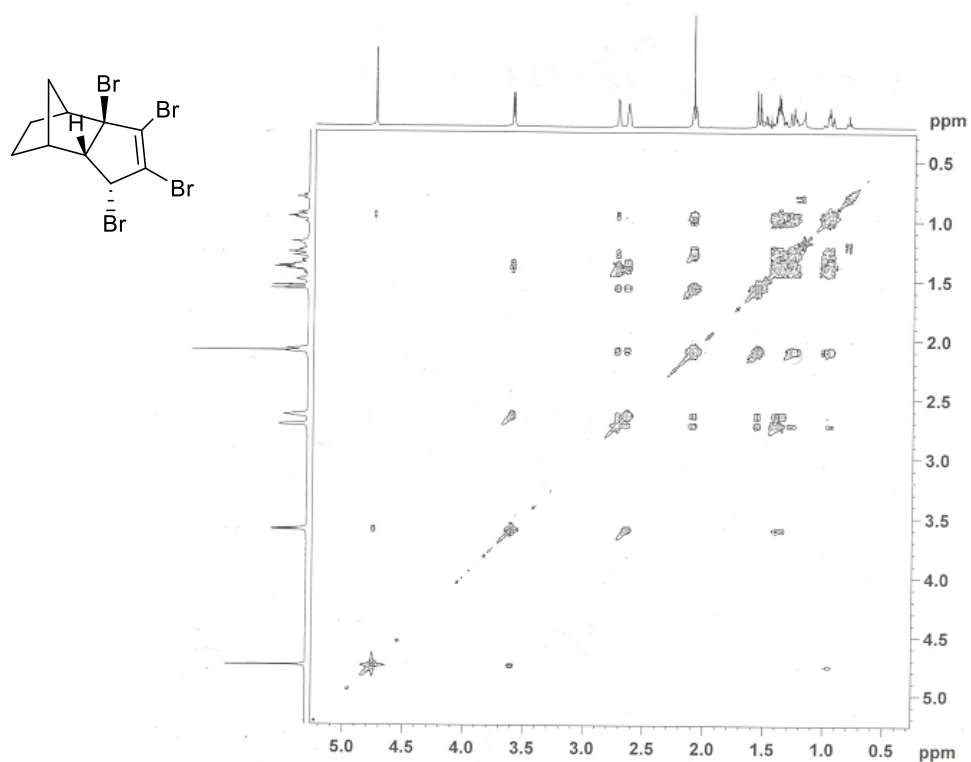
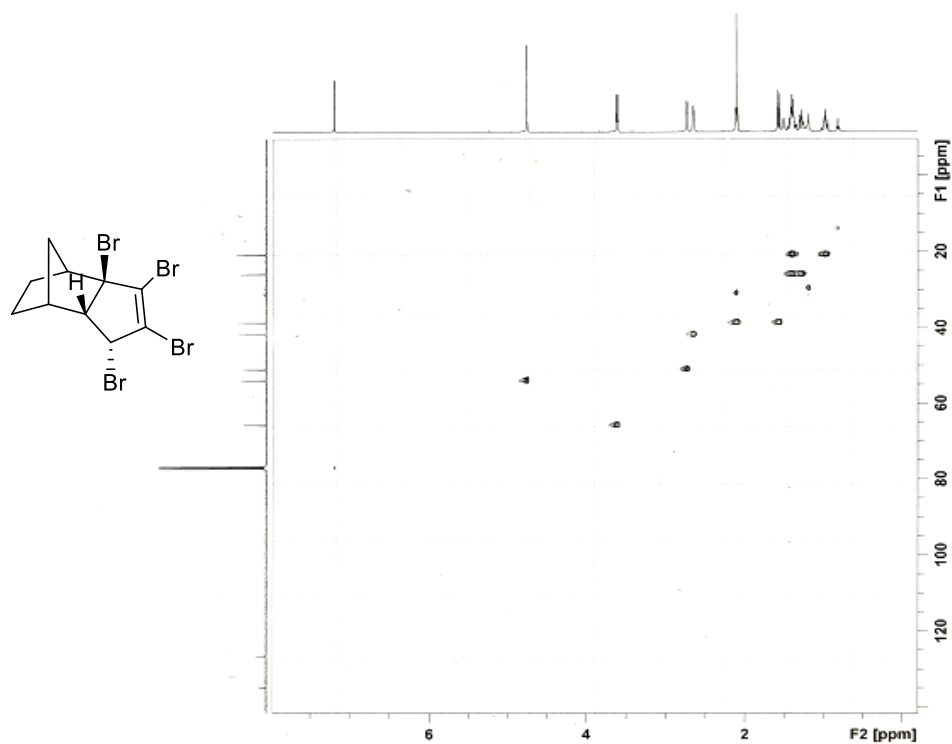
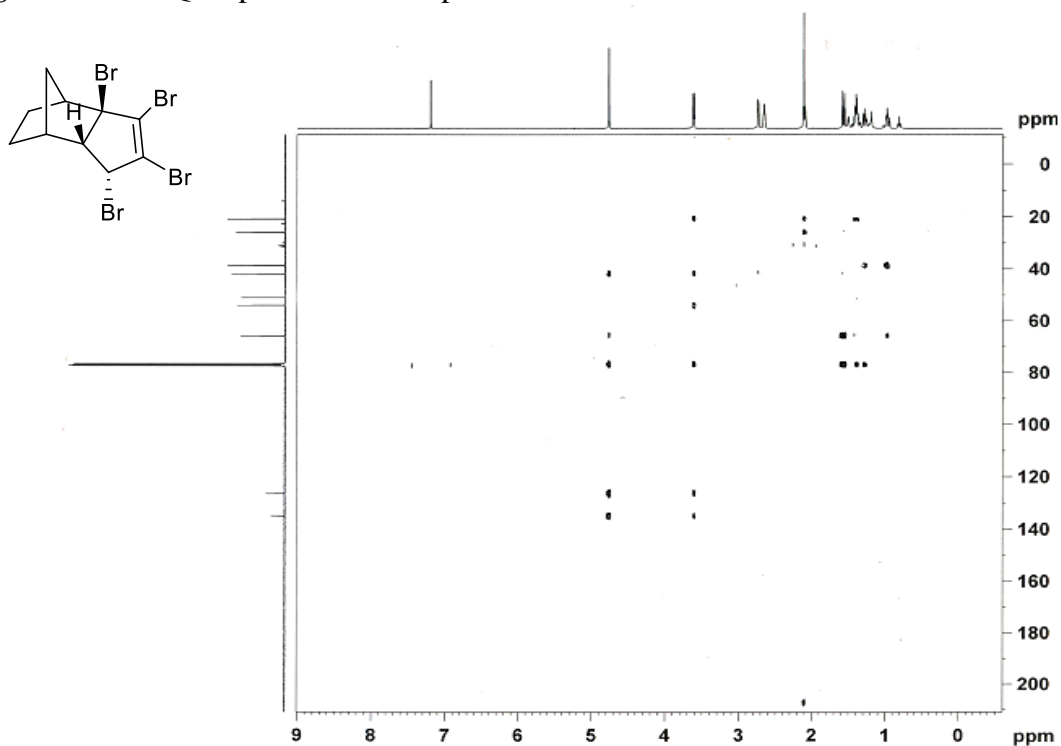


Figure S36. COSY Spectrum of compound 25.



**Figure S37.** HSQC Spectrum of compound 25.



**Figure S38.** HMBC Spectrum of compound 25.

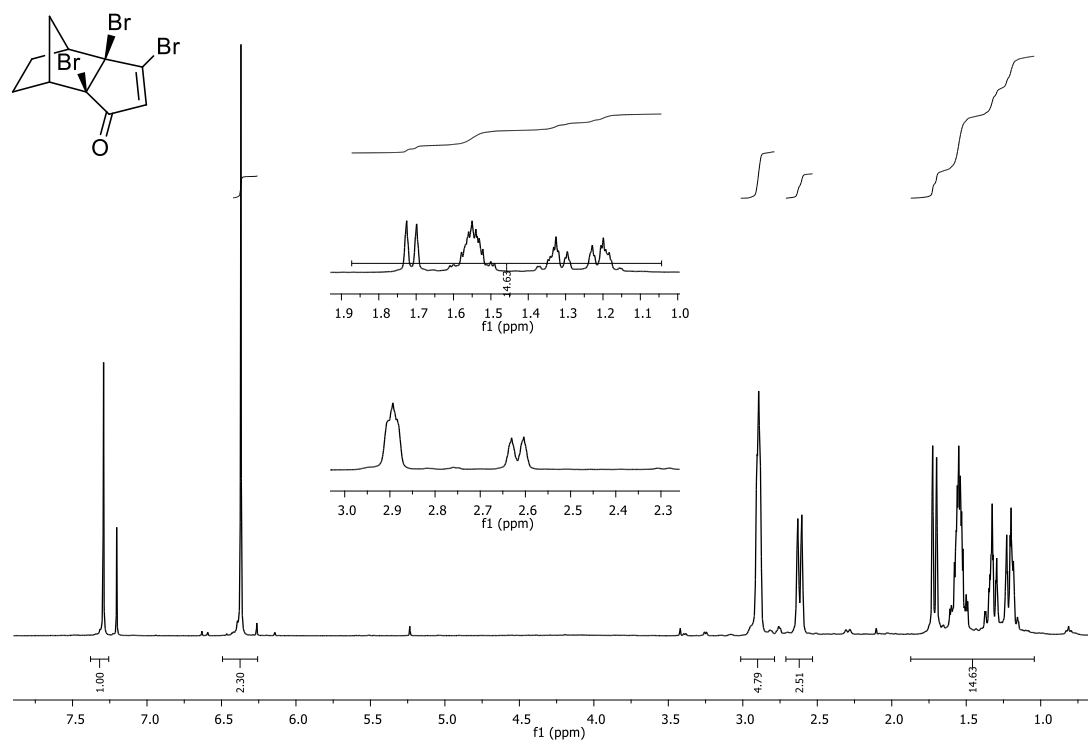


Figure S39. <sup>1</sup>H-NMR Spectrum of compound 24.

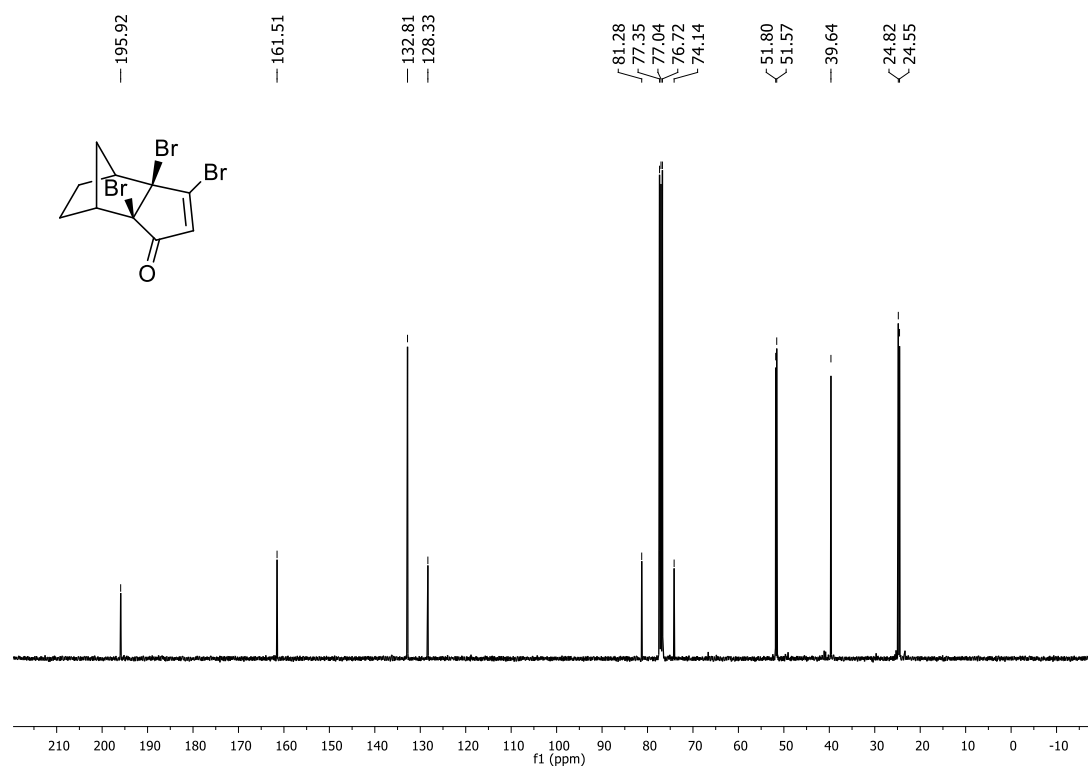


Figure S40. <sup>13</sup>C-NMR Spectrum of compound 24.

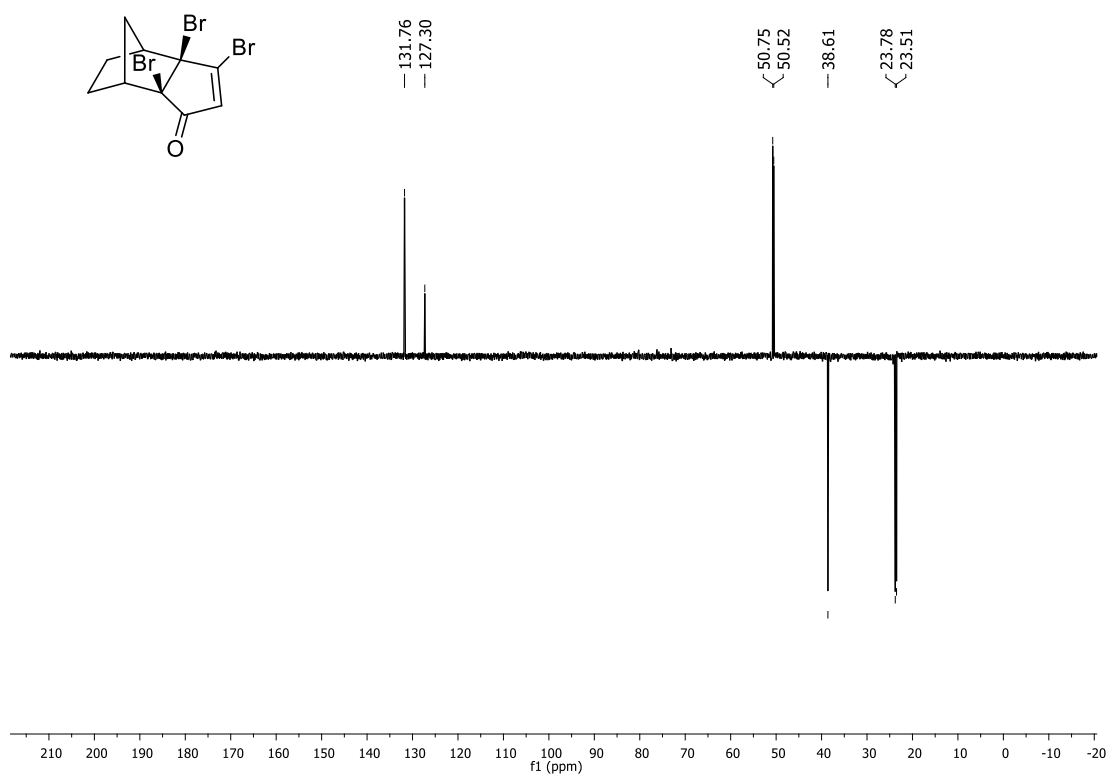


Figure S41. DEPT-135 Spectrum of compound 24.

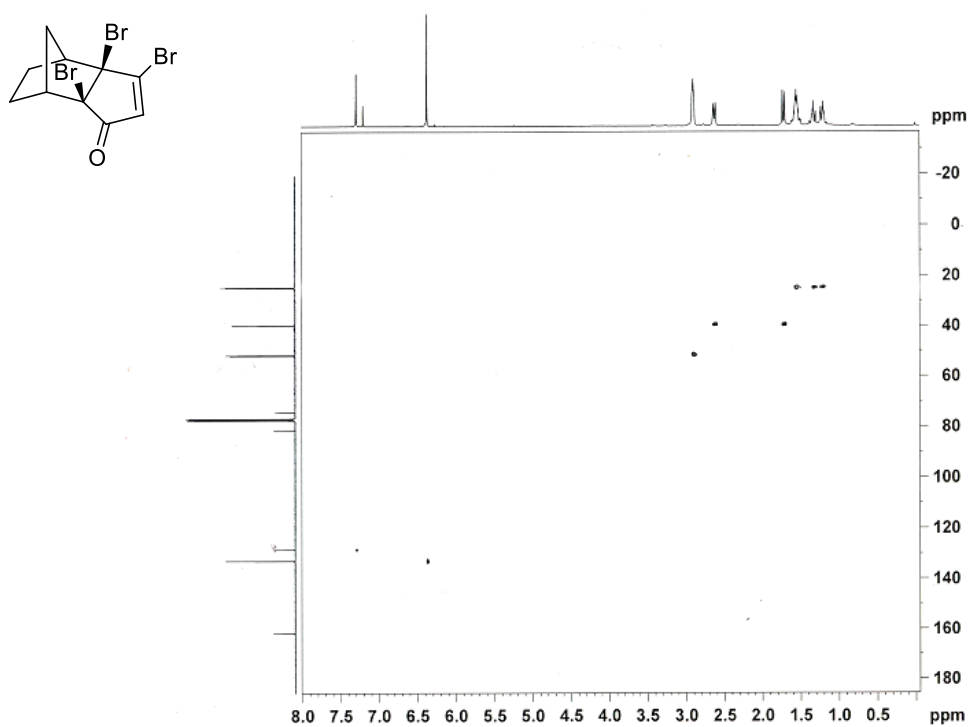
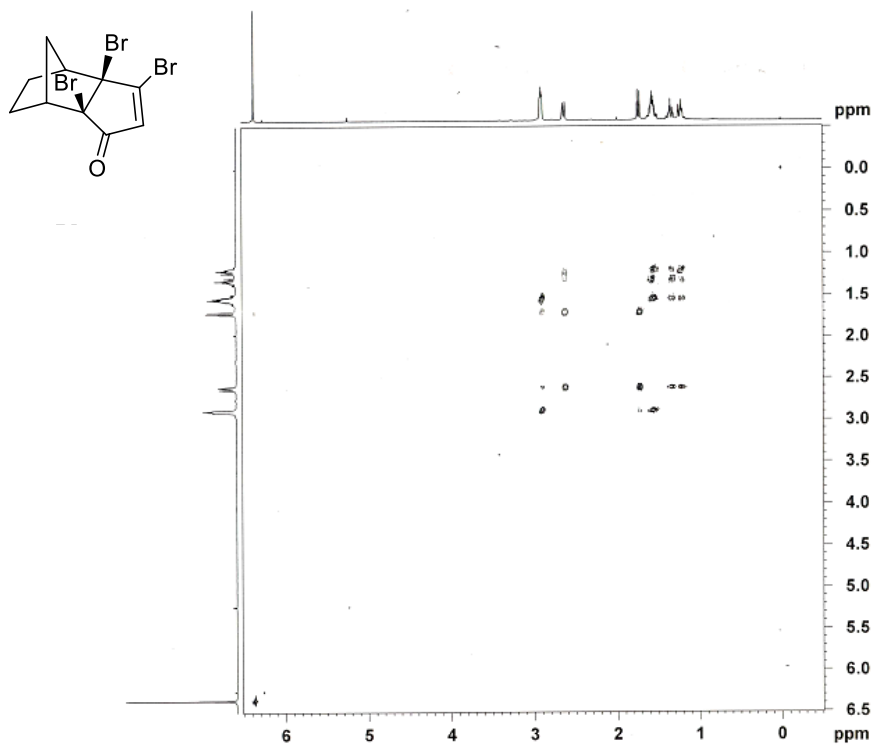
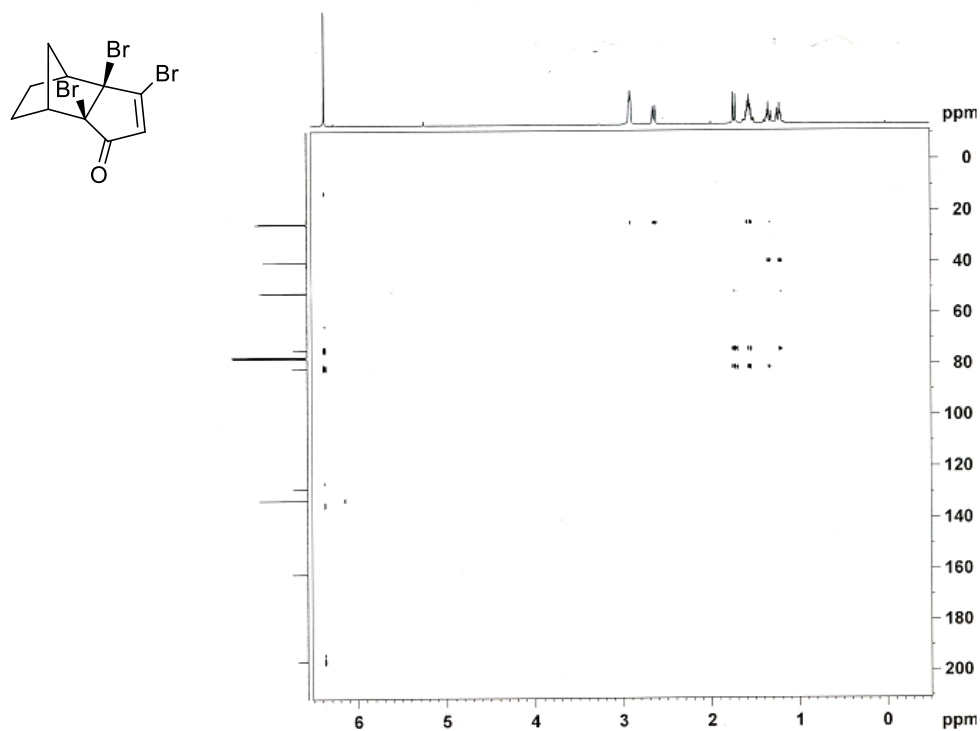


Figure S42. HSQC Spectrum of compound 24.





**Figure S43.** COSY Spectrum of compound **24**.



**Figure S44.** HMBC Spectrum of compound **24**.

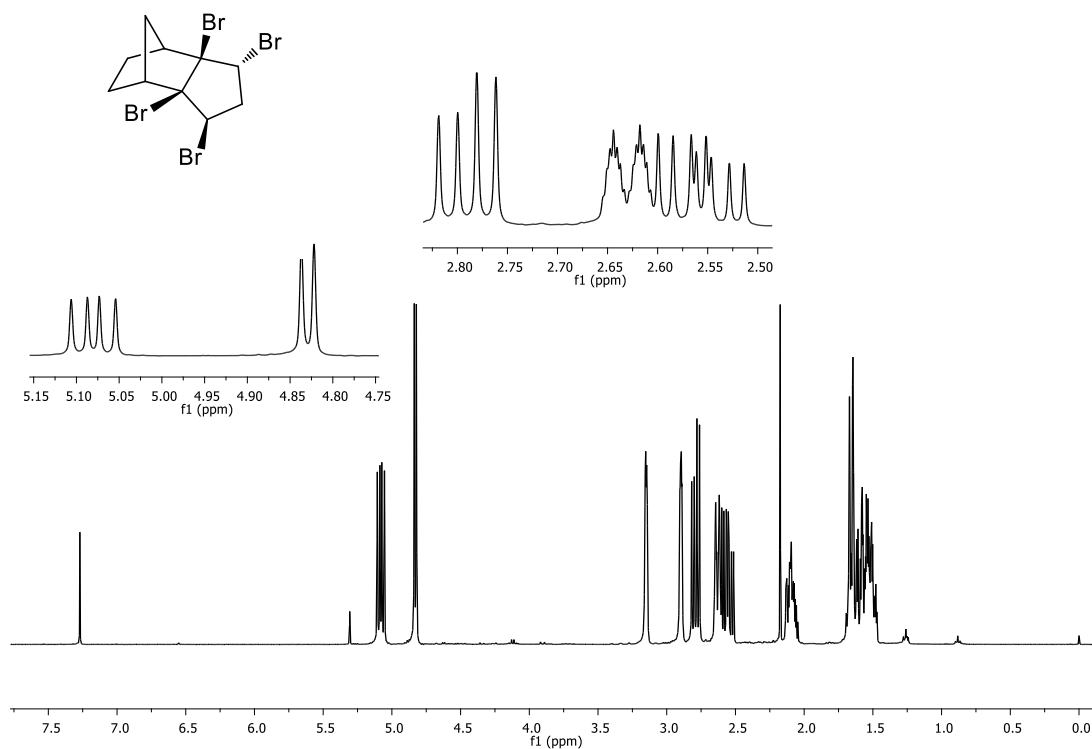


Figure S45. <sup>1</sup>H-NMR Spectrum of compound 38.

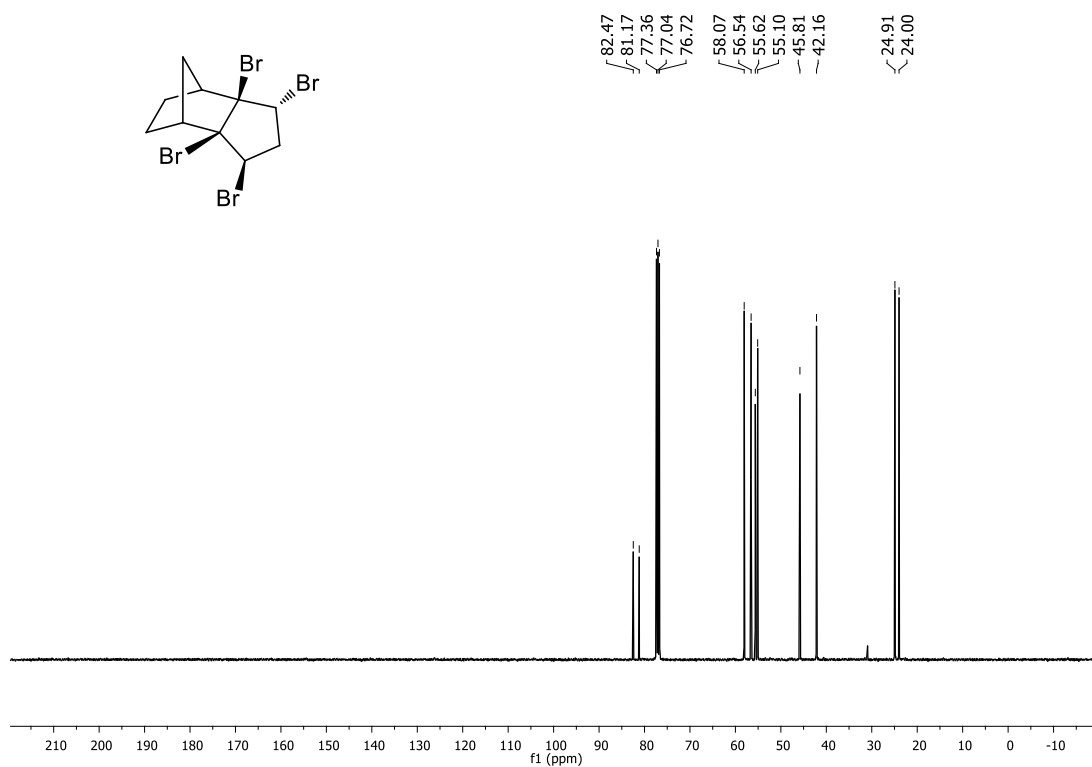
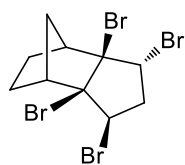
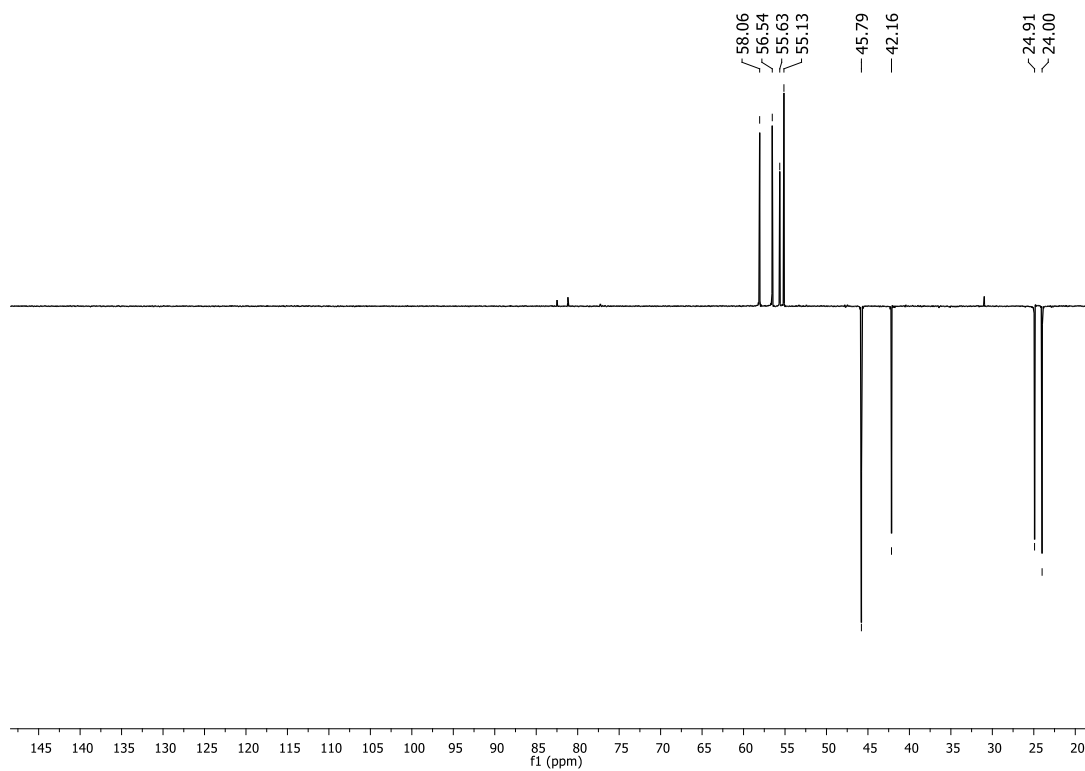
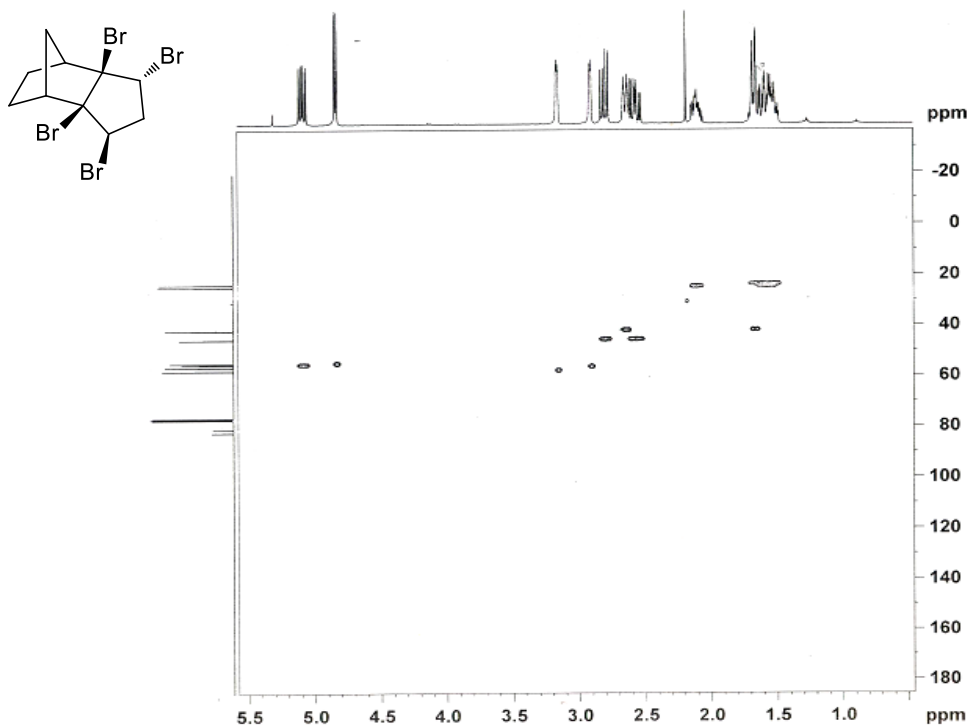


Figure S46. <sup>13</sup>C-NMR Spectrum of compound 38.





**Figure S47.** DEPT-135 Spectrum of compound **38**.



**Figure S48.** HSQC Spectrum of compound **38**.

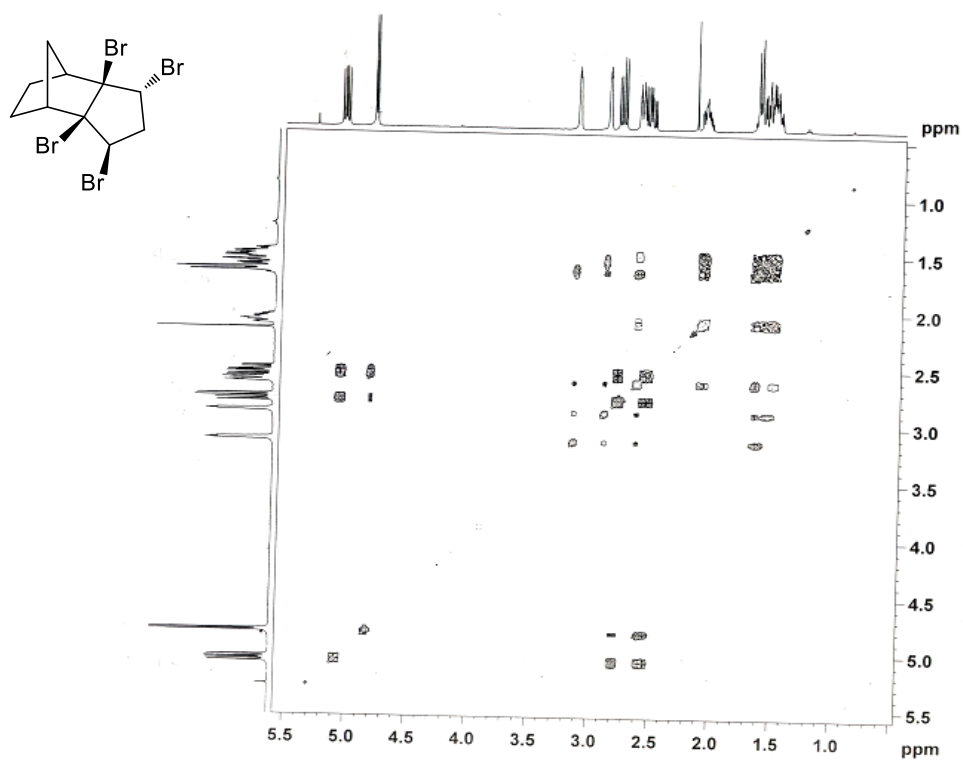


Figure S49. COSY Spectrum of compound 38.

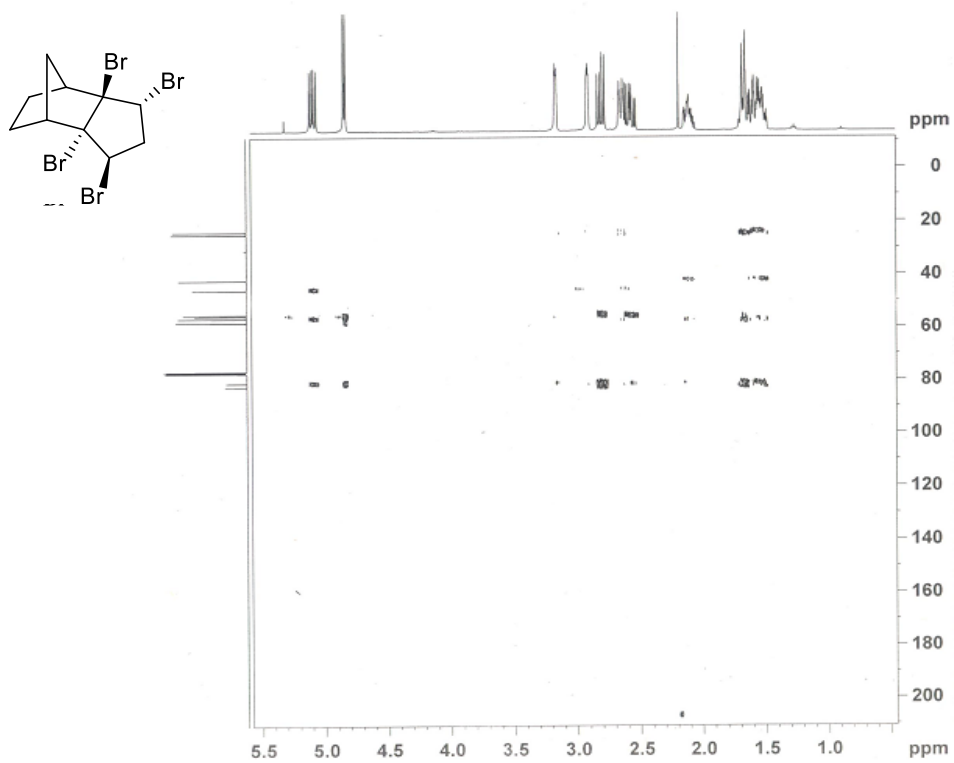
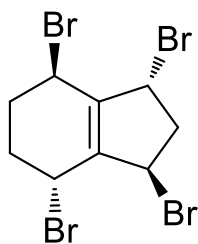
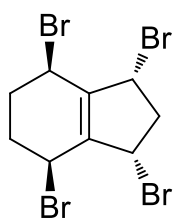


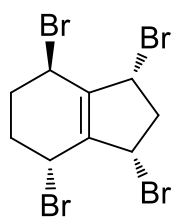
Figure S50. HMBC Spectrum of compound 38.

**12**

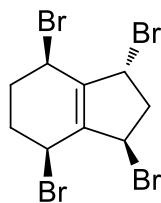
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C	1.112811	1.501561	0.022885
C	-1.189011	2.220561	0.804021
C	-0.793941	-0.113683	-0.022131
C	-1.813624	0.915722	0.315316
C	0.526804	0.146664	-0.143188
C	0.054628	2.601442	-0.003712
H	-0.905636	2.064463	1.853624
H	-0.223333	2.754330	-1.055325
H	-1.929031	3.023580	0.786705
H	-2.553616	0.529985	1.015939
H	0.479291	3.541050	0.356184
C	1.302034	-1.110786	-0.411412
H	1.949035	-1.382402	0.423661
C	0.225384	-2.161702	-0.745693
H	0.133873	-2.260530	-1.831126
H	0.452220	-3.146309	-0.337183
C	-1.087736	-1.565975	-0.212806
H	-1.961216	-1.776510	-0.827240
Br	2.129625	1.530312	1.791346
Br	-2.944616	1.236619	-1.342712
Br	-1.622803	-2.380346	1.570729
Br	2.607933	-0.893012	-1.919013

**13**

C	-0.389743	-0.449553	-0.035551
C	-2.206591	0.608767	1.344118
C	-0.089959	1.893630	0.797351
C	-1.098417	1.524486	1.882720
C	0.285718	0.722473	-0.036656
C	-1.617121	-0.687171	0.780657
H	-2.746875	1.134803	0.551459
H	-0.535636	1.013466	2.676612
H	-1.410556	-1.424077	1.560450
H	-2.928559	0.373883	2.130070
H	0.793457	2.382314	1.207555
H	-1.529652	2.425375	2.325508
C	0.298197	-1.470321	-0.883875
H	-0.374945	-2.053280	-1.508042
C	1.349432	-0.670727	-1.668424
H	0.937546	-0.457890	-2.662756
H	2.290565	-1.200711	-1.803927
C	1.491749	0.662893	-0.917391
H	1.607278	1.528675	-1.567864
Br	-3.024290	-1.625592	-0.316334
Br	1.119523	-2.898223	0.295924
Br	3.173937	0.755167	0.206385
Br	-0.833730	3.347450	-0.417354

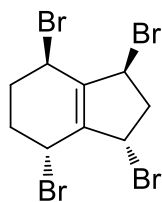
**14**

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C	-1.887122	0.491939	0.635212
C	-0.881412	2.645304	-0.214318
C	0.250148	0.462836	-0.682220
C	0.419362	1.945264	-0.613039
C	-0.817351	-0.178278	-0.149121
C	-1.556824	1.943048	0.966069
H	-1.551663	2.618850	-1.084015
H	-0.871751	1.933156	1.824102
H	-0.686136	3.694746	0.015689
H	0.816475	2.336618	-1.550229
H	-2.457286	2.475964	1.277524
C	-0.811976	-1.636096	-0.481867
H	-1.786213	-2.016010	-0.783318
C	0.263796	-1.767643	-1.569476
H	0.848312	-2.683677	-1.502942
H	-0.245531	-1.762188	-2.541312
C	1.112214	-0.485978	-1.465852
Br	-3.612378	0.400799	-0.461785
Br	1.877243	2.468921	0.694917
Br	-0.422261	-2.721450	1.167791
H	1.411354	-0.087744	-2.435345
Br	2.897466	-0.858210	-0.607599

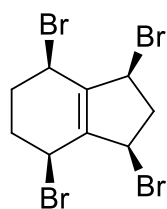
**18**

H	2.342224	1.499725	-0.824571
C	1.318355	1.502134	-0.453688
C	-1.061933	2.266768	-0.925036
C	-0.531467	-0.176704	-0.701885
C	-1.476873	0.838779	-1.278957
C	0.752500	0.129819	-0.399090
C	0.429459	2.473235	-1.226952
H	-1.253274	2.446184	0.137546
H	0.619758	2.297718	-2.295774
H	-1.667618	2.976970	-1.493230
H	0.725047	3.504155	-1.018204
C	1.510978	-1.103469	0.015633
H	1.718455	-1.122619	1.086887
C	0.616792	-2.256284	-0.465023
H	0.891211	-2.517989	-1.492354
H	0.690946	-3.152463	0.150520
C	-0.787731	-1.639941	-0.494177
H	-1.483249	-2.101221	-1.192536
Br	1.588618	2.149664	1.459353
Br	-1.679940	-1.950993	1.303478
Br	3.332507	-1.210606	-0.798845
H	-1.505200	0.704688	-2.364825
Br	-3.393221	0.551454	-0.795728



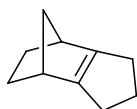
**19**

H	-1.704029	1.401169	1.805836
C	-1.356188	1.373057	0.772264
C	0.227608	2.413115	-0.899543
C	0.528940	0.032127	-0.204447
C	1.181808	1.224034	-0.815745
C	-0.637329	0.096253	0.485978
C	-0.520977	2.604263	0.422108
H	-0.492422	2.207063	-1.702547
H	0.207988	2.752771	1.228850
H	0.775975	3.316838	-1.173047
H	-1.156060	3.491537	0.390894
C	-1.034363	-1.264699	0.987534
C	0.253526	-2.087456	0.844700
H	0.859700	-1.940545	1.745660
H	0.084086	-3.154799	0.704968
C	0.958012	-1.413475	-0.338660
Br	-3.123100	1.475480	-0.236155
H	-1.476972	-1.269698	1.982532
H	0.612890	-1.814551	-1.295653
H	1.650979	0.986271	-1.770402
Br	-2.483898	-2.137154	-0.136636
Br	2.897525	-1.807153	-0.380806
Br	2.788909	1.778605	0.312270



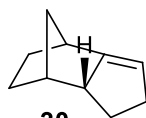
17

H	2.284929	1.605074	-1.600361
C	1.408595	1.607524	-0.951601
C	-0.867655	2.626756	-0.529635
C	-0.635780	0.146277	-0.918970
C	-1.569220	1.322044	-0.907469
C	0.711459	0.287738	-0.985294
C	0.457519	2.755576	-1.290171
H	-0.670175	2.635570	0.546321
H	0.272701	2.719548	-2.373708
H	-1.524462	3.471841	-0.750098
H	0.931475	3.716540	-1.077197
C	1.383104	-1.014343	-1.311901
C	0.221370	-1.939390	-1.714063
H	0.131486	-1.911414	-2.807999
H	0.362207	-2.976255	-1.413833
C	-1.036185	-1.287019	-1.121208
H	-1.932068	-1.415979	-1.727321
Br	2.244453	1.950307	0.863972
Br	-1.553198	-2.178106	0.615019
H	2.134516	-0.909294	-2.094383
H	-2.020817	1.401468	-1.901680
Br	2.479168	-1.772744	0.198575
Br	-3.187008	1.086762	0.237966



29

H	-2.717736	-1.004975	-1.176354
C	-1.698500	-0.970254	-0.781033
C	-1.017153	0.399394	-1.138524
H	-1.189369	0.734020	-2.161910
C	-1.585323	1.287711	0.000000
H	-1.166006	2.295854	0.000000
H	-2.679046	1.341493	0.000000
C	-1.017153	0.399394	1.138524
H	-1.189369	0.734020	2.161910
C	0.418612	0.280656	-0.669580
C	0.418612	0.280656	0.669580
H	-1.152596	-1.816740	-1.202871
C	-1.698500	-0.970254	0.781033
H	-2.717736	-1.004975	1.176354
H	-1.152596	-1.816740	1.202871
C	1.738004	-0.150439	-1.248025
H	2.093472	0.474954	-2.073451
H	1.679014	-1.176940	-1.638249
C	1.738004	-0.150439	1.248025
H	1.679014	-1.176940	1.638249
H	2.093472	0.474954	2.073451
C	2.670303	-0.066683	0.000000
H	3.443417	-0.838508	0.000000
H	3.177492	0.901740	0.000000

**30**

H	1.398768	-0.151373	2.221206
C	1.682137	-0.094780	1.166965
C	0.976527	-1.168477	0.290744
C	1.407677	-0.732984	-1.133743
C	1.564387	0.820803	-1.024109
C	1.063547	1.118986	0.420572
H	2.772856	-0.121170	1.091137
H	1.215106	-2.205741	0.532093
H	2.352895	-1.207768	-1.407870
H	0.674988	-1.018029	-1.891774
H	0.985768	1.358889	-1.776232
H	2.612826	1.119630	-1.123115
H	1.318661	2.113215	0.788009
C	-0.492943	-0.758316	0.569002
H	-0.694918	-0.994512	1.625785
C	-0.401511	0.749714	0.398711
C	-1.562328	1.274625	0.006712
H	-1.761761	2.318225	-0.209236
C	-1.736825	-1.116392	-0.260612
H	-2.255893	-2.009598	0.095964
H	-1.465952	-1.282112	-1.308537
C	-2.605668	0.175817	-0.156001
H	-3.240197	0.326050	-1.035158
H	-3.280948	0.127366	0.710187