

## **Electronic Supplementary Information**

### **Asymmetric acetate-Mannich reaction of chiral isatin derived ketimines and its applications**

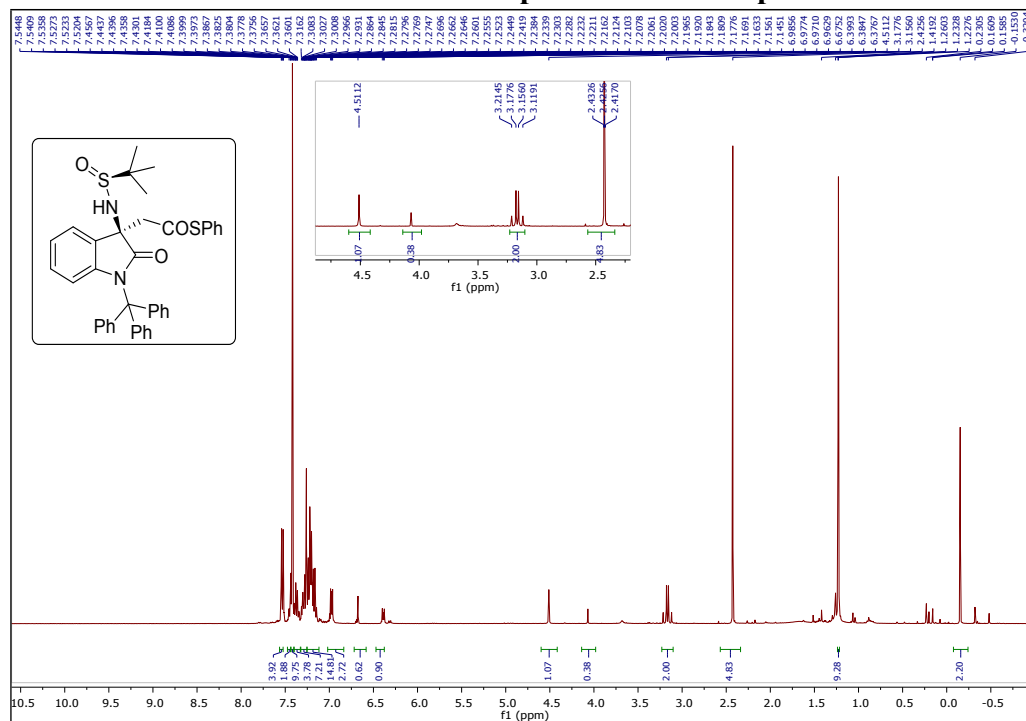
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<sup>[a]</sup> Centre of Biomedical Research, Sanjay Gandhi Post-Graduate Institute of Medical Sciences Campus, Raebareli Road, Lucknow 226014, India.

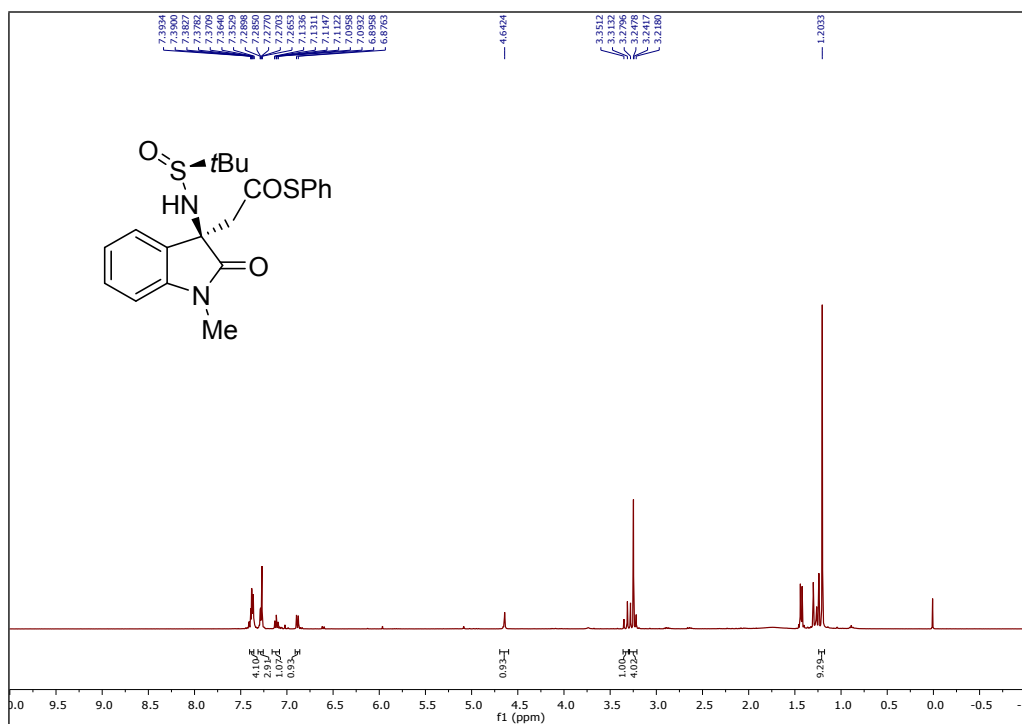
<sup>[b]</sup> Department of Chemistry, Indian Institute of Technology Kharagpur, Kharagpur 721302, India.

**<sup>1</sup>H NMR and <sup>13</sup>C NMR Spectra of all Compounds**

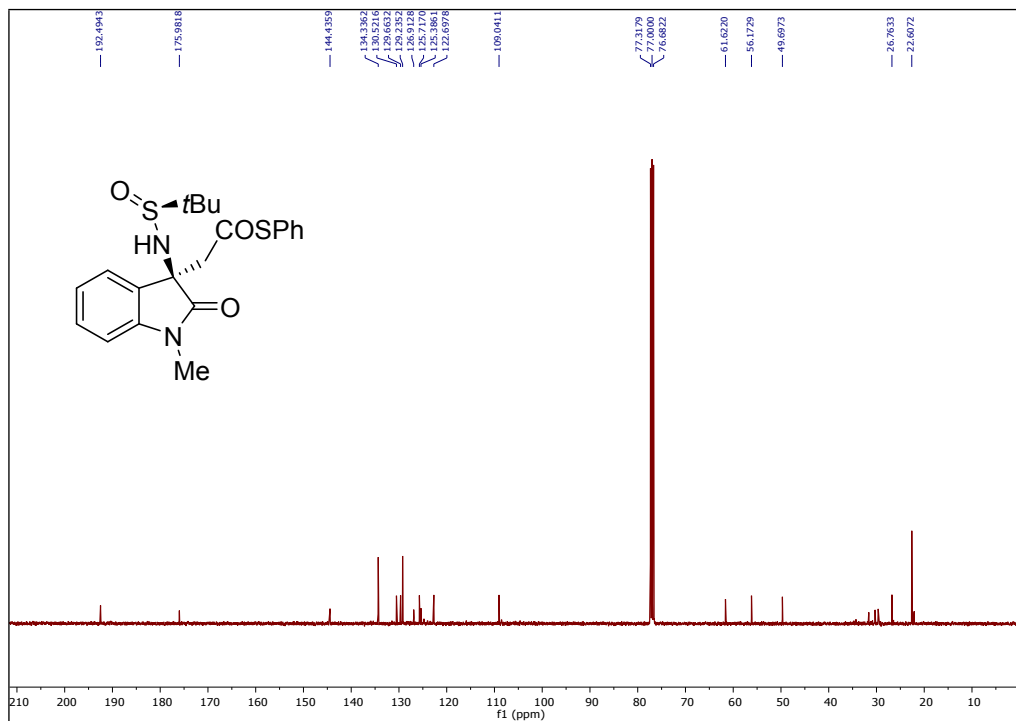
### <sup>1</sup>H NMR and <sup>13</sup>C NMR Spectra of all Compounds:



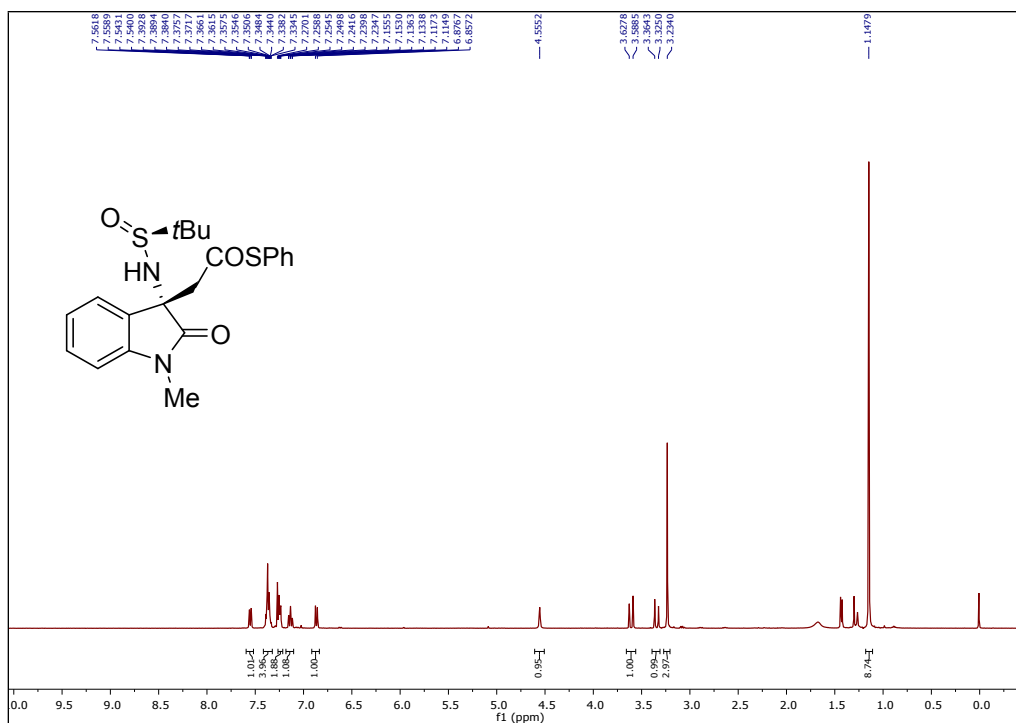
<sup>1</sup>H NMR Spectrum of Crude Compound **1e** (400 MHz, CDCl<sub>3</sub>)



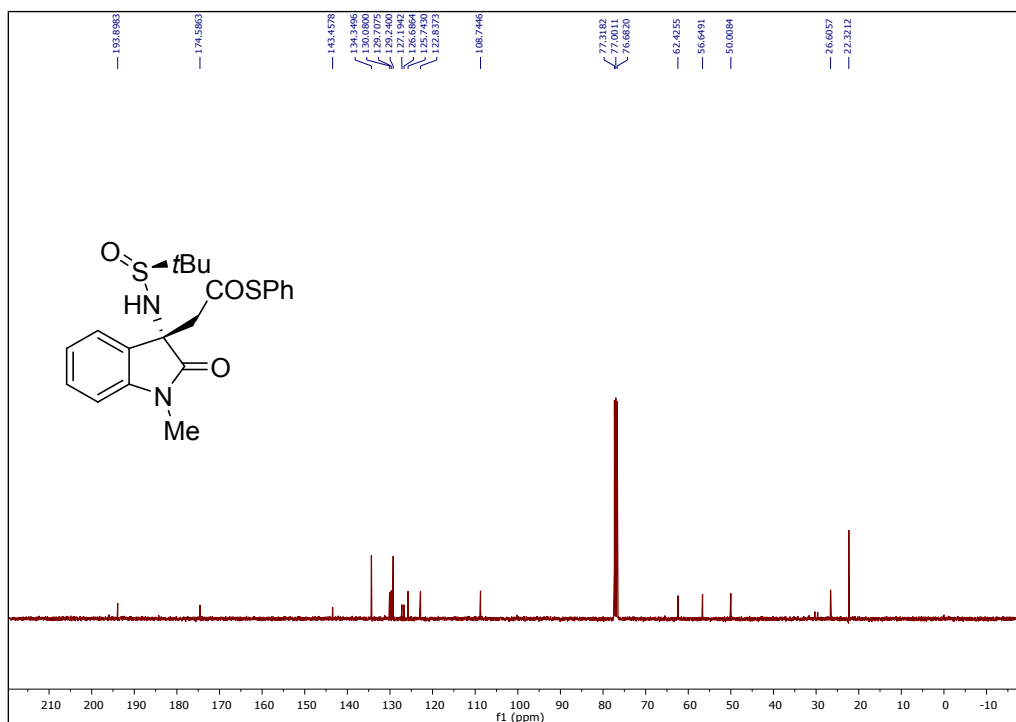
**<sup>1</sup>H NMR Spectrum of Compound **1a** major diastereomer (400 MHz, CDCl<sub>3</sub>)**



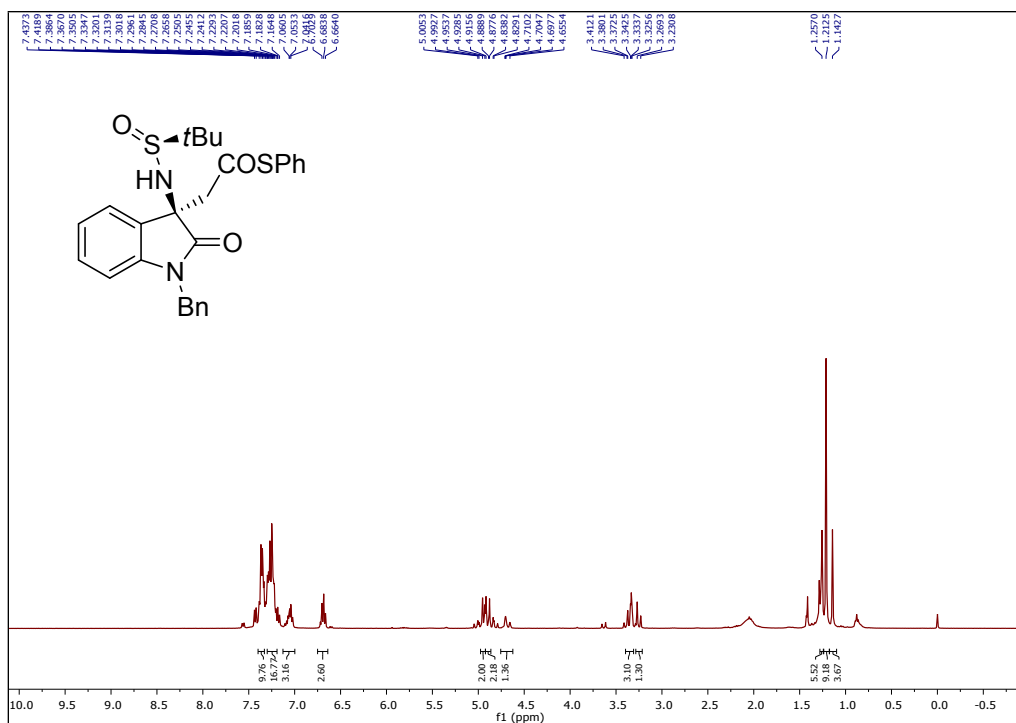
**<sup>13</sup>C NMR Spectrum of Compound **1a** major diastereomer (100 MHz, CDCl<sub>3</sub>)**



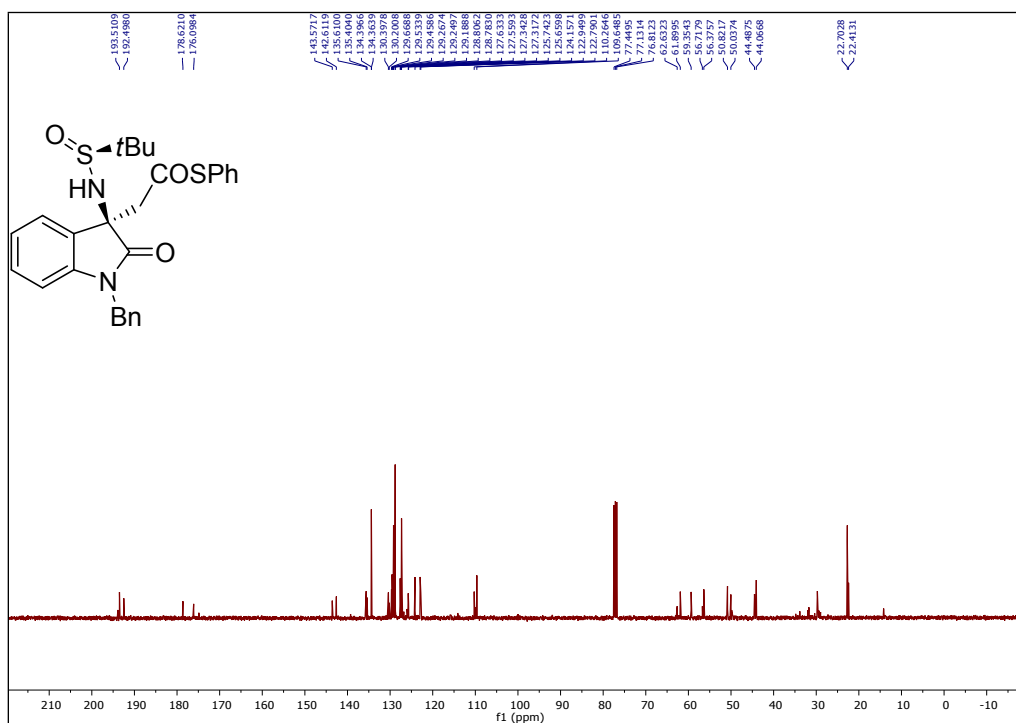
**<sup>1</sup>H NMR Spectrum of Compound **1a** minor diastereomer (400 MHz, CDCl<sub>3</sub>)**



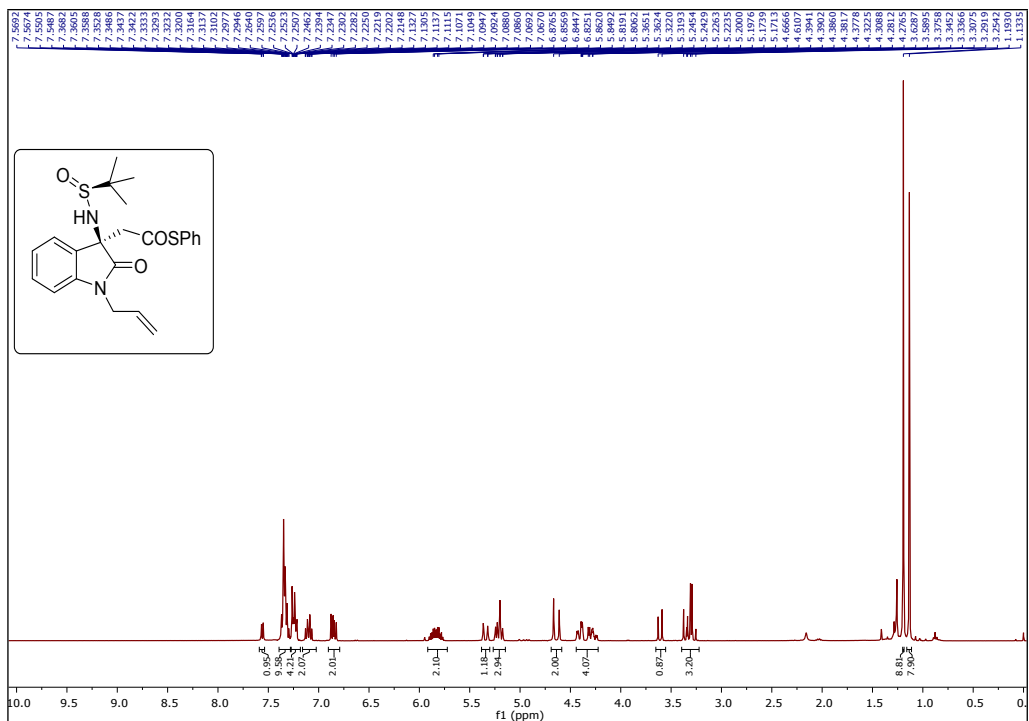
**<sup>13</sup>C NMR Spectrum of Compound **1a** minor diastereomer (100 MHz, CDCl<sub>3</sub>)**



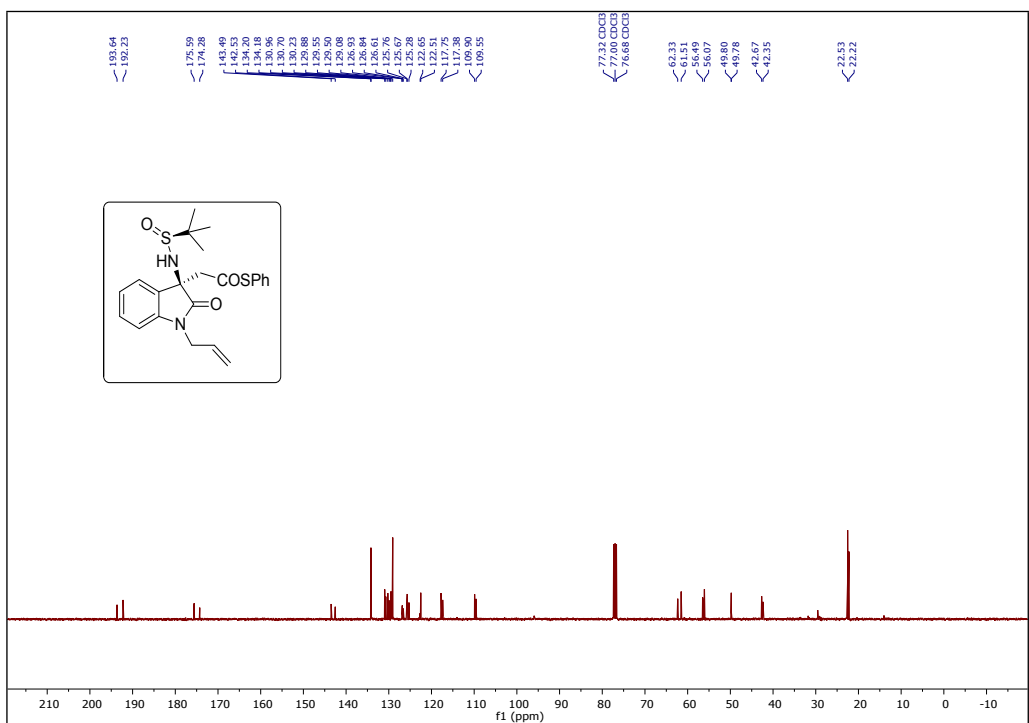
**<sup>1</sup>H NMR Spectrum of Compound **1b** diastereomeric mixture (400 MHz, CDCl<sub>3</sub>)**



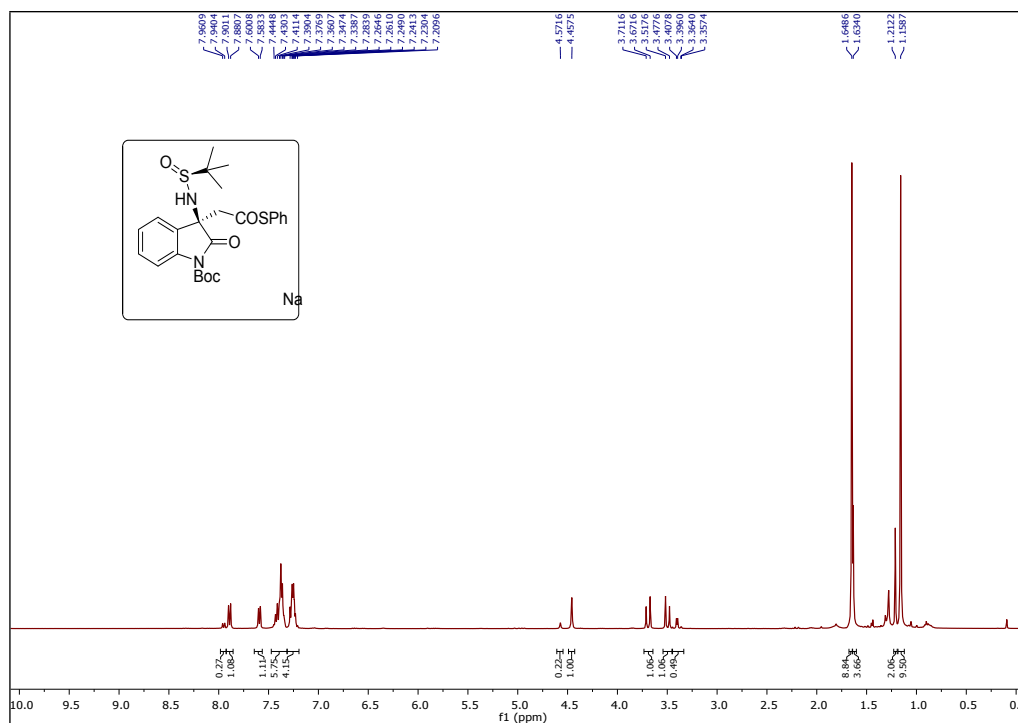
**<sup>13</sup>C NMR Spectrum of Compound **1b** diastereomeric mixture (100 MHz, CDCl<sub>3</sub>)**



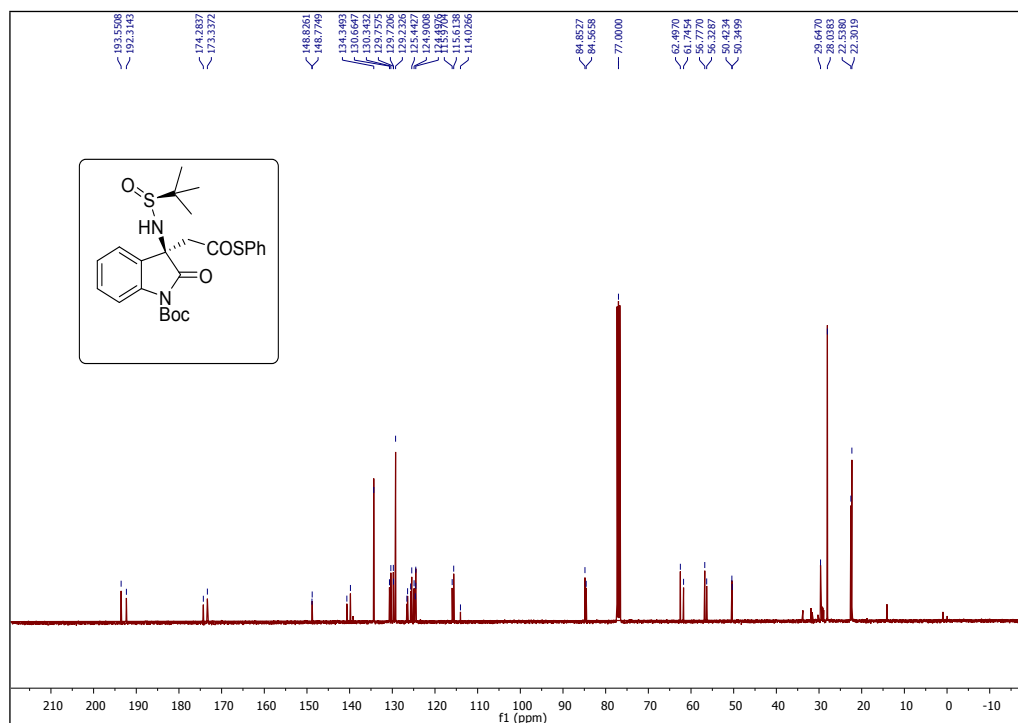
<sup>1</sup>H NMR Spectrum of Compound 1c diastereomeric mixture (400 MHz, CDCl<sub>3</sub>)



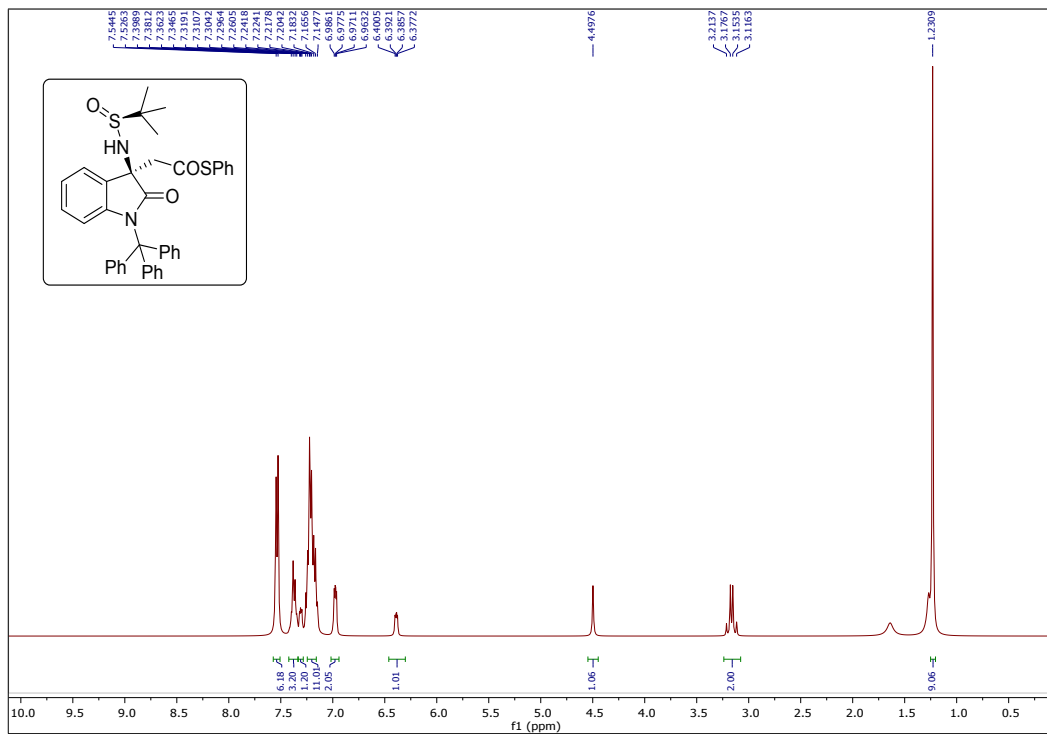
<sup>13</sup>C NMR Spectrum of Compound 1c diastereomeric mixture (100 MHz, CDCl<sub>3</sub>)



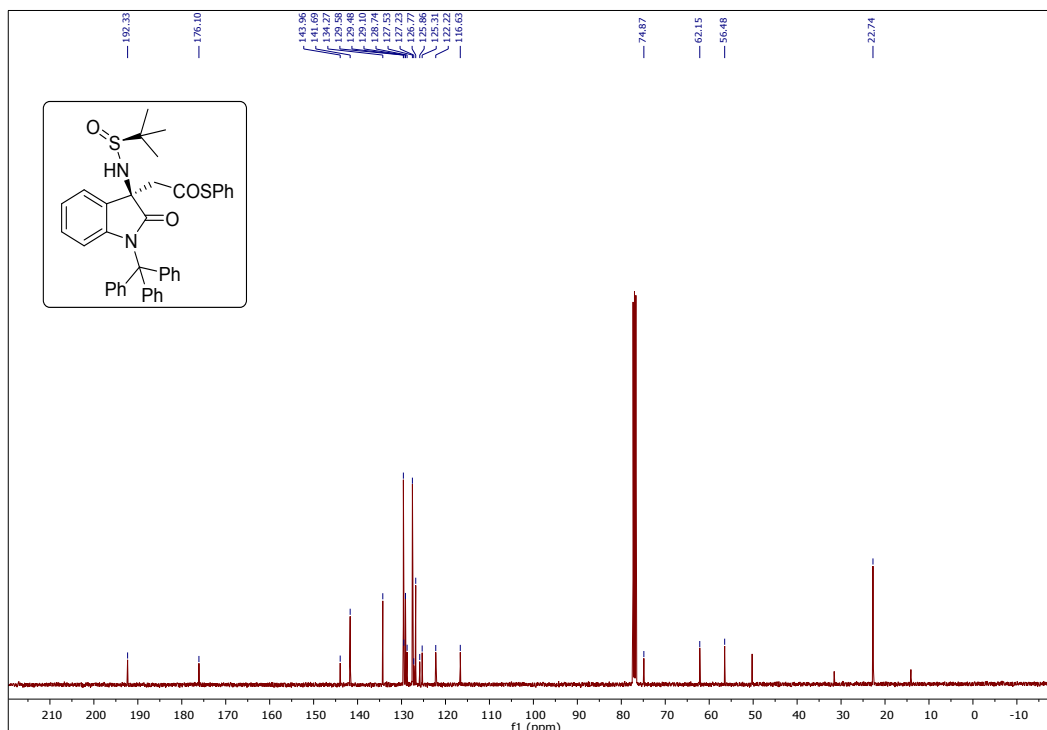
**<sup>1</sup>H NMR Spectrum of Compound **1d** diastereomeric mixture (400 MHz, CDCl<sub>3</sub>)**



**<sup>13</sup>C NMR Spectrum of Compound **1d** diastereomeric mixture (100 MHz, CDCl<sub>3</sub>)**

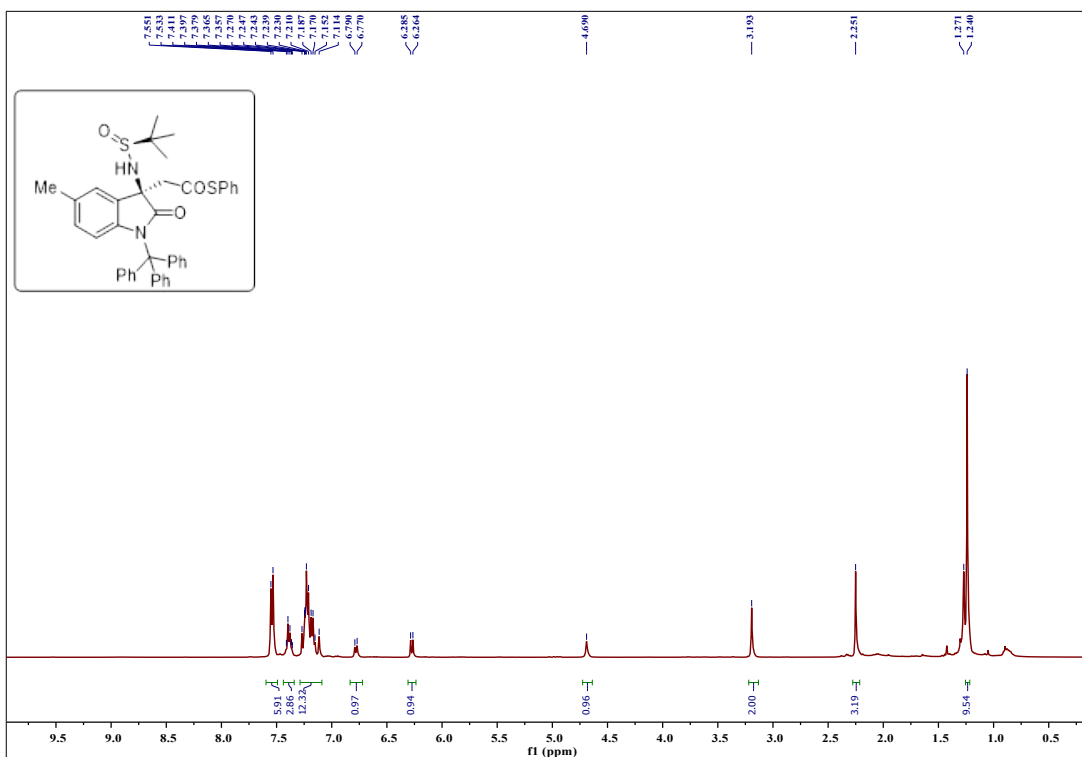


<sup>1</sup>H NMR Spectrum of Compound 1e (400 MHz, CDCl<sub>3</sub>)

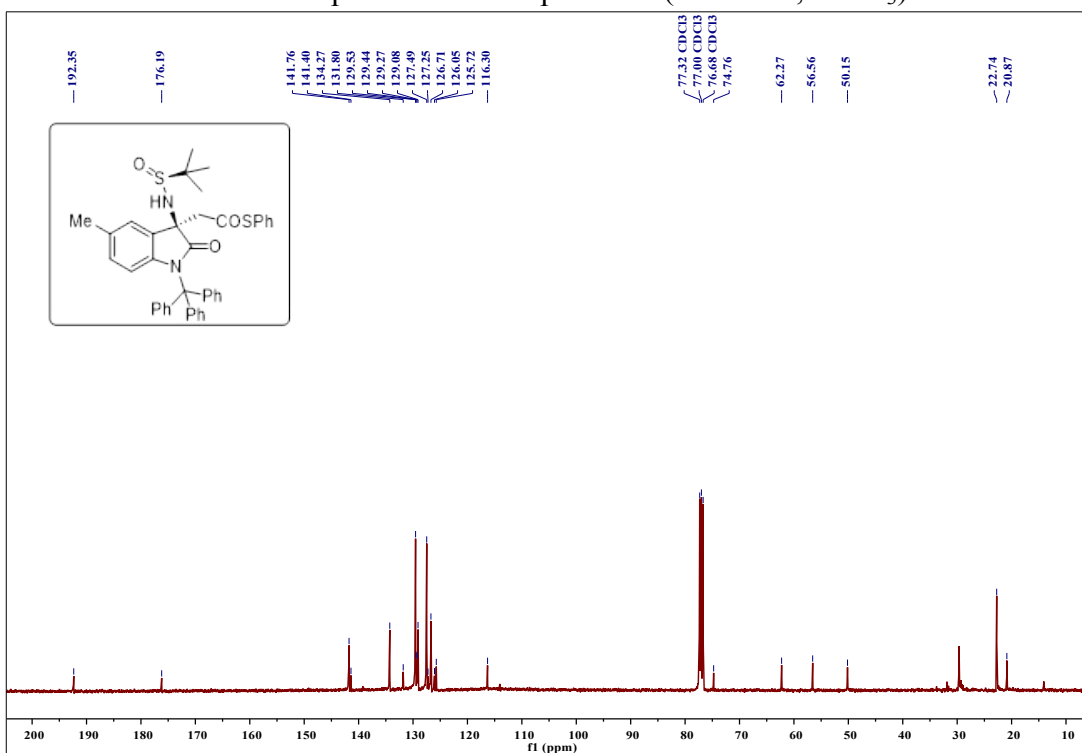


<sup>13</sup>C NMR Spectrum of Compound 1e (100 MHz, CDCl<sub>3</sub>)

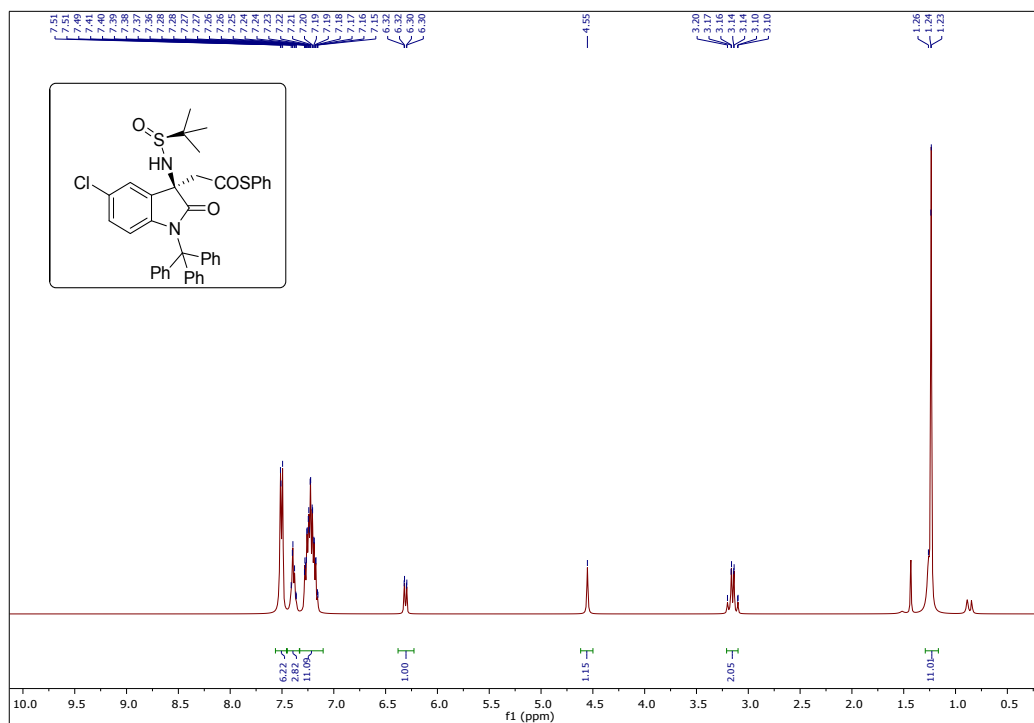




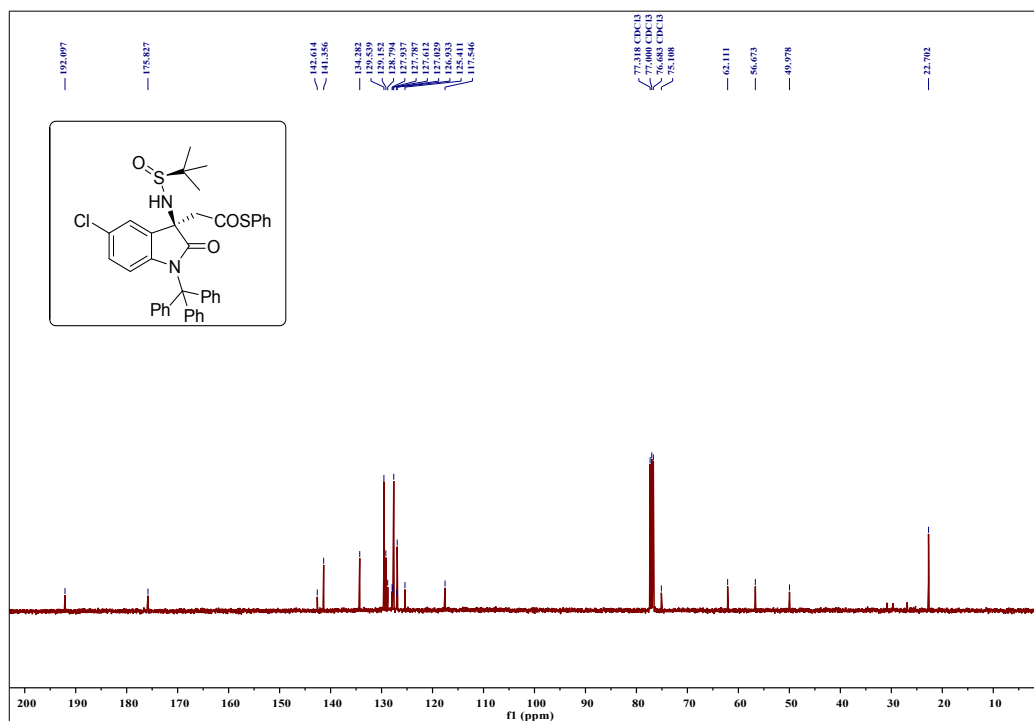
<sup>1</sup>H NMR Spectrum of Compound 1f (400 MHz, CDCl<sub>3</sub>)



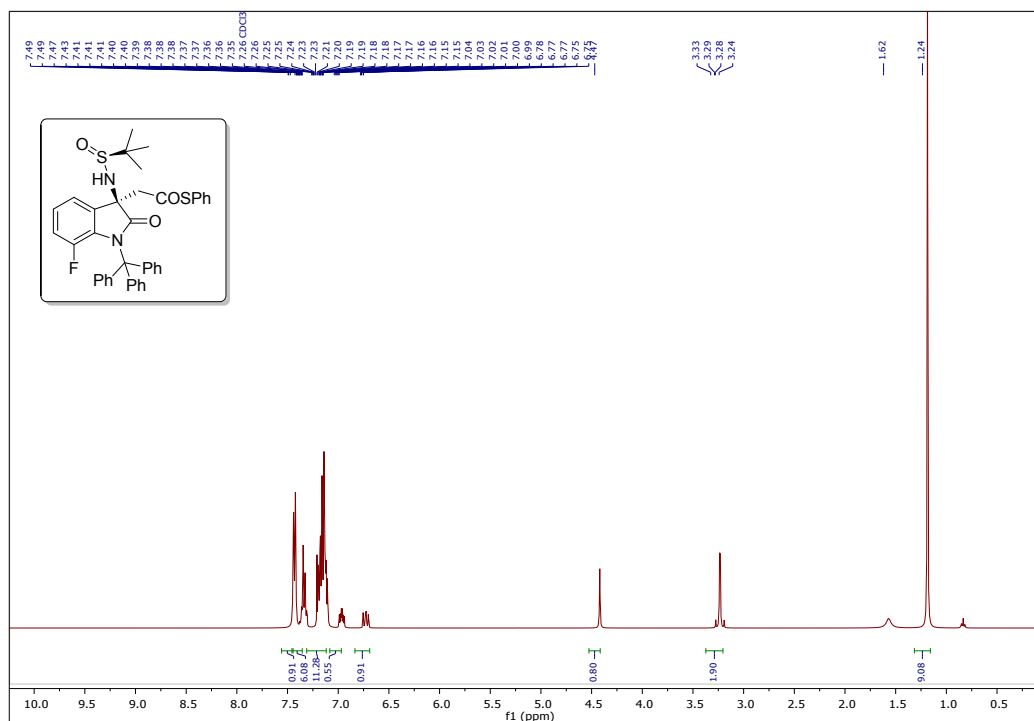
<sup>13</sup>C NMR Spectrum of Compound 1f (100 MHz, CDCl<sub>3</sub>)



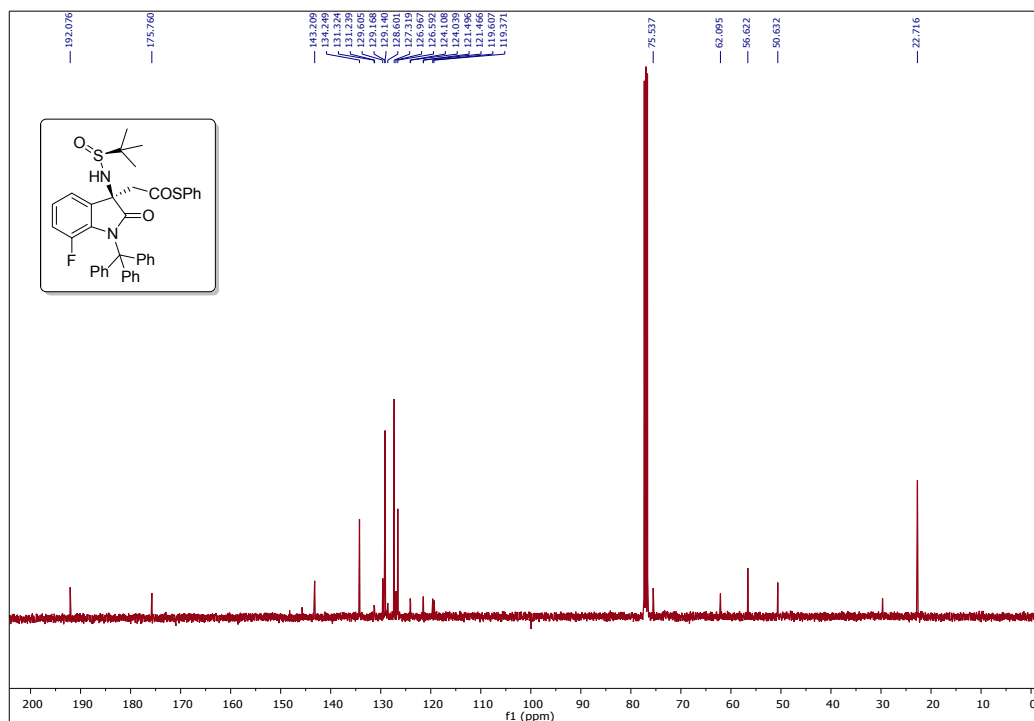
**<sup>1</sup>H NMR Spectrum of Compound **1g** (400 MHz, CDCl<sub>3</sub>)**



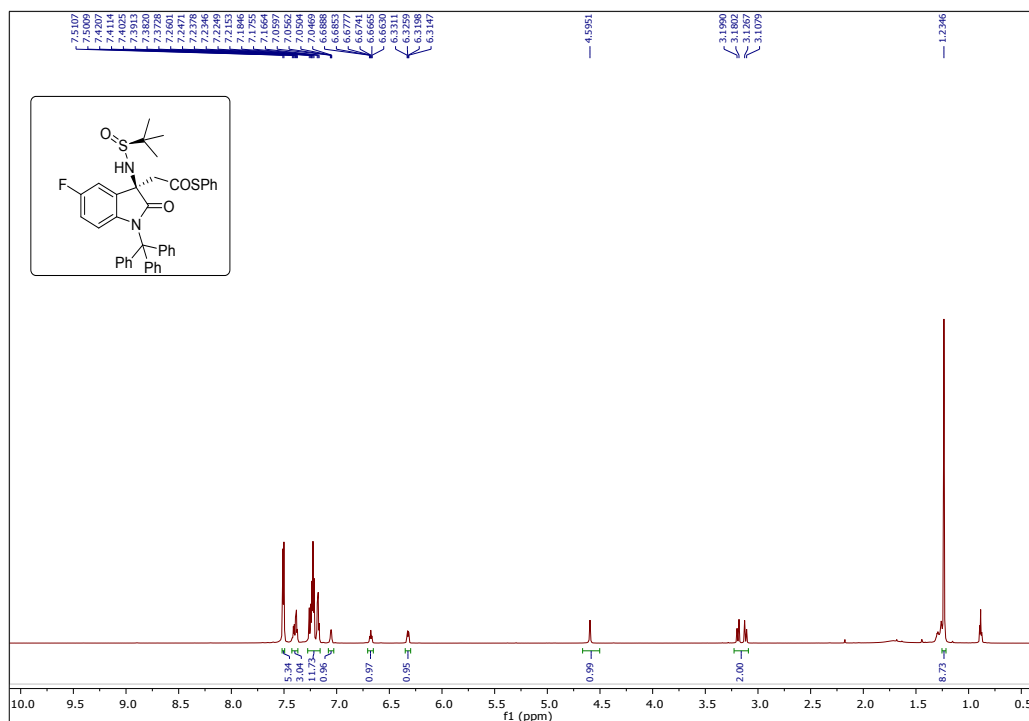
**<sup>13</sup>C NMR Spectrum of Compound **1g** (100 MHz, CDCl<sub>3</sub>)**



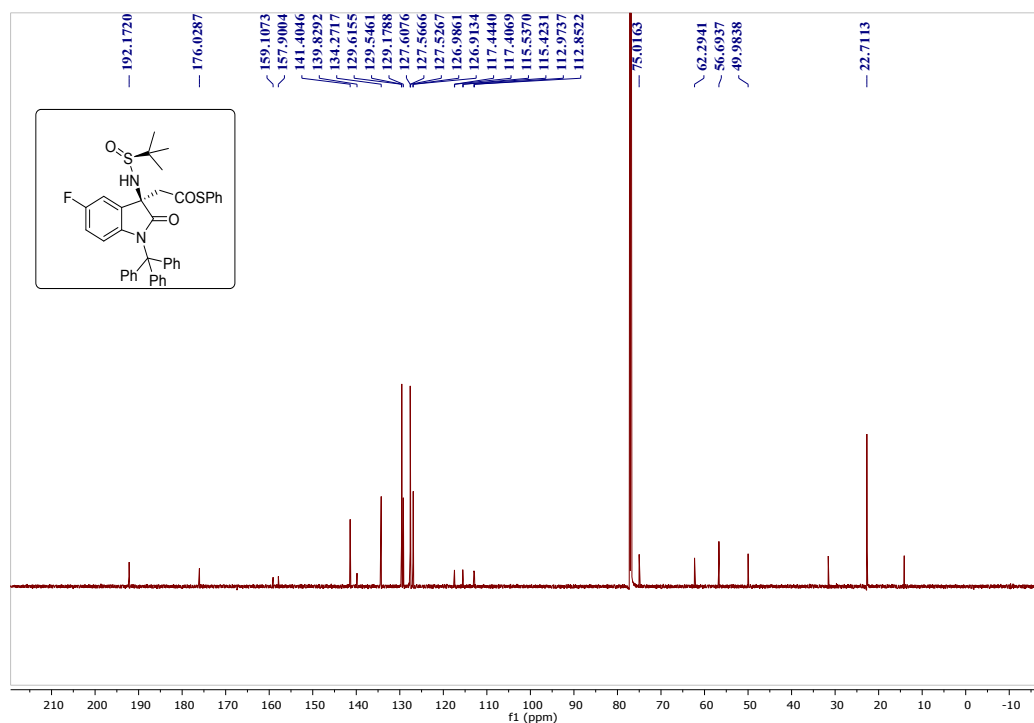
<sup>1</sup>H NMR Spectrum of Compound 1h (400 MHz, CDCl<sub>3</sub>)



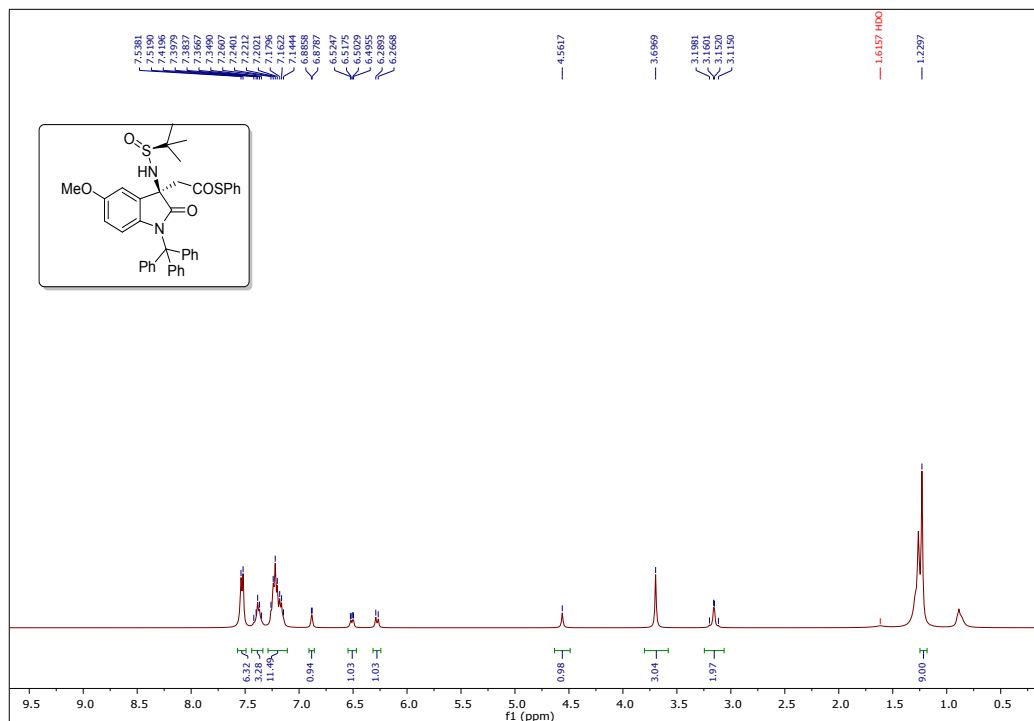
<sup>13</sup>C NMR Spectrum of Compound 1h (100 MHz, CDCl<sub>3</sub>)



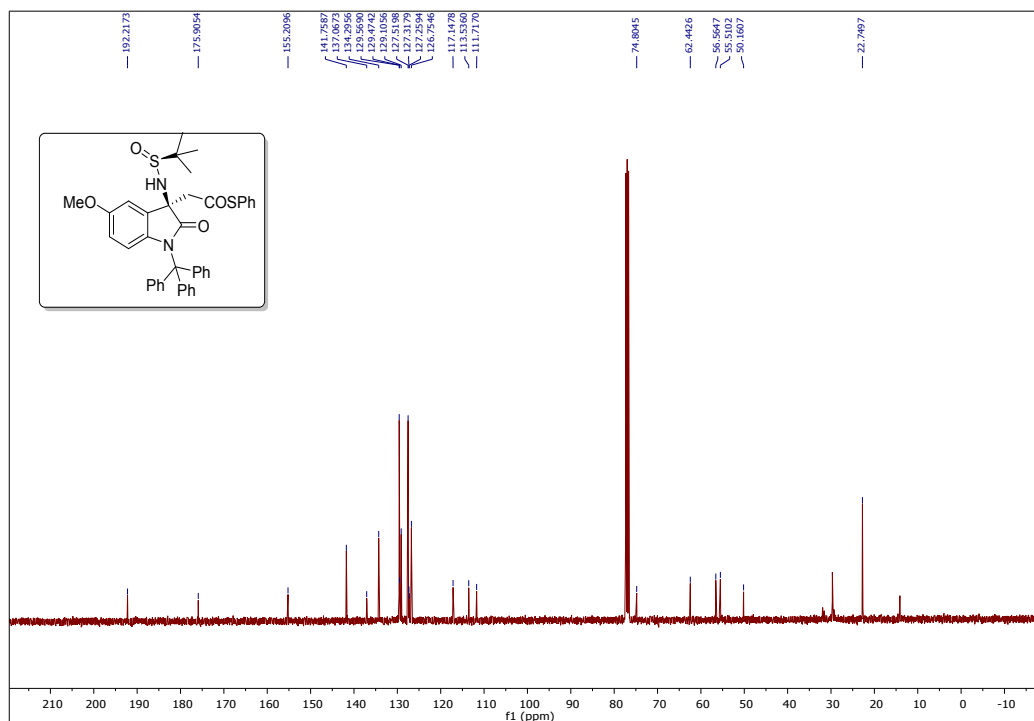
**<sup>1</sup>H NMR Spectrum of Compound **1i** (800 MHz, CDCl<sub>3</sub>)**



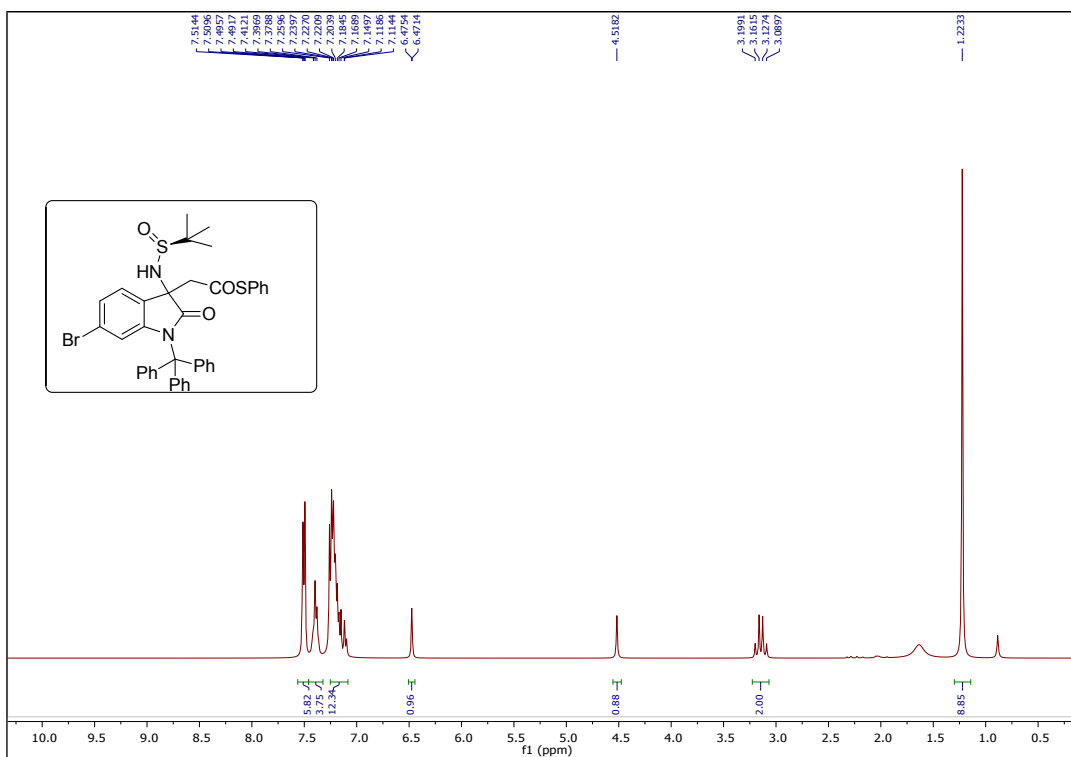
**<sup>13</sup>C NMR Spectrum of Compound **1i** (200 MHz, CDCl<sub>3</sub>)**



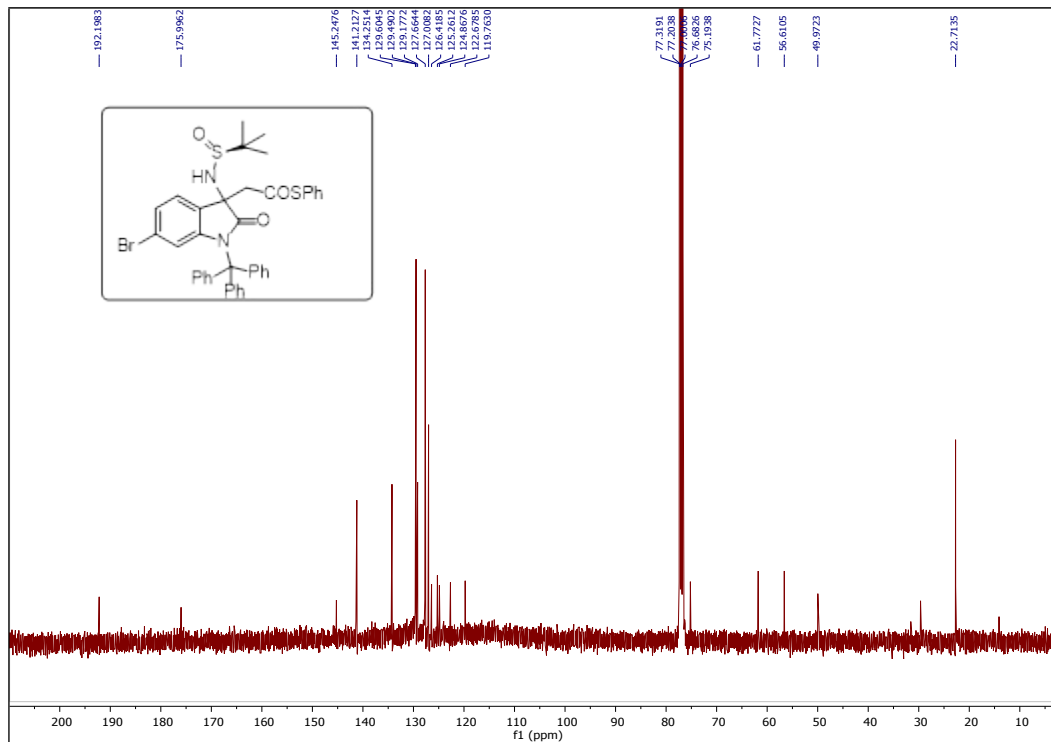
**<sup>1</sup>H NMR Spectrum of Compound **1j** (400 MHz, CDCl<sub>3</sub>)**



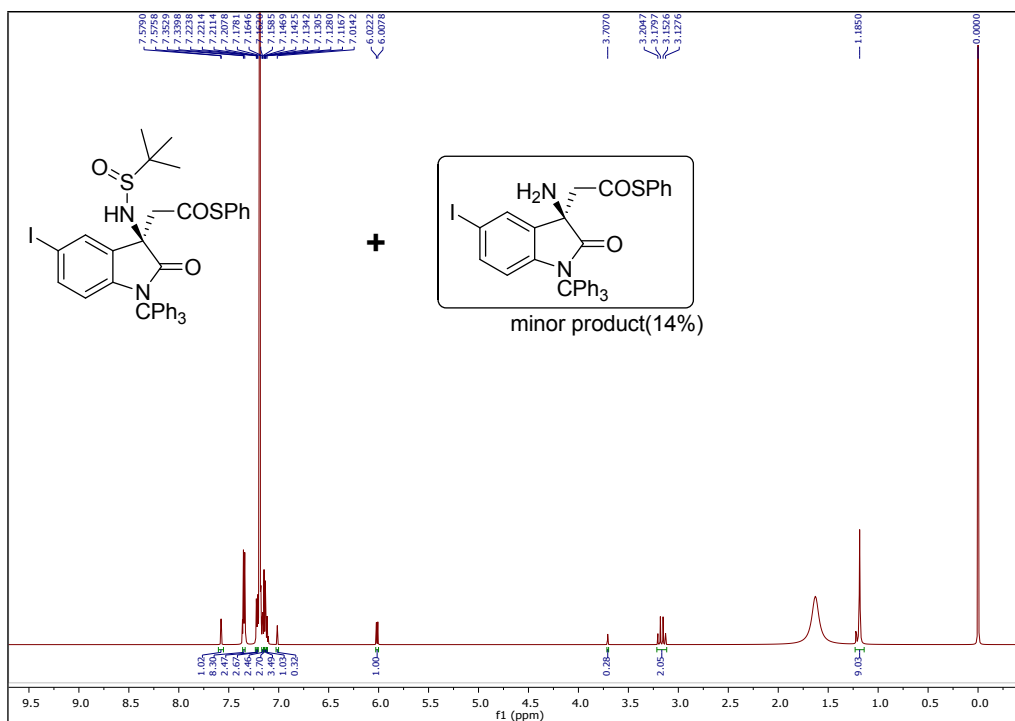
**<sup>13</sup>C NMR Spectrum of Compound **1j** (100 MHz, CDCl<sub>3</sub>)**



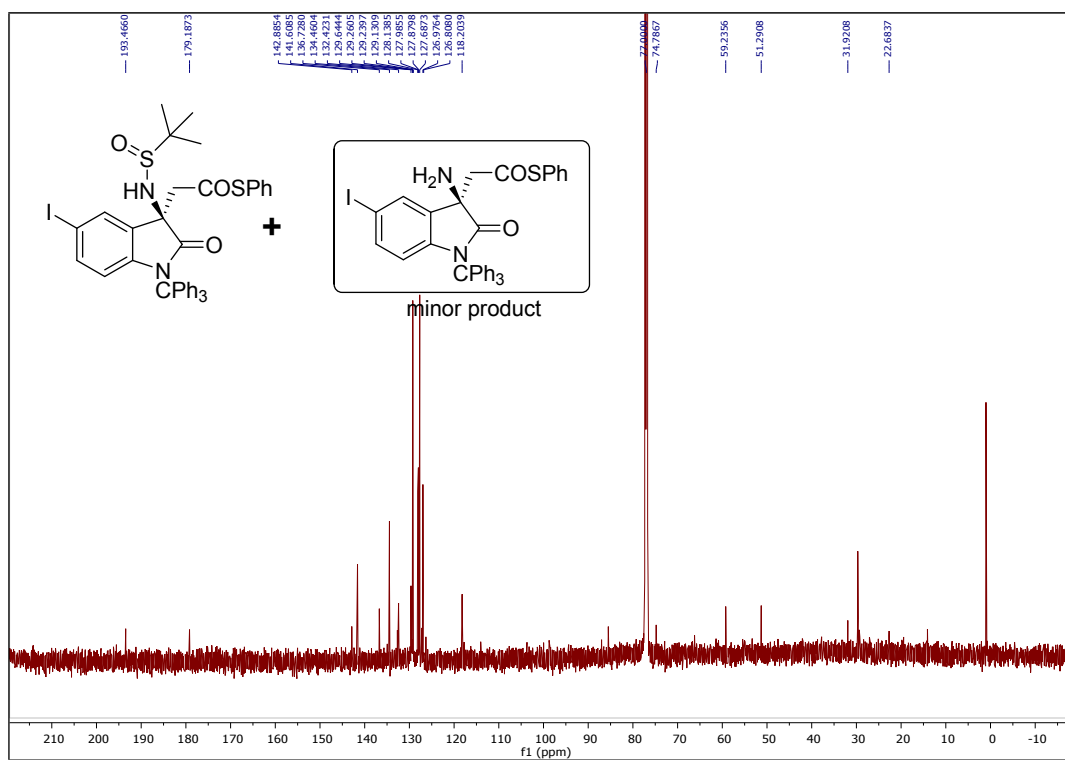
<sup>1</sup>H NMR Spectrum of Compound 1k (400 MHz, CDCl<sub>3</sub>)



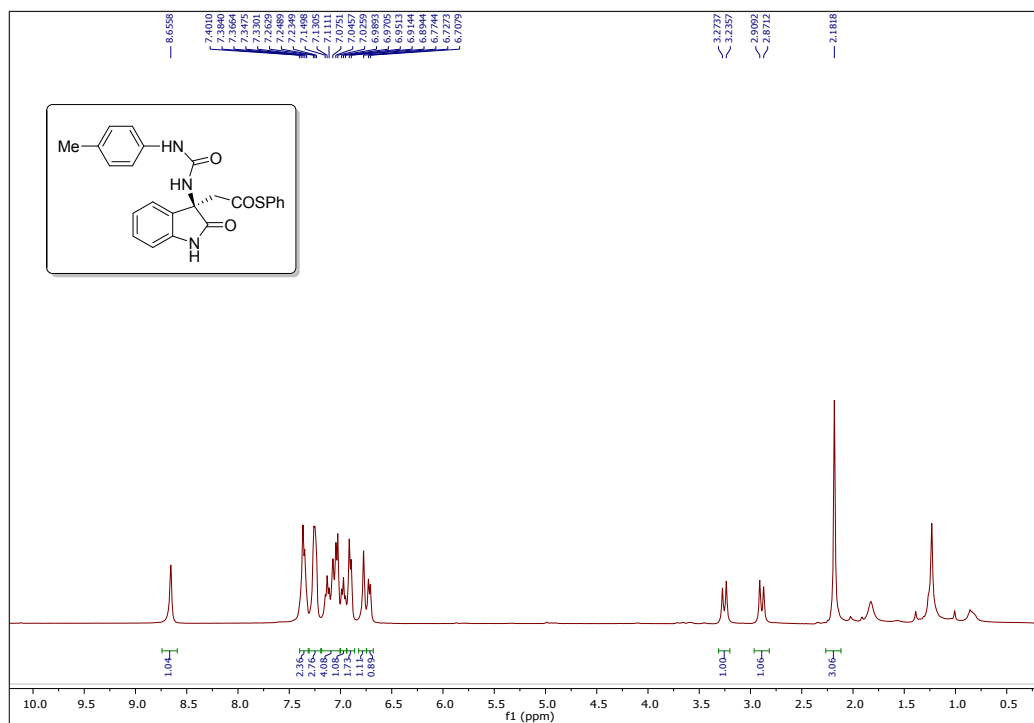
<sup>13</sup>C NMR Spectrum of Compound 1k (100 MHz, CDCl<sub>3</sub>)



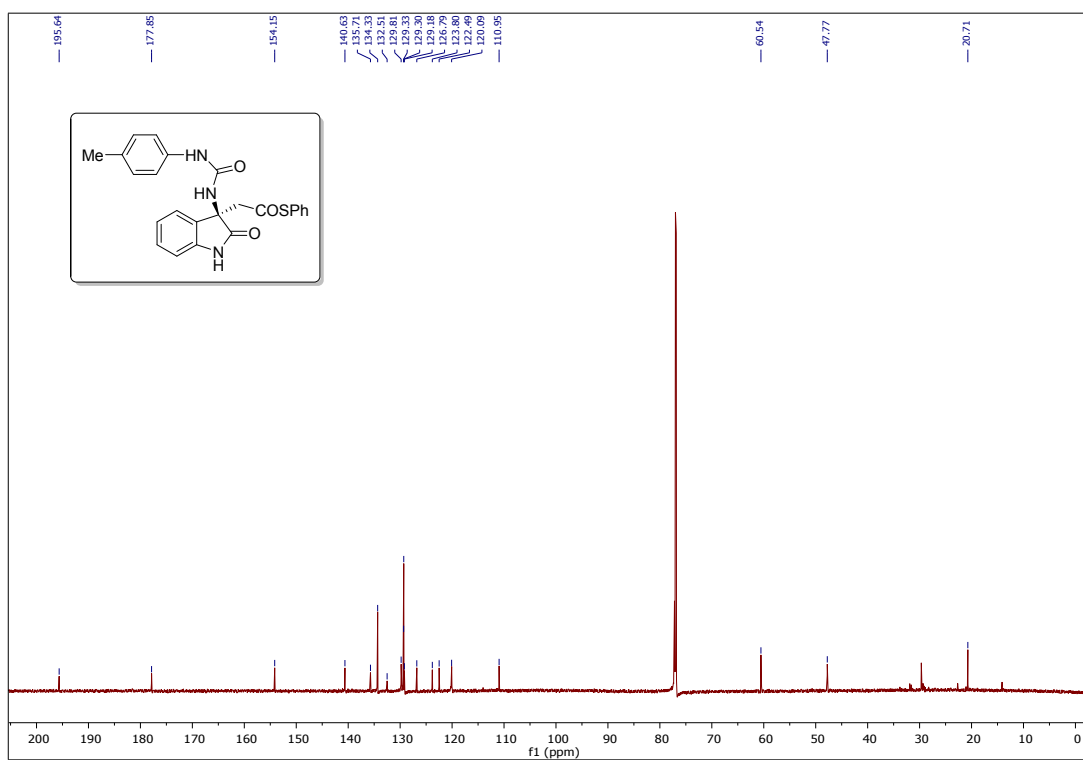
**<sup>1</sup>H NMR Spectrum of Compound **11** (600 MHz, CDCl<sub>3</sub>)**



**<sup>13</sup>C NMR Spectrum of Compound **11** (150 MHz, CDCl<sub>3</sub>)**

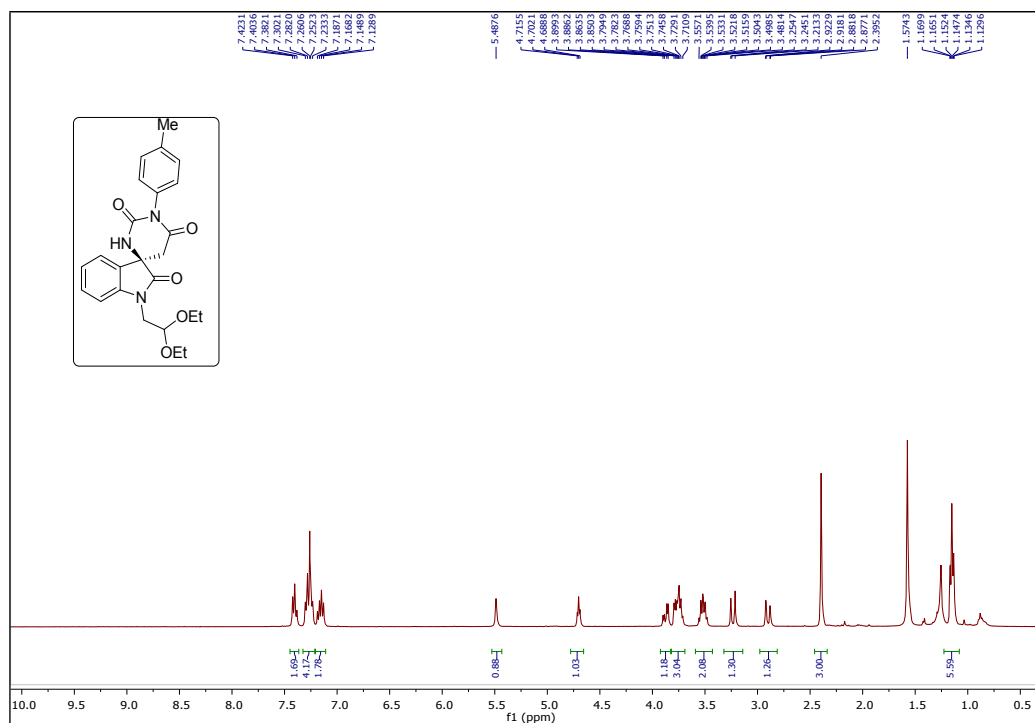


**<sup>1</sup>H NMR Spectrum of Compound 4 (400 MHz, CDCl<sub>3</sub>)**

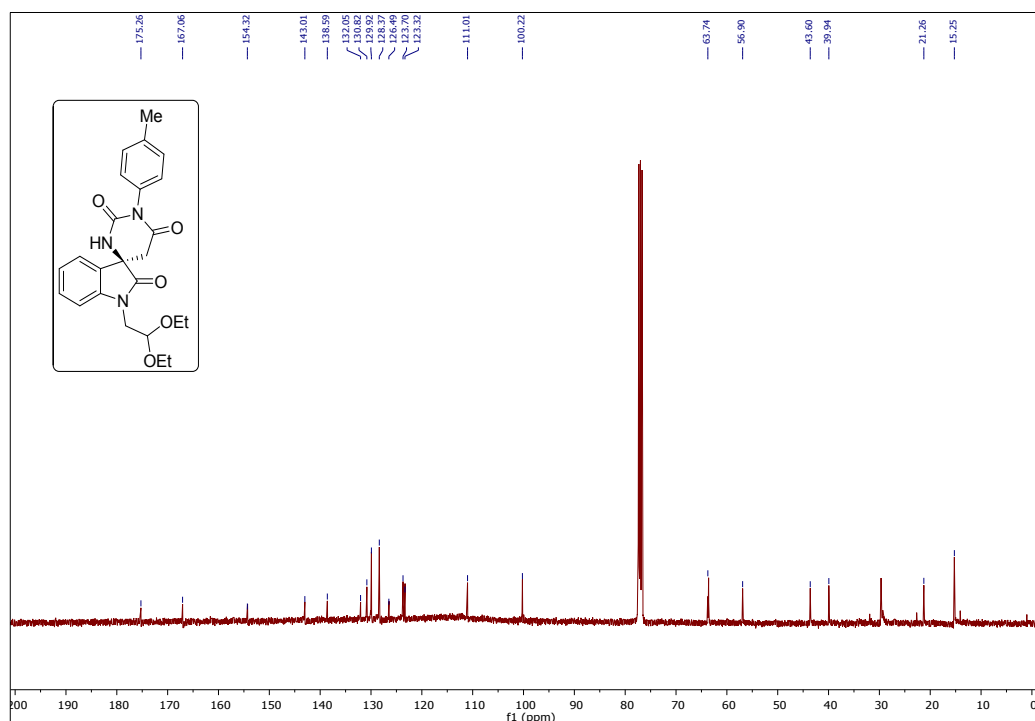


**<sup>13</sup>C NMR Spectrum of Compound 4 (200 MHz, CDCl<sub>3</sub>)**

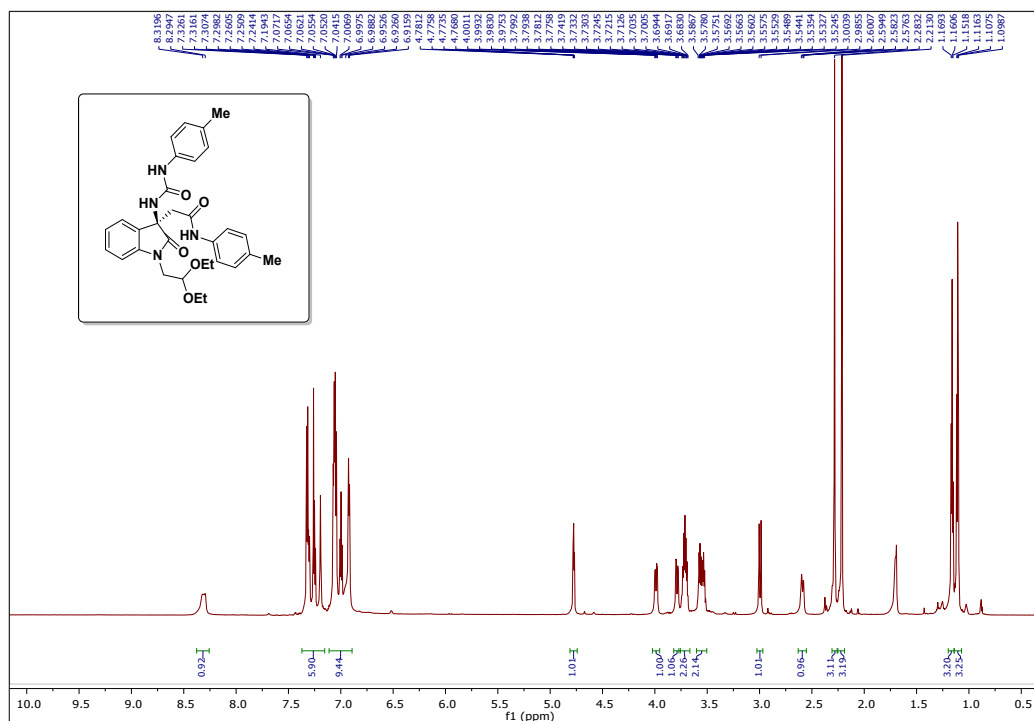




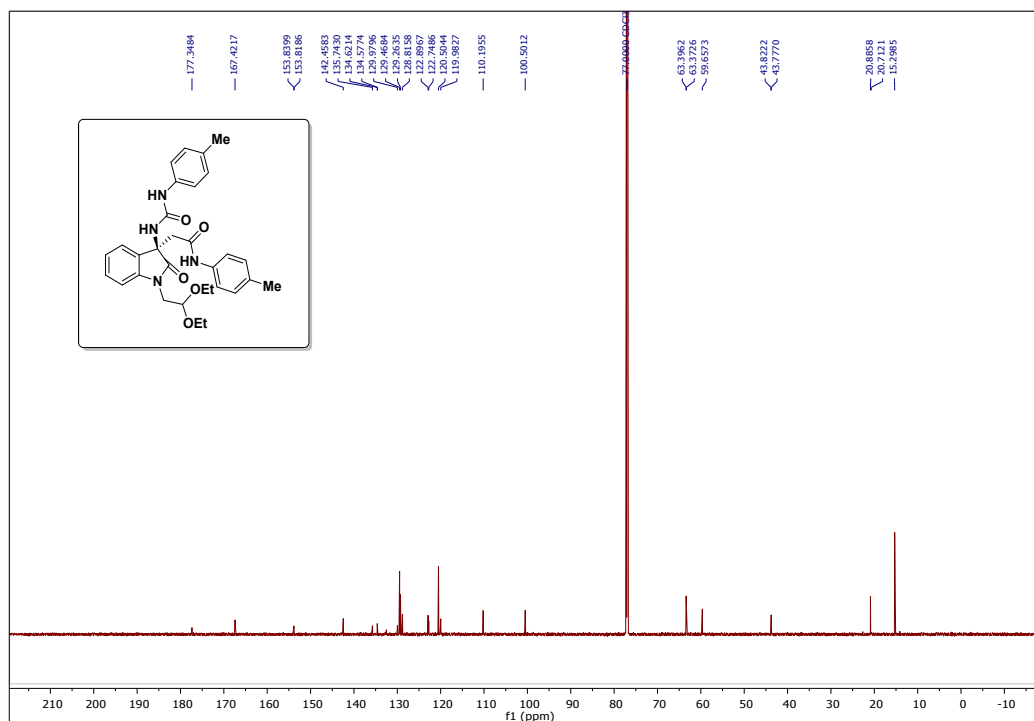
<sup>1</sup>H NMR Spectrum of Compound 5 (400 MHz, CDCl<sub>3</sub>)



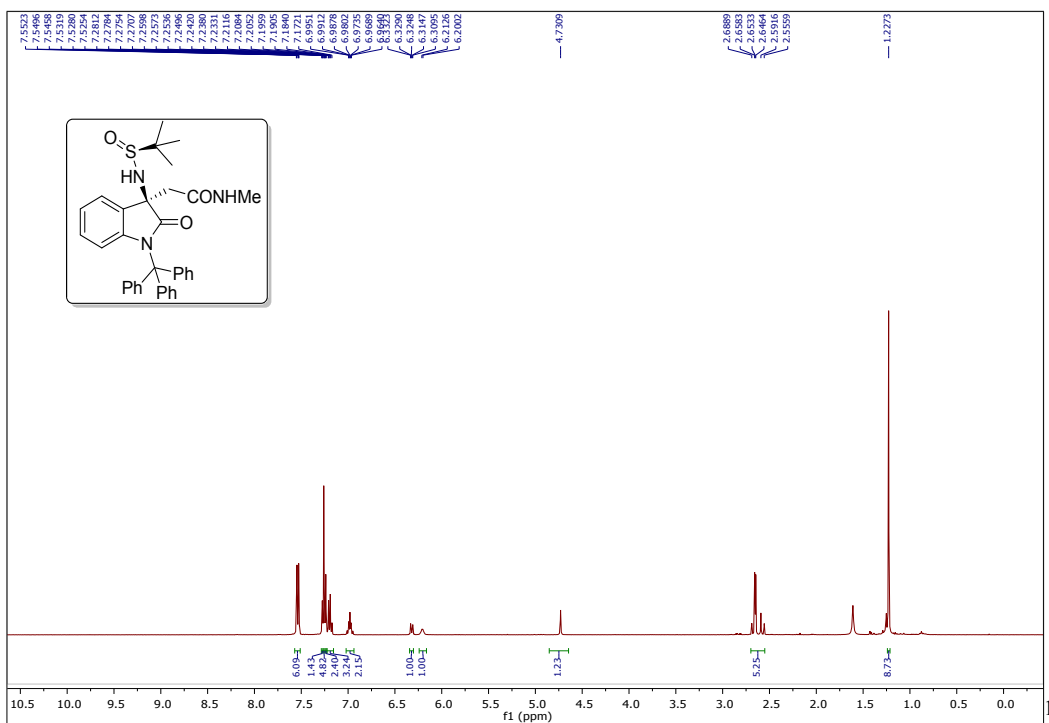
<sup>13</sup>C NMR Spectrum of Compound 5 (100 MHz, CDCl<sub>3</sub>)



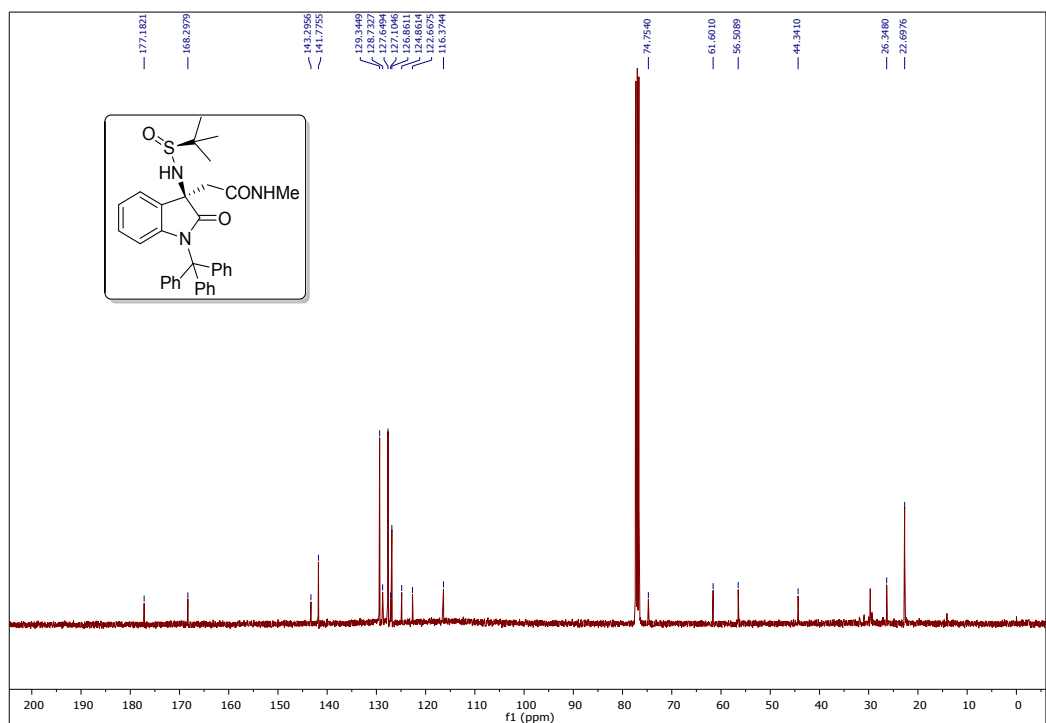
**<sup>1</sup>H NMR Spectrum of Compound (+)-AG-041R (800 MHz, CDCl<sub>3</sub>)**



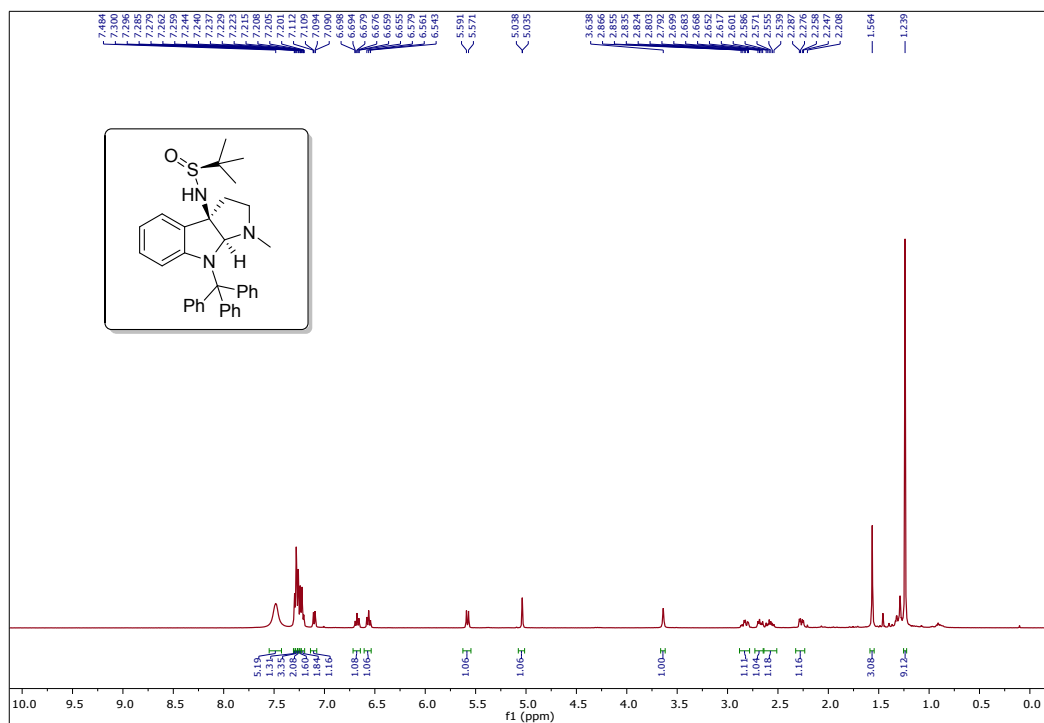
**<sup>13</sup>C NMR Spectrum of Compound (+)-AG-041R (200 MHz, CDCl<sub>3</sub>)**



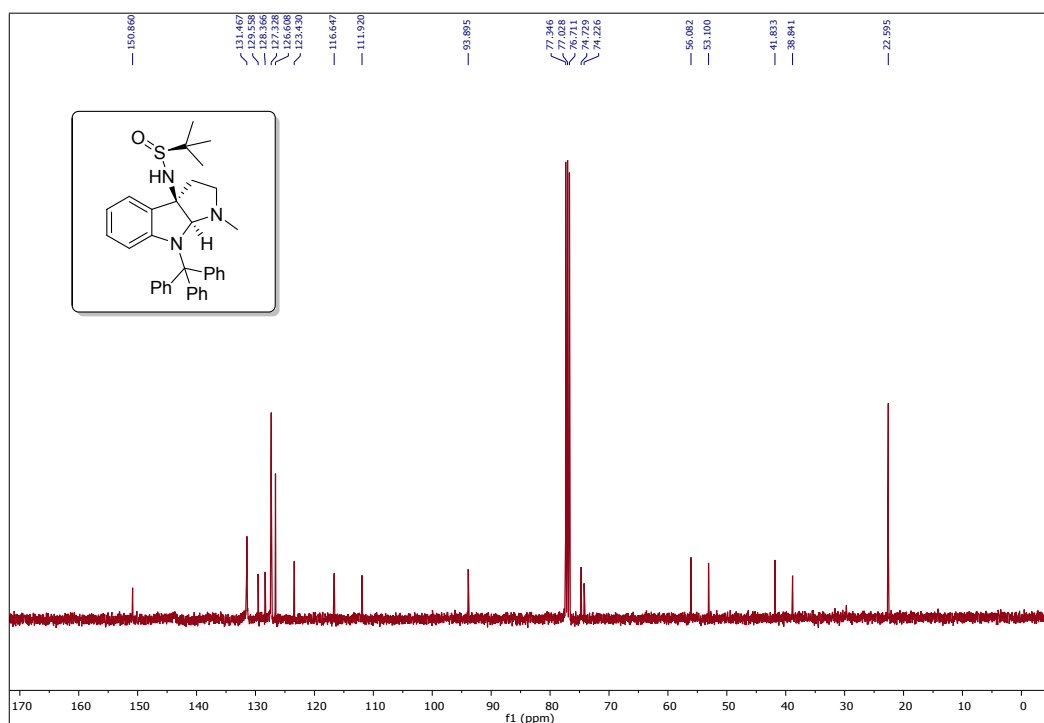
**<sup>1</sup>H NMR Spectrum of Compound 6 (800 MHz, CDCl<sub>3</sub>)**



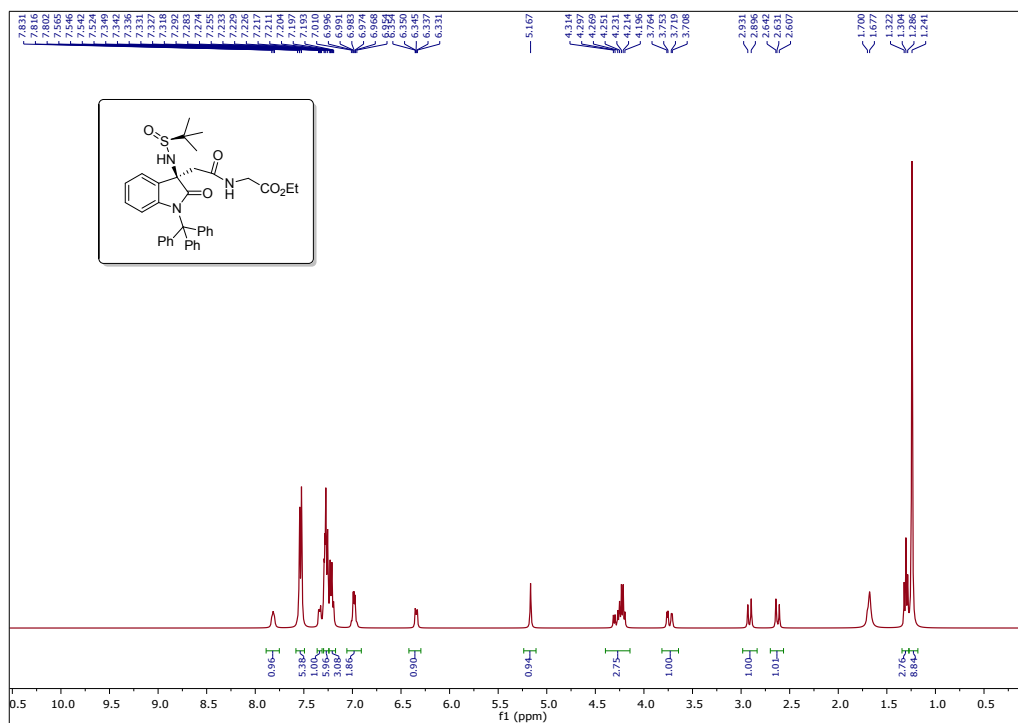
**<sup>13</sup>C NMR Spectrum of Compound 6 (100 MHz, CDCl<sub>3</sub>)**



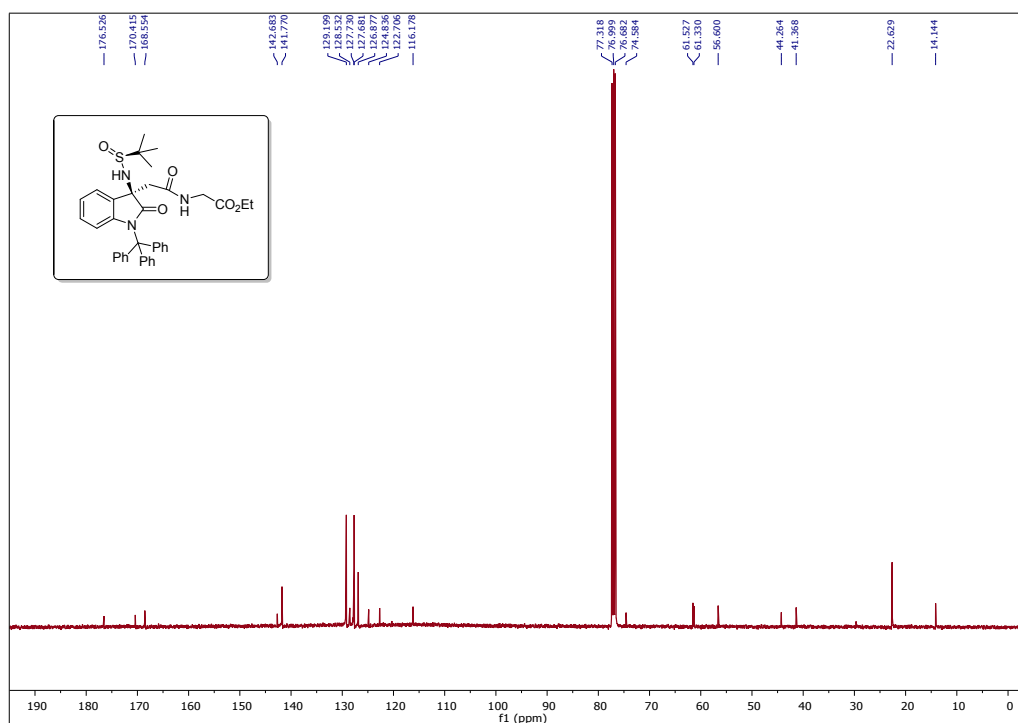
**<sup>1</sup>H NMR Spectrum of Compound 7 (400 MHz, CDCl<sub>3</sub>)**



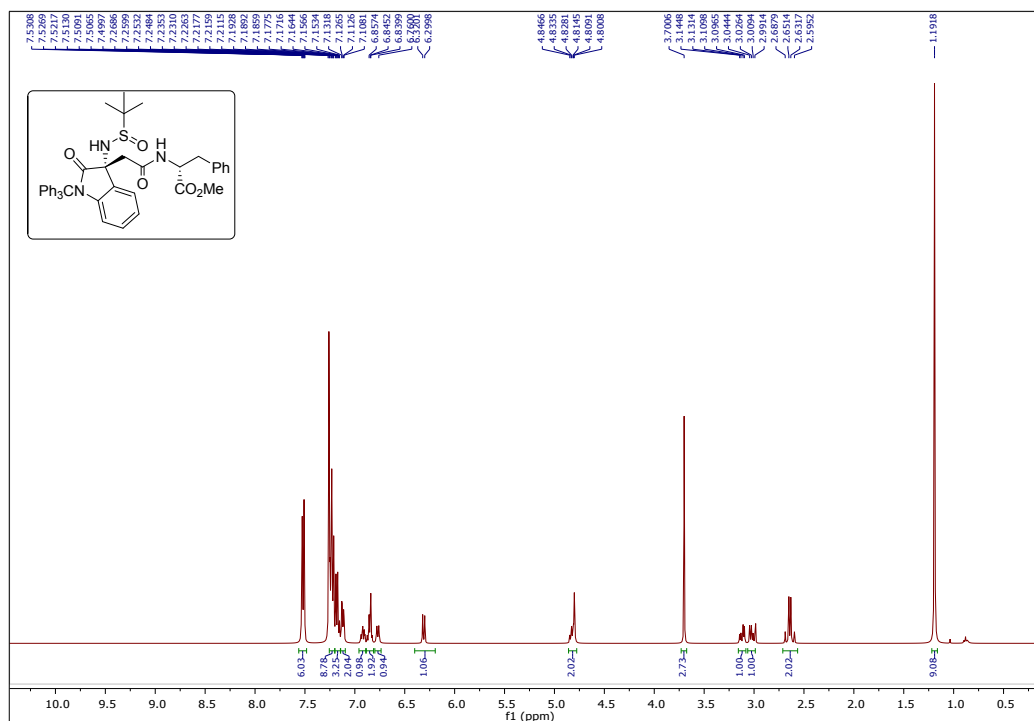
**<sup>13</sup>C NMR Spectrum of Compound 7 (100 MHz, CDCl<sub>3</sub>)**



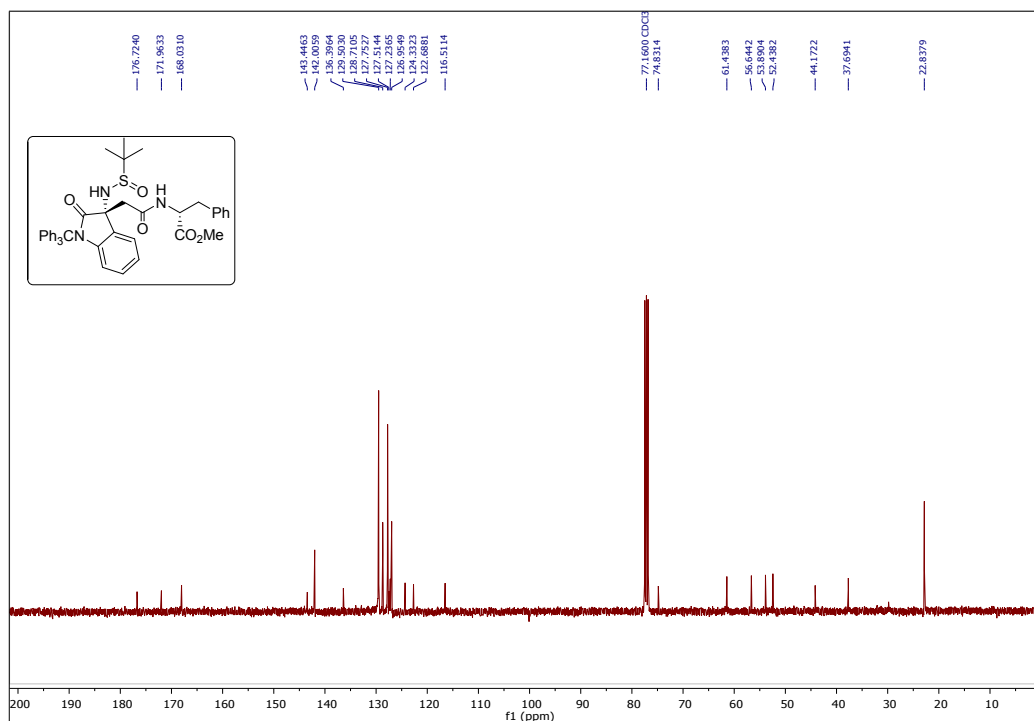
<sup>1</sup>H NMR Spectrum of Compound 8a (400 MHz, CDCl<sub>3</sub>)



<sup>13</sup>C NMR Spectrum of Compound 8a (100 MHz, CDCl<sub>3</sub>)



<sup>1</sup>H NMR Spectrum of Compound 8b (400 MHz, CDCl<sub>3</sub>)



<sup>13</sup>C NMR Spectrum of Compound 8b (100 MHz, CDCl<sub>3</sub>)