

## Supporting Information

### **Generation of Stilbene Antimicrobials Against Multi-resistant Strains of *Staphylococcus aureus* Through Biotransformation by the Enzymatic Secretome of *Botrytis cinerea***

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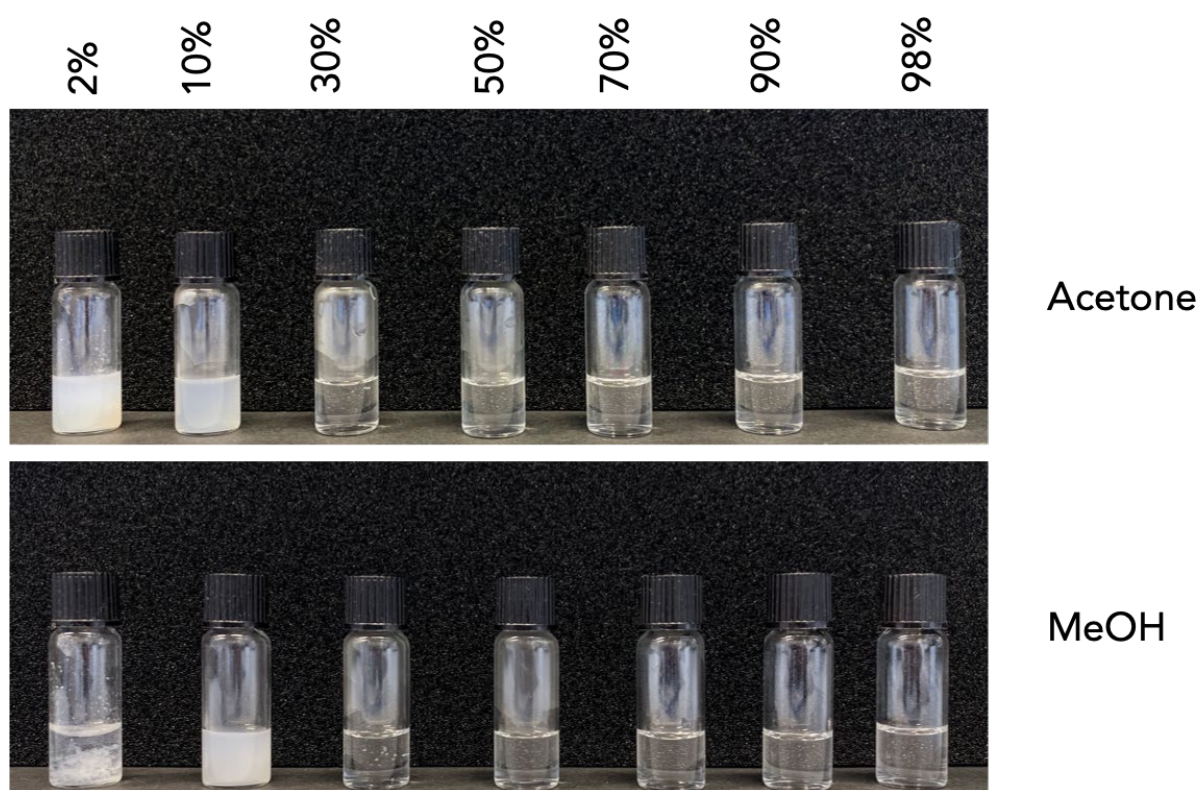
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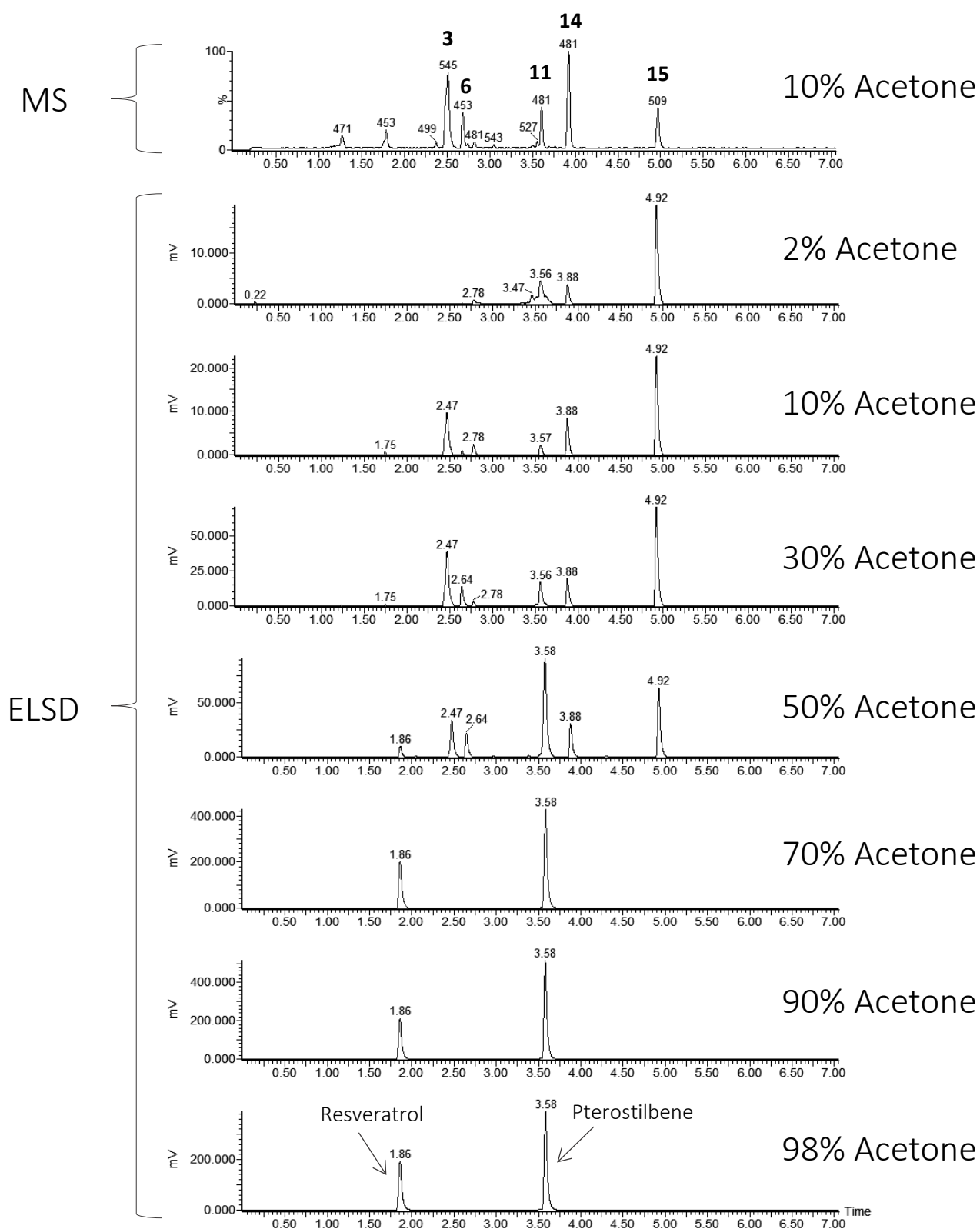
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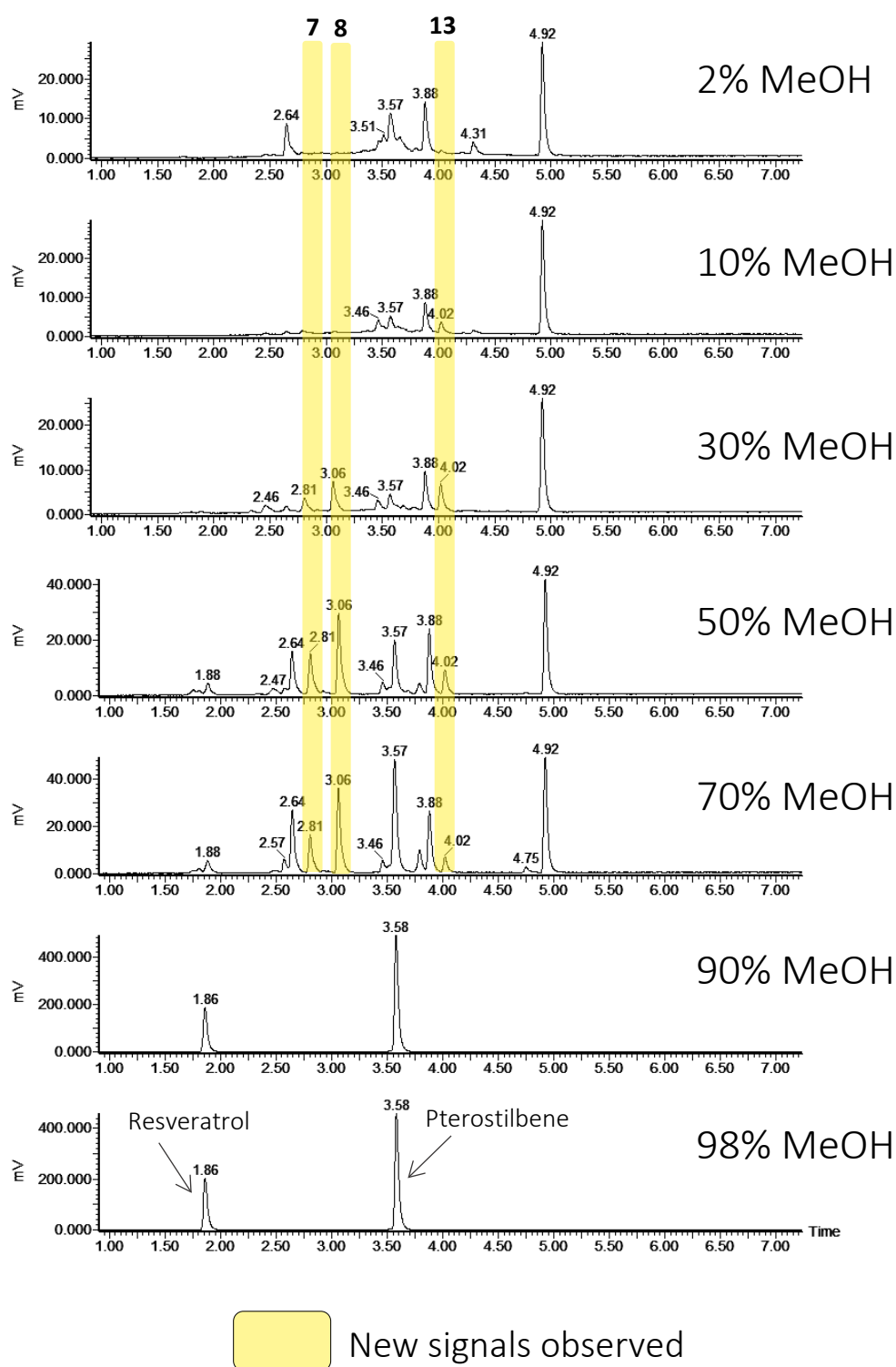
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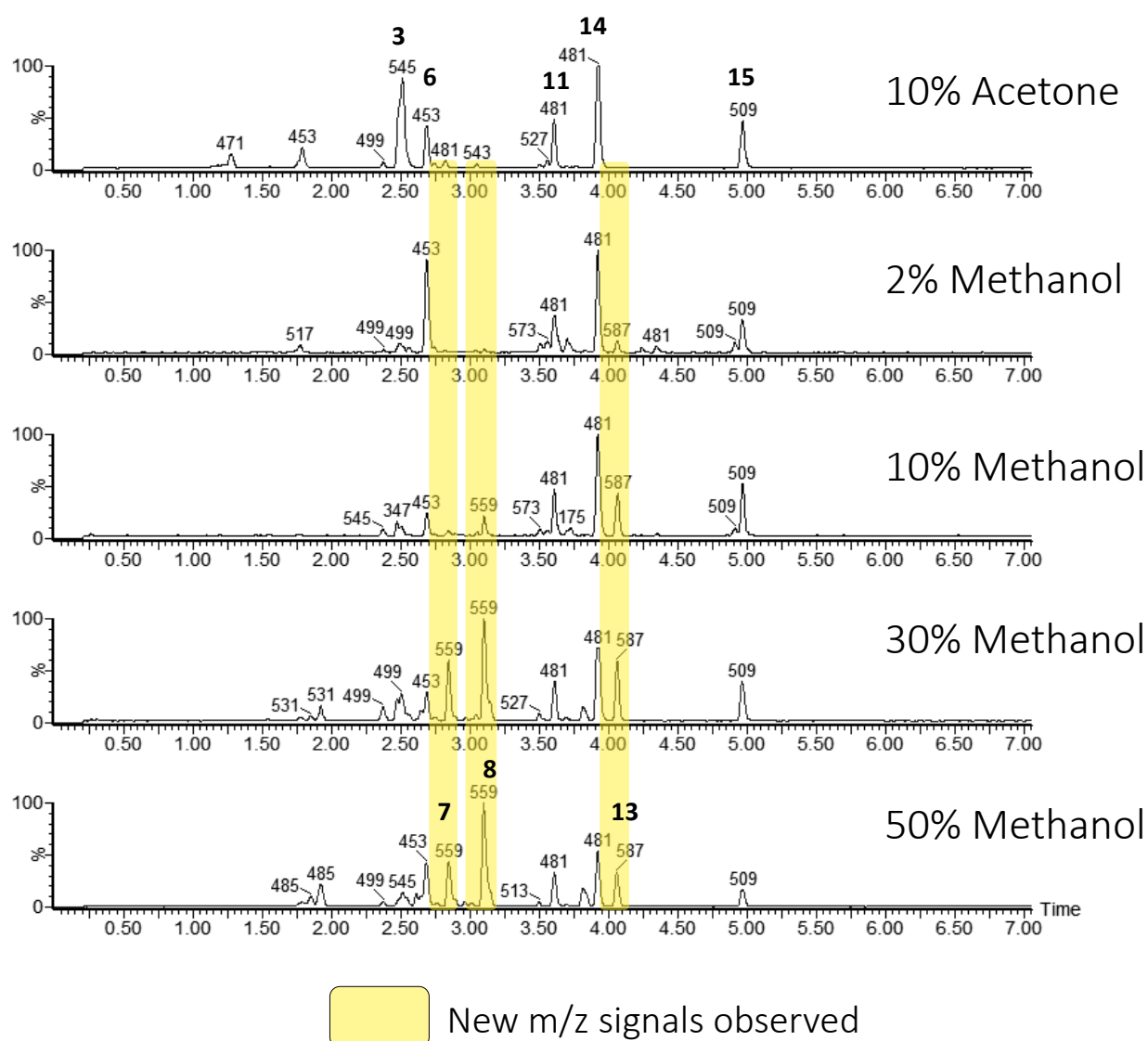
**Figure S1.** Solubility assays of resveratrol and pterostilbene in different solutions of water and acetone or methanol at the concentration of 0.5 mg/mL of each (1 mg/mL total).



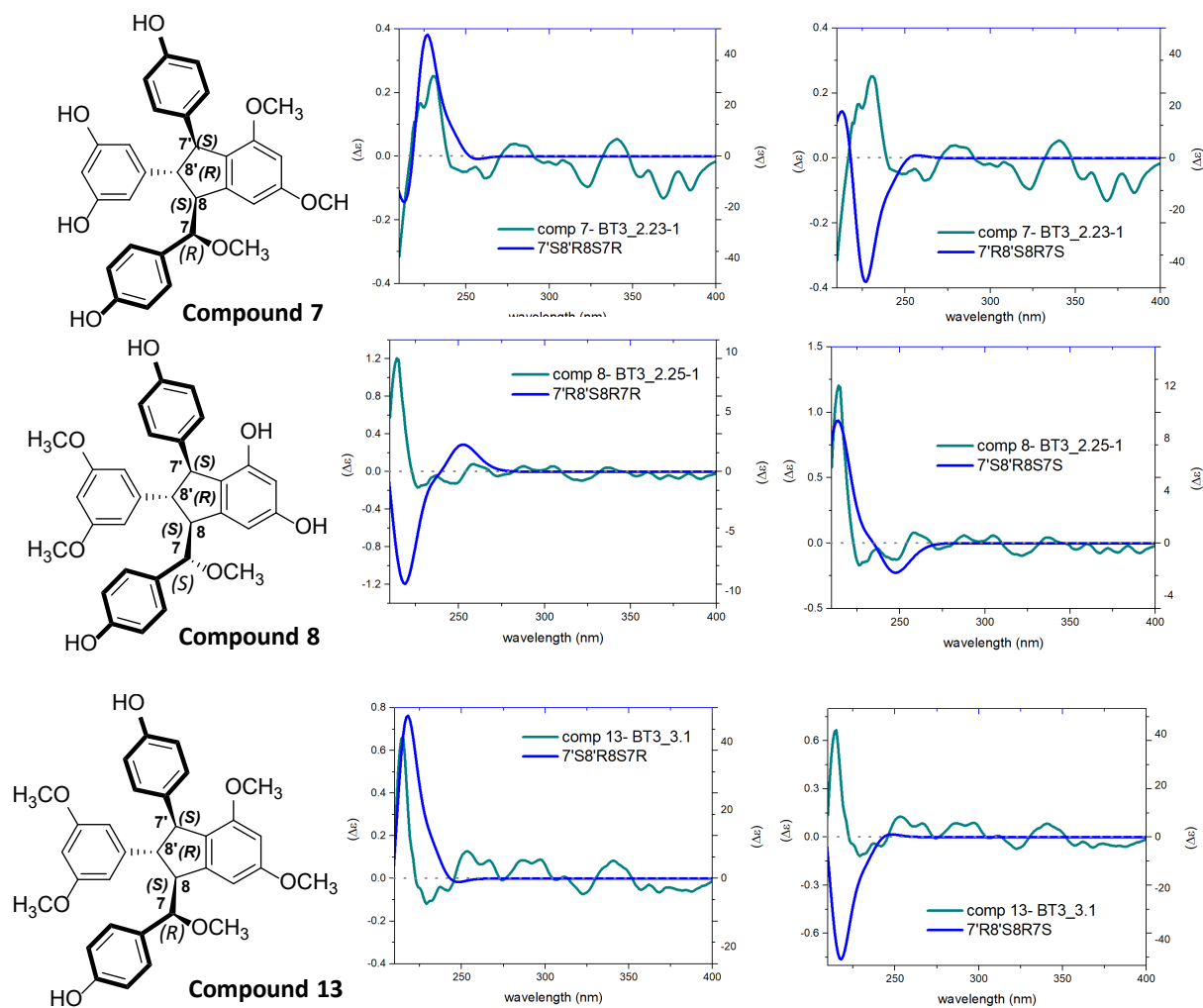
**Figure S2.** UHPLC-ELSD-QDa/MS analysis of the biotransformation reactions of the mixture of resveratrol and pterostilbene with the secretome of *B. cinerea* using different amounts acetone as co-solvents after 24 hours.



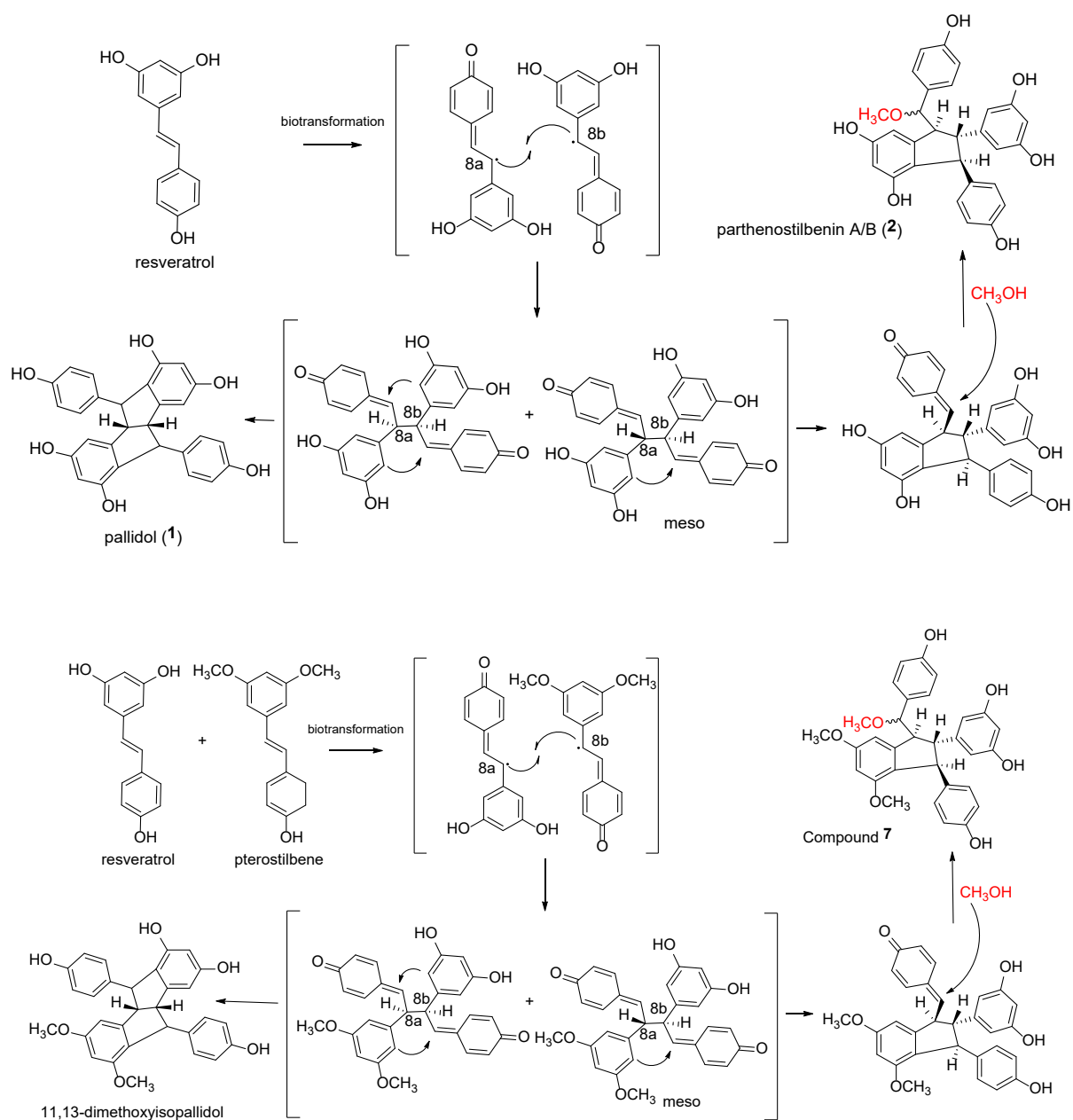
**Figure S3.** UHPLC-ELSD analysis of the biotransformation reactions of the mixture of resveratrol and pterostilbene with the secretome of *B. cinerea* using different amounts methanol as co-solvents after 24 hours. In yellow is highlighted the new signals obtained in the reactions performed with the methanol.



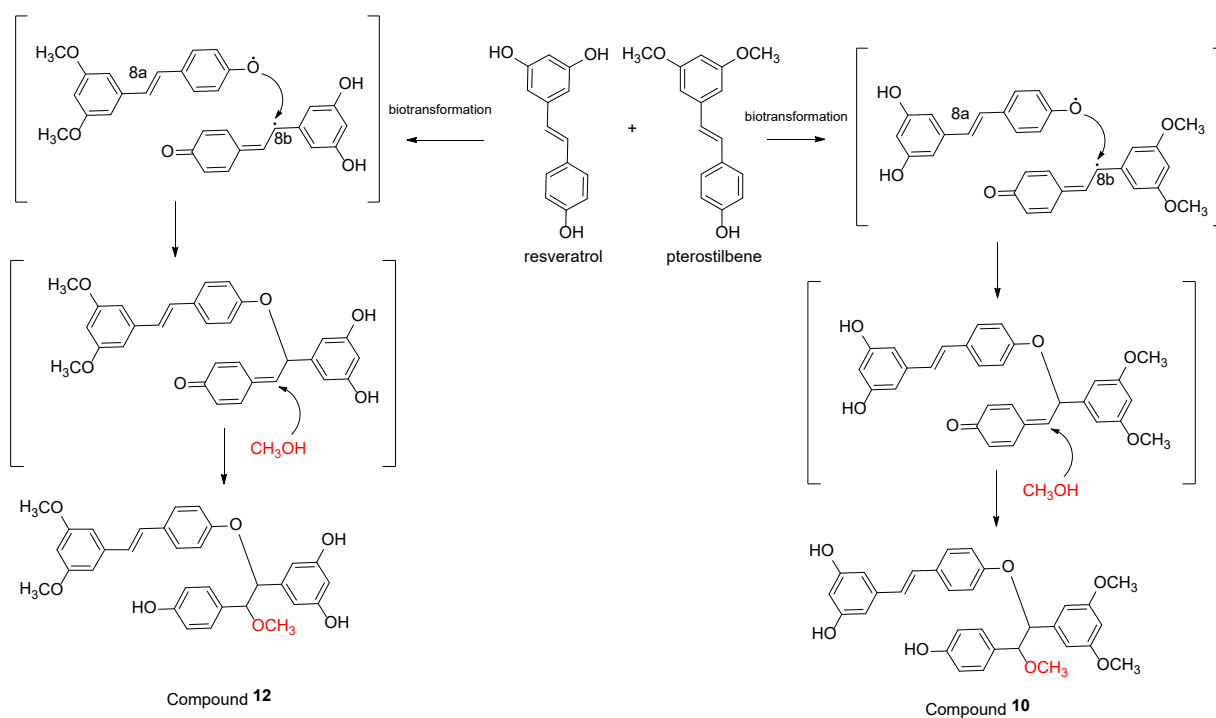
**Figure S4.** UHPLC-QDa/MS analysis of the biotransformation reactions of the mixture of resveratrol and pterostilbene with the secretome of *B. cinerea* using acetone and different amounts methanol as co-solvents after 24 hours. In yellow is highlighted the new  $m/z$  signals obtained in the reactions performed with the methanol.



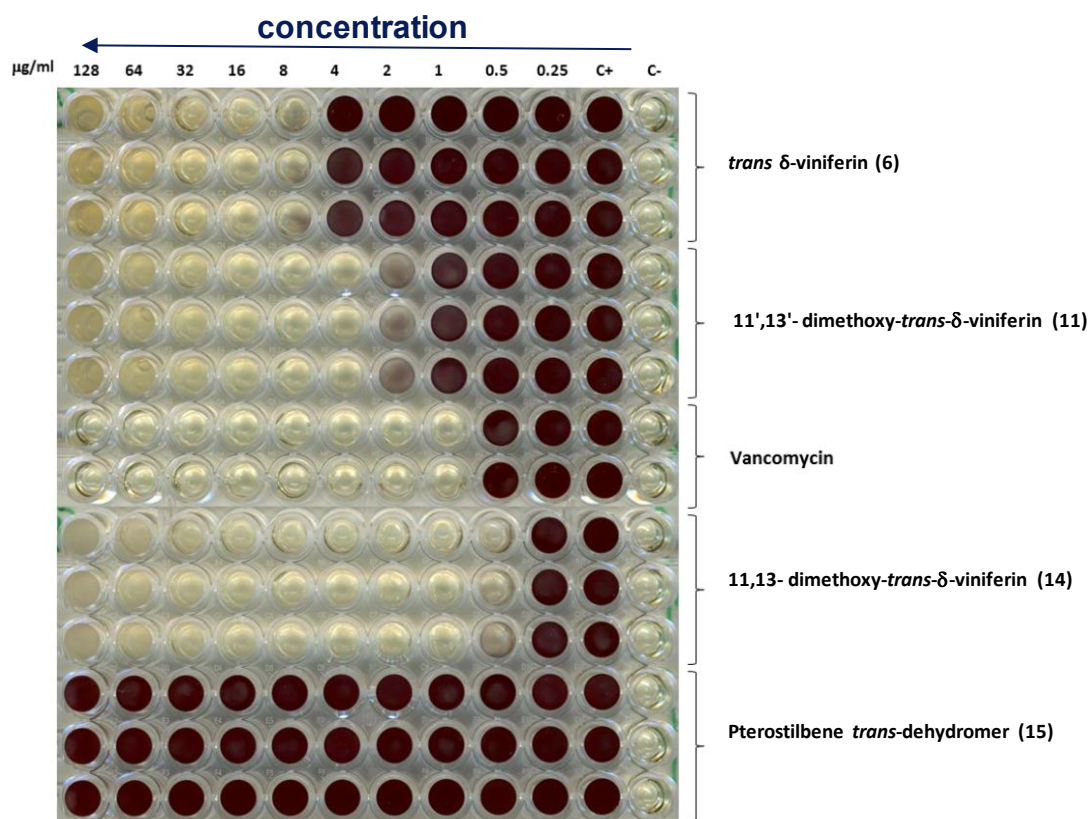
**Figure S5.** Experimental and TDDF calculated ECD spectra for the stereoisomers of compounds 7, 8, and 13 at the CAM-B3LYP/6-31G\*\* level with MeCN as a solvent.



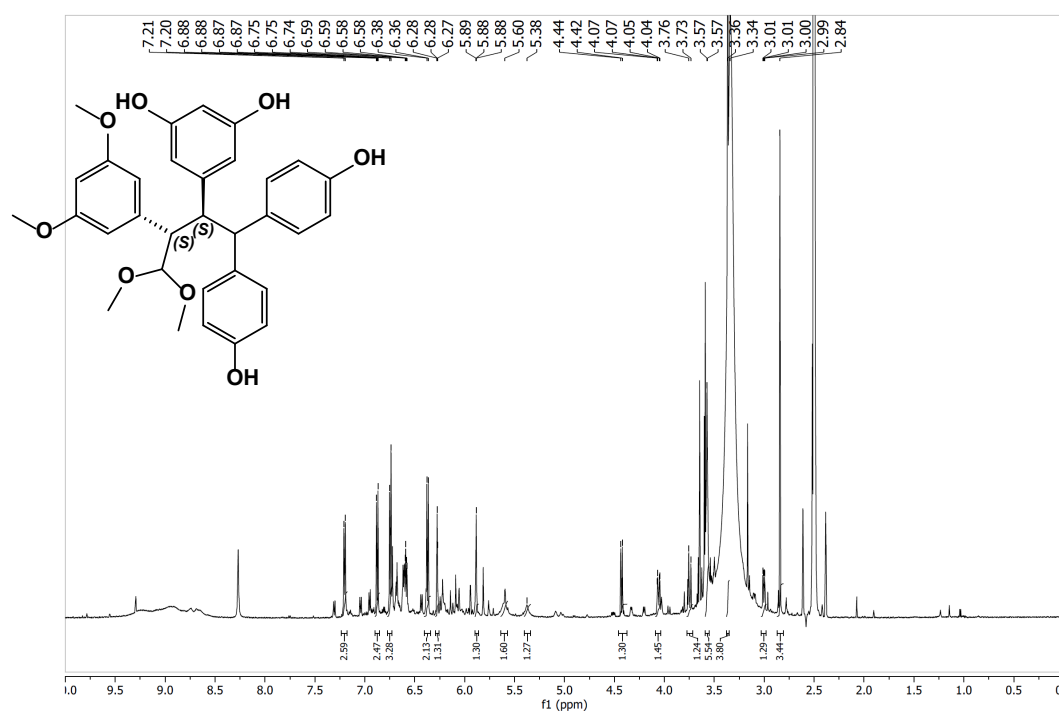
**Figure S6.** Proposal mechanism for the biosynthesis of compound **1**, **2** and **7**.



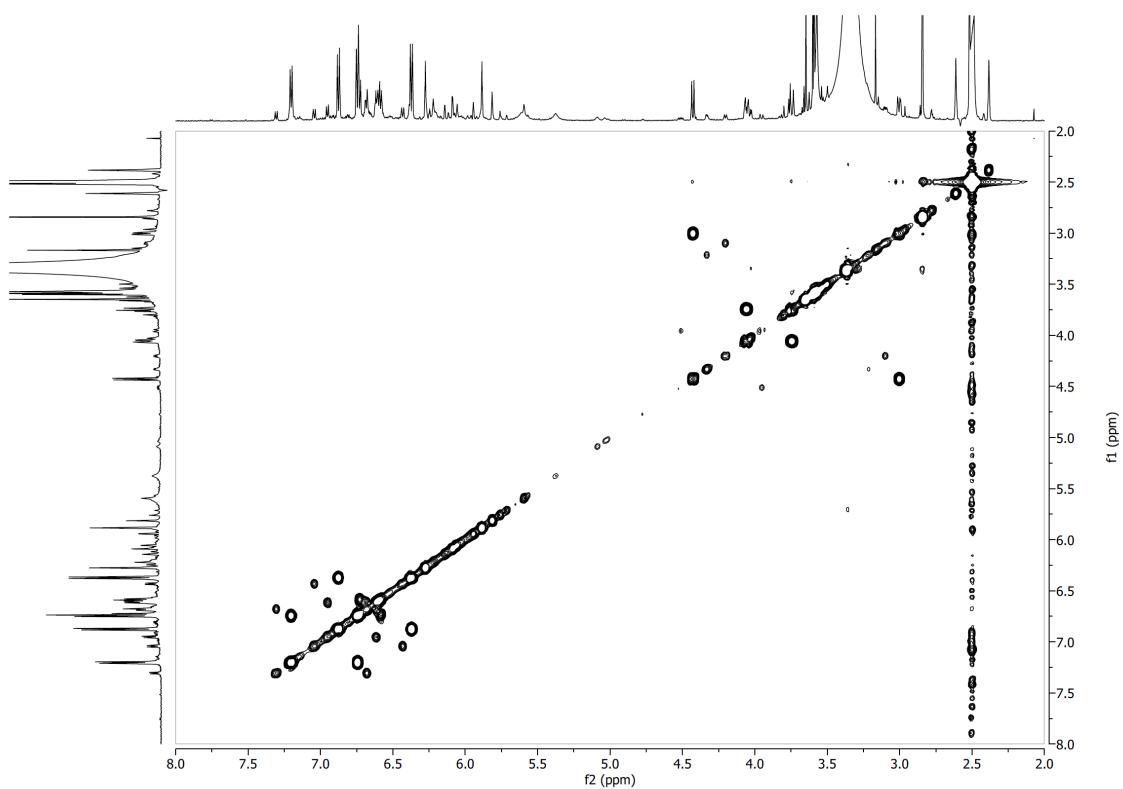
**Figure S7.** Proposal mechanism for the biosynthesis of compound 10 and 12.



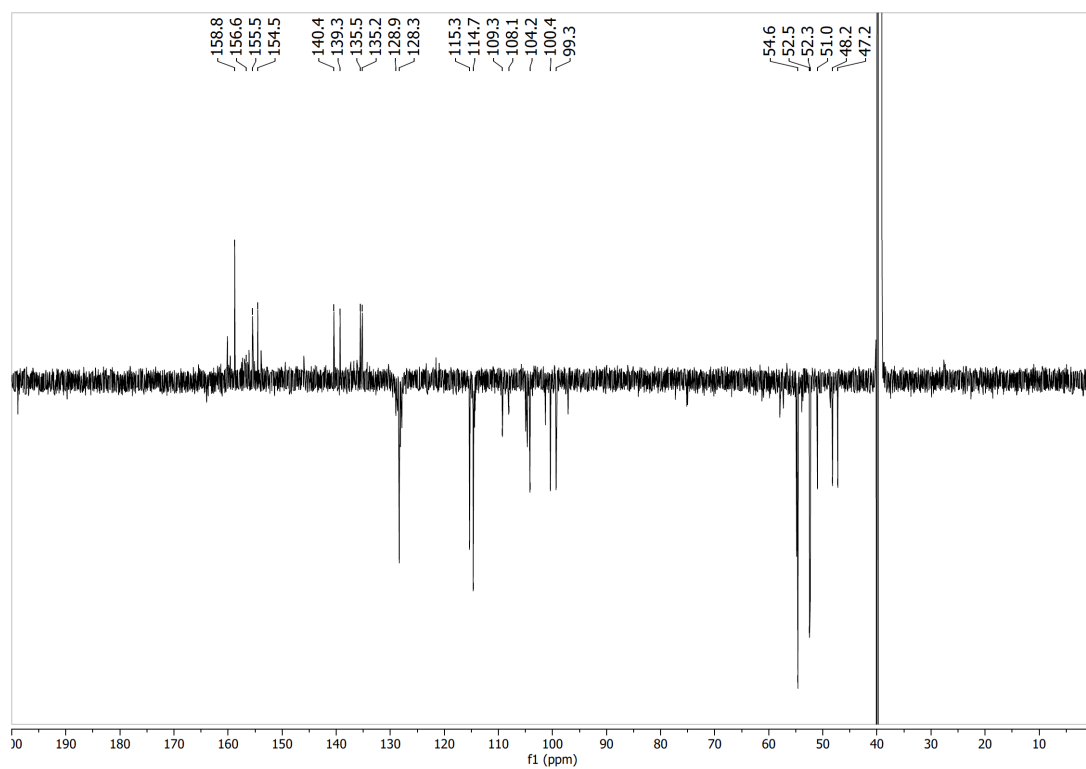
**Figure S8.** 96 well plate showing the minimum inhibitory concentration (MIC) of the compounds 6, 11, 14 and 15 against *Staphylococcus aureus* (MRSA 33591).



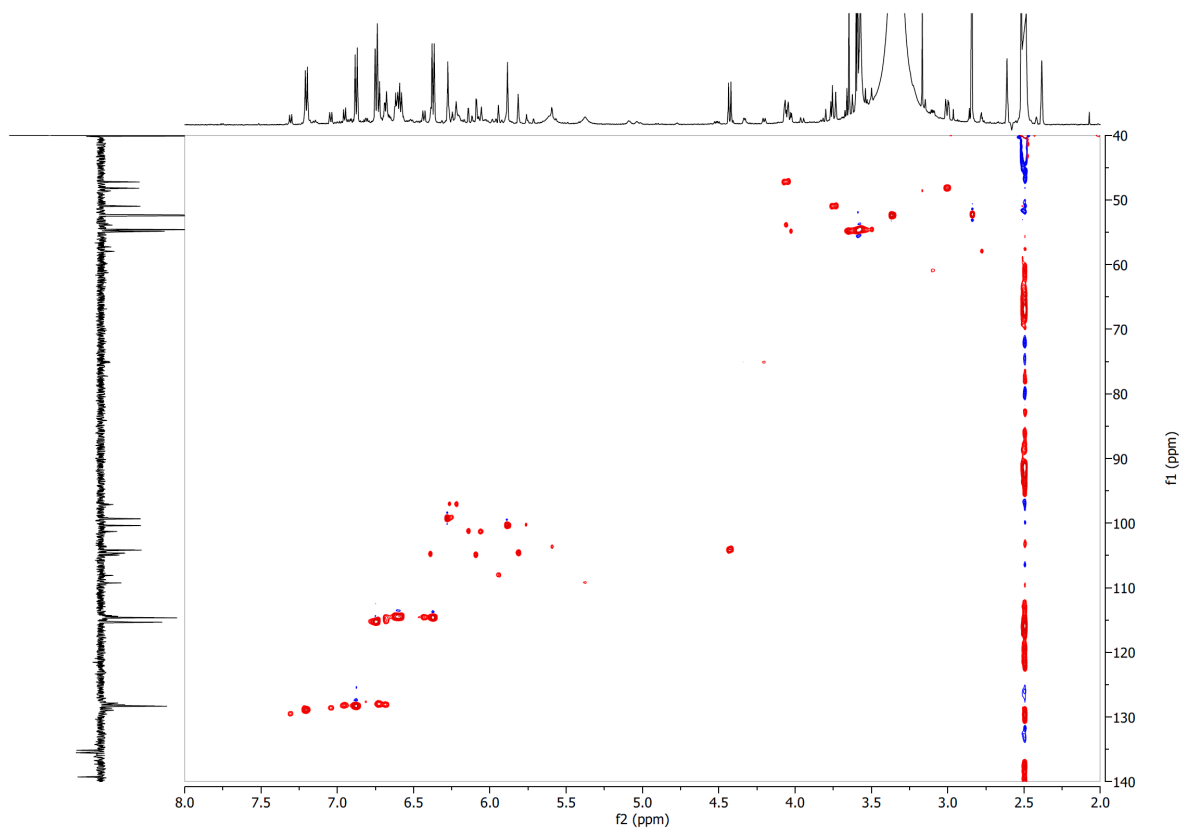
**Figure S9.**  $^1\text{H}$  NMR spectrum of compound 4 in  $\text{DMSO}-d_6$  at 600 MHz



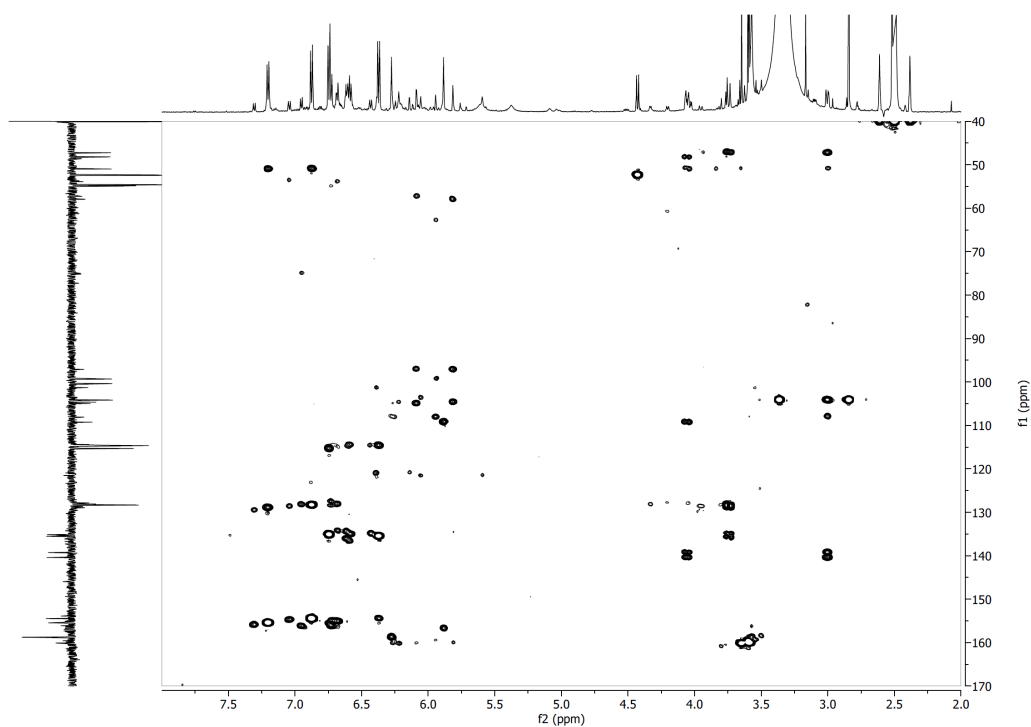
**Figure S10.** COSY NMR spectrum of compound **4** in DMSO- $d_6$



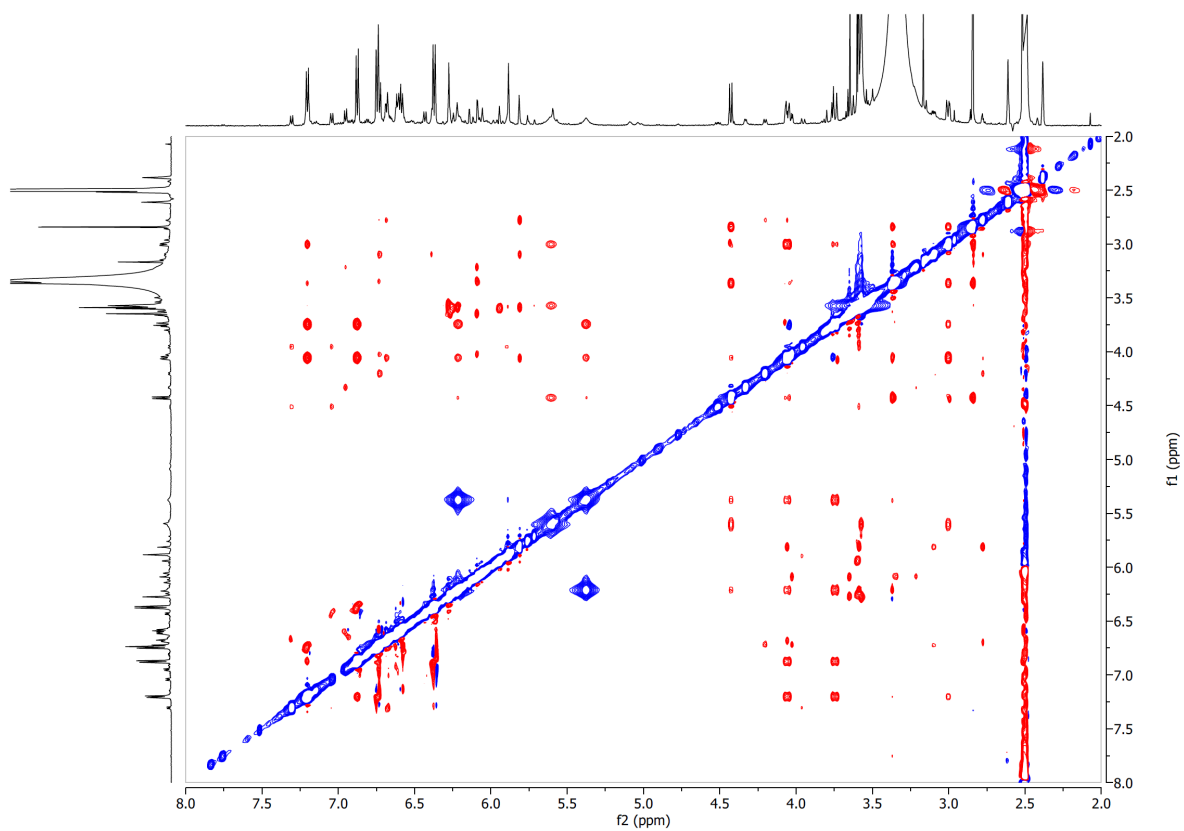
**Figure S11.**  $^{13}\text{C}$ -DEPTQ NMR spectrum of compound **4** in DMSO- $d_6$  at 151 MHz



**Figure S12.** Edited-HSQC NMR spectrum of compound **4** in DMSO- $d_6$



**Figure S13.** HMBC NMR spectrum of compound **4** in DMSO- $d_6$



**Figure S14.** ROESY NMR spectrum of compound **4** in DMSO- $d_6$

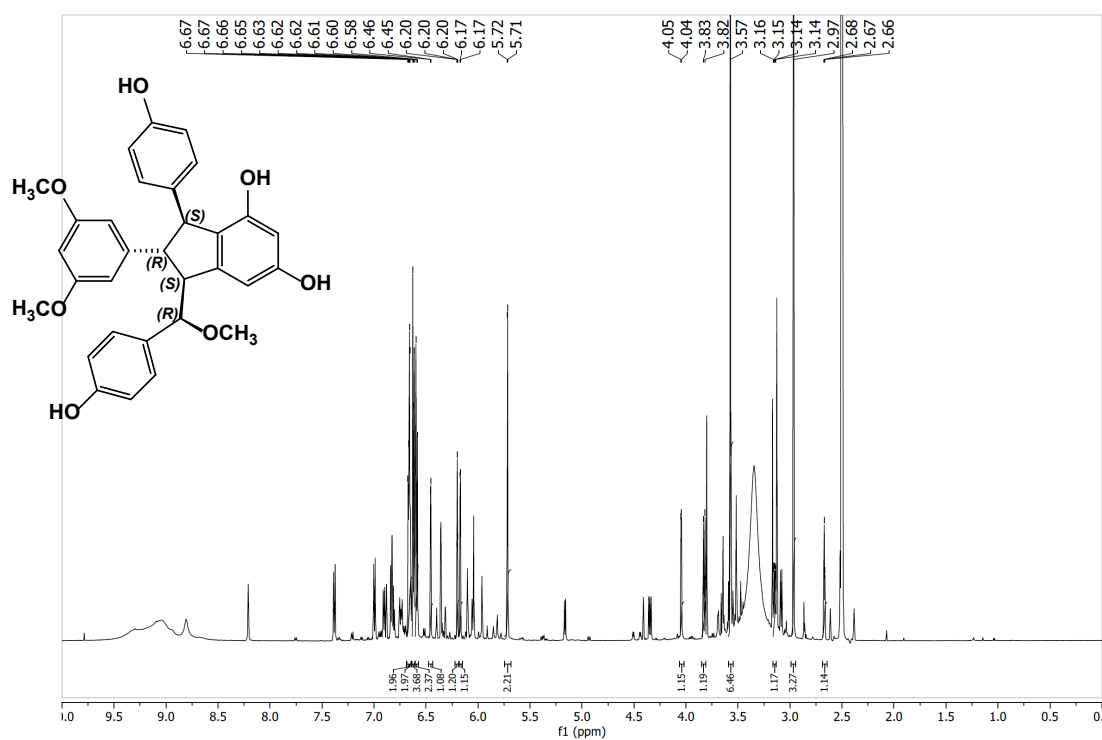


Figure S15.  $^1\text{H}$  NMR spectrum of compound 5 in  $\text{DMSO}-d_6$  at 600 MHz

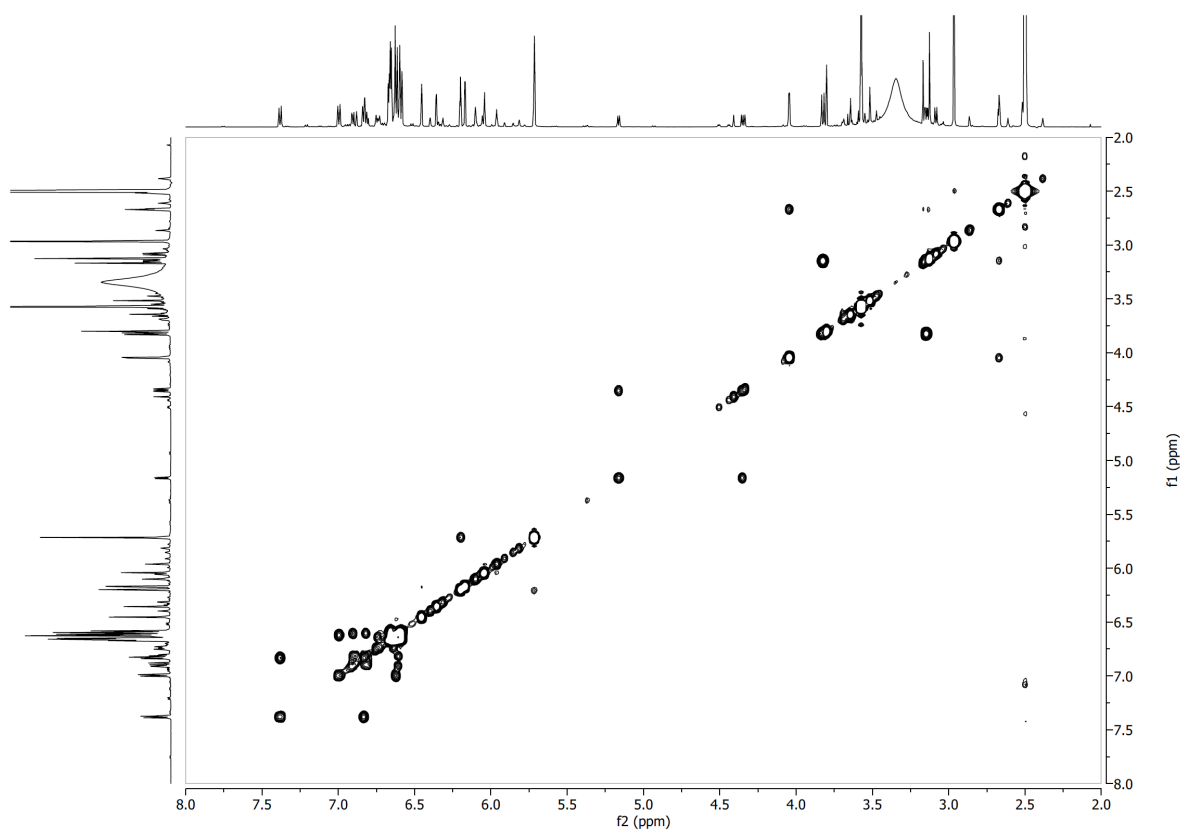
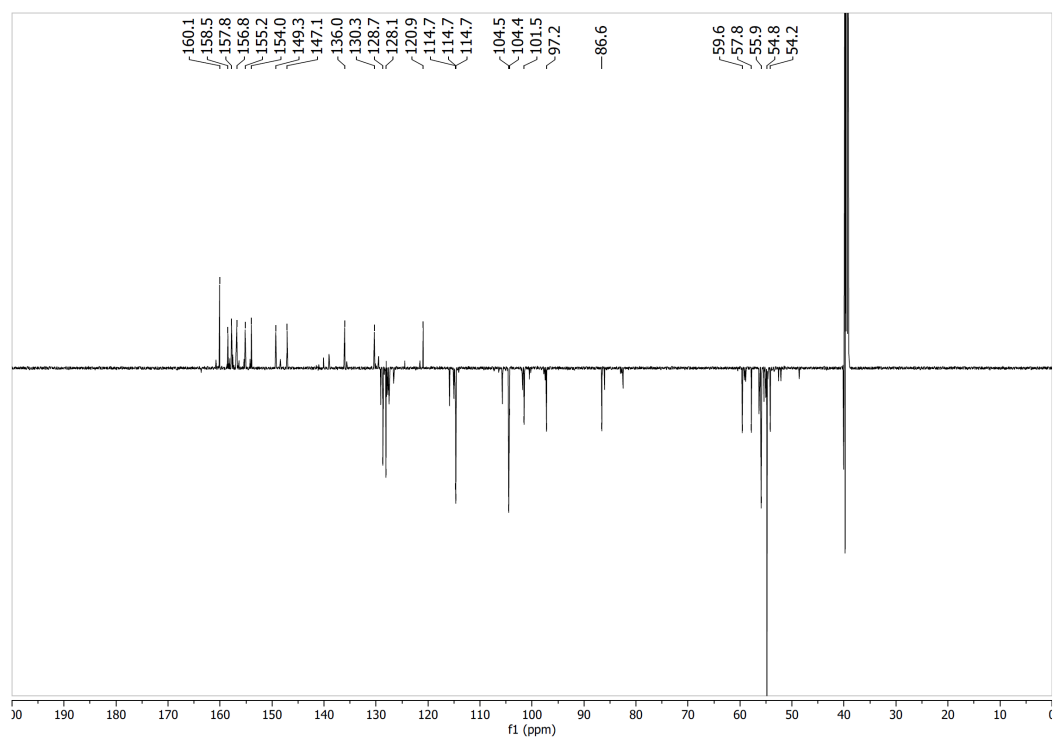
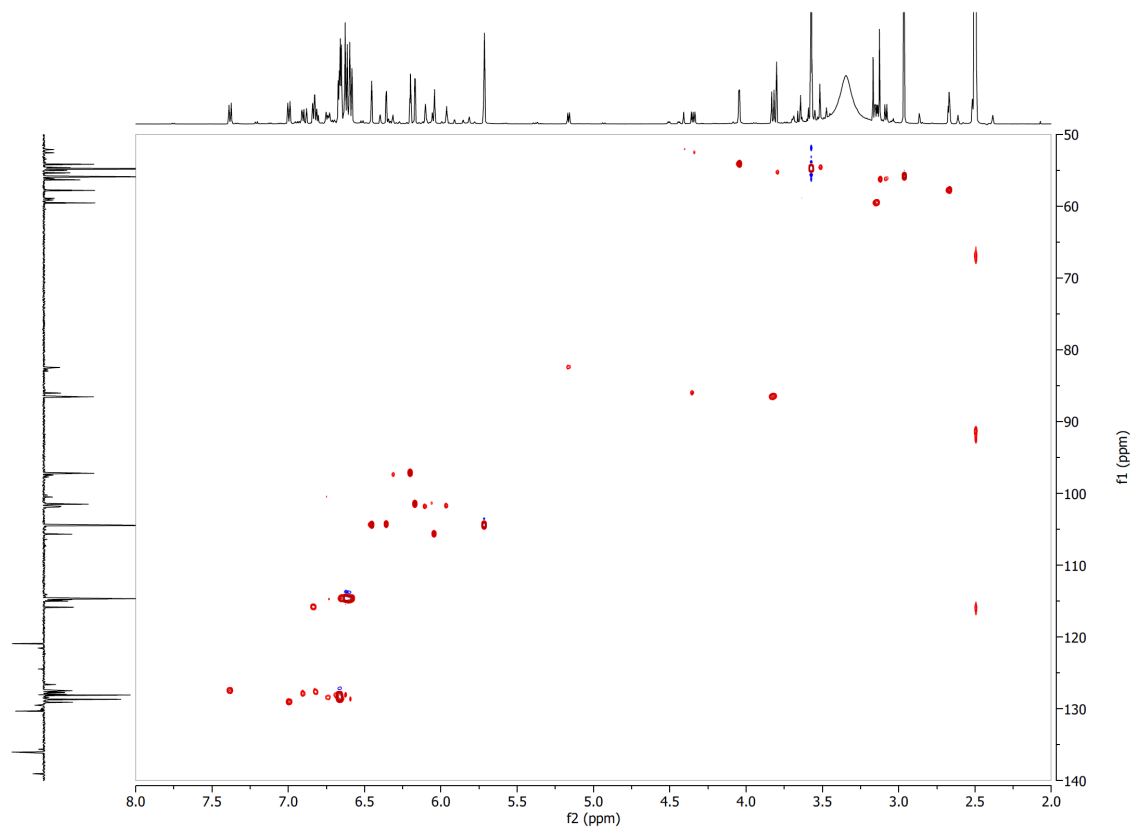


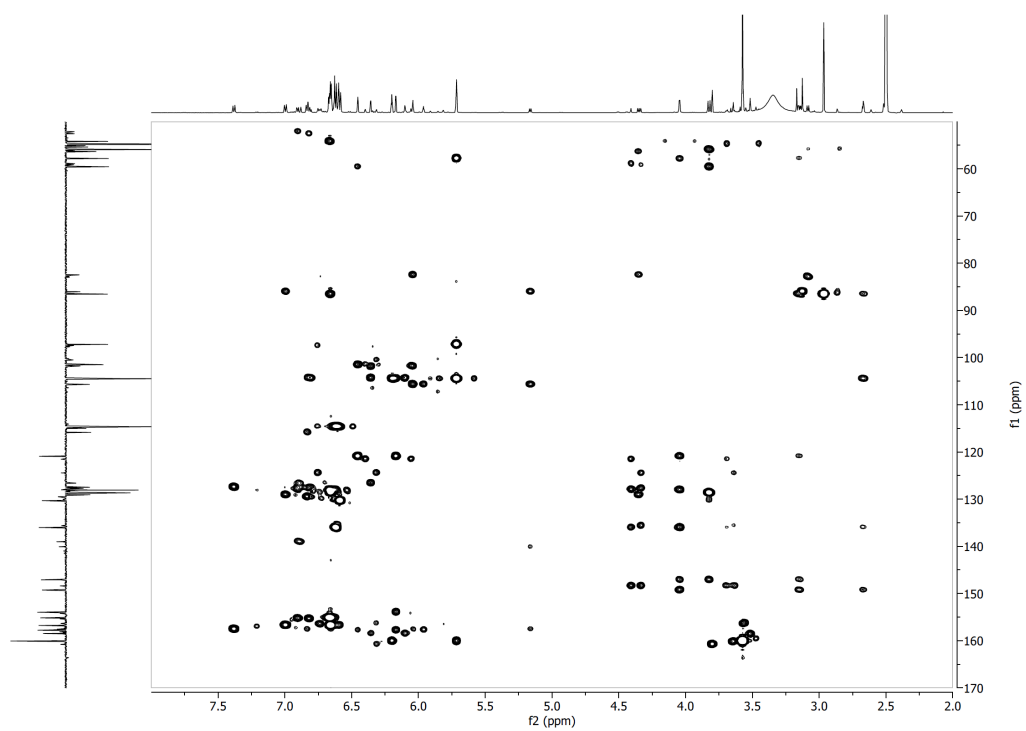
Figure S16. COSY NMR spectrum of compound 5 in  $\text{DMSO}-d_6$



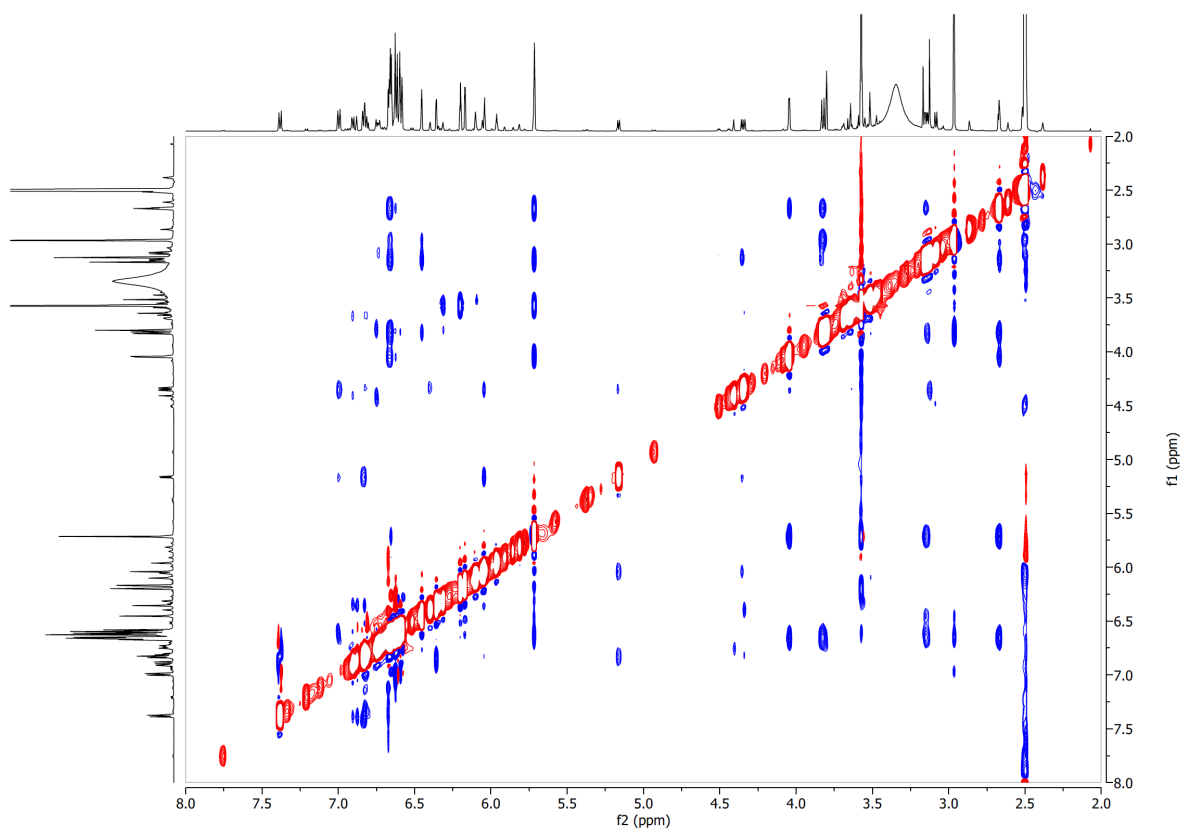
**Figure S17.**  $^{13}\text{C}$ -DEPTQ NMR spectrum of compound **5** in  $\text{DMSO-}d_6$  at 151 MHz



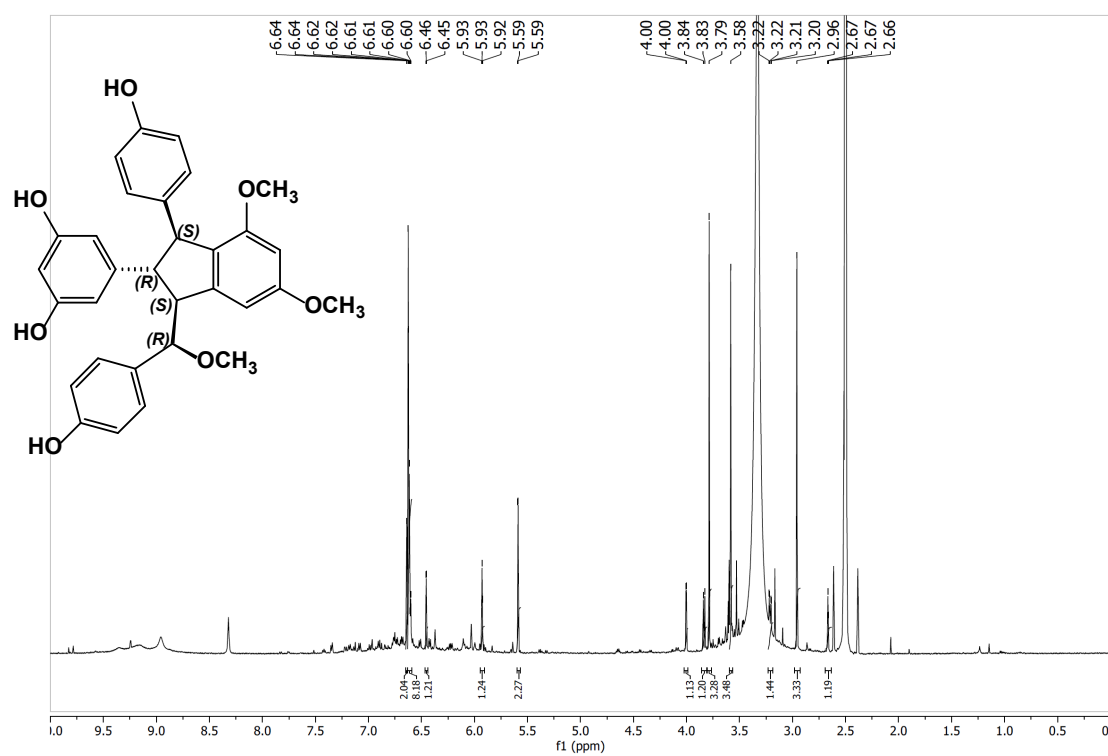
**Figure S18.** Edited-HSQC NMR spectrum of compound **5** in  $\text{DMSO-}d_6$



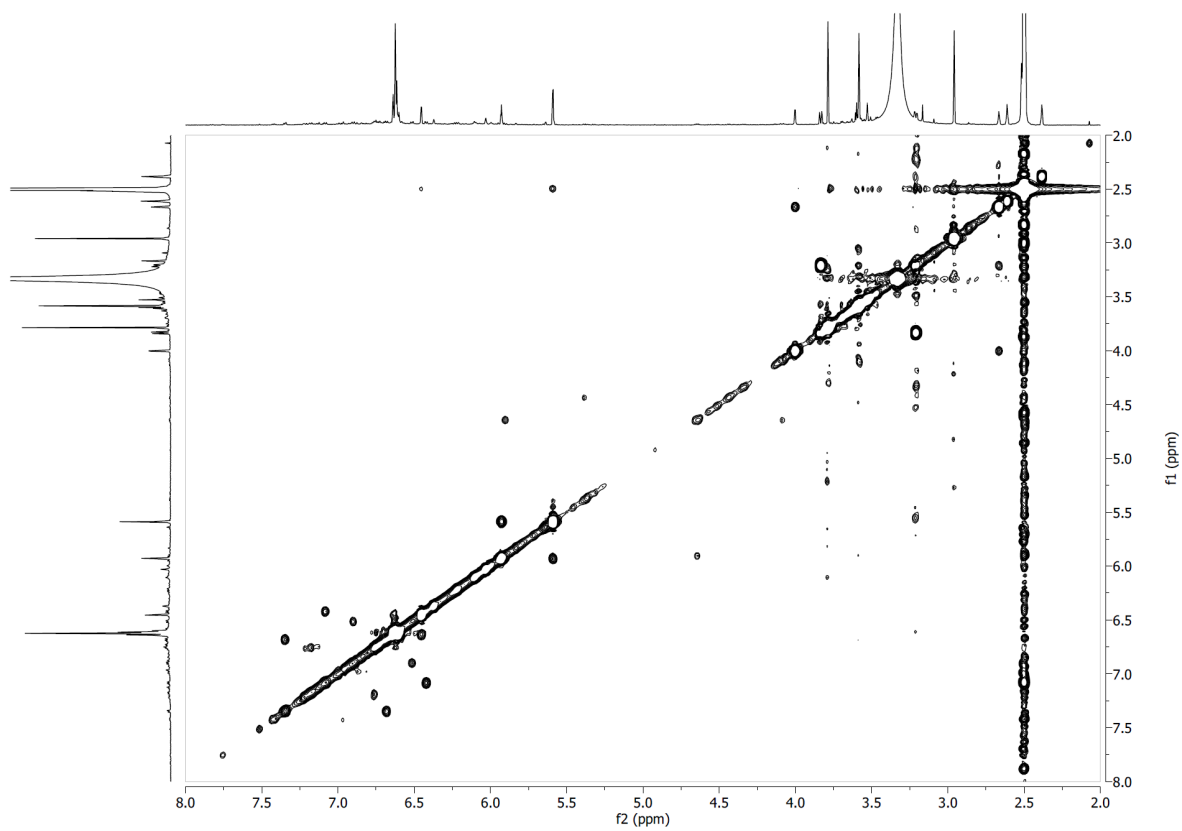
**Figure S19.** HMBC NMR spectrum of compound **5** in DMSO- $d_6$



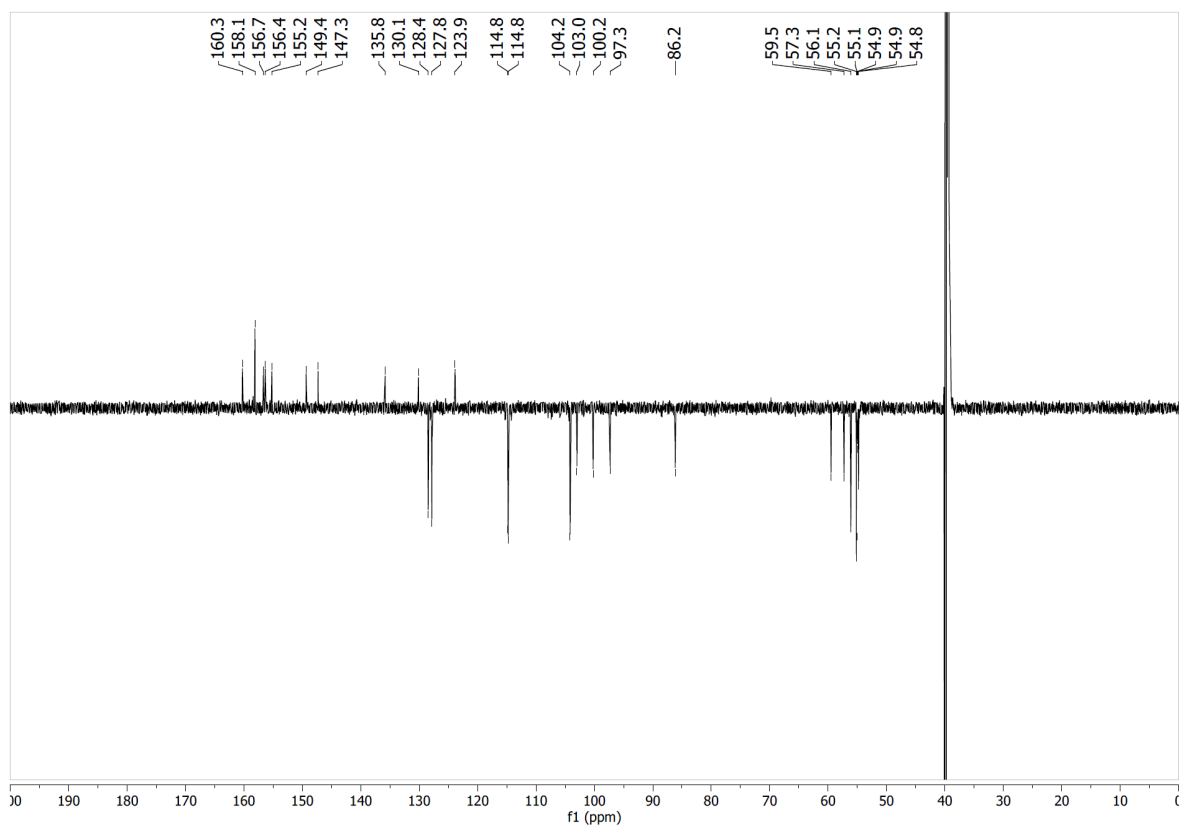
**Figure S20.** ROESY NMR spectrum of compound **5** in DMSO- $d_6$



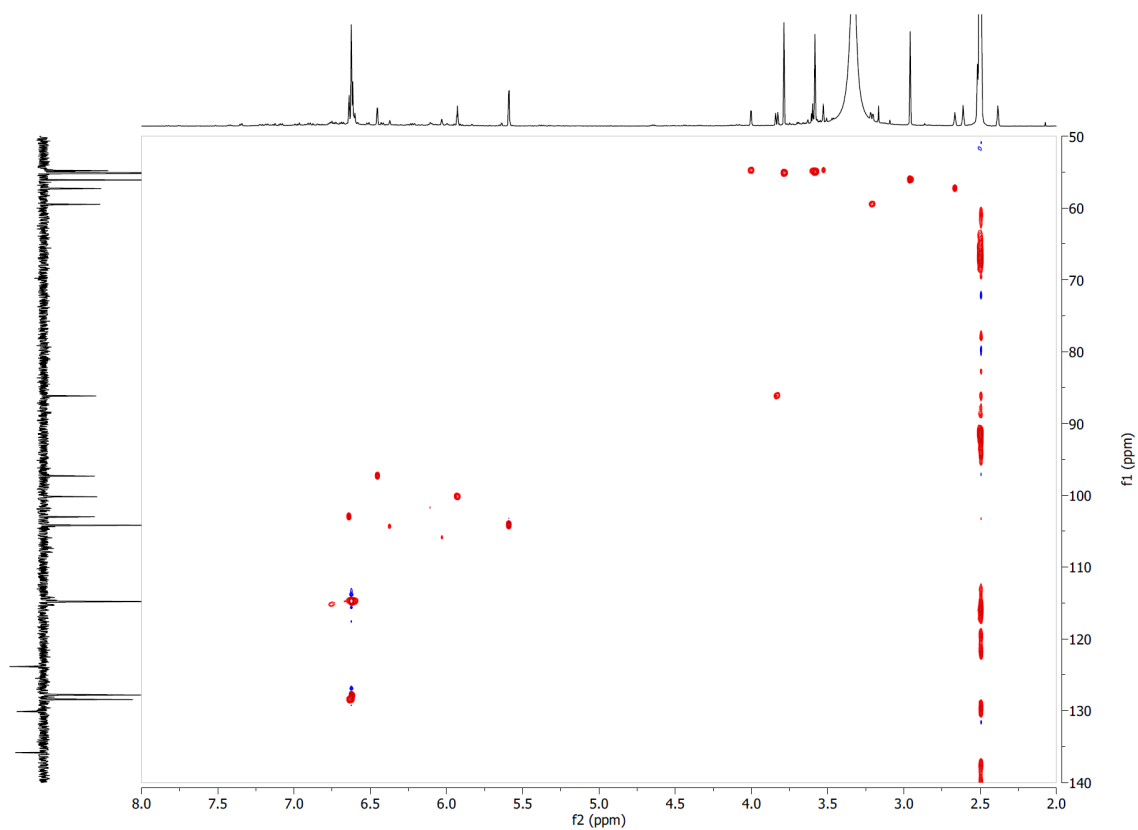
**Figure S21.**  $^1\text{H}$  NMR spectrum of compound **7** in  $\text{DMSO}-d_6$  at 600 MHz



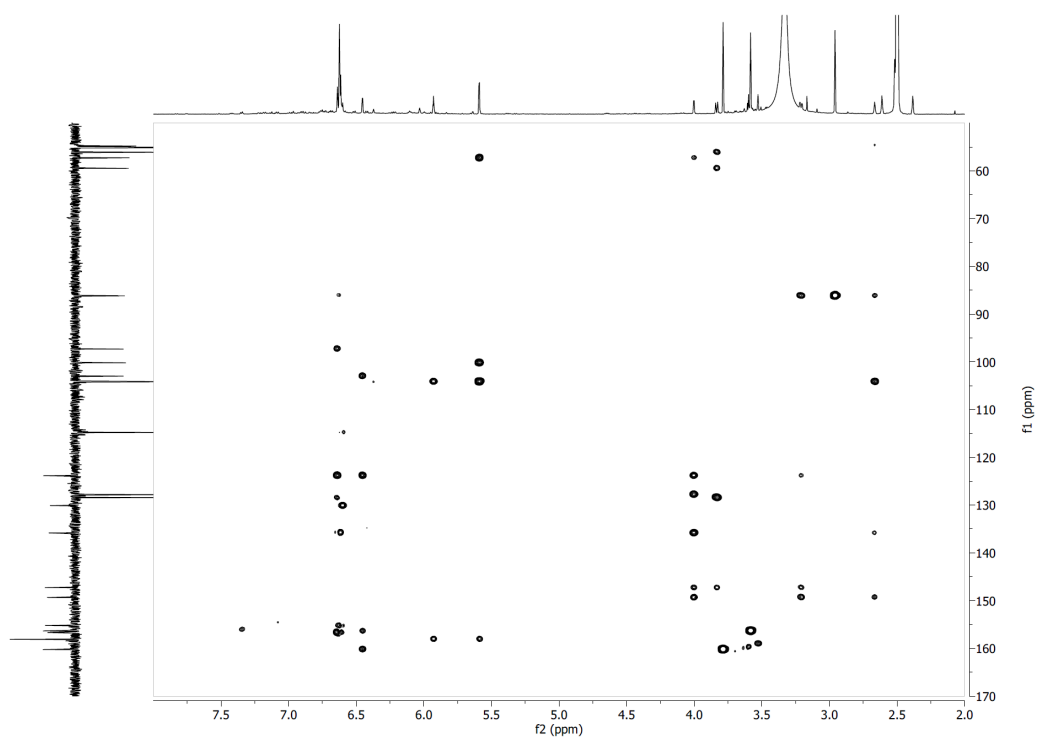
**Figure S22.** COSY NMR spectrum of compound **7** in  $\text{DMSO}-d_6$



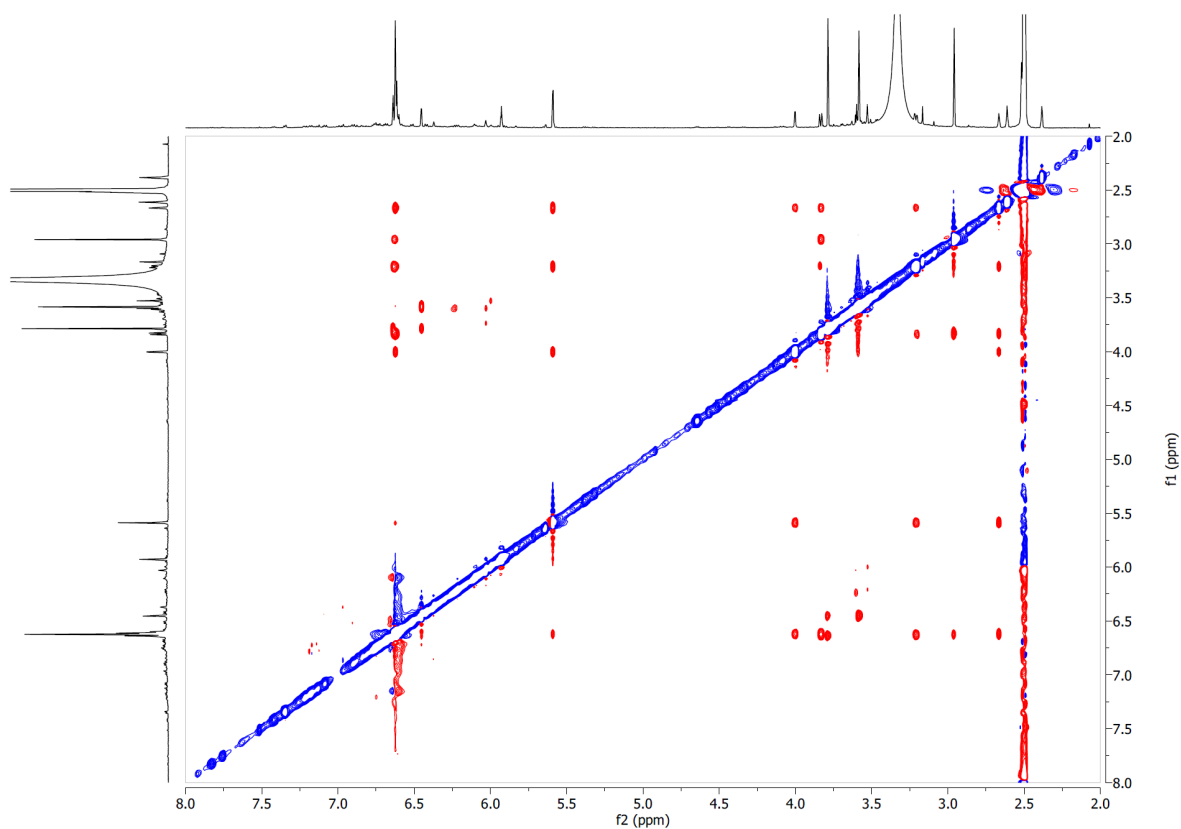
**Figure S23.**  $^{13}\text{C}$ -DEPTQ NMR spectrum of compound **7** in  $\text{DMSO}-d_6$  at 151 MHz



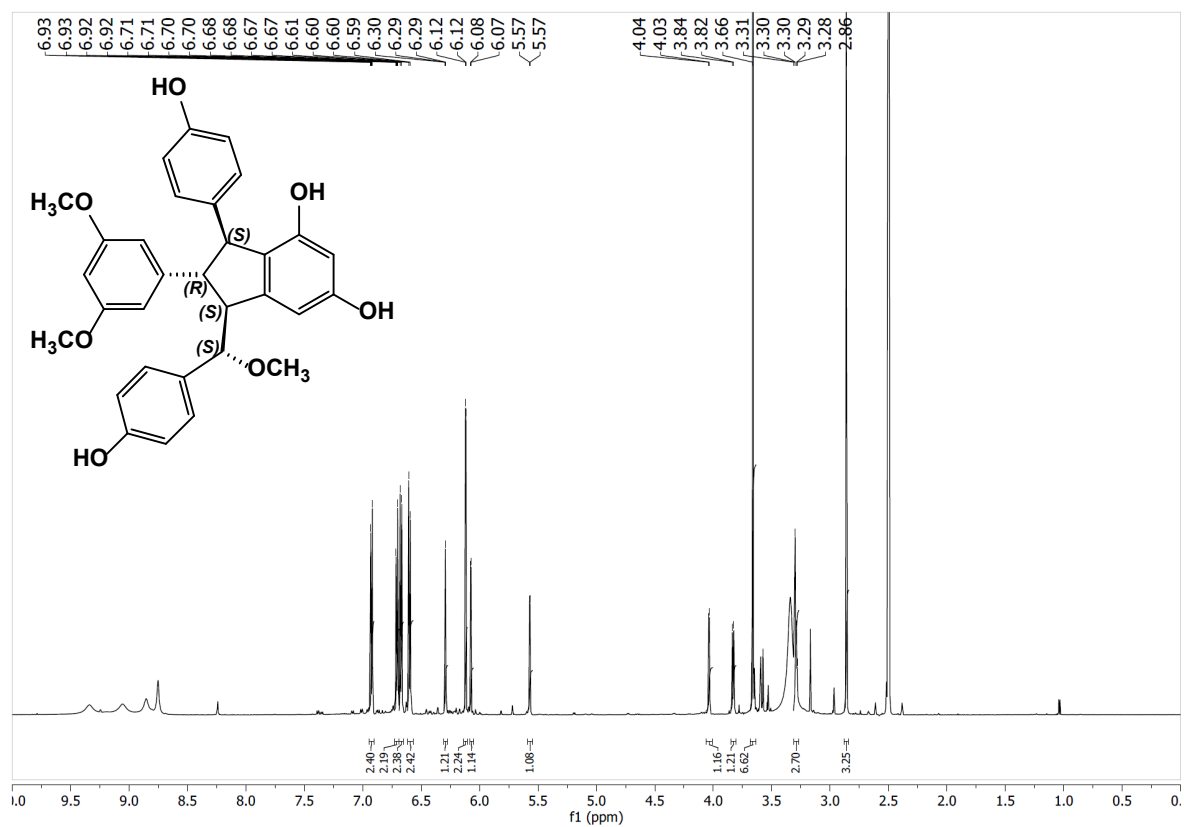
**Figure S24.** Edited-HSQC NMR spectrum of compound **7** in  $\text{DMSO}-d_6$



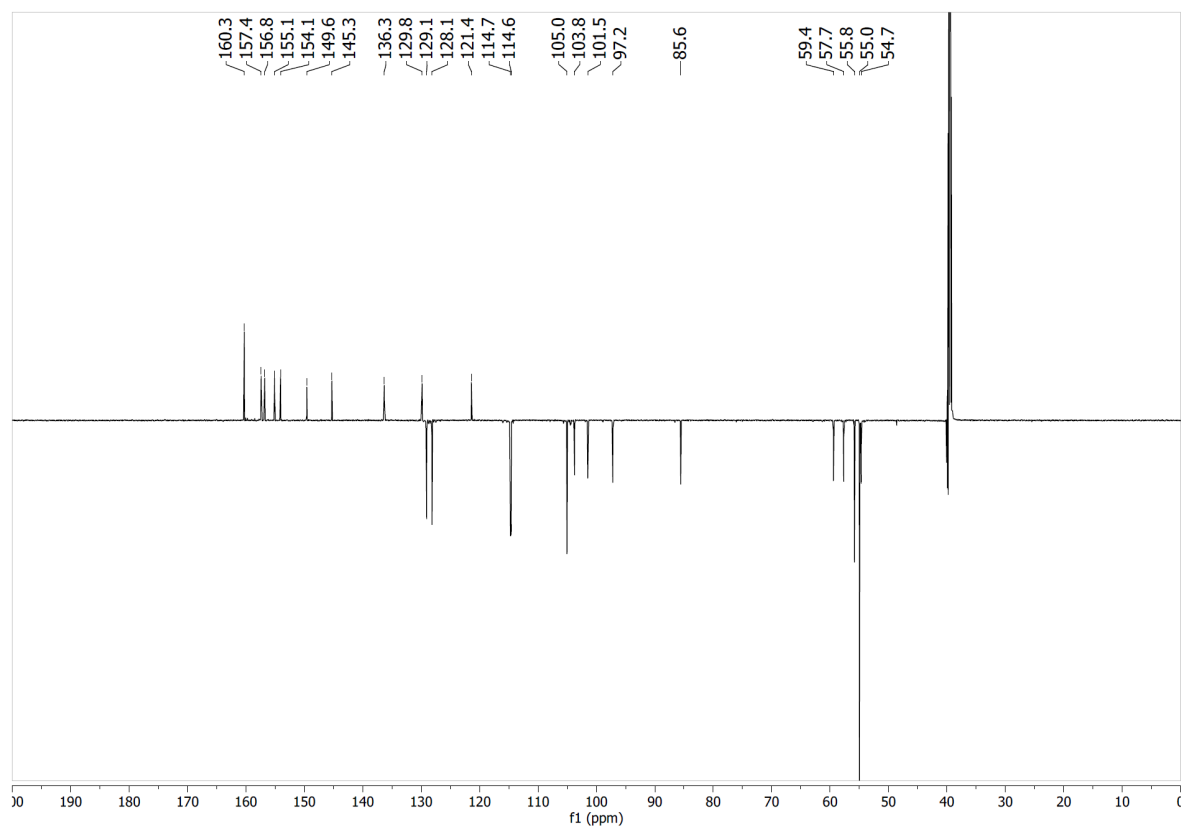
**Figure S25.** HMBC NMR spectrum of compound **7** in DMSO- $d_6$



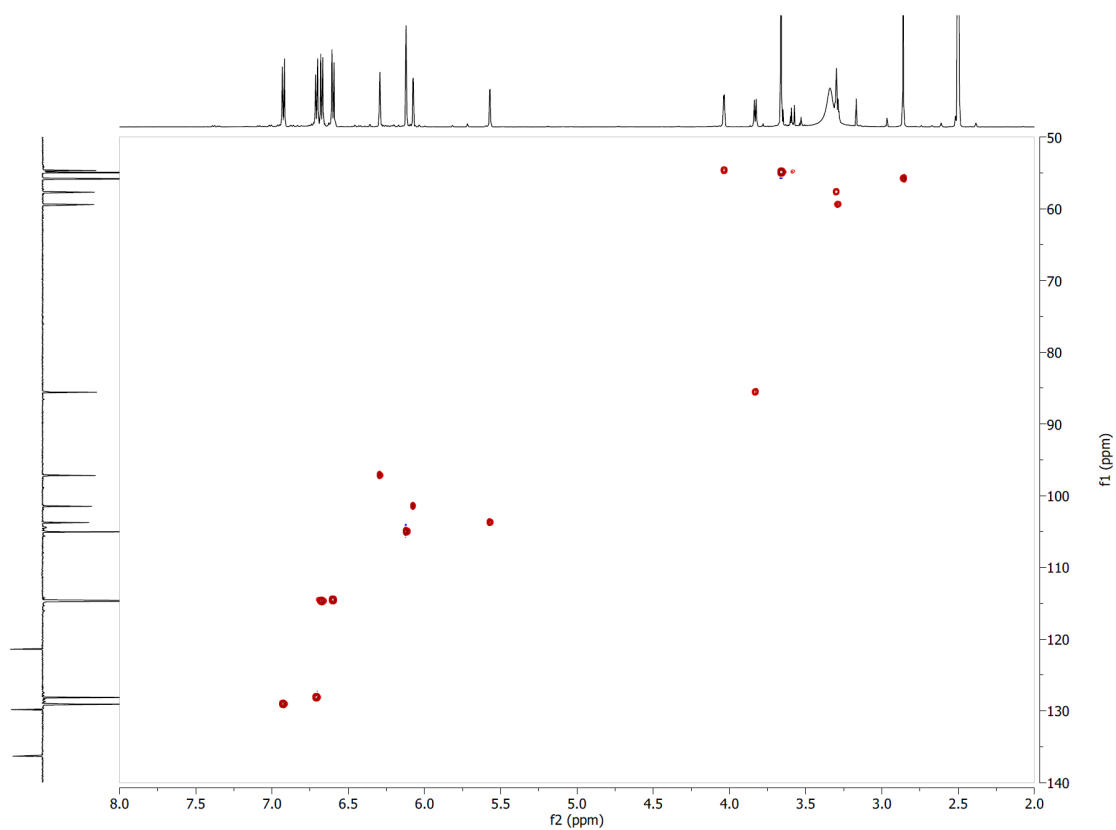
**Figure S26.** ROESY NMR spectrum of compound **7** in DMSO- $d_6$



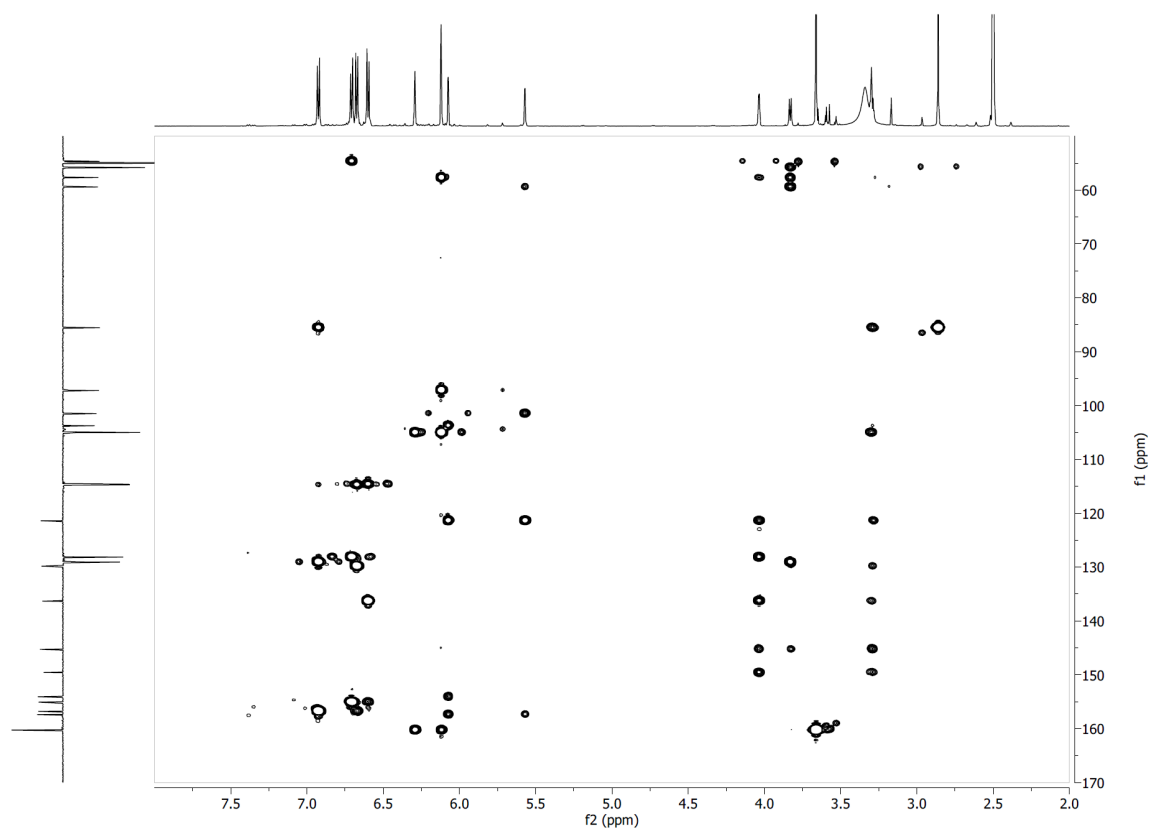
**Figure S27.** <sup>1</sup>H NMR spectrum of compound **8** in DMSO-*d*<sub>6</sub> at 600 MHz



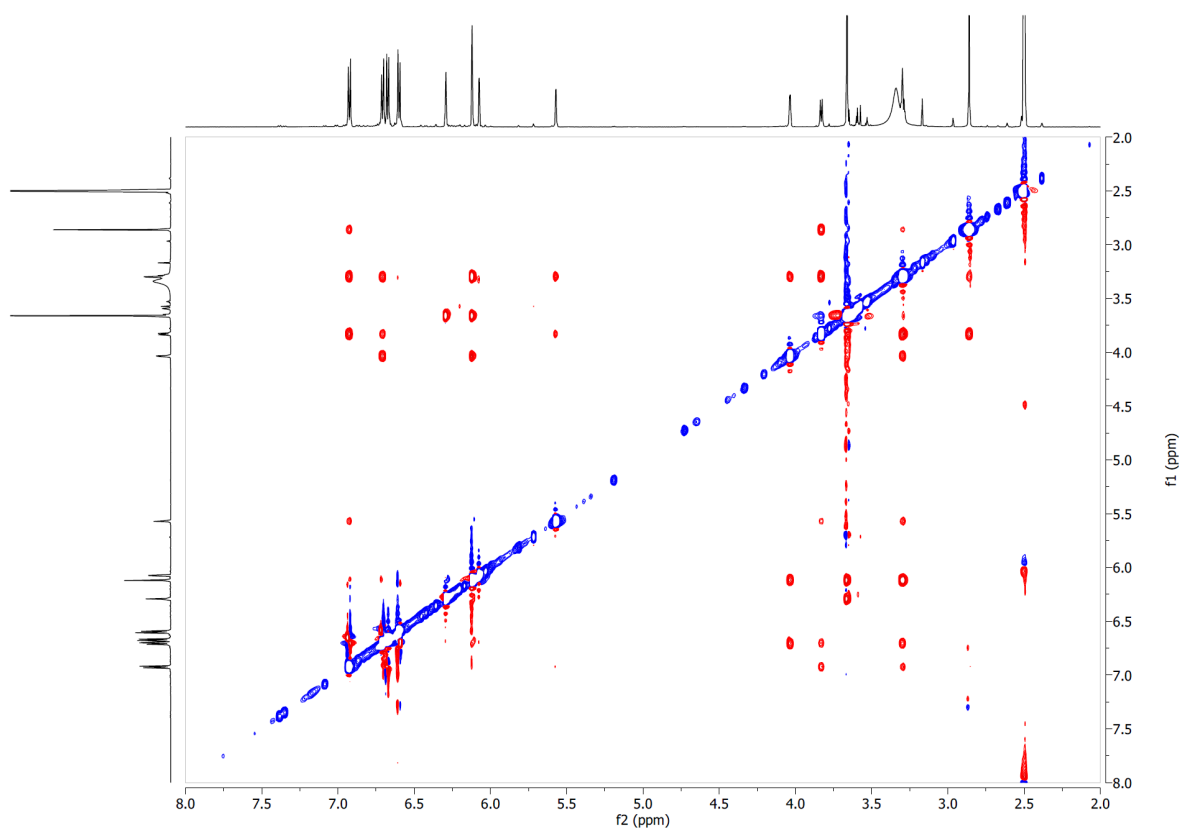
**Figure S28.** <sup>13</sup>C-DEPTQ NMR spectrum of compound **8** in DMSO-*d*<sub>6</sub> at 151 MHz



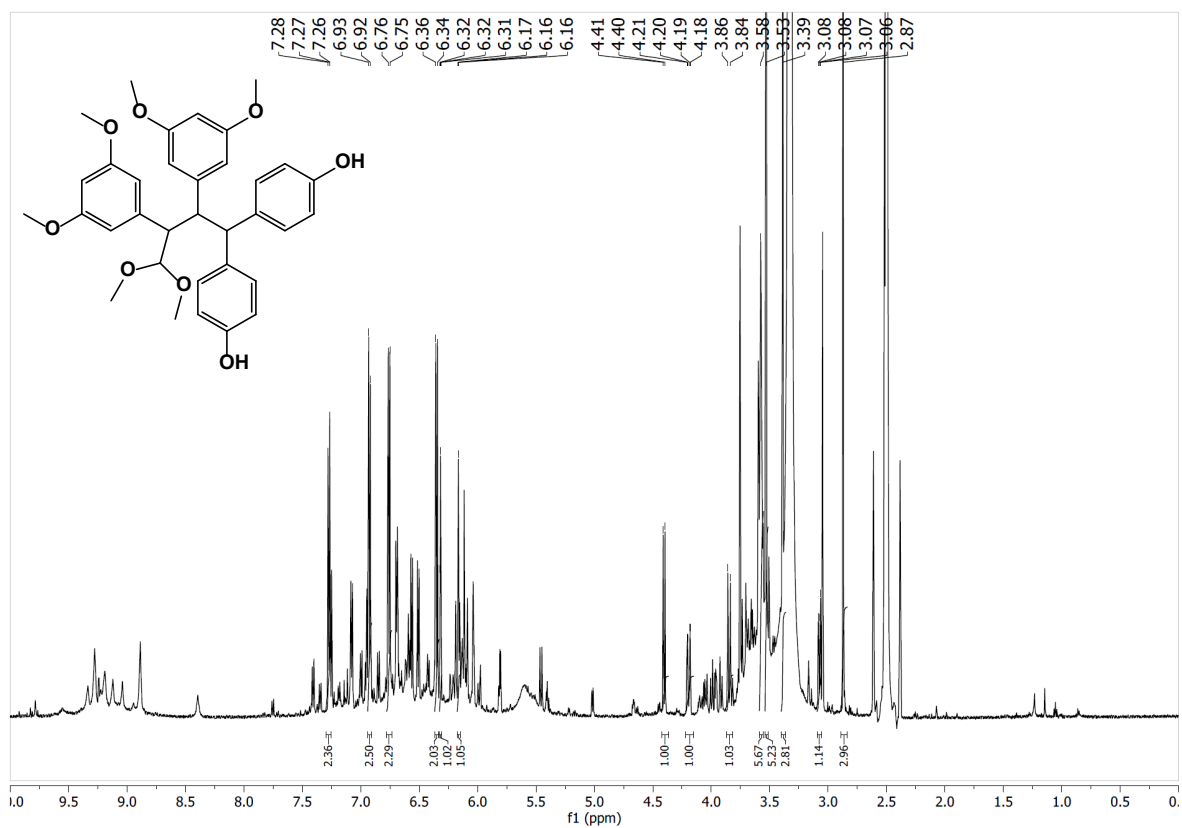
**Figure S29.** Edited-HSQC NMR spectrum of compound **8** in DMSO- $d_6$



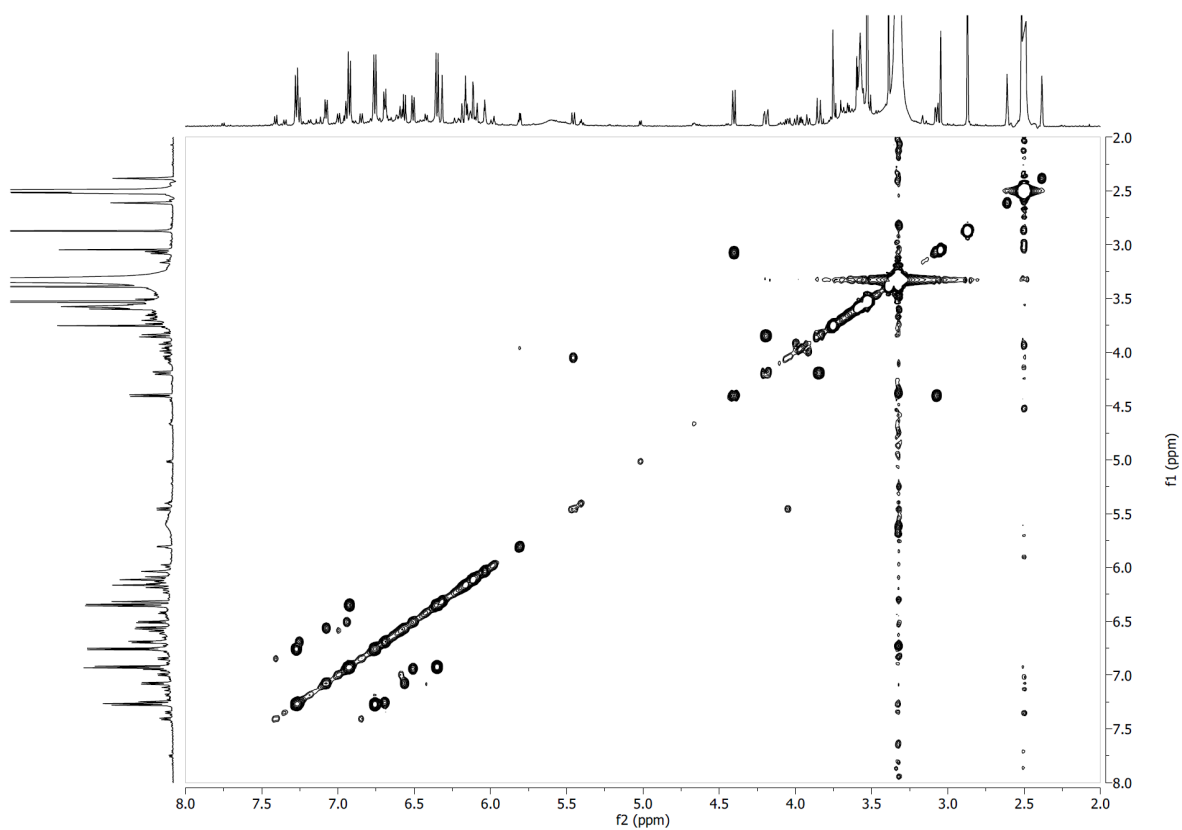
**Figure S30.** HMBC NMR spectrum of compound **8** in DMSO- $d_6$



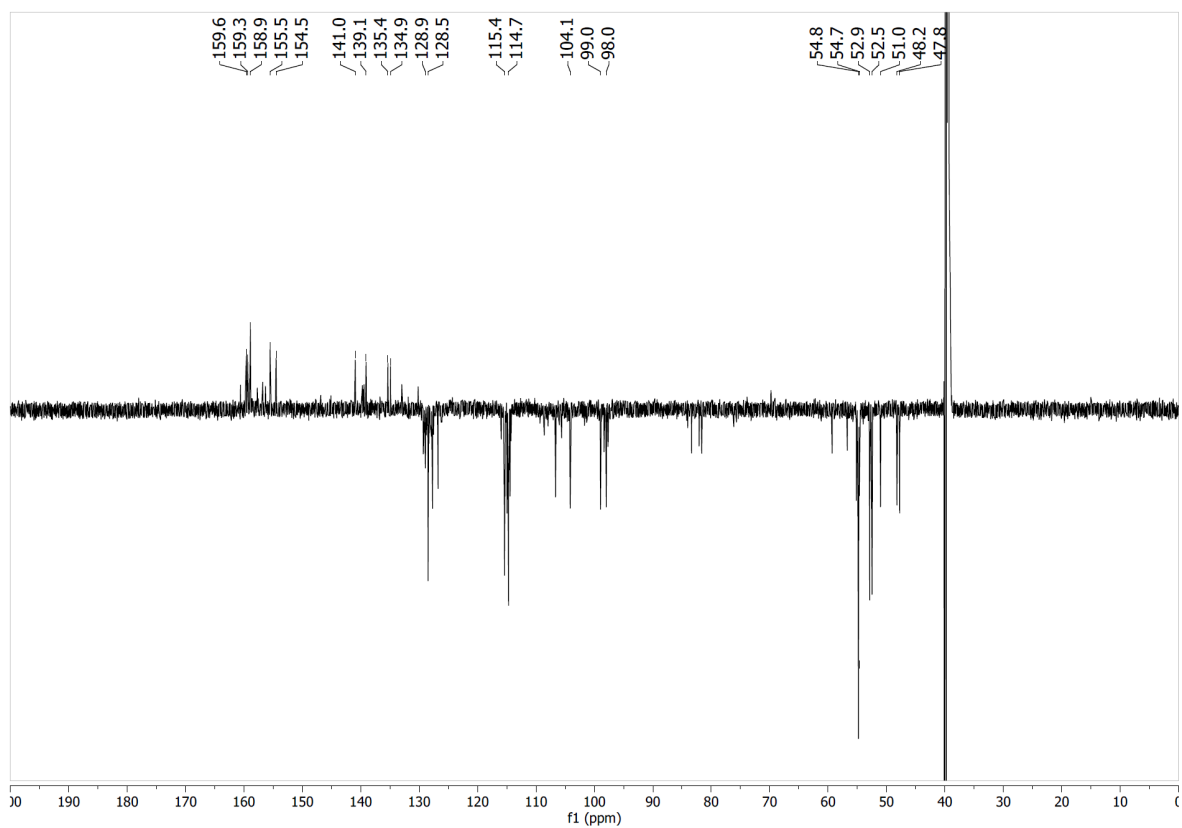
**Figure S31.** ROESY NMR spectrum of compound **8** in DMSO- $d_6$



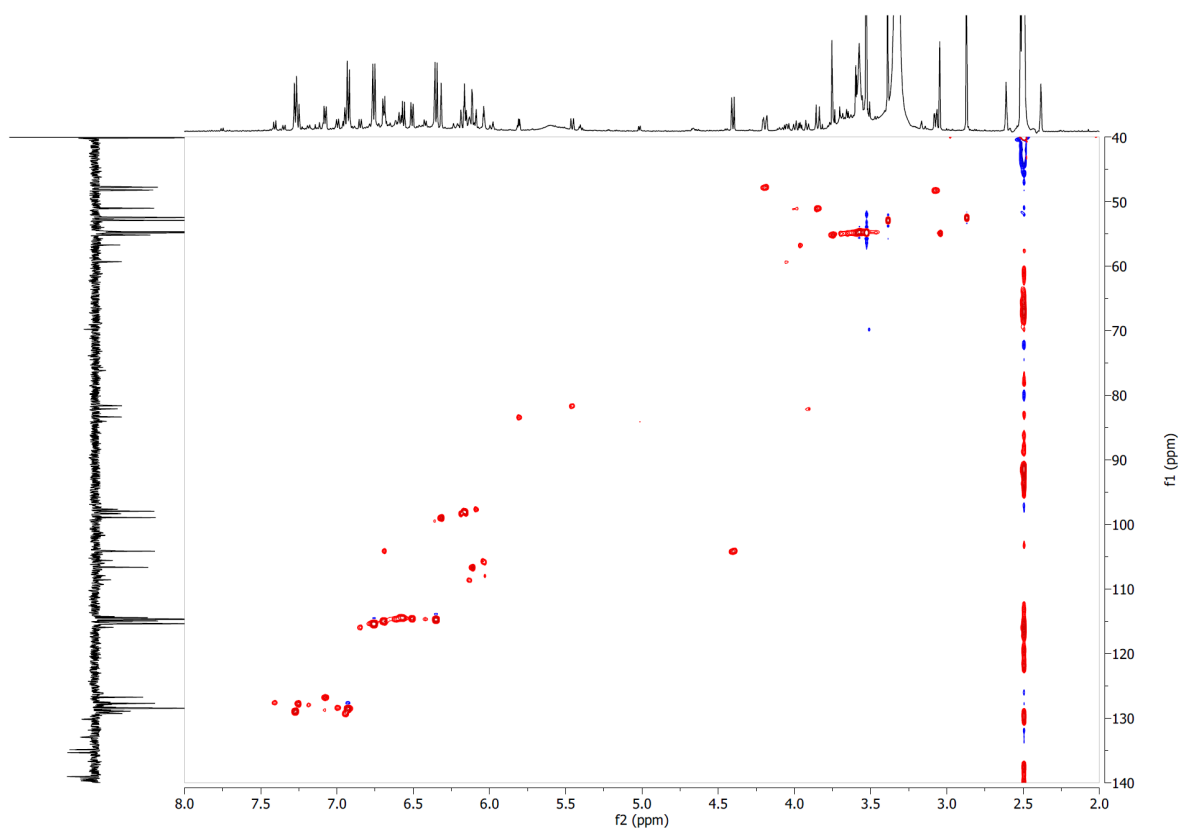
**Figure S32.**  $^1\text{H}$  NMR spectrum of compound **9** in DMSO- $d_6$  at 600 MHz



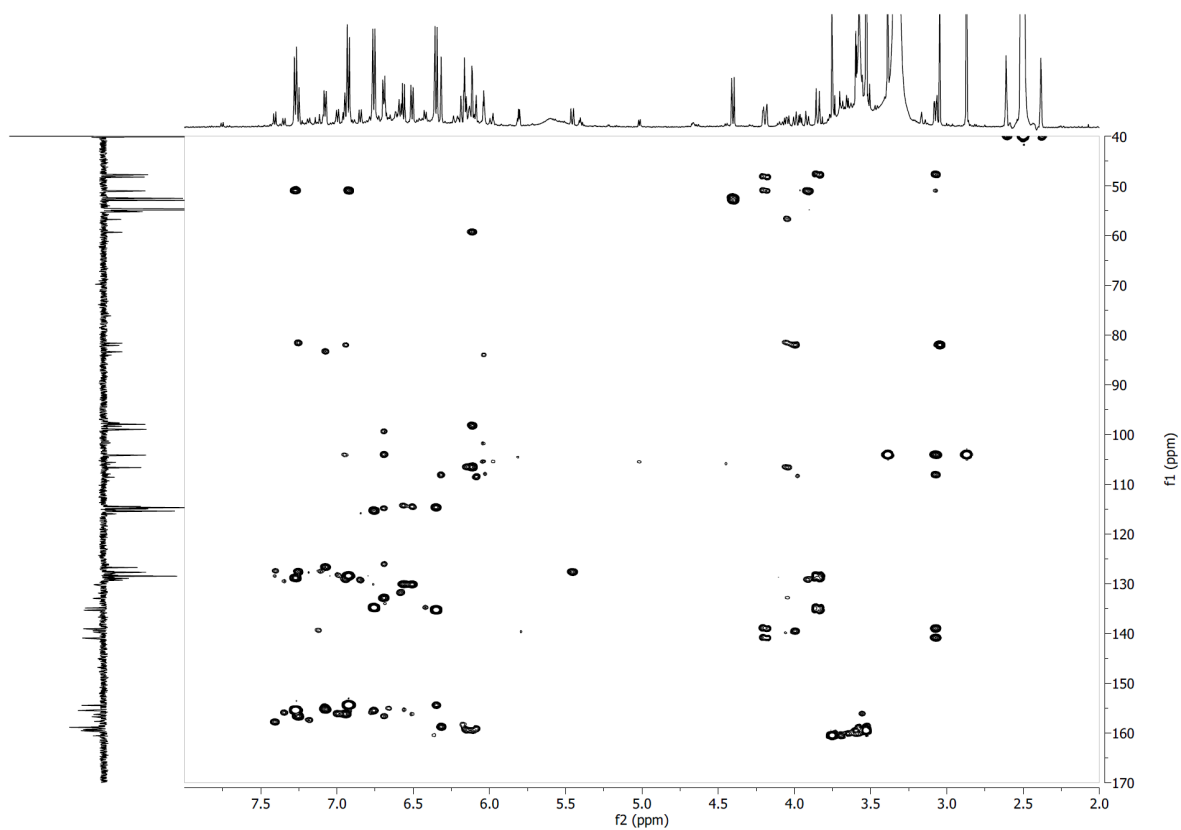
**Figure S33.** COSY NMR spectrum of compound **9** in DMSO- $d_6$



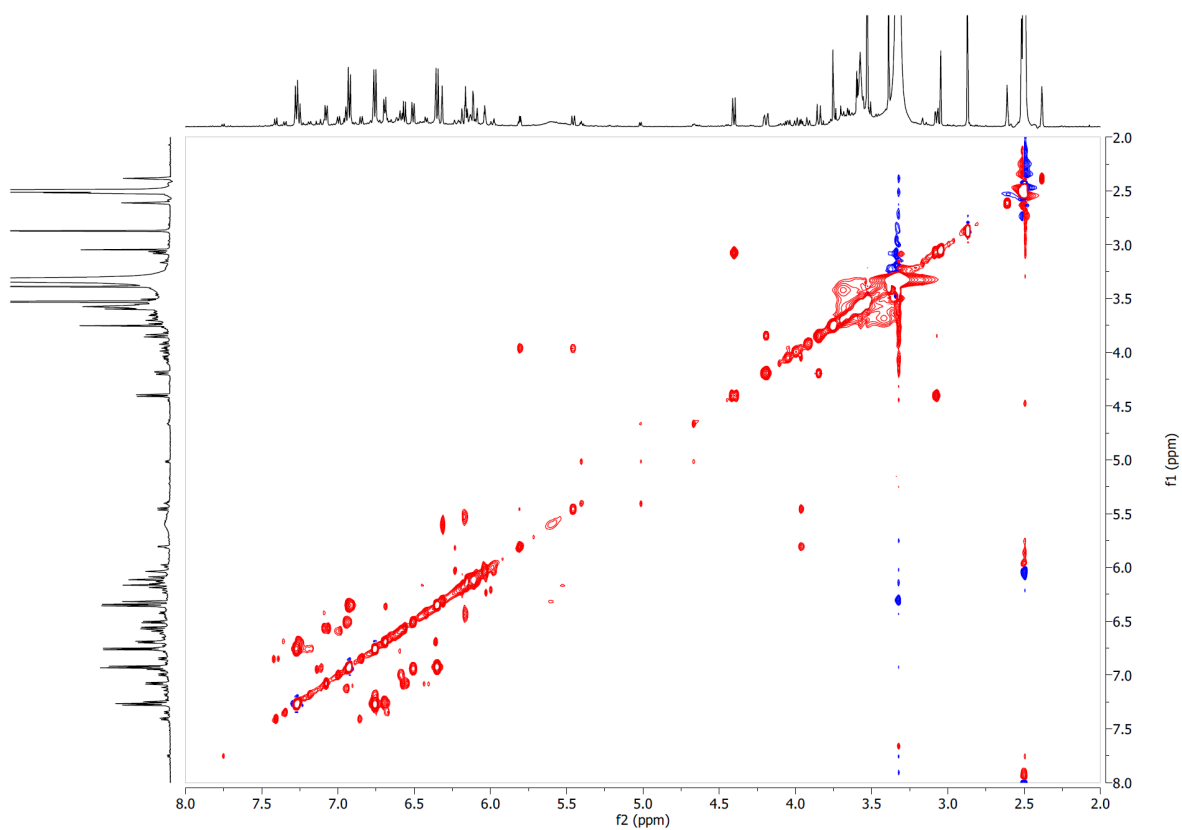
**Figure S34.**  $^{13}\text{C}$ -DEPTQ NMR spectrum of compound **9** in DMSO- $d_6$  at 151 MHz



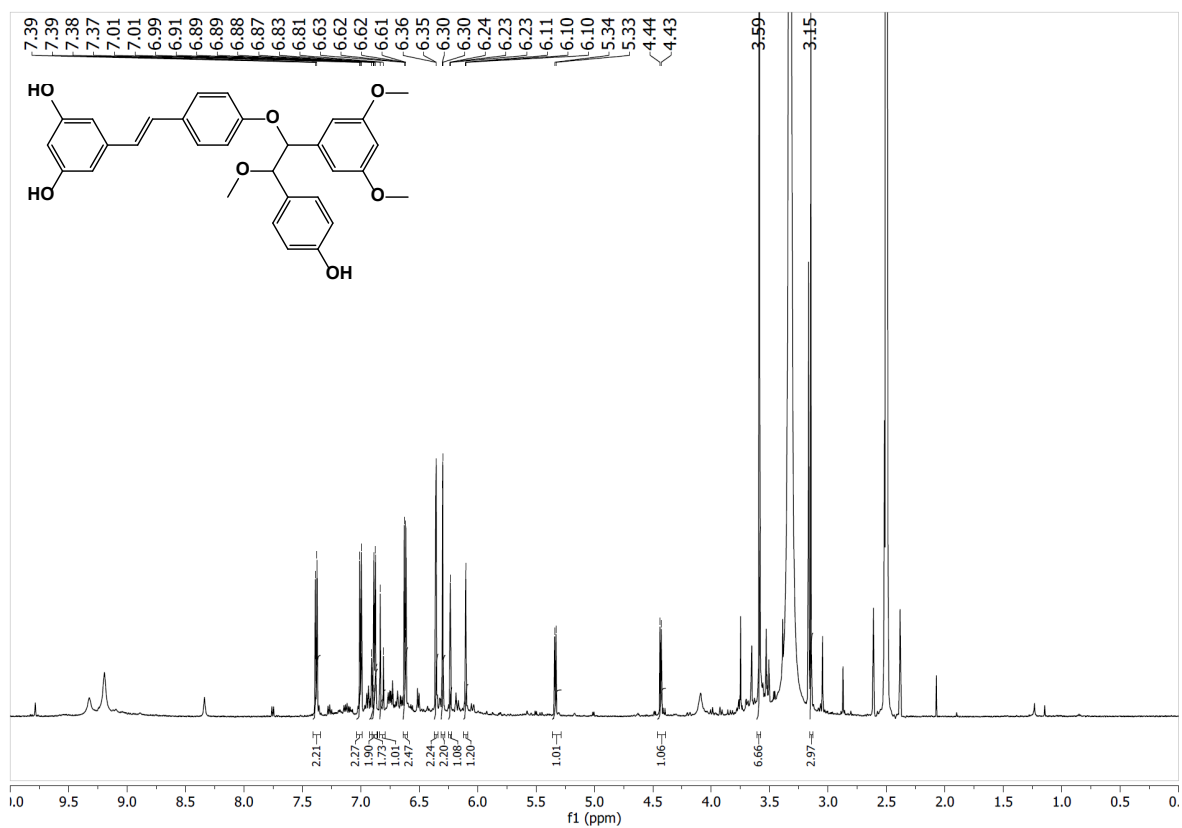
**Figure S35.** Edited-HSQC NMR spectrum of compound **9** in DMSO- $d_6$



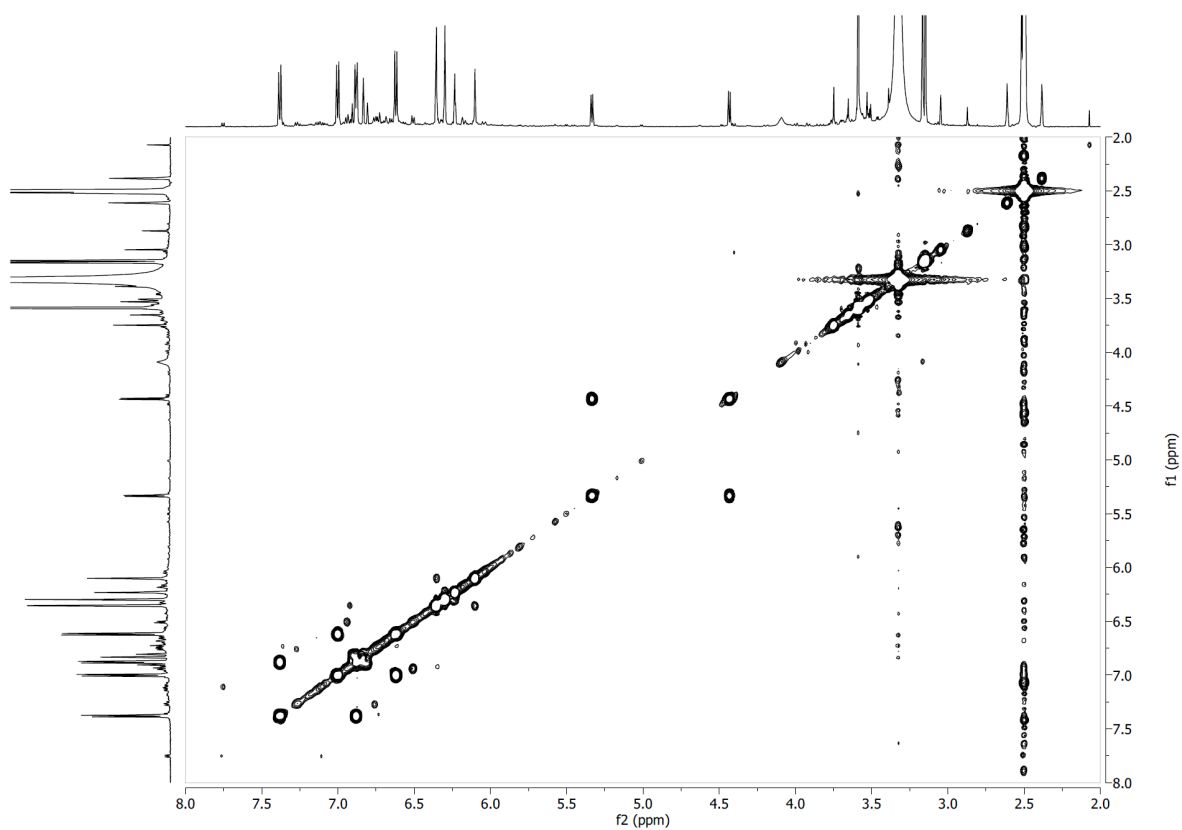
**Figure S36.** HMBC NMR spectrum of compound **9** in DMSO- $d_6$



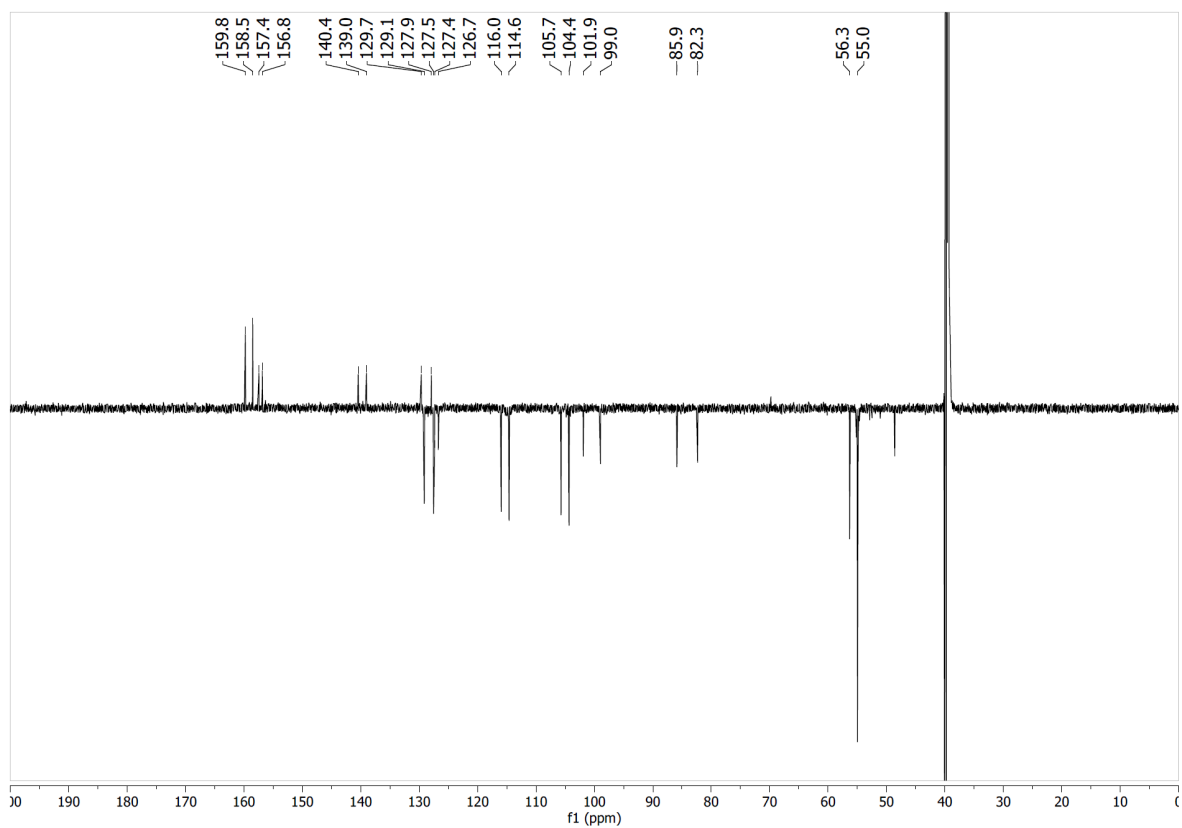
**Figure S37.** ROESY NMR spectrum of compound **9** in DMSO- $d_6$



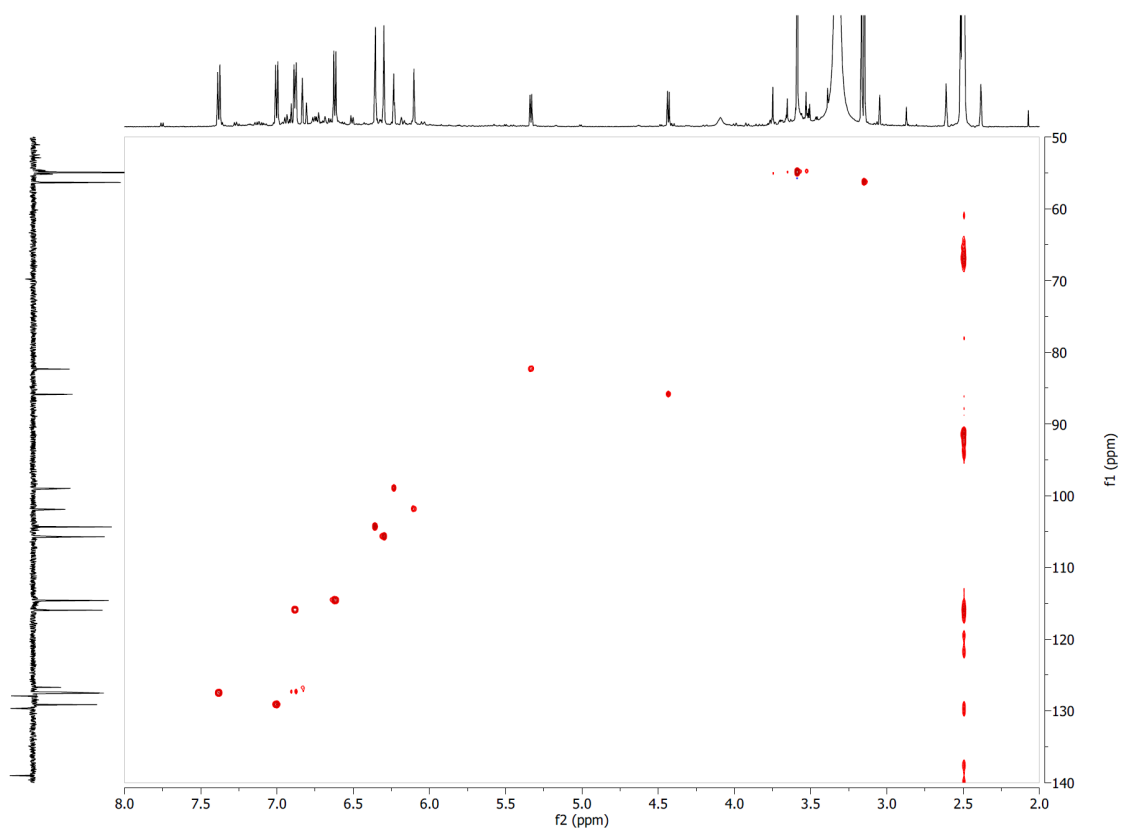
**Figure S38.**  $^1\text{H}$  NMR spectrum of compound **10** in DMSO- $d_6$  at 600 MHz



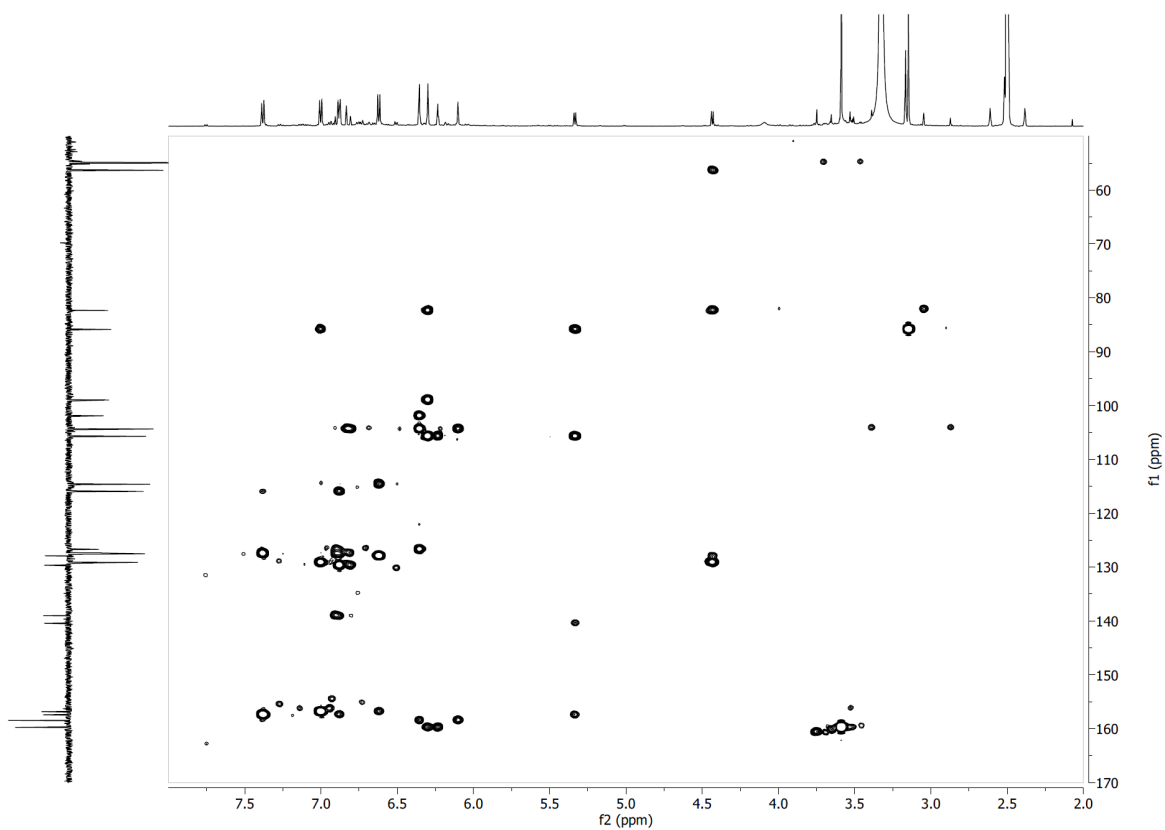
**Figure S39.** COSY NMR spectrum of compound **10** in DMSO- $d_6$



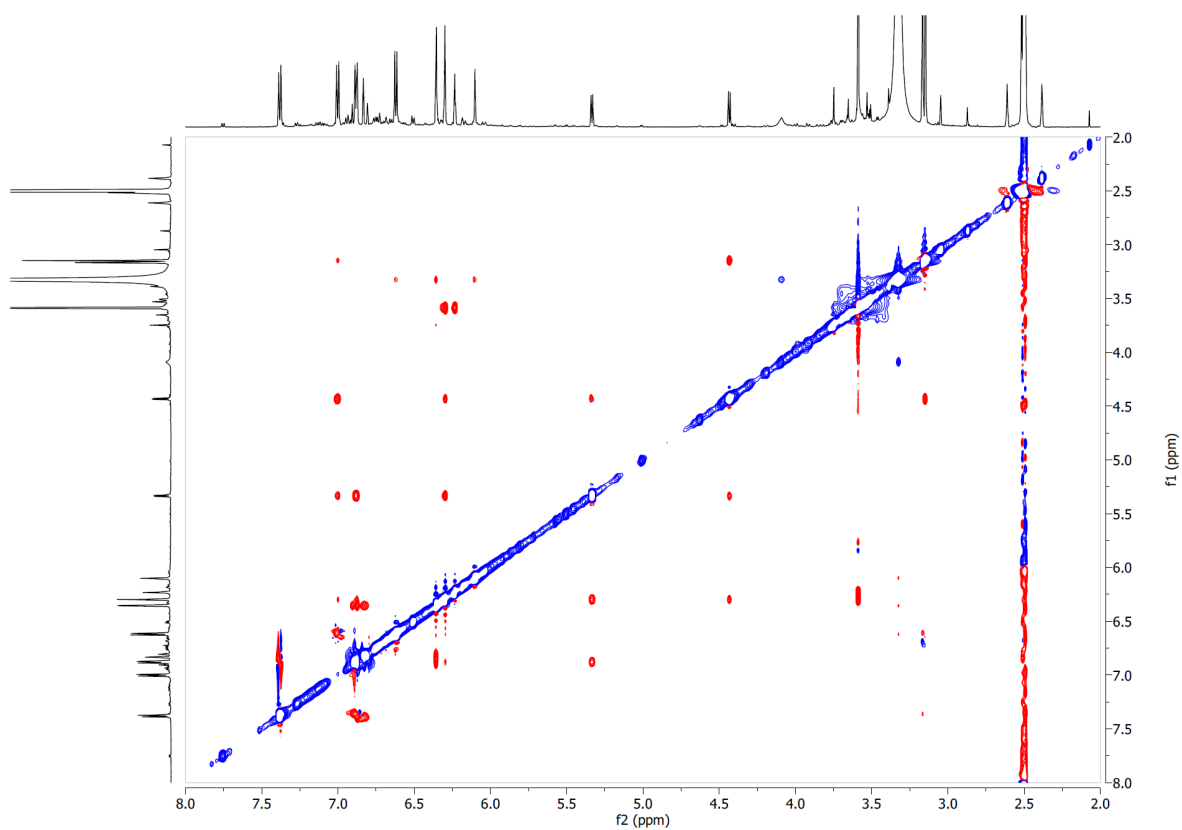
**Figure S40.**  $^{13}\text{C}$ -DEPTQ NMR spectrum of compound **10** in DMSO- $d_6$  at 151 MHz



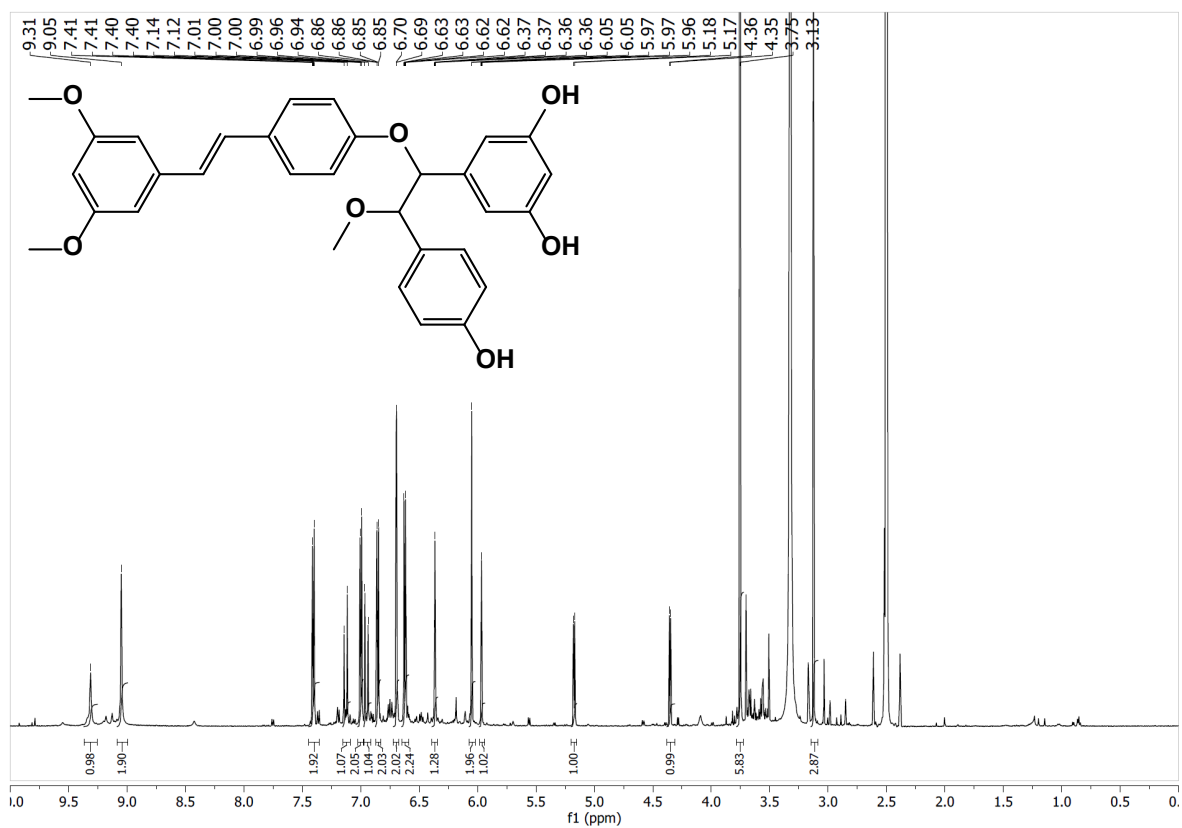
**Figure S41.** Edited-HSQC NMR spectrum of compound **10** in DMSO- $d_6$



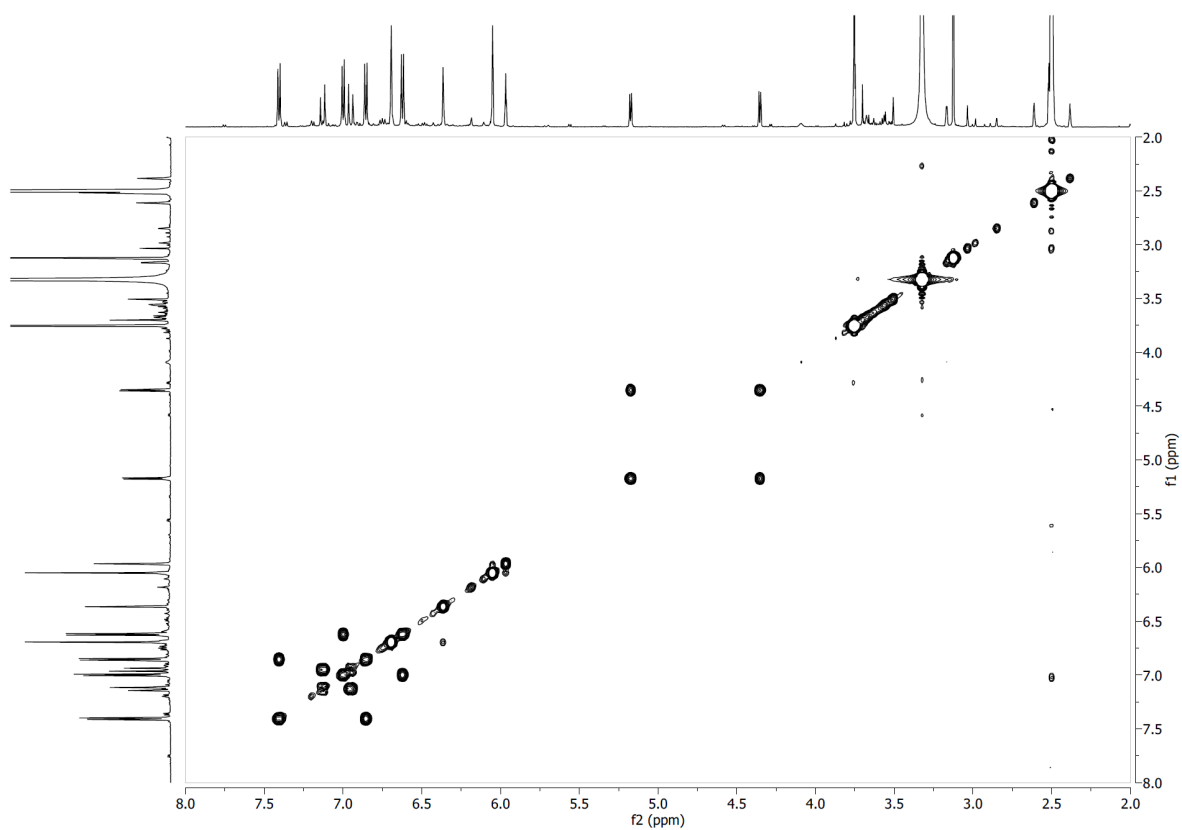
**Figure S42.** HMBC NMR spectrum of compound **10** in DMSO- $d_6$



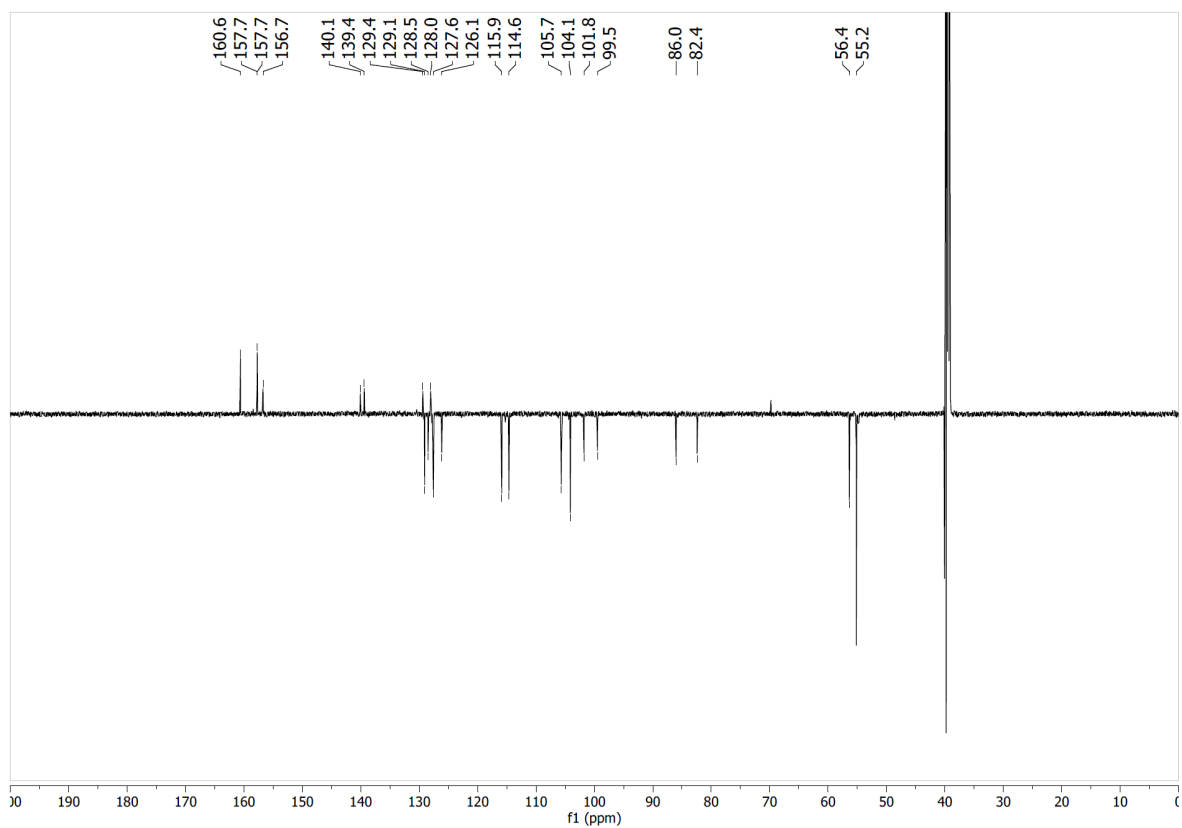
**Figure S43.** ROESY NMR spectrum of compound **10** in DMSO- $d_6$



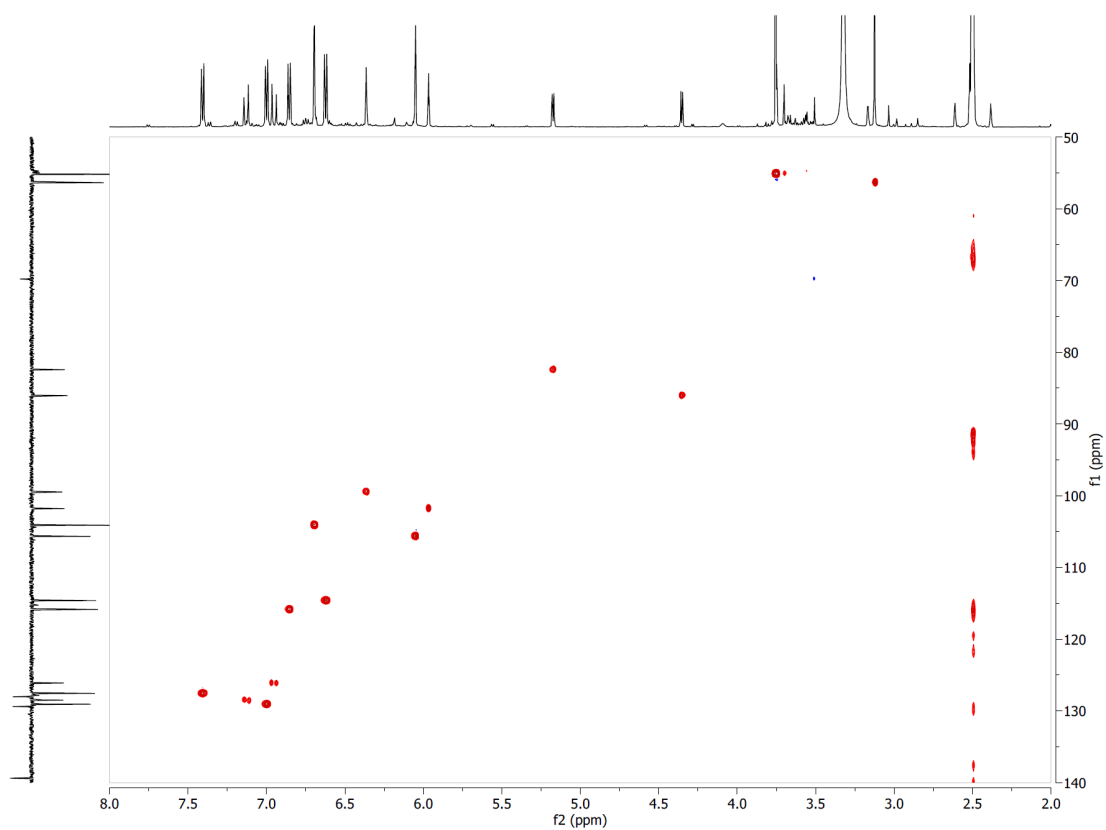
**Figure S44.**  $^1\text{H}$  NMR spectrum of compound **12** in DMSO- $d_6$  at 600 MHz



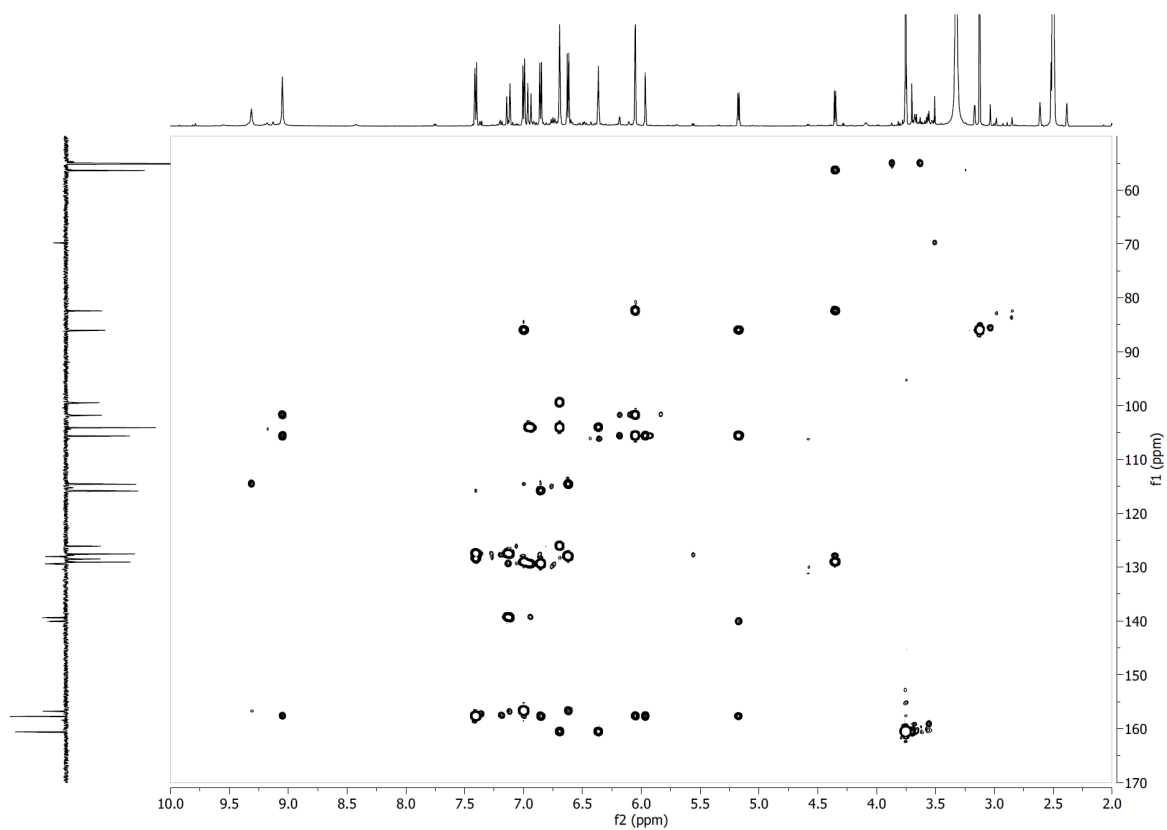
**Figure S45.** COSY NMR spectrum of compound **12** in DMSO- $d_6$



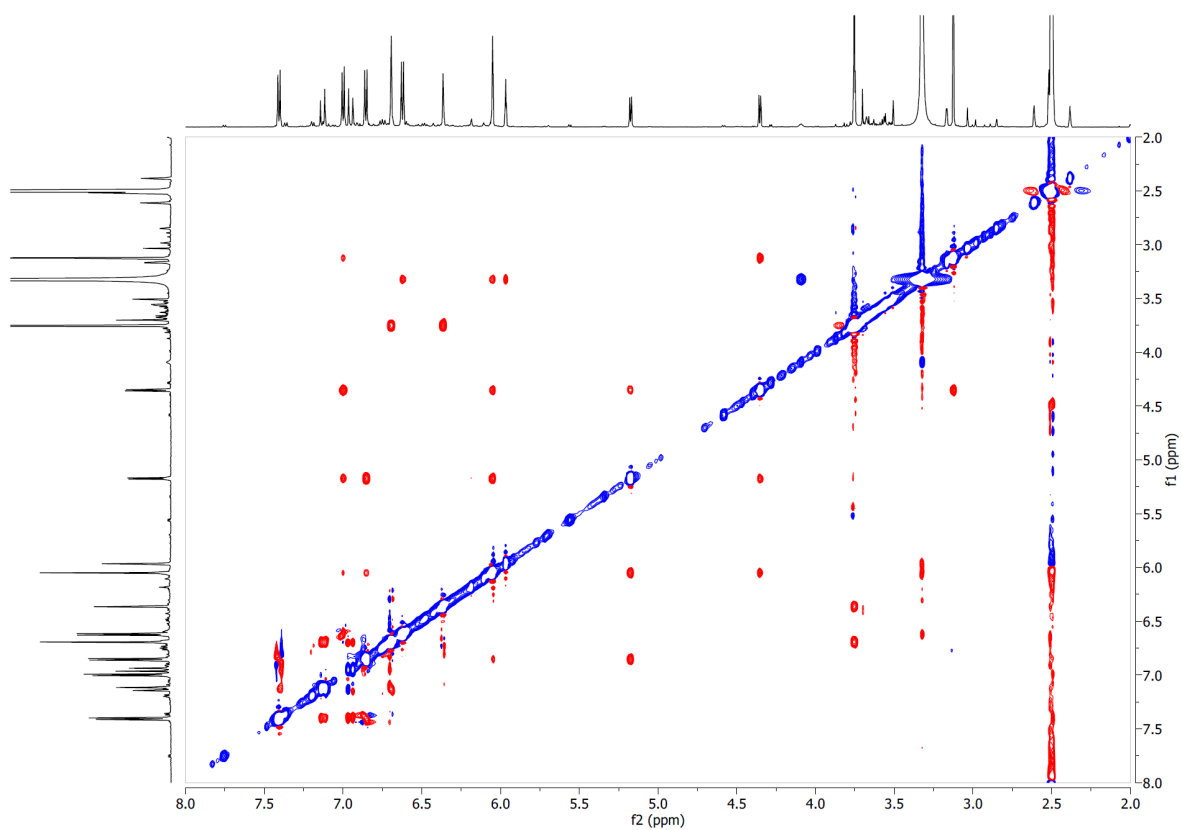
**Figure S46.**  $^{13}\text{C}$ -DEPTQ NMR spectrum of compound **12** in DMSO- $d_6$  at 151 MHz



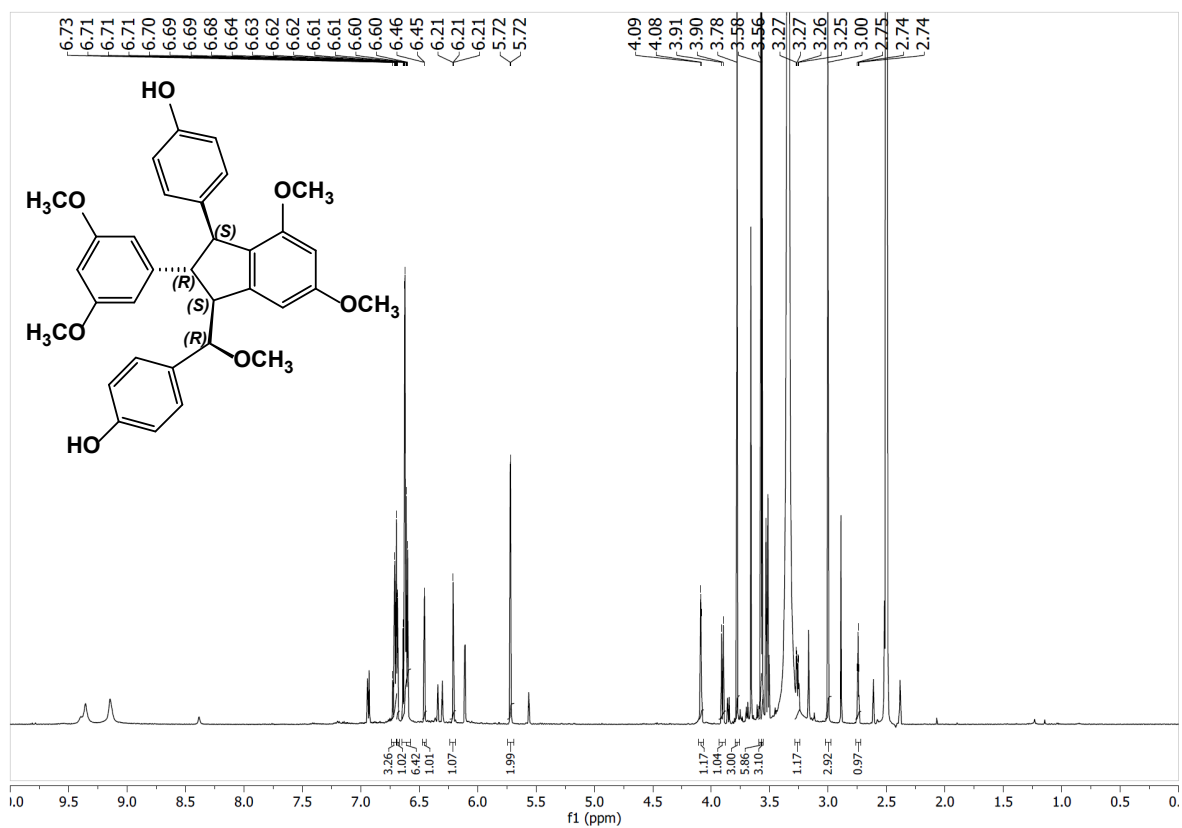
**Figure S47.** Edited-HSQC NMR spectrum of compound **12** in DMSO- $d_6$



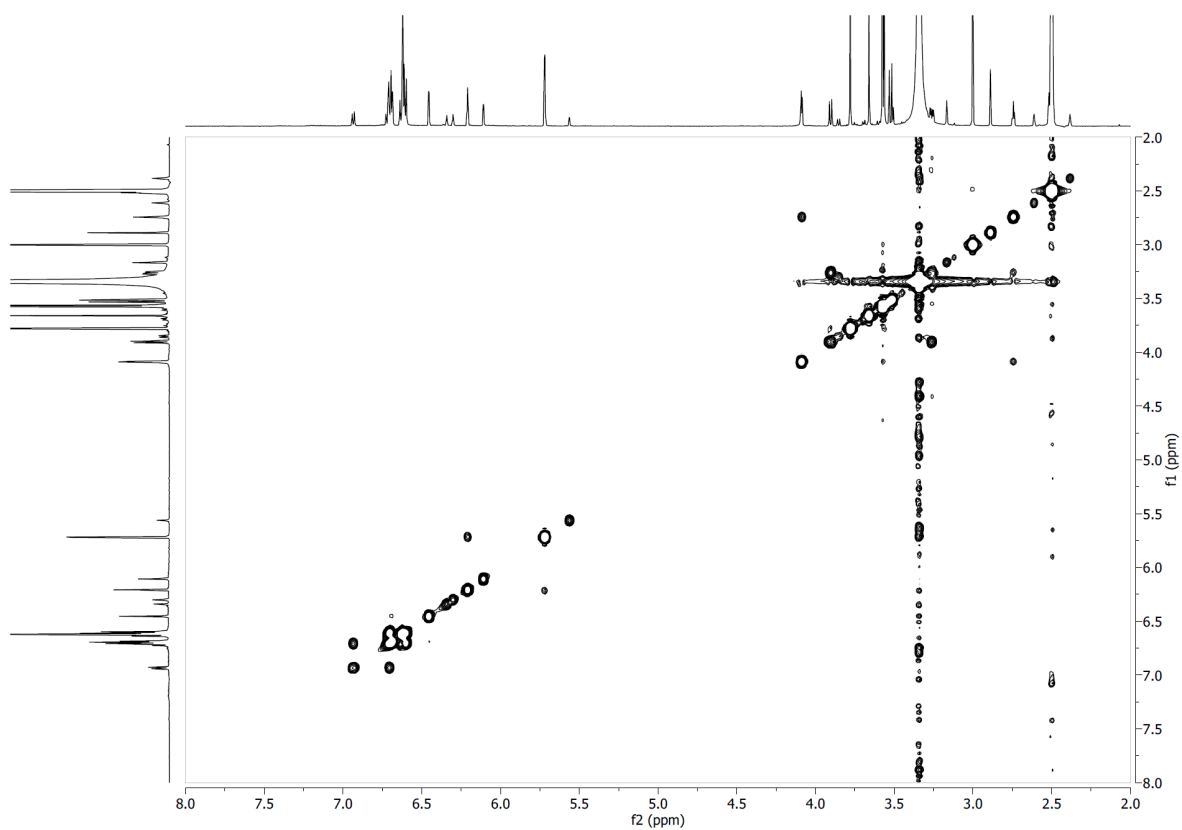
**Figure S48.** HMBC NMR spectrum of compound **12** in DMSO- $d_6$



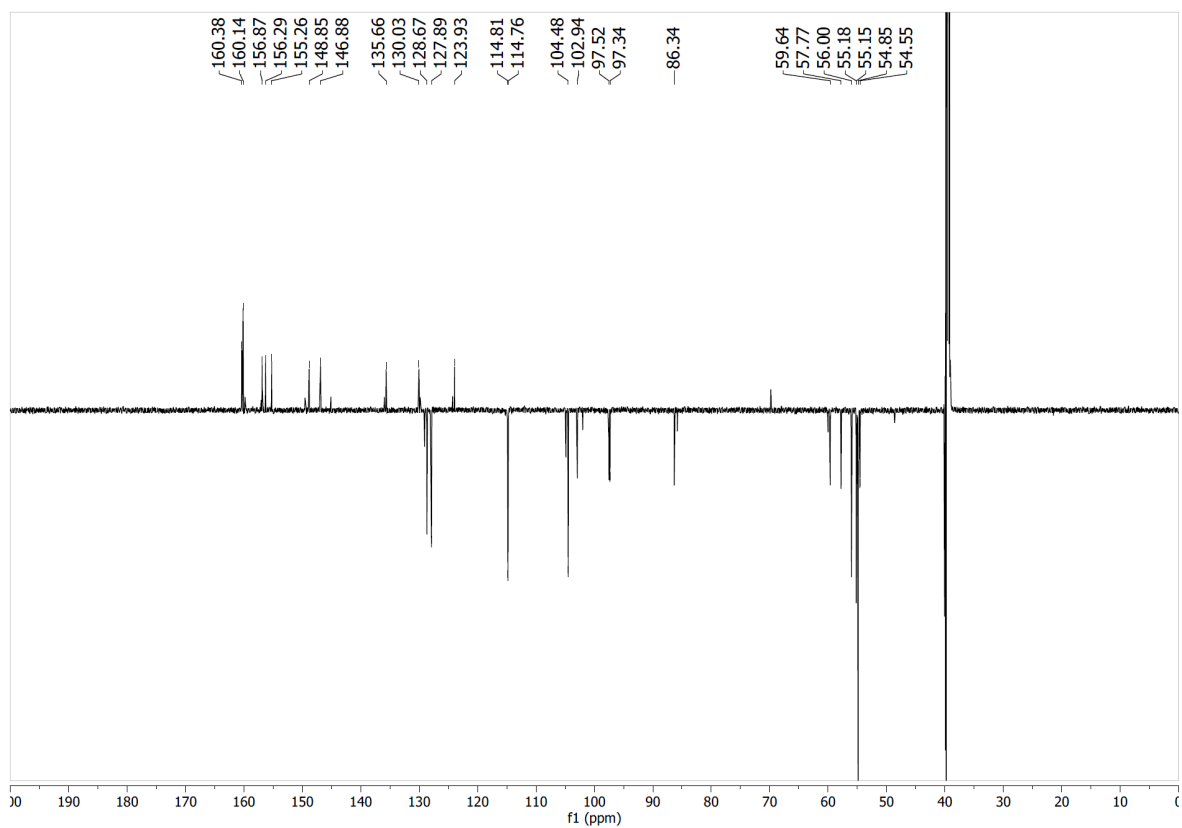
**Figure S49.** ROESY NMR spectrum of compound **12** in DMSO- $d_6$



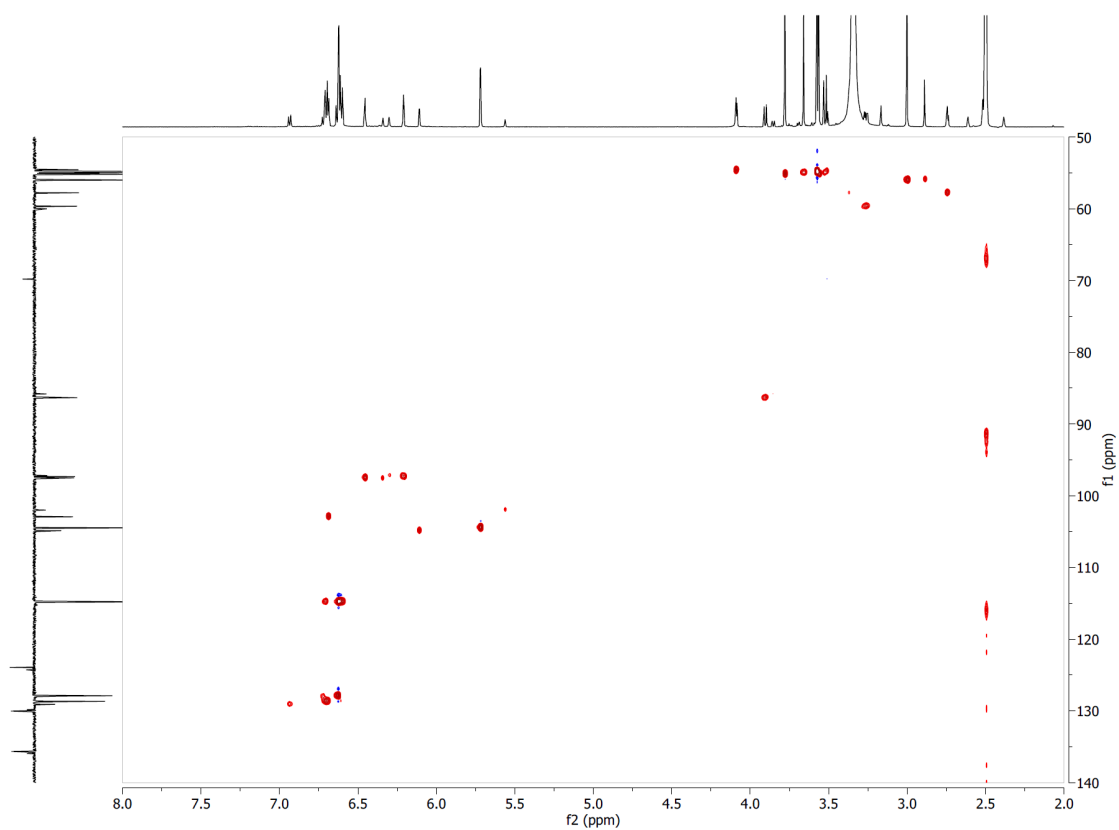
**Figure S50.**  $^1\text{H}$  NMR spectrum of compound **13** in DMSO- $d_6$  at 600 MHz



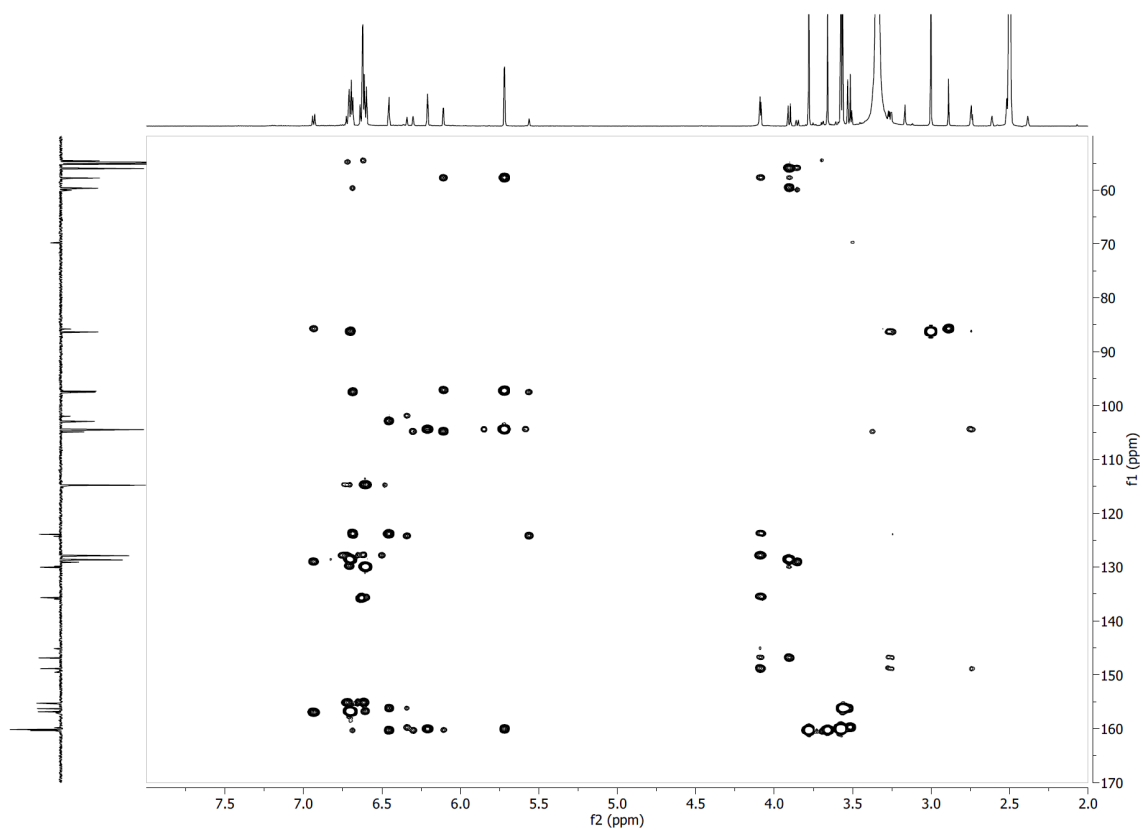
**Figure S51.** COSY NMR spectrum of compound **13** in DMSO- $d_6$



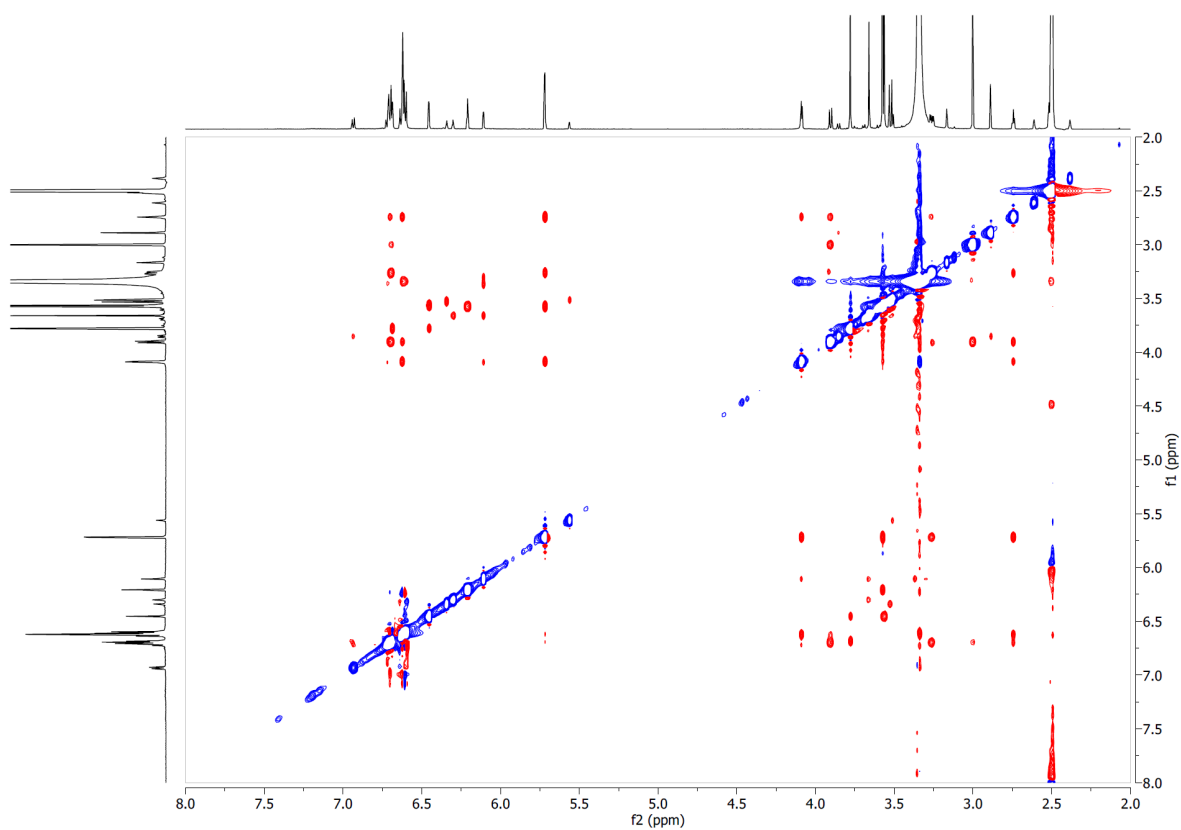
**Figure S52.**  $^{13}\text{C}$ -DEPTQ NMR spectrum of compound **13** in DMSO- $d_6$  at 151 MHz



**Figure S53.** Edited-HSQC NMR spectrum of compound **13** in DMSO- $d_6$



**Figure S54.** HMBC NMR spectrum of compound **13** in DMSO- $d_6$



**Figure S55.** ROESY NMR spectrum of compound **13** in DMSO- $d_6$

**Table S1.** Detailed composition of analytical scale reactions.

% Organic solvent	V. stock solution (μl)	V. Org. solvent (μL)	V. water (μL)	V. secretome (μL)
<b>2%</b>	25	20	960	20
<b>10%</b>	25	100	880	20
<b>30%</b>	25	300	680	20
<b>50%</b>	25	500	480	20
<b>70%</b>	25	700	280	20
<b>90%</b>	25	900	80	20
<b>98%</b>	25	980	0	20