

*Supplementary Materials*

# **(±)-Cryptamides A–D, Four Pairs of Novel Dopamine Enantiomer Trimers from the Periostracum Cicadae**

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## Computational Analysis

Table S1. Energy analysis for 1.

Conformer	Gibbs free energy (298.15 K)		
	G (Hartree)	$\Delta E$ (kcal/mol)	Population (%)
1a	-2003.2431	0.0000	99.04
1b	-2003.2383	3.0160	0.61
1c	-2003.2378	3.3405	0.35

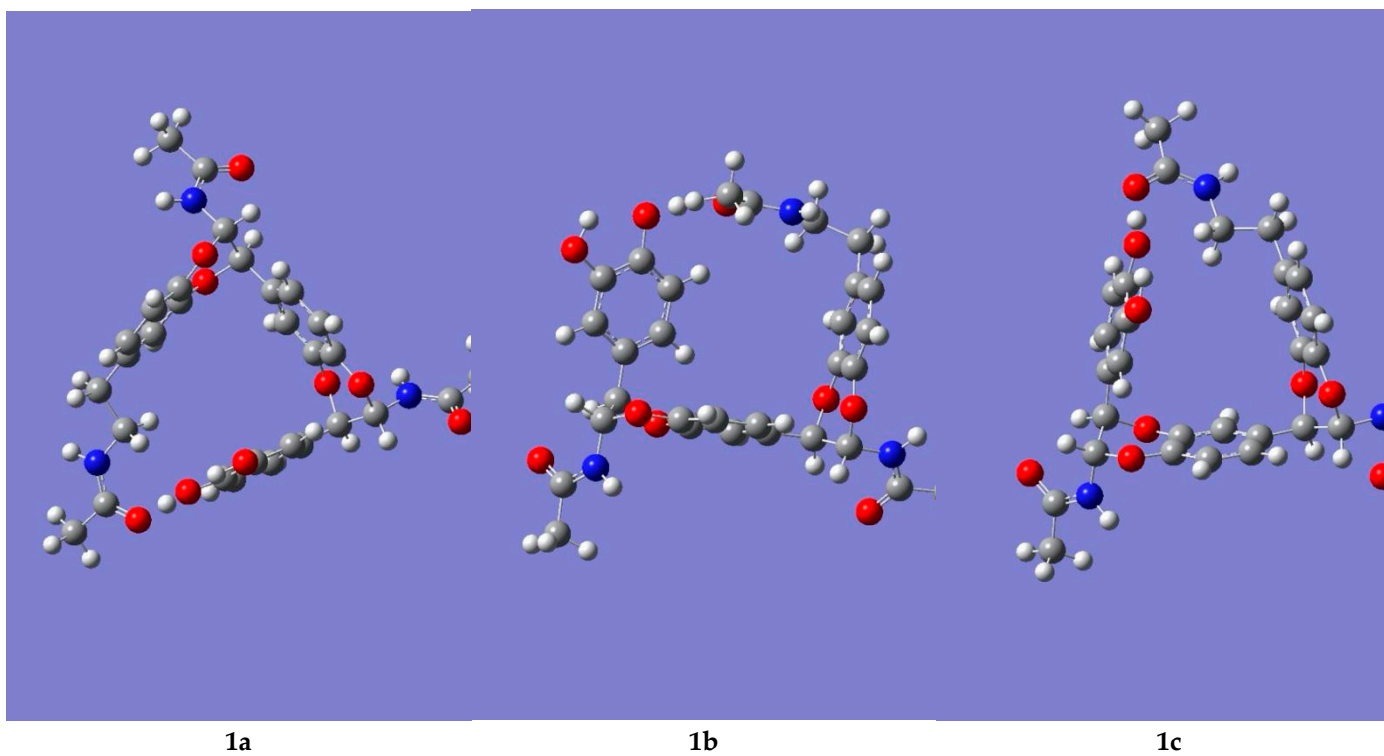
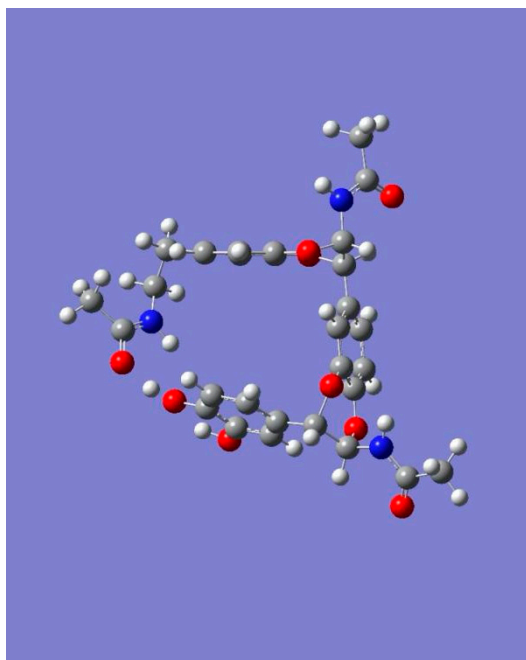
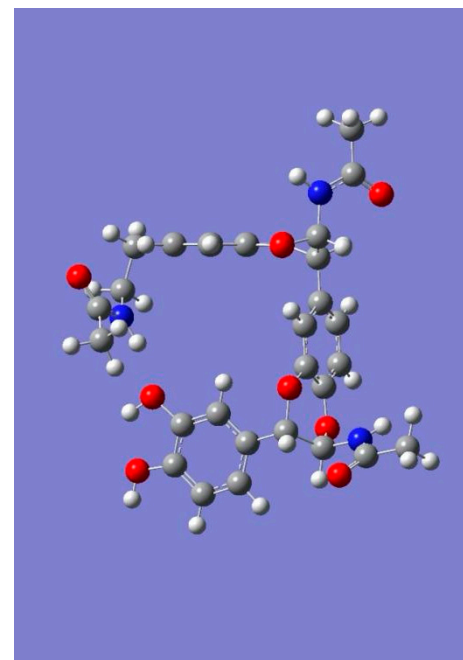


Table S2. Energy analysis for 2.

Conformer	Gibbs free energy (298.15 K)		
	G (Hartree)	$\Delta E$ (kcal/mol)	Population (%)
2a	-2003.2384	0.0000	100
2b	-2003.2278	6.6484	0



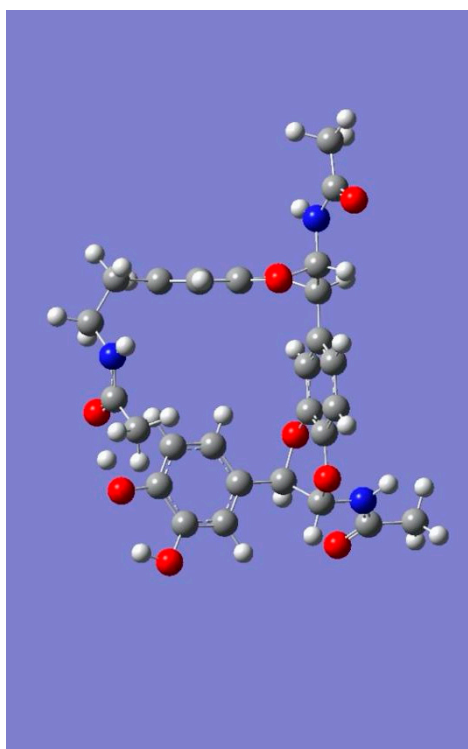
2a



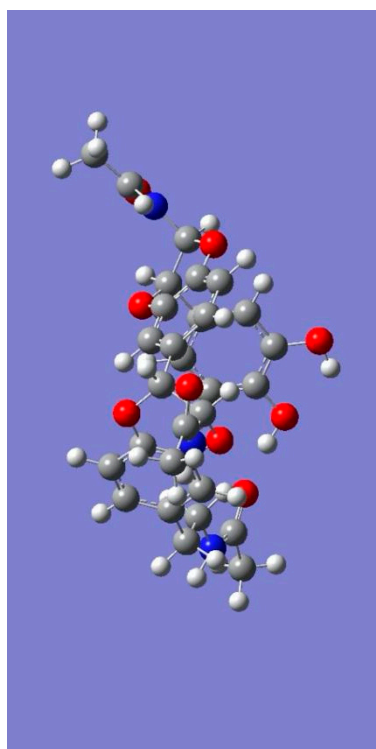
2b

Table S3. Energy analysis for 3.

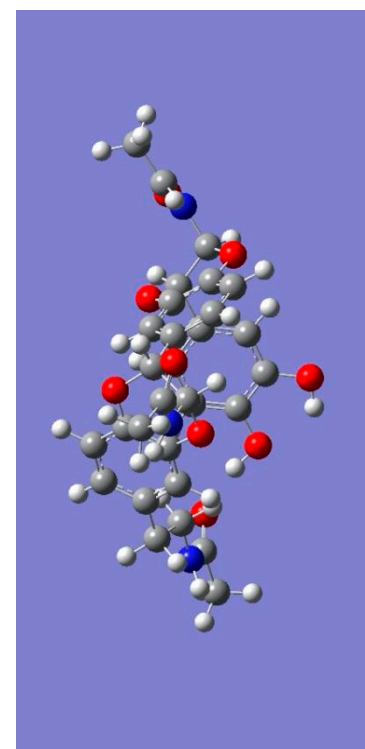
Conformer	Gibbs free energy (298.15 K)		
	G (Hartree)	$\Delta E$ (kcal/mol)	Population (%)
3a	-2003.2445	0.0000	99.92
3b	-2003.2364	5.0774	0.02
3c	-2003.2376	4.3398	0.07



3a



3b

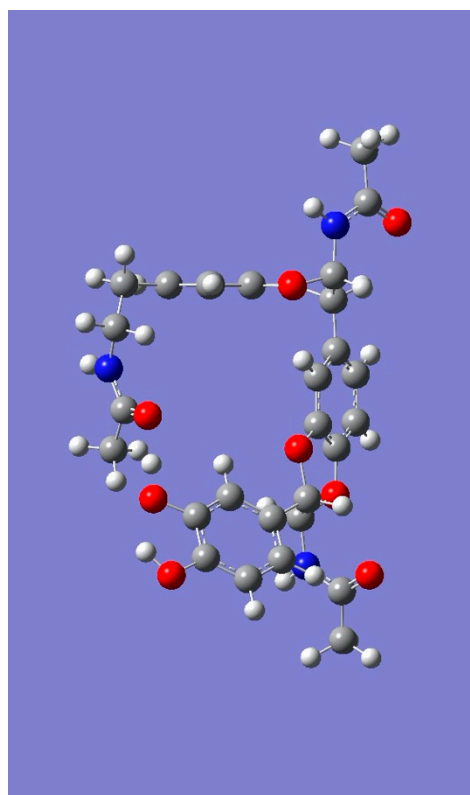
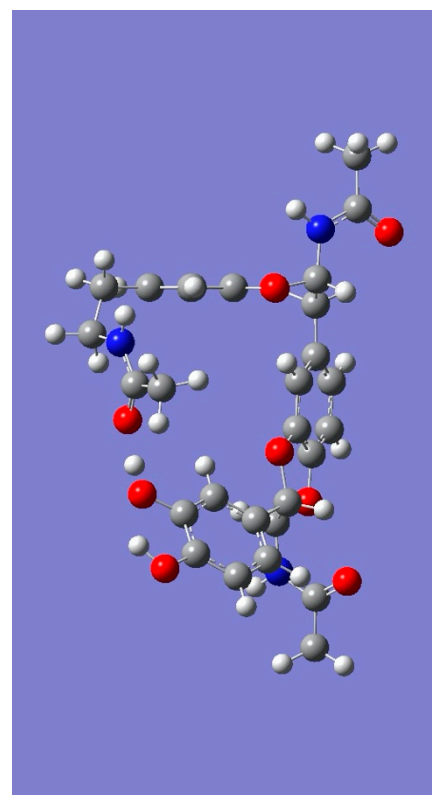


3c

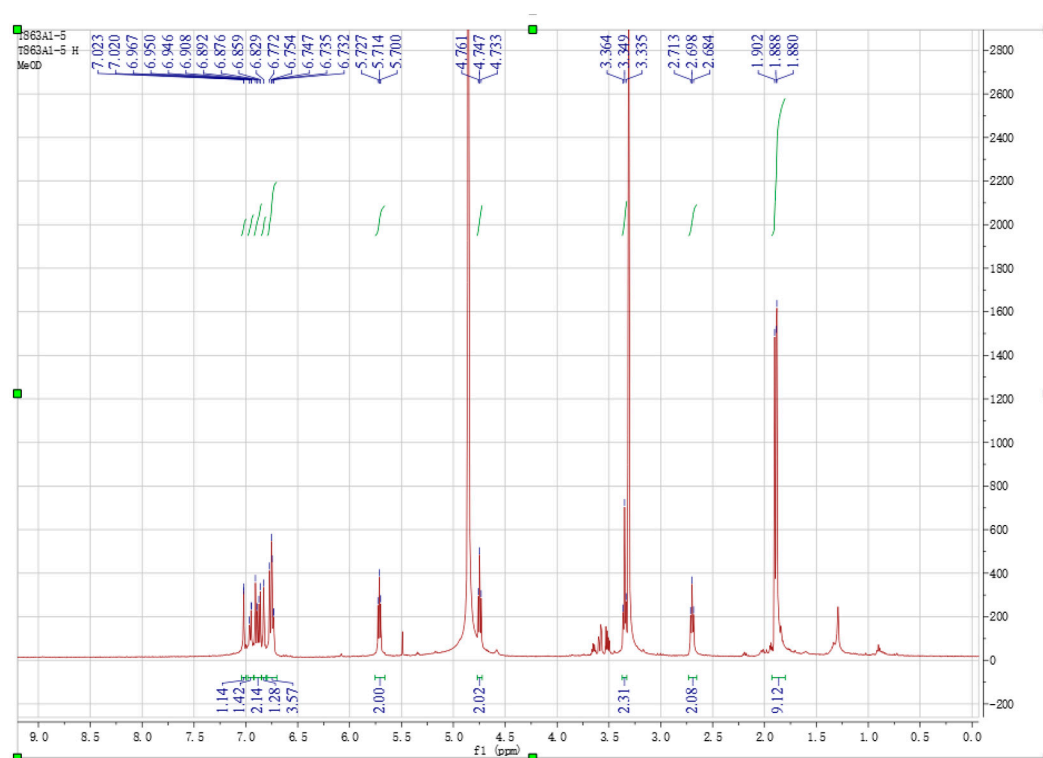
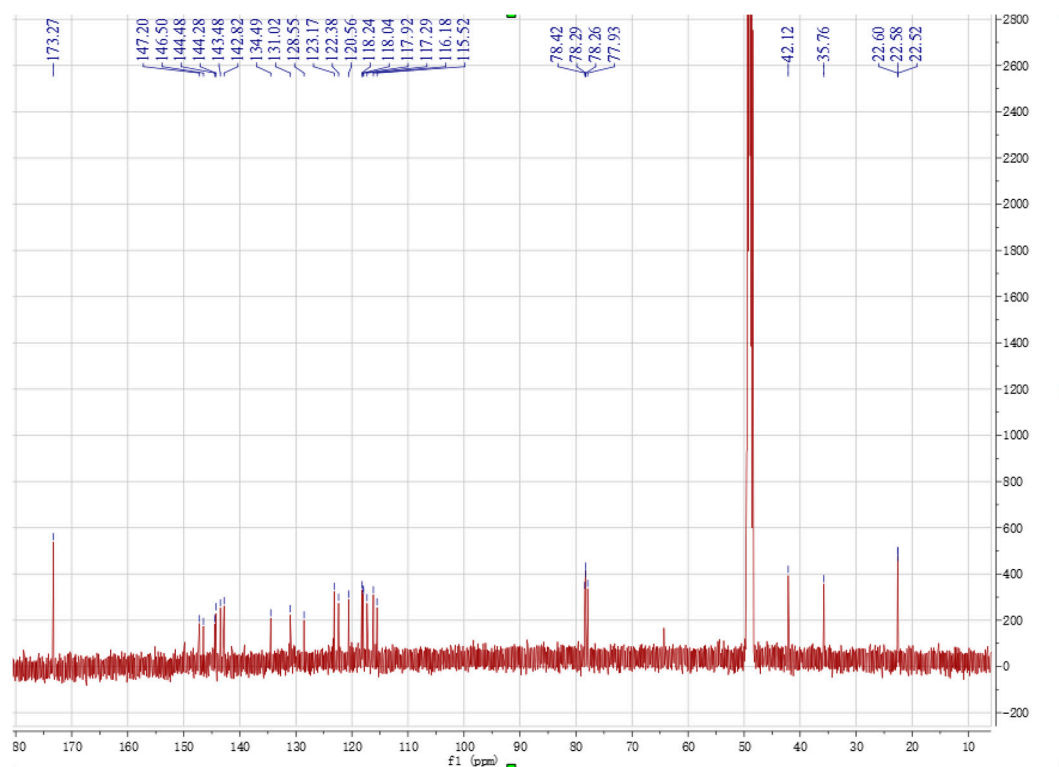


**Table S4.** Energy analysis for 4.

Conformer	Gibbs free energy (298.15 K)		
	G (Hartree)	$\Delta E$ (kcal/mol)	Population (%)
4a	-2003.2441	0.1745	42.68
4b	-2003.2444	0.0000	57.32

**4a****4b**

## NMR spectra of compounds 1–4

Figure S1. <sup>1</sup>H-NMR spectrum of 1 in methanol-*d*<sub>4</sub>.Figure S2. <sup>13</sup>C-NMR spectrum of 1 in methanol-*d*<sub>4</sub>.

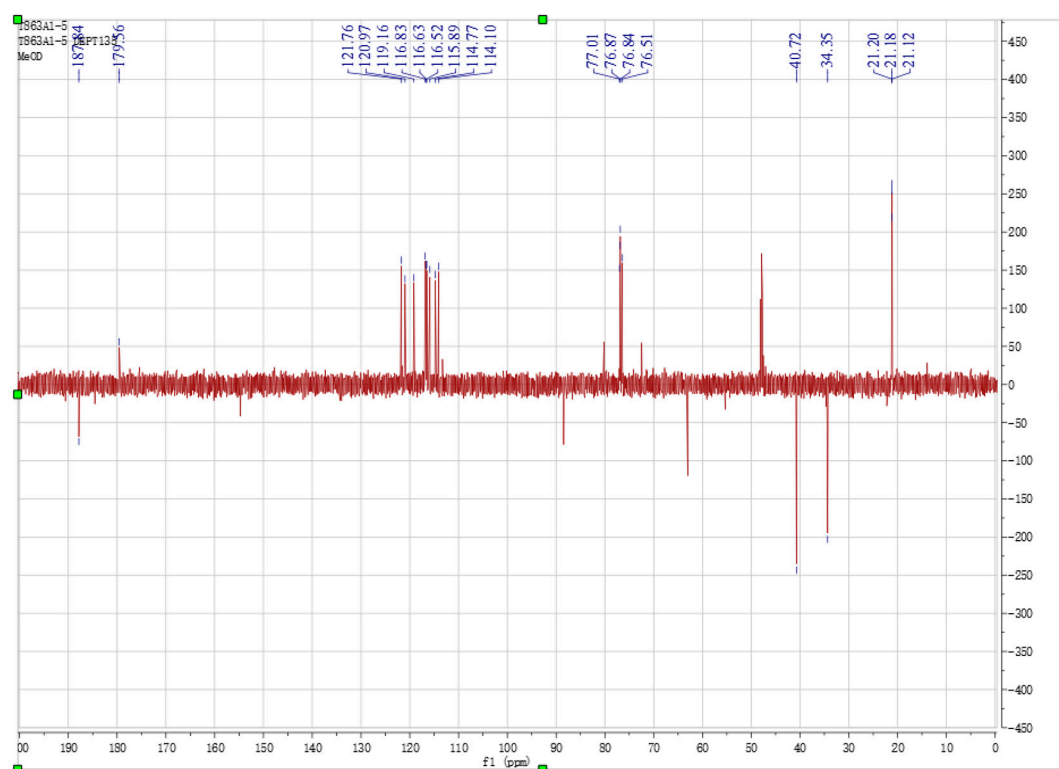


Figure S3. DEPT spectrum of **1** in methanol-*d*<sub>4</sub>.

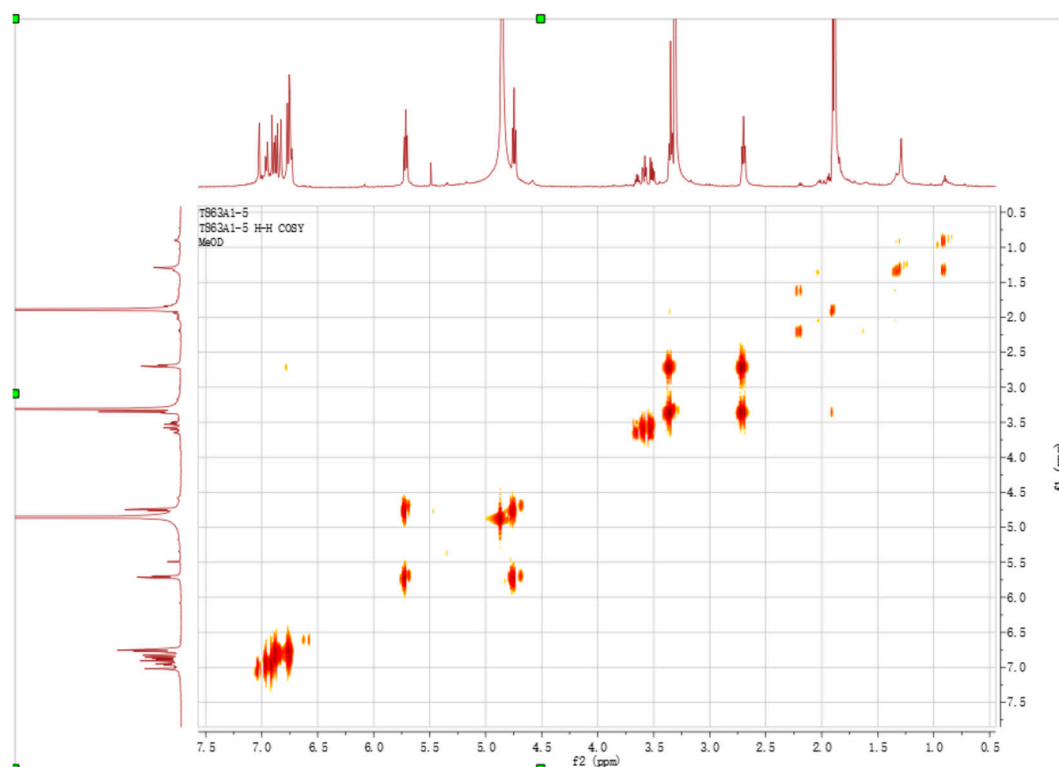


Figure S4. <sup>1</sup>H-<sup>1</sup>H-COSY spectrum of **1** in methanol-*d*<sub>4</sub>.

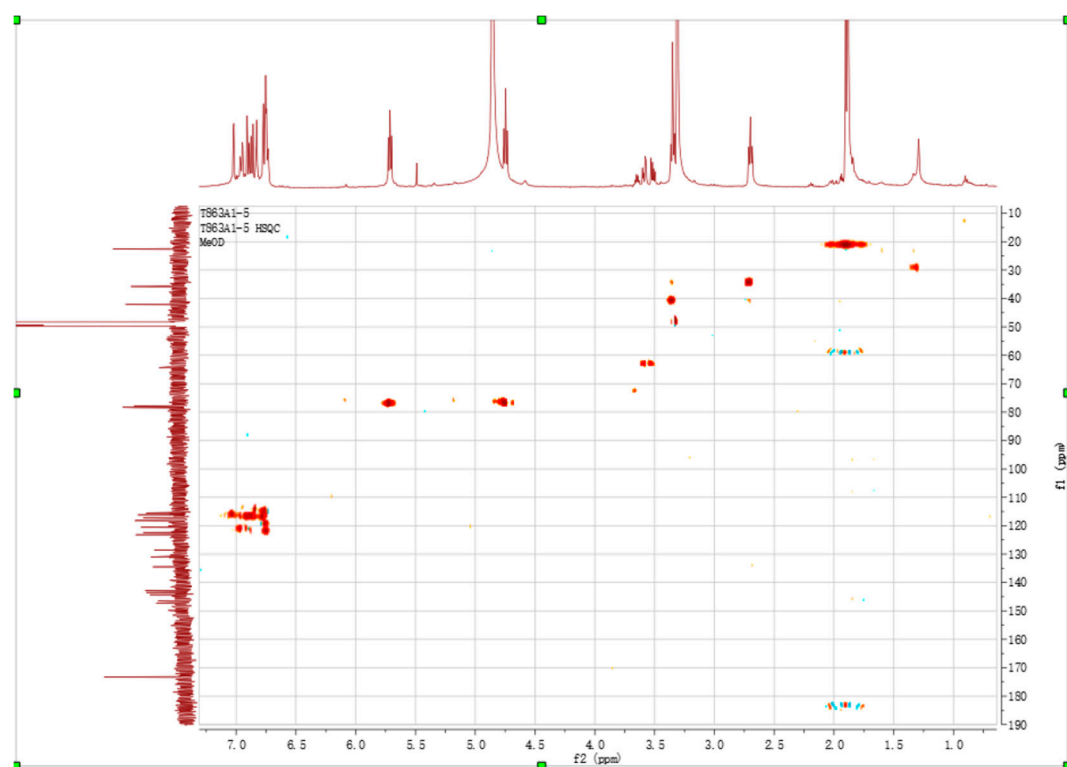


Figure S5. HSQC spectrum of **1** in methanol-*d*<sub>4</sub>.

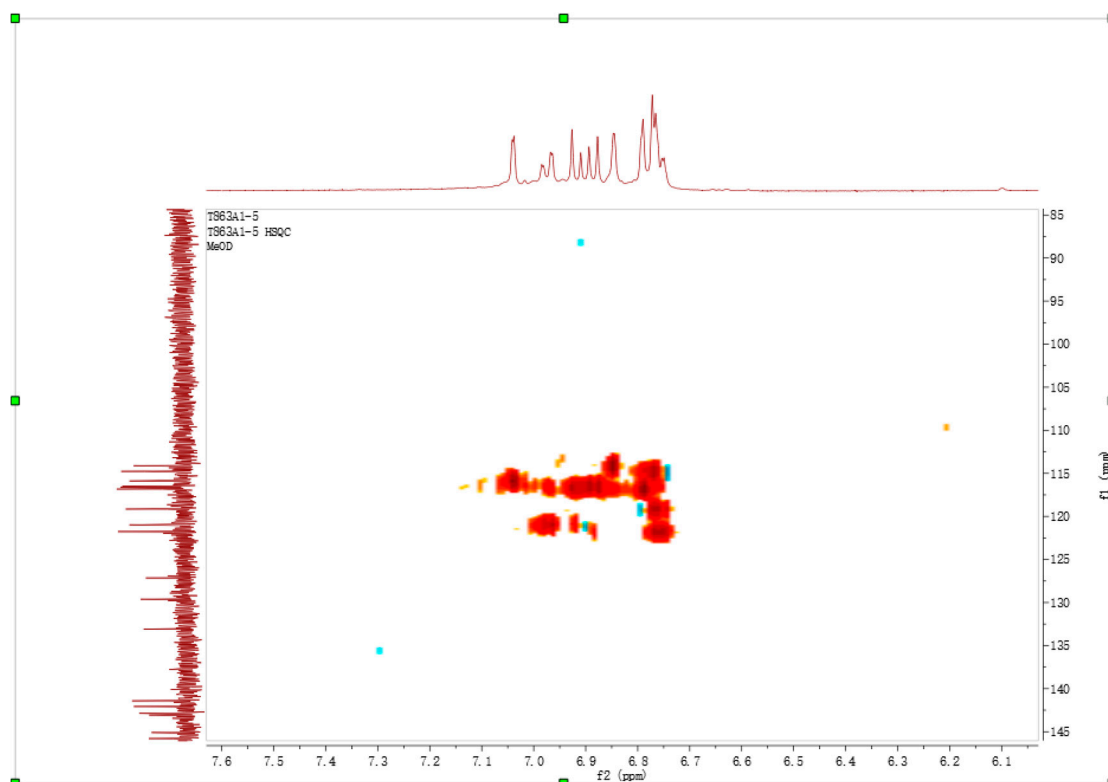


Figure S6. zoomed aromatic region of HSQC spectra of **1**.

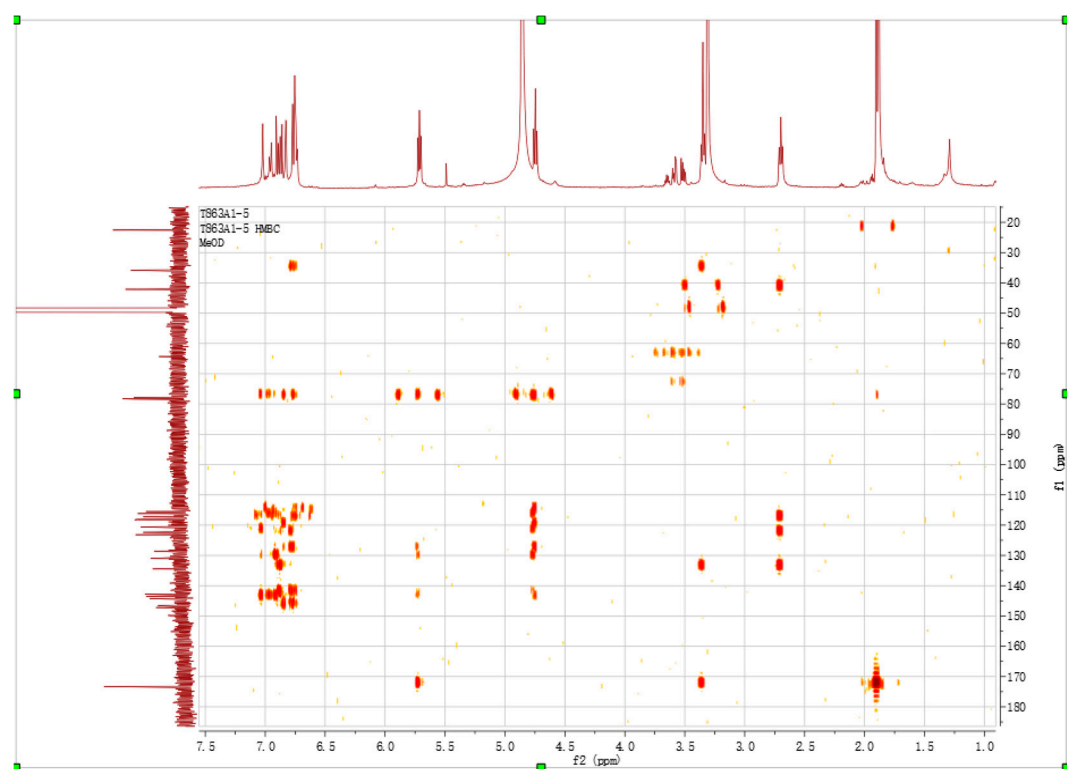


Figure S7. HMBC spectrum of **1** in methanol-*d*<sub>4</sub>.

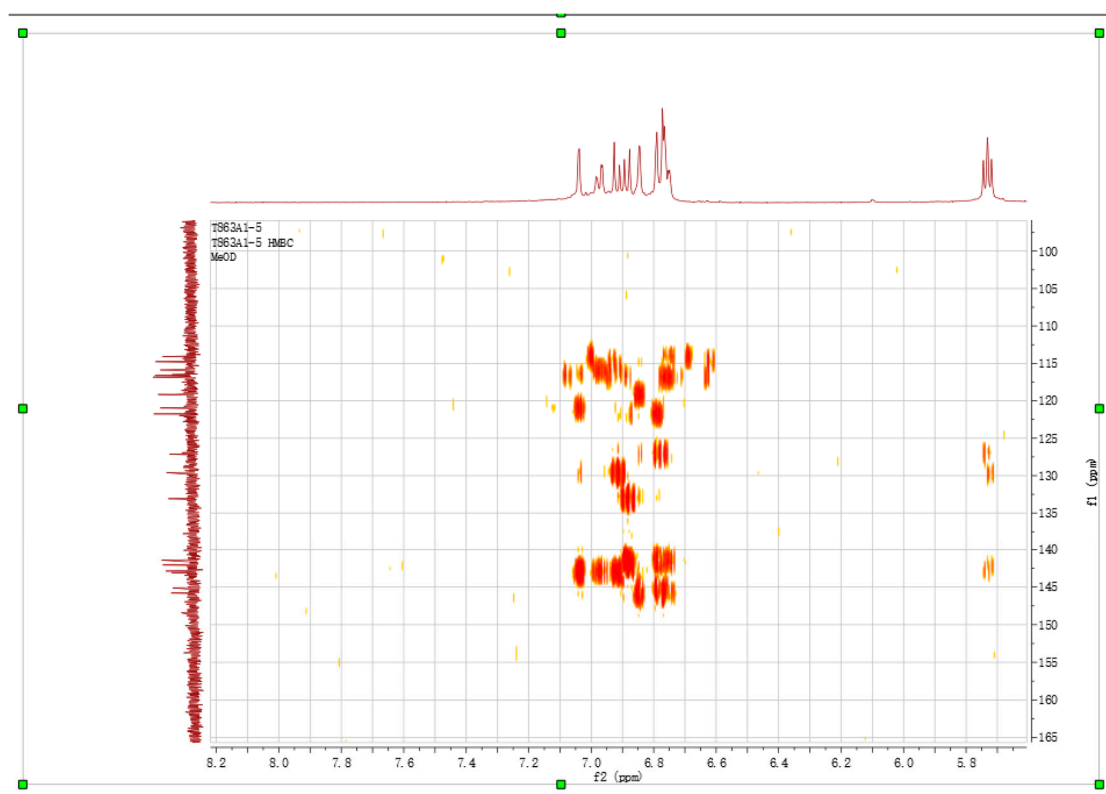
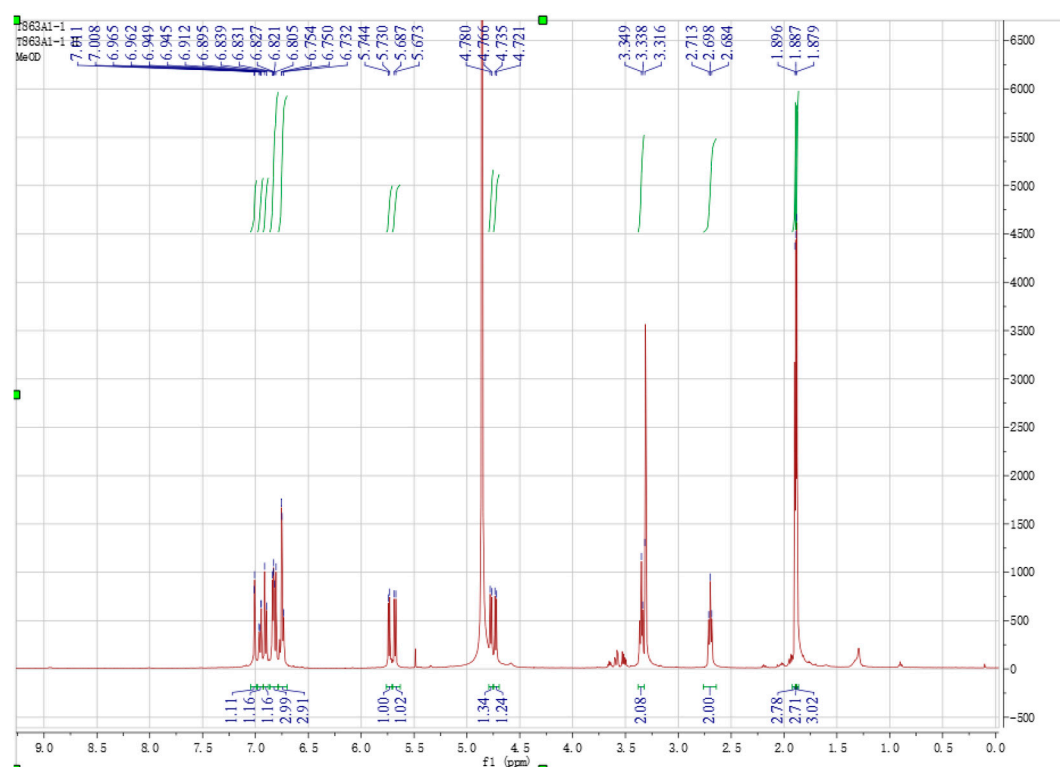
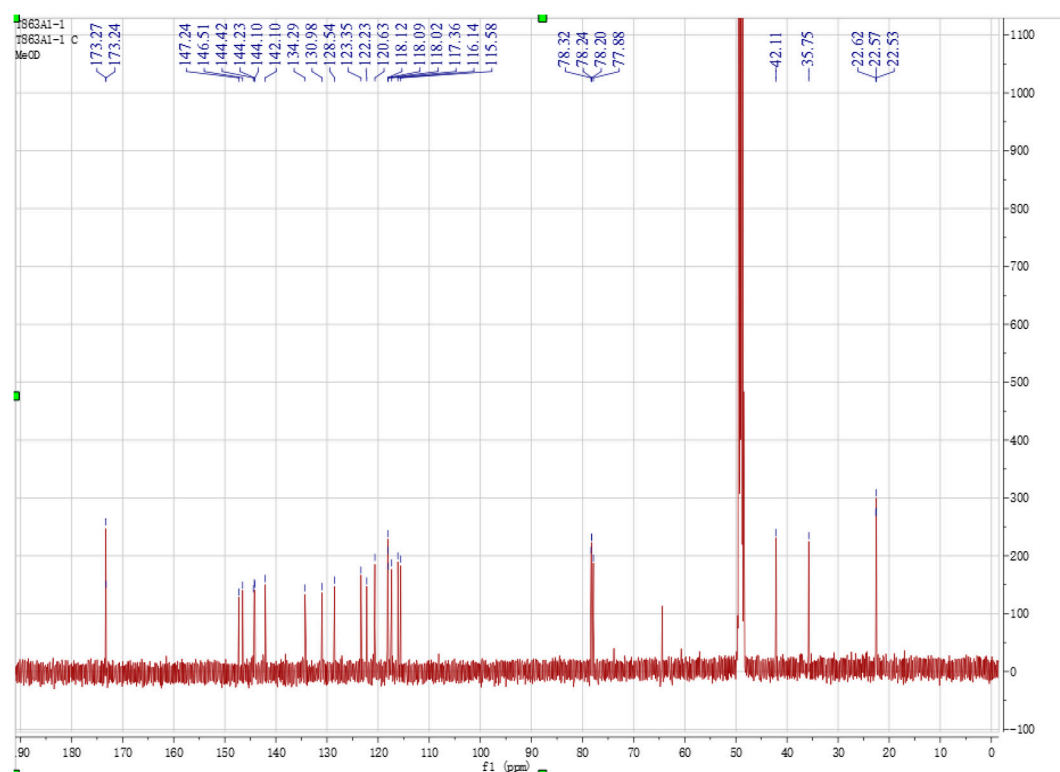
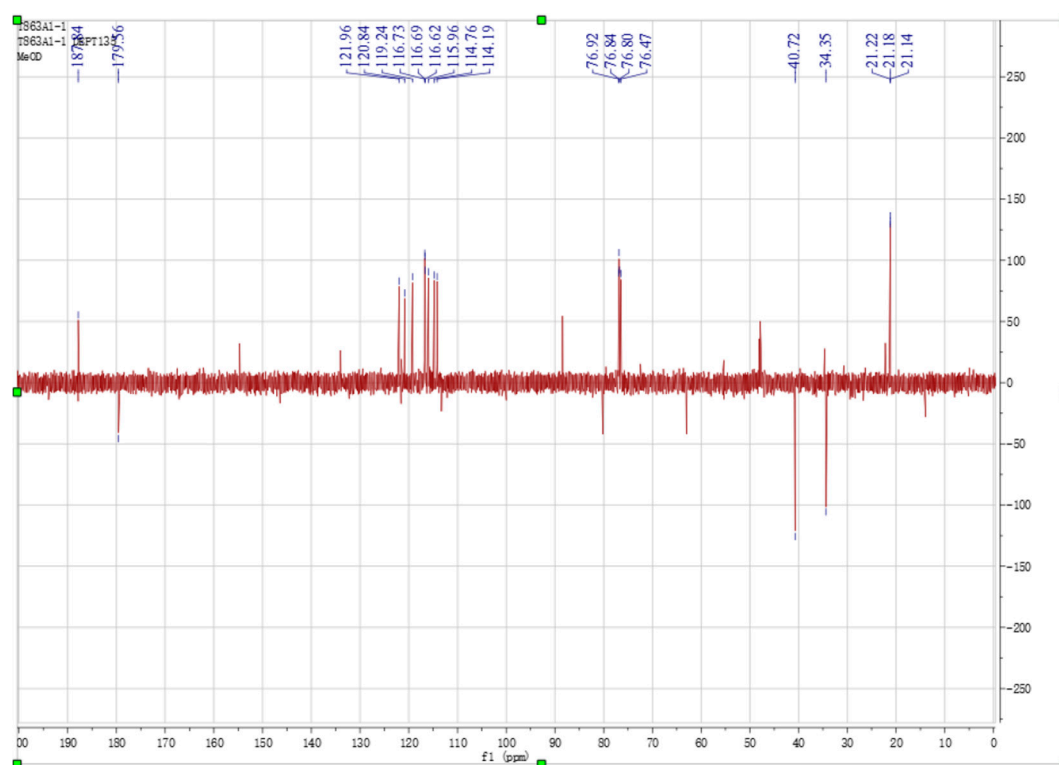
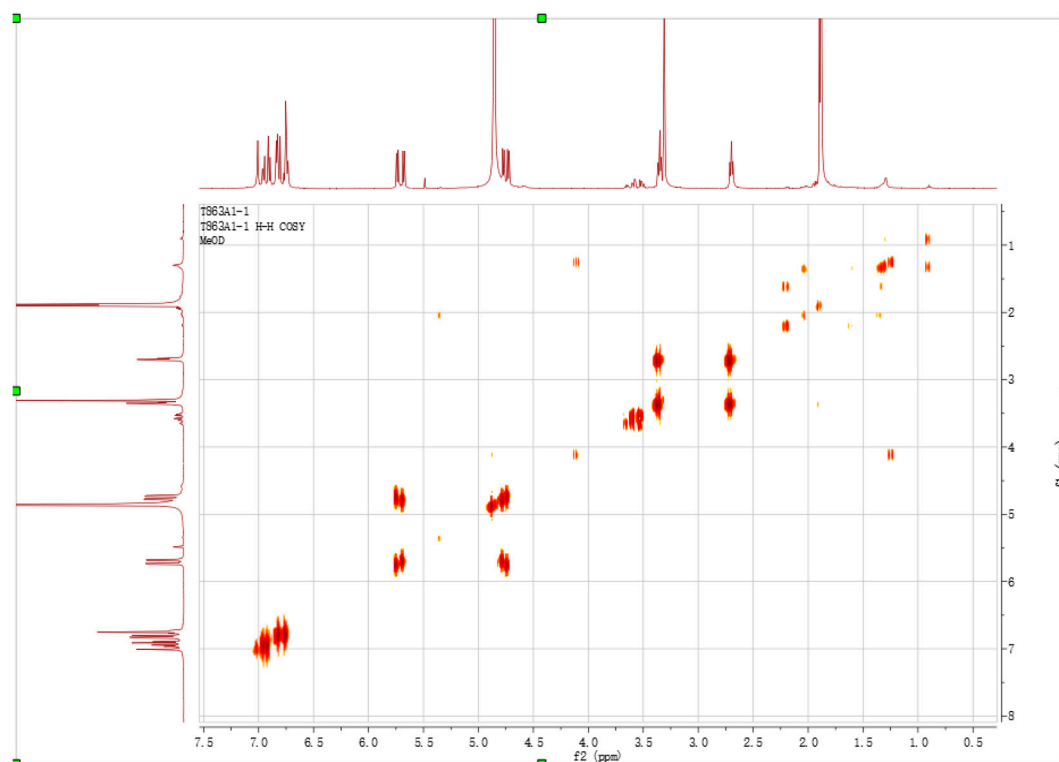


Figure S8. zoomed aromatic region of HMBC spectra of **1**.

Figure S9. <sup>1</sup>H-NMR spectrum of 2 in methanol-*d*<sub>4</sub>.Figure S10. <sup>13</sup>C-NMR spectrum of 2 in methanol-*d*<sub>4</sub>.

Figure S11. DEPT spectrum of 2 in methanol- $d_4$ .Figure S12.  $^1\text{H}$ - $^1\text{H}$ -COSY spectrum of 2 in methanol- $d_4$ .

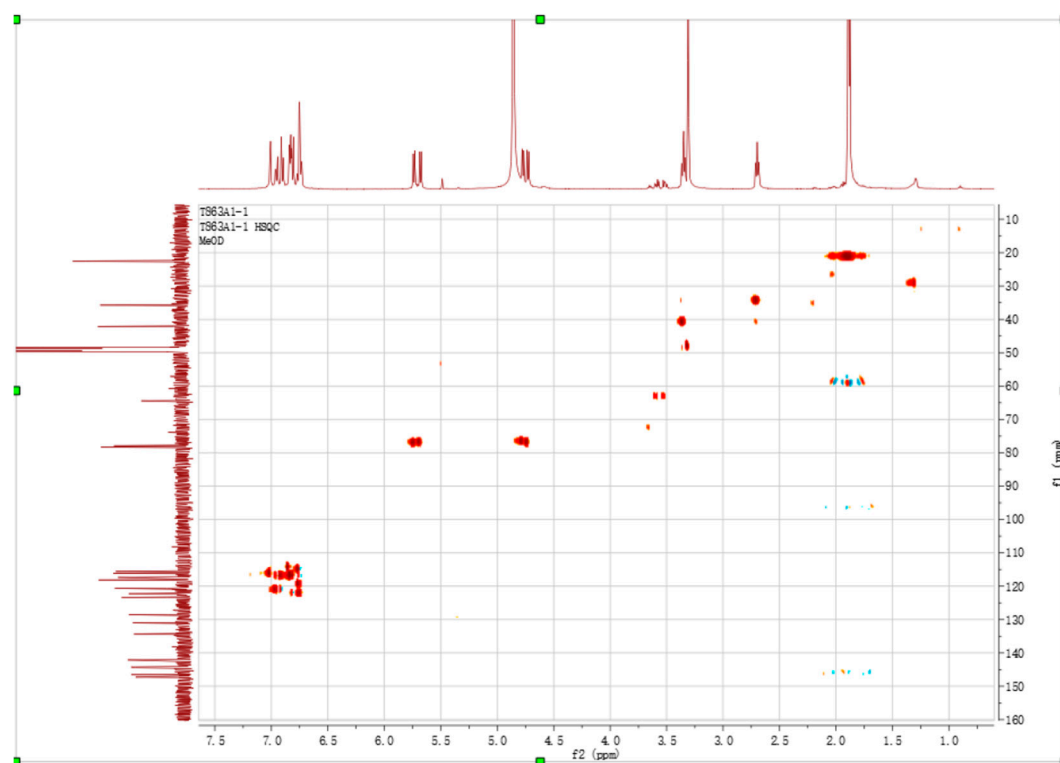


Figure S13. HSQC spectrum of **2** in methanol- $d_4$ .

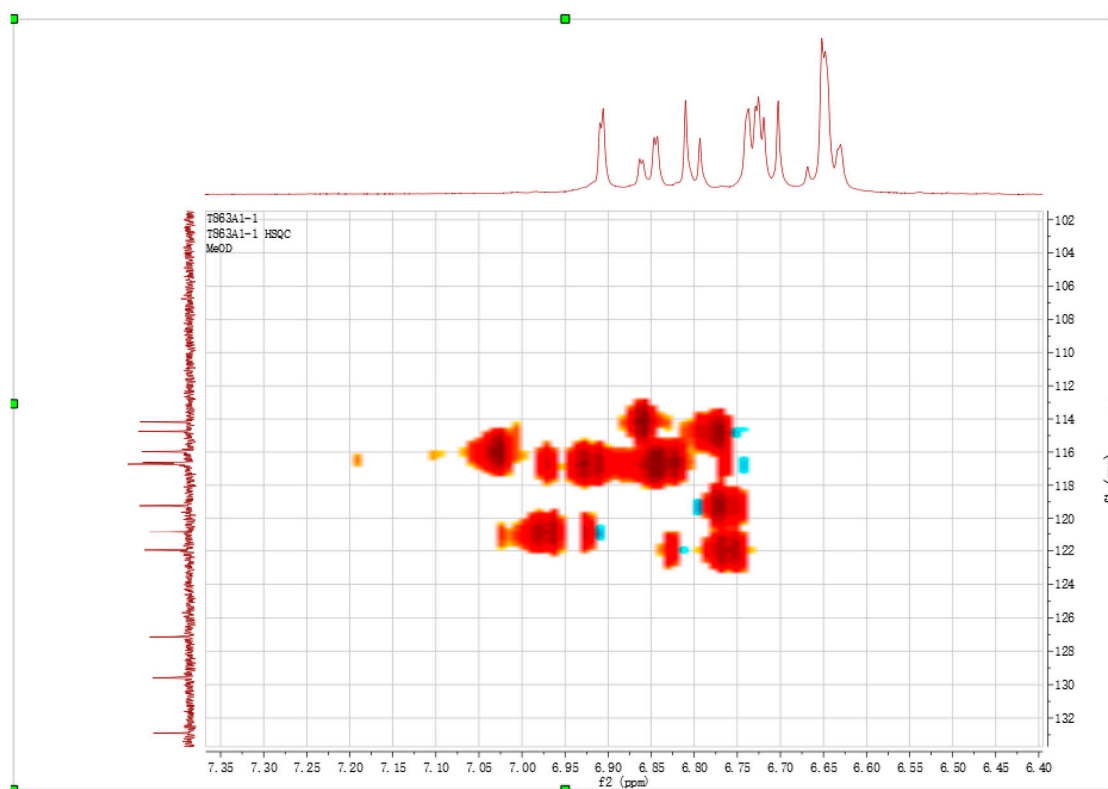


Figure S14. zoomed aromatic region of HSQC spectra of **2**.



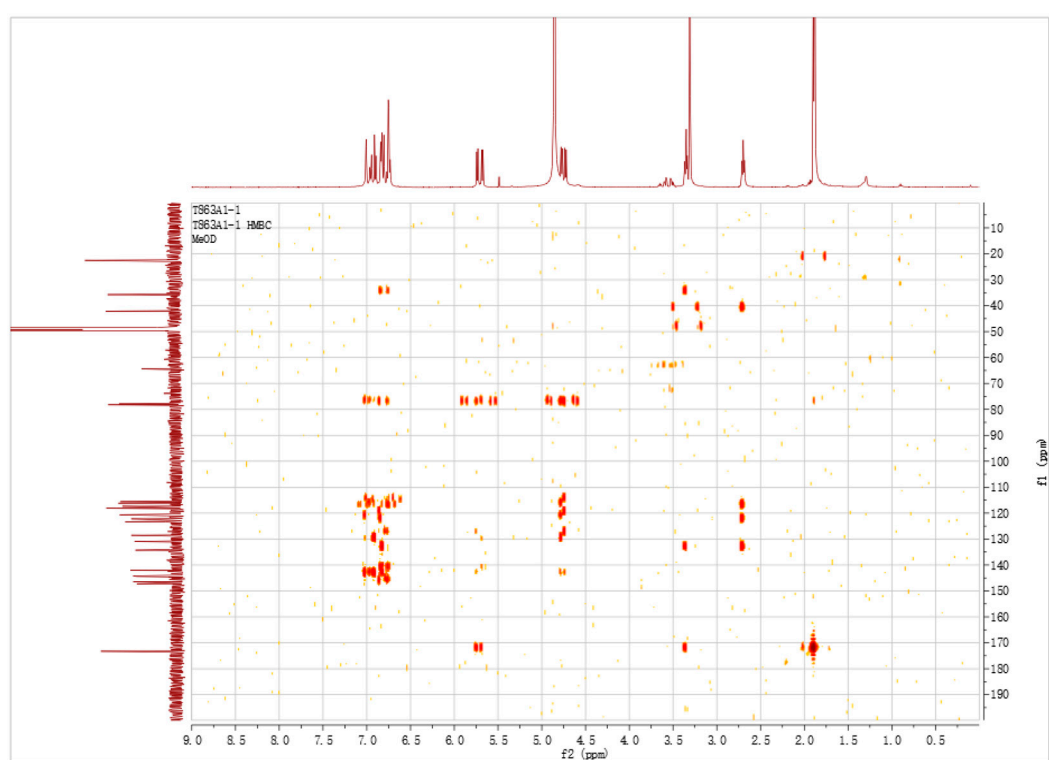


Figure S15. HMBC spectrum of 2 in methanol-*d*<sub>4</sub>.

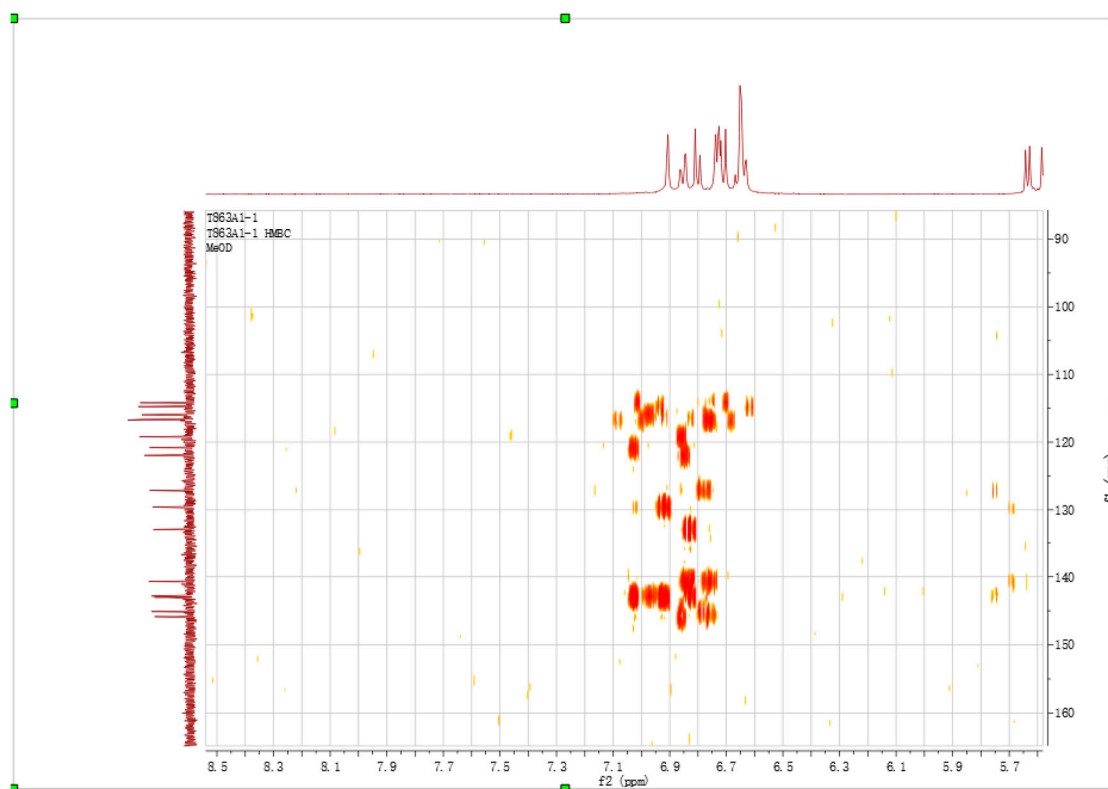
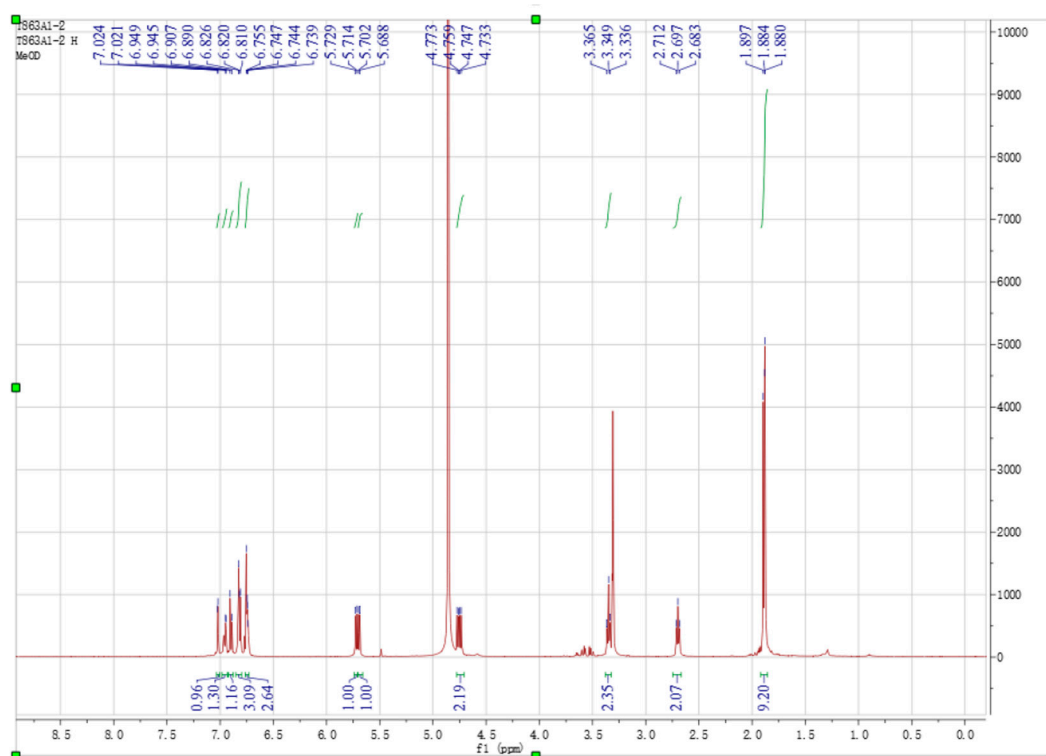
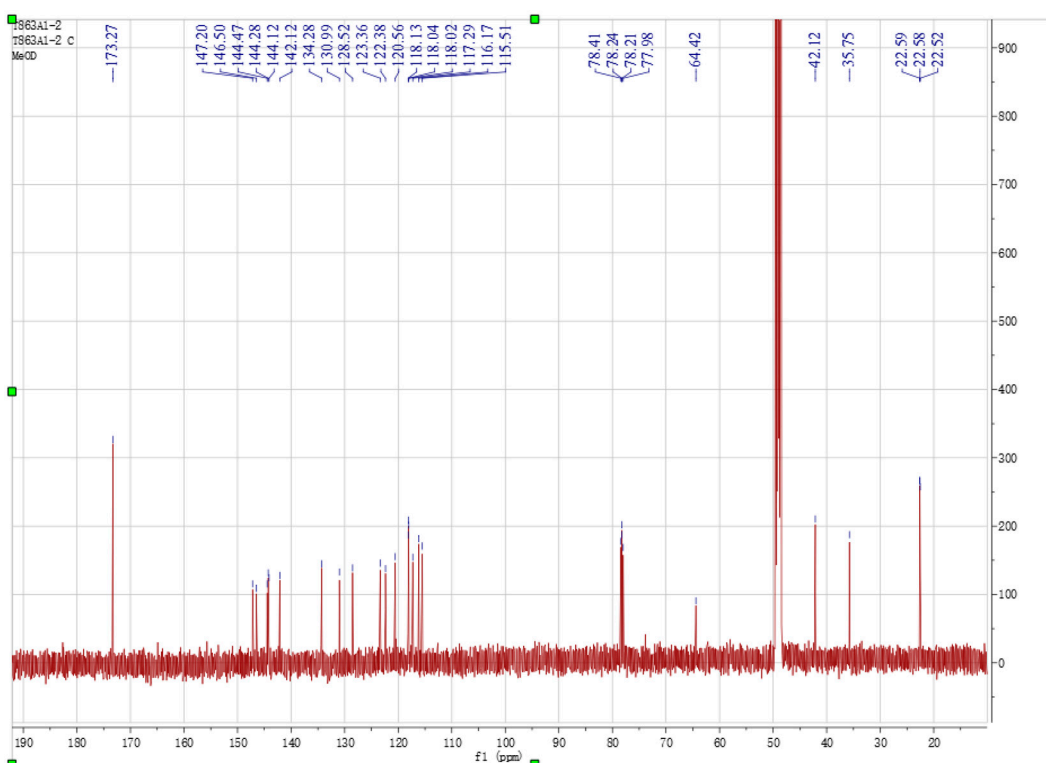


Figure S16. zoomed aromatic region of HMBC spectra of 2.

Figure S17. <sup>1</sup>H-NMR spectrum of 3 in methanol-*d*<sub>4</sub>.Figure S18. <sup>13</sup>C-NMR spectrum of 3 in methanol-*d*<sub>4</sub>.

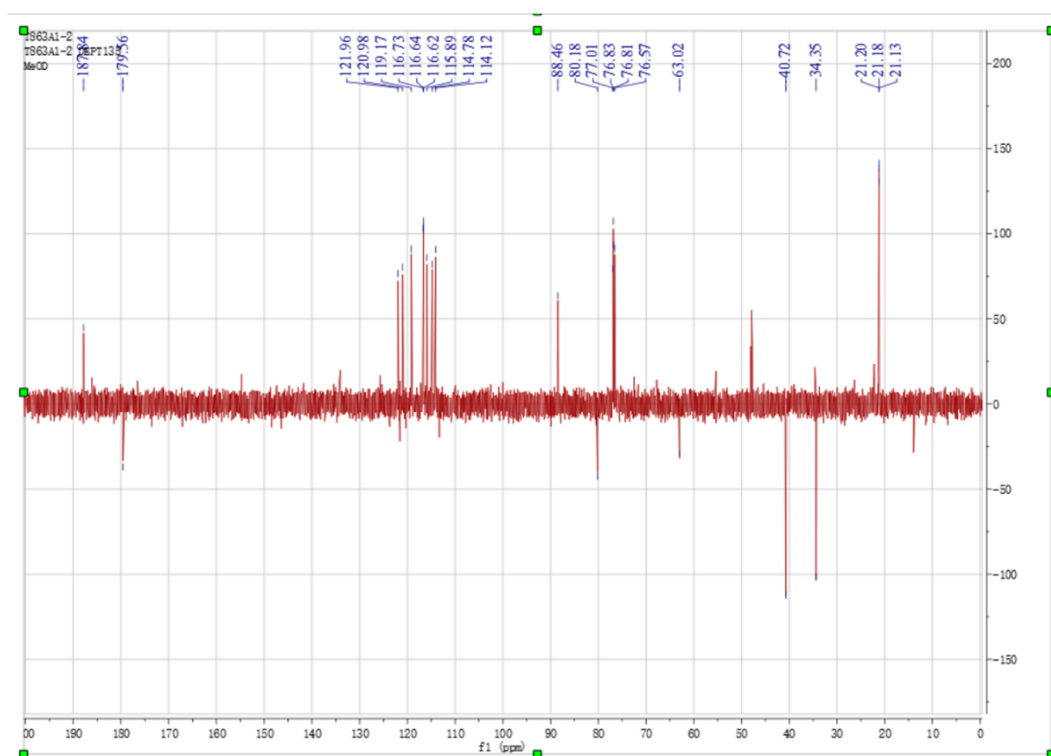


Figure S19. DEPT spectrum of 3 in methanol- $d_4$ .

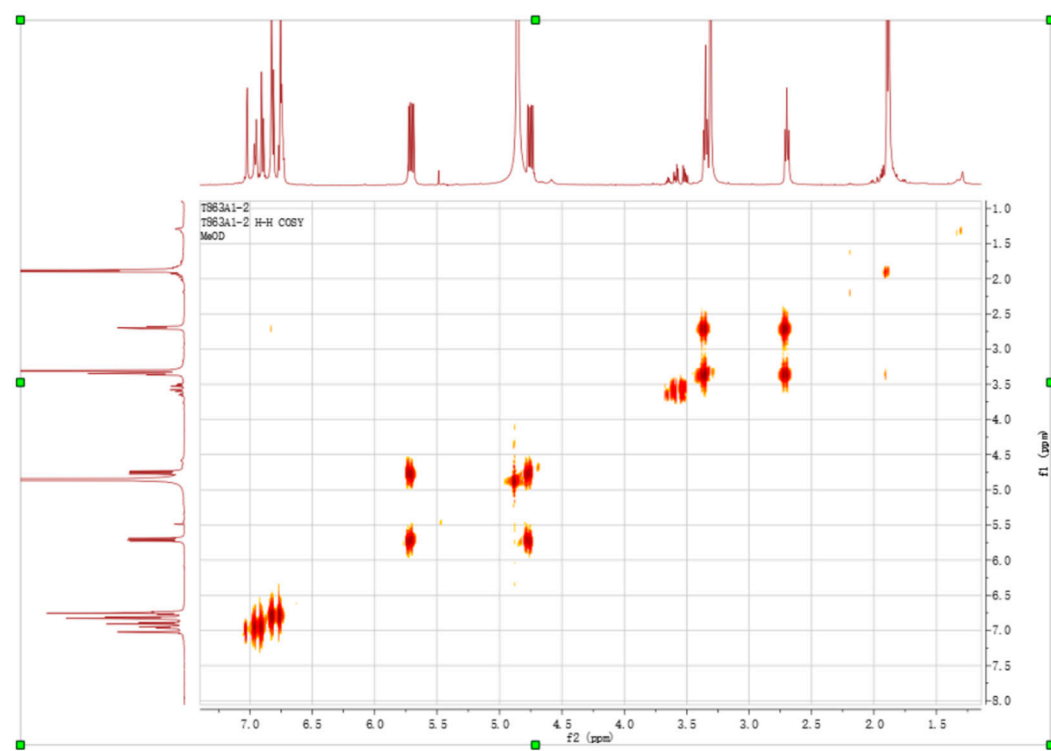


Figure S20.  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of 3 in methanol- $d_4$ .

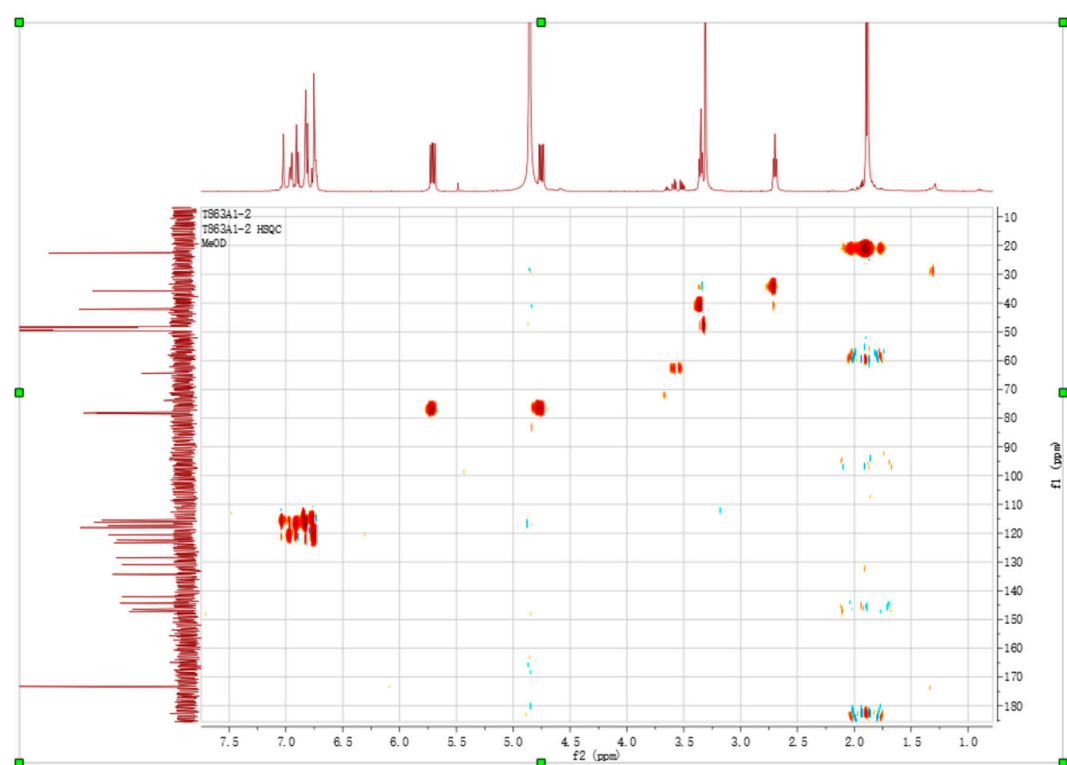


Figure S21. HSQC spectrum of 3 in methanol- $d_4$ .

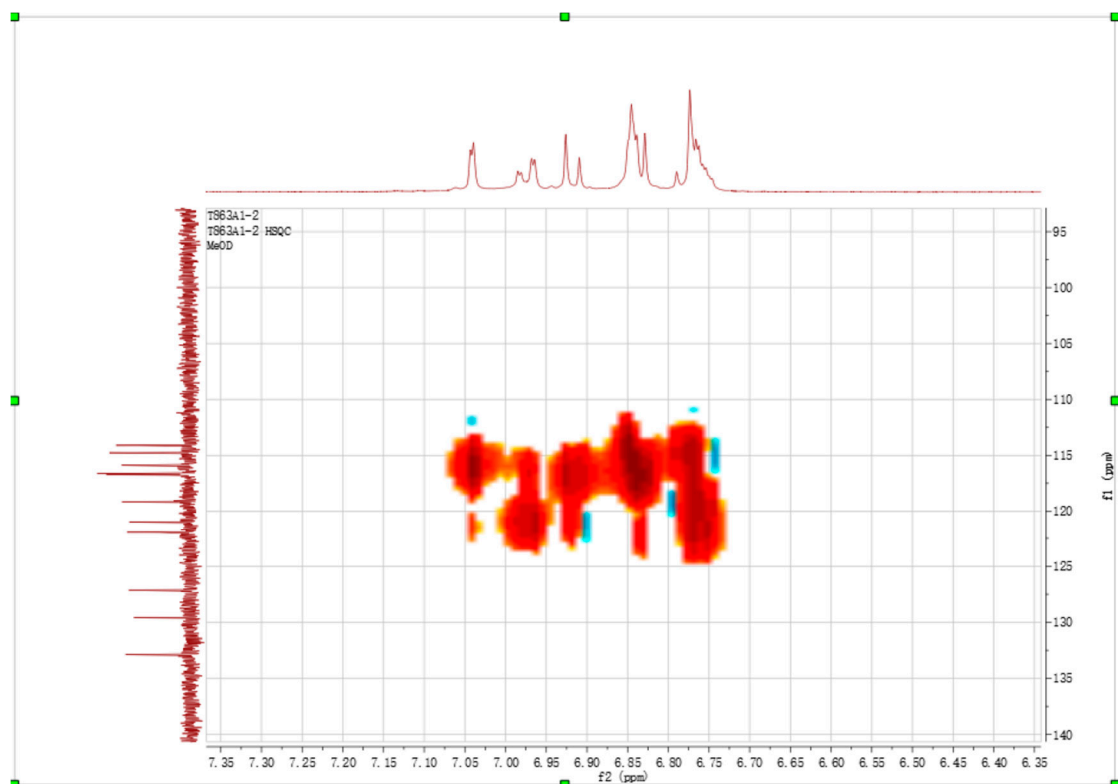


Figure S22. zoomed aromatic region of HSQC spectra of 3.

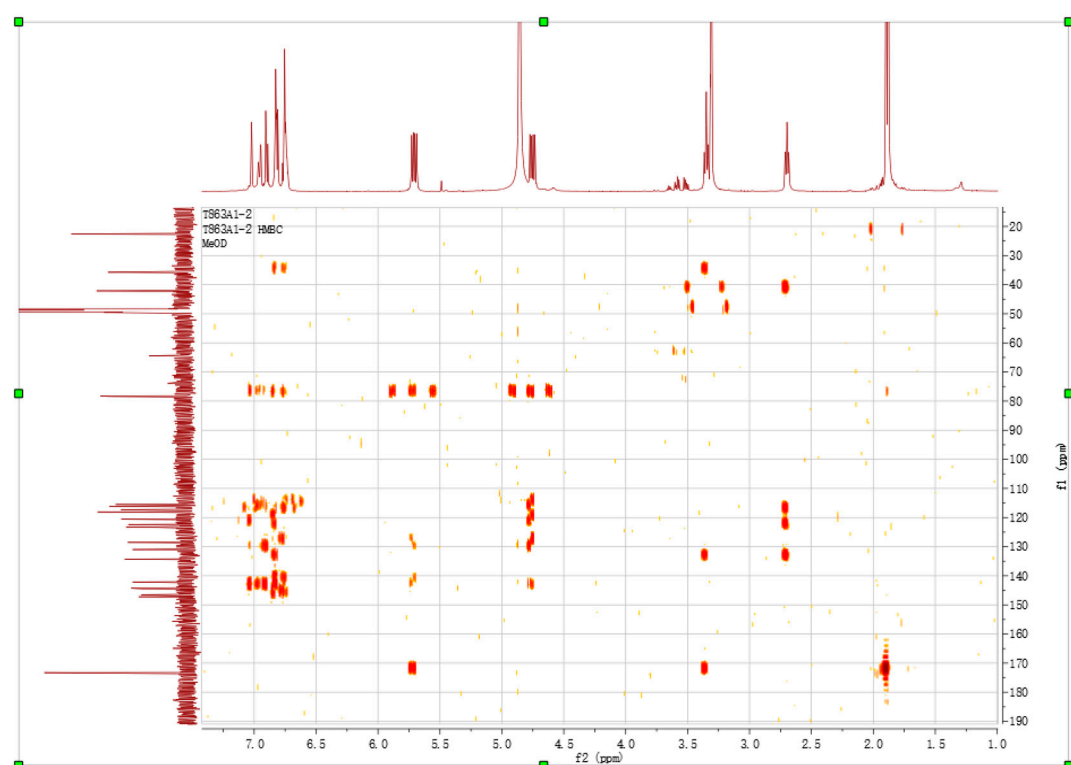


Figure S23. HMBC spectrum of 3 in methanol-*d*<sub>4</sub>.

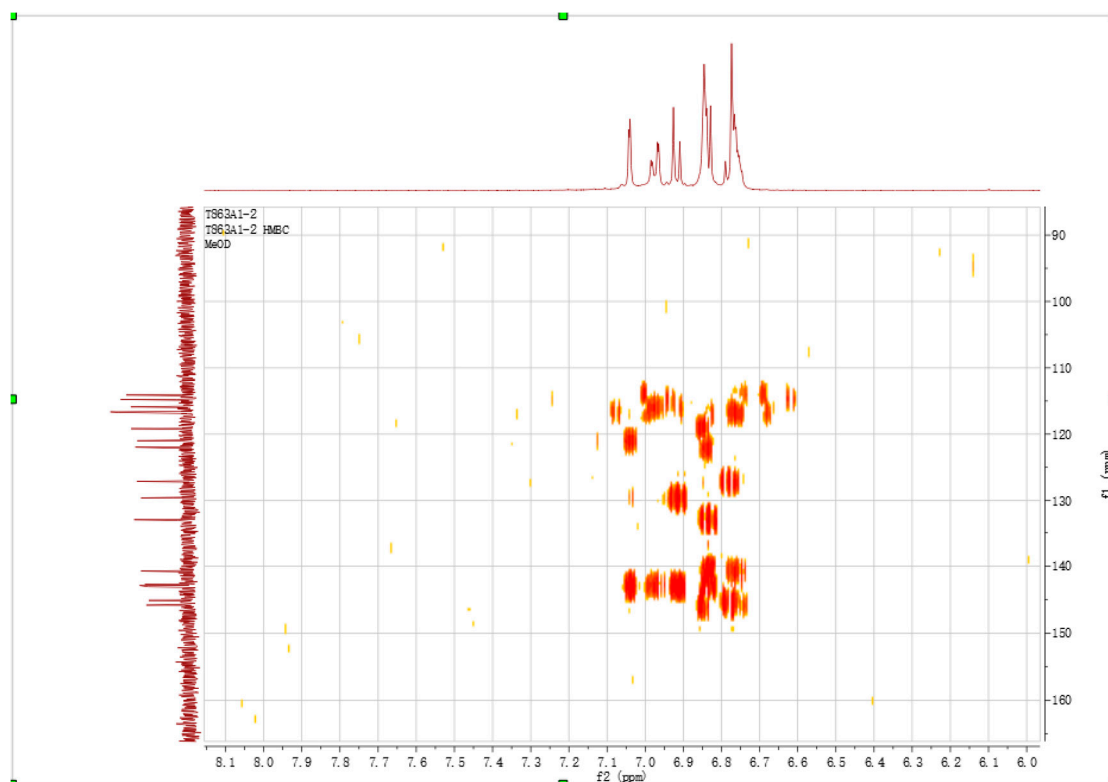
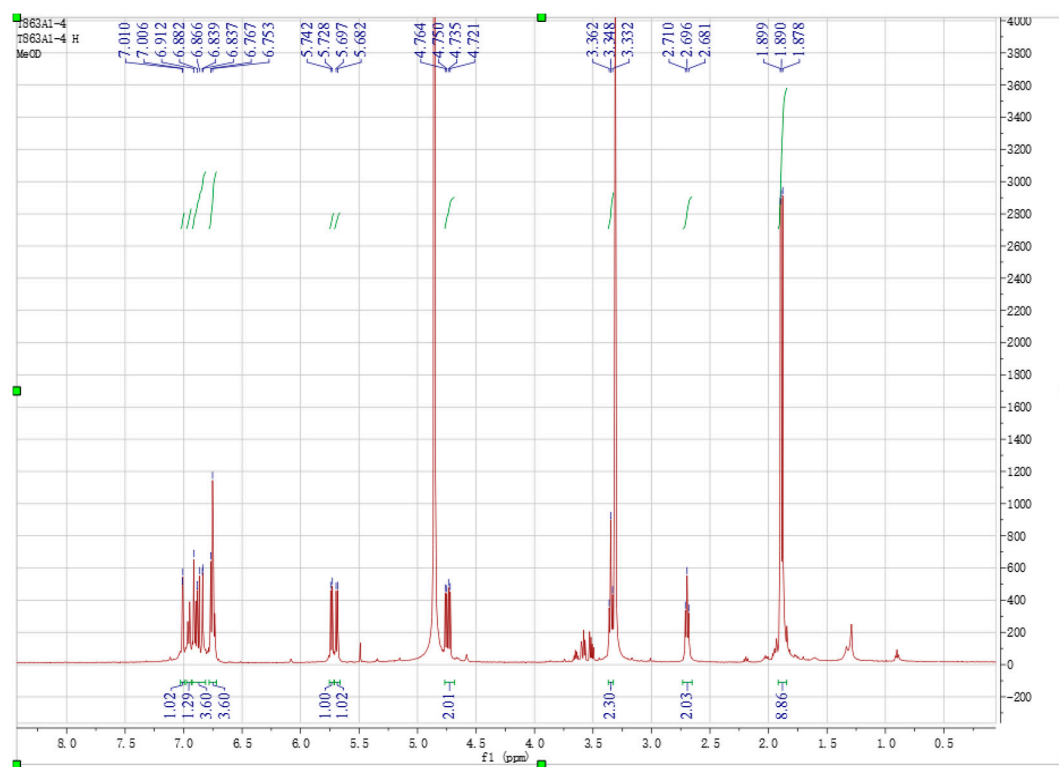
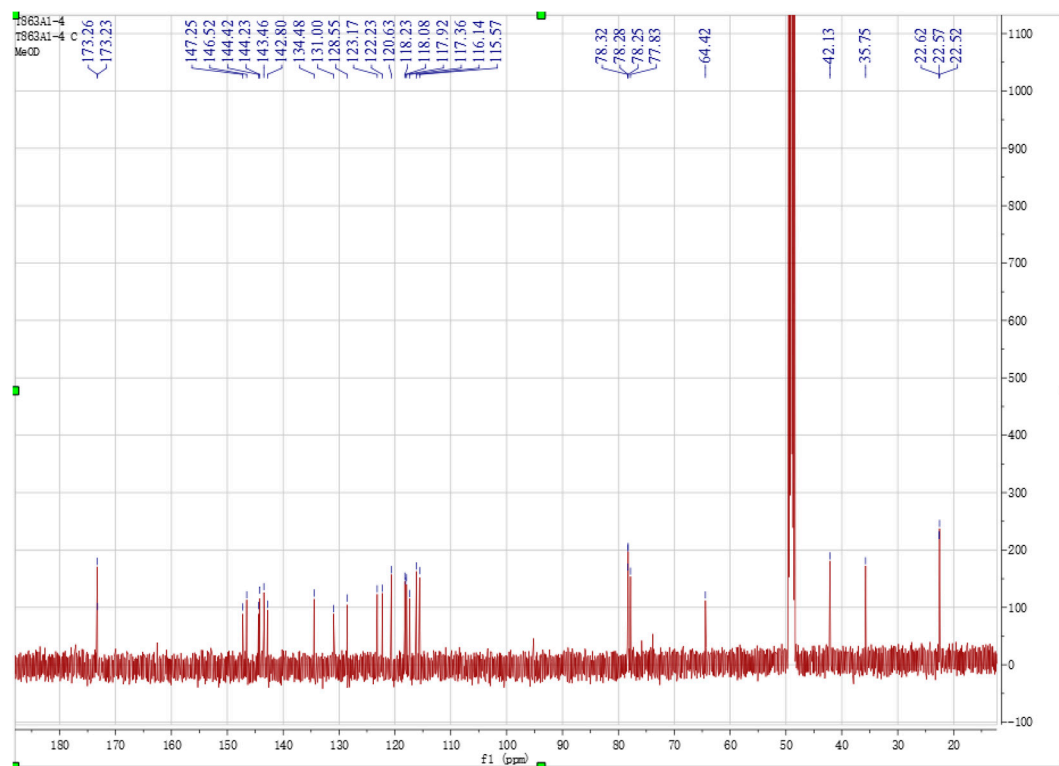
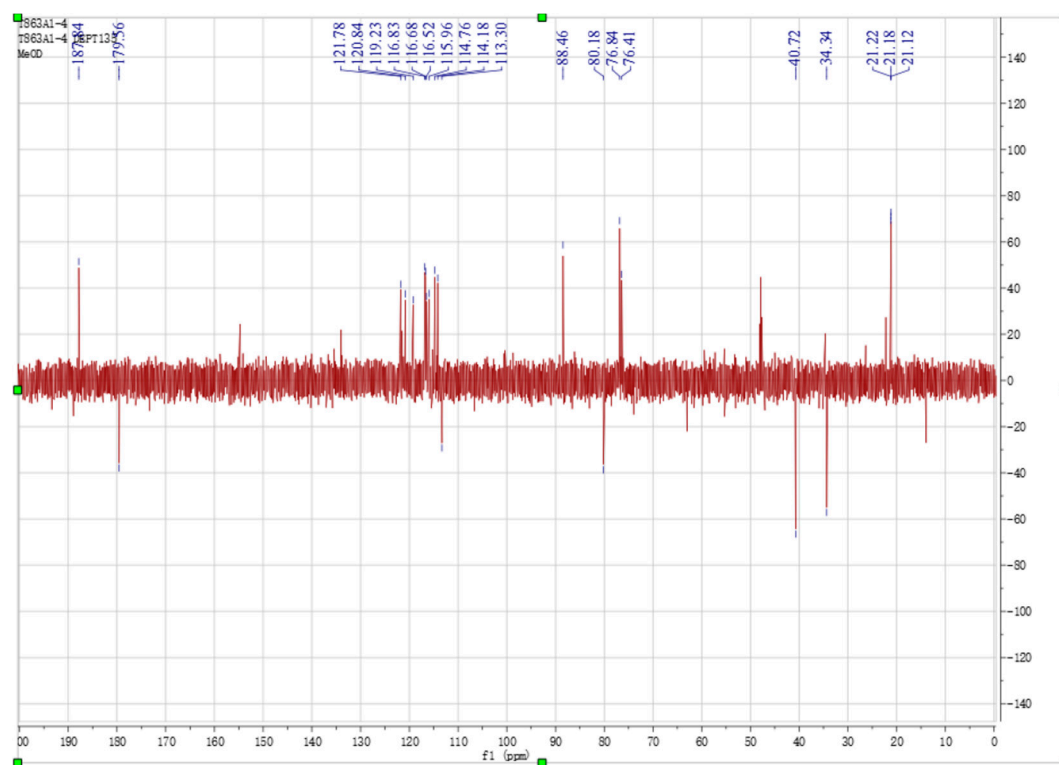
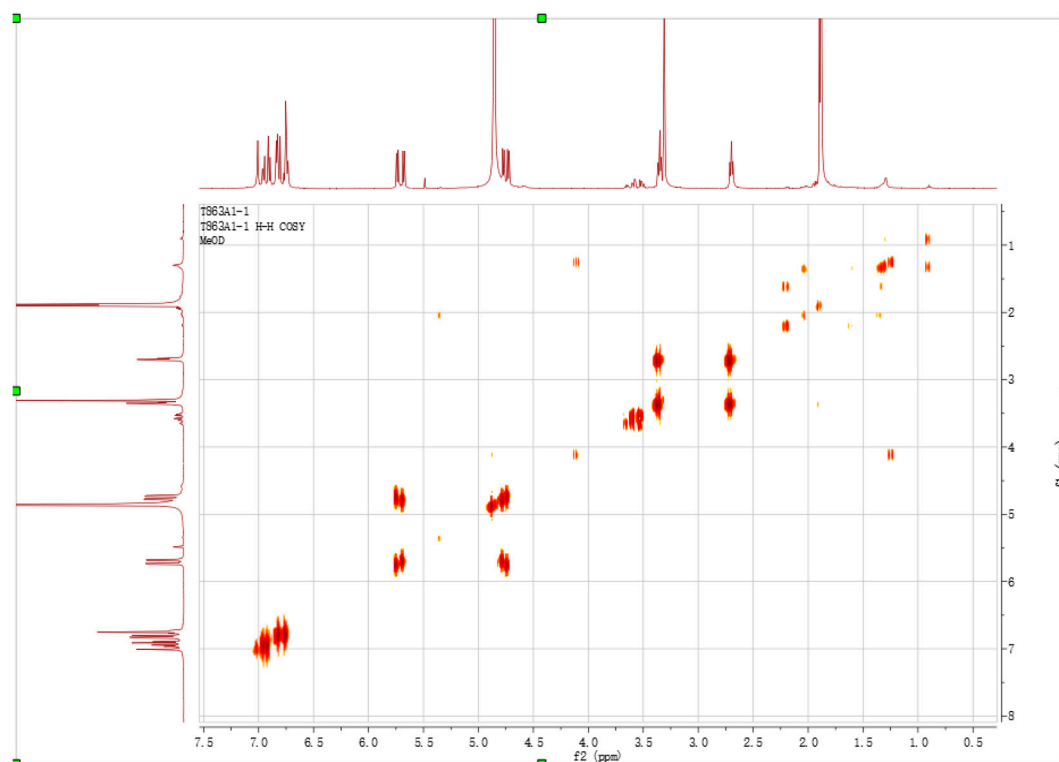


Figure S24. zoomed aromatic region of HMBC spectra of 3.

Figure S25. <sup>1</sup>H-NMR spectrum of 4 in methanol-*d*<sub>4</sub>.Figure S26. <sup>13</sup>C-NMR spectrum of 4 in methanol-*d*<sub>4</sub>.

Figure S27. DEPT spectrum of 4 in methanol- $d_4$ .Figure S28.  $^1\text{H}$ - $^1\text{H}$ -COSY spectrum of 4 in methanol- $d_4$ .

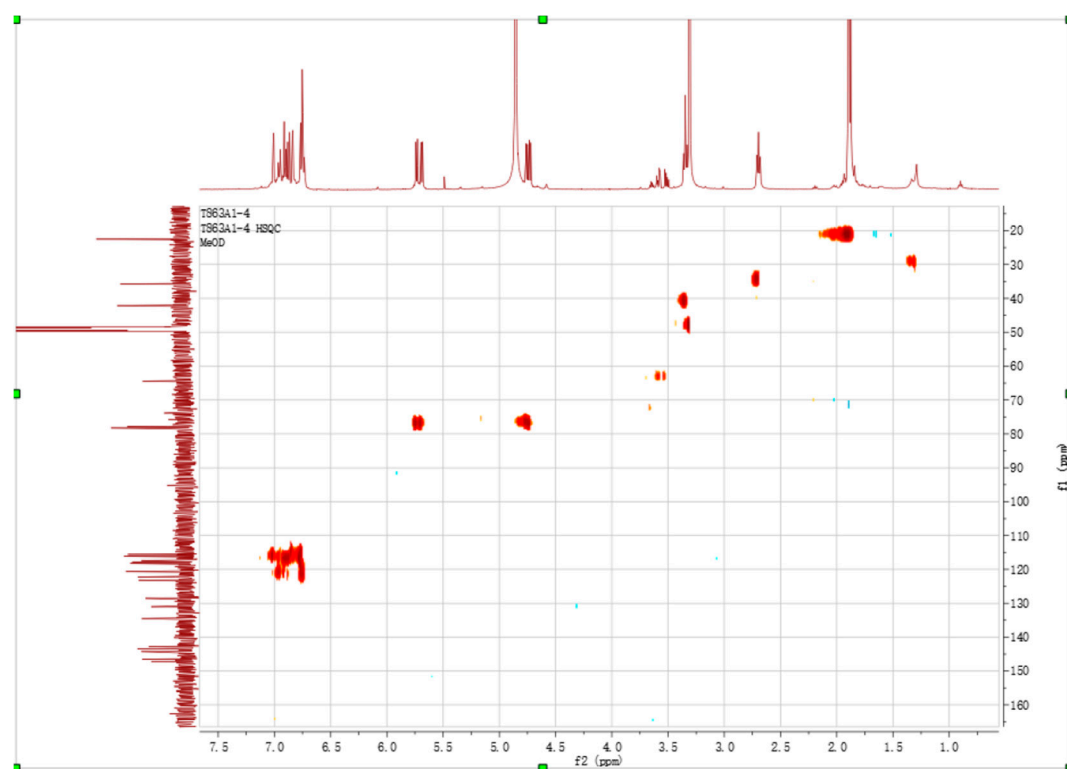
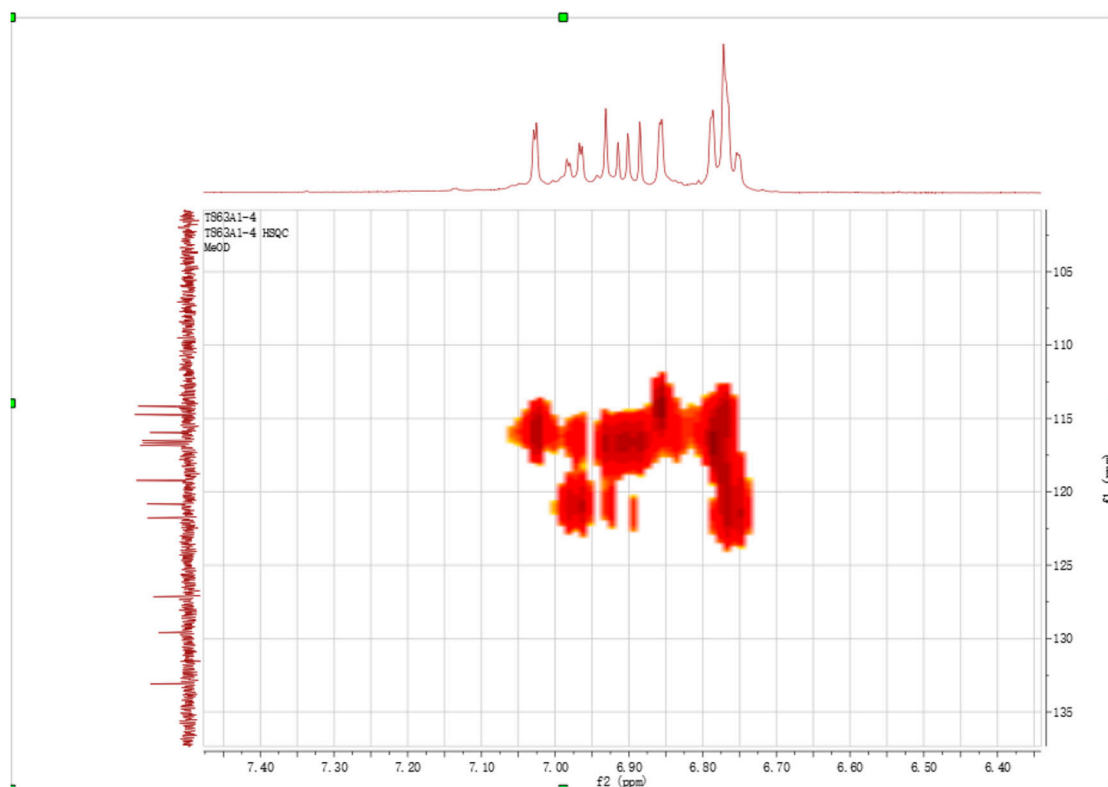
Figure S29. HSQC spectrum of 4 in methanol- $d_4$ .

Figure S30. zoomed aromatic region of HSQC spectra of 4.



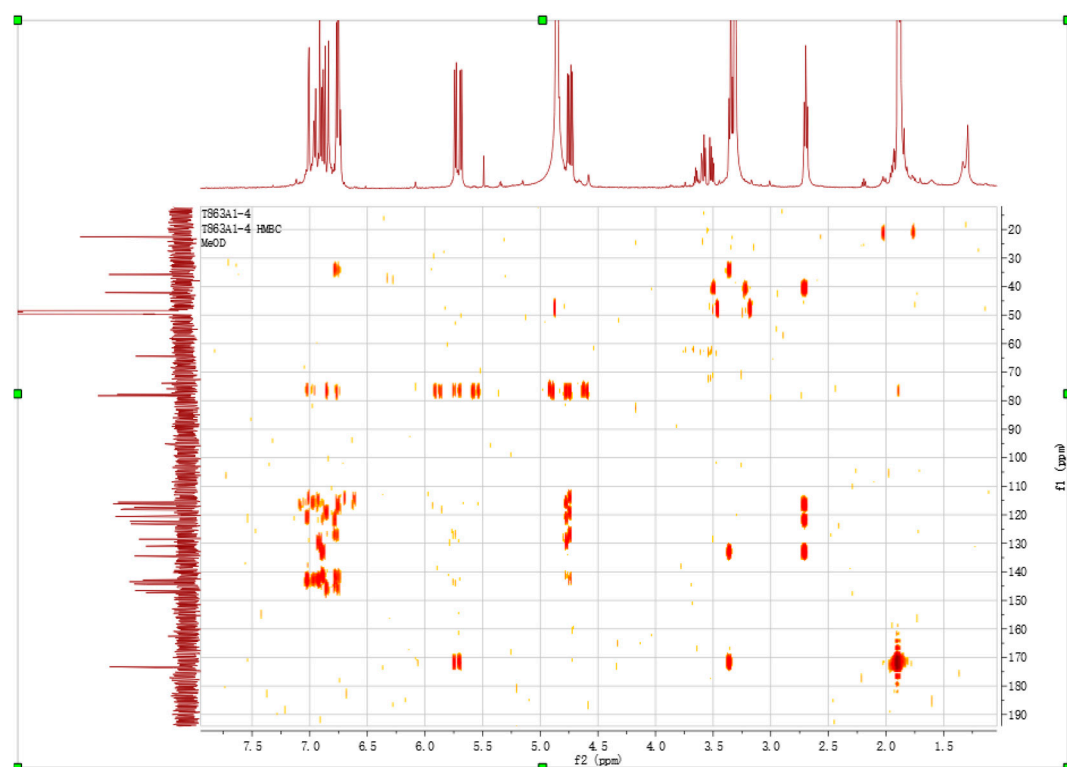


Figure S31. HMBC spectrum of 4 in methanol- $d_4$ .

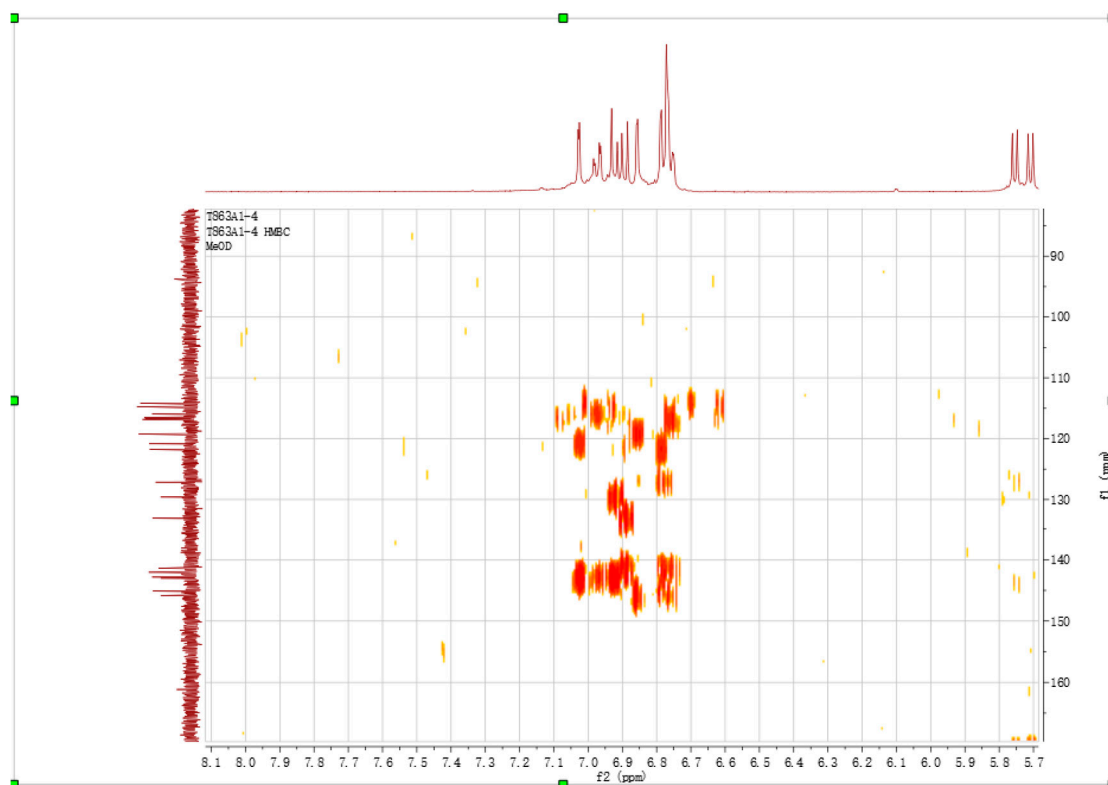


Figure S32. zoomed aromatic region of HMBC spectra of 4.

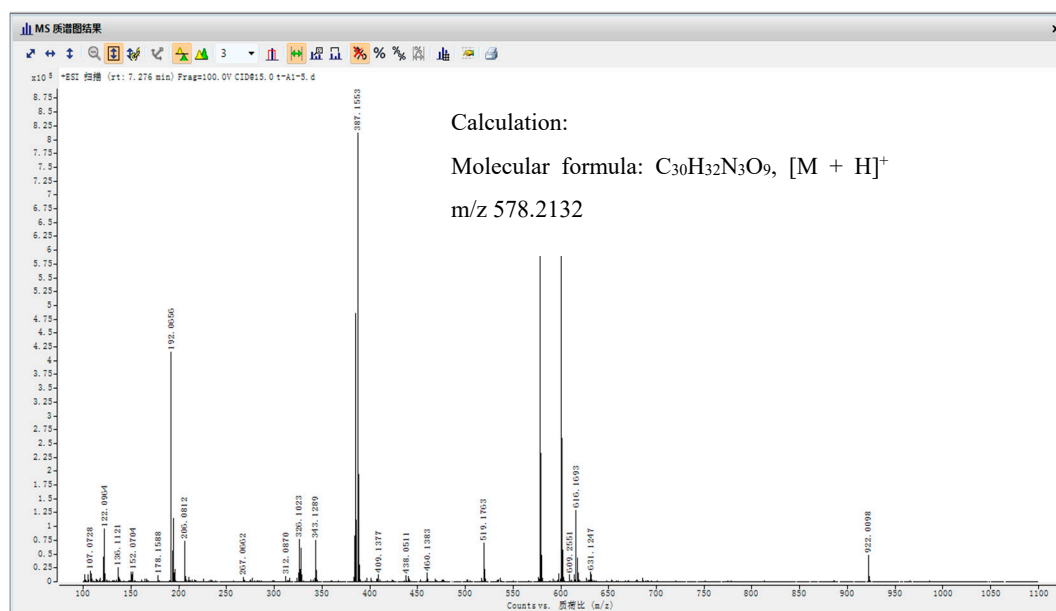


Figure S33. HR-ESI-MS of 1.

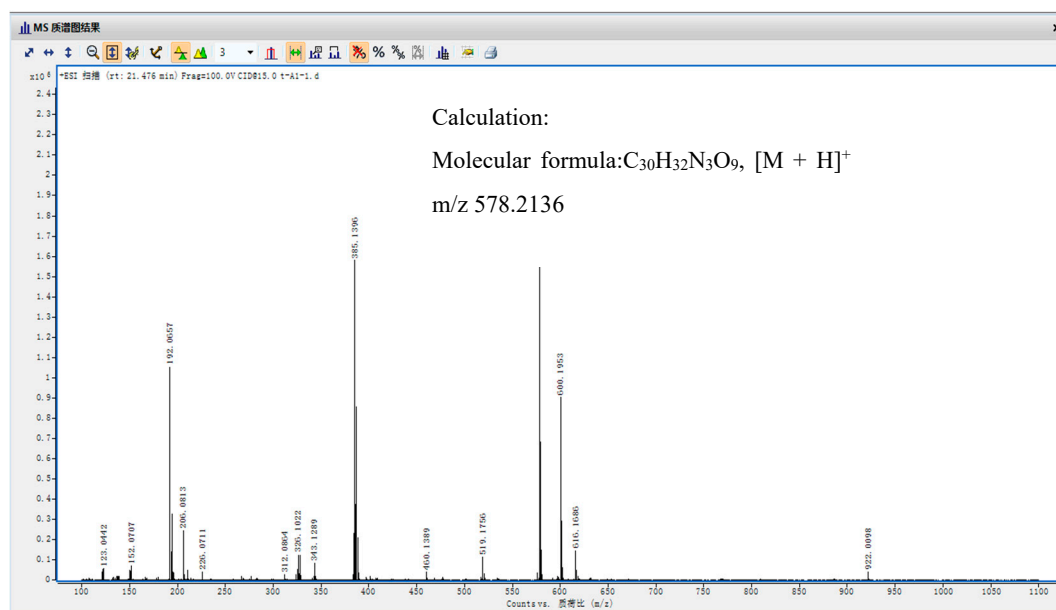


Figure S34. HR-ESI-MS of 2.

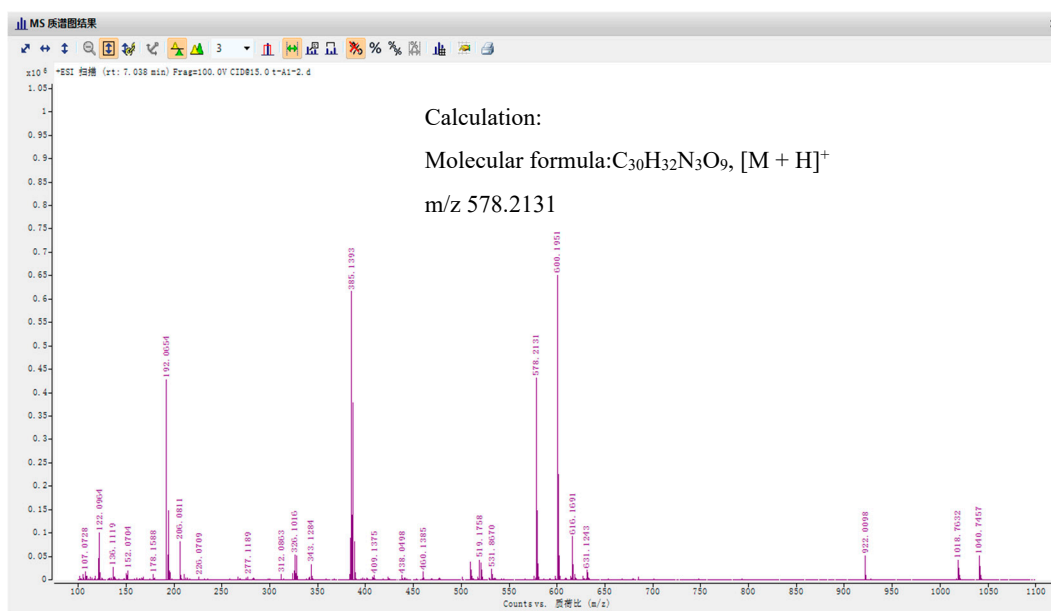


Figure S35. HR-ESI-MS of 3.

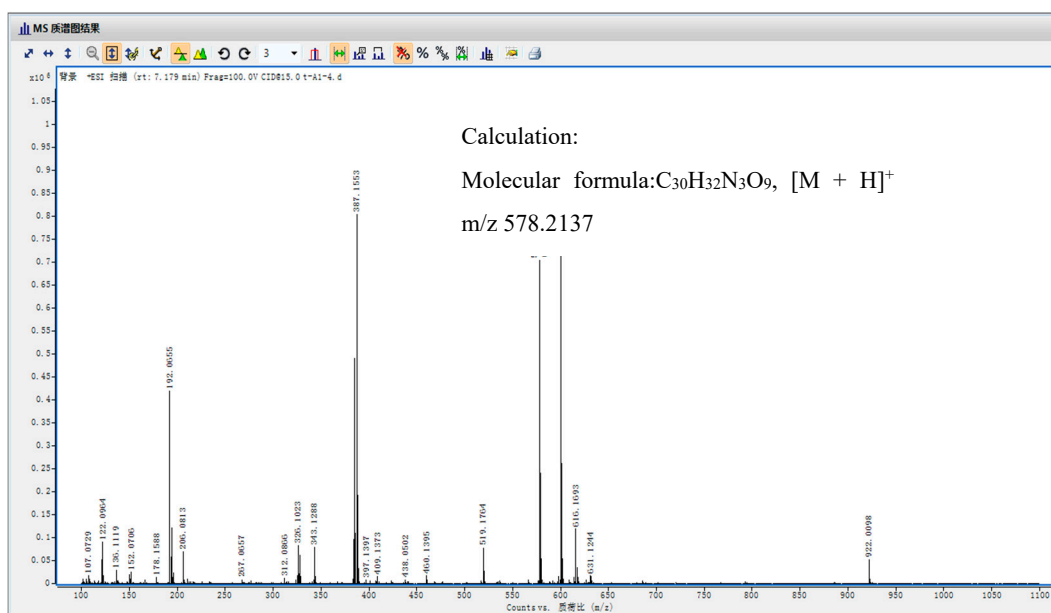


Figure S36. HR-ESI-MS of 4.