

*Supporting Information  
for*

**Iodine-mediated Alkoxyseleenylation of Alkenes and Dienes with Elemental Selenium**

Evgeny O. Kurkurov and Bagrat A. Shainyan\*

*A. E. Favorsky Irkutsk Institute of Chemistry, Siberian Division of the Russian Academy of Sciences, 1  
Favorsky Street, 664033 Irkutsk, Russian Federation*

\* Correspondence: bagrat@irioch.irk.ru

**Supporting Information**

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<b>1. General Remarks</b>	<b>S2</b>
<b>2. Copies of <math>^1\text{H}</math>, <math>^{13}\text{C}</math> NMR and <math>^{77}\text{Se}</math> NMR spectra</b>	<b>S3</b>

**General Remarks:**  $^1\text{H}$  (400.1 MHz),  $^{13}\text{C}$  (100.6 MHz), and  $^{77}\text{Se}$  (76.2 MHz) NMR spectra were recorded on a Bruker DPX-400 spectrometer for 5–10% solutions in  $\text{CDCl}_3$ .  $^1\text{H}$  and  $^{13}\text{C}$  chemical shifts ( $\delta$ ) are reported in parts per million (ppm) relative to the residual solvent peak of  $\text{CDCl}_3$  ( $\delta = 7.27$  ( $^1\text{H}$ ) and 77.10 ( $^{13}\text{C}$ ) ppm, respectively).  $^{77}\text{Se}$  NMR chemical shifts ( $\delta$ ) are given relative to  $\text{Me}_2\text{Se}$ . High-resolution mass spectra (HRMS) were measured at 70 eV on an Agilent 1200 HPLC chromatograph with Agilent 6210 mass spectrometer (HR-TOF-MS, ESI + ionization in acetonitrile). Mass spectra were obtained on a Shimadzu GCMSQP5050A instrument. Elemental compositions were determined with a Thermo Scientific Flash 2000 CHNS analyzer.

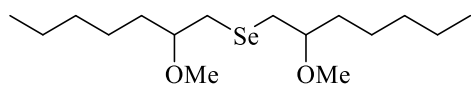


Figure S1.  $^1\text{H}$  NMR spectrum of compound **3a**

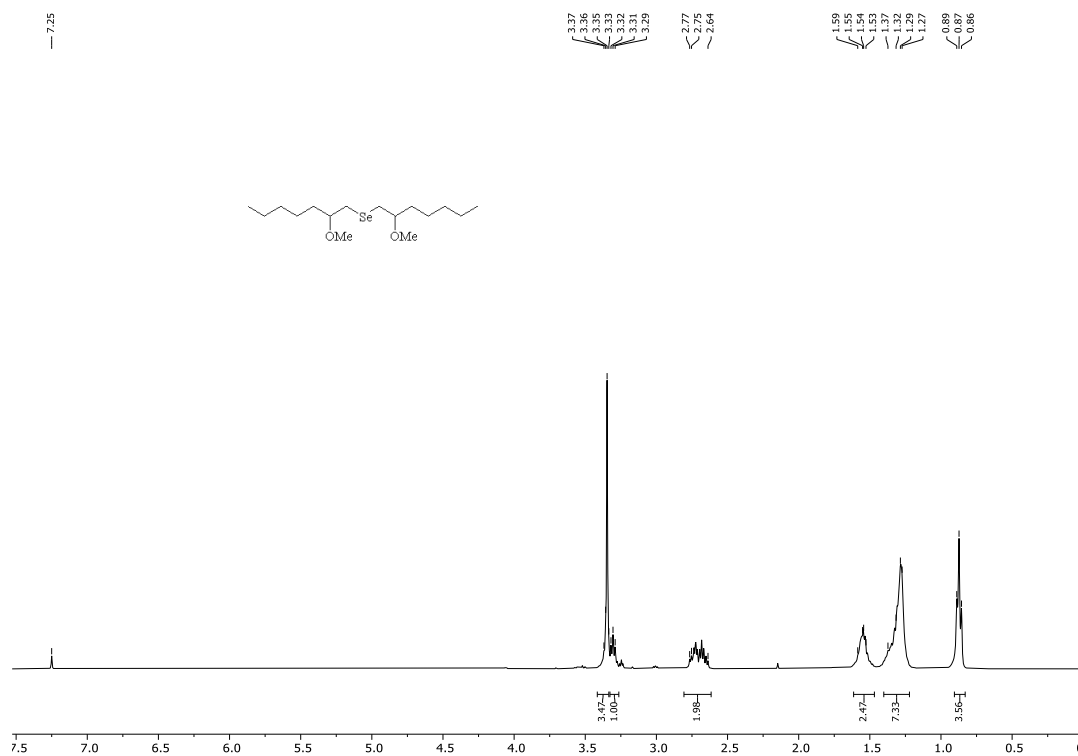


Figure S2.  $^{13}\text{C}$  NMR spectrum of compound **3a**

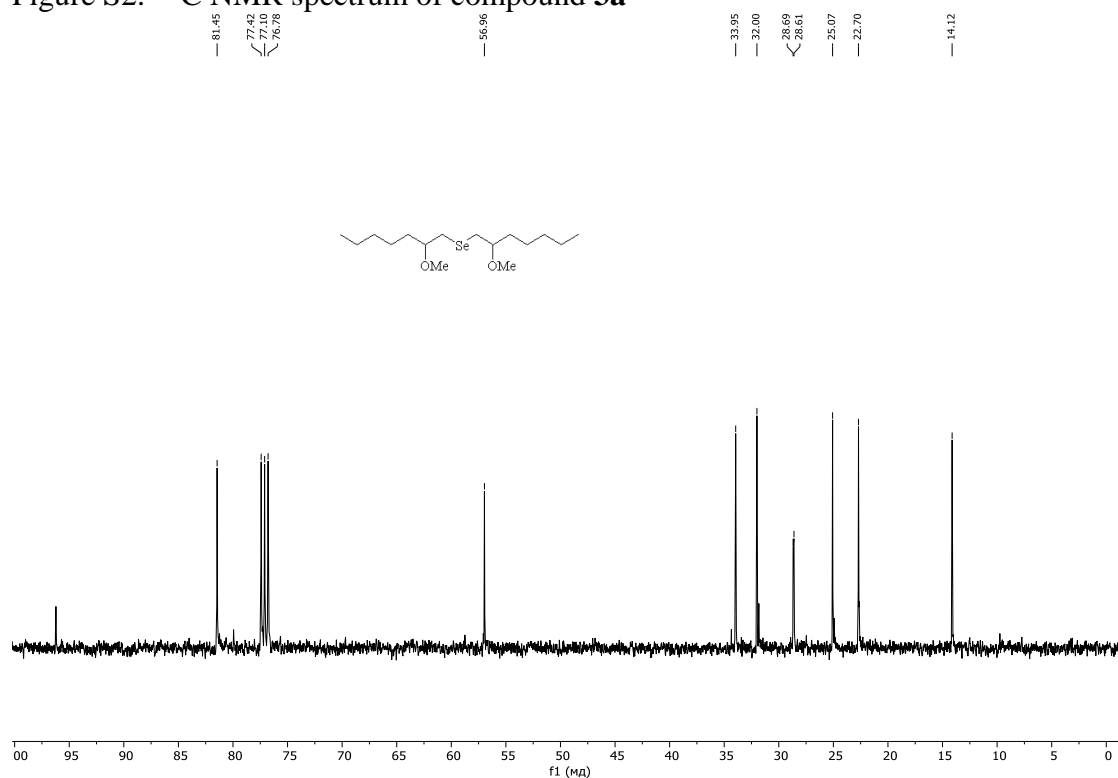


Figure S3.  $^{77}\text{Se}$  NMR spectrum of compound **3a**

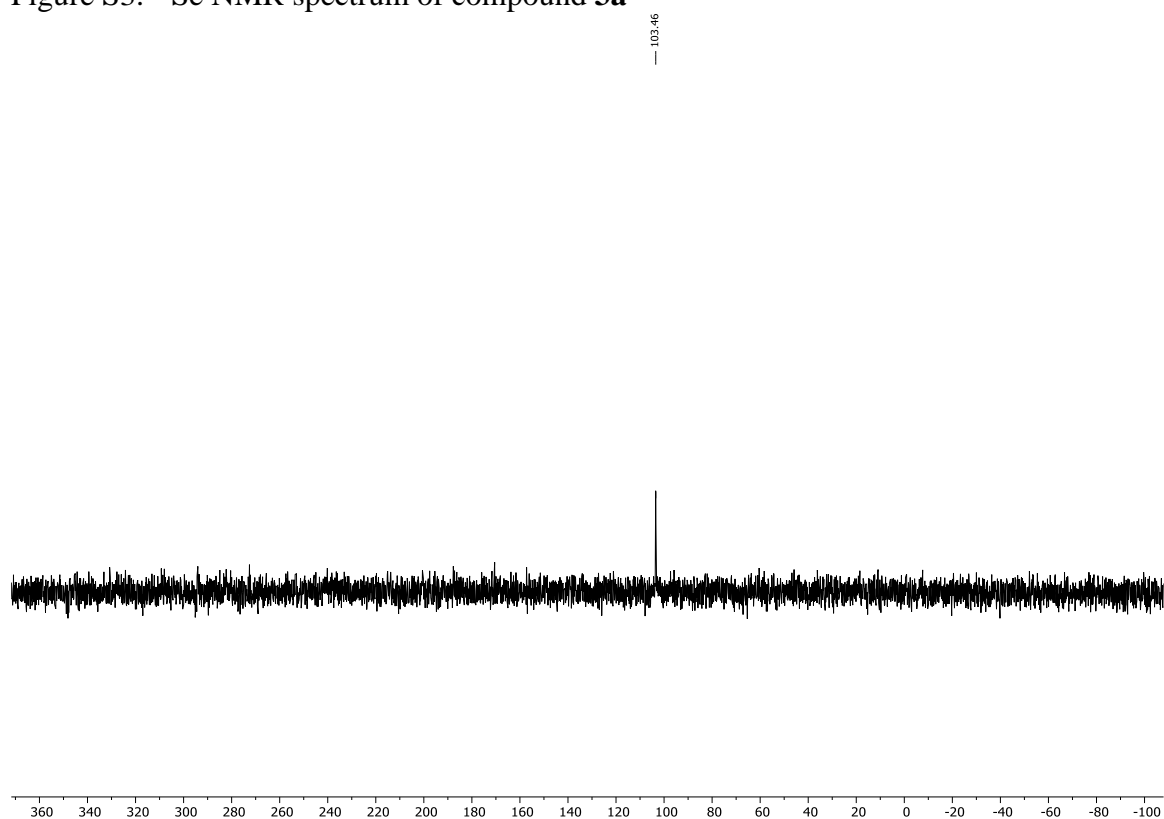
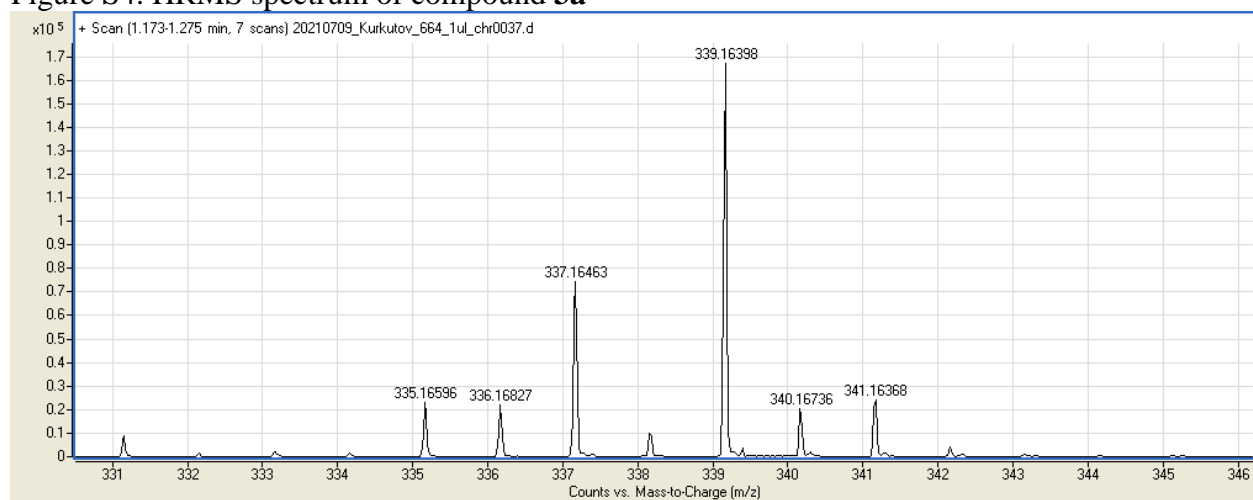


Figure S4. HRMS spectrum of compound **3a**



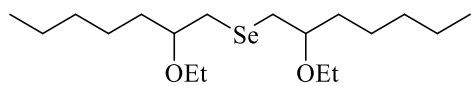


Figure S5.  $^1\text{H}$  NMR spectrum of compound **3b**

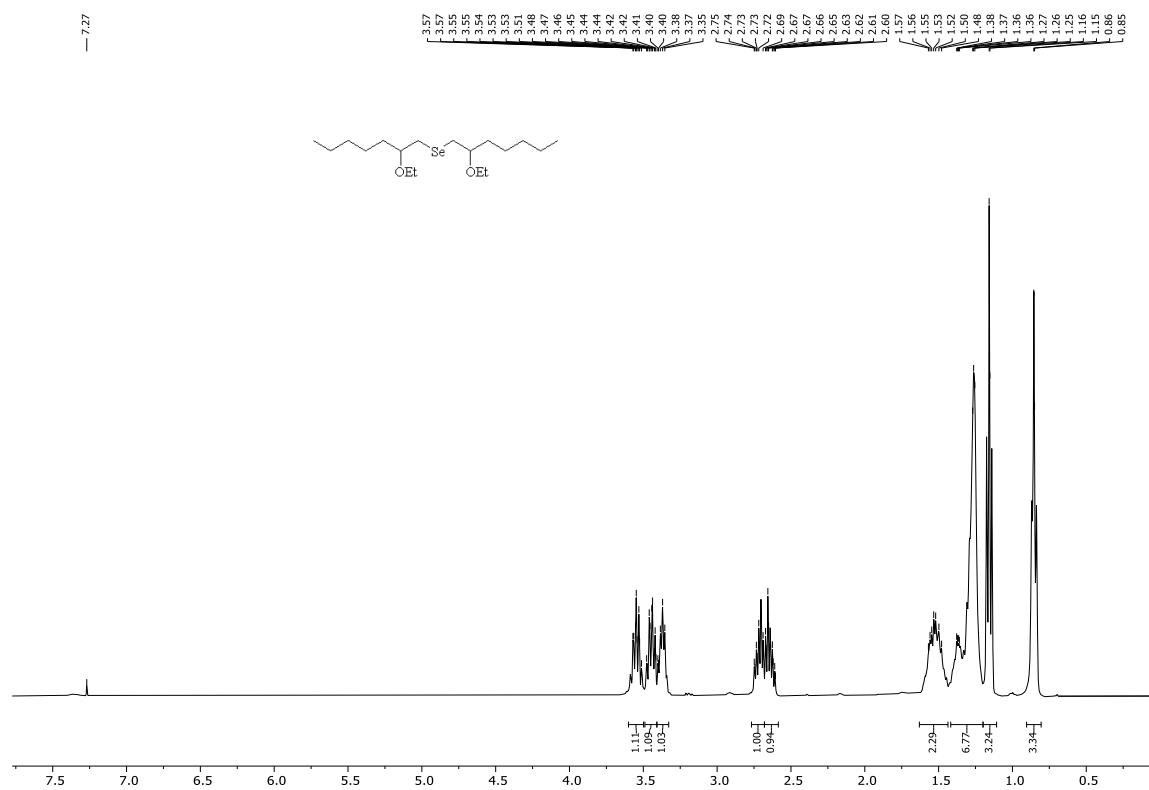


Figure S6.  $^{13}\text{C}$  NMR spectrum of compound **3b**

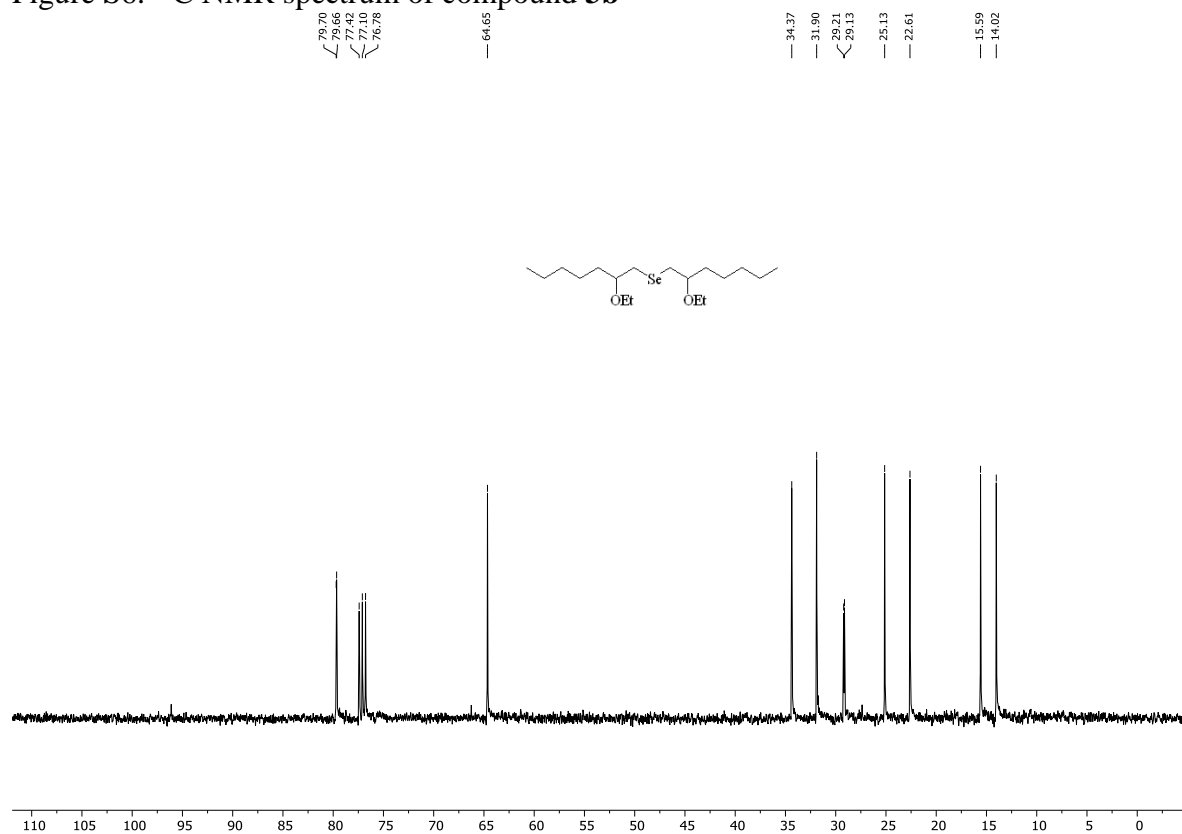


Figure S7.  $^{77}\text{Se}$  NMR spectrum of compound **3b**

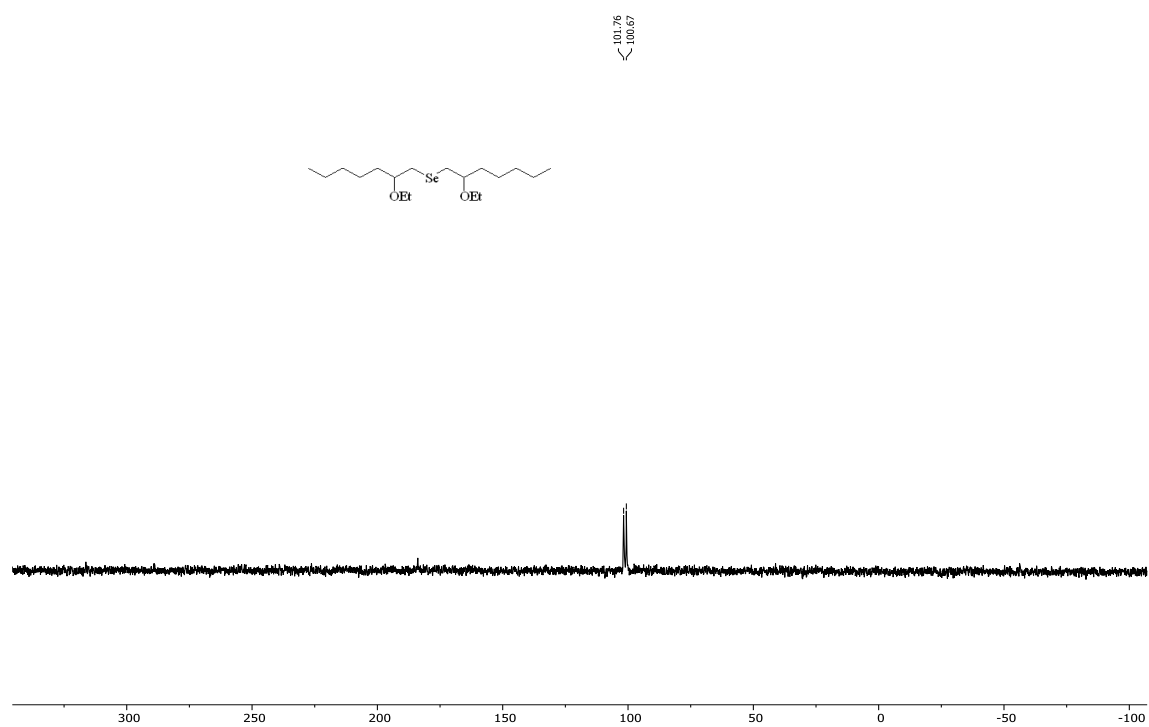


Figure S8.  $^1\text{H}$  NMR spectrum of compound **3c**

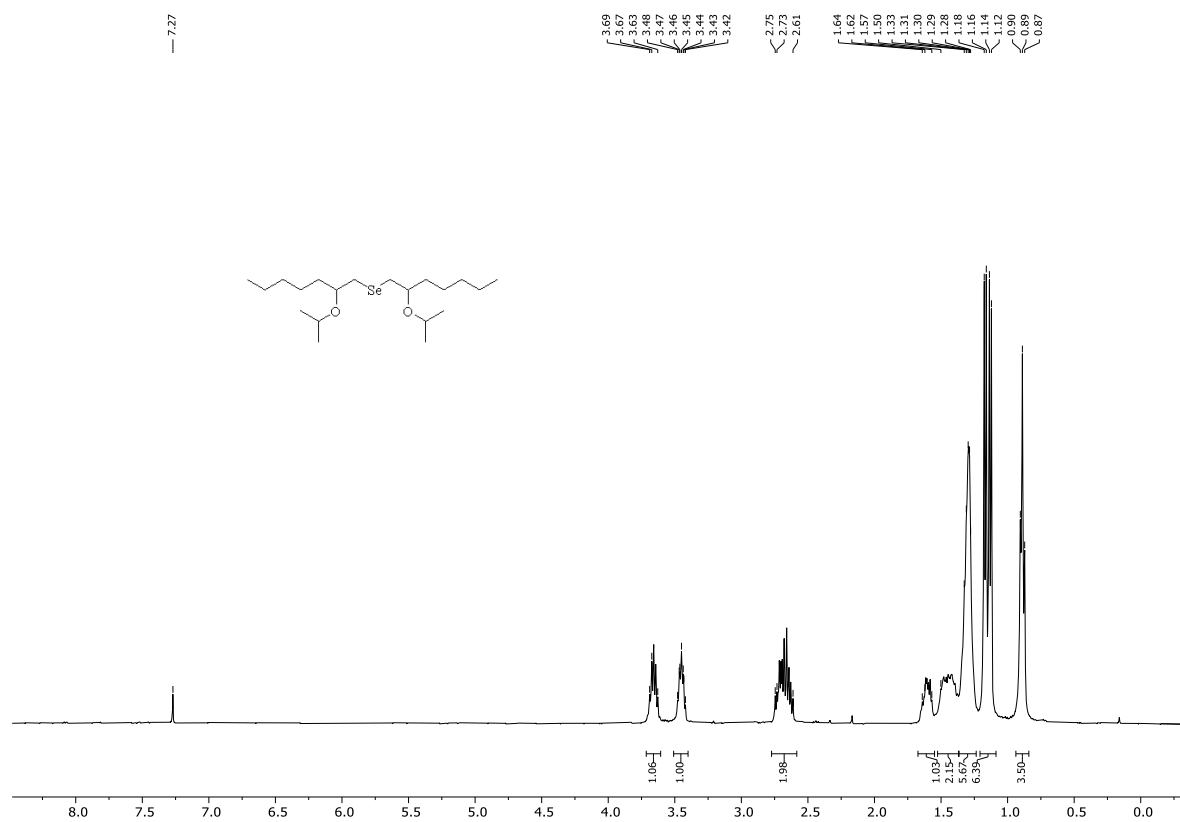


Figure S9.  $^{13}\text{C}$  NMR spectrum of compound **3c**

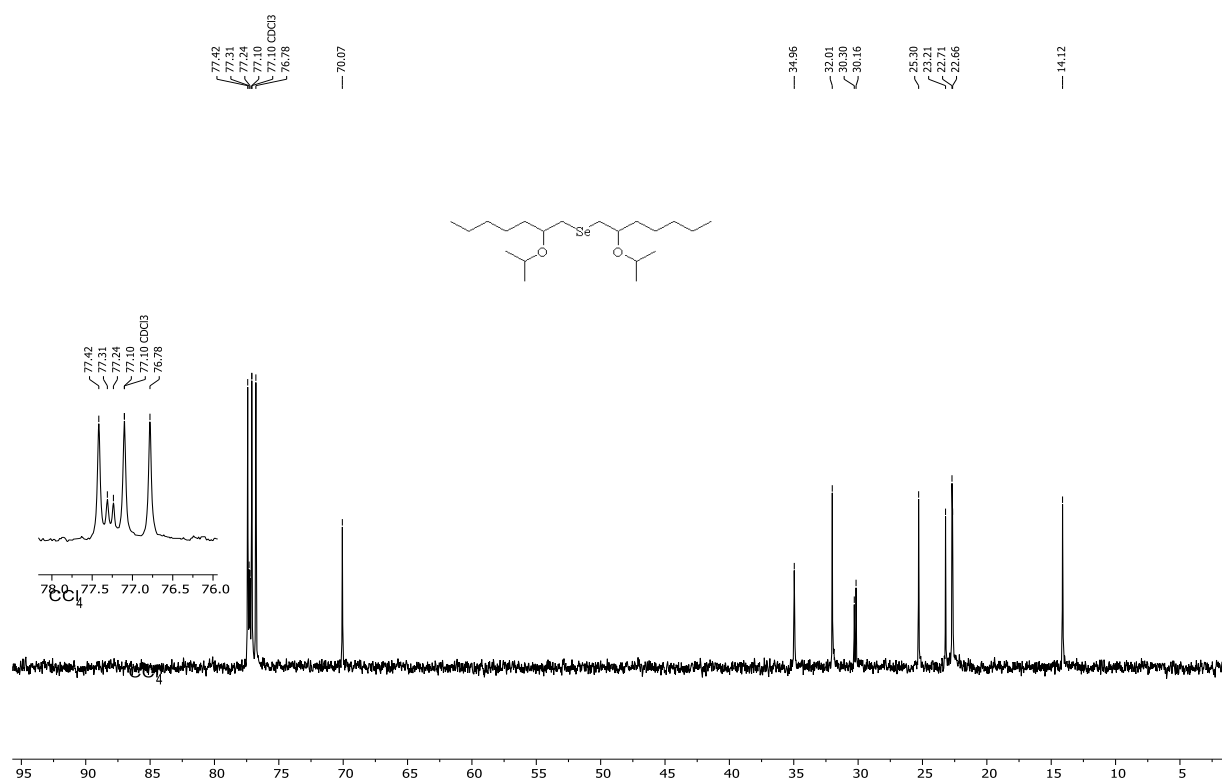
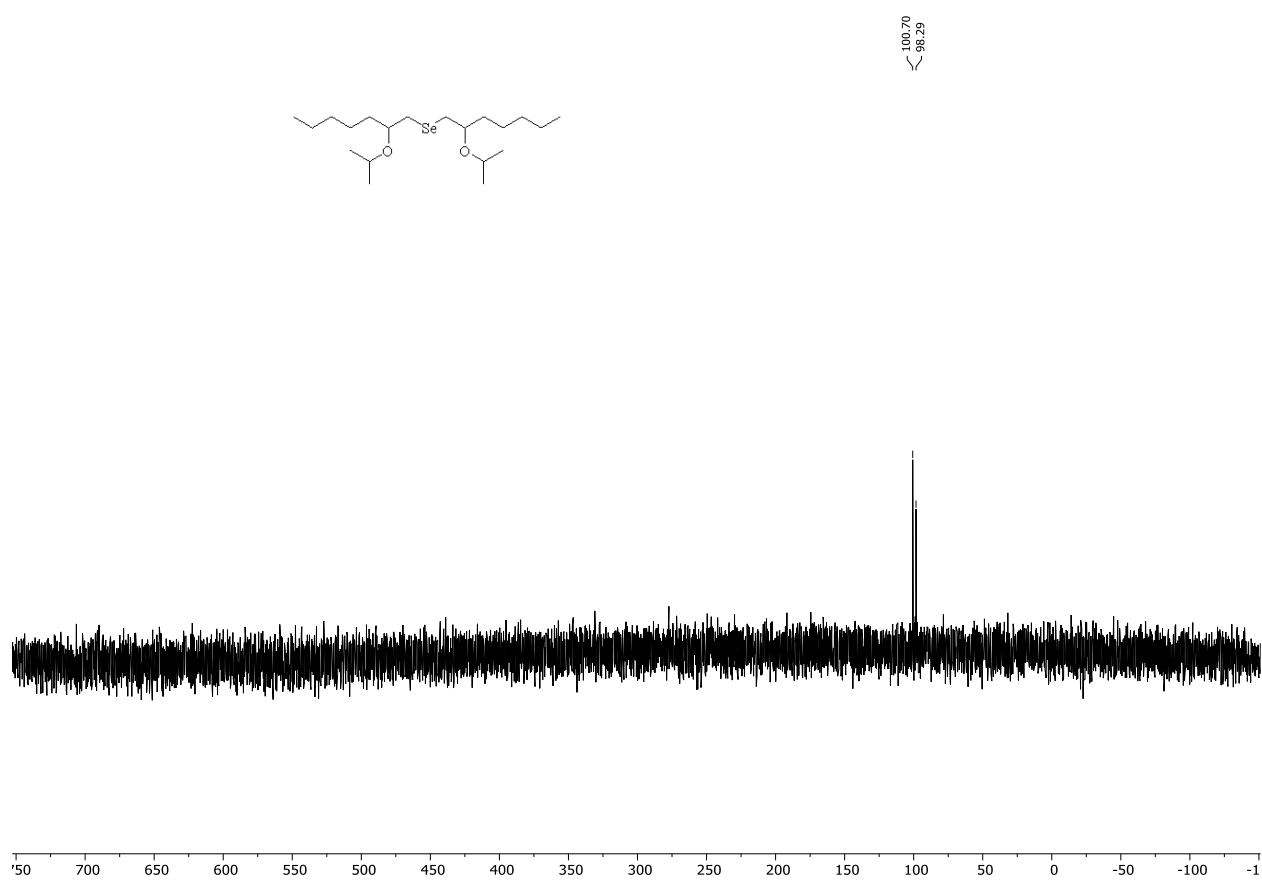


Figure S10.  $^{77}\text{C}$  NMR spectrum of compound **3c**



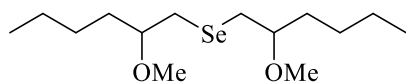


Figure S11.  $^1\text{H}$  NMR spectrum of compound **3d**

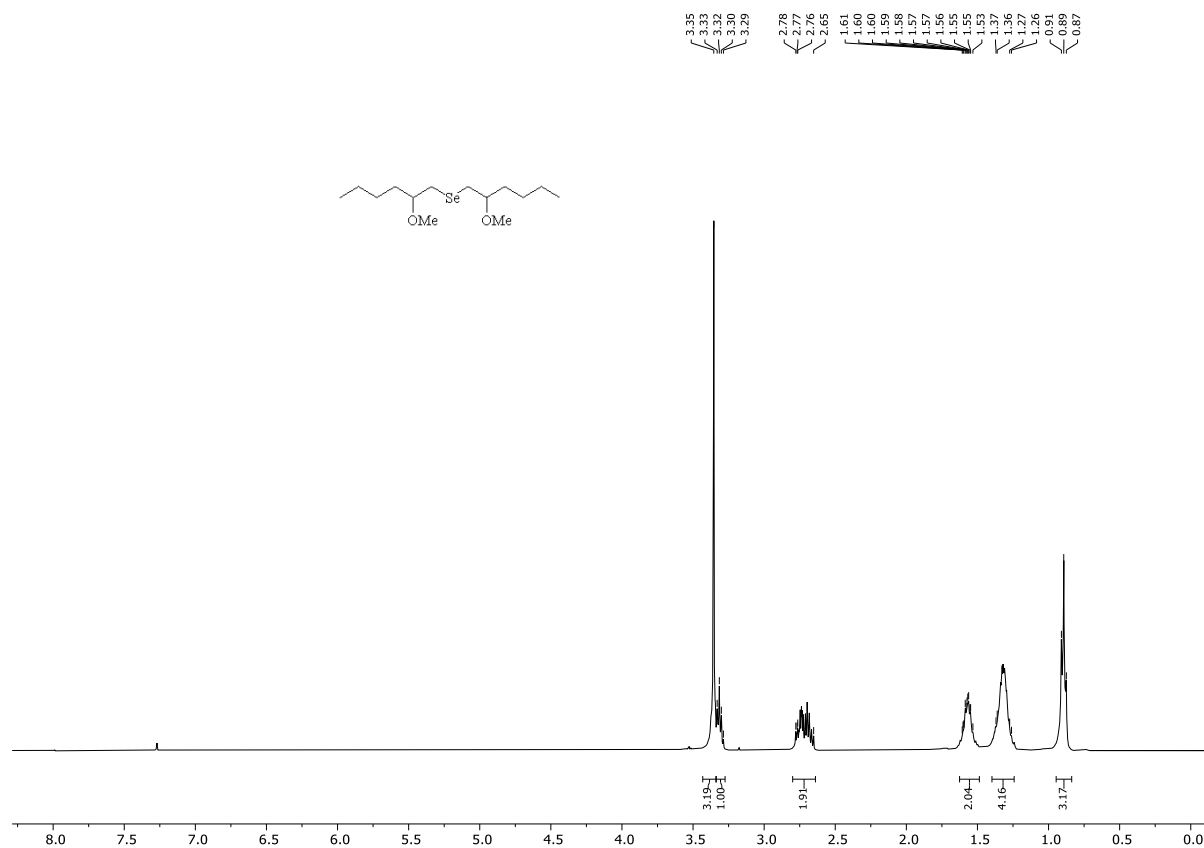


Figure S12.  $^{13}\text{C}$  NMR spectrum of compound **3d**

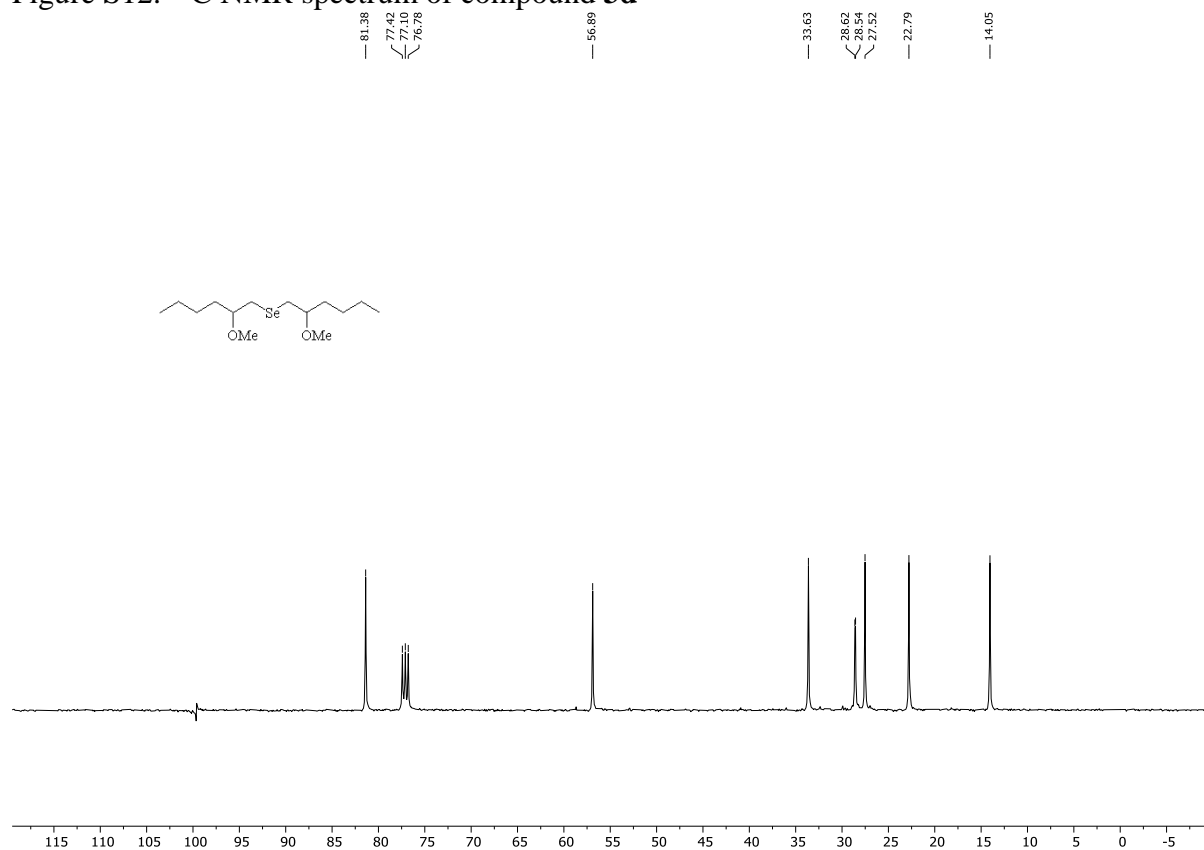




Figure S13.  $^{77}\text{Se}$  NMR spectrum of compound **3d**

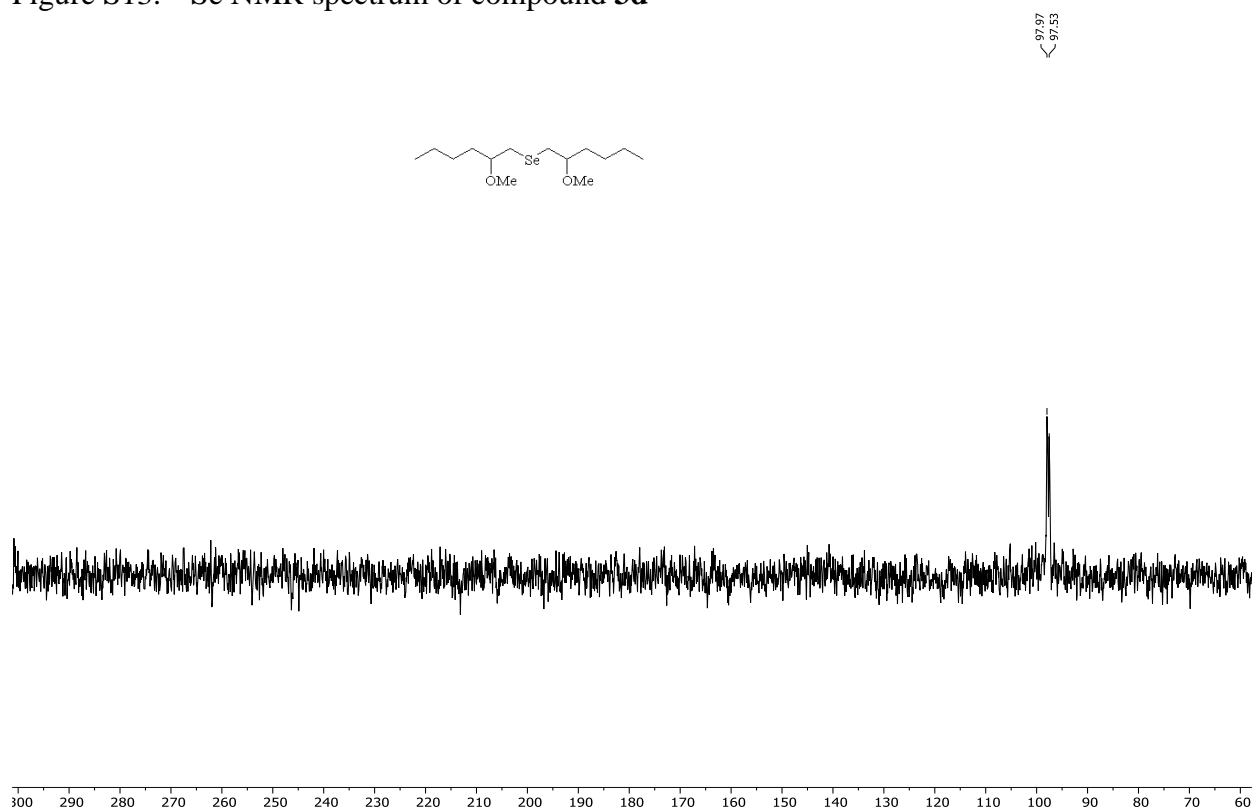


Figure S14.  $^1\text{H}$  NMR spectrum of compound **3e**

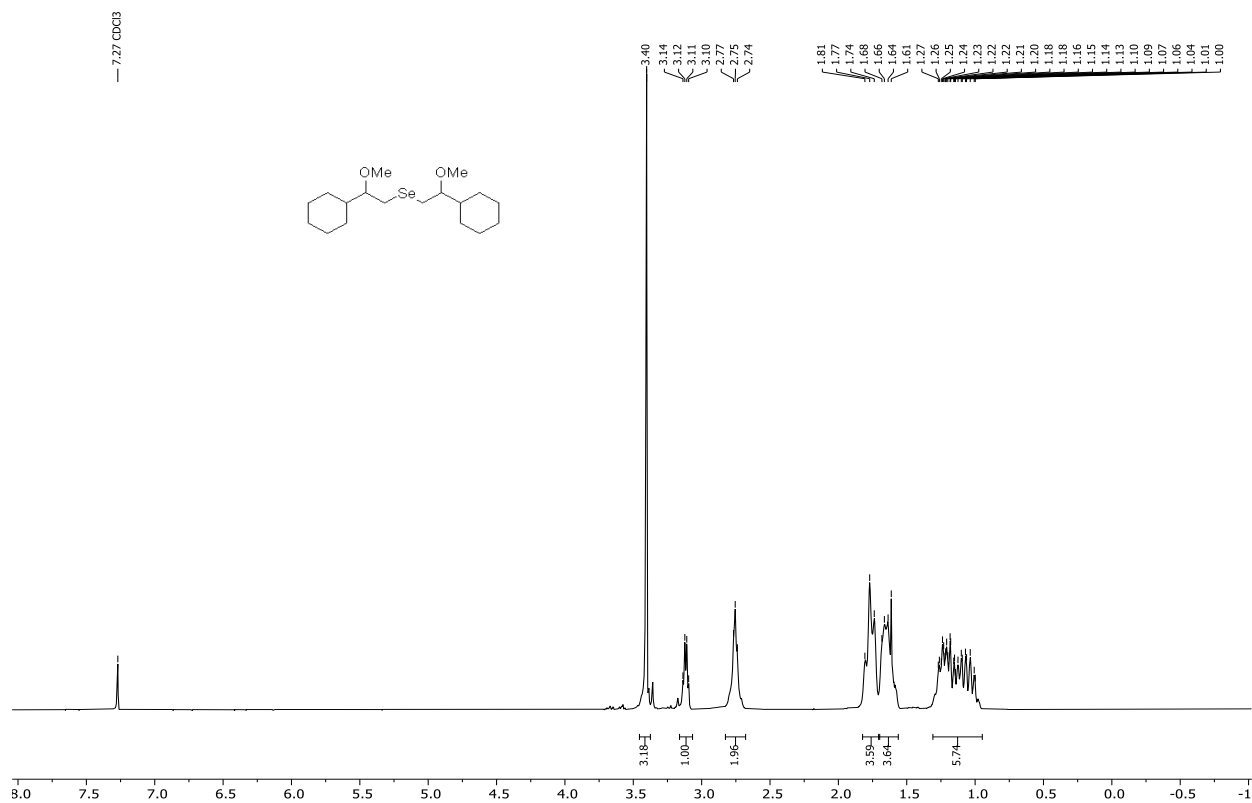


Figure S15.  $^{13}\text{C}$  NMR spectrum of compound **3e**

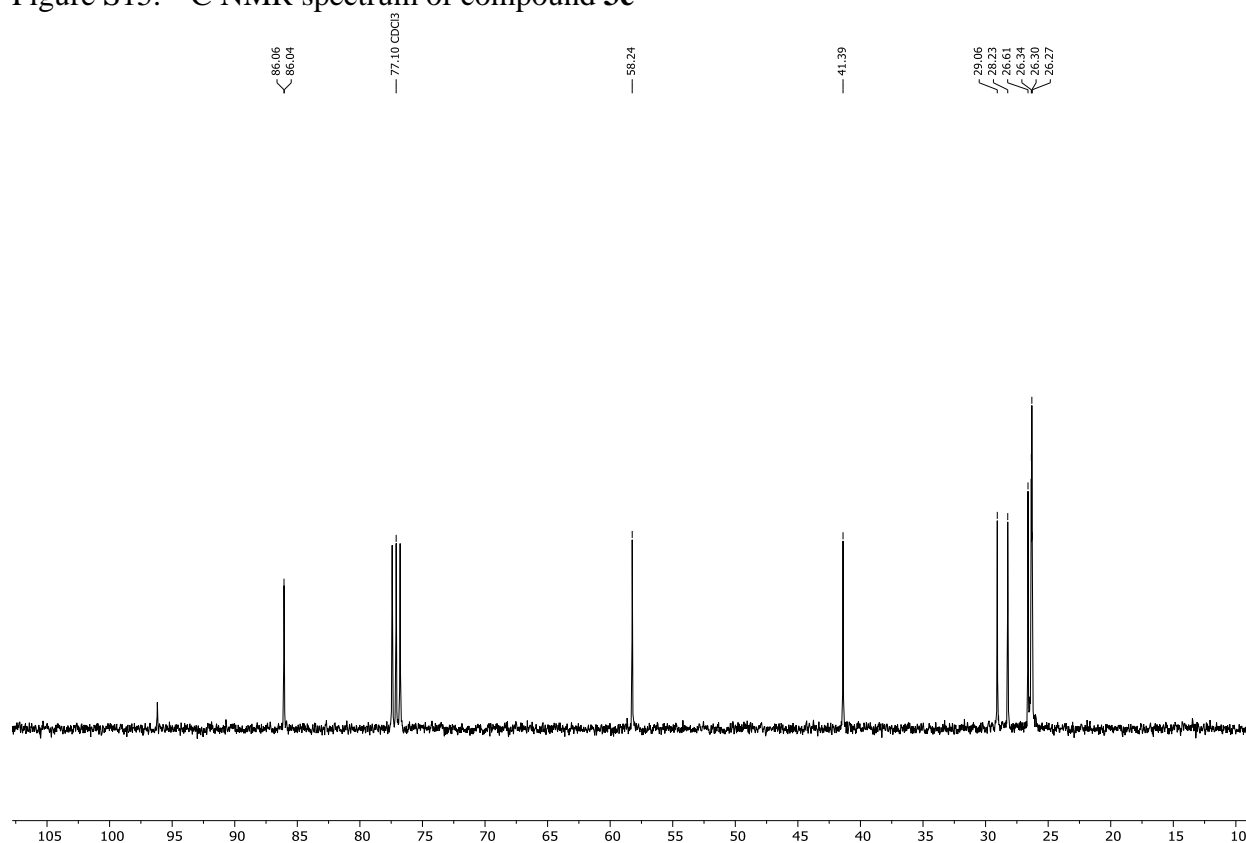


Figure S16.  $^{77}\text{Se}$  NMR spectrum of compound **3e**

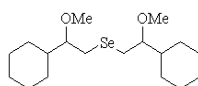
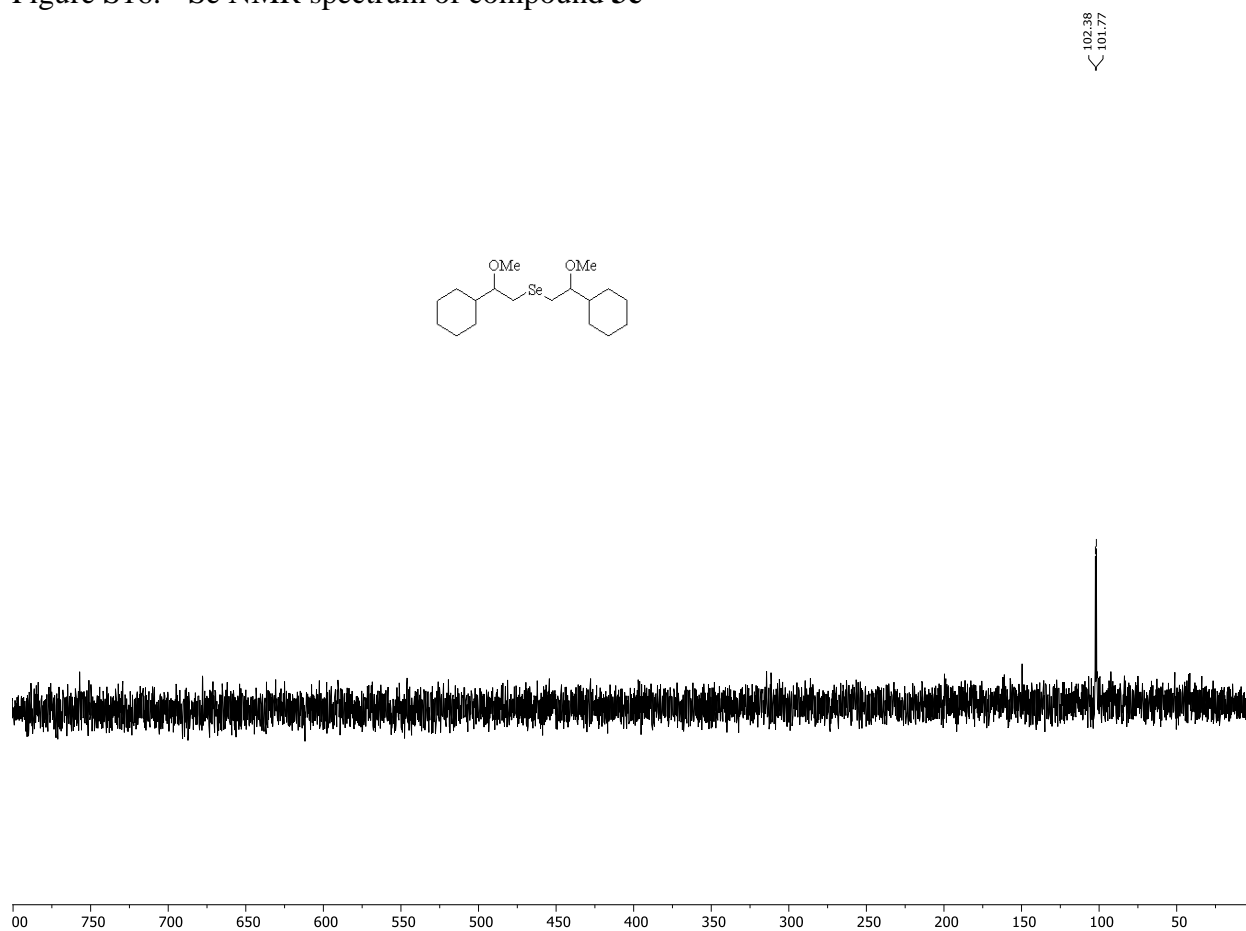


Figure S17. HRMS spectrum of compound **3e**

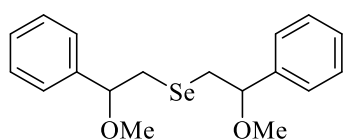
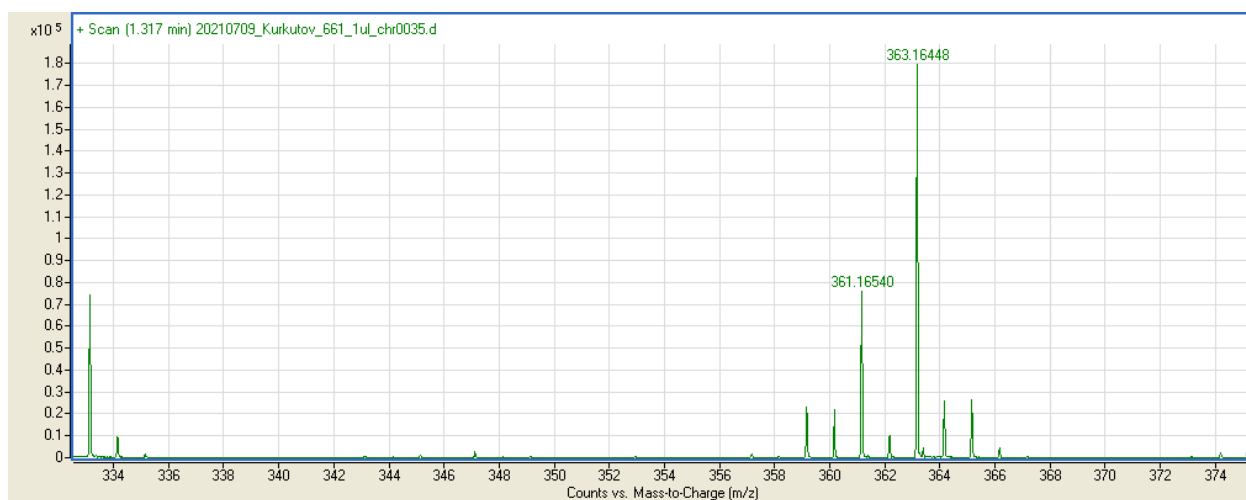


Figure S18.  $^1\text{H}$  NMR spectrum of compound **3f**

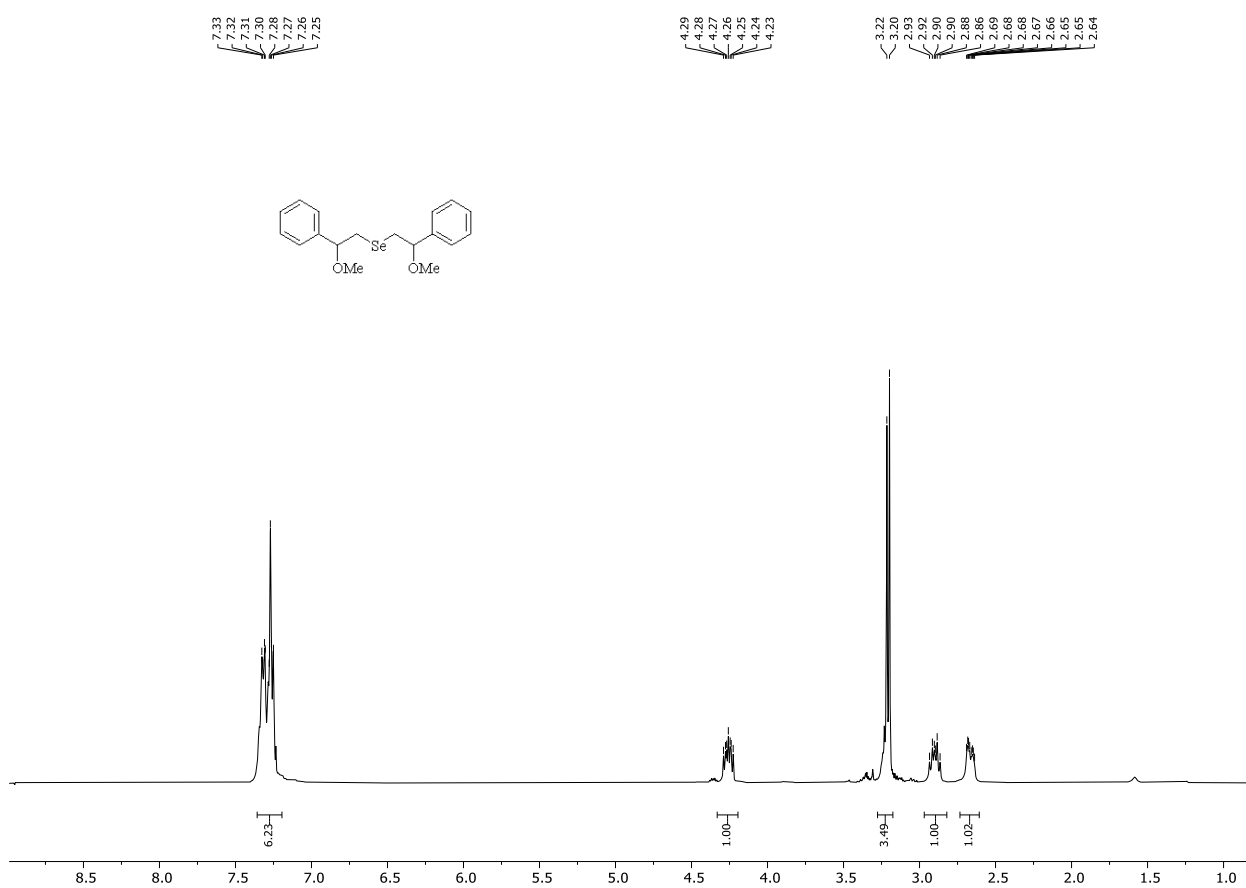


Figure S19.  $^{13}\text{C}$  NMR spectrum of compound **3f**

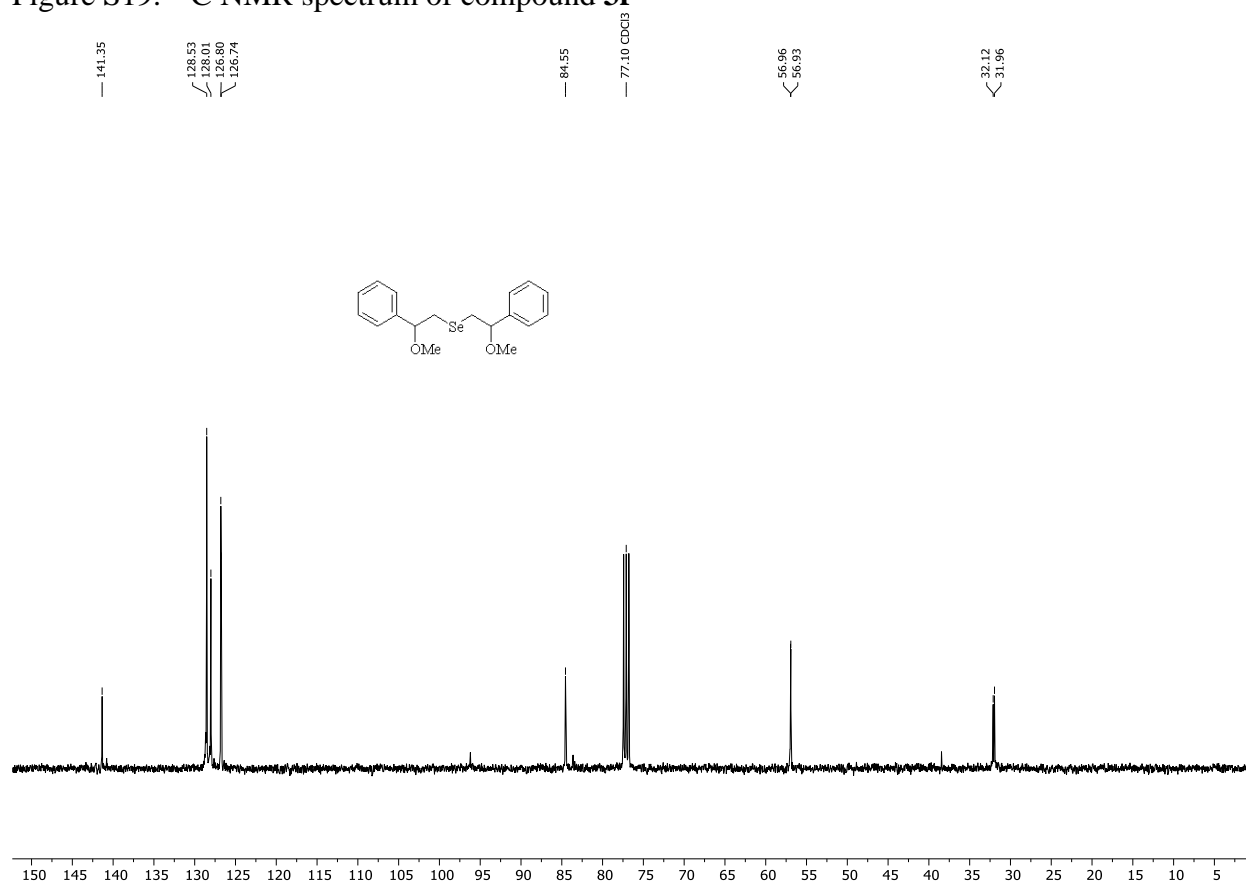
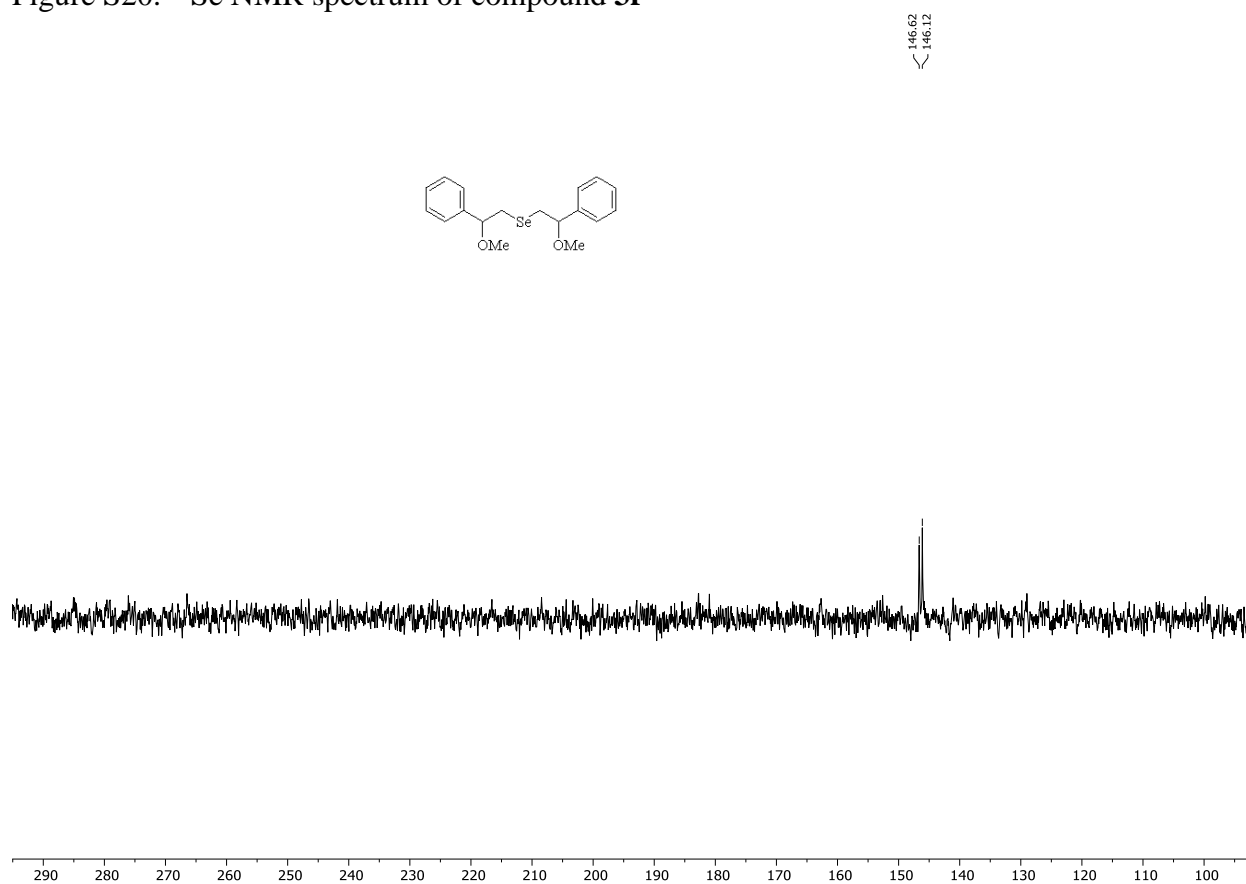


Figure S20.  $^{77}\text{Se}$  NMR spectrum of compound **3f**



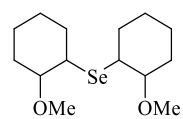


Figure S21.  $^1\text{H}$  NMR spectrum of compound **3g**

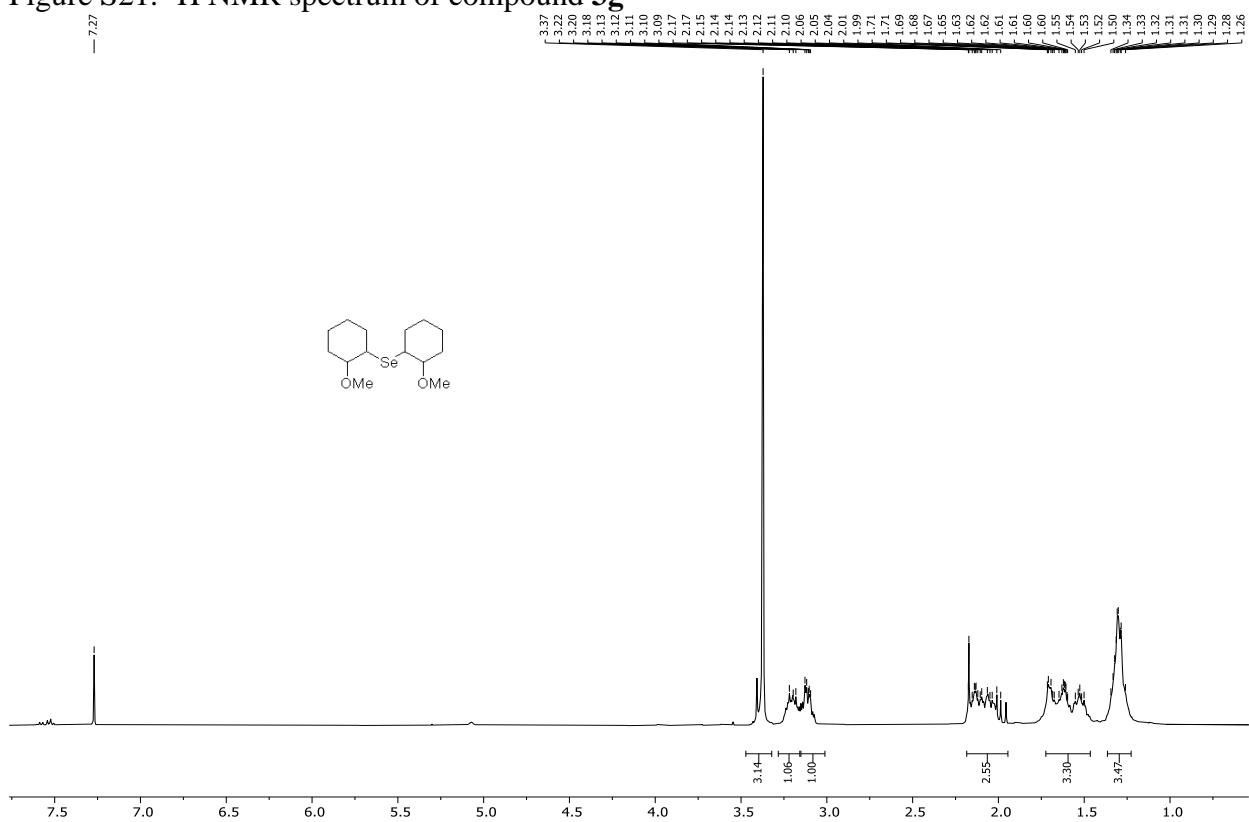


Figure S22.  $^{13}\text{C}$  NMR spectrum of compound **3g**

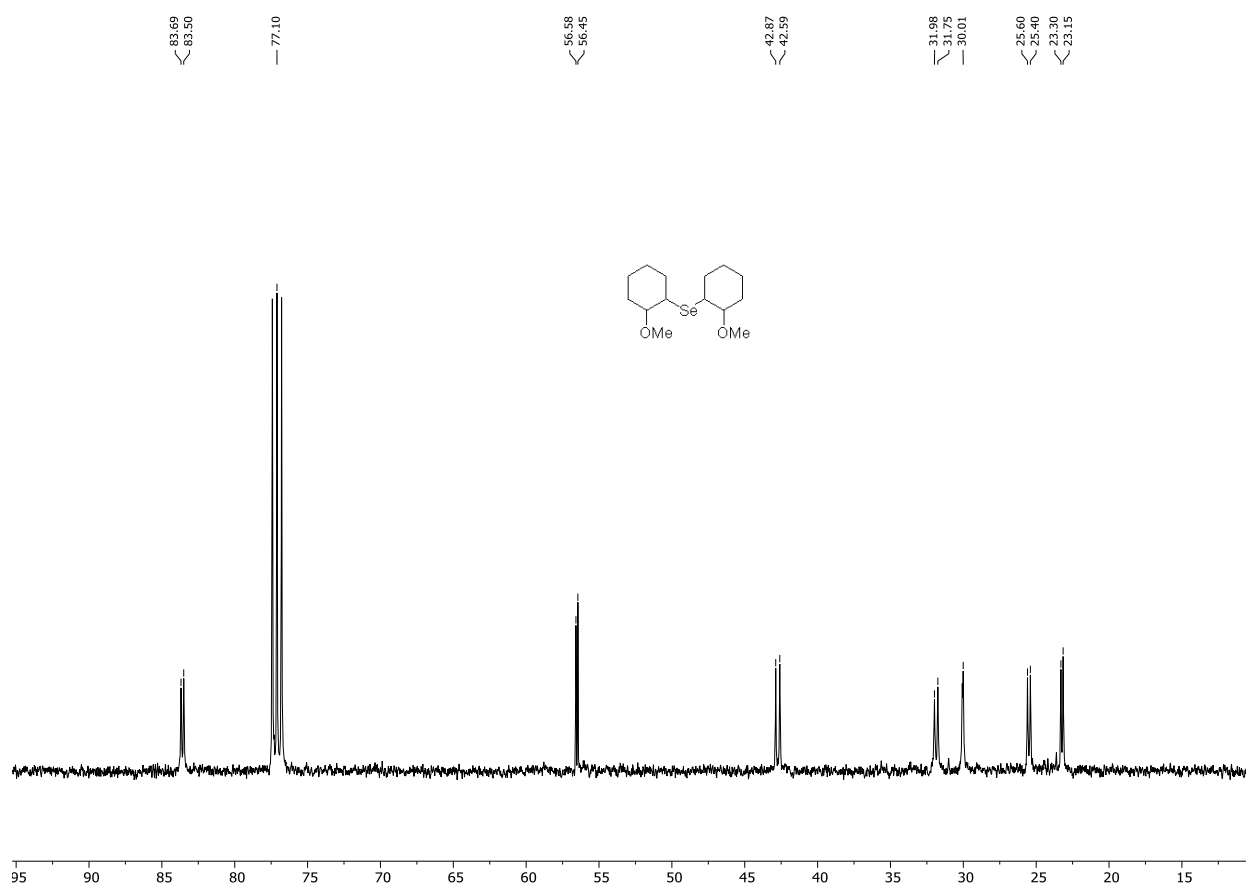


Figure S23. <sup>77</sup>Se NMR spectrum of compound **3g**

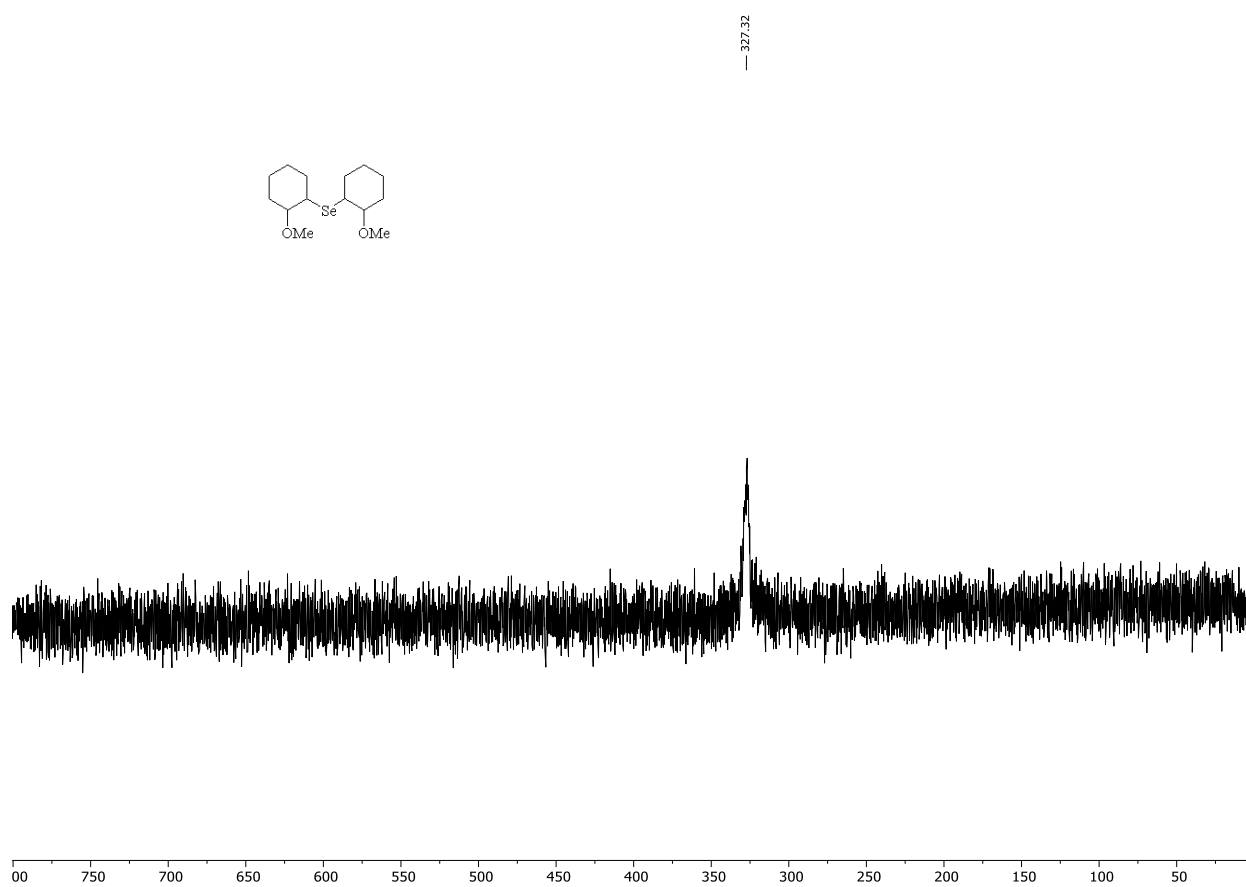


Figure S24. HRMS spectrum of compound **3g**

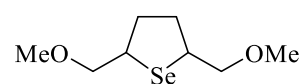
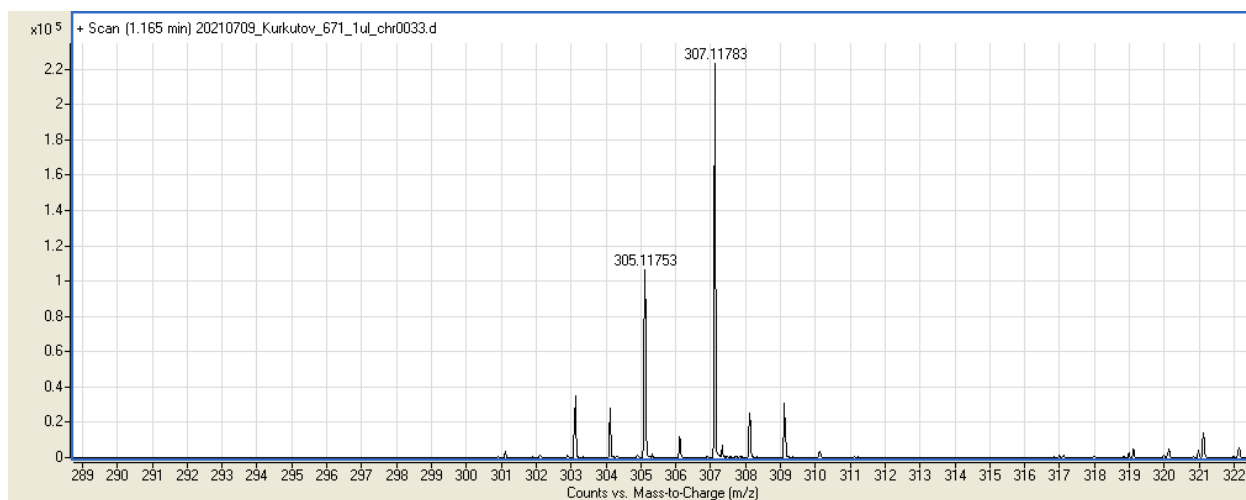


Figure S25.  $^1\text{H}$  NMR spectrum of compound **5**

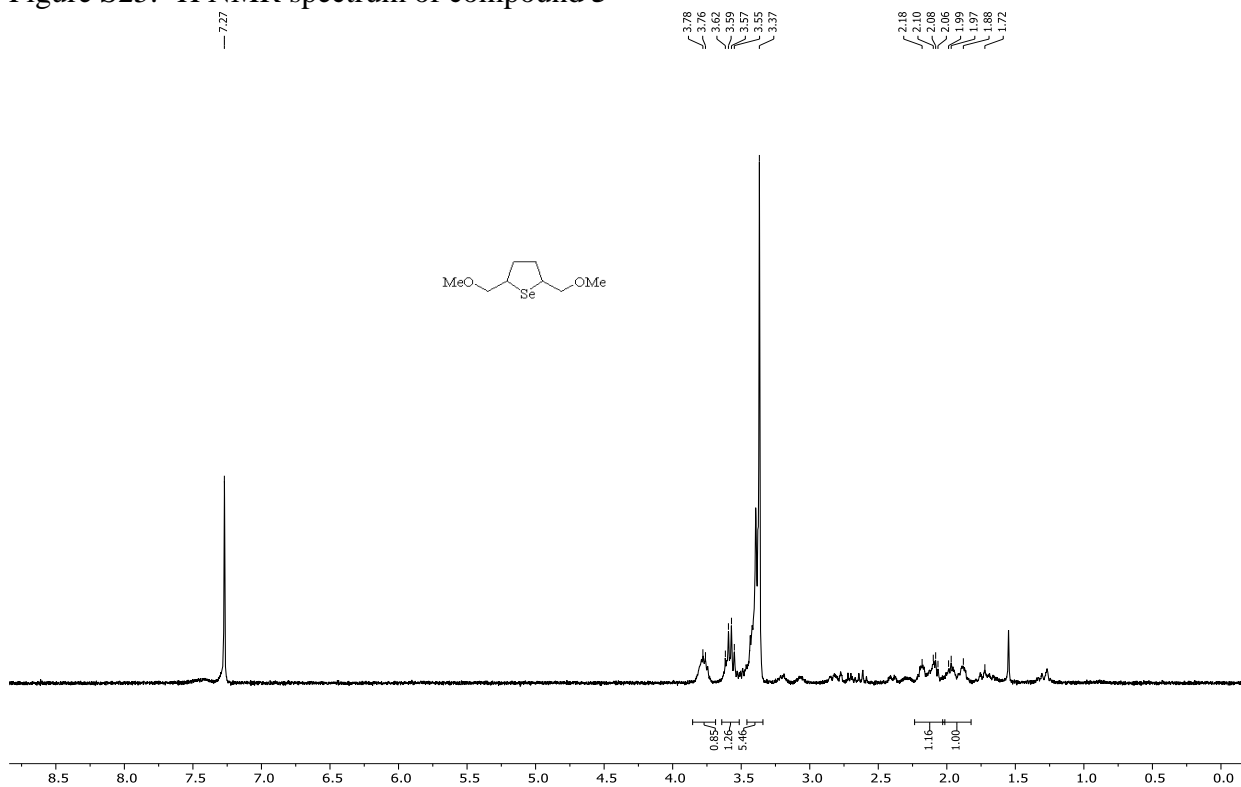


Figure S26.  $^{13}\text{C}$  NMR spectrum of compound **5**

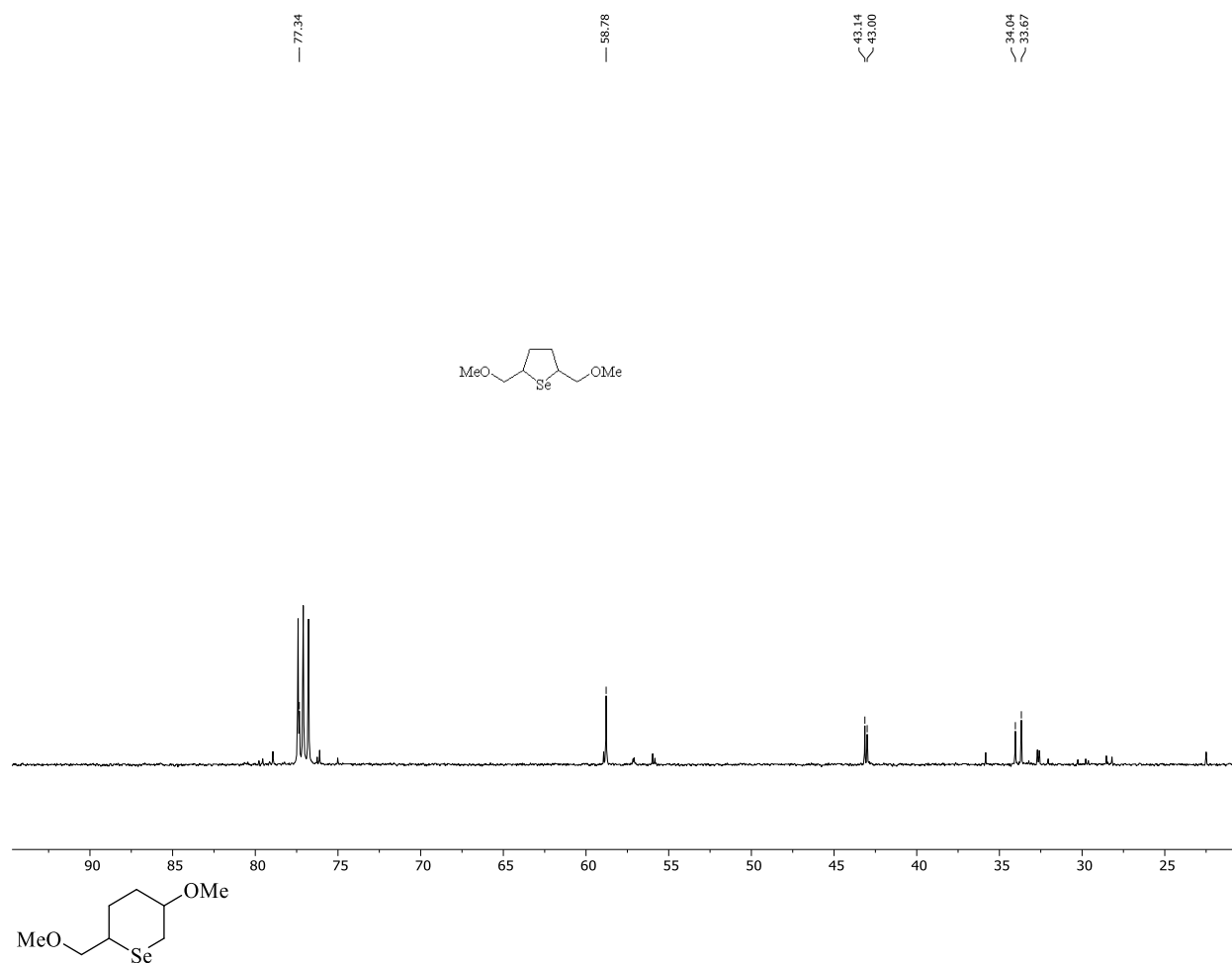


Figure S27. <sup>1</sup>H NMR spectrum of compound **6**

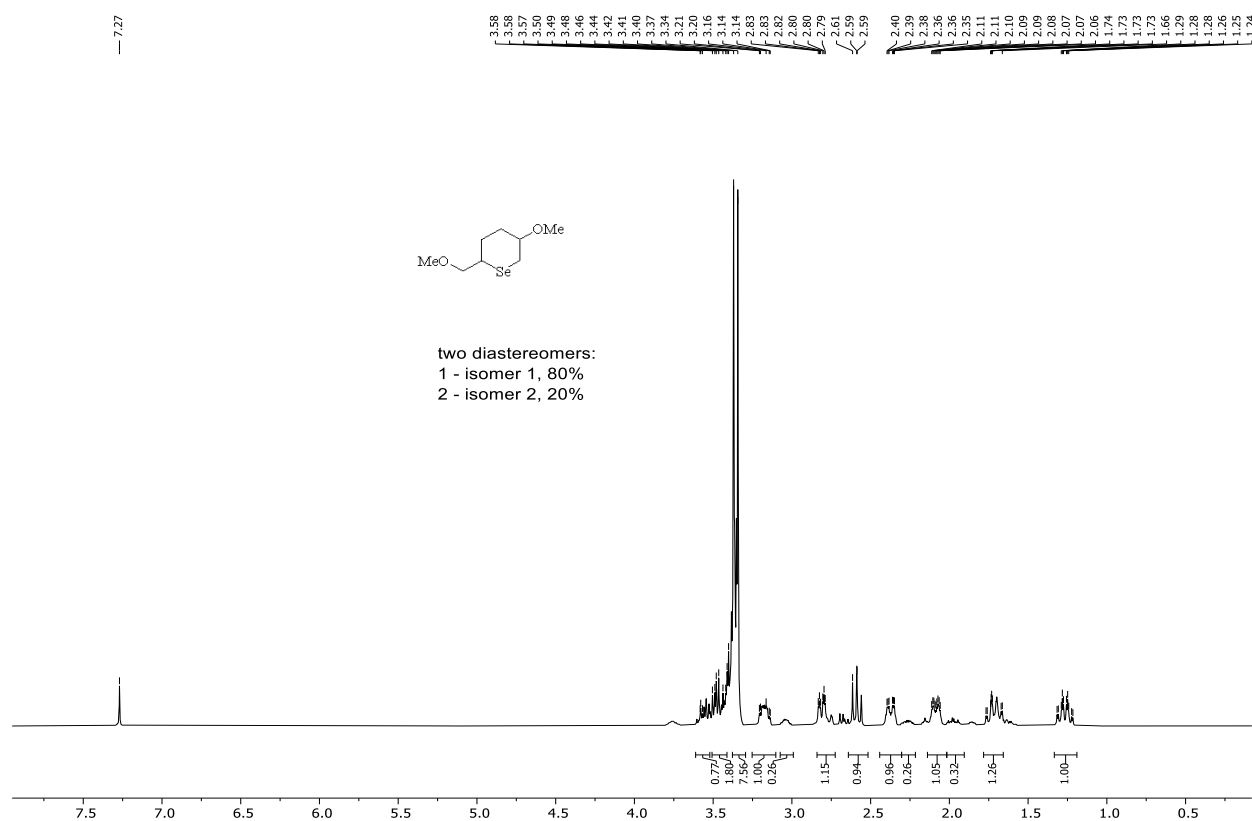


Figure S28. <sup>1</sup>H NMR spectrum of compound **6**



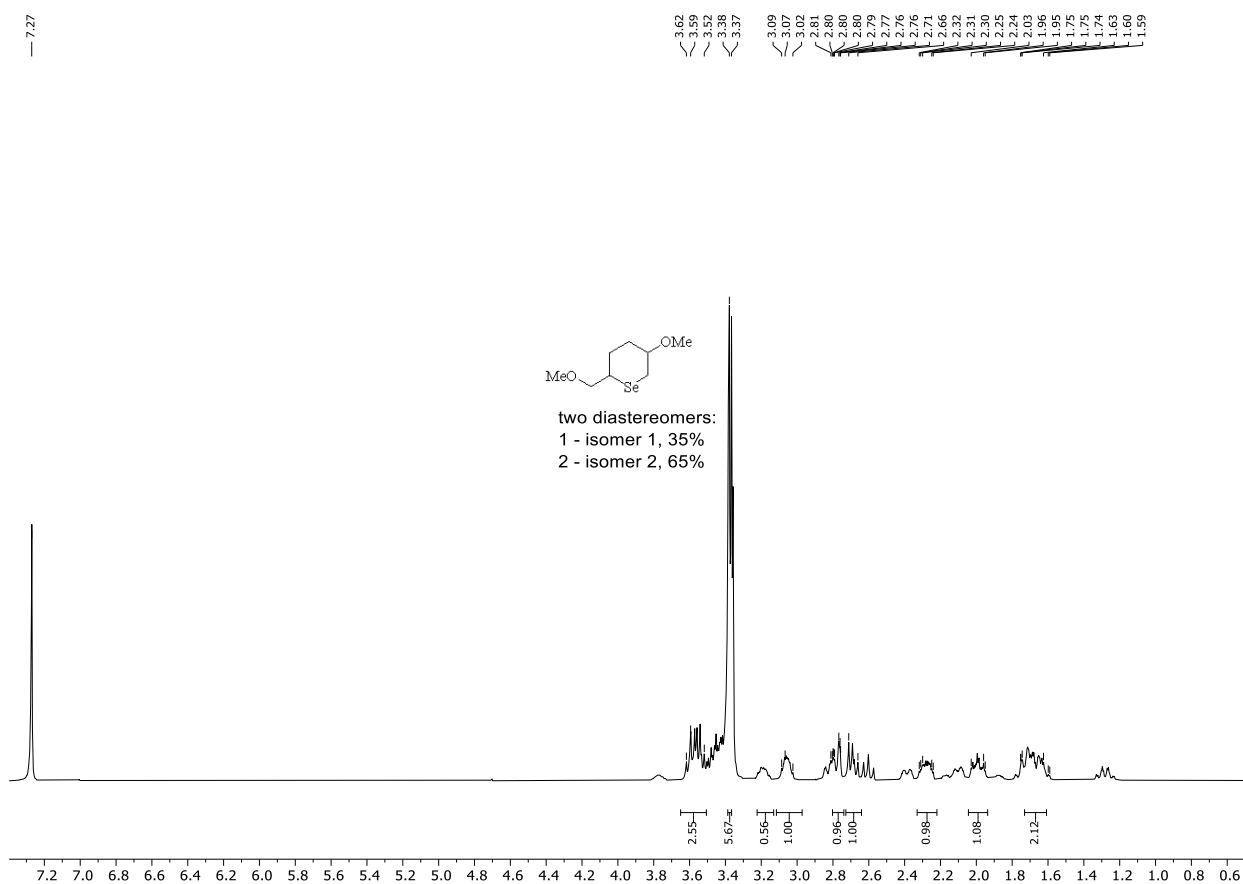


Figure S29.  $^{13}\text{C}$  NMR spectrum of compound **6**

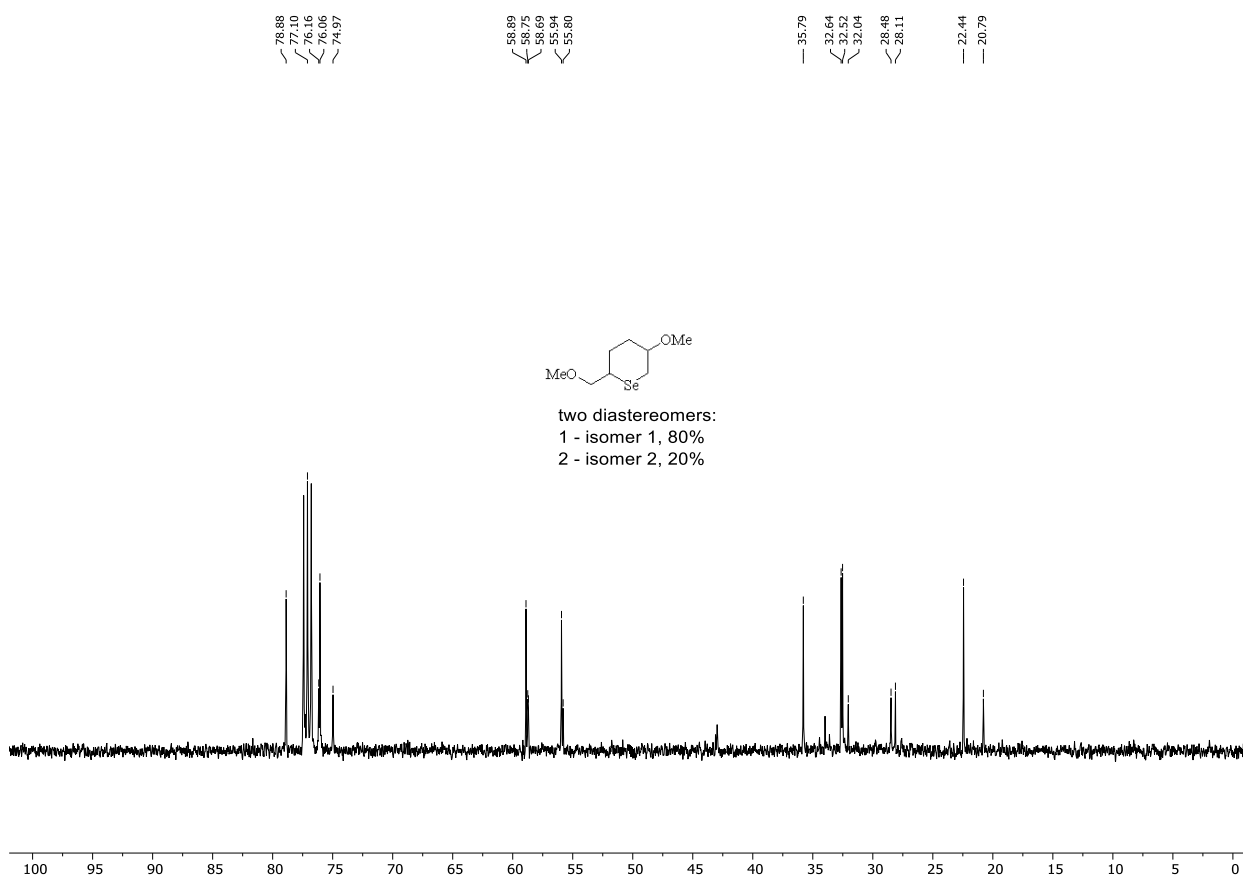


Figure S30.  $^{13}\text{C}$  NMR spectrum of compound **6**

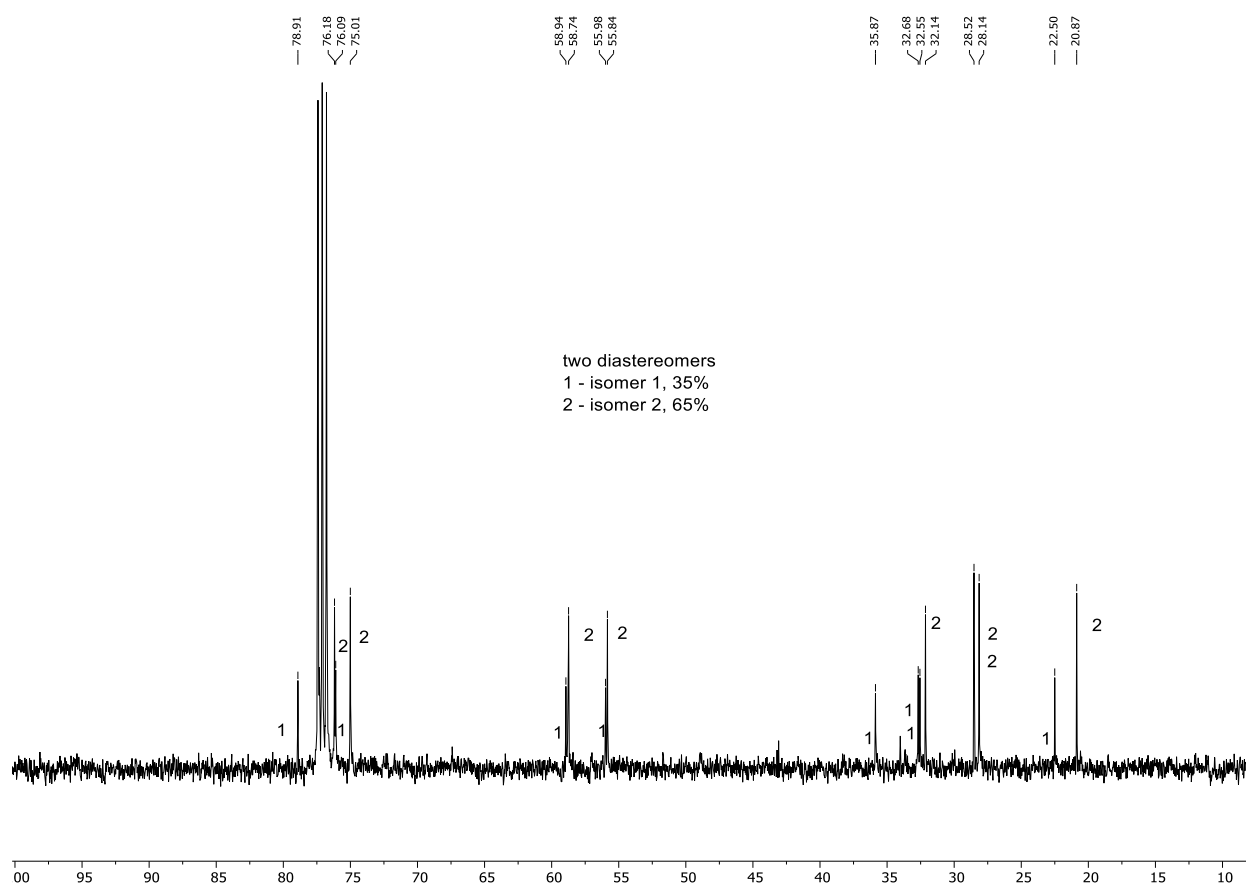


Figure S31.  $^{77}\text{Se}$  NMR spectrum of compound **6**

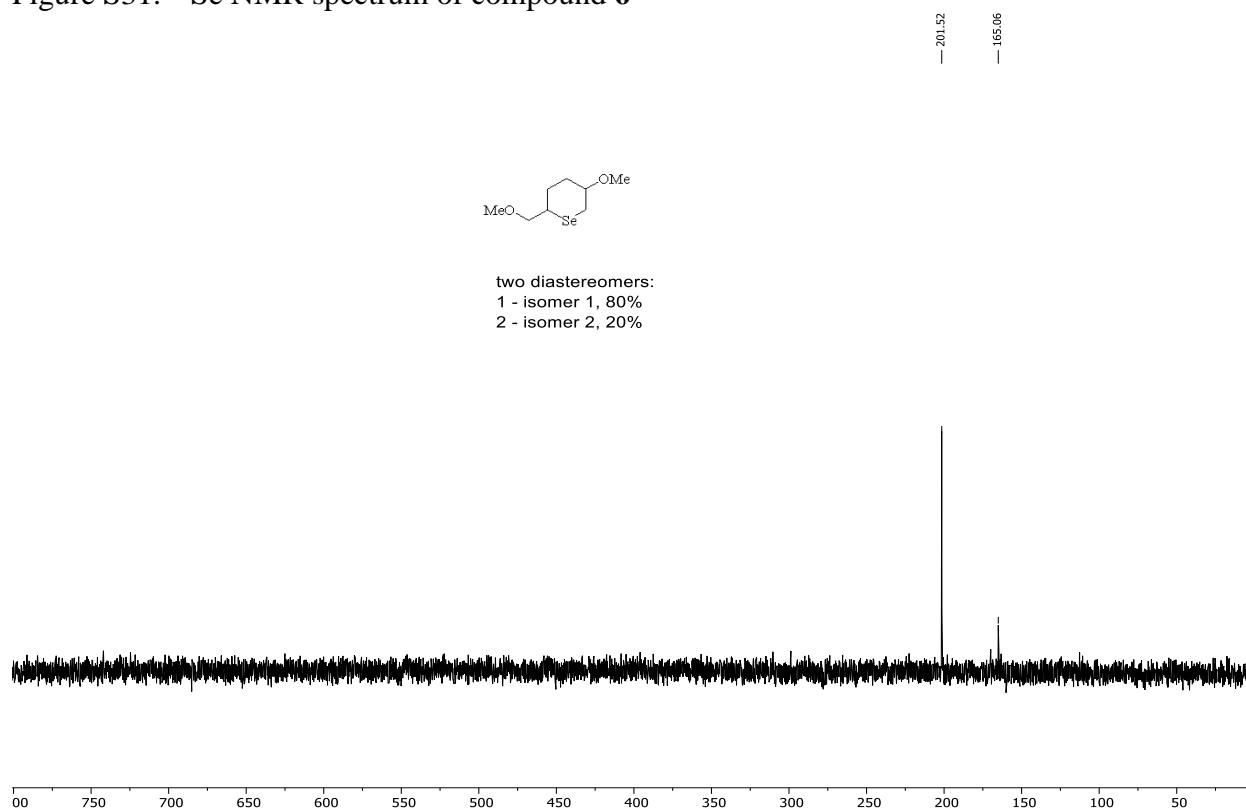


Figure S32.  $^{77}\text{Se}$  NMR spectrum of mixture of compounds **5** and **6**

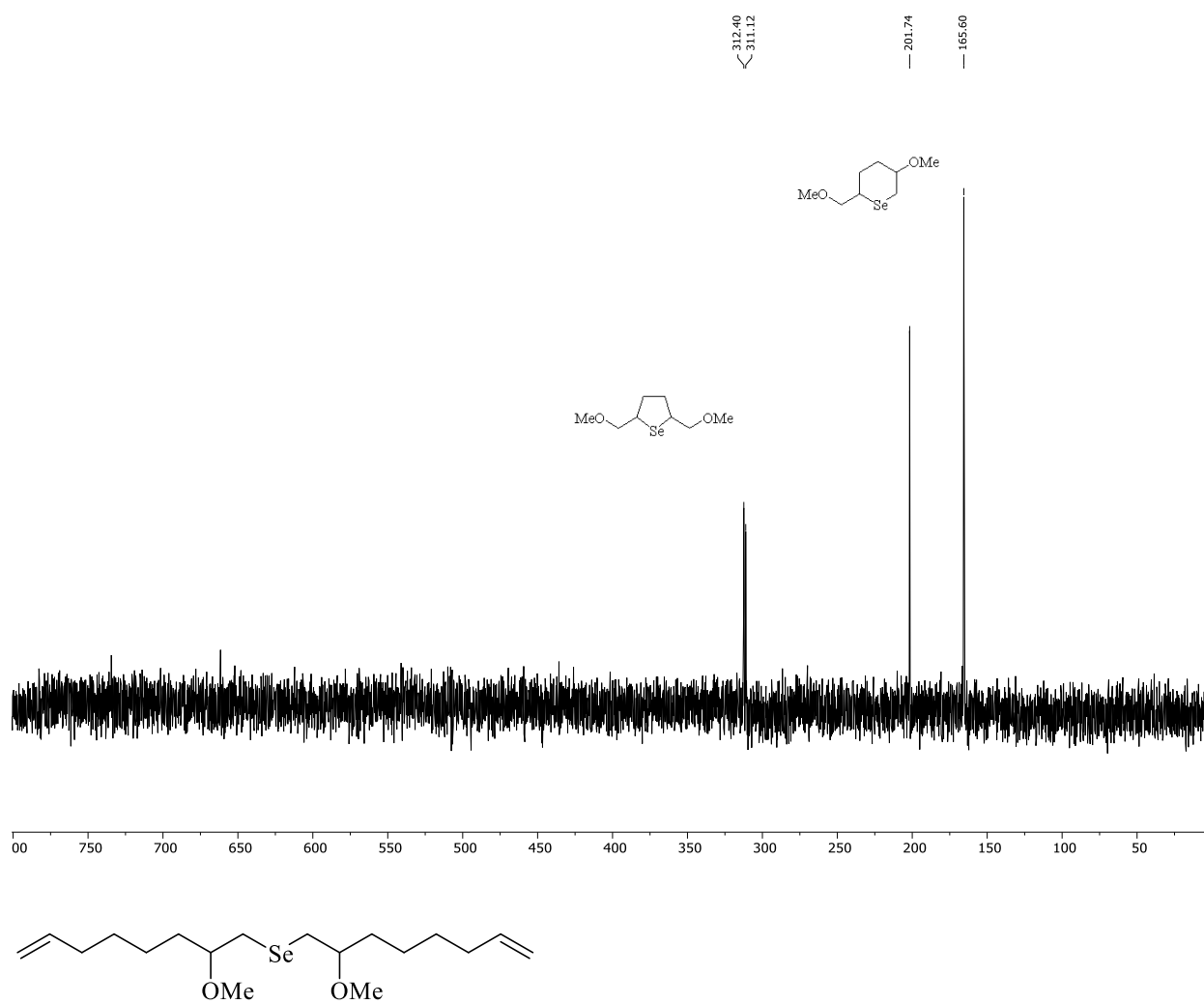


Figure S33.  $^1\text{H}$  NMR spectrum of compound **7**



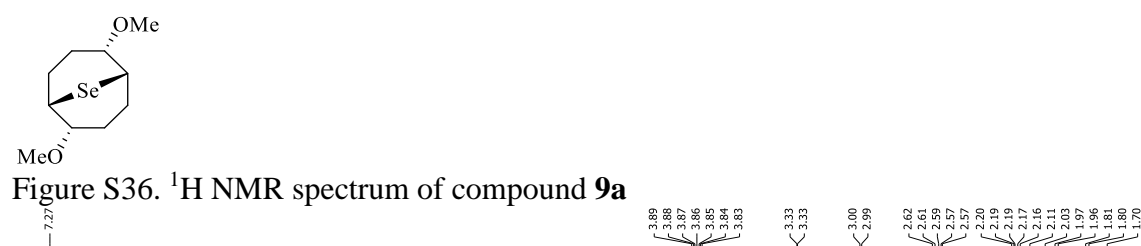
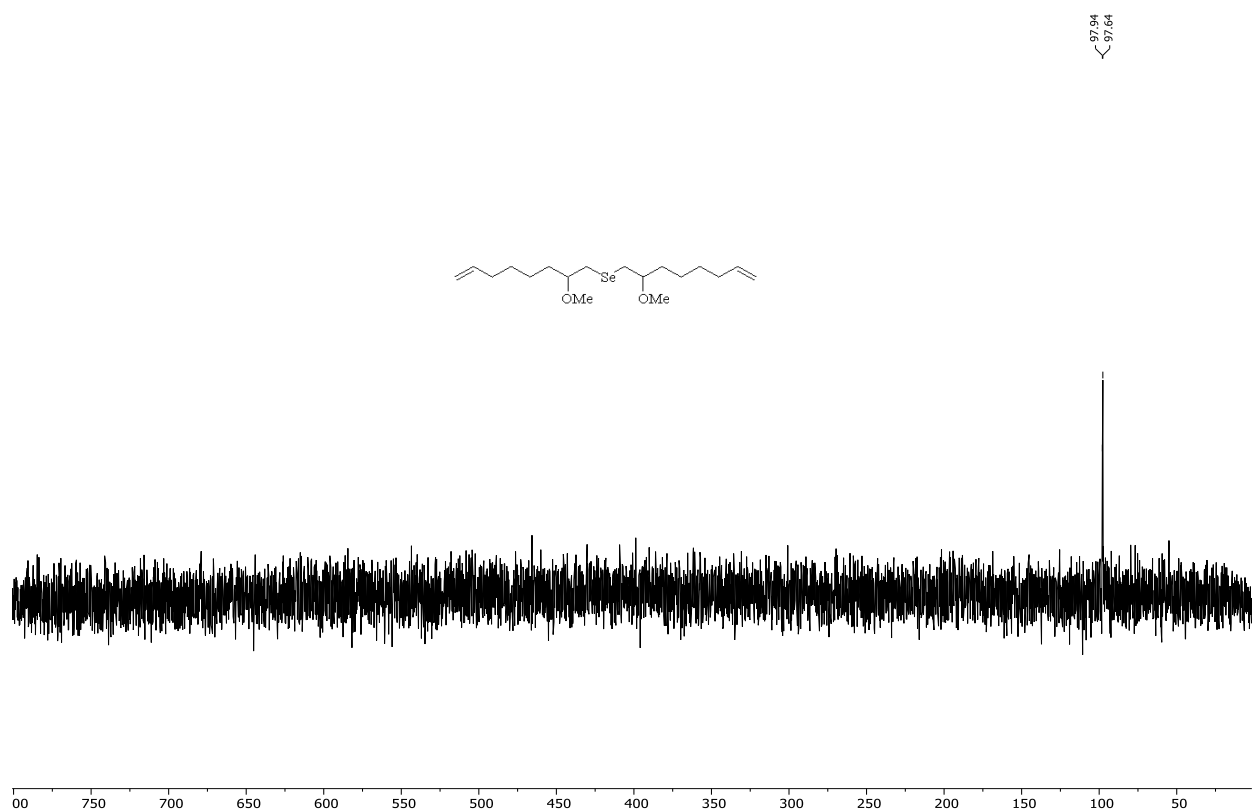


Figure S36. <sup>1</sup>H NMR spectrum of compound 9a

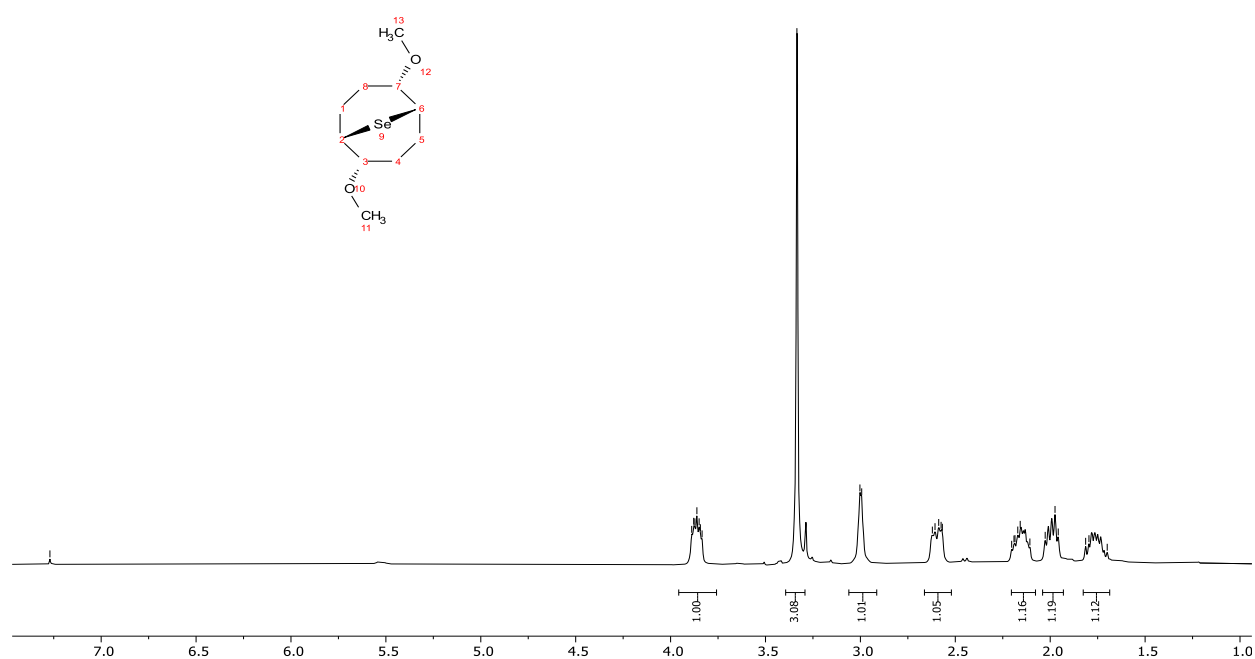


Figure S37. <sup>13</sup>C NMR spectrum of compound 9a

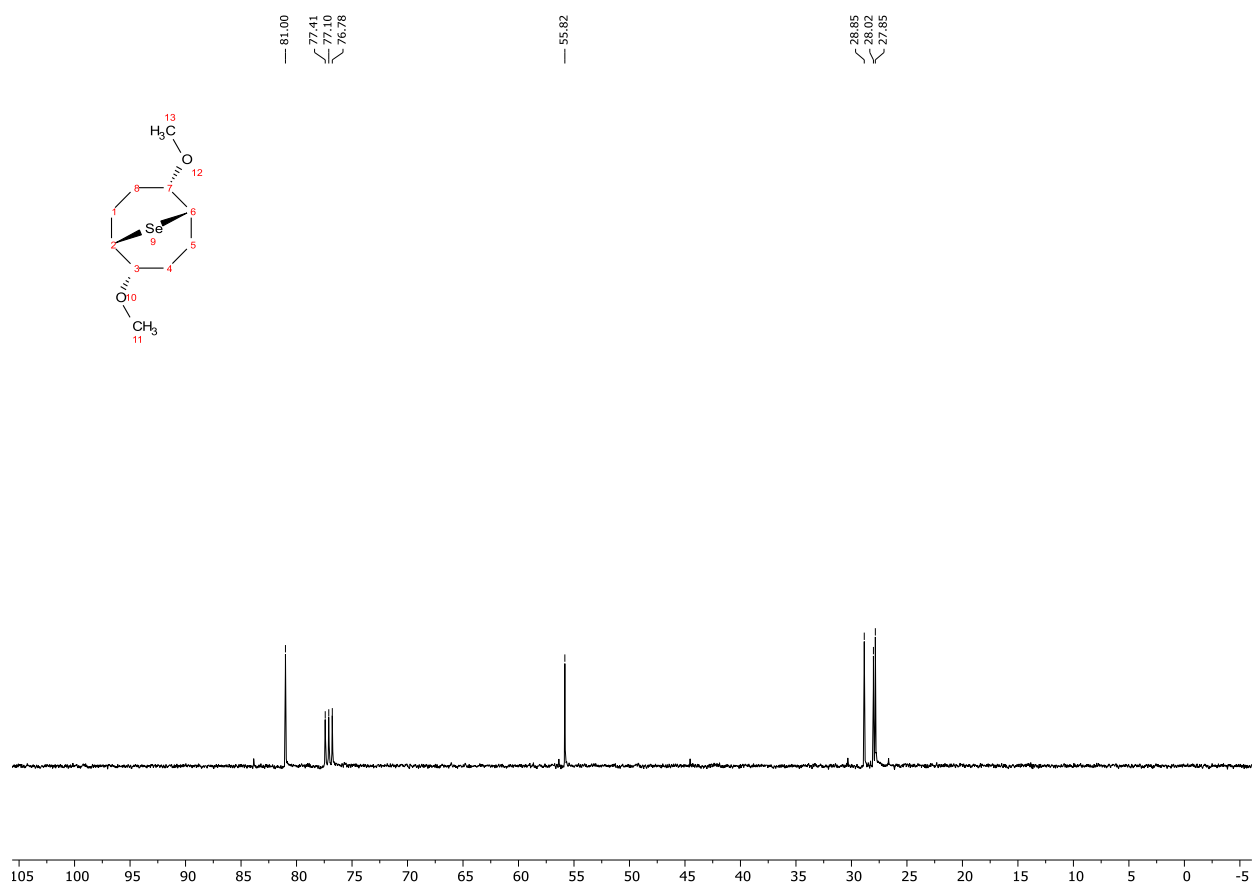


Figure S38.  $^{77}\text{Se}$  NMR spectrum of compound **9a**

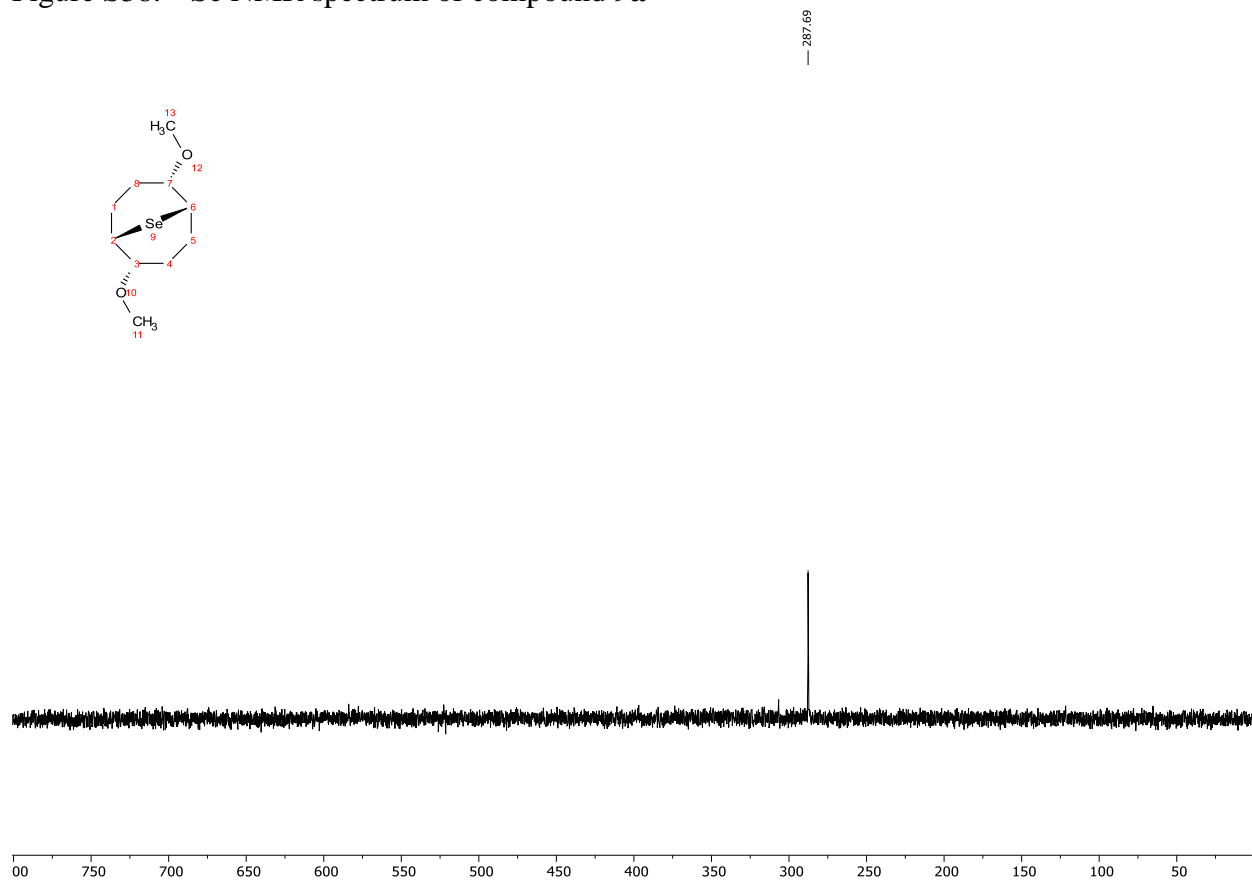


Figure S39.  $^1\text{H}$  NMR spectrum of compound **9b**

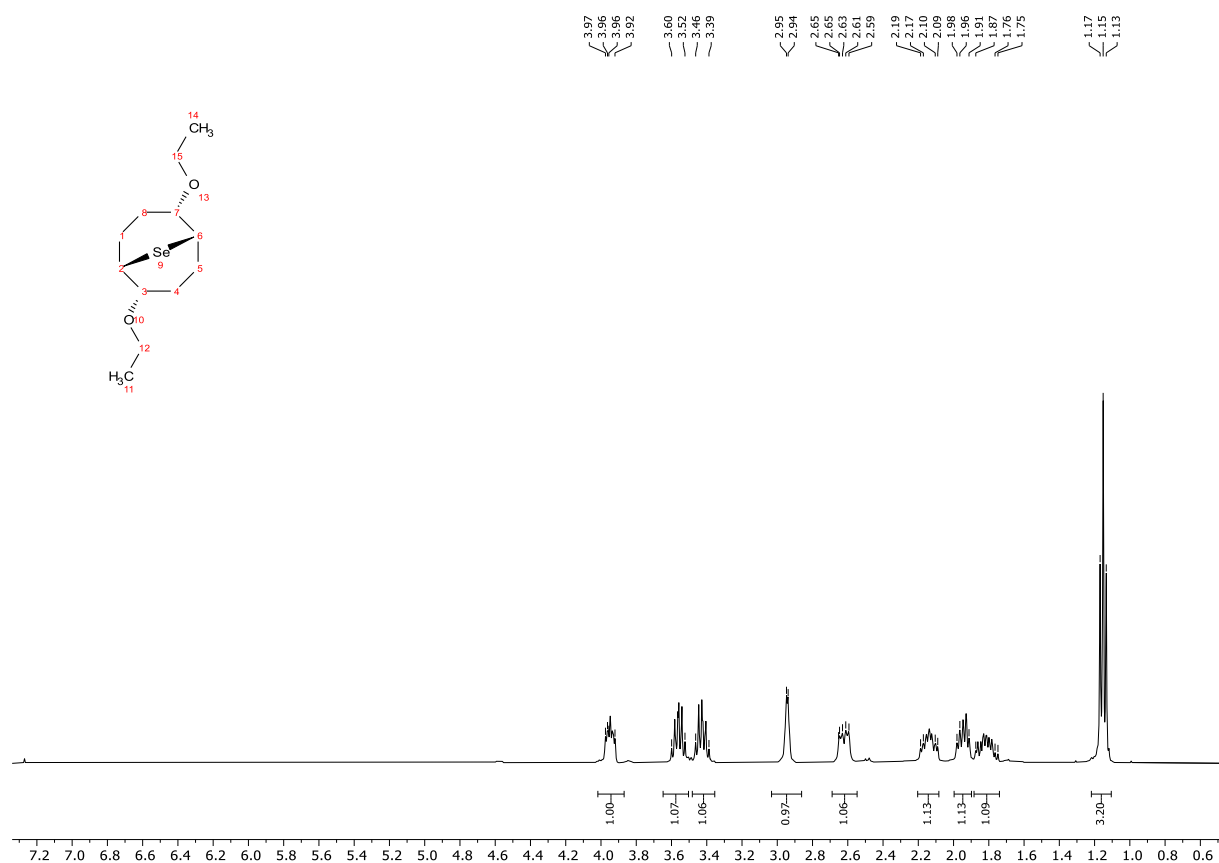


Figure S40. <sup>13</sup>C NMR spectrum of compound **9b**

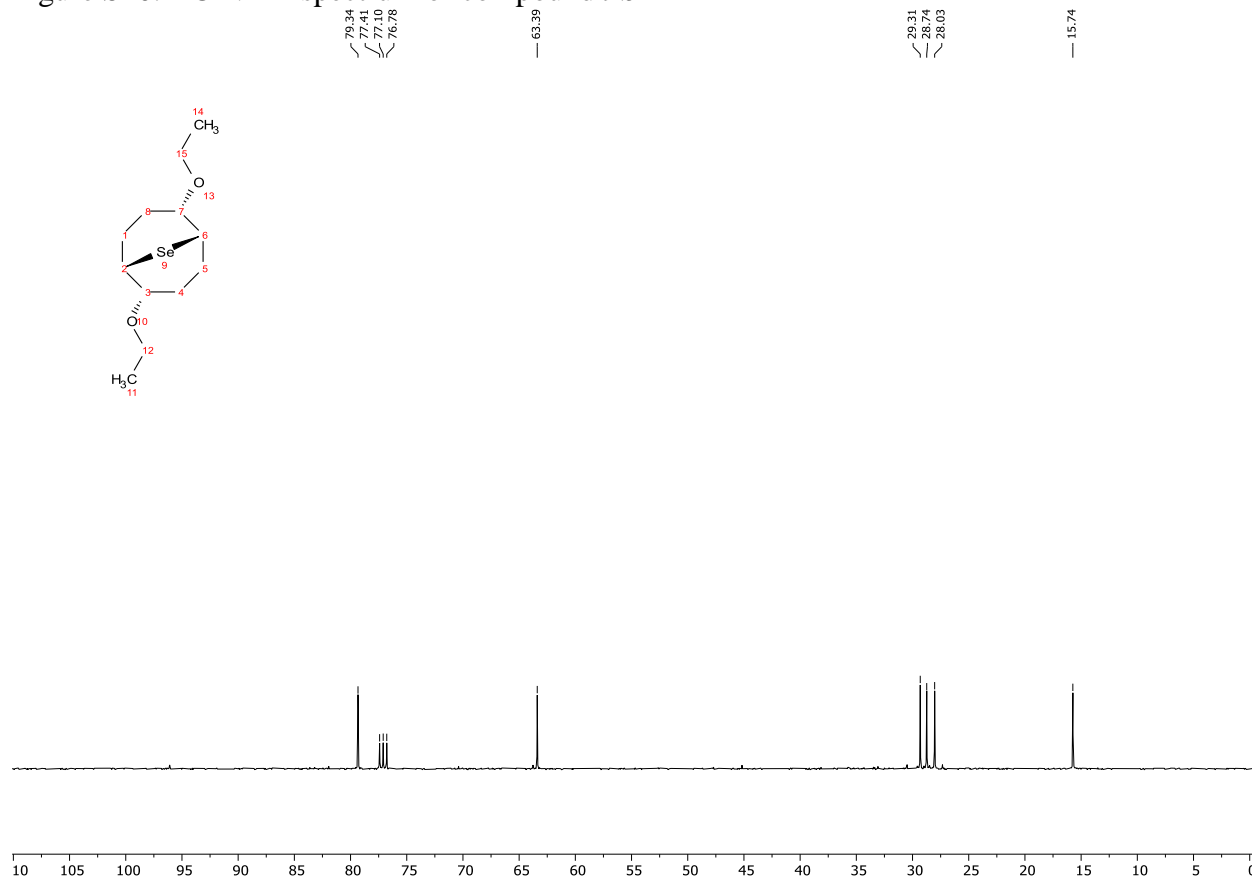


Figure S41. <sup>77</sup>Se NMR spectrum of compound **9b**

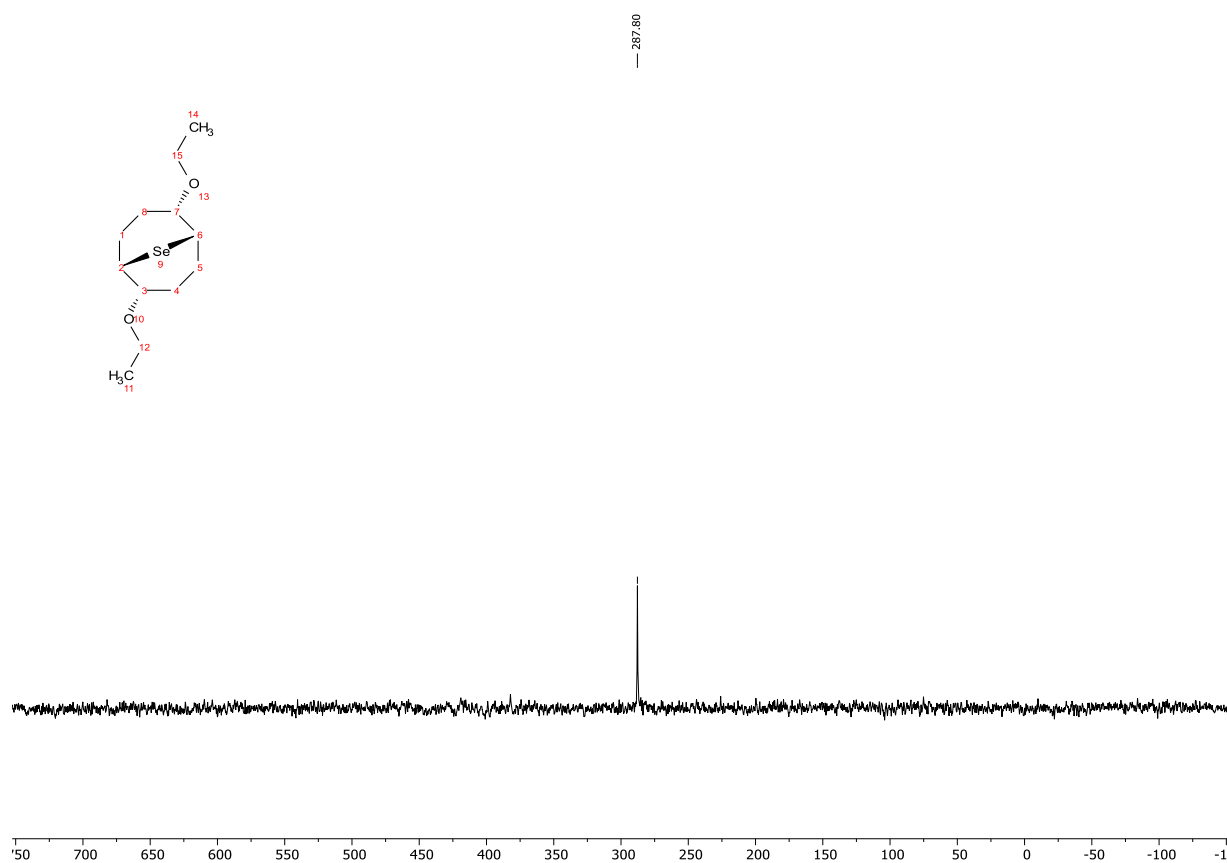


Figure S42.  $^1\text{H}$  NMR spectrum of compound **9c**

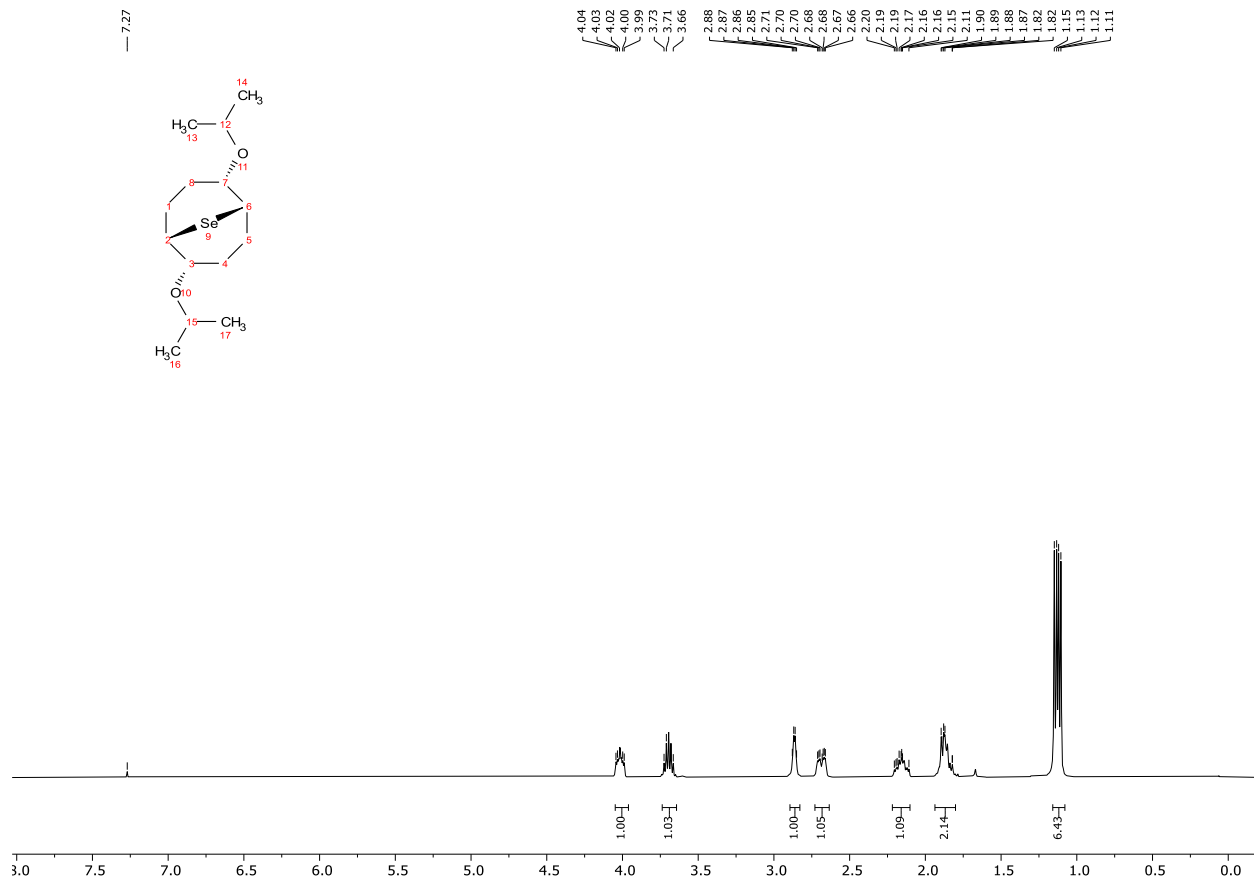


Figure S43.  $^{13}\text{C}$  NMR spectrum of compound **9c**



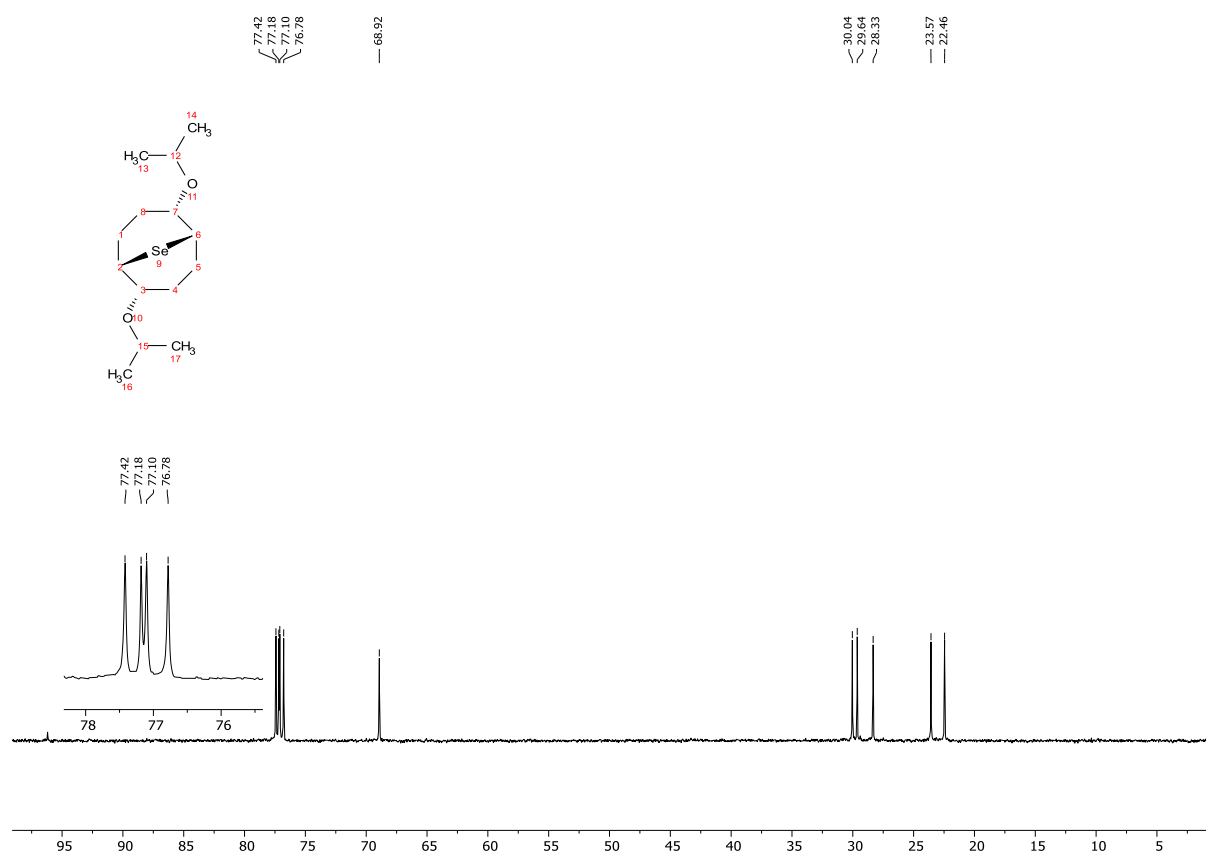


Figure S44.  $^{77}\text{Se}$  NMR spectrum of compound **9c**

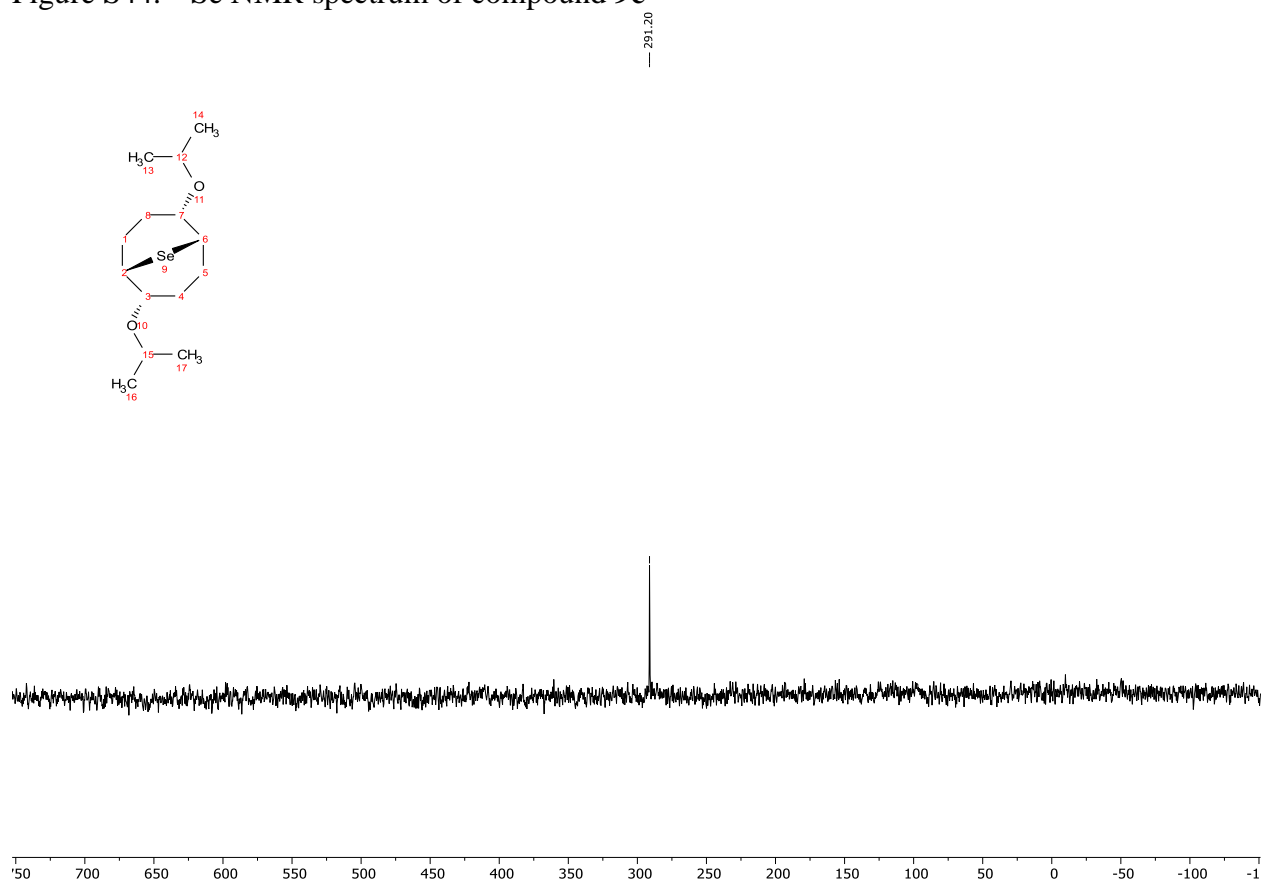
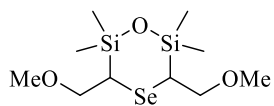


Figure S45.  $^1\text{H}$  NMR spectrum of compound **10**



3.71  
3.69  
3.68  
3.66  
3.66  
3.66  
3.62  
3.61  
3.59  
3.57  
3.56  
3.54  
3.52  
3.48  
3.33  
2.39  
2.37  
2.37  
2.36  
2.35  
2.35  
2.35  
2.33

0.21  
0.20  
0.19

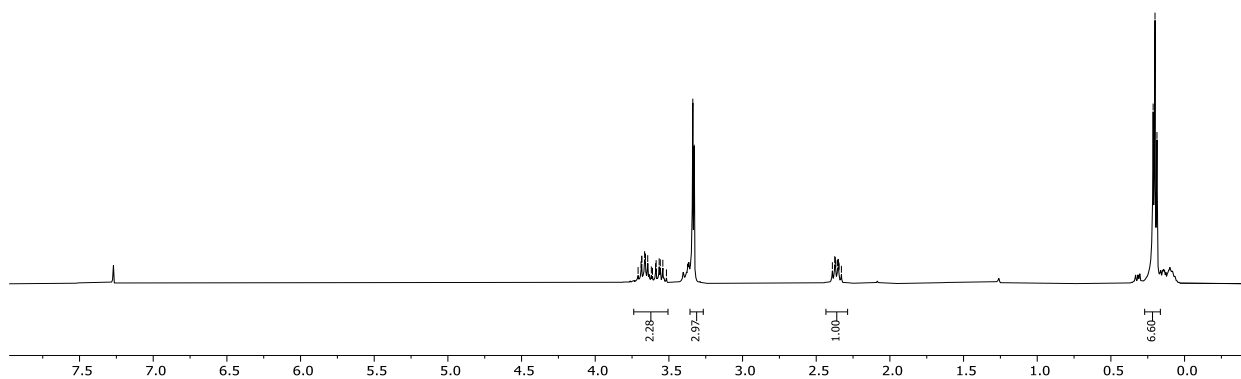
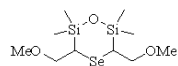


Figure S46.  $^{13}\text{C}$  NMR spectrum of compound **10**

77.10 CDCl<sub>3</sub>

74.15  
73.31

58.54

25.30

22.23

0.75

0.62

-1.73

-2.29

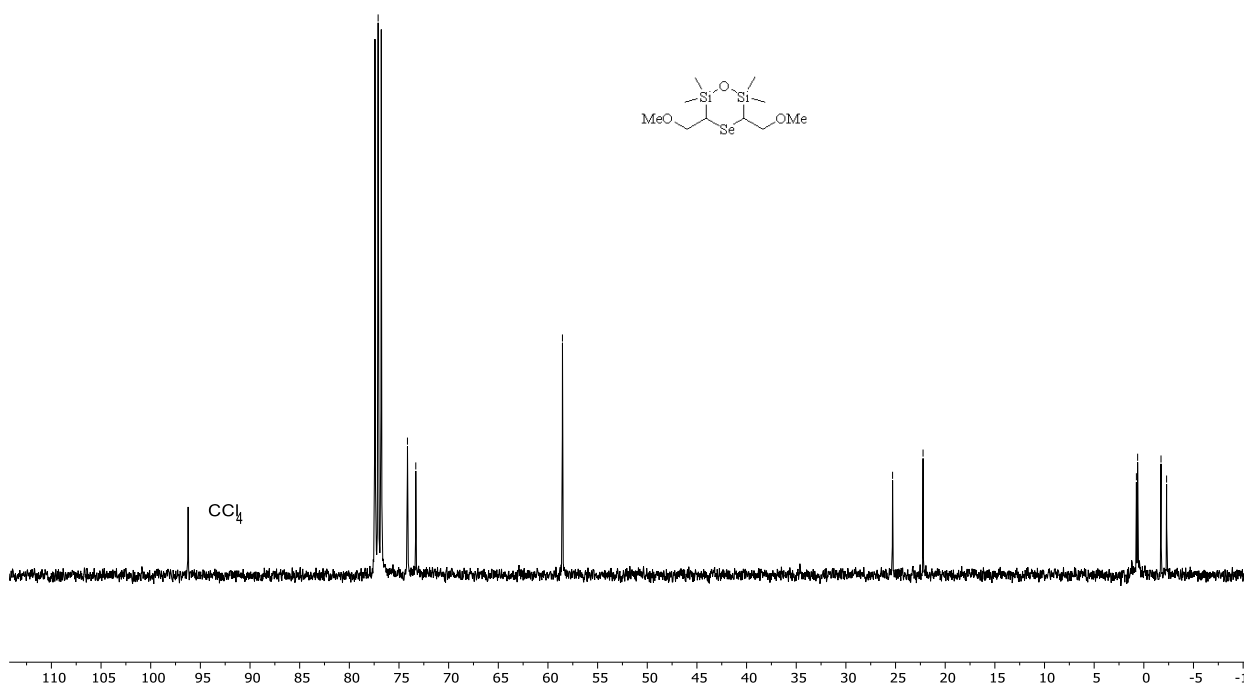
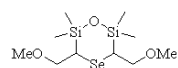


Figure S47.  $^{13}\text{C}$  NMR j-mod spectrum of compound **10**

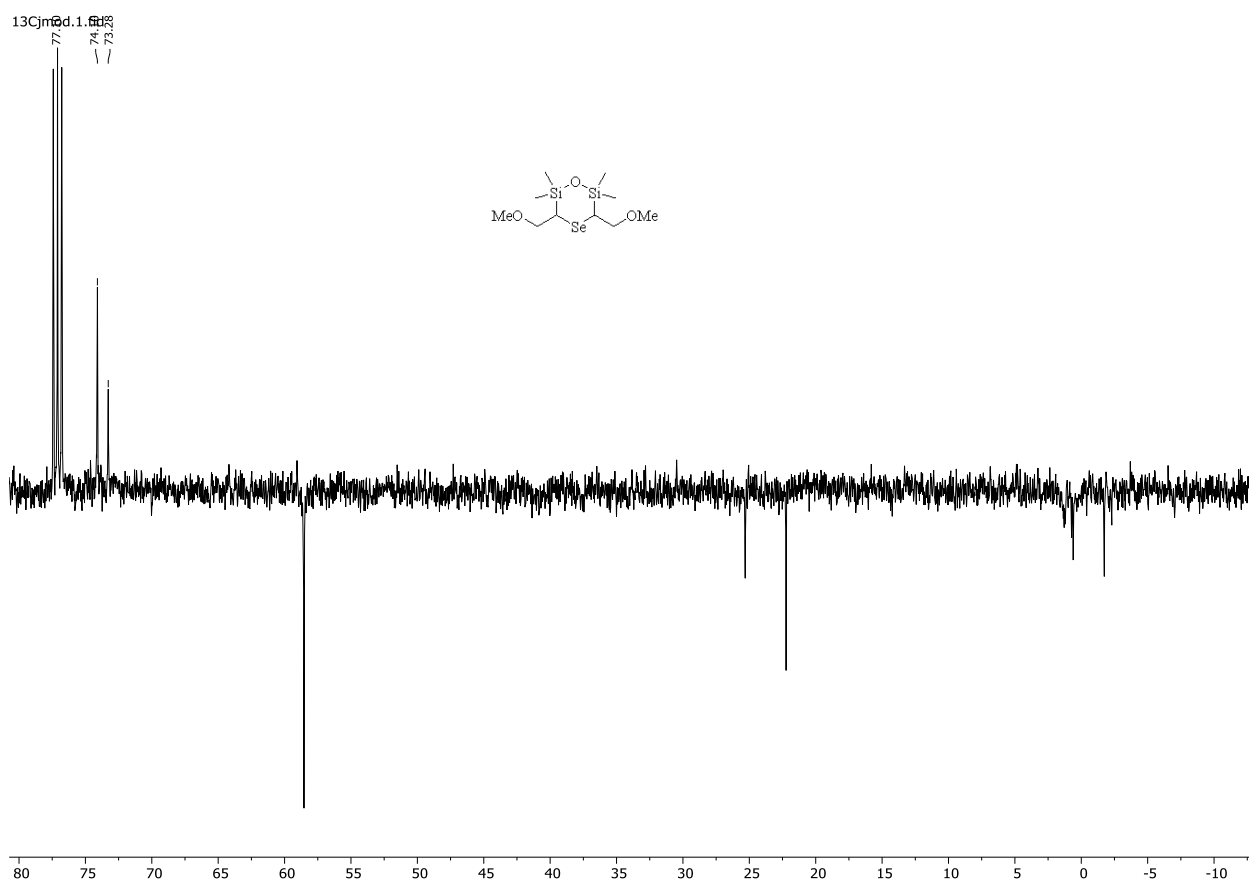


Figure S48.  $^1J(^{77}\text{Se}-^{13}\text{C})$  constants of the SeCH signal in  $^{13}\text{C}$  NMR spectrum of compound **10**

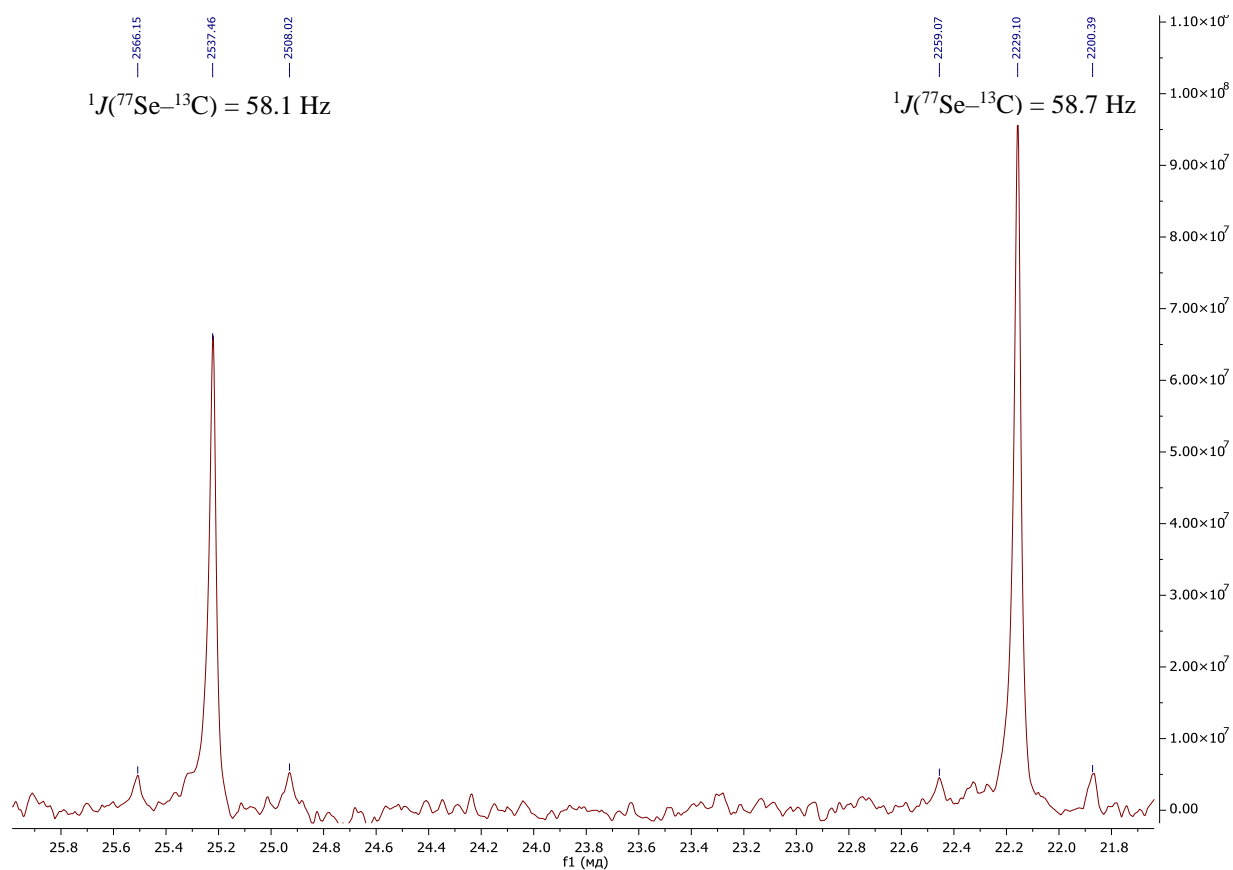


Figure S49.  $^{29}\text{Si}$  NMR spectrum of compound **10**

29Si\_dept45.1.1.1r

5.71  
5.46

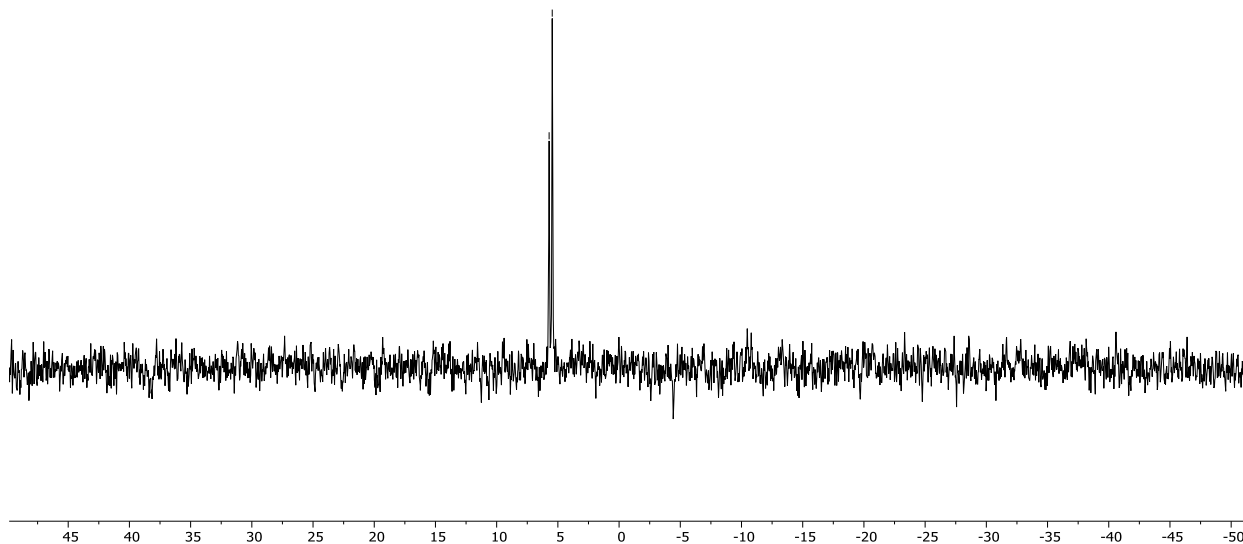
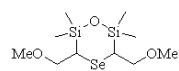


Figure S50.  $^{77}\text{Se}$  NMR spectrum of compound **10**

707f1-77Se.1.1.1r

160.43

134.88

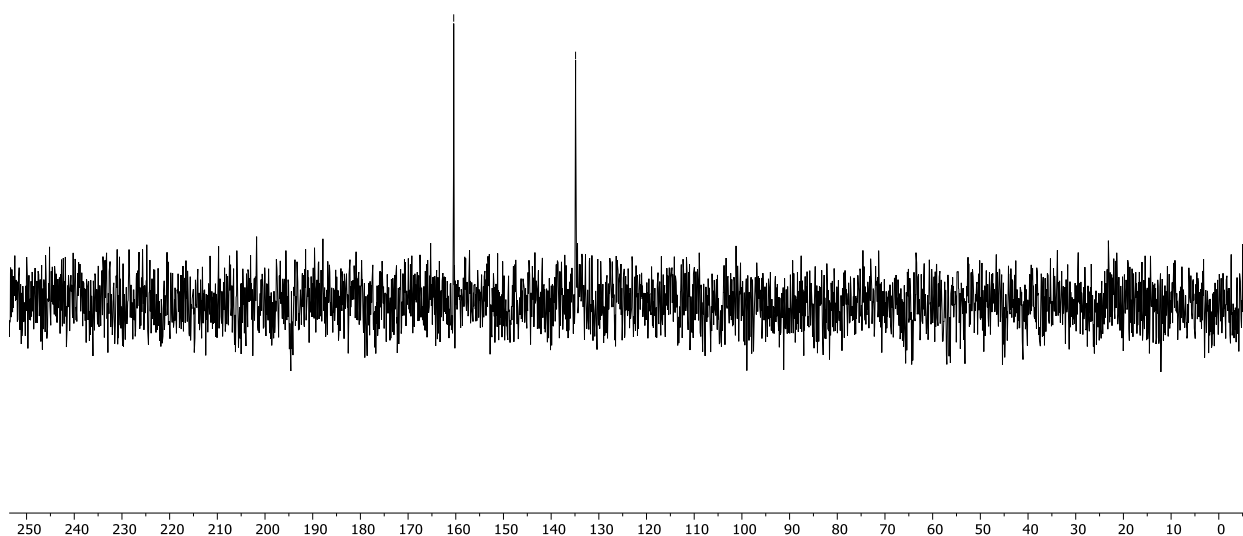
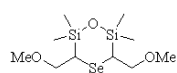


Figure S51. HRMS spectrum of compound **10**

