

*Supporting Information*

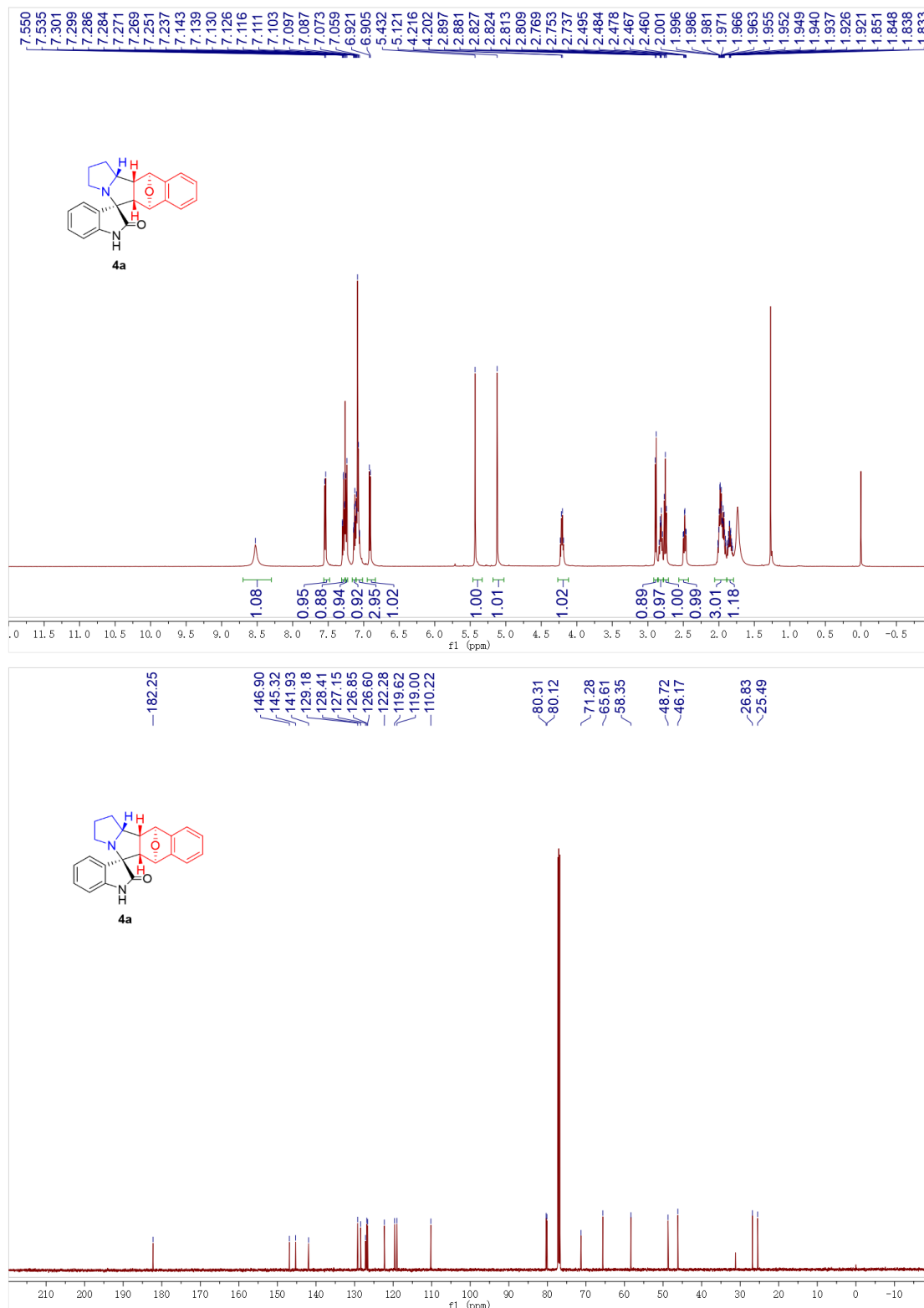
**An Efficient Synthesis of Oxygen-bridged Spirooxindoles via  
Microwave-Promoted Multicomponent Reaction**

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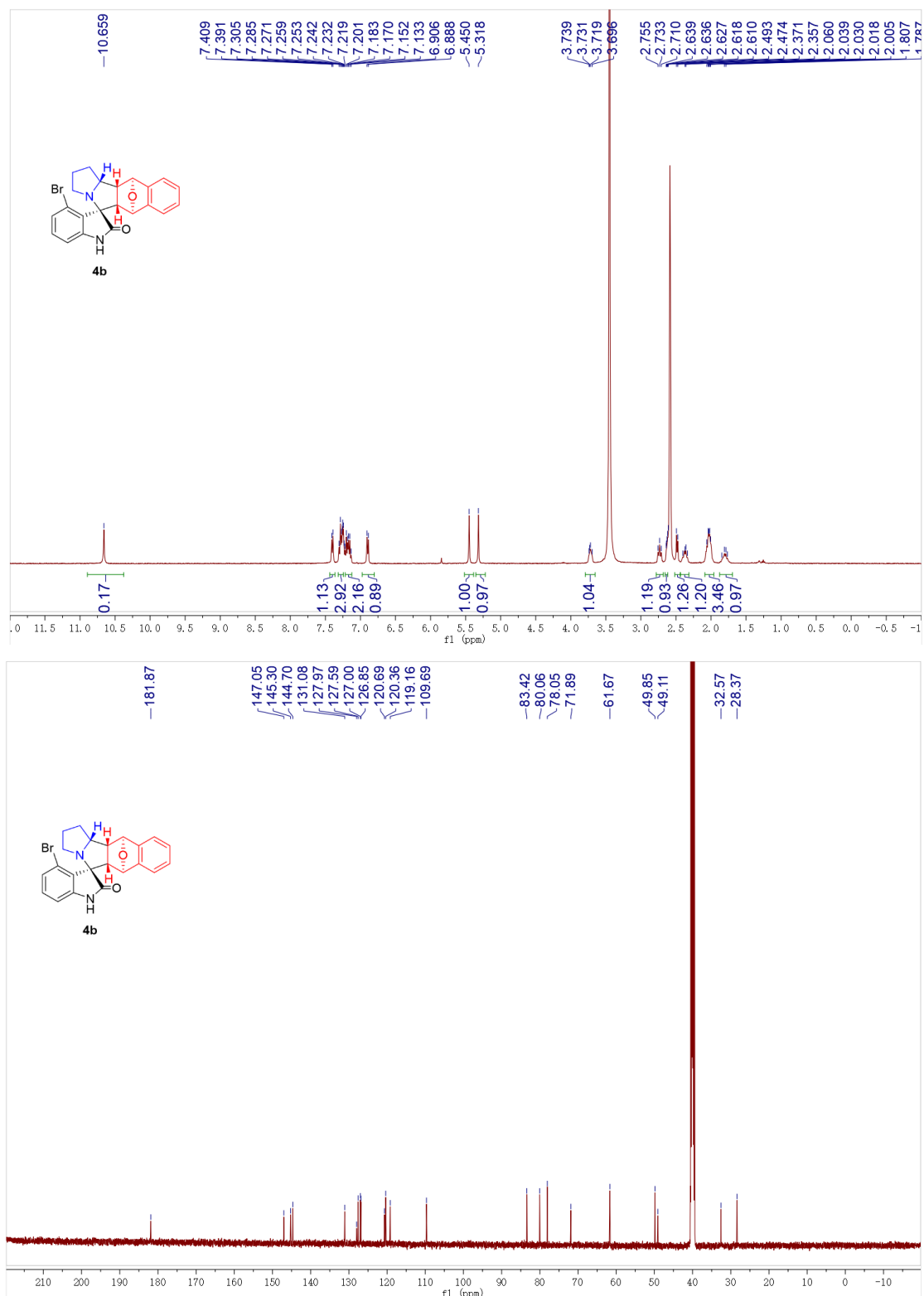
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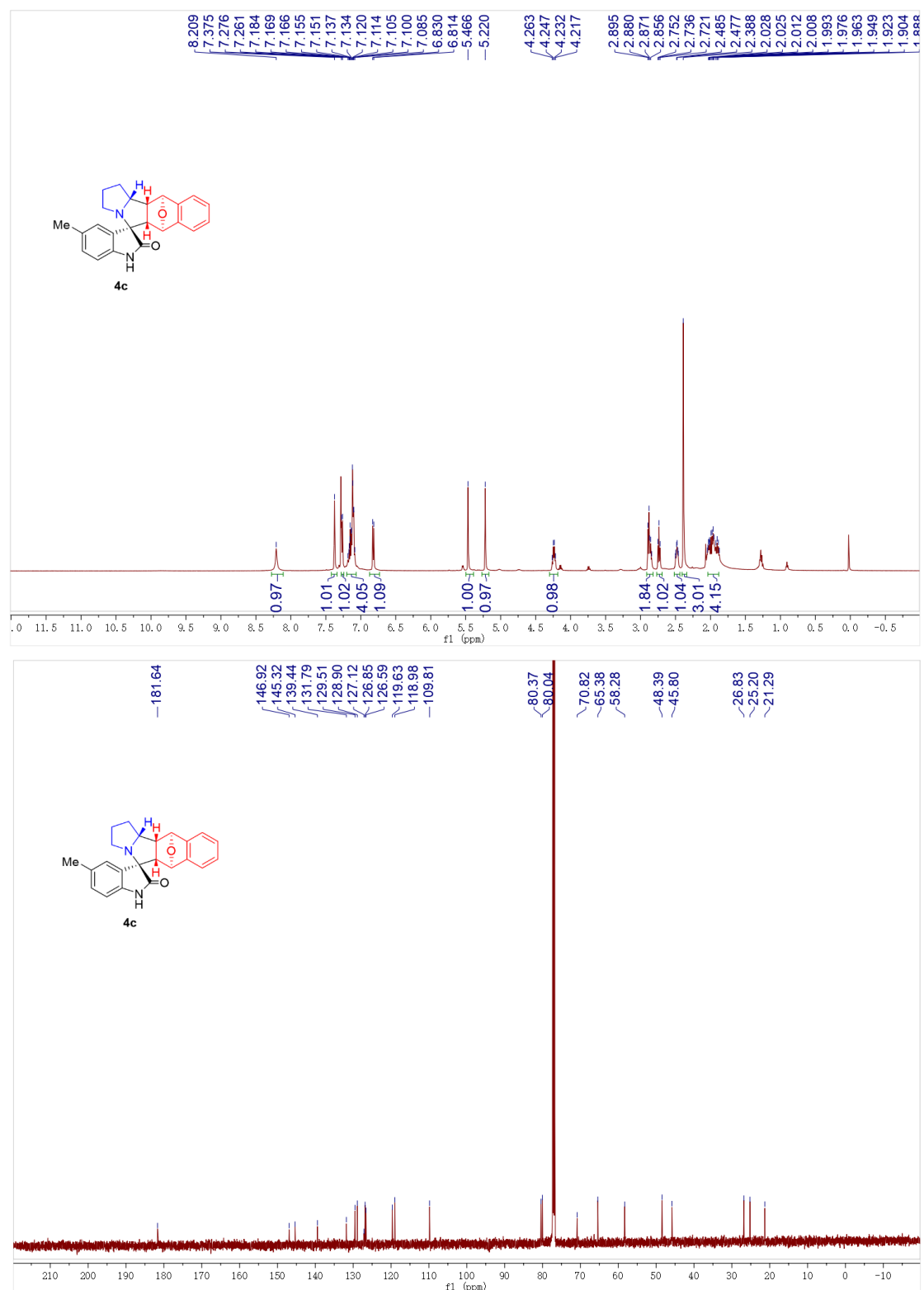
# 1. $^1\text{H}$ , $^{13}\text{C}$ and $^{19}\text{F}$ NMR Spectra of Compound



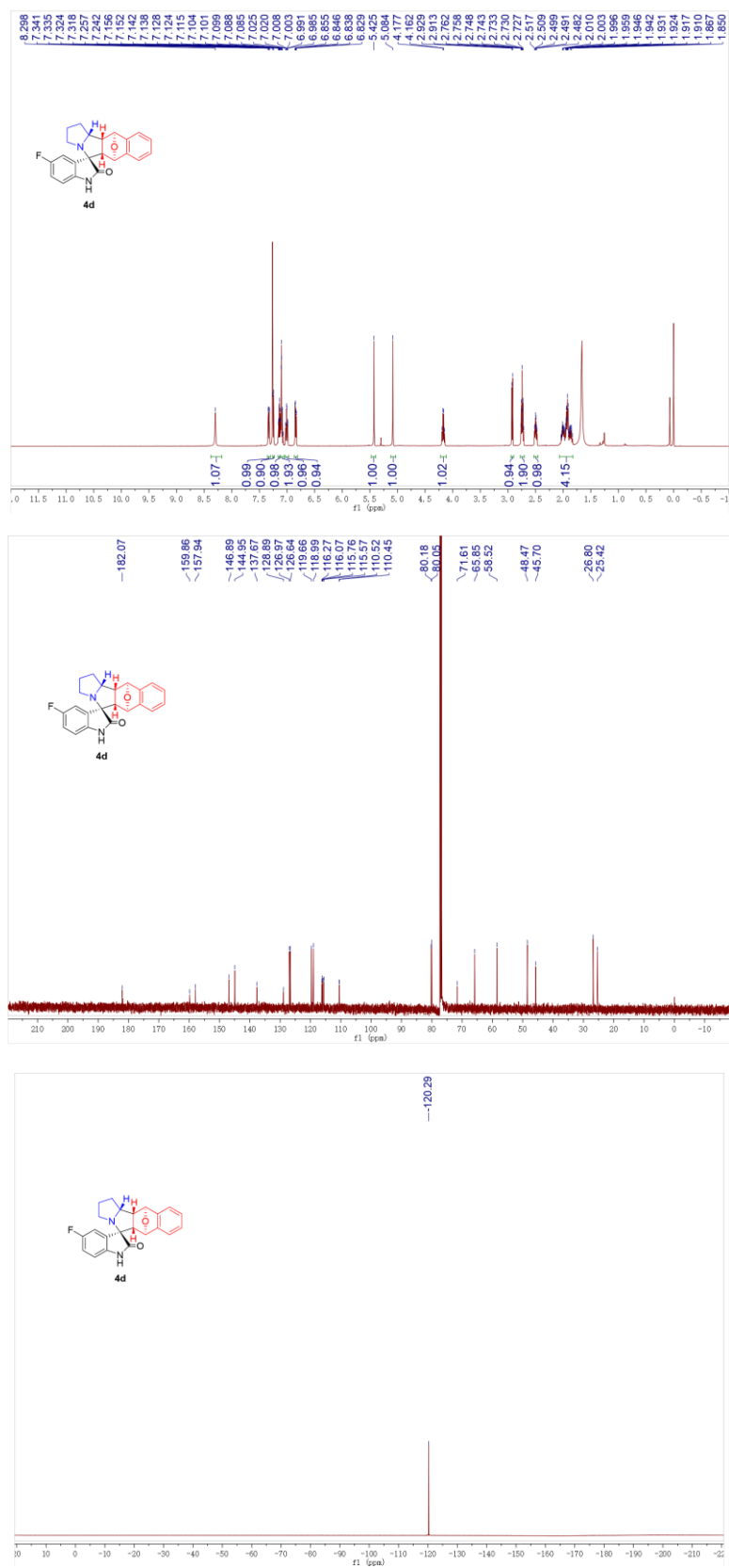
$^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ),  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of **4a**



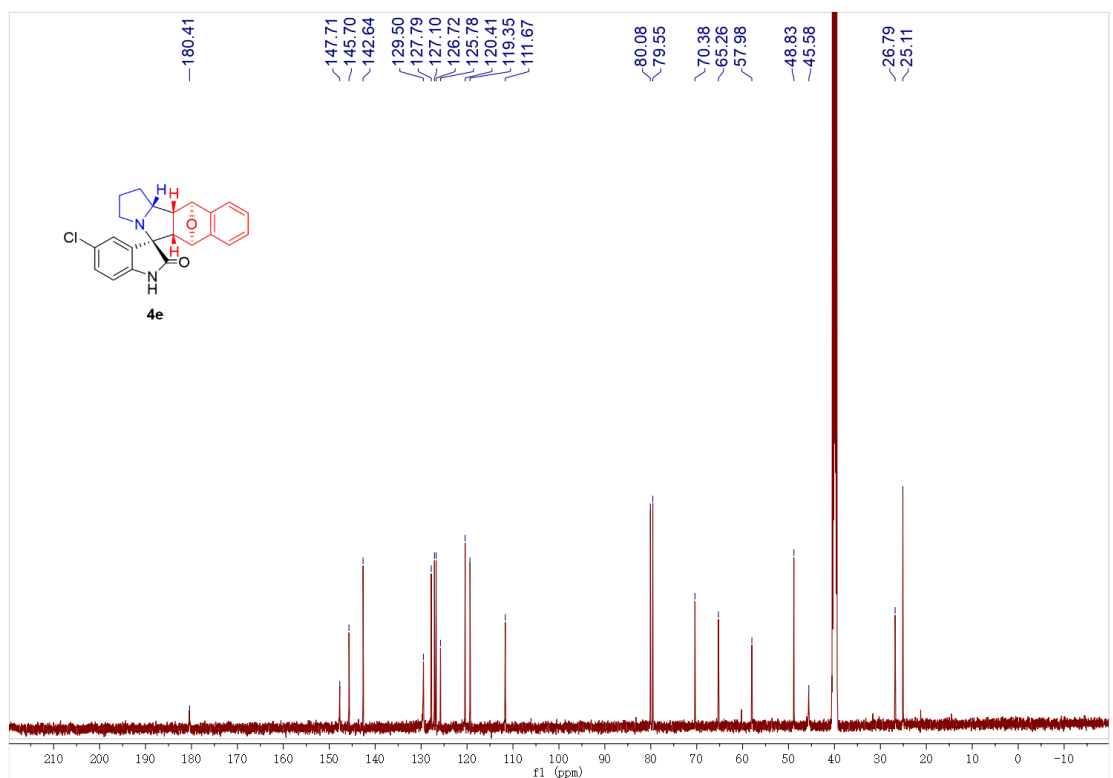
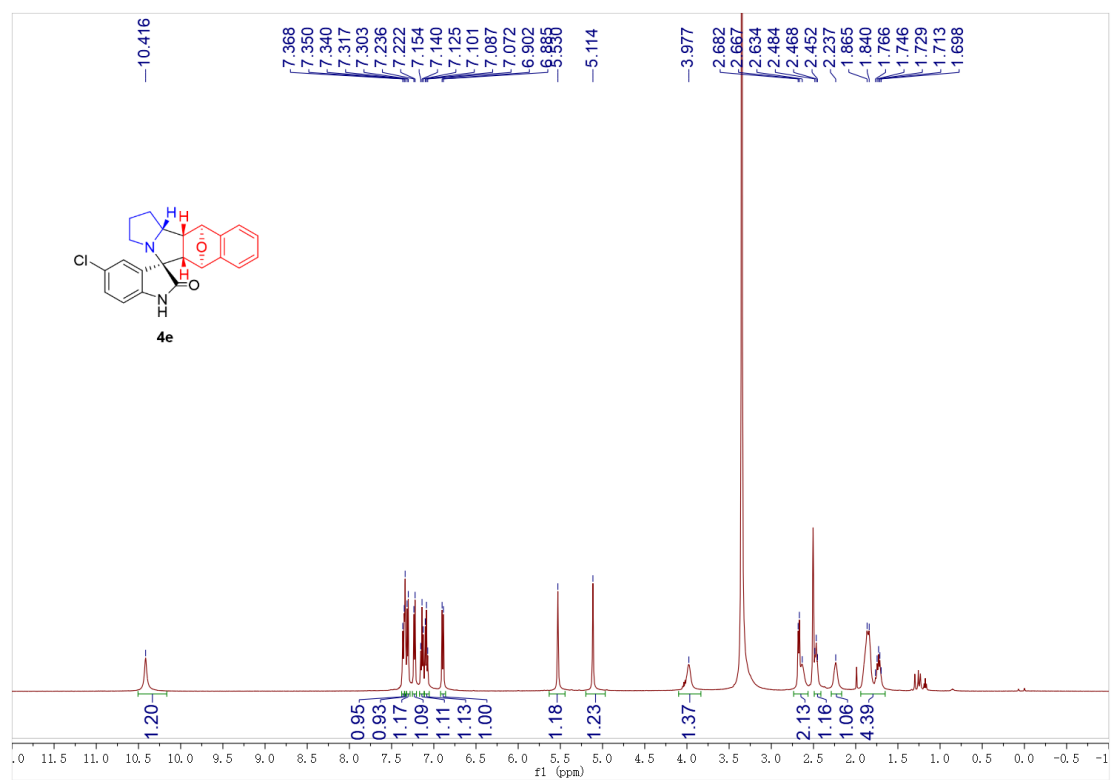
**<sup>1</sup>H NMR (400 MHz, DMSO-*d*<sub>6</sub>), <sup>13</sup>C NMR (125 MHz, DMSO-*d*<sub>6</sub>) spectrum of **4b****



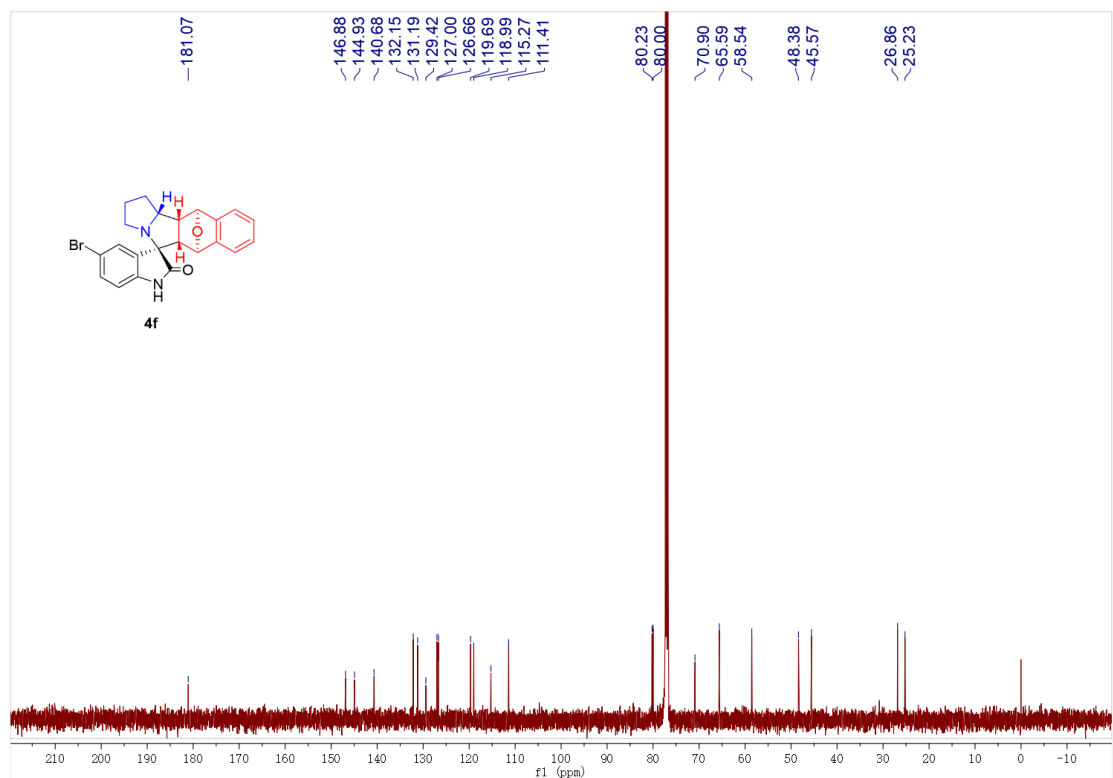
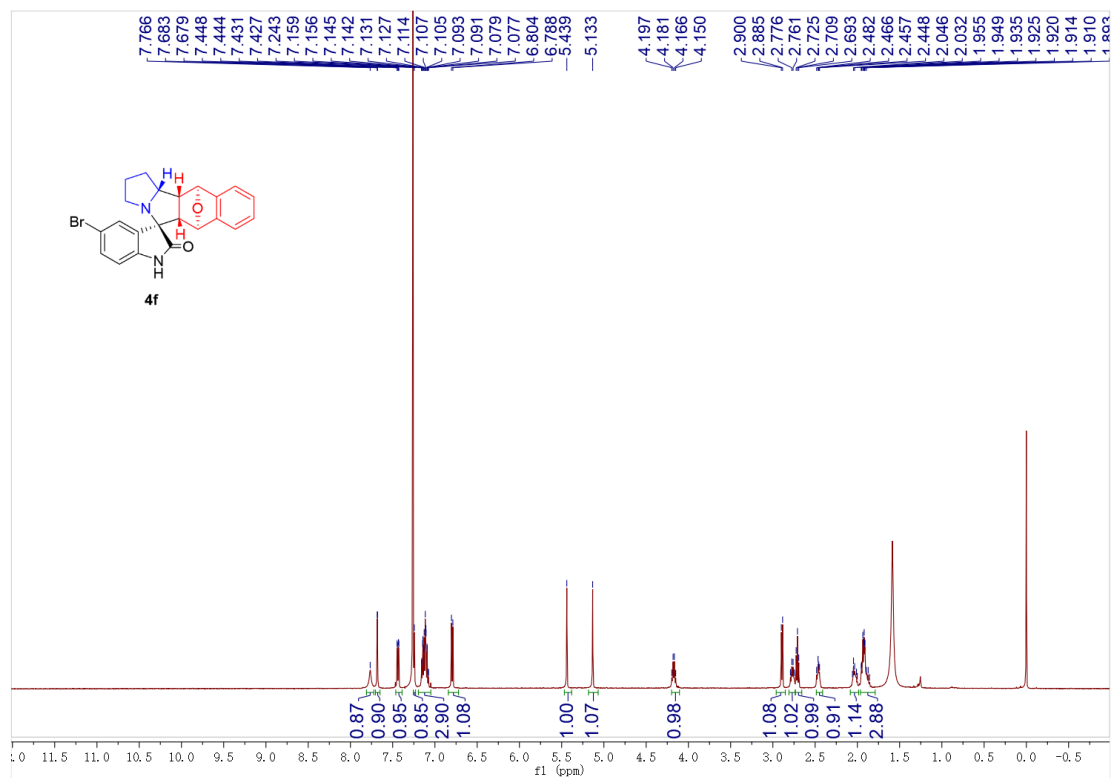
$^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ),  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of **4c**



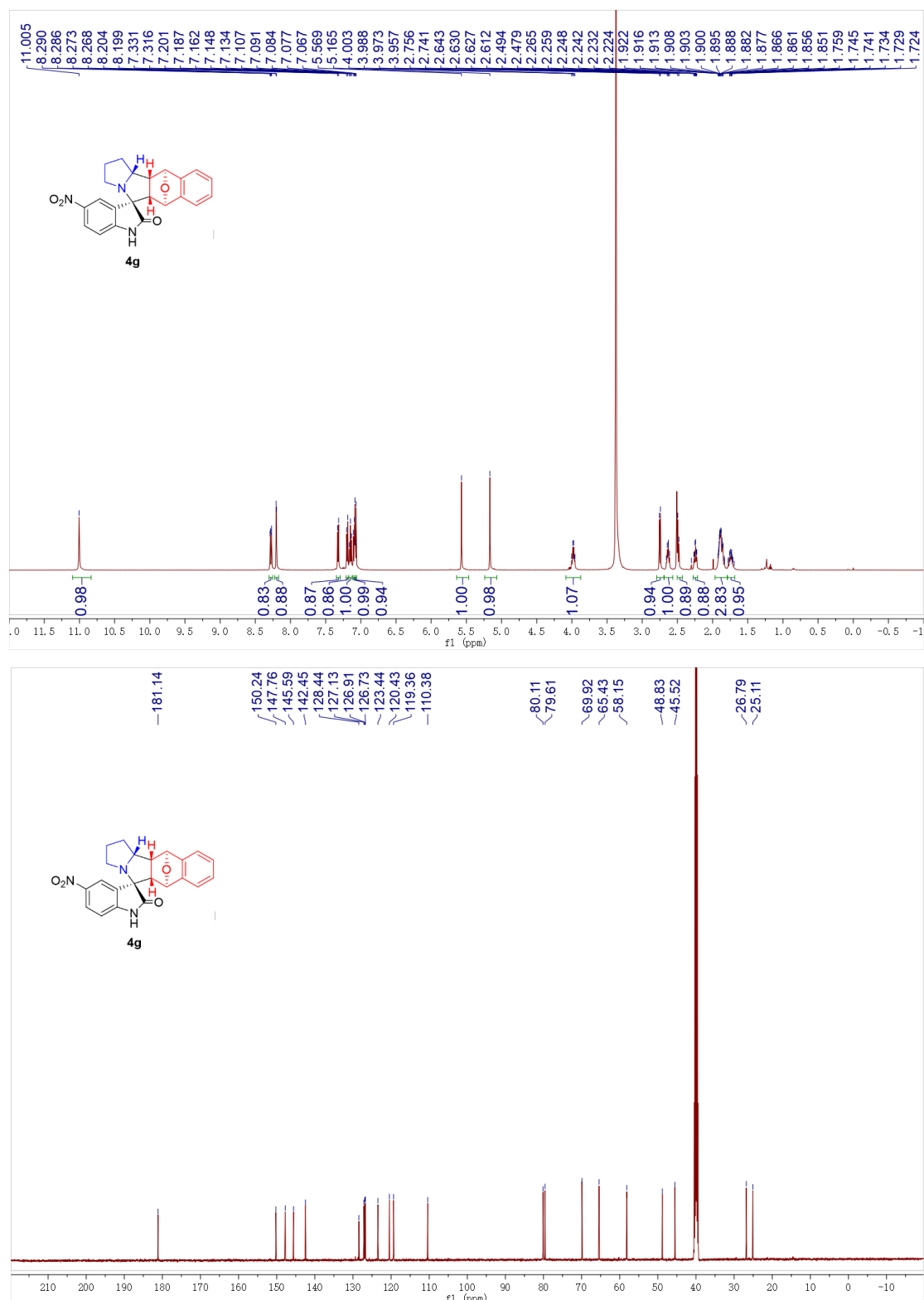
**<sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) and <sup>19</sup>F NMR (471 MHz, CDCl<sub>3</sub>) spectrum of **4d****



**<sup>1</sup>H NMR (500 MHz, DMSO-*d*<sub>6</sub>), <sup>13</sup>C NMR (125 MHz, DMSO-*d*<sub>6</sub>) spectrum of 4e**

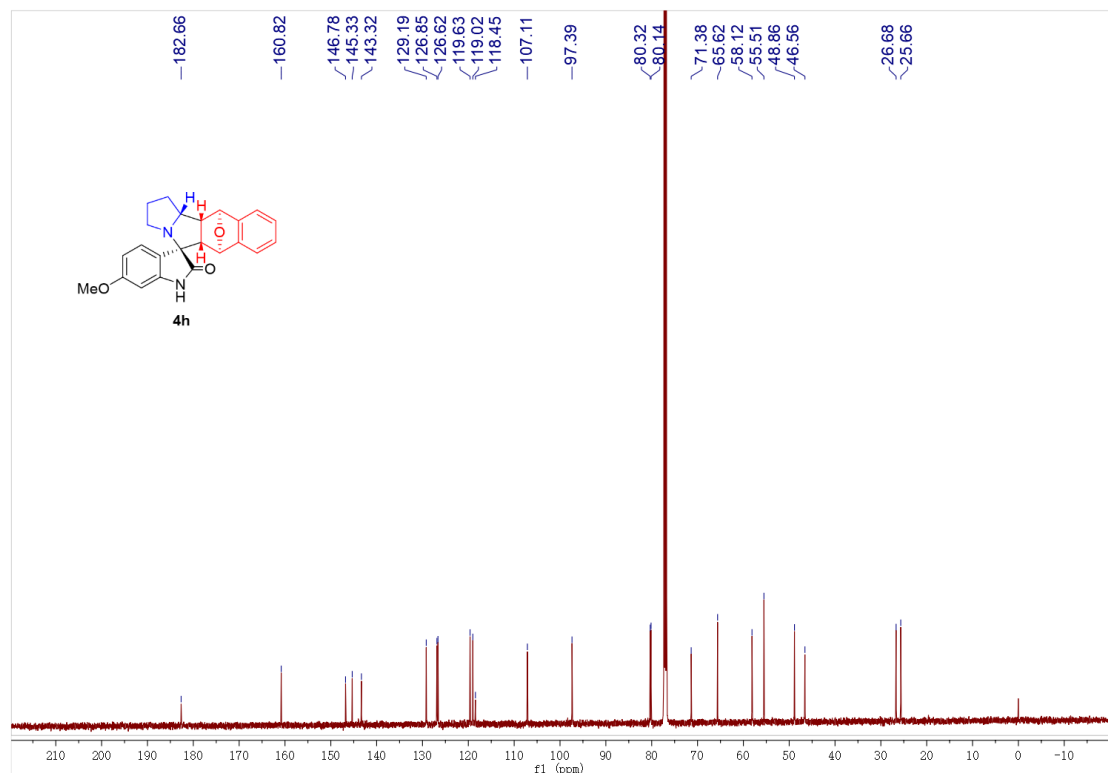
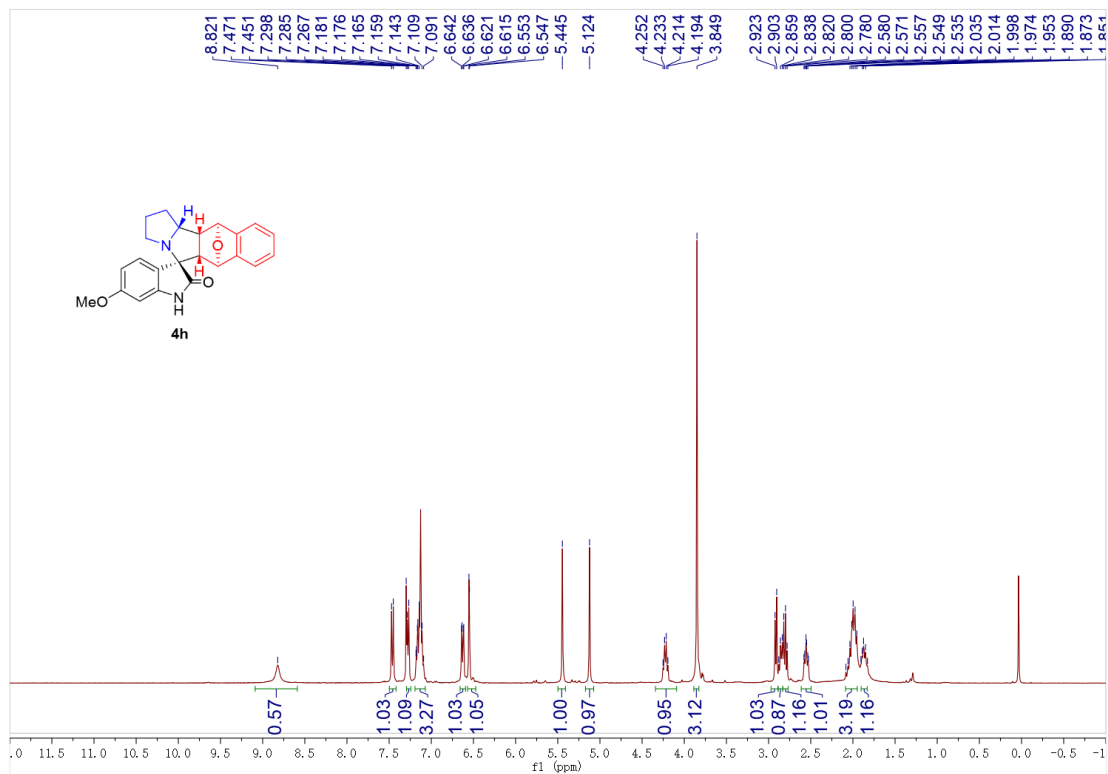


**<sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 4f**

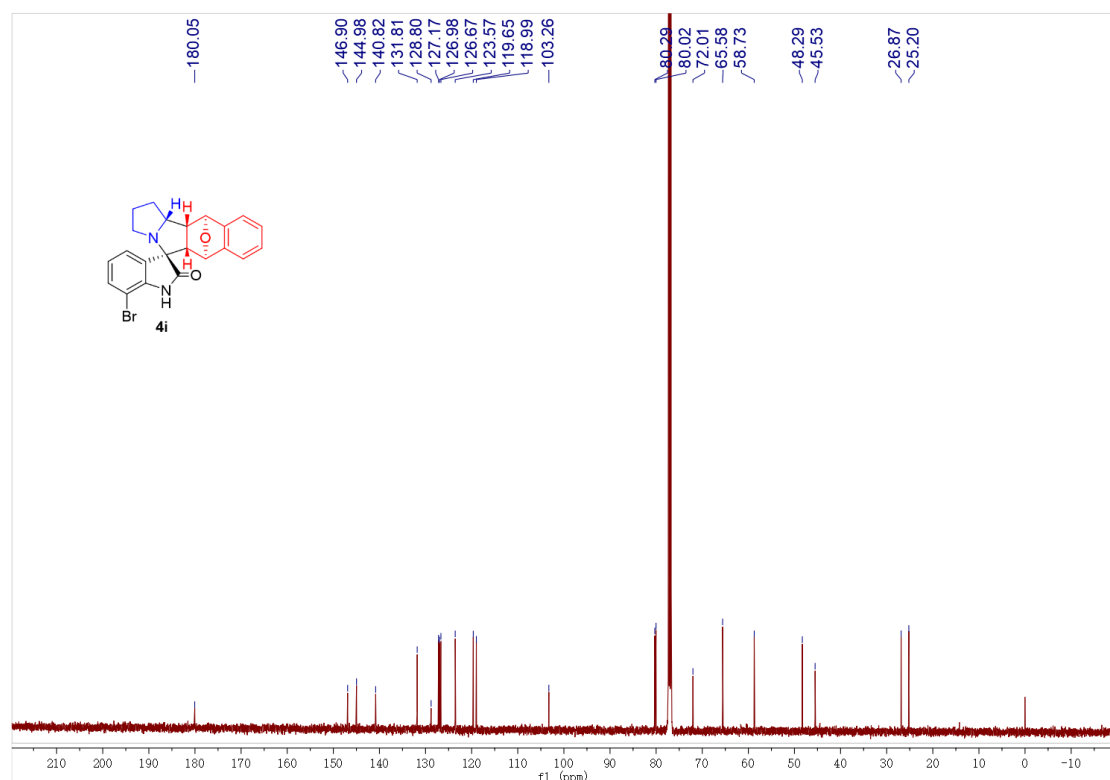
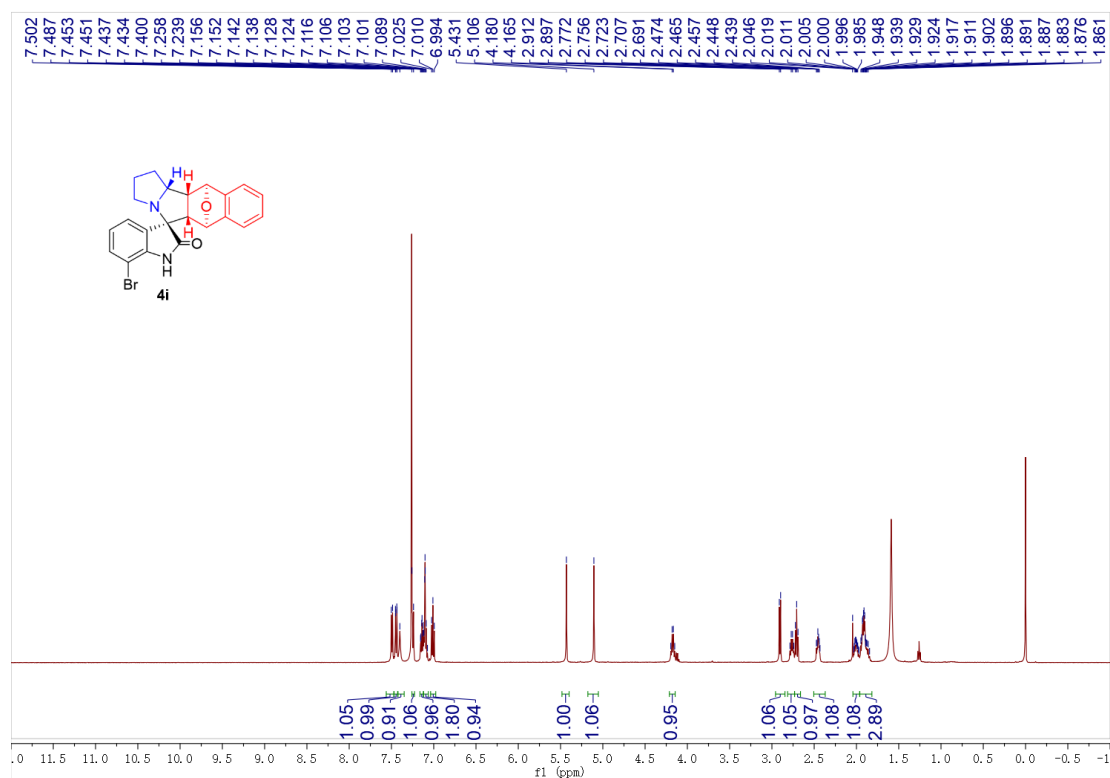


**<sup>1</sup>H NMR (500 MHz, DMSO-*d*<sub>6</sub>), <sup>13</sup>C NMR (125 MHz, DMSO-*d*<sub>6</sub>) spectrum of **4g****

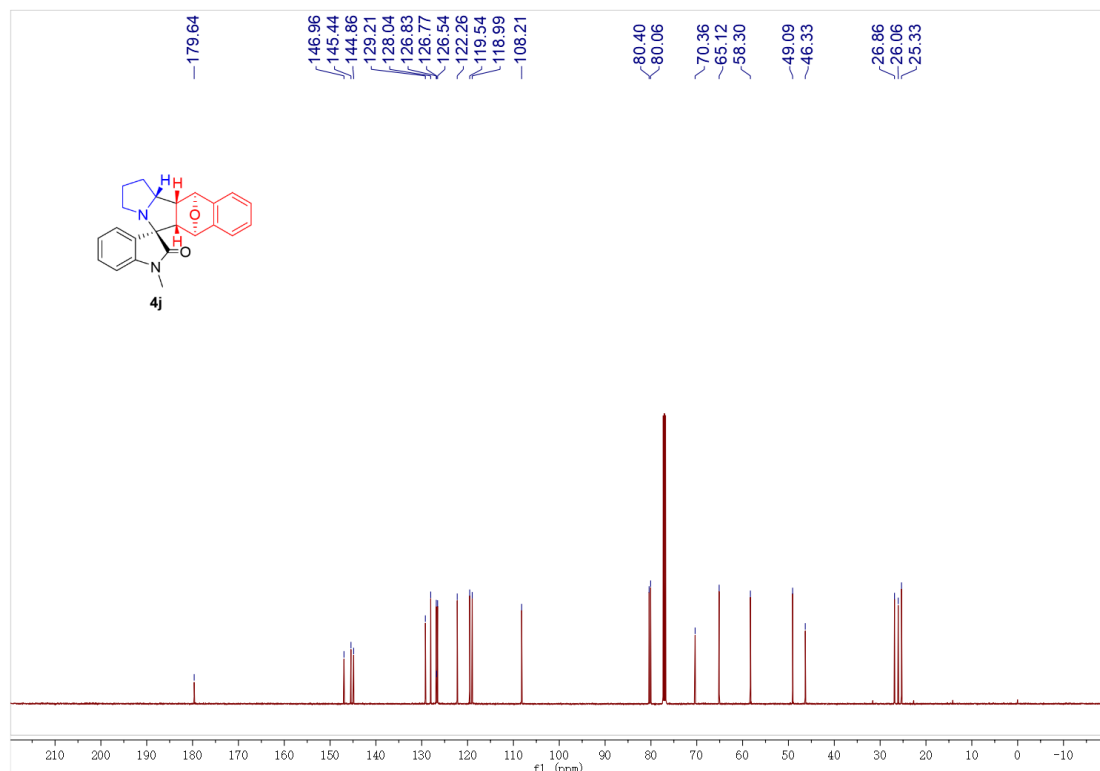
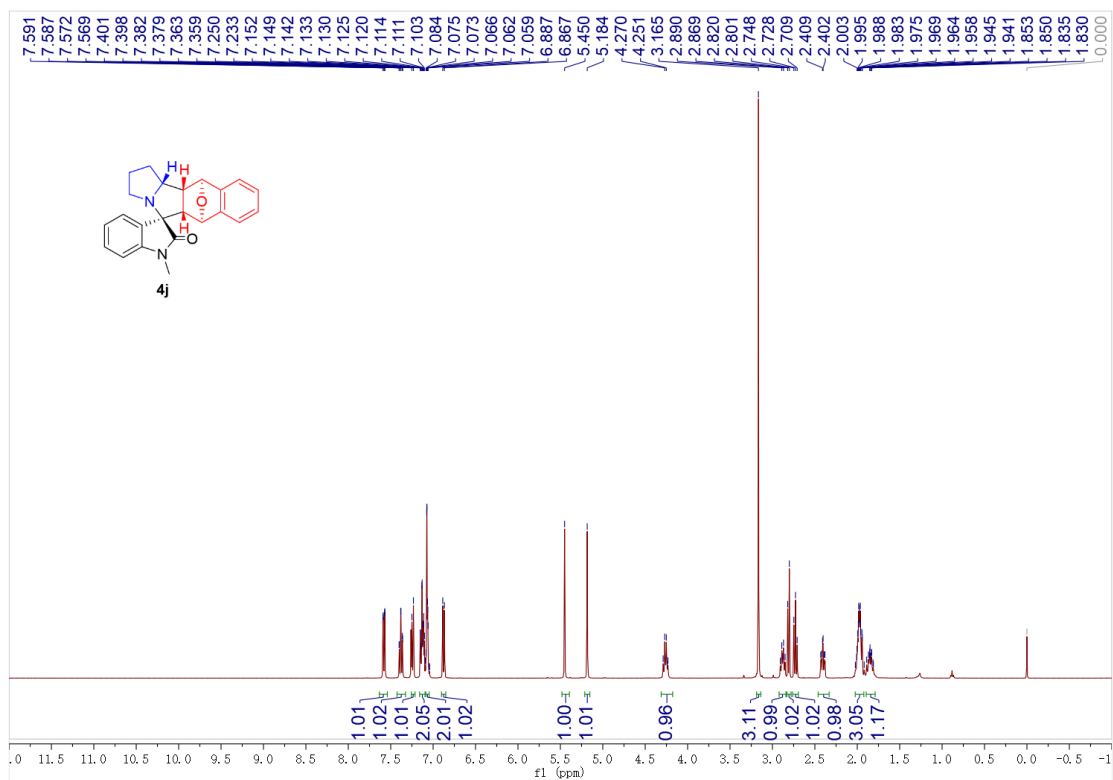




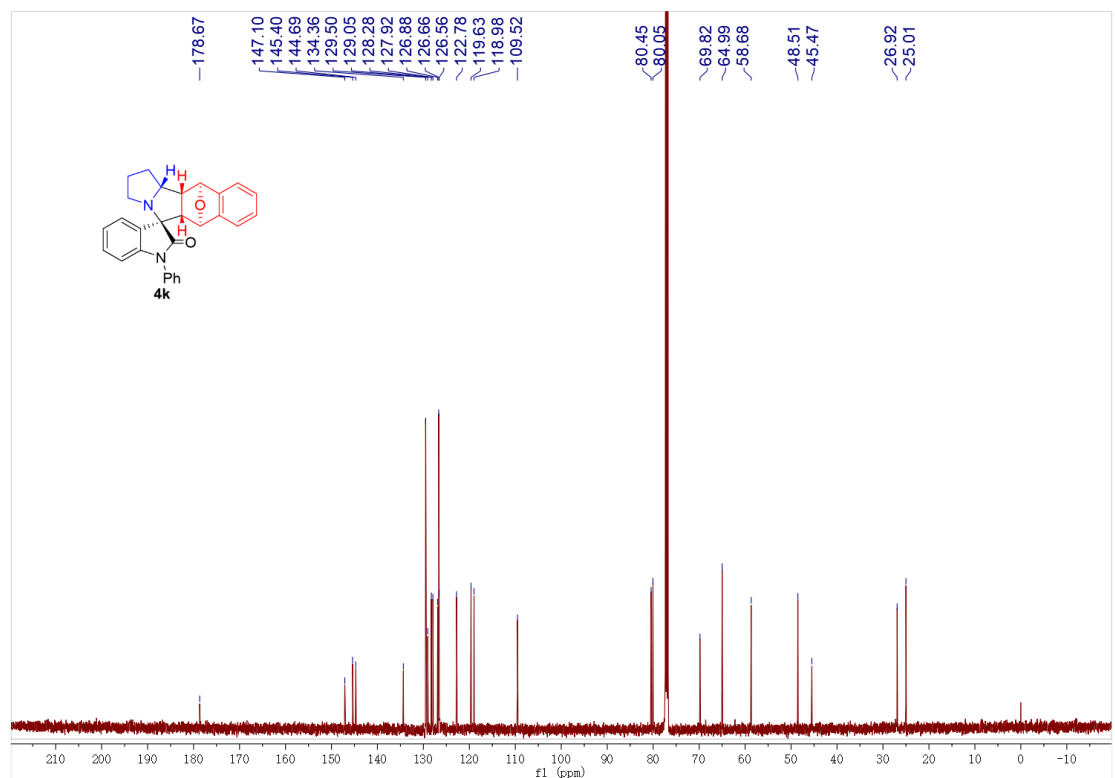
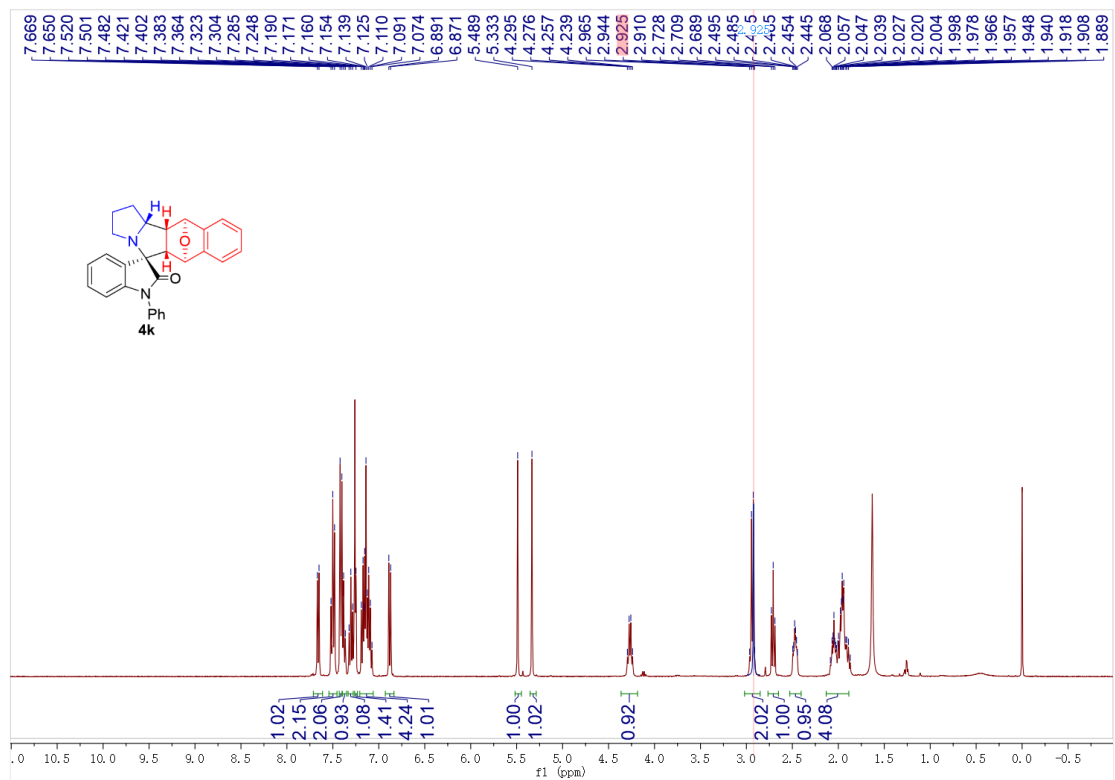
**<sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 4h**



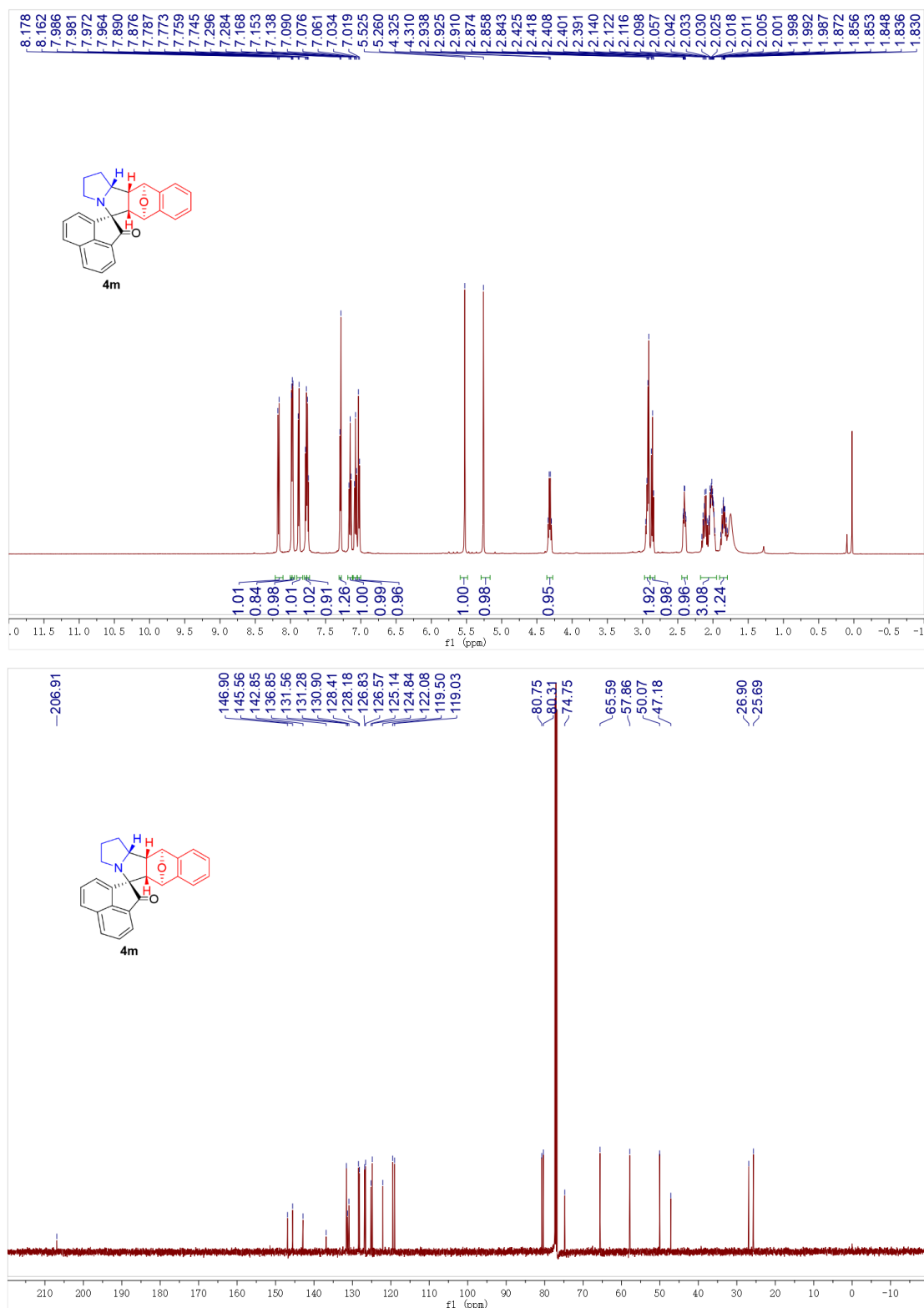
**<sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 4i**



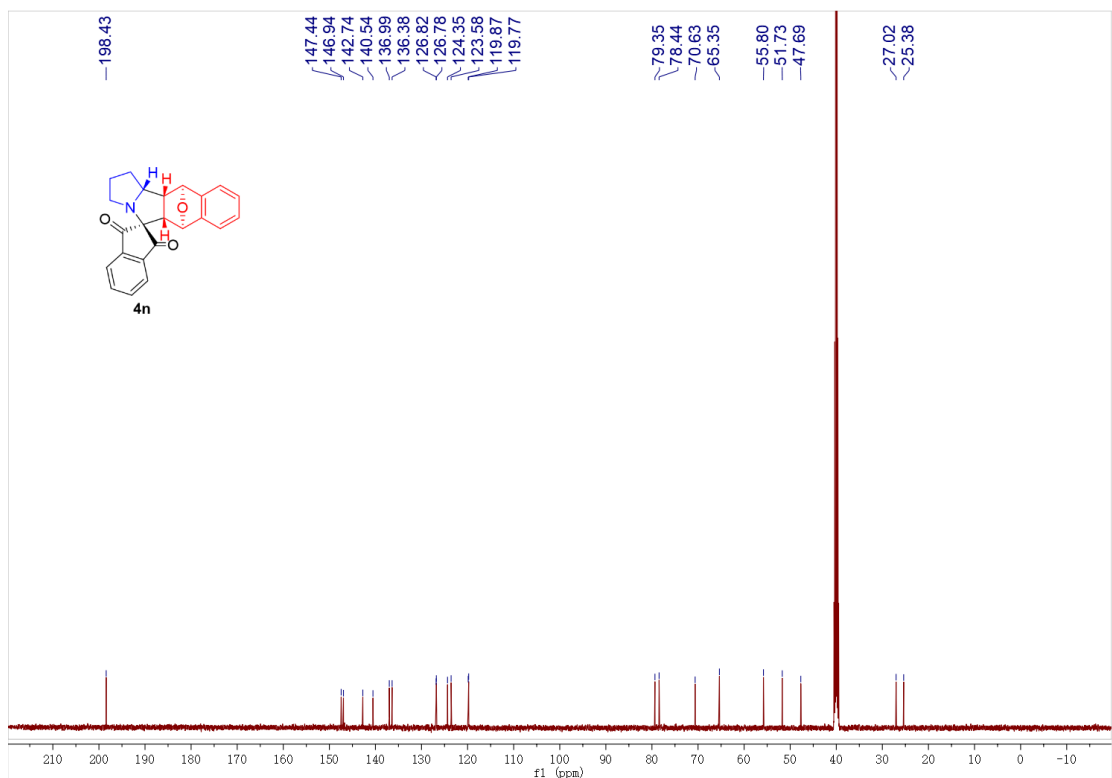
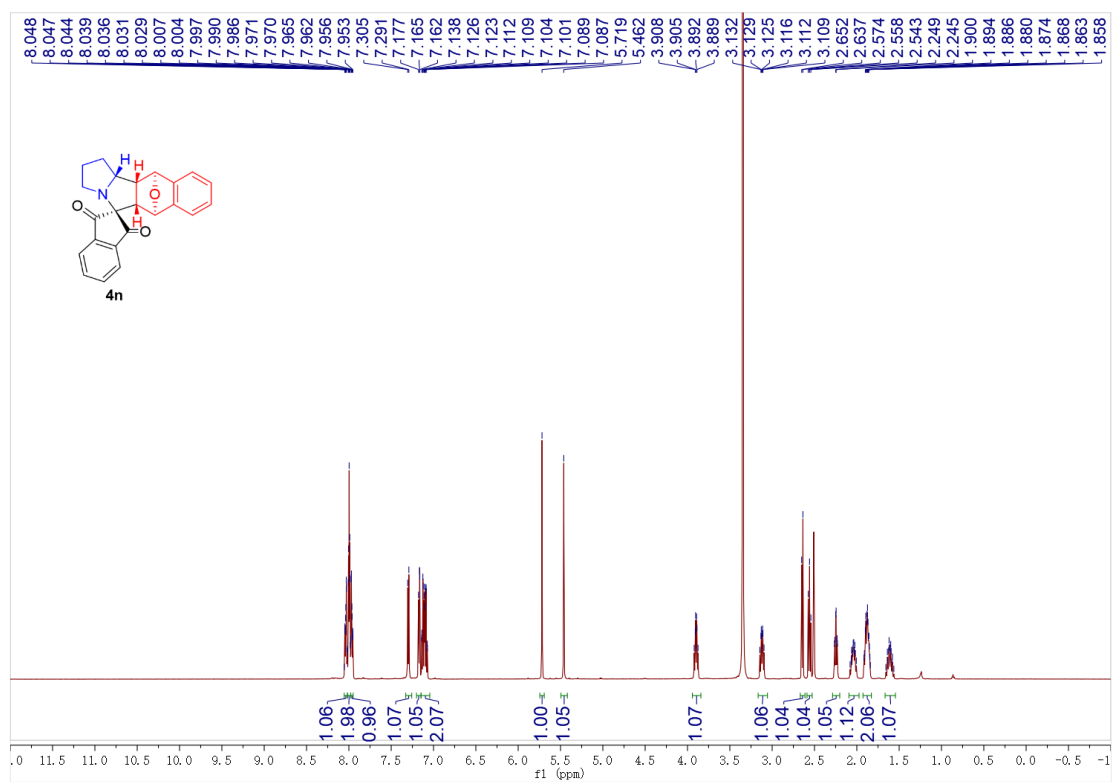
**<sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 4j**



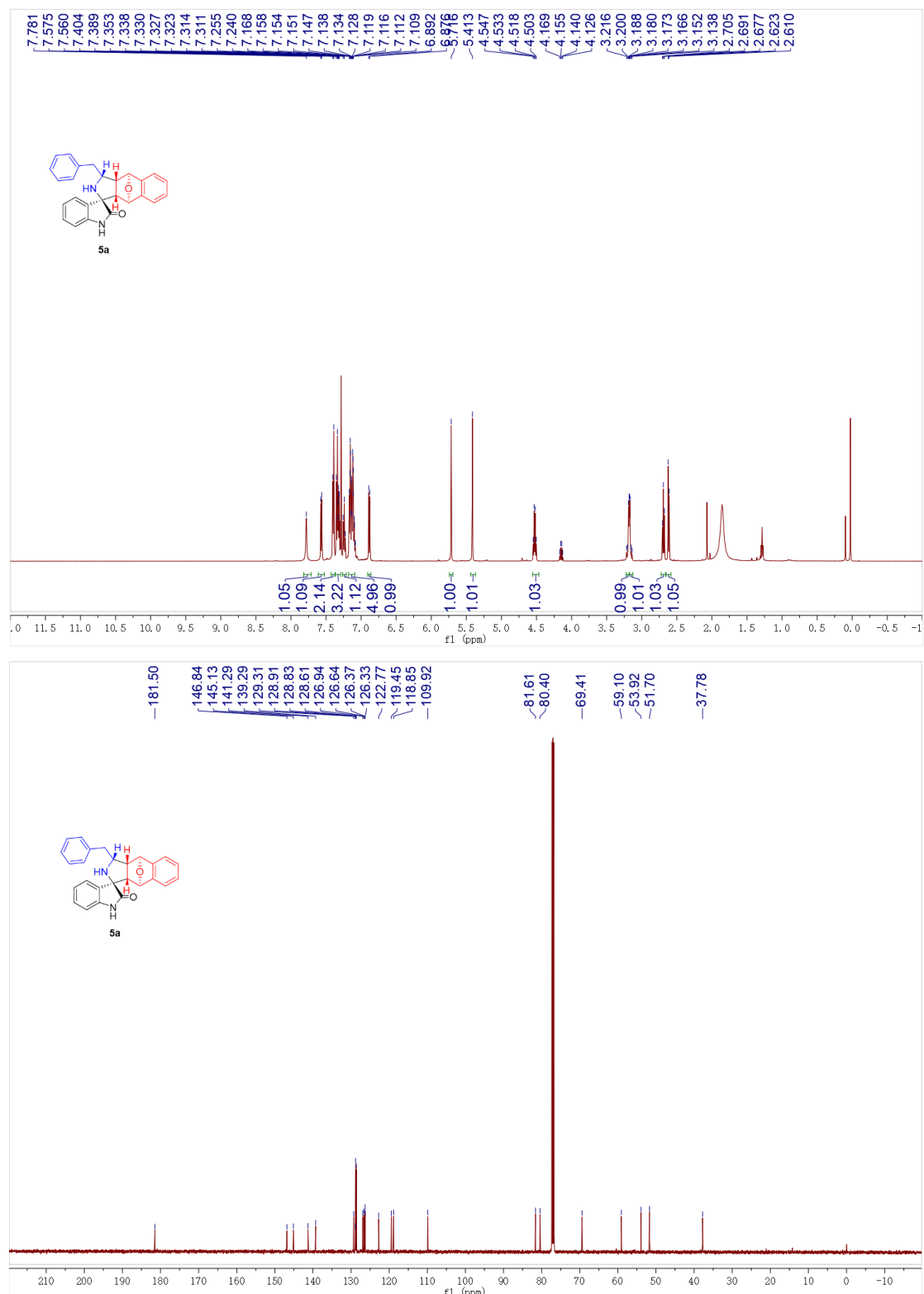
**<sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 4k**



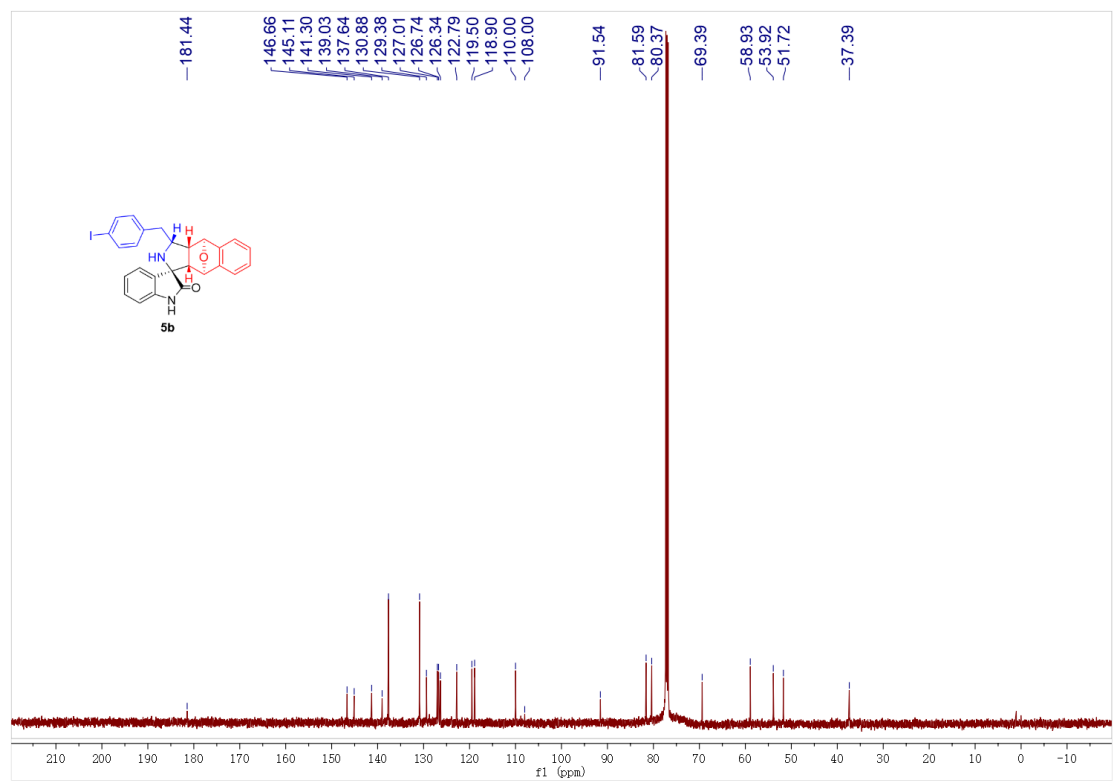
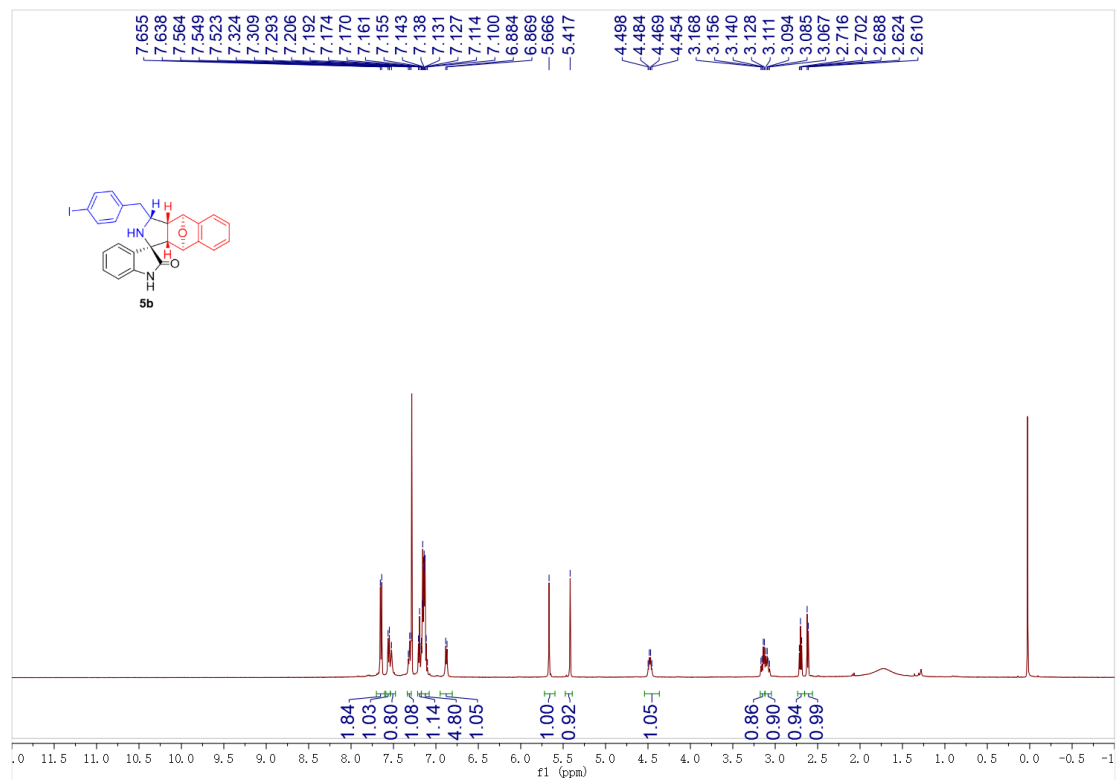
**<sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 4m**



**<sup>1</sup>H NMR (500 MHz, DMSO-*d*<sub>6</sub>), <sup>13</sup>C NMR (125 MHz, DMSO-*d*<sub>6</sub>) spectrum of 4n**

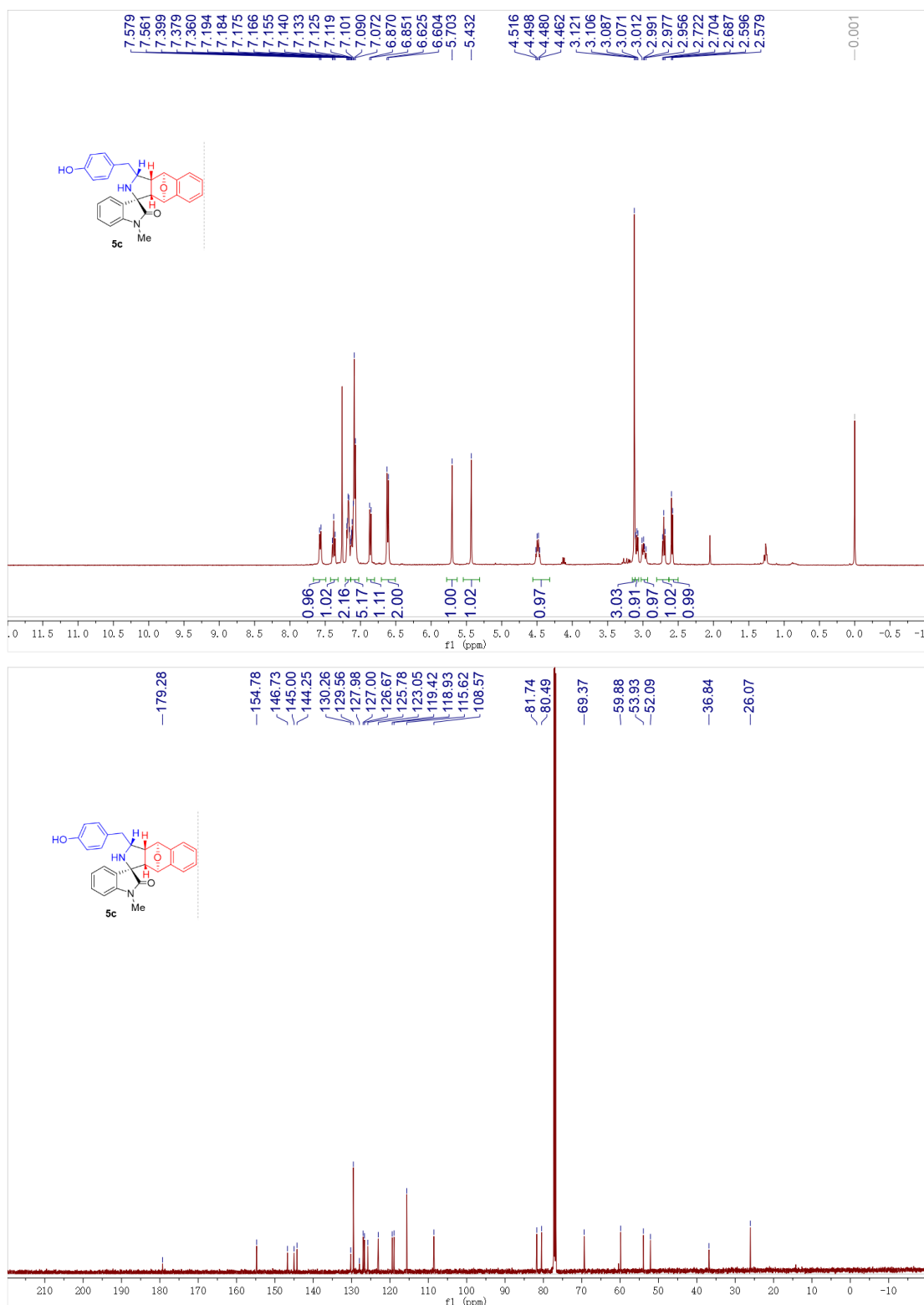


**<sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 5a**

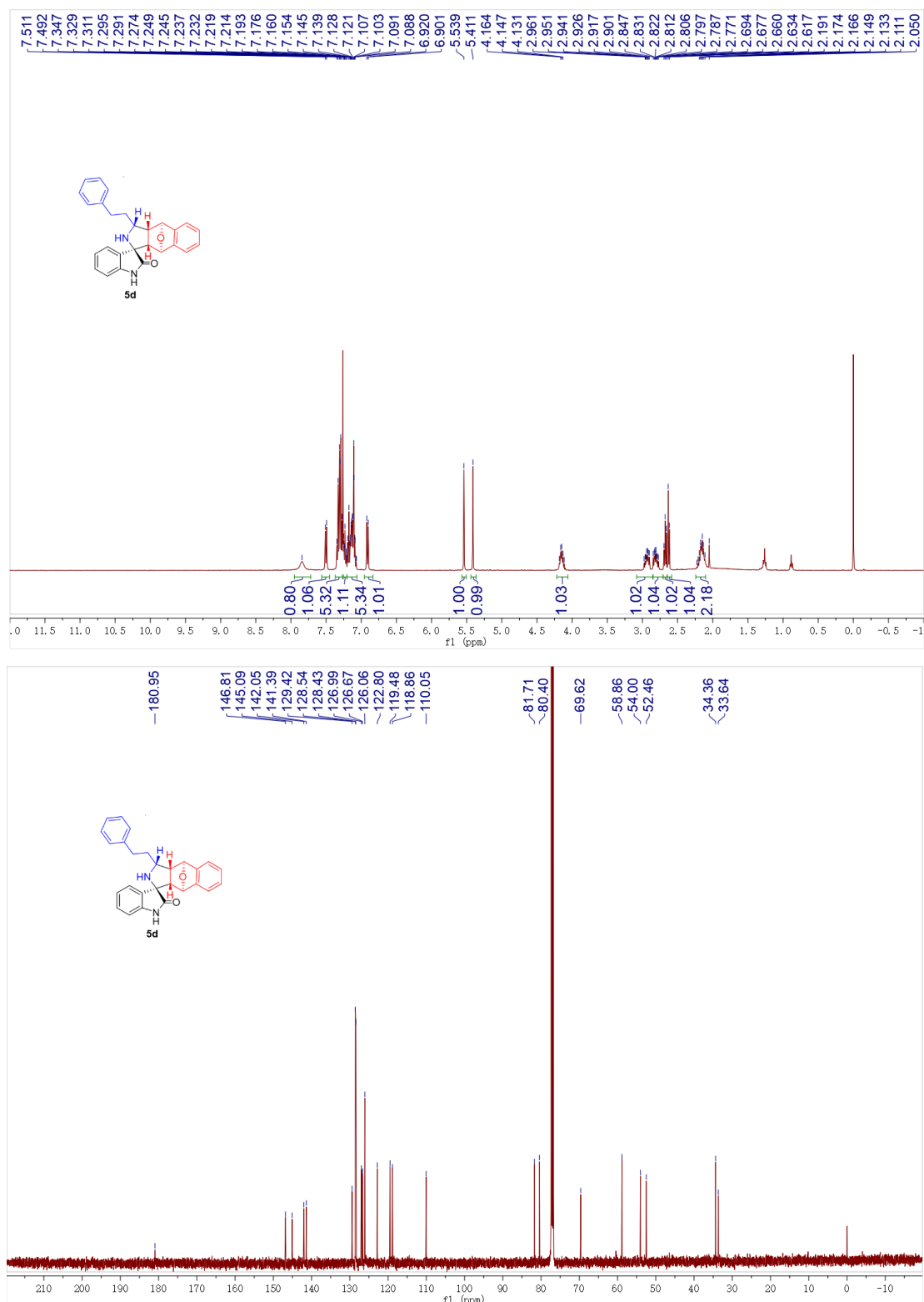


**<sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of **5b****

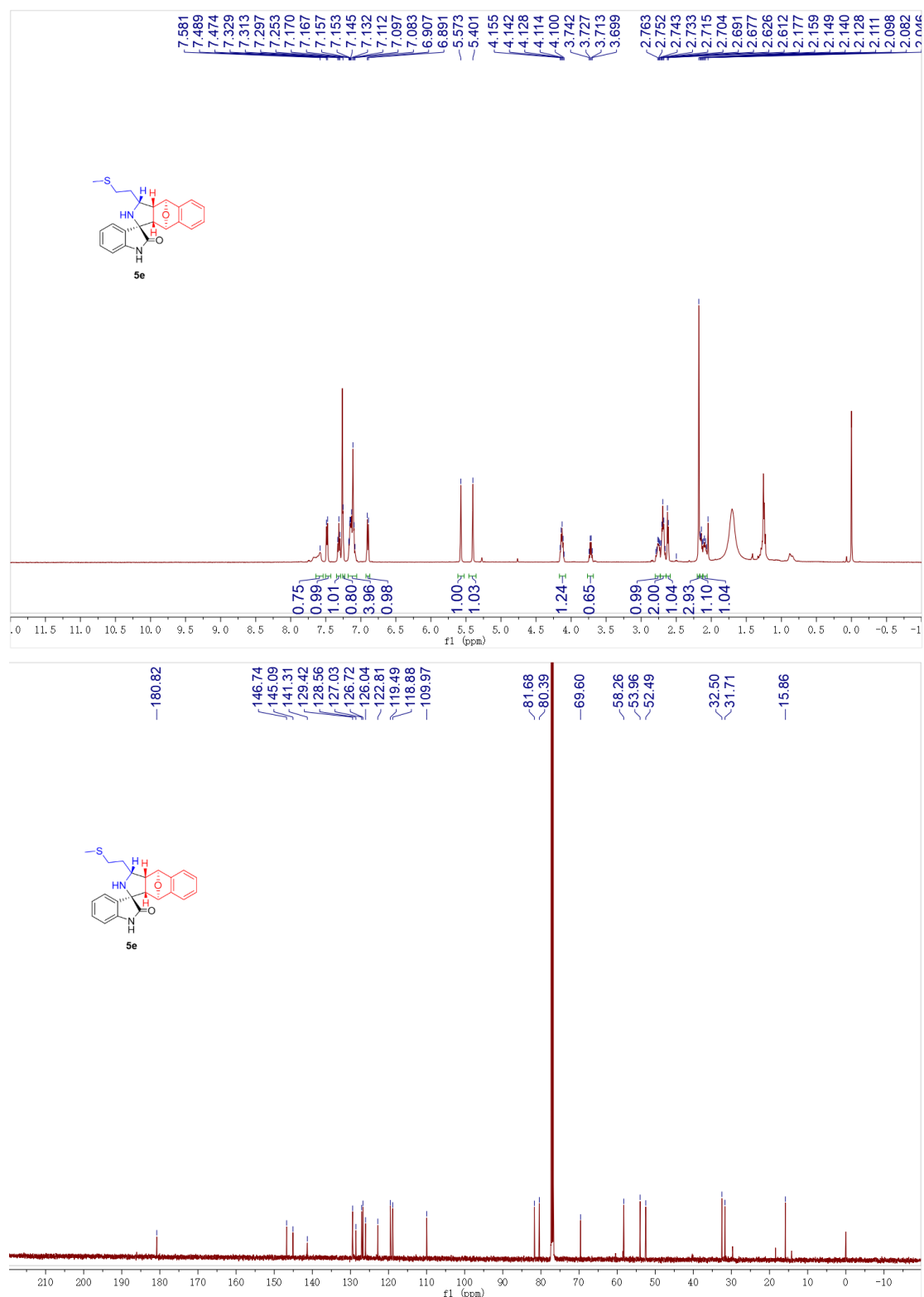




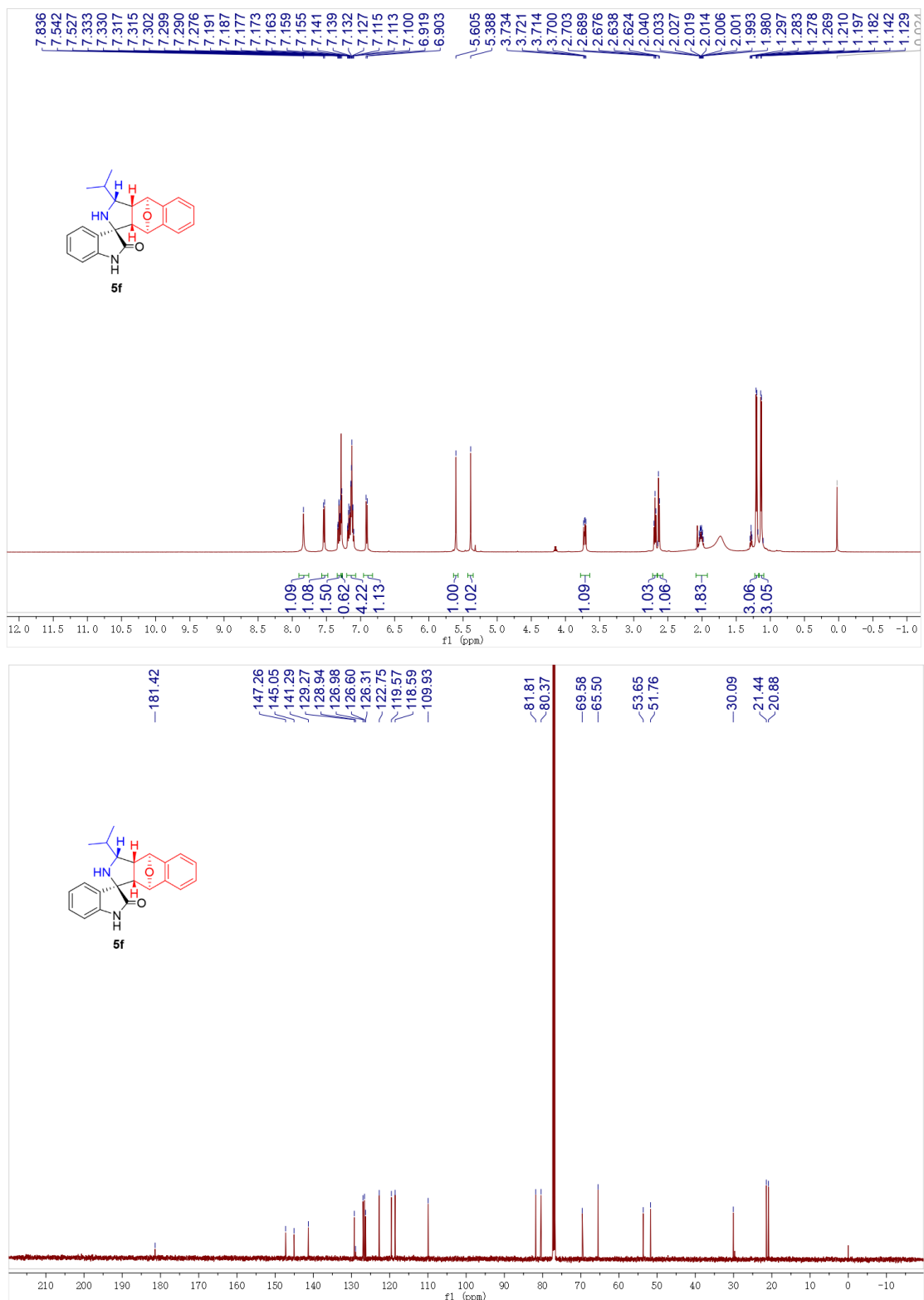
**<sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 5c**



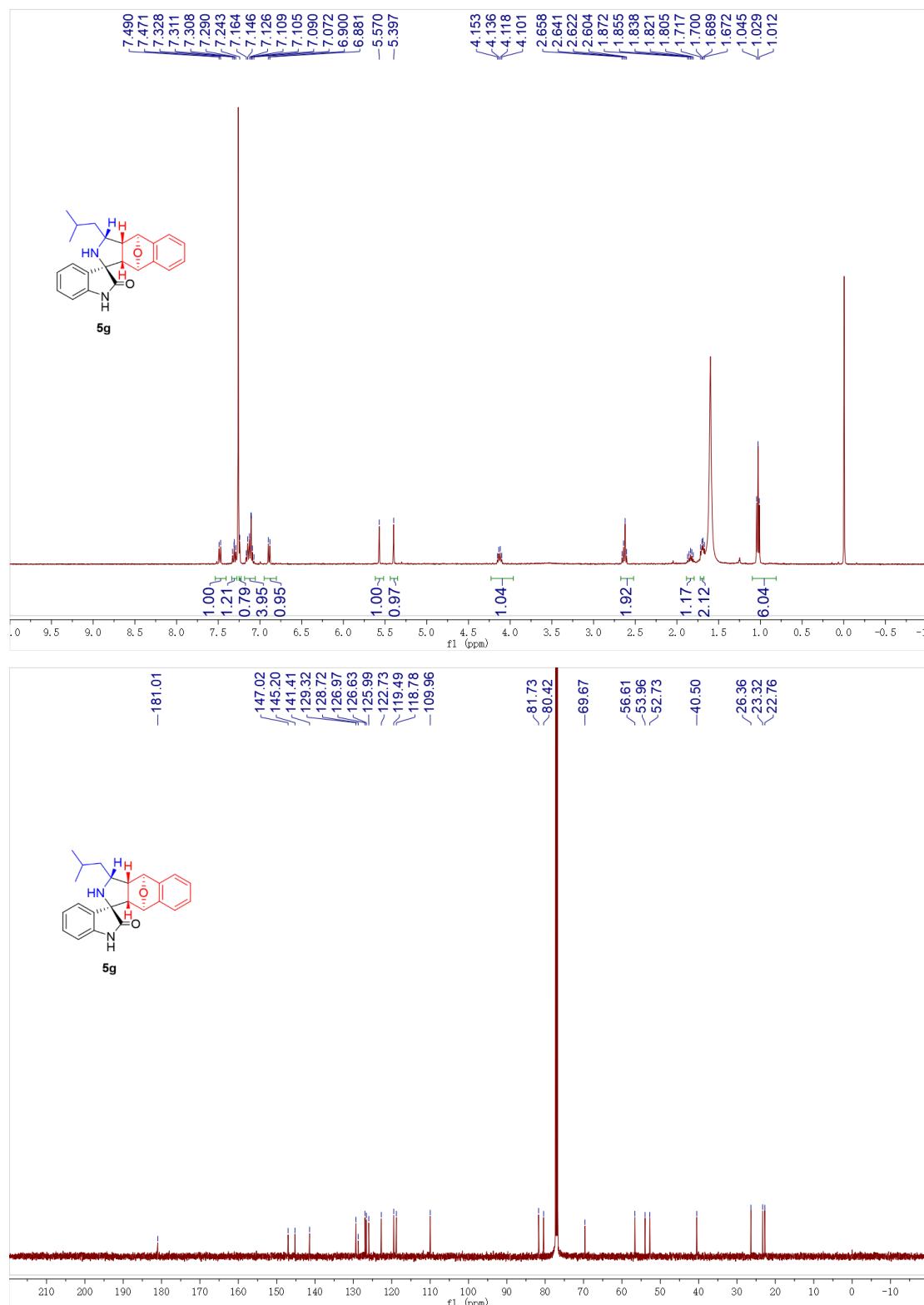
**<sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 5d**



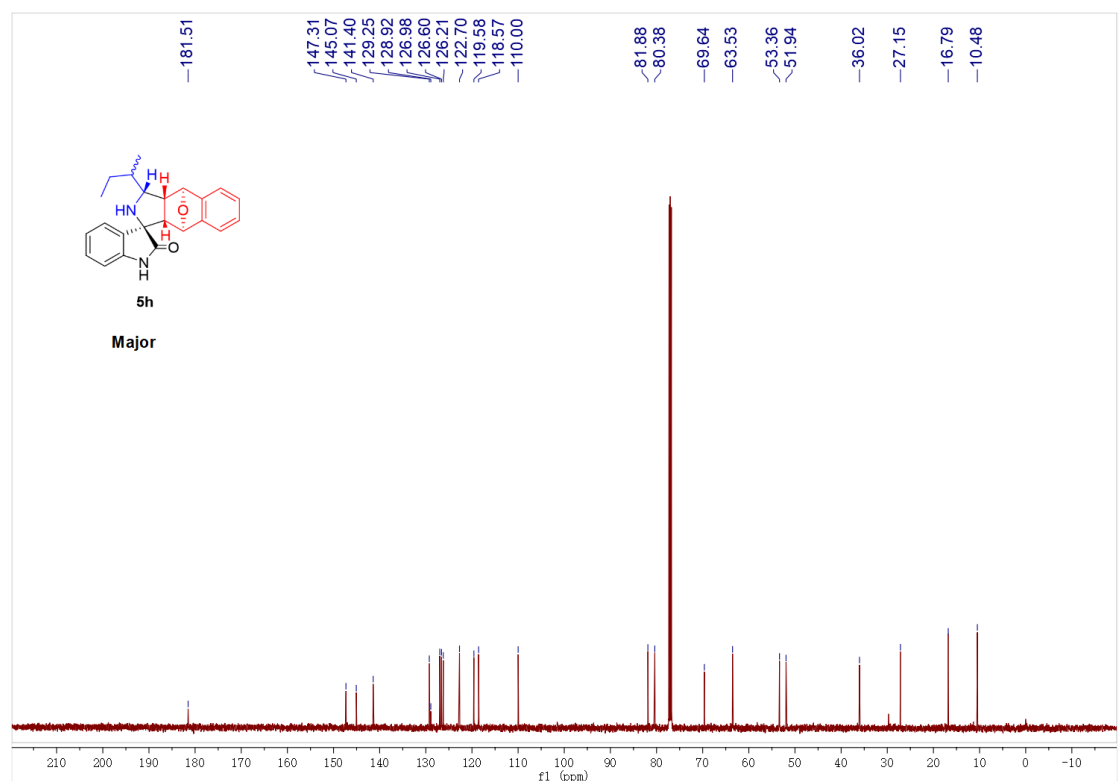
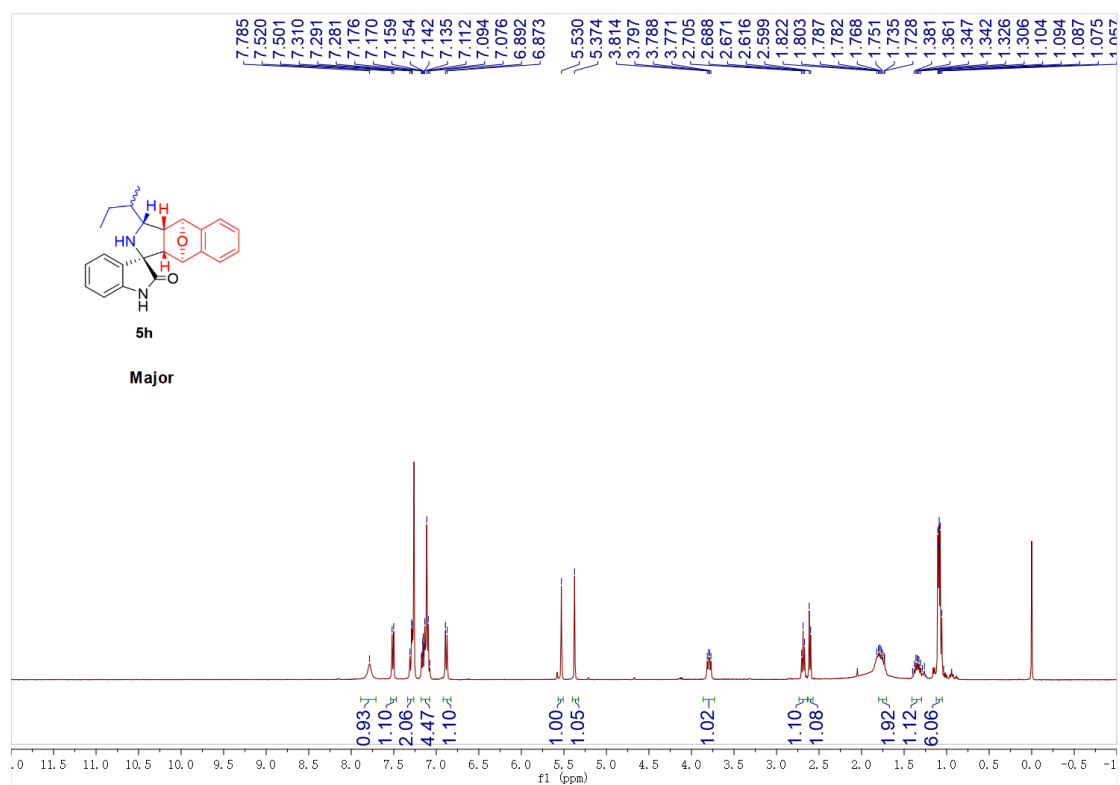
**<sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 5e**



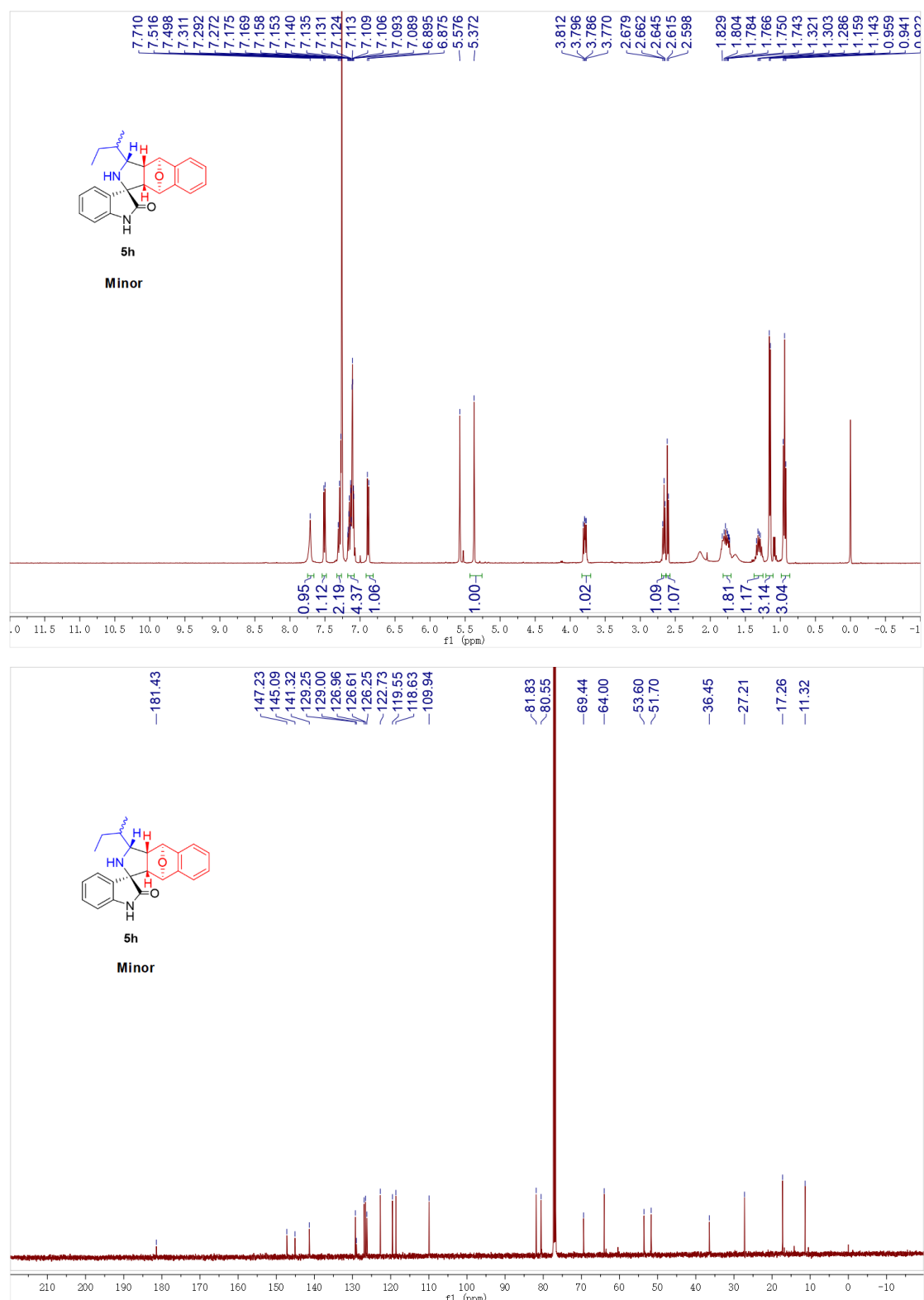
**<sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 5f**



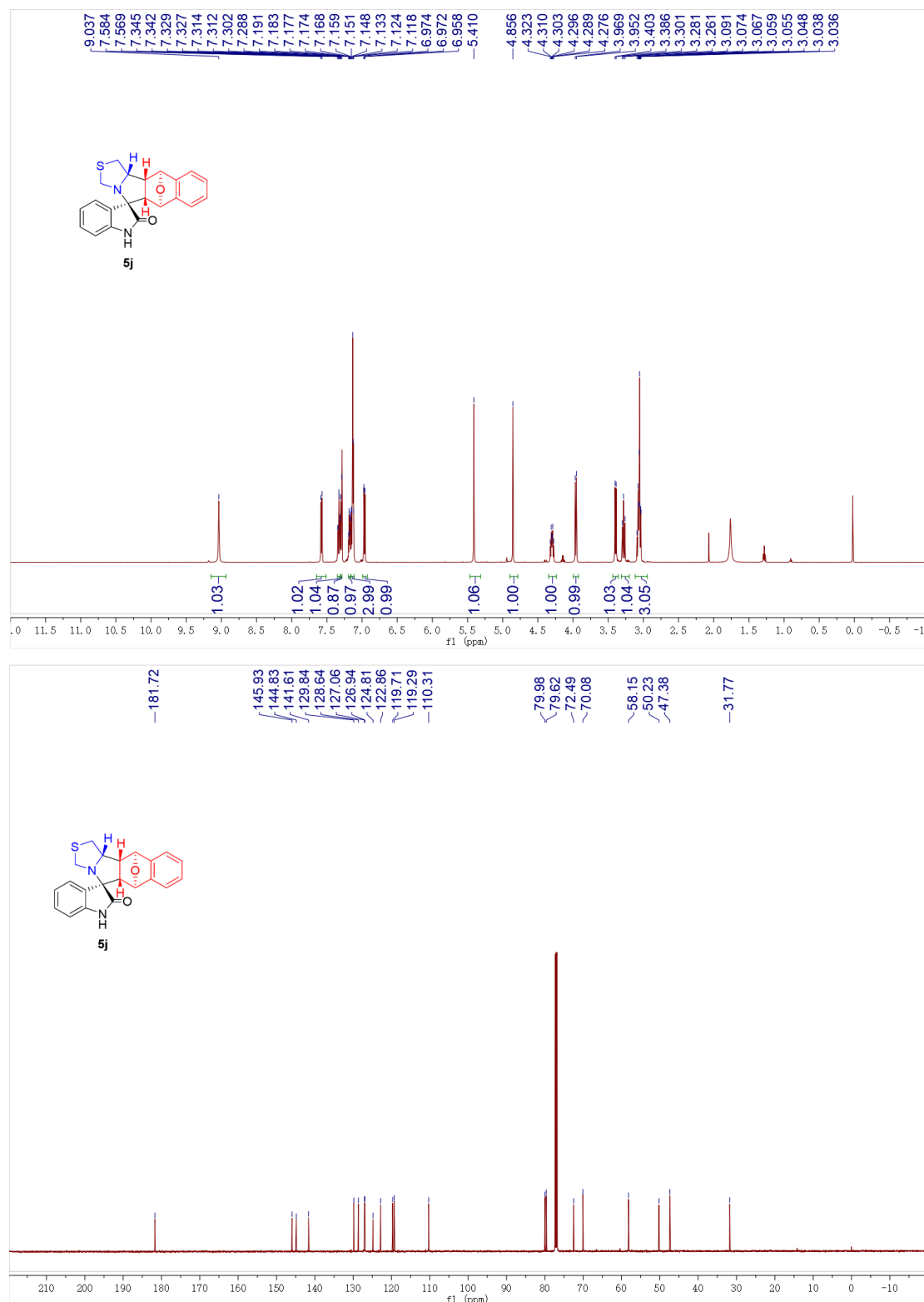
**<sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 5g**



**$^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ),  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of 5h**

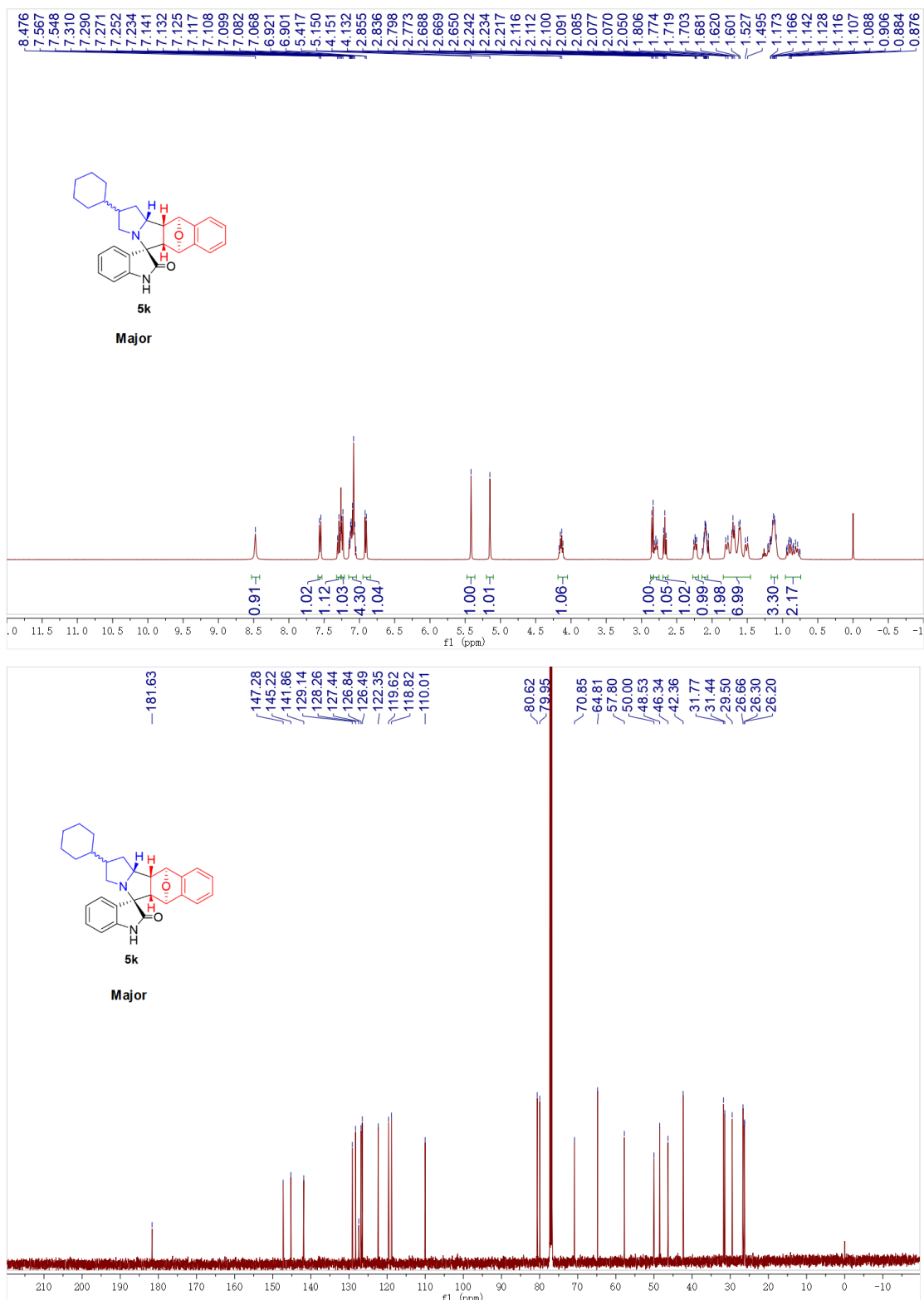


**<sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 5h**

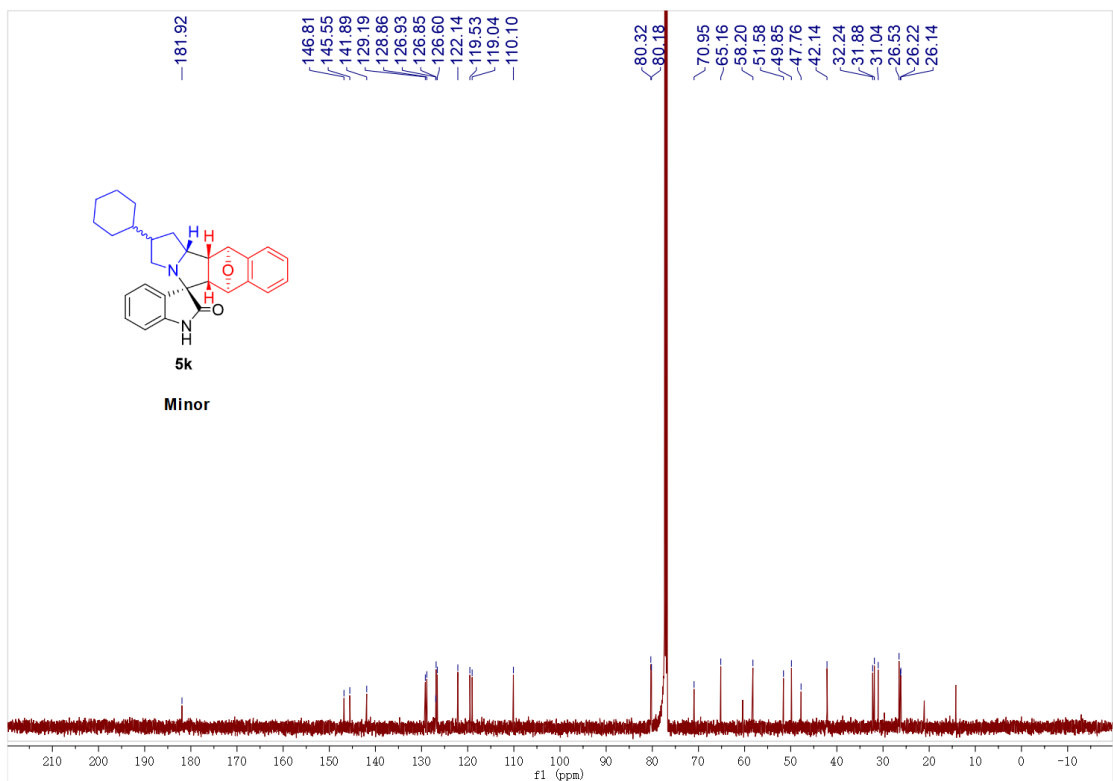
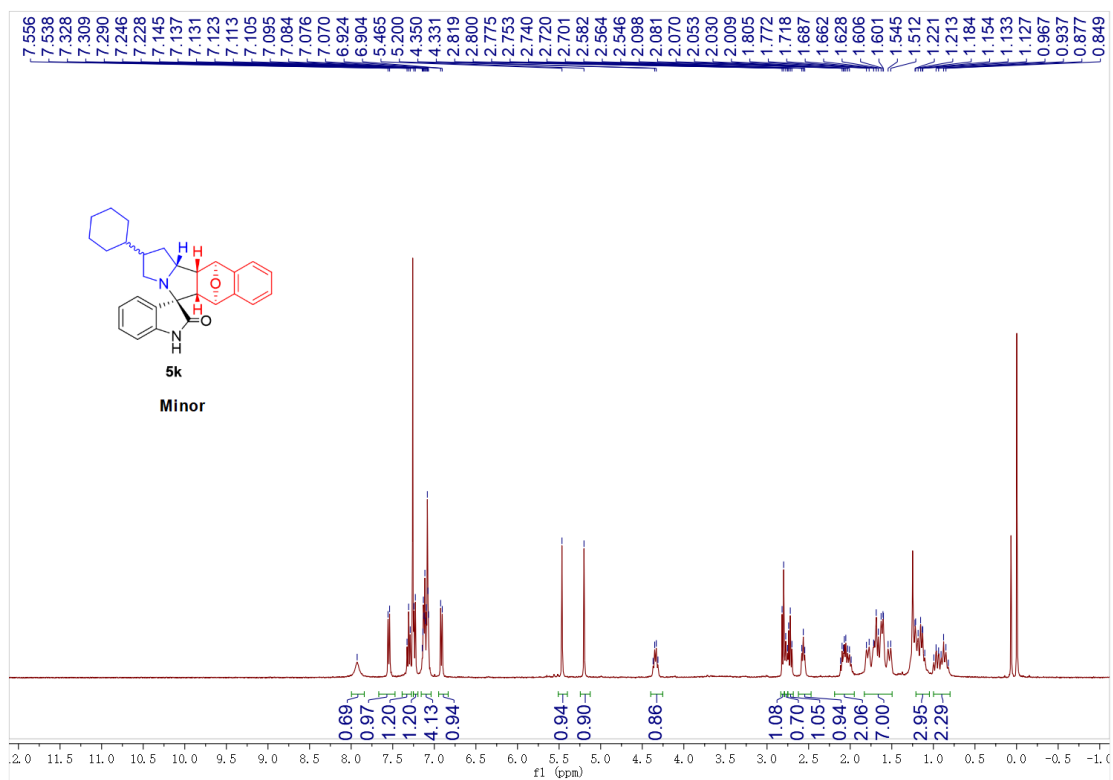


**<sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of **5j****

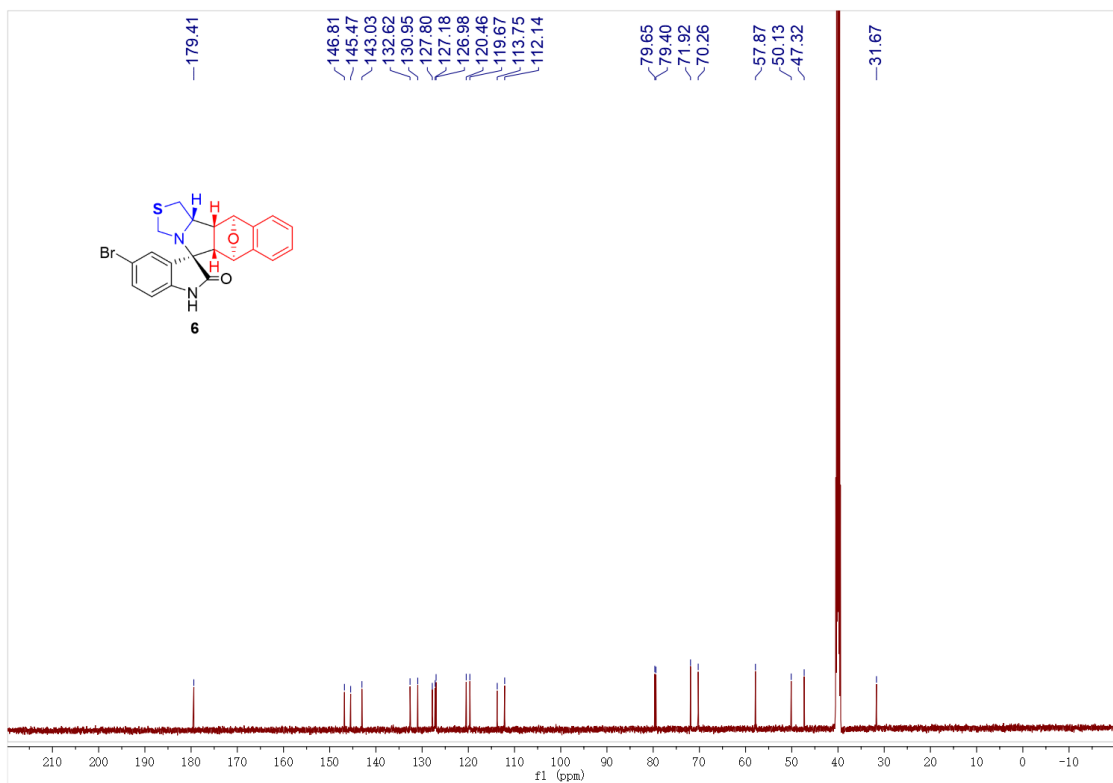
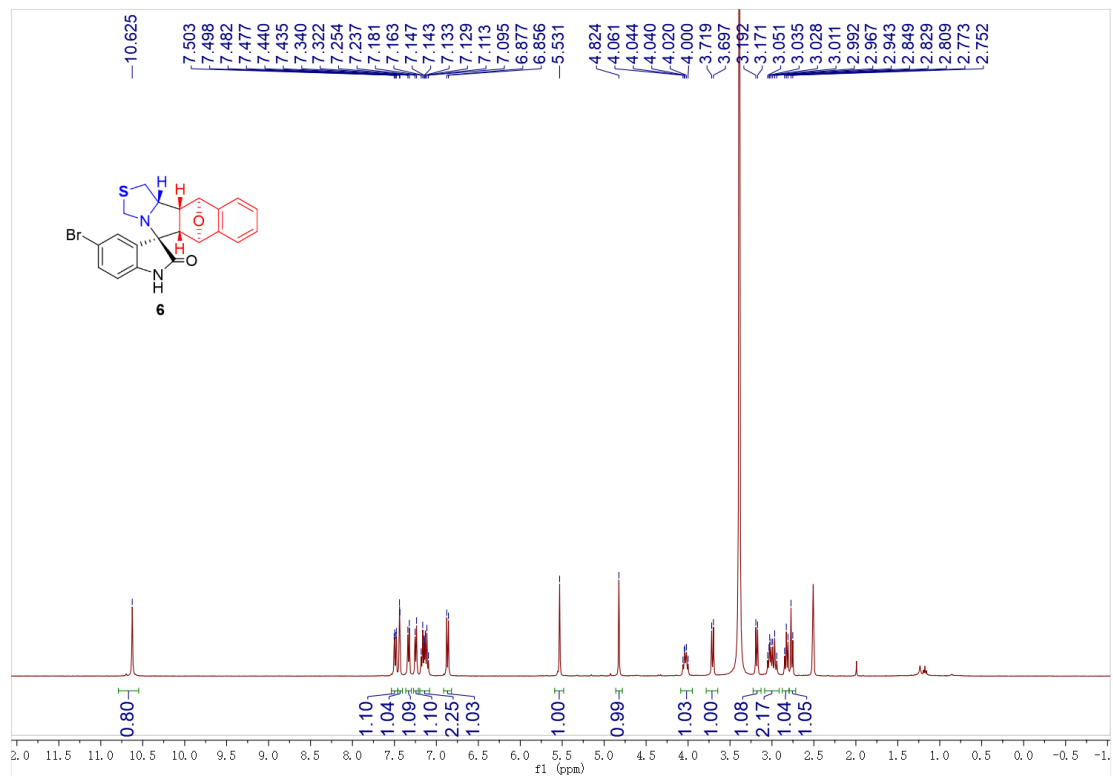




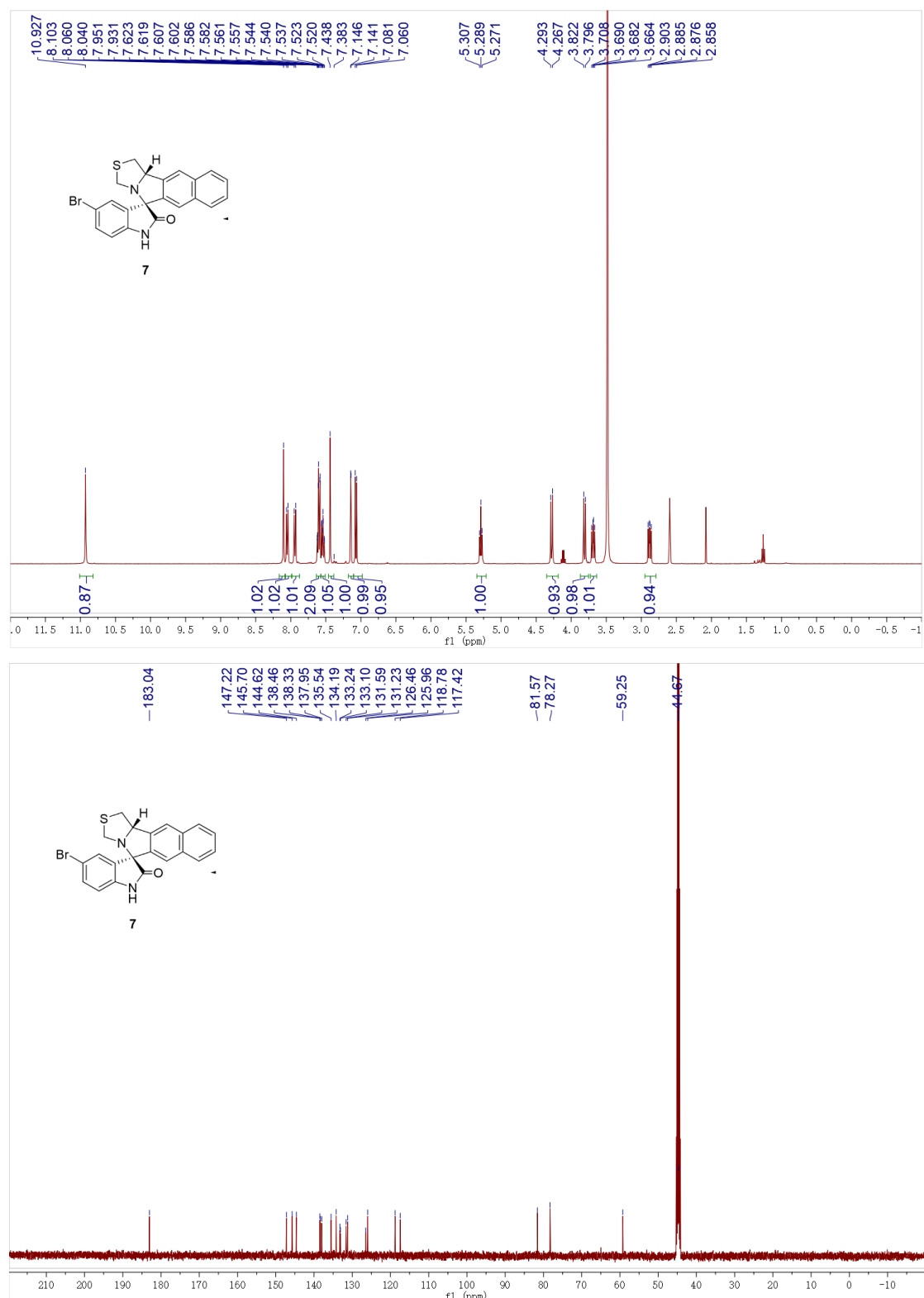
**<sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 5k**



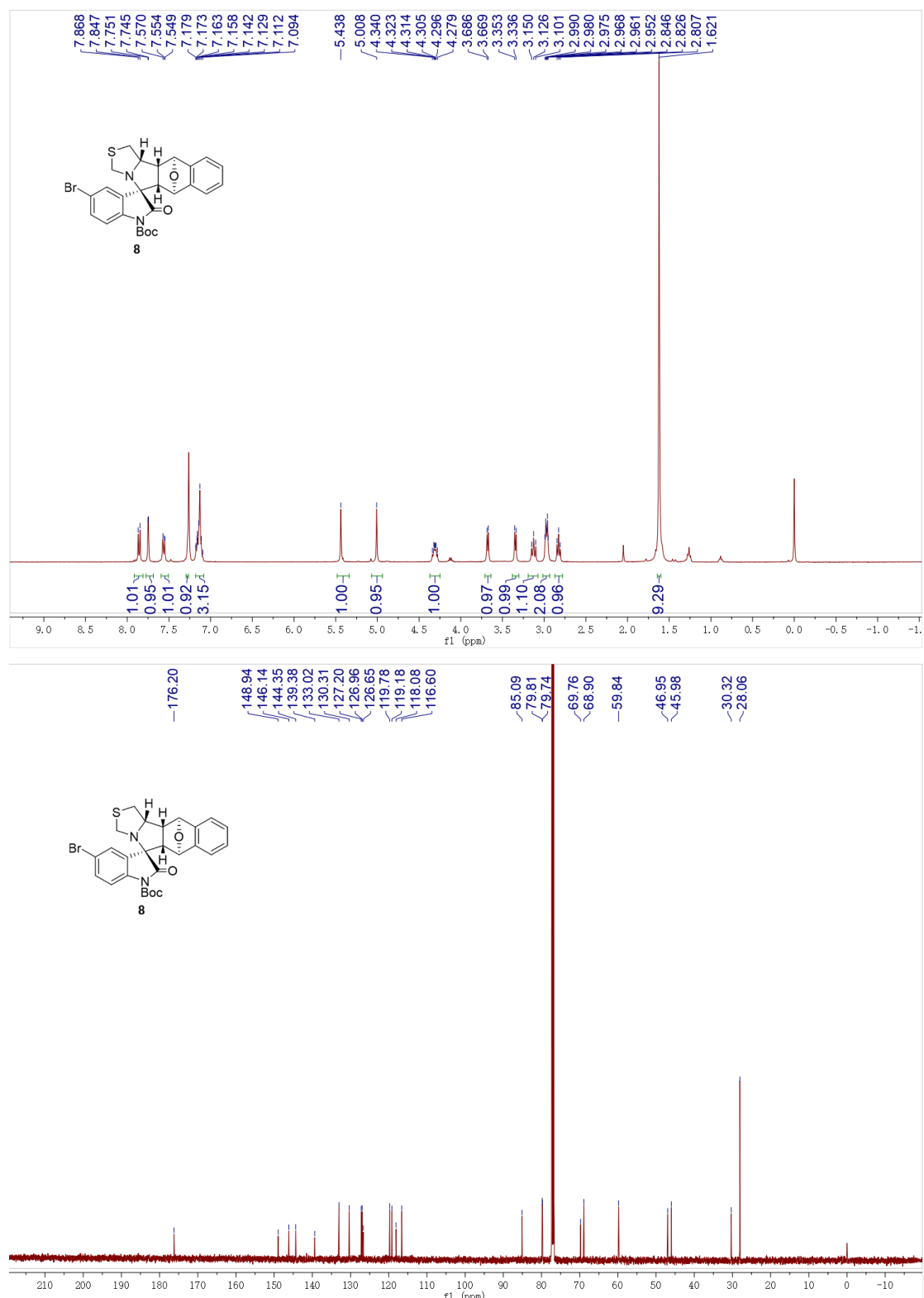
**<sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 5k**



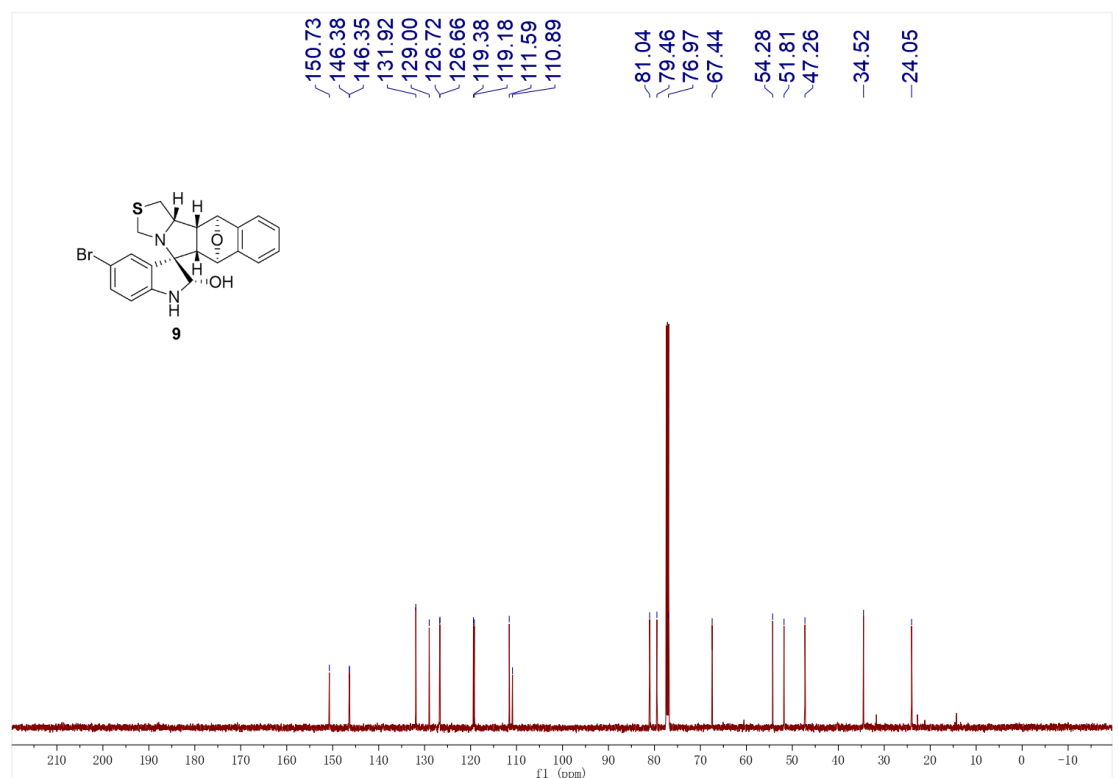
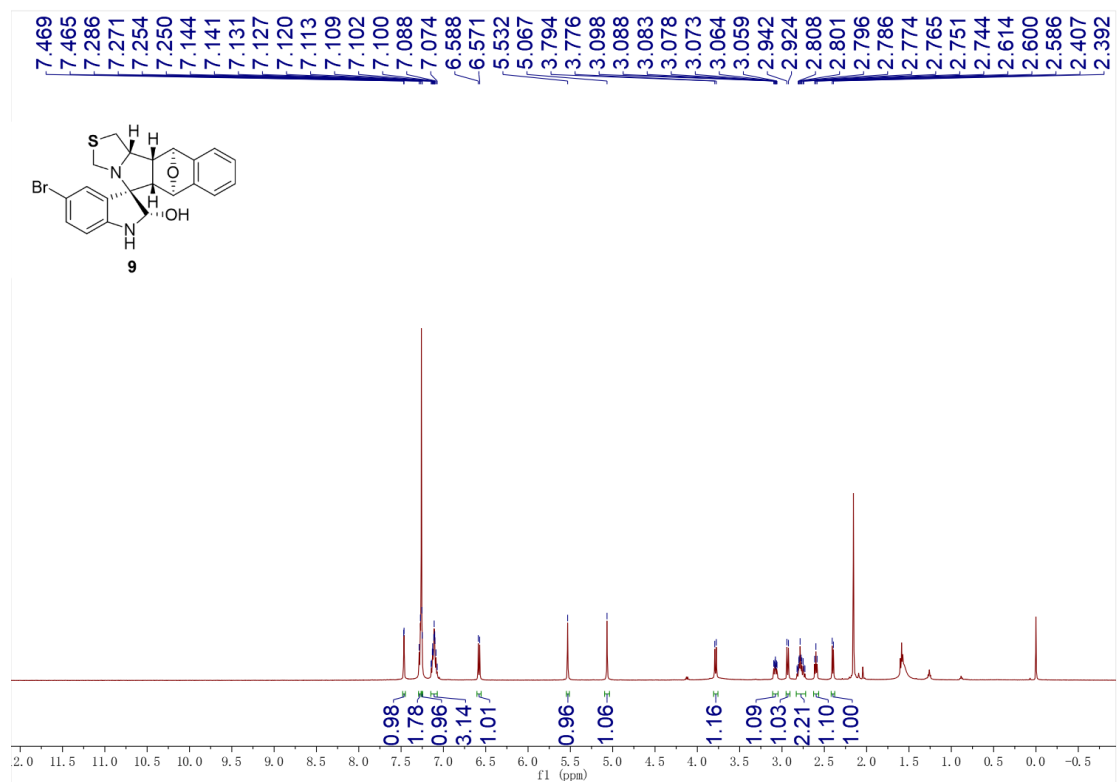
**<sup>1</sup>H NMR (400 MHz, DMSO-*d*<sub>6</sub>), <sup>13</sup>C NMR (125 MHz, DMSO-*d*<sub>6</sub>) spectrum of 6**



**<sup>1</sup>H NMR (400 MHz, DMSO-*d*<sub>6</sub>), <sup>13</sup>C NMR (125 MHz, DMSO-*d*<sub>6</sub>) spectrum of 7**



**<sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>), <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>) spectrum of 8**



$^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ),  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of **9**