

## 辅助材料(Supporting Information)

## 可见光促进合成三氟甲基取代的四氢咪喃和四氢吡喃

王 娜 <sup>a,b</sup> 顾强帅<sup>\*,c</sup> 程永峰 <sup>a</sup> 李 磊 <sup>a</sup>  
李忠良 <sup>c</sup> 郭 臻<sup>\*,b</sup> 刘心元<sup>\*,a</sup>

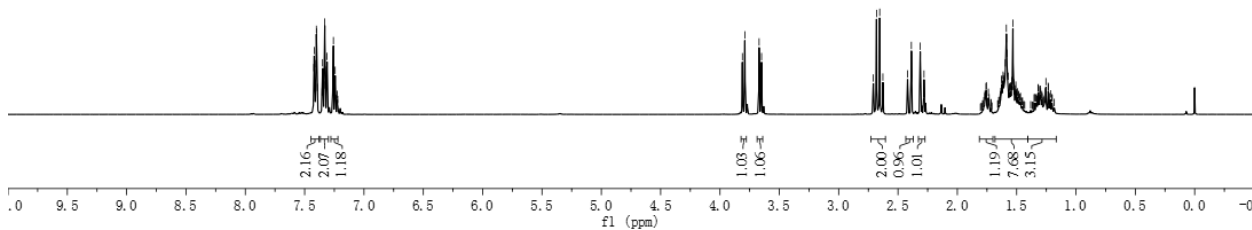
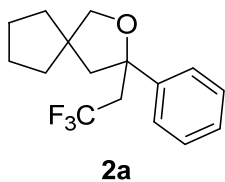
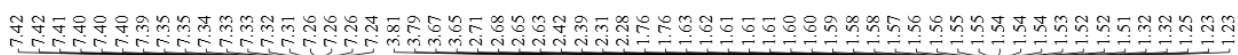
(<sup>a</sup> 南方科技大学化学系和格拉布斯研究院 深圳 518055)

(<sup>b</sup> 太原理工大学材料科学与工程学院 新材料界面科学与工程教育部重点实验室 太原 030024)

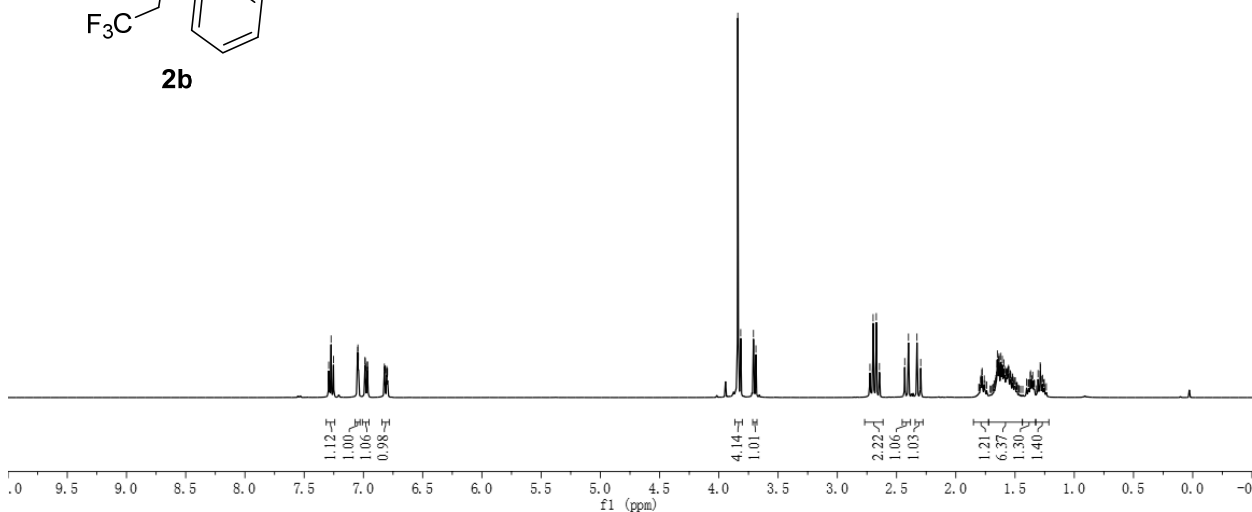
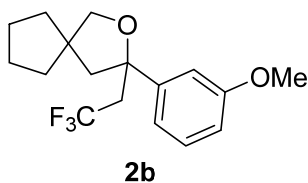
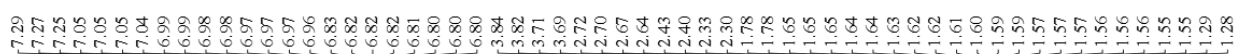
(<sup>c</sup> 南方科技大学前沿与交叉科学研究院 深圳 518055)

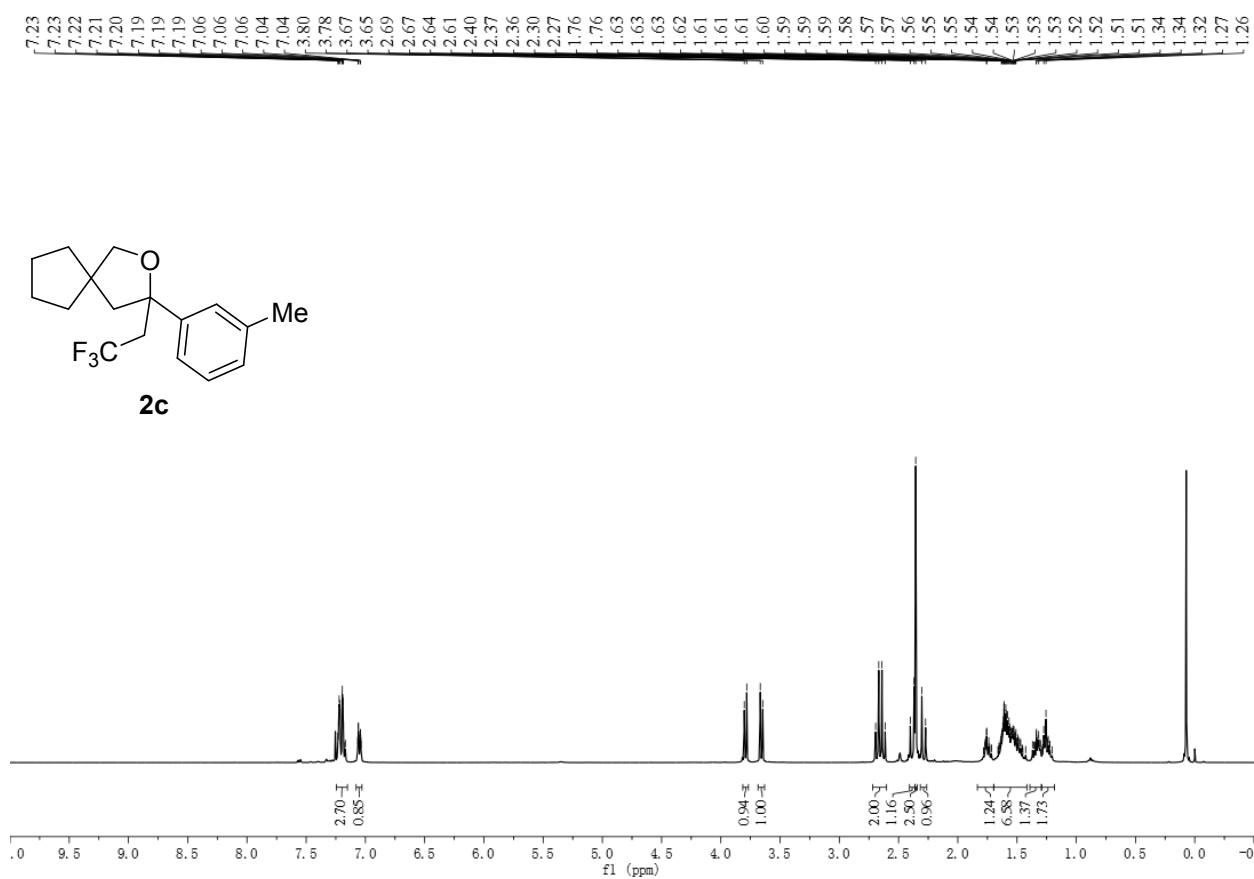
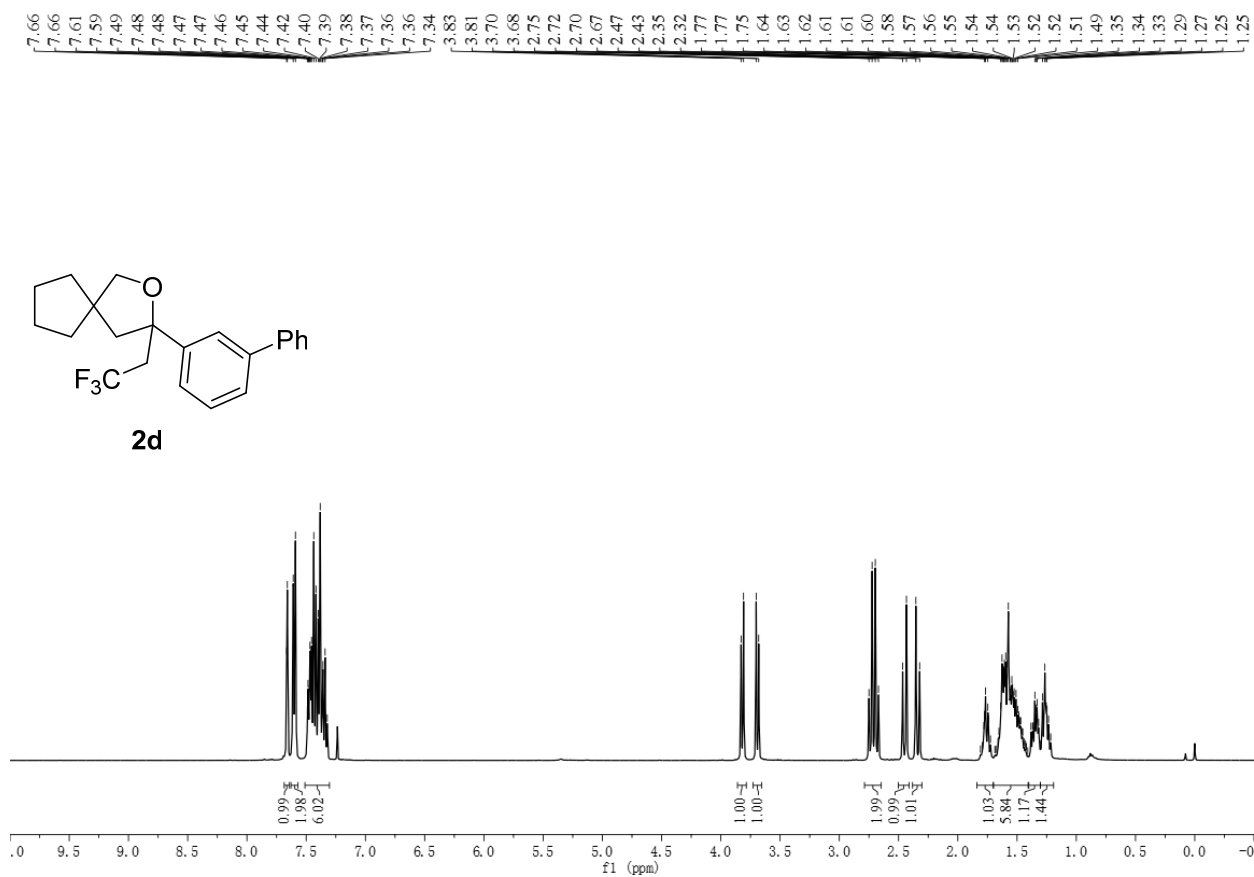
<sup>1</sup>H and <sup>13</sup>C NMR spectra of products

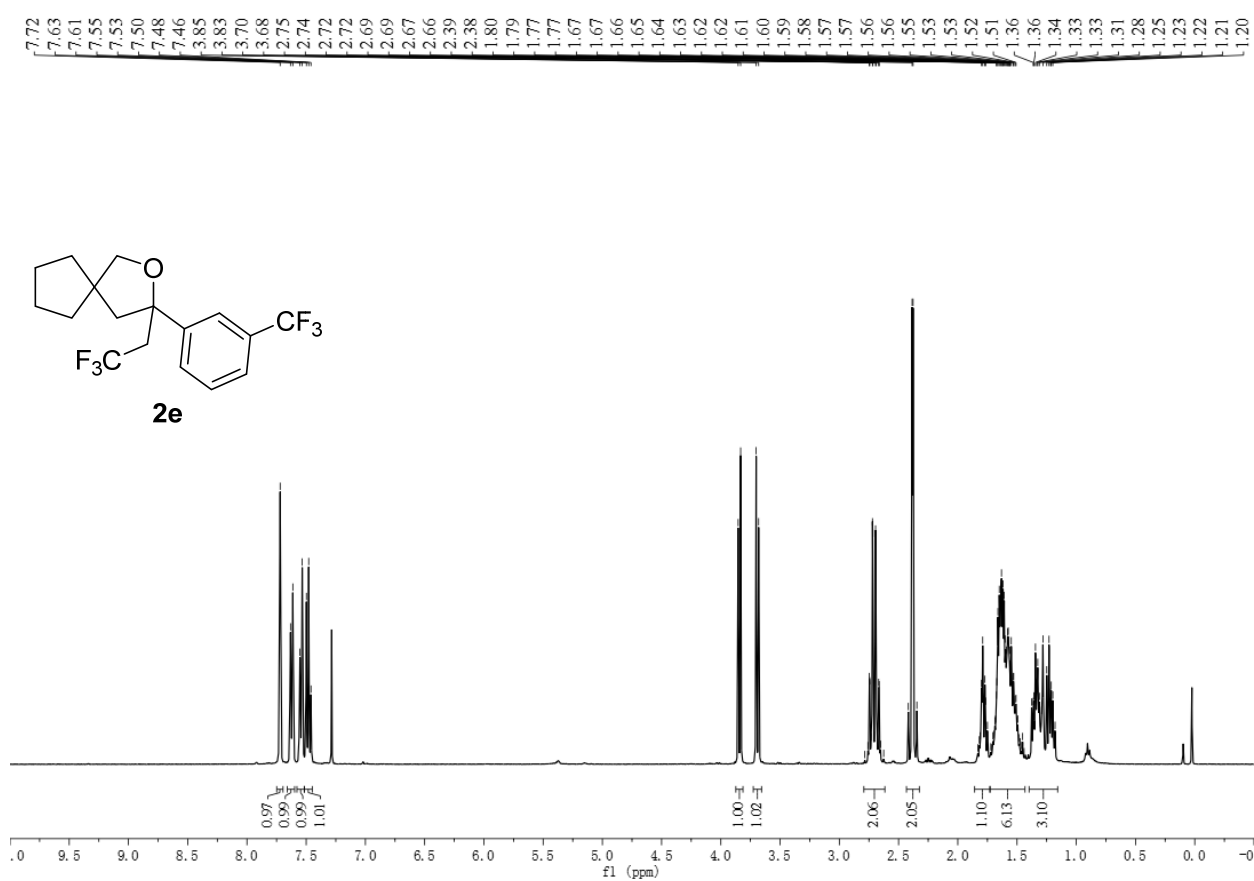
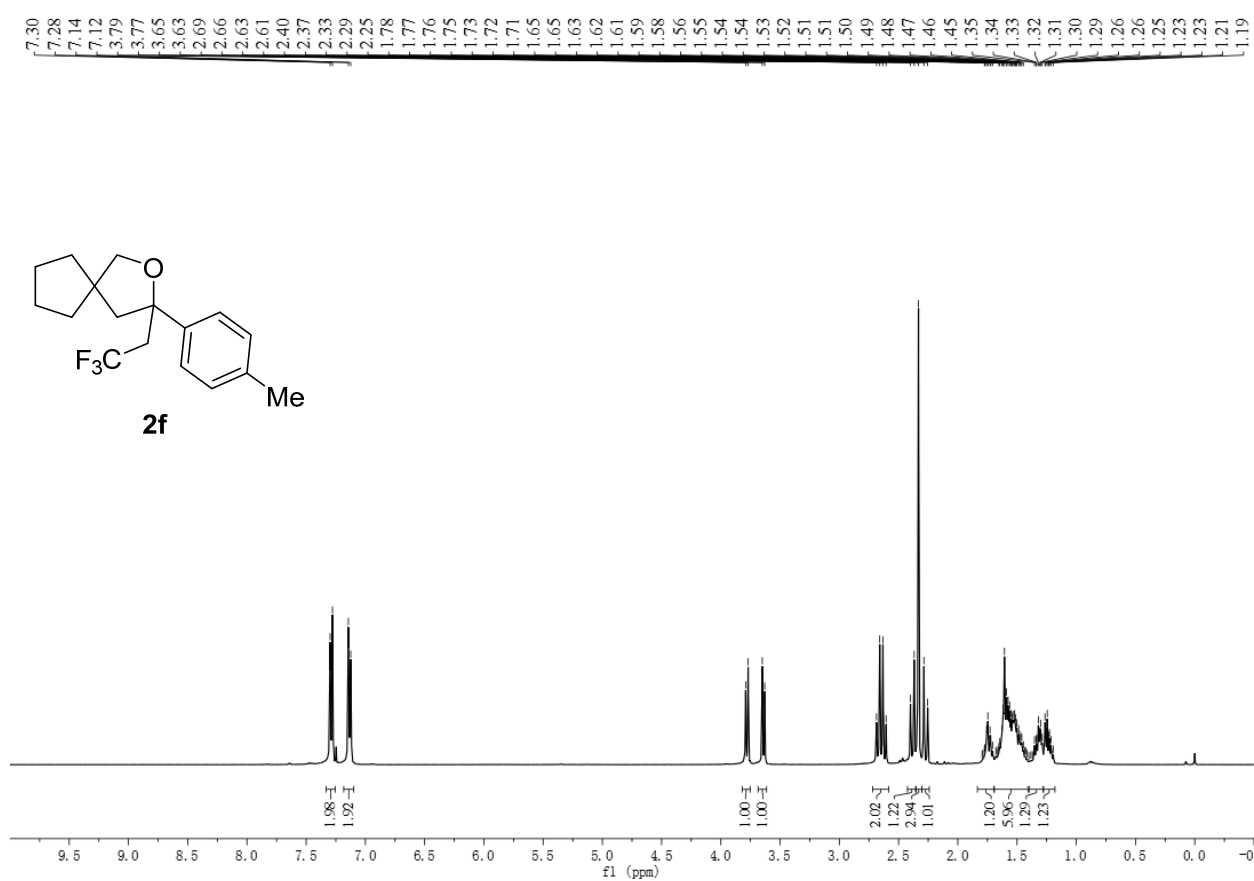
<sup>1</sup>H NMR of 2a

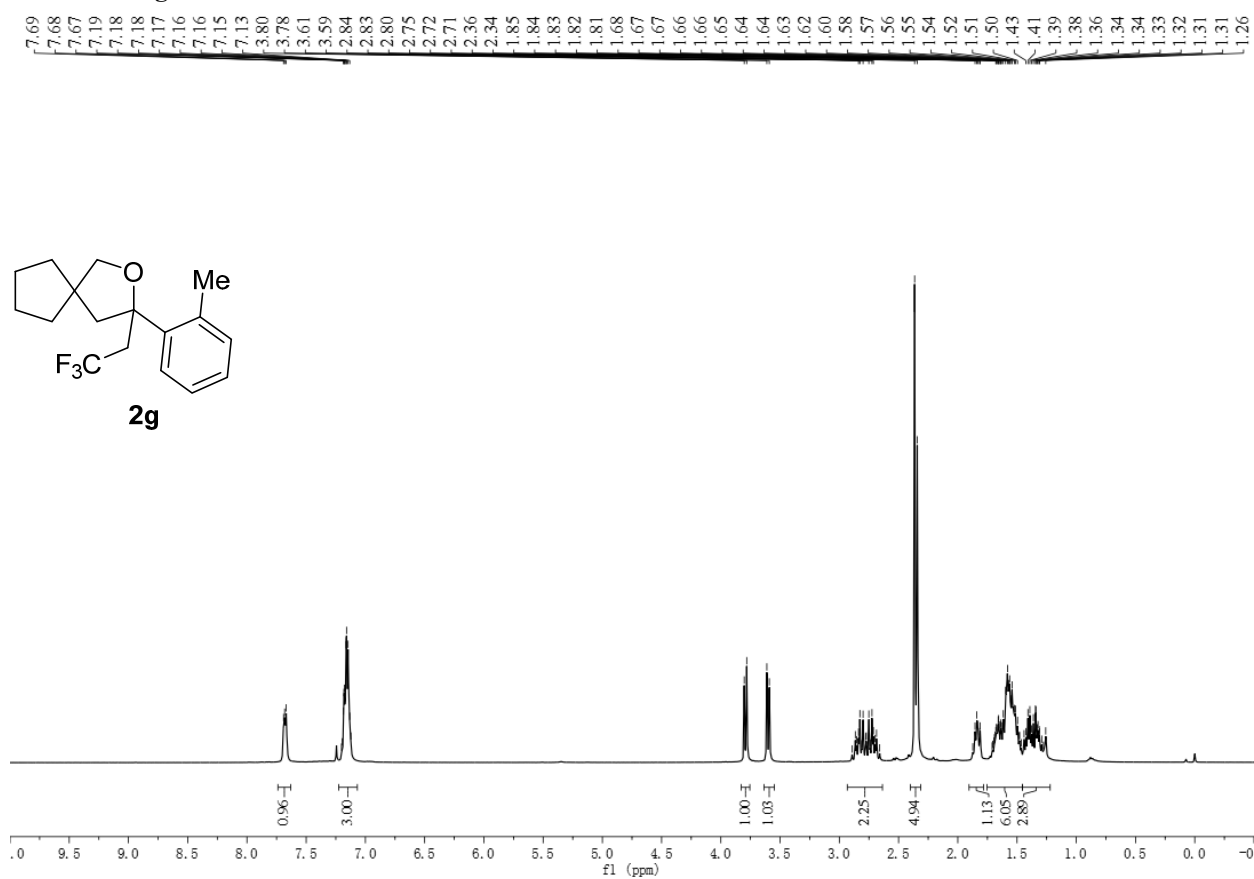
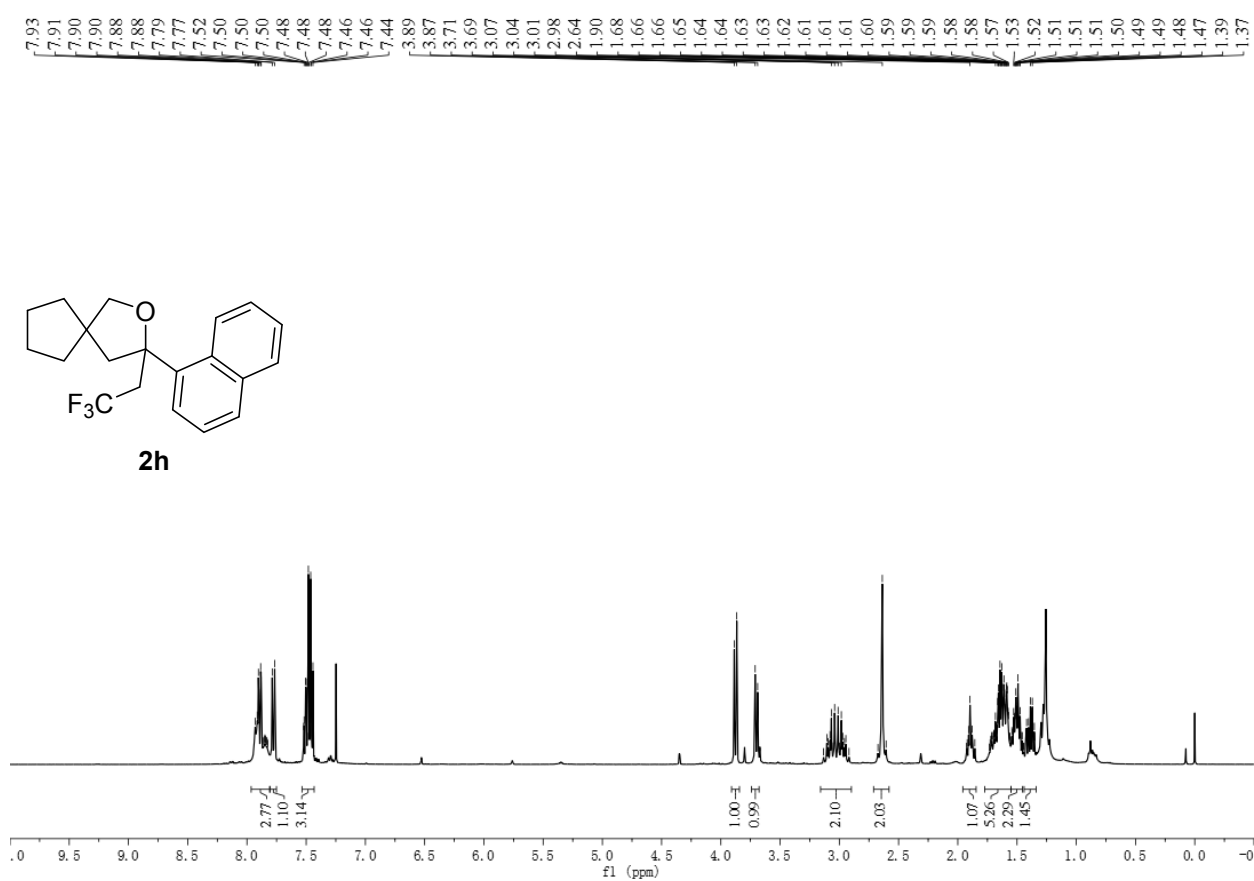


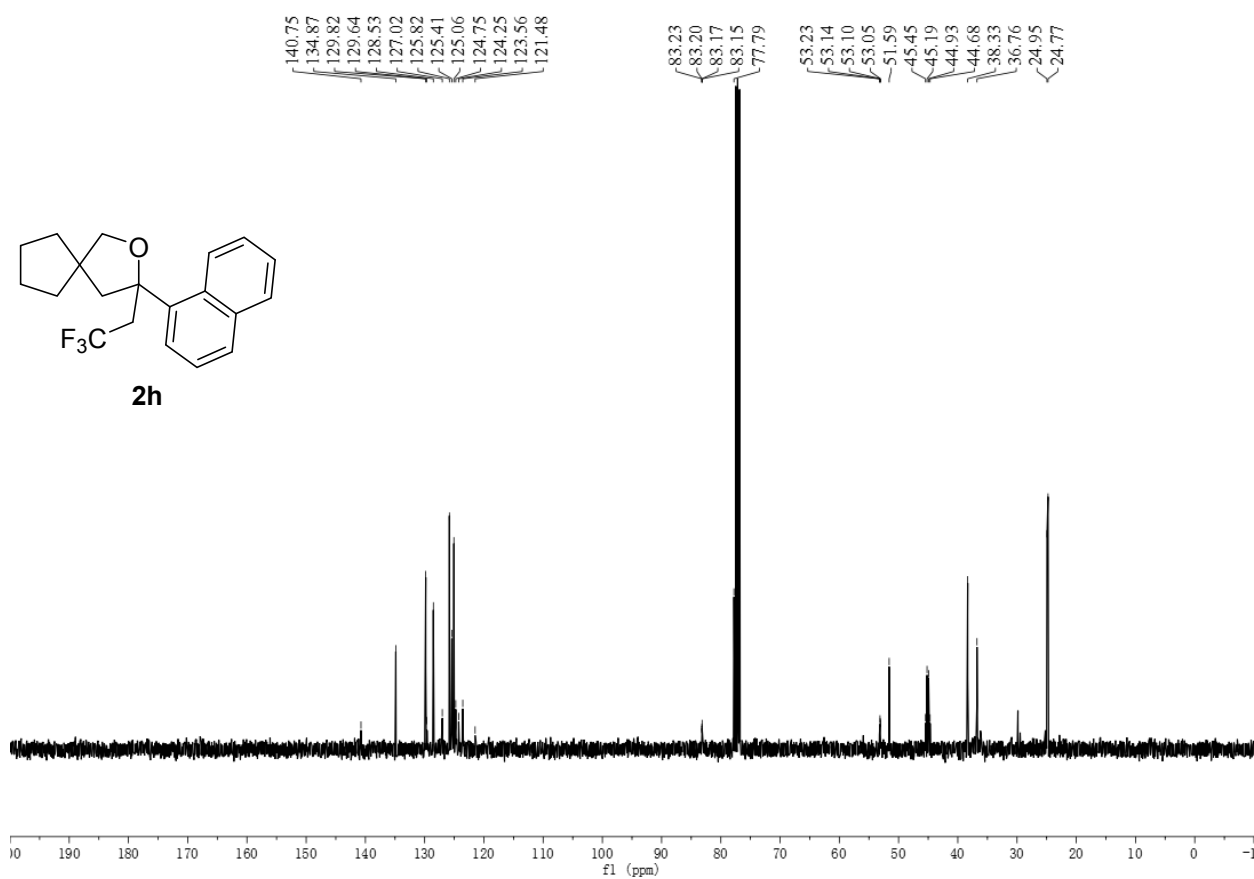
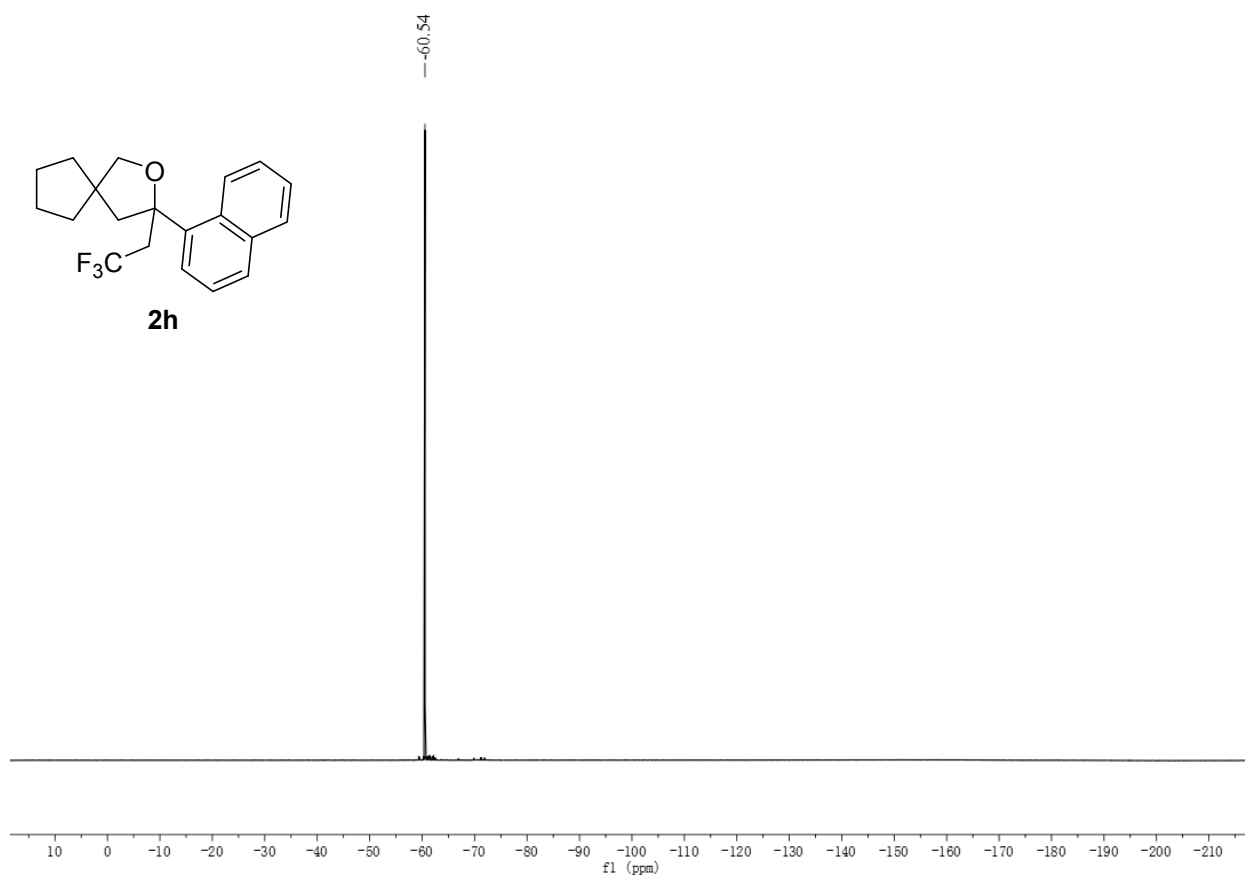
<sup>1</sup>H NMR of 2b

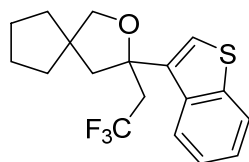
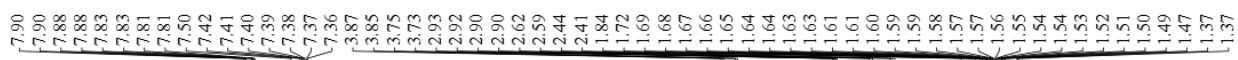
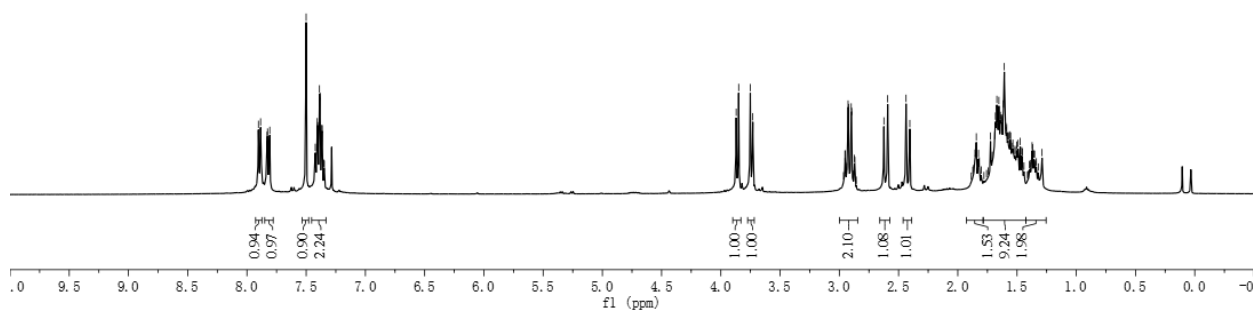
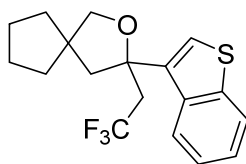
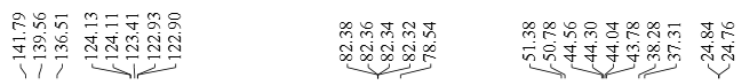
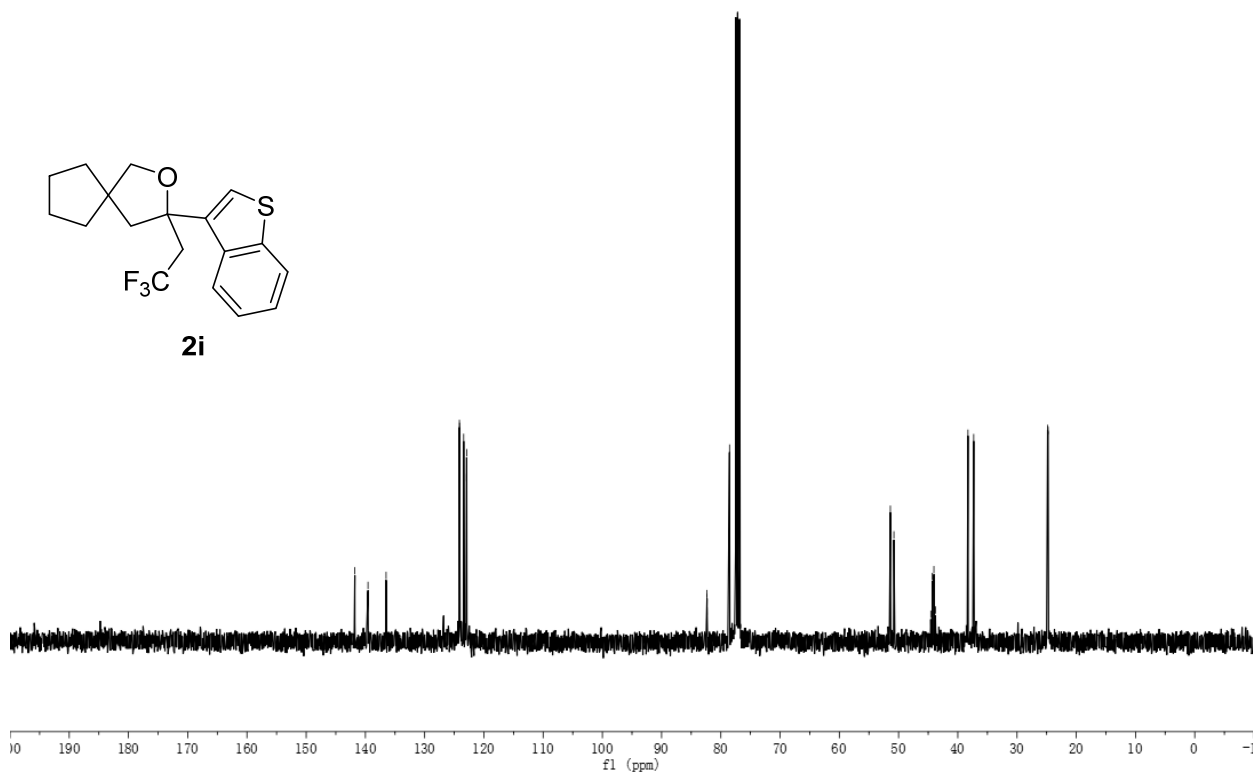


<sup>1</sup>H NMR of 2c<sup>1</sup>H NMR of 2d

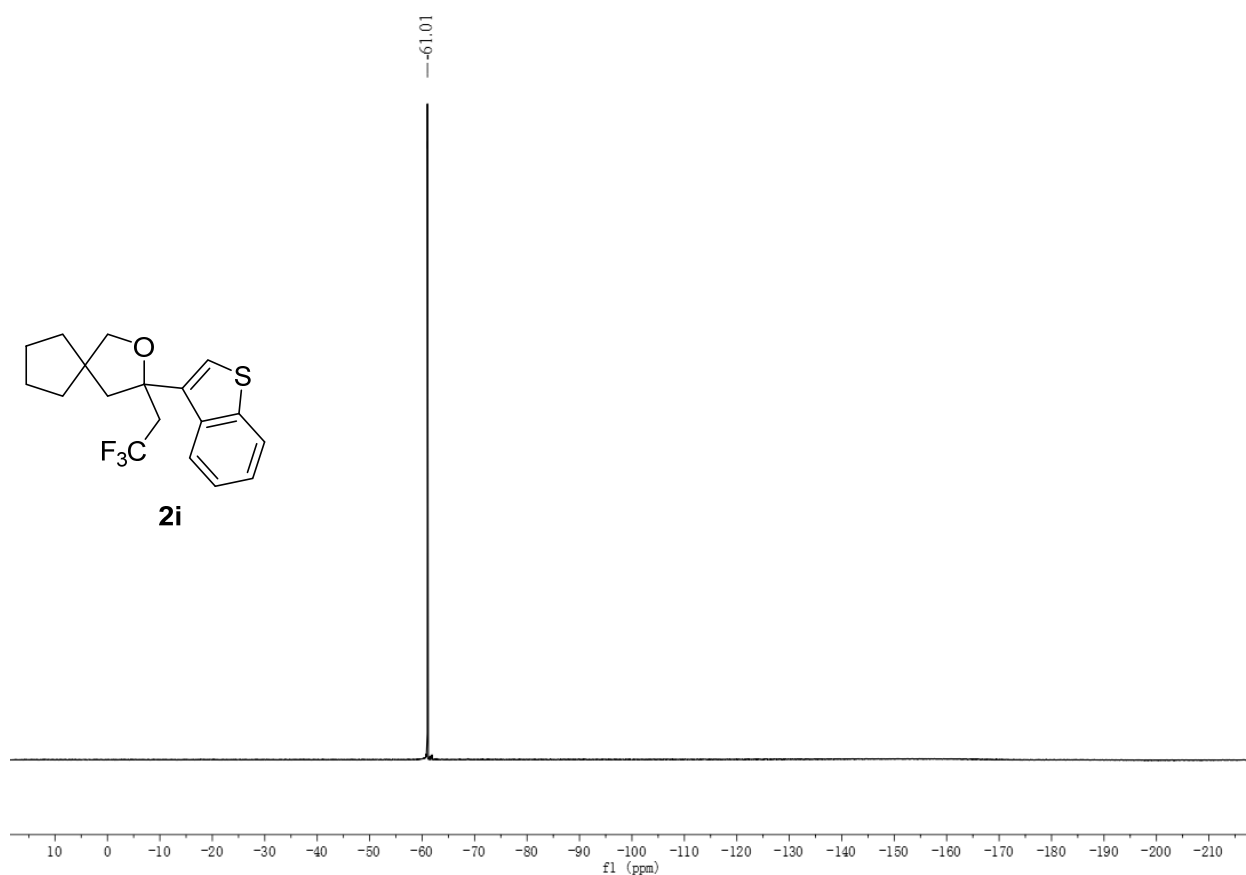
<sup>1</sup>H NMR of 2e<sup>1</sup>H NMR of 2f

<sup>1</sup>H NMR of 2g<sup>1</sup>H NMR of 2h

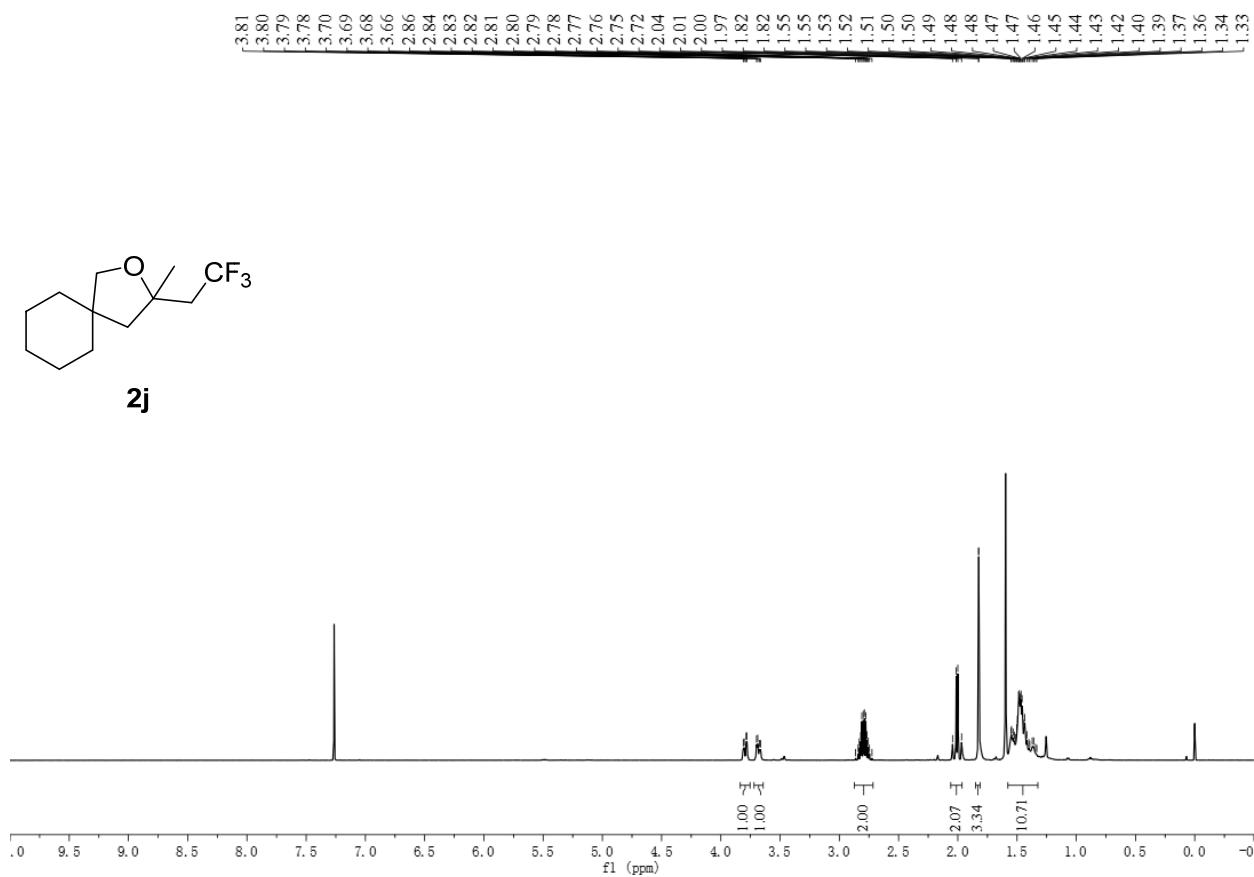
$^{13}\text{C}$  NMR of **2h** $^{19}\text{F}$  NMR of **2h**

$^1\text{H}$  NMR of **2i****2i** $^{13}\text{C}$  NMR of **2i****2i**

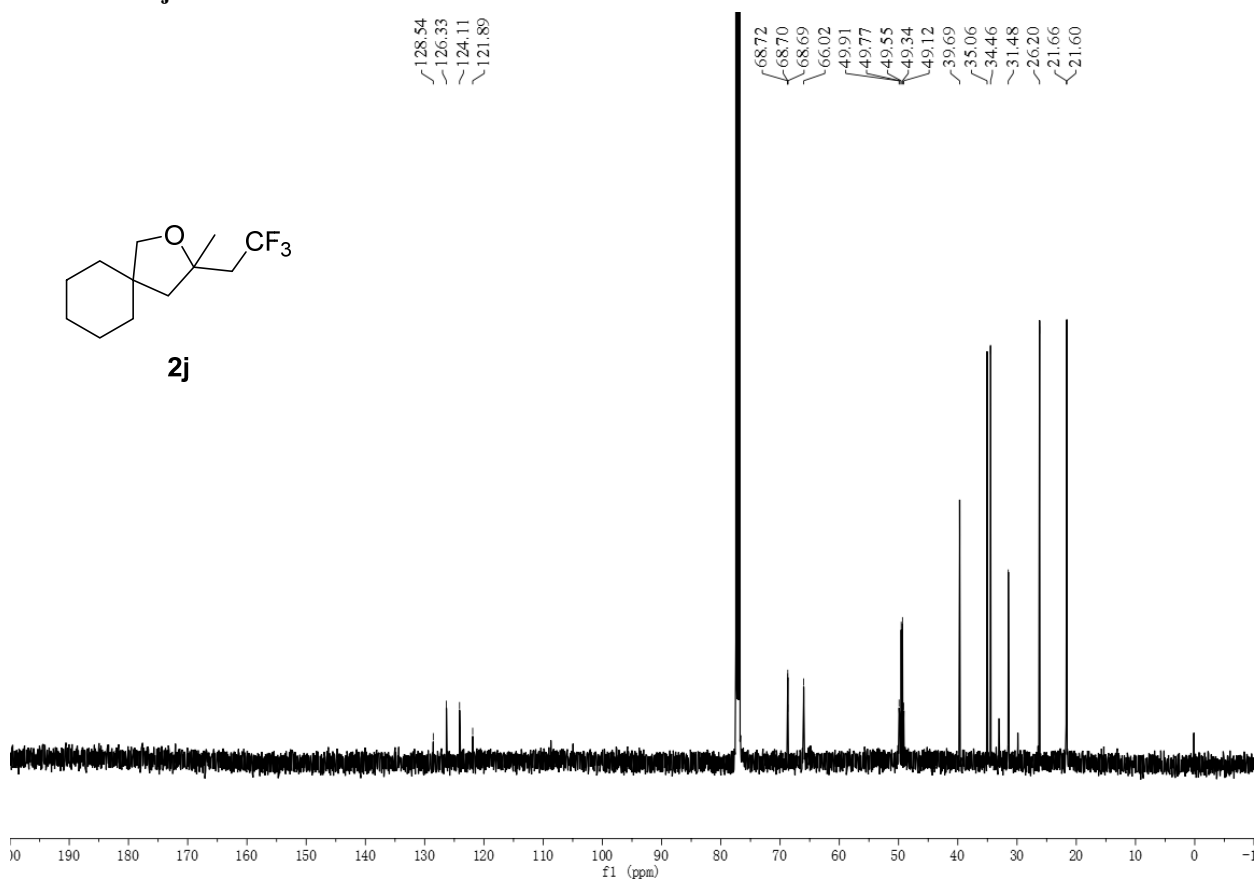
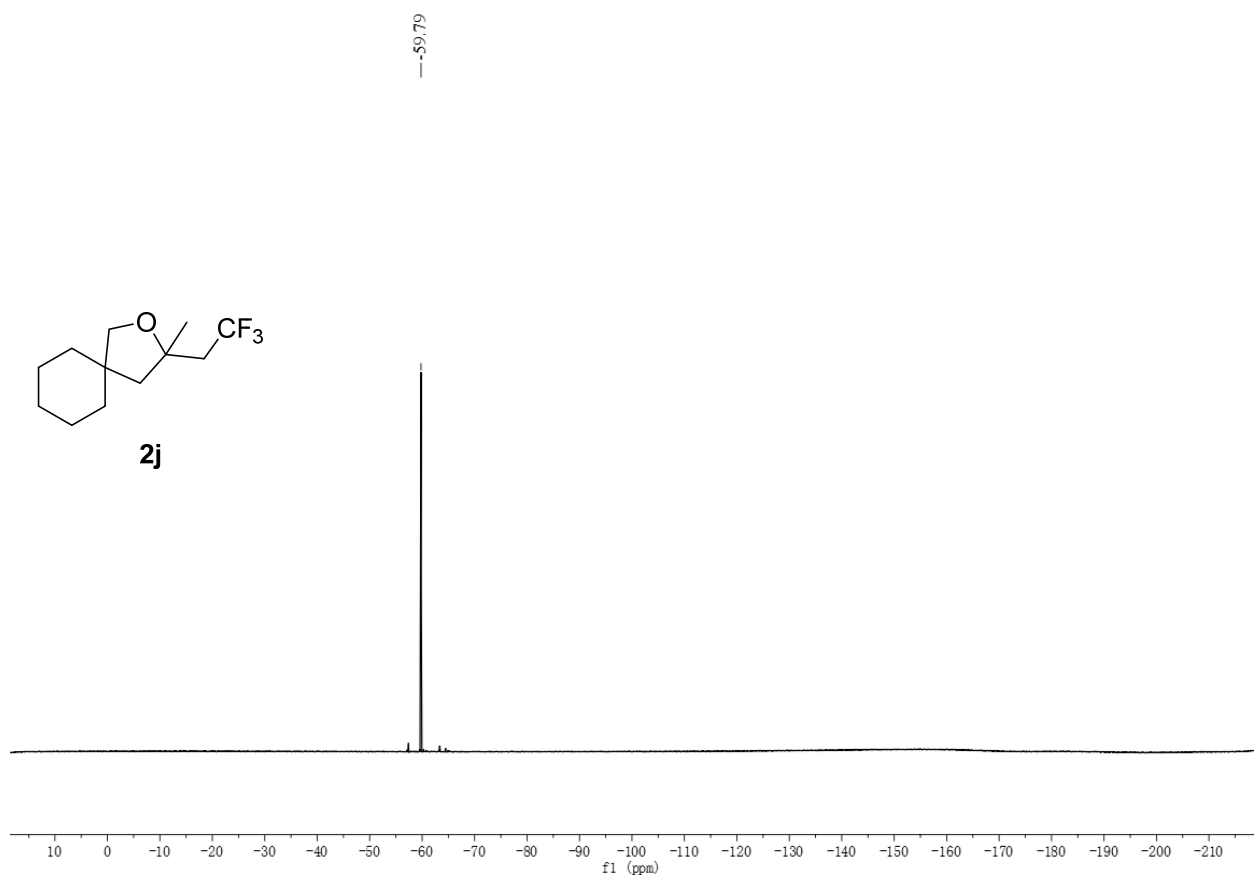
$^{19}\text{F}$  NMR of **2i**



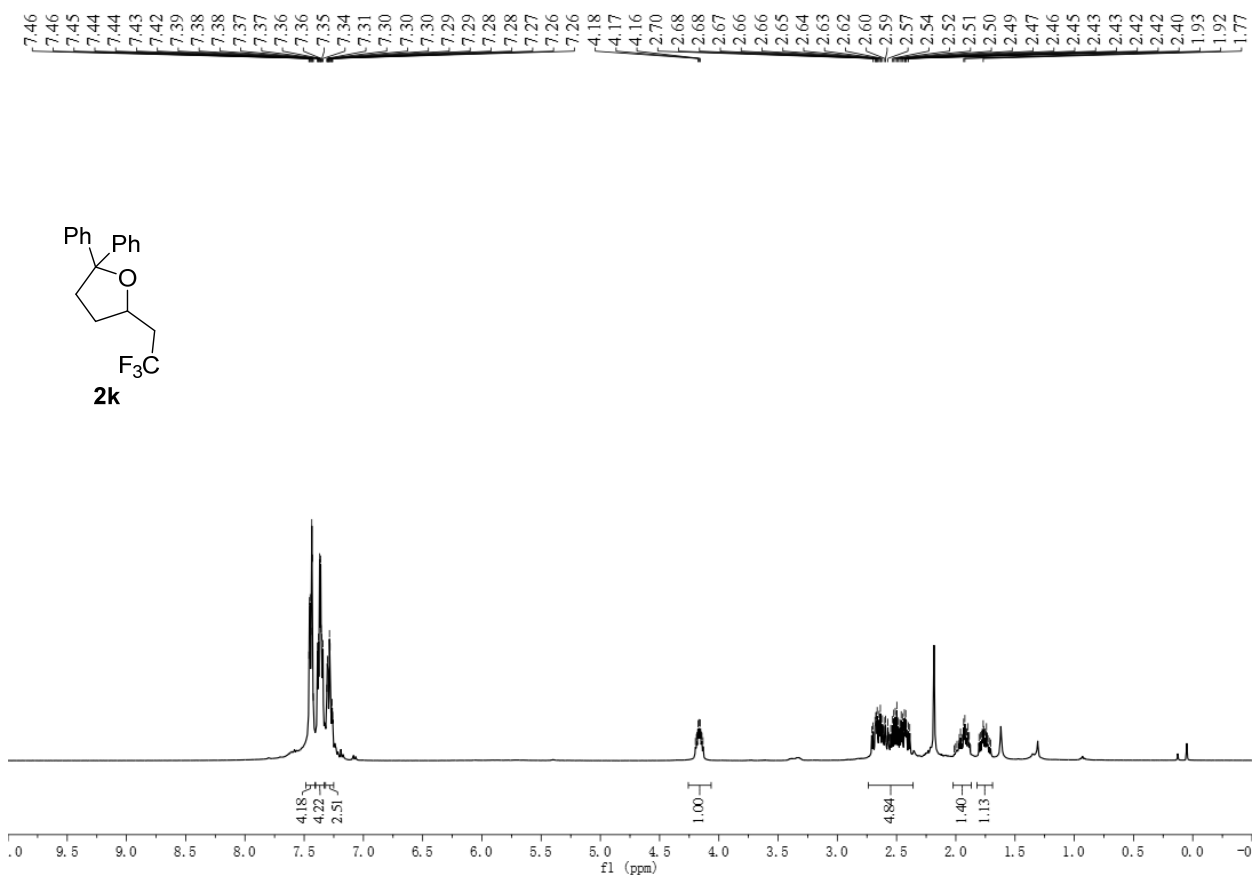
$^1\text{H}$  NMR of **2j**



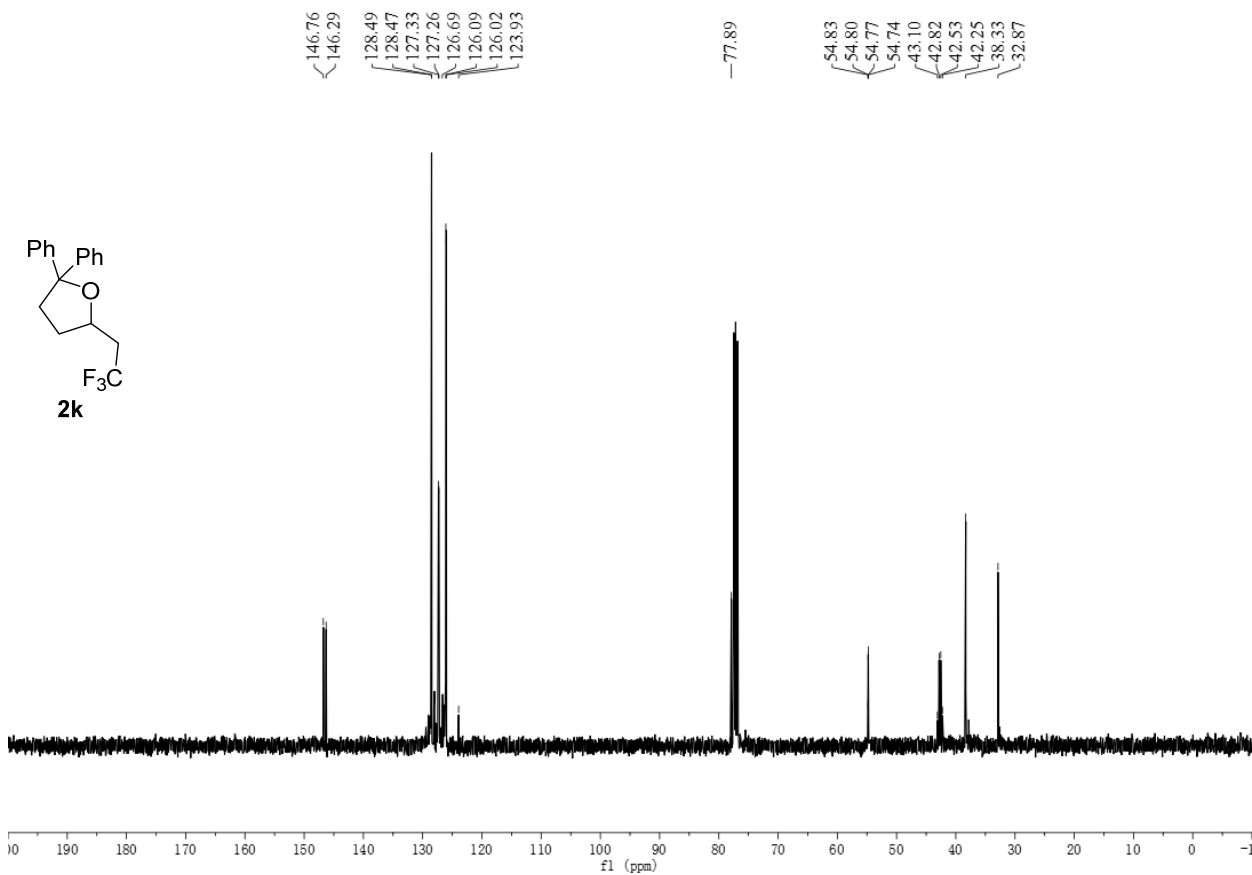


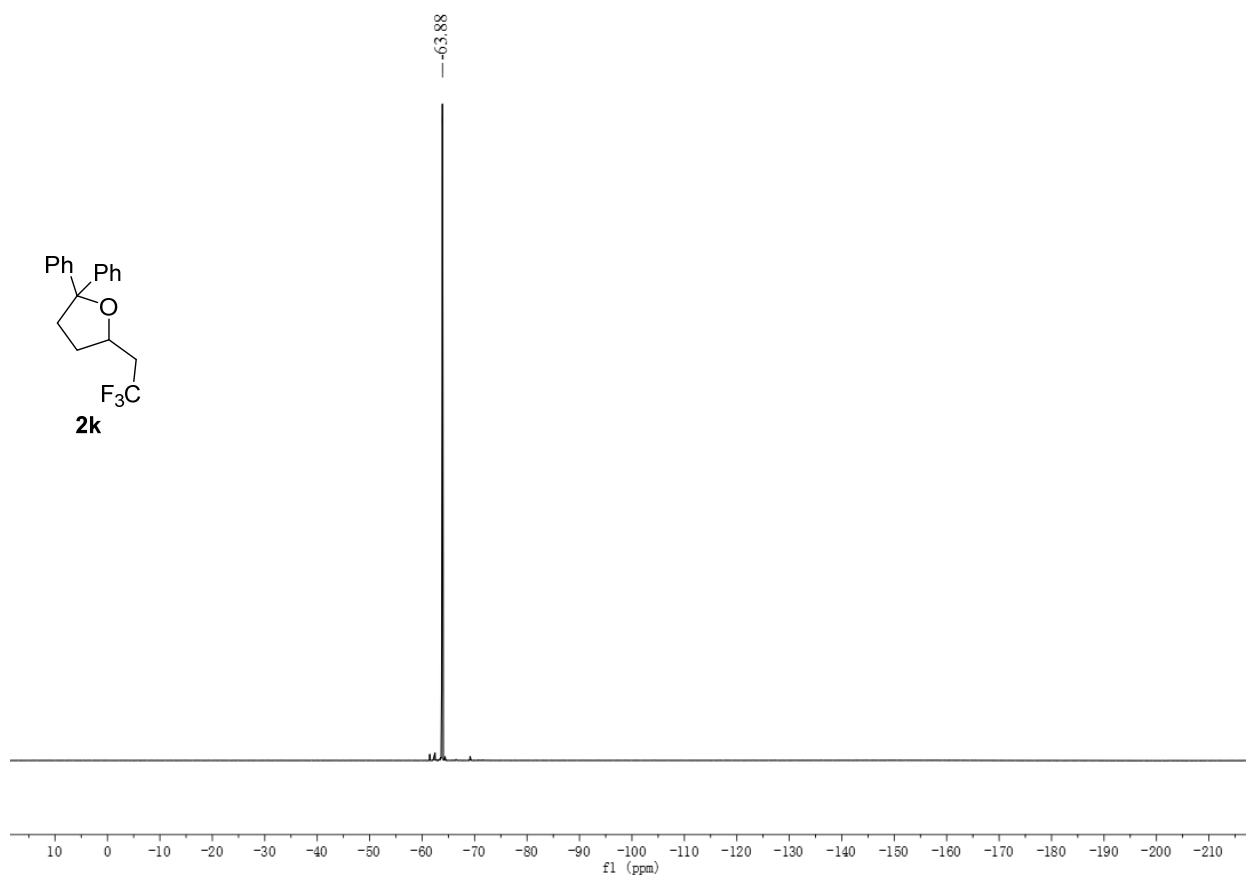
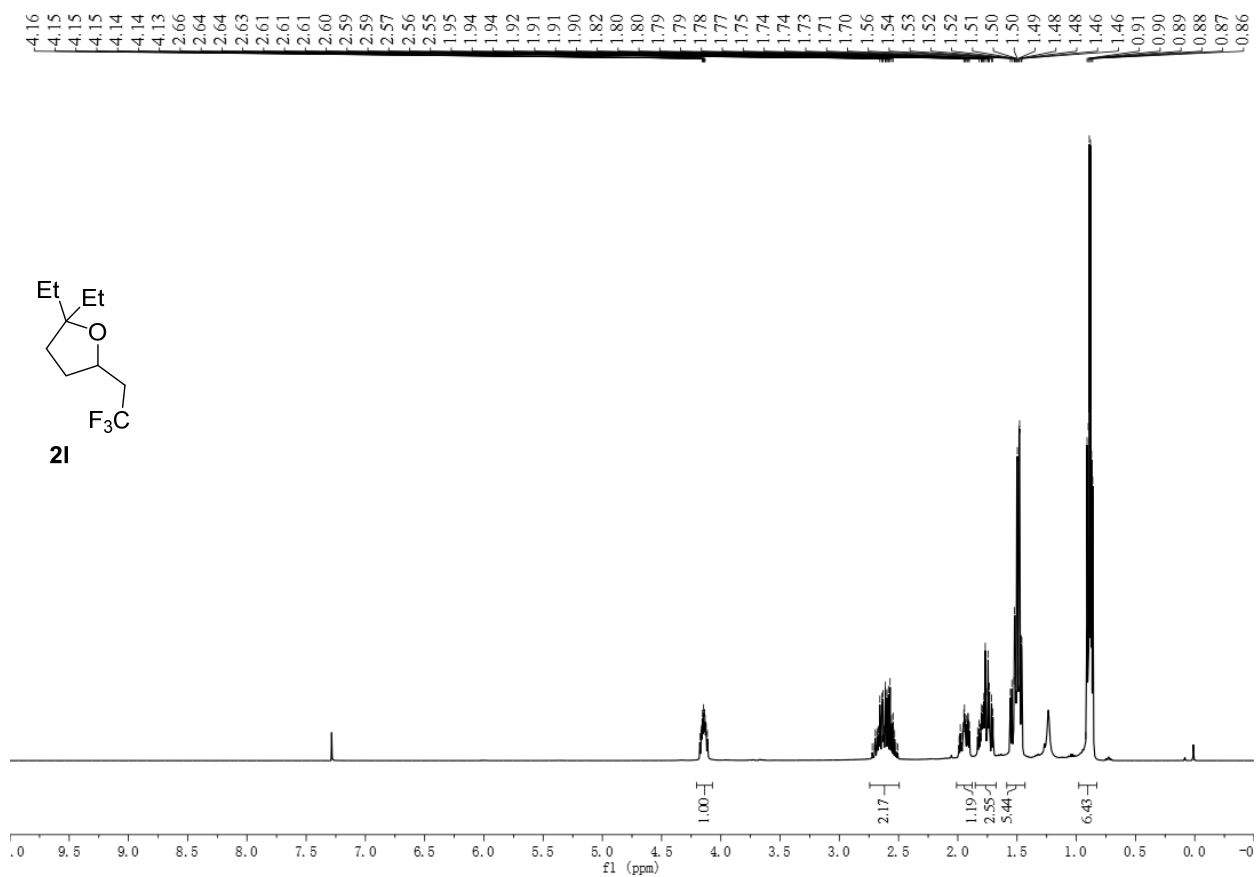
$^{13}\text{C}$  NMR of **2j** $^{19}\text{F}$  NMR of **2j**

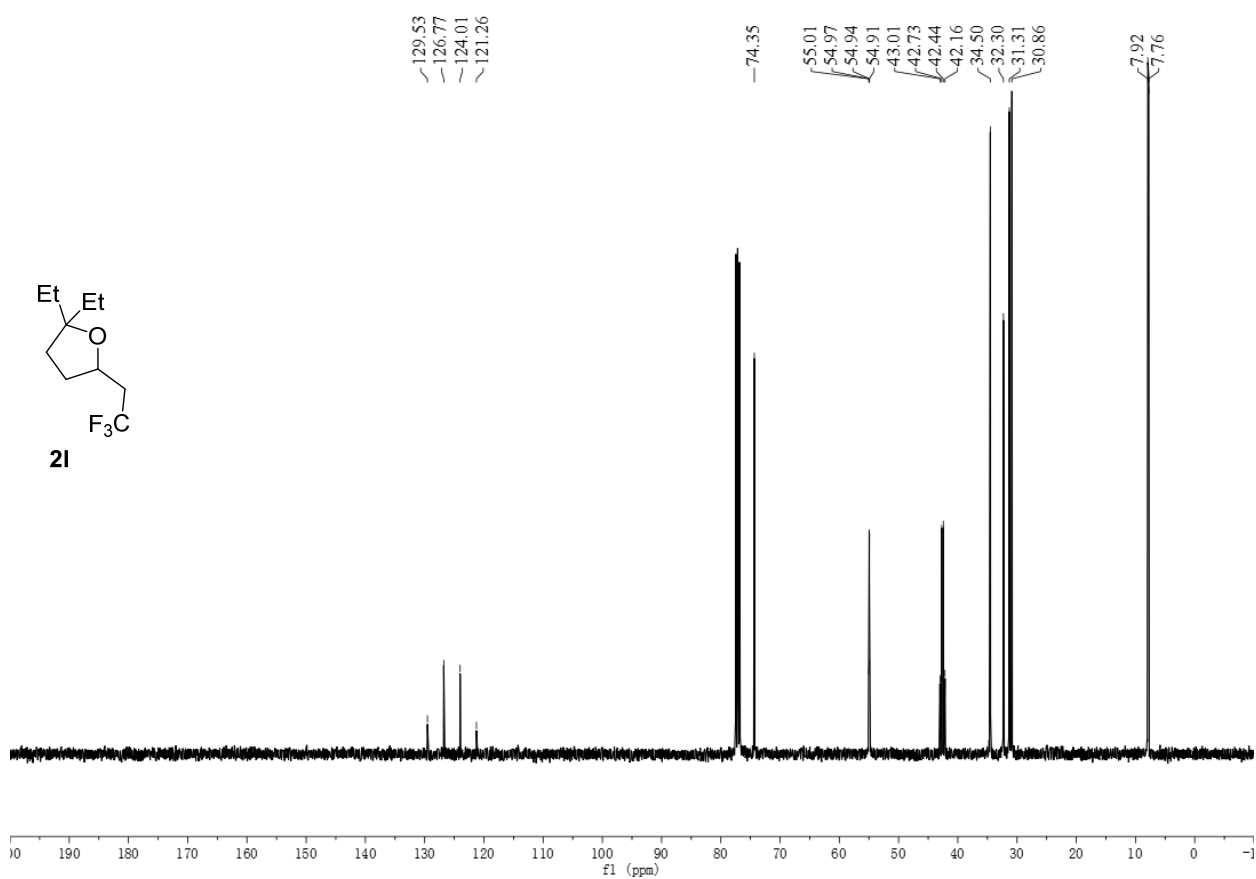
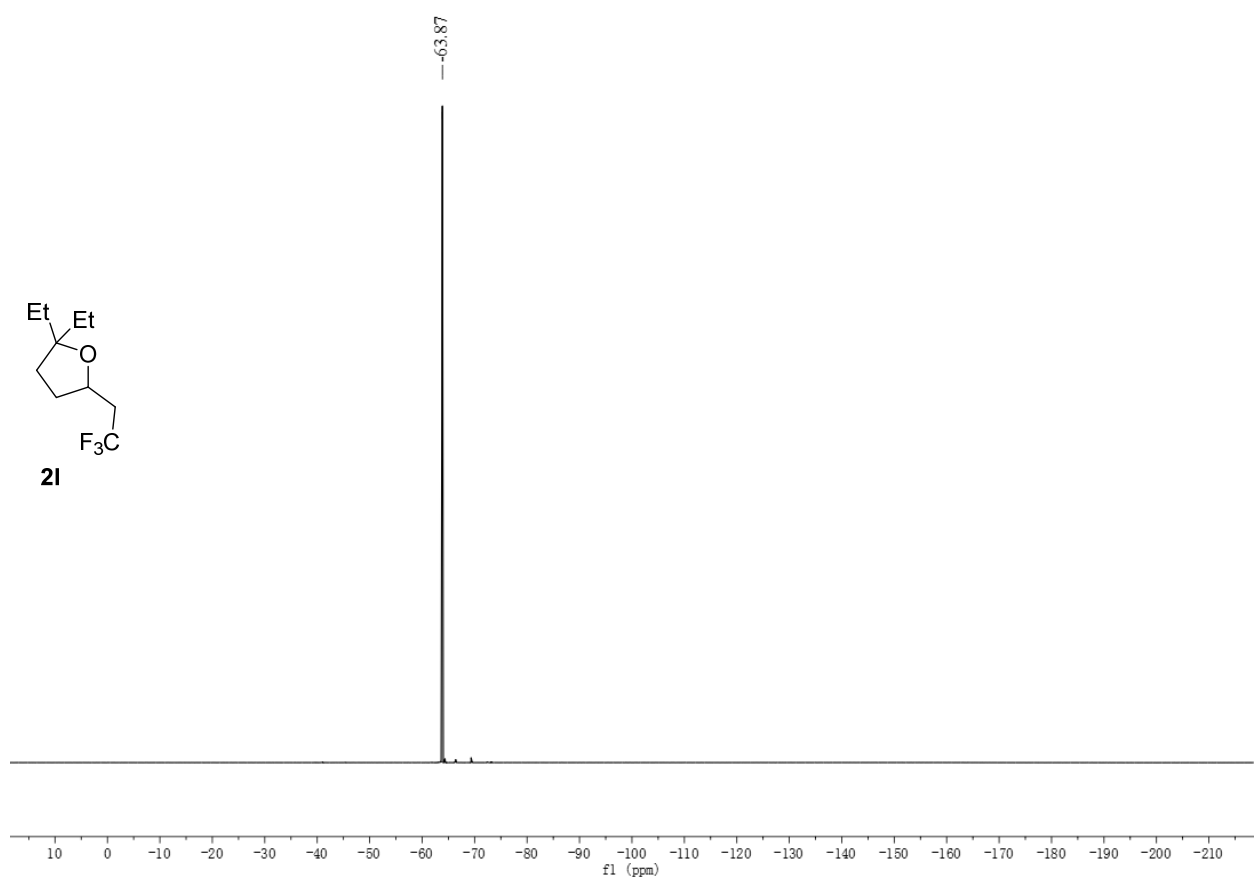
<sup>1</sup>H NMR of **2k**

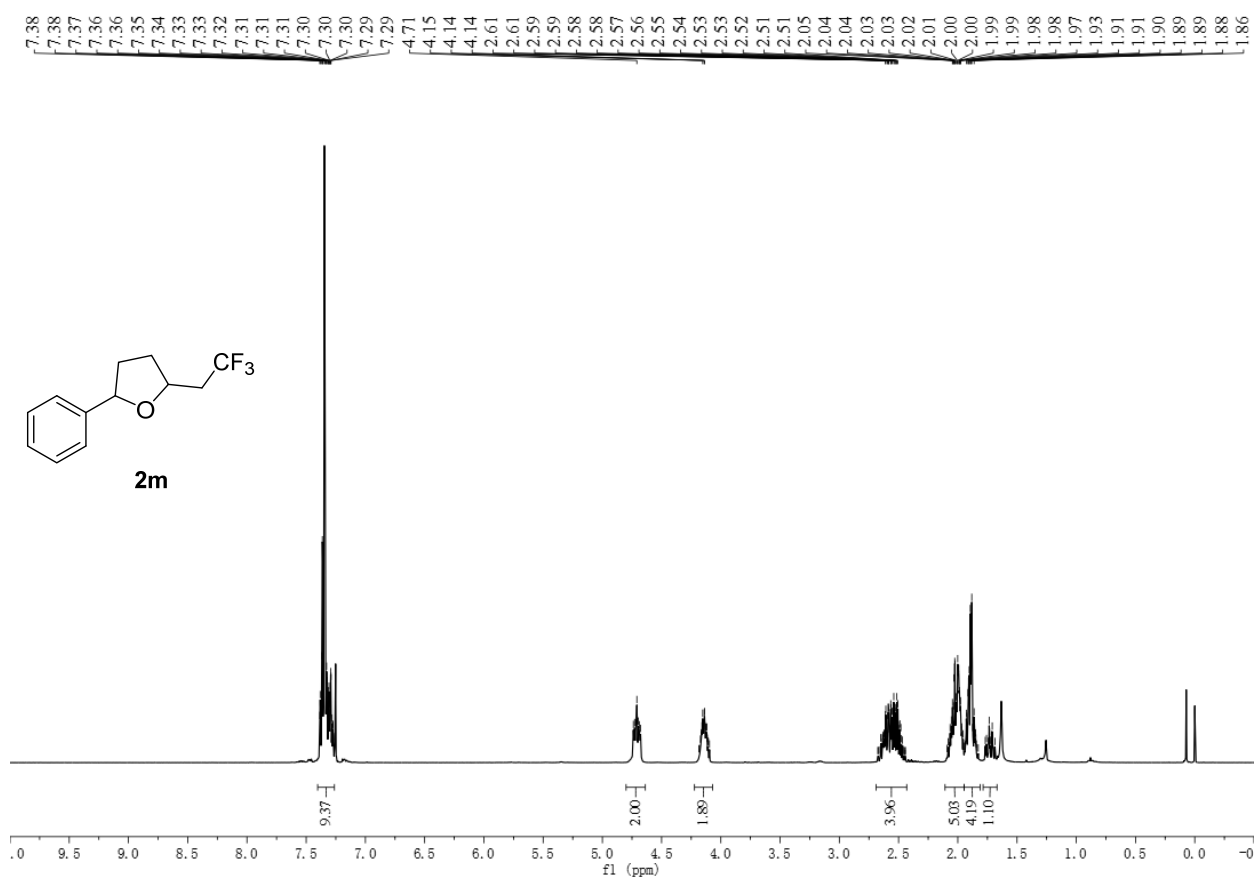
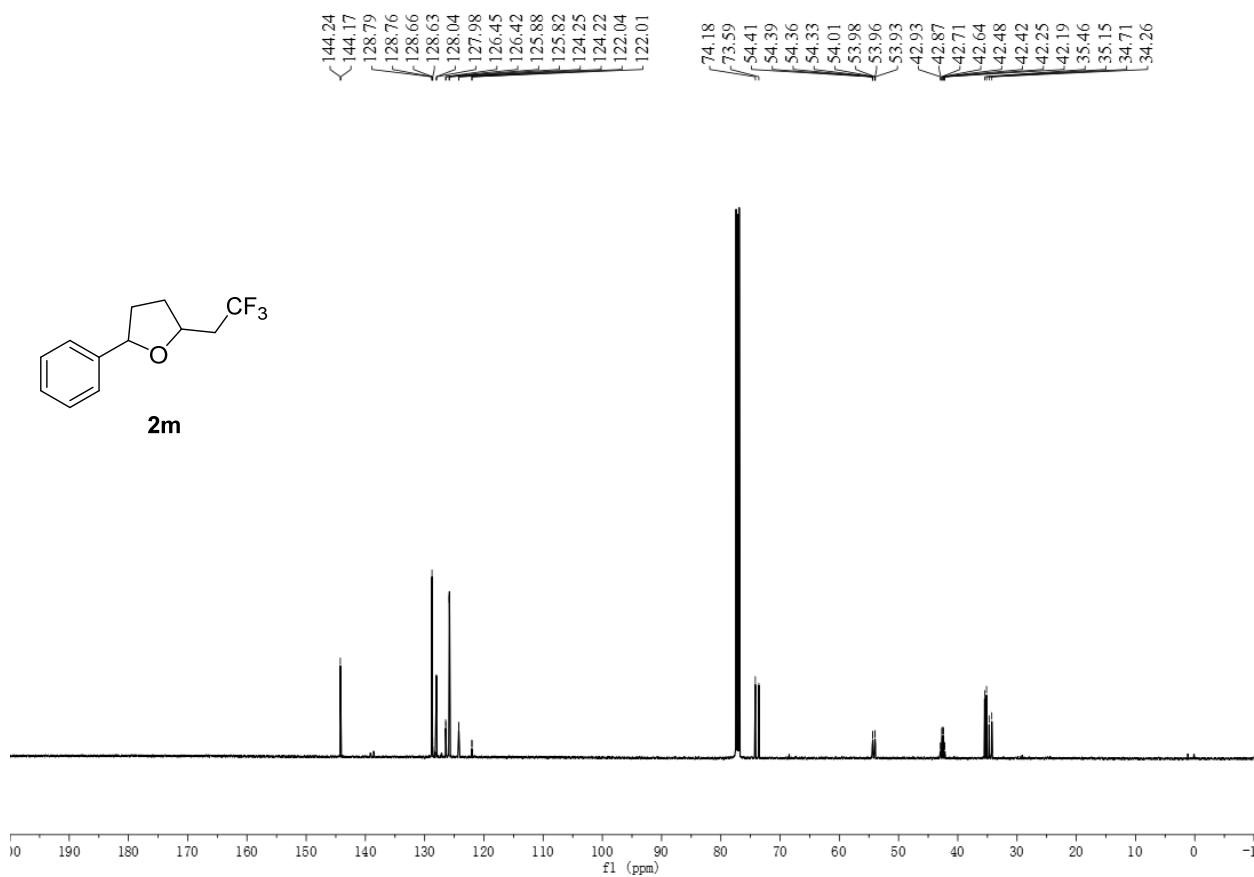


<sup>13</sup>C NMR of **2k**

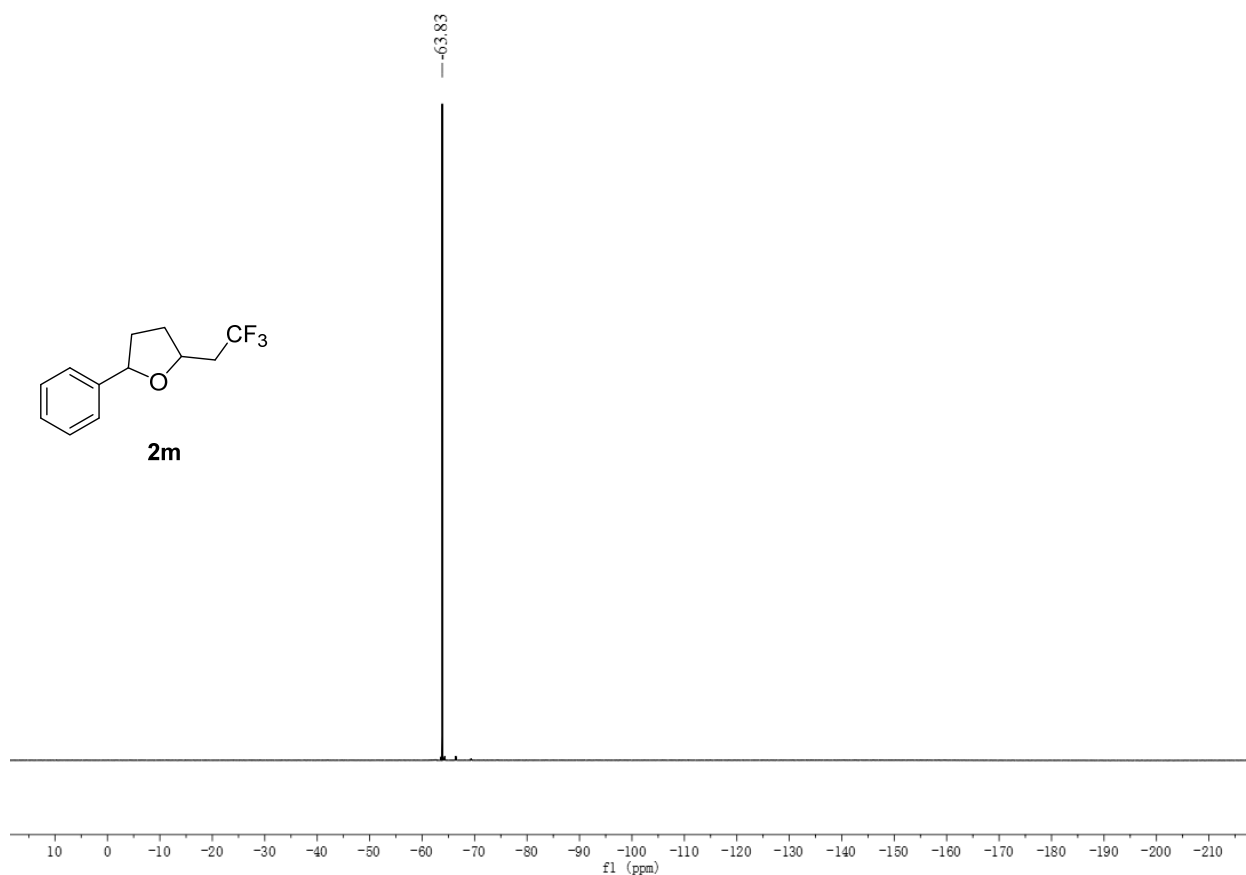


$^{19}\text{F}$  NMR of **2k** $^1\text{H}$  NMR of **2l**

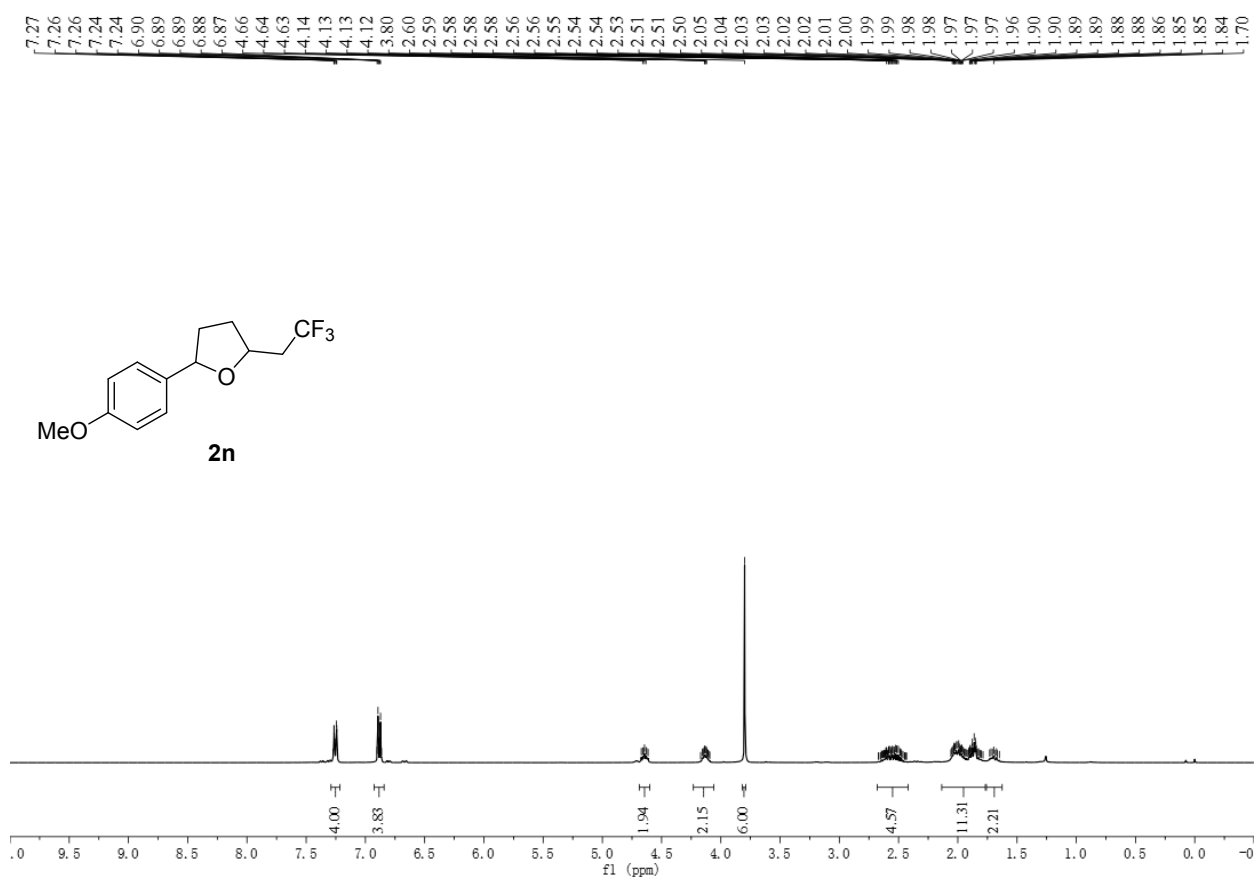
$^{13}\text{C}$  NMR of **21** $^{19}\text{F}$  NMR of **21**

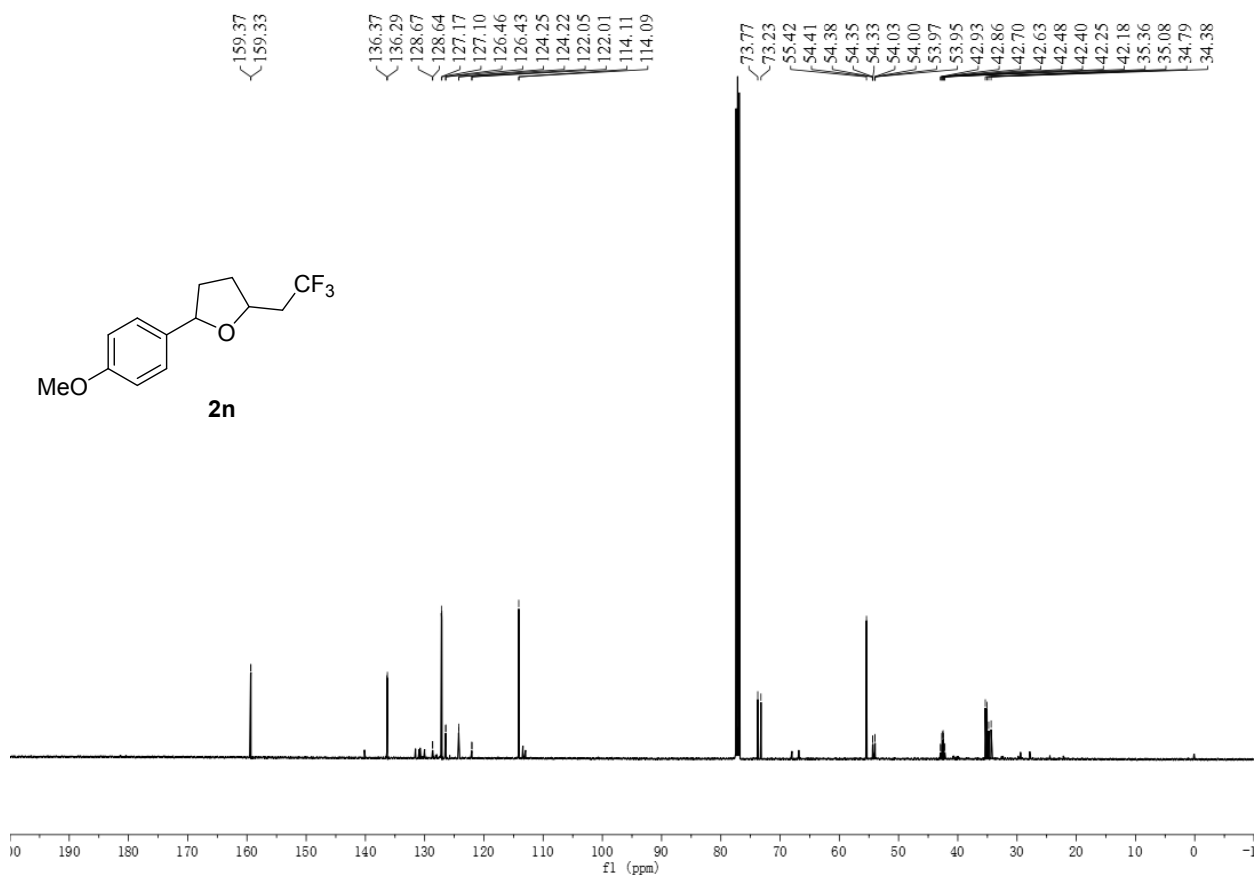
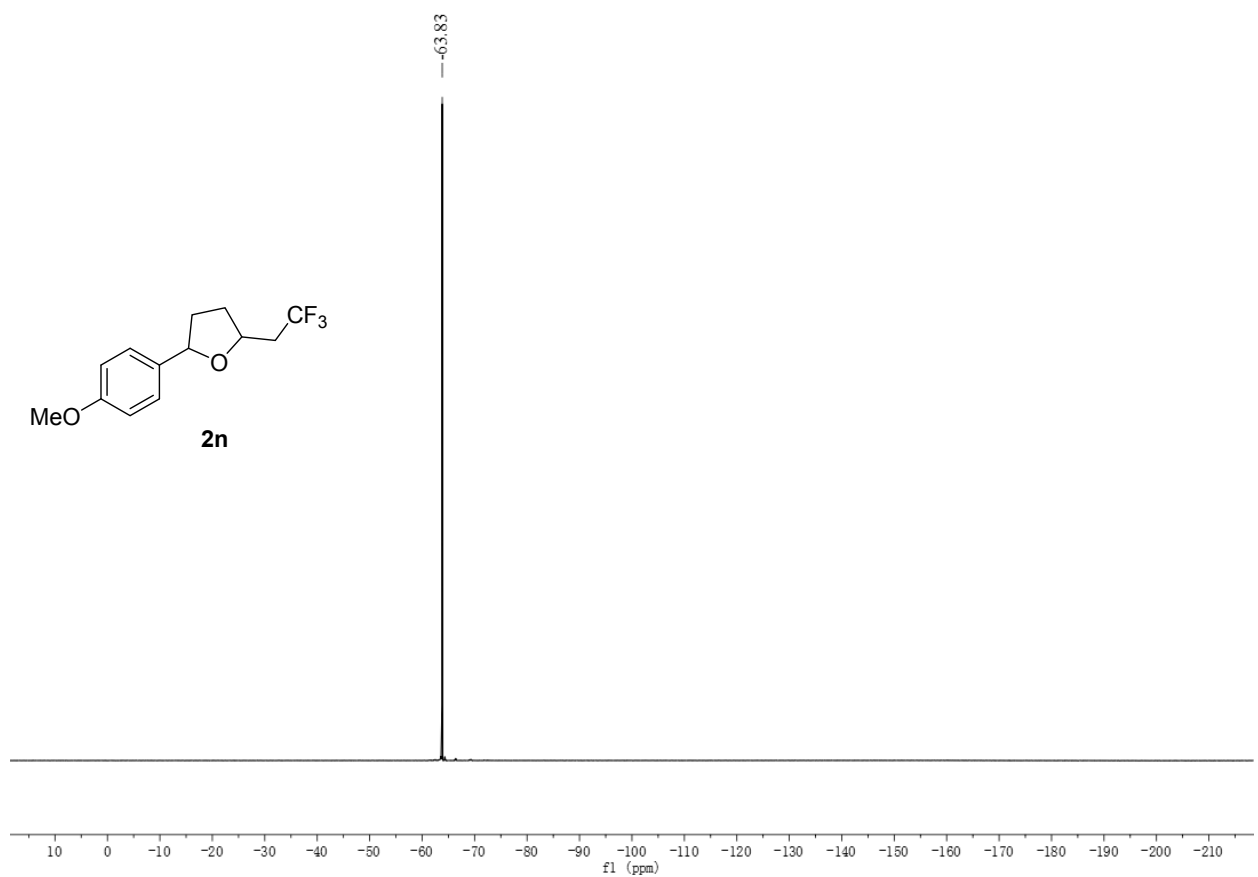
<sup>1</sup>H NMR of **2m**<sup>13</sup>C NMR of **2m**

<sup>19</sup>F NMR of **2m**

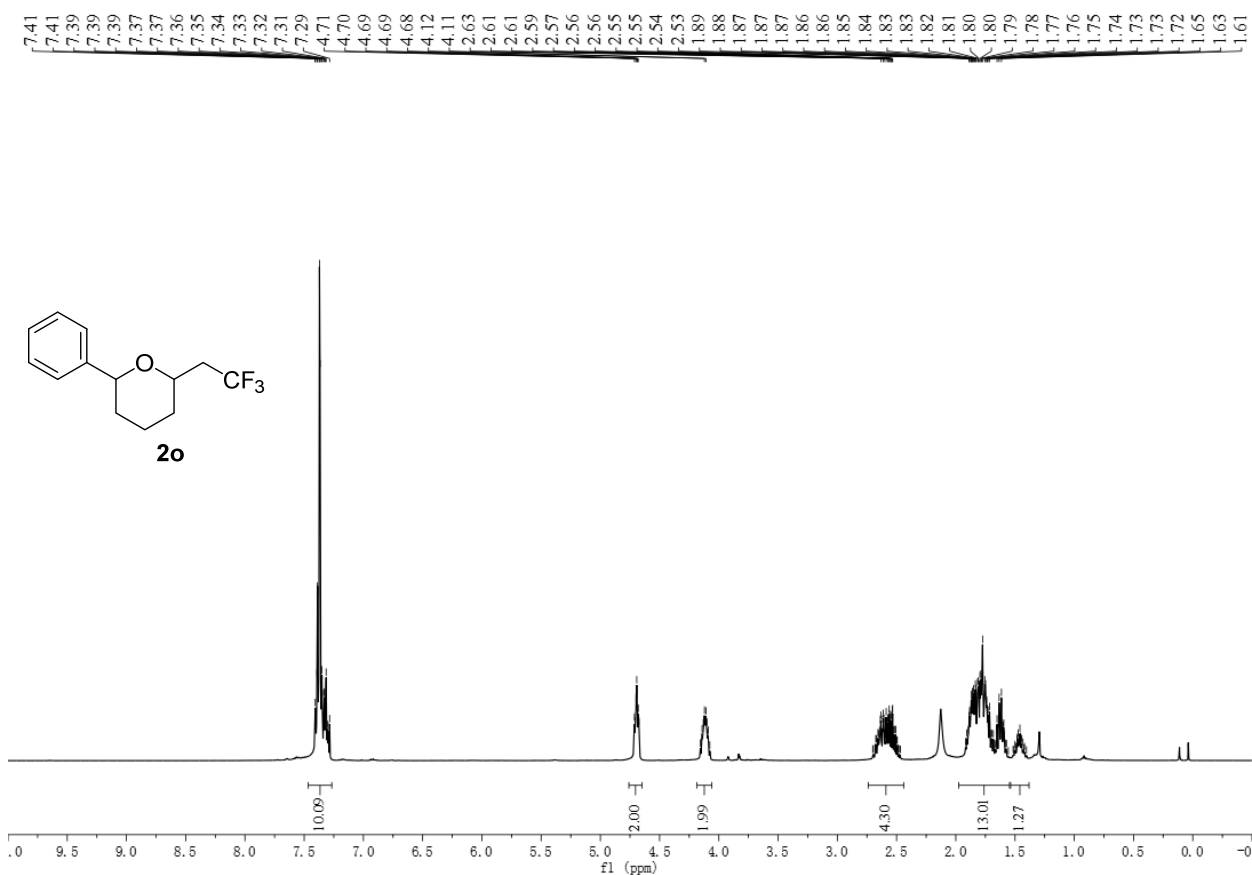


<sup>1</sup>H NMR of **2n**

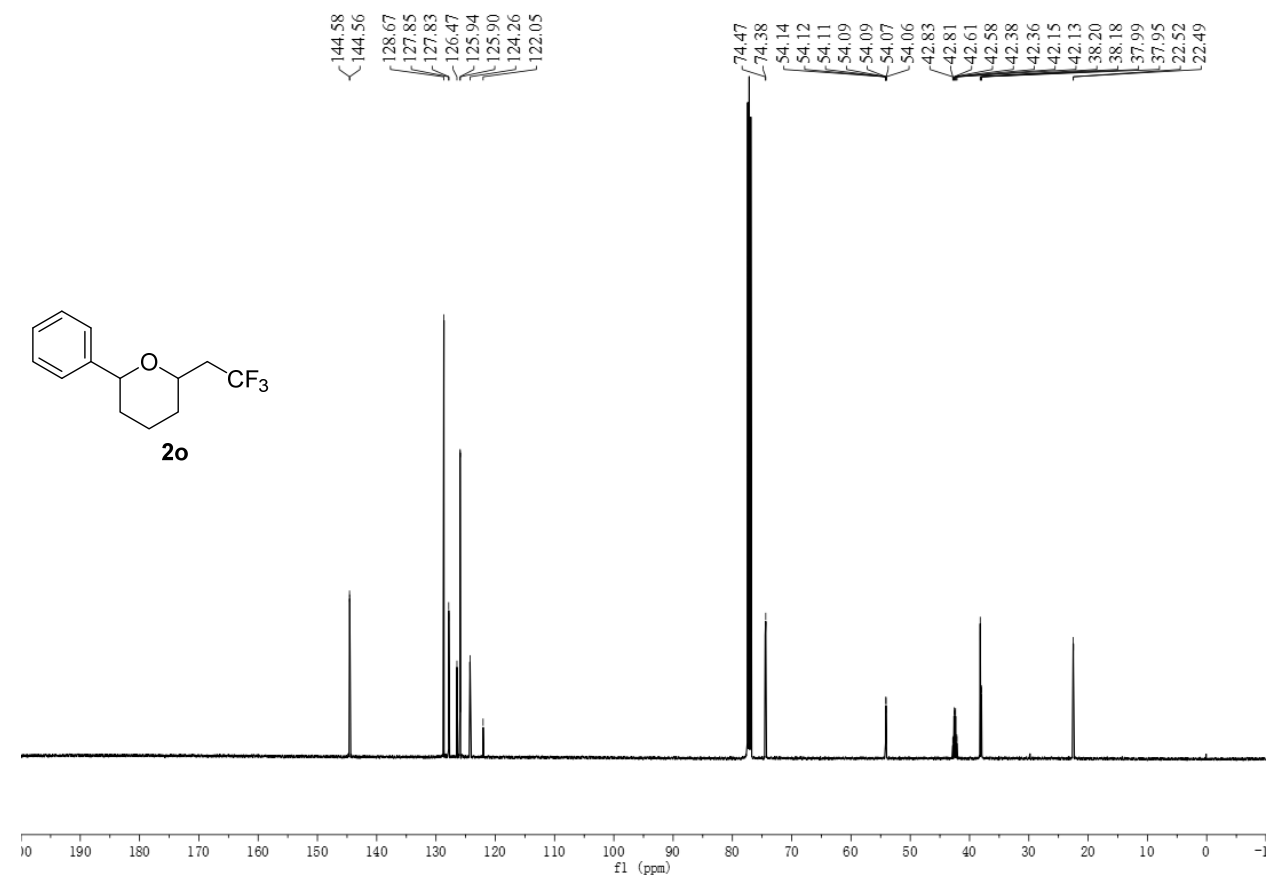


$^{13}\text{C}$  NMR of **2n** $^{19}\text{F}$  NMR of **2n**

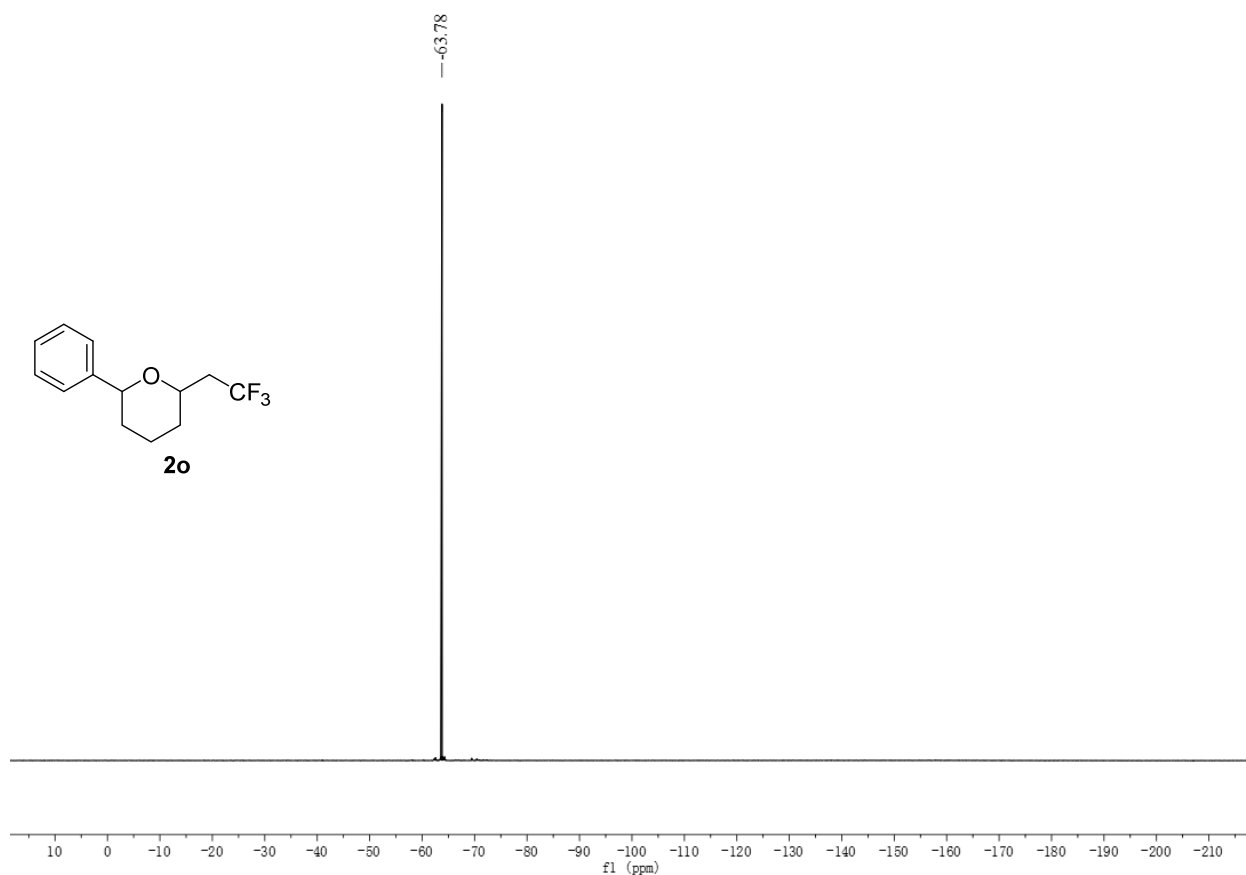
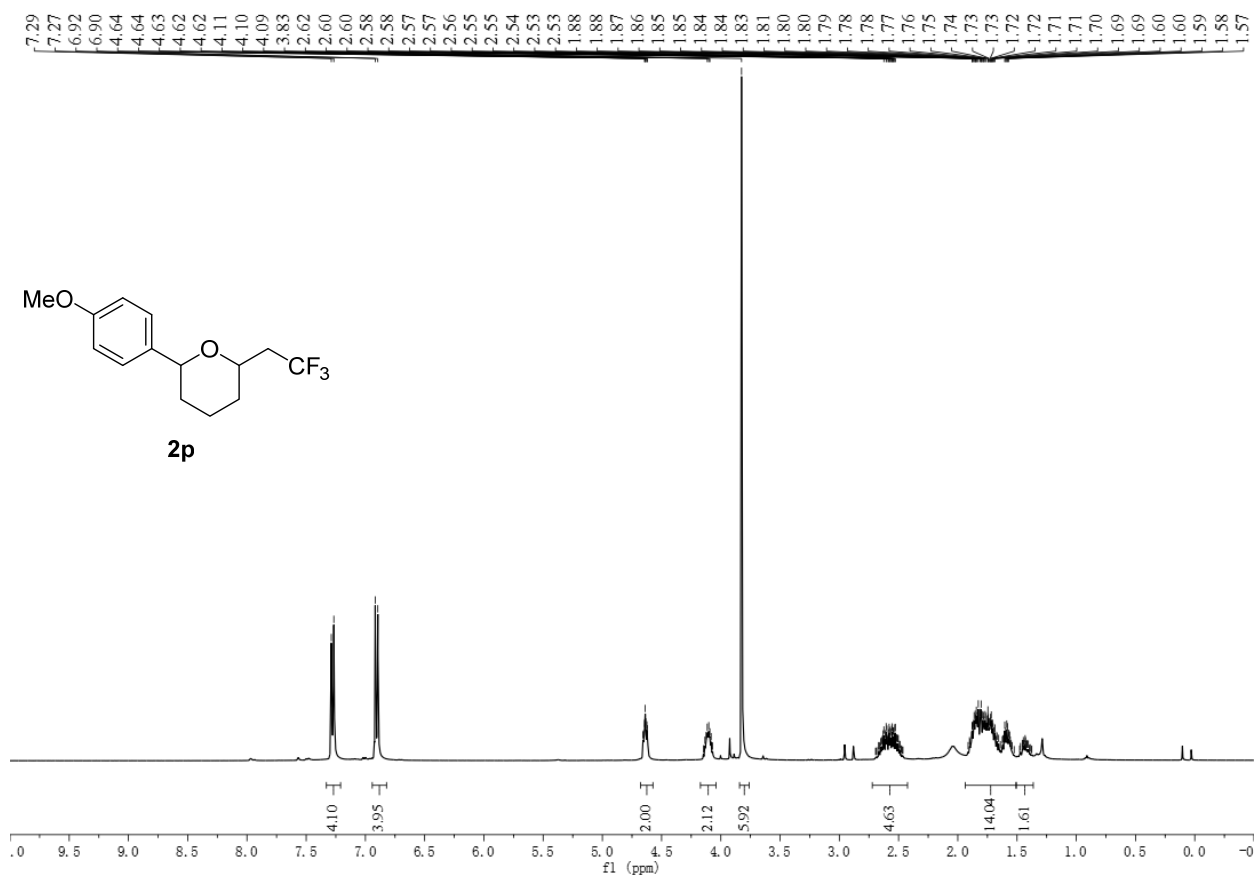
<sup>1</sup>H NMR of **2o**

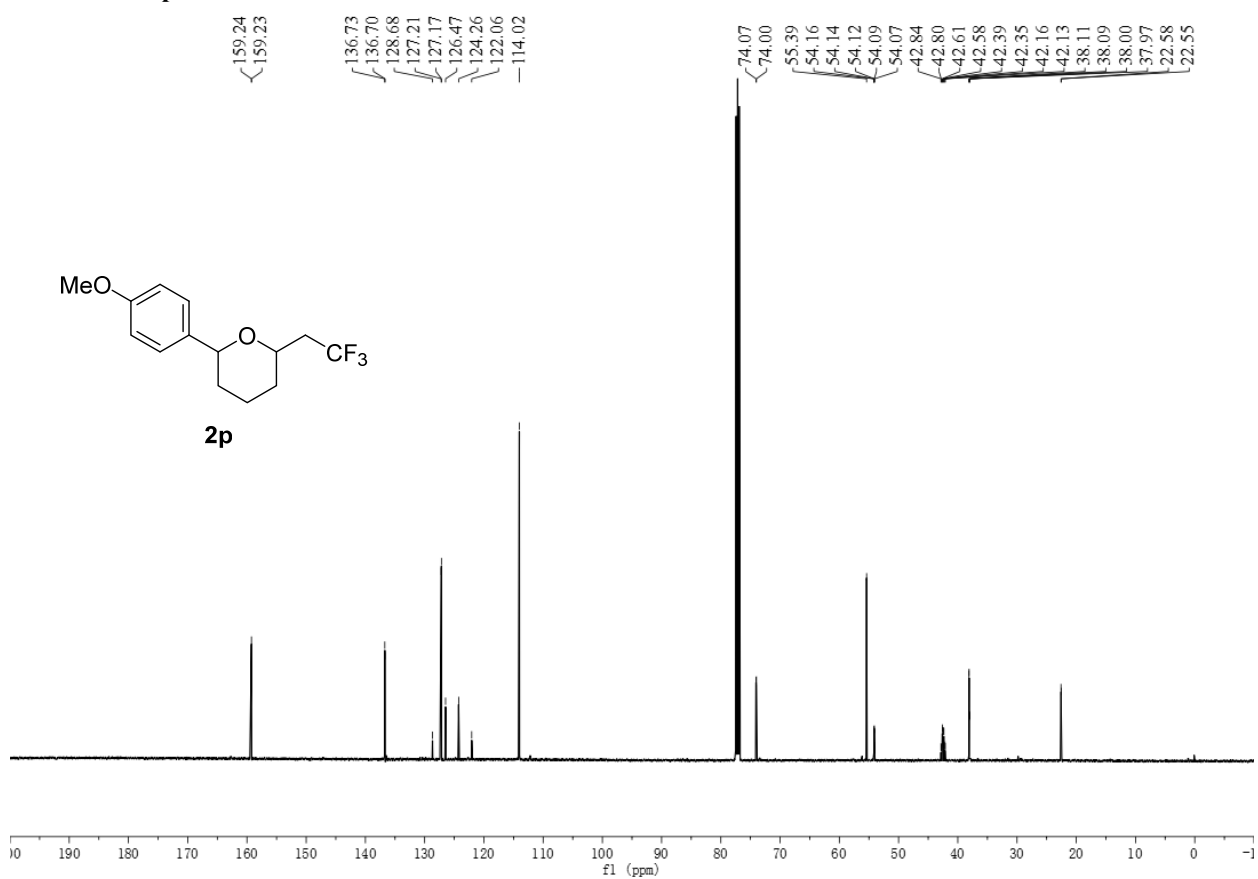
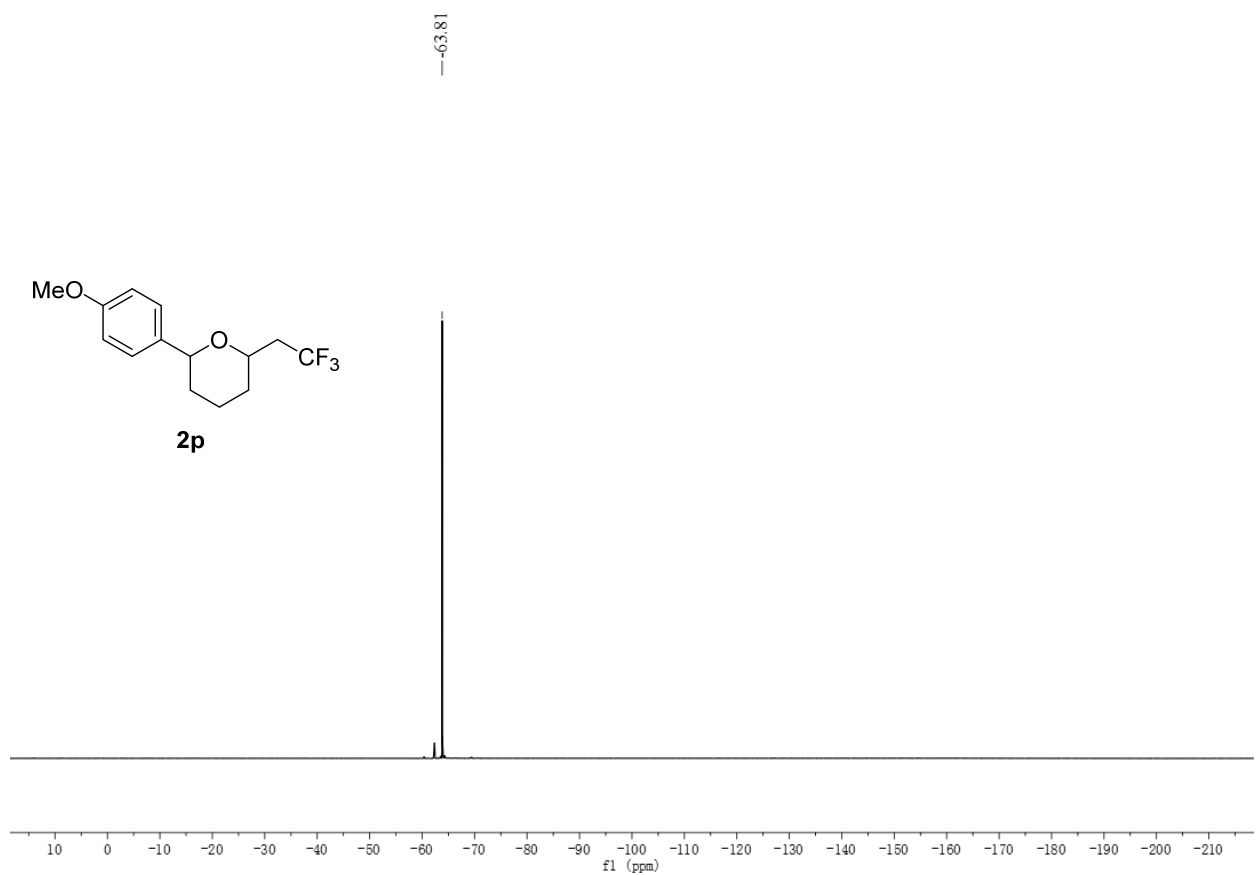


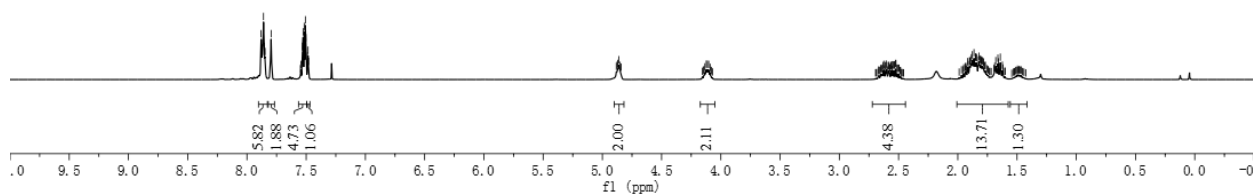
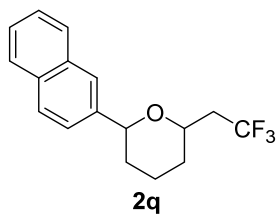
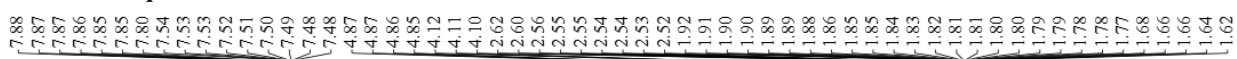
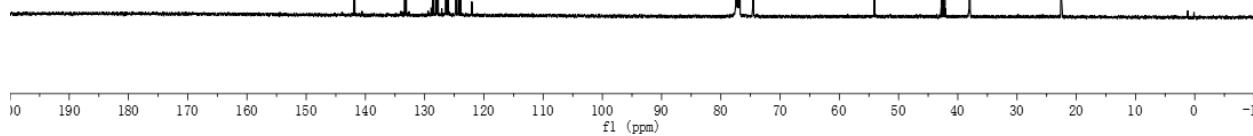
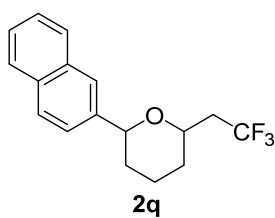
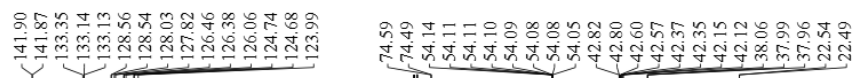
<sup>13</sup>C NMR of **2o**



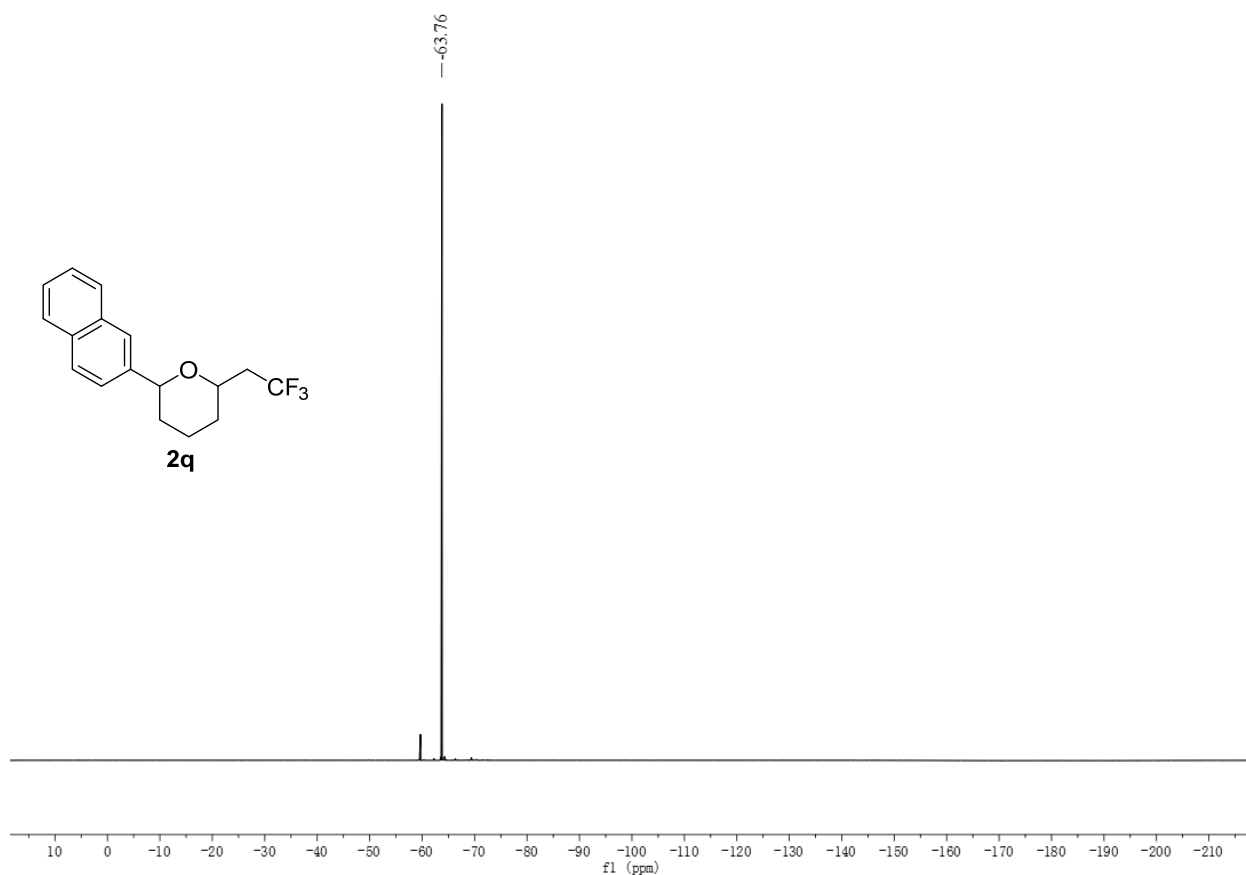


$^{19}\text{F}$  NMR of **2o** $^1\text{H}$  NMR of **2p**

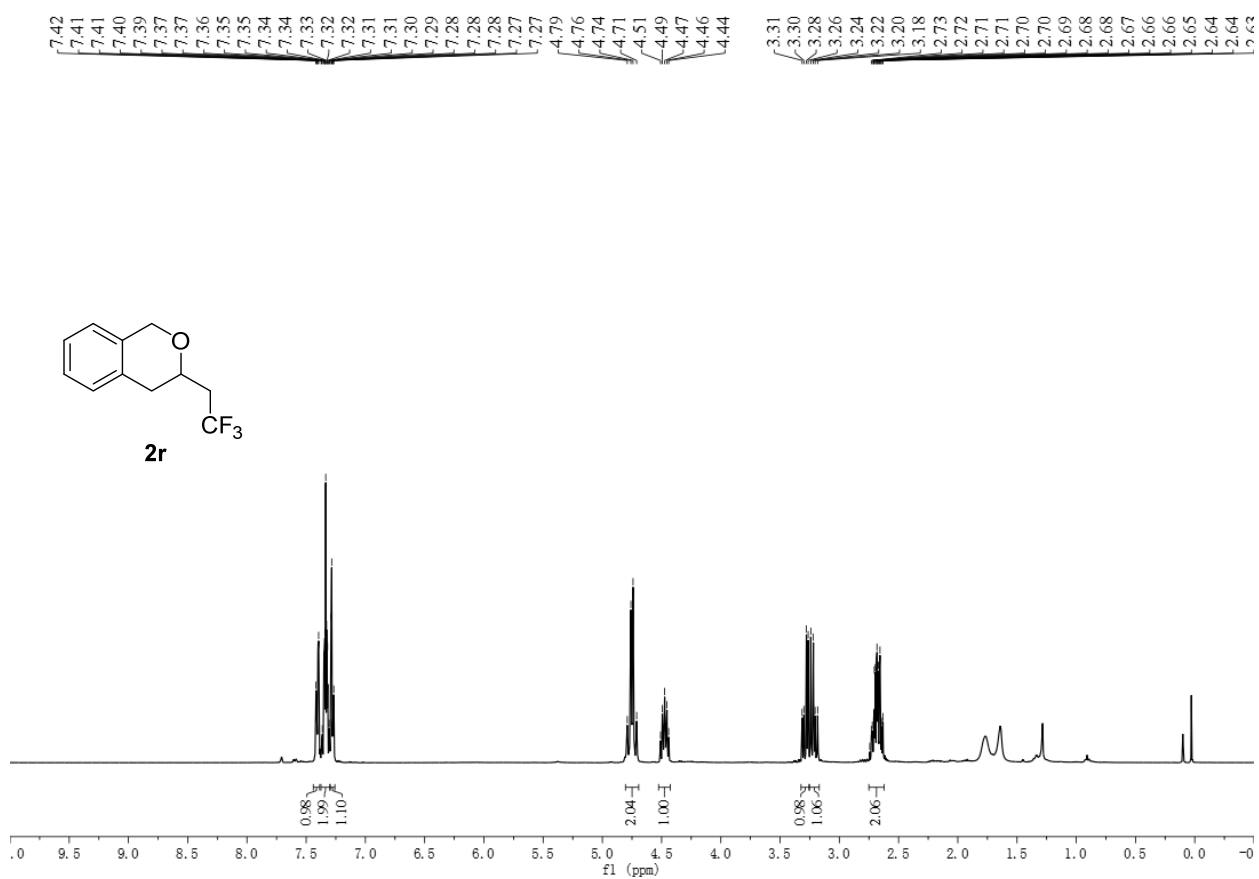
$^{13}\text{C}$  NMR of **2p** $^{19}\text{F}$  NMR of **2p**

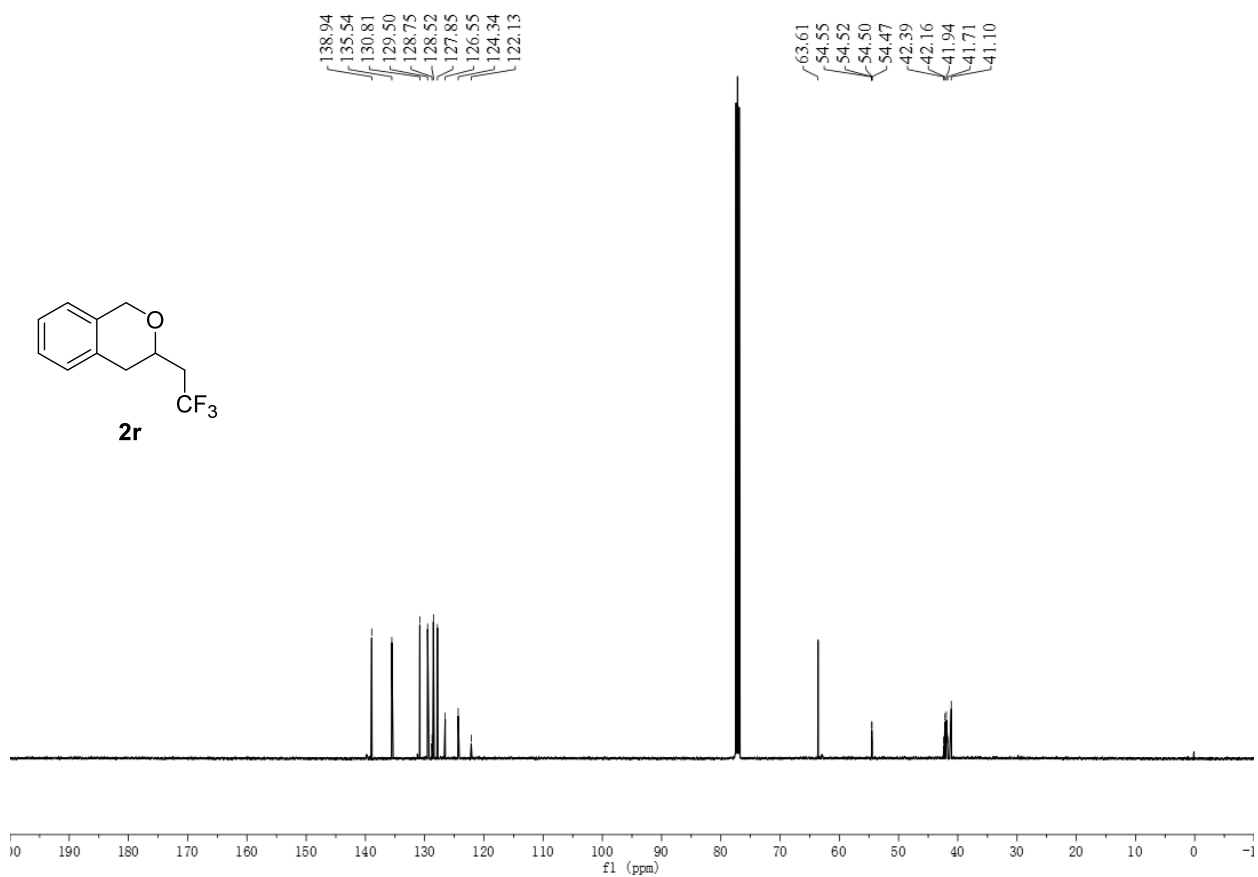
<sup>1</sup>H NMR of 2q<sup>13</sup>C NMR of 2q

<sup>19</sup>F NMR of 2q



<sup>1</sup>H NMR of 2r



$^{13}\text{C}$  NMR of **2r** $^{19}\text{F}$  NMR of **2r**