

## Supporting Information for publication

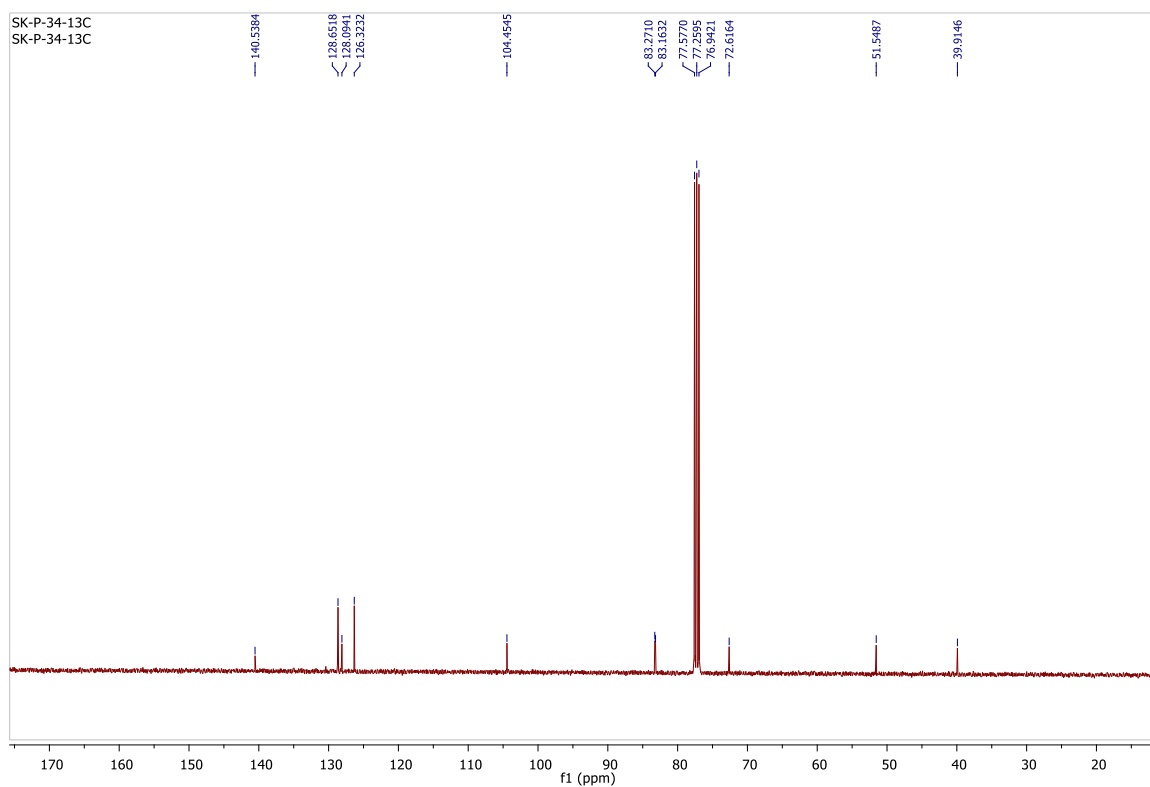
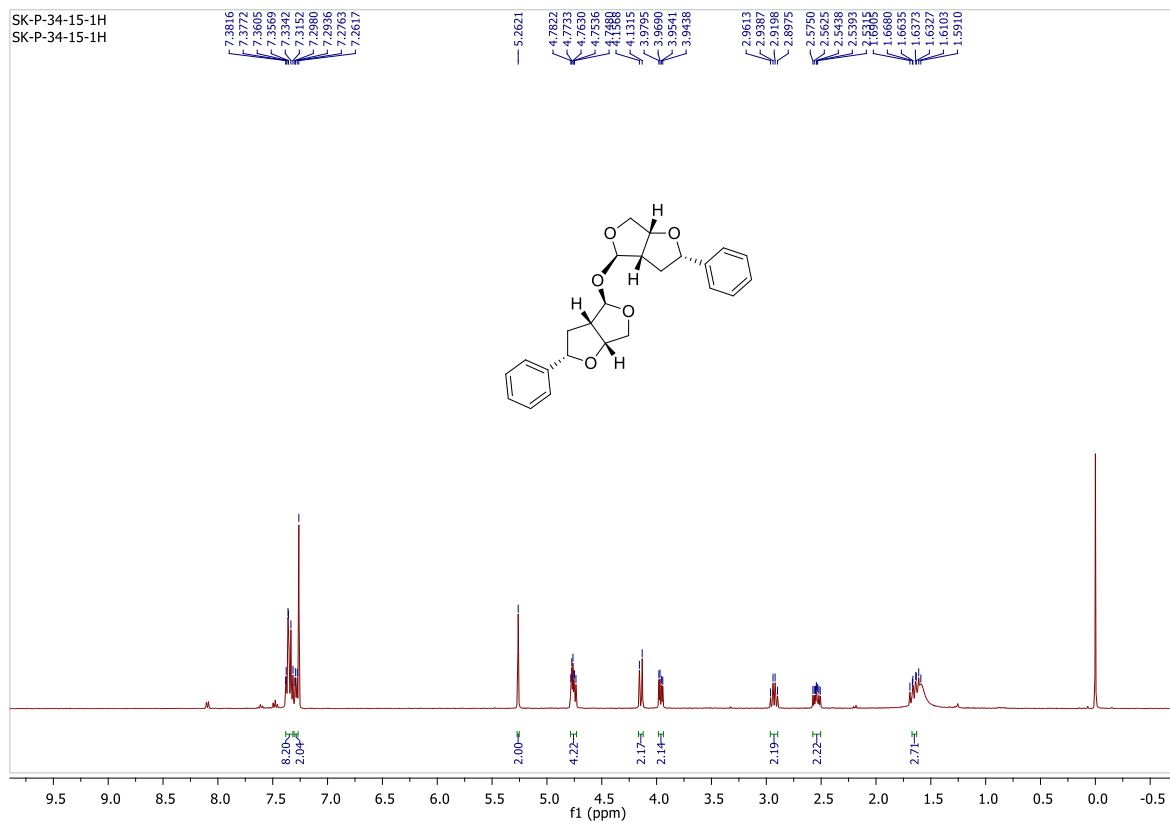
### Stereoselective Synthesis of Hexahydrofuro[3,4-*b*]furan-4-ol and Its Dimer via Tandem Prins and Pinacol Rearrangement

Sudip Shit, Namita Devi, Ngangbam Renubala Devi and Anil K Saikia\*

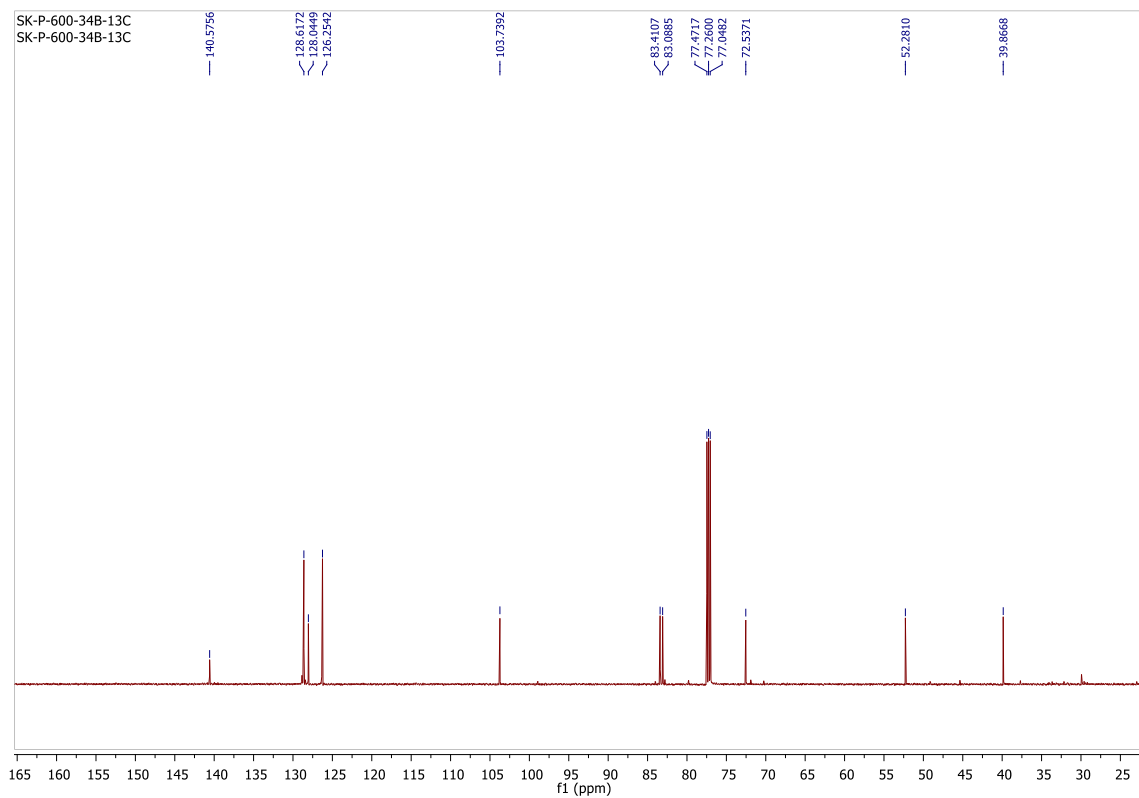
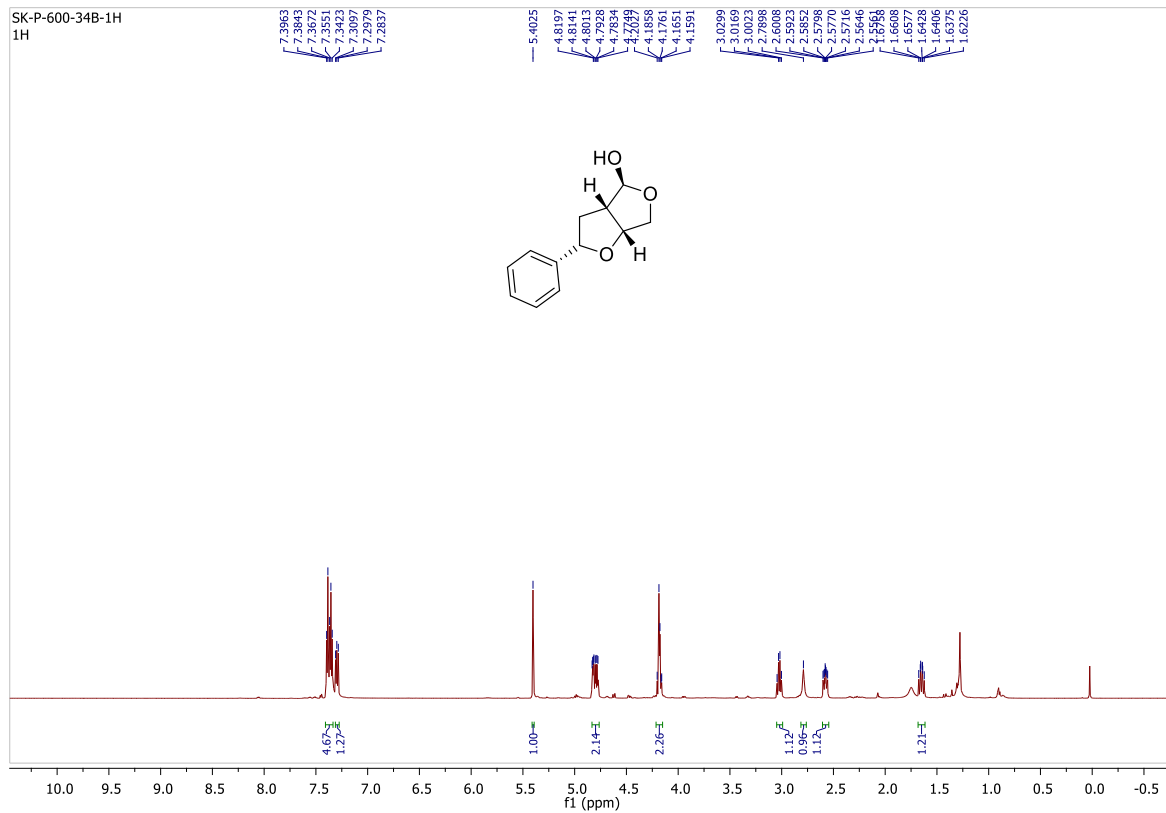
#### Contents:

1. <sup>1</sup> H and <sup>13</sup> C NMR spectra of all new compounds, <sup>19</sup> F NMR of <b>3e-f</b> and <b>4e-f</b>	S2-S30
2. Crude <sup>1</sup> H spectrum of compound <b>4k</b>	S31
3. 2D COSY and NOESY NMR of compound <b>4d</b>	S32
2. The crystal parameters and ORTEP diagram of compound <b>3d</b> and <b>4d</b>	S32-S36

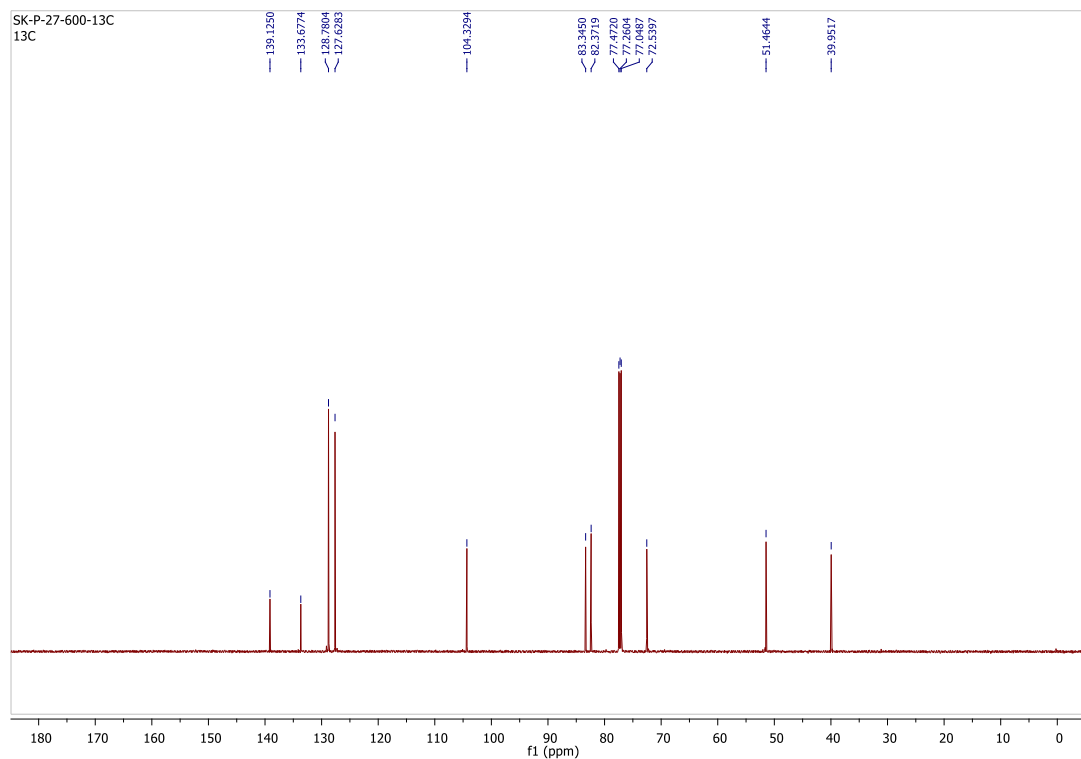
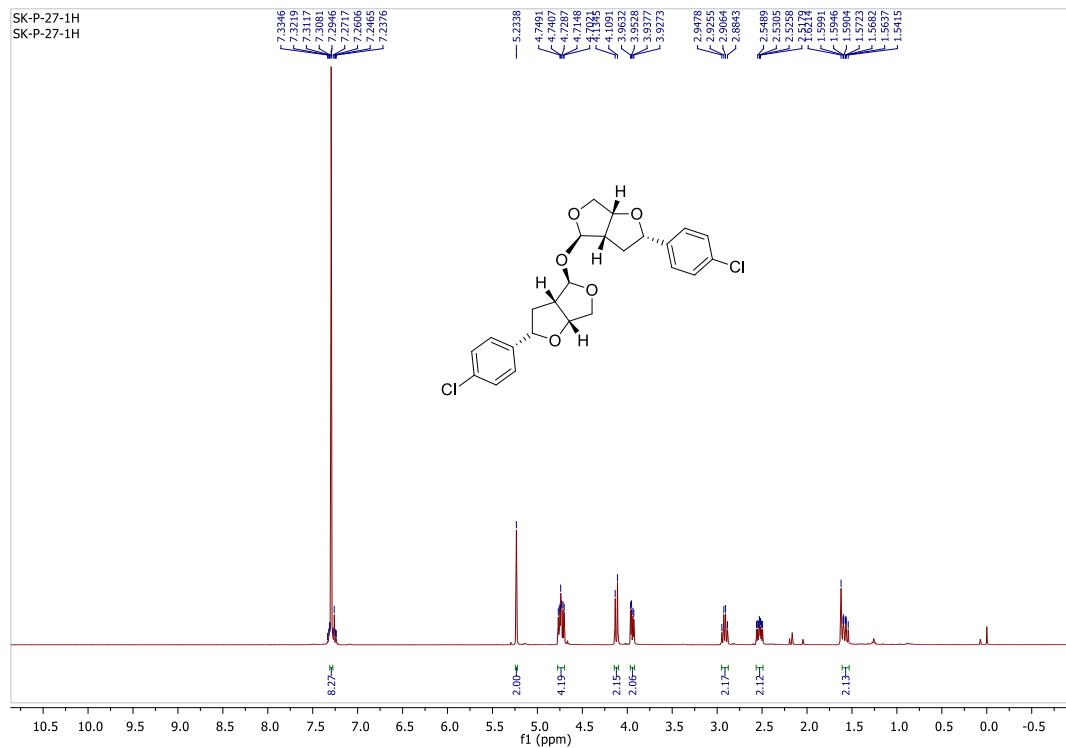
# $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of **3a**



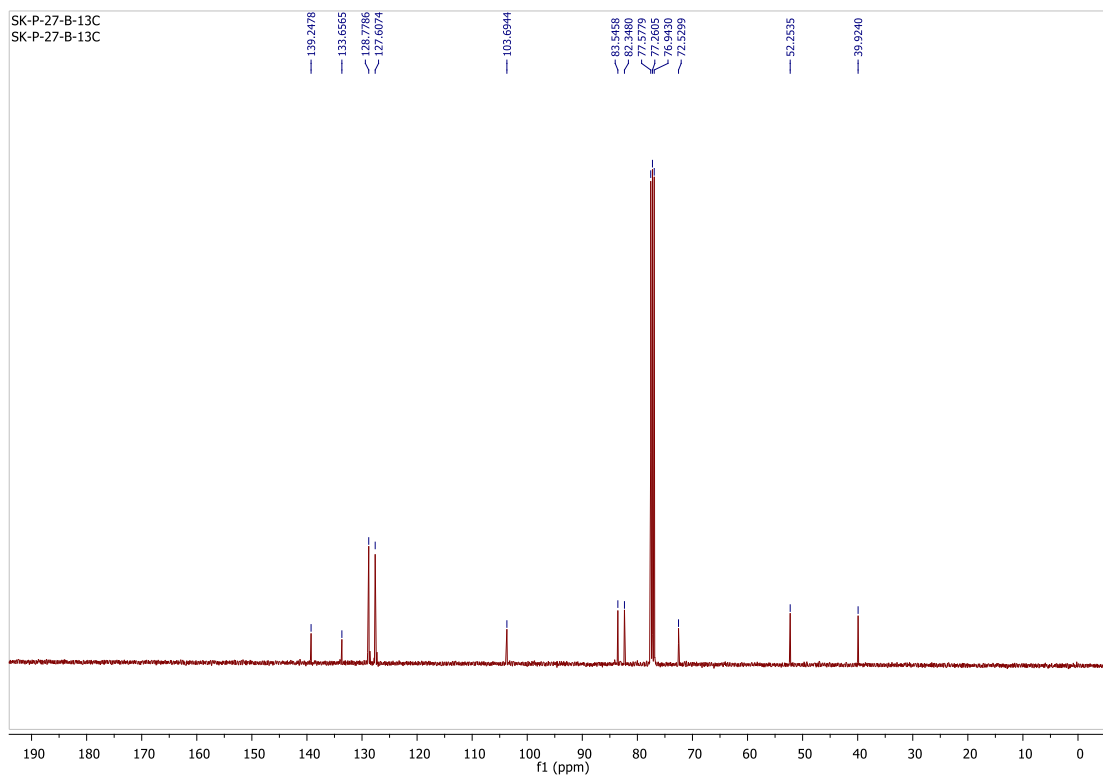
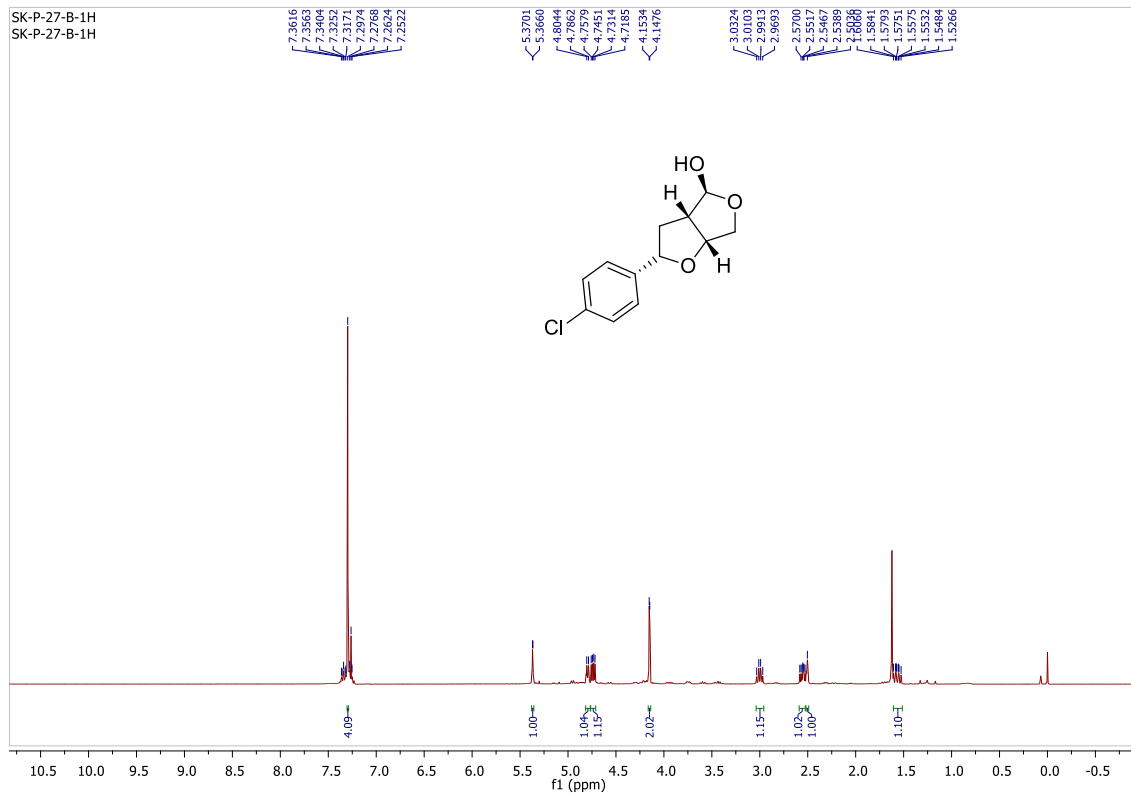
# <sup>1</sup>H and <sup>13</sup>C NMR spectra of **4a**



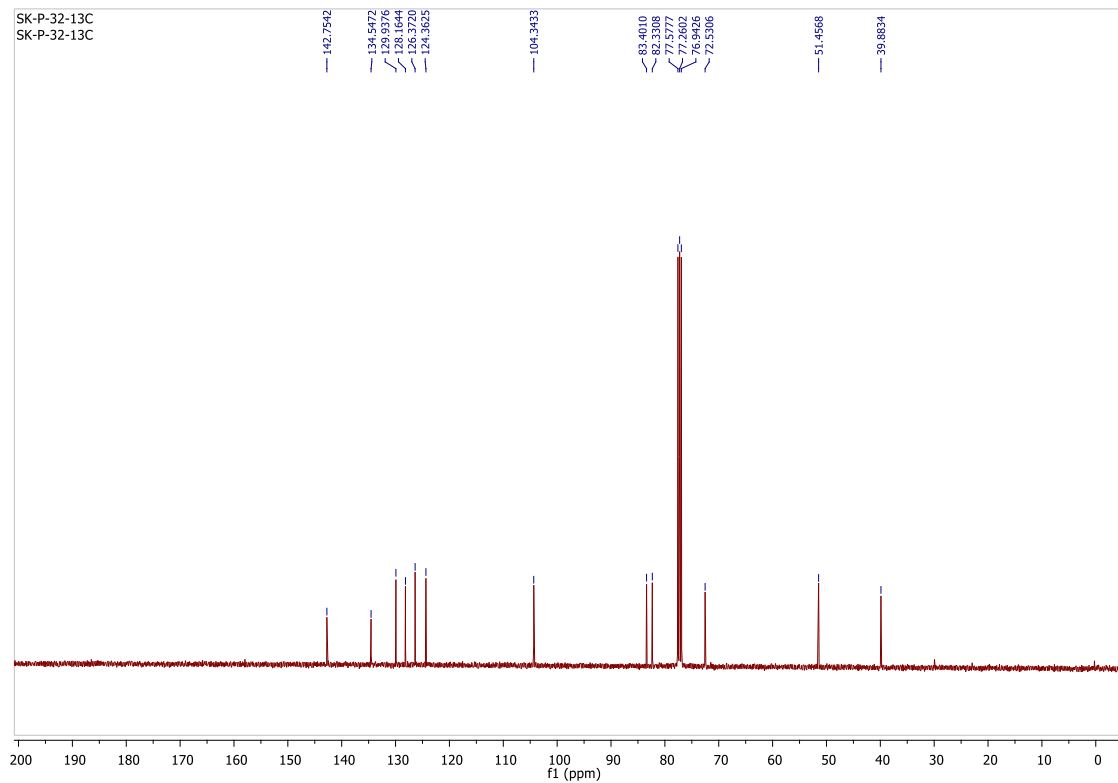
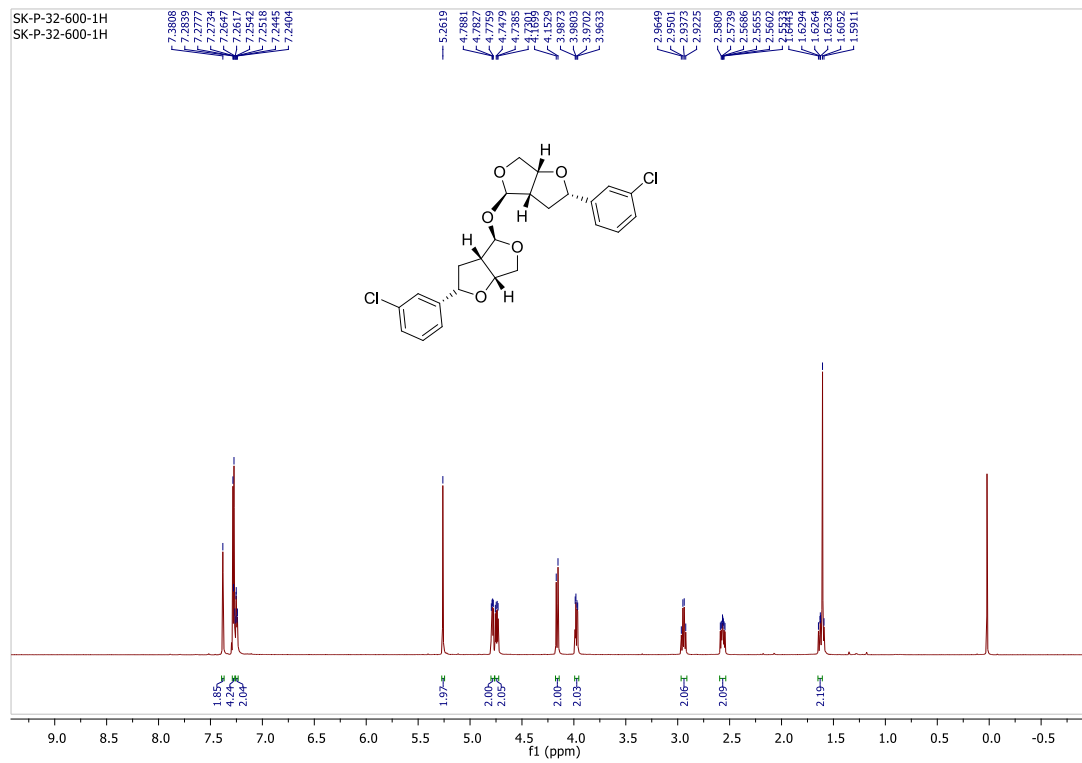
# <sup>1</sup>H and <sup>13</sup>C NMR spectra of **3b**



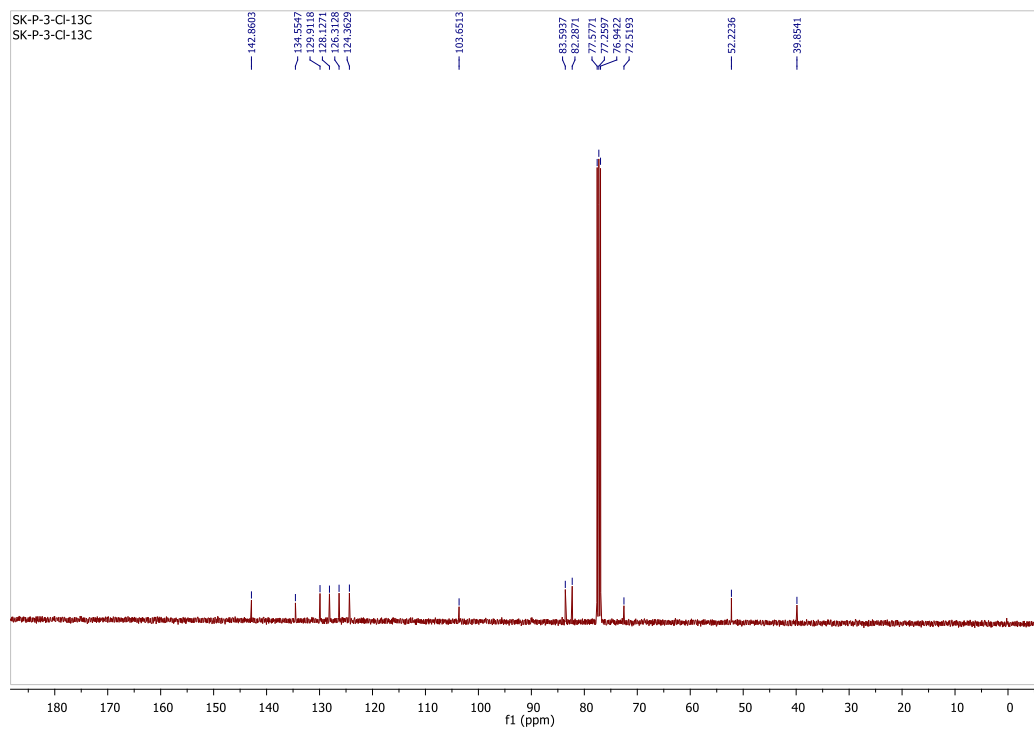
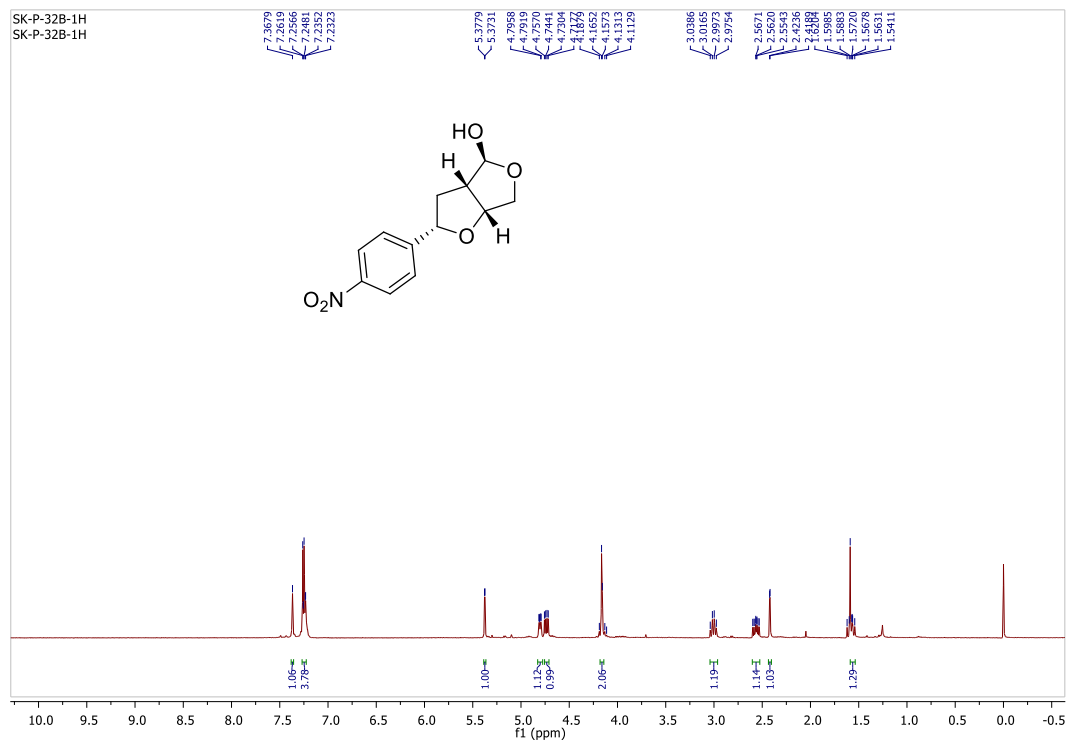
# <sup>1</sup>H and <sup>13</sup>C NMR spectra of **4b**



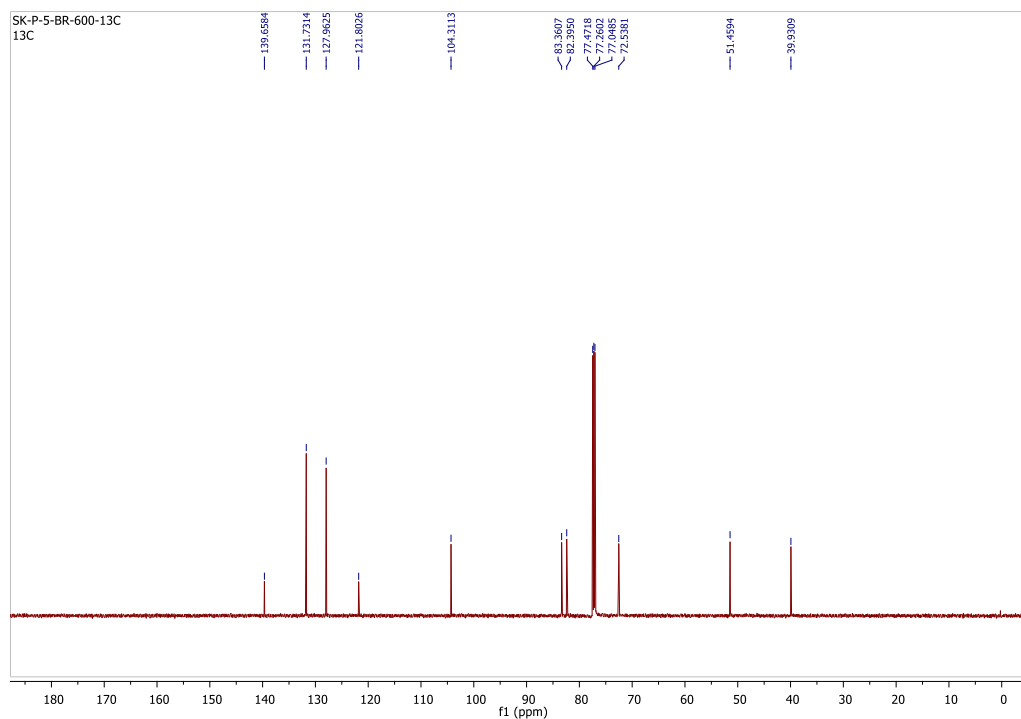
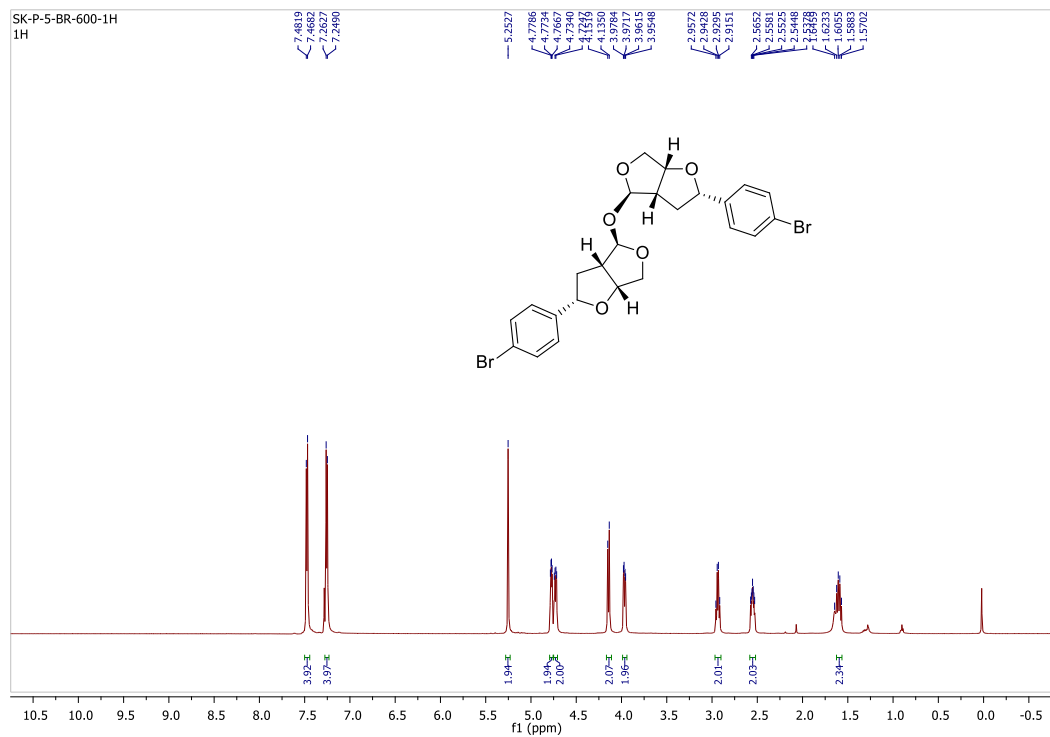
# $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of **3c**



$^1\text{H}$  and  $^{13}\text{C}$  NMR spectra of **4c**

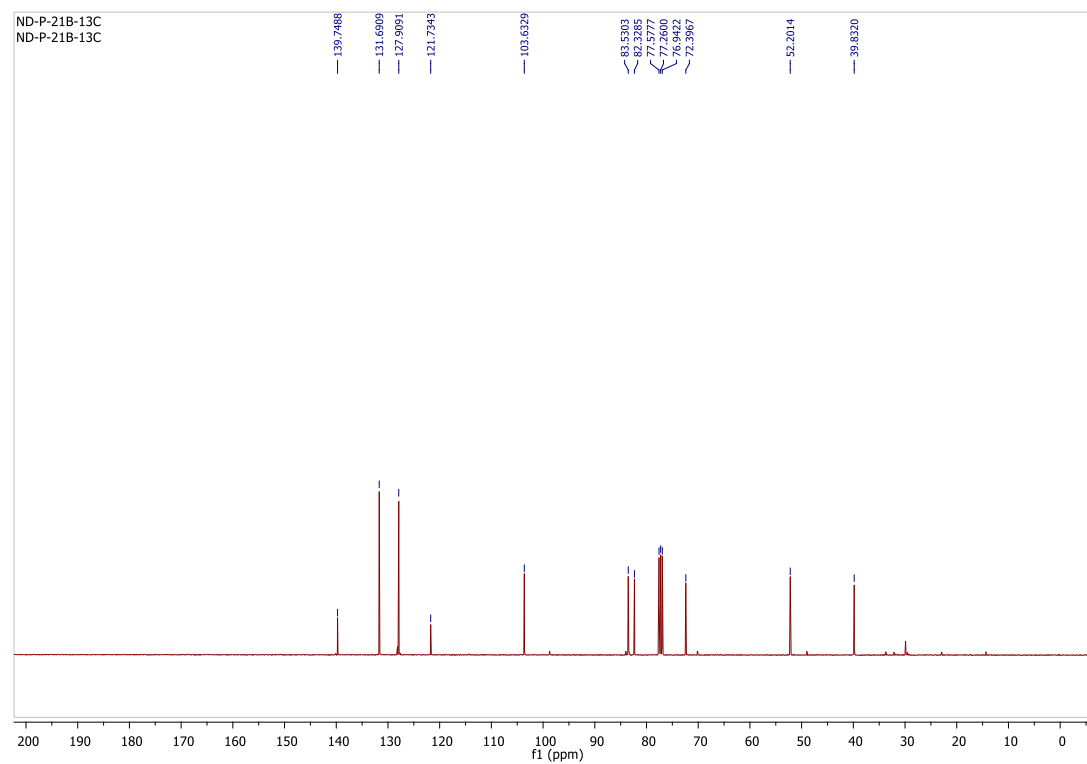
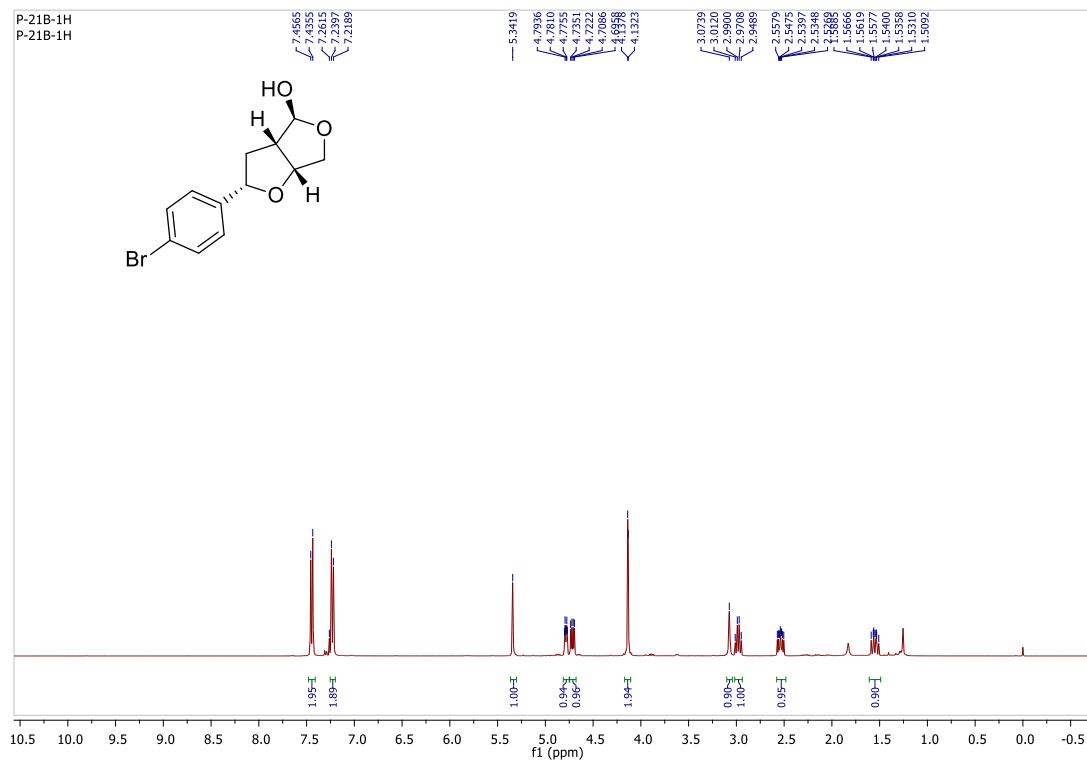


$^1\text{H}$  and  $^{13}\text{C}$  NMR spectra of **3d**

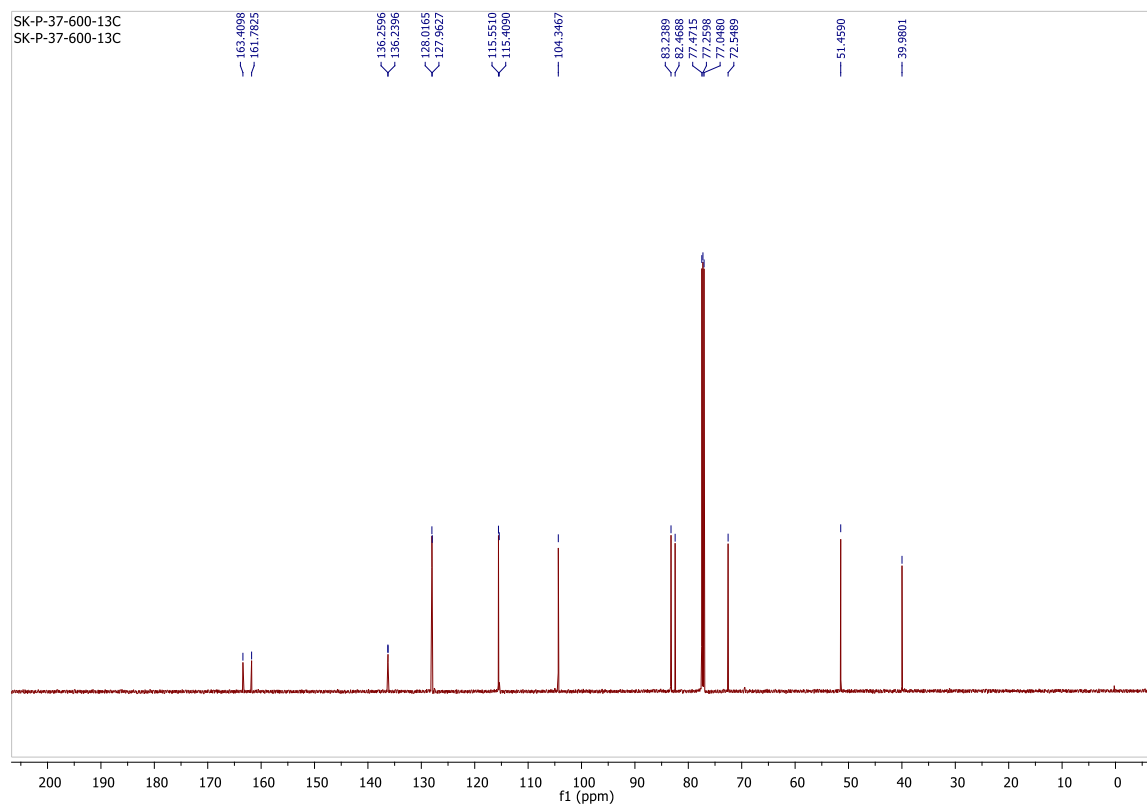
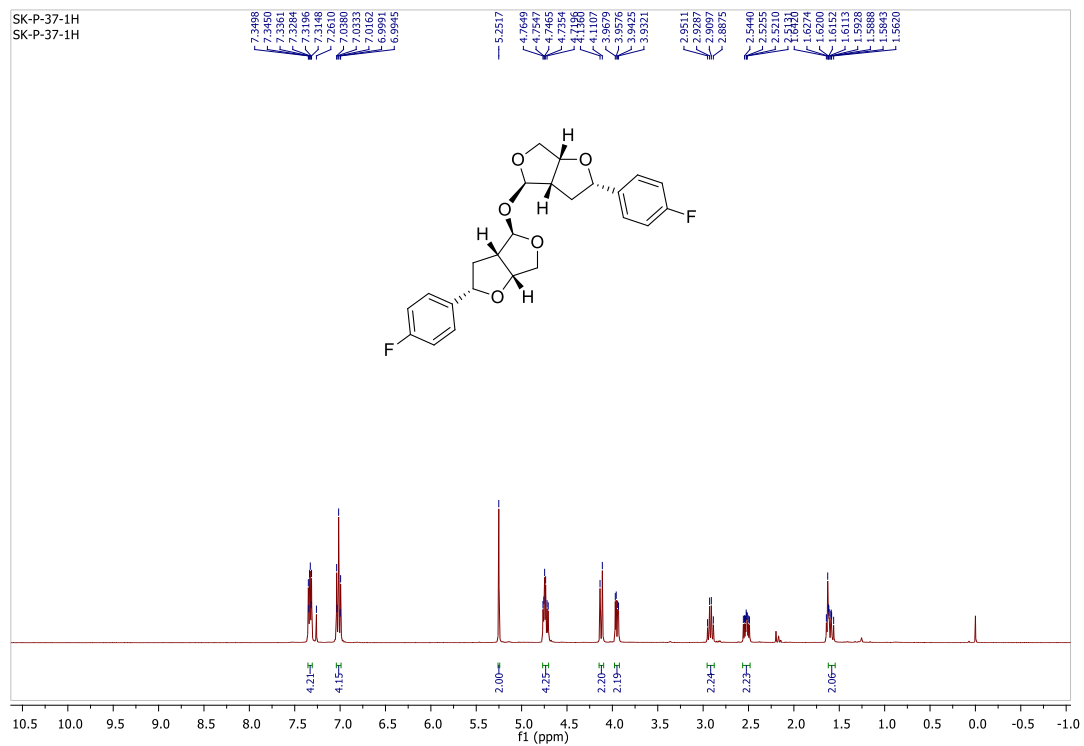




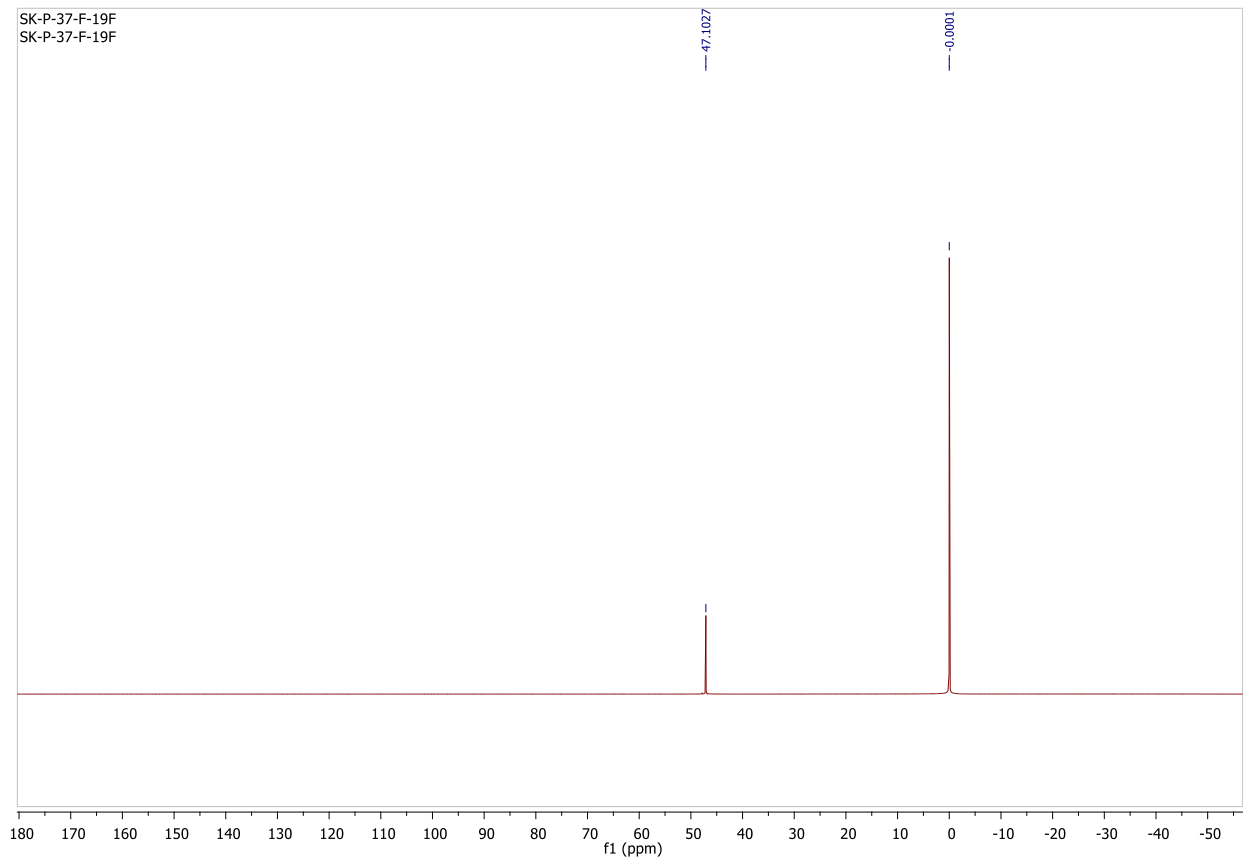
<sup>1</sup>H and <sup>13</sup>C NMR spectra of **4d**



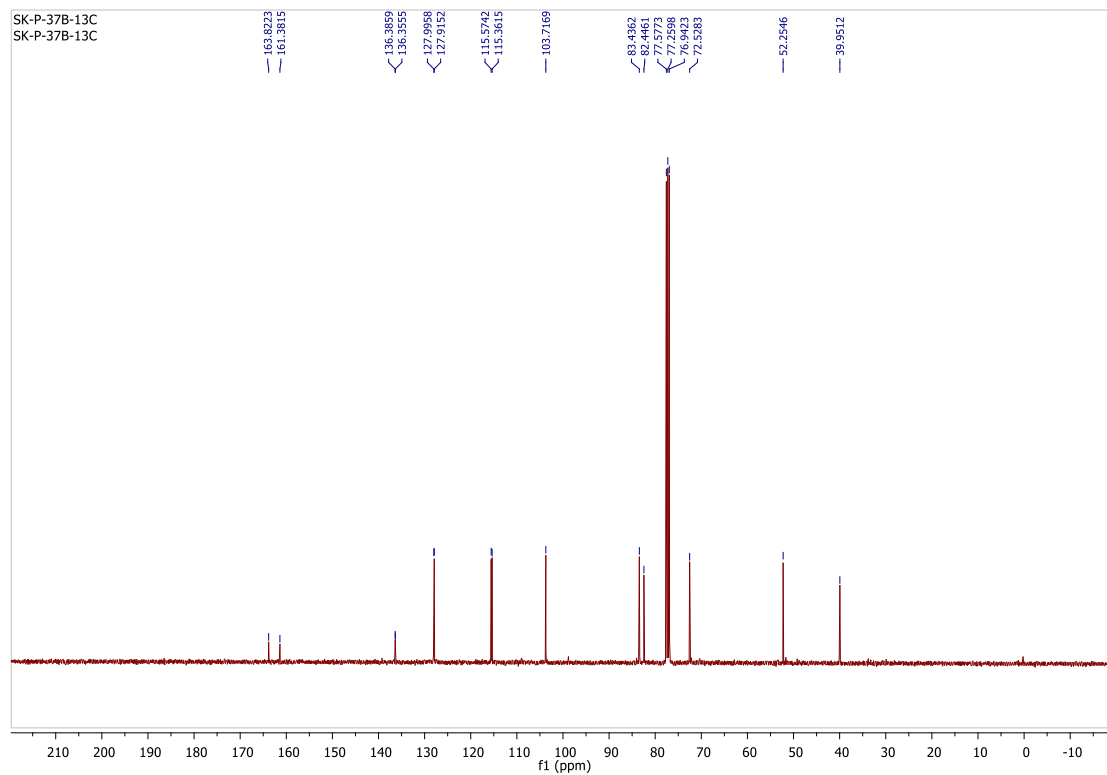
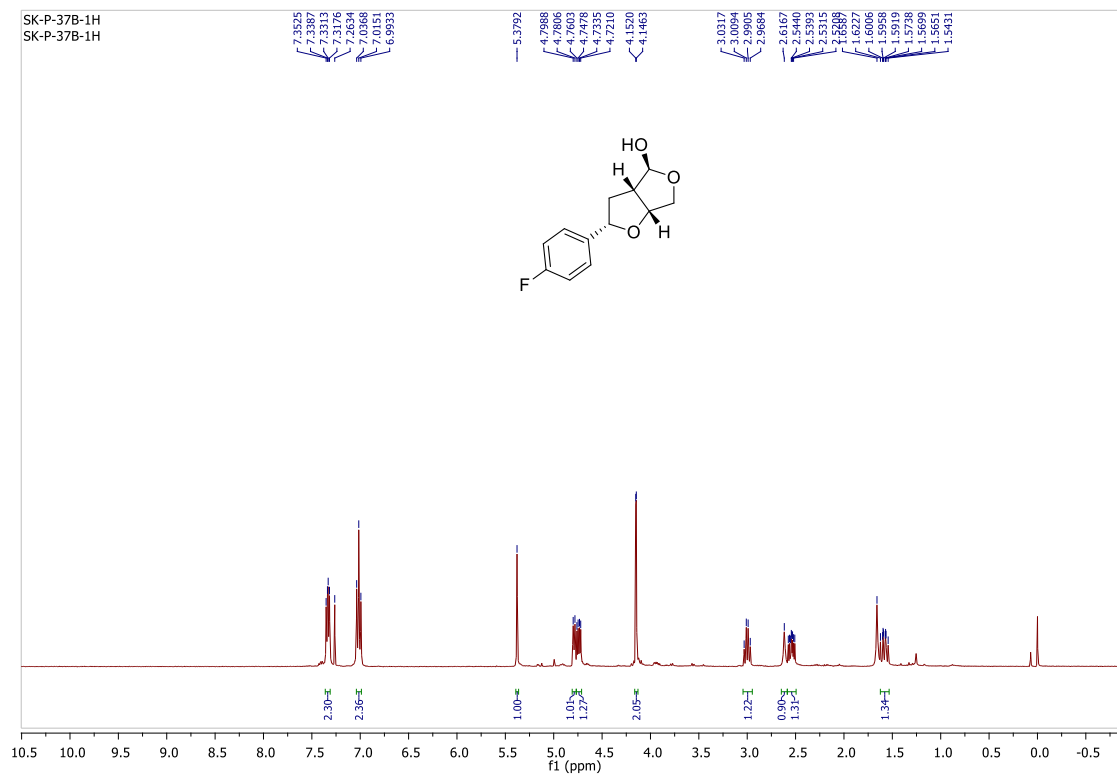
$^1\text{H}$  and  $^{13}\text{C}$  NMR spectra of **3e**



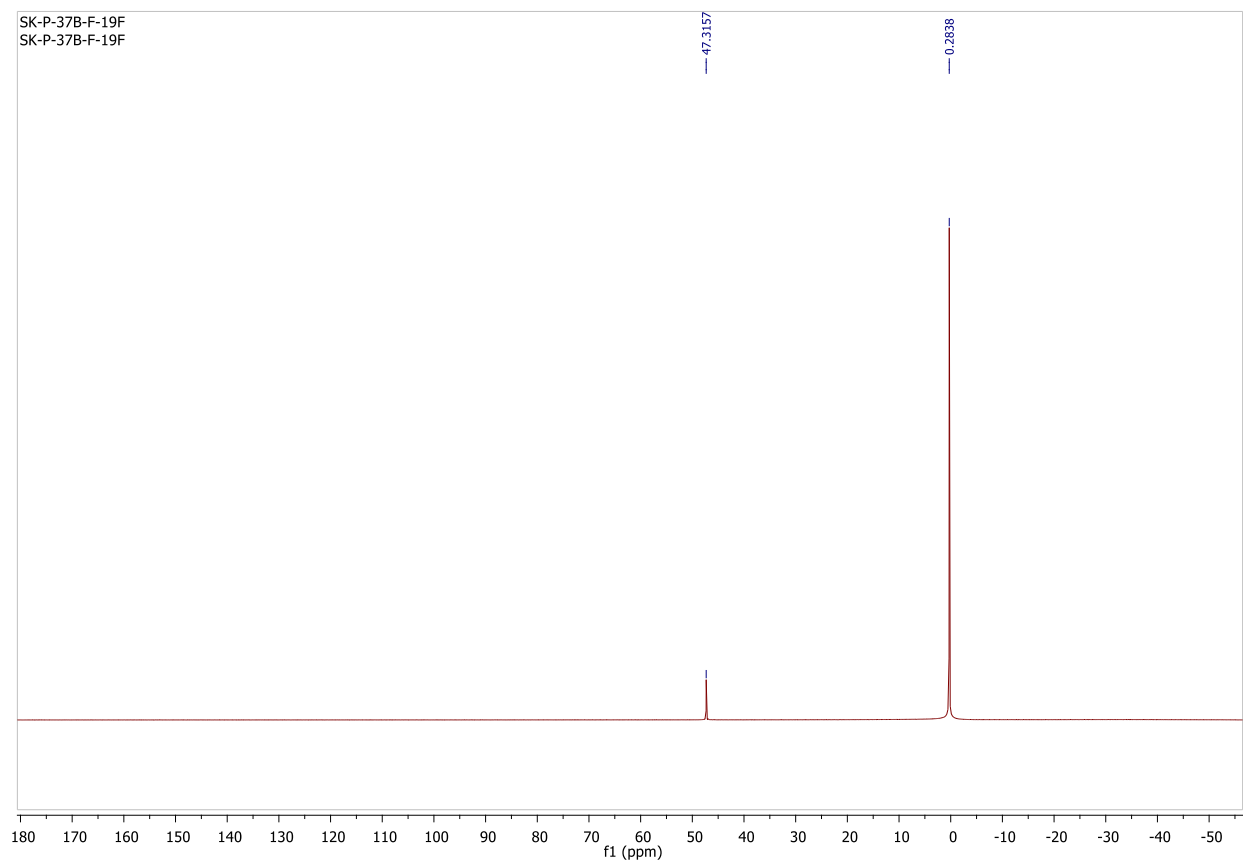
$^{19}\text{F}$  NMR spectrum of **3e**



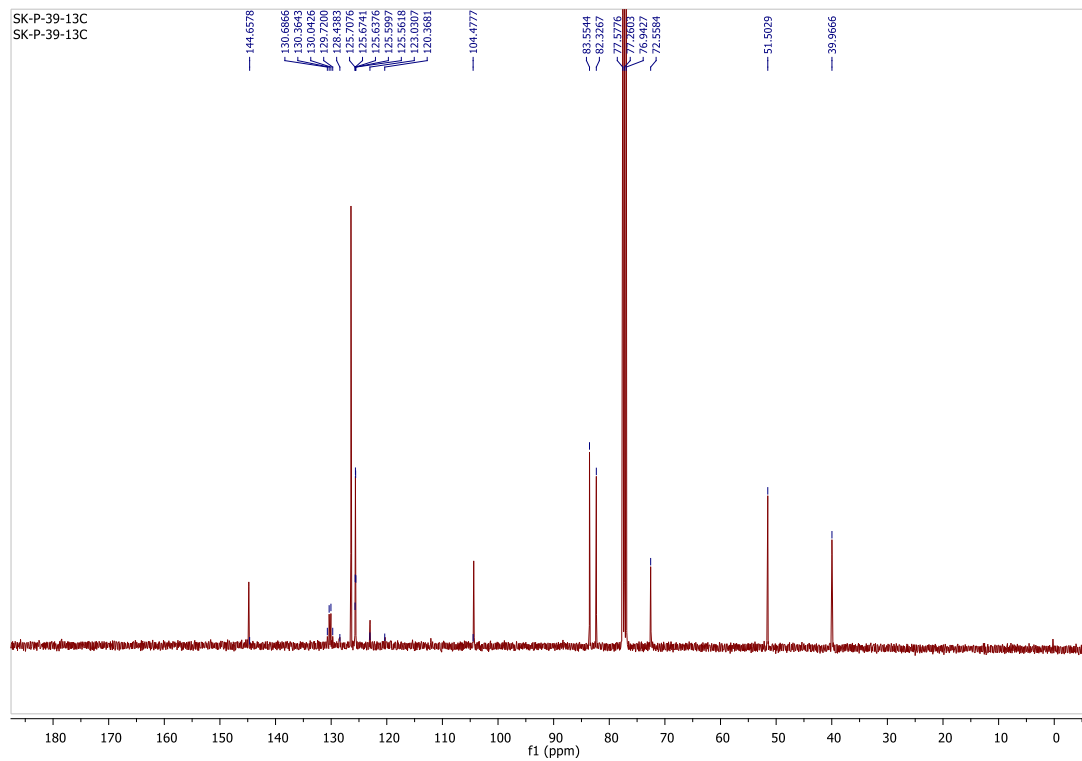
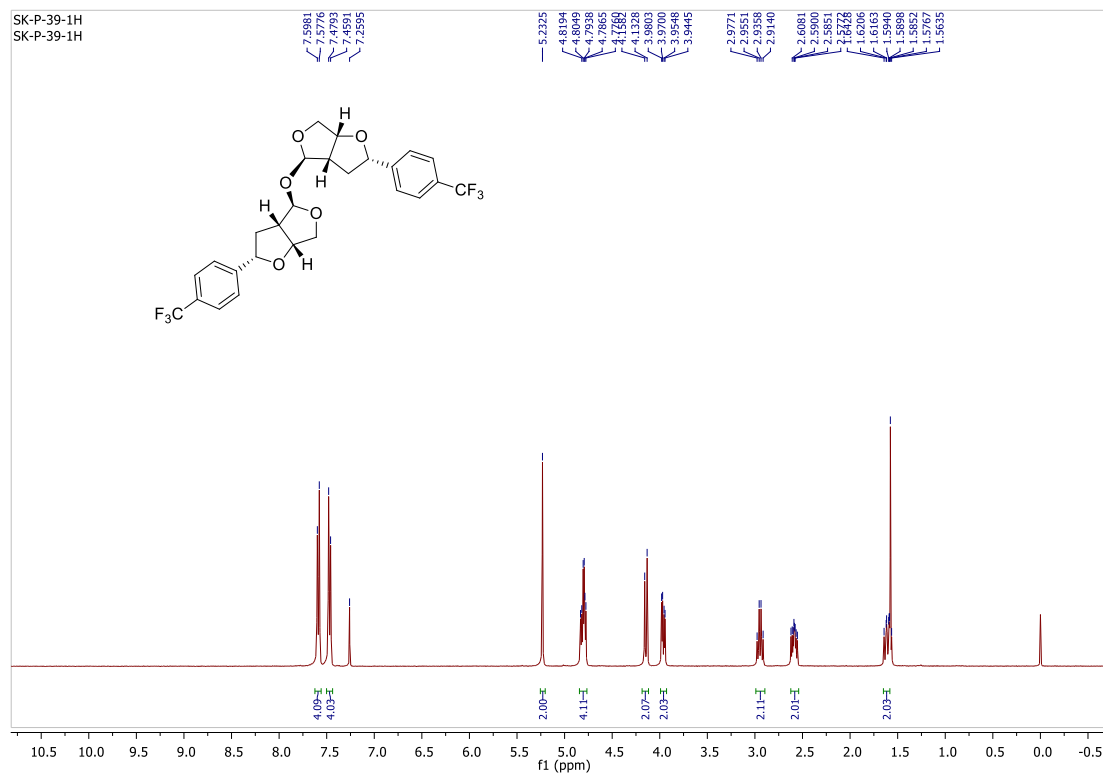
$^1\text{H}$  and  $^{13}\text{C}$  NMR spectra of **4e**



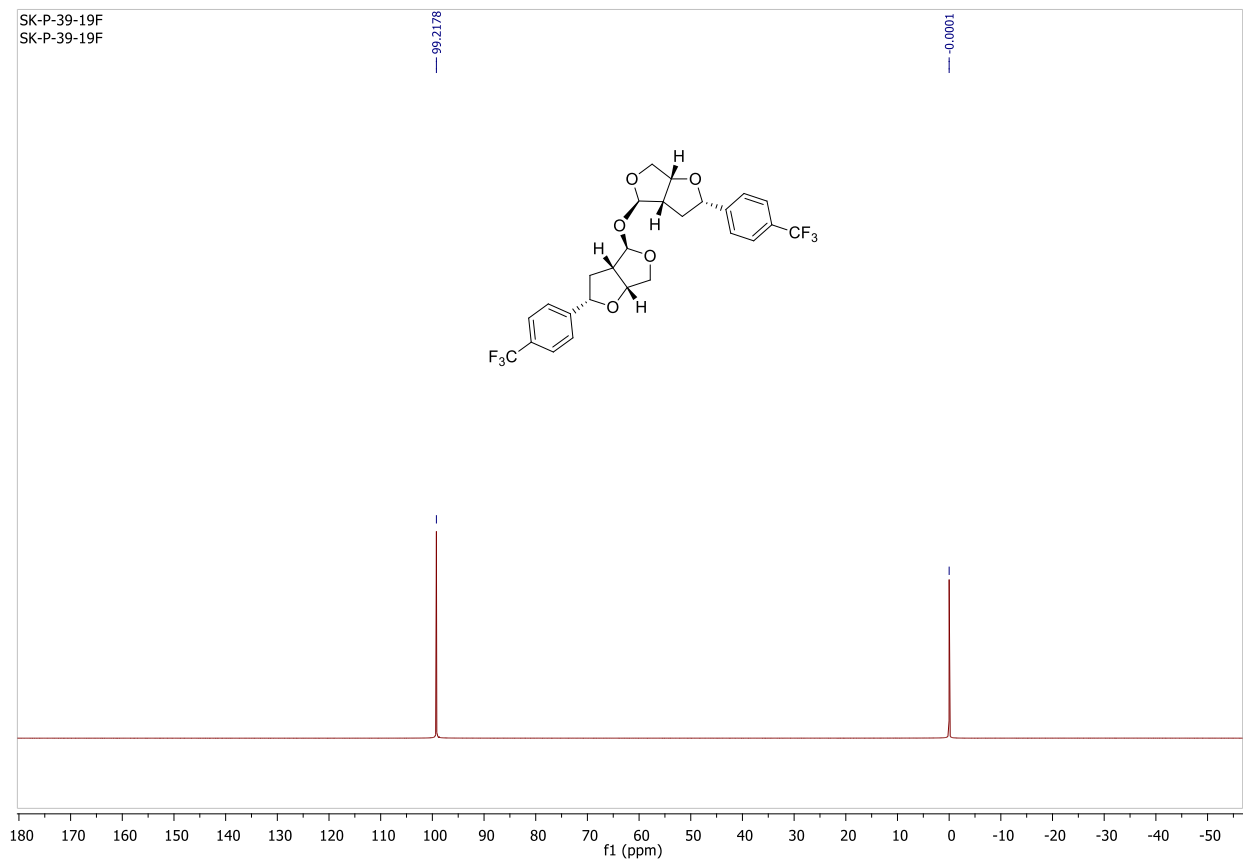
$^{19}\text{F}$  NMR spectrum of **4e**



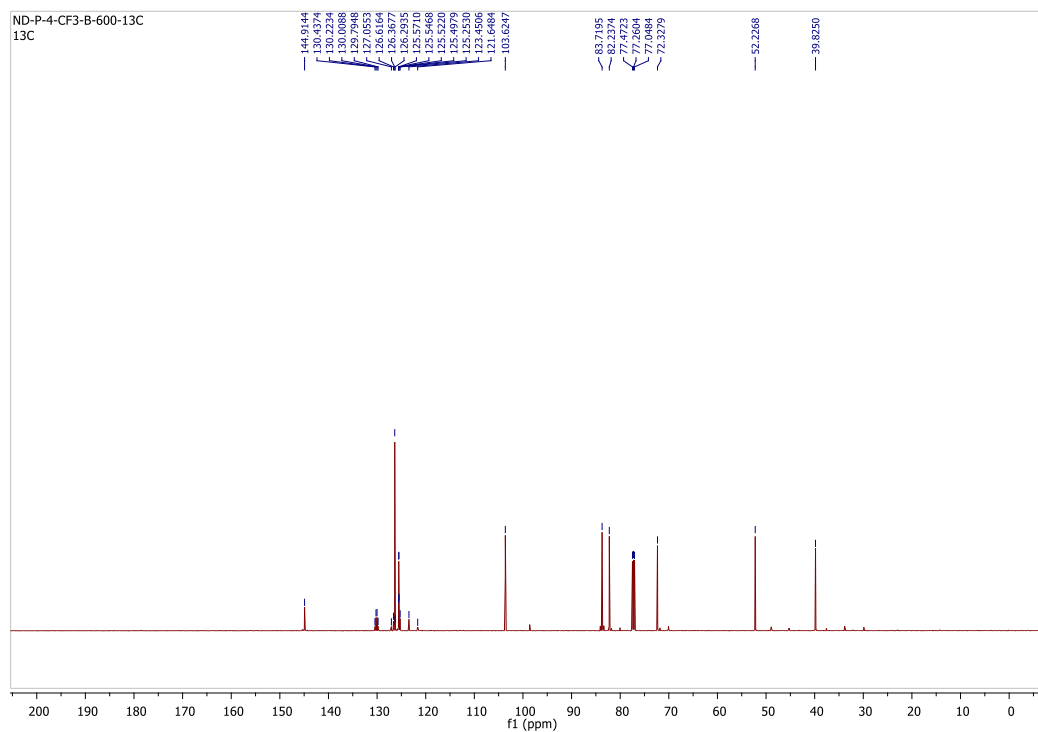
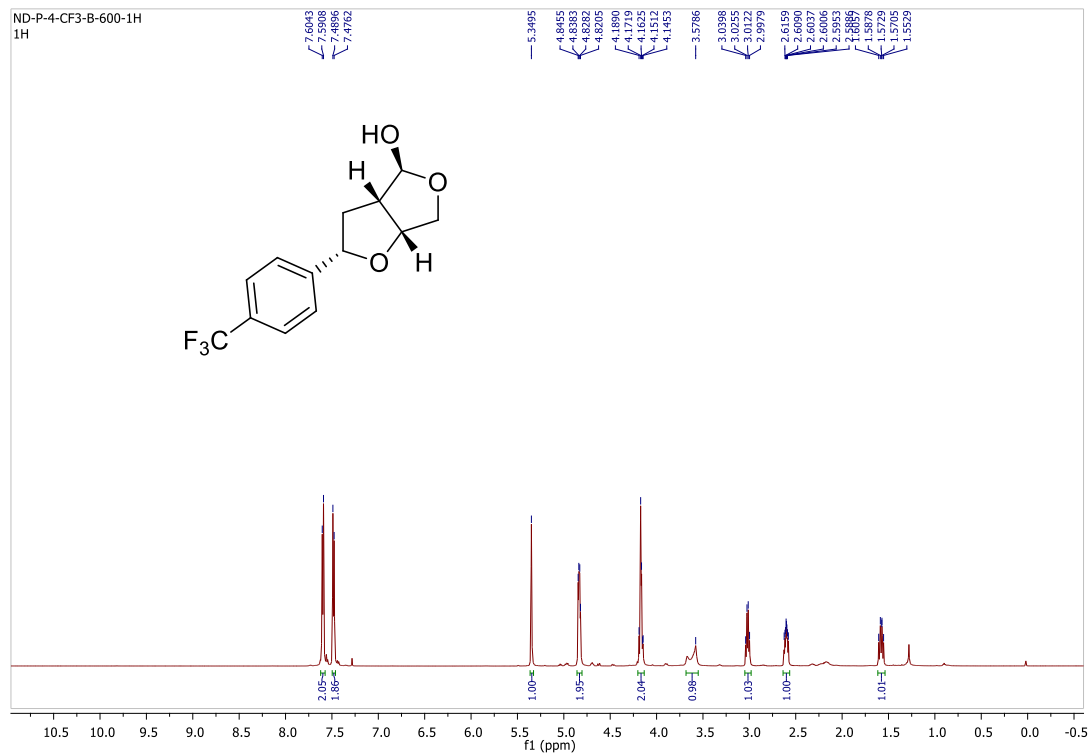
$^1\text{H}$  and  $^{13}\text{C}$  NMR spectra of **3f**



$^{19}\text{F}$  NMR spectrum of **3f**

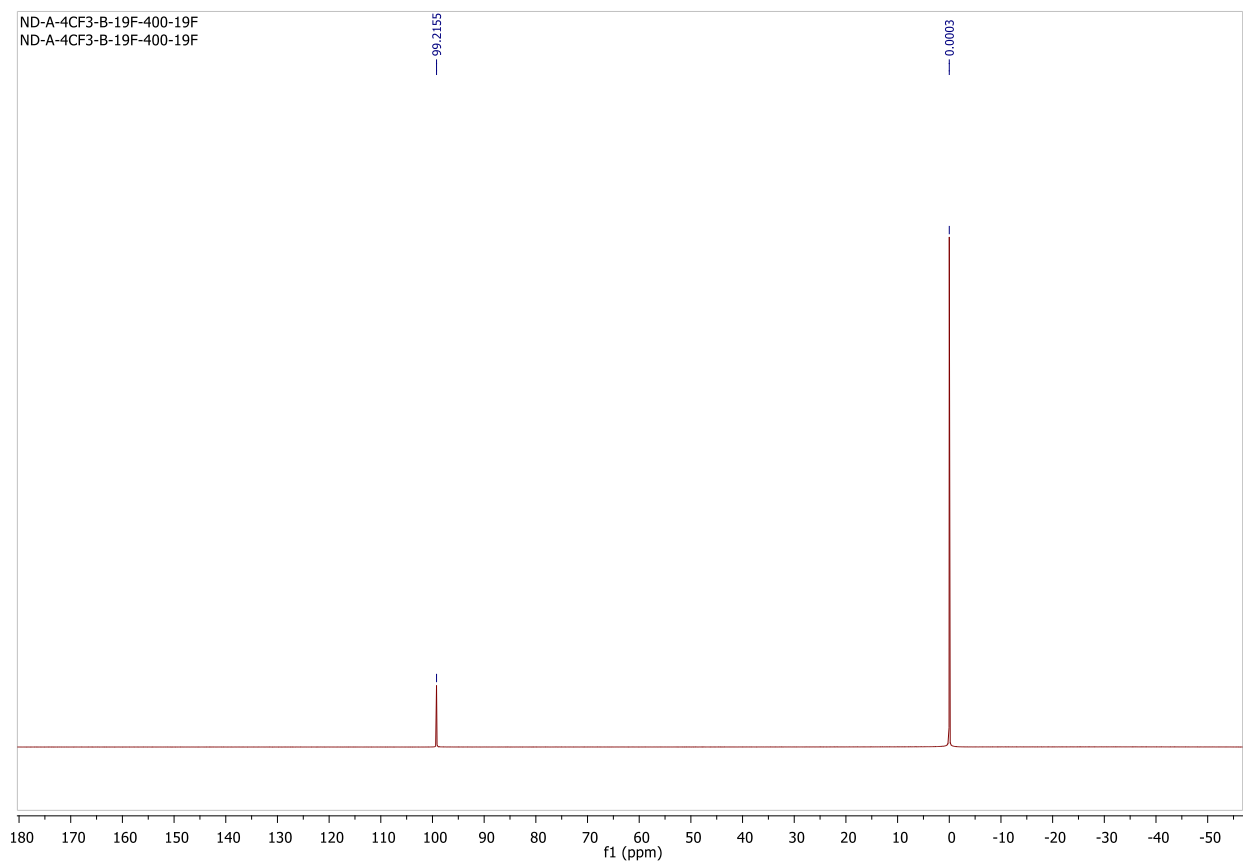


# $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of **4f**

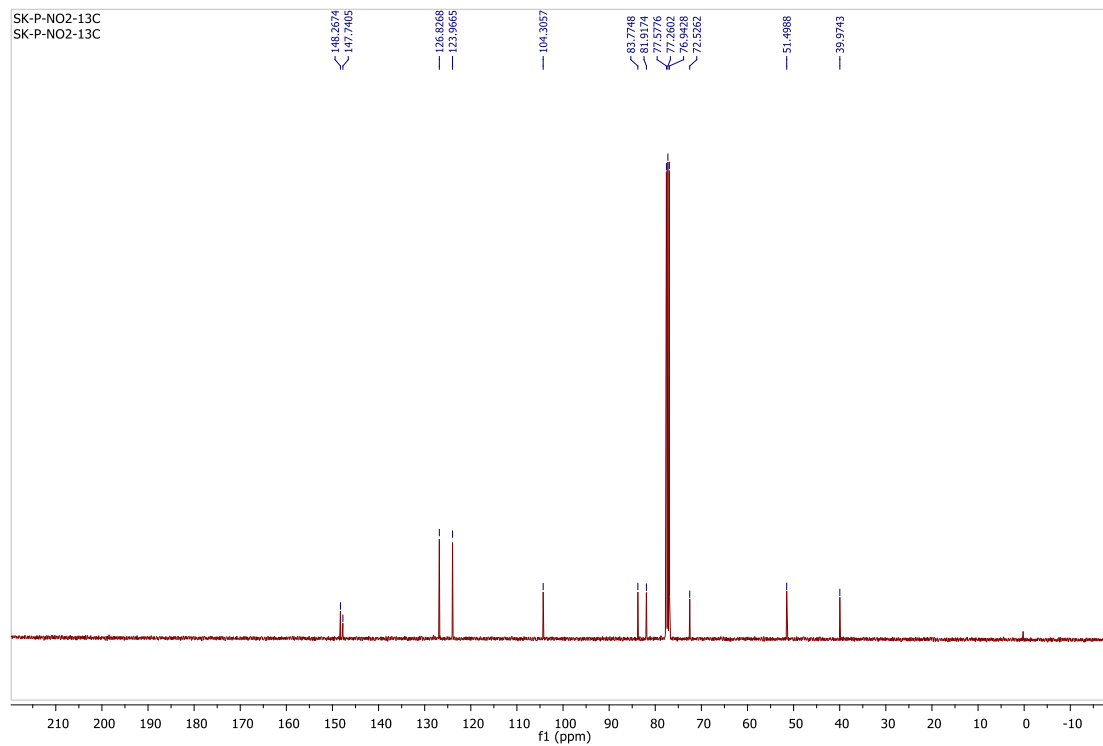
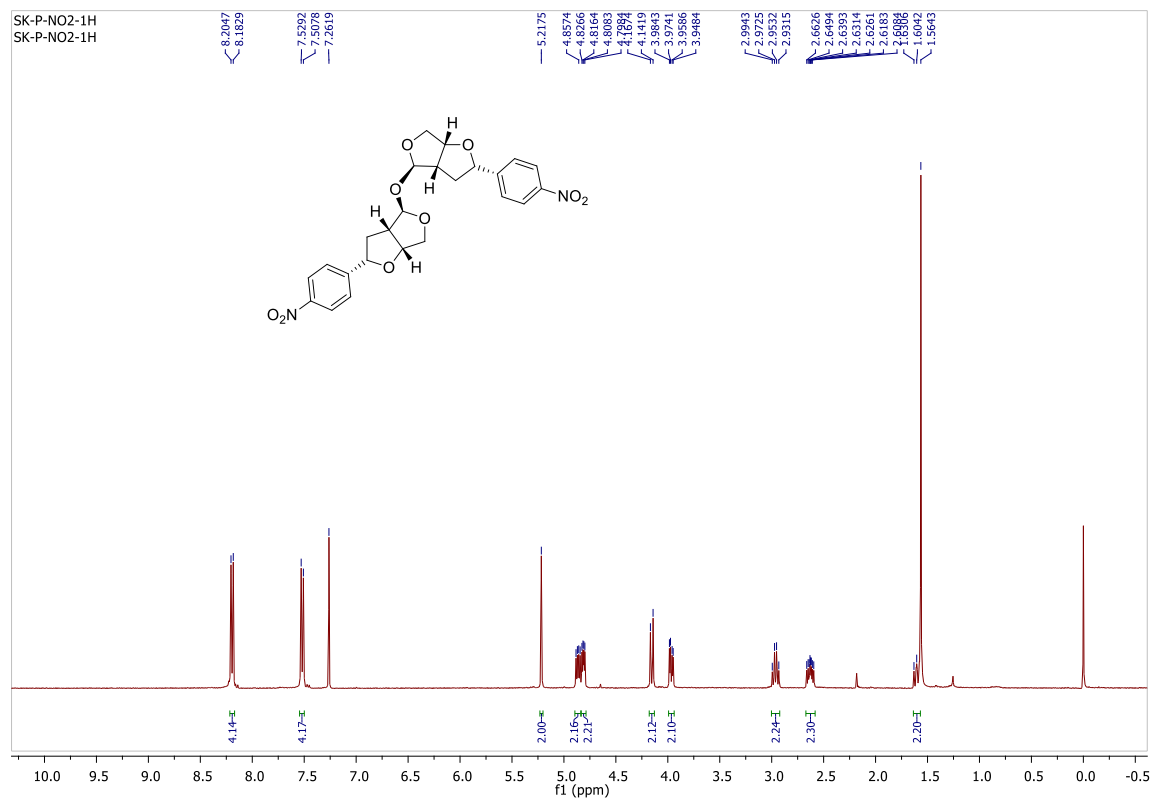




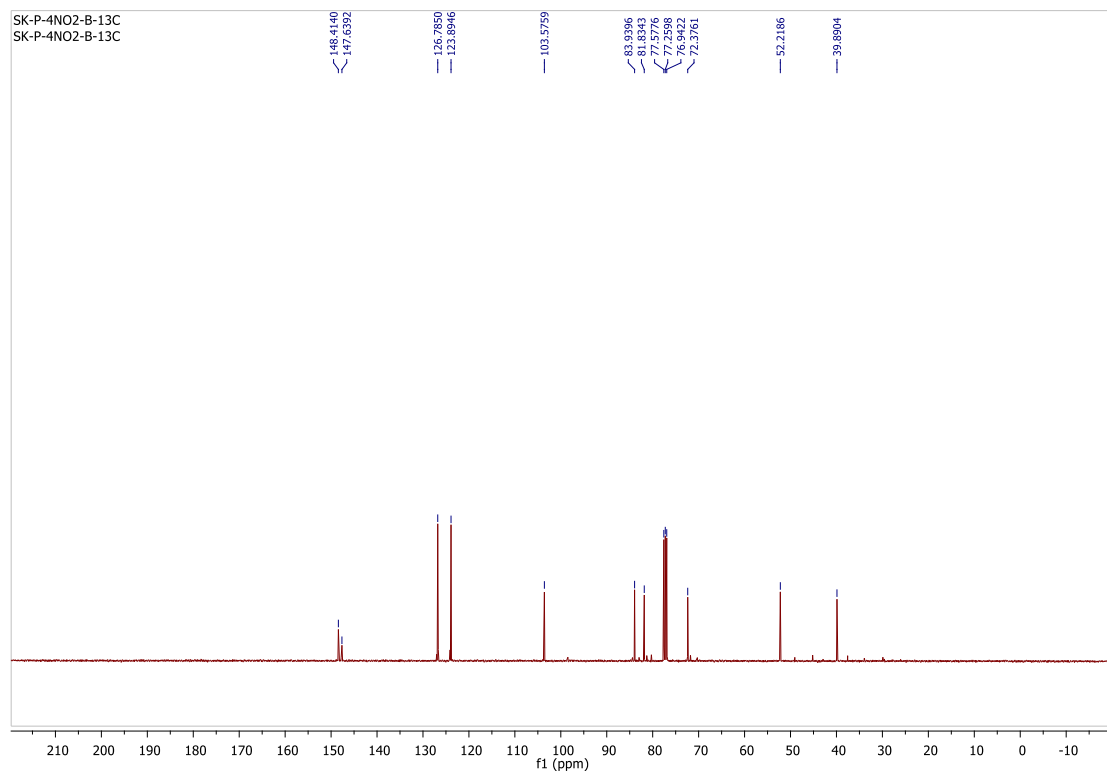
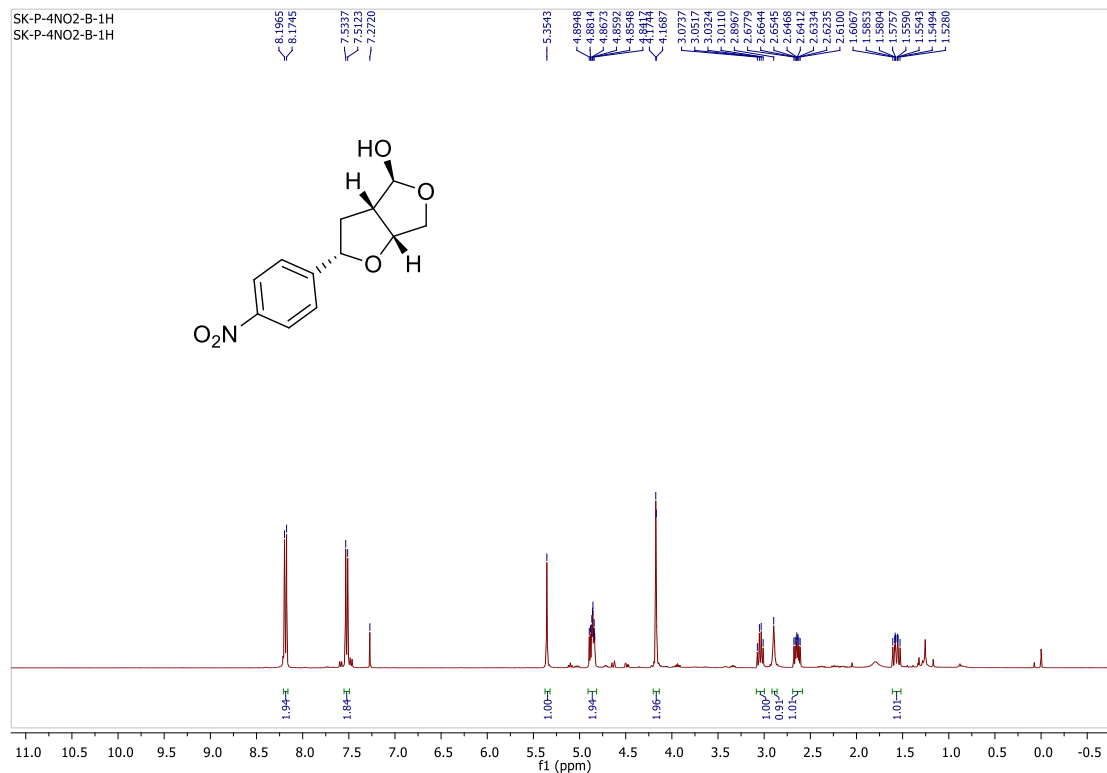
$^{19}\text{F}$  NMR spectrum of **4f**



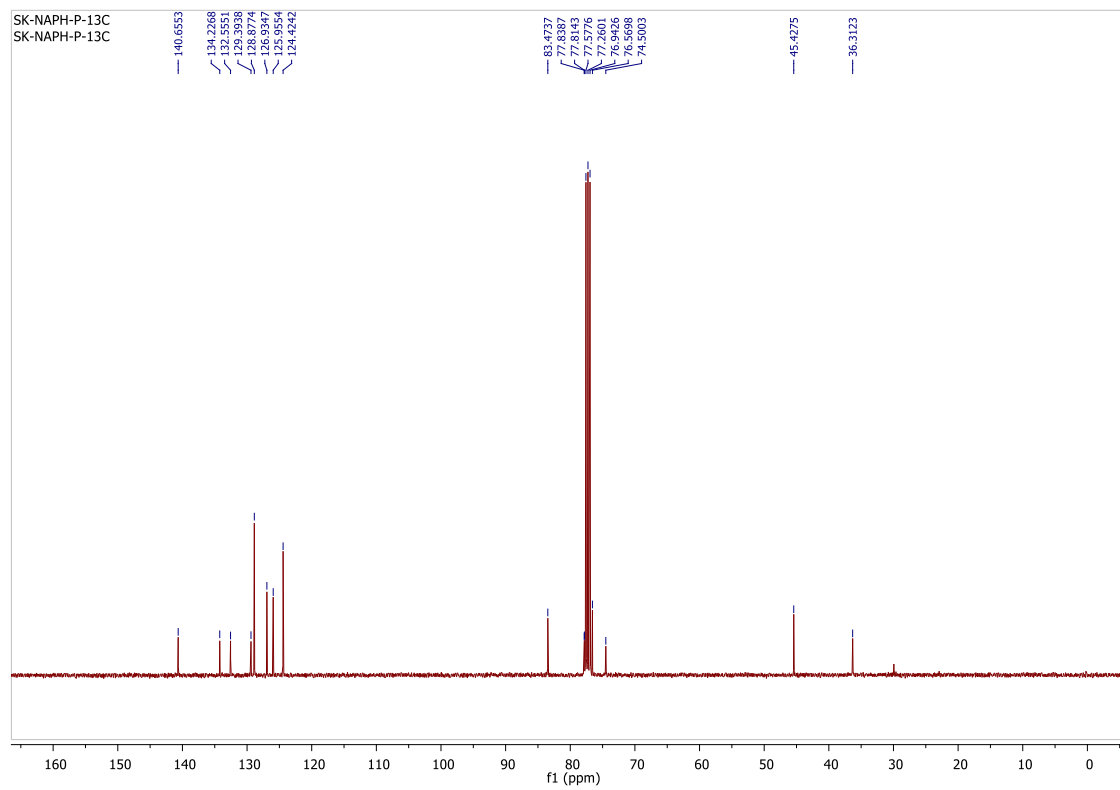
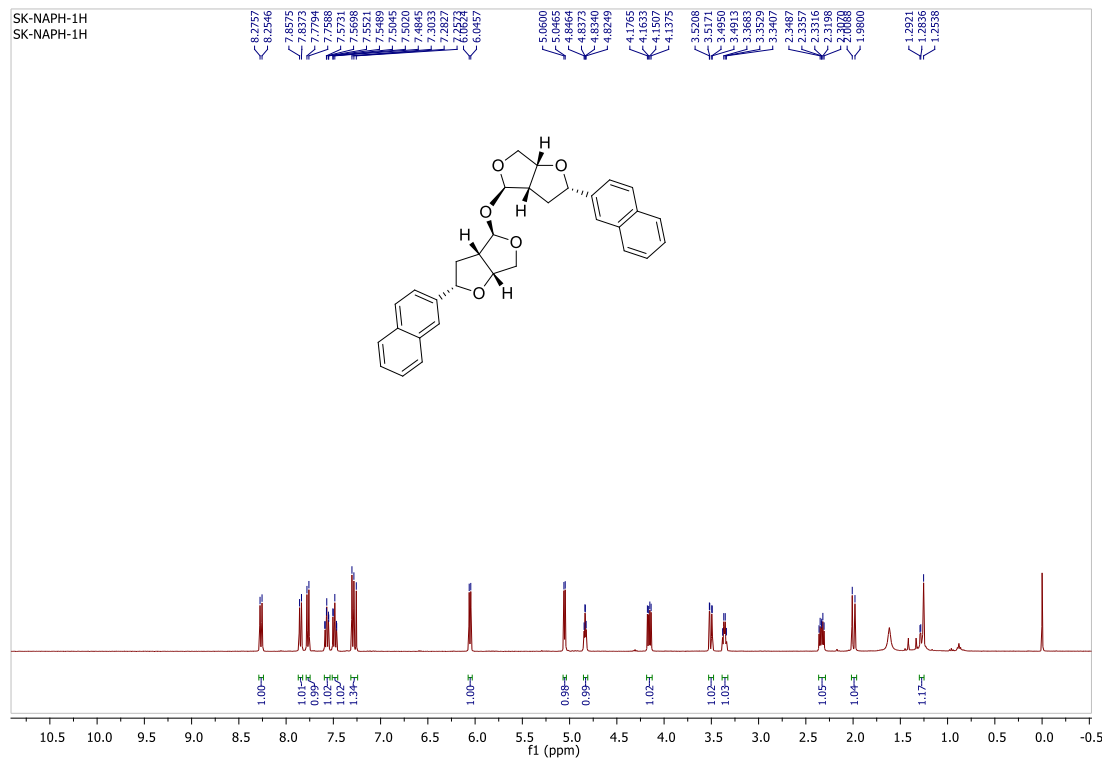
$^1\text{H}$  and  $^{13}\text{C}$  NMR spectra of **3g**



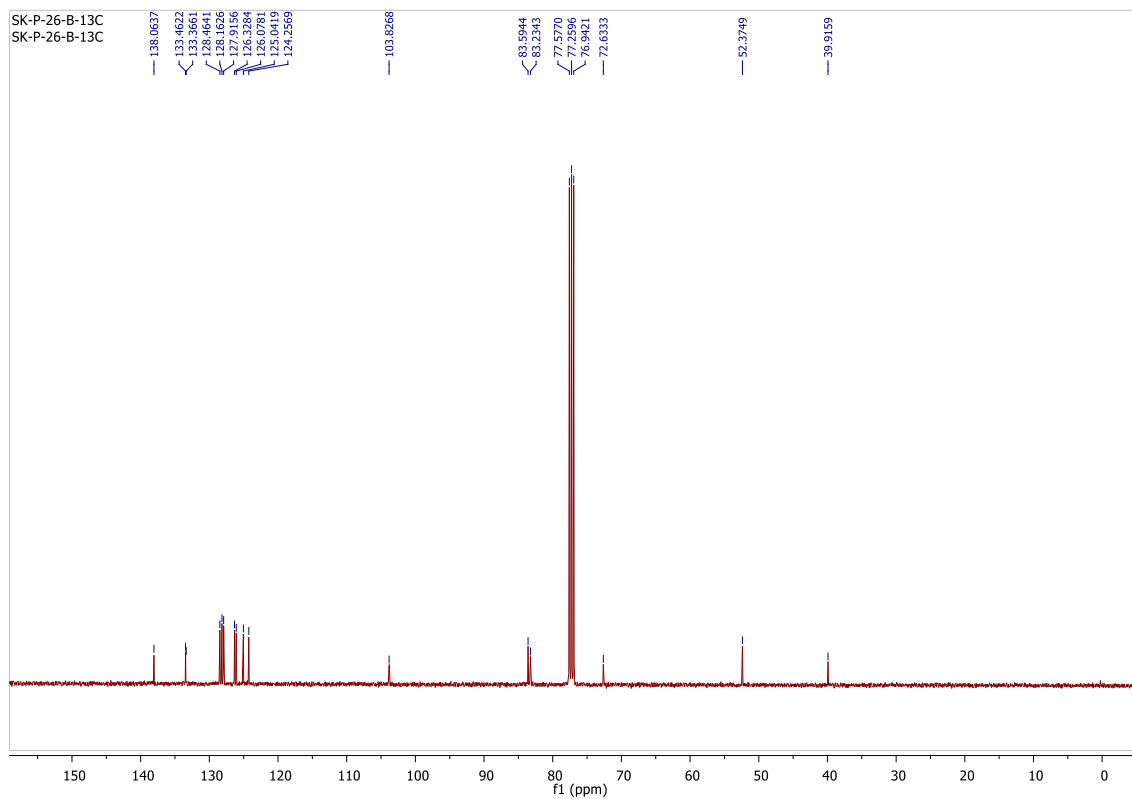
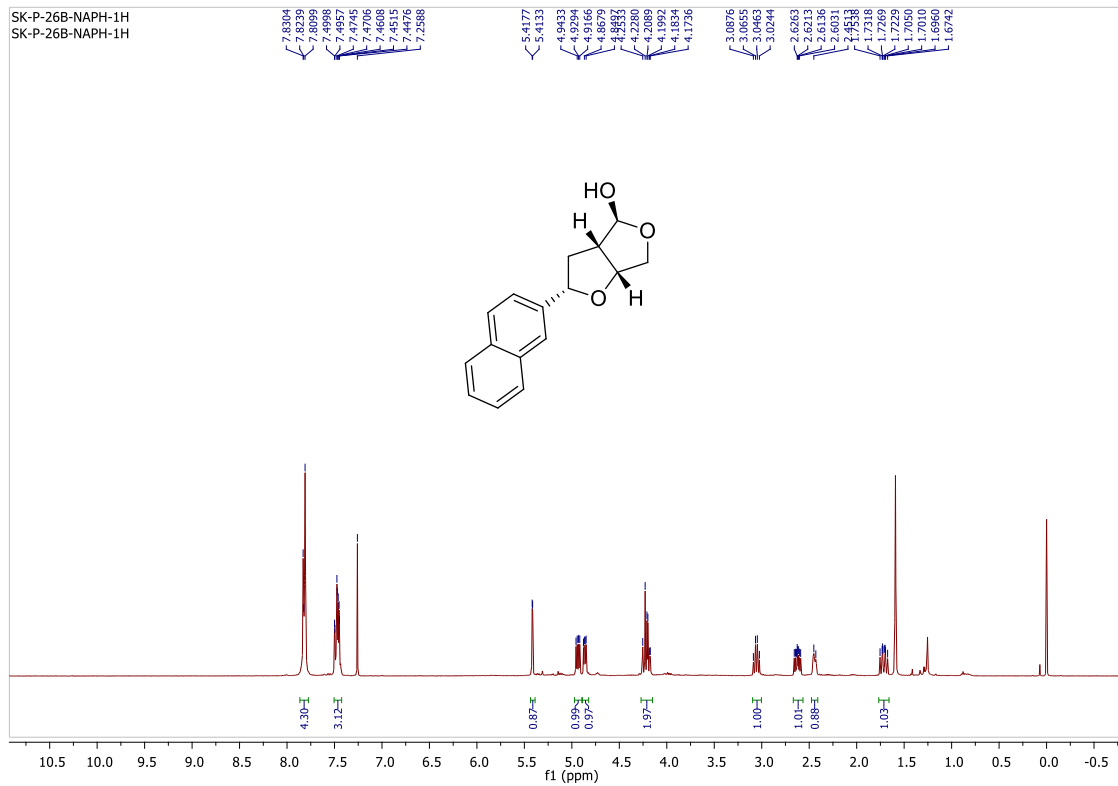
# $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of **4g**



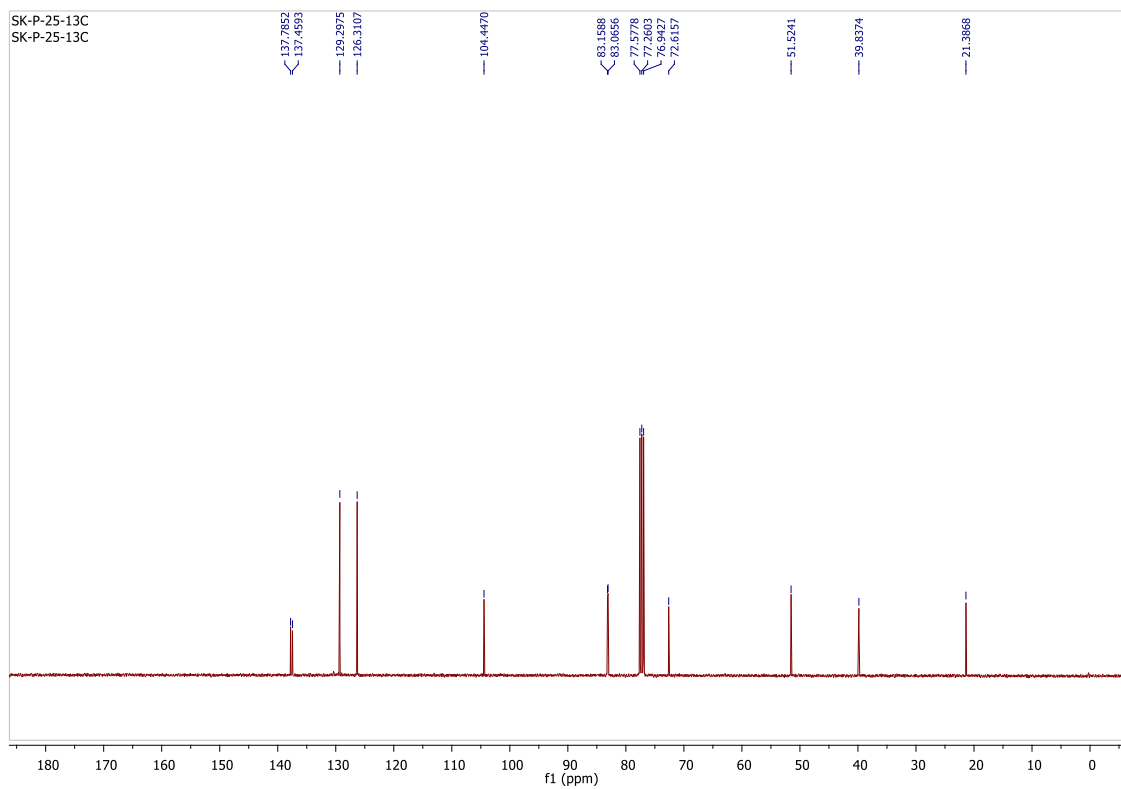
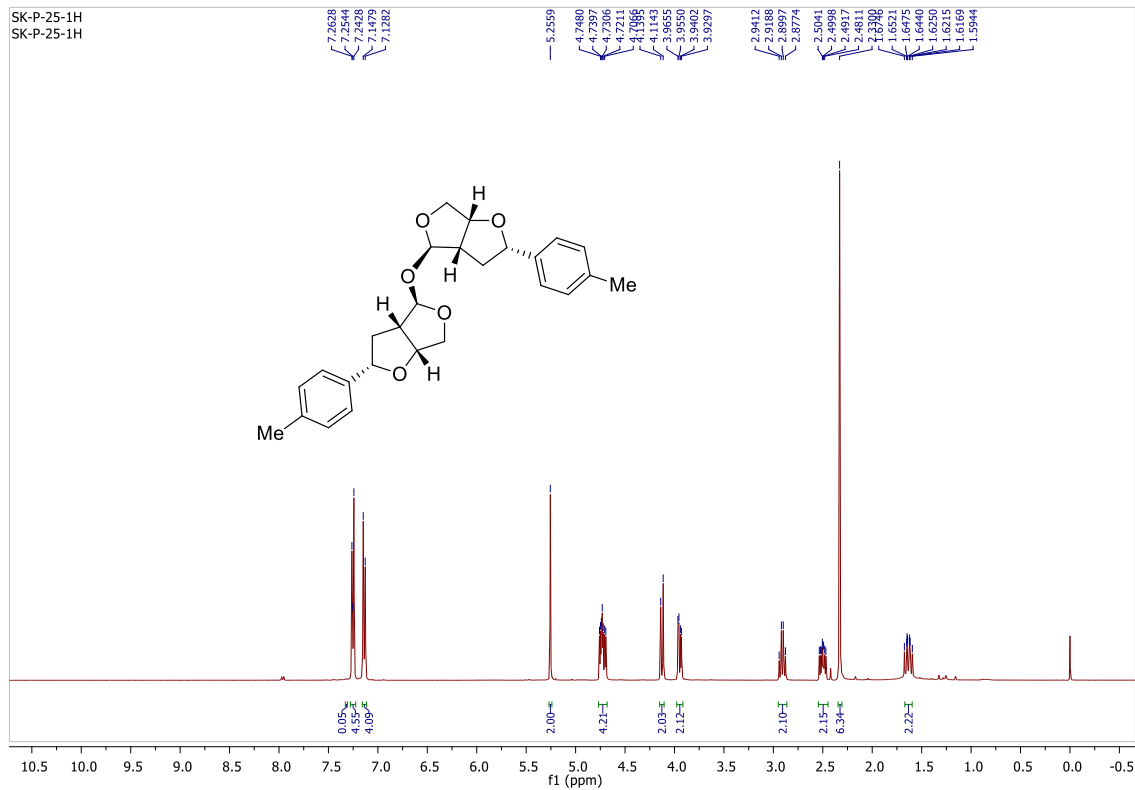
# $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of **3h**



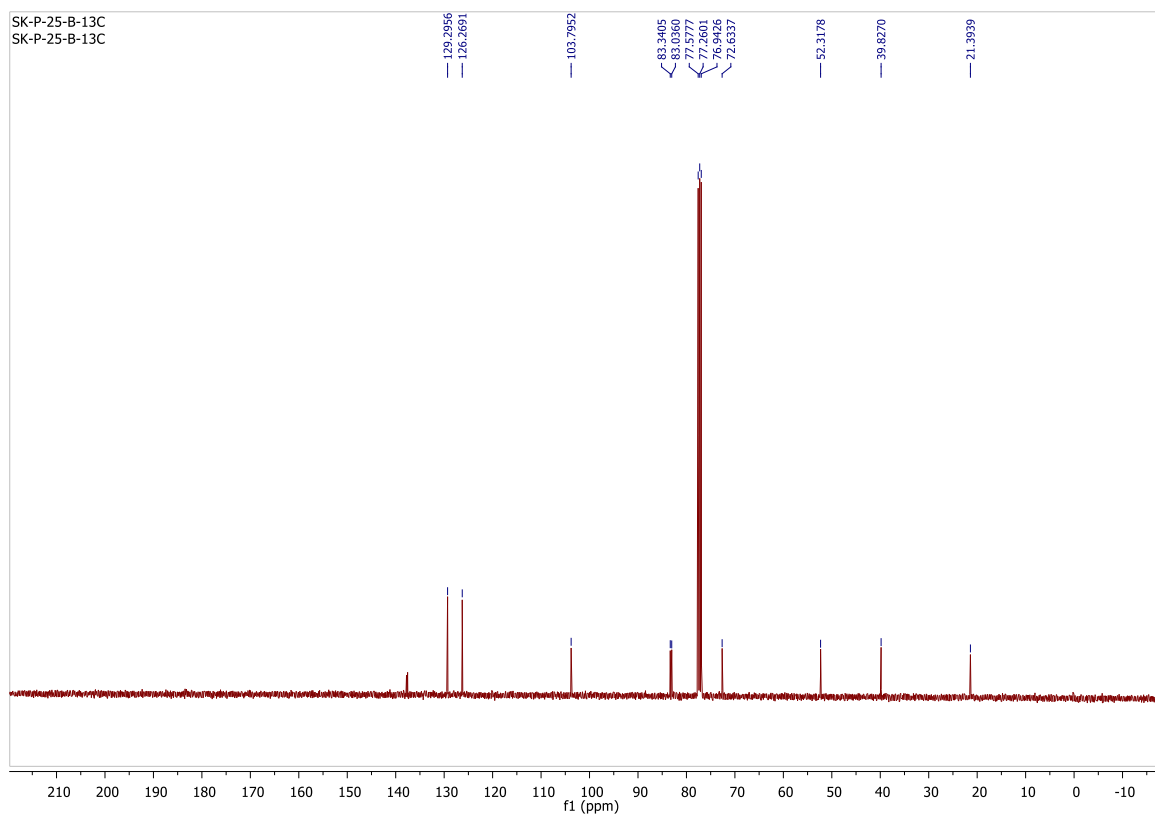
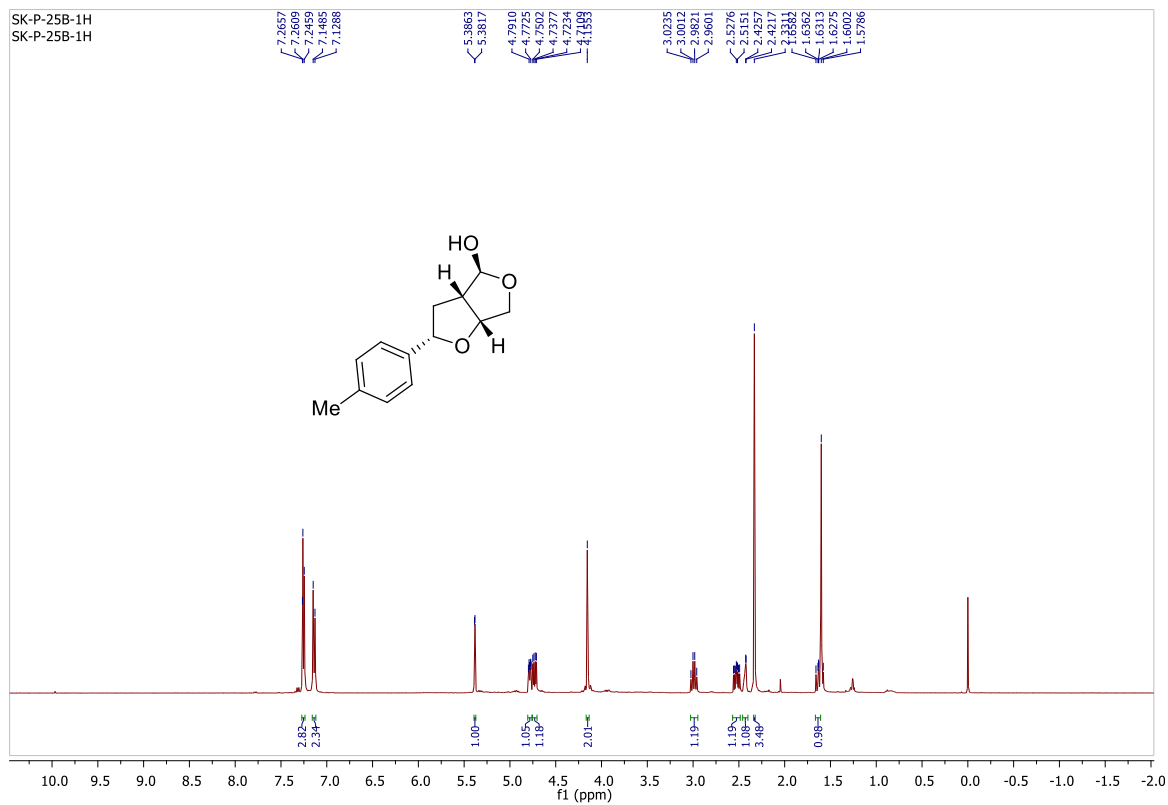
# $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of **4h**



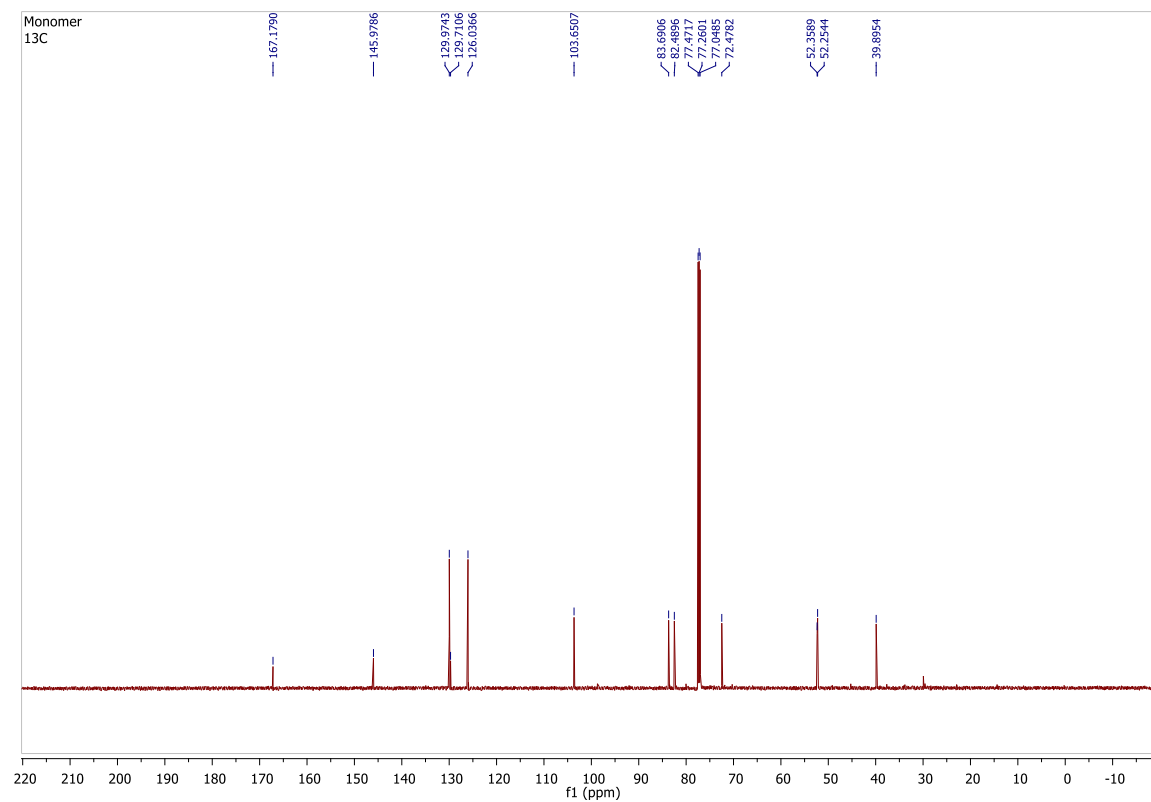
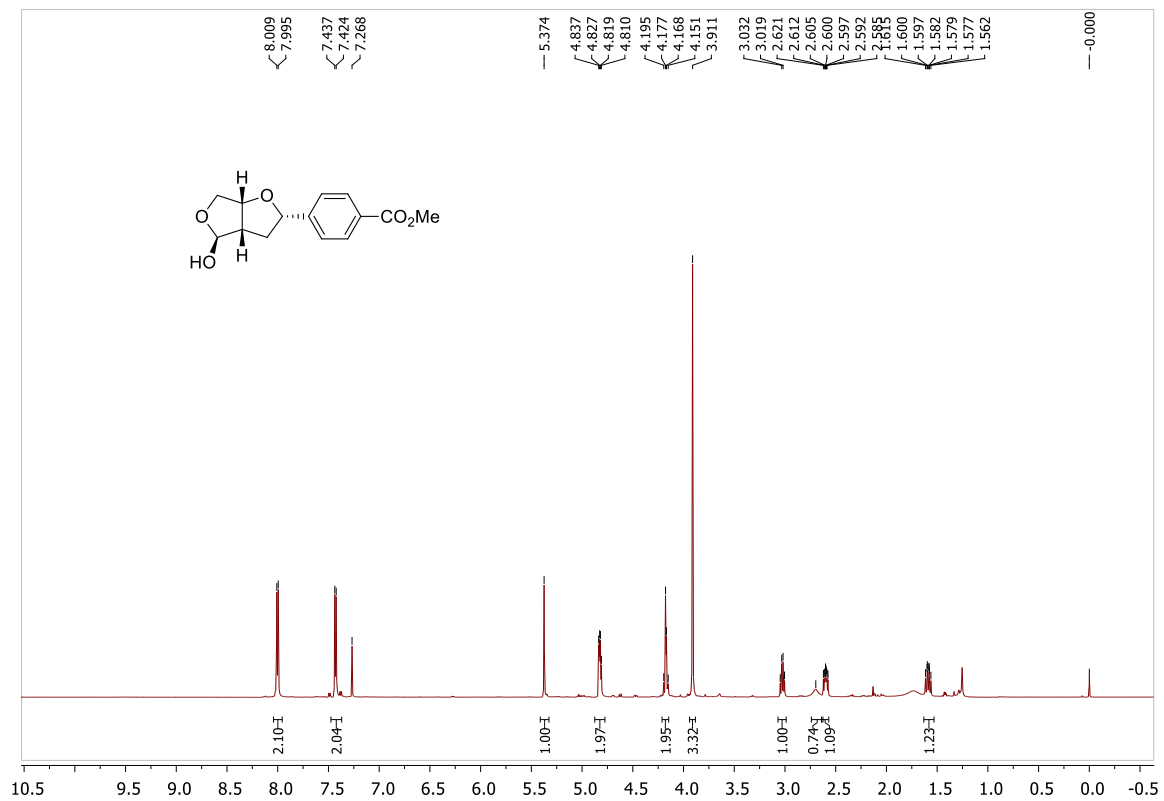
# $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of **3i**



# $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of **4i**

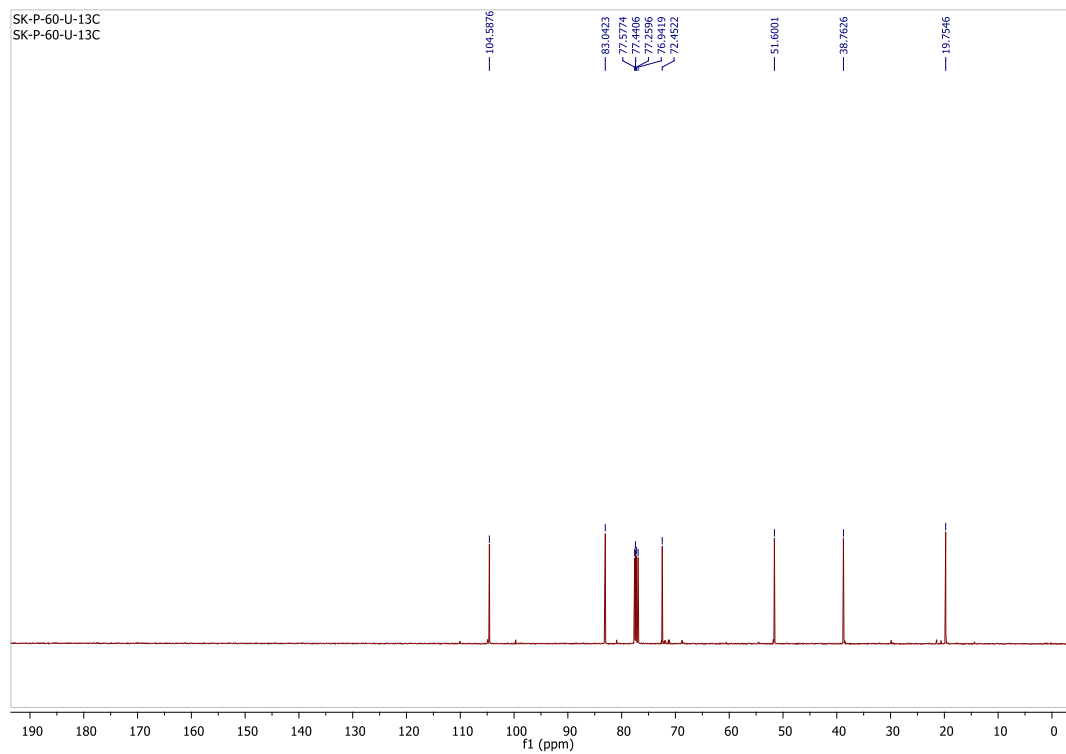
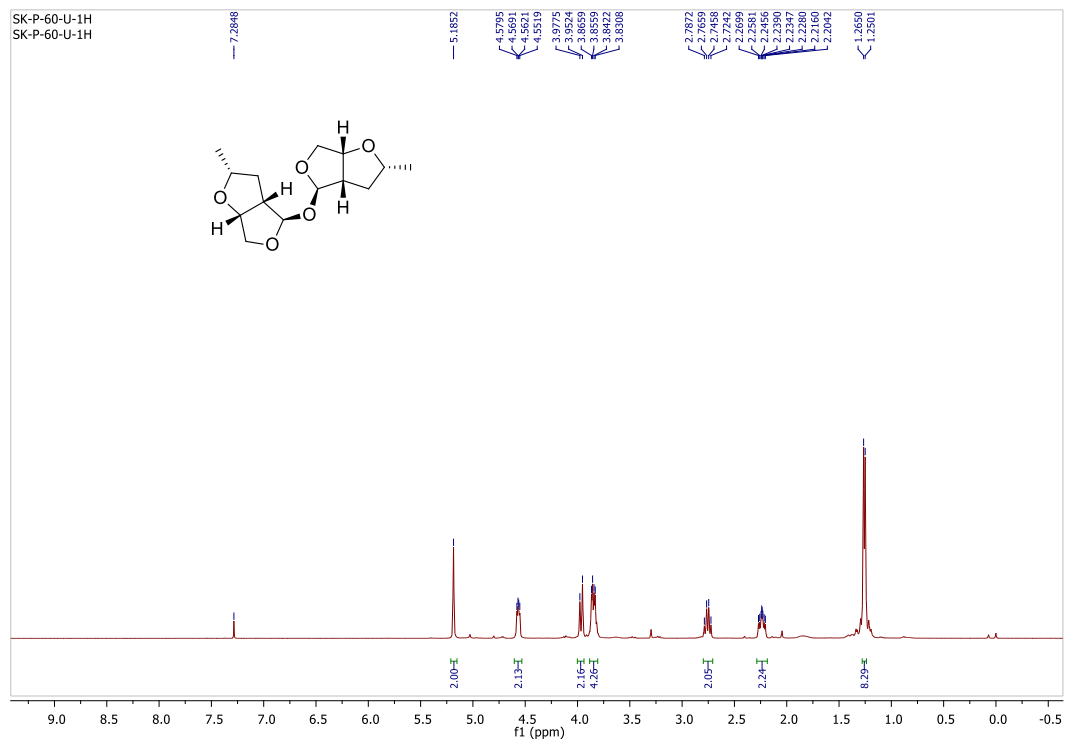


# <sup>1</sup>H and <sup>13</sup>C NMR spectra of **4j**

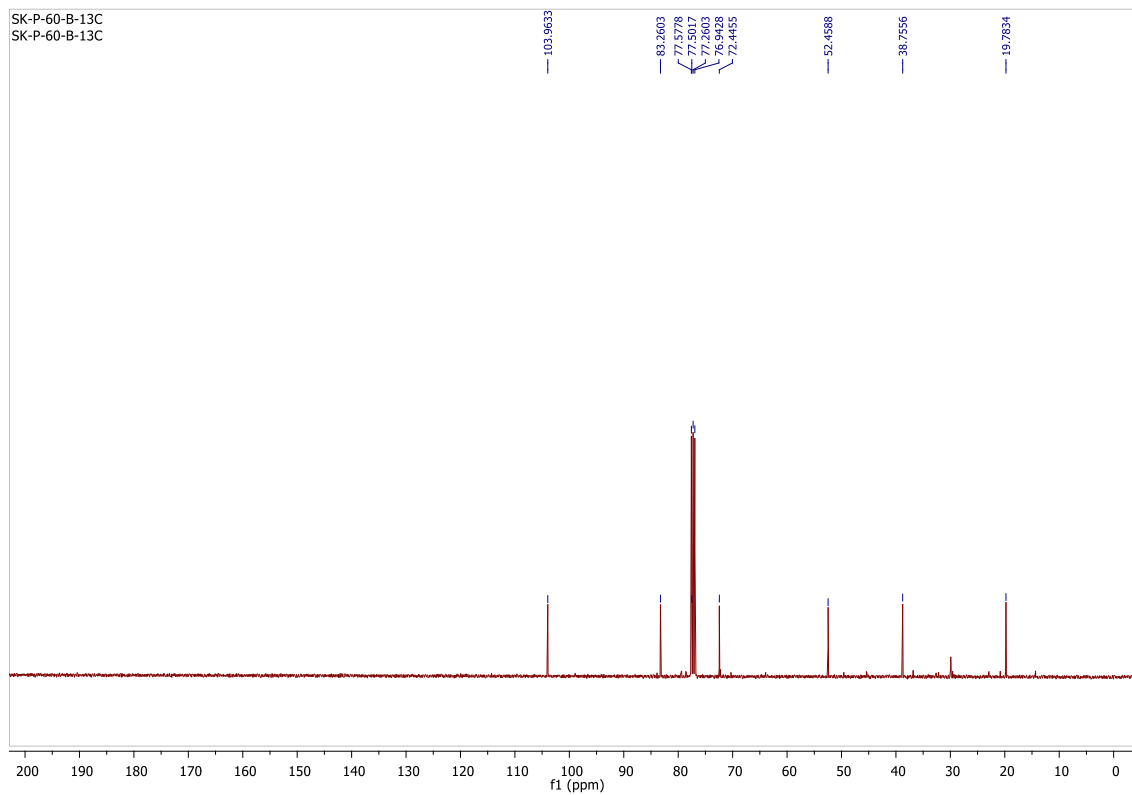
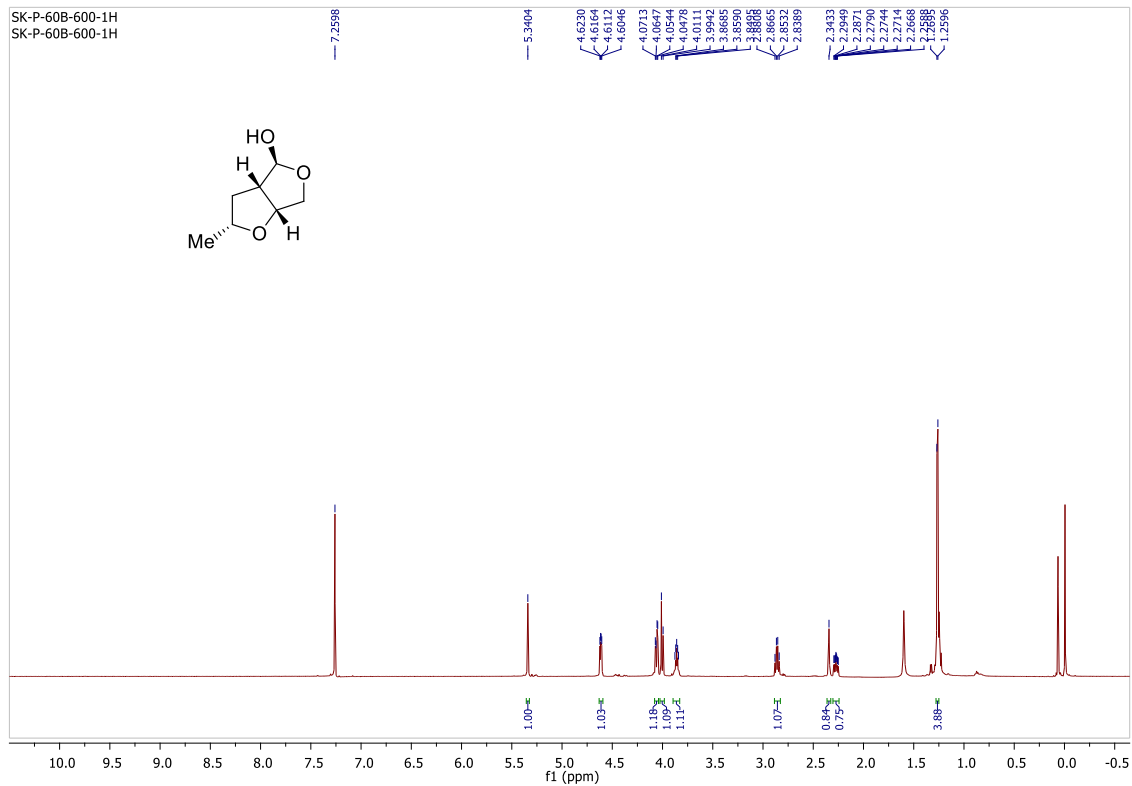




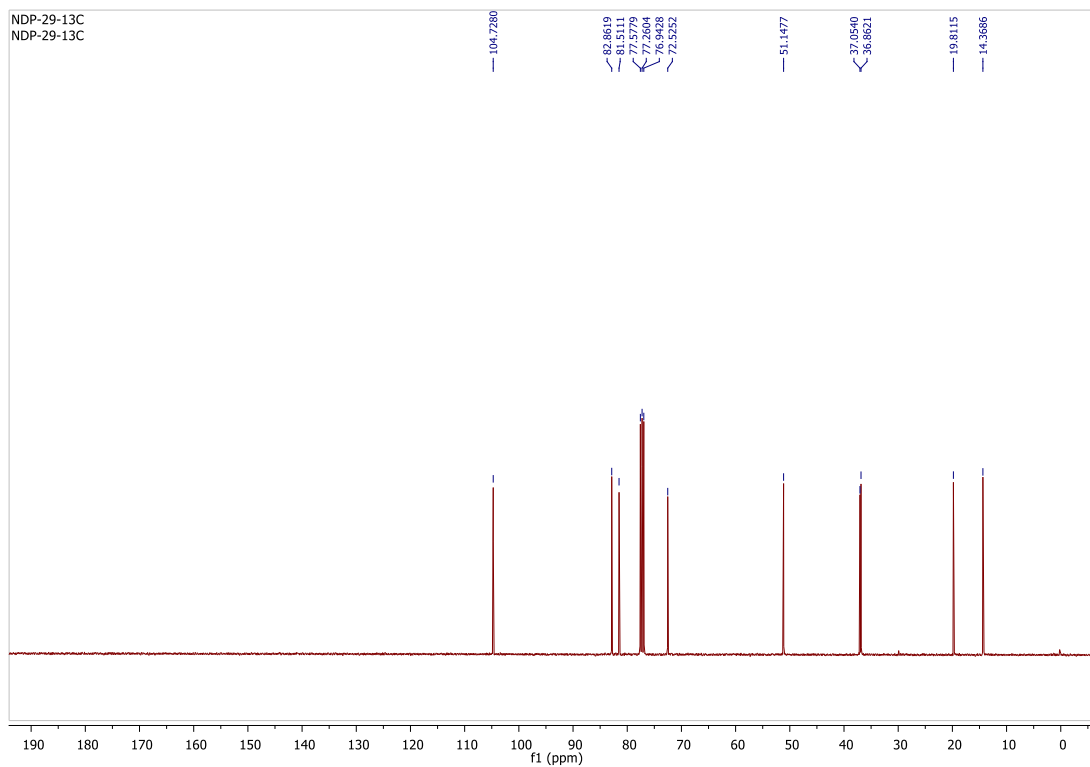
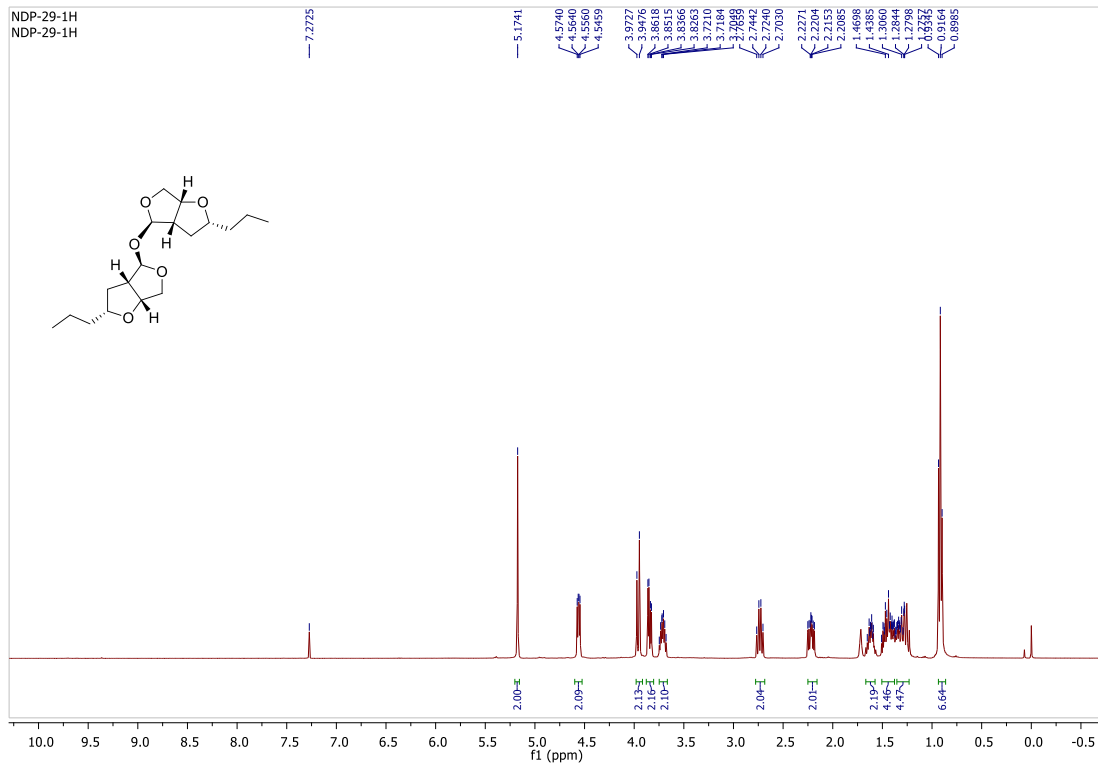
# $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of **3k**



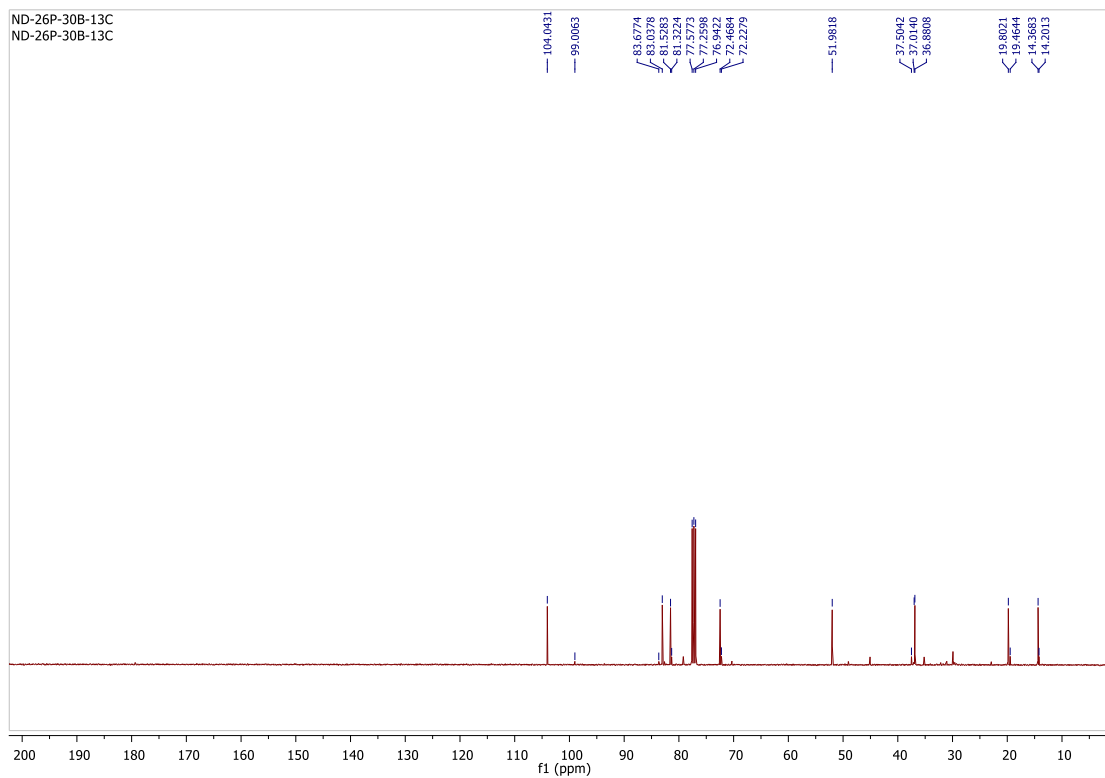
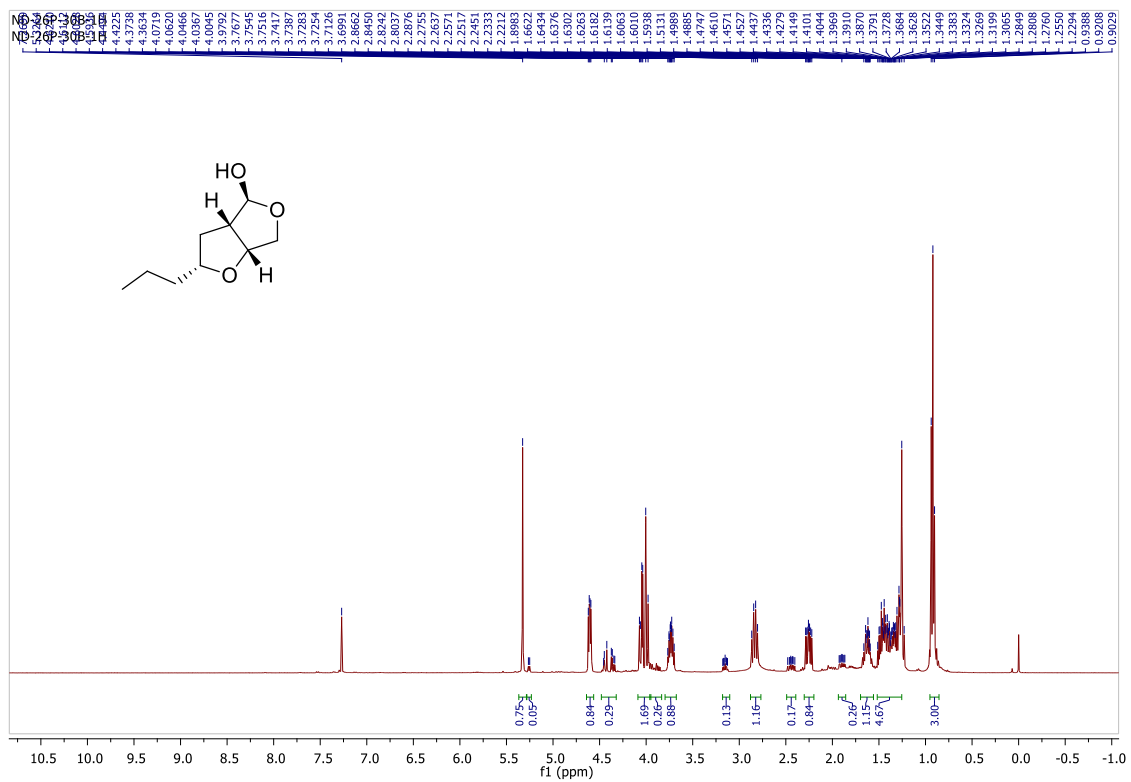
# <sup>1</sup>H and <sup>13</sup>C NMR spectra of **4k**



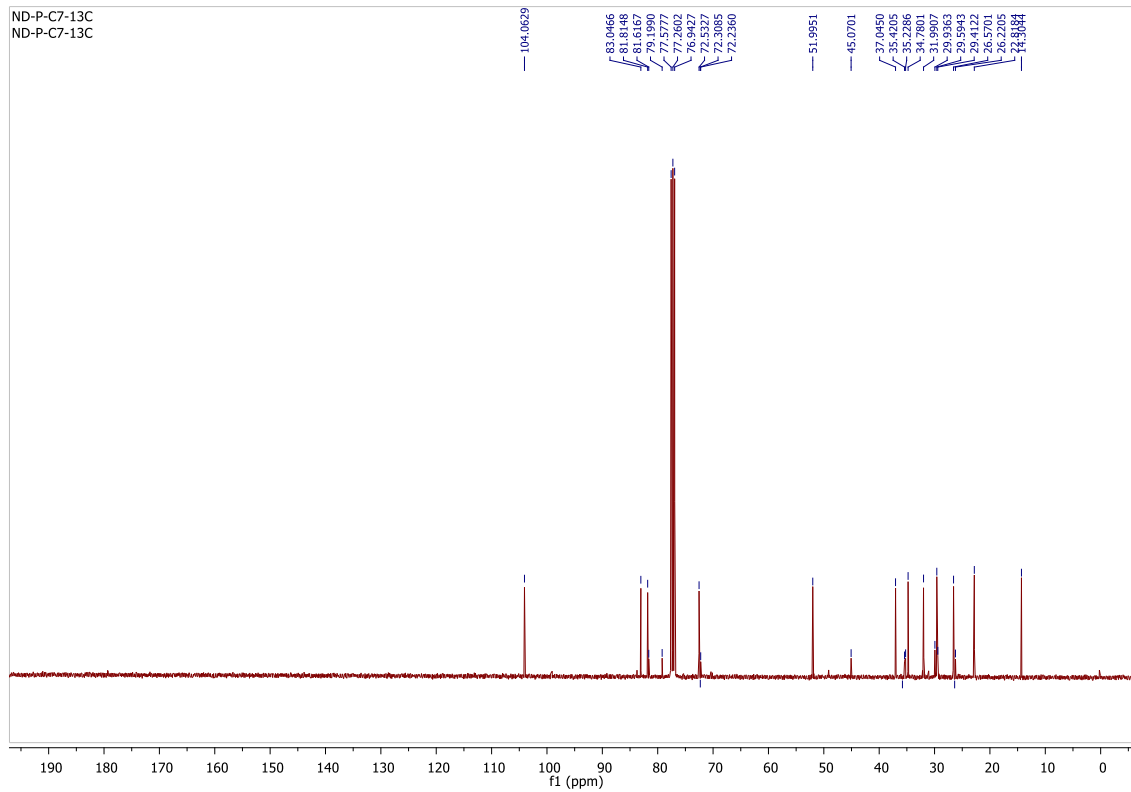
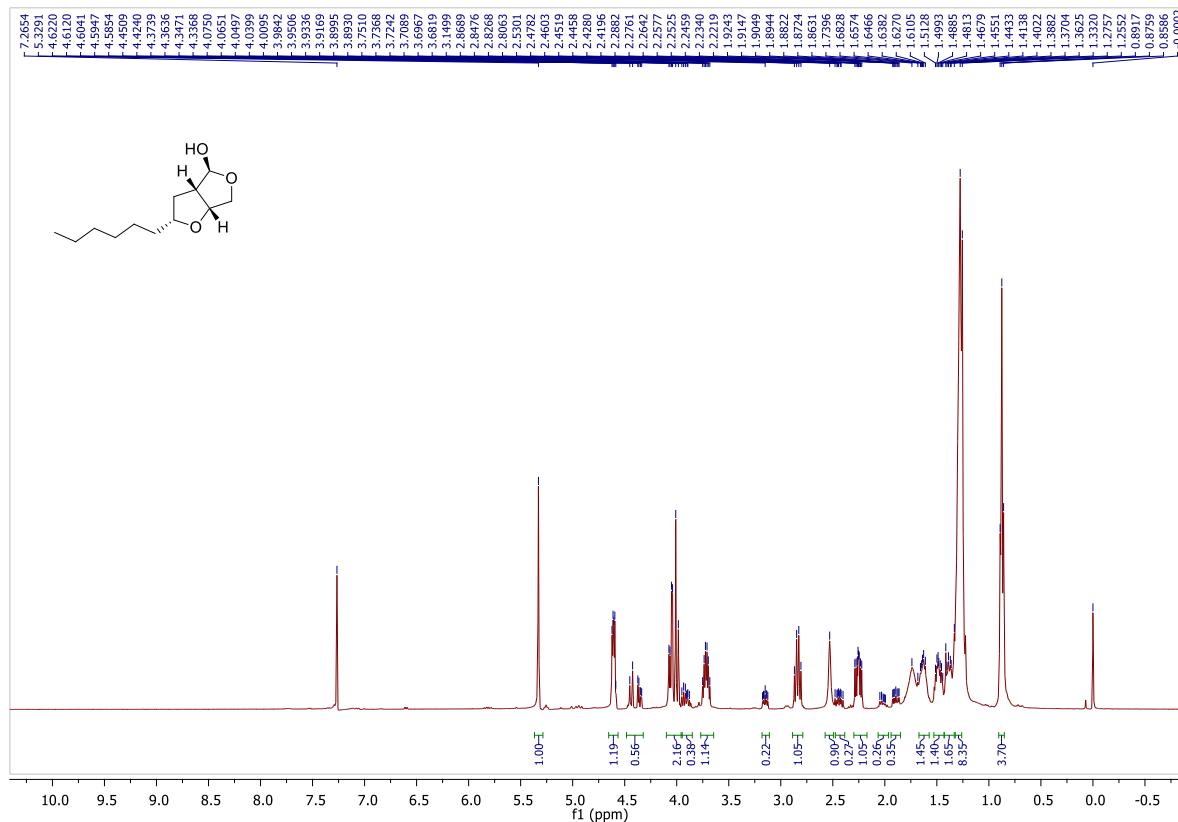
$^1\text{H}$  and  $^{13}\text{C}$  NMR spectra of **31**



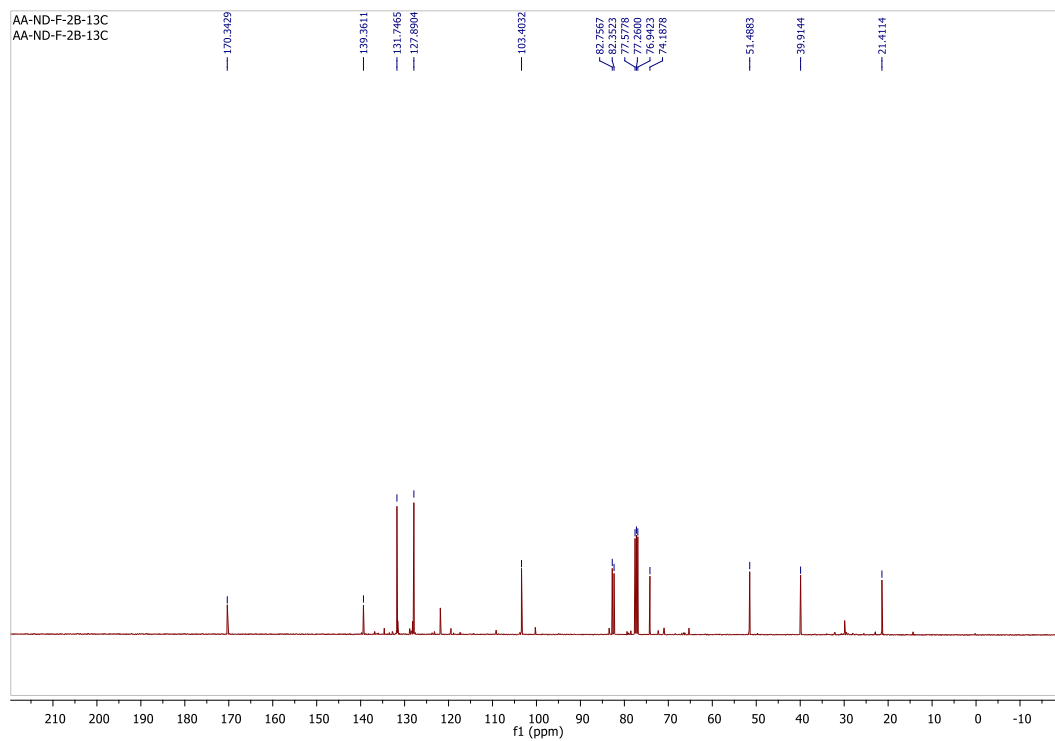
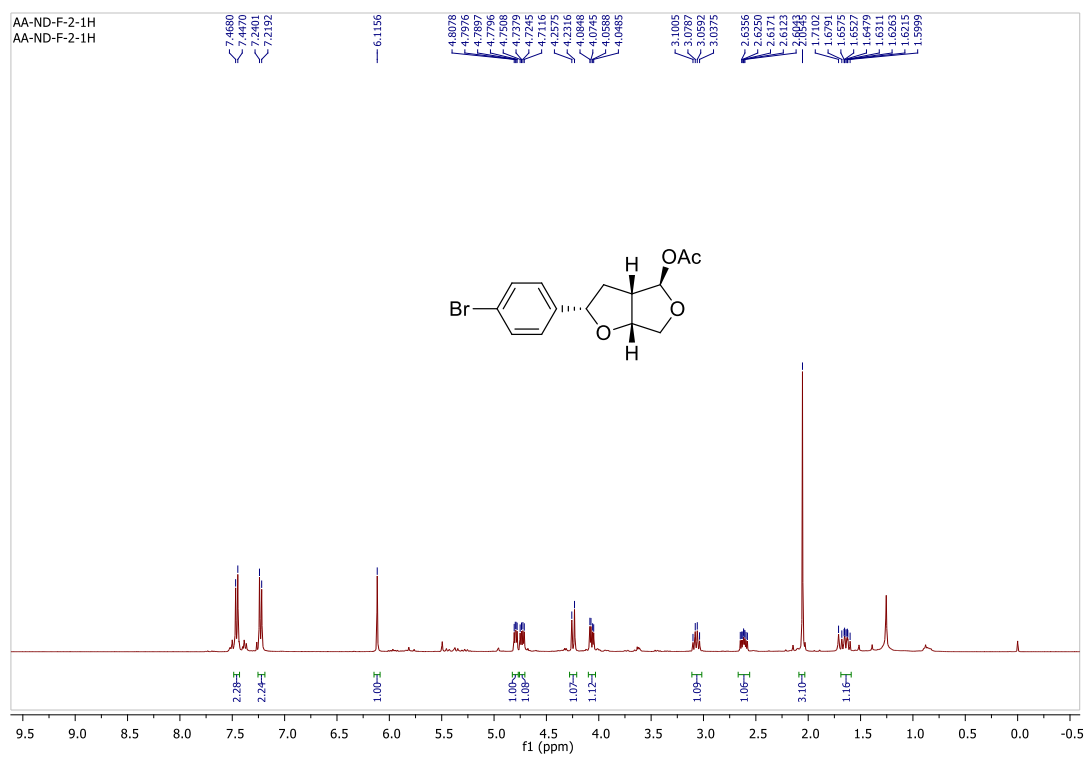
# <sup>1</sup>H and <sup>13</sup>C NMR spectra of 41



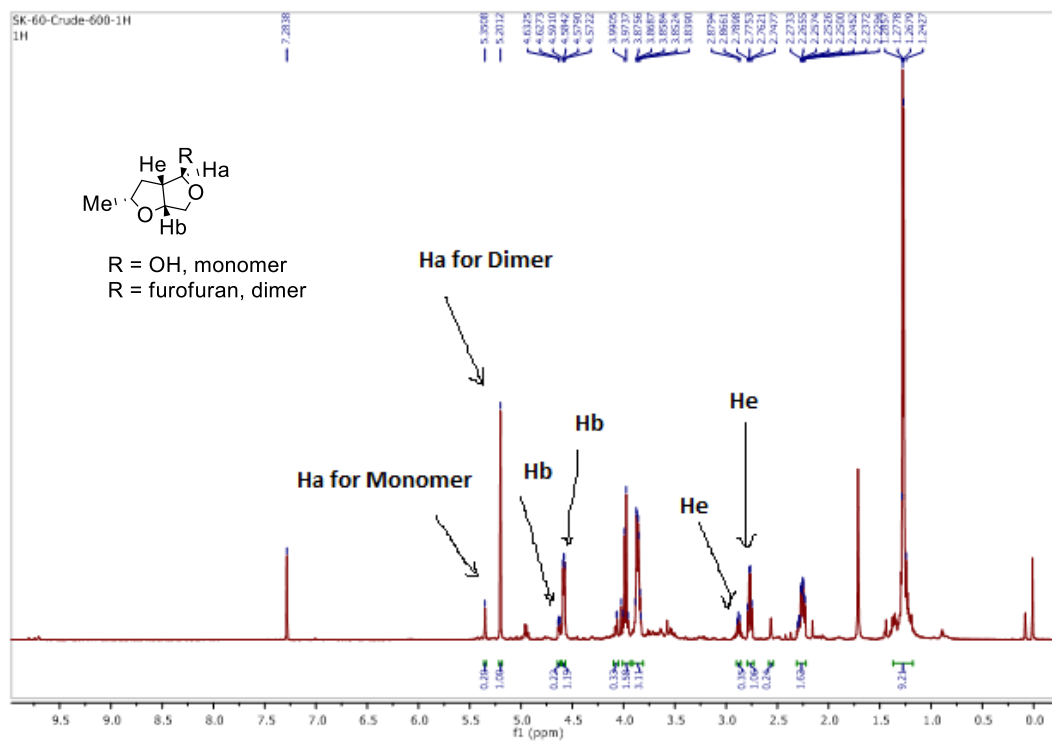
<sup>1</sup>H and <sup>13</sup>C NMR spectra of **4m**



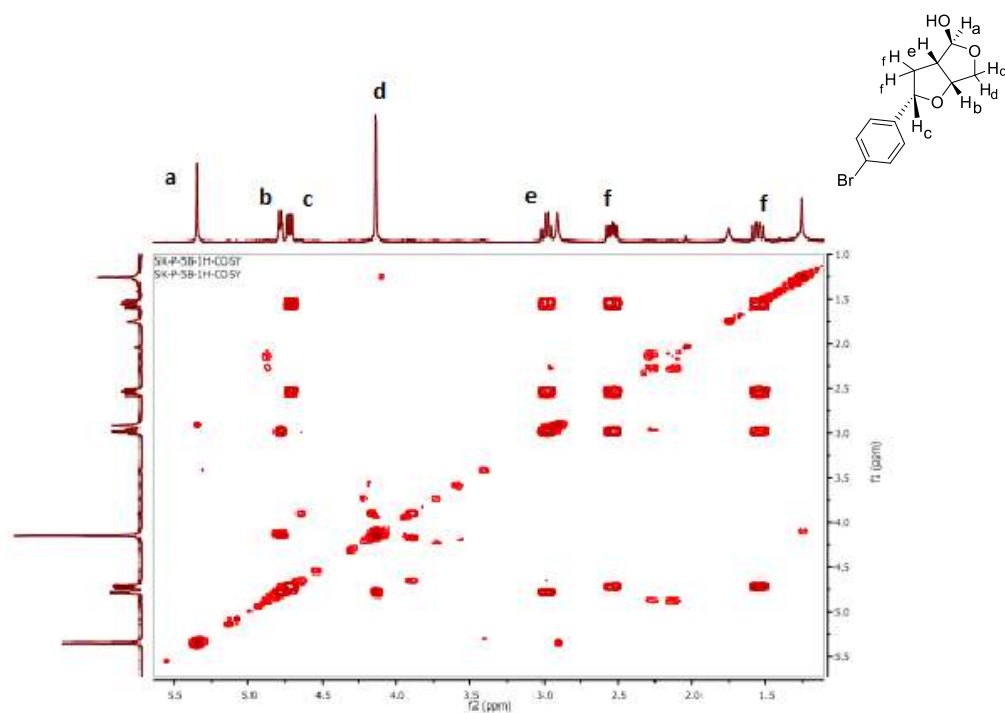
# $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of **5d**



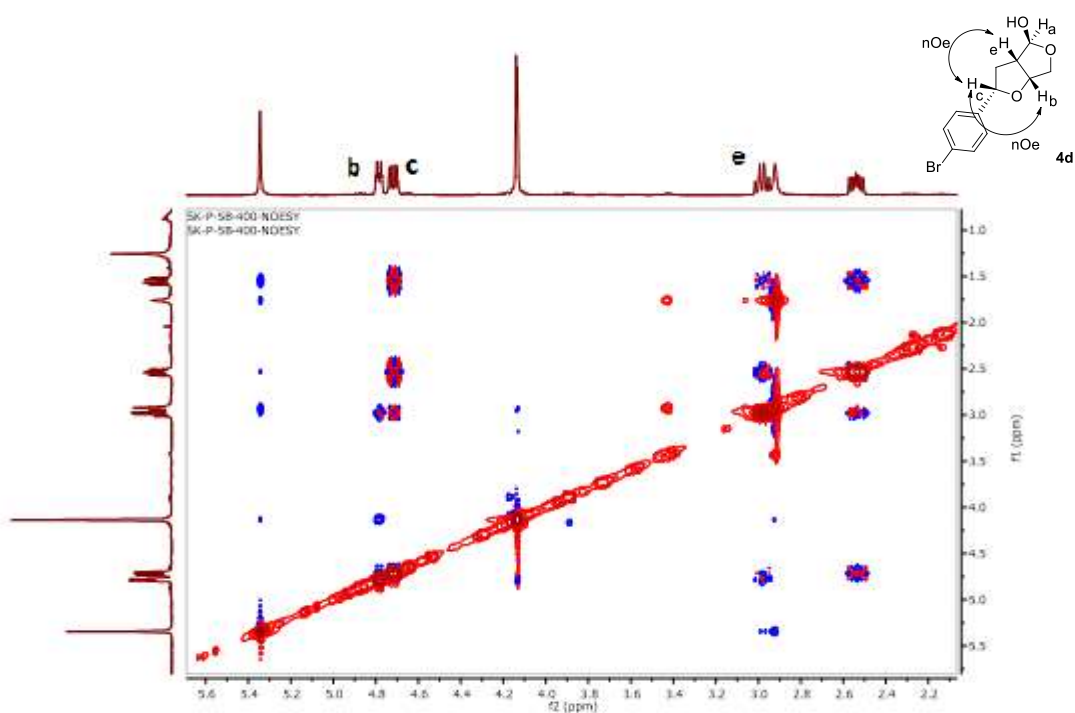
# Crude $^1\text{H}$ NMR spectrum of **4K**



### COSY spectrum of compound 4d



### NOESY spectrum of compound 4d

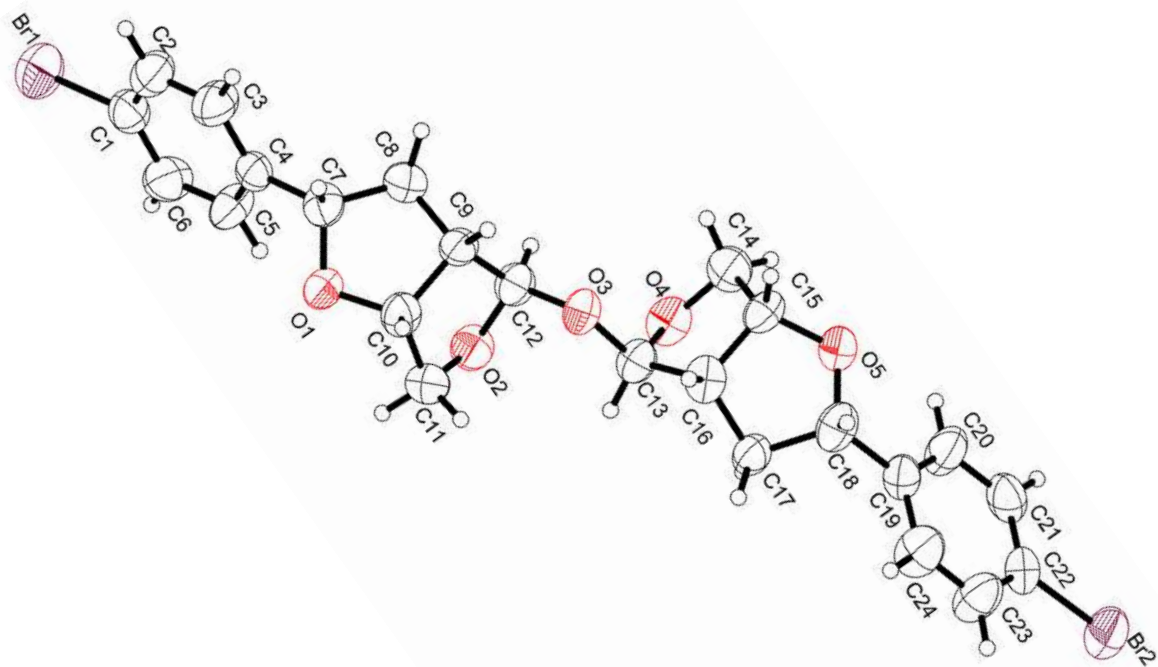




The crystal parameters of compound **3d**

	CCDC 1888883
Formula	C <sub>24</sub> H <sub>24</sub> Br <sub>2</sub> O <sub>5</sub>
Formula weight	552.25
<i>T</i> /K	293(2)
Crystal system	Orthorhombic
Space group	P212121
<i>a</i> /Å	17.353(5)
<i>b</i> /Å	24.435(8)
<i>c</i> /Å	5.4165(17)
$\alpha$ /°	90.00
$\beta$ /°	90.00
$\gamma$ /°	90.00
<i>V</i> /Å <sup>3</sup>	2296.7(12)
<i>Z</i>	4
Abs. Coeff./mm <sup>-1</sup>	3.562
Abs. Correction	none
GOF on <i>F</i> <sup>2</sup>	0.974
Final <i>R</i> indices [ <i>I</i> > 2σ( <i>I</i> )]	<i>RI</i> = 0.0605 <i>wR2</i> = 0.1377
<i>R</i> indices [all data]	<i>RI</i> = 0.1571 <i>wR2</i> = 0.1942

ORTEP Diagram of compound **3d**



The crystal parameters of compound **4d**

	CCDC 1914873
Formula	C <sub>12</sub> H <sub>13</sub> Br O <sub>3</sub>
Formula weight	285.13
<i>T</i> /K	293(2)
Crystal system	monoclinic
Space group	P1211
<i>a</i> /Å	5.8450(5)
<i>b</i> /Å	7.6852(6)
<i>c</i> /Å	12.8843(10)
$\alpha$ /°	90.00
$\beta$ /°	100.457(8)
$\gamma$ /°	90.00
<i>V</i> /Å <sup>3</sup>	569.15(8)
<i>Z</i>	2
Abs. Coeff./mm <sup>-1</sup>	3.600
Abs. Correction	multi-scan
GOF on <i>F</i> <sup>2</sup>	1.029
Final <i>R</i> indices [ <i>I</i> > 2 $\sigma$ ( <i>I</i> )]	<i>R</i> 1 = 0.0437 <i>wR</i> 2 = 0.0851
<i>R</i> indices [all data]	<i>R</i> 1 = 0.0541 <i>wR</i> 2 = 0.0930

ORTEP Diagram of compound **4d**

