

## Supporting Information

### Chiral dirhodium catalysts derived from L-serine, L-threonine and L-cysteine: Design, synthesis and application

Jian Kang, Baofu Zhu, Jiewei Liu, Li Zhang,\* and Cheng-Yong Su\*

MOE Laboratory of Bioinorganic and Synthetic Chemistry, Lehn Institute of  
Functional Materials, School of Chemistry and Chemical Engineering, Sun Yat-sen  
University, Guangzhou 510275, China

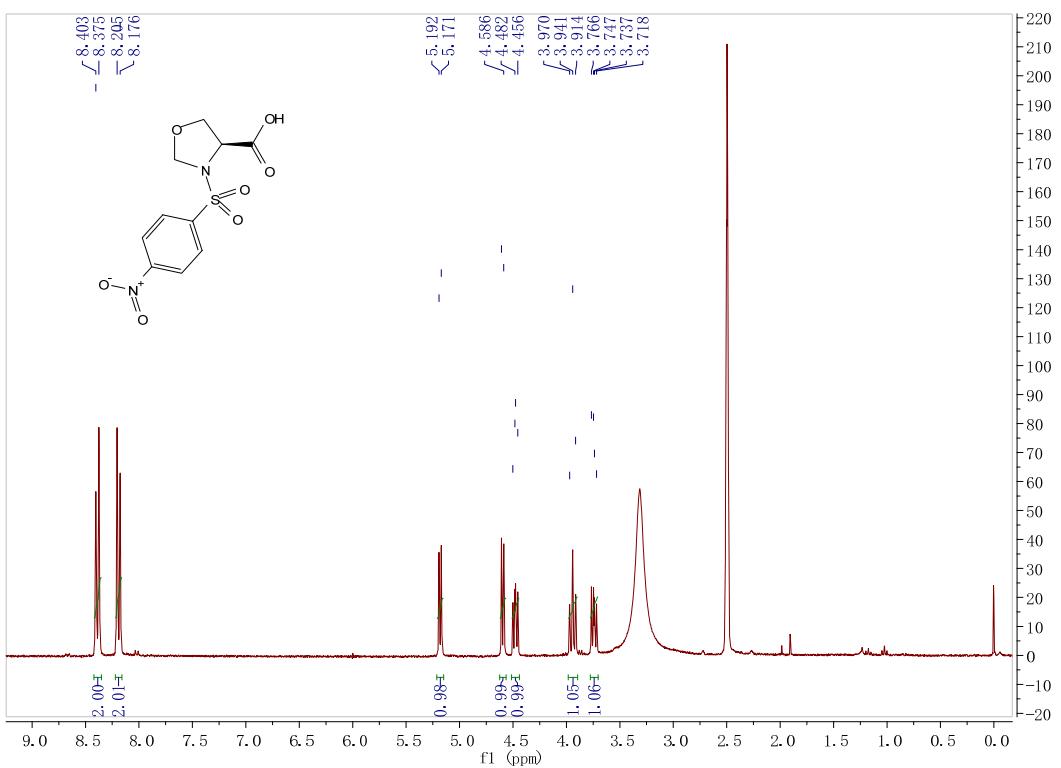
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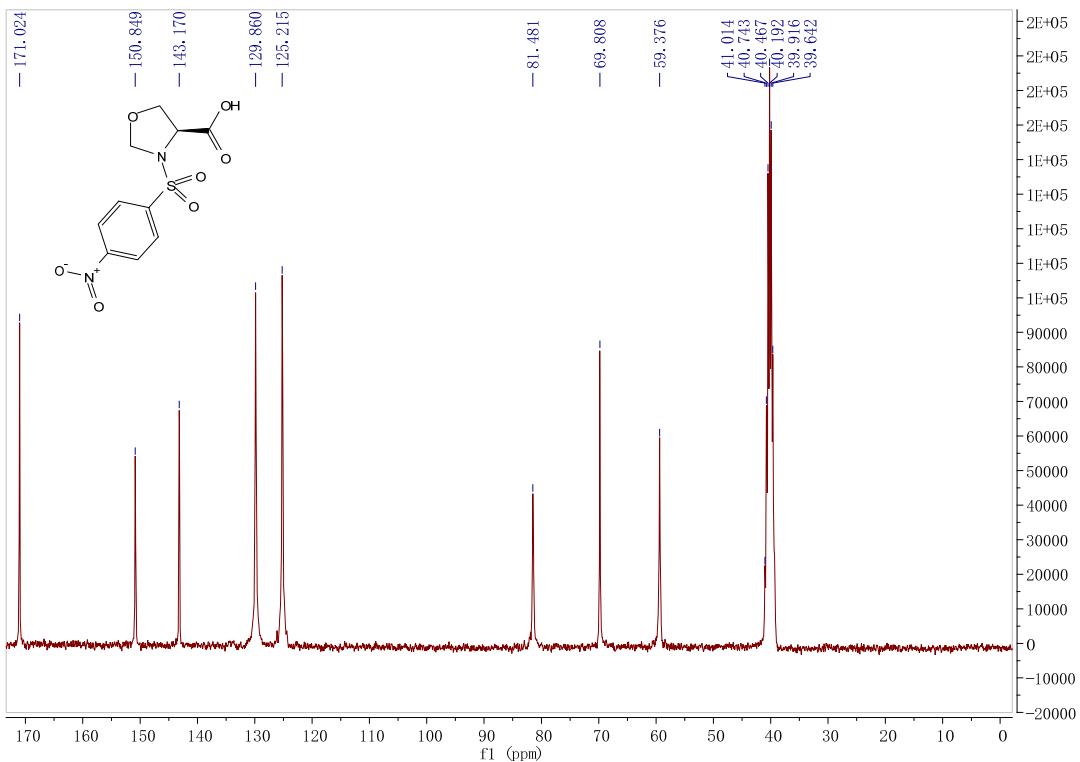
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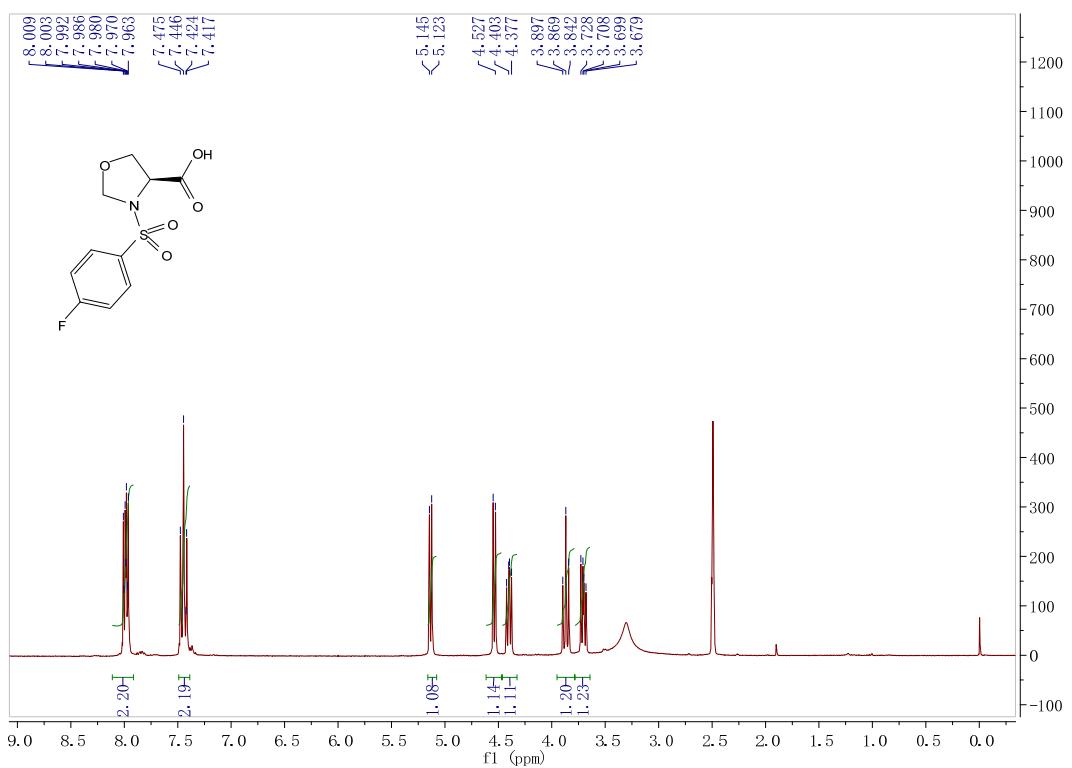
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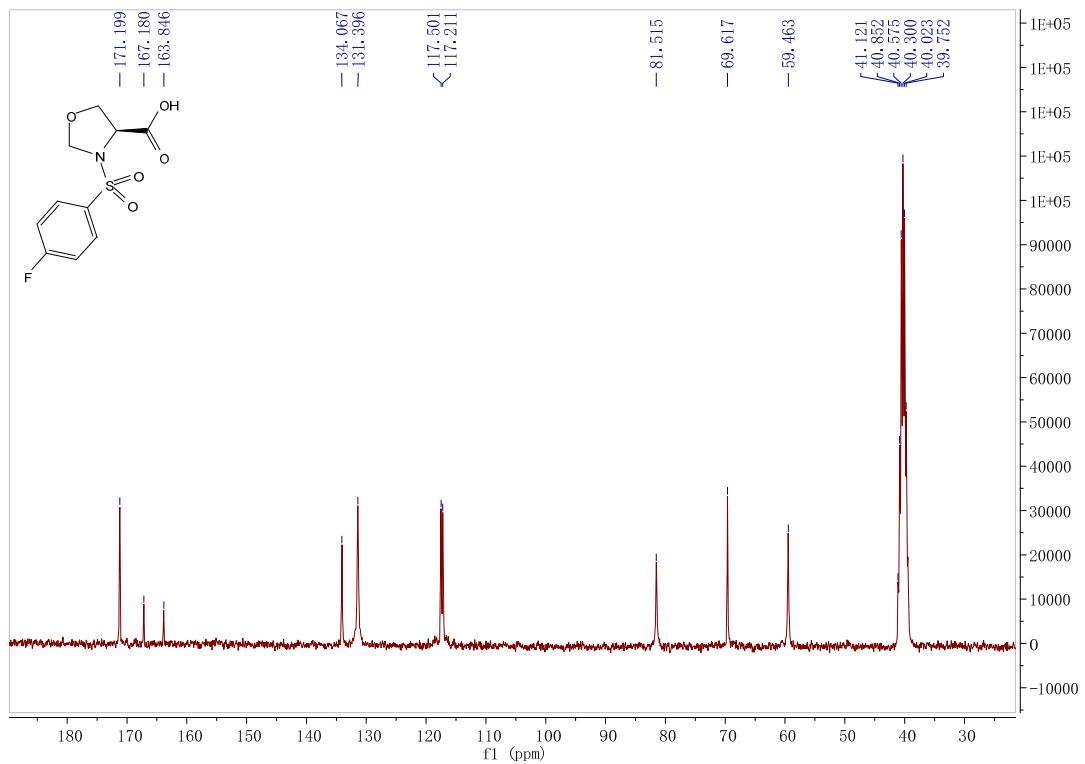
**Figure S1s:** <sup>1</sup>H NMR (300 MHz, DMSO-d<sub>6</sub>) spectrum of **4S-NOSO**



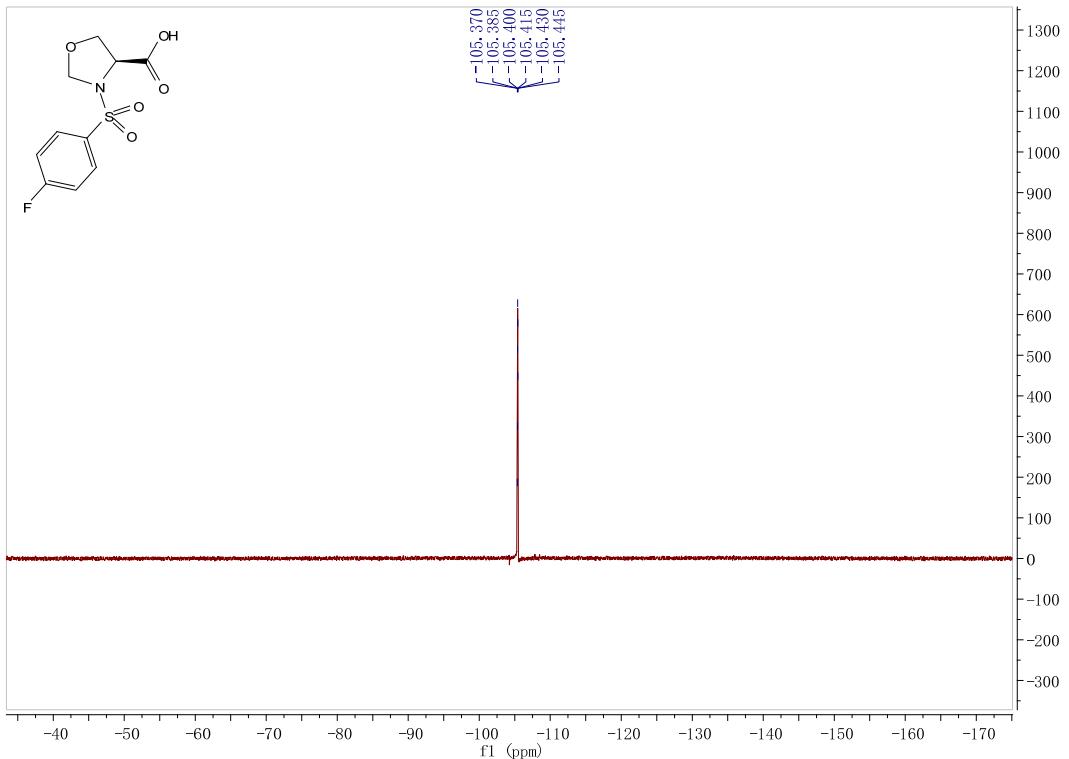
**Figure S1b:** <sup>13</sup>C NMR (75 MHz, DMSO-d<sub>6</sub>) spectrum of **4S-NOSO**



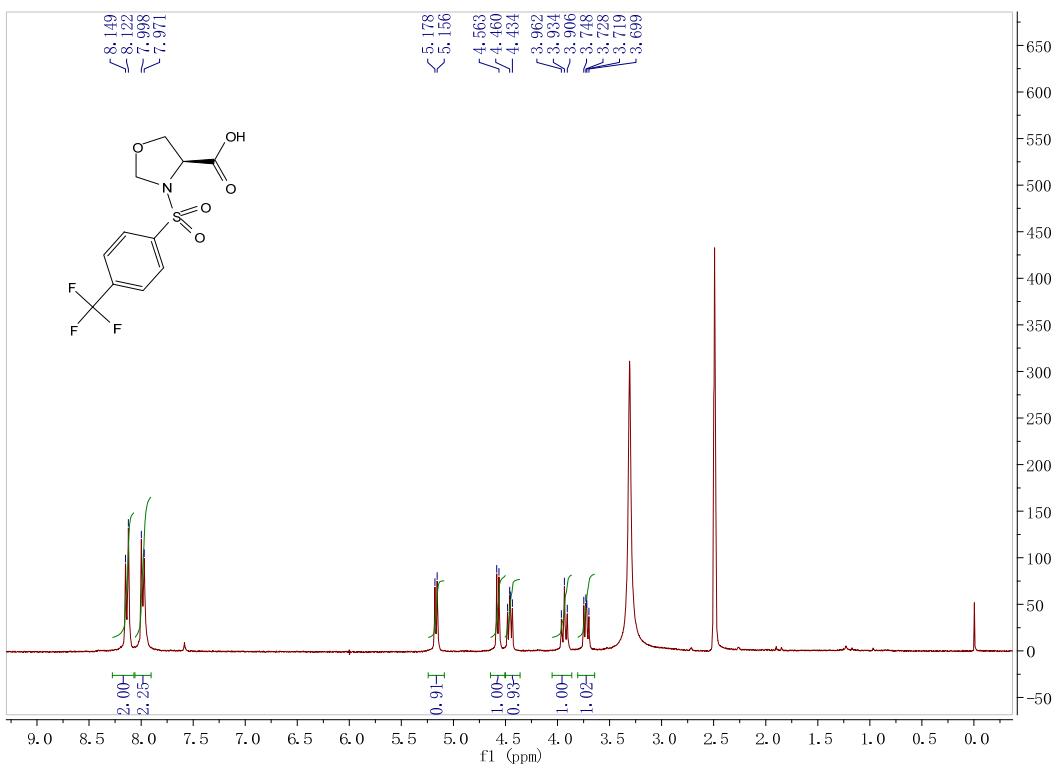
**Figure S2a:** <sup>1</sup>H NMR (300 MHz, DMSO-d<sub>6</sub>) spectrum of **4S-FLSO**



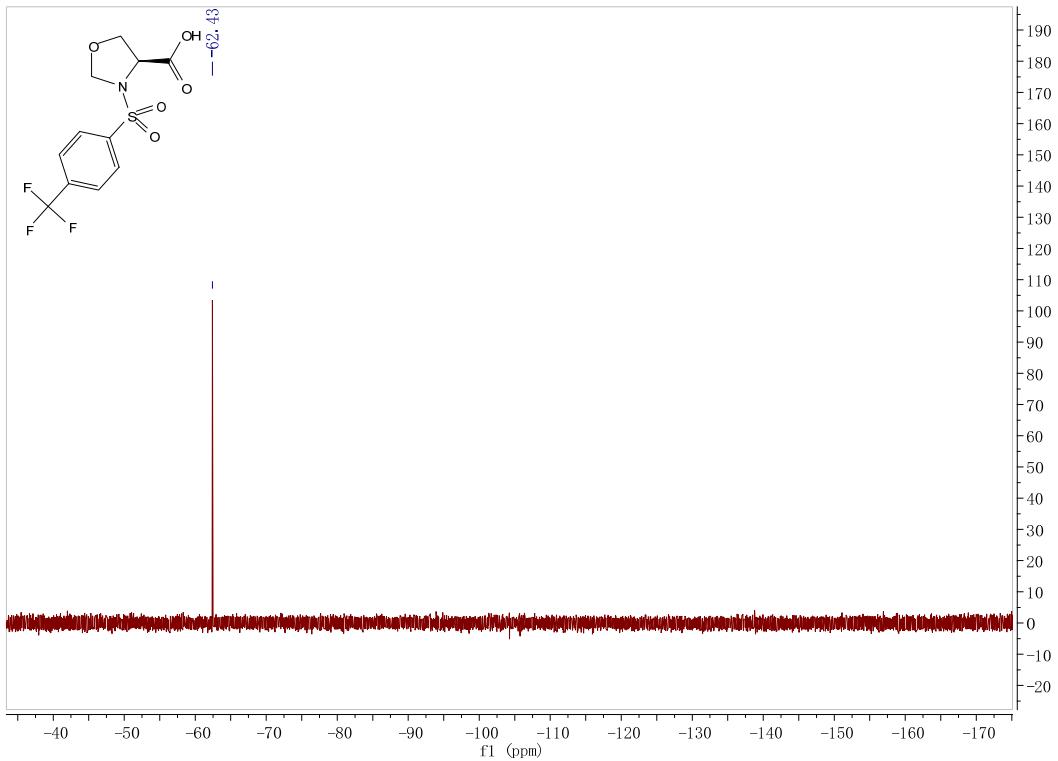
**Figure S2b:** <sup>13</sup>C NMR (75 MHz, DMSO-d<sub>6</sub>) spectrum of **4S-FLSO**



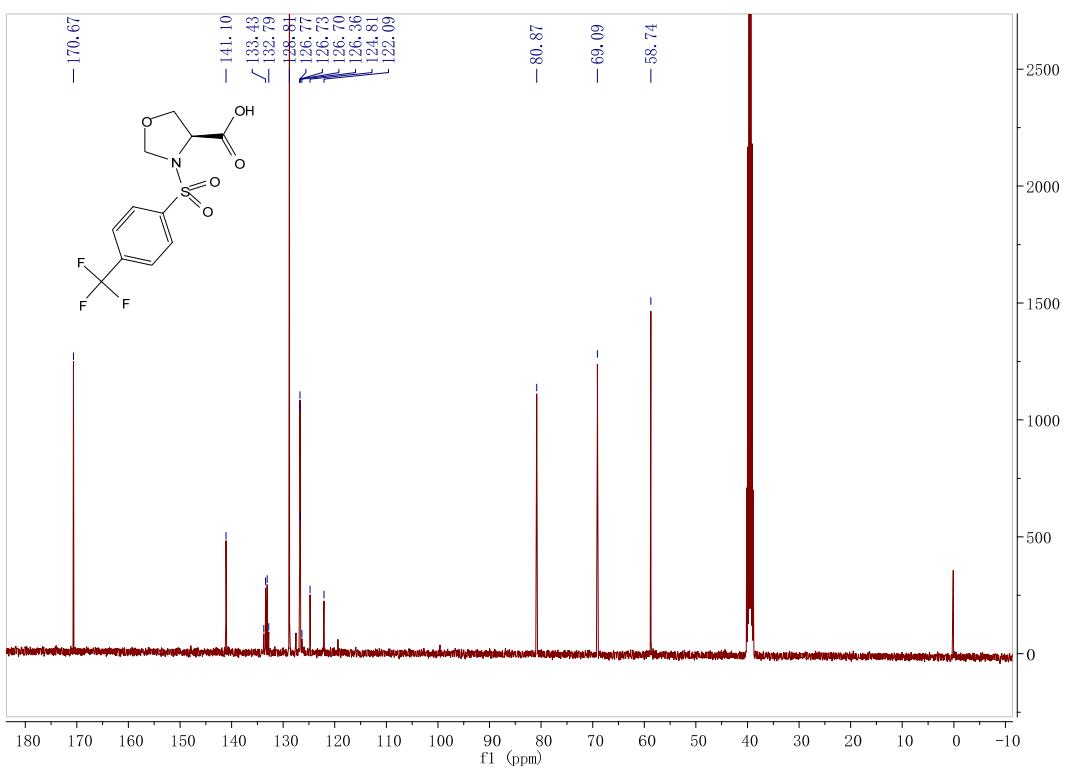
**Figure S2c:**  $^{19}\text{F}$  NMR (282 MHz, DMSO-d<sub>6</sub>) spectrum of **4S-FLSO**



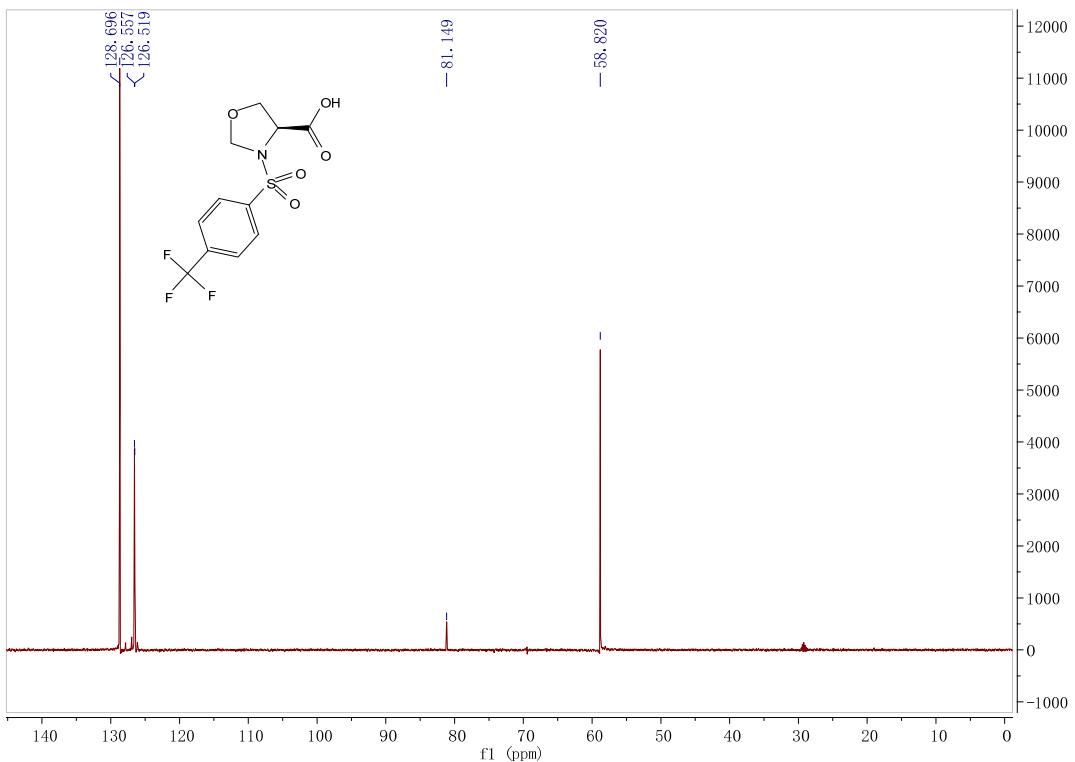
**Figure S3a:**  $^1\text{H}$  NMR (300 MHz,  $\text{DMSO-d}_6$ ) spectrum of **4S-TFSO**



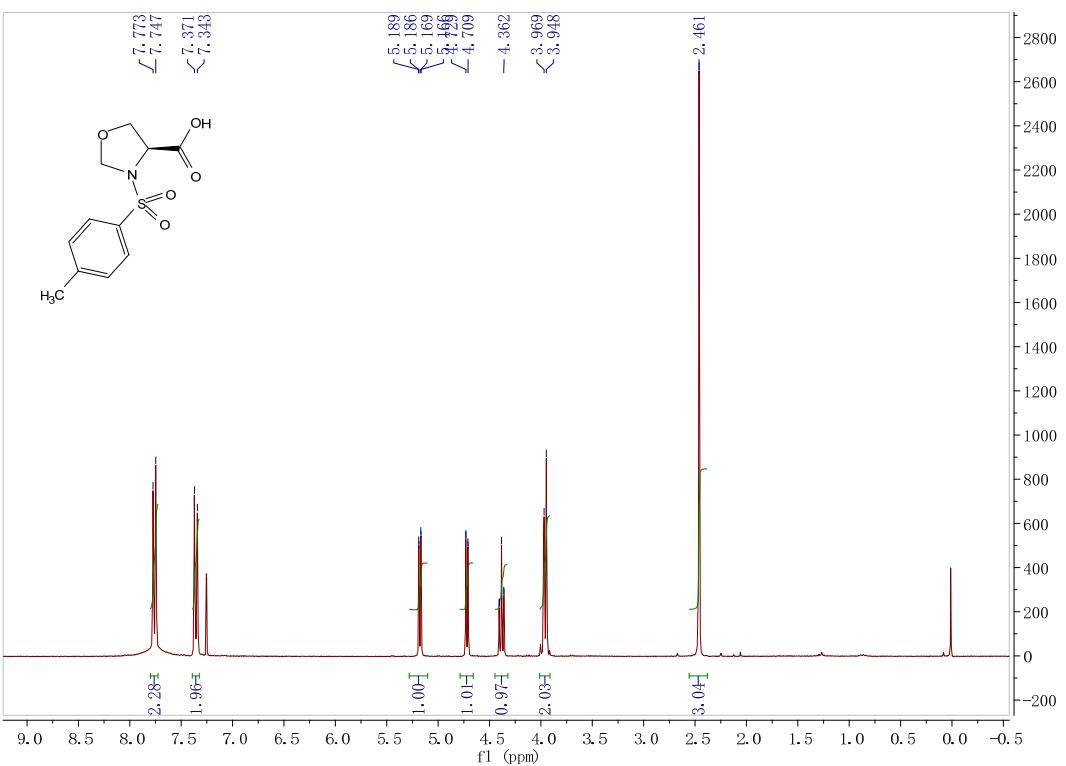
**Figure S3b:**  $^{19}\text{F}$  NMR (282 MHz,  $\text{DMSO-d}_6$ ) spectrum of **4S-TFSO**



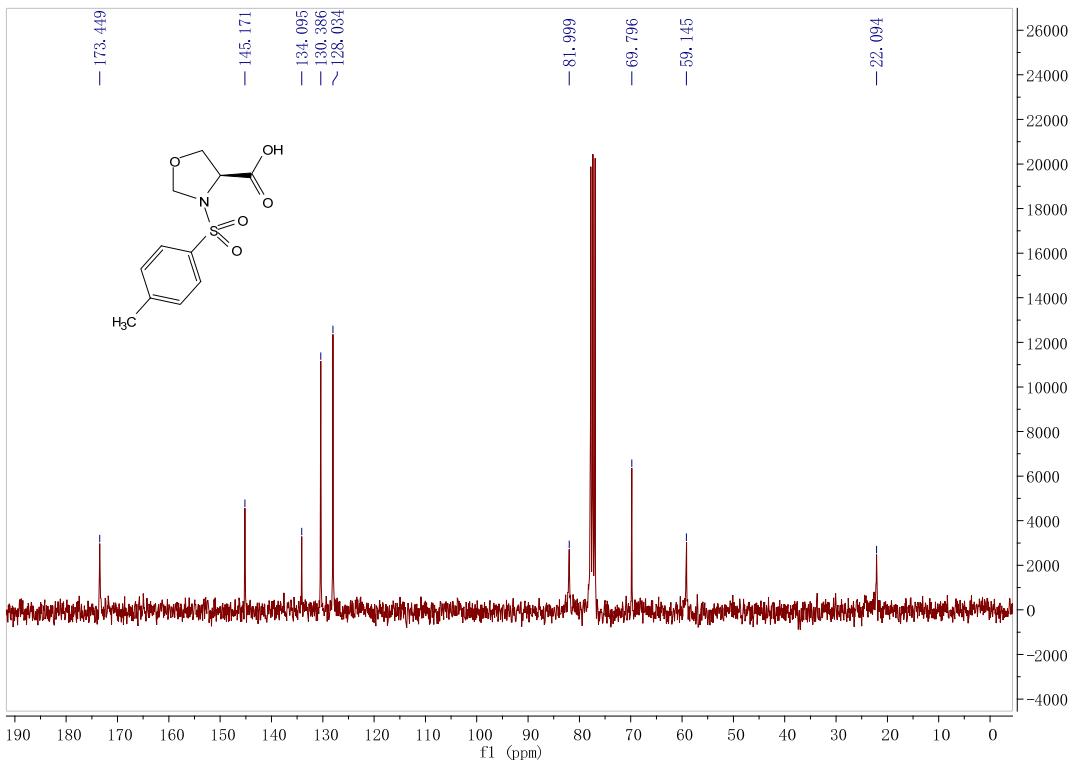
**Figure S3c:**  $^{13}\text{C}$  NMR (100 MHz, DMSO- $d_6$ ) spectrum of **4S-TFSO**



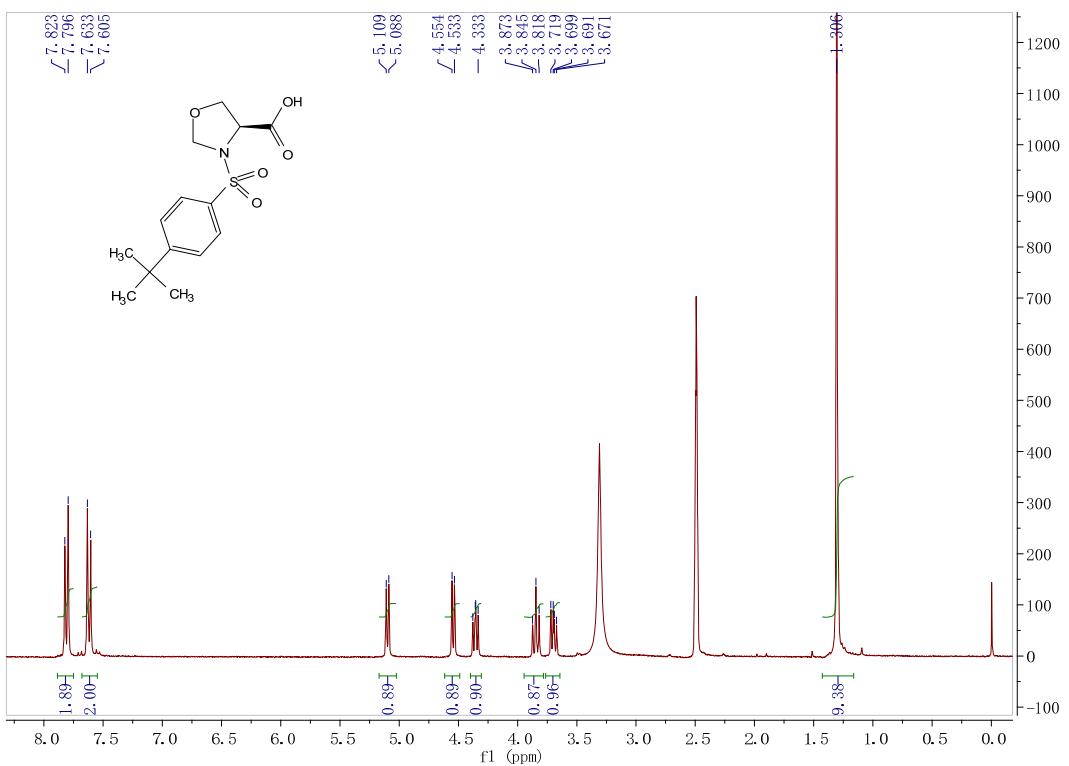
**Figure S3d:** DEPT 90 NMR (100 MHz, DMSO- $d_6$ ) spectrum of **4S-TFSO**



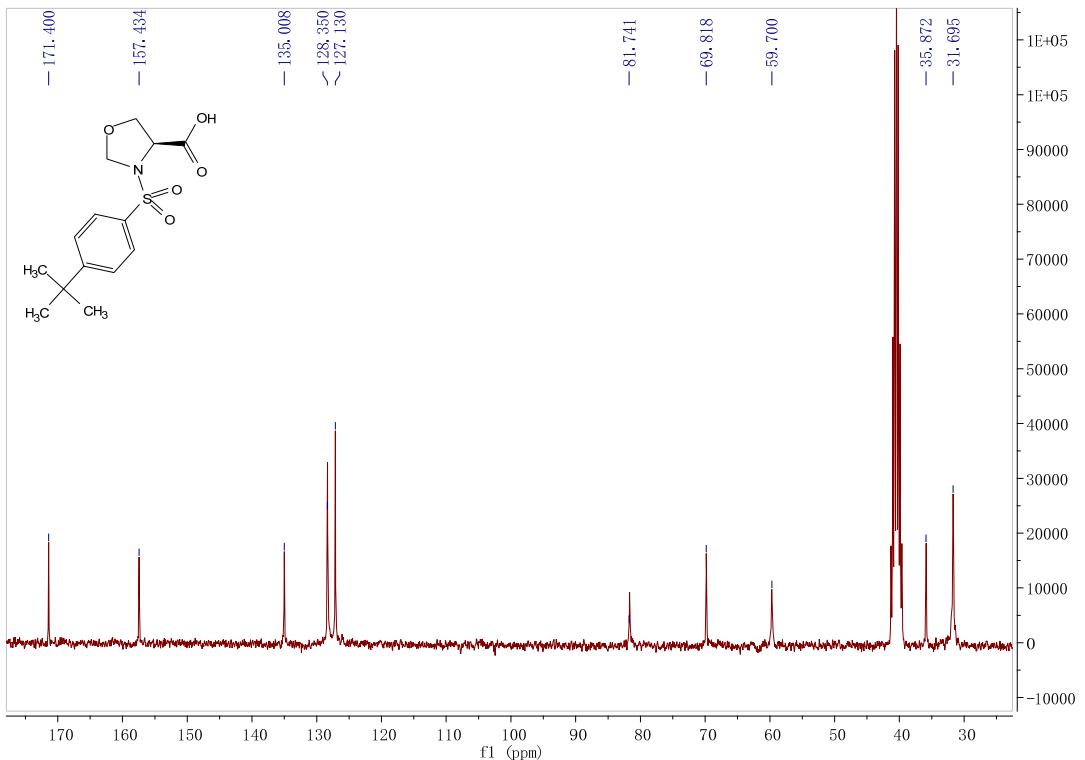
**Figure S4a:** <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) spectrum of **4S-MESO**



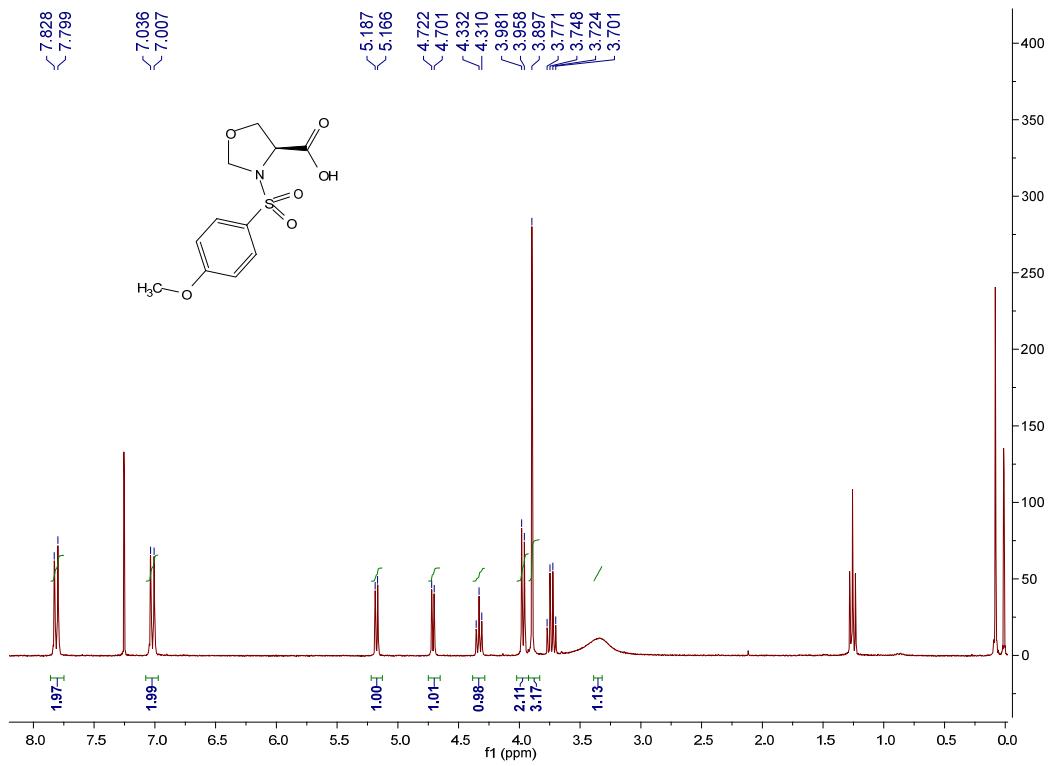
**Figure S4b:** <sup>13</sup>C NMR (75 MHz, CDCl<sub>3</sub>) spectrum of **4S-MESO**



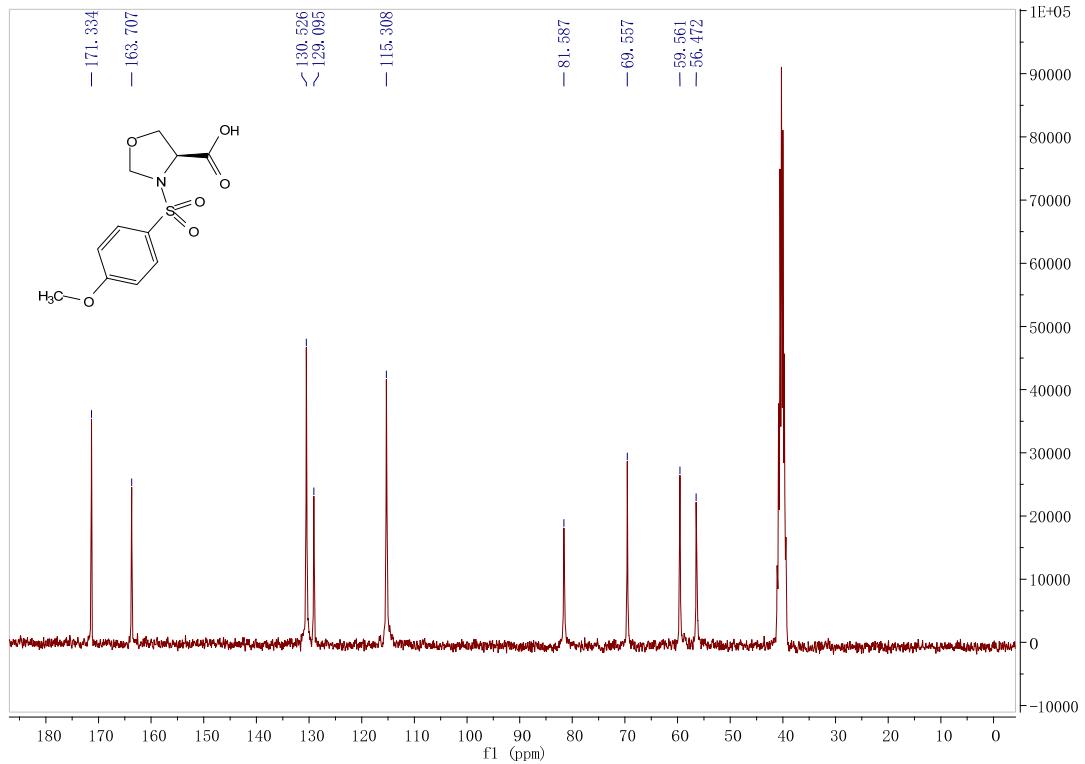
**Figure S5a:**  $^1\text{H}$  NMR (300 MHz, DMSO-d<sub>6</sub>) spectrum of **4S-TBSO**



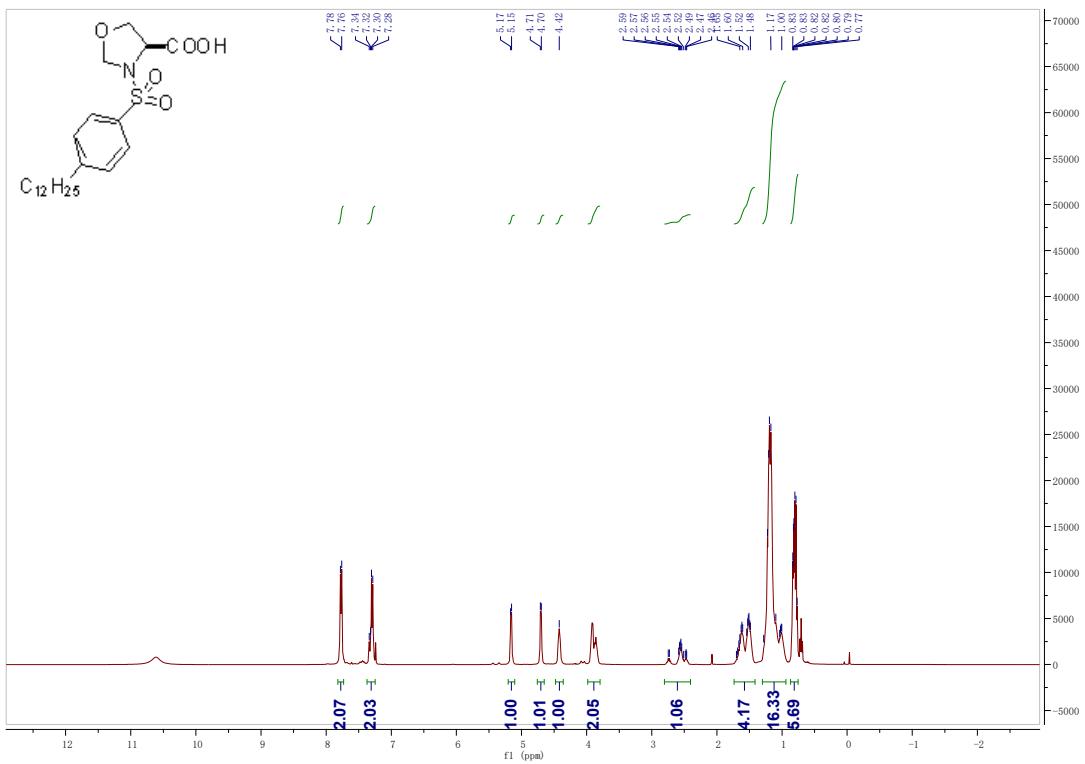
**Figure S5b:**  $^{13}\text{C}$  NMR (75 MHz, DMSO-d<sub>6</sub>) spectrum of **4S-TBSO**



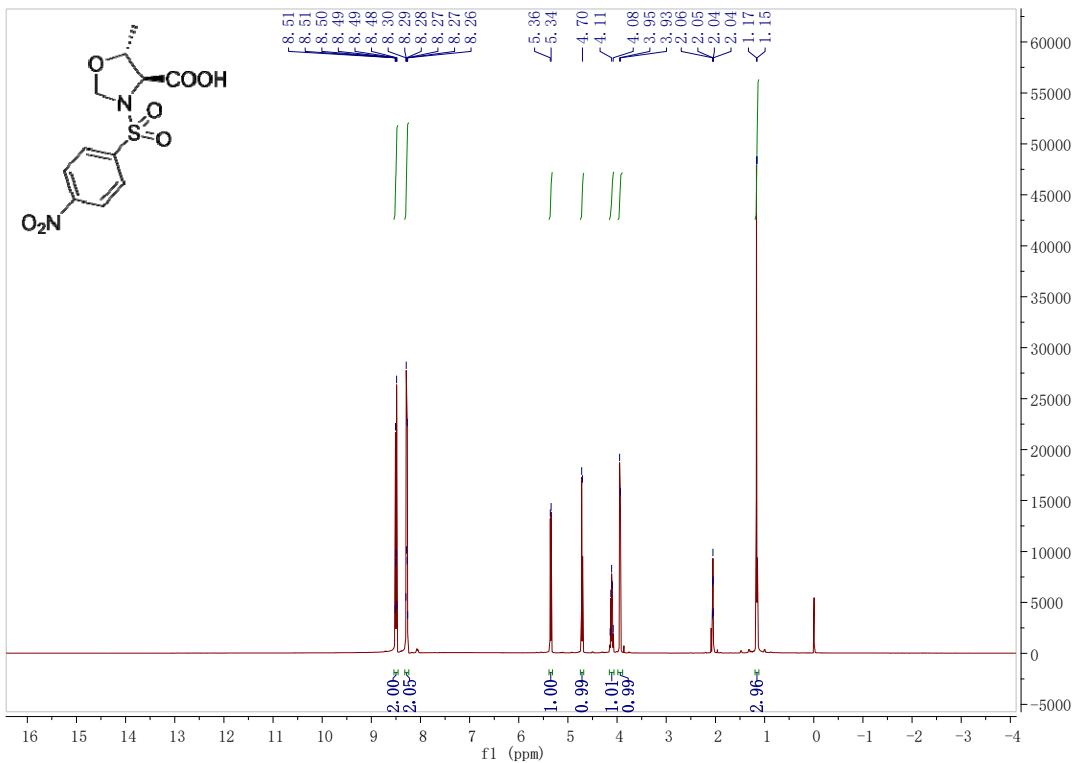
**Figure S6a:** <sup>1</sup>H NMR (300 MHz, DMSO-d<sub>6</sub>) spectrum of **4S-MOSO**



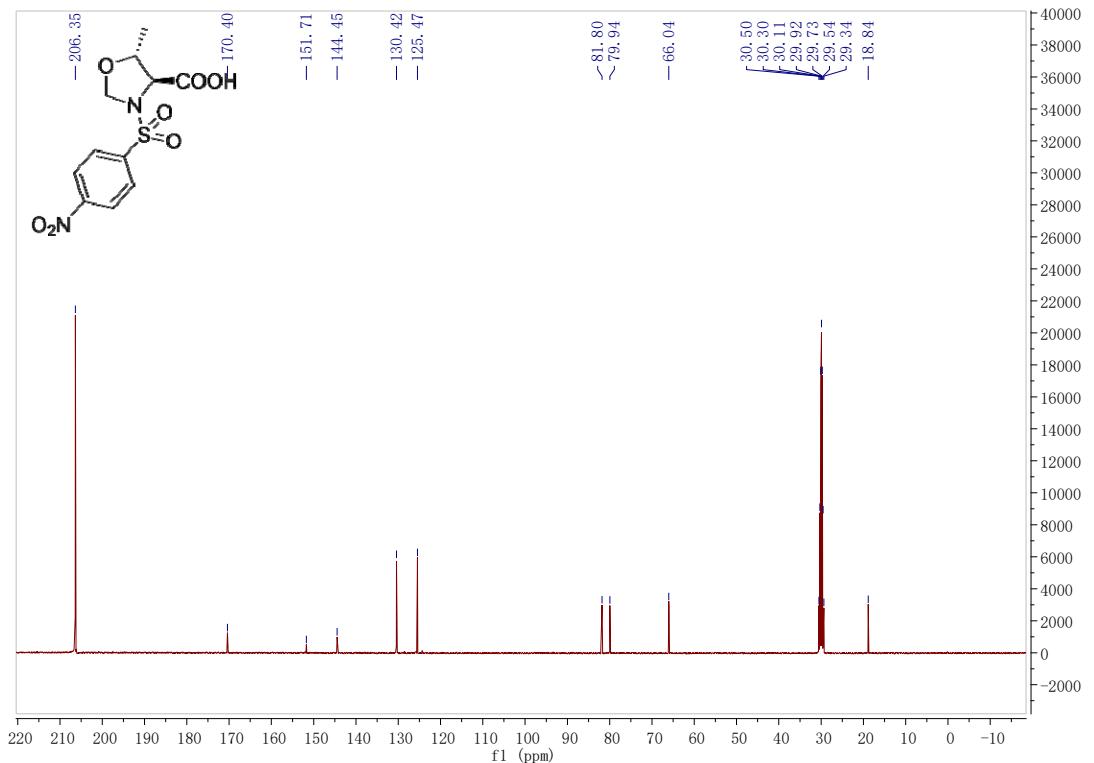
**Figure S6b:** <sup>13</sup>C NMR (75 MHz, DMSO-d<sub>6</sub>) spectrum of **4S-MOSO**



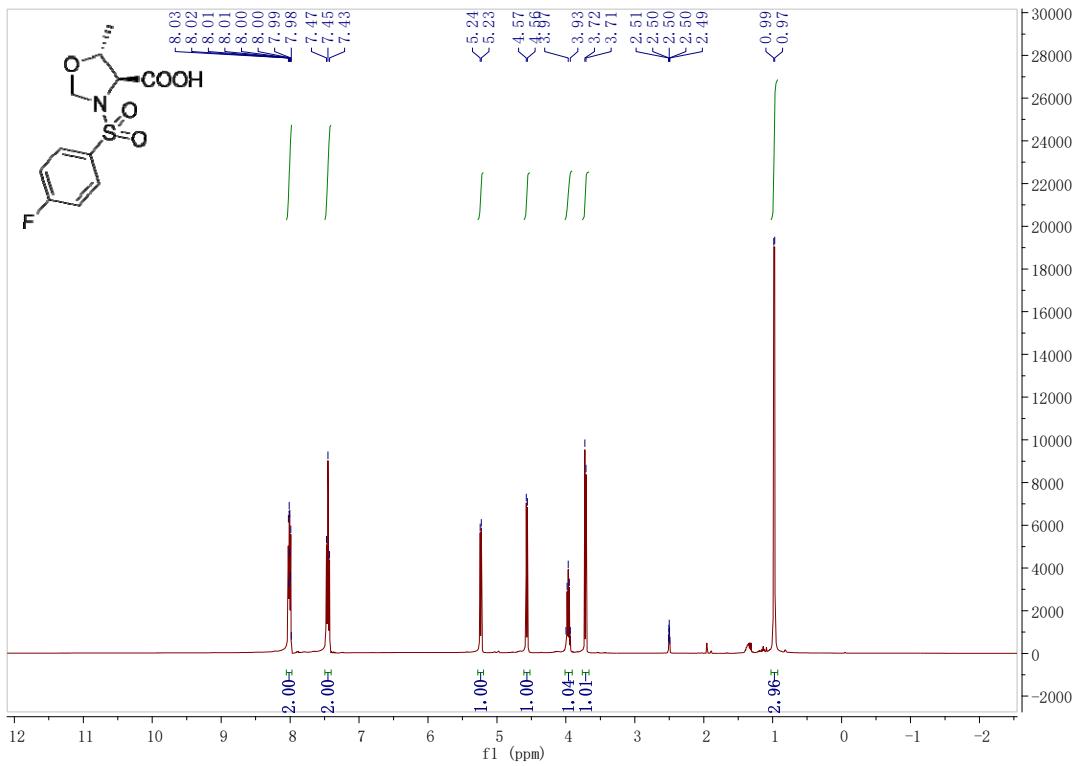
**Figure S7a:** <sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>) spectrum of **4S-DOSO**



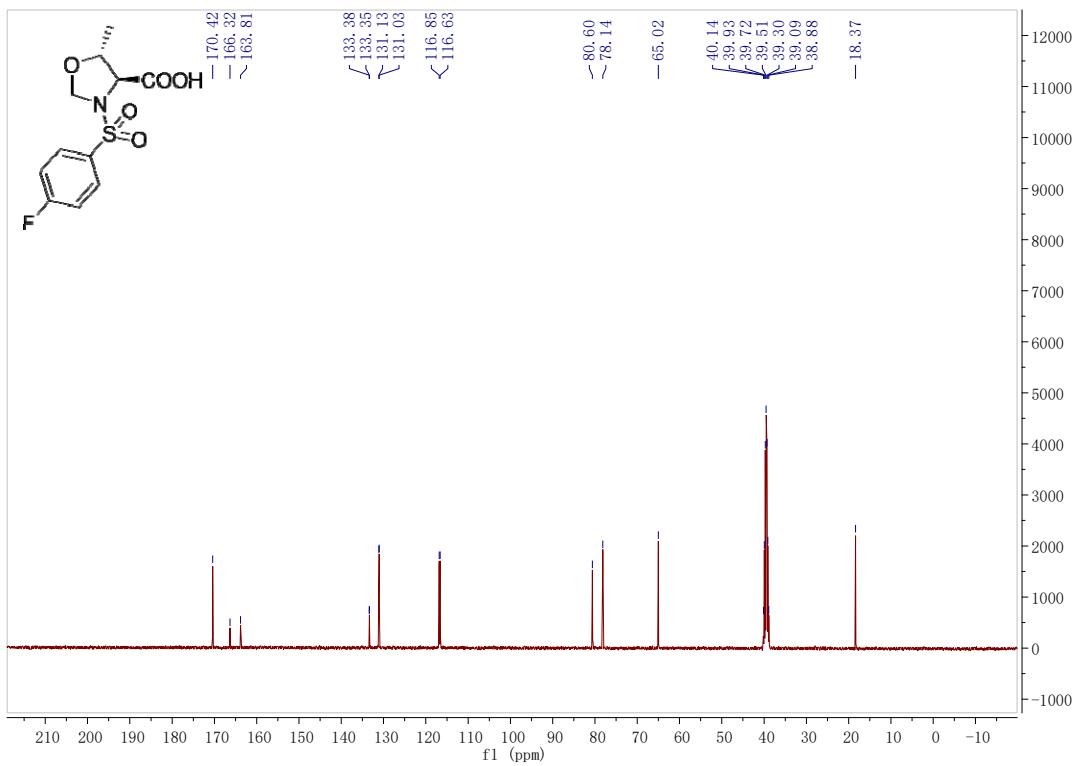
**Figure S8a:** <sup>1</sup>H NMR (400 MHz, acetone-d<sub>6</sub>) spectrum of **4S,5R-MNOSO**



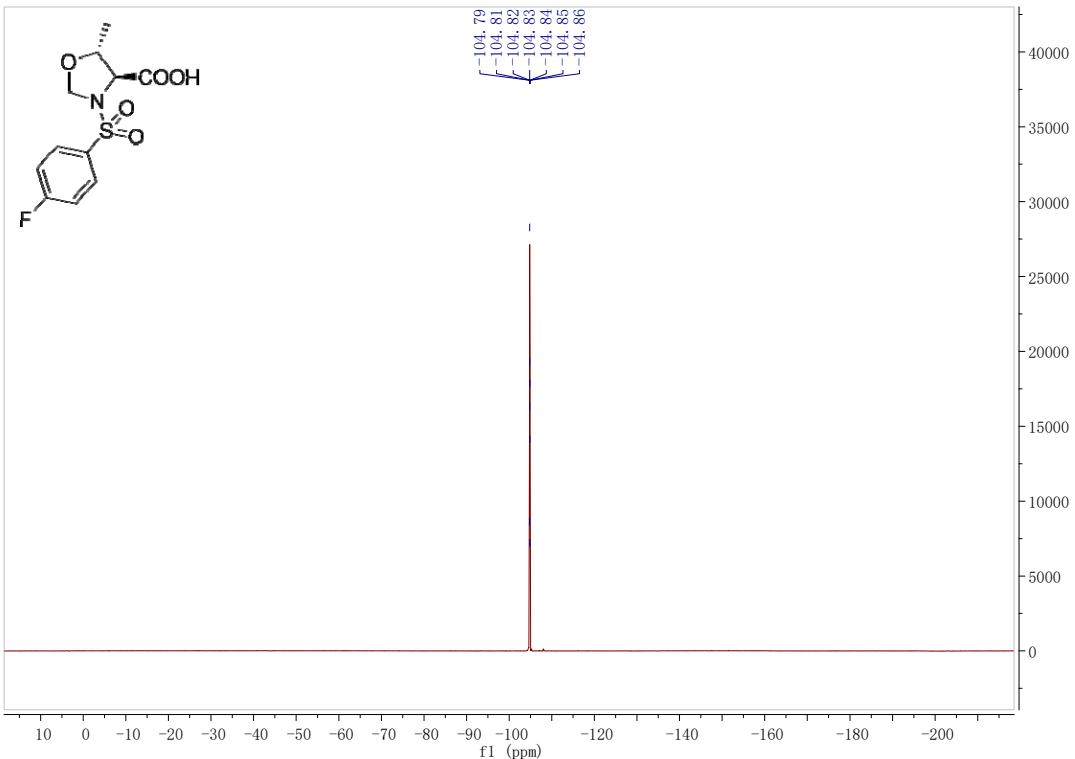
**Figure S8b:** <sup>13</sup>C NMR (100 MHz, acetone-d<sub>6</sub>) spectrum of **4S,5R-MNOSO**



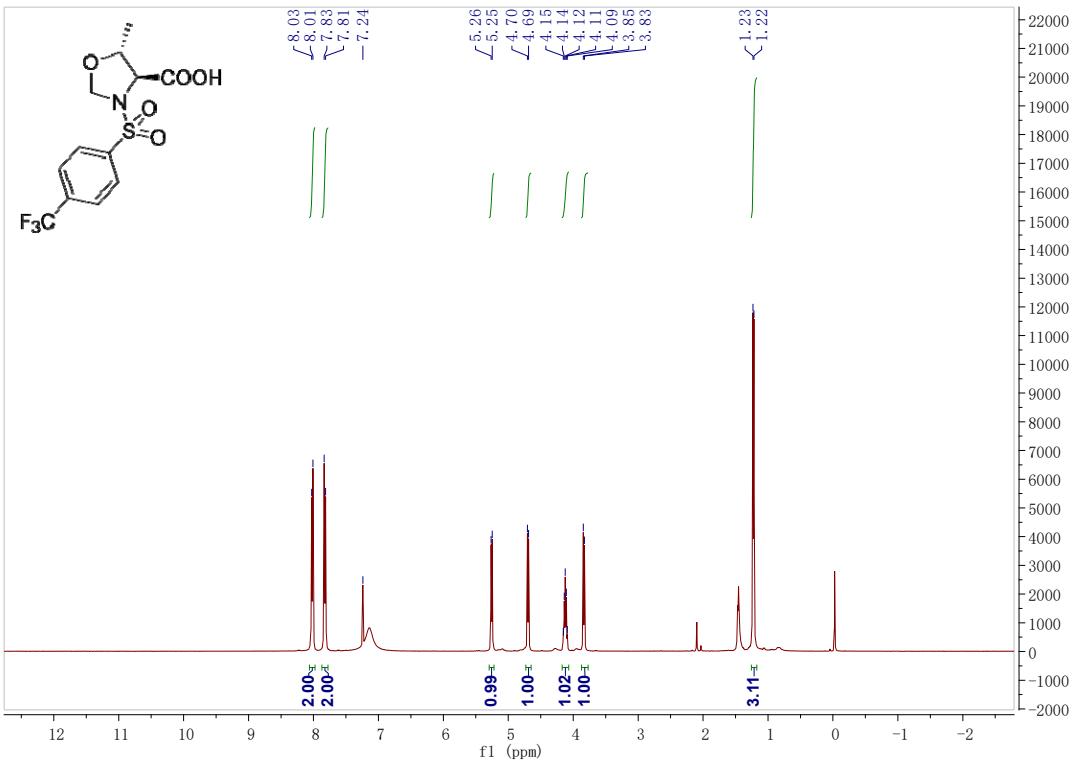
**Figure S9a:** <sup>1</sup>H NMR (400 MHz, DMSO-d<sub>6</sub>) spectrum of **4S,5R-MFLSO**



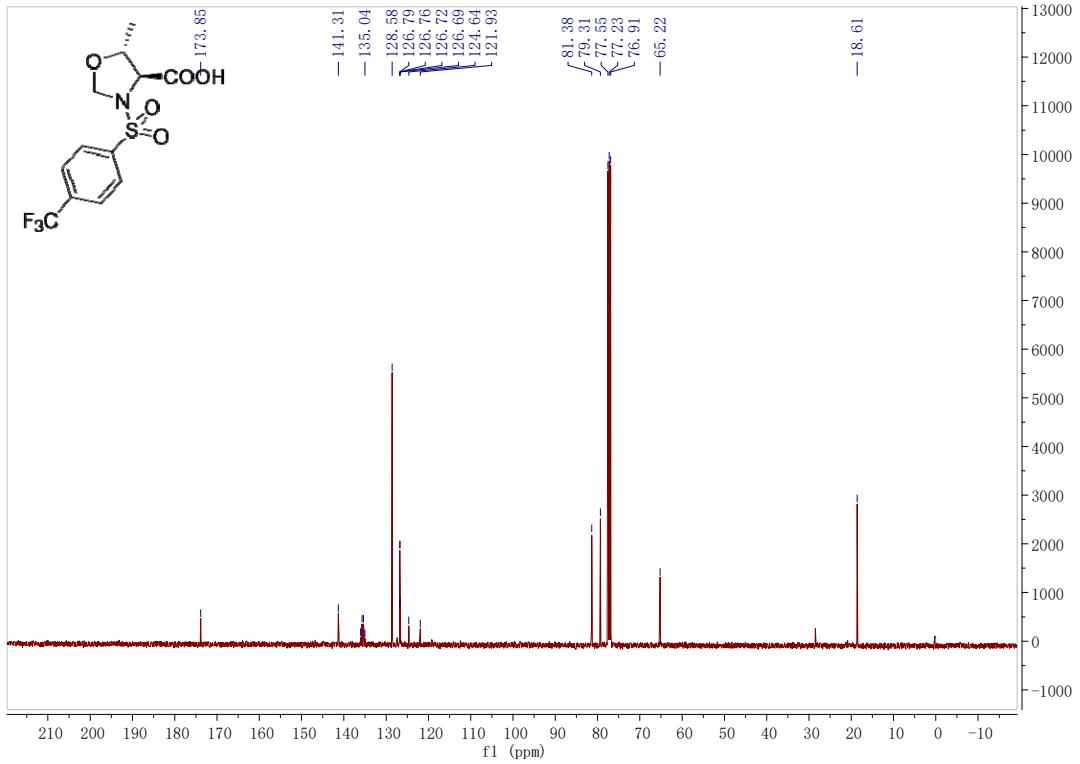
**Figure S9b:** <sup>13</sup>C NMR (100 MHz, DMSO-d<sub>6</sub>) spectrum of **4S,5R-MFLSO**



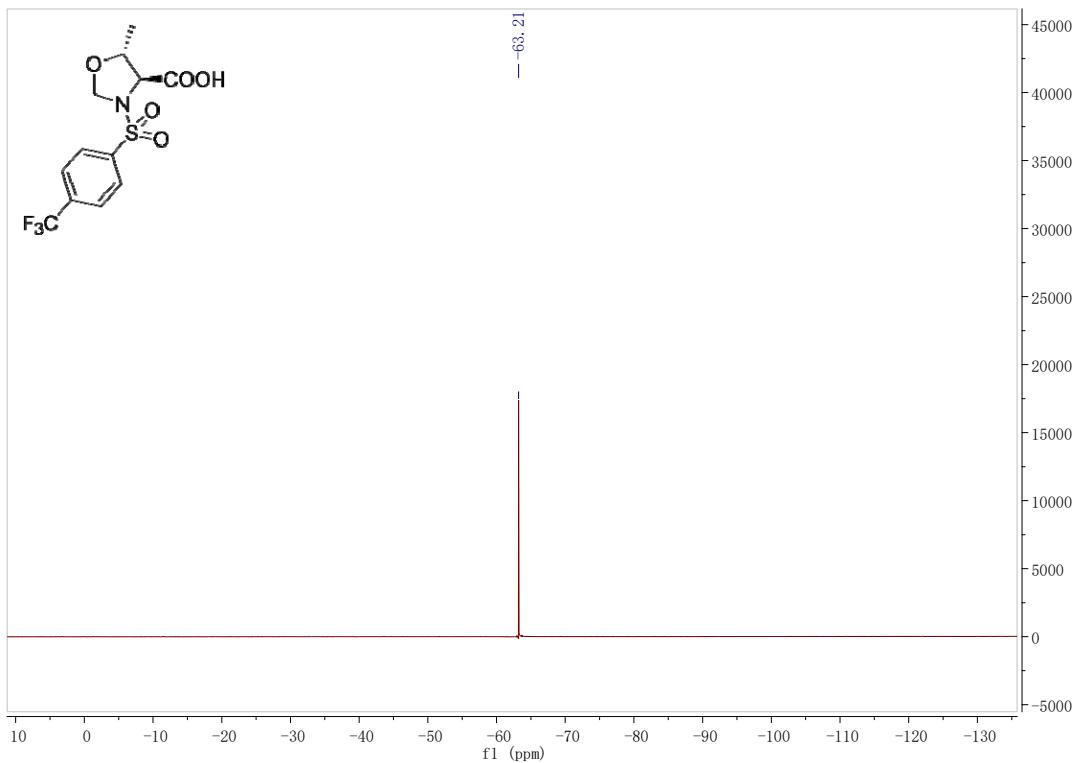
**Figure S9c:**  $^{19}\text{F}$  NMR (377 MHz,  $\text{DMSO-d}_6$ ) spectrum of **4S,5R-MFLSO**



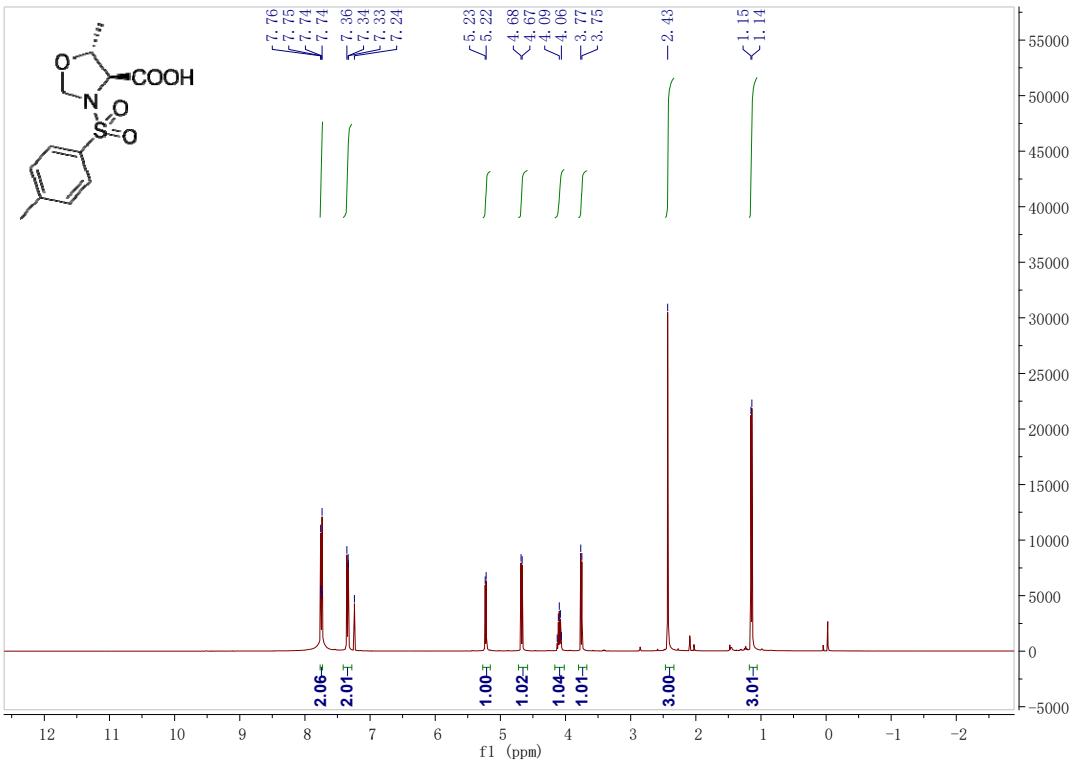
**Figure S10a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of **4S,5R-MTFSO**



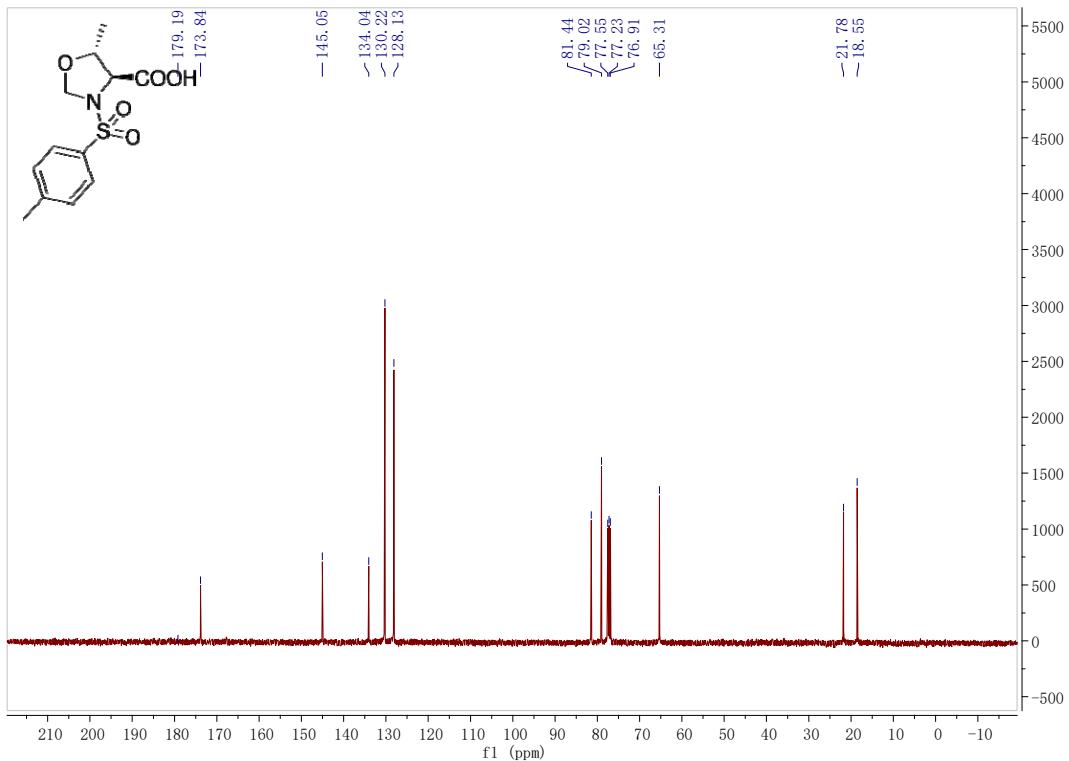
**Figure S10b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of **4S,5R-MTFSO**



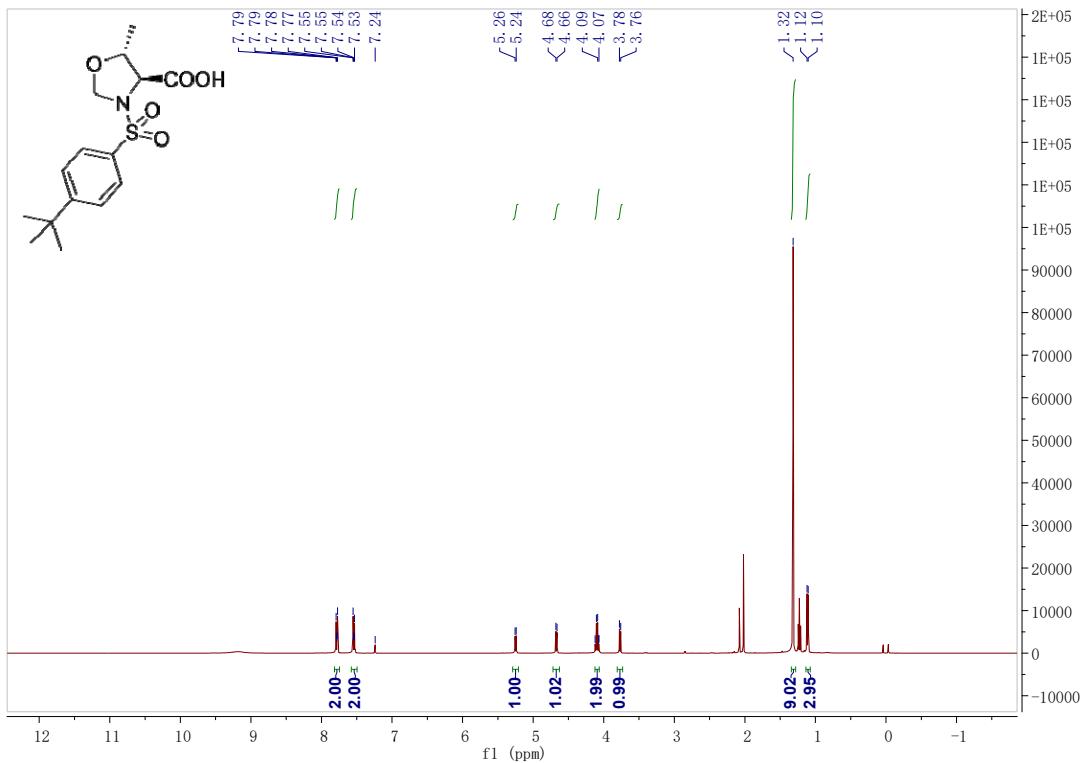
**Figure S10c:**  $^{19}\text{F}$  NMR (377 MHz,  $\text{CDCl}_3$ ) spectrum of **4S,5R-MTFSO**



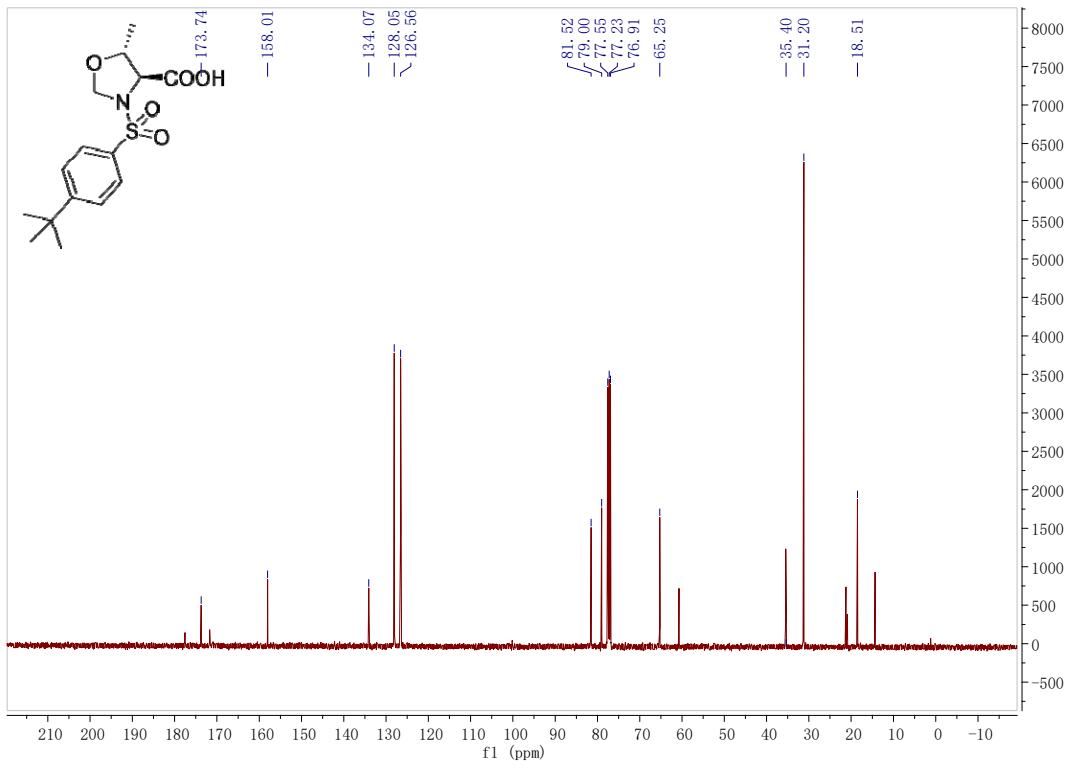
**Figure S11a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of **4S,5R-MMESO**



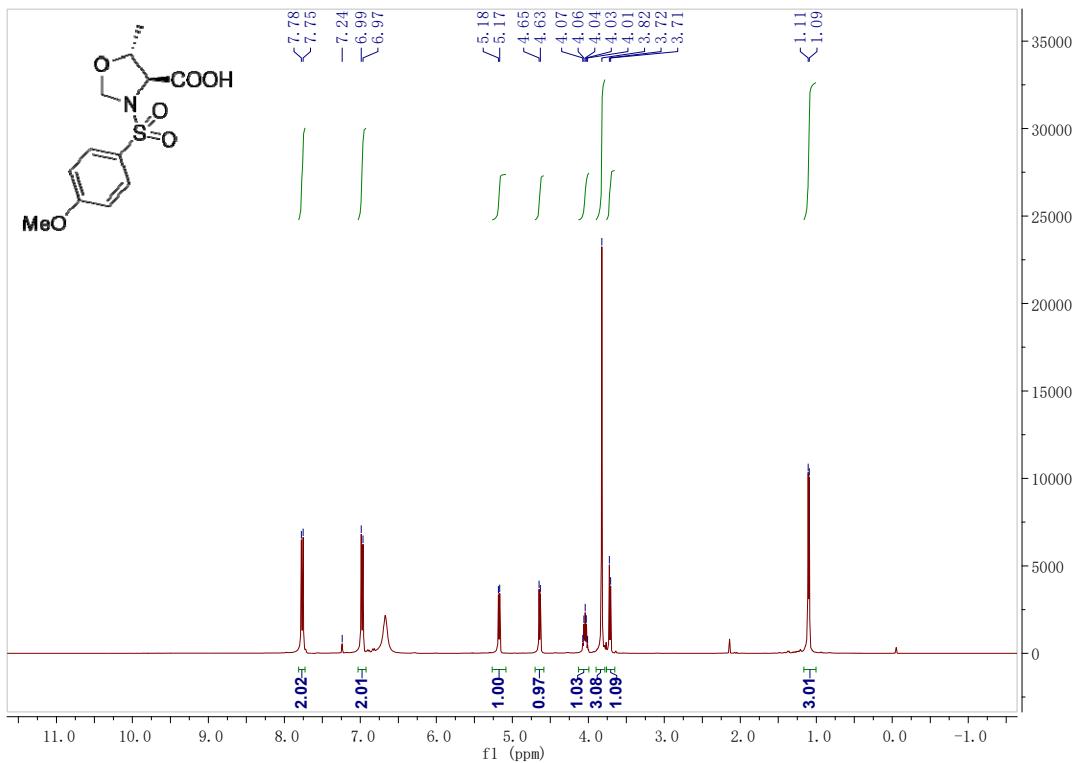
**Figure S11b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of **4S,5R-MMESO**



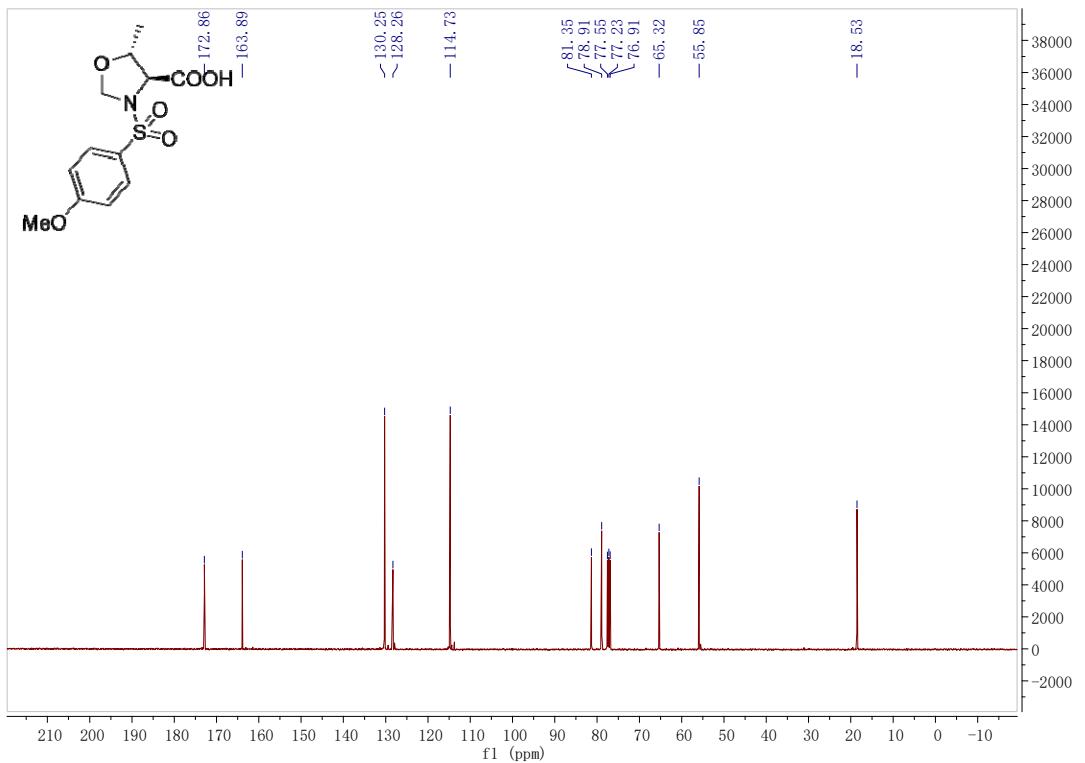
**Figure S12a:** <sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>) spectrum of **4S,5R-MTBSO**



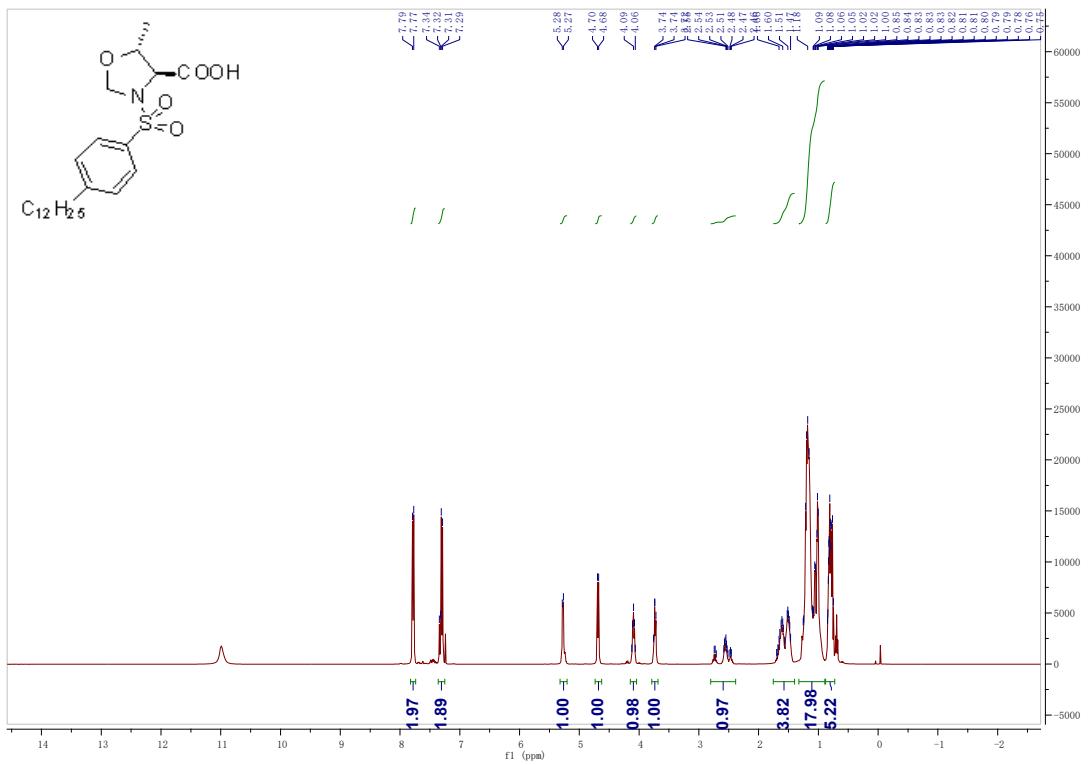
**Figure S12b:** <sup>13</sup>C NMR (100 MHz, CDCl<sub>3</sub>) spectrum of **4S,5R-MTBSO**



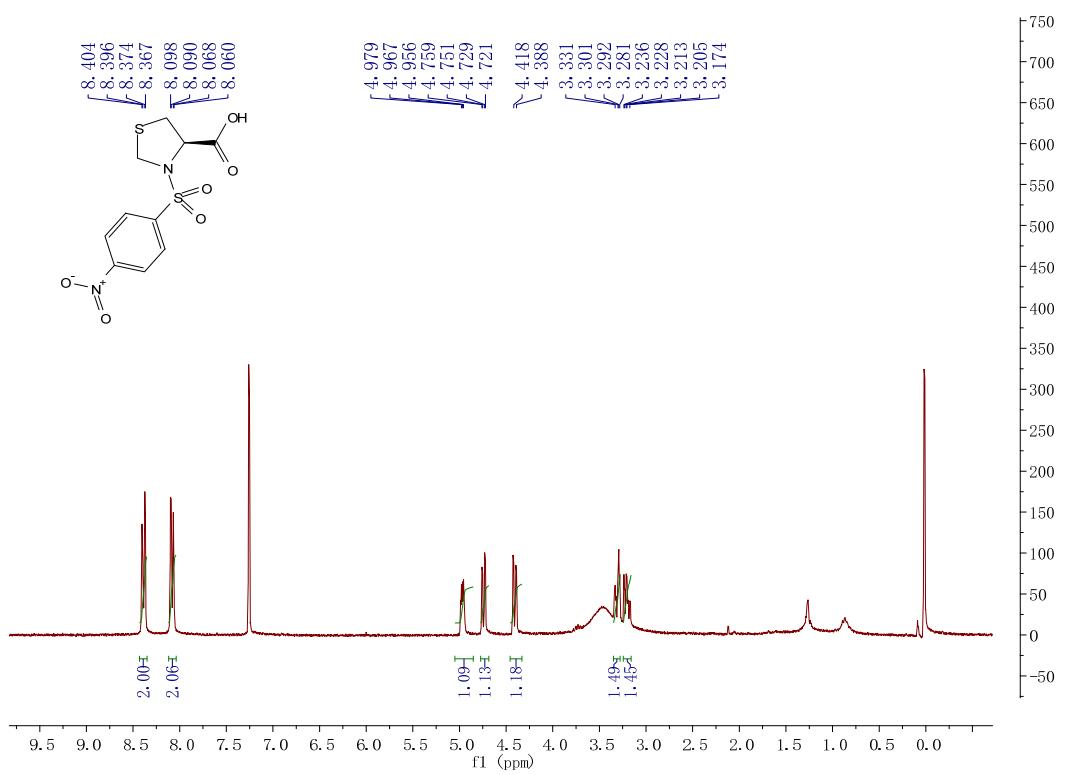
**Figure S13a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of **4S,5R-MMOSO**



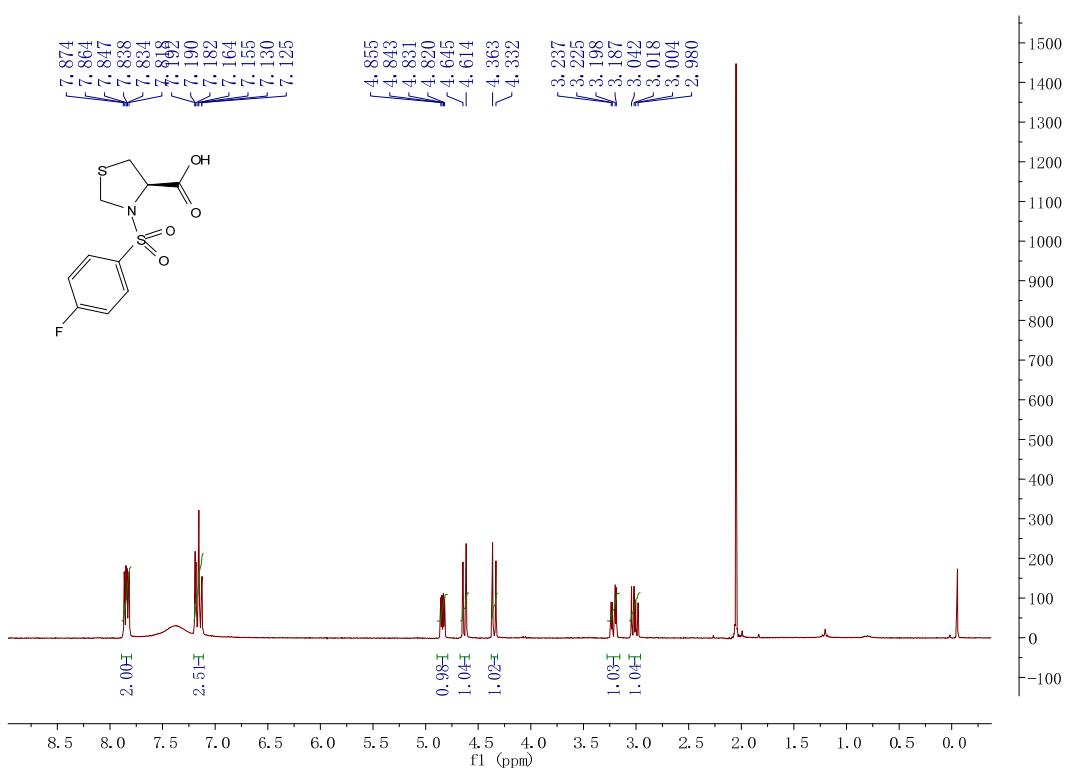
**Figure S13b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of **4S,5R-MMOSO**



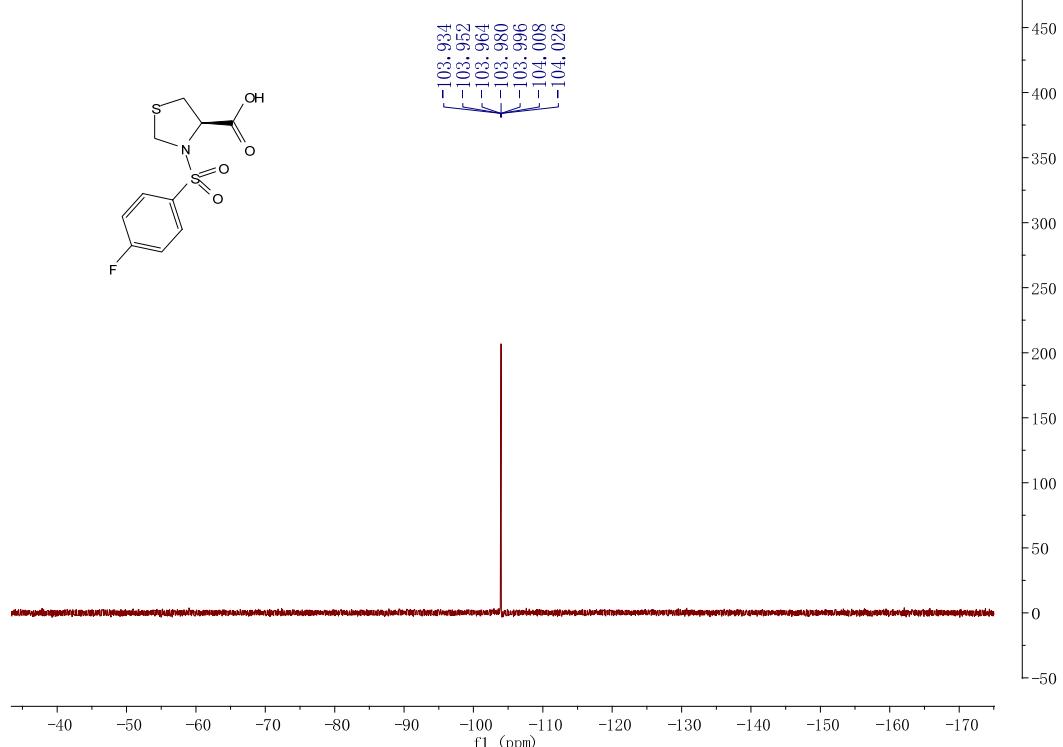
**Figure S14a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of **4S,5R-MDOSO**



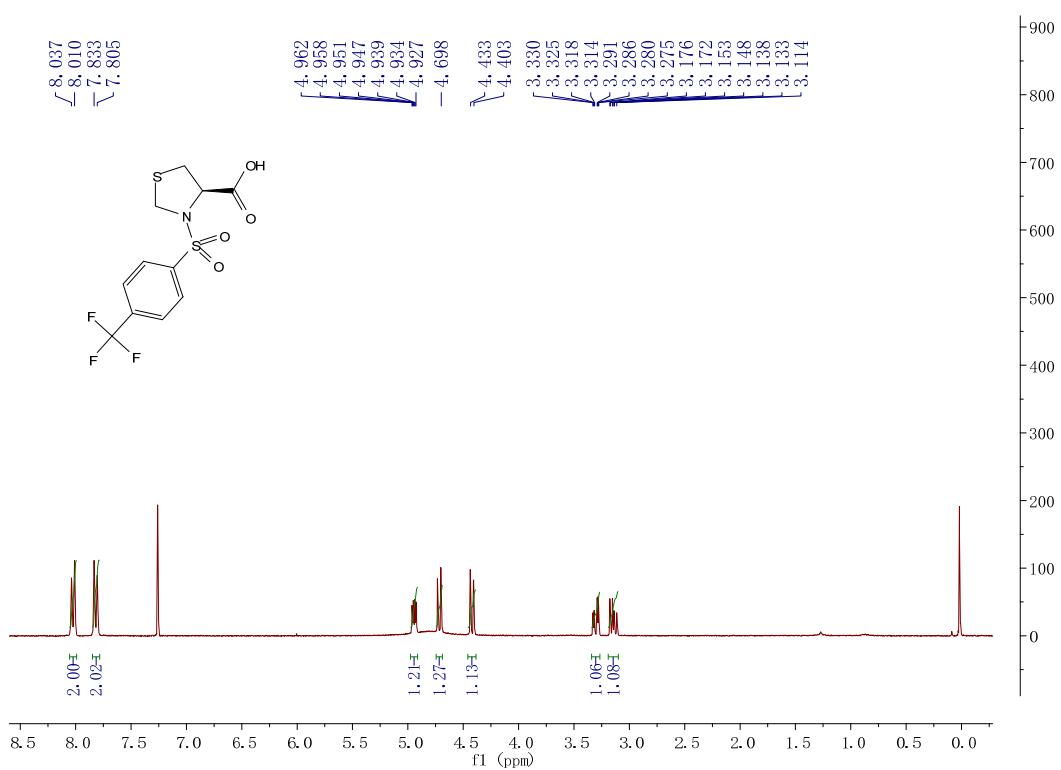
**Figure S15:**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of **(4*R*)-3-((4-nitrophenyl)sulfonyl)thiazolidine-4-carboxylic acid**



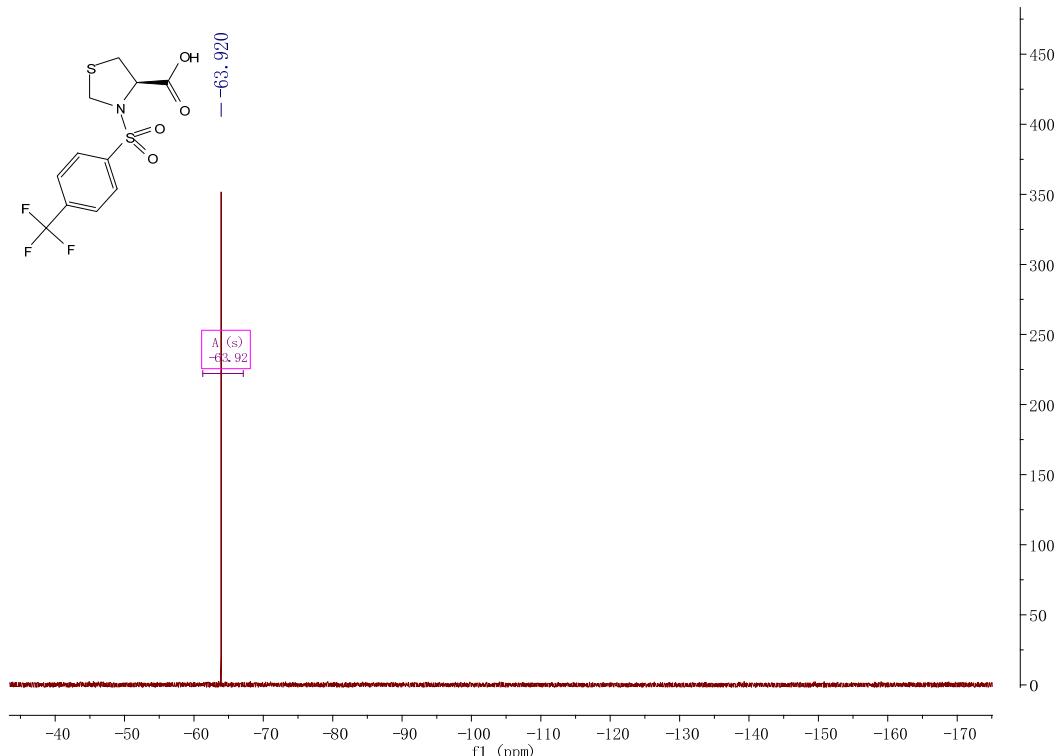
**Figure S16a:**  $^1\text{H}$  NMR (300 MHz, acetone- $\text{d}_6$ ) spectrum of **(4*R*)-3-((4-fluorophenyl)sulfonyl)thiazolidine-4-carboxylic acid**



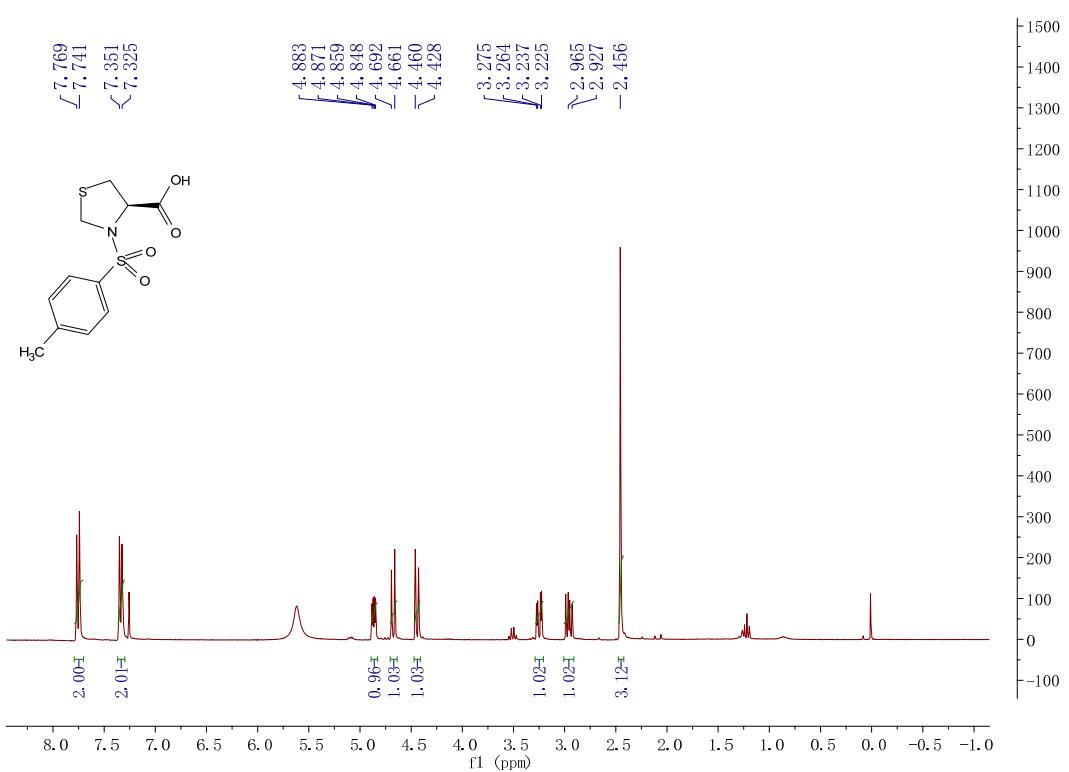
**Figure S16b:**  $^{19}\text{F}$  NMR (282 MHz, acetone- $\text{d}_6$ ) spectrum of **(4*R*)-3-((4-fluorophenyl)sulfonyl)thiazolidine-4-carboxylic acid**



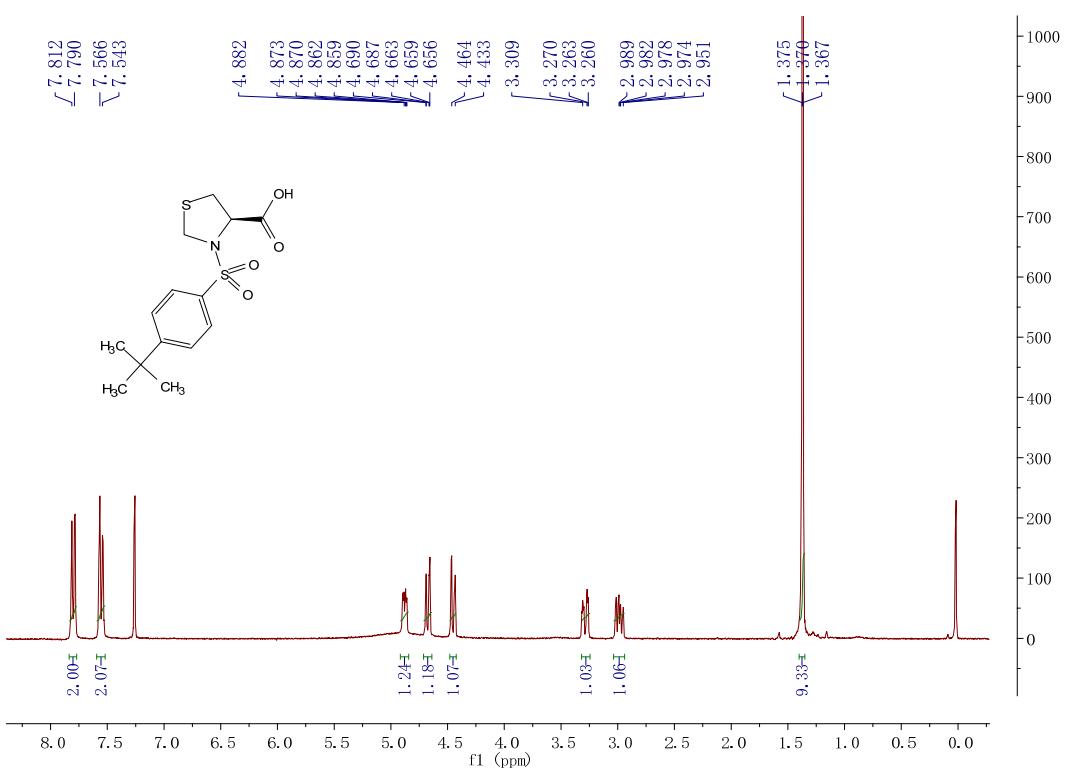
**Figure S17a:**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of **(4R)-3-((4-trifluoromethyl)phenyl)sulfonyl)thiazolidine-4-carboxylic acid**



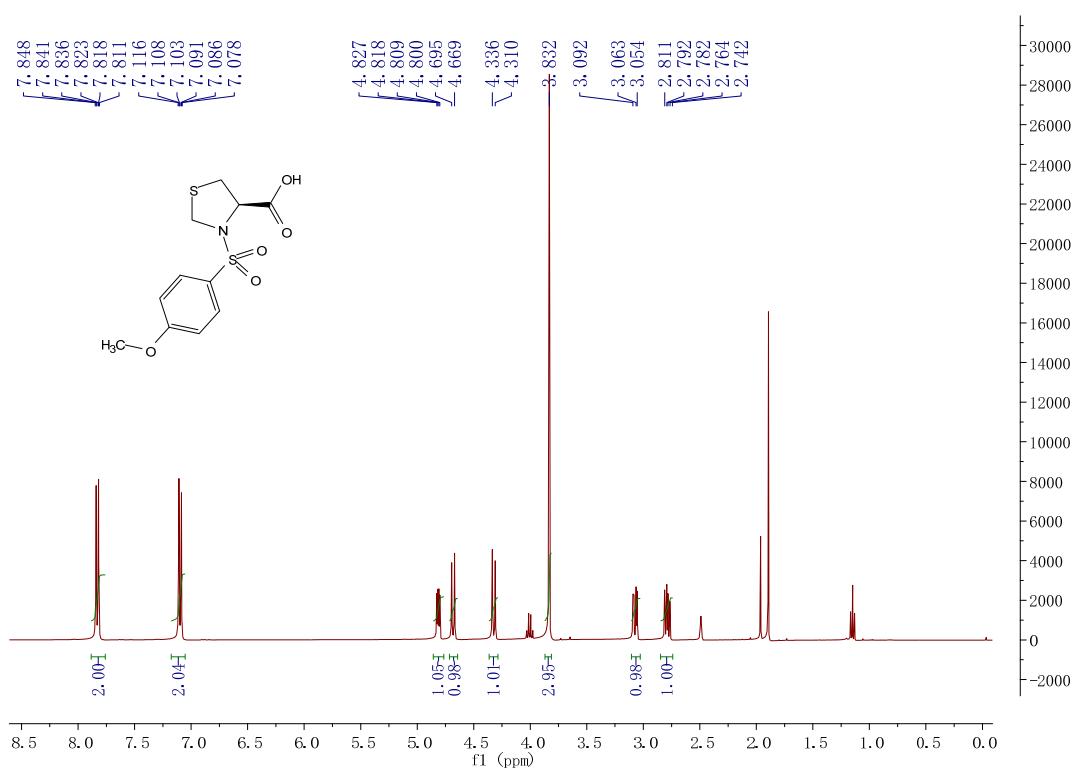
**Figure S17b:**  $^{19}\text{F}$  NMR (282 MHz,  $\text{CDCl}_3$ ) spectrum of **(4R)-3-((4-trifluoromethyl)phenyl)sulfonyl)thiazolidine-4-carboxylic acid**



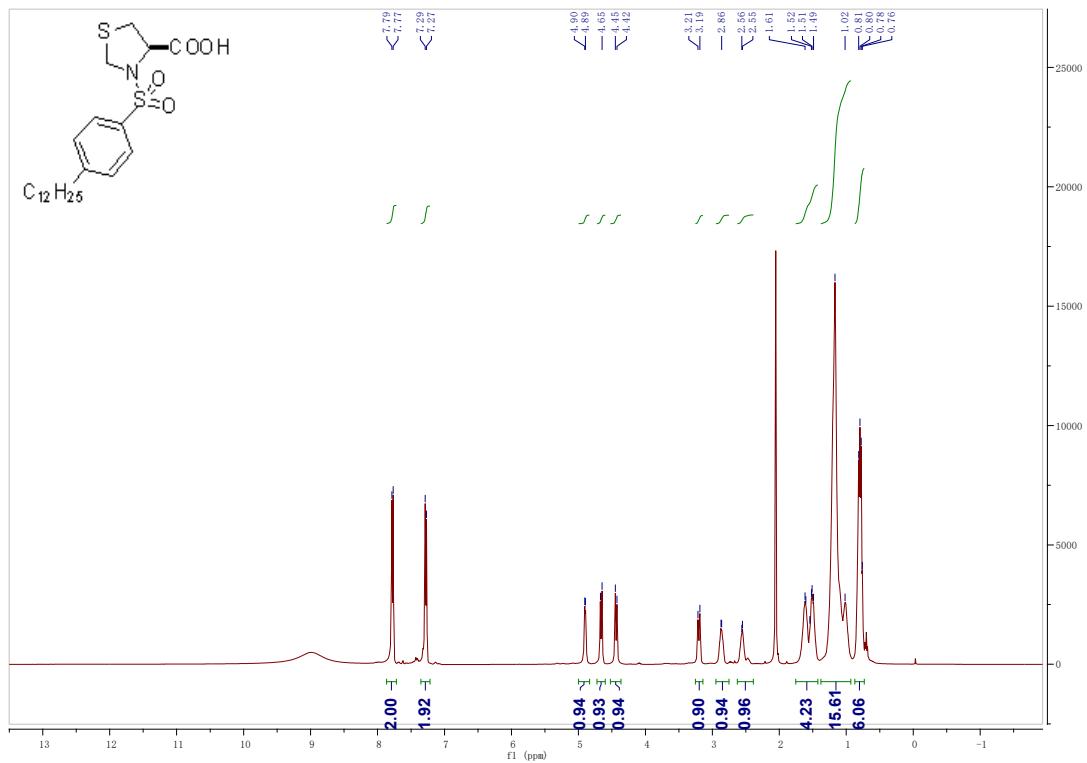
**Figure S18:**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of **(4*R*)-3-tosylthiazolidine-4-carboxylic acid**



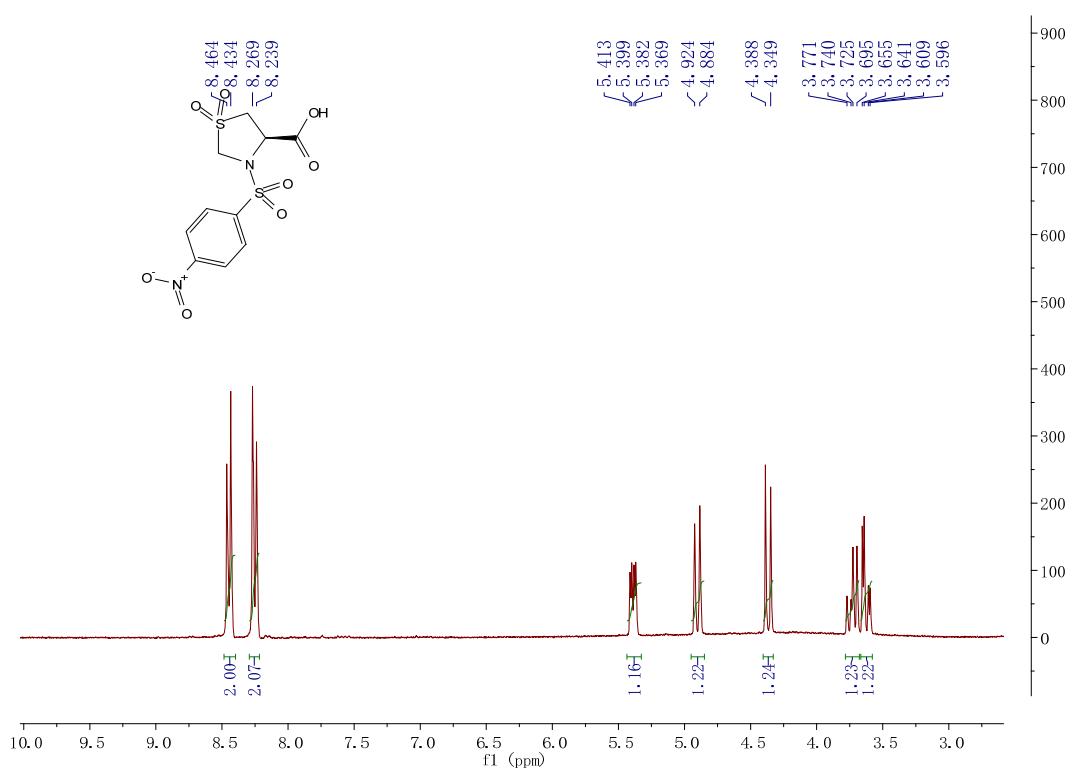
**Figure S19:**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of **(4*R*)-3-((4-(*tert*-butyl)phenyl)sulfonyl)thiazolidine-4-carboxylic acid**



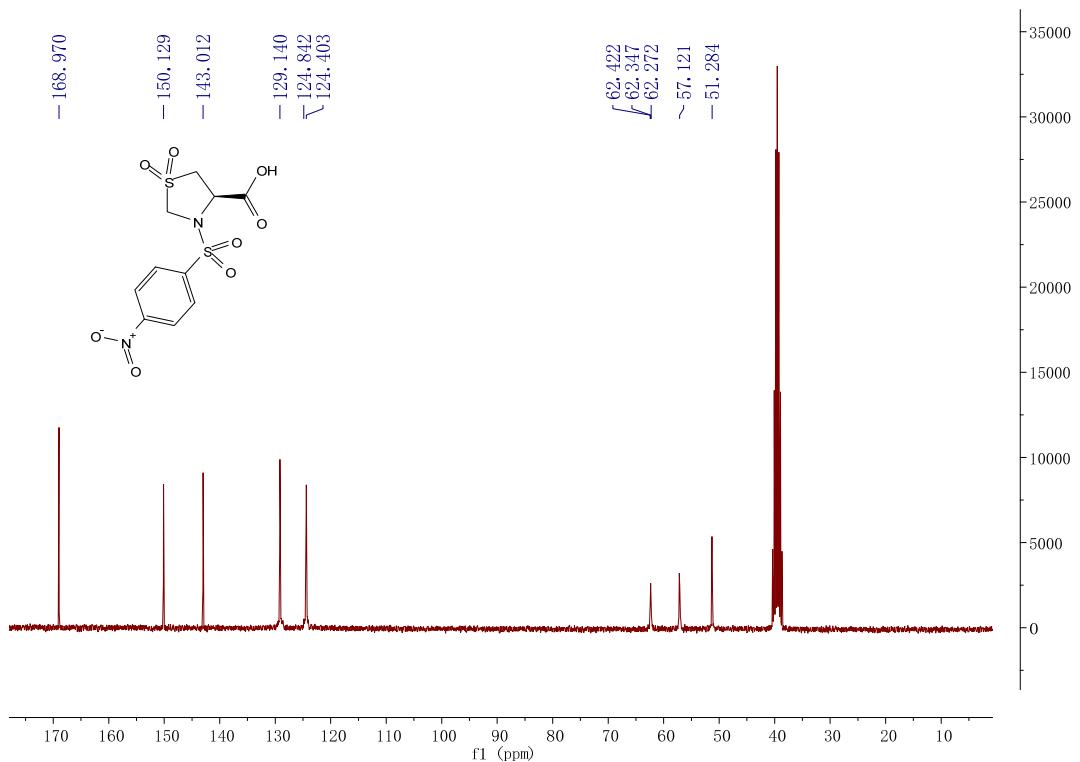
**Figure S20:**  $^1\text{H}$  NMR (300 MHz, DMSO- $\text{d}_6$ ) spectrum of **(4*R*)-3-((4-methoxyphenyl)sulfonyl)thiazolidine-4-carboxylic acid**



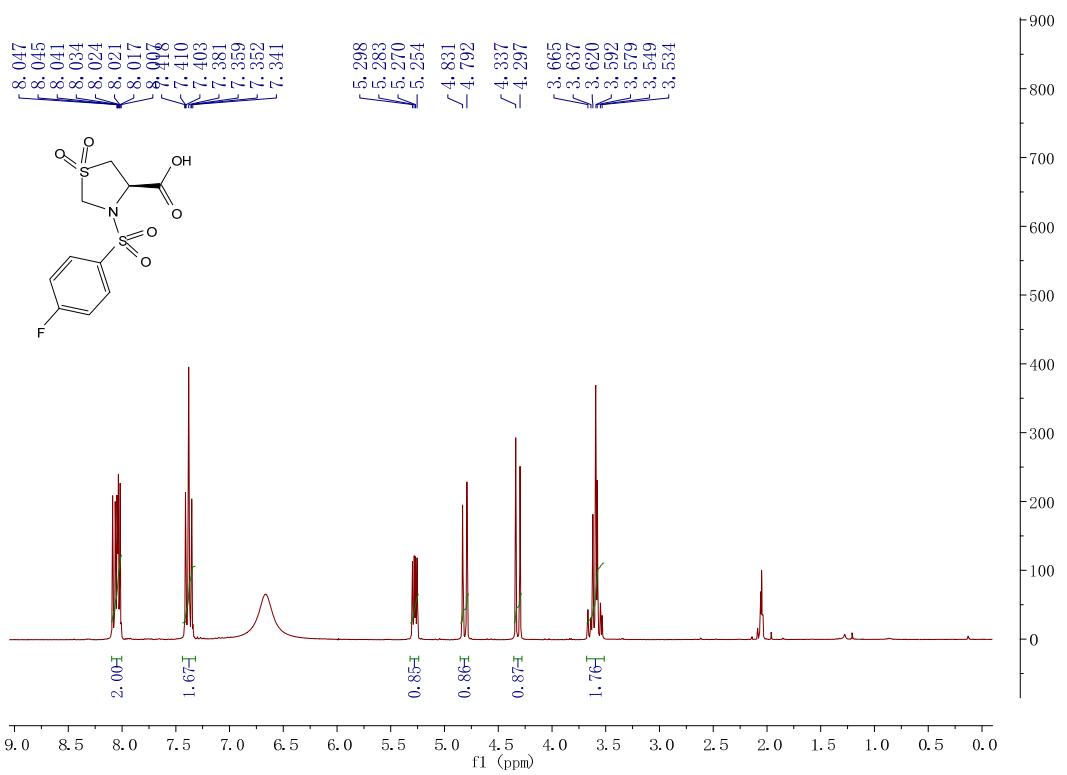
**Figure S21:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of (4*R*)-3-((4-*n*-dodecylphenyl)sulfonyl)thiazolidine-4-carboxylic acid



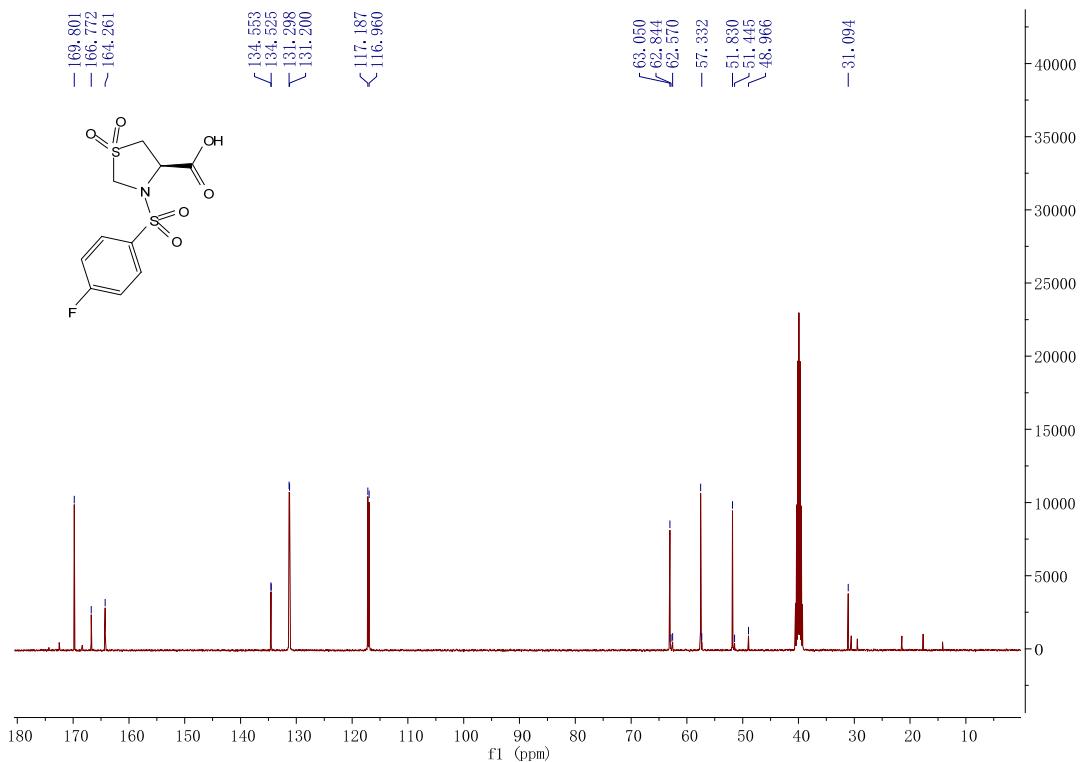
**Figure S22a:**  $^1\text{H}$  NMR (300 MHz, acetone- $\text{d}_6$ ) spectrum of **4R-NOST**



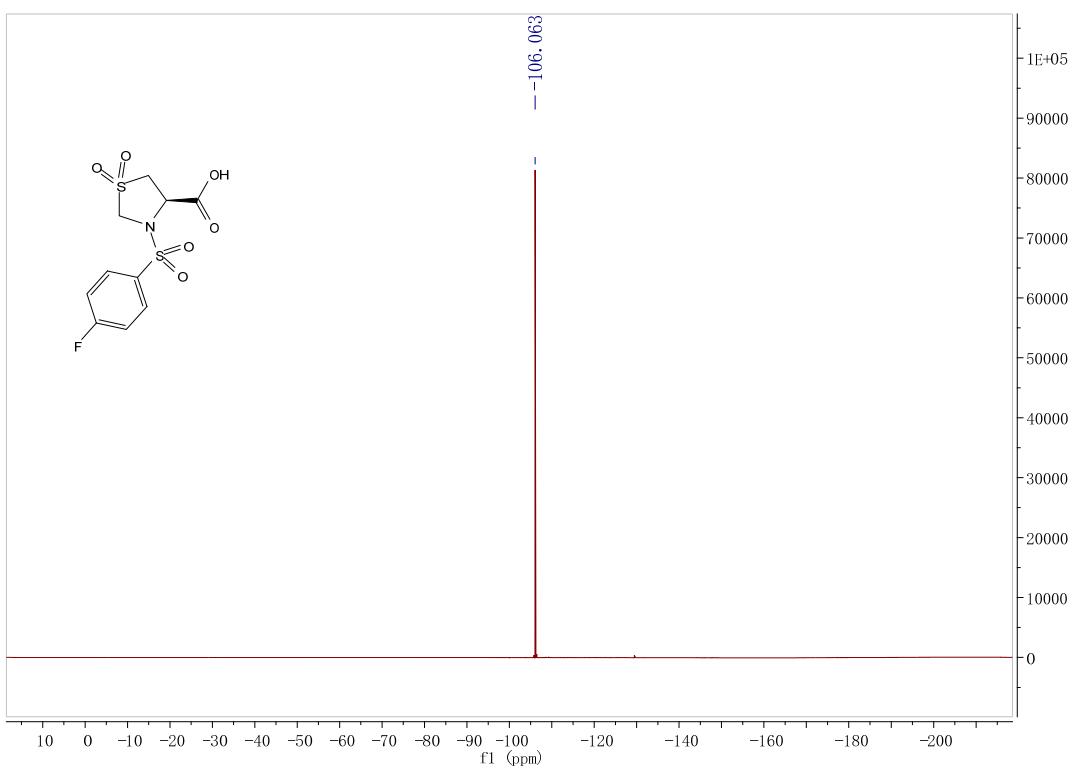
**Figure S22b:**  $^{13}\text{C}$  NMR (75 MHz, DMSO- $\text{d}_6$ ) spectrum of **4R-NOST**



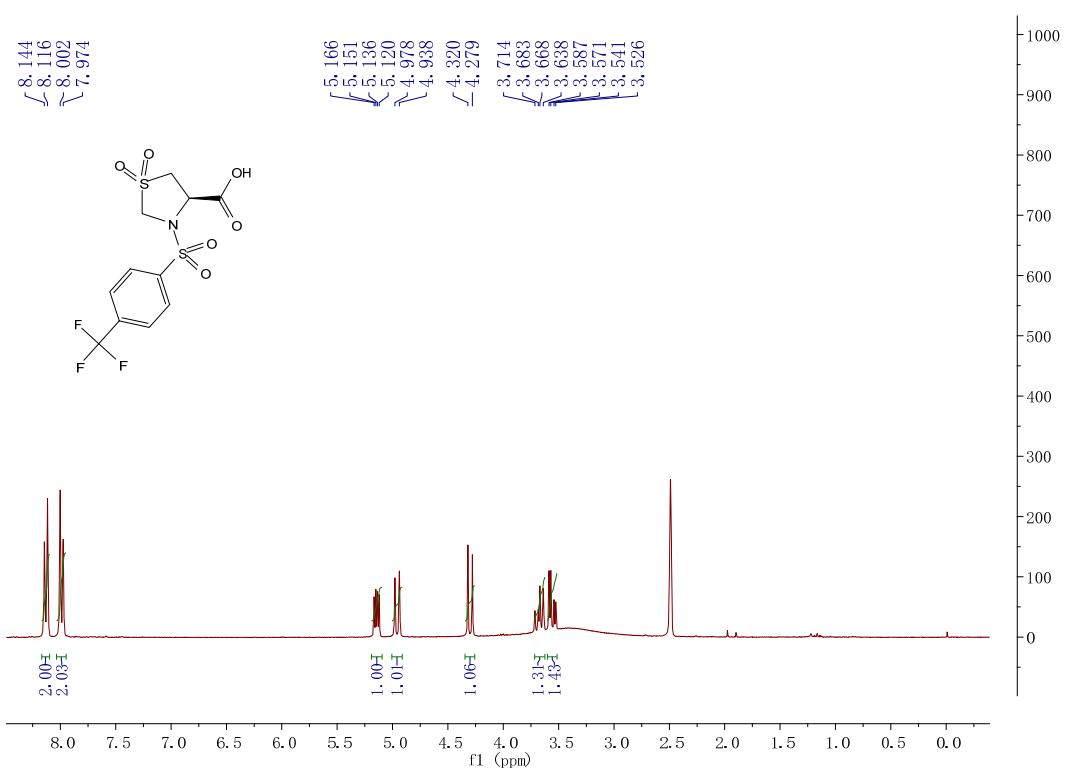
**Figure S23a:** <sup>1</sup>H NMR (300 MHz, acetone-d<sub>6</sub>) spectrum of **4R-FLST**



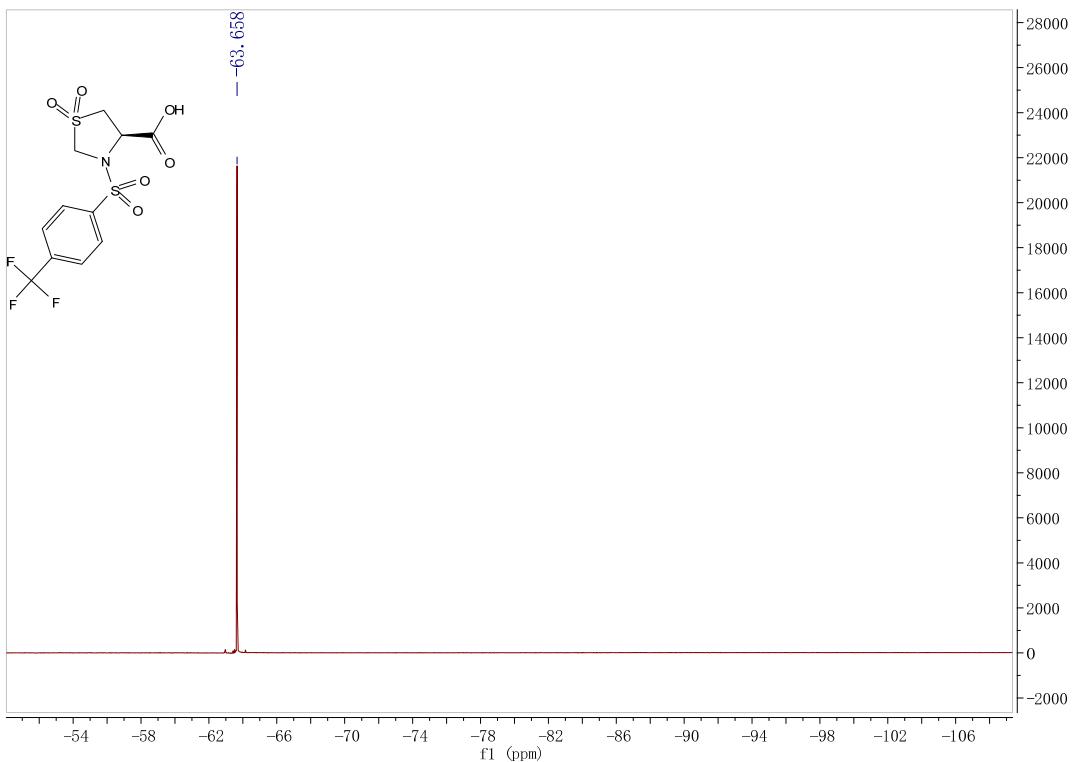
**Figure S23b:** <sup>13</sup>C NMR (100 MHz, DMSO-d<sub>6</sub>) spectrum of **4R-FLST**



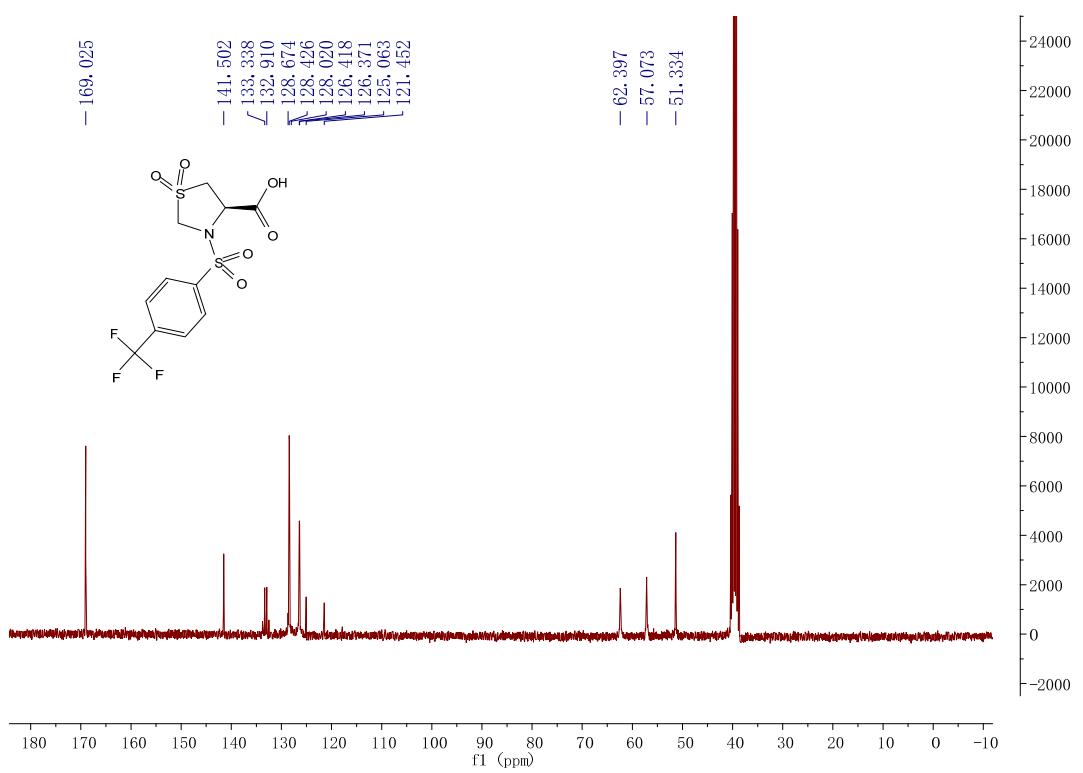
**Figure S23c:** <sup>19</sup>F NMR (377 MHz, acetone-d<sub>6</sub>) spectrum of **4R-FLST**



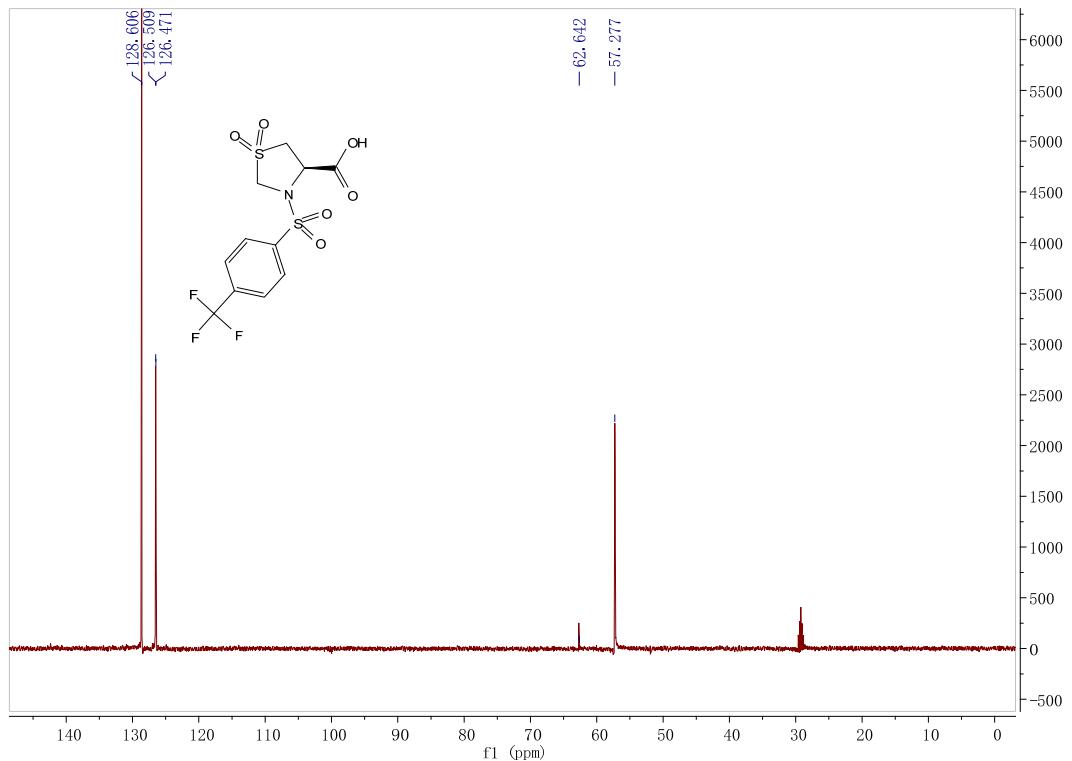
**Figure S24a:** <sup>1</sup>H NMR (300 MHz, DMSO-d<sub>6</sub>) spectrum of **4R-TFST**



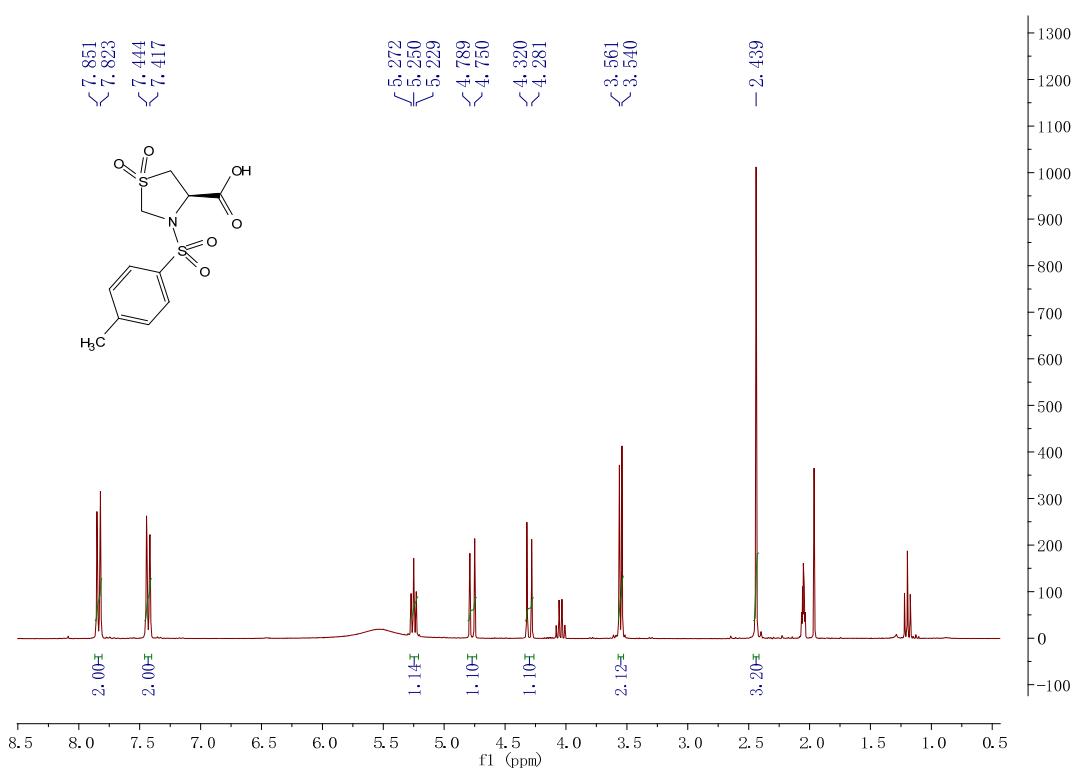
**Figure S24b:** <sup>19</sup>F NMR (377 MHz, acetone-d<sub>6</sub>) spectrum of **4R-TFST**



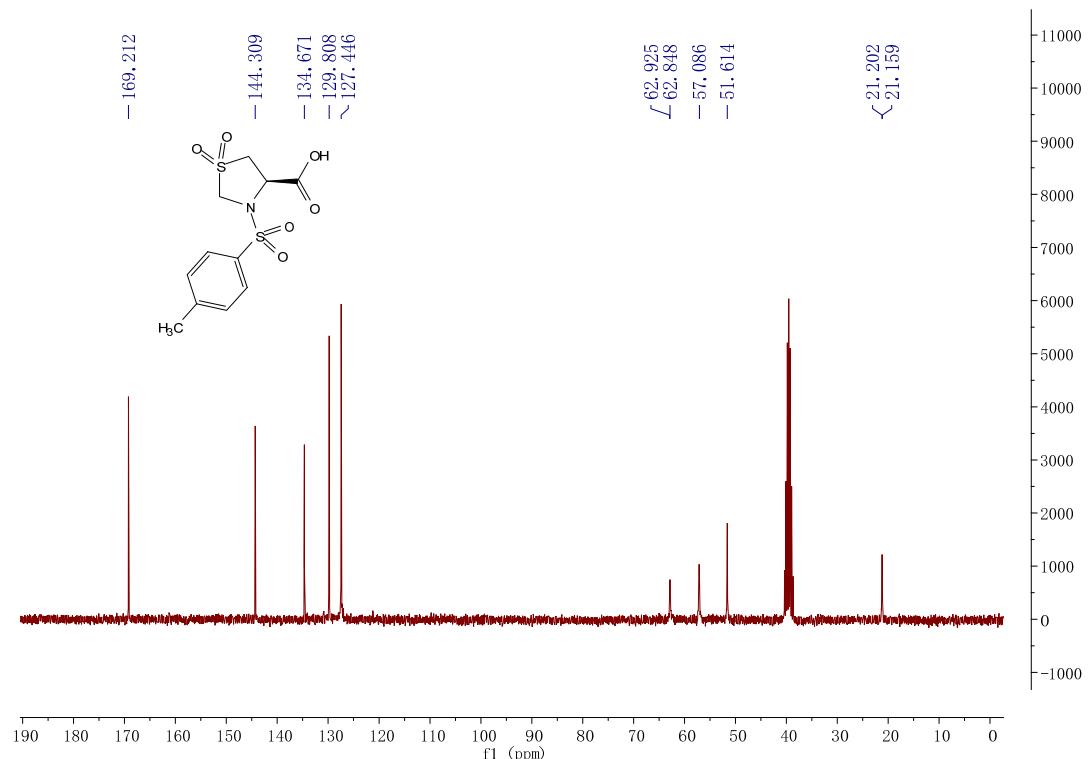
**Figure S24c:**  $^{13}\text{C}$  NMR (75 MHz, DMSO-d<sub>6</sub>) spectrum of **4R-TFST**



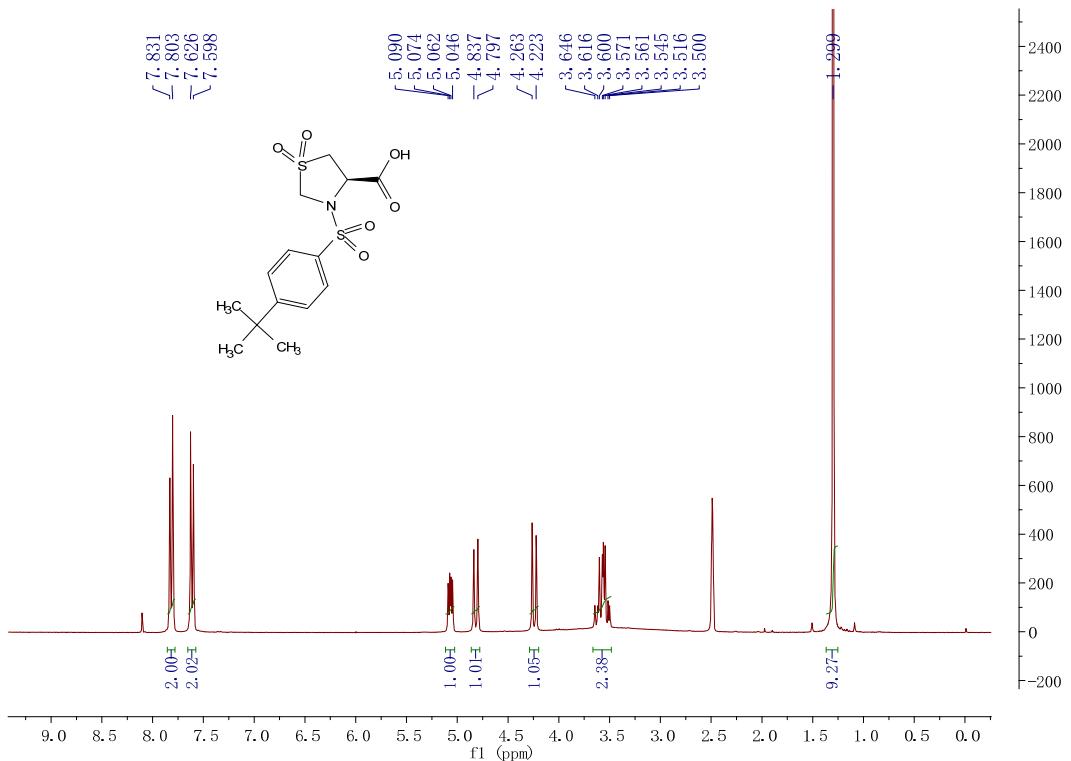
**Figure S24d:** DEPT 90 NMR (75 MHz, DMSO-d<sub>6</sub>) spectrum of **4R-TFST**



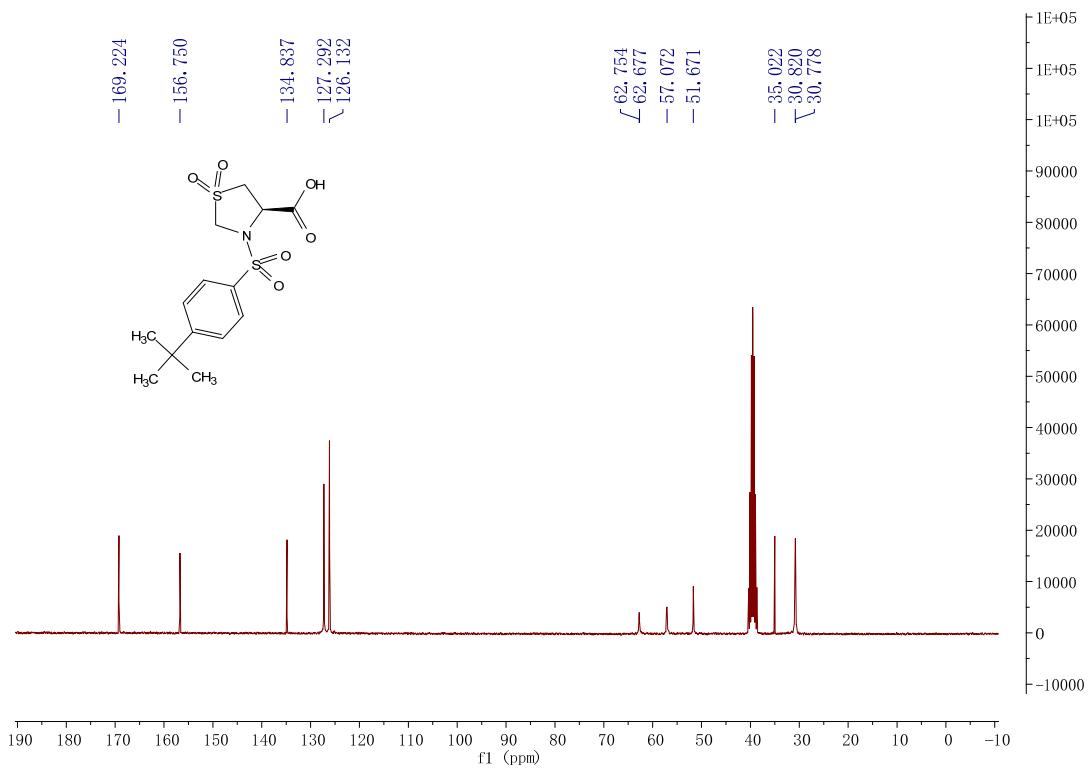
**Figure S25a:**  $^1\text{H}$  NMR (300 MHz, acetone- $d_6$ ) spectrum of **4R-MEST**



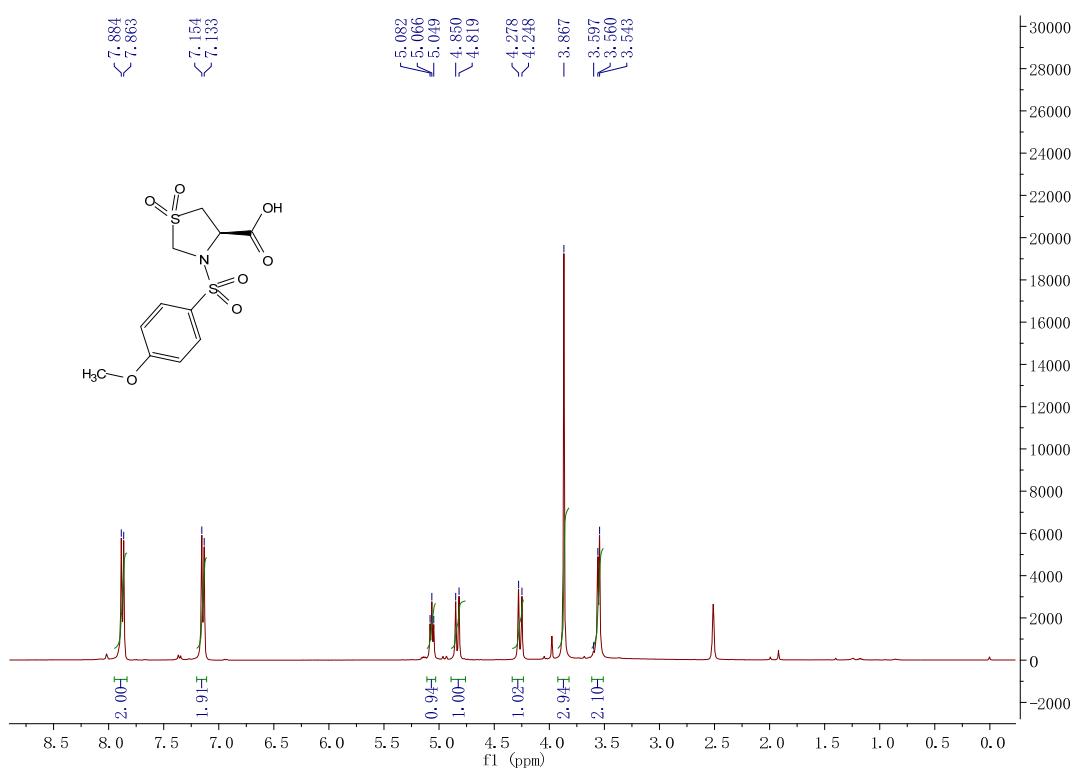
**Figure S25b:**  $^{13}\text{C}$  NMR (75 MHz, DMSO- $d_6$ ) spectrum of **4R-MEST**



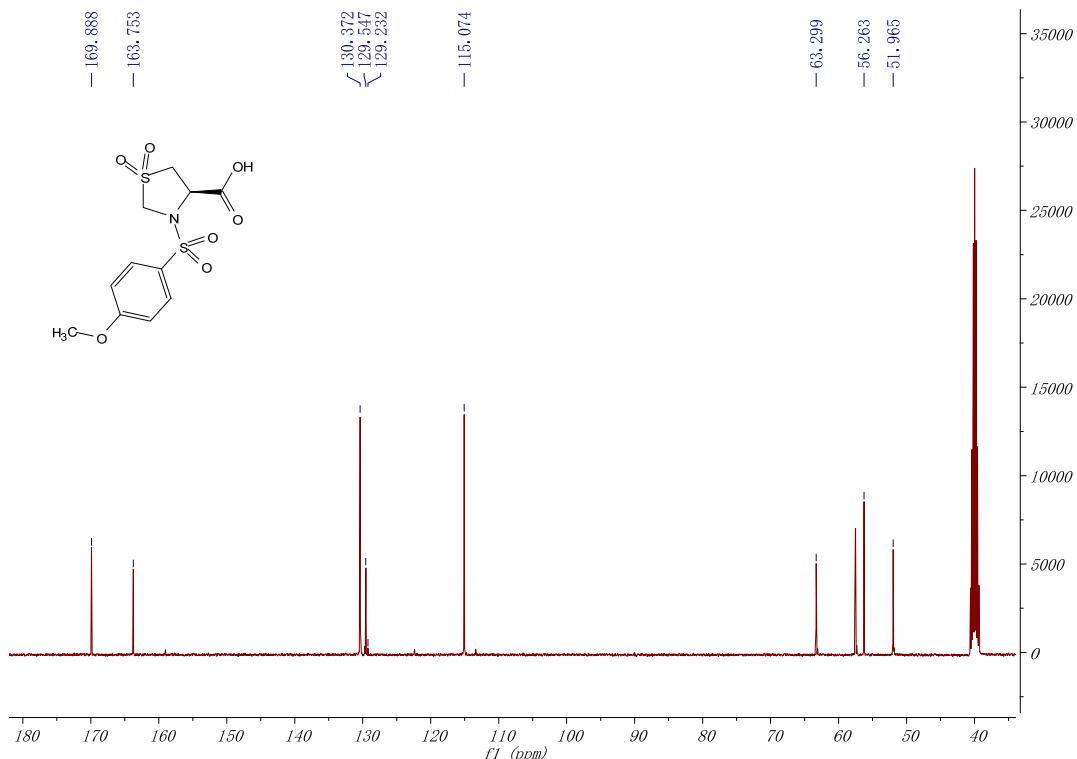
**Figure S26a:** <sup>1</sup>H NMR (300 MHz, DMSO-d<sub>6</sub>) spectrum of **4R-TBST**



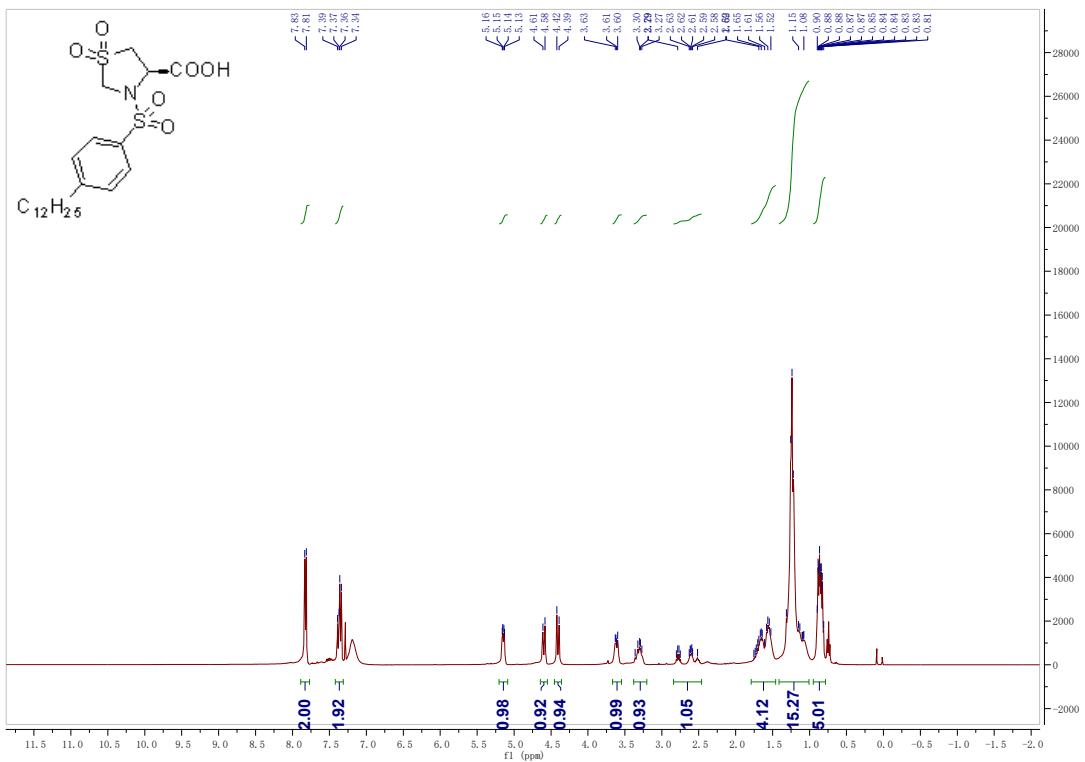
**Figure S26b:** <sup>13</sup>C NMR (75 MHz, DMSO-d<sub>6</sub>) spectrum of **4R-TBST**



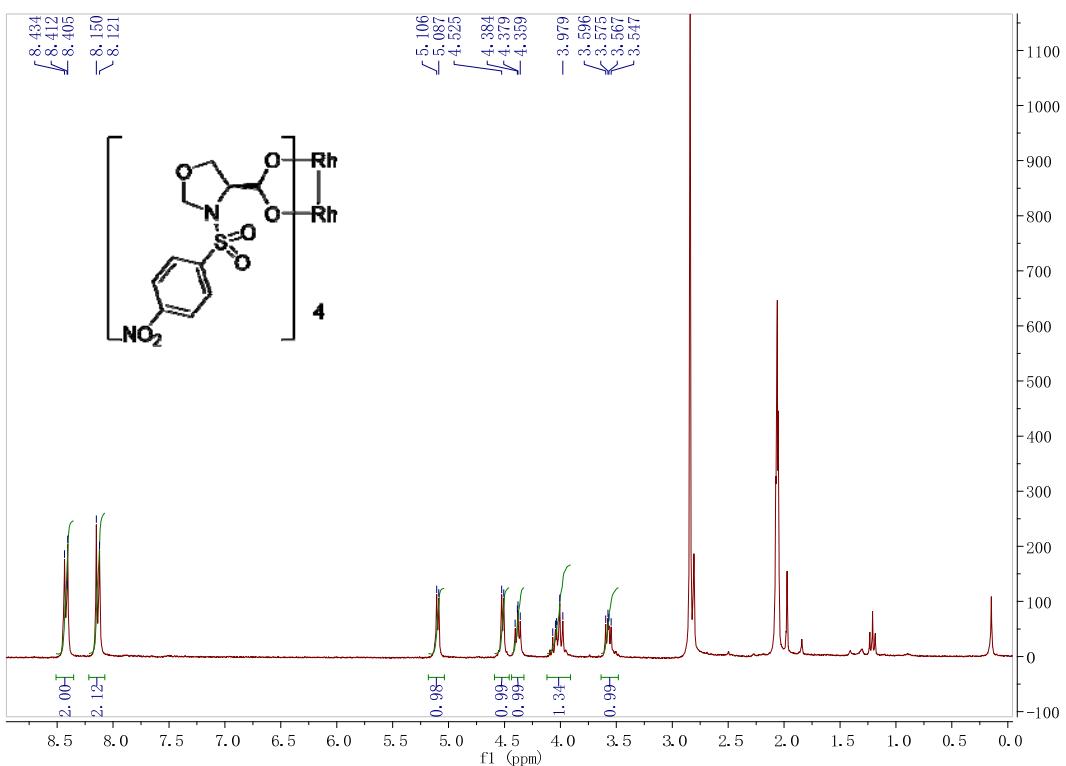
**Figure S27a:**  $^1\text{H}$  NMR (400 MHz, DMSO-d<sub>6</sub>) spectrum of **4R-MOST**



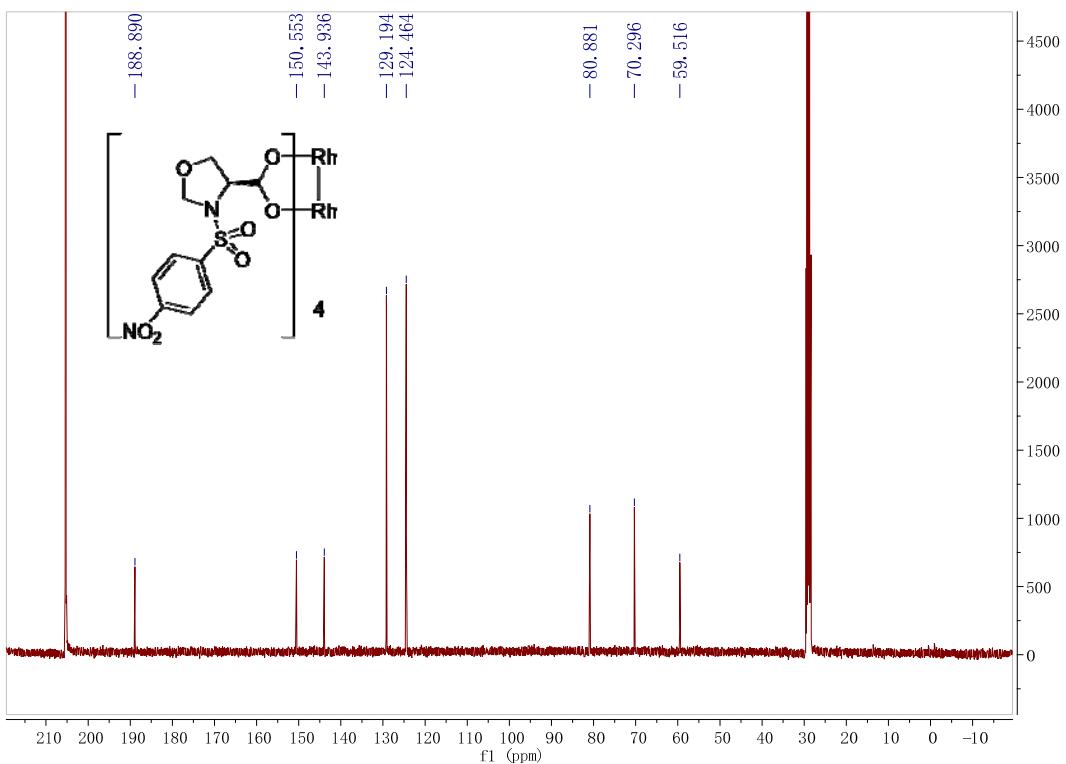
**Figure S27b:**  $^{13}\text{C}$  NMR (100 MHz, DMSO-d<sub>6</sub>) spectrum of **4R-MOST**



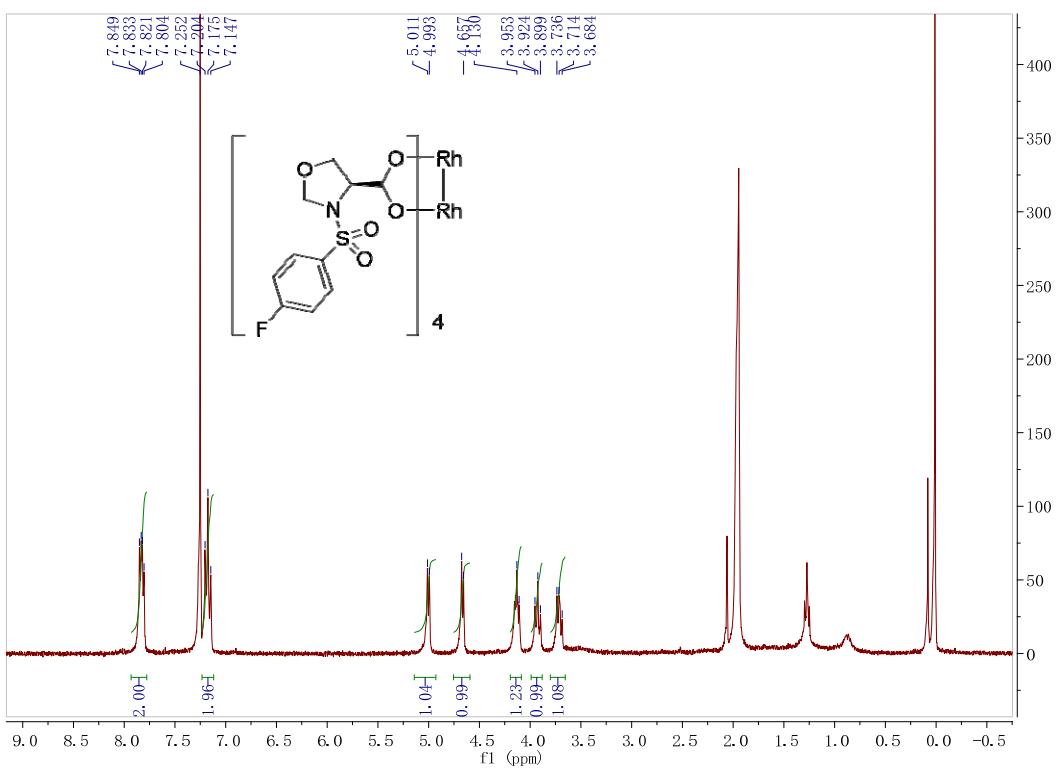
**Figure S28:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of **4R-DOST**



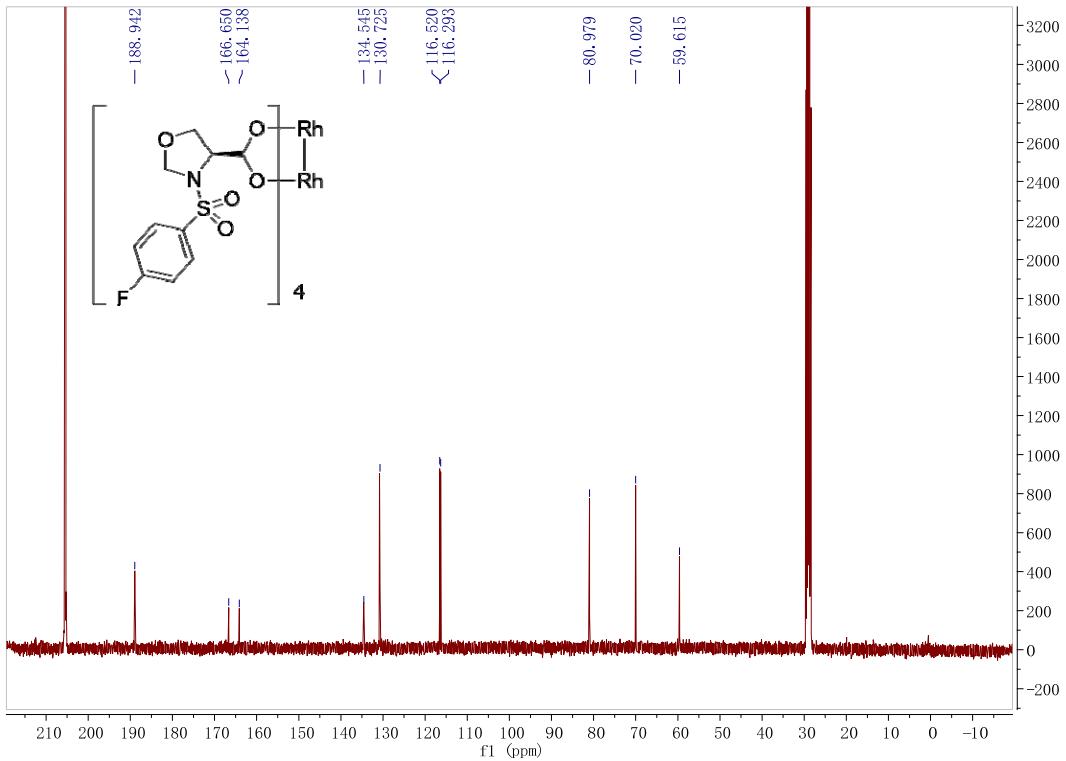
**Figure S29a:**  $^1\text{H}$  NMR (300 MHz, acetone- $\text{d}_6$ ) spectrum of  $\text{Rh}_2(4\text{S-NOSO})_4$



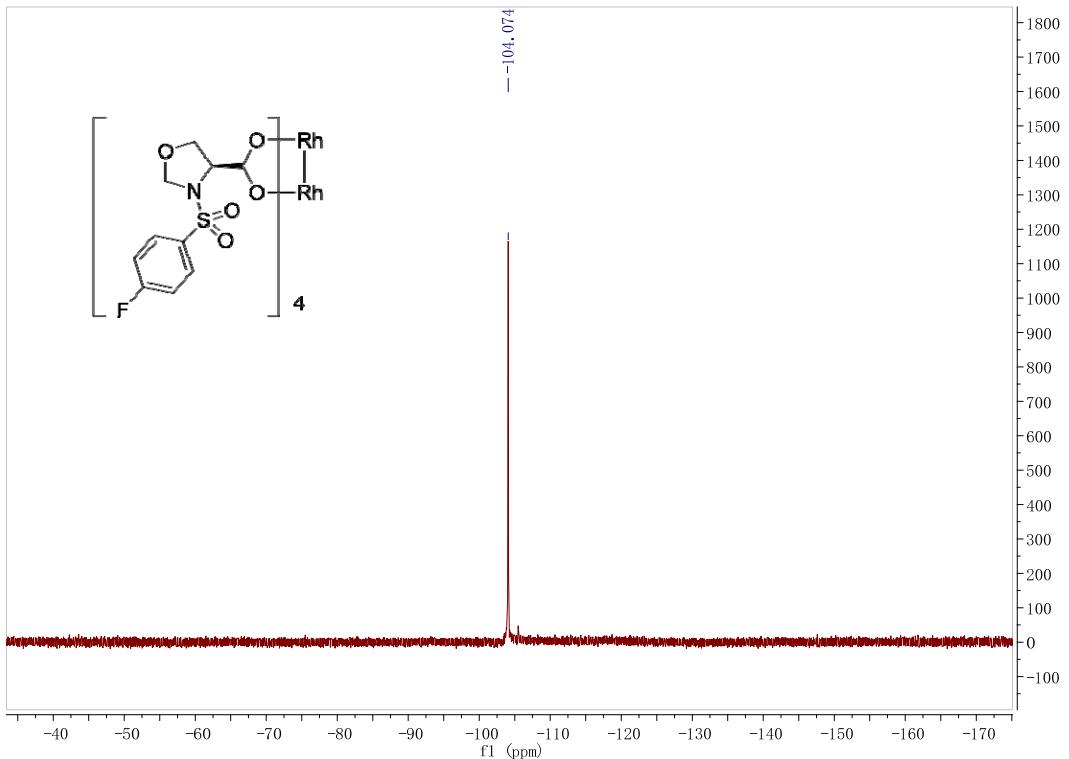
**Figure S29b:**  $^{13}\text{C}$  NMR (100 MHz, acetone- $\text{d}_6$ ) spectrum of  $\text{Rh}_2(4\text{S-NOSO})_4$



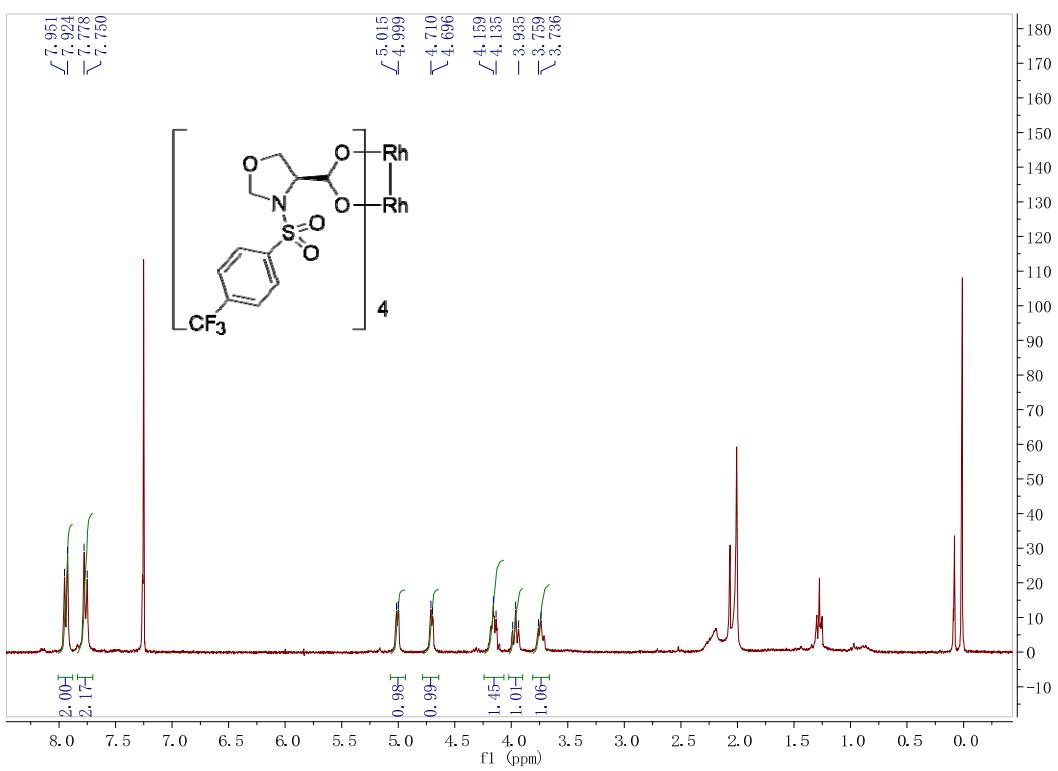
**Figure S30a:**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(\text{4S-FLSO})_4$



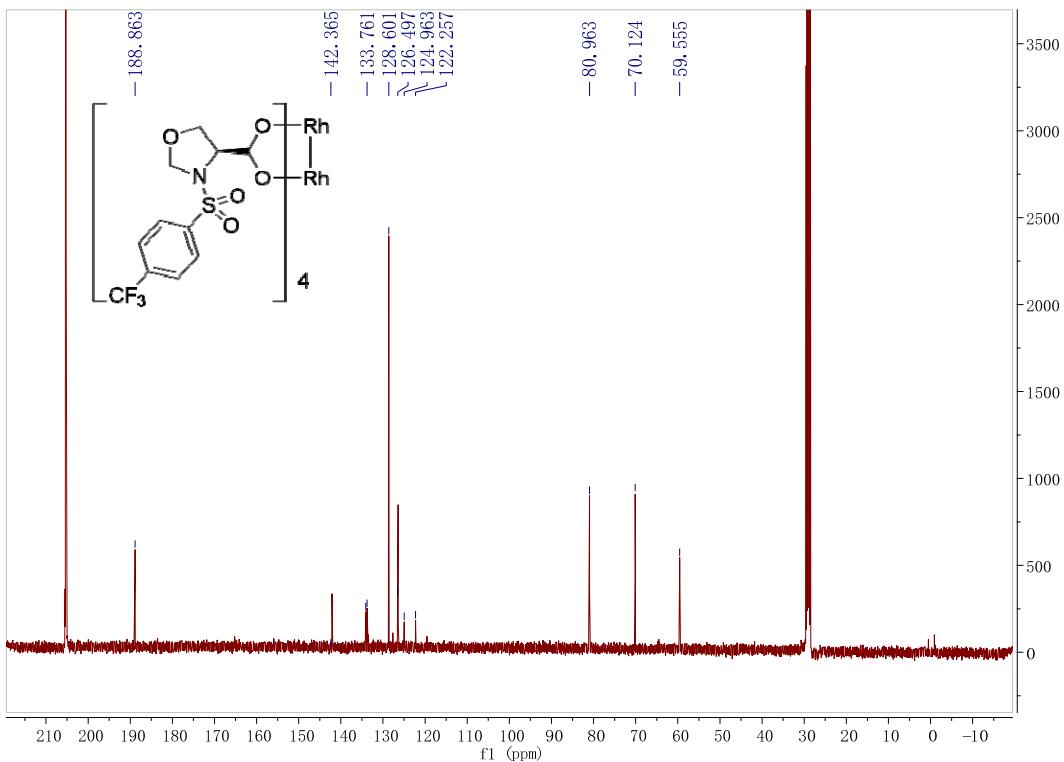
**Figure S30b:**  $^{13}\text{C}$  NMR (100 MHz, acetone- $\text{d}_6$ ) spectrum of  $\text{Rh}_2(\text{4S-FLSO})_4$



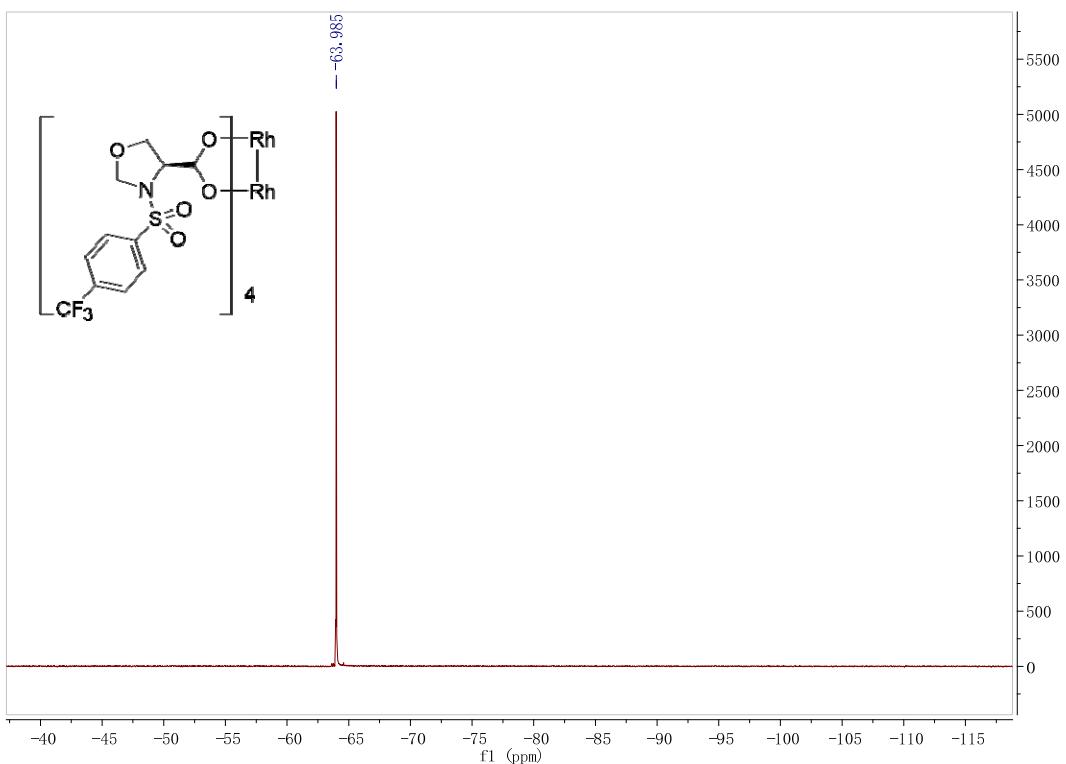
**Figure S30c:**  $^{19}\text{F}$  NMR (282 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4\text{S}-\text{FLSO})_4$



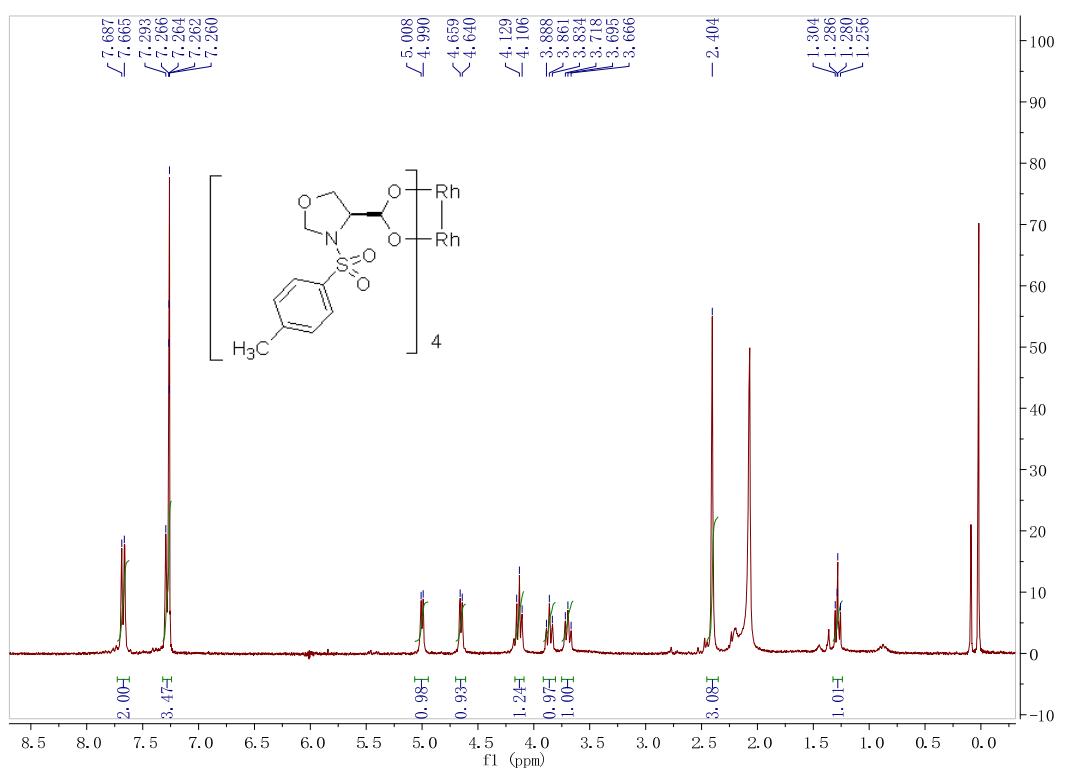
**Figure S31a:**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4\text{S-TFSO})_4$



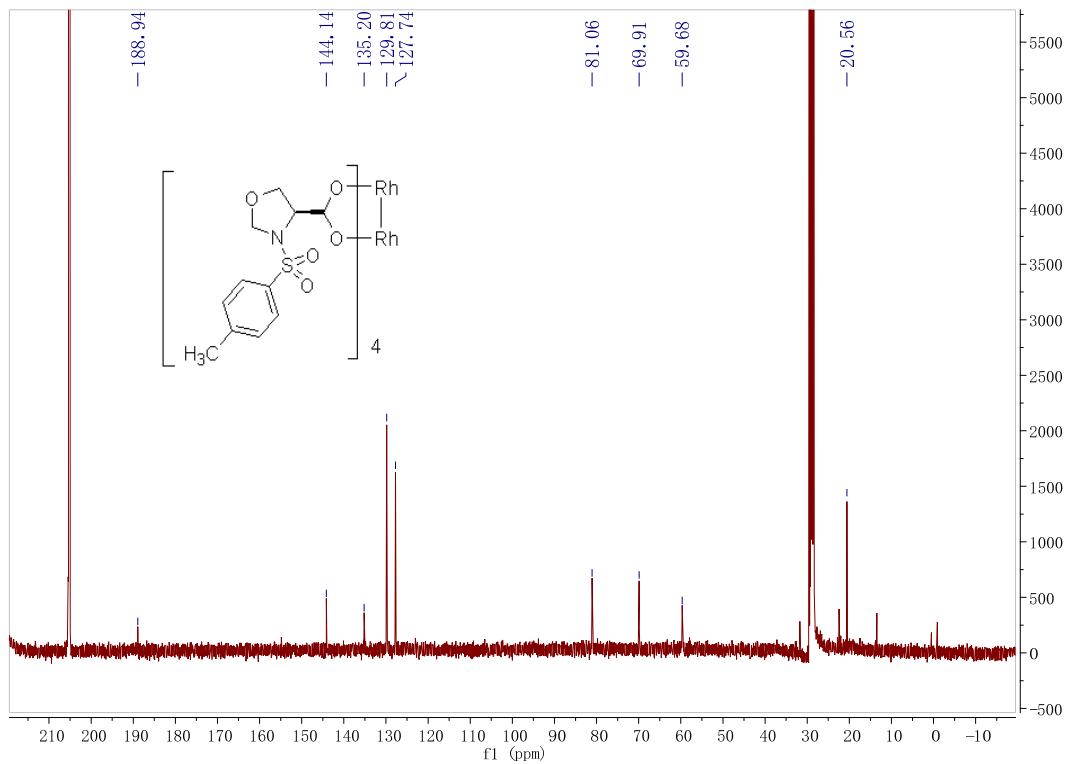
**Figure S31b:**  $^{13}\text{C}$  NMR (100 MHz, acetone- $\text{d}_6$ ) spectrum of  $\text{Rh}_2(4\text{S-TFSO})_4$



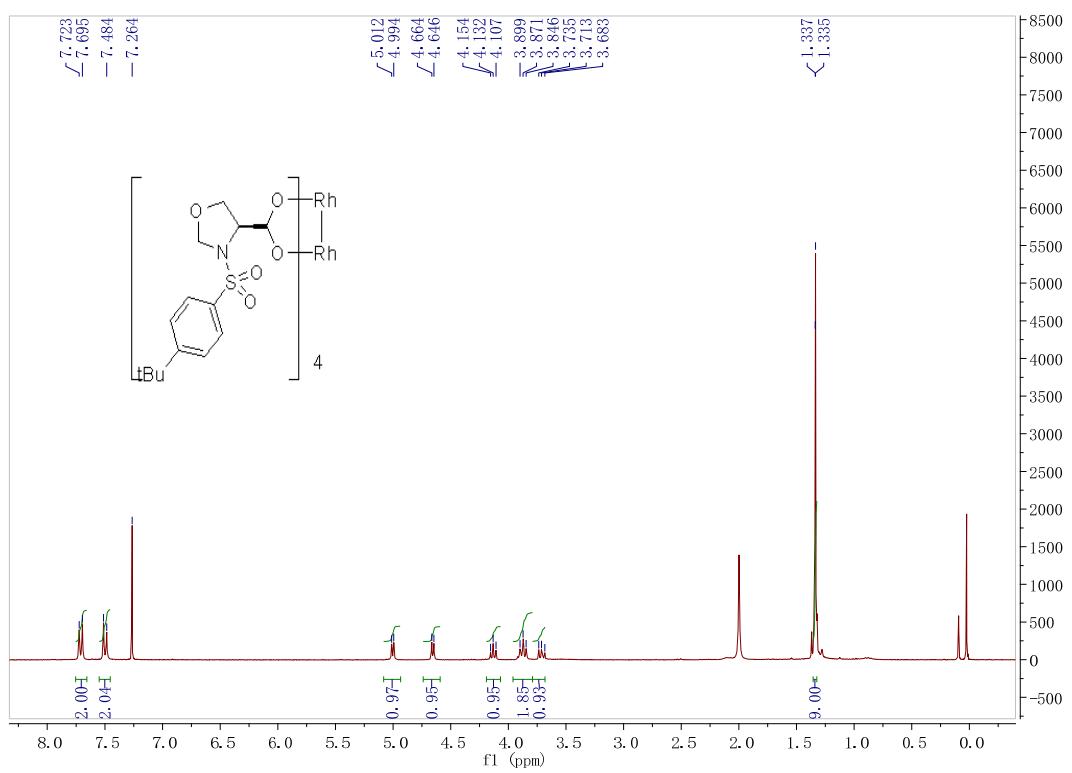
**Figure S31c:**  $^{19}\text{F}$  NMR (282 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(\text{4S-TFSO})_4$



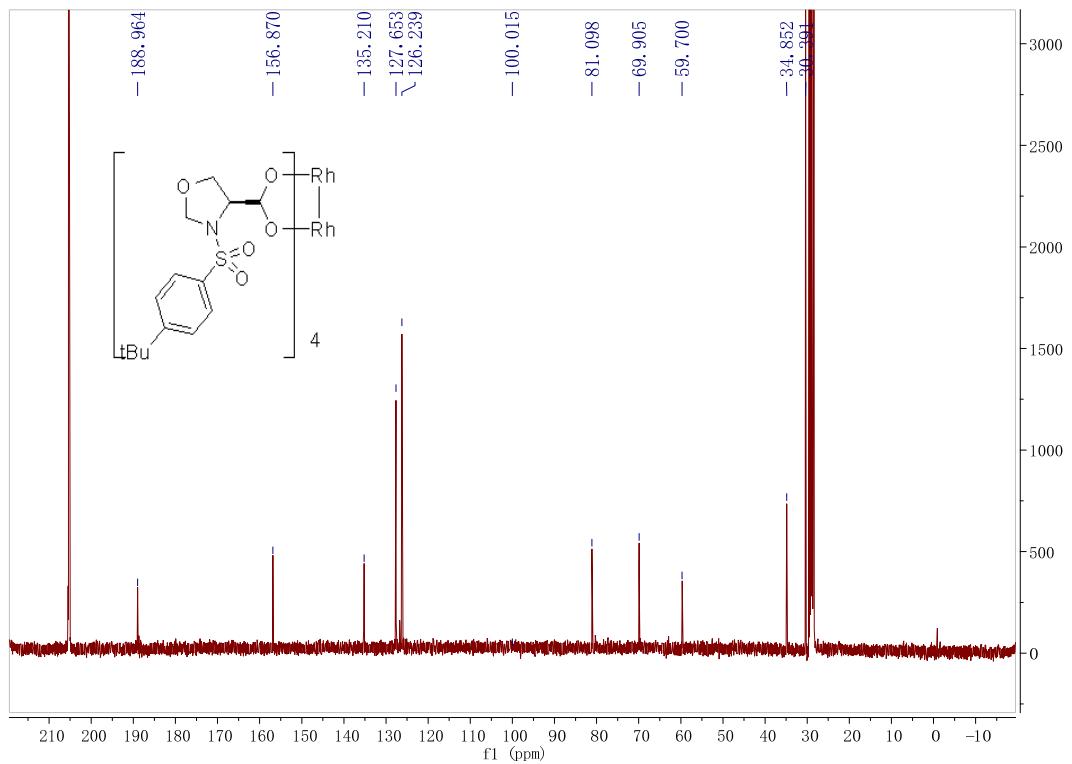
**Figure S32a:**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4\text{S}-\text{MESO})_4$



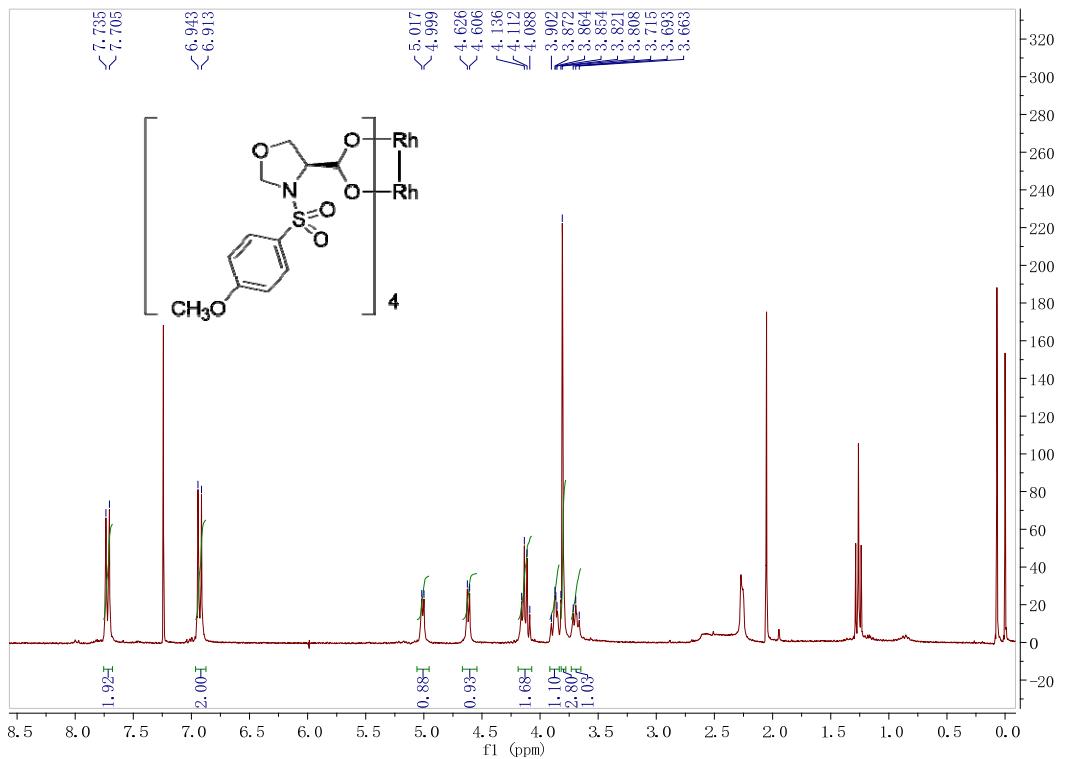
**Figure S32b:**  $^{13}\text{C}$  NMR (100 MHz, acetone- $\text{d}_6$ ) spectrum of  $\text{Rh}_2(4\text{S-MESO})_4$



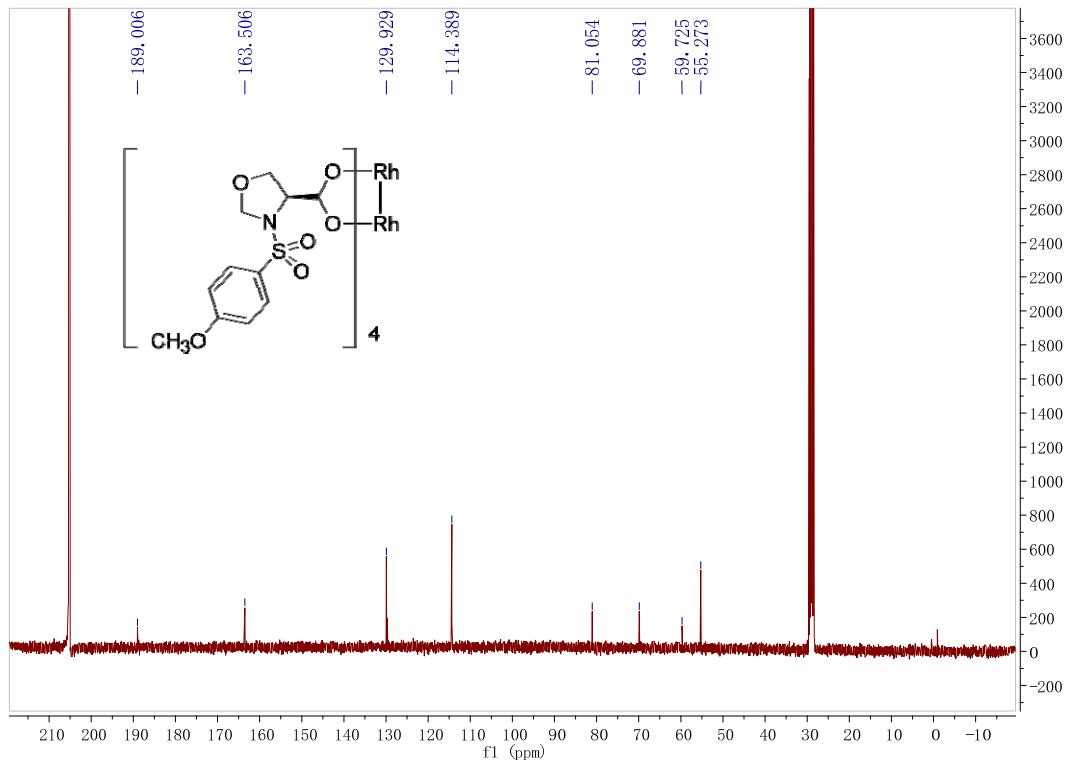
**Figure S33a:**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4\text{S-TBSO})_4$



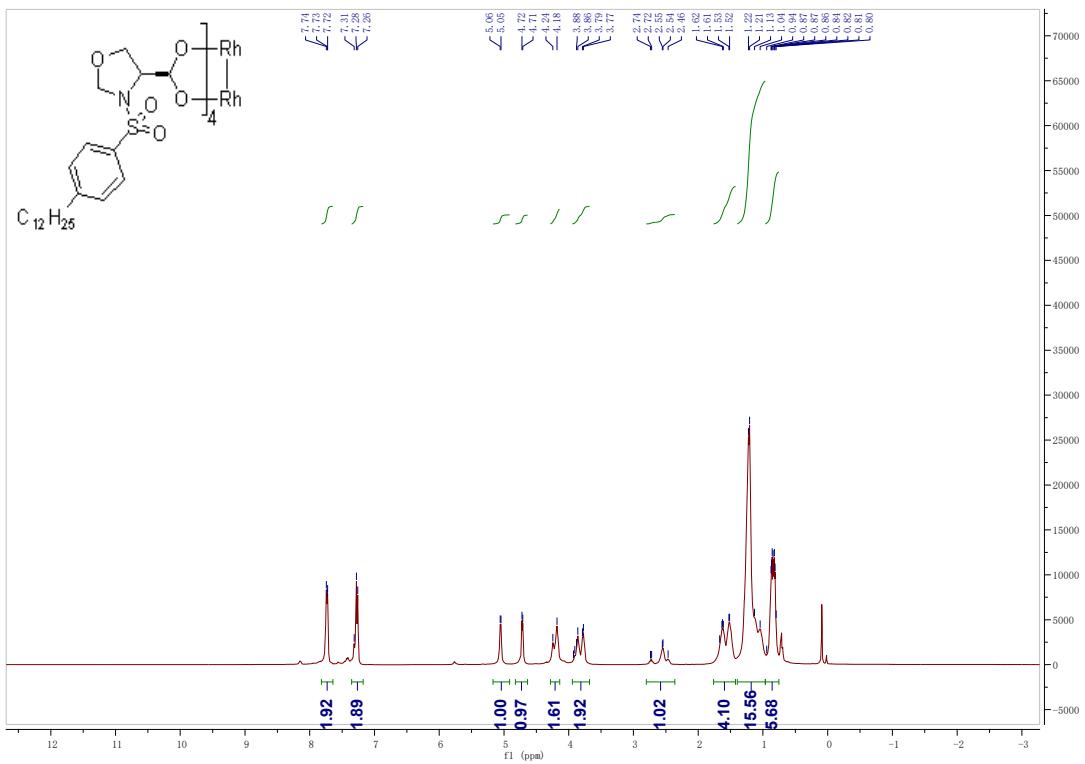
**Figure S33b:**  $^{13}\text{C}$  NMR (100 MHz, acetone- $\text{d}_6$ ) spectrum of  $\text{Rh}_2(4\text{S-TBSO})_4$



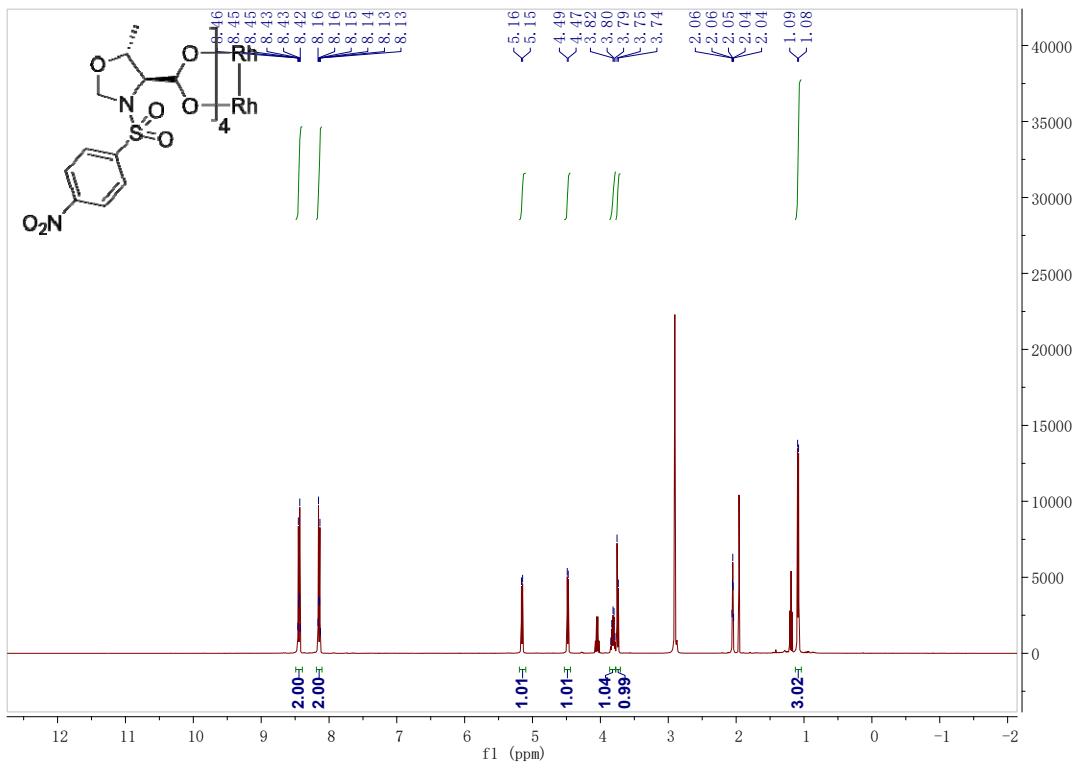
**Figure S34a:**  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4\text{S-MOSO})_4$



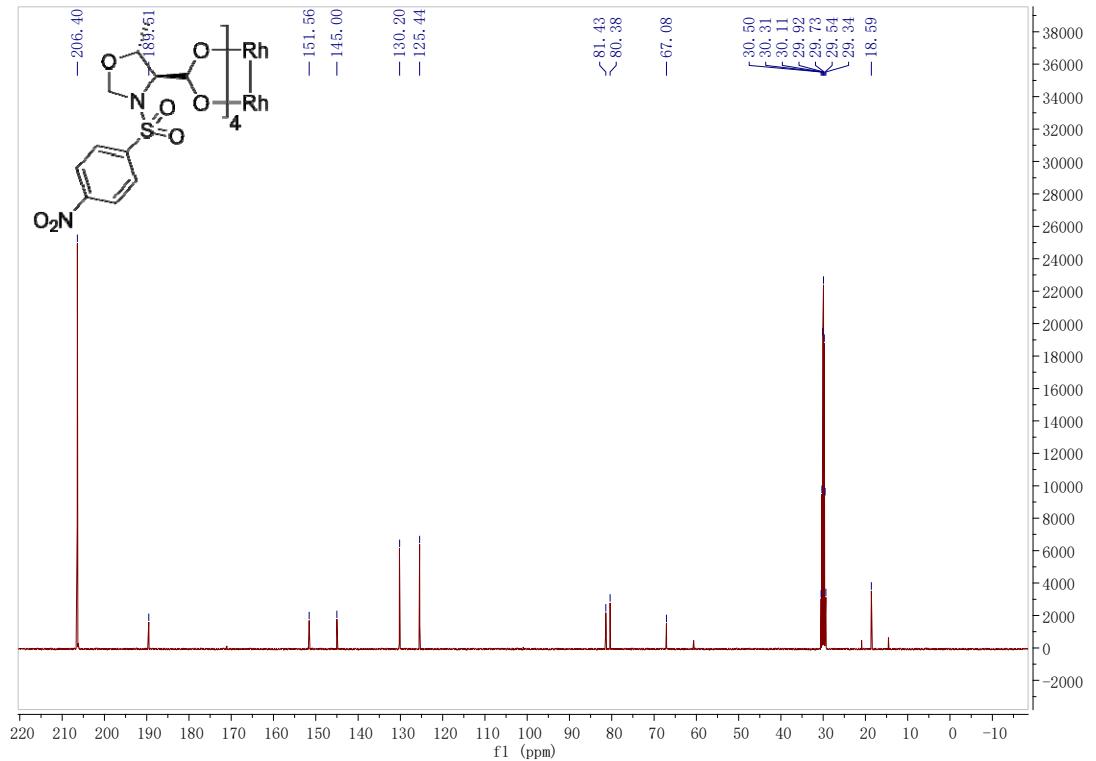
**Figure S34b:**  $^{13}\text{C}$  NMR (100 MHz, acetone- $\text{d}_6$ ) spectrum of  $\text{Rh}_2(4\text{S-MOSO})_4$



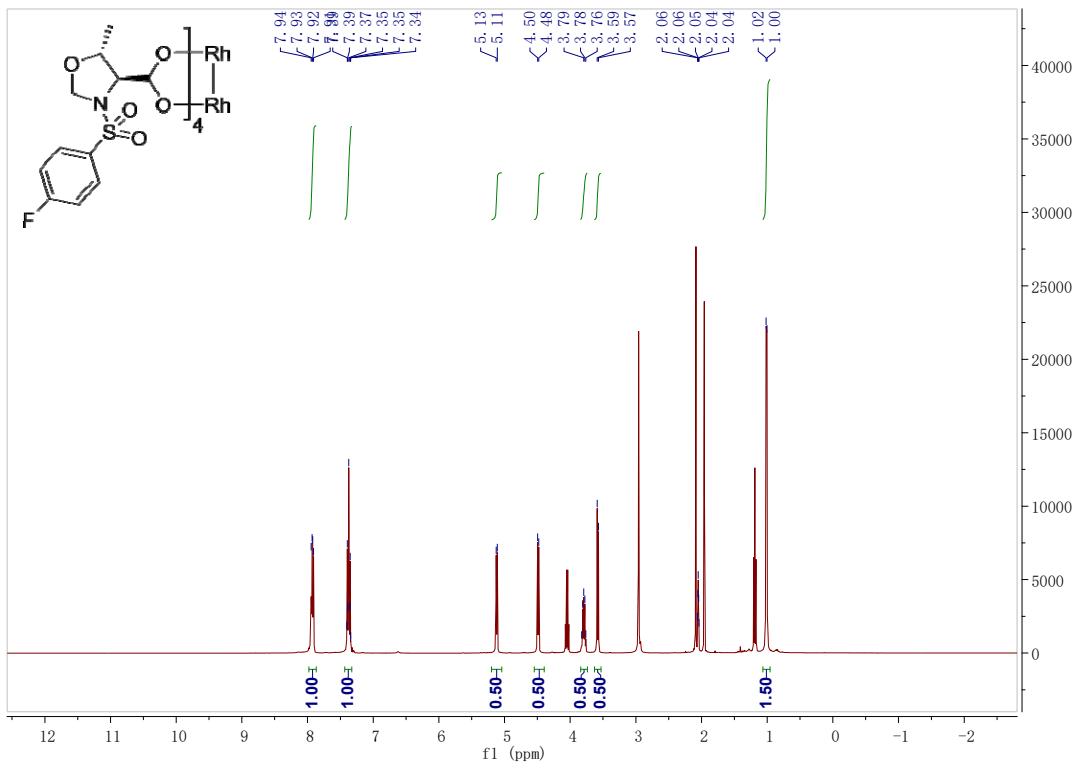
**Figure S35a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4\text{S-DOSO})_4$



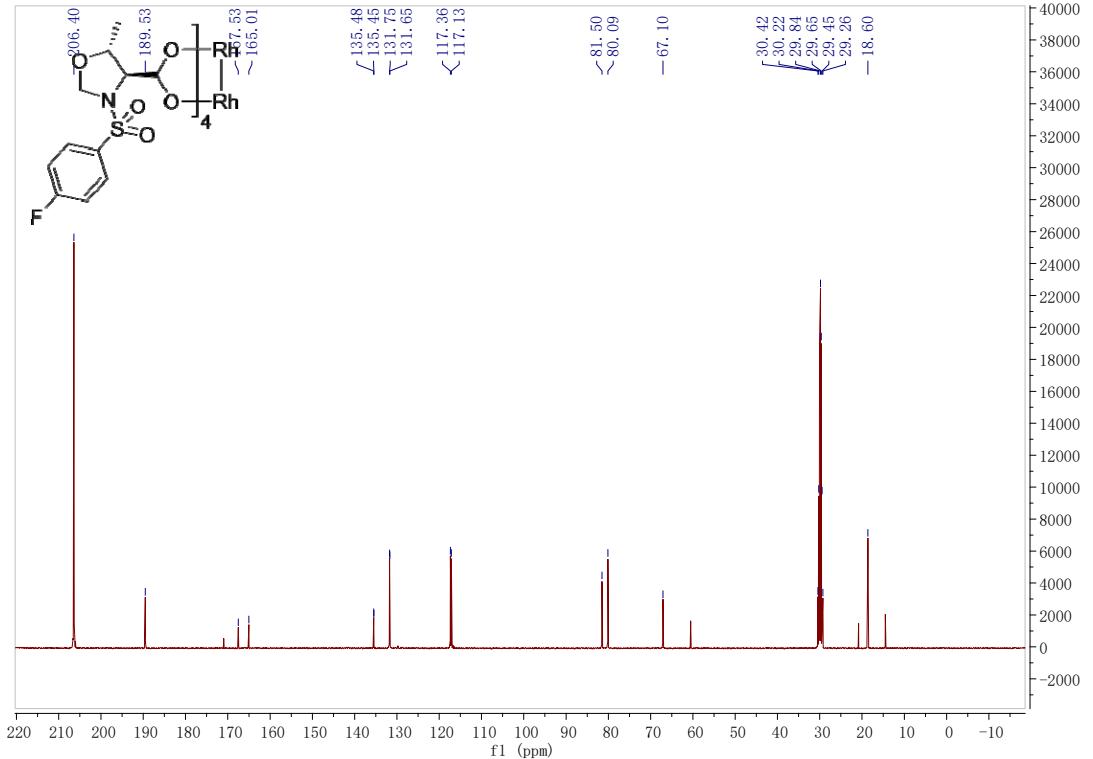
**Figure S36a:**  $^1\text{H}$  NMR (400 MHz, acetone- $d_6$ ) spectrum of  $\text{Rh}_2(4\text{S},5\text{R}-\text{MNOSO})_4$



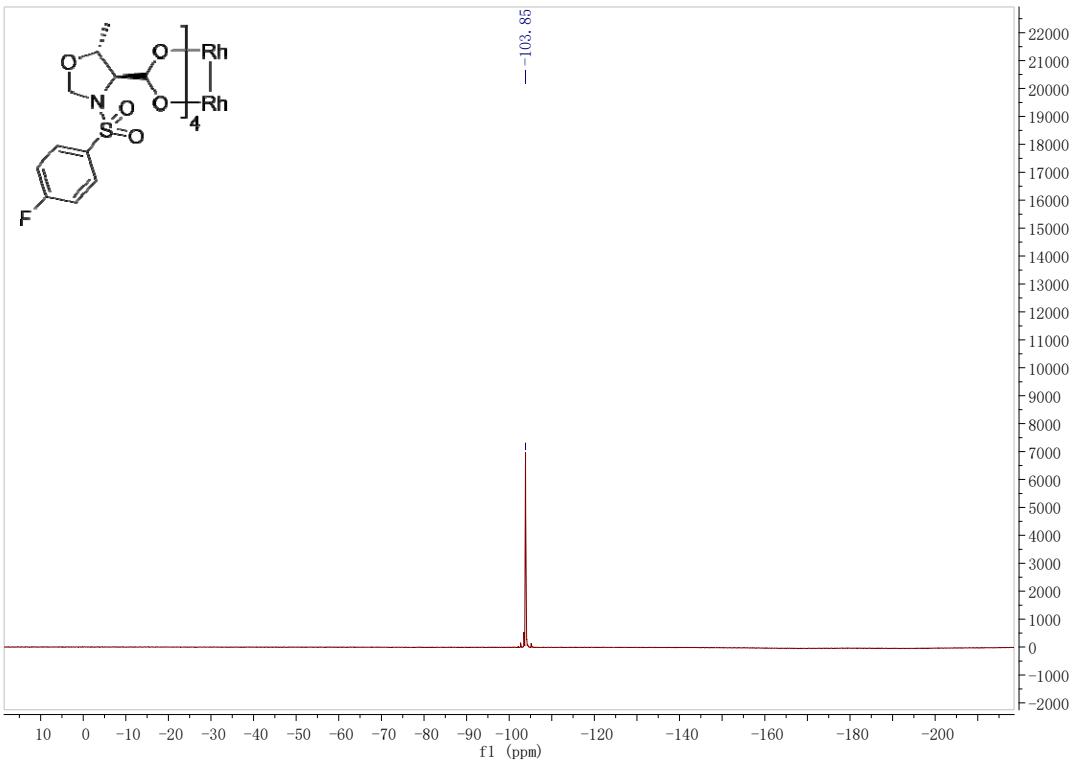
**Figure S36b:**  $^{13}\text{C}$  NMR (100 MHz, acetone- $d_6$ ) spectrum of  $\text{Rh}_2(4\text{S},5\text{R}-\text{MNOSO})_4$



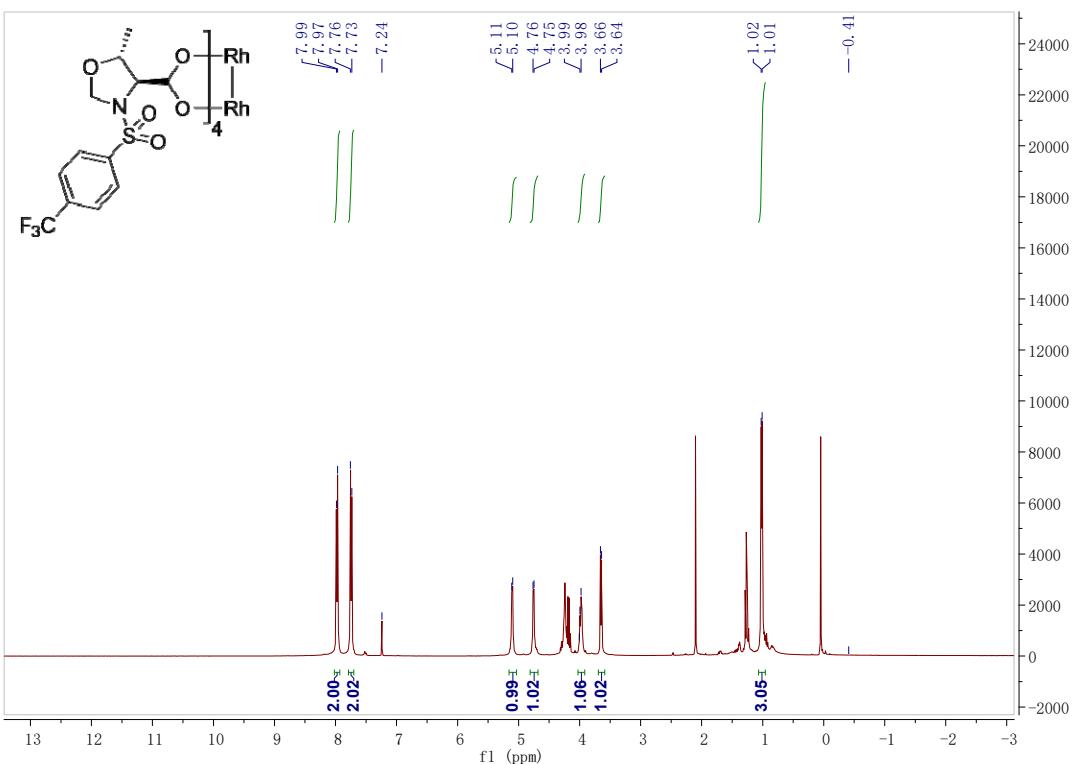
**Figure S37a:** <sup>1</sup>H NMR (400 MHz, acetone-d<sub>6</sub>) spectrum of  $\text{Rh}_2(4\text{S},5\text{R}-\text{MFLSO})_4$



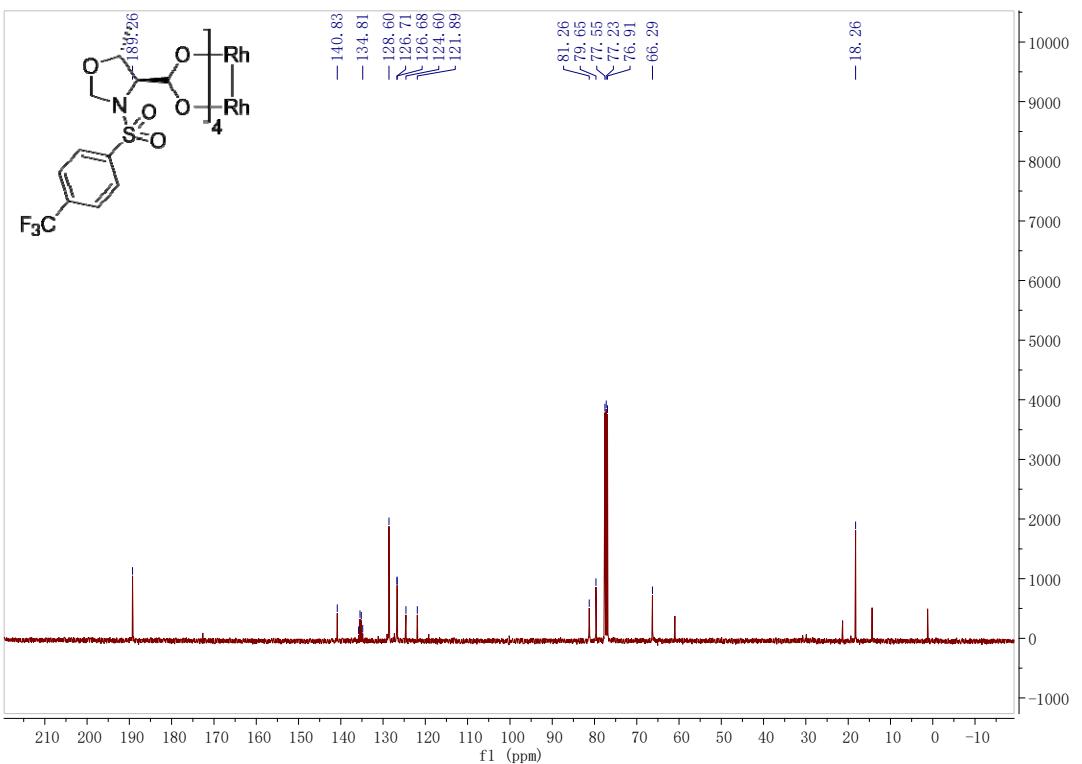
**Figure S37b:** <sup>13</sup>C NMR (100 MHz, acetone-d<sub>6</sub>) spectrum of  $\text{Rh}_2(4\text{S},5\text{R}-\text{MFLSO})_4$



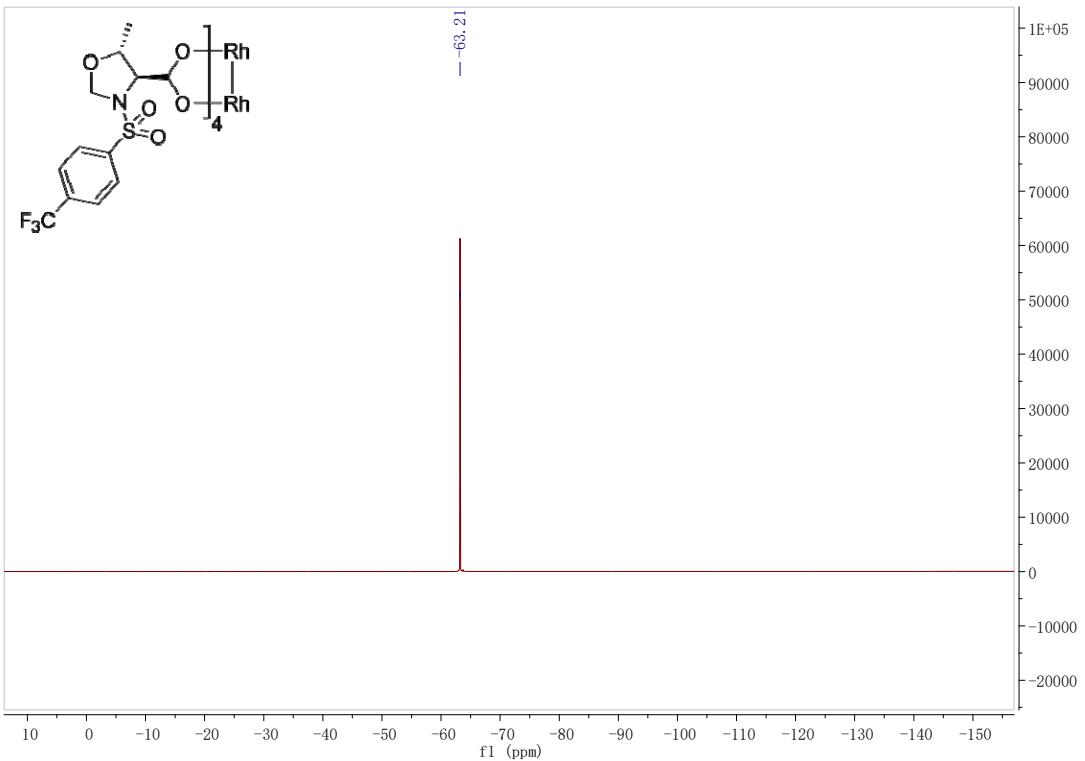
**Figure S37c:**  $^{19}\text{F}$  NMR (377 MHz, acetone- $d_6$ ) spectrum of  $\text{Rh}_2(4\text{S},5\text{R}-\text{MFLSO})_4$



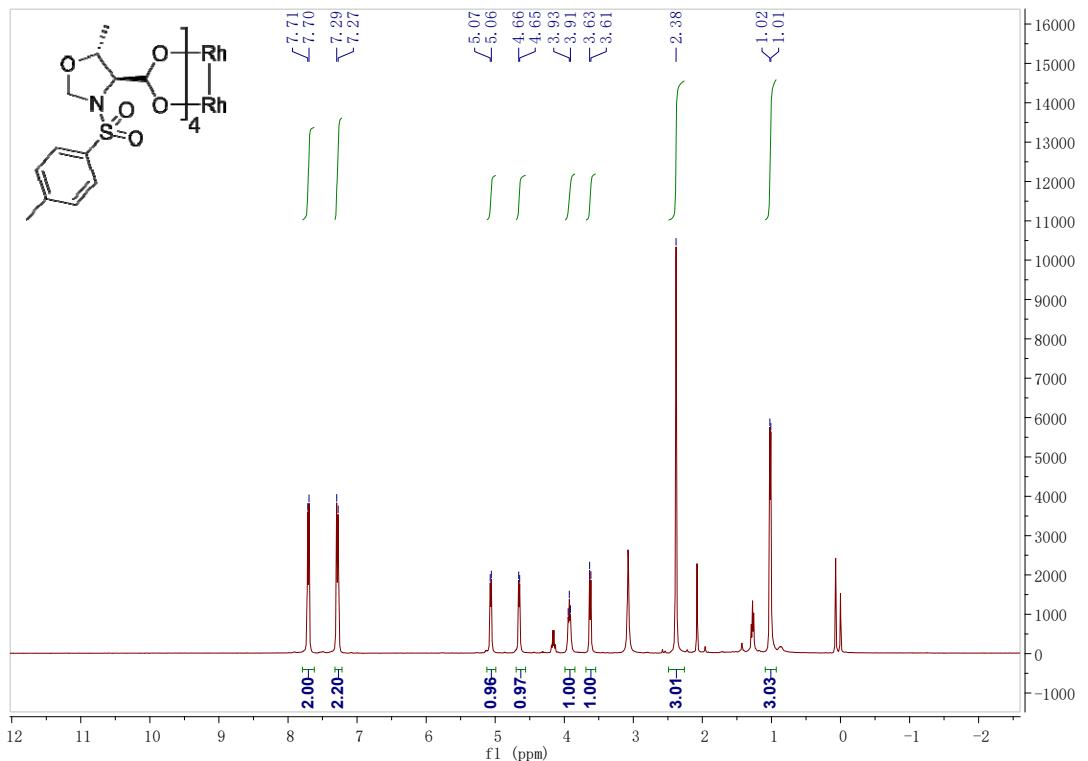
**Figure S38a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4\text{S},5\text{R}\text{-MTFSO})_4$



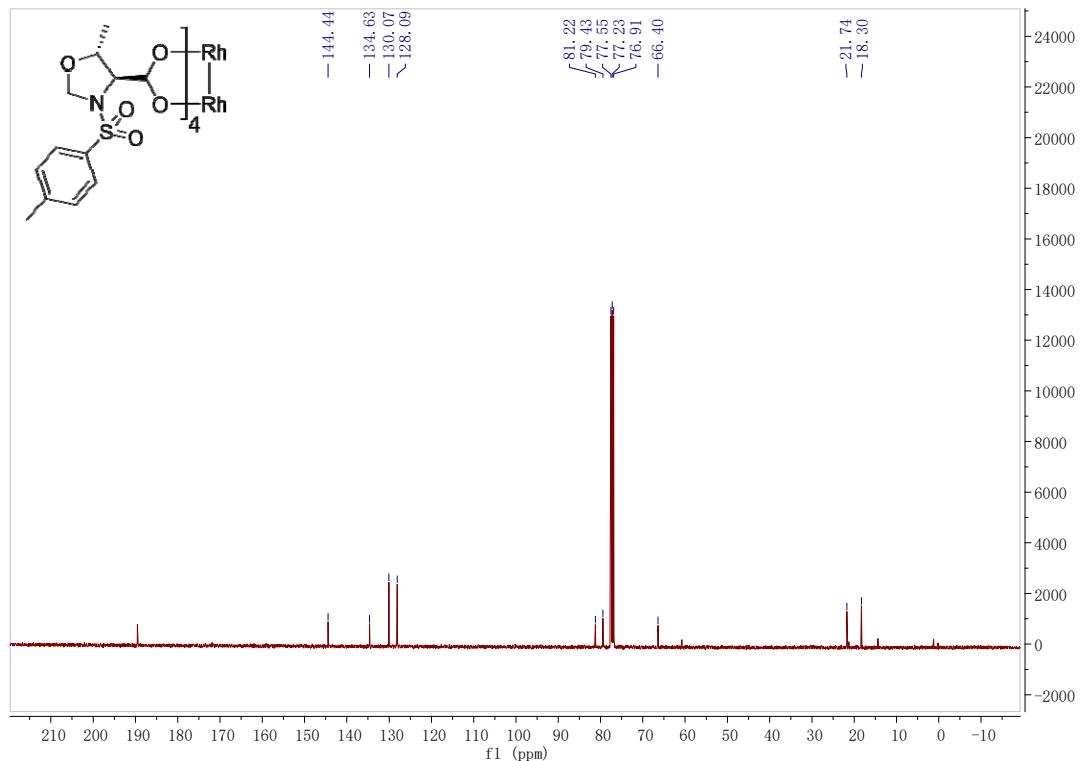
**Figure S38b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4\text{S},5\text{R}\text{-MTFSO})_4$



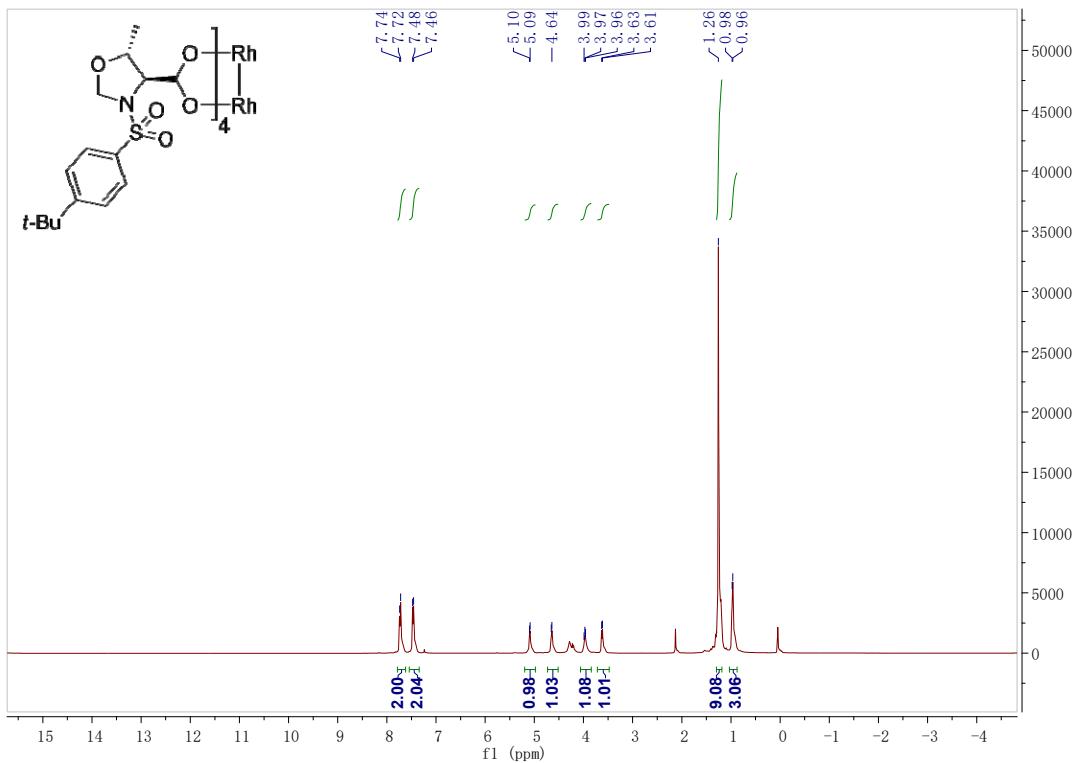
**Figure S38c:**  $^{19}\text{F}$  NMR (377 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4\text{S},5\text{R}-\text{MTFSO})_4$



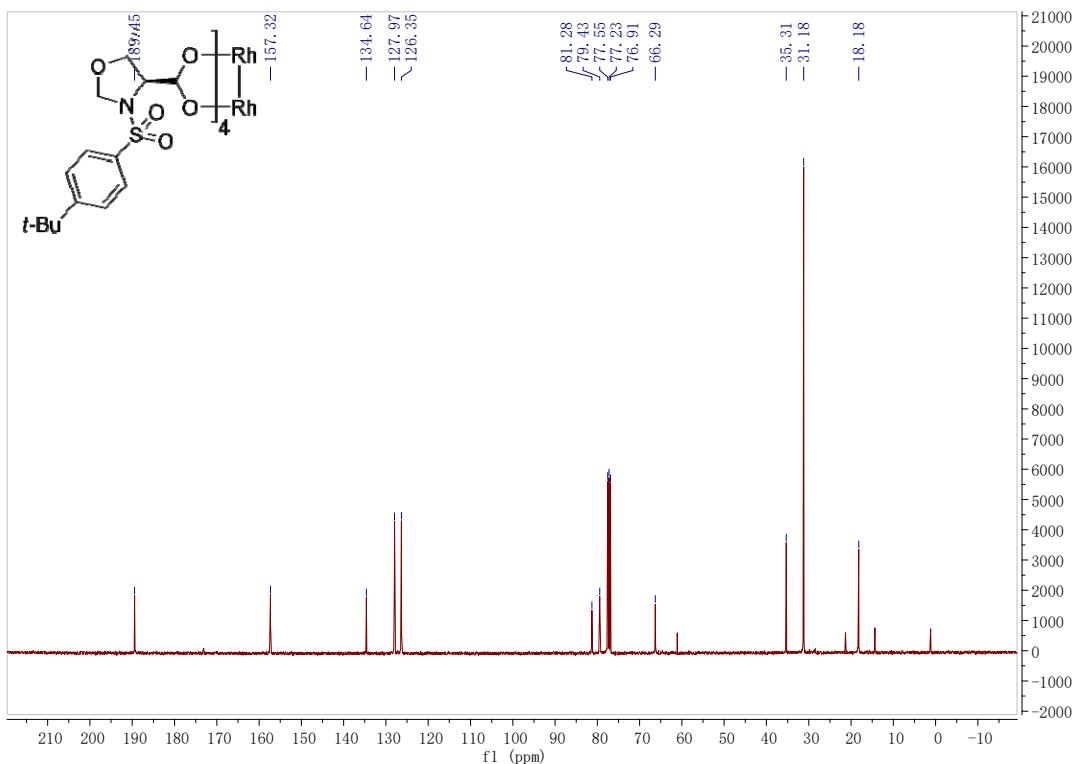
**Figure S39a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4\text{S},5\text{R}-\text{MMESO})_4$



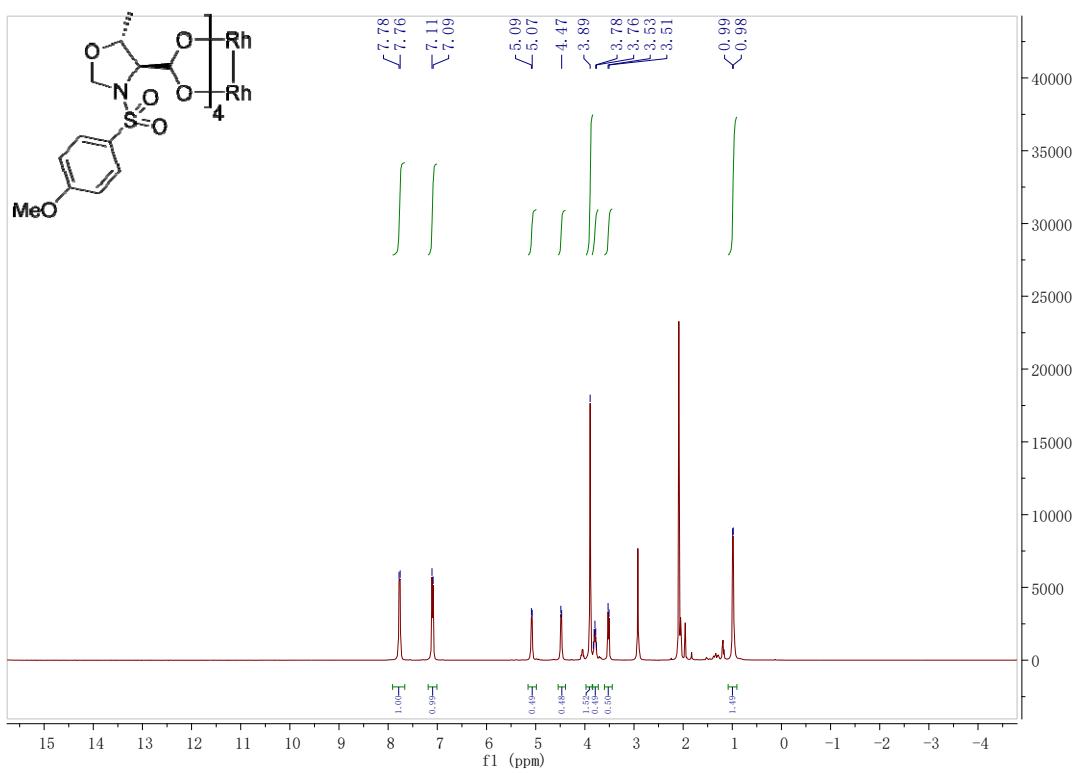
**Figure S39b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4\text{S},5\text{R}-\text{MMESO})_4$



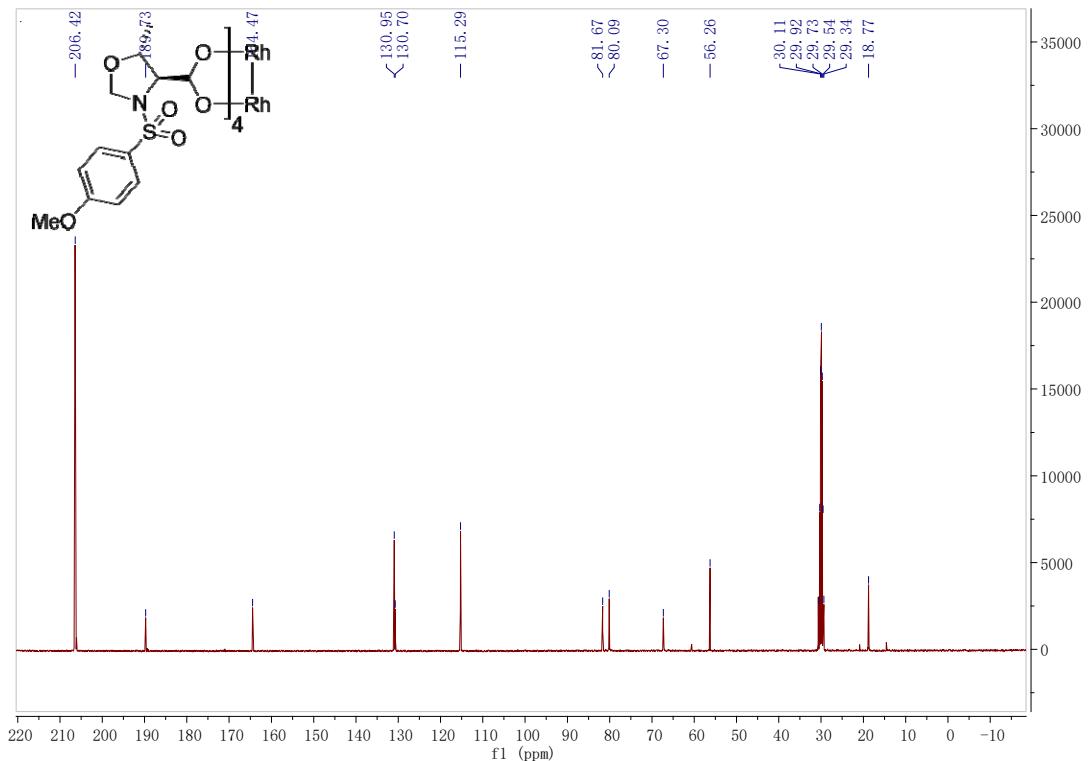
**Figure S40a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4\text{S},5\text{R}-\text{MTBSO})_4$



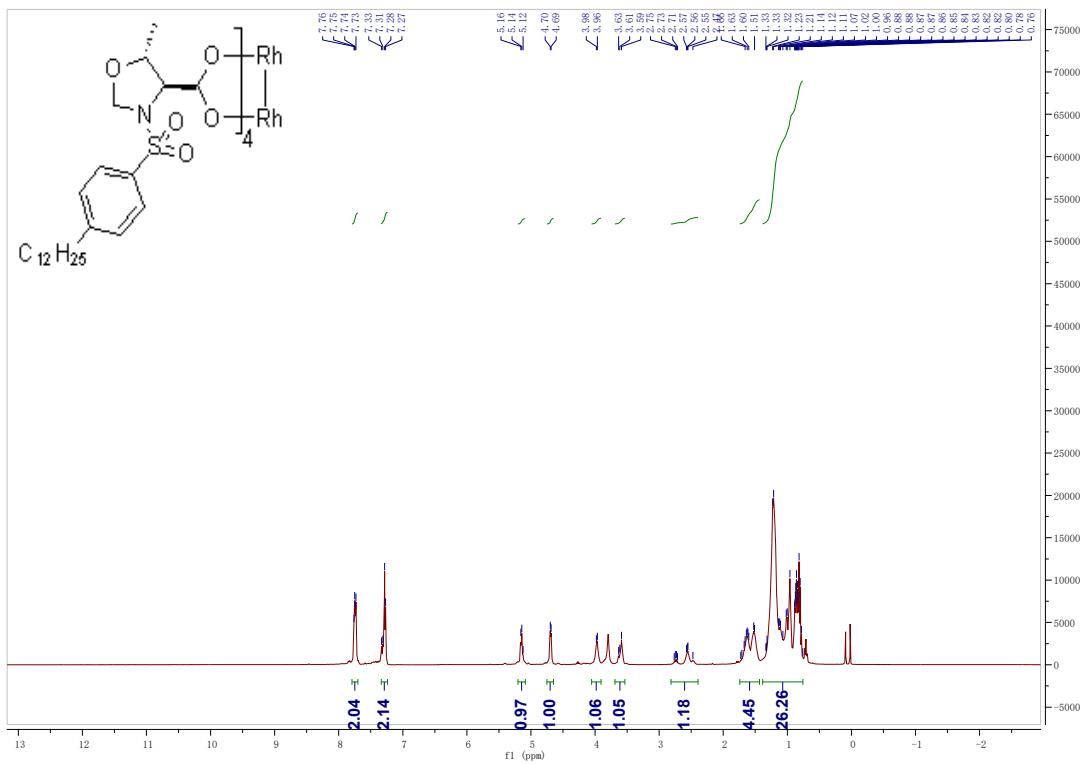
**Figure S40b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4\text{S},5\text{R}-\text{MTBSO})_4$



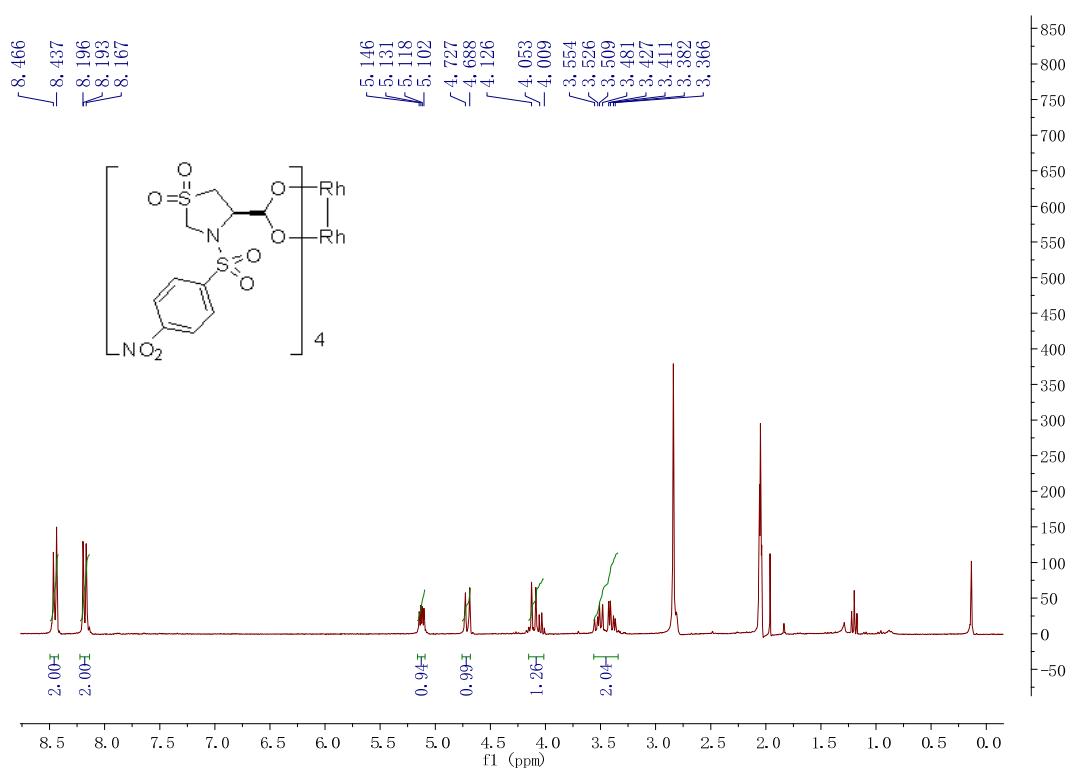
**Figure S41a:**  $^1\text{H}$  NMR (100 MHz, acetone- $d_6$ ) spectrum of  $\text{Rh}_2(4\text{S},5\text{R-MMOSO})_4$



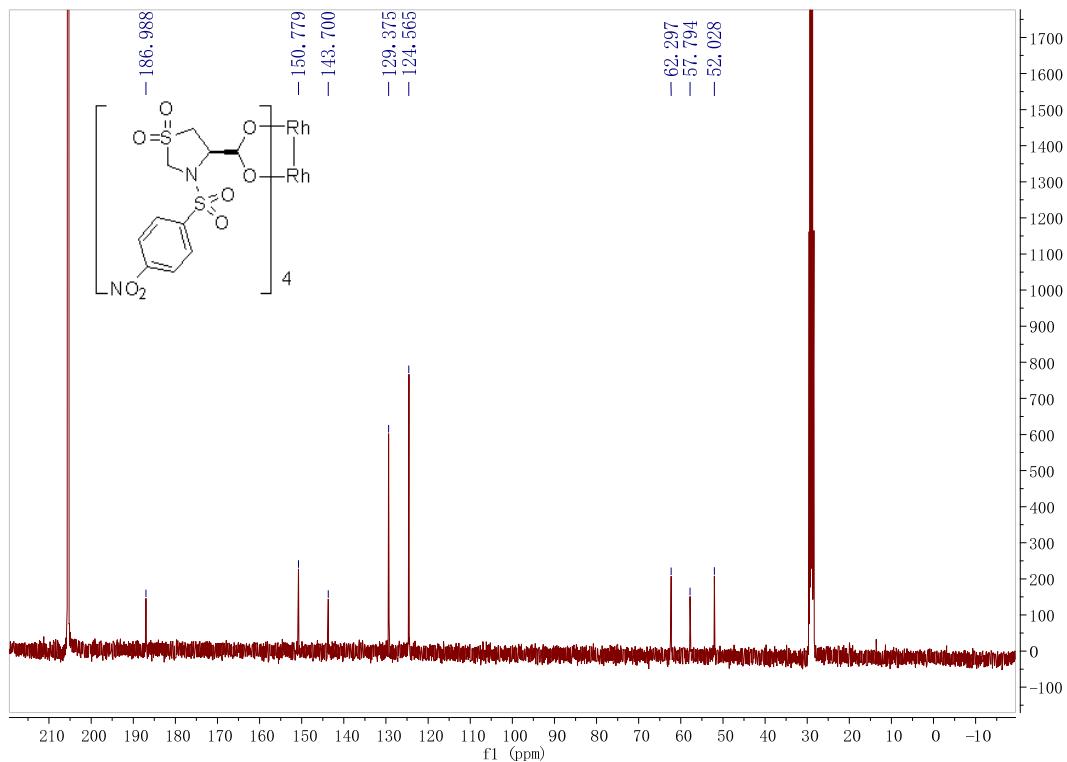
**Figure S41b:**  $^{13}\text{C}$  NMR (100 MHz, acetone- $d_6$ ) spectrum of  $\text{Rh}_2(4\text{S},5\text{R-MMOSO})_4$



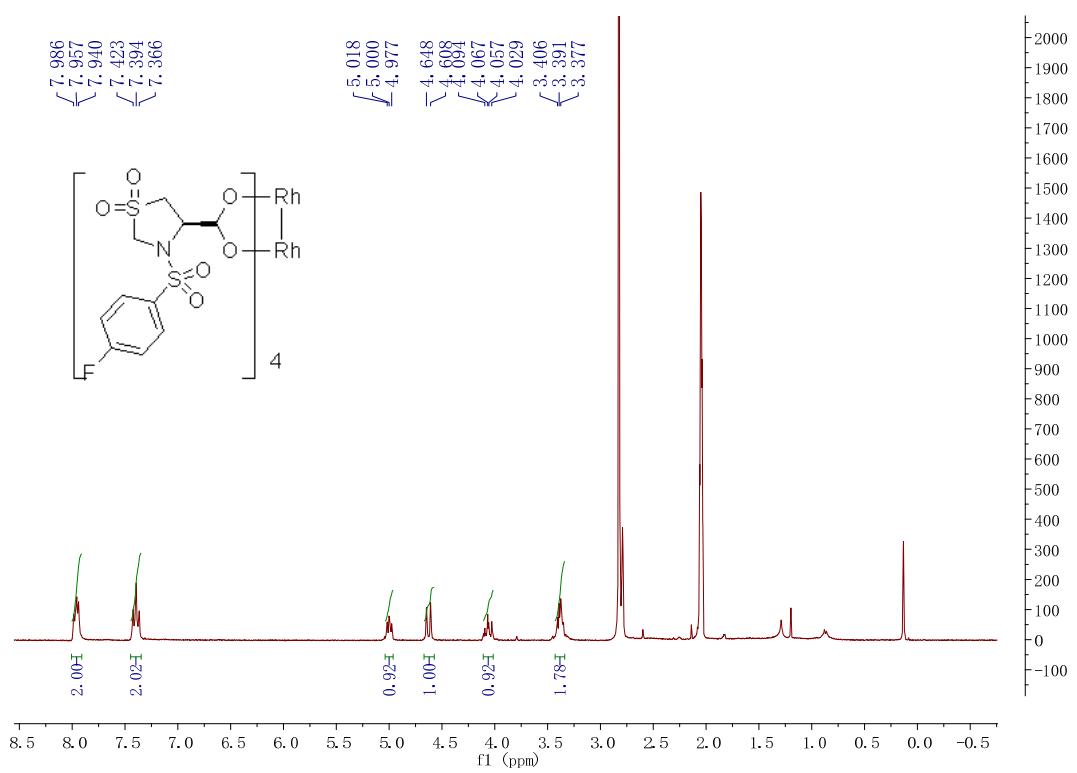
**Figure S42a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4\text{S},5\text{R}-\text{MDOSO})_4$



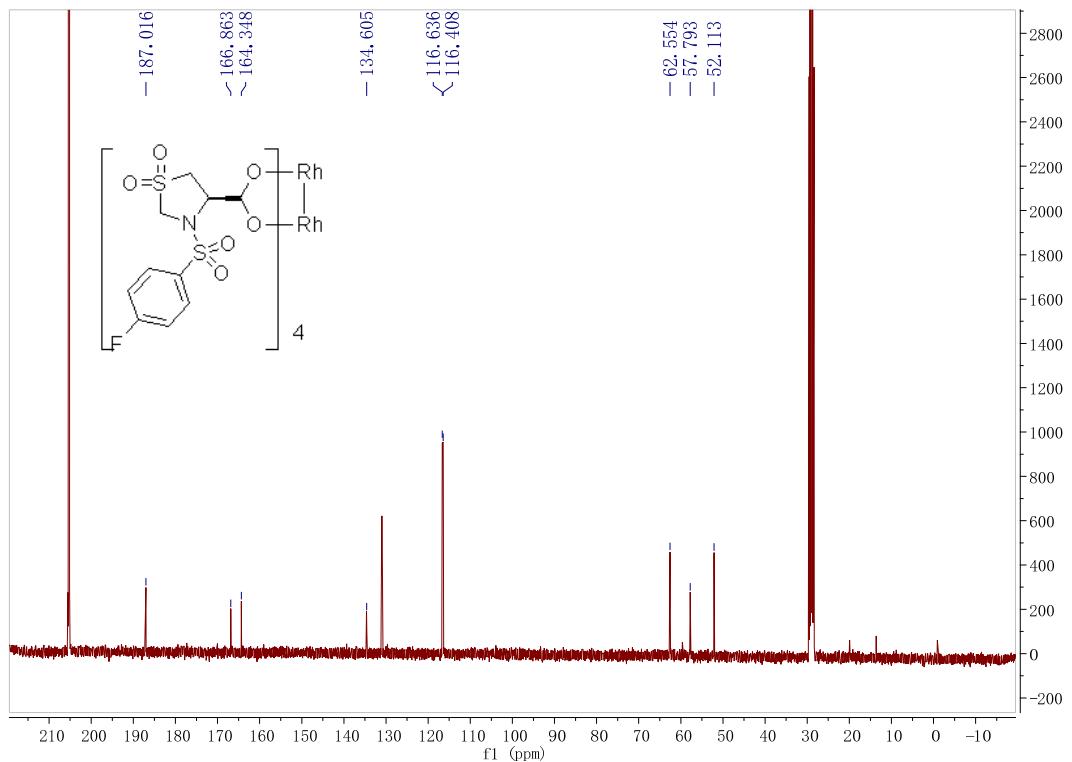
**Figure S43a:**  $^1\text{H}$  NMR (300 MHz, acetone-d<sub>6</sub>) spectrum of  $\text{Rh}_2(4\text{R-NOST})_4$



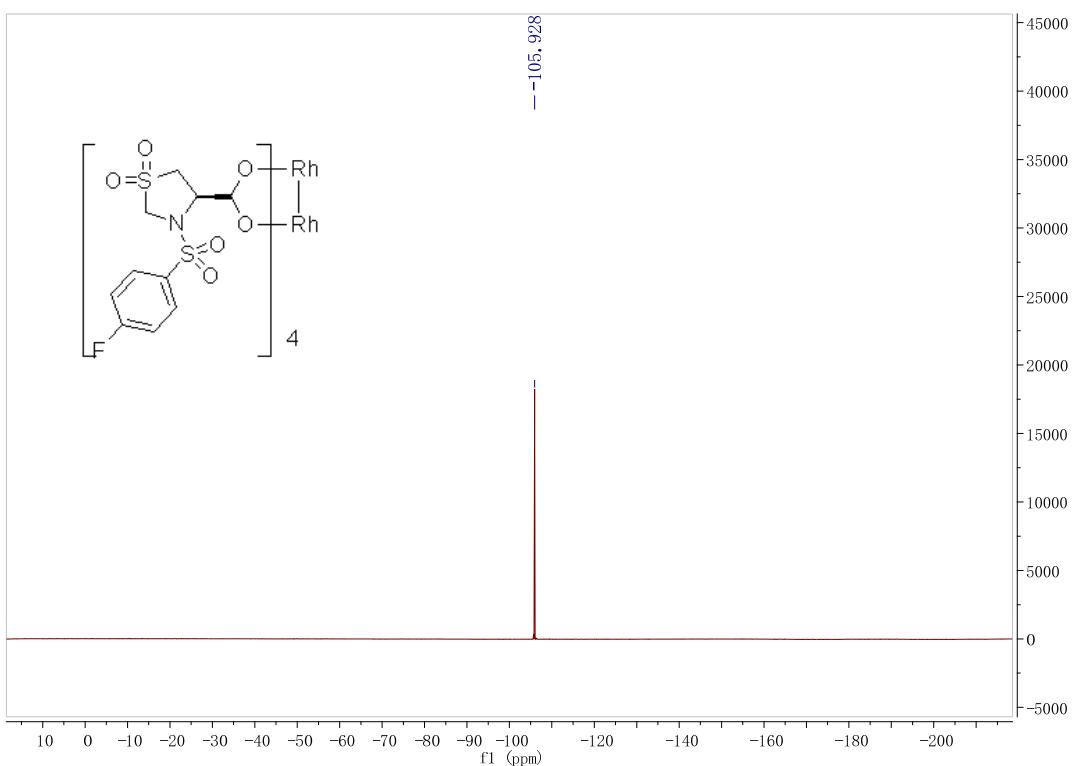
**Figure S43b:**  $^{13}\text{C}$  NMR (100 MHz, acetone-d<sub>6</sub>) spectrum of  $\text{Rh}_2(4\text{R-NOST})_4$



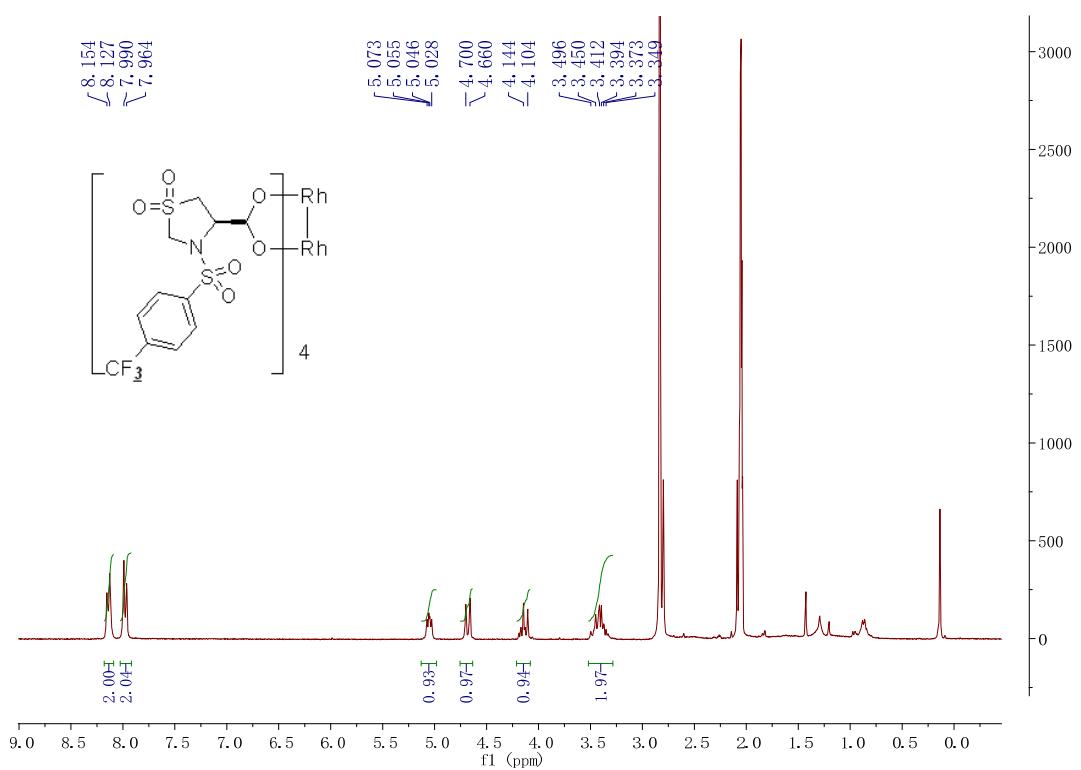
**Figure S44a:**  $^1\text{H}$  NMR (300 MHz, acetone- $d_6$ ) spectrum of  $\text{Rh}_2(4\text{R-FLST})_4$



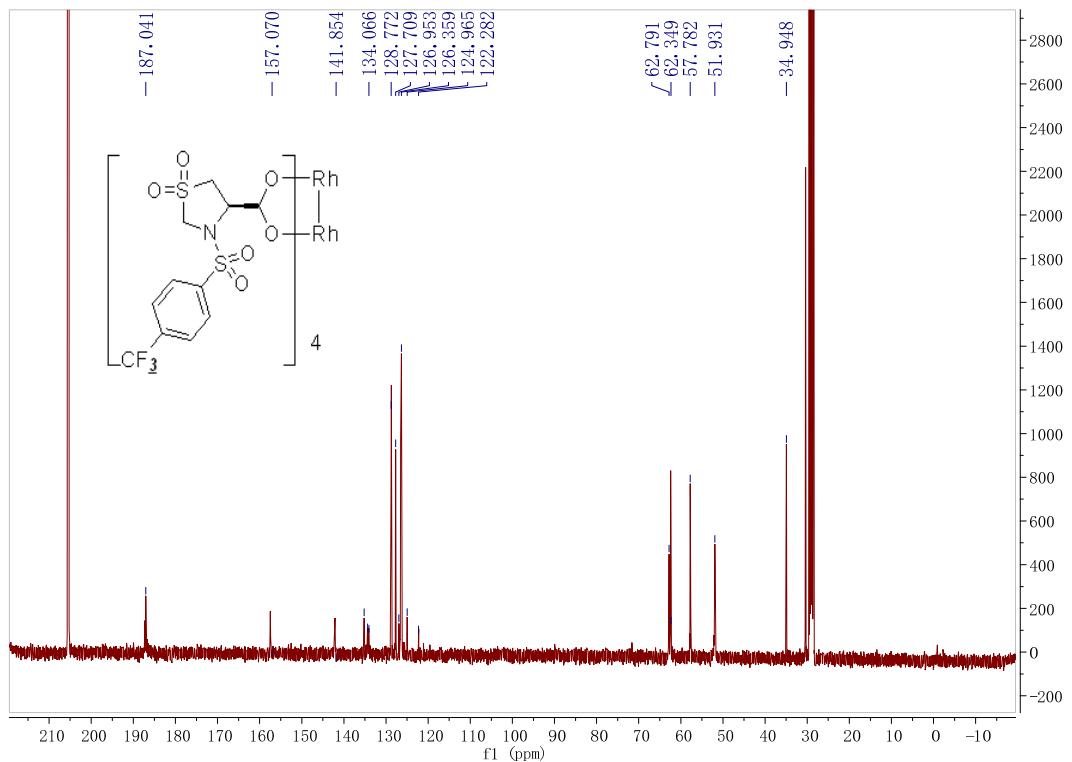
**Figure S44b:**  $^{13}\text{C}$  NMR (100 MHz, acetone- $d_6$ ) spectrum of  $\text{Rh}_2(4\text{R-FLST})_4$



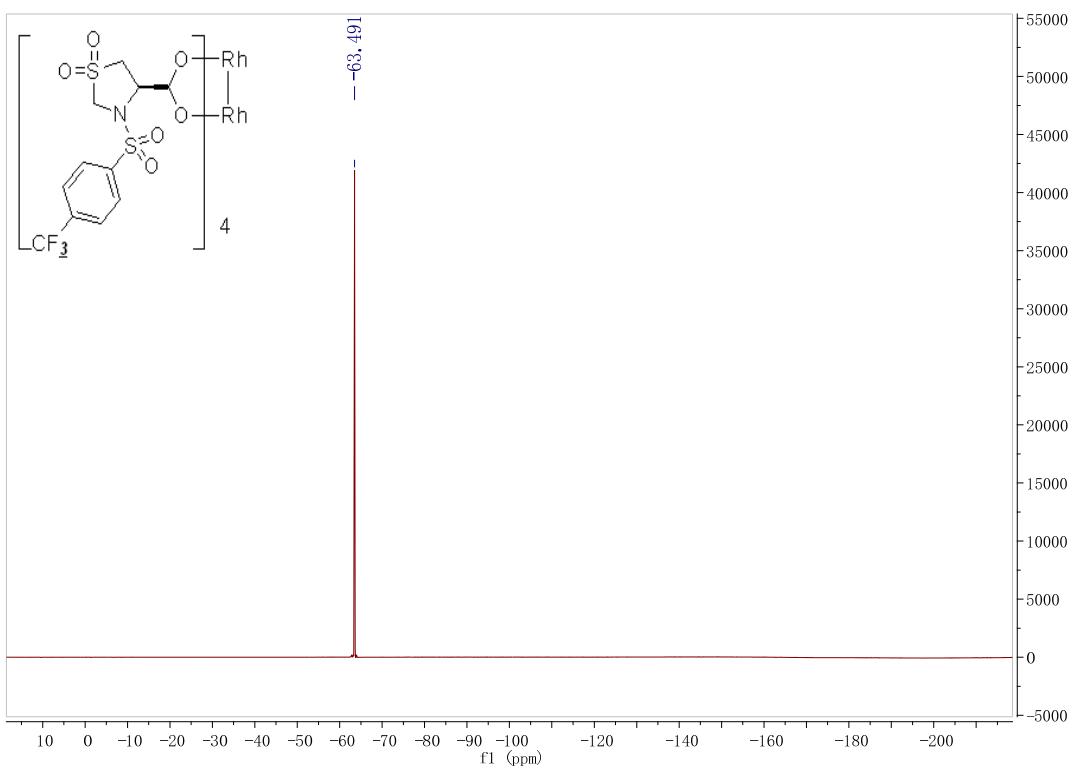
**Figure S44c:**  $^{19}\text{F}$  NMR (377 MHz, acetone- $\text{d}_6$ ) spectrum of  $\text{Rh}_2(4\text{R-FLST})_4$



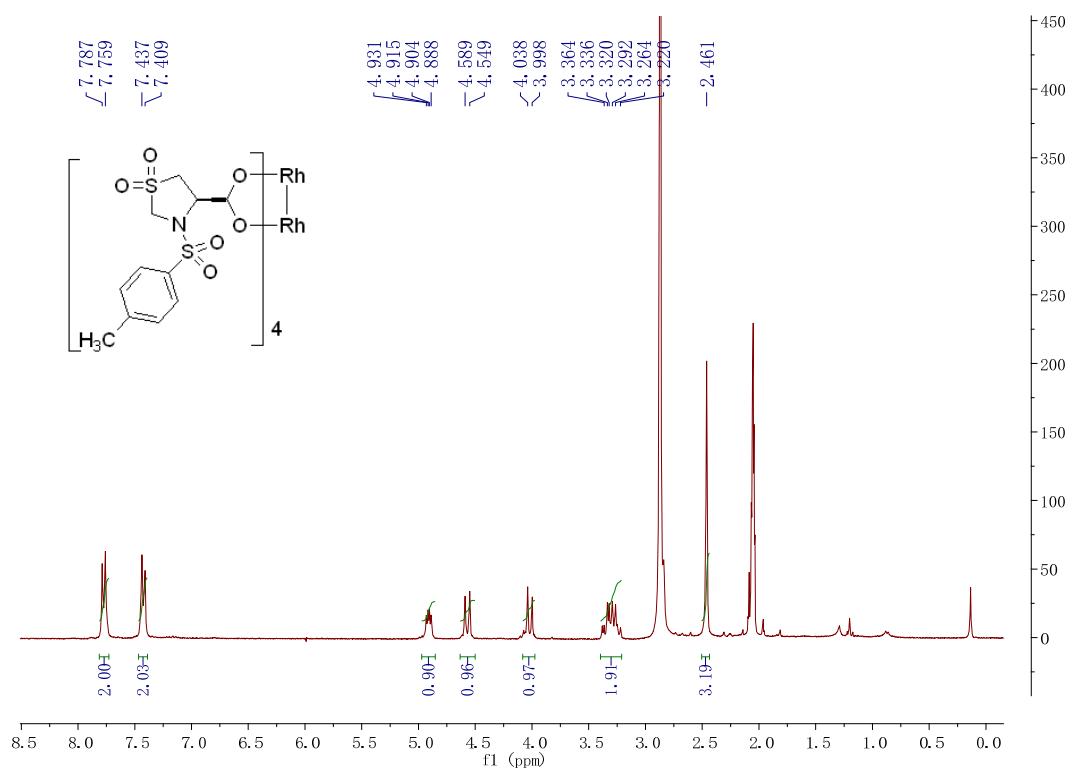
**Figure S45a:**  $^1\text{H}$  NMR (300MHz, acetone- $d_6$ ) spectrum of  $\text{Rh}_2(4\text{R-TFST})_4$



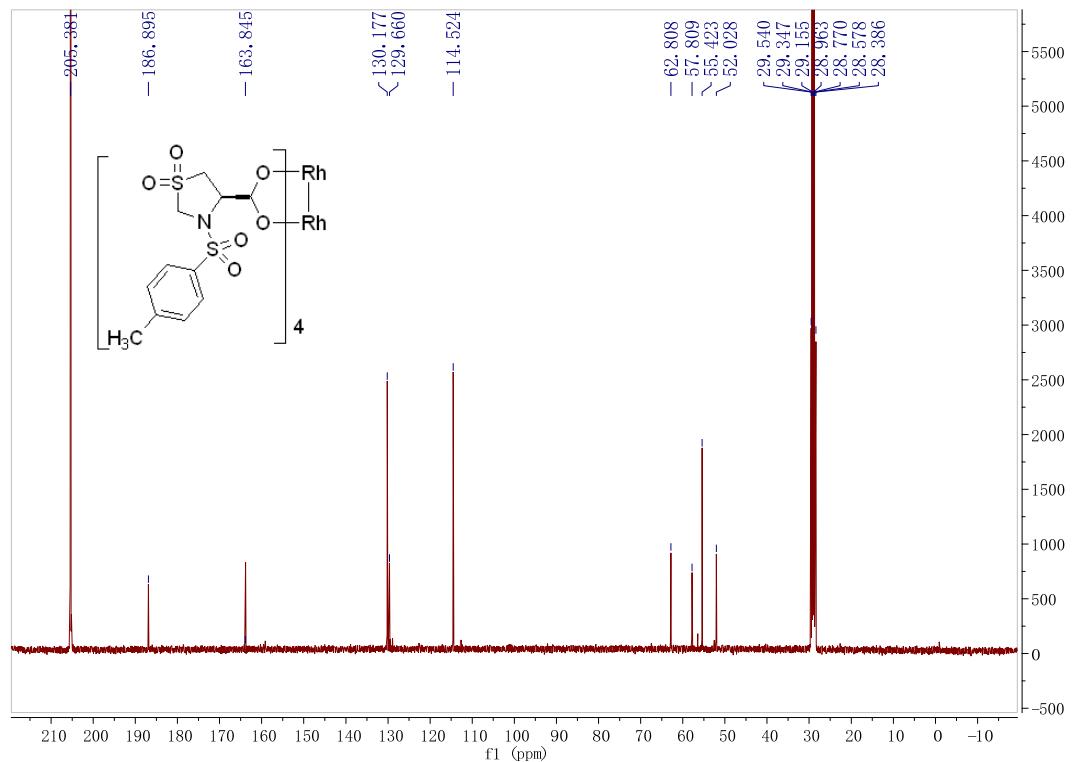
**Figure S45b:**  $^{13}\text{C}$  NMR (100 MHz, acetone- $d_6$ ) spectrum of  $\text{Rh}_2(4\text{R-TFST})_4$



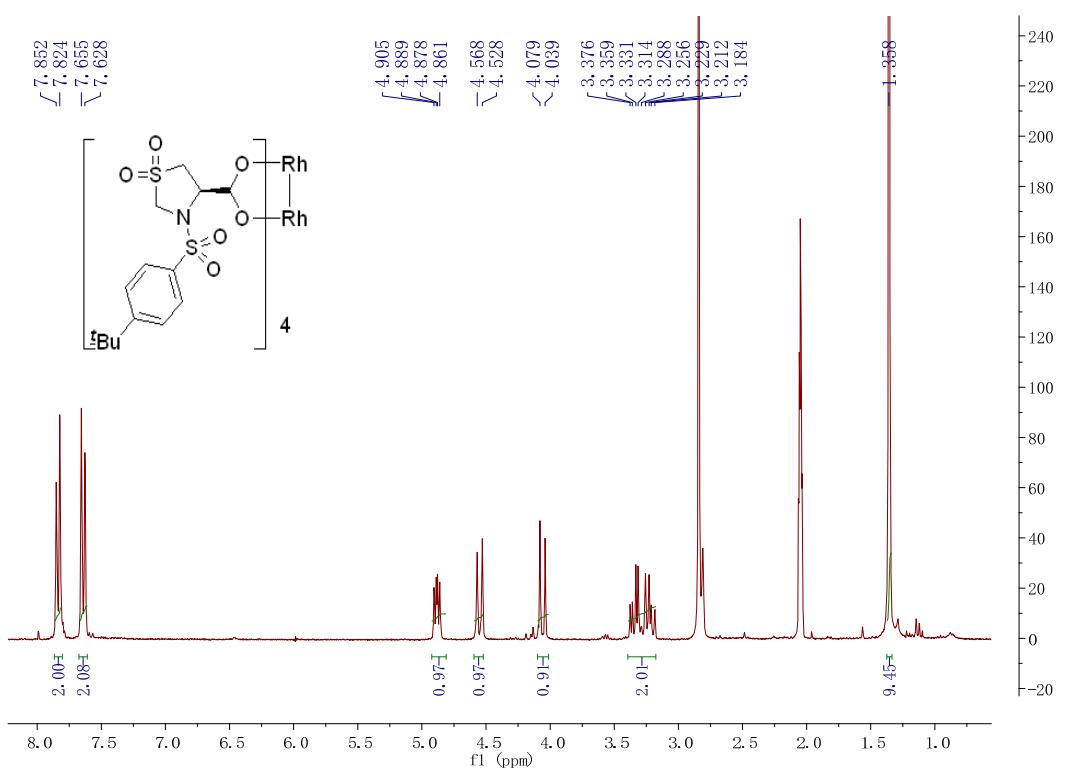
**Figure S45c:**  $^{19}\text{F}$  NMR (377 MHz, acetone- $\text{d}_6$ ) spectrum of  $\text{Rh}_2(4\text{R-TFST})_4$



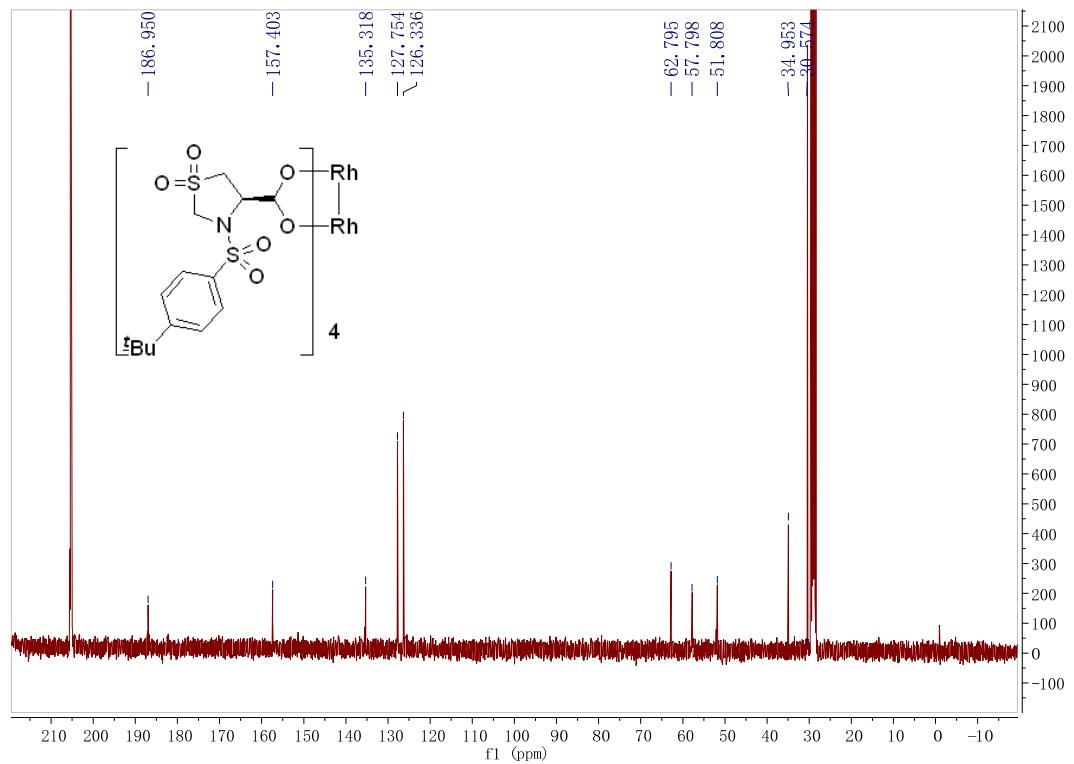
**Figure S46a:** <sup>1</sup>H NMR (300 MHz, acetone-d<sub>6</sub>) spectrum of **Rh<sub>2</sub>(4R-MEST)<sub>4</sub>**



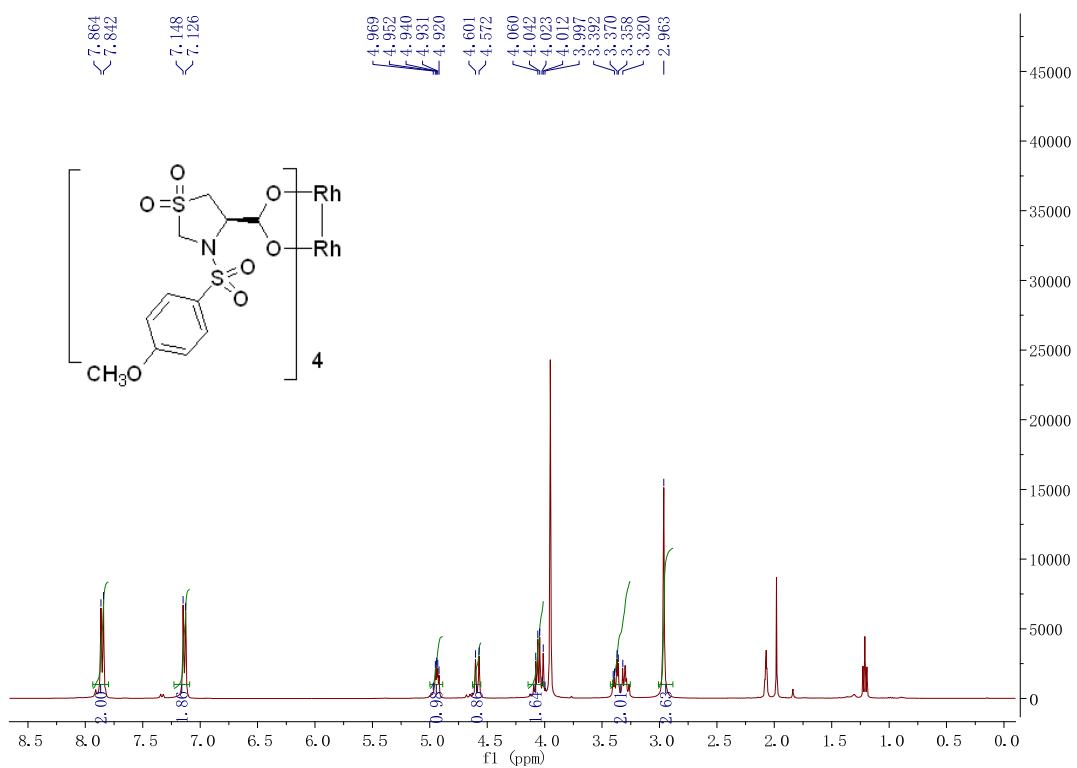
**Figure S46b:** <sup>13</sup>C NMR (100 MHz, acetone-d<sub>6</sub>) spectrum of **Rh<sub>2</sub>(4R-MEST)<sub>4</sub>**



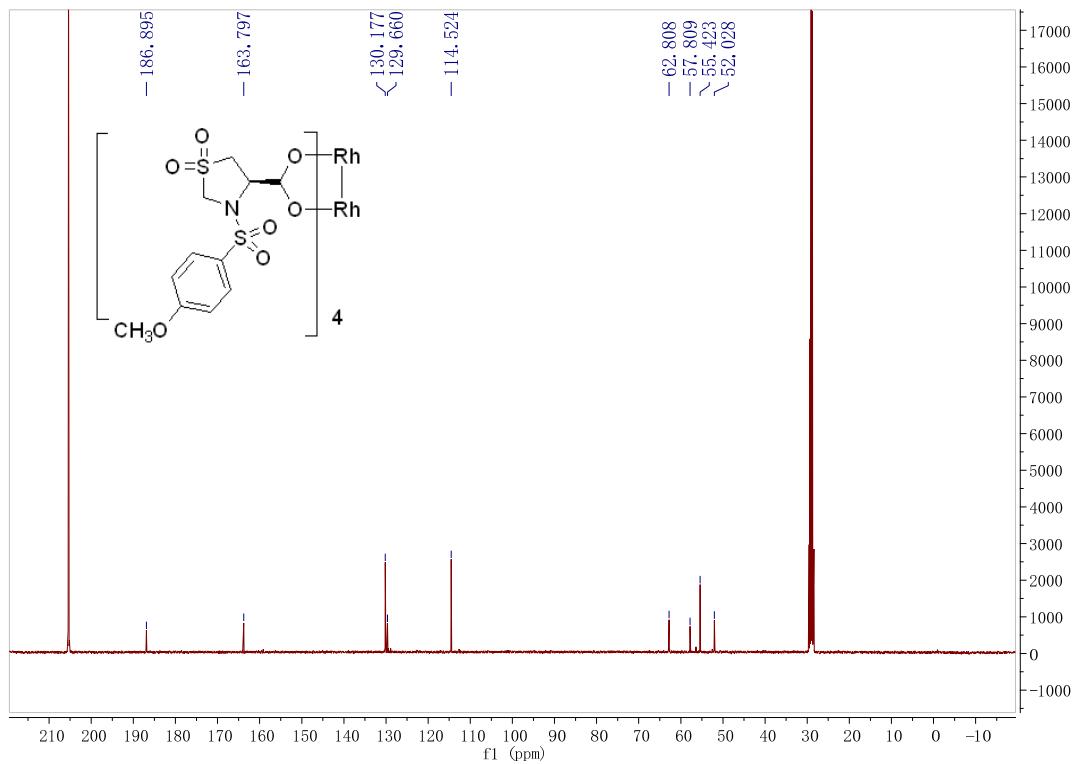
**Figure S47a:**  $^1\text{H}$  NMR (300 MHz, acetone- $\text{d}_6$ ) spectrum of  $\text{Rh}_2(4\text{R-TBST})_4$



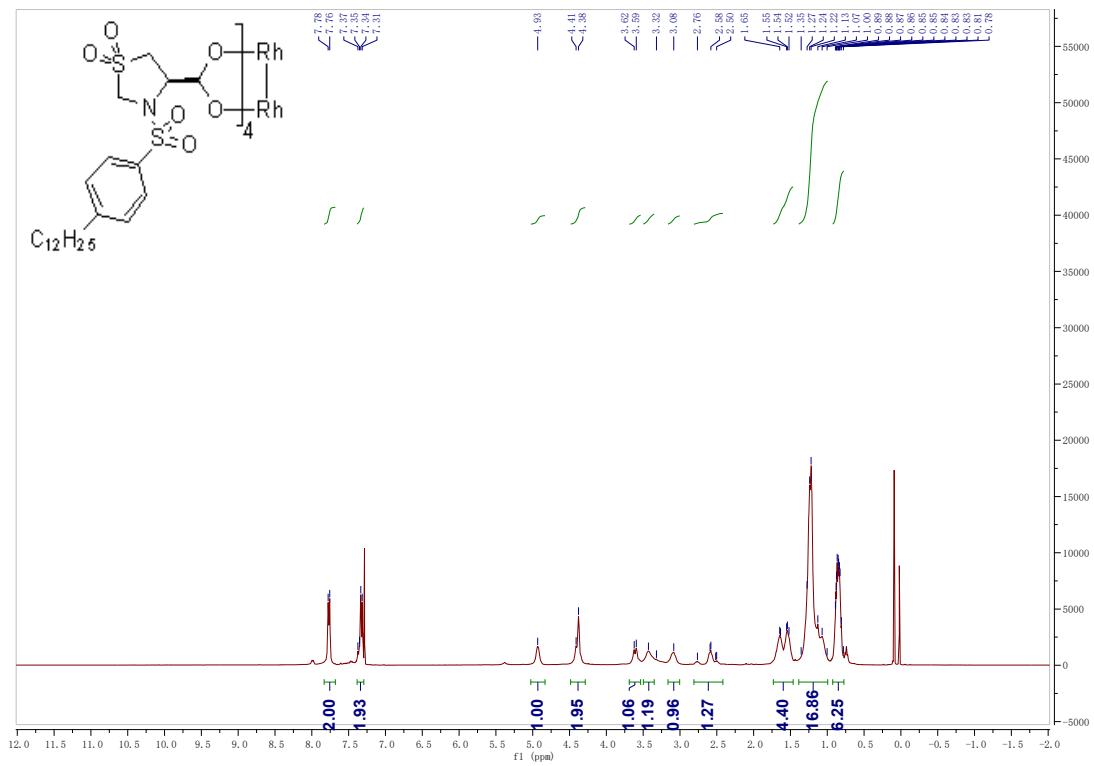
**Figure S47b:**  $^{13}\text{C}$  NMR (100 MHz, acetone- $\text{d}_6$ ) spectrum of  $\text{Rh}_2(4\text{R-TBST})_4$



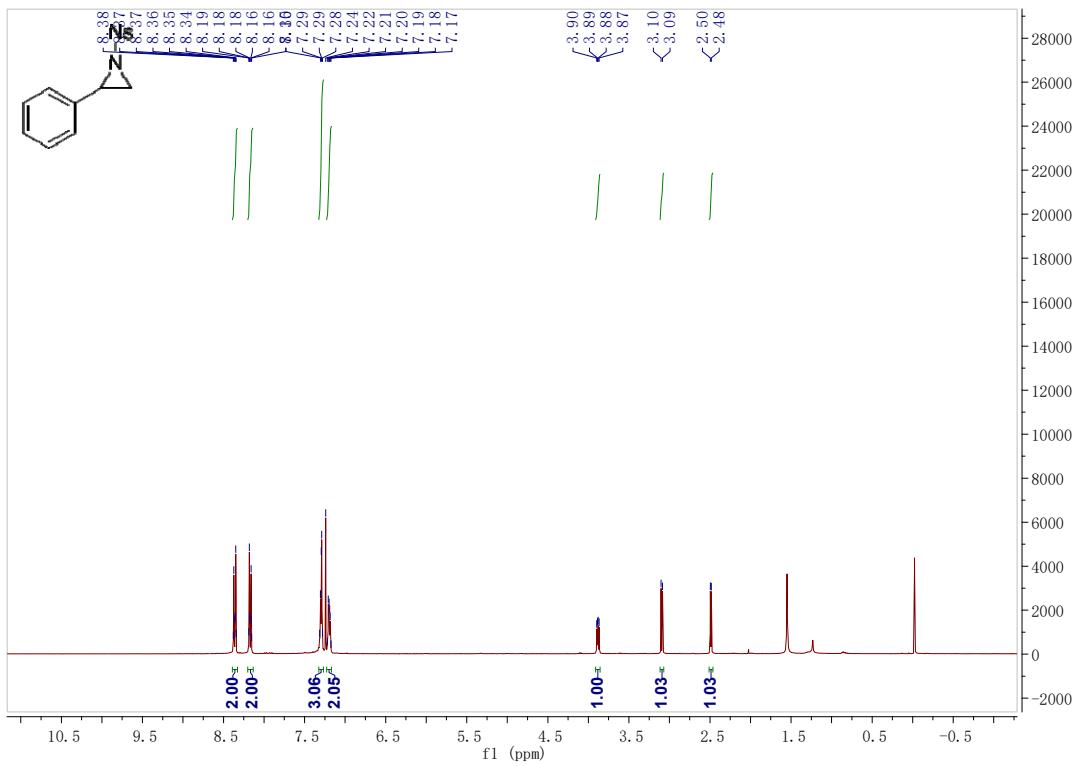
**Figure S48a:**  $^1\text{H}$  NMR (400 MHz, acetone-d<sub>6</sub>) spectrum of  $\text{Rh}_2(4R\text{-MOST})_4$



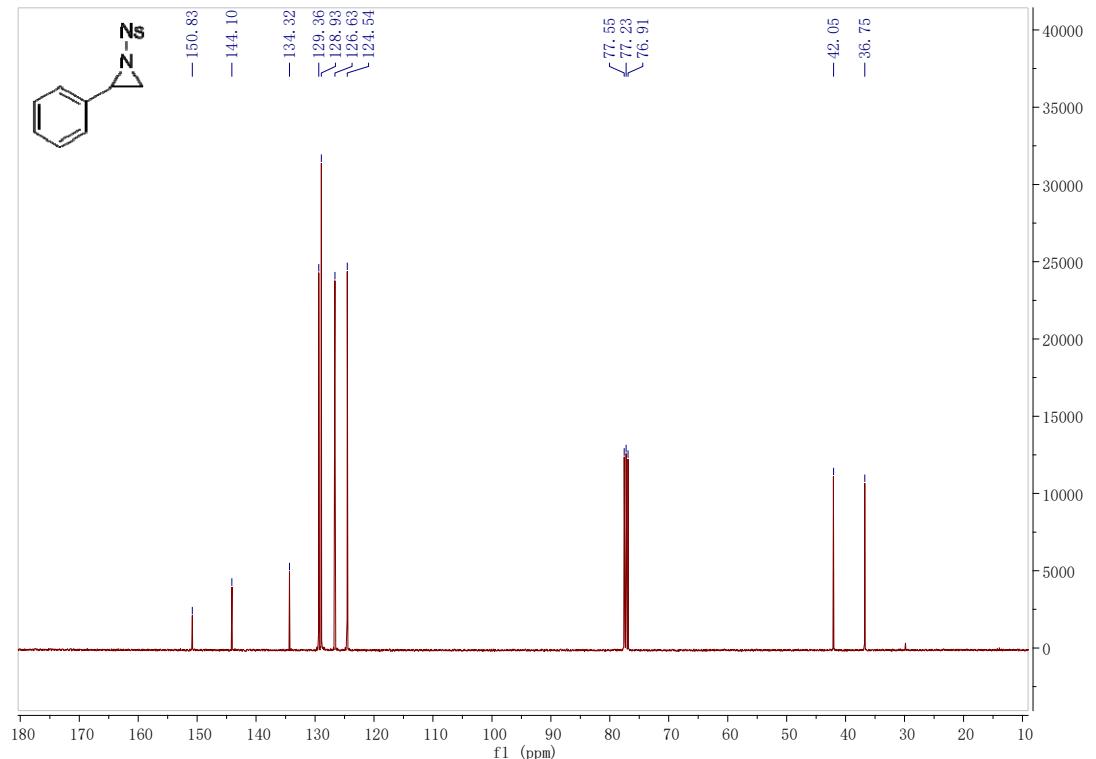
**Figure S48b:**  $^{13}\text{C}$  NMR (100 MHz, acetone-d<sub>6</sub>) spectrum of  $\text{Rh}_2(4R\text{-MOST})_4$



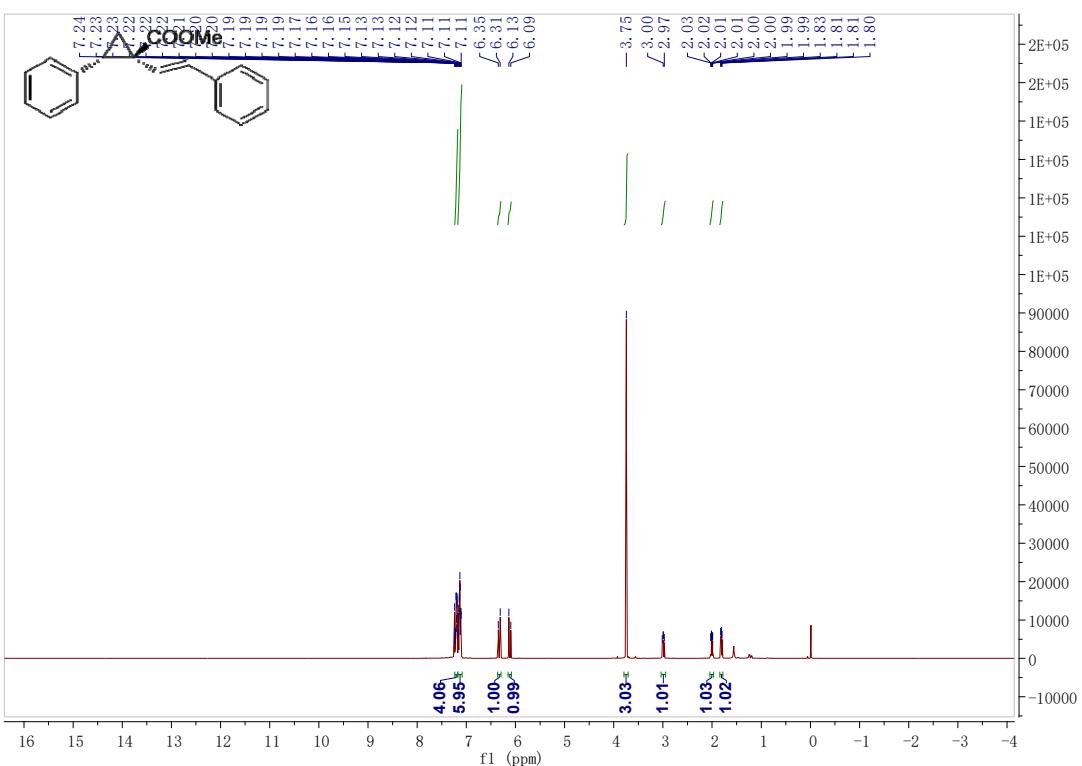
**Figure S49a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of  $\text{Rh}_2(4R\text{-DOST})_4$



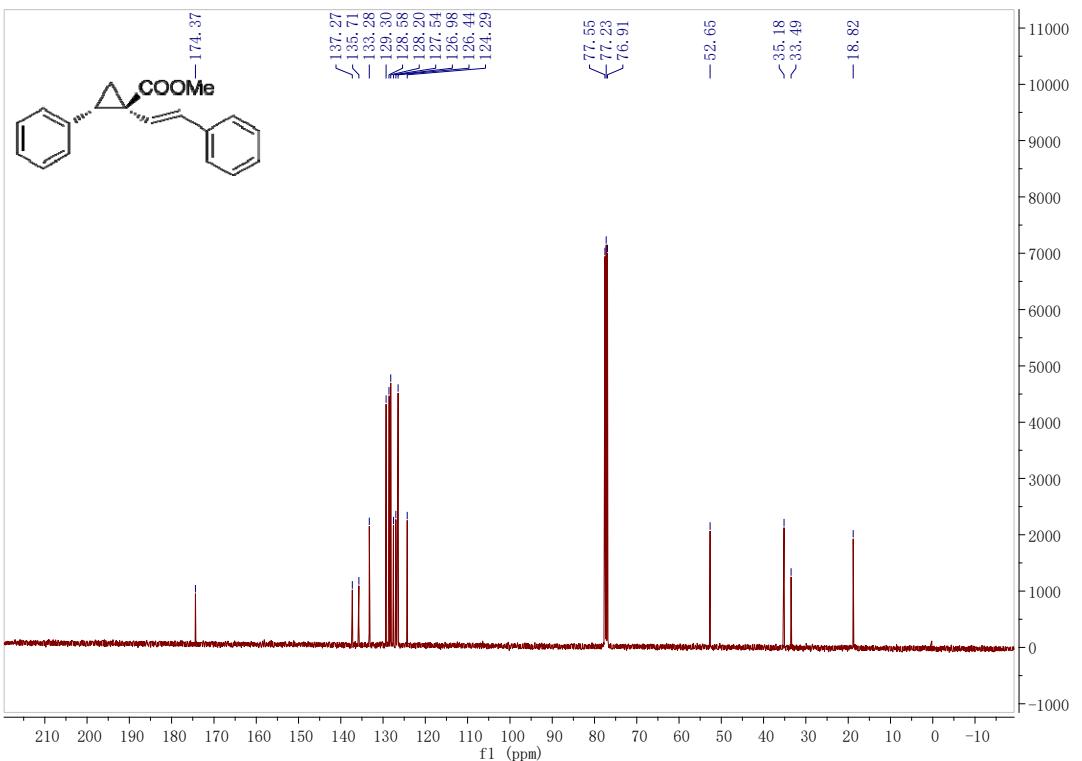
**Figure S50a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of **1-((4-nitrophenyl)sulfonyl)-2-phenylaziridine (1)**



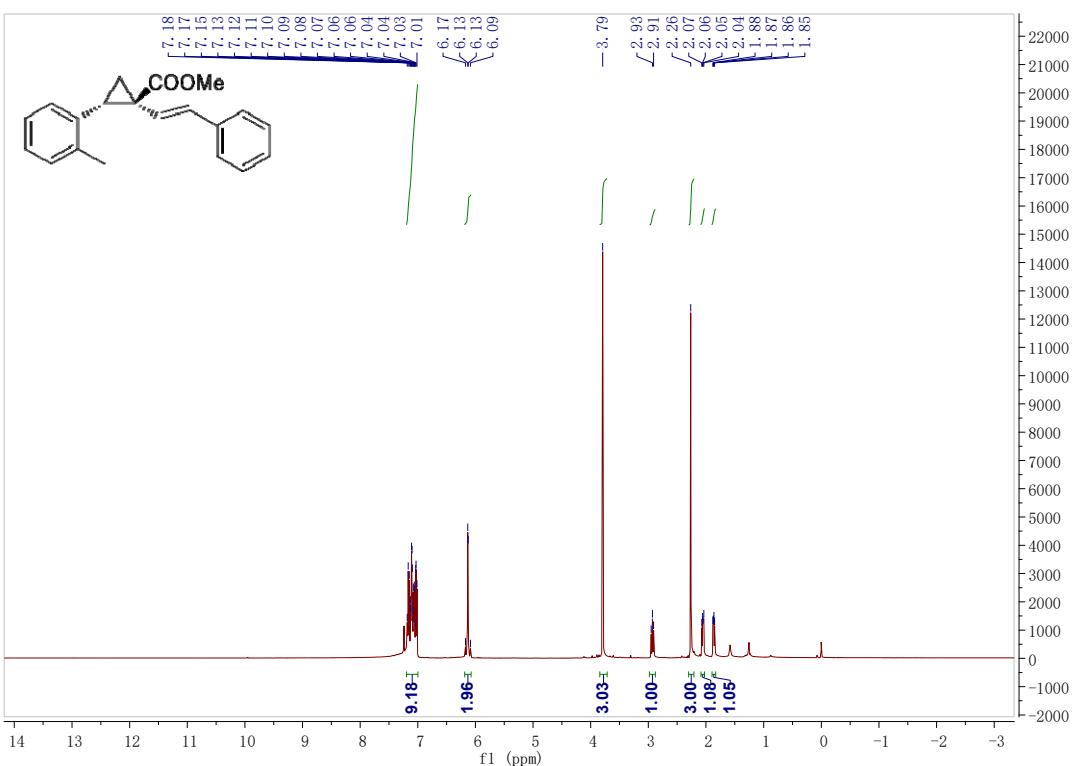
**Figure S50b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of **1-((4-nitrophenyl)sulfonyl)-2-phenylaziridine (1)**



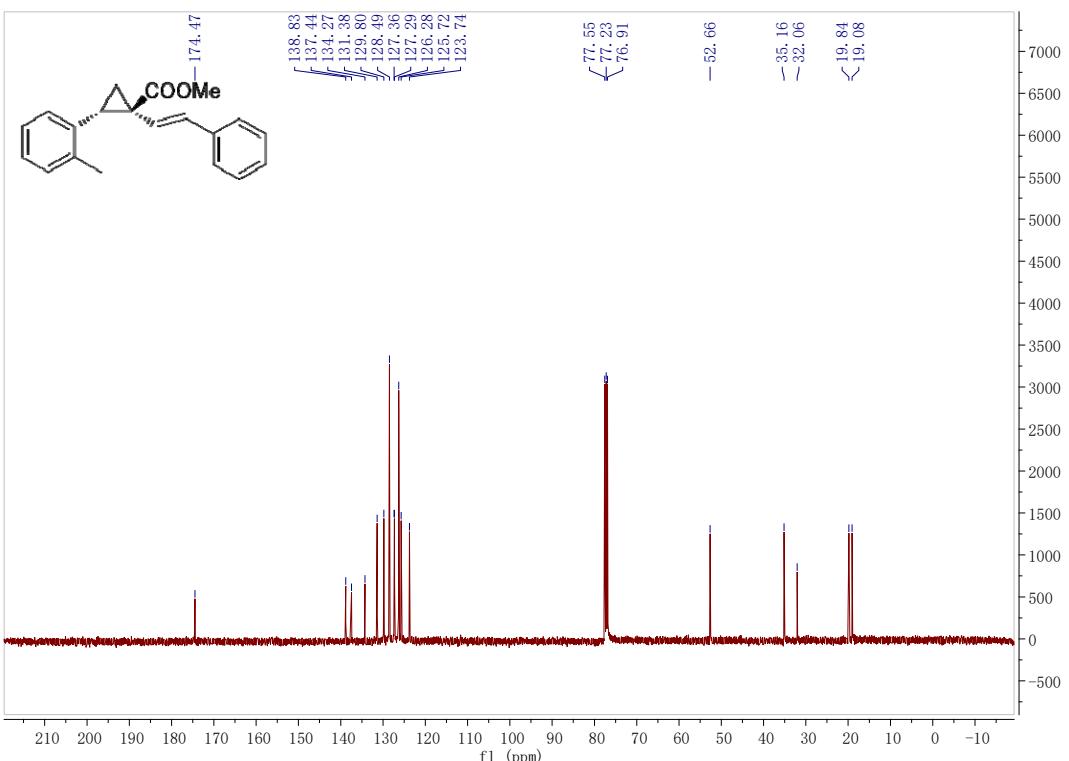
**Figure S51a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of (1*S*,2*S*)-Methyl 2-Phenyl-1-((*E*)-styryl)cyclopropanecarboxylate (**2a**)



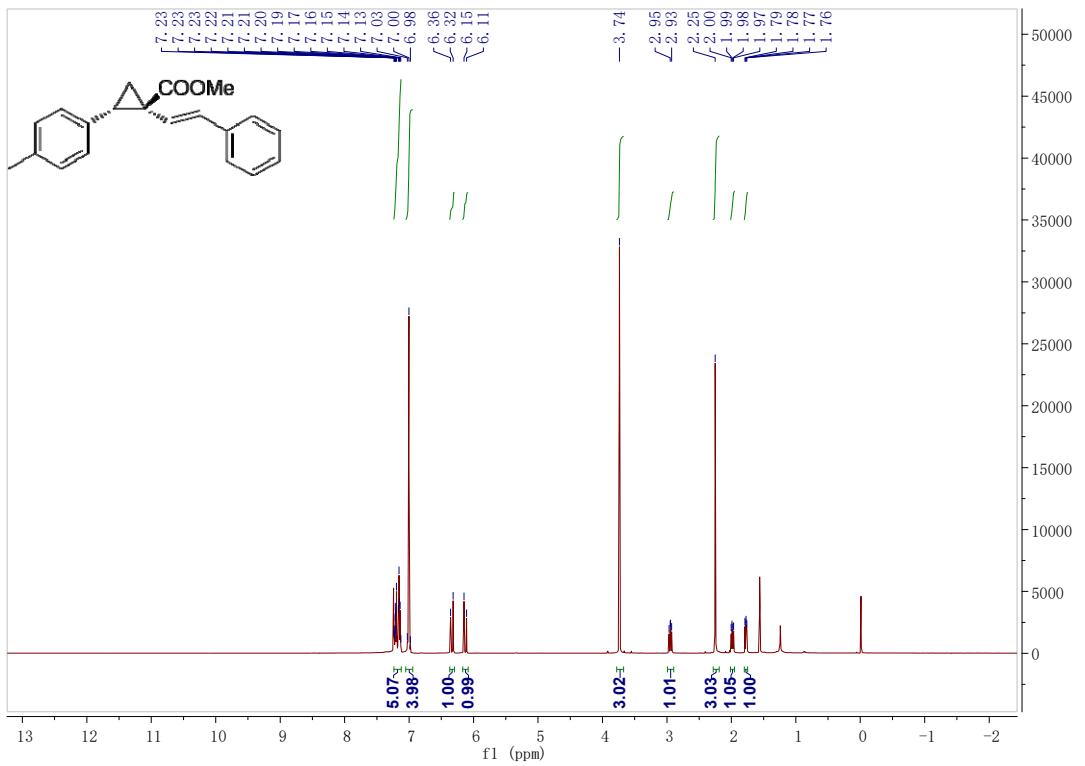
**Figure S51b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of (1*S*,2*S*)-Methyl 2-Phenyl-1-((*E*)-styryl)cyclopropanecarboxylate (**2a**)



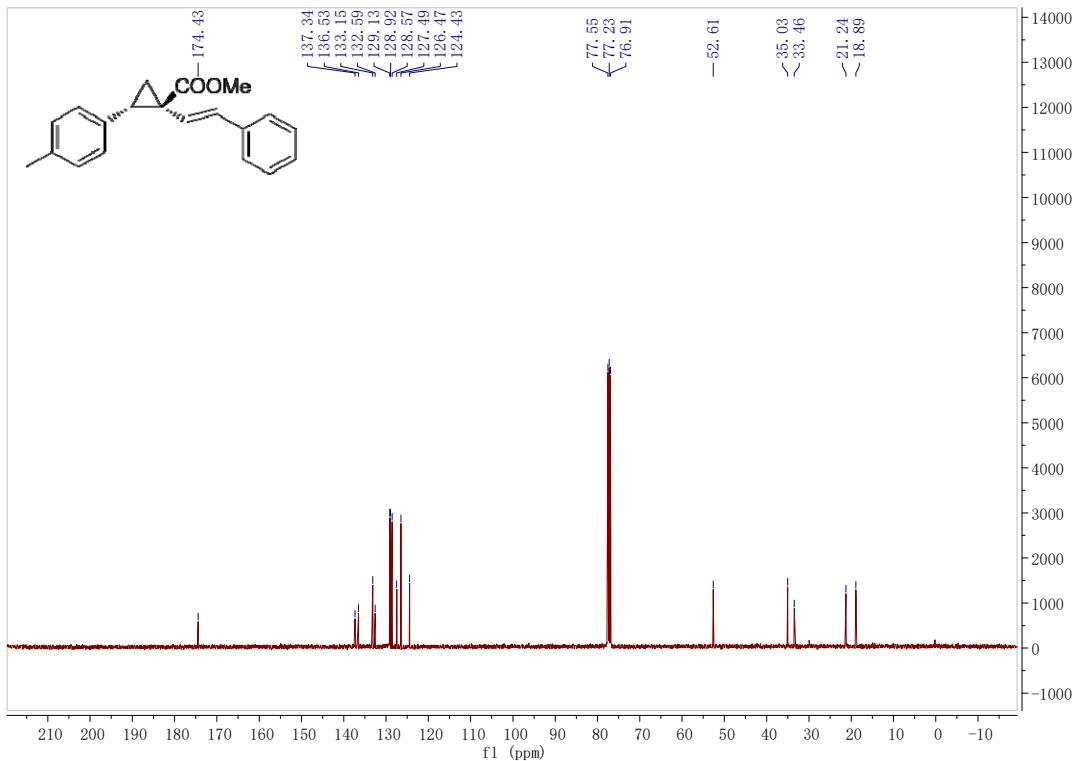
**Figure S52a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of **(1S,2S)-Methyl 1-((E)-Styryl)-2-(*o*-tolyl)cyclopropanecarboxylate (2b)**



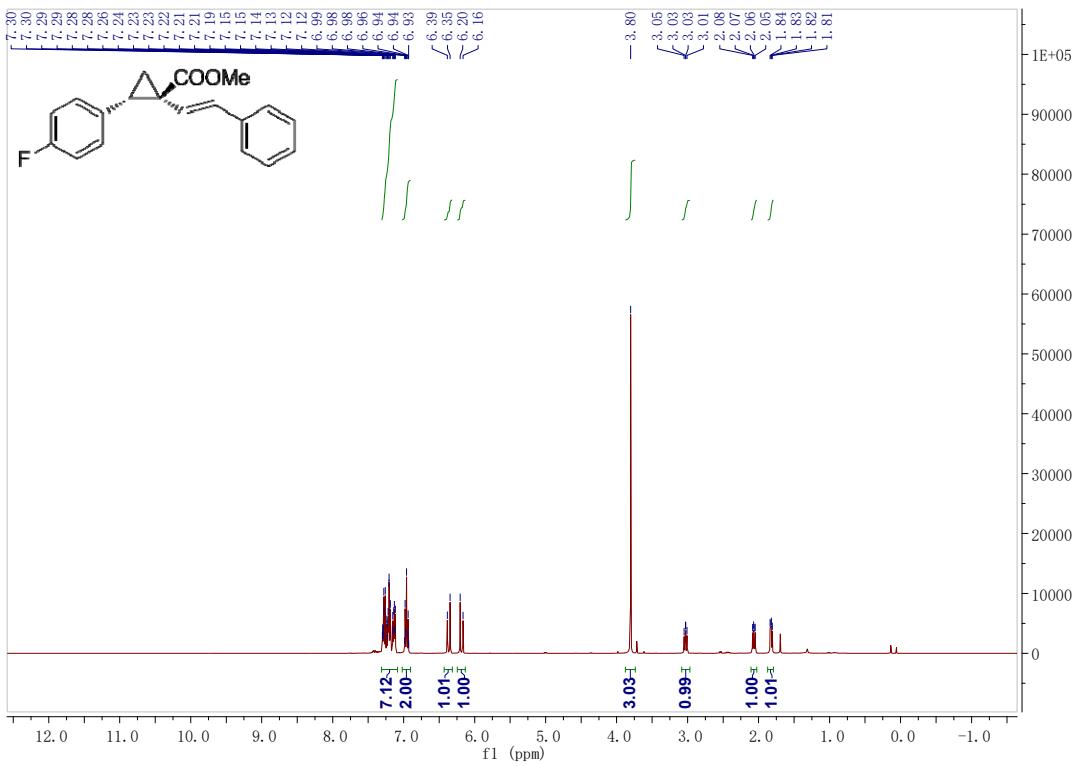
**Figure S52b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of **(1S,2S)-Methyl 1-((E)-Styryl)-2-(*o*-tolyl)cyclopropanecarboxylate (2b)**



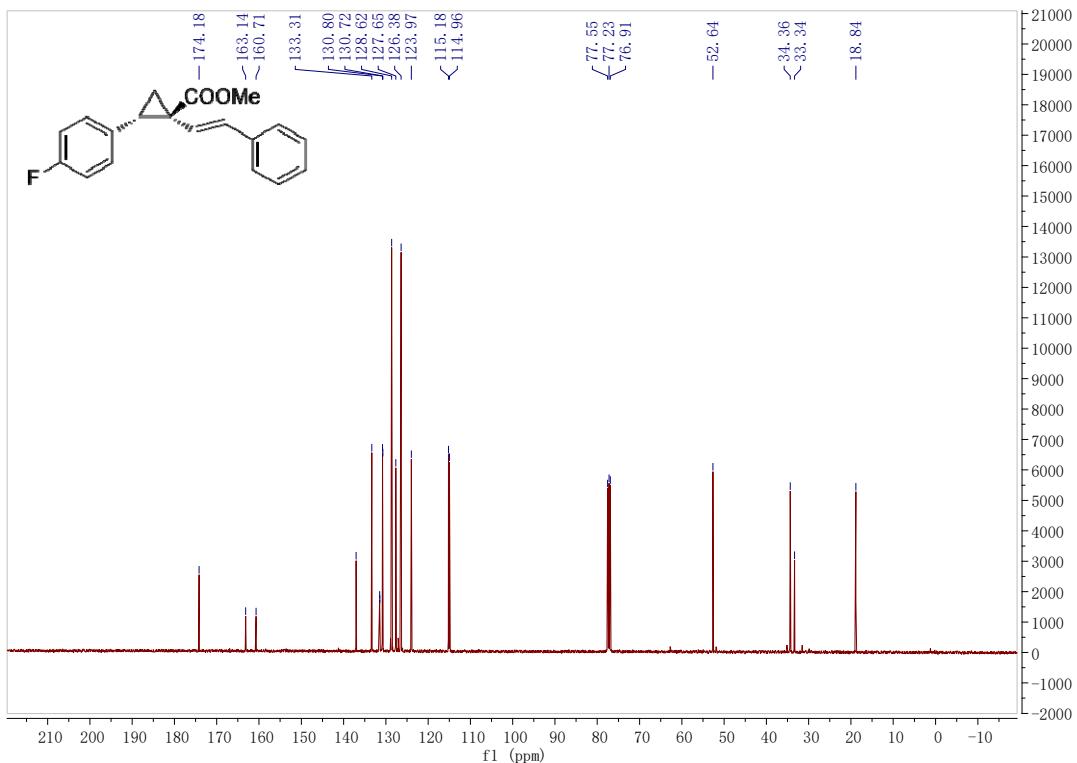
**Figure S53a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of **(1S,2S)-Methyl 1-((E)-Styryl)-2-(p-tolyl)cyclopropanecarboxylate (2c)**



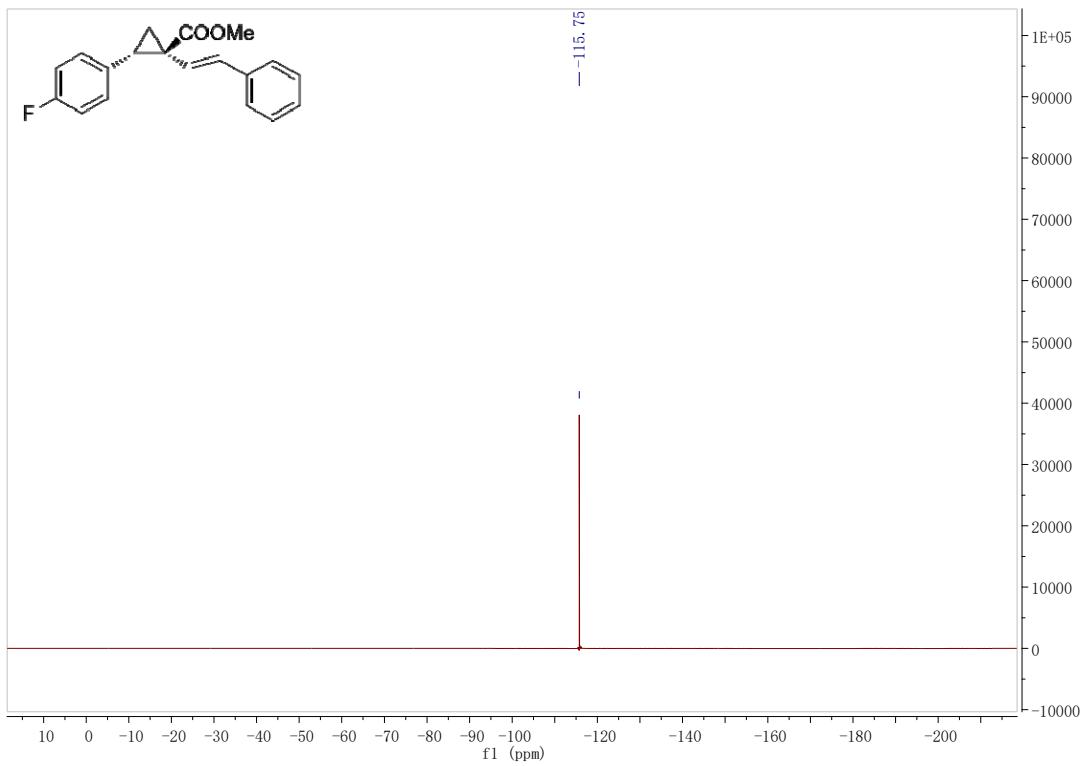
**Figure S53b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of **(1S,2S)-Methyl 1-((E)-Styryl)-2-(p-tolyl)cyclopropanecarboxylate (2c)**



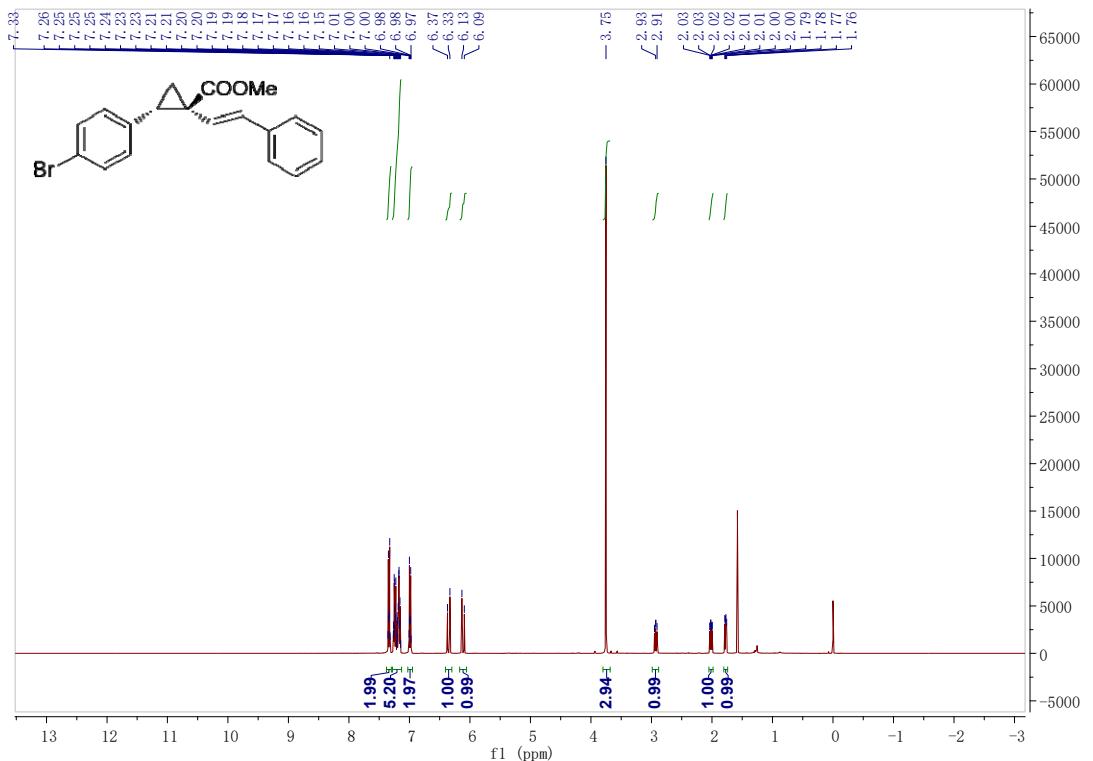
**Figure S54a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of (1*S*,2*S*)-Methyl 2-(4-Fluorophenyl)-1-((*E*)-styryl)cyclopropanecarboxylate (2d)



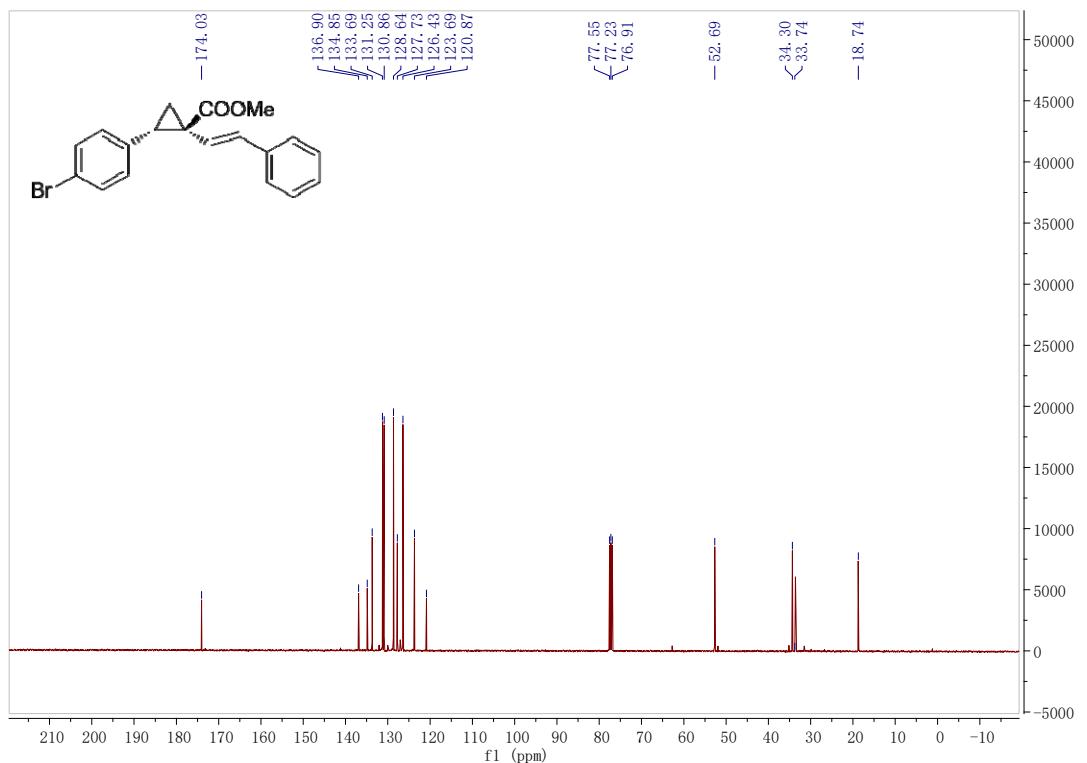
**Figure S54b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of (1*S*,2*S*)-Methyl 2-(4-Fluorophenyl)-1-((*E*)-styryl)cyclopropanecarboxylate (2d)



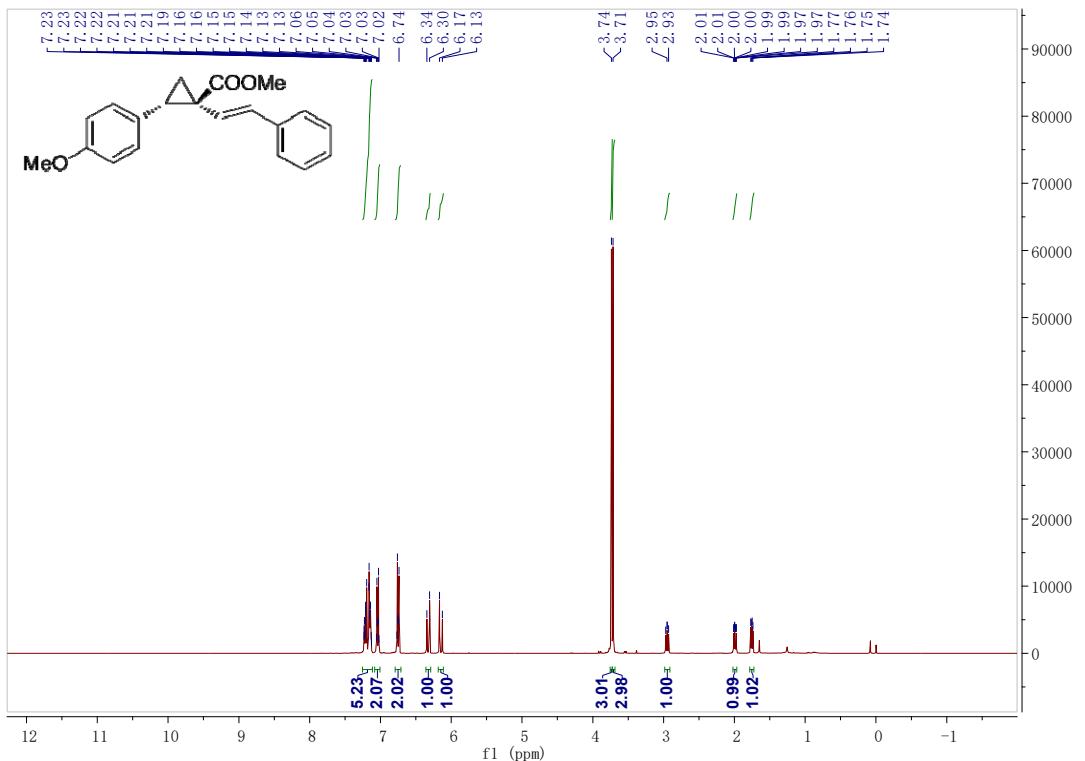
**Figure S54c:** <sup>19</sup>F NMR (377 MHz, CDCl<sub>3</sub>) spectrum of (1*S*,2*S*)-Methyl 2-(4-Fluorophenyl)-1-((E)-styryl)cyclopropanecarboxylate (**2d**)



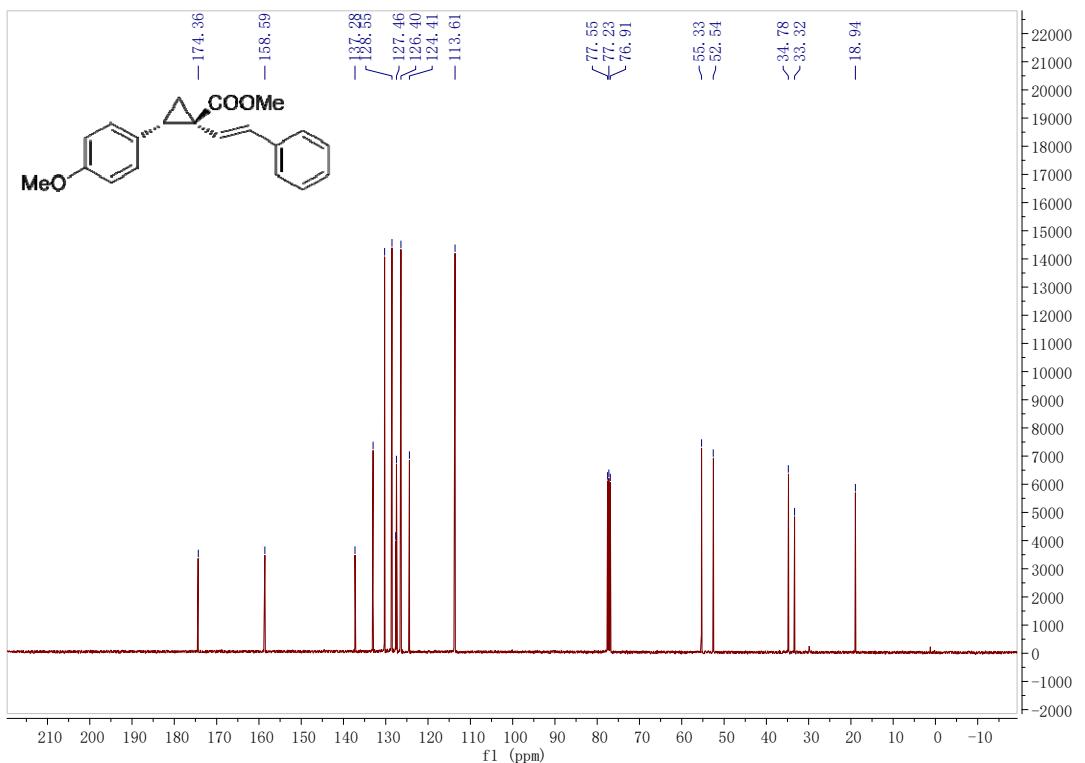
**Figure S55a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of **(1S,2S)-Methyl 2-(4-Bromophenyl)-1-((E)-styryl)cyclopropanecarboxylate (2e)**



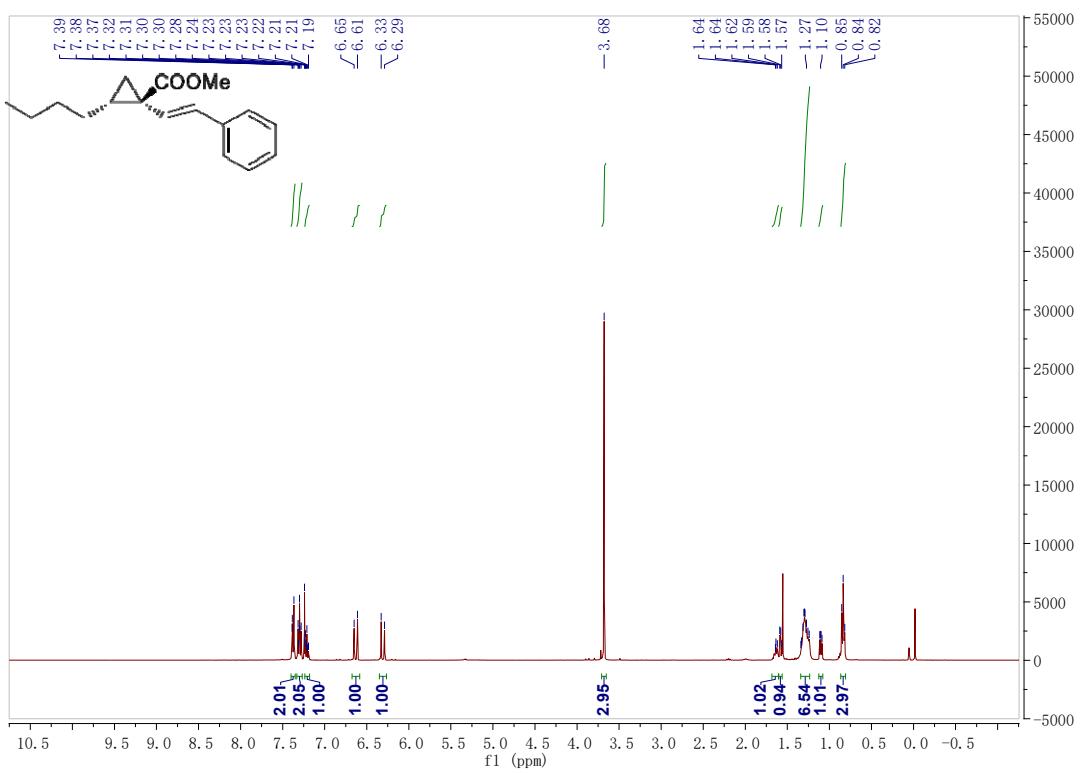
**Figure S55b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of **(1S,2S)-Methyl 2-(4-Bromophenyl)-1-((E)-styryl)cyclopropanecarboxylate (2e)**



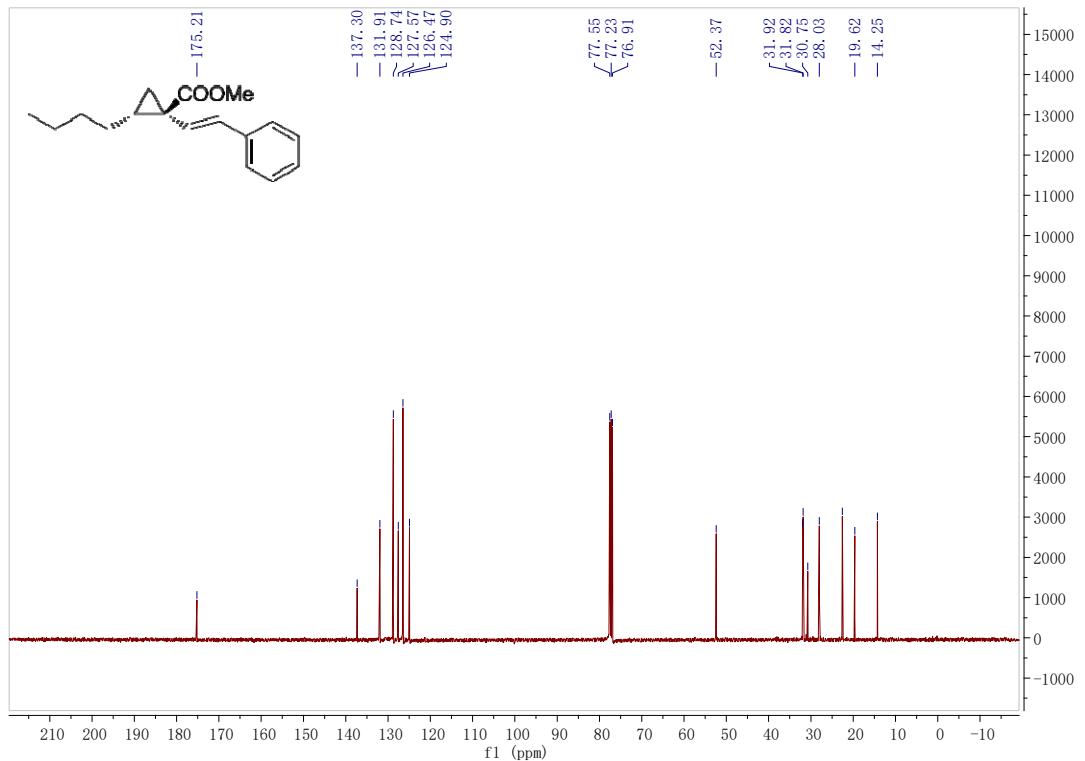
**Figure S56a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of **(1S,2S)-Methyl 2-(4-Methoxyphenyl)-1-((E)-styryl)cyclopropanecarboxylate (2f)**



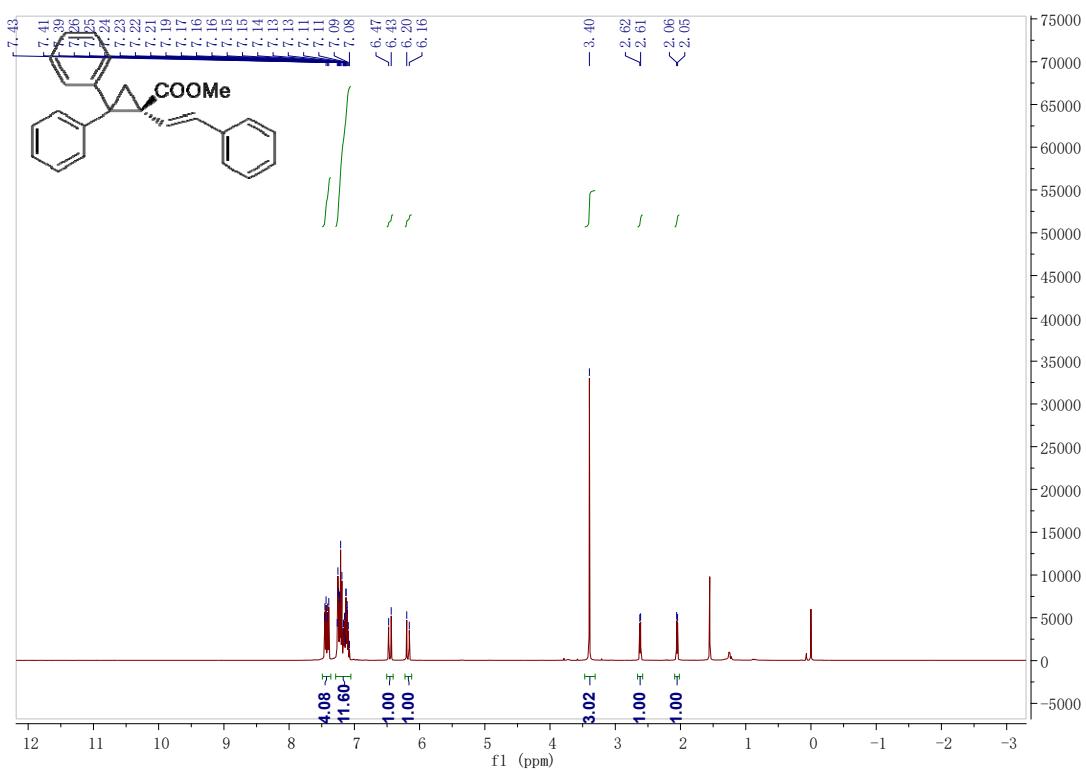
**Figure S56b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of **(1S,2S)-Methyl 2-(4-Methoxyphenyl)-1-((E)-styryl)cyclopropanecarboxylate (2f)**



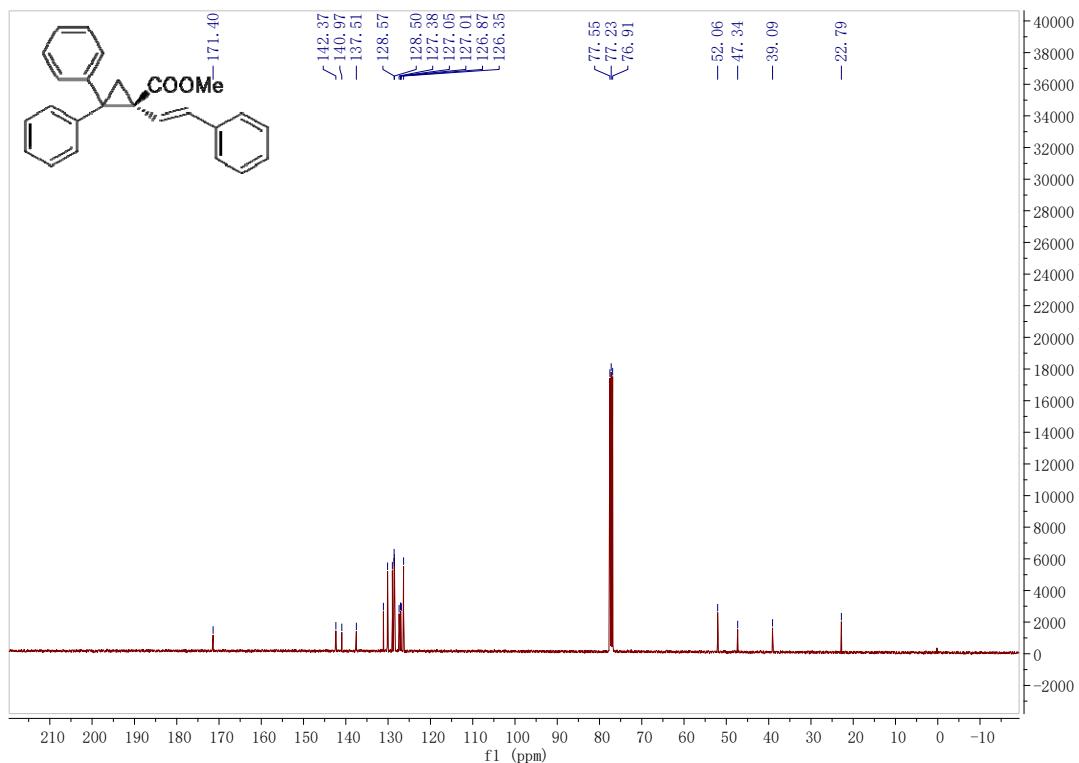
**Figure S57a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of **Methyl 2-Butyl-1-((E)-styryl)cyclopropanecarboxylate (2g)**



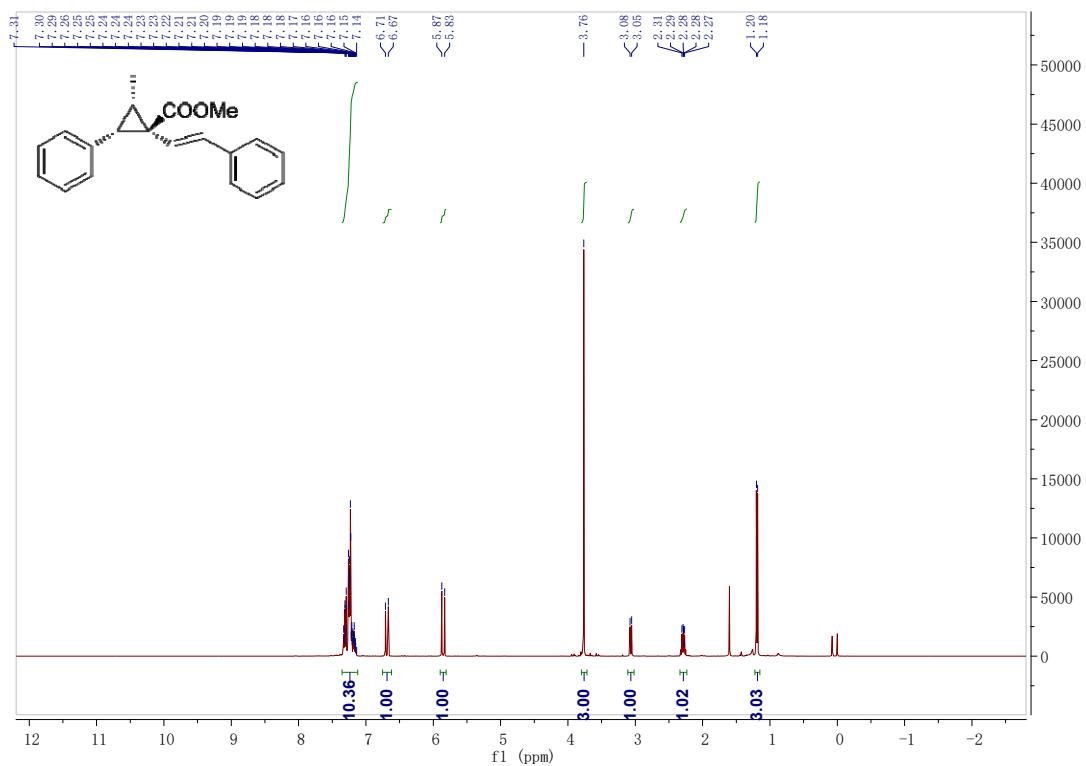
**Figure S57b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of **Methyl 2-Butyl-1-((E)-styryl)cyclopropanecarboxylate (2g)**



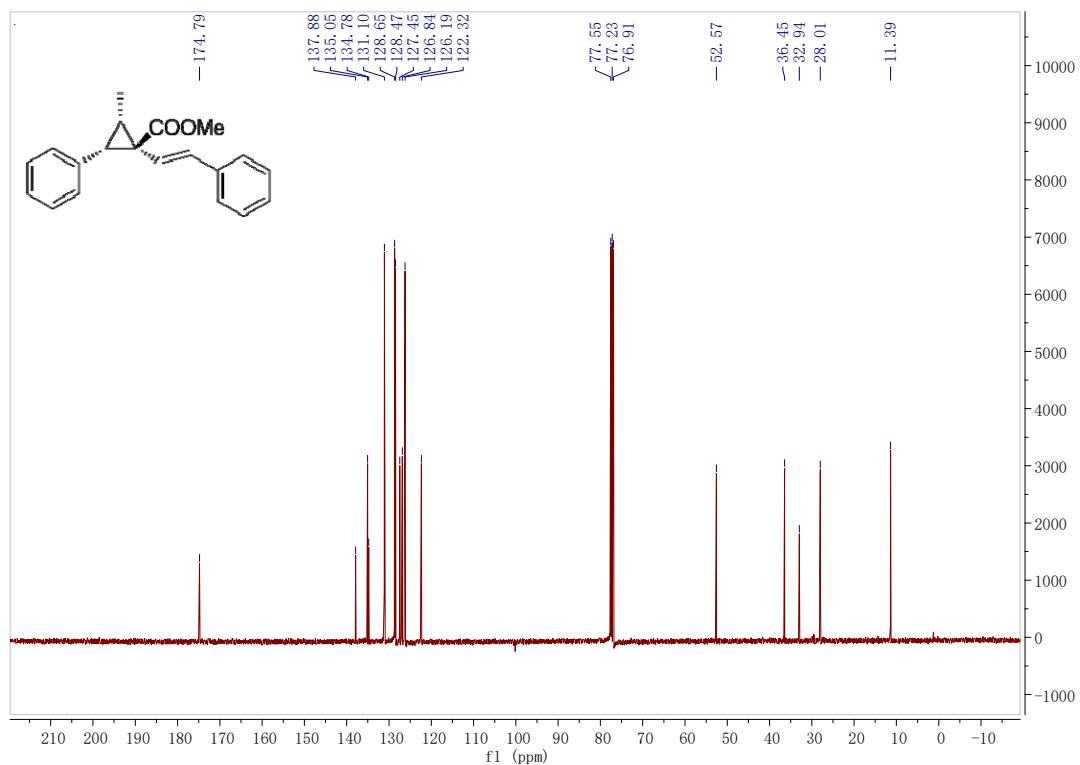
**Figure S58a:** <sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>) spectrum of **Methyl 2,2-Diphenyl-1-styrylcyclopropanecarboxylate (2h)**



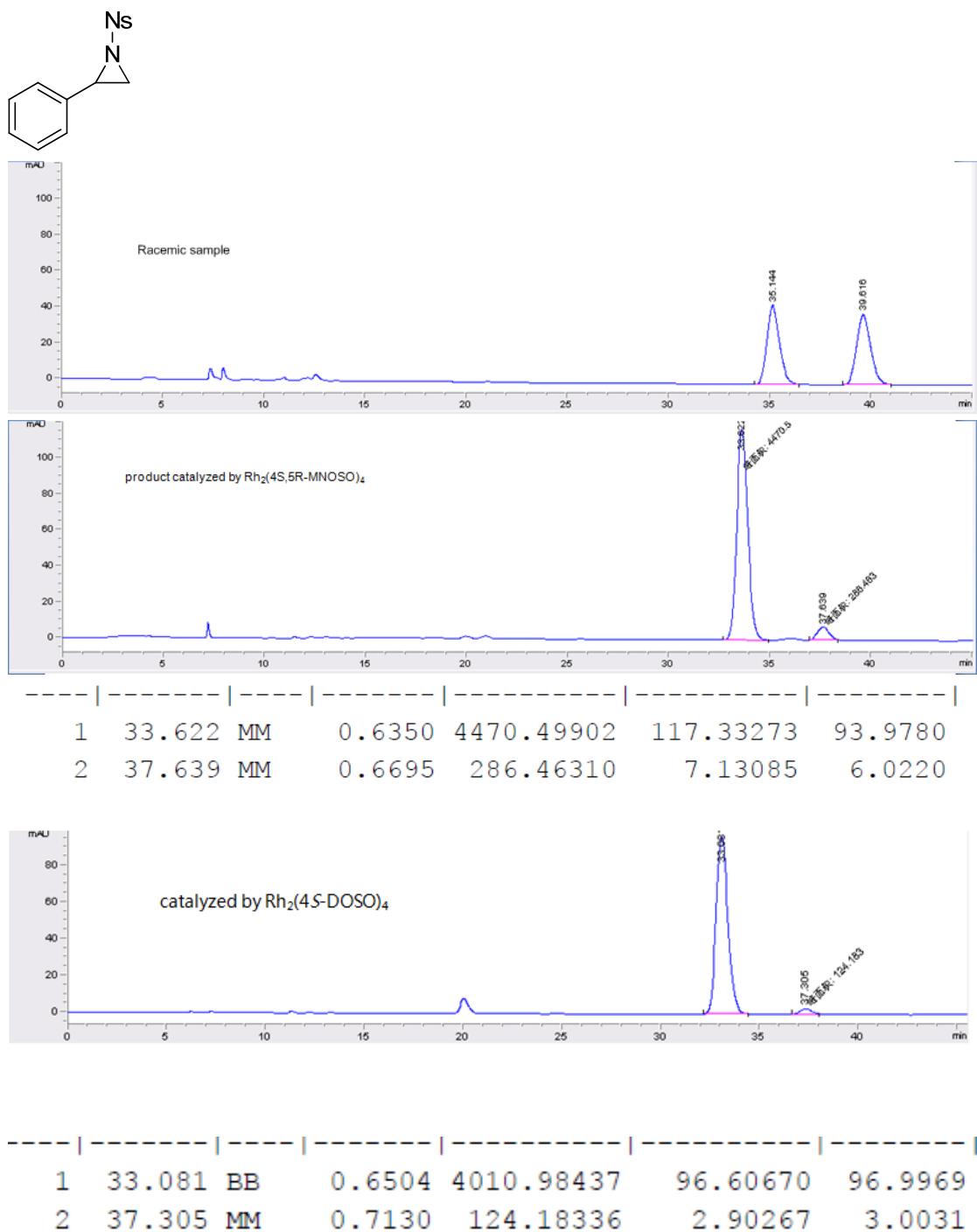
**Figure S58b:** <sup>13</sup>C NMR (100 MHz, CDCl<sub>3</sub>) spectrum of **Methyl 2,2-Diphenyl-1-styrylcyclopropanecarboxylate (2h)**



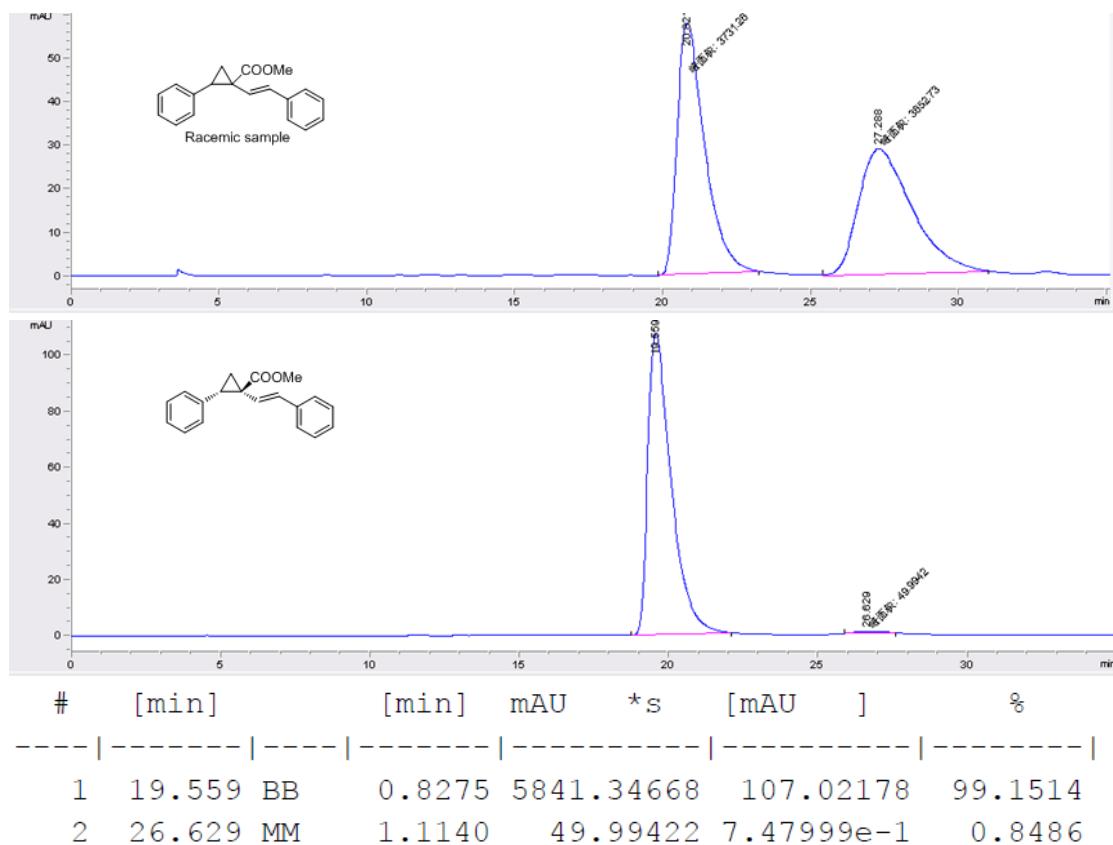
**Figure S59a:**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) spectrum of **Methyl 2-Methyl-3-phenyl-1-((E)-styryl)cyclopropanecarboxylate (2i)**



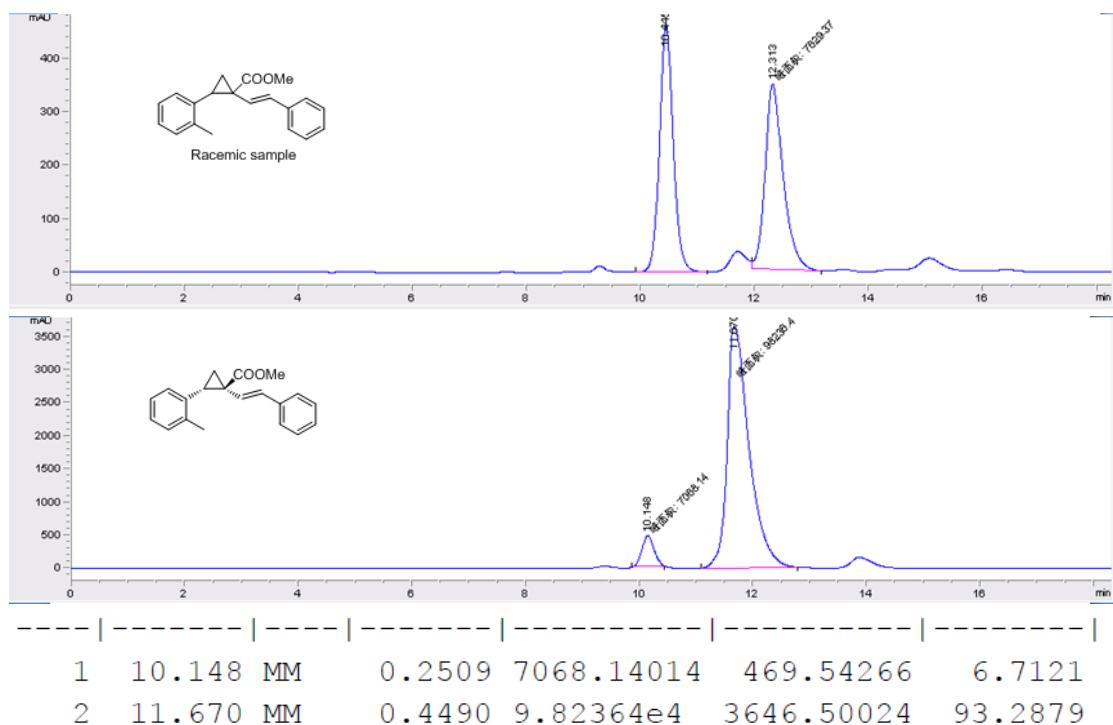
**Figure S59b:**  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) spectrum of **Methyl 2-Methyl-3-phenyl-1-((E)-styryl)cyclopropanecarboxylate (2i)**



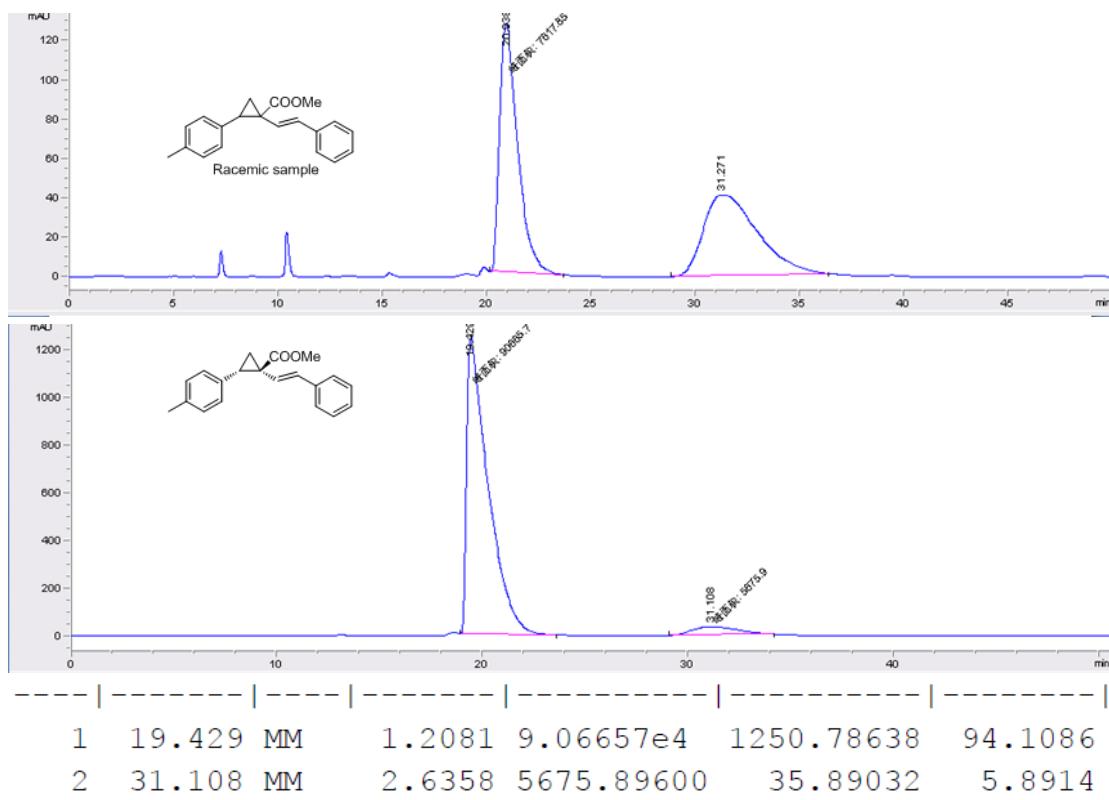
**Figure S60: HPLC Trace of 1-((4-nitrophenyl)sulfonyl)-2-phenylaziridine (1)**



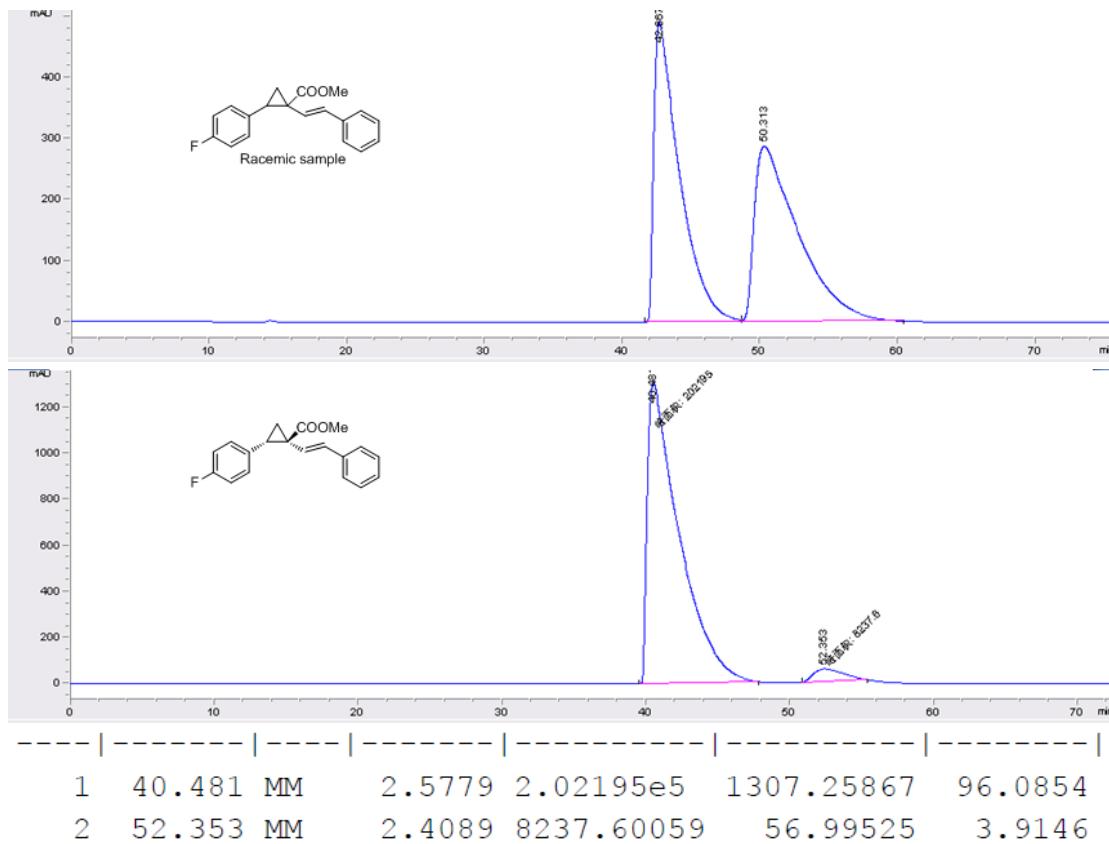
**Figure S61: HPLC Trace of (1*S*,2*S*)-Methyl 2-Phenyl-1-((*E*)-styryl)cyclopropanecarboxylate (2a)**



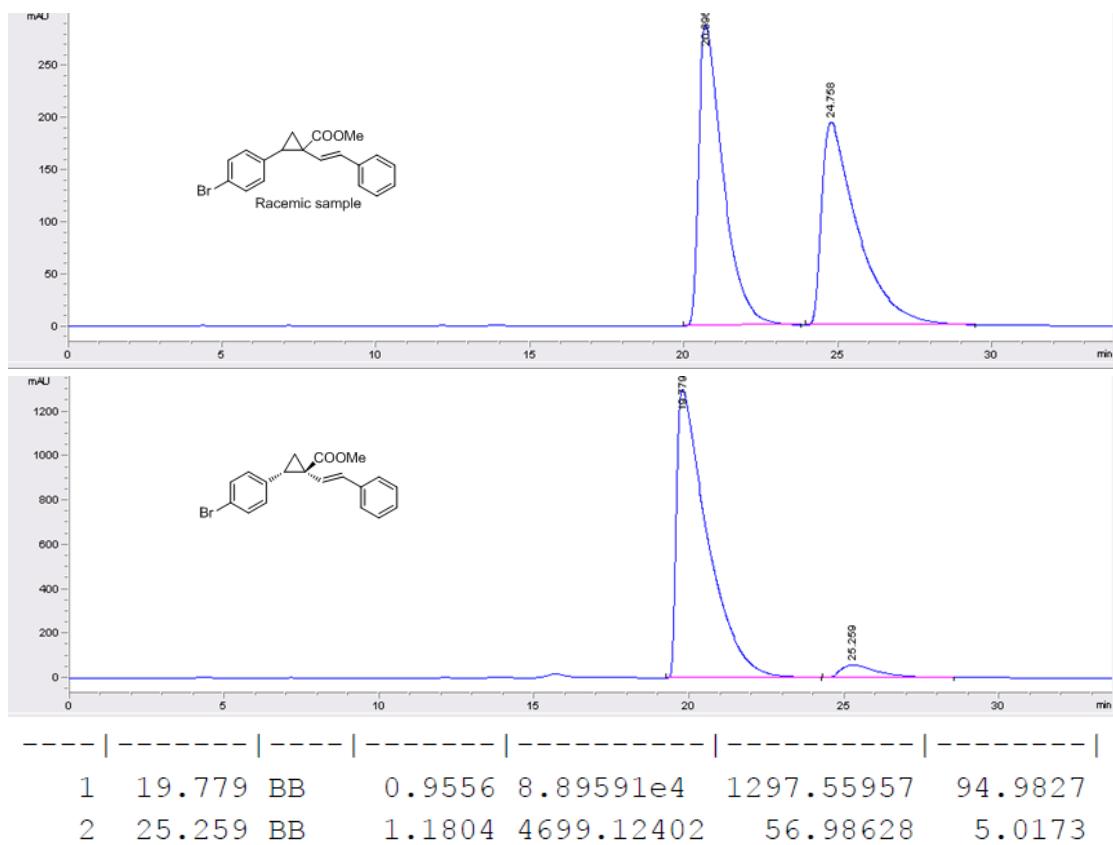
**Figure S62: HPLC Trace of (1*S*,2*S*)-Methyl 1-((*E*)-Styryl)-2-(*o*-tolyl)cyclopropanecarboxylate (2b)**



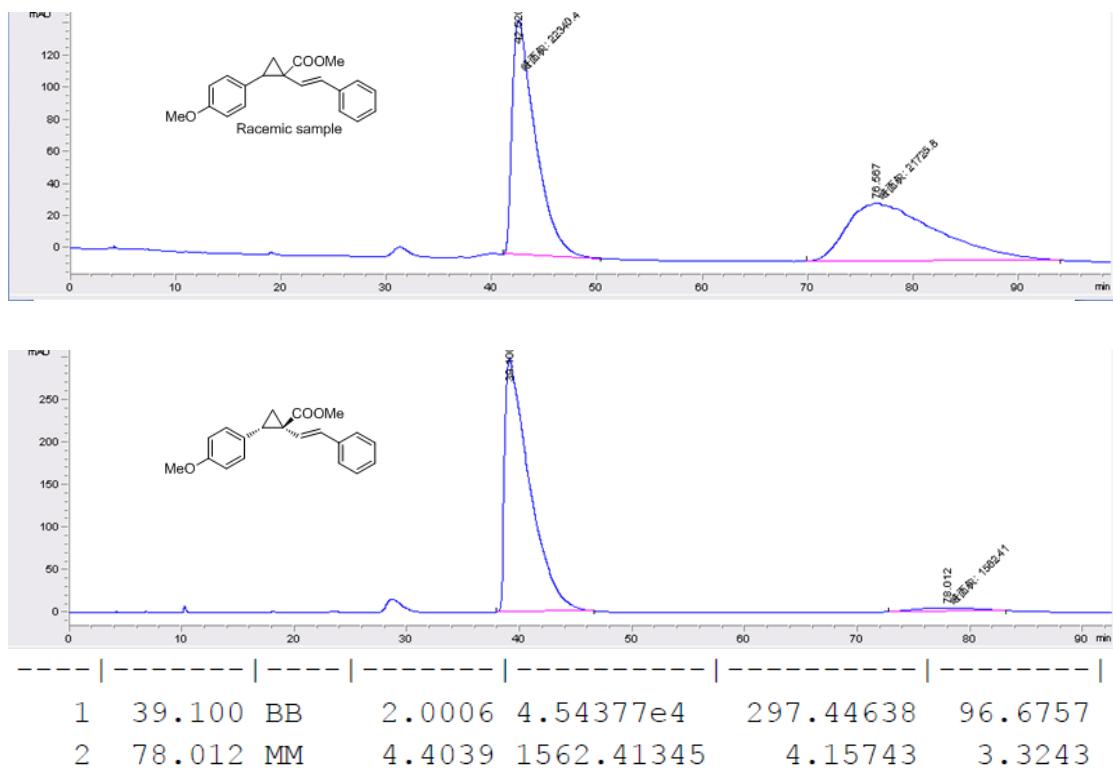
**Figure S63: HPLC Trace of (1S,2S)-Methyl 1-((E)-Styryl)-2-(*p*-tolyl)cyclopropanecarboxylate (2c)**



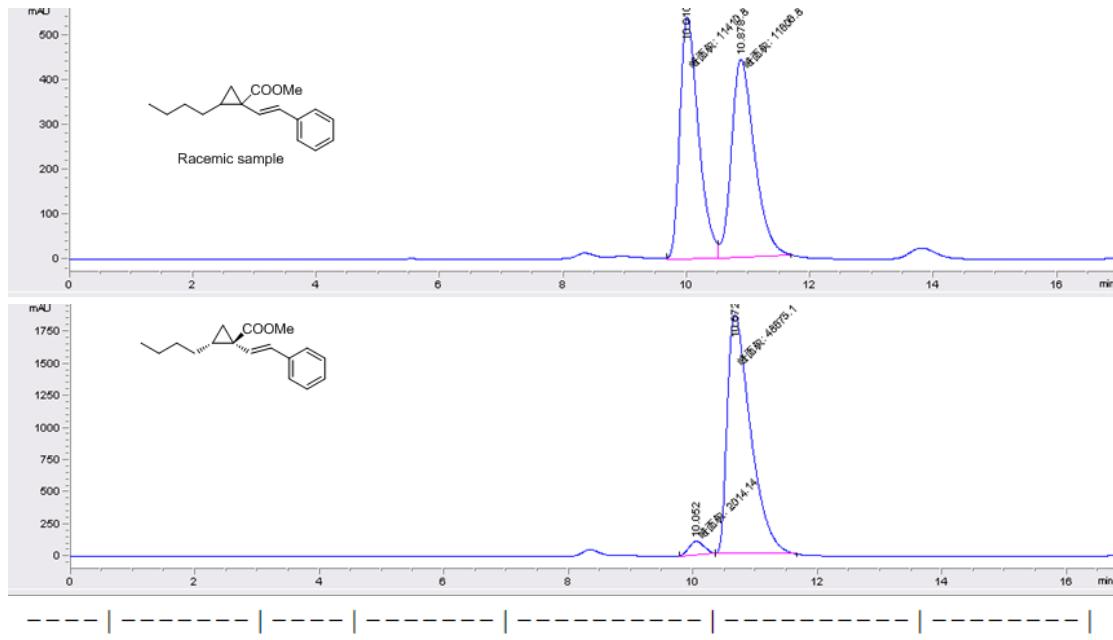
**Figure S64: HPLC Trace of (1S,2S)-Methyl 2-(4-Fluorophenyl)-1-((E)-styryl)cyclopropanecarboxylate (2d)**



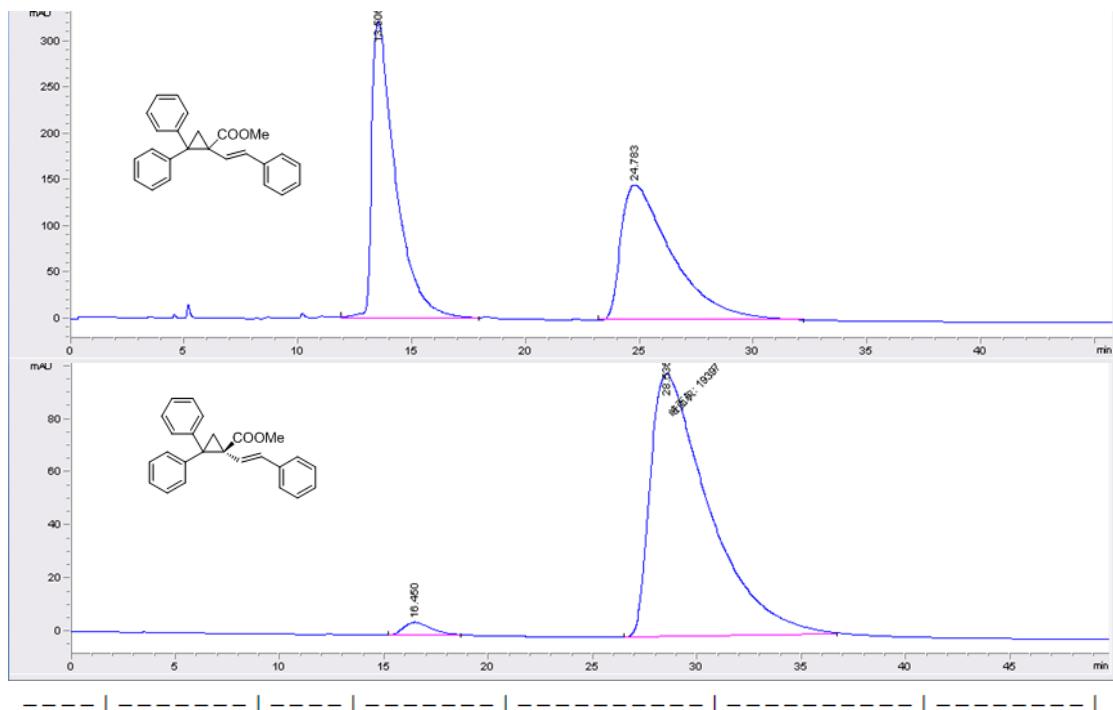
**Figure S65: HPLC Trace of (1S,2S)-Methyl 2-(4-Bromophenyl)-1-((E)-styryl)cyclopropanecarboxylate (2e)**



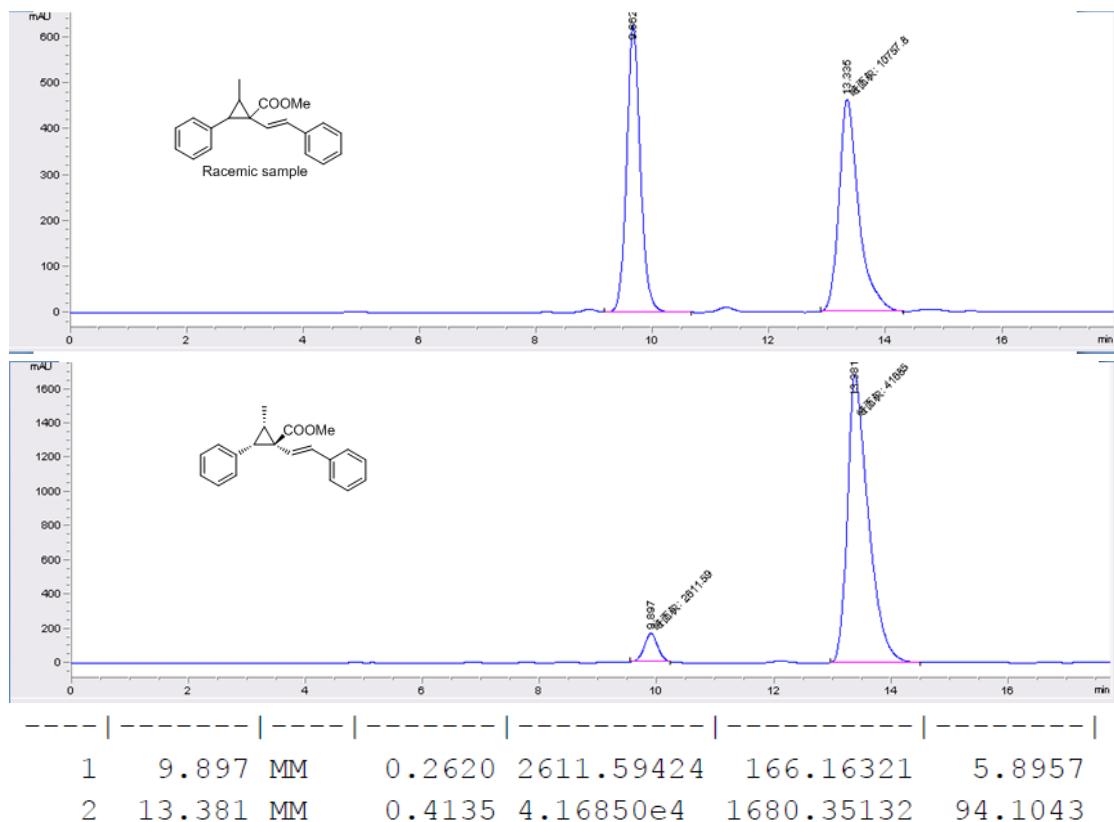
**Figure S66: HPLC Trace of (1S,2S)-Methyl 2-(4-Methoxyphenyl)-1-((E)-styryl)cyclopropanecarboxylate (2f)**



**Figure S67: HPLC Trace of Methyl 2-Butyl-1-((E)-styryl)cyclopropanecarboxylate (2g)**



**Figure S68: HPLC Trace of Methyl 2,2-Diphenyl-1-styrylcyclopropanecarboxylate (2h)**



**Figure S69: HPLC Trace of Methyl 2,2-Diphenyl-1-styrylcyclopropanecarboxylate (2i)**

## Crystal structure determination

**Table S1** Crystal data and structure refinement parameters for compounds **4S,5R-MNOSO** and **4R-MOST**.

	<b>4S,5R-MNOSO</b>	<b>4R-MOST</b>
Formula	C <sub>11</sub> H <sub>12</sub> N <sub>2</sub> O <sub>7</sub> S	C <sub>11</sub> H <sub>13</sub> NO <sub>7</sub> S <sub>2</sub>
Mw	316.29	335.34
T/K	293	299
Crystal system	tetragonal	orthorhombic
Space group	P4 <sub>1</sub>	P2 <sub>1</sub> 2 <sub>1</sub> 2 <sub>1</sub>
a/Å	15.41418(14)	7.82043(19)
b/Å	15.41418(14)	10.2265(3)
c/Å	5.95145(10)	17.4910(4)
α/°	90.00	90.00
β/°	90.00	90.00
γ/°	90.00	90.00
Volume/Å <sup>3</sup>	1414.04(3)	1398.86(6)
Z	4	4
ρ <sub>calc</sub> g/cm <sup>3</sup>	1.471	1.592
μ/mm <sup>-1</sup>	2.387	3.785
F(000)	644.0	696.0
Total/Unique	2557/16150	2188/6590
R <sub>int</sub>	0.0462	0.0298
Goodness-of-fit on F <sup>2</sup>	0.879	0.945
R <sub>I</sub> , wR <sub>2</sub> [I>=2σ(I)]	0.0353, 0.1052	0.0355, 0.1101
R <sub>I</sub> , wR <sub>2</sub> [all data]	0.0391, 0.1083	0.0375, 0.1128
Flack parameter	-0.03(2)	0.01(2)

**Table S2** Selected bond lengths (Å) and bond Angles (°) for **4S,5R-MNOSO** and **4R-MOST**.

<b>4S,5R-MNOSO</b>			
	Length/Å		Angle/°
S1-O4	1.424(2)	O4-S1-O3	121.00(14)
S1-O3	1.425(2)	O4-S1-N2	106.26(11)
S1-N2	1.638(2)	O4-S1-C4	107.61(12)
S1-C4	1.767(2)	O3-S1-N2	105.85(12)
O7-C10	1.317(3)	O3-S1-C4	107.58(12)
O5-C7	1.414(3)	N2-S1-C4	107.97(11)
O5-C8	1.433(4)	C7-O5-C8	104.1(2)
N1-C1	1.483(4)	O2-N1-C1	117.4(4)
N1-O2	1.213(5)	O1-N1-C1	119.3(4)
N1-O1	1.192(6)	O1-N1-O2	123.3(4)
N2-C9	1.469(3)	C9-N2-S1	119.88(17)
N2-C7	1.469(3)	C7-N2-S1	117.59(17)
C5-C4	1.393(4)	C7-N2-C9	106.8(2)
C5-C6	1.381(4)	C6-C5-C4	119.0(3)
C10-C9	1.510(3)	O7-C10-C9	110.3(2)
C10-C6	1.210(3)	O6-C10-C9	125.3(2)
C9-C8	1.565(4)	N2-C9-C10	111.50(19)
C4-C3	1.389(4)	N2-C9-C8	102.6(2)
C6-C1	1.378(5)	C10-C9-C8	111.35(19)
C2-C3	1.384(4)	C5-C4-S1	120.0(2)
C2-C1	1.380(4)	C3-C4-S1	118.06(19)
C8-C11	1.512(4)	C3-C4-C5	122.0(2)

<b>4R-MOST</b>			
	Length/Å		Angle/°
C1-O1	1.425(5)	C3-C2-C7	120.3(3)
C9-S2	1.776(3)	O1-C2-C3	125.6(3)
C11-O6	1.326(4)	O1-C2-C7	114.1(3)
C2-O1	1.365(4)	C2-C3-C4	119.9(3)
C11-O7	1.190(4)	C5-C4-C3	119.9(3)
C4-C5	1.381(5)	C4-C5-C6	119.8(3)
C5-C6	1.395(5)	C4-C5-S1	120.7(3)
C5-S1	1.741(3)	C6-C5-S1	119.5(3)
O2-S1	1.429(2)	O7-C11-O6	124.9(3)
O4-S2	1.438(3)	C8-N1-C10	115.5(2)
O5-S2	1.419(3)	C8-N1-S1	118.3(2)
O3-S1	1.417(3)	C10-N1-S1	116.8(2)
N1-S1	1.655(2)	O4 S2-C8	108.20(16)
C8-N1	1.447(4)	O5-S2-C9	113.32(18)
C8-S2	1.932(6)	O5-S2-O4	118.48(18)