

Stereochemical insights into neuroprotective lignanamides from the herbs of *Solanum lyratum*

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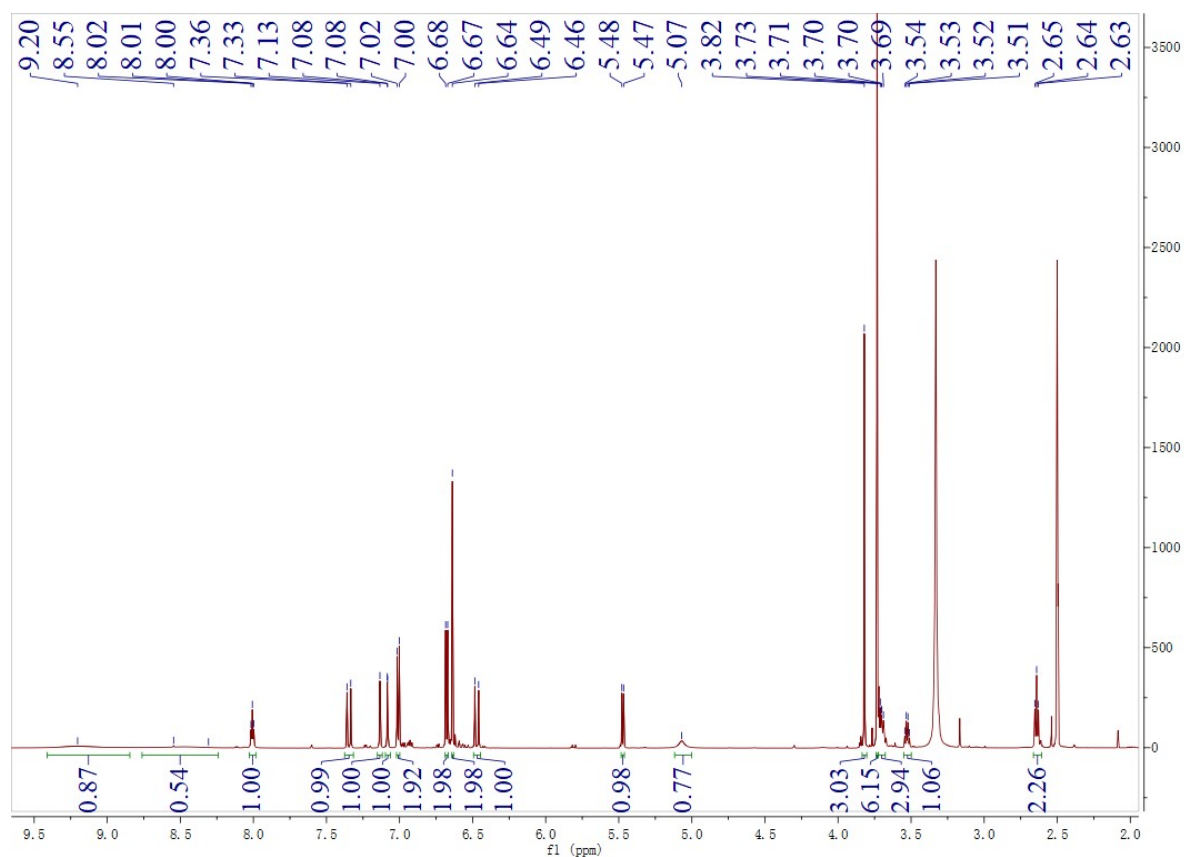


Fig. S1. The ^1H NMR (600 MHz, $\text{DMSO-}d_6$) spectrum of compounds **1a/1b**

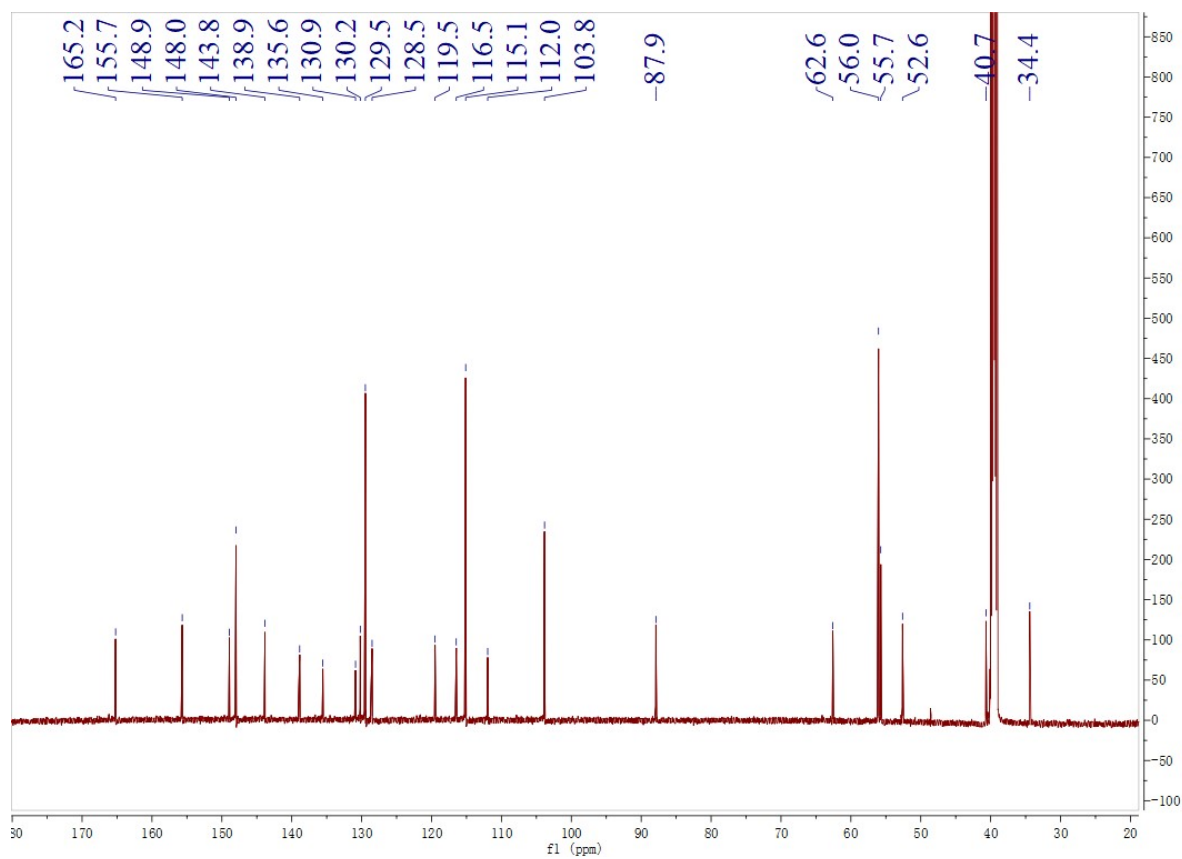


Fig. S2. The ^{13}C NMR (150 MHz, $\text{DMSO-}d_6$) spectrum of compounds **1a/1b**

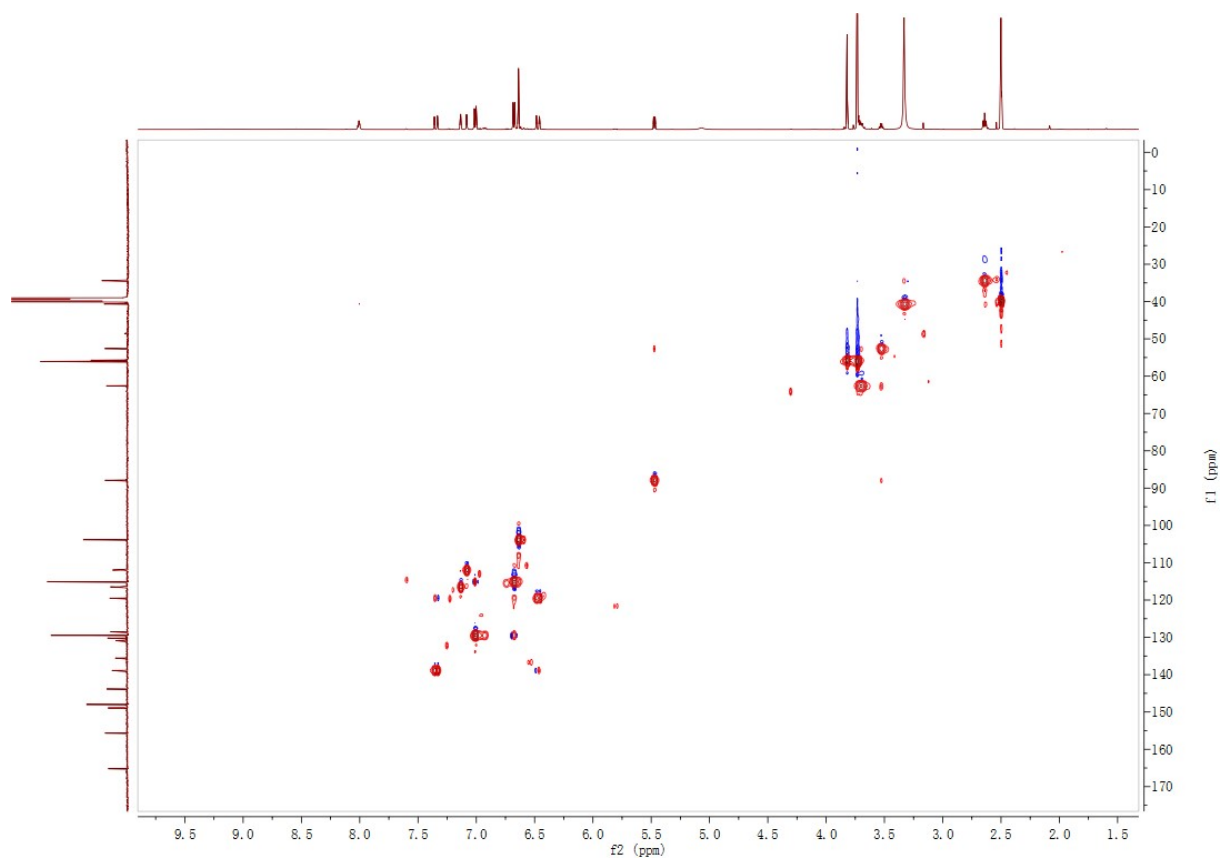


Fig. S3. The HSQC (600 MHz, DMSO-*d*₆) spectrum of compounds **1a/1b**

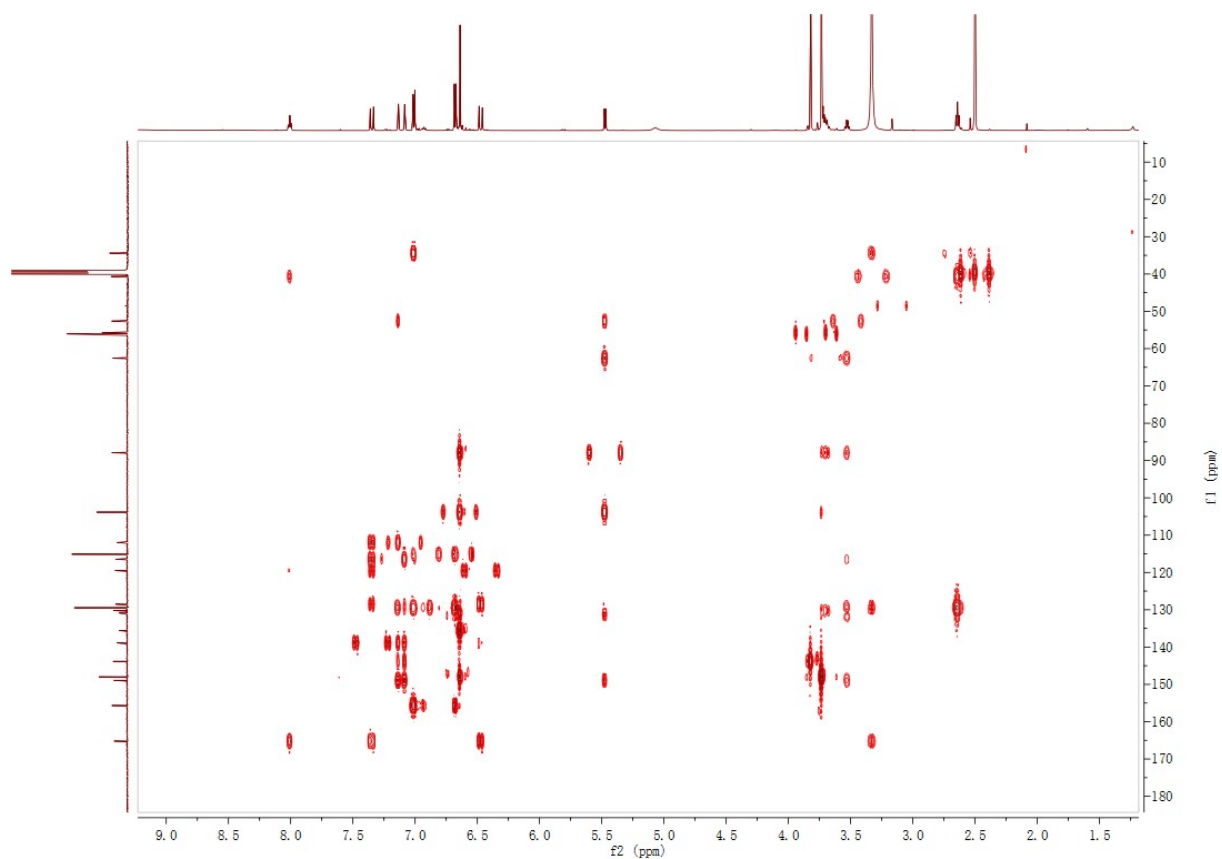


Fig. S4. The HMBC (600 MHz, DMSO-*d*₆) spectrum of compounds **1a/1b**

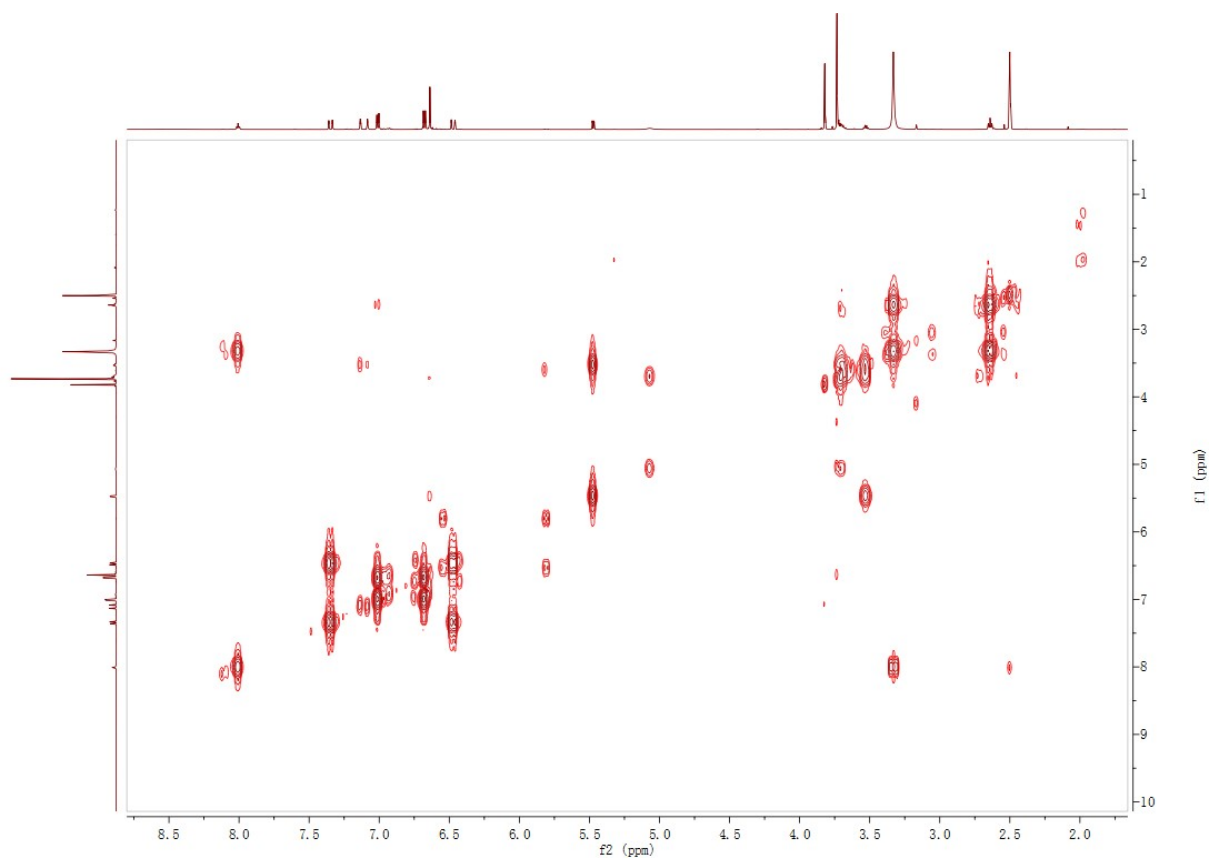


Fig. S5. The ^1H - ^1H COSY (600 MHz, $\text{DMSO-}d_6$) spectrum of compounds **1a/1b**

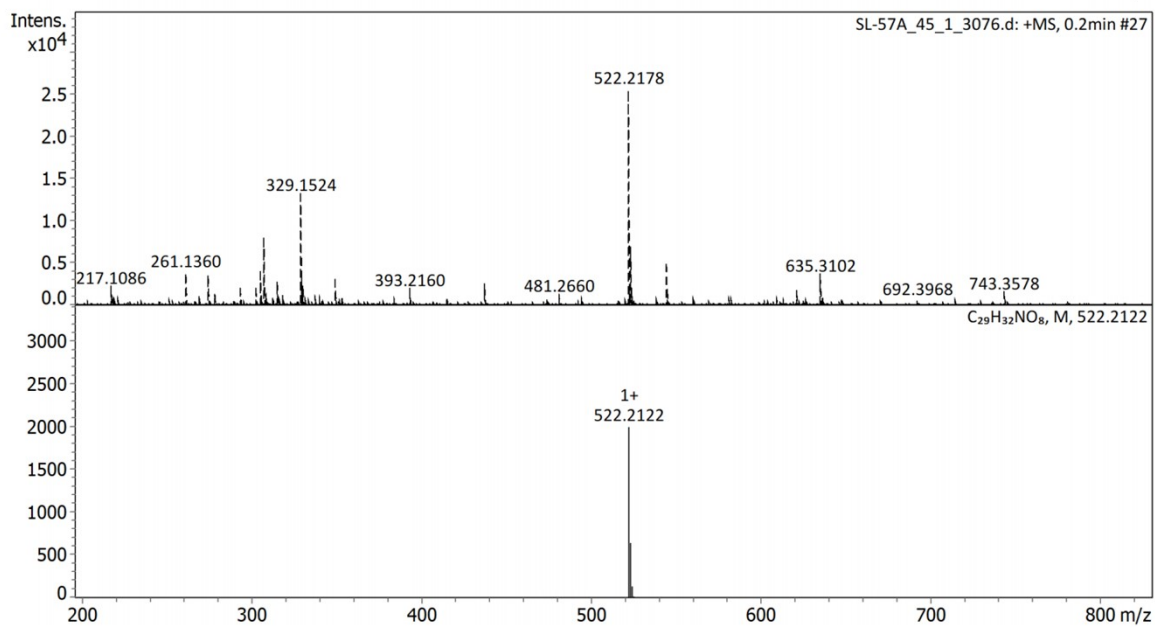


Fig. S6. The HRESIMS spectrum of compounds **1a/1b**

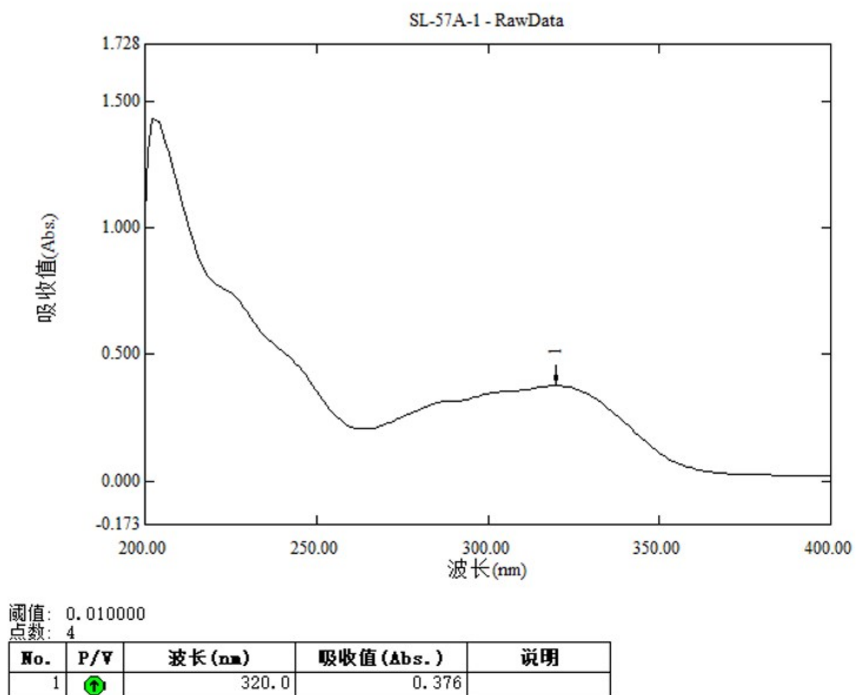


Fig. S7. The UV spectrum of compounds **1a/1b**

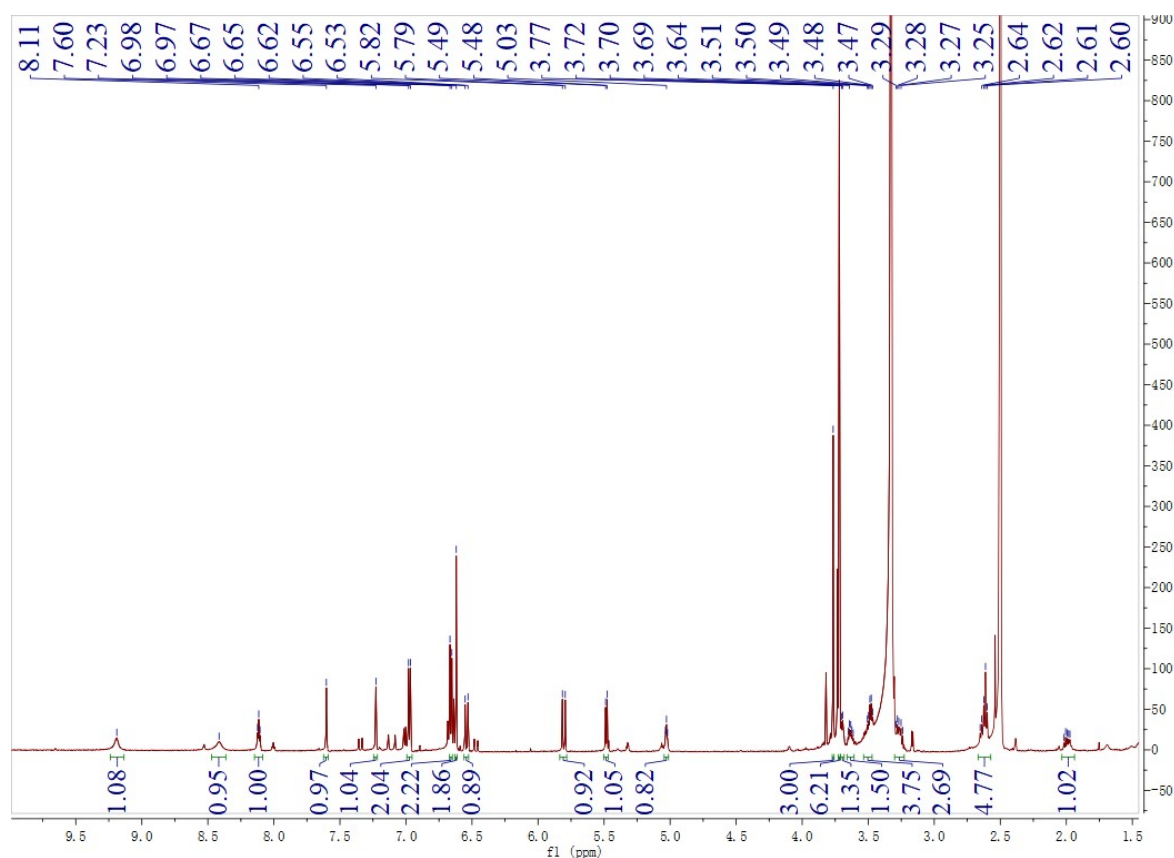


Fig. S8. The ^1H NMR (600 MHz, $\text{DMSO-}d_6$) spectrum of compounds **2a/2b**

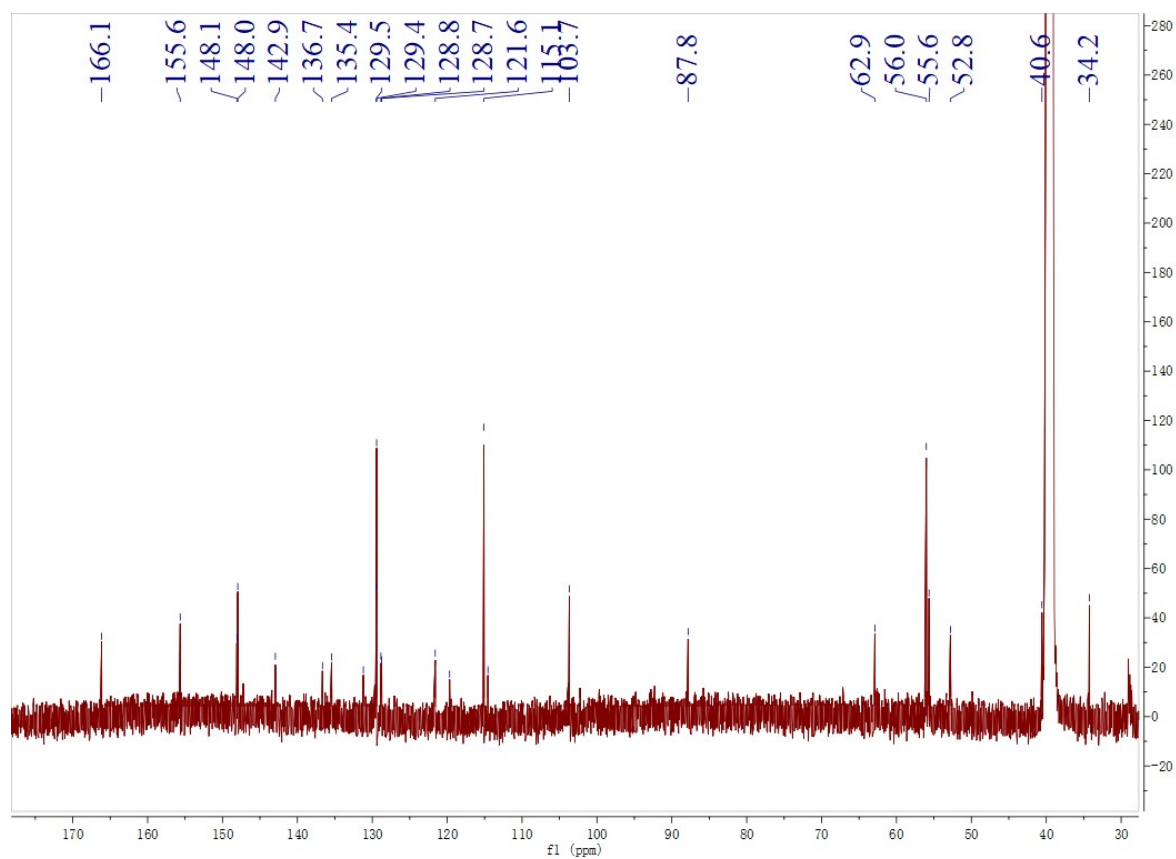


Fig. S9. The ^{13}C NMR (150 MHz, $\text{DMSO-}d_6$) spectrum of compounds **2a/2b**

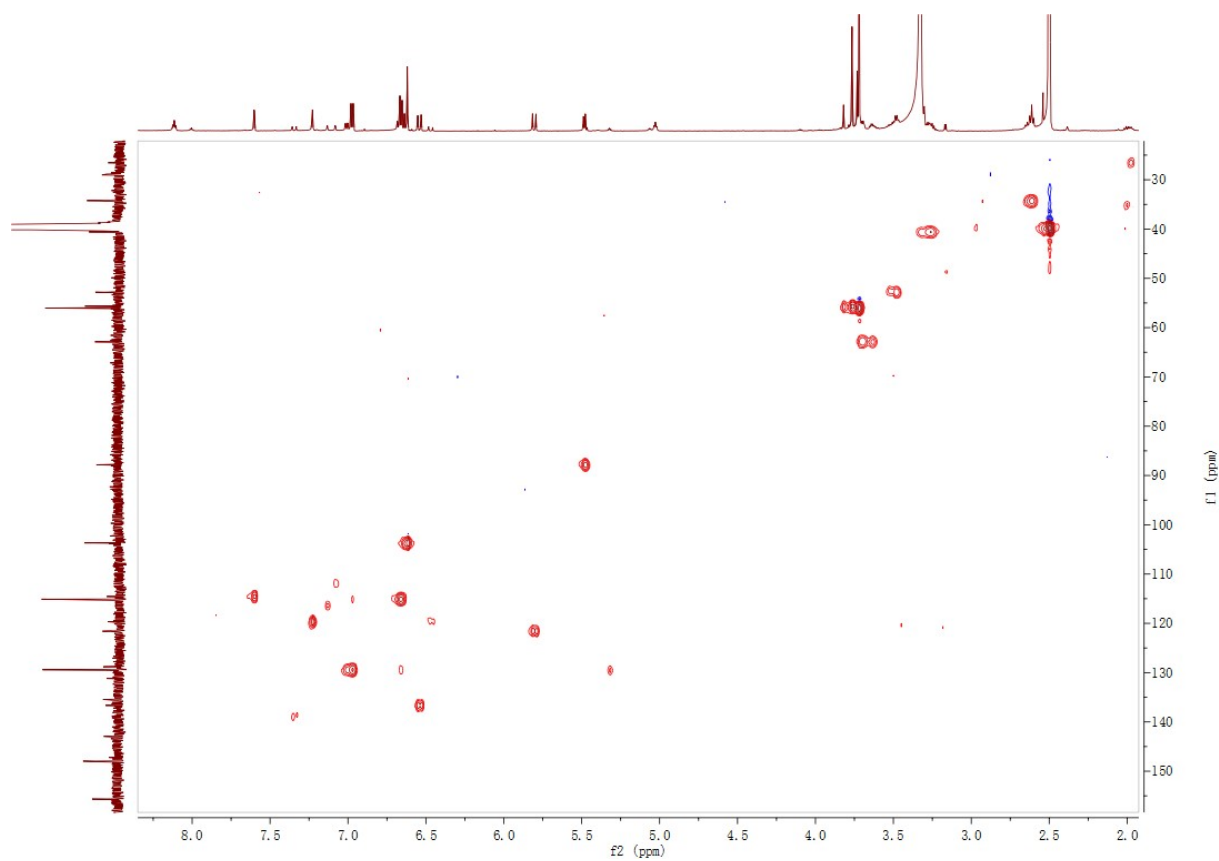


Fig. S10. The HSQC (600 MHz, $\text{DMSO-}d_6$) spectrum of compounds **2a/2b**

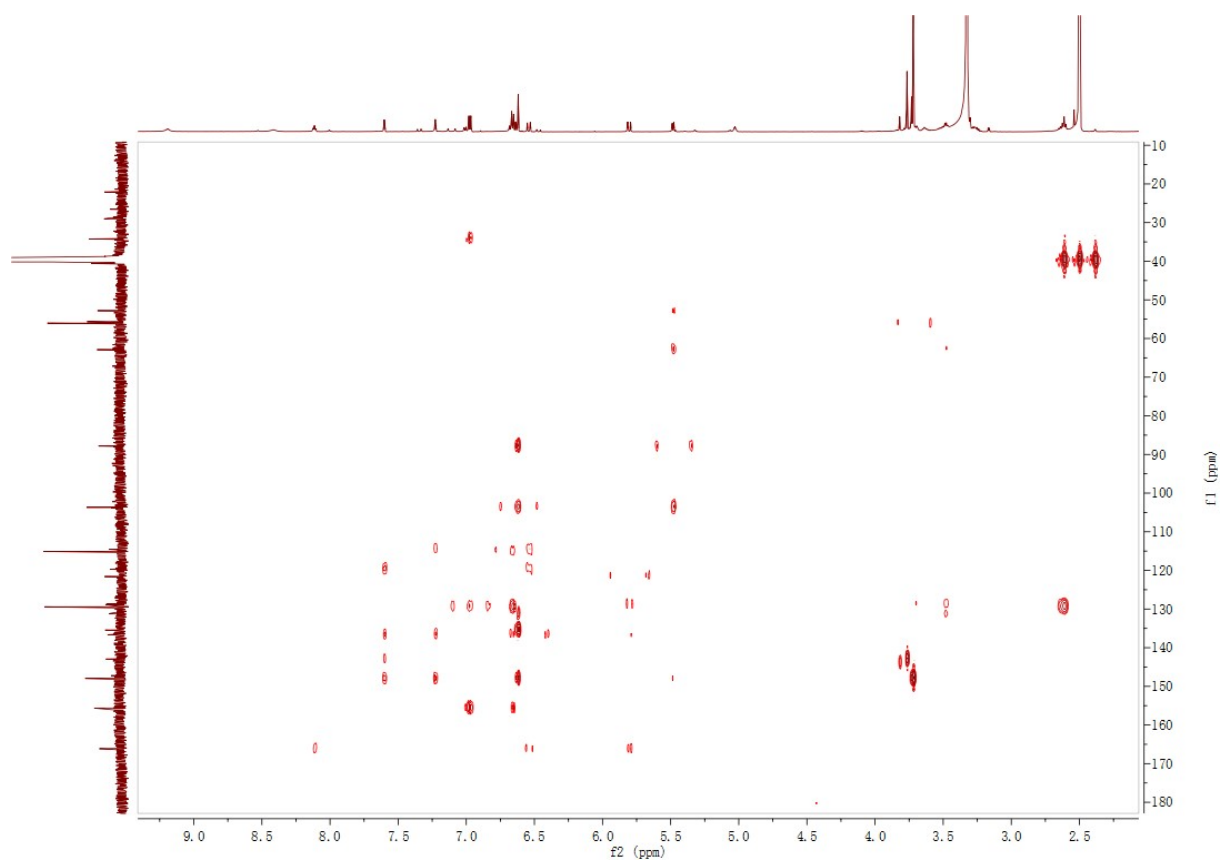


Fig. S11. The HMBC (600 MHz, DMSO- d_6) spectrum of compounds **2a/2b**

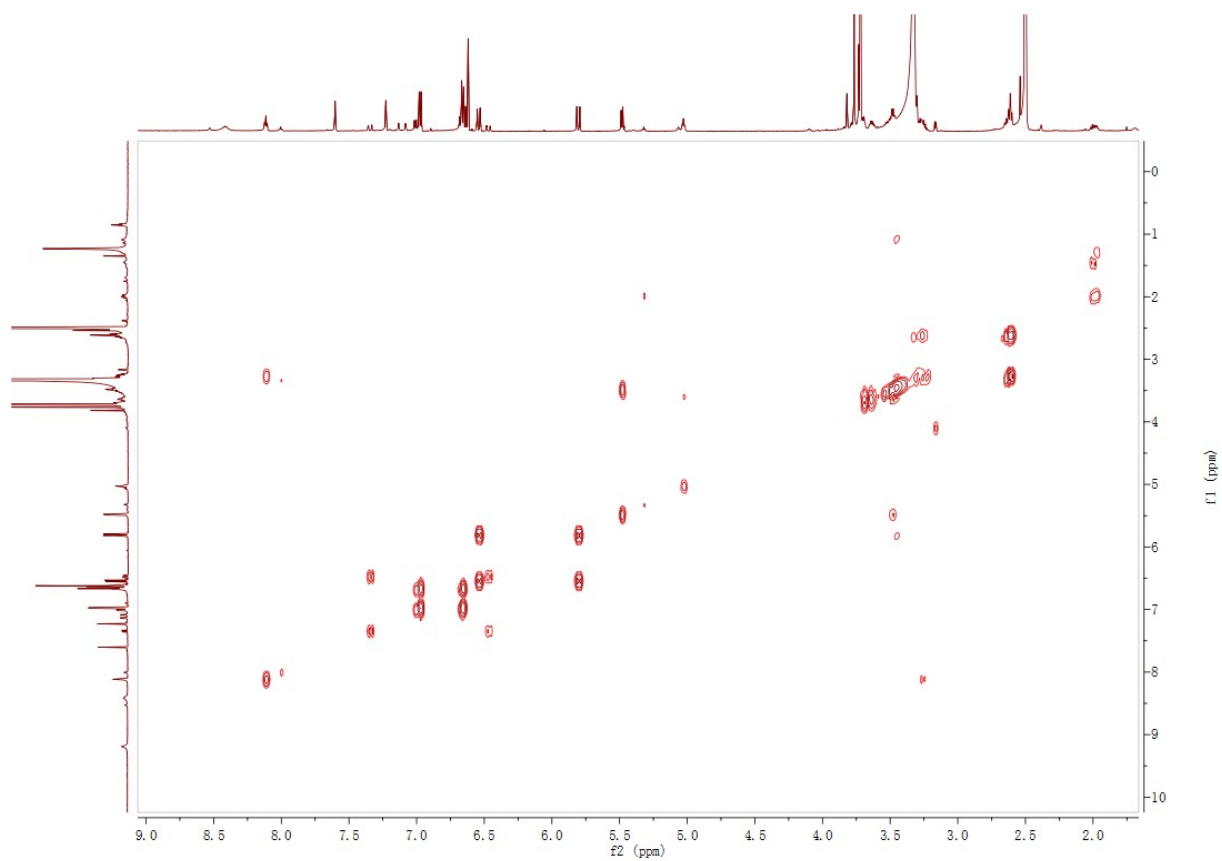
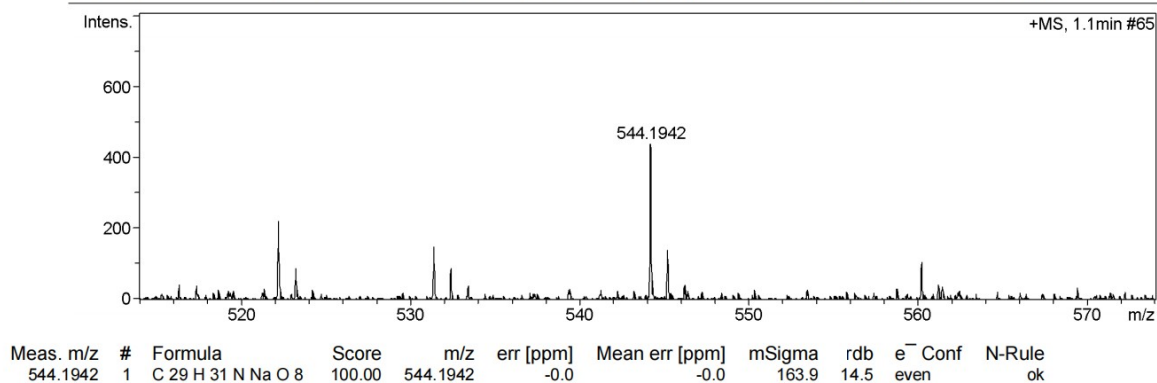
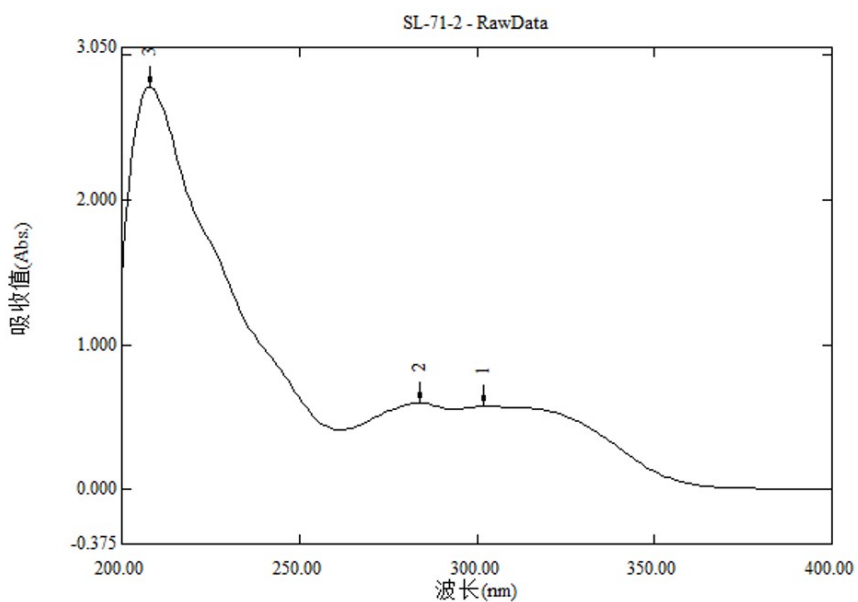


Fig. S12. The ^1H - ^1H COSY (600 MHz, DMSO- d_6) spectrum of compounds **2a/2b**

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	1.2 Bar
Focus	Not active	Set Capillary	4500 V	Set Dry Heater	180 °C
Scan Begin	100 m/z	Set End Plate Offset	-500 V	Set Dry Gas	8.0 l/min
Scan End	1500 m/z	Set Collision Cell RF	400.0 Vpp	Set Divert Valve	Source

**Fig. S13.** The HRESIMS spectrum of compounds **2a/2b**

閾值: 0.010000
 点数: 4

No.	P/V	波长 (nm)	吸收值 (Abs.)	说明
1	⊕	302.0	0.574	
2	⊕	284.0	0.597	
3	⊕	208.0	2.777	

Fig. S14. The UV spectrum of compounds **2a/2b**

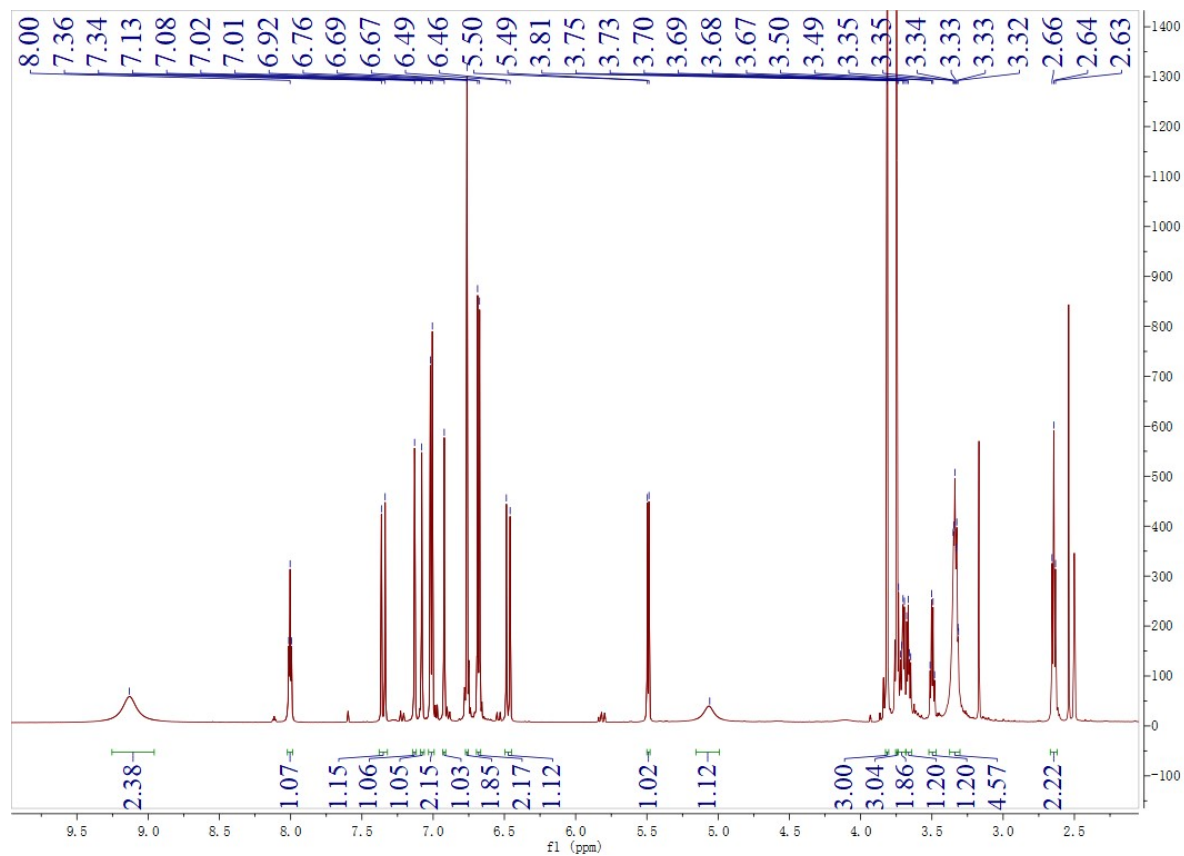


Fig. S15. The ^1H NMR (600 MHz, $\text{DMSO-}d_6$) spectrum of compounds **3a/3b**

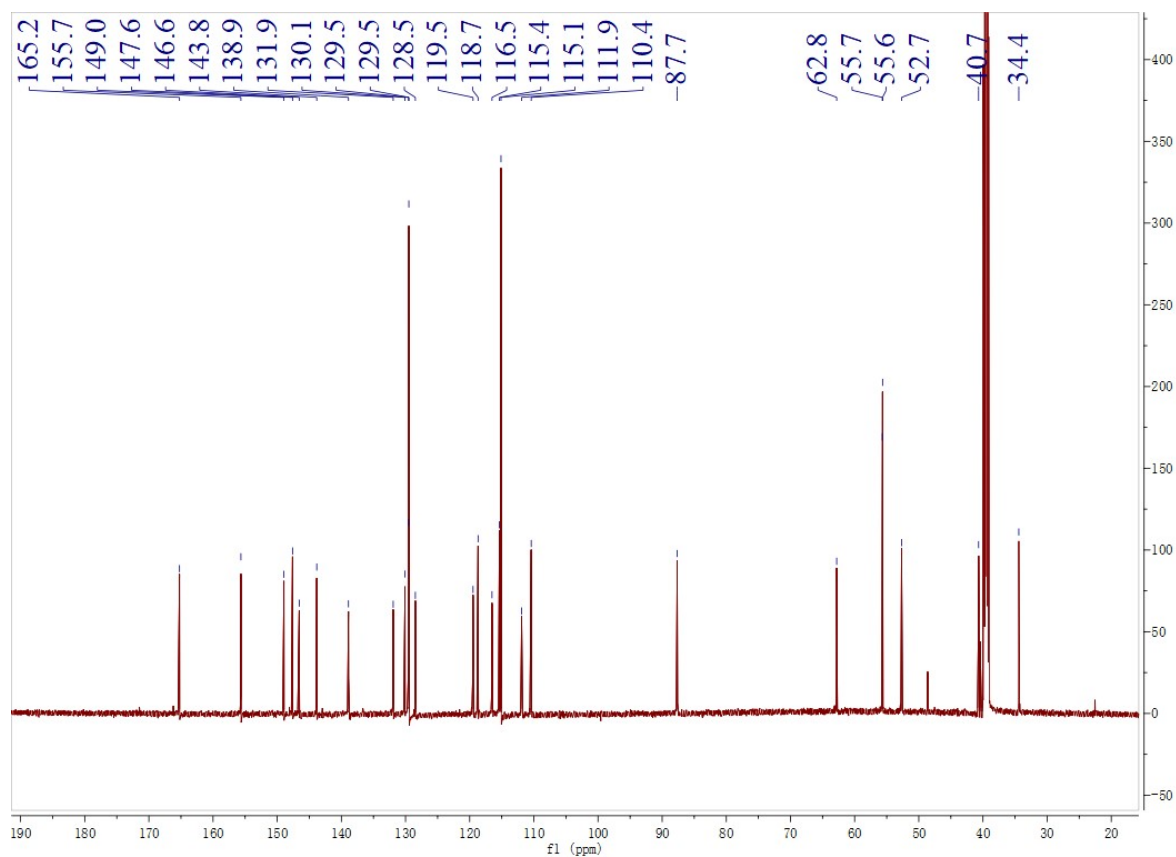


Fig. S16. The ^{13}C NMR (150 MHz, $\text{DMSO-}d_6$) spectrum of compounds **3a/3b**

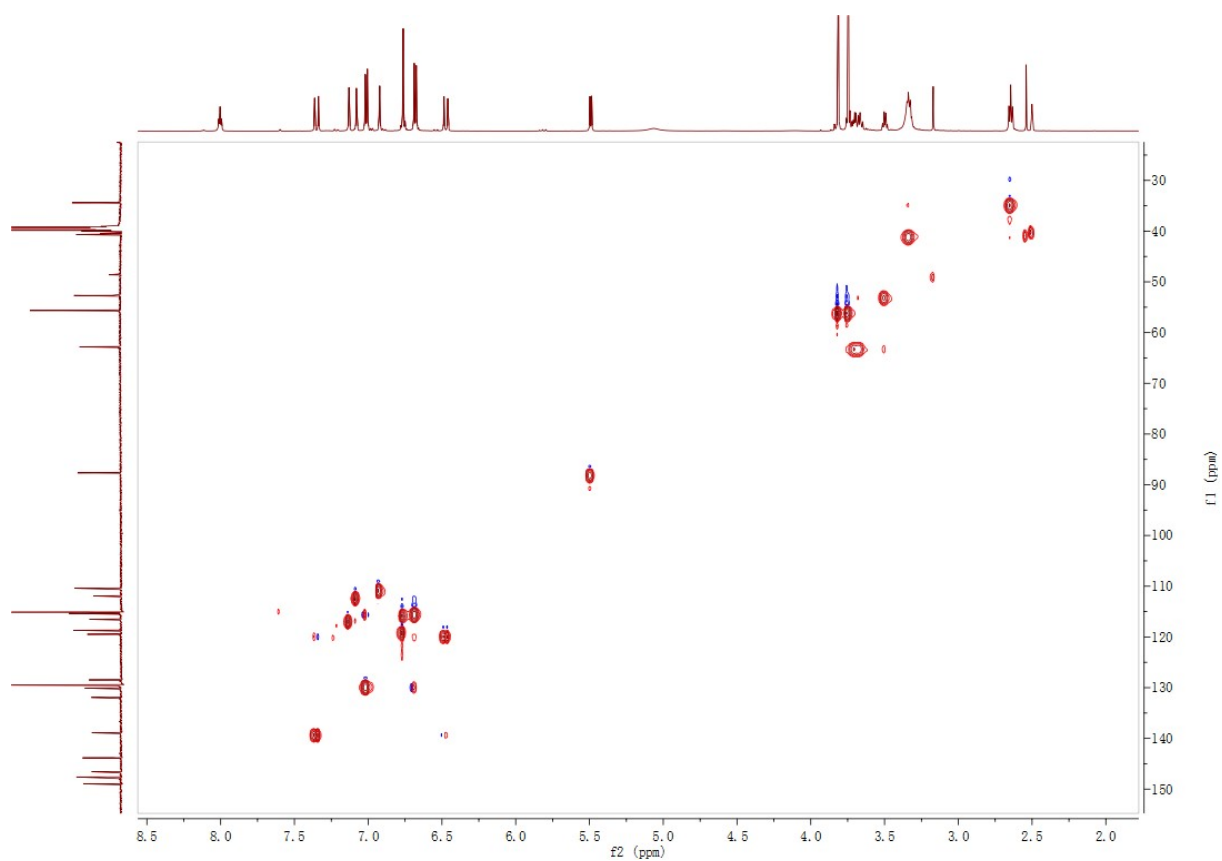


Fig. S17. The HSQC (600 MHz, DMSO- d_6) spectrum of compounds **3a/3b**

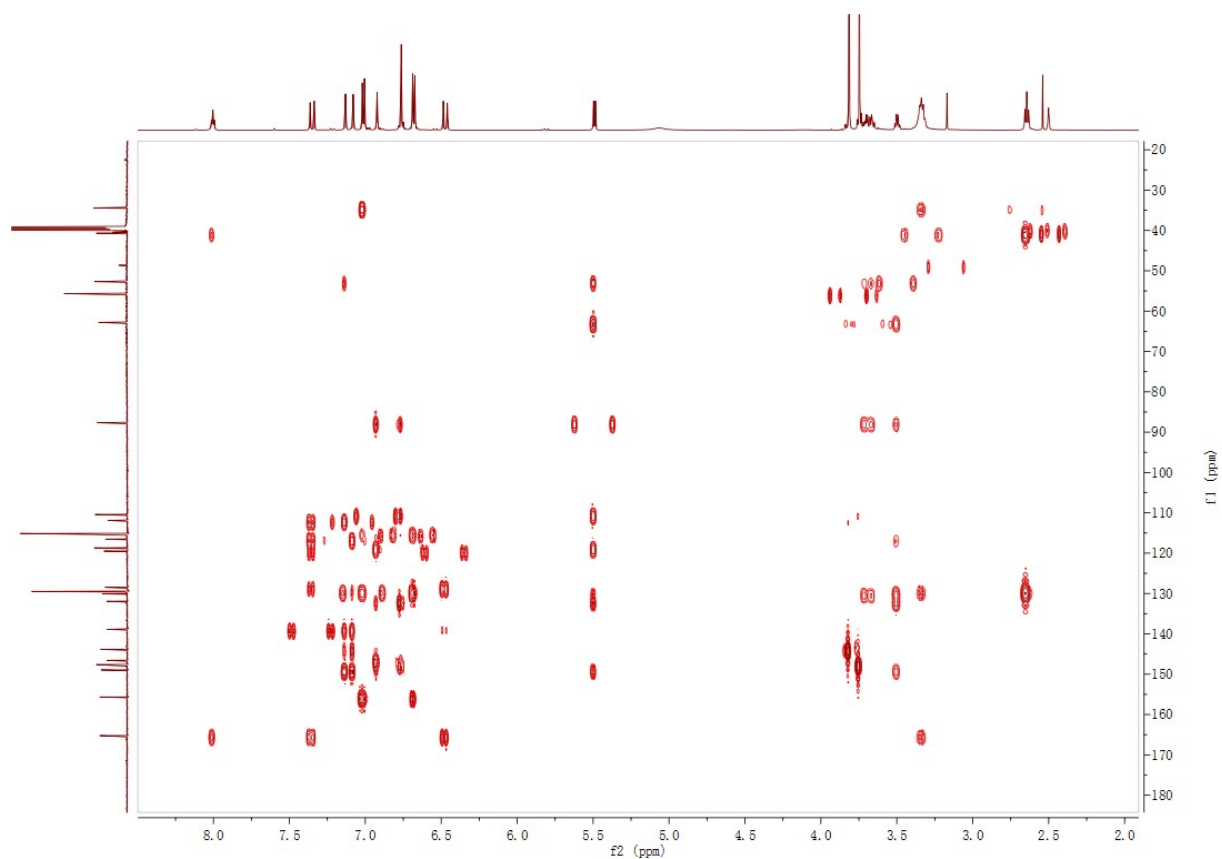


Fig. S18. The HMBC (600 MHz, DMSO- d_6) spectrum of compounds **3a/3b**

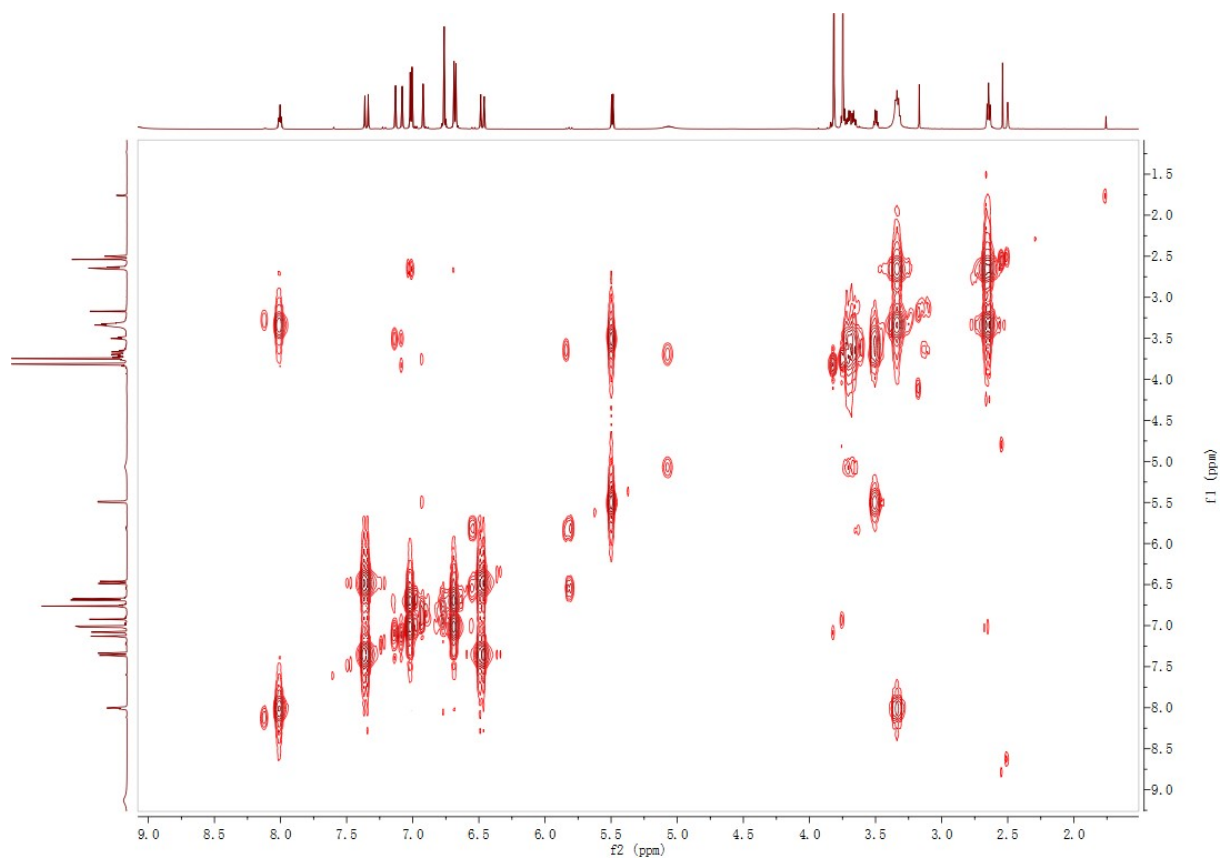


Fig. S19. The ^1H - ^1H COSY (600 MHz, $\text{DMSO}-d_6$) spectrum of compounds **3a/3b**

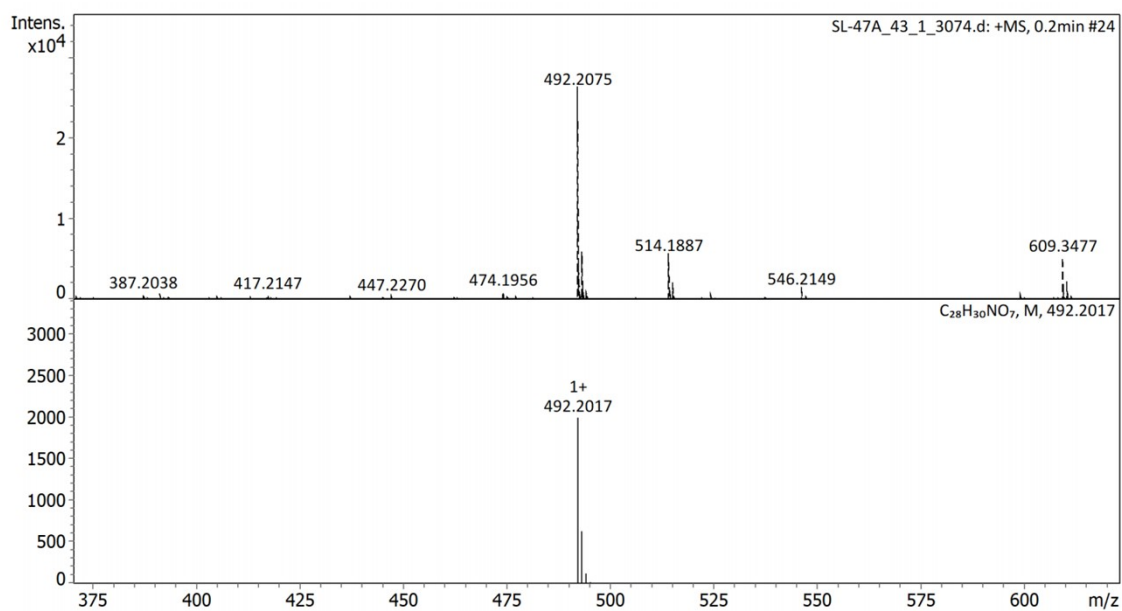
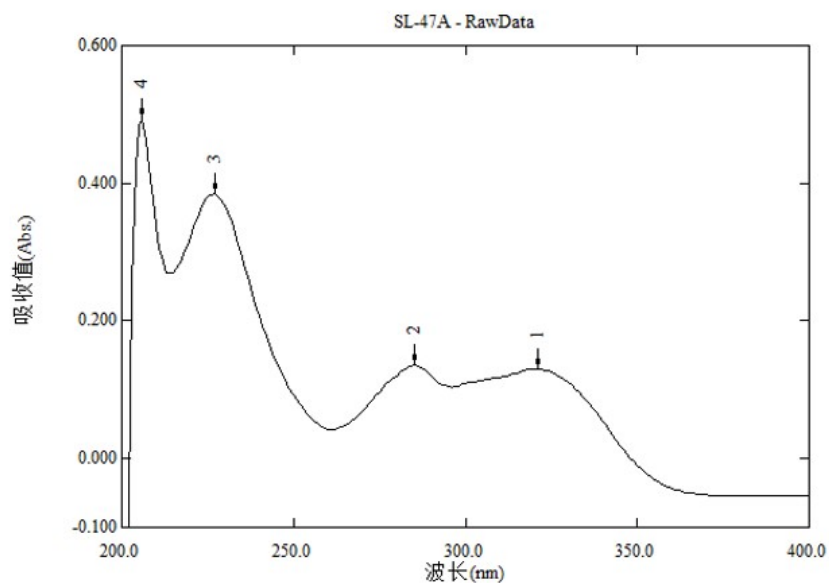


Fig. S20. The HRESIMS spectrum of compounds **3a/3b**



阈值: 0.050000
点数: 4

No.	P/V	波长(nm)	吸收值(Abs.)	说明
1	⊕	321.0	0.130	
2	⊕	285.0	0.135	
3	⊕	227.0	0.384	
4	⊕	206.0	0.493	

Fig. S21. The UV spectrum of compounds **3a/3b**

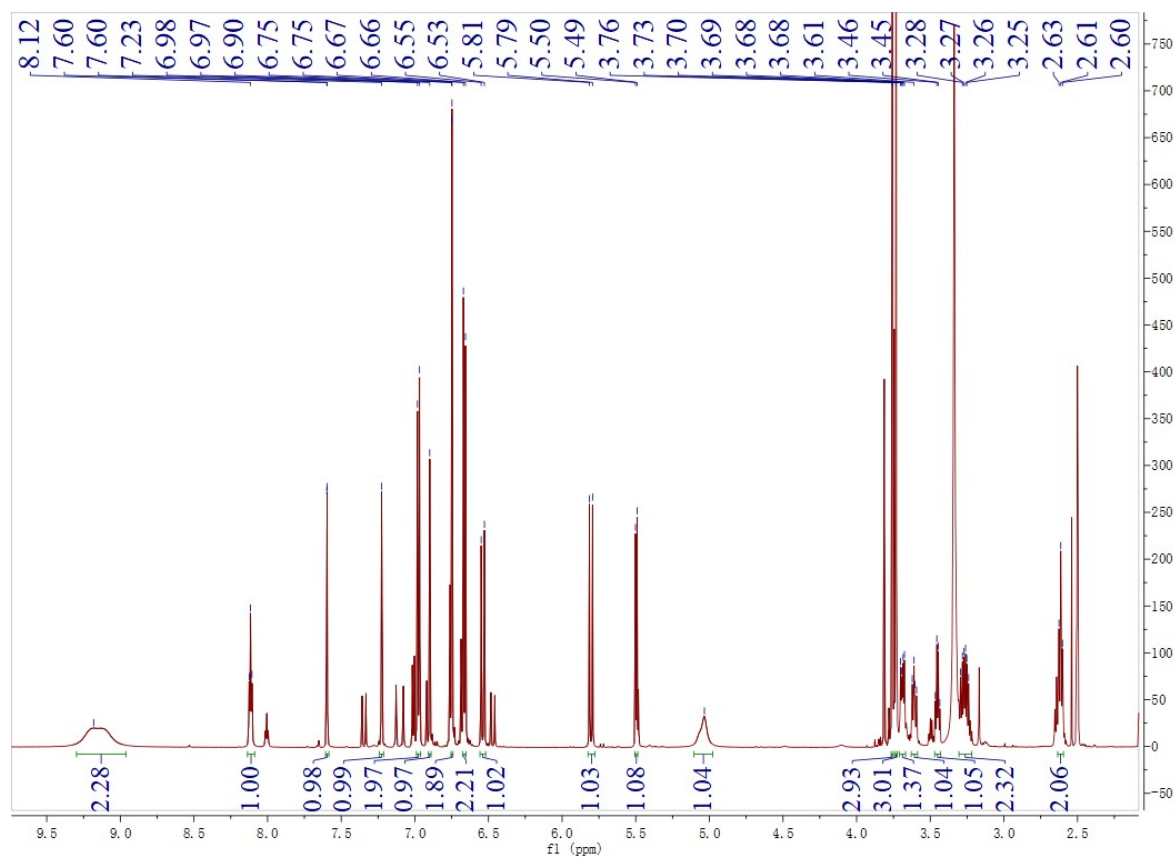


Fig. S22. The ^1H NMR (600 MHz, $\text{DMSO-}d_6$) spectrum of compounds **4a/4b**

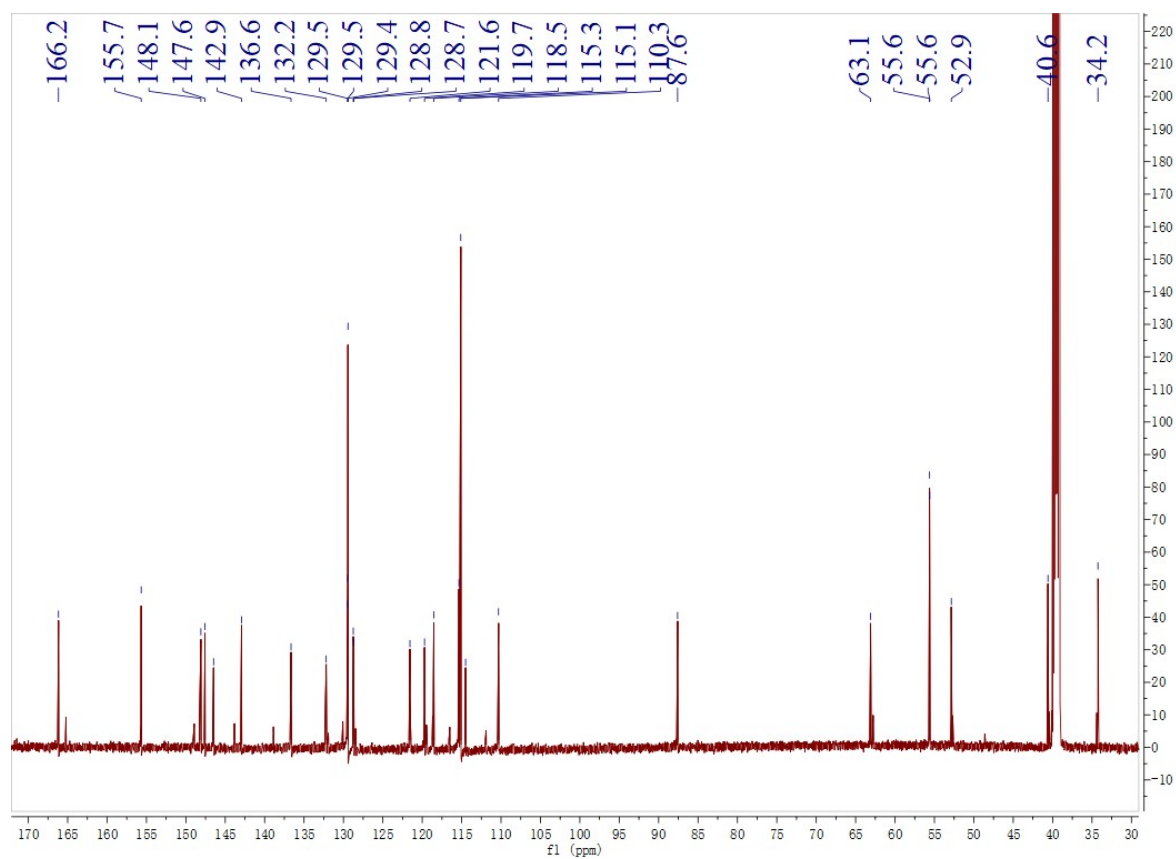


Fig. S23. The ^{13}C NMR (150 MHz, $\text{DMSO-}d_6$) spectrum of compounds **4a/4b**

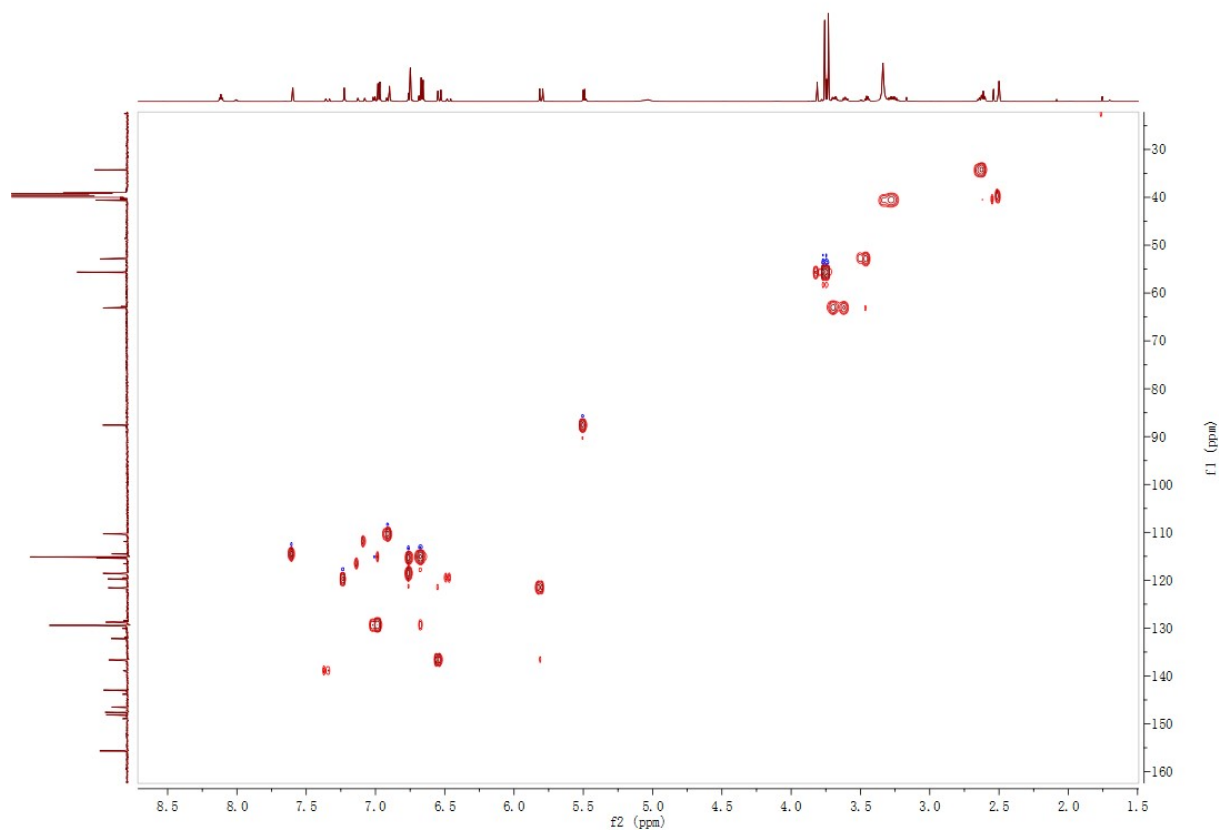


Fig. S24. The HSQC (600 MHz, $\text{DMSO-}d_6$) spectrum of compounds **4a/4b**

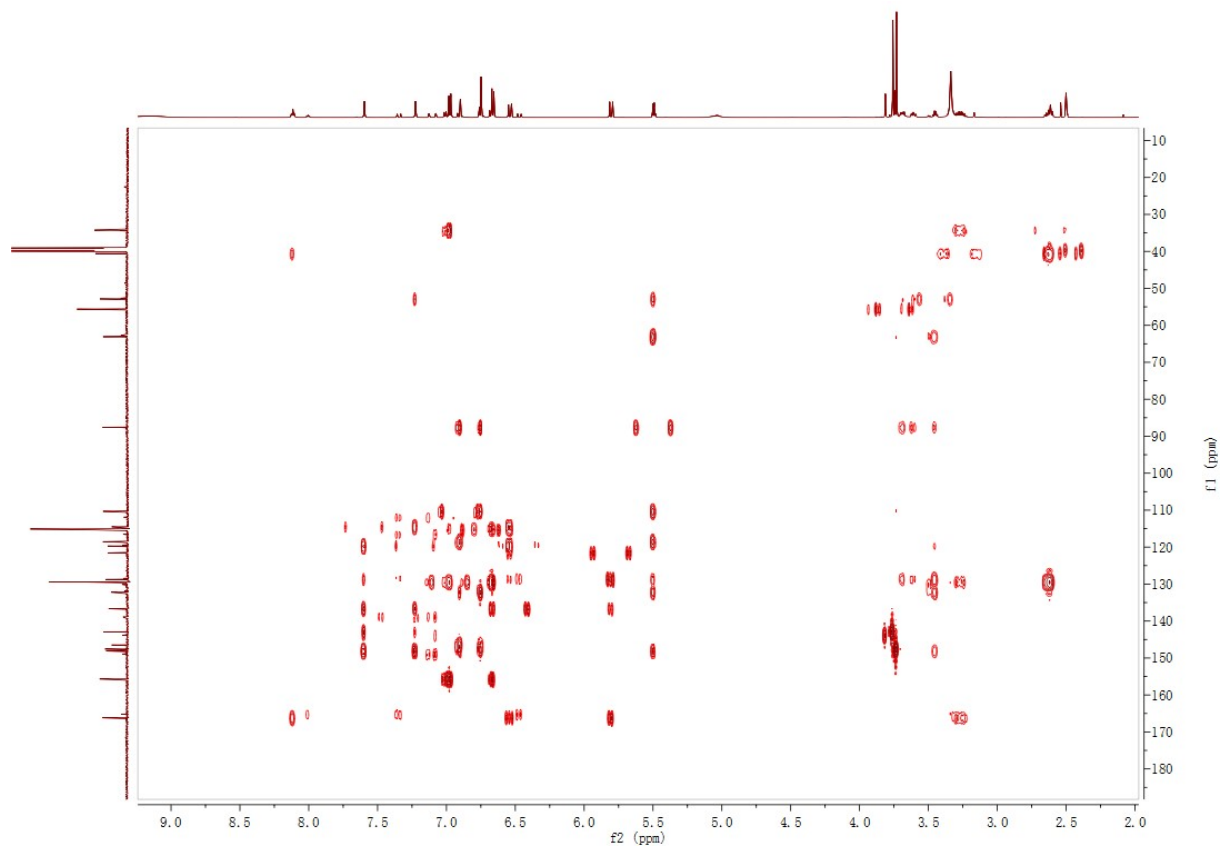


Fig. S25. The HMBC (600 MHz, DMSO- d_6) spectrum of compounds **4a/4b**

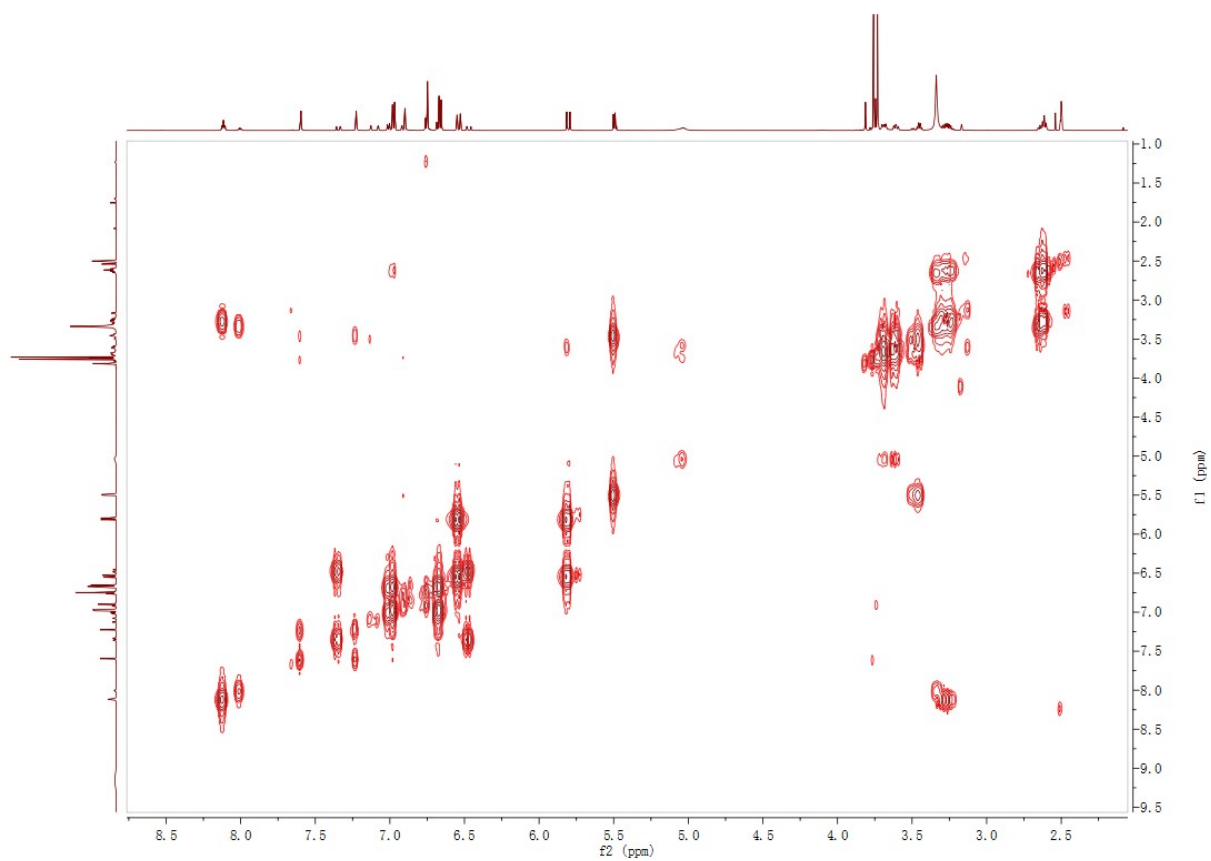


Fig. S26. The ^1H - ^1H COSY (600 MHz, DMSO- d_6) spectrum of compounds **4a/4b**

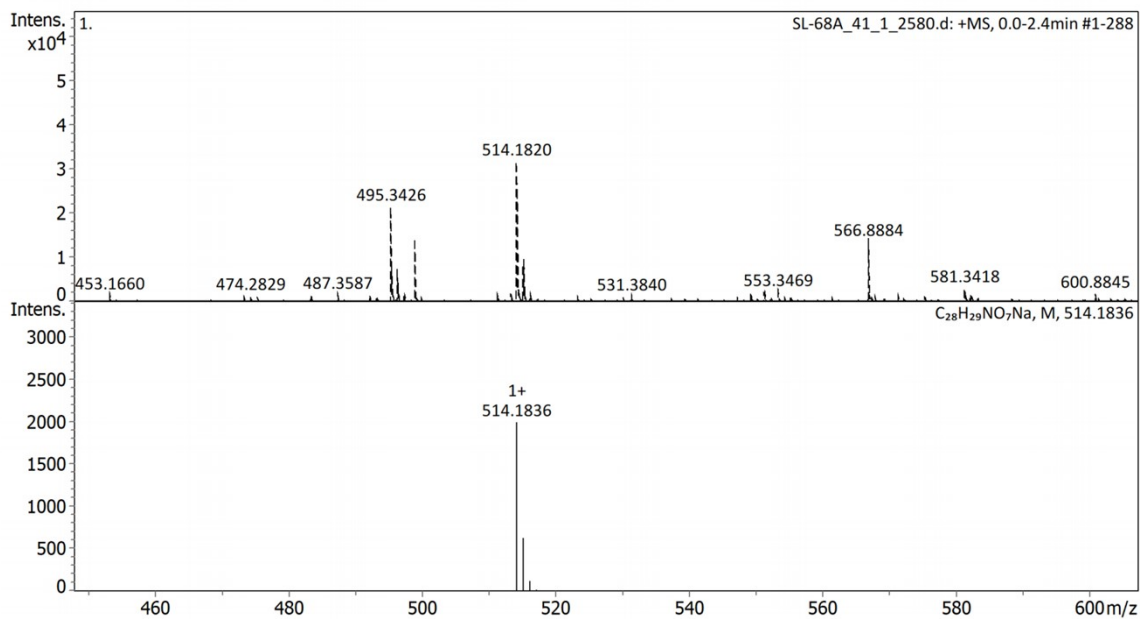


Fig. S27. The HRESIMS spectrum of compounds **4a/4b**

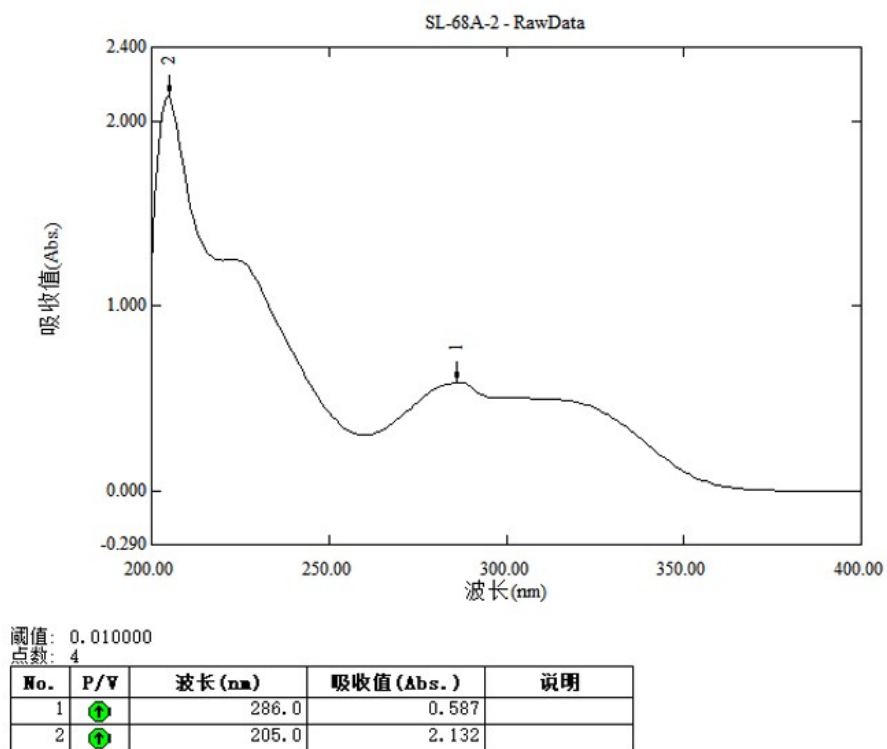


Fig. S28. The UV spectrum of compounds **4a/4b**

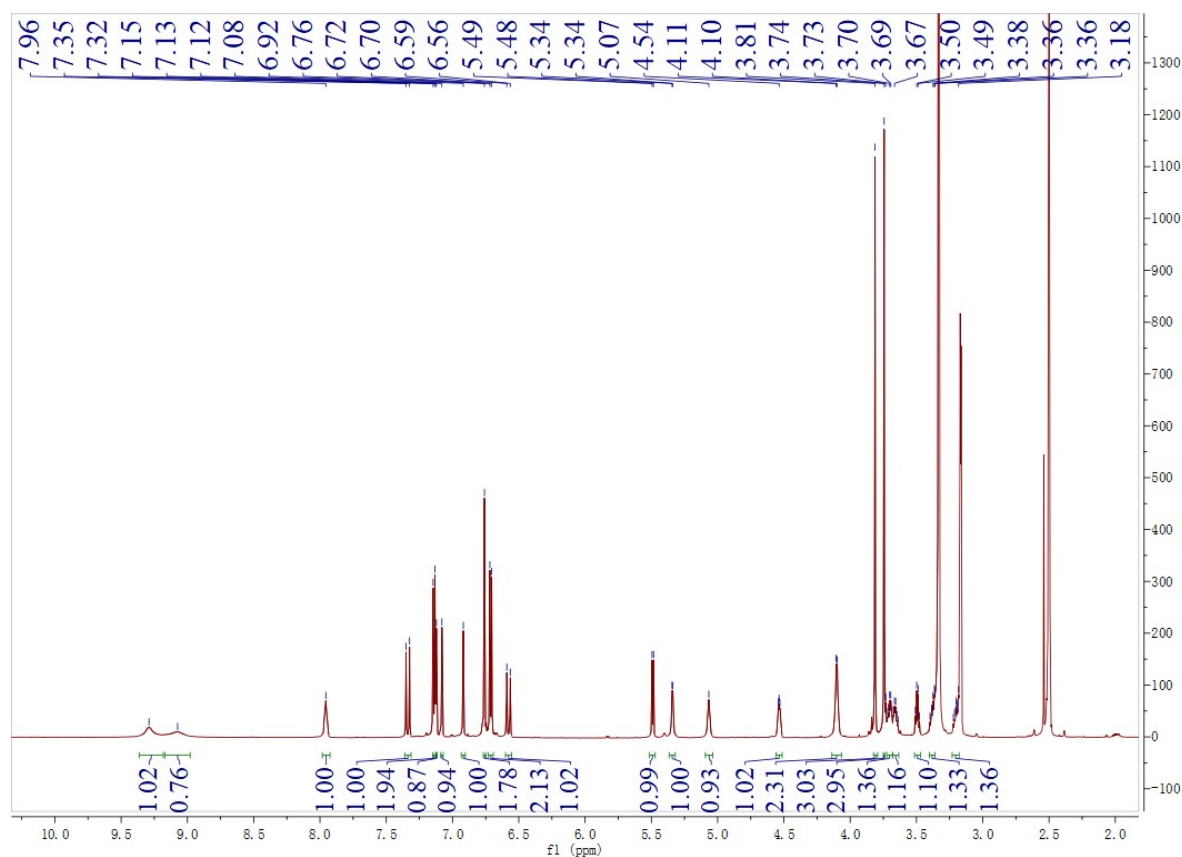


Fig. S29. The ^1H NMR (600 MHz, $\text{DMSO-}d_6$) spectrum of compounds **5a/5b**

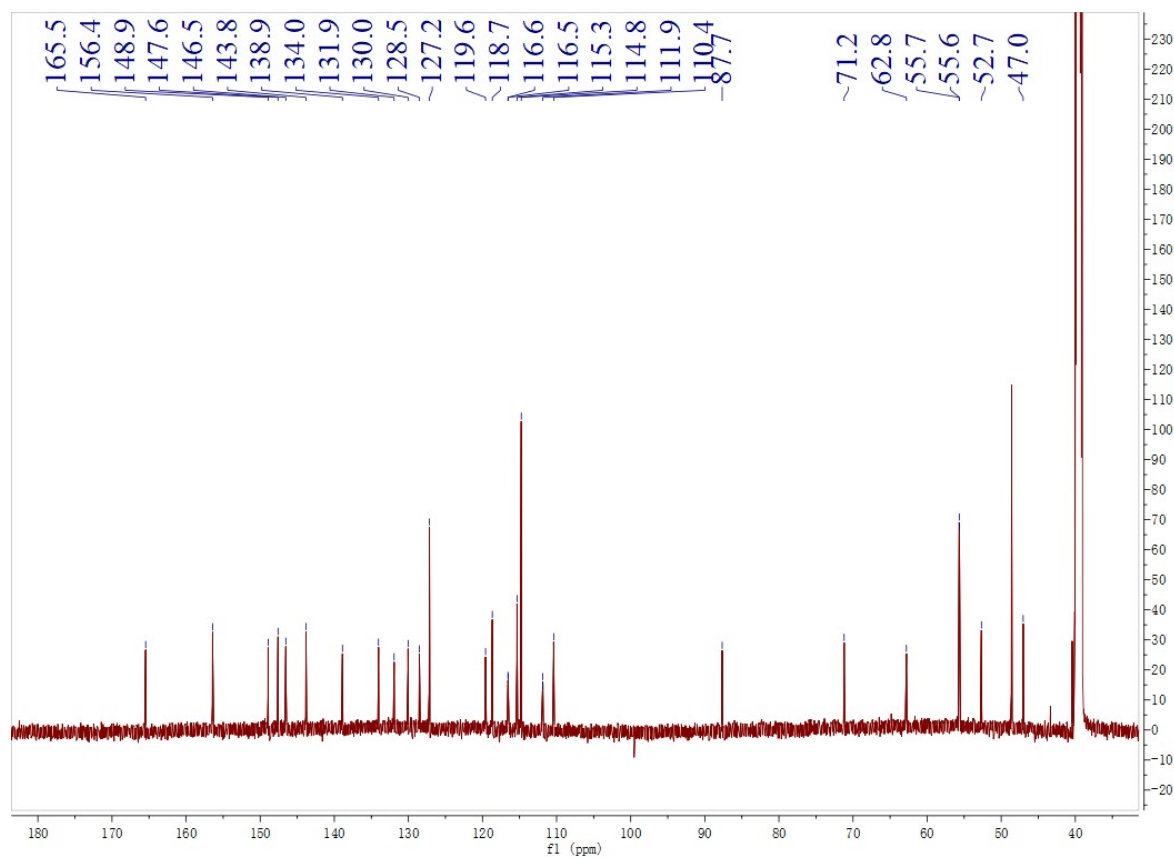


Fig. S30. The ^{13}C NMR (150 MHz, $\text{DMSO-}d_6$) spectrum of compounds **5a/5b**

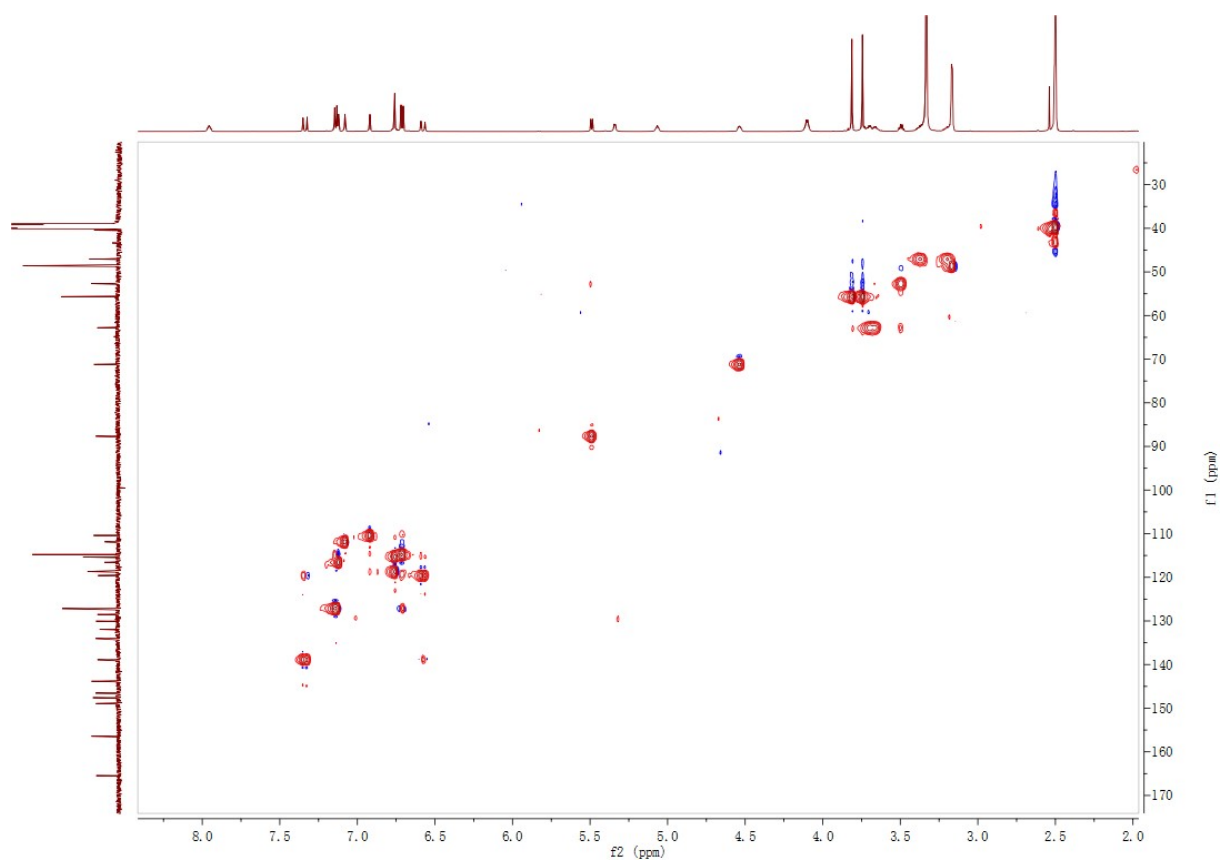


Fig. S31. The HSQC (600 MHz, DMSO-*d*₆) spectrum of compounds **5a/5b**

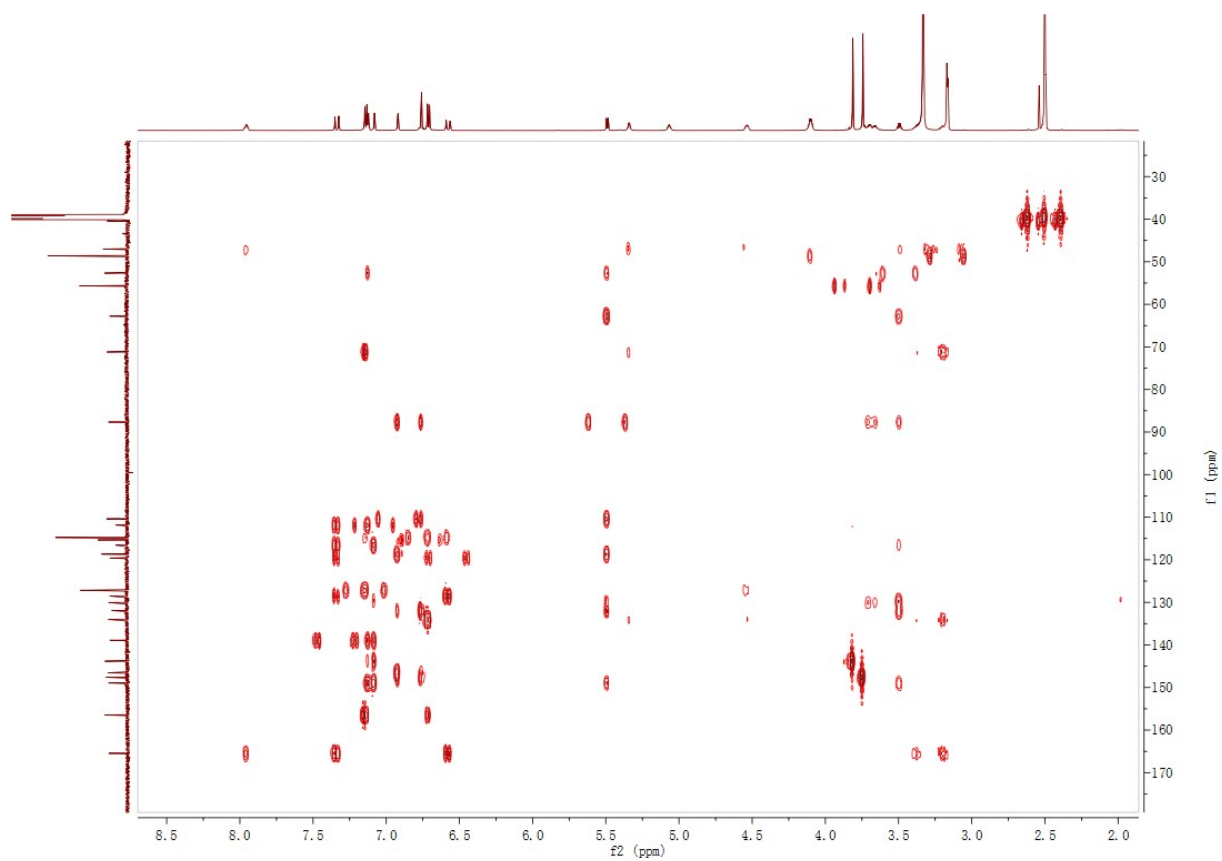


Fig. S32. The HMBC (600 MHz, DMSO-*d*₆) spectrum of compounds **5a/5b**

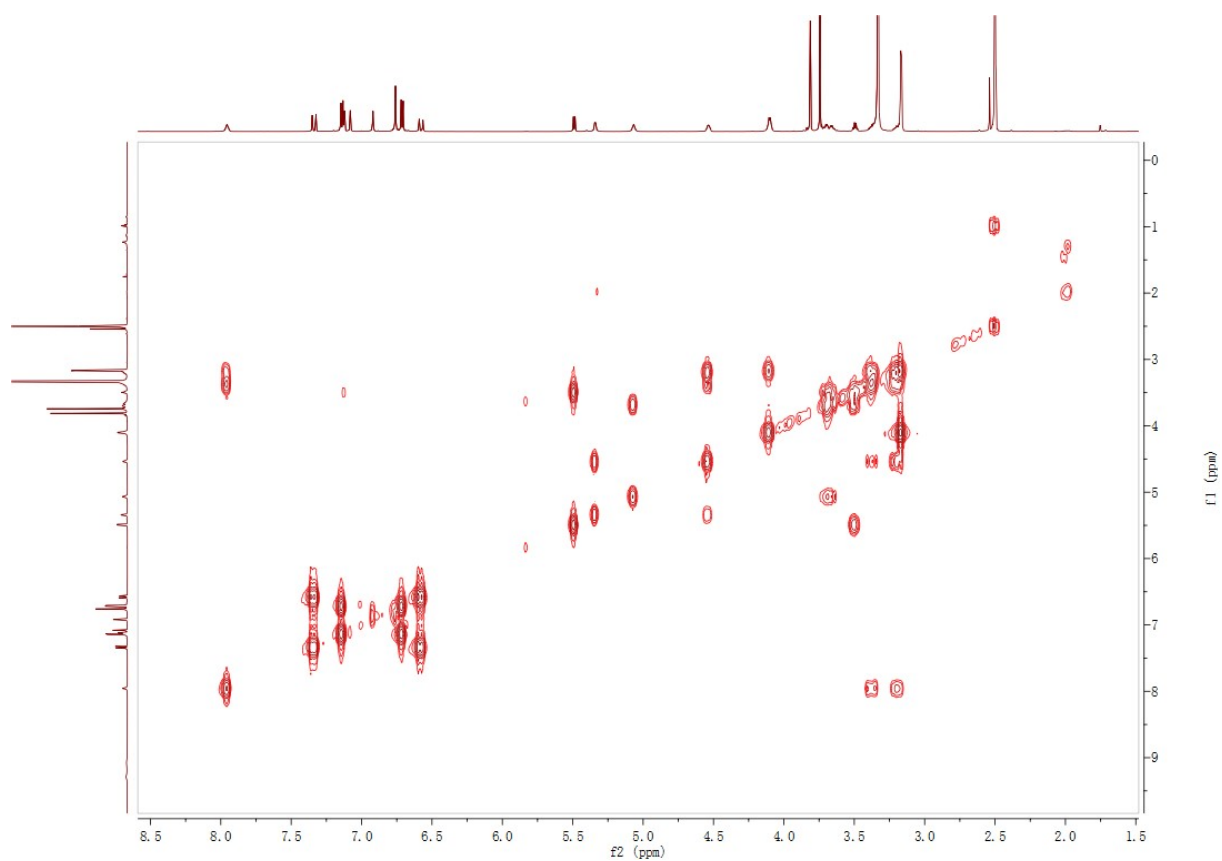


Fig. S33. The ^1H - ^1H COSY (600 MHz, $\text{DMSO-}d_6$) spectrum of compounds **5a/5b**

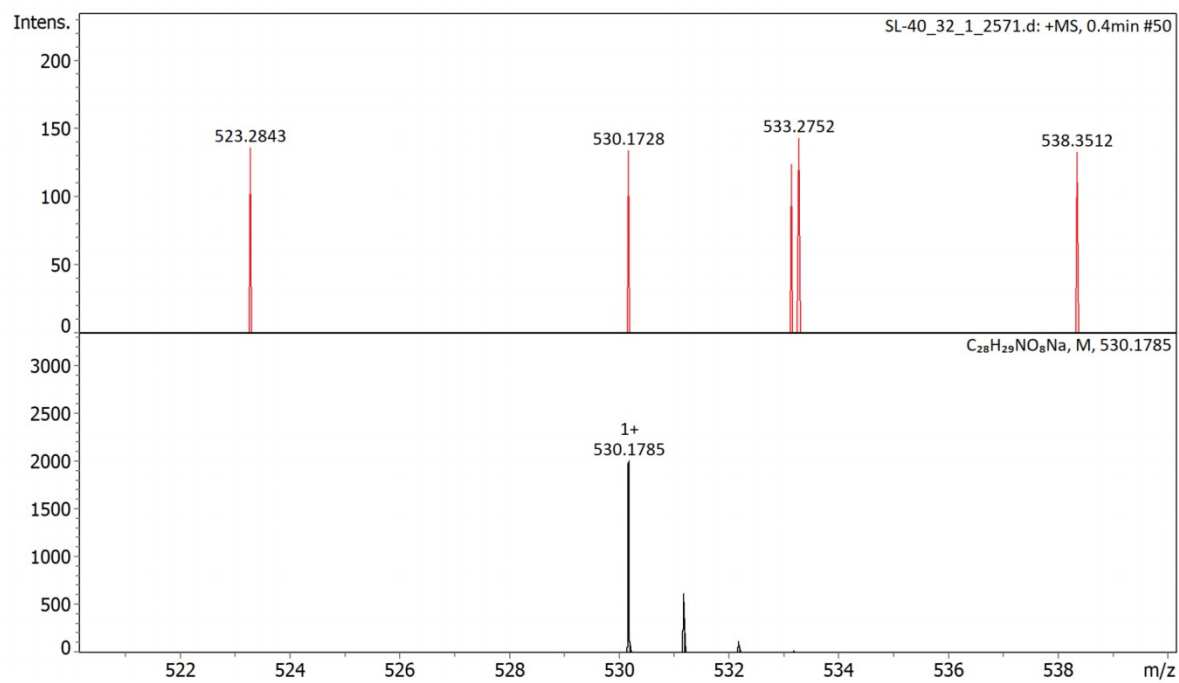
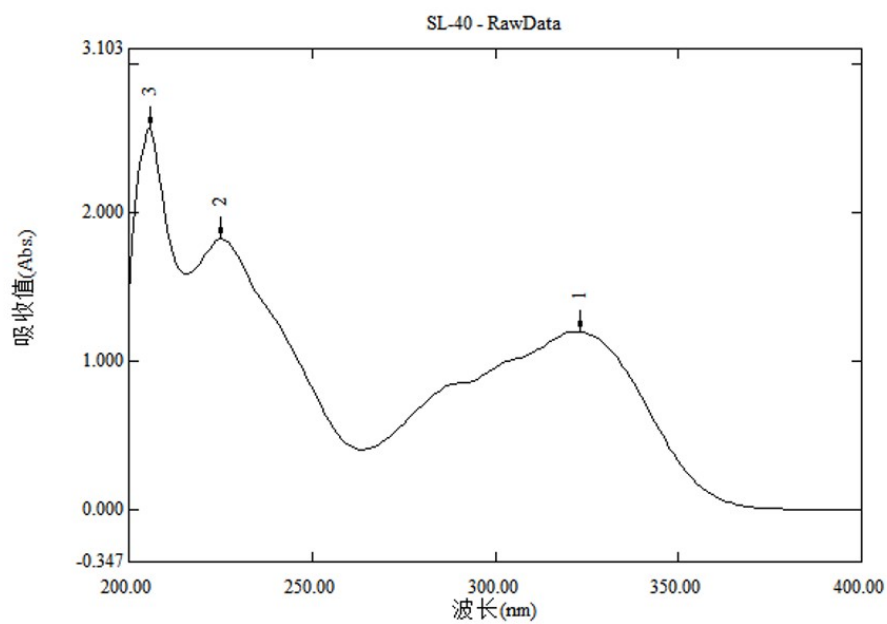


Fig. S34. The HRESIMS spectrum of compounds **5a/5b**



阈值: 0.010000
点数: 4

No.	P/V	波长 (nm)	吸收值 (Abs.)	说明
1		323.0	1.201	
2		225.0	1.821	

Fig. S35. The UV spectrum of compounds **5a/5b**

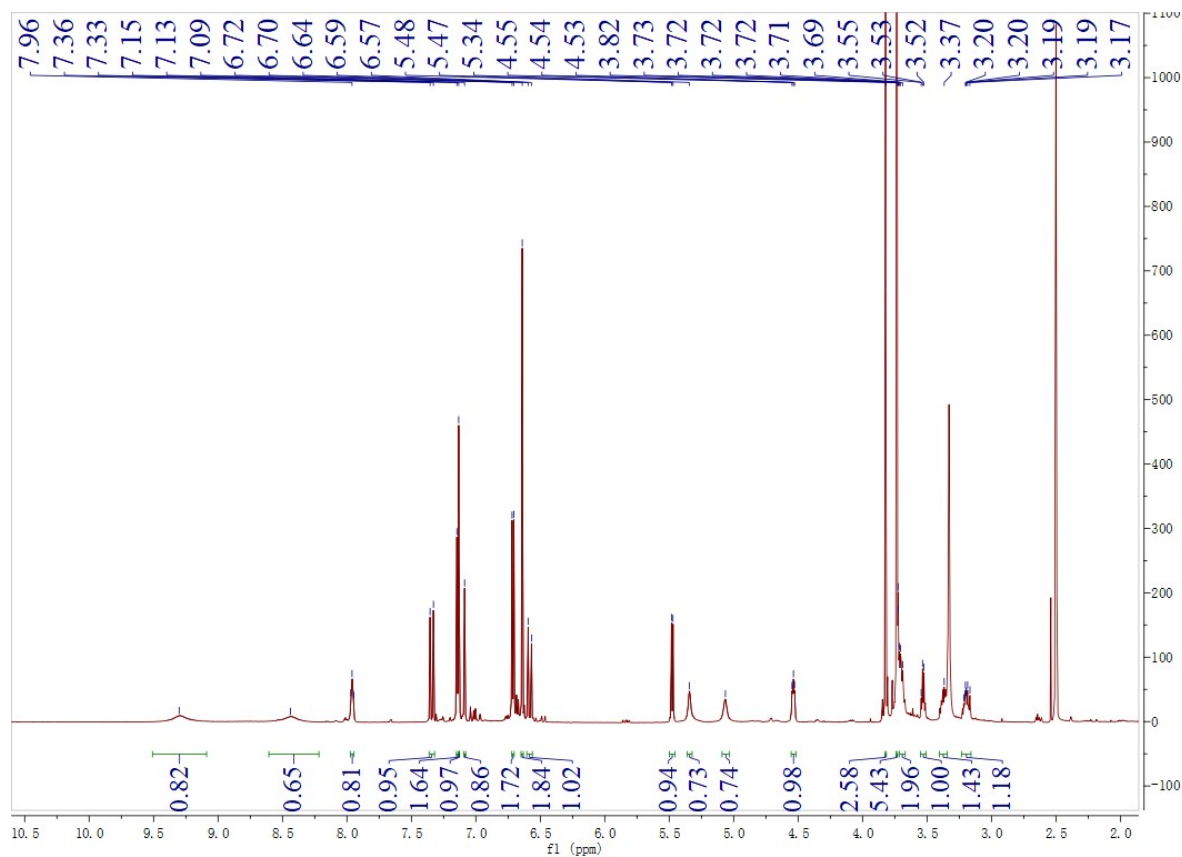


Fig. S36. The ^1H NMR (600 MHz, $\text{DMSO}-d_6$) spectrum of compounds **6a/6b**

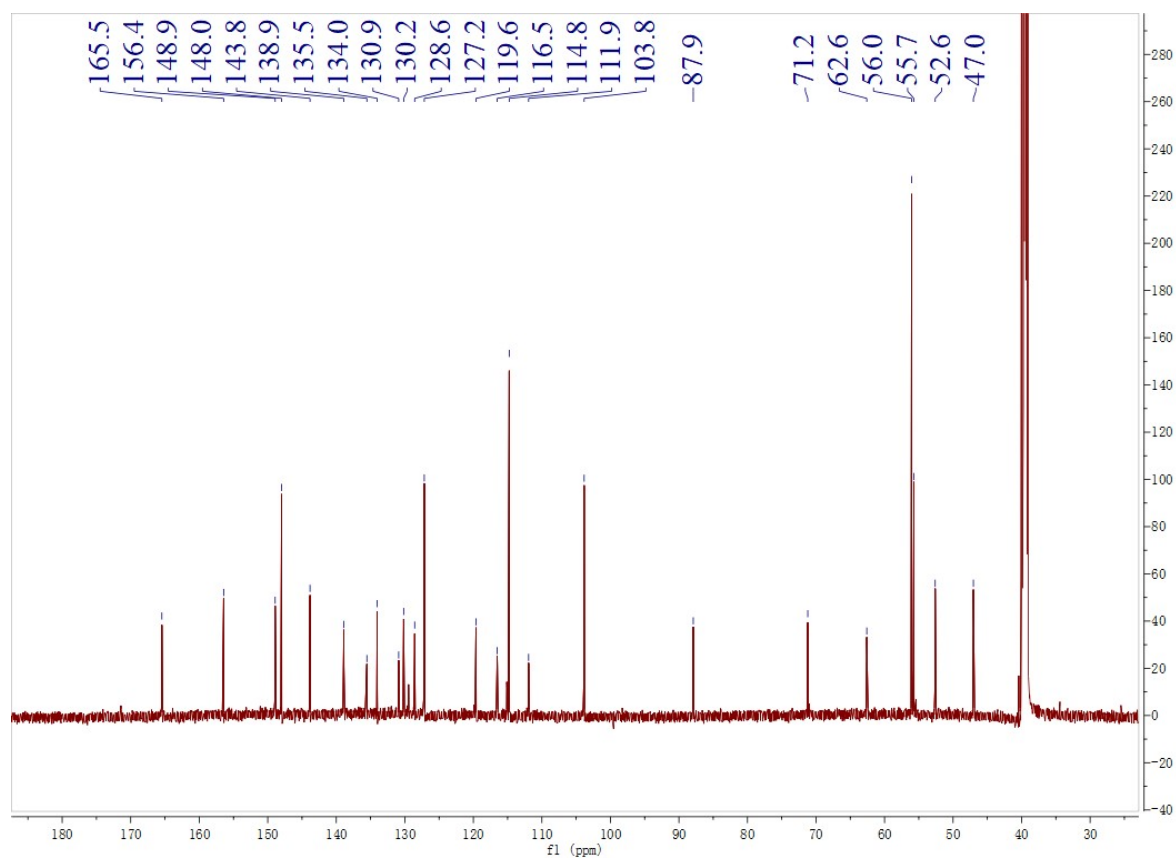


Fig. S37. The ^{13}C NMR (150 MHz, $\text{DMSO-}d_6$) spectrum of compounds **6a/6b**

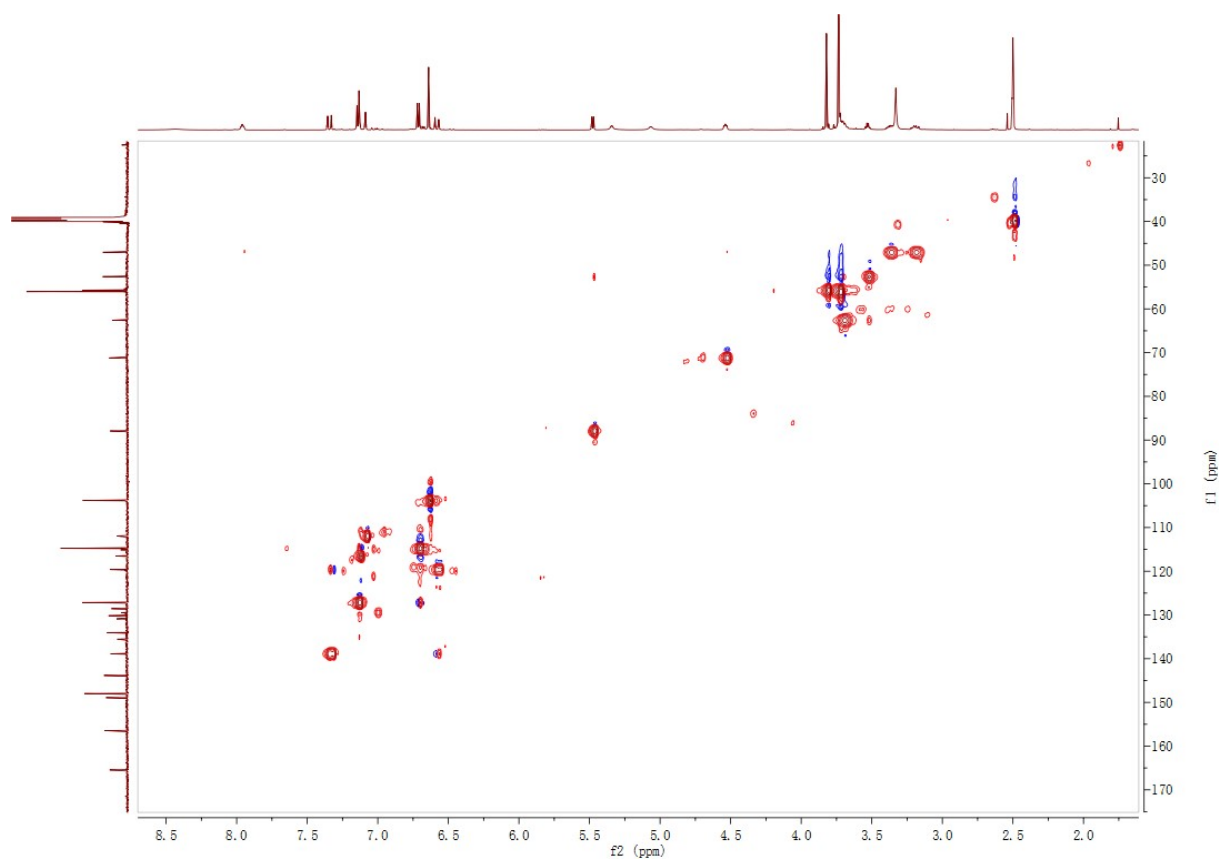


Fig. S38. The HSQC (600 MHz, $\text{DMSO-}d_6$) spectrum of compounds **6a/6b**

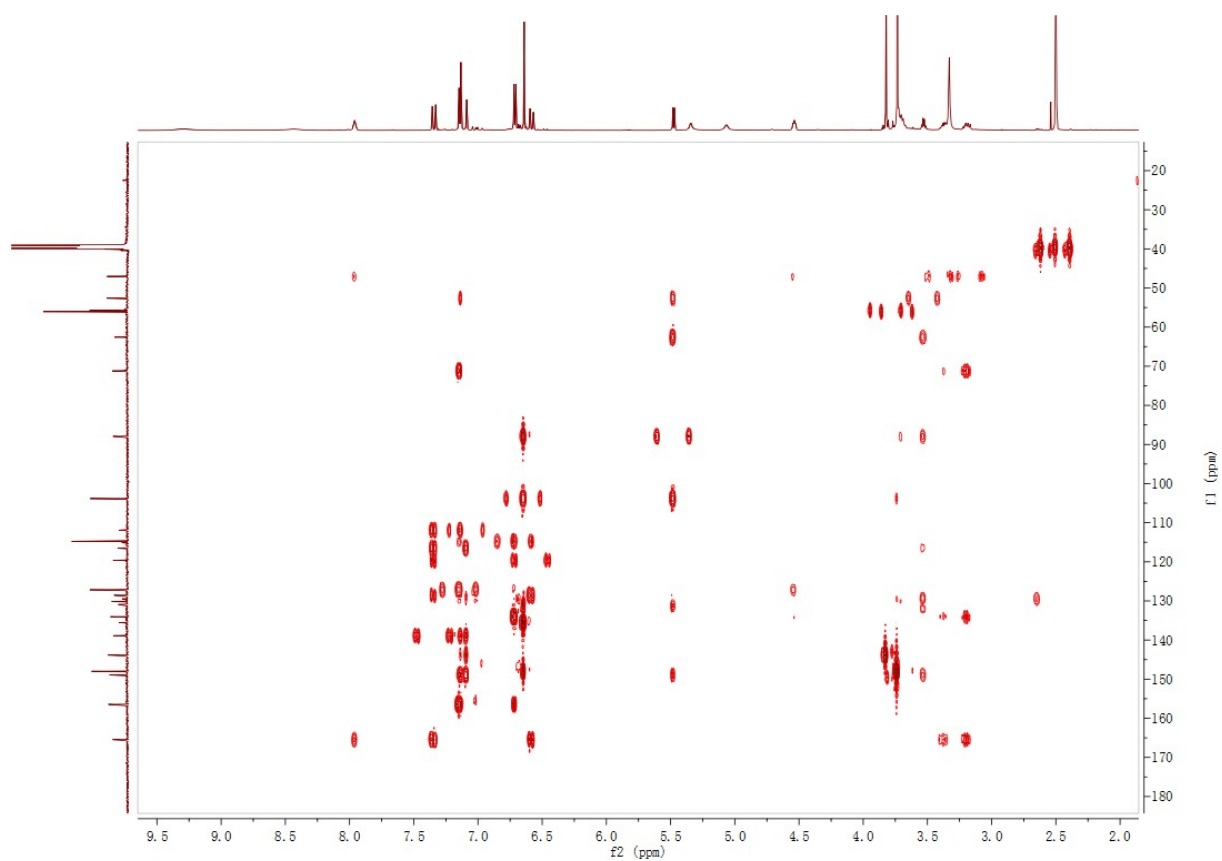


Fig. S39. The HMBC (600 MHz, $\text{DMSO-}d_6$) spectrum of compounds **6a/6b**

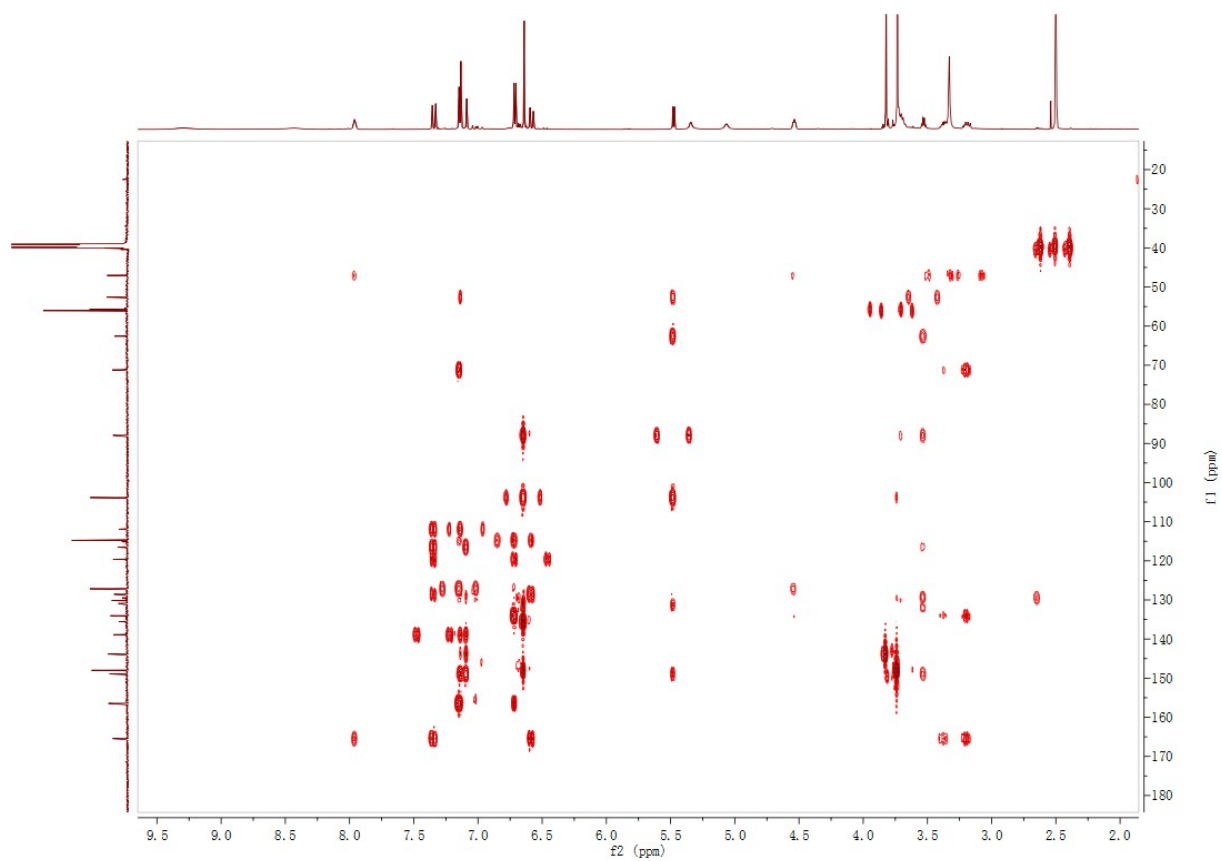


Fig. S40. The ^1H - ^1H COSY (600 MHz, $\text{DMSO-}d_6$) spectrum of compounds **6a/6b**

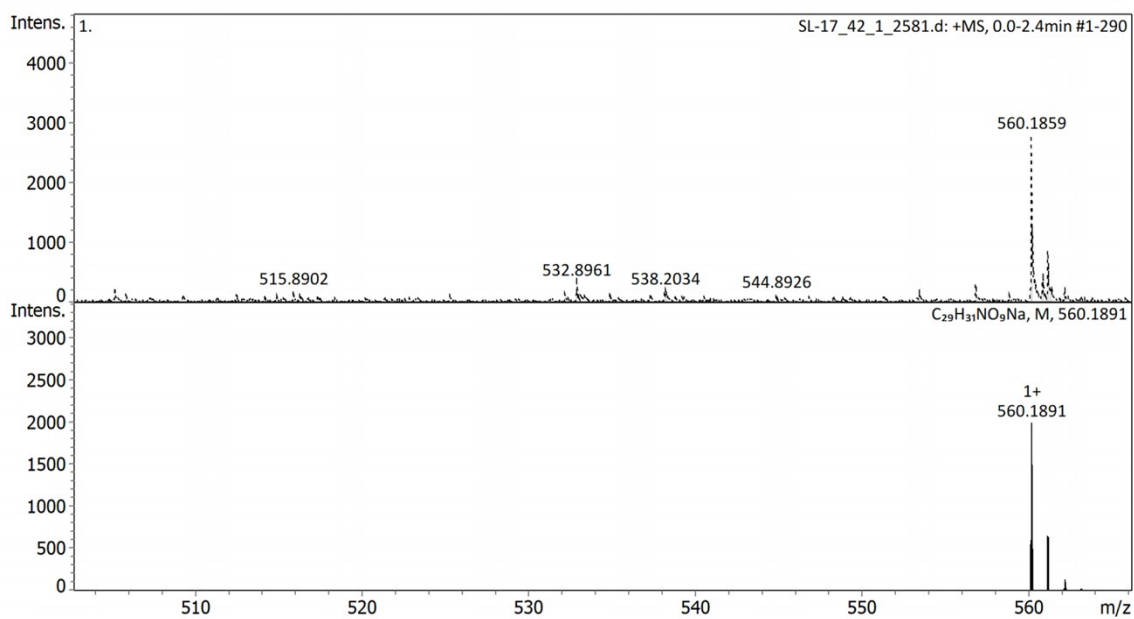


Fig. S41. The HRESIMS spectrum of compounds **6a/6b**

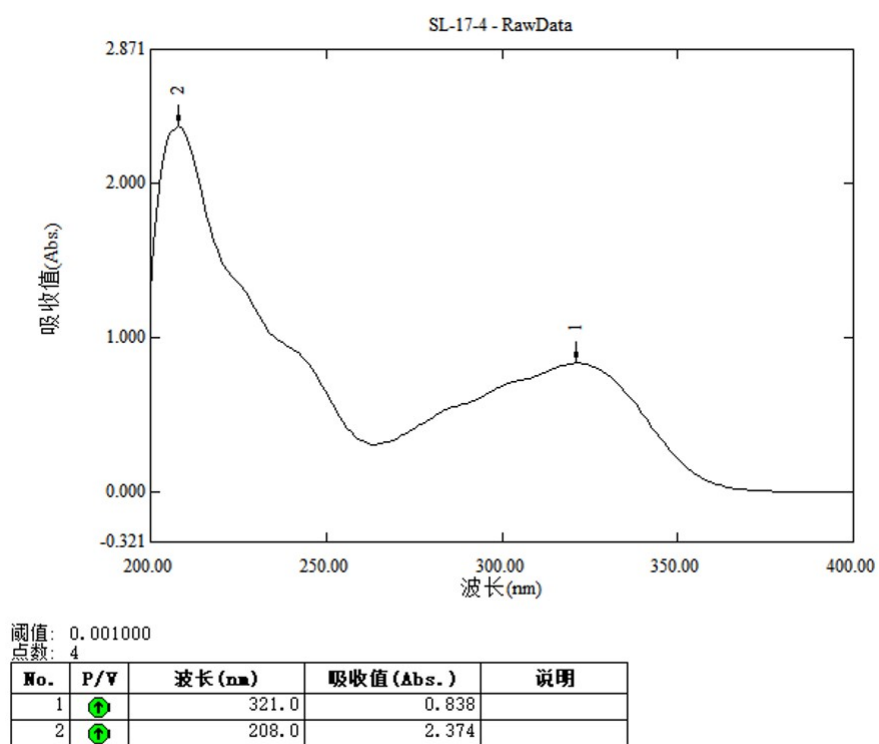


Fig. S42. The UV spectrum of compounds **6a/6b**

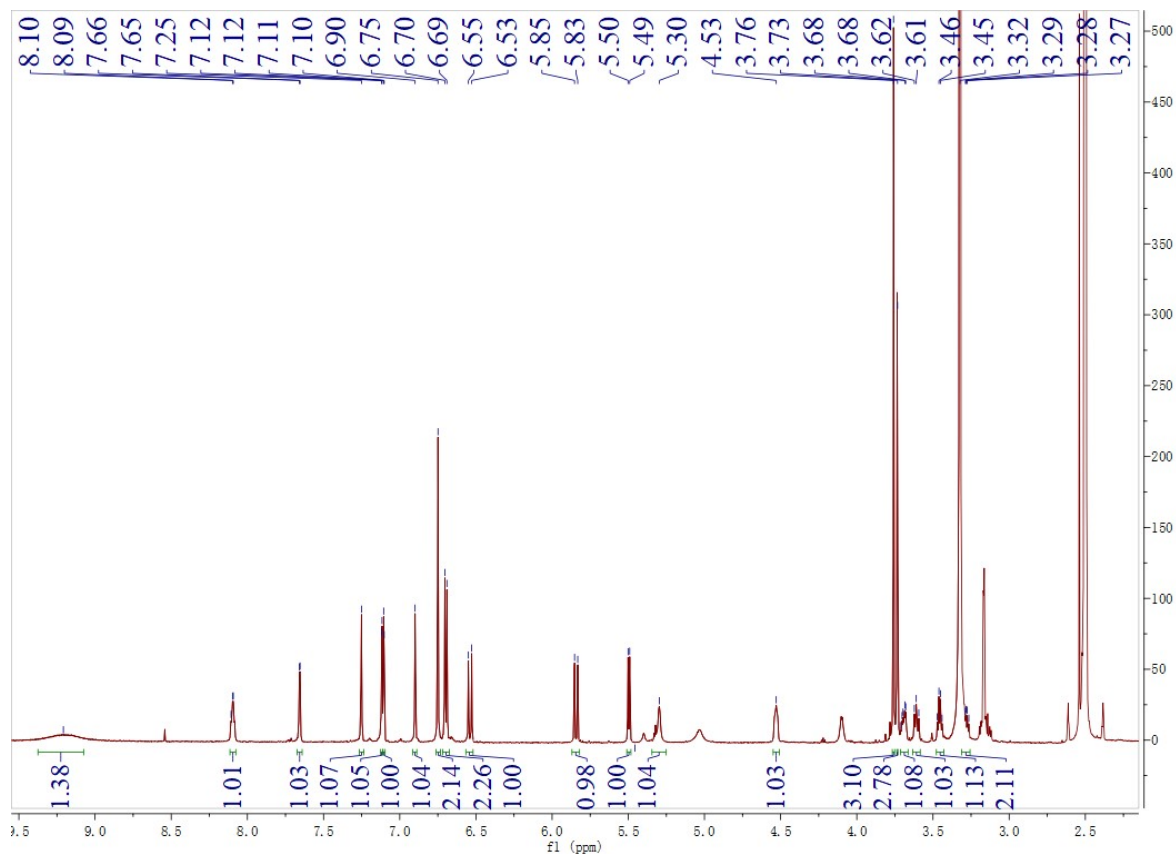


Fig. S43. The ^1H NMR (600 MHz, $\text{DMSO-}d_6$) spectrum of compound **7**

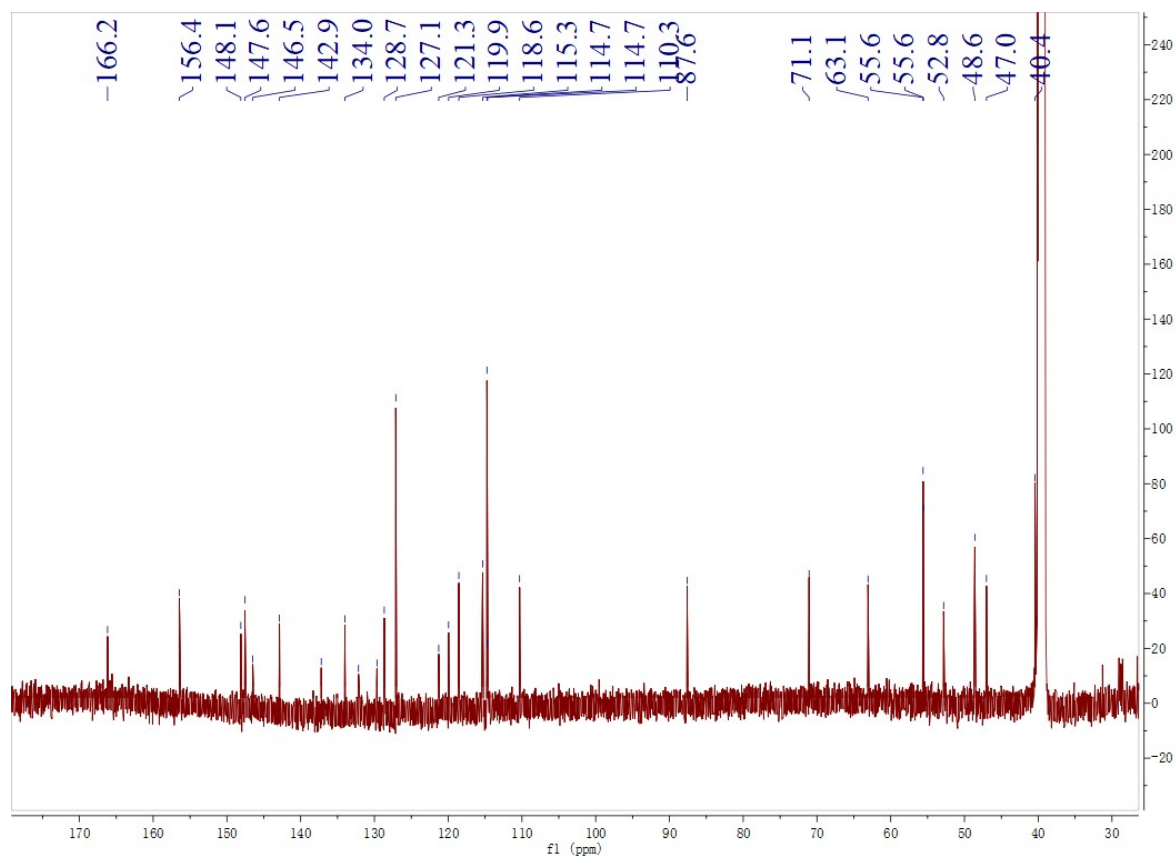


Fig. S44. The ^{13}C NMR (150 MHz, $\text{DMSO-}d_6$) spectrum of compound **7**

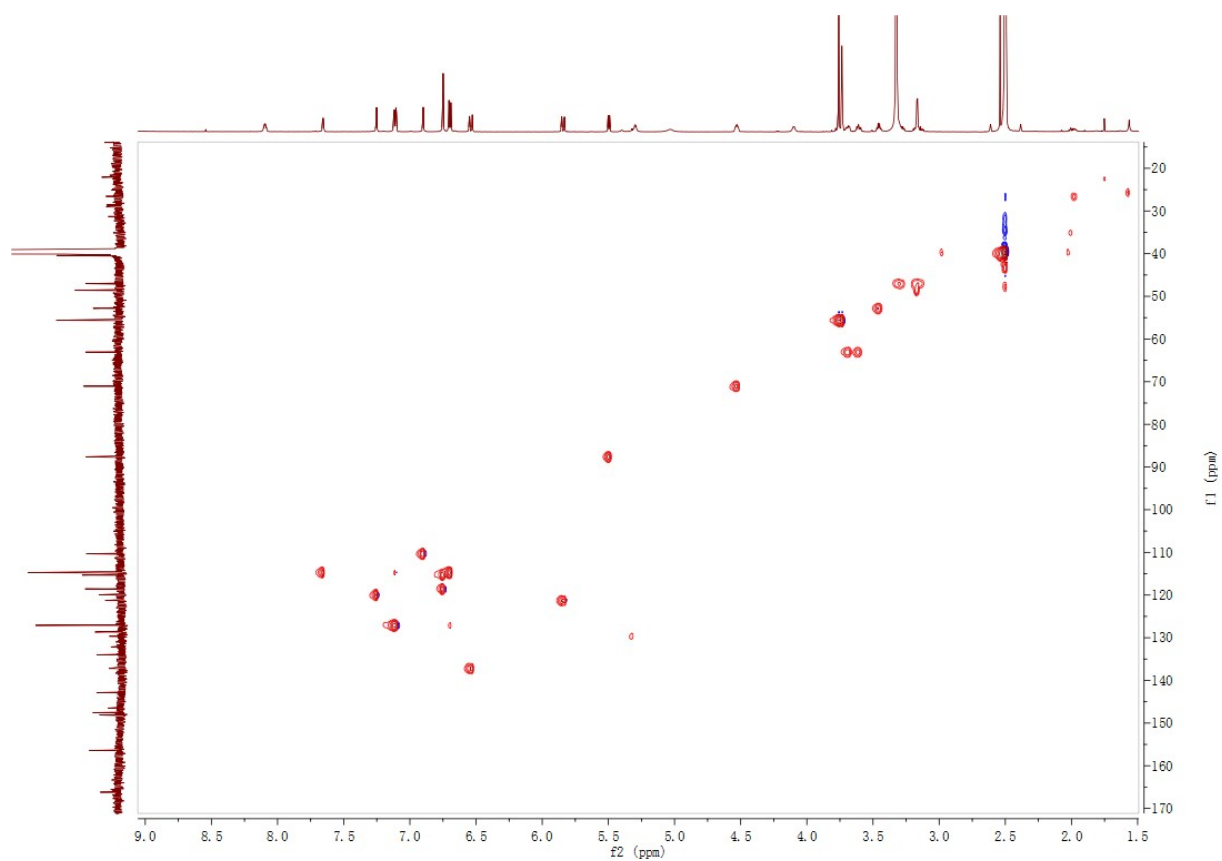


Fig. S45. The HSQC (600 MHz, DMSO-*d*₆) spectrum of compound **7**

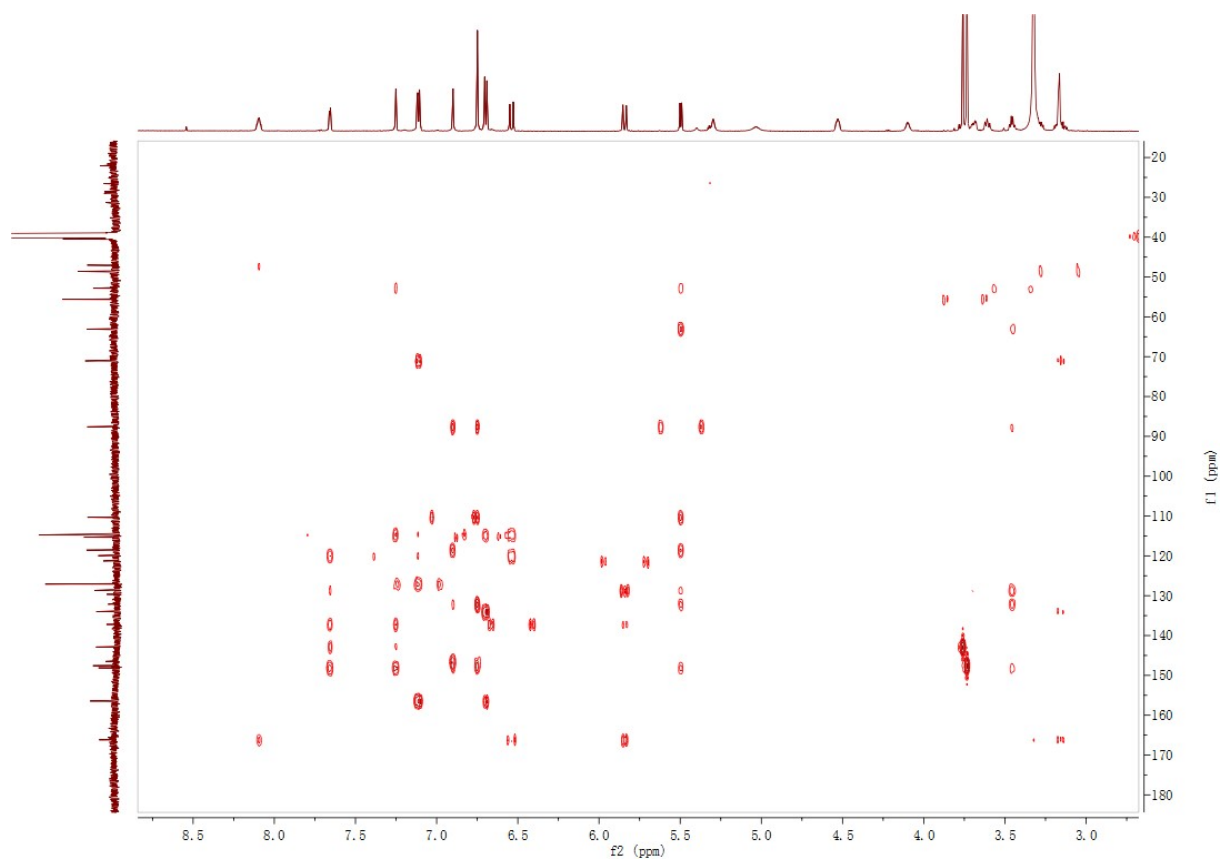


Fig. S46. The HMBC (600 MHz, DMSO-*d*₆) spectrum of compound **7**

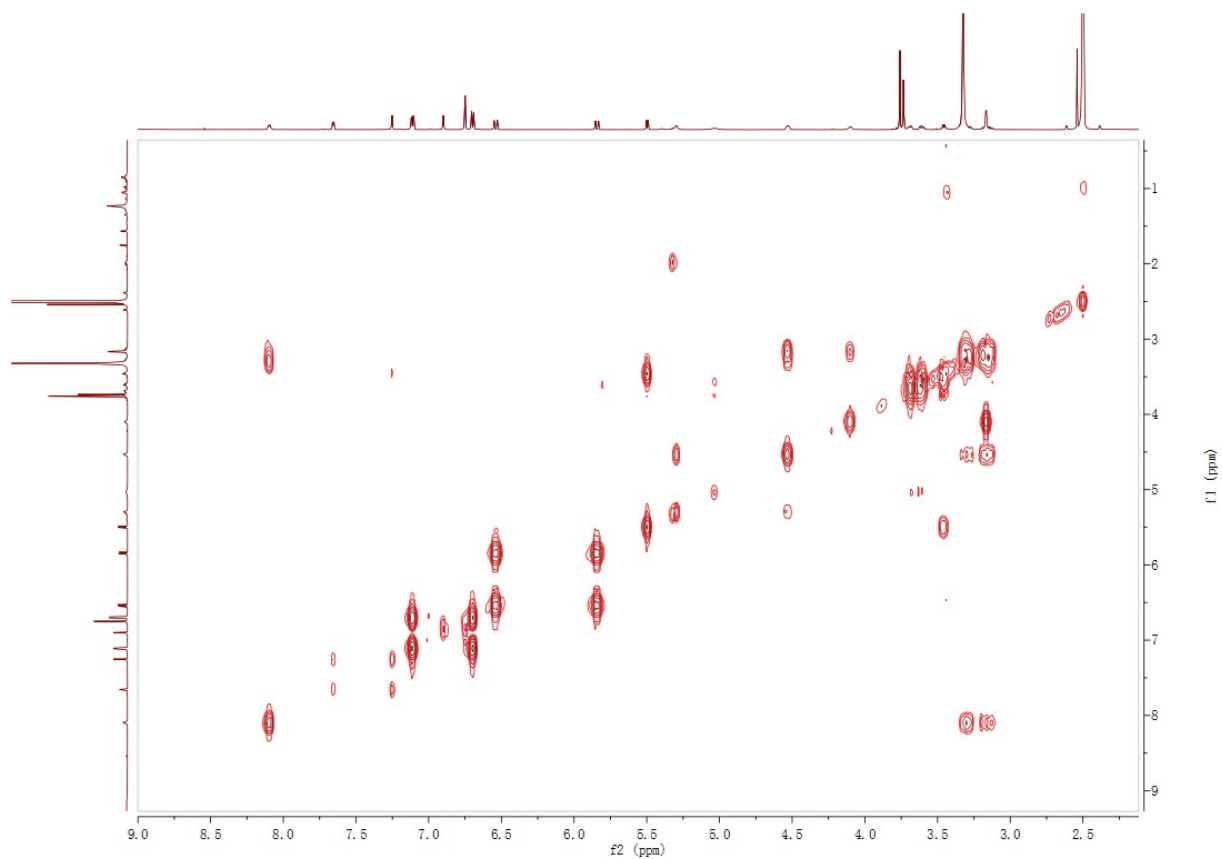


Fig. S47. The ^1H - ^1H COSY (600 MHz, $\text{DMSO-}d_6$) spectrum of compound **7**

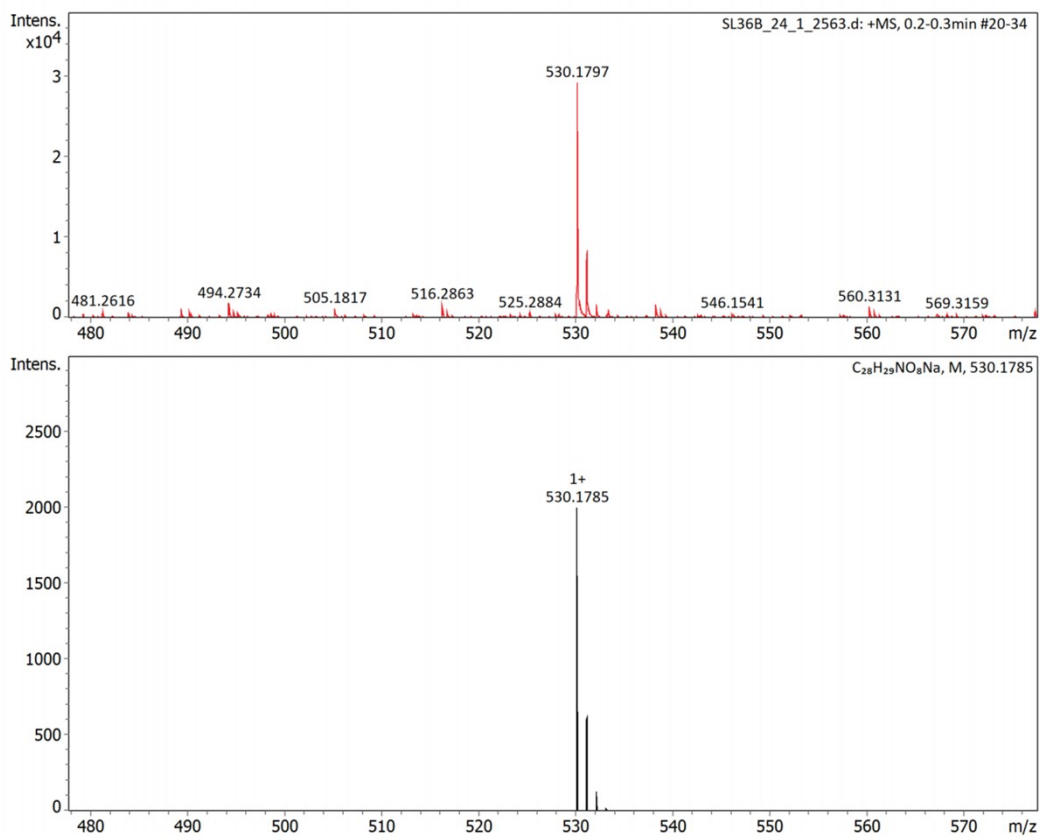


Fig. S48. The HRESIMS spectrum of compound **7**

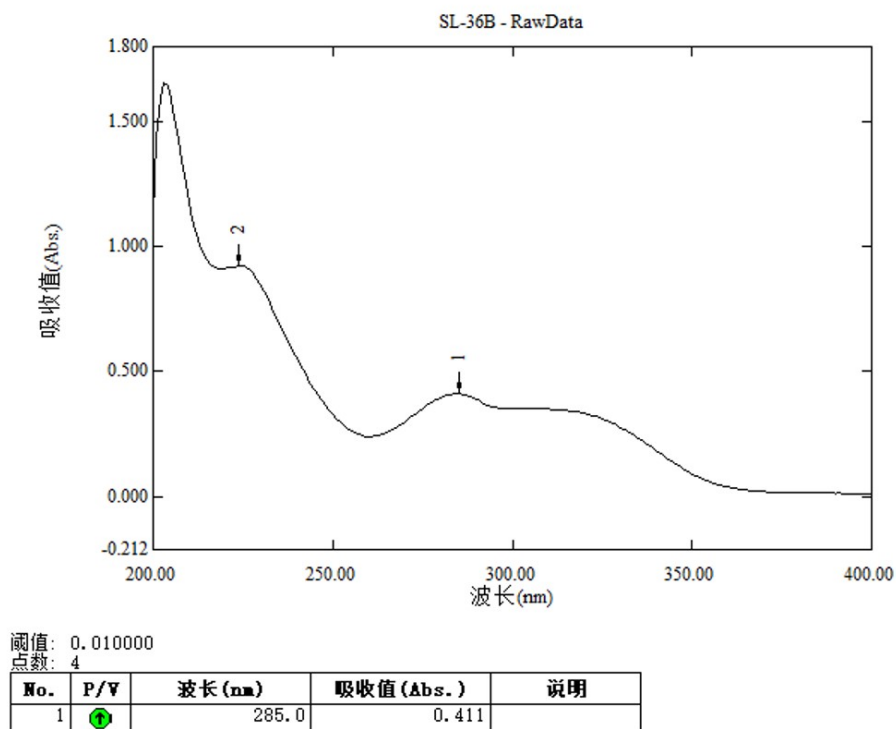


Fig. S49. The UV spectrum of compound 7

Table S1. Inhibitory activities of AChE by compounds from *S. lyratum*

Compound	IC ₅₀ for AChE (μmol/L) ^a
2a	3.55±1.72
6a	8.62±4.98
Donepezil	3.12±0.006

^aResults represent means±SD ($n=3$) and all values are significantly different ($P<0.05$).