

## Supporting Information

# Photoinduced Metal-Free $\alpha$ -Selenylation of Ketones

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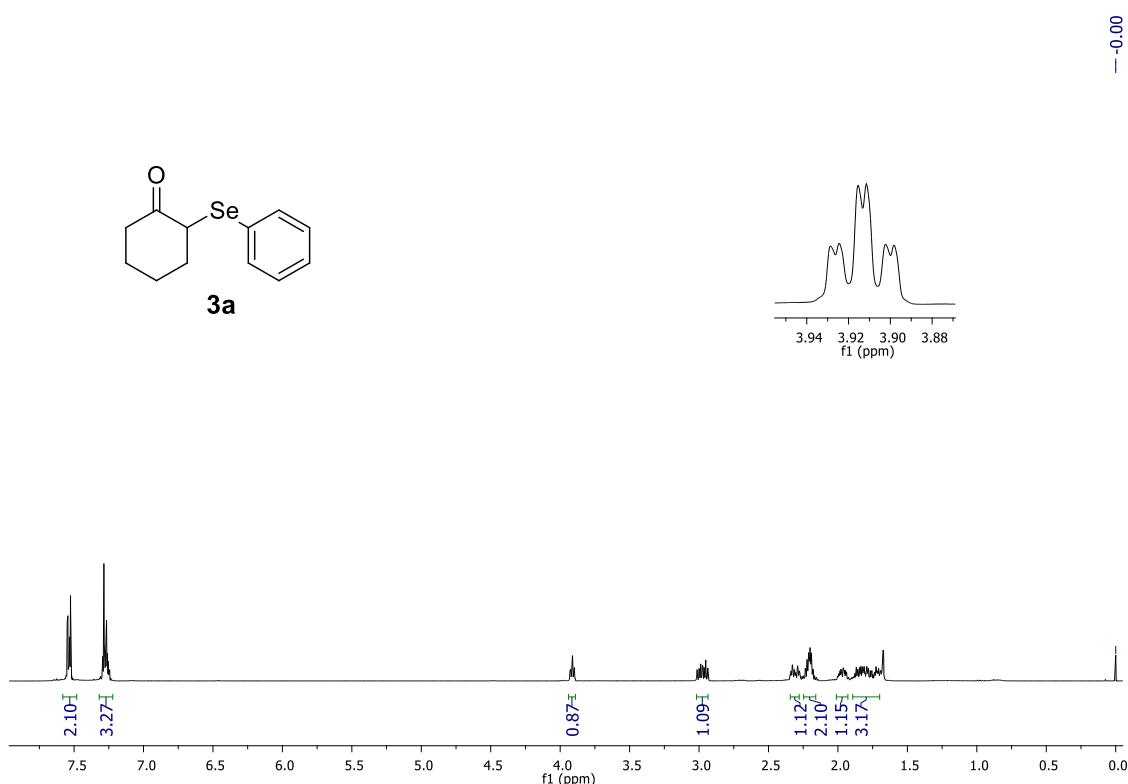
## 1. Standard Reaction Setup

For reactions set up according to general procedure, the reaction mixture was irradiated with *CFL UVA 26W* from 5 cm away. Fans are employed to maintain the temperature below 30 °C.

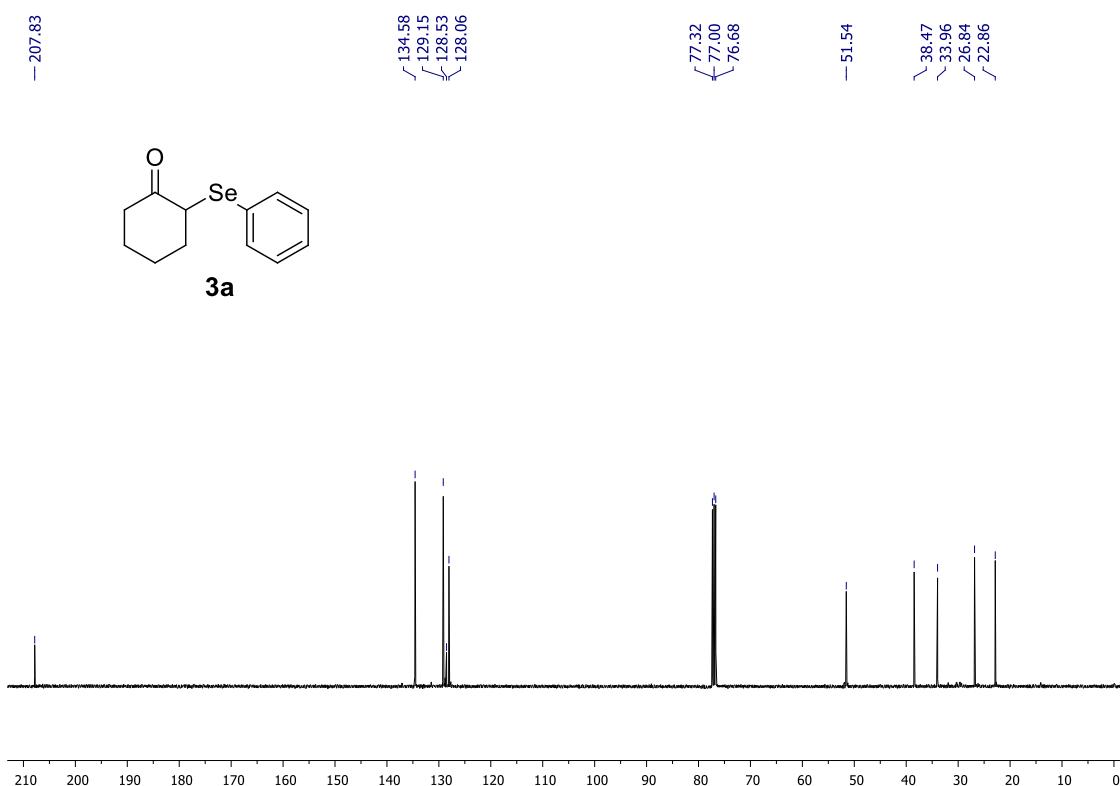


**Figure S1:** Used photoreactor.

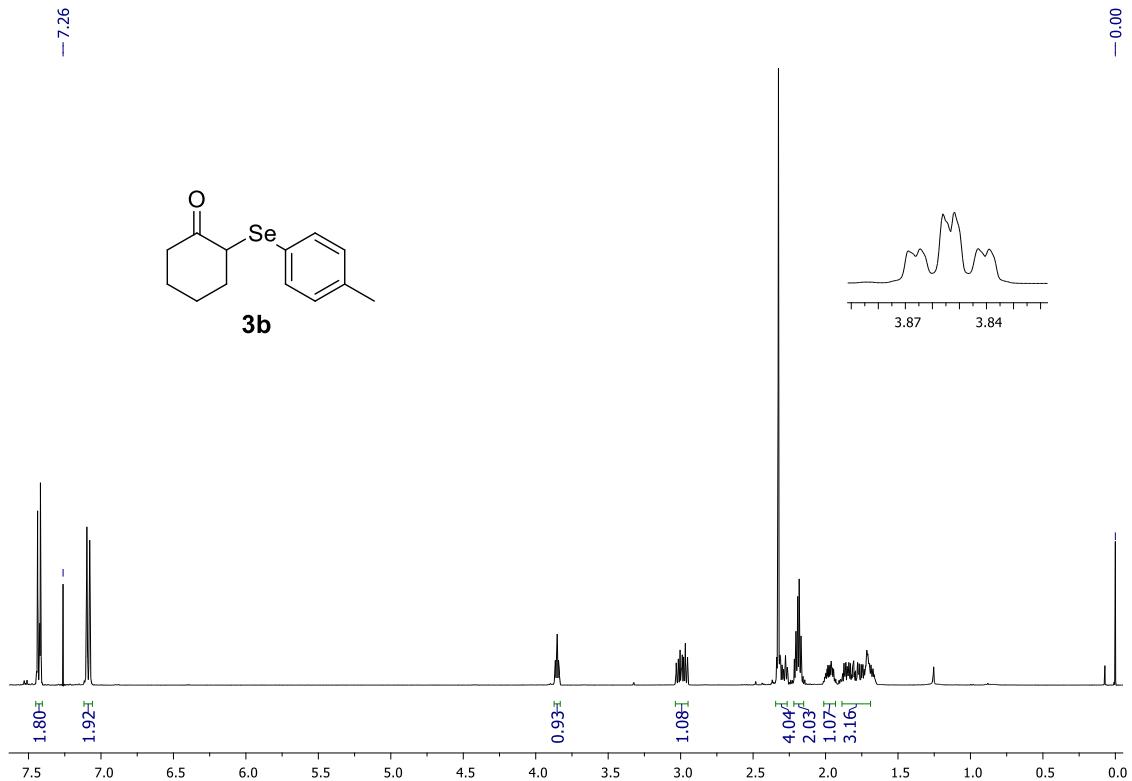
## 2. NMR spectra



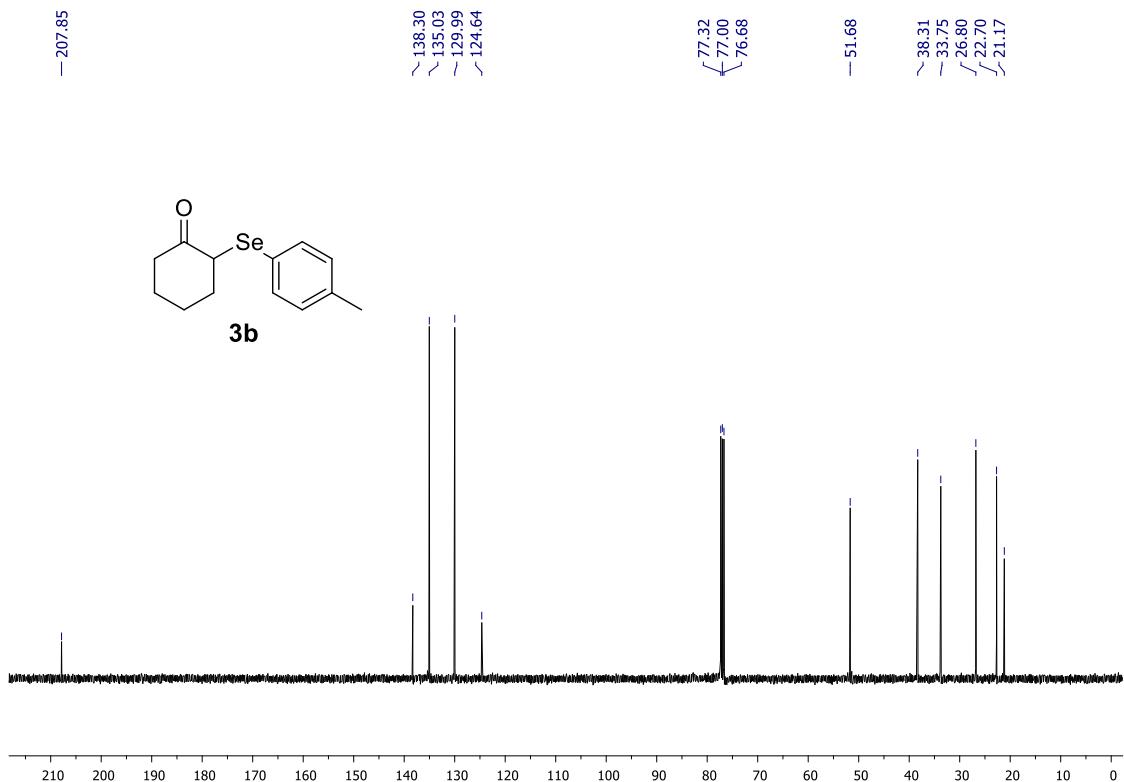
<sup>1</sup>H NMR spectrum for compound 3a (CDCl<sub>3</sub>, 400 MHz).



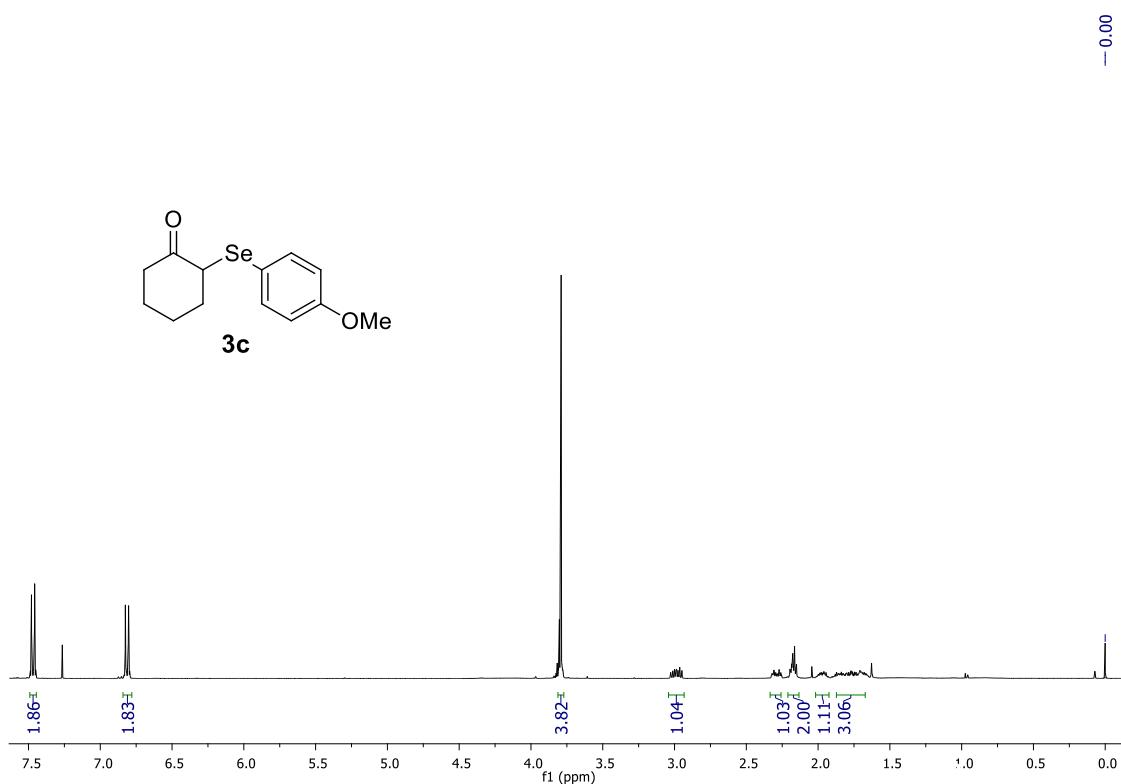
<sup>13</sup>C NMR spectrum for compound 3a (CDCl<sub>3</sub>, 100 MHz).



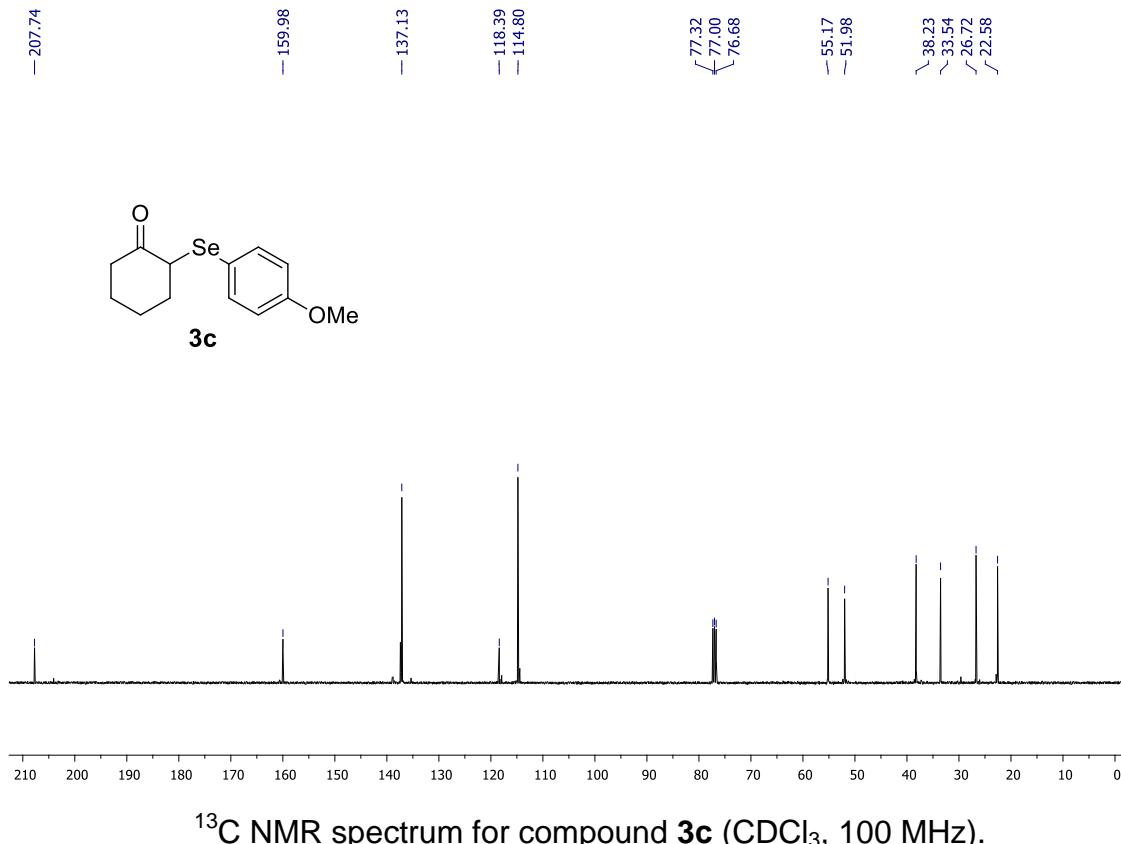
<sup>1</sup>H NMR spectrum for compound **3b** (CDCl<sub>3</sub>, 400 MHz).



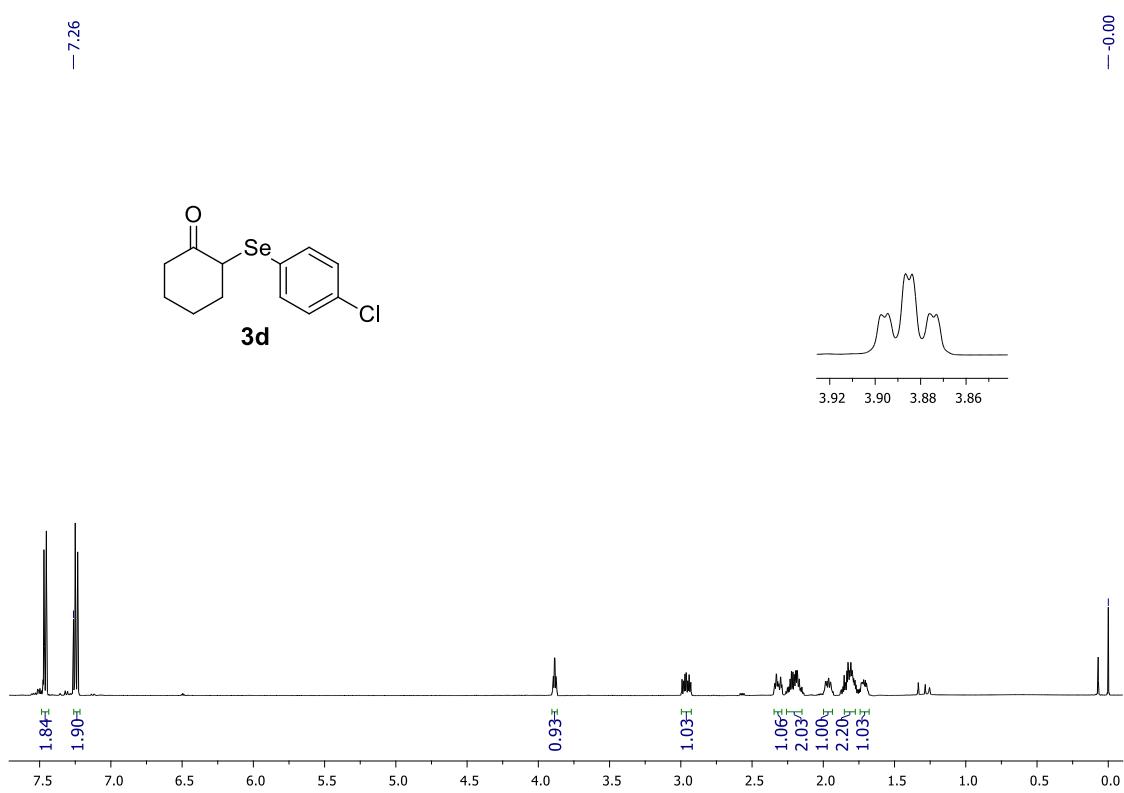
<sup>13</sup>C NMR spectrum for compound **3b** (CDCl<sub>3</sub>, 100 MHz).



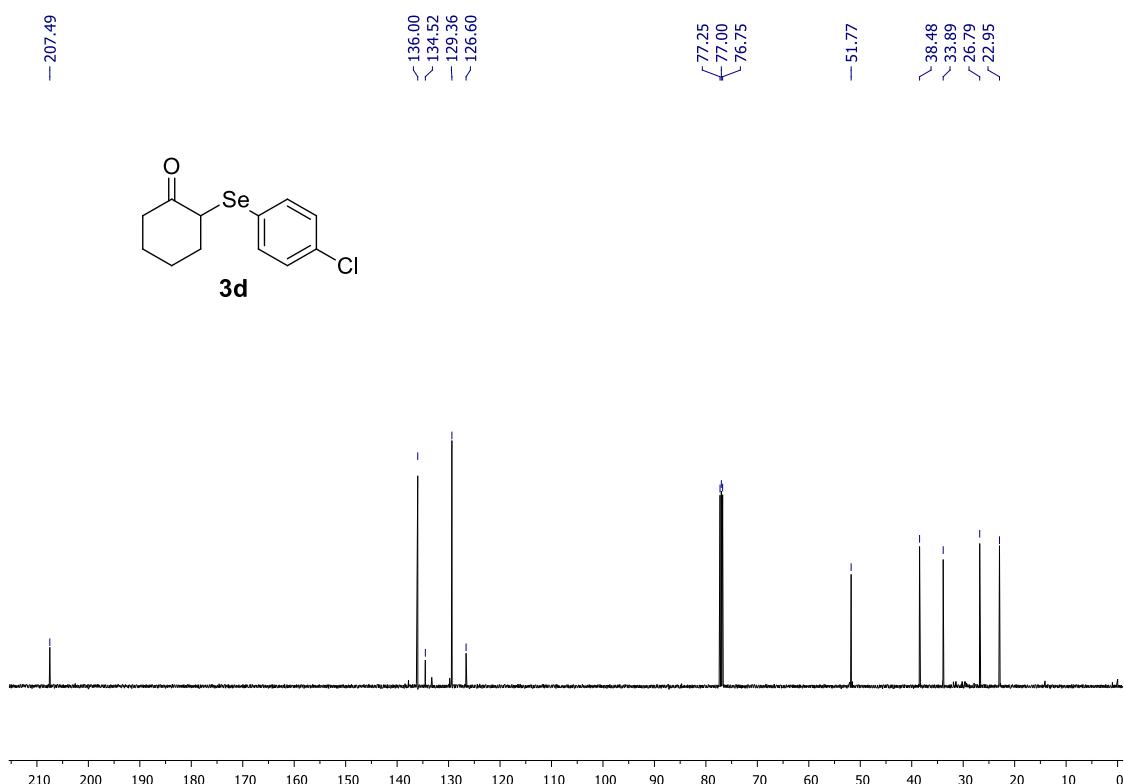
$^1\text{H}$  NMR spectrum for compound **3c** ( $\text{CDCl}_3$ , 400 MHz).



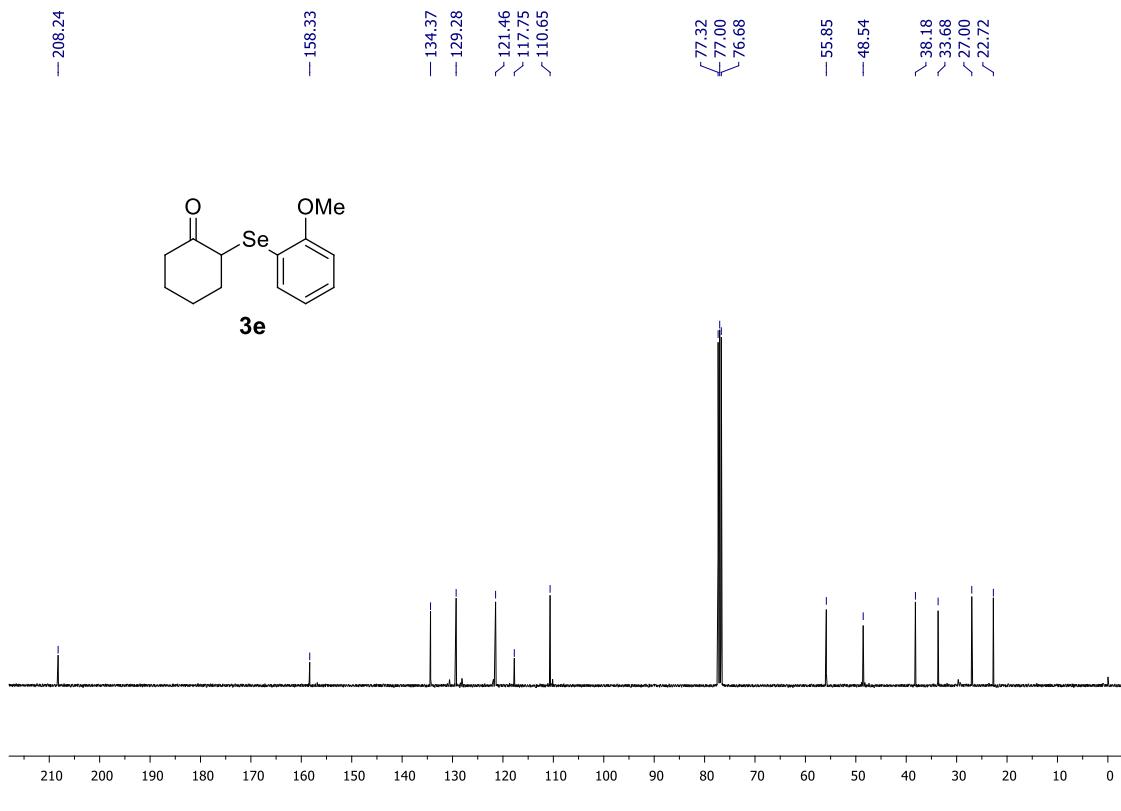
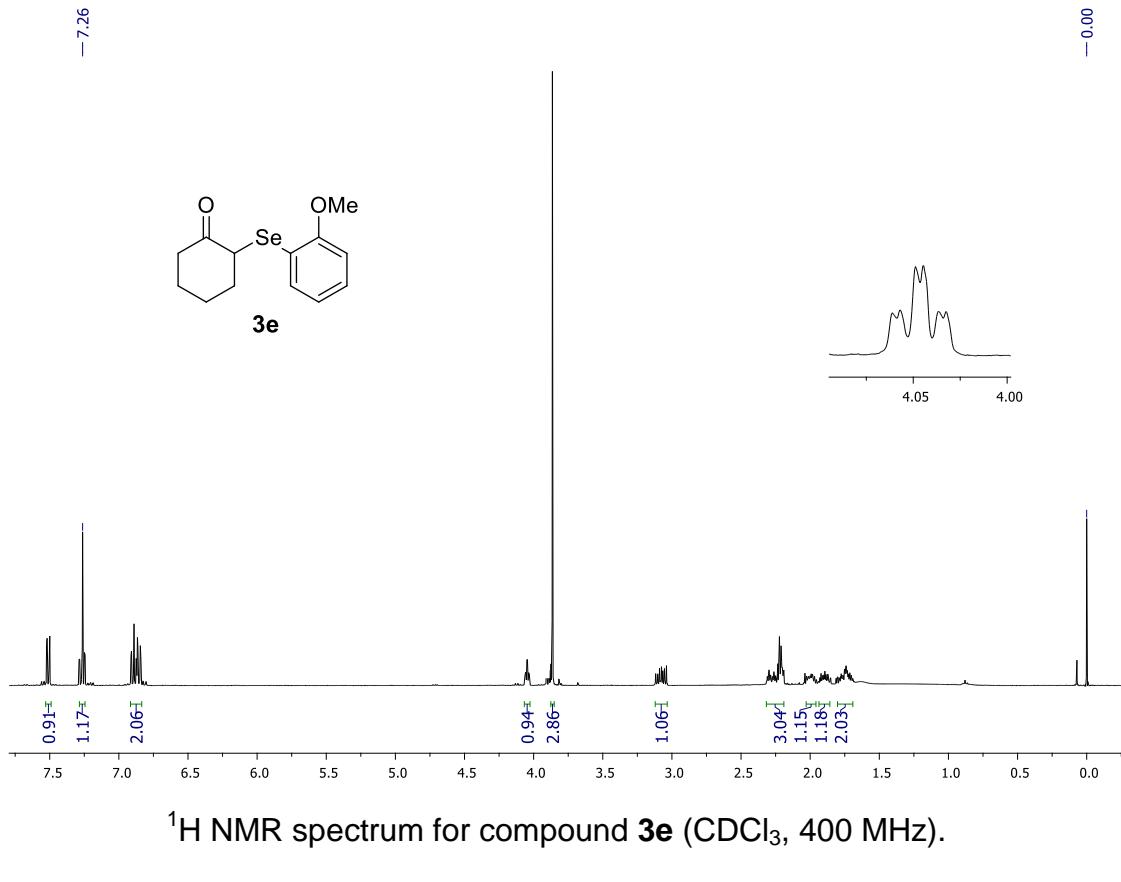
$^{13}\text{C}$  NMR spectrum for compound **3c** ( $\text{CDCl}_3$ , 100 MHz).

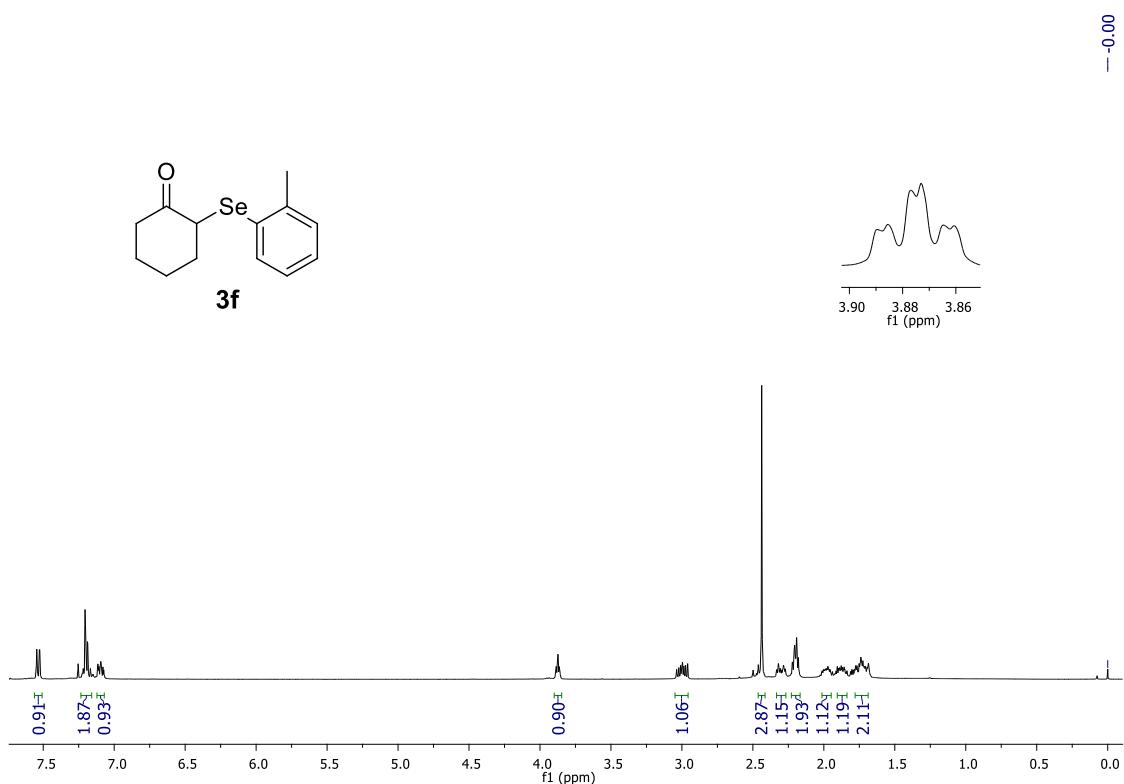


$^1\text{H}$  NMR spectrum for compound **3d** ( $\text{CDCl}_3$ , 500 MHz).

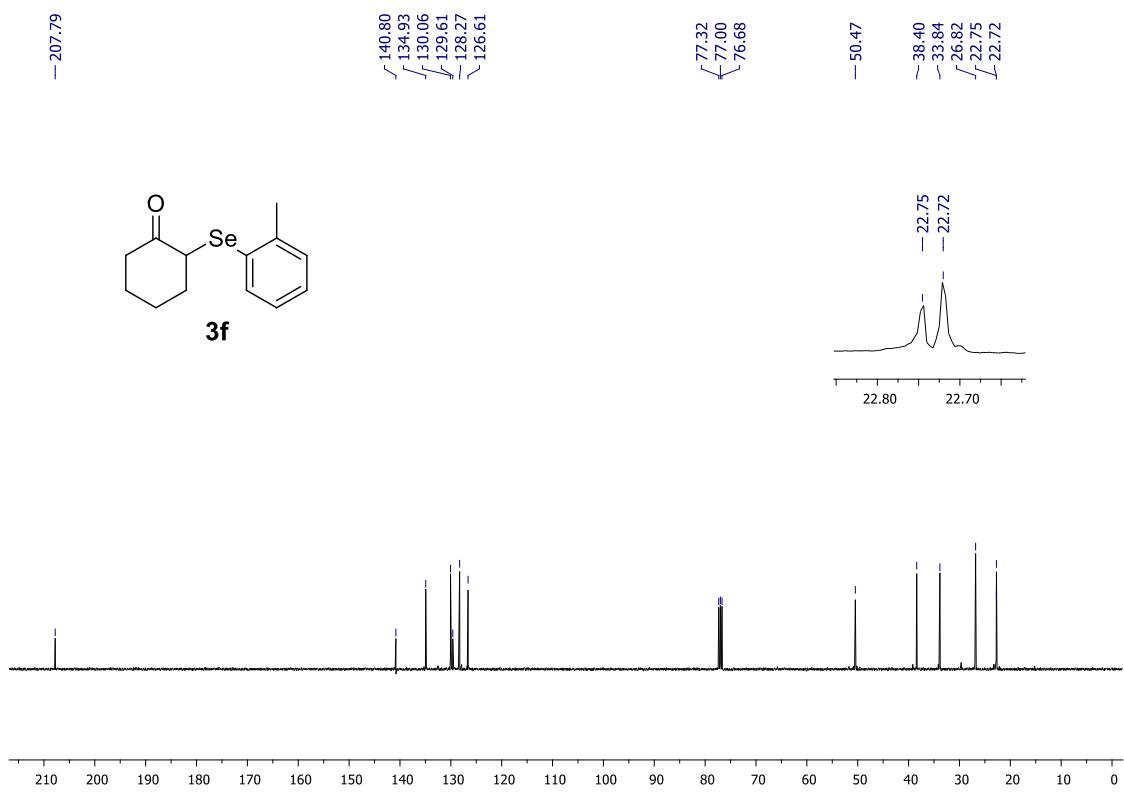


$^{13}\text{C}$  NMR spectrum for compound **3d** ( $\text{CDCl}_3$ , 125 MHz).



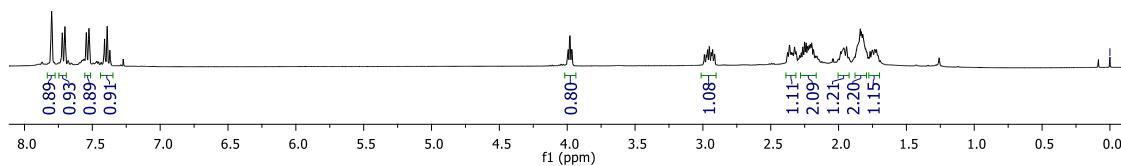
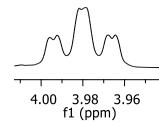
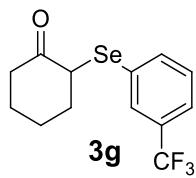


$^1\text{H}$  NMR spectrum for compound **3f** ( $\text{CDCl}_3$ , 400 MHz).

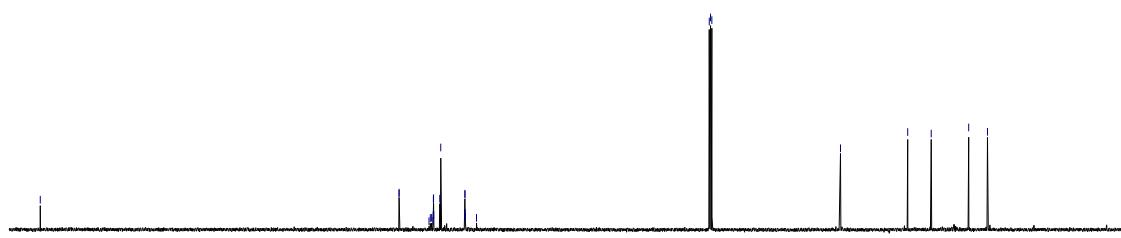
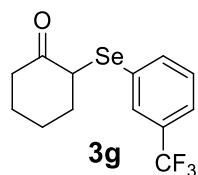


$^{13}\text{C}$  NMR spectrum for compound **3f** ( $\text{CDCl}_3$ , 100 MHz).

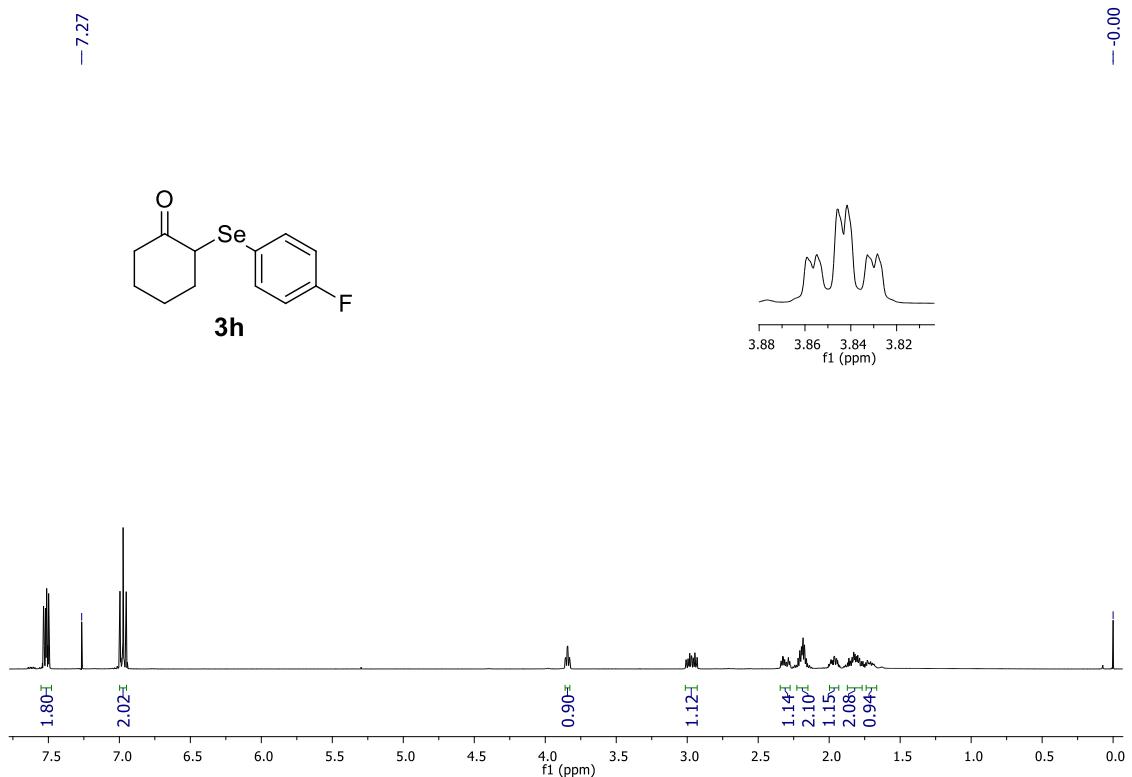
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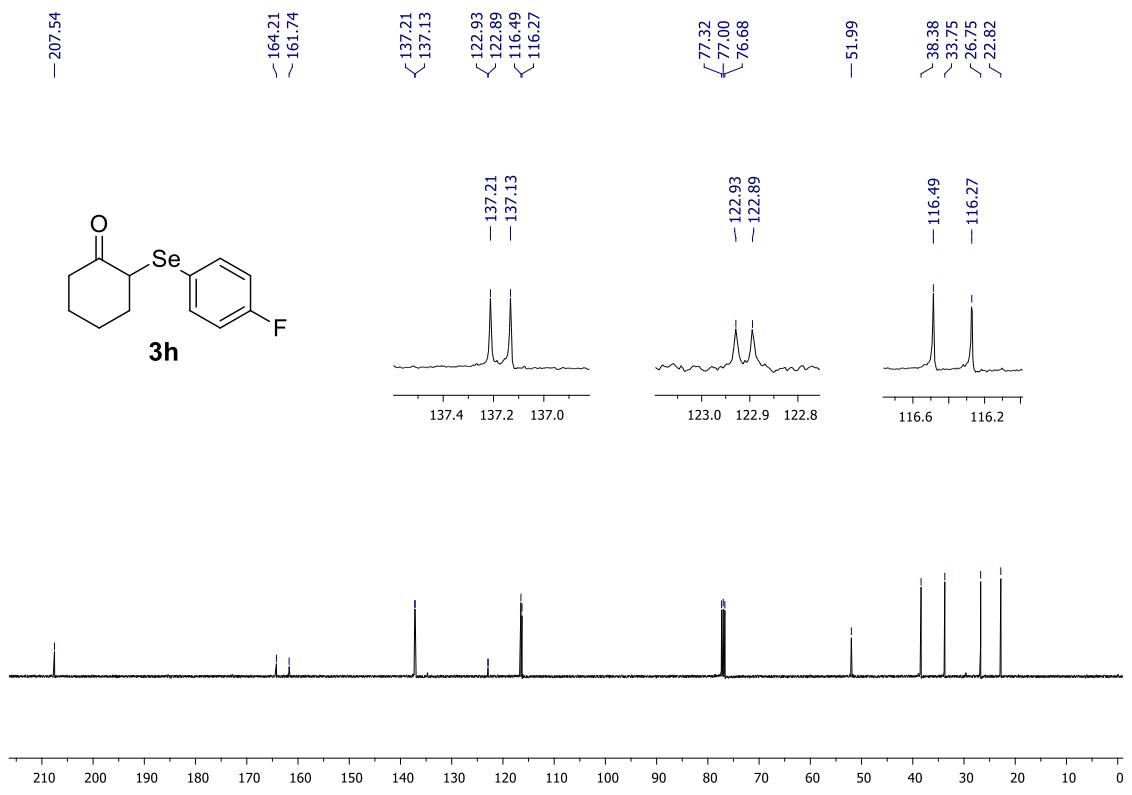
<sup>1</sup>H NMR spectrum for compound **3g** (CDCl<sub>3</sub>, 500 MHz).



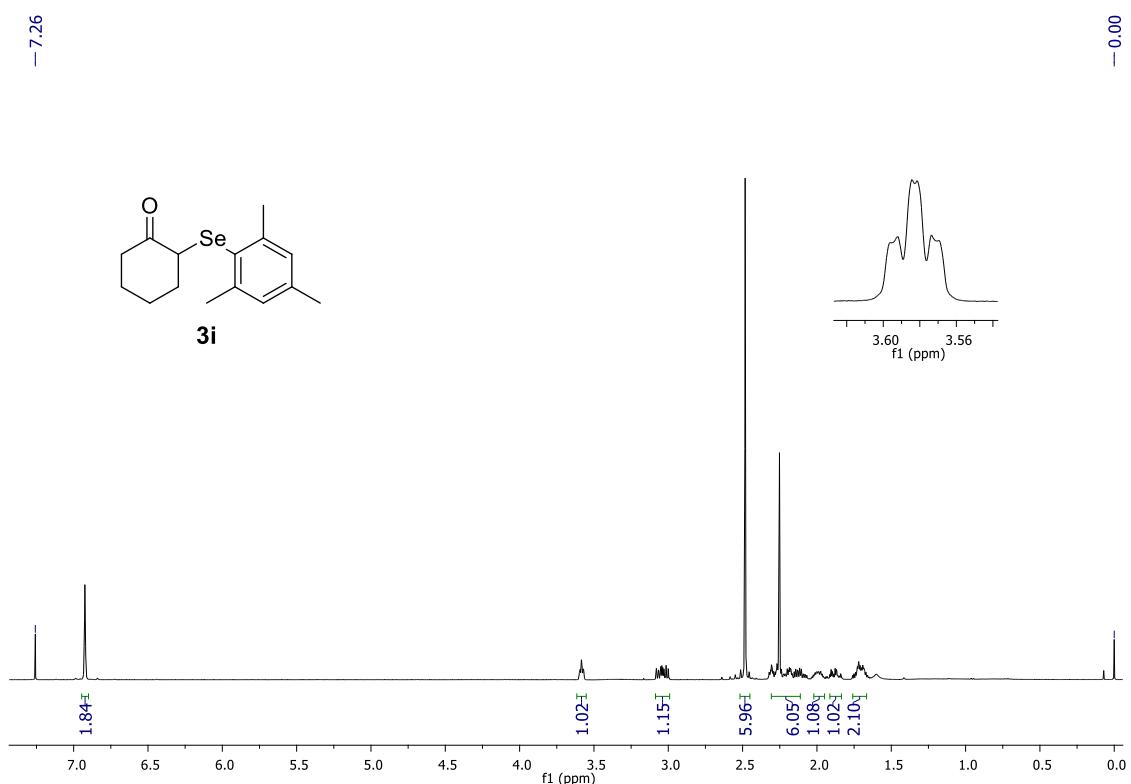
<sup>13</sup>C NMR spectrum for compound **3g** (CDCl<sub>3</sub>, 125 MHz).



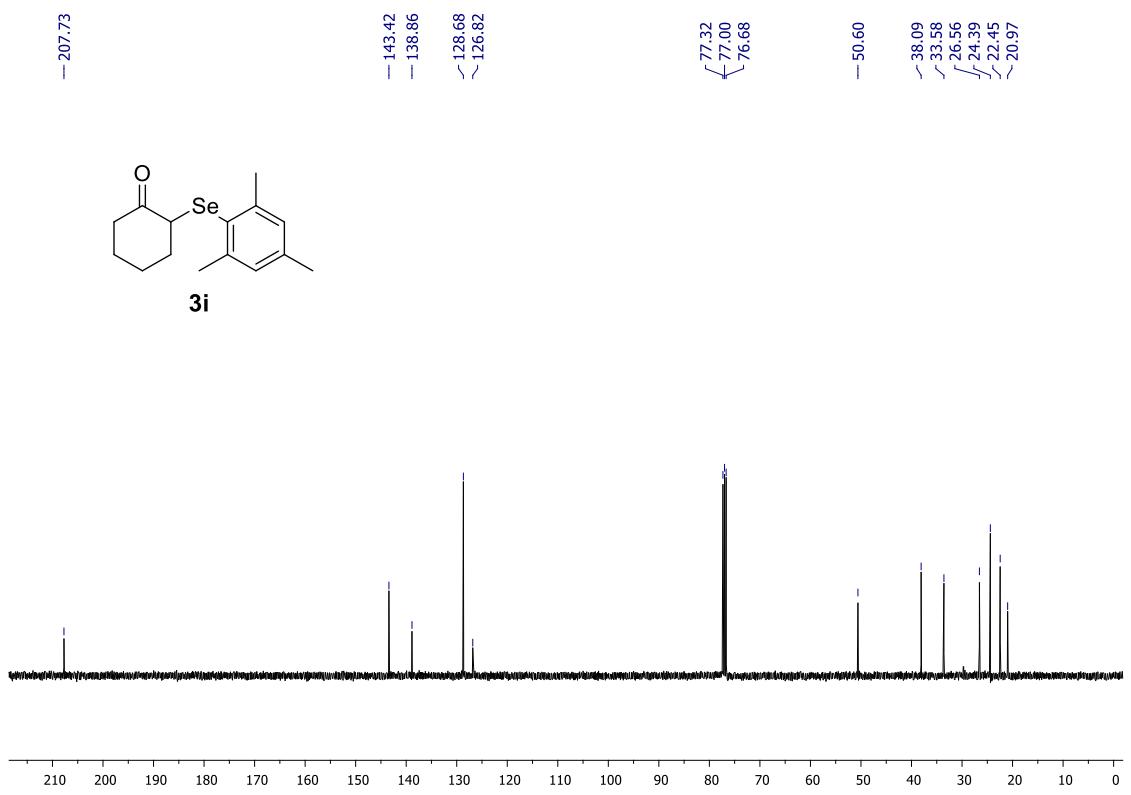
$^1\text{H}$  NMR spectrum for compound **3h** ( $\text{CDCl}_3$ , 400 MHz).



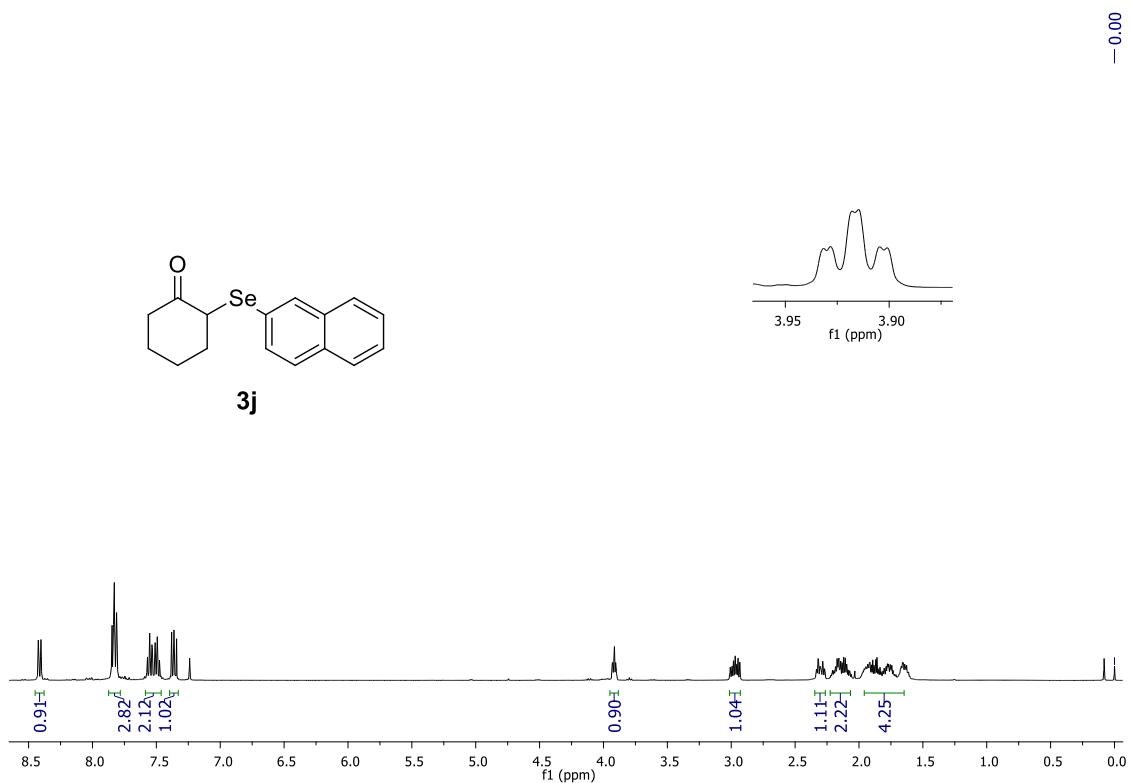
$^{13}\text{C}$  NMR spectrum for compound **3h** ( $\text{CDCl}_3$ , 100 MHz).



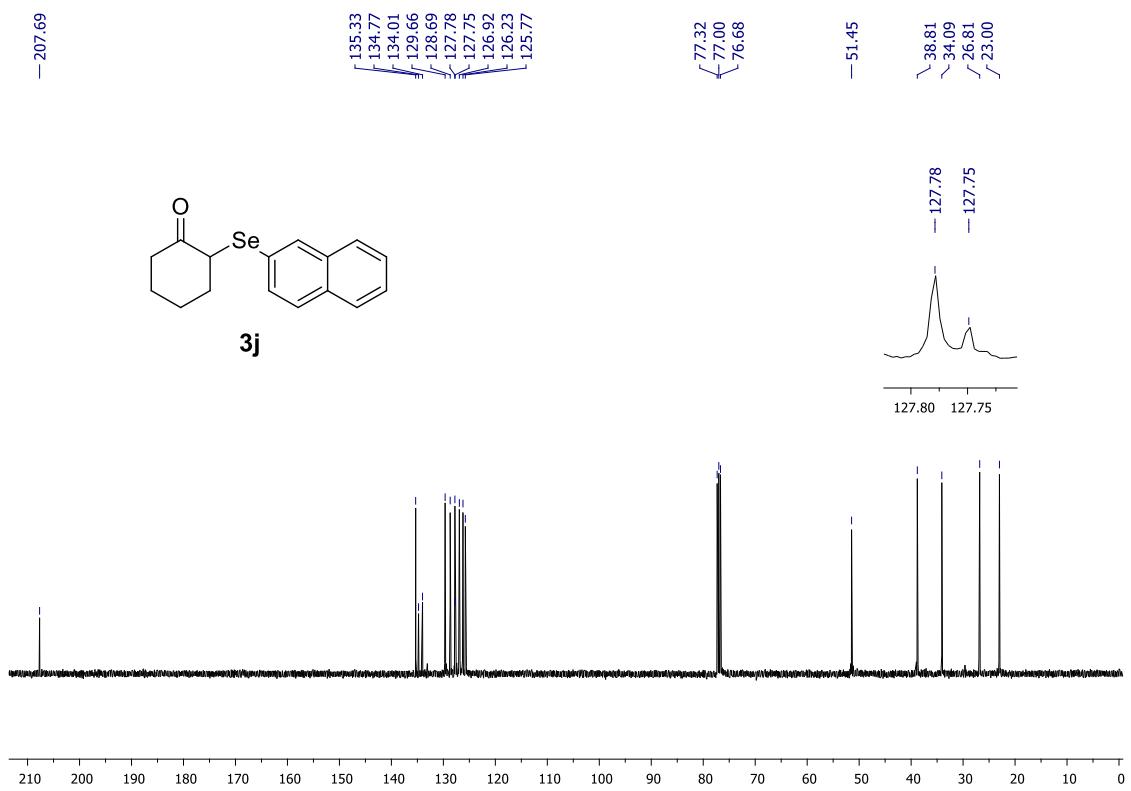
<sup>1</sup>H NMR spectrum for compound **3i** (CDCl<sub>3</sub>, 400 MHz).



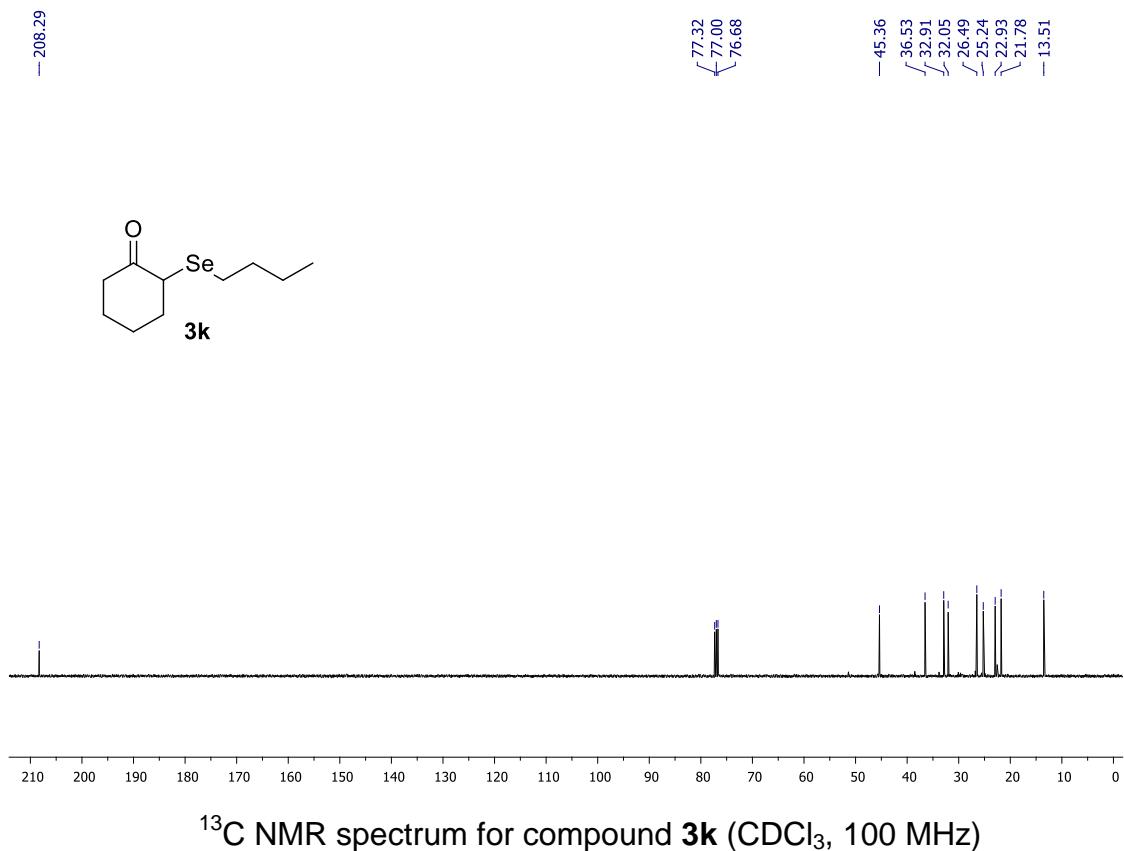
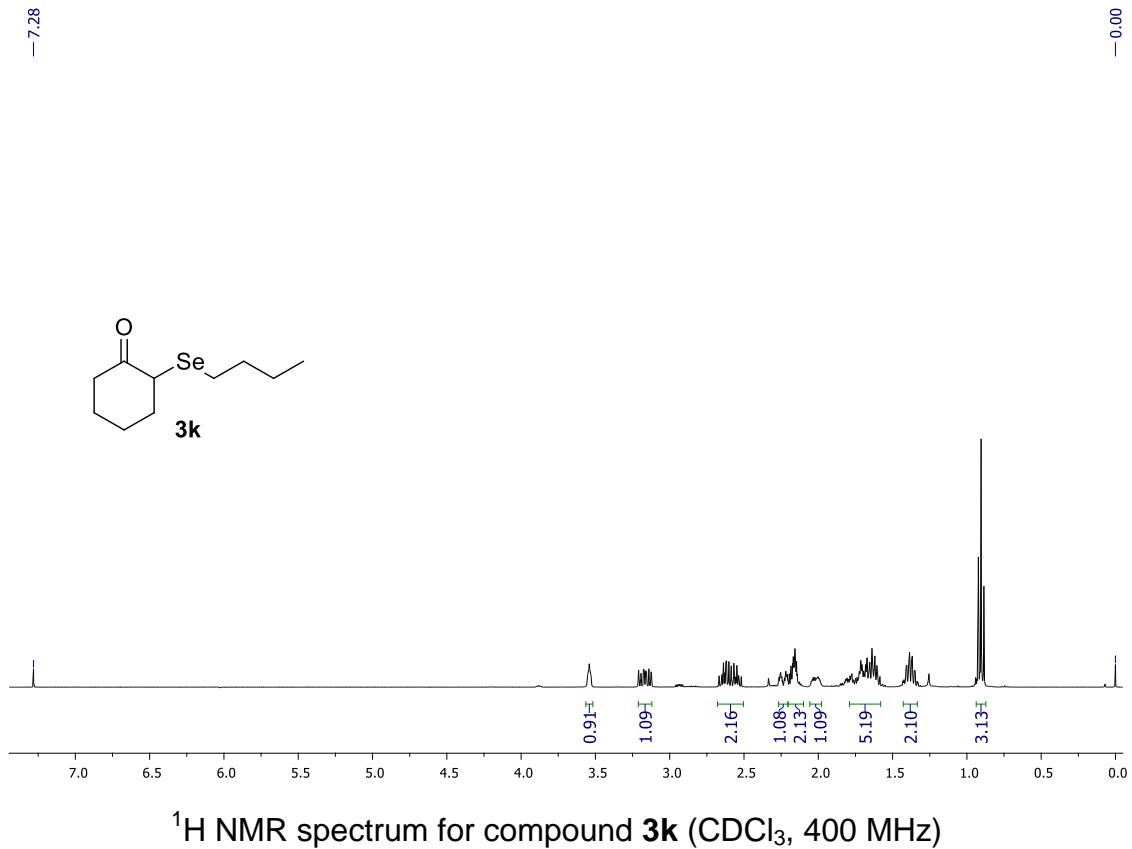
<sup>13</sup>C NMR spectrum for compound **3i** (CDCl<sub>3</sub>, 100 MHz).

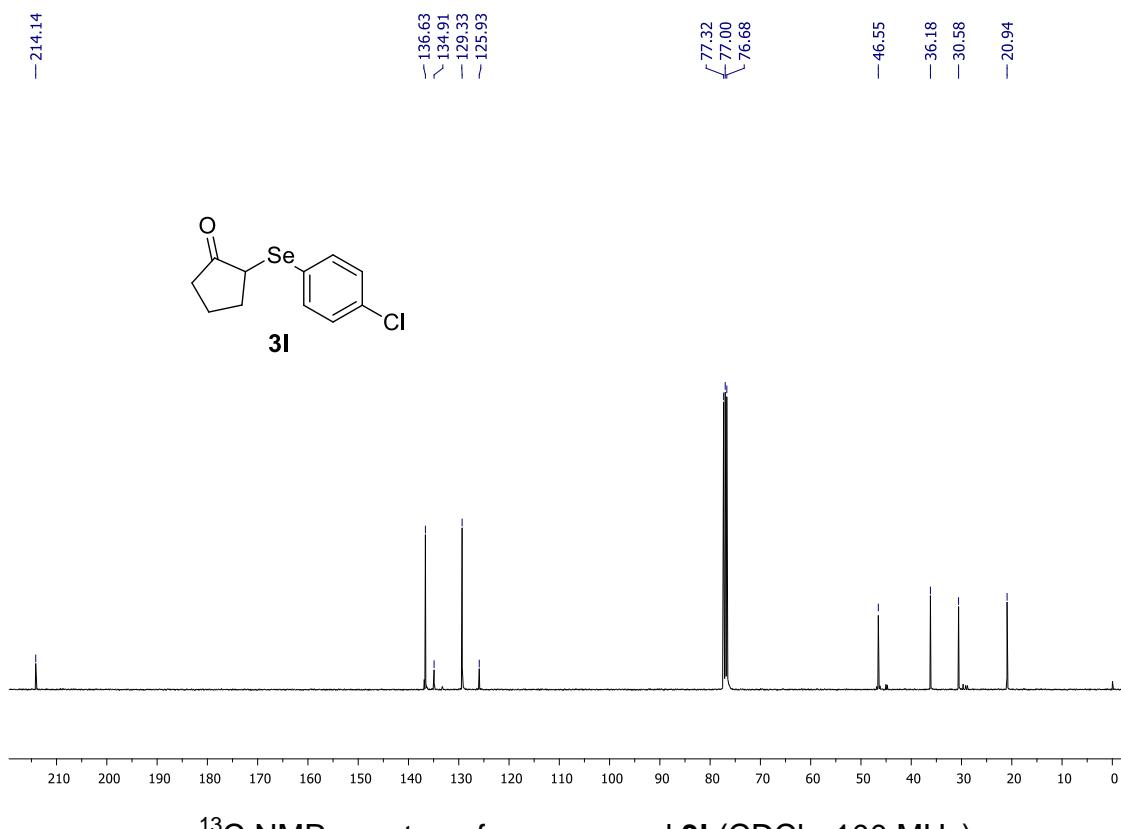
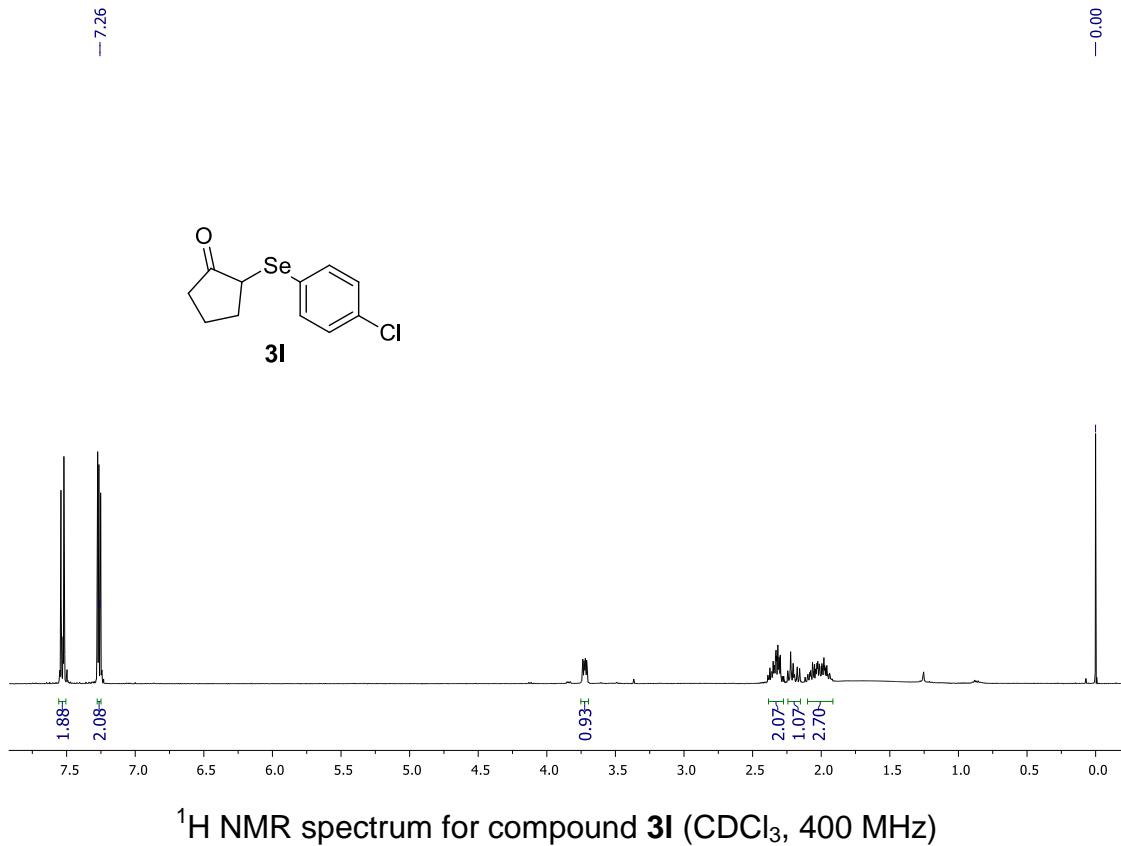


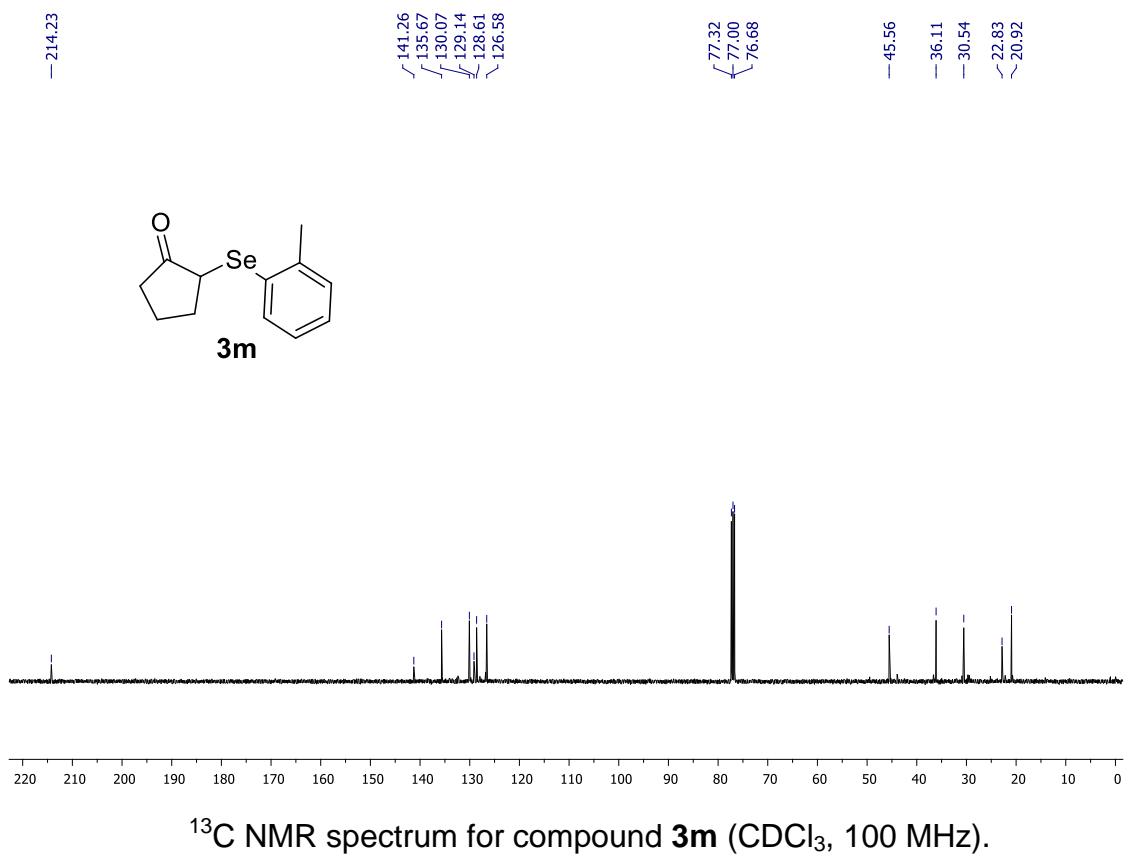
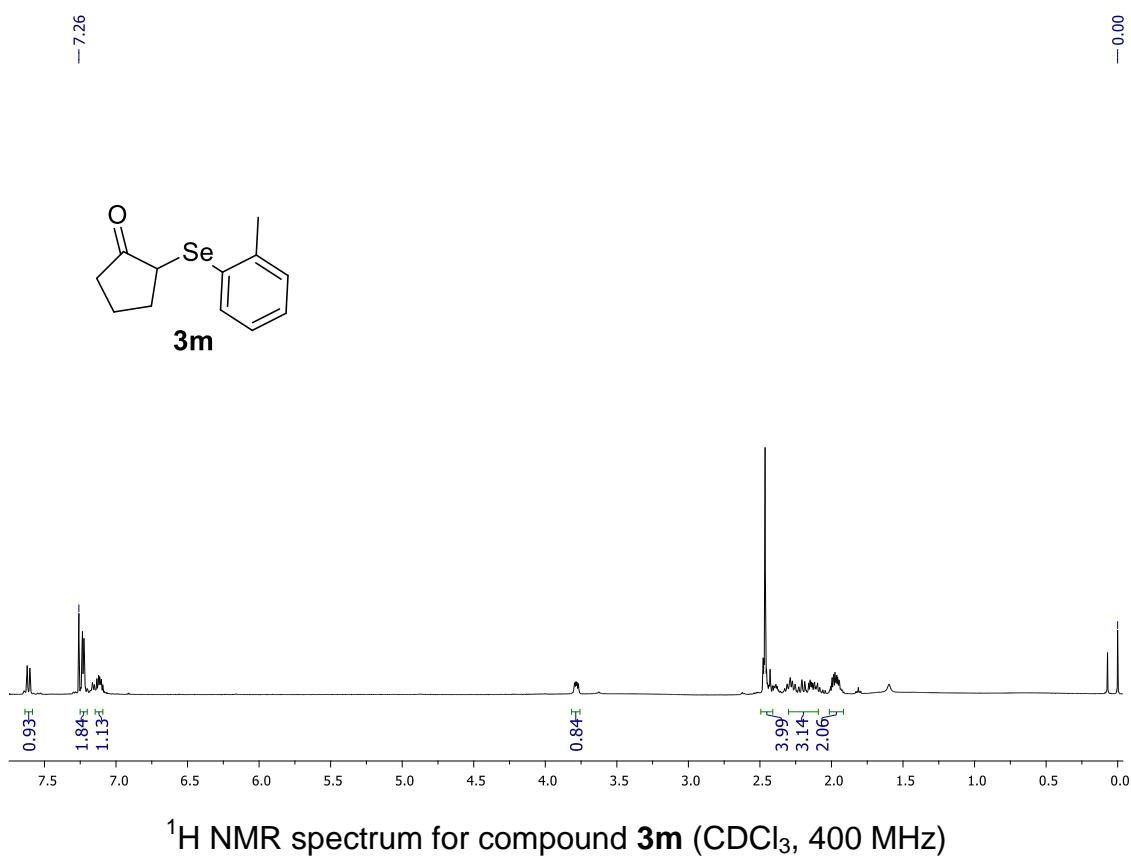
$^1\text{H}$  NMR spectrum for compound **3j** ( $\text{CDCl}_3$ , 400 MHz).

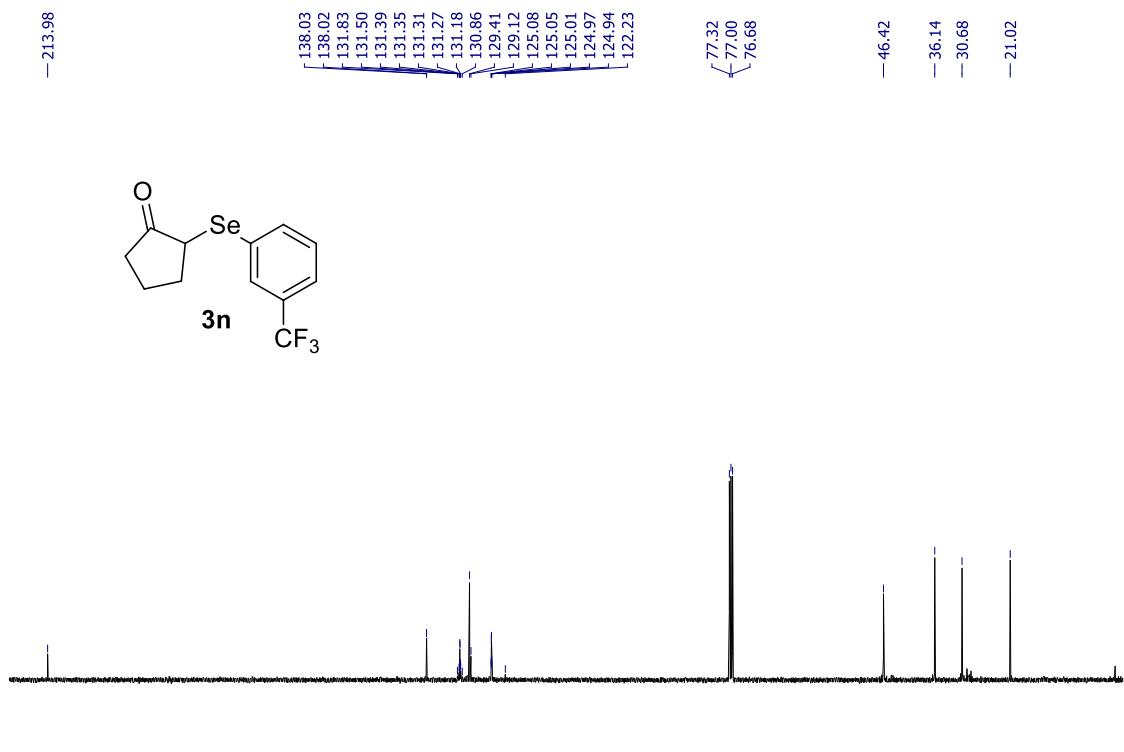
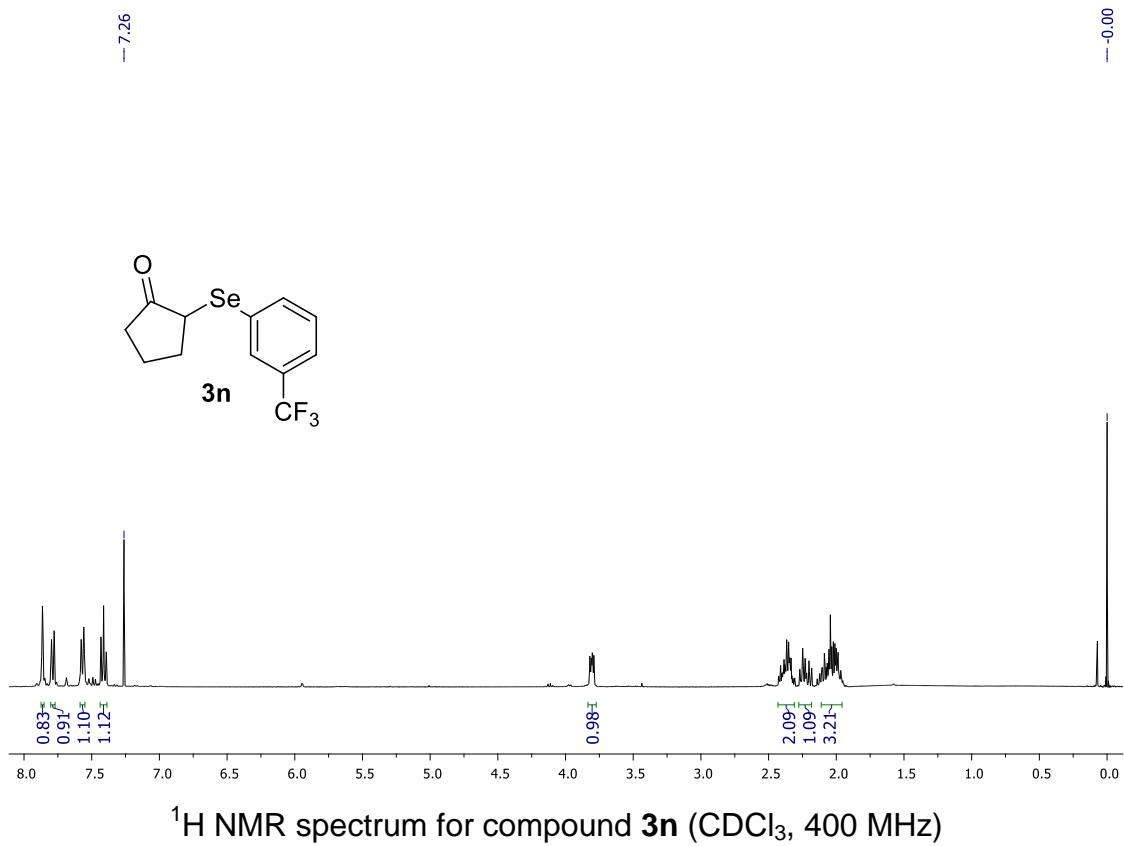


$^{13}\text{C}$  NMR spectrum for compound **3j** ( $\text{CDCl}_3$ , 100 MHz).

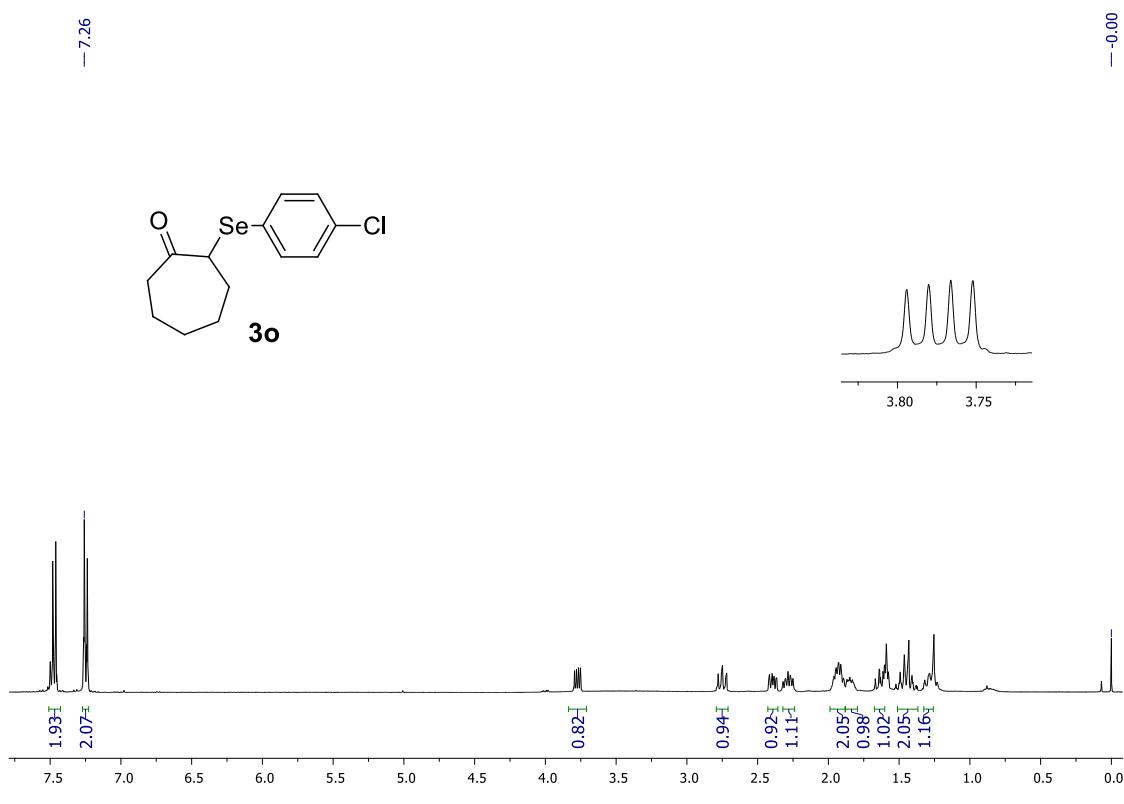




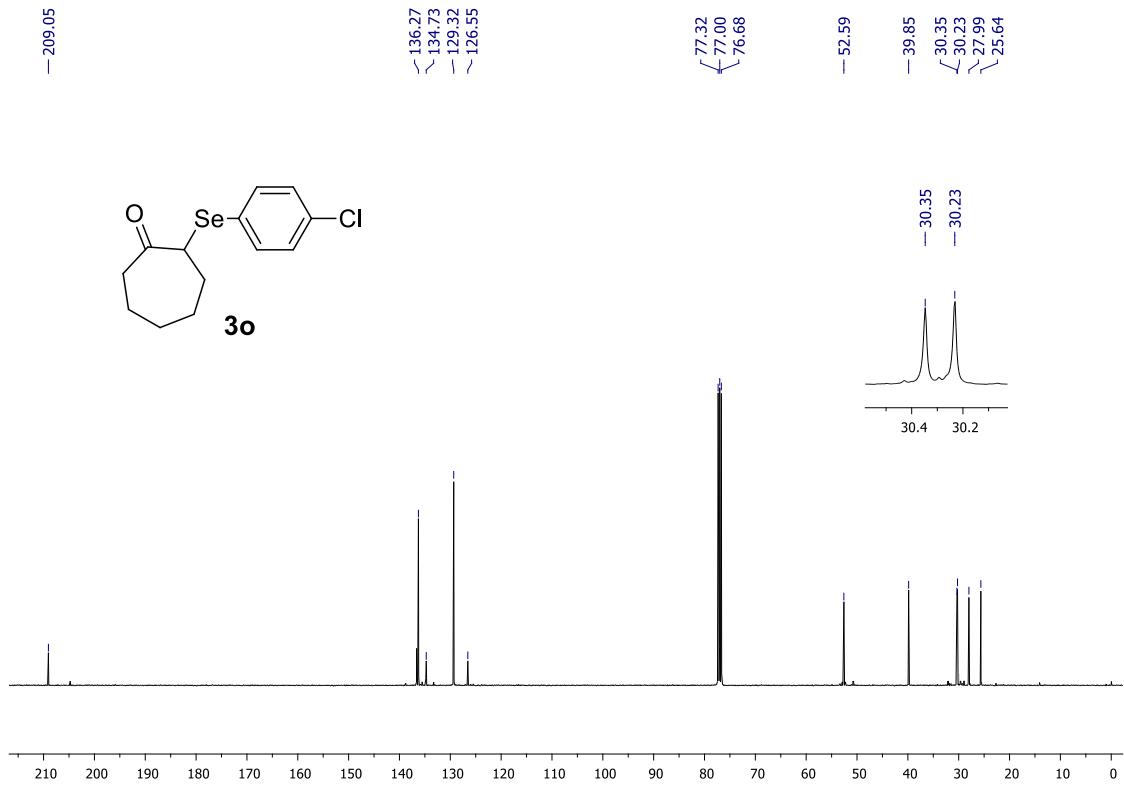




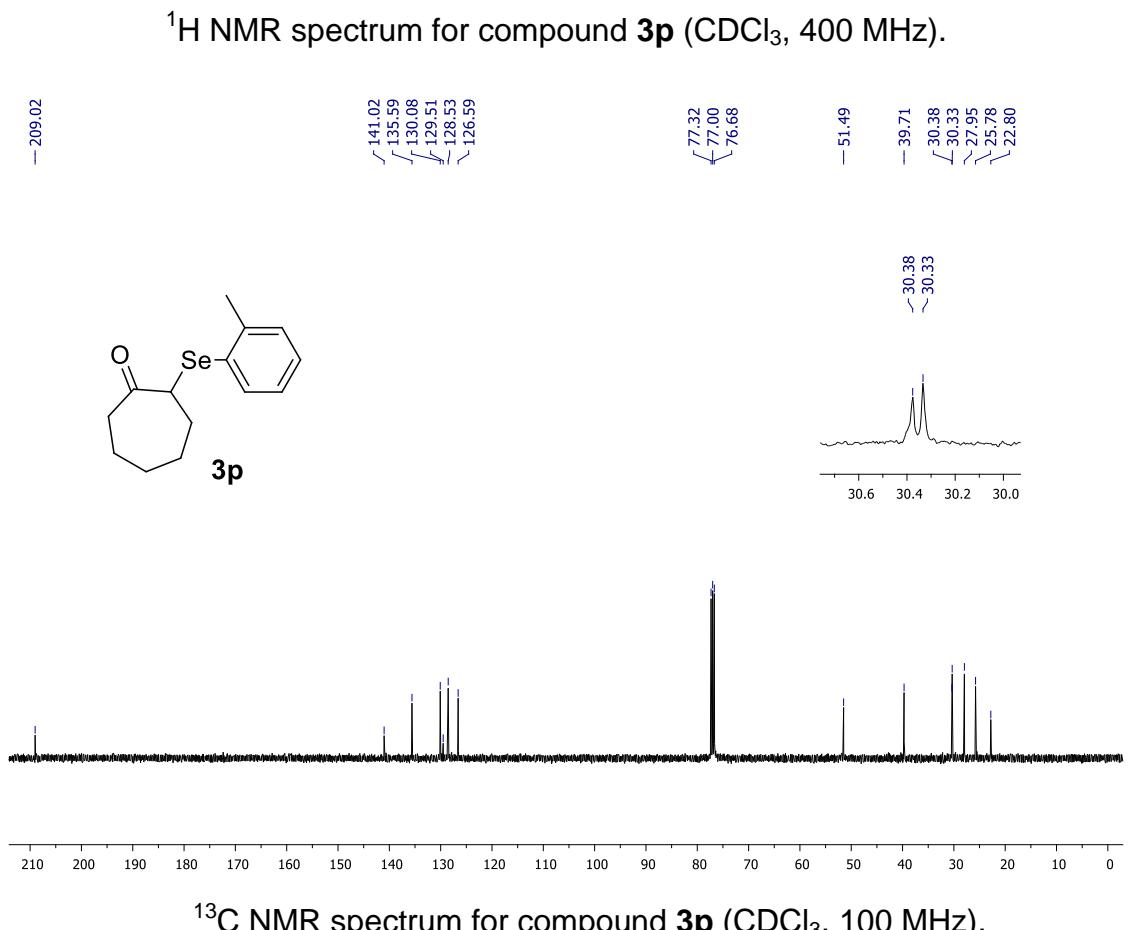
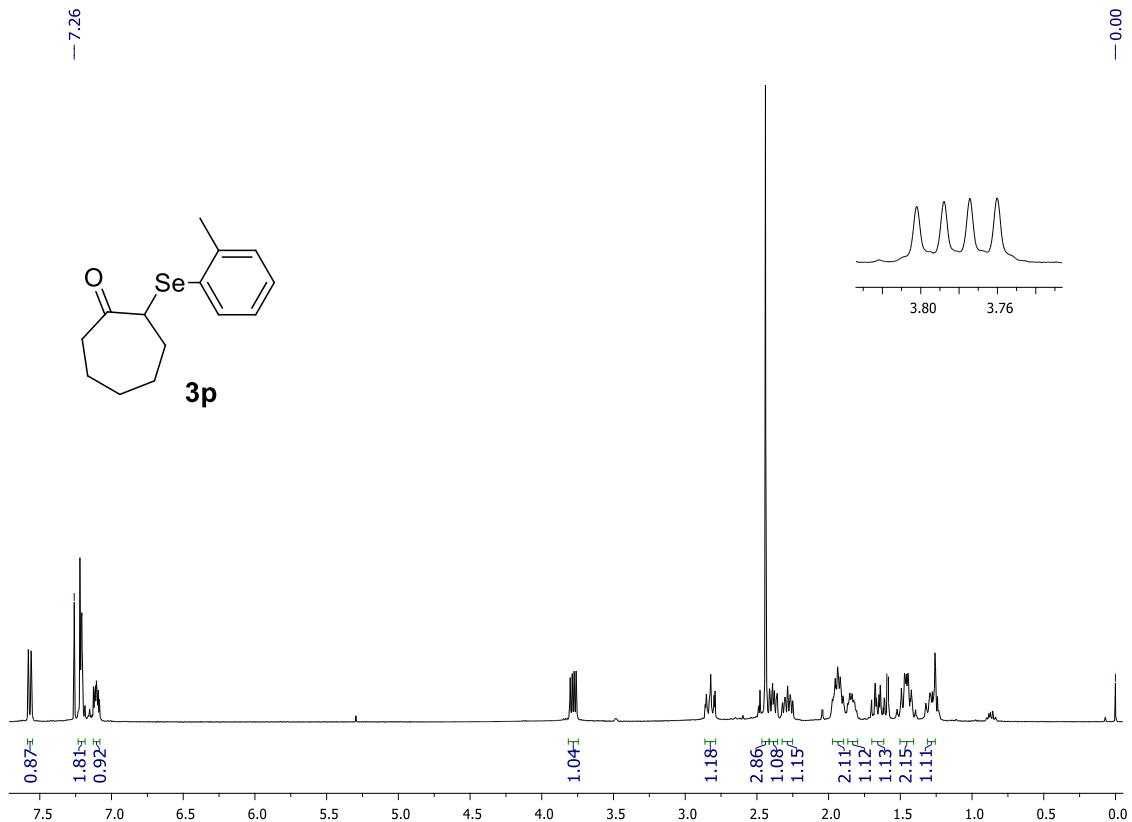
<sup>13</sup>C NMR spectrum for compound **3n** ( $\text{CDCl}_3$ , 100 MHz).



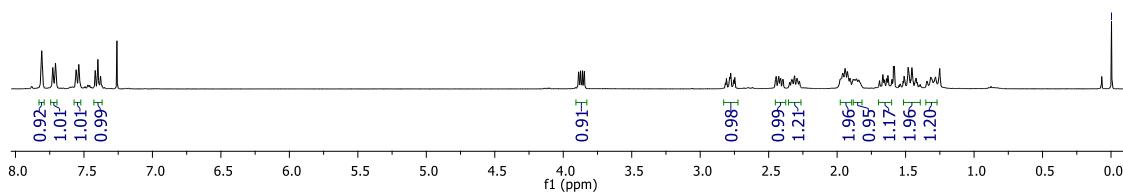
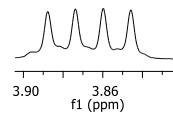
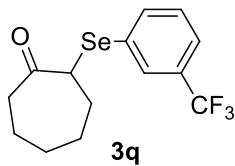
$^1\text{H}$  NMR spectrum for compound **3o** ( $\text{CDCl}_3$ , 400 MHz)



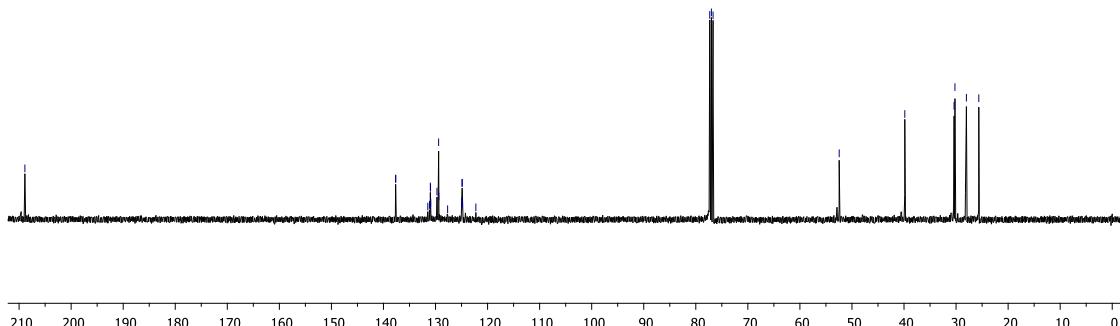
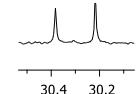
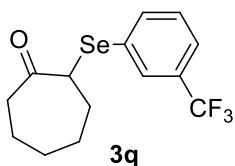
$^{13}\text{C}$  NMR spectrum for compound **3o** ( $\text{CDCl}_3$ , 100 MHz).



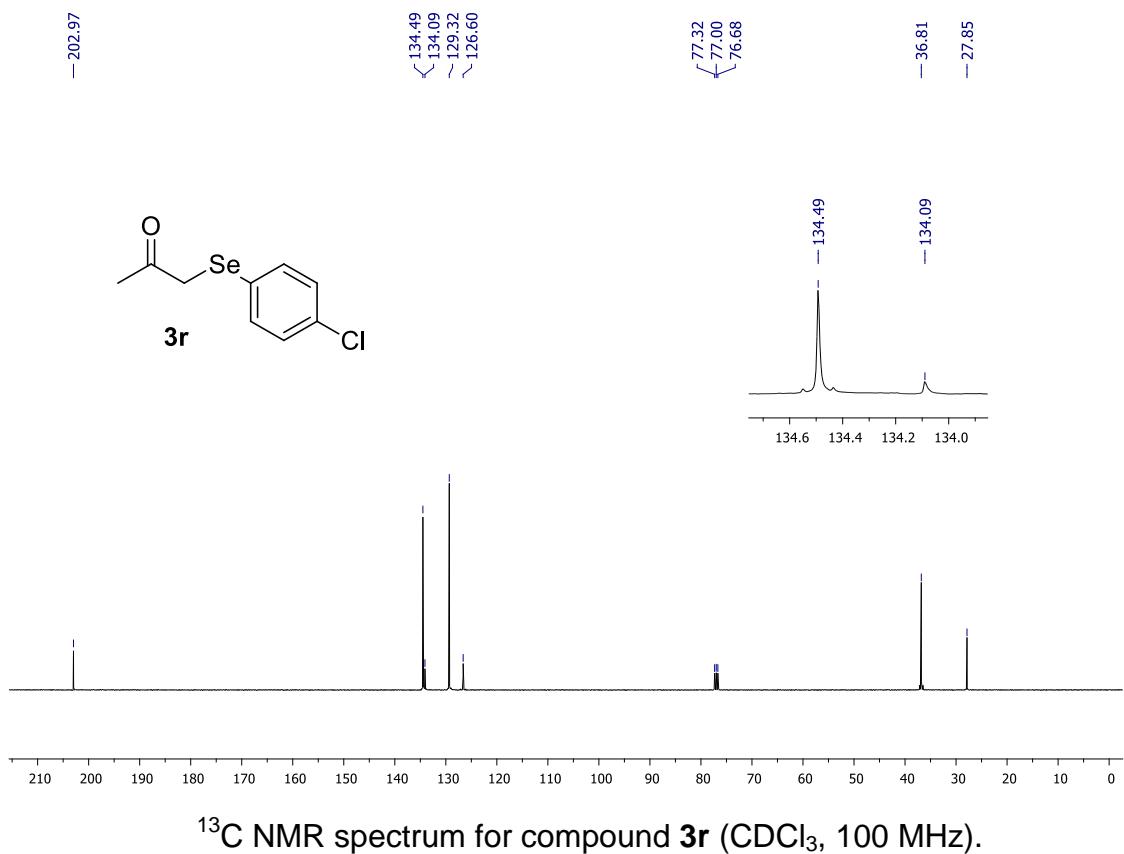
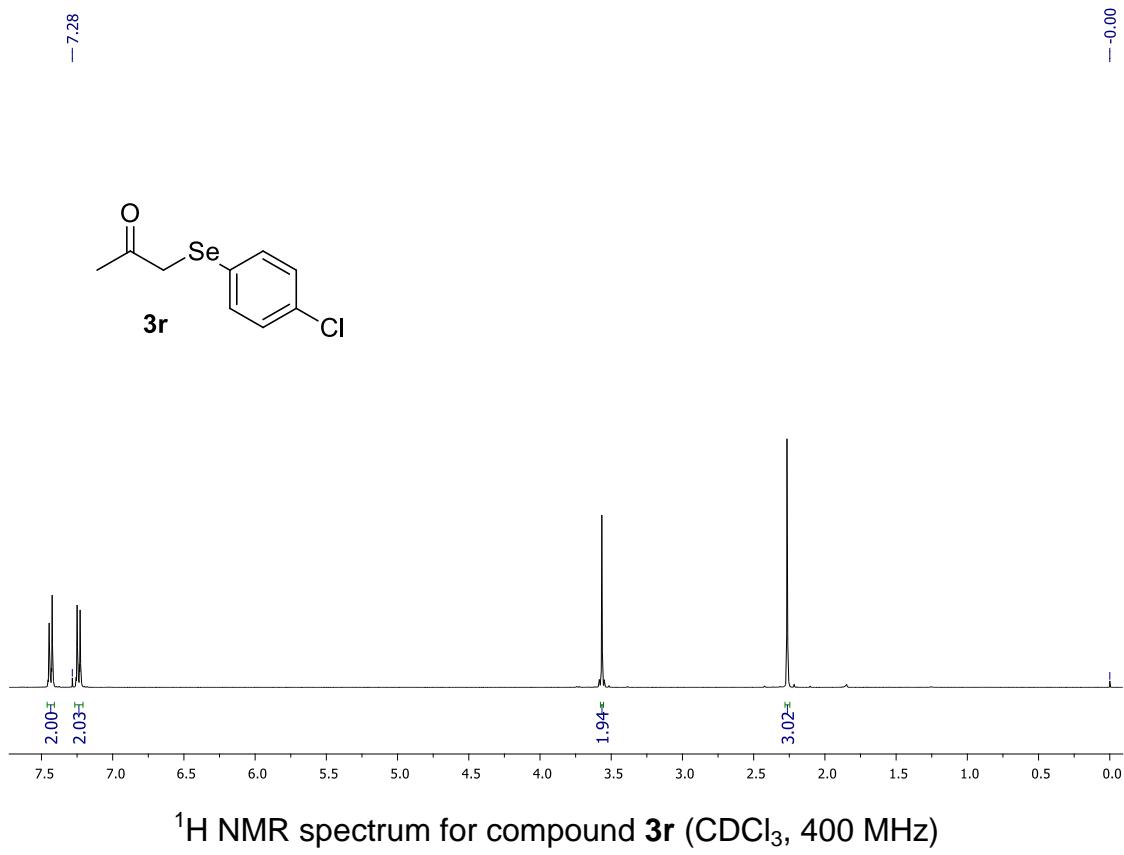
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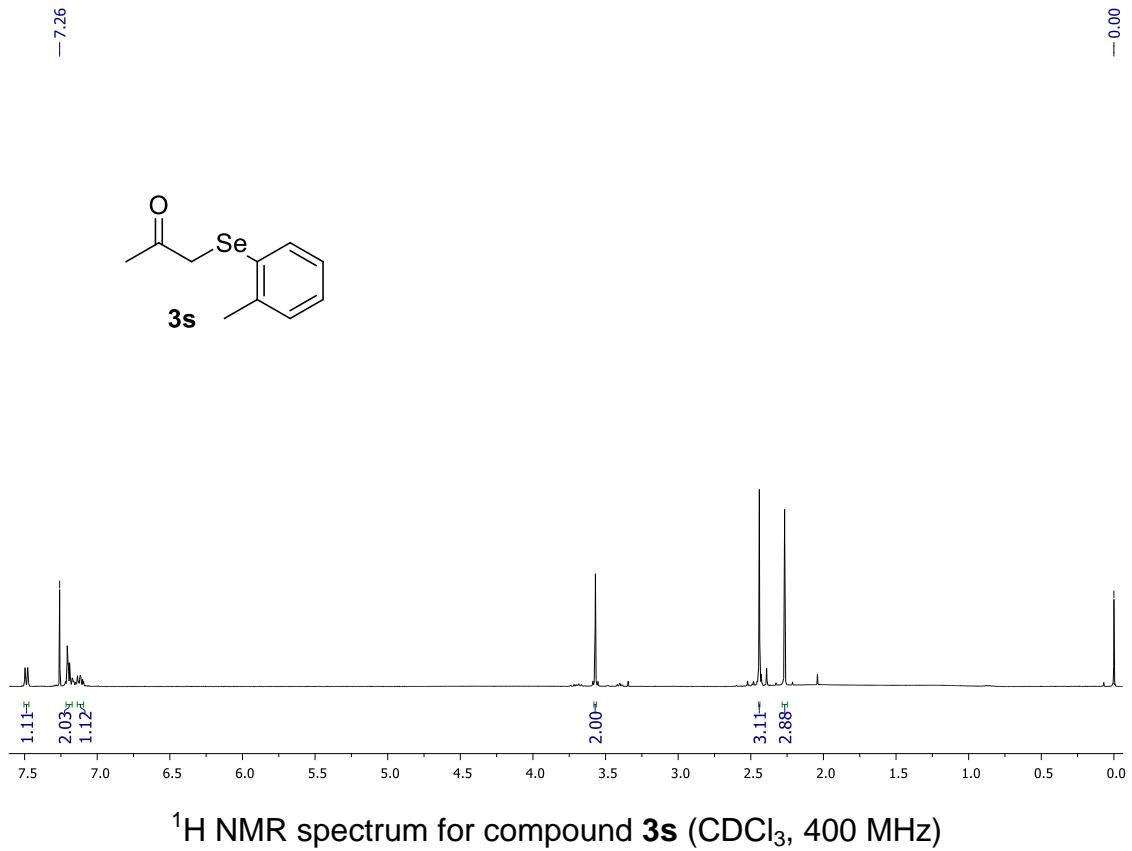


$^1\text{H}$  NMR spectrum for compound **3q** ( $\text{CDCl}_3$ , 400 MHz).

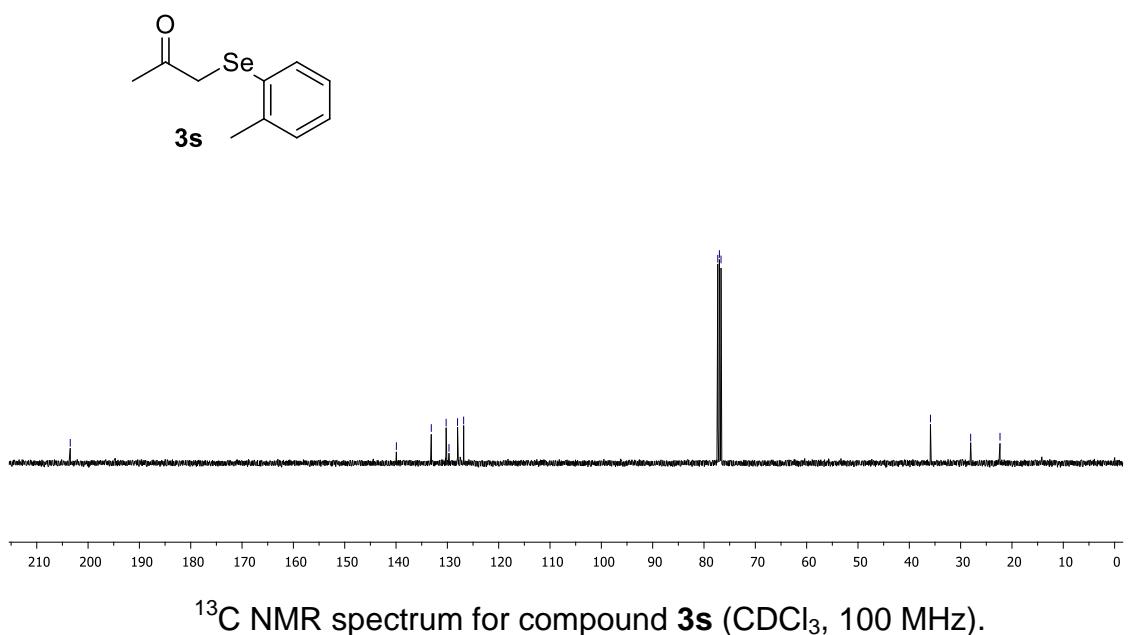


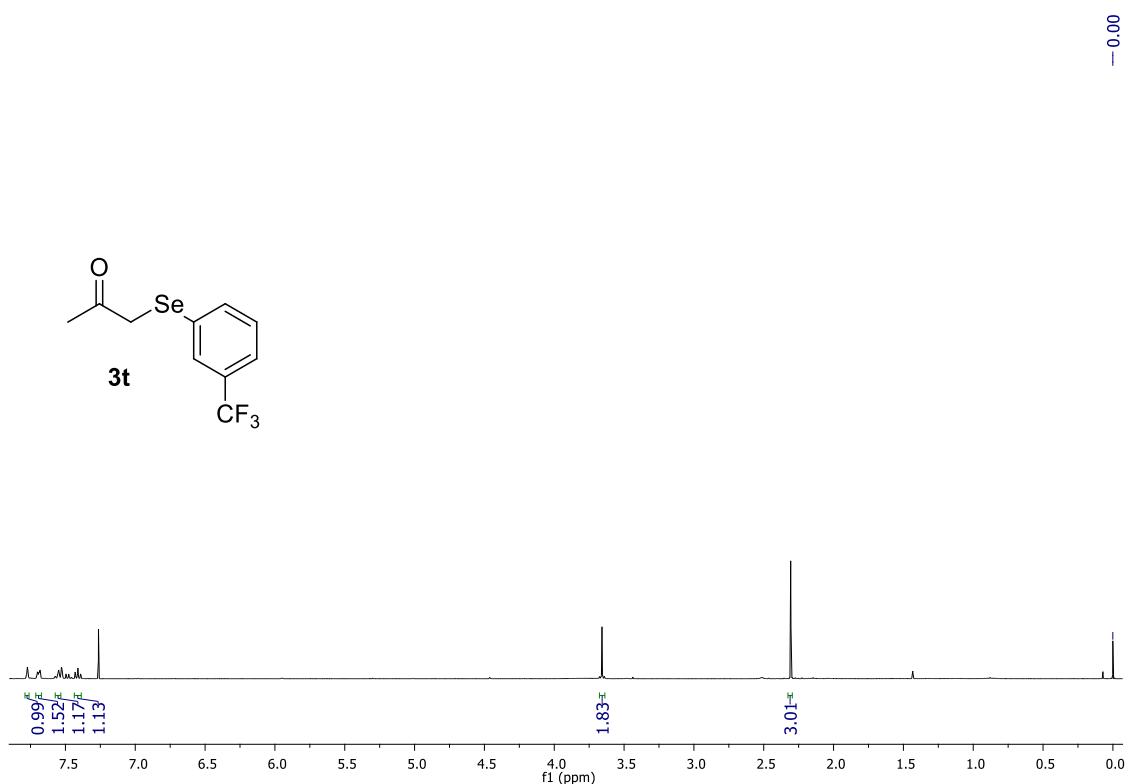
$^{13}\text{C}$  NMR spectrum for compound **3q** ( $\text{CDCl}_3$ , 100 MHz).



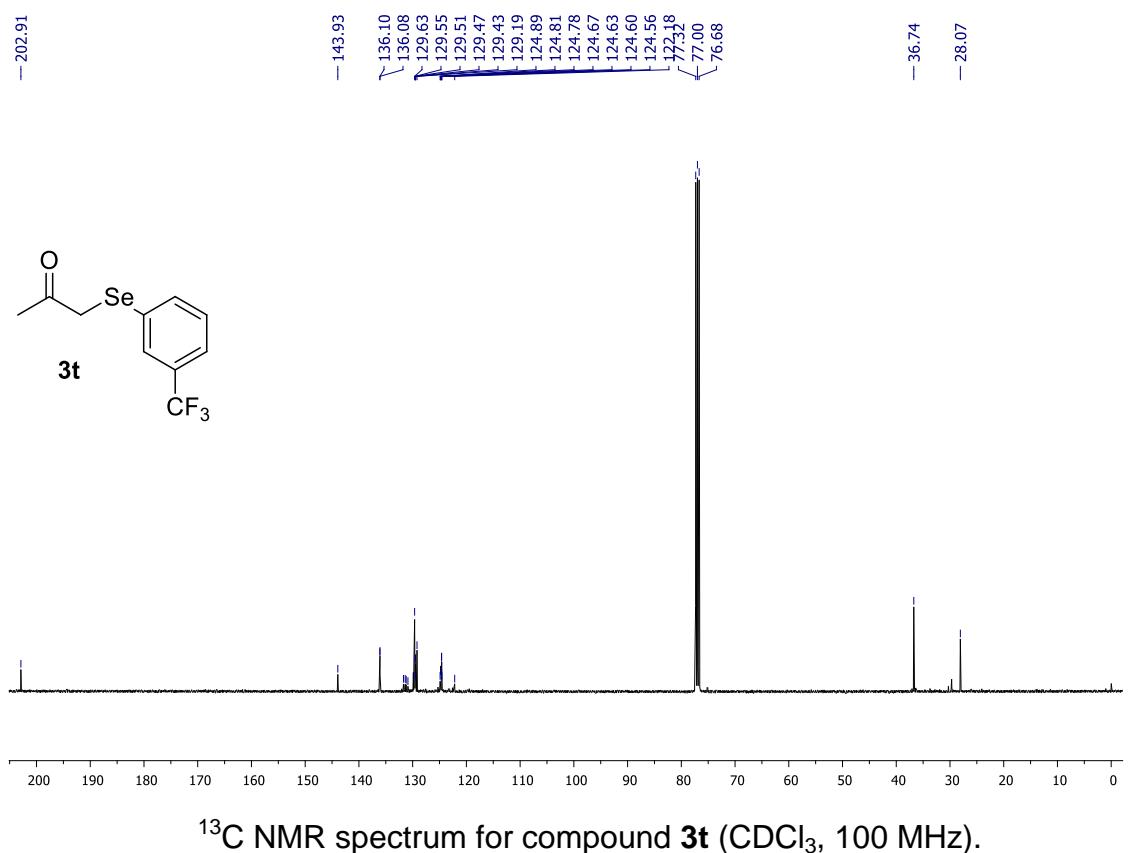


$-203.47$   
 $139.94$   
 $133.13$   
 $130.24$   
 $129.69$   
 $128.02$   
 $126.83$   
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 $77.00$   
 $76.68$   
 $-35.88$   
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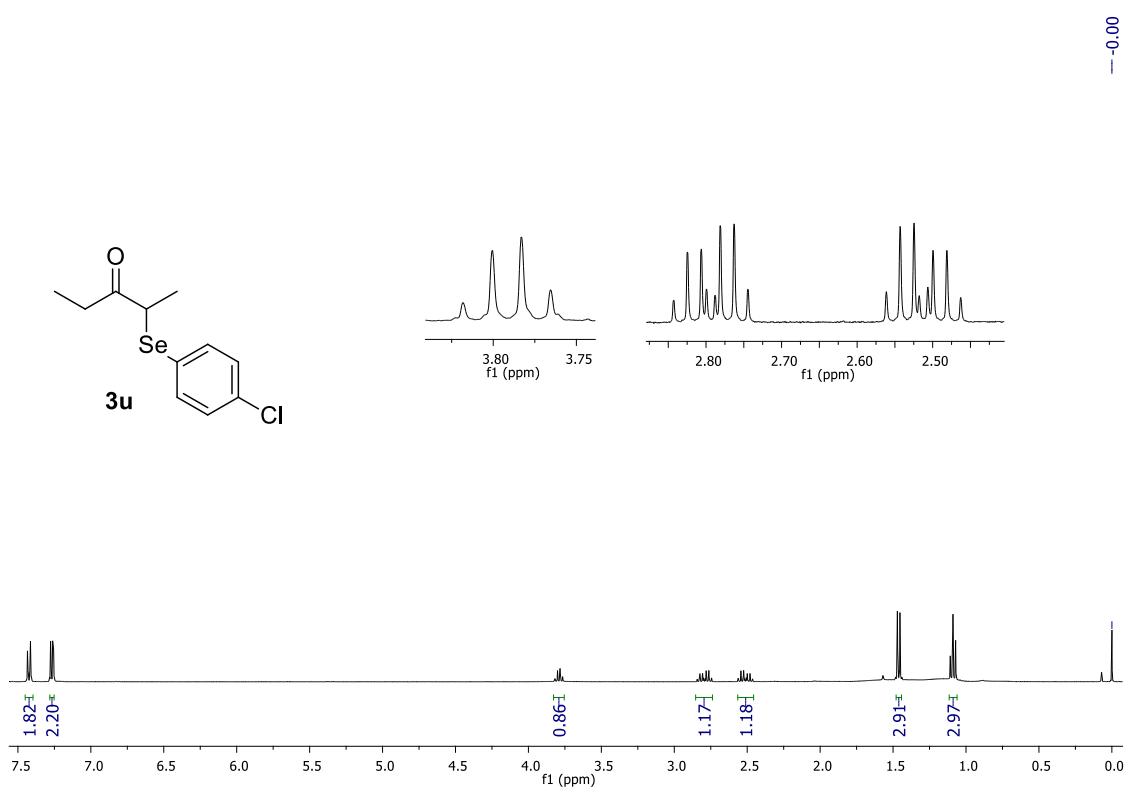




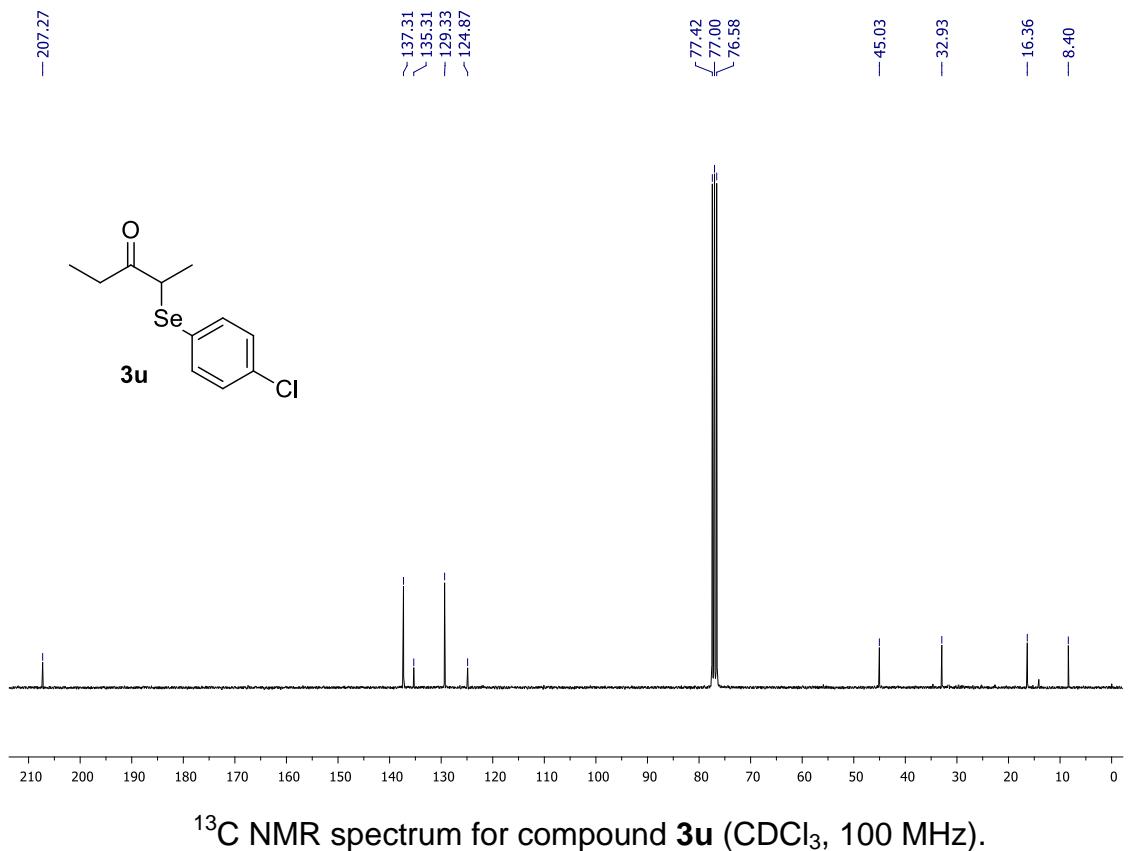
<sup>1</sup>H NMR spectrum for compound **3t** (CDCl<sub>3</sub>, 400 MHz).

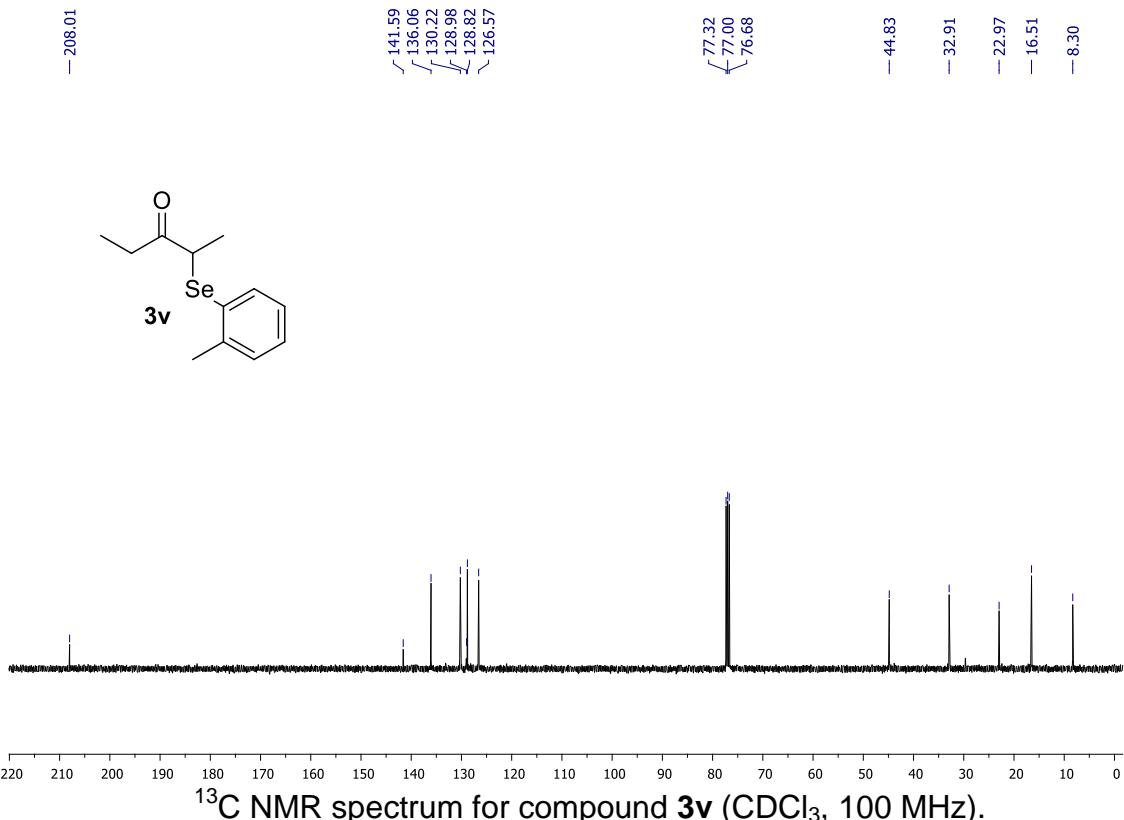
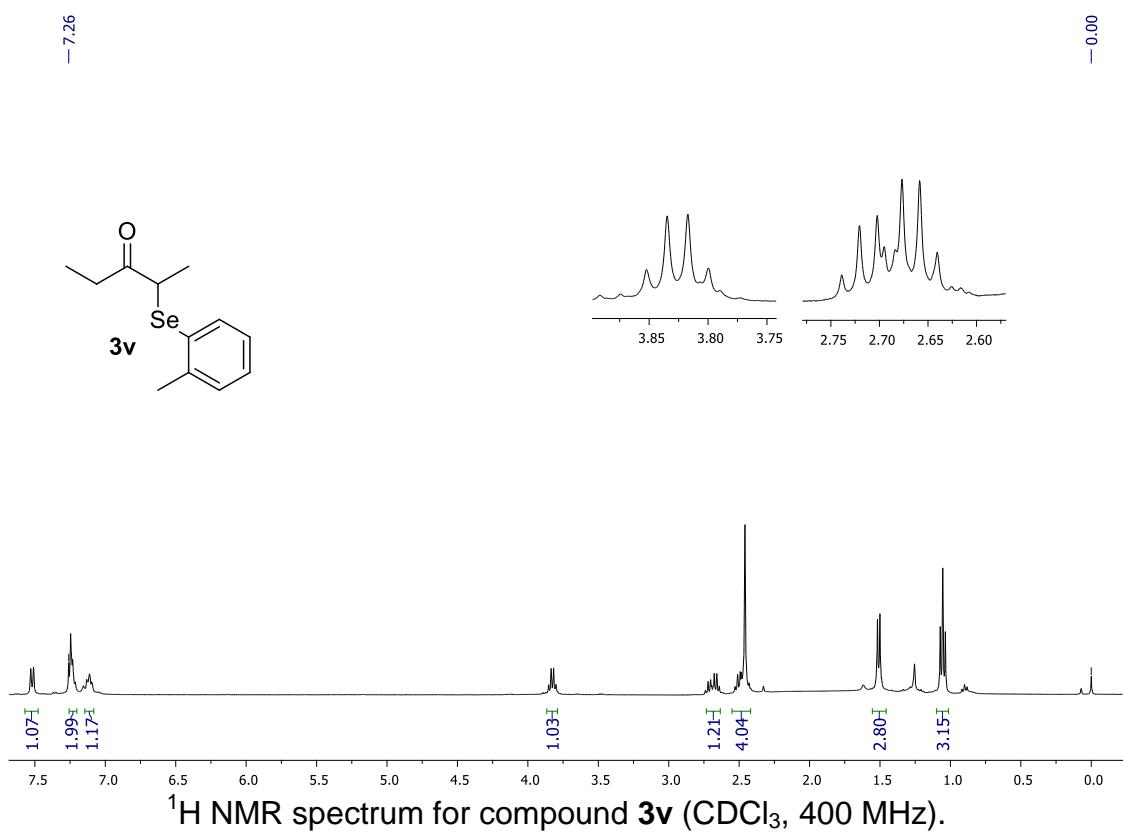


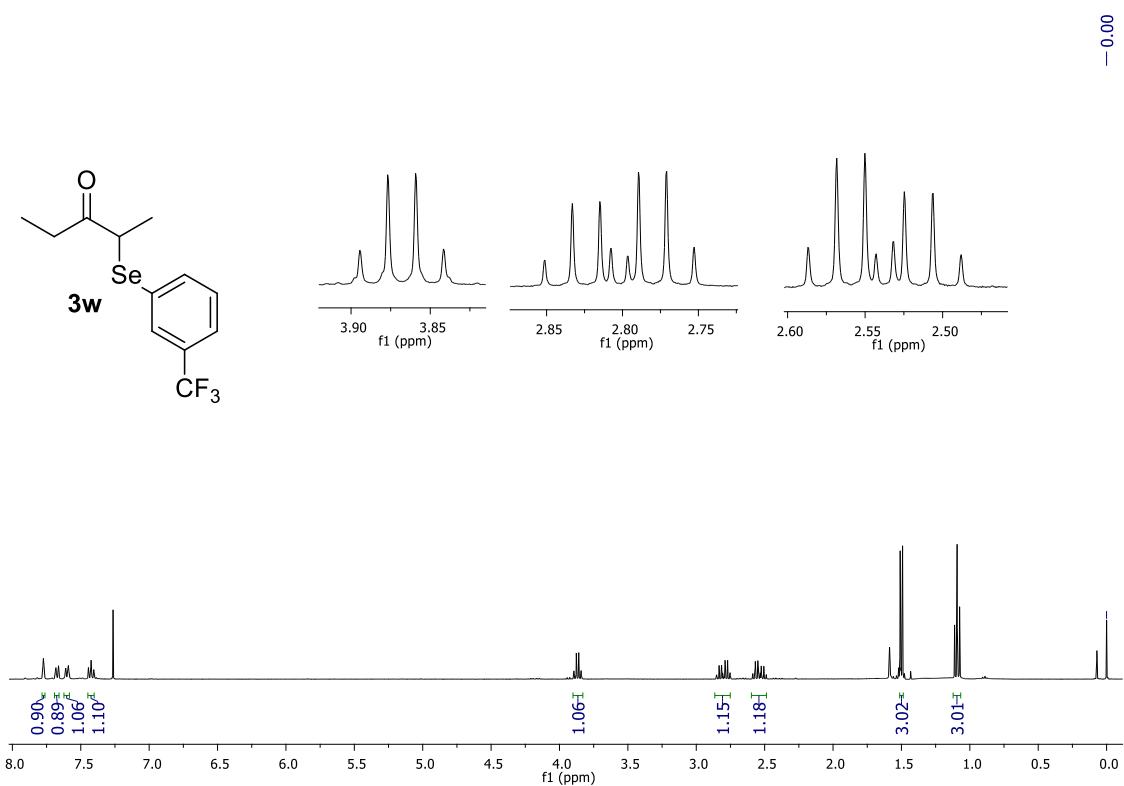
<sup>13</sup>C NMR spectrum for compound **3t** (CDCl<sub>3</sub>, 100 MHz).



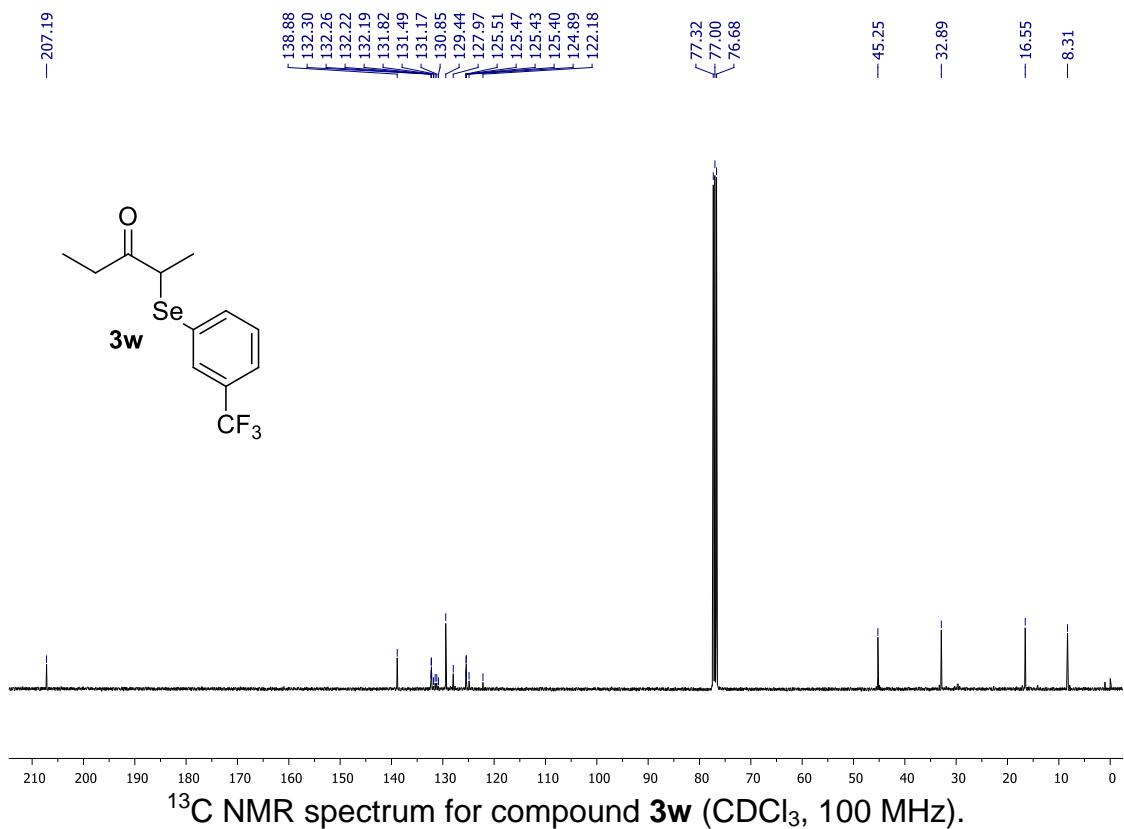
**<sup>1</sup>H NMR spectrum for compound **3u** ( $\text{CDCl}_3$ , 400 MHz)**







<sup>1</sup>H NMR spectrum for compound **3w** (CDCl<sub>3</sub>, 400 MHz).



<sup>13</sup>C NMR spectrum for compound **3w** (CDCl<sub>3</sub>, 100 MHz).