

Supplementary materials

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Table S1 R_f value and UV lambda Max of Compounds 4-21

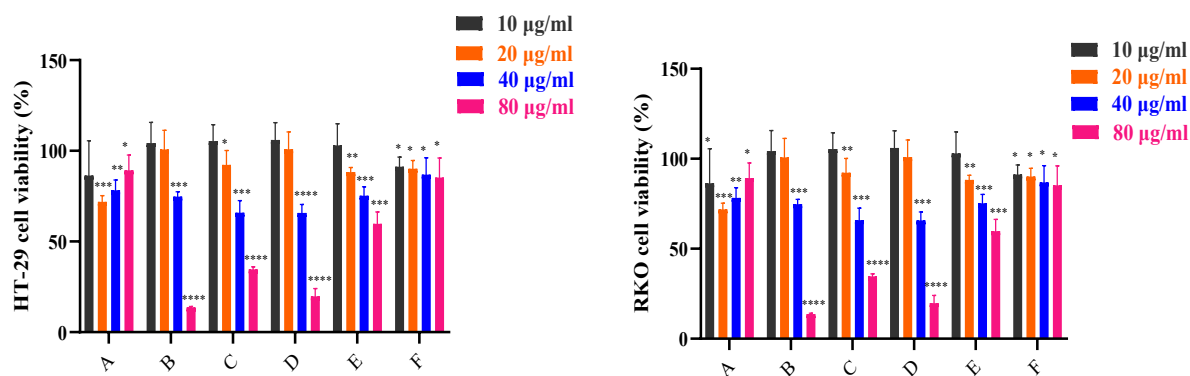


Figure S1: The effects of the extracts of *Glycyrrhiza glabra* on RKO and HT-29 cells treated with 10, 20, 40 and 80 µg/ml for 48 h; * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$, **** $P < 0.0001$, compared with corresponding control groups (A: 70% MeOH extract of *G. glabra*, B: Petroleum ether extract, C: Dichloromethane extract, D: Ethyl acetate extract, E: *n*-butanol extract, F: Water extract)

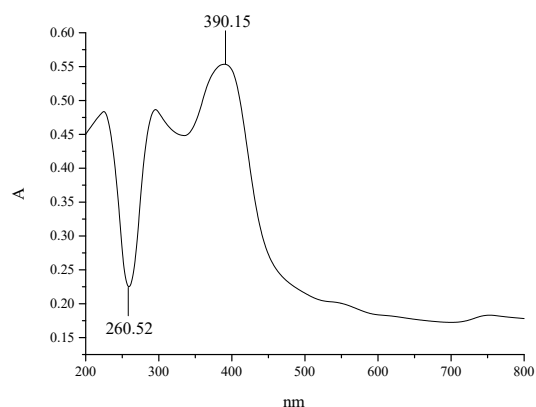


Figure S2. UV spectrum of compound 1

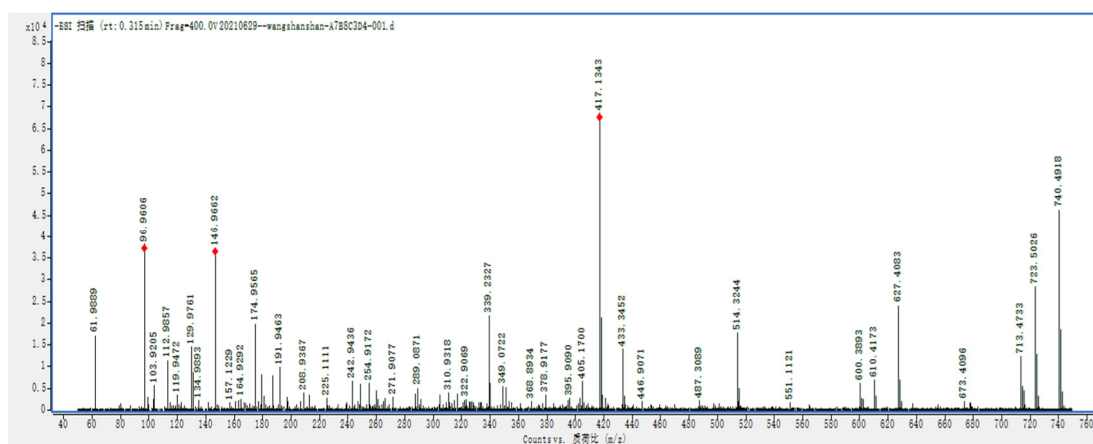
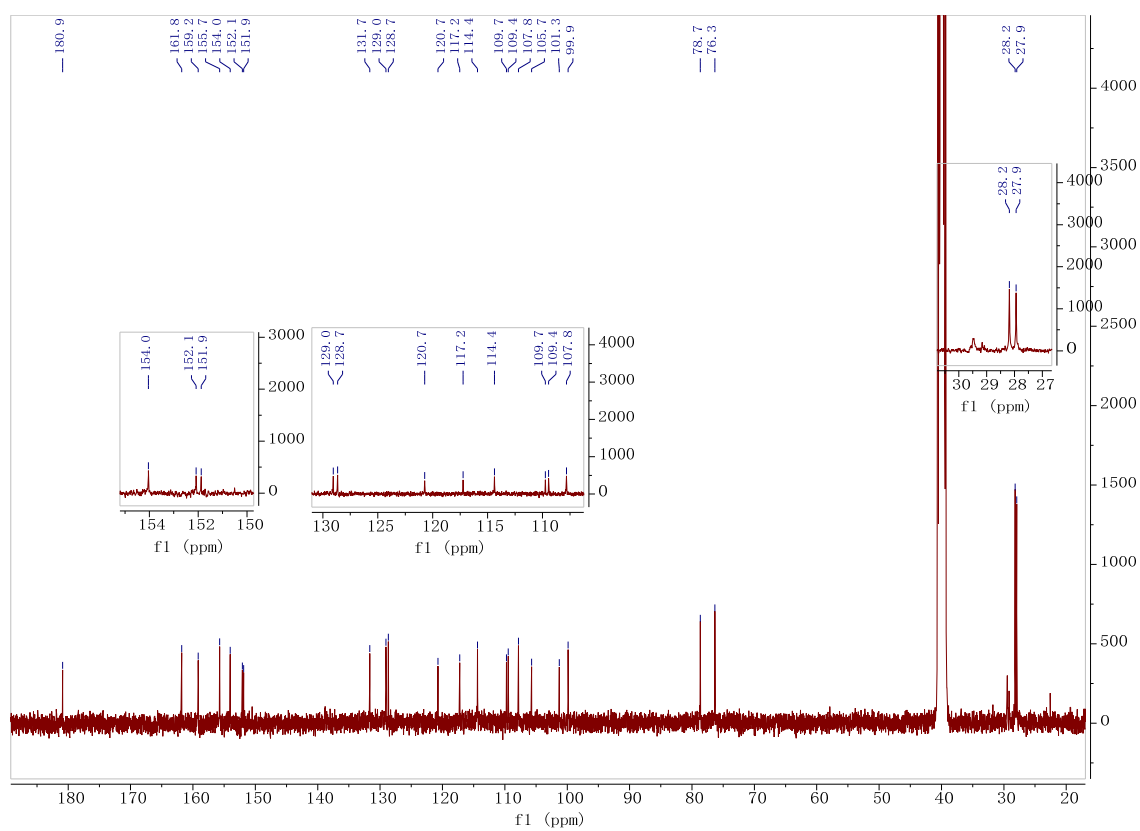
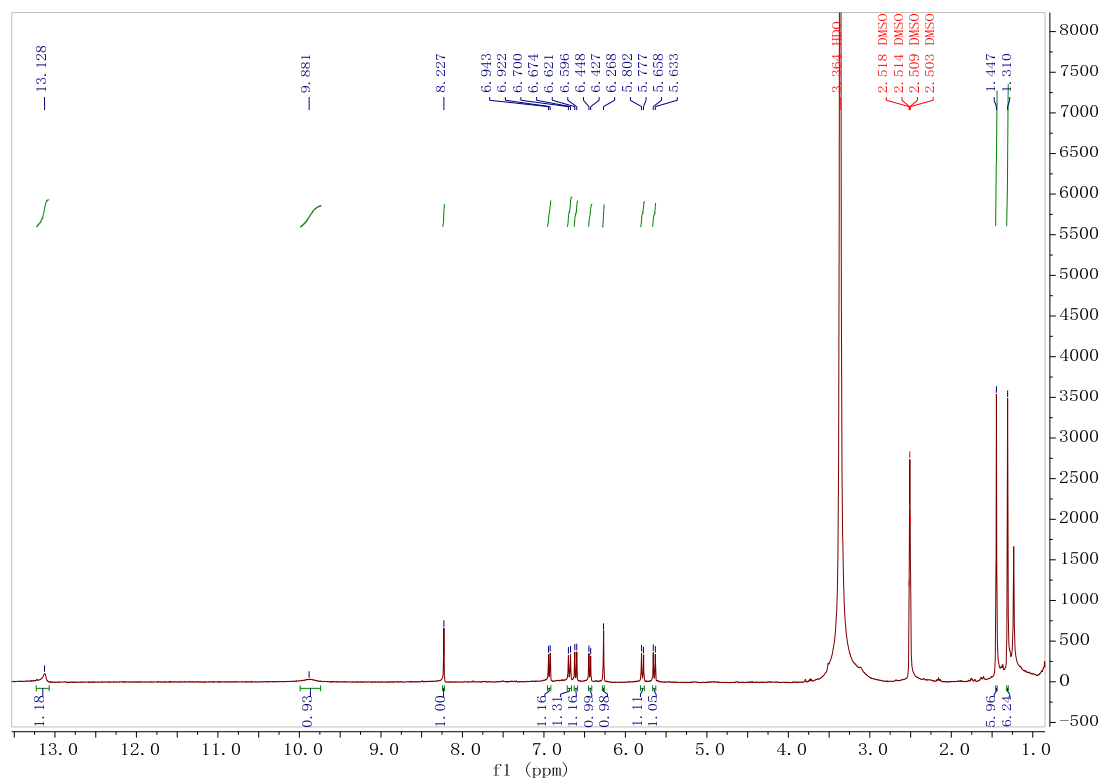


Figure S3. HR-ESI-MS spectrum of compound 1



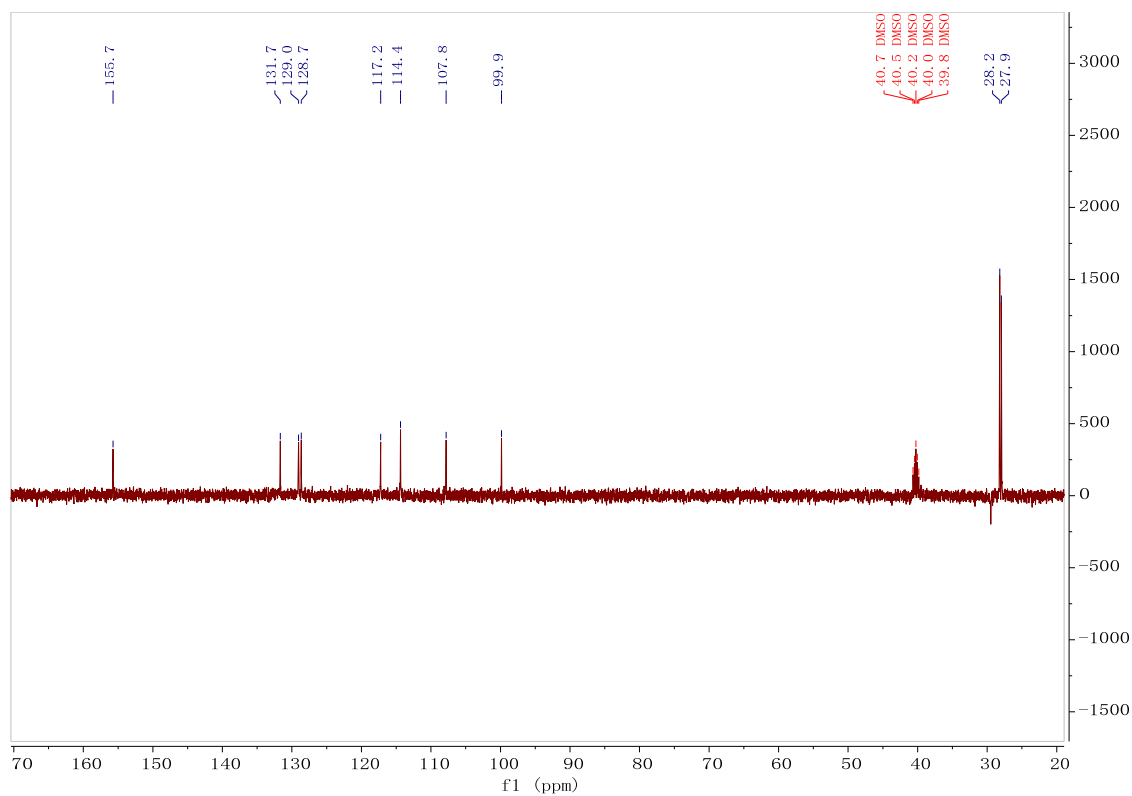


Figure S6. DEPT 135 spectrum of compound **1** in DMSO-*d*₆

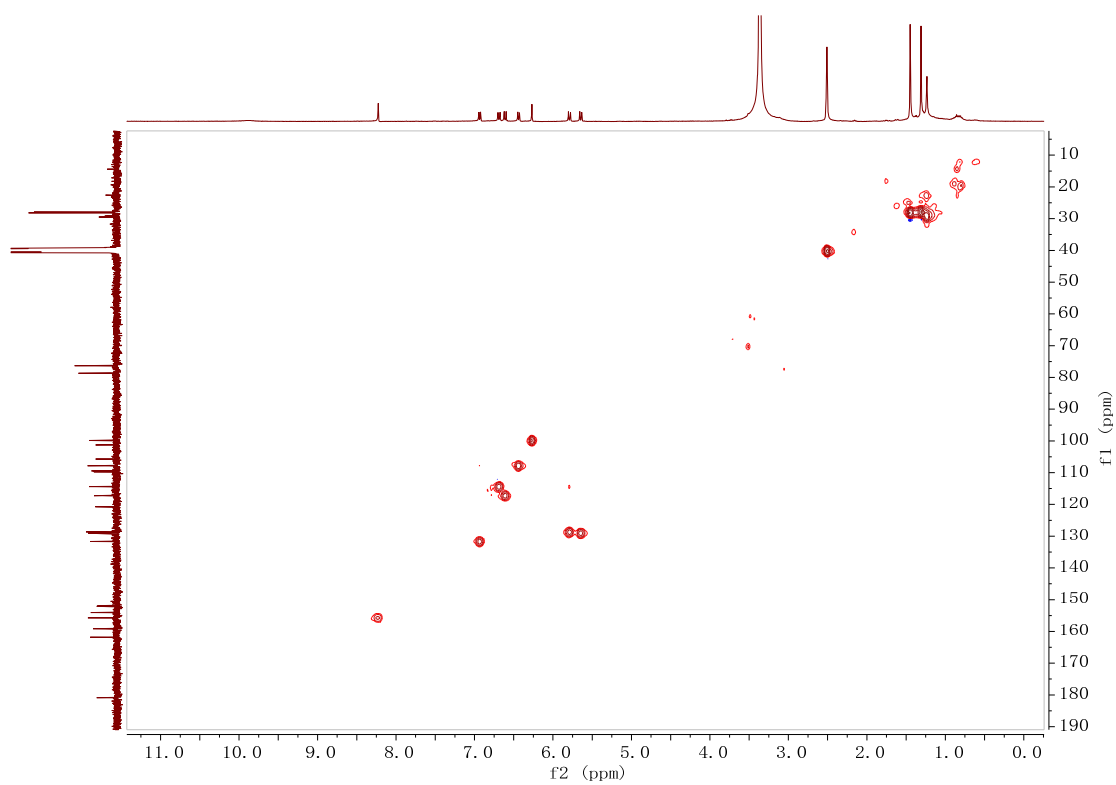


Figure S7. HSQC spectrum of compound **1** in DMSO-*d*₆

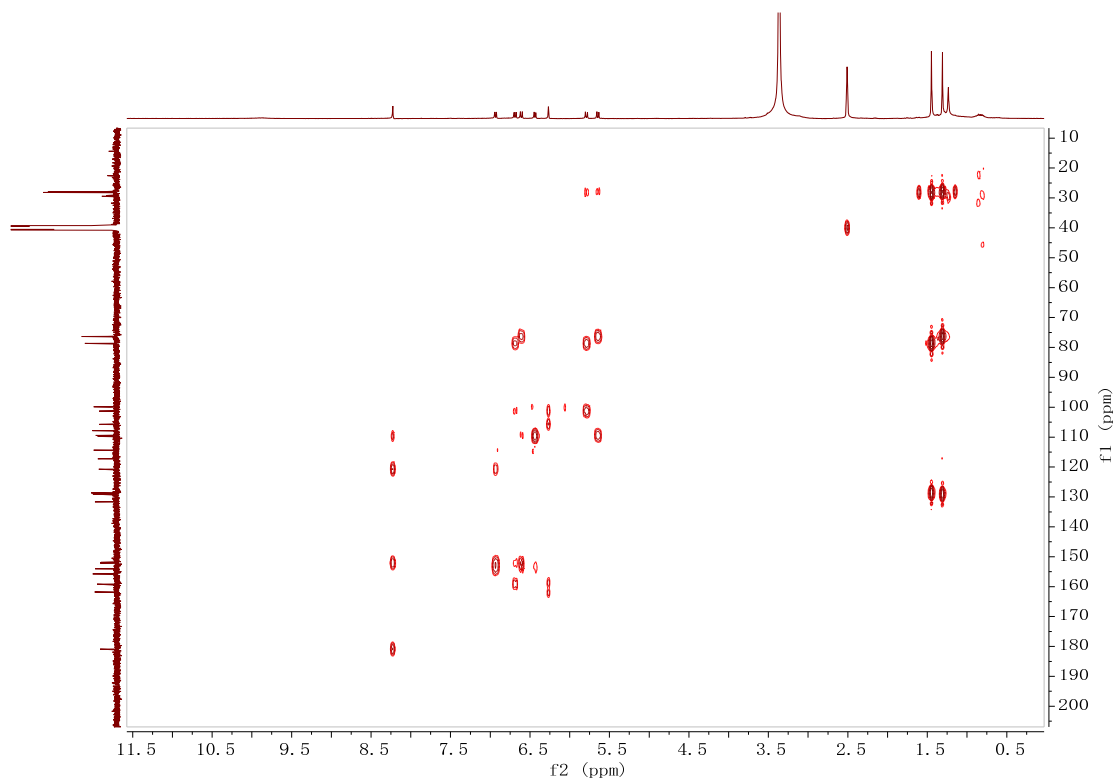


Figure S8. HMBC spectrum of compound **1** in DMSO-*d*₆

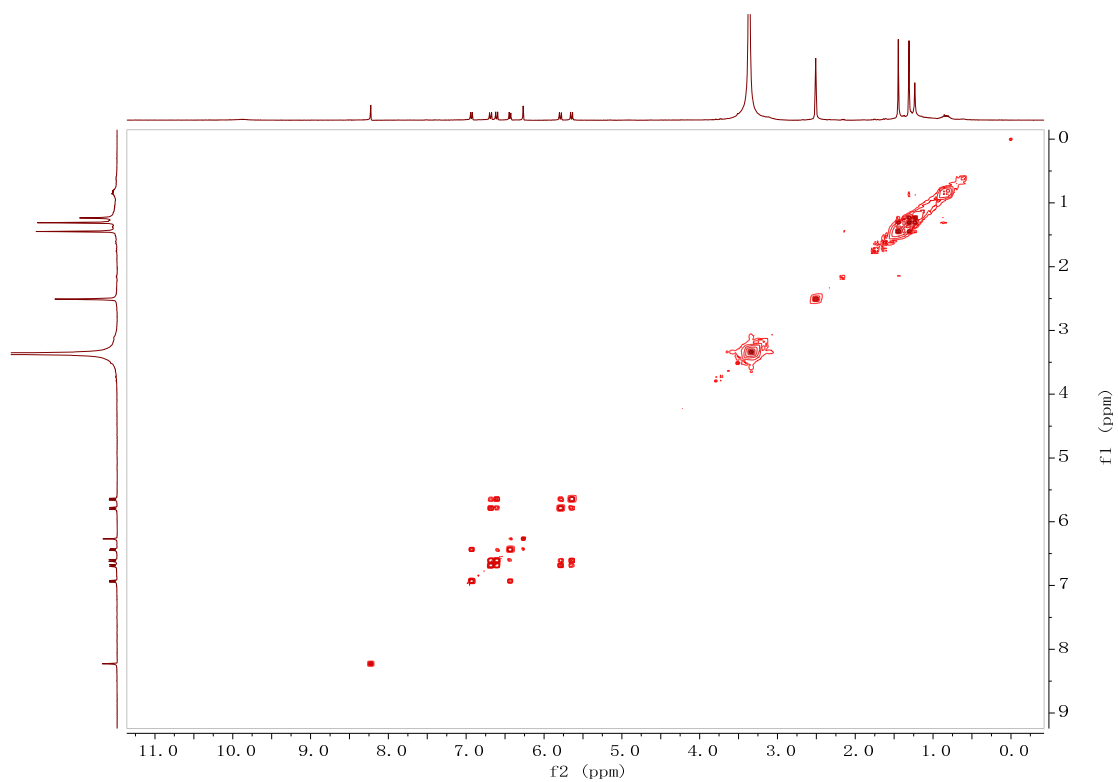


Figure S9. ¹H-¹H COSY spectrum of compound **1** in DMSO-*d*₆

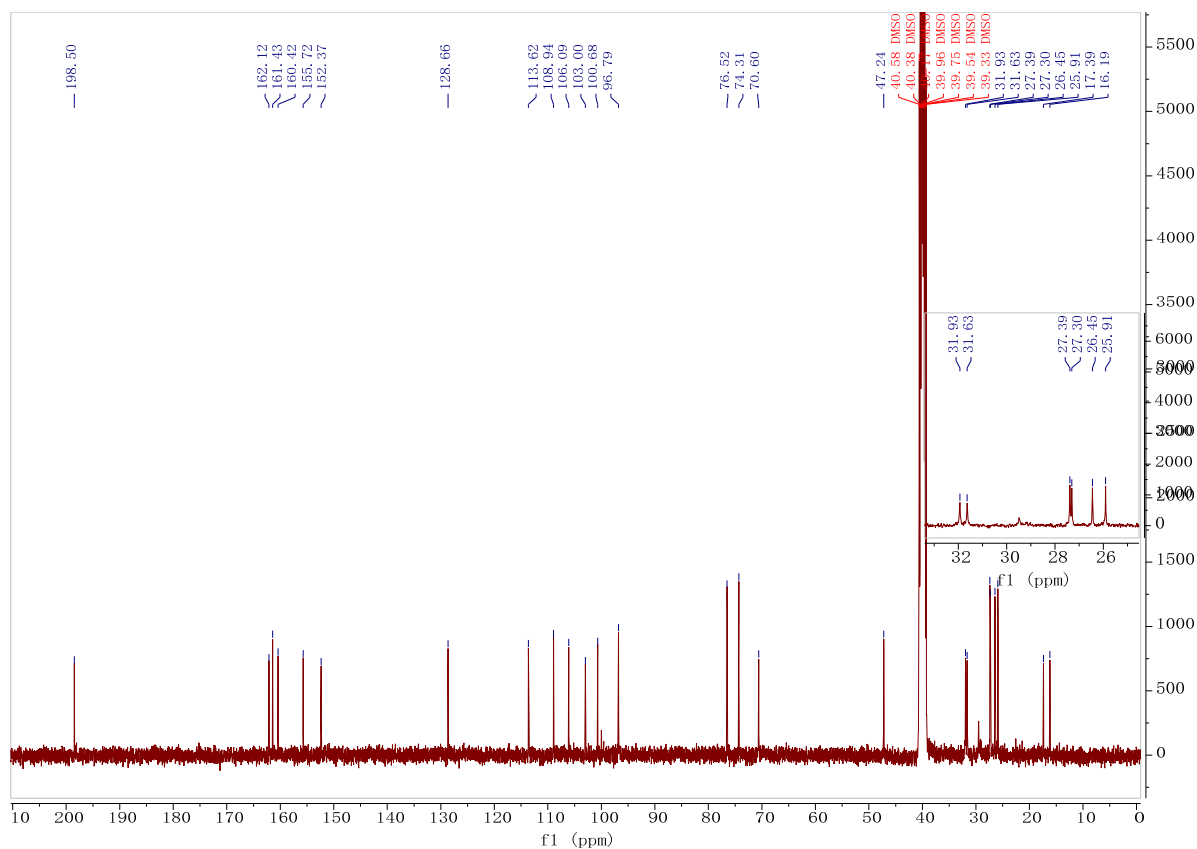


Figure S13. ^{13}C NMR spectrum of compound 2 in DMSO- d_6 (100 MHz)

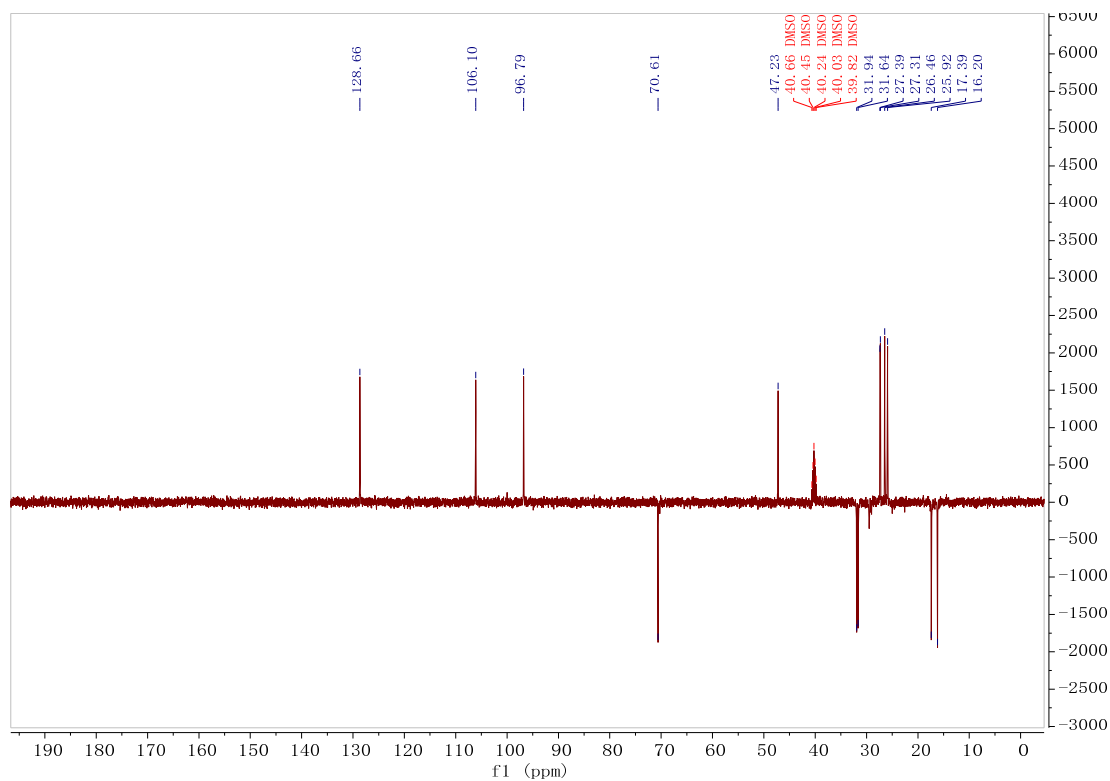


Figure S14. DEPT 135 spectrum of compound 2 in DMSO- d

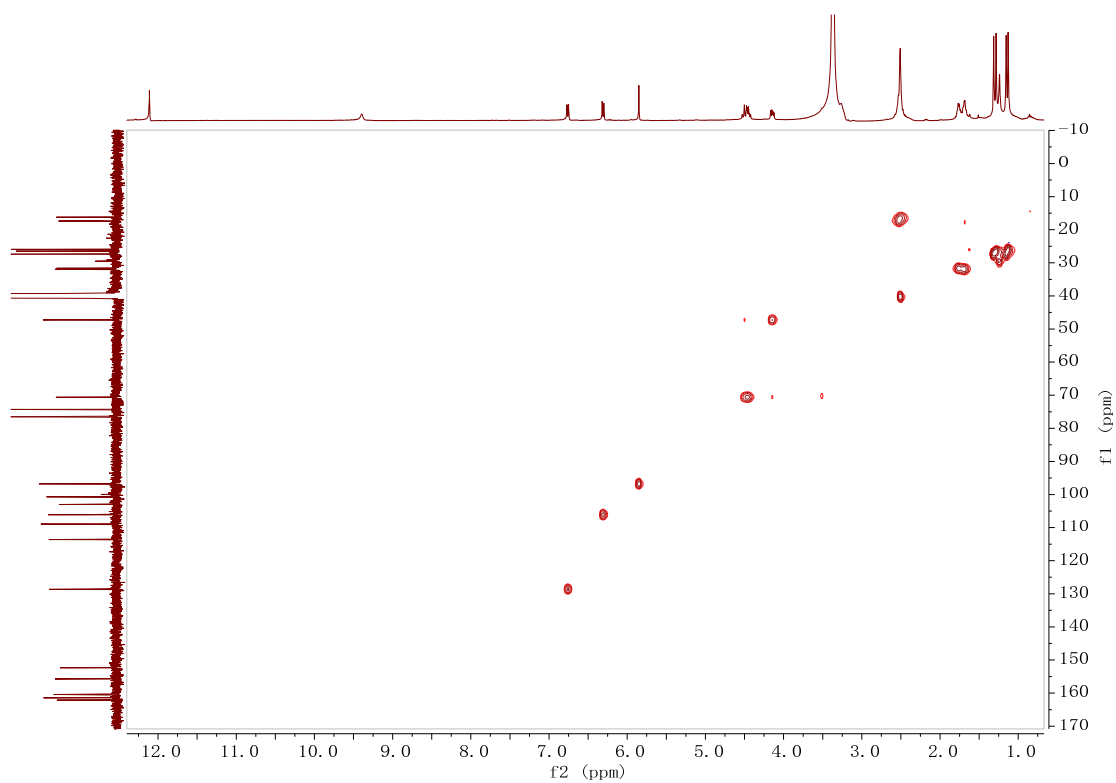


Figure S15. HSQC spectrum of compound **2** in DMSO-*d*₆

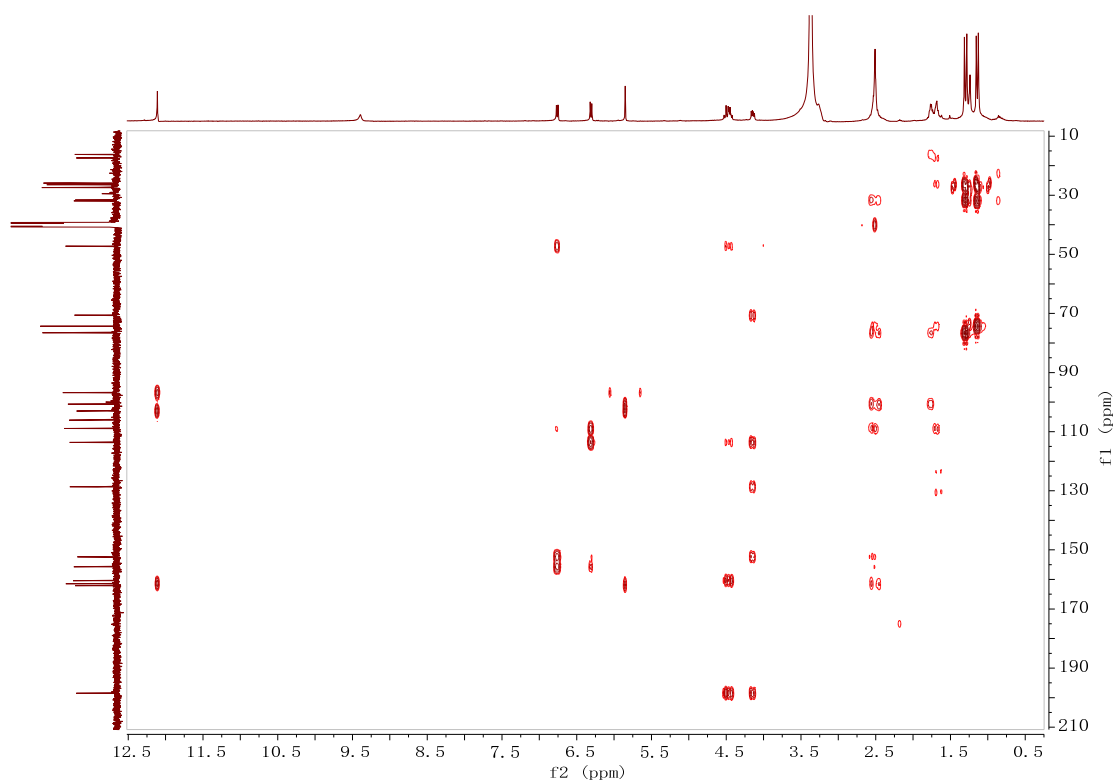


Figure S16. HMBC spectrum of compound **2** in DMSO-*d*₆

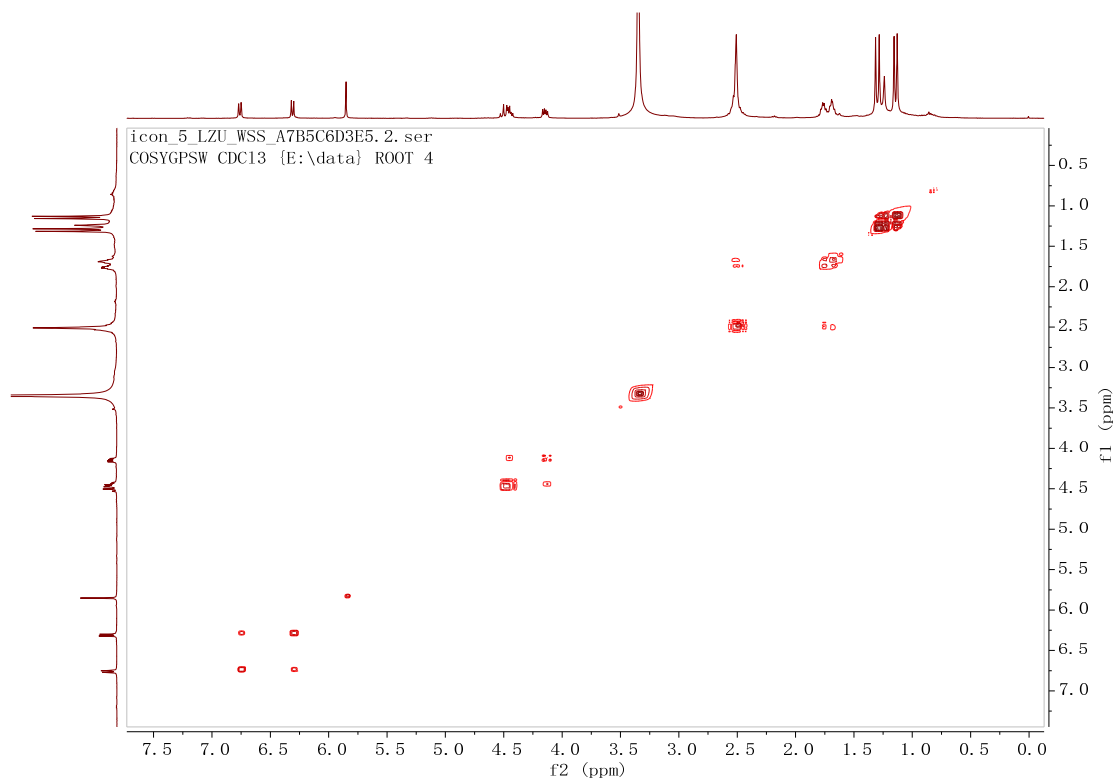


Figure S17. ^1H - ^1H COSY spectrum of compound **2** in $\text{DMSO}-d_6$

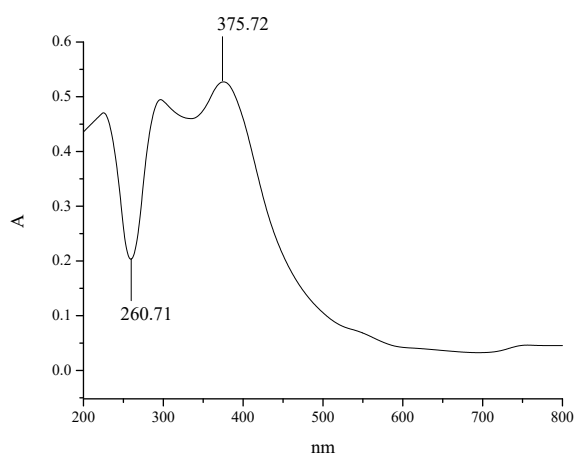


Figure S18. UV spectrum of compound **3**

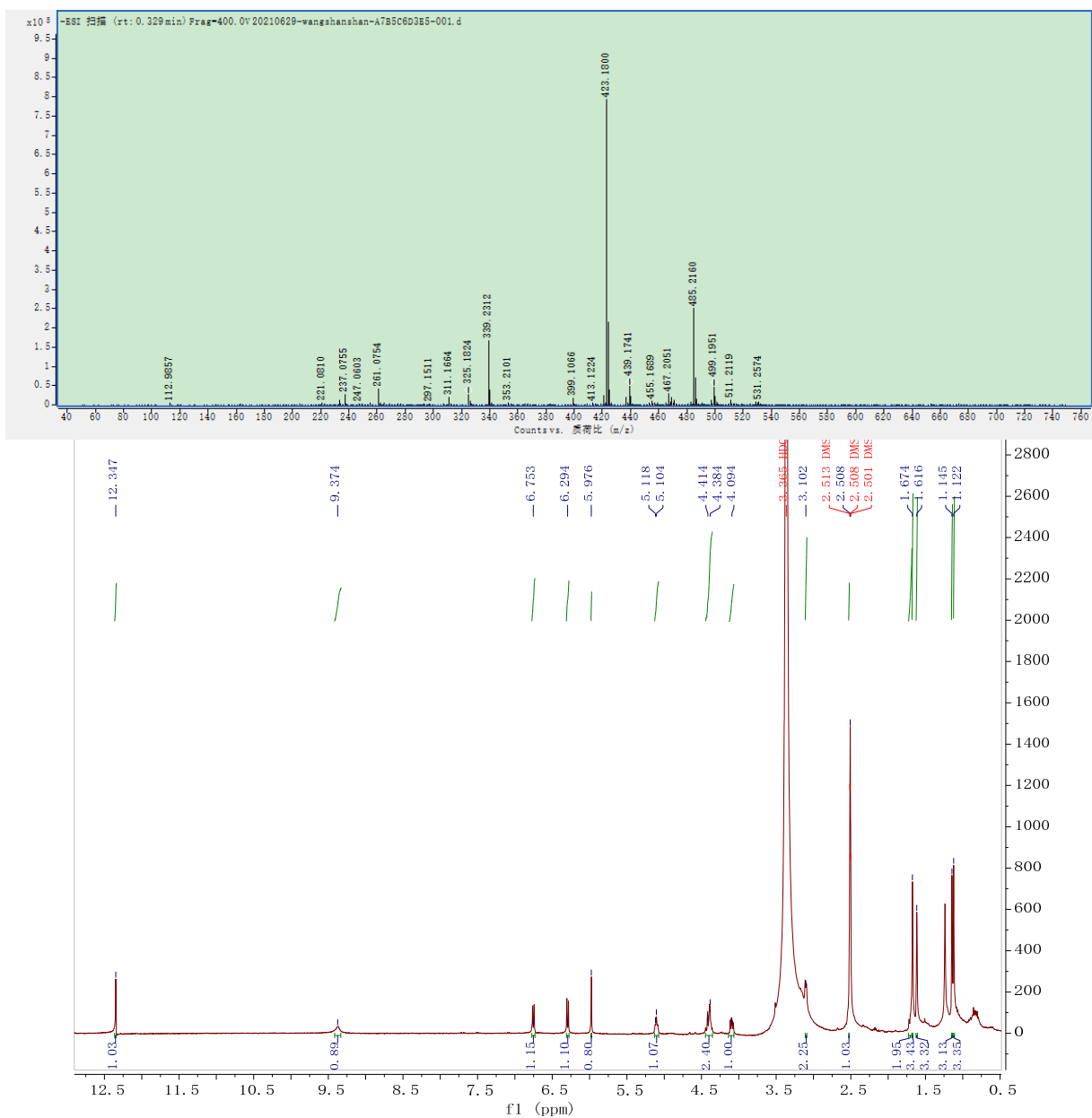


Figure S20. ¹H NMR spectrum of compound **3** in DMSO-*d*₆ (400 MHz)

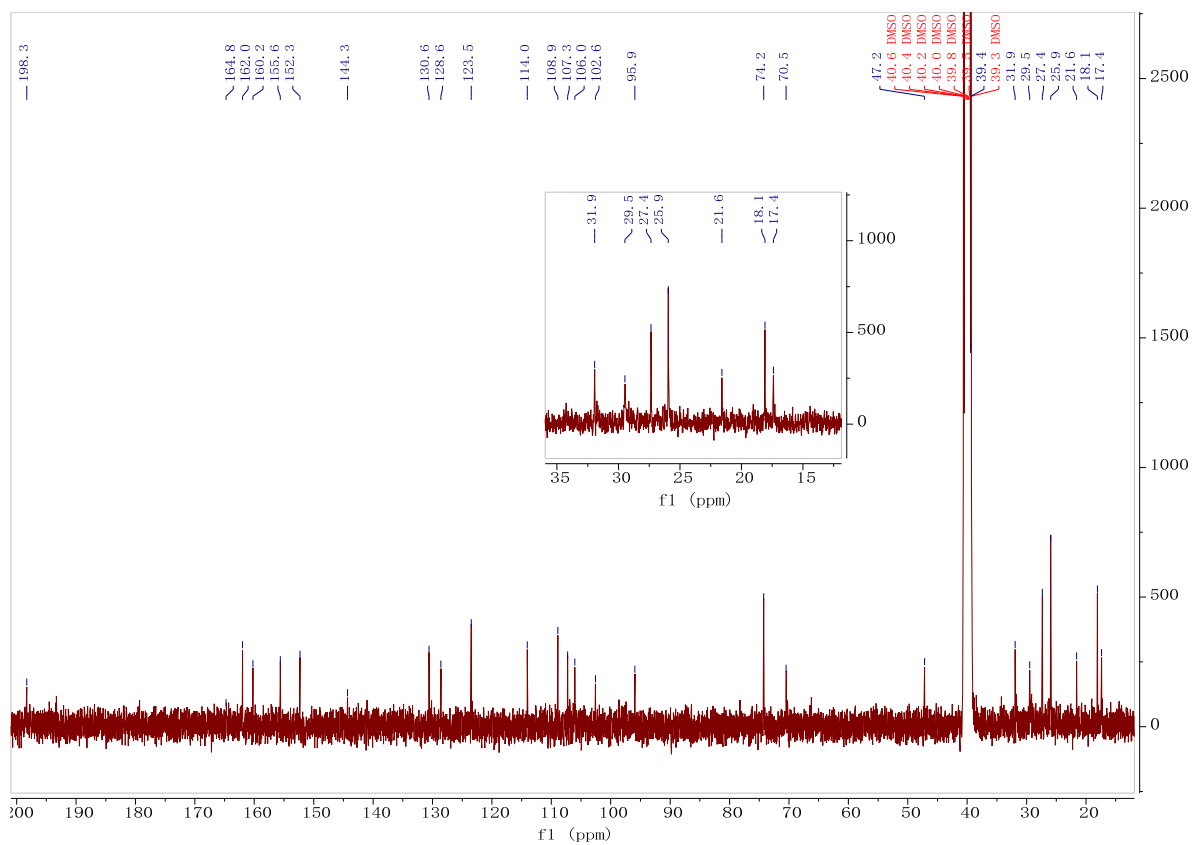


Figure S21. ^{13}C NMR spectrum of compound 3 in $\text{DMSO}-d_6$ (100 MHz)

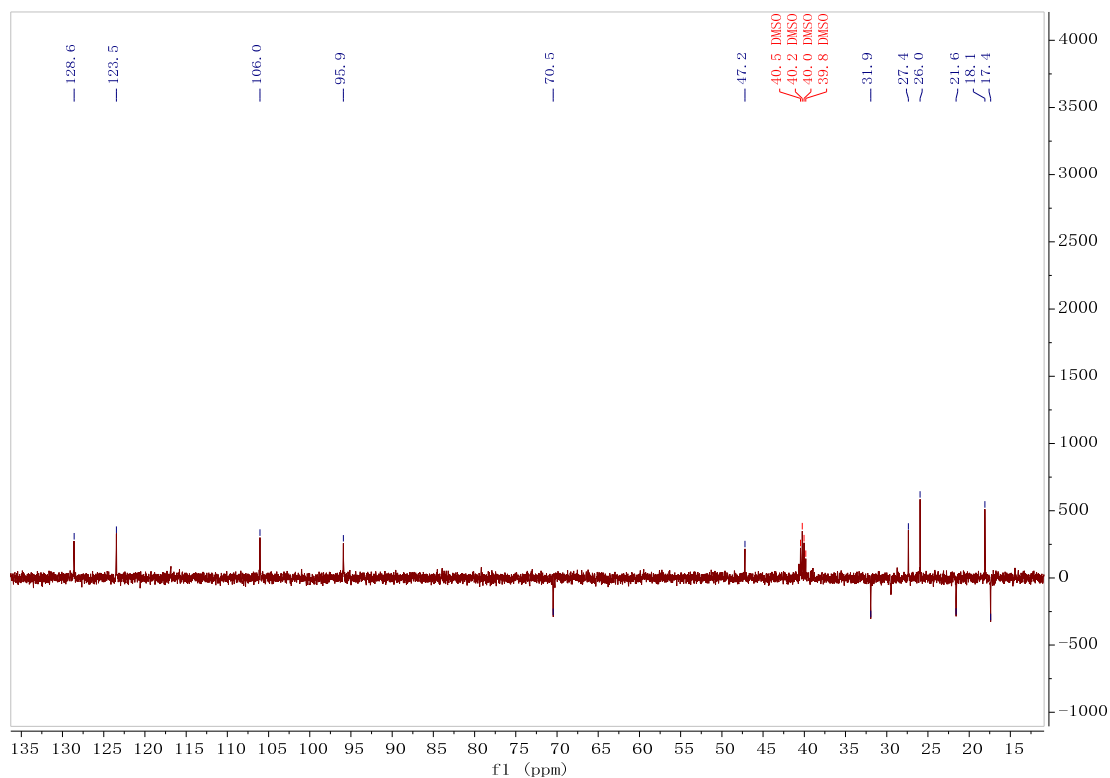


Figure S22. DEPT 135 spectrum of compound 3 in $\text{DMSO}-d_6$

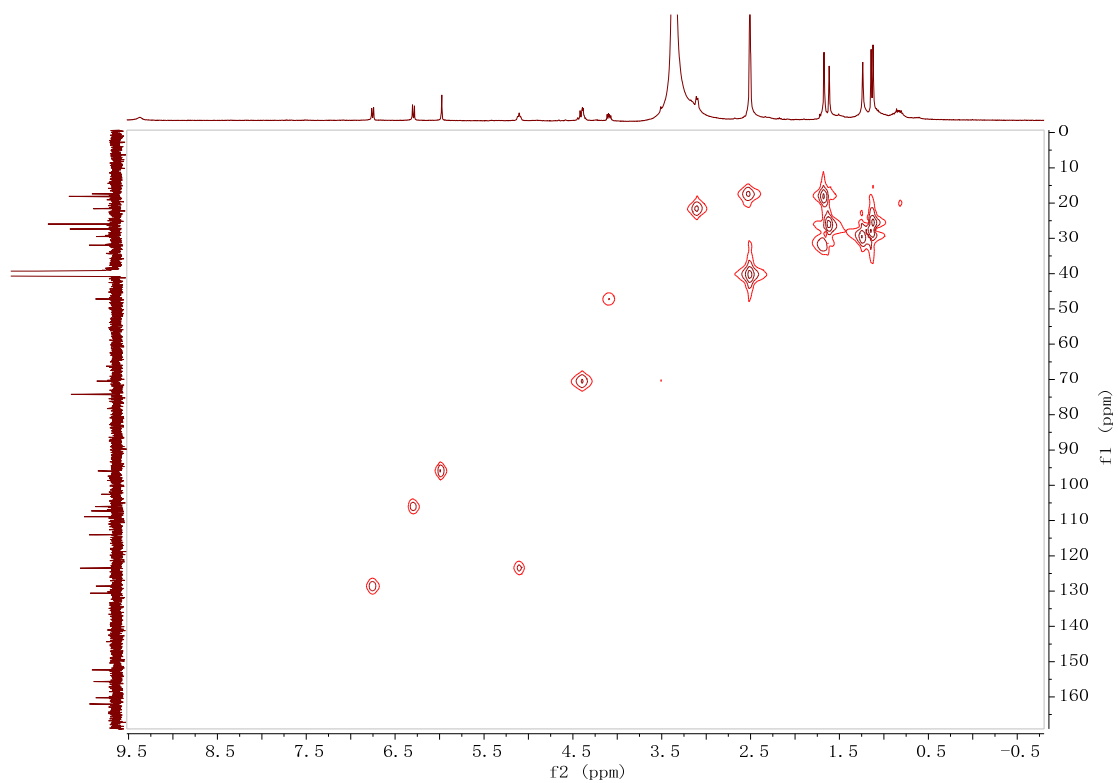


Figure S23. HSQC spectrum of compound **3** in DMSO-*d*₆

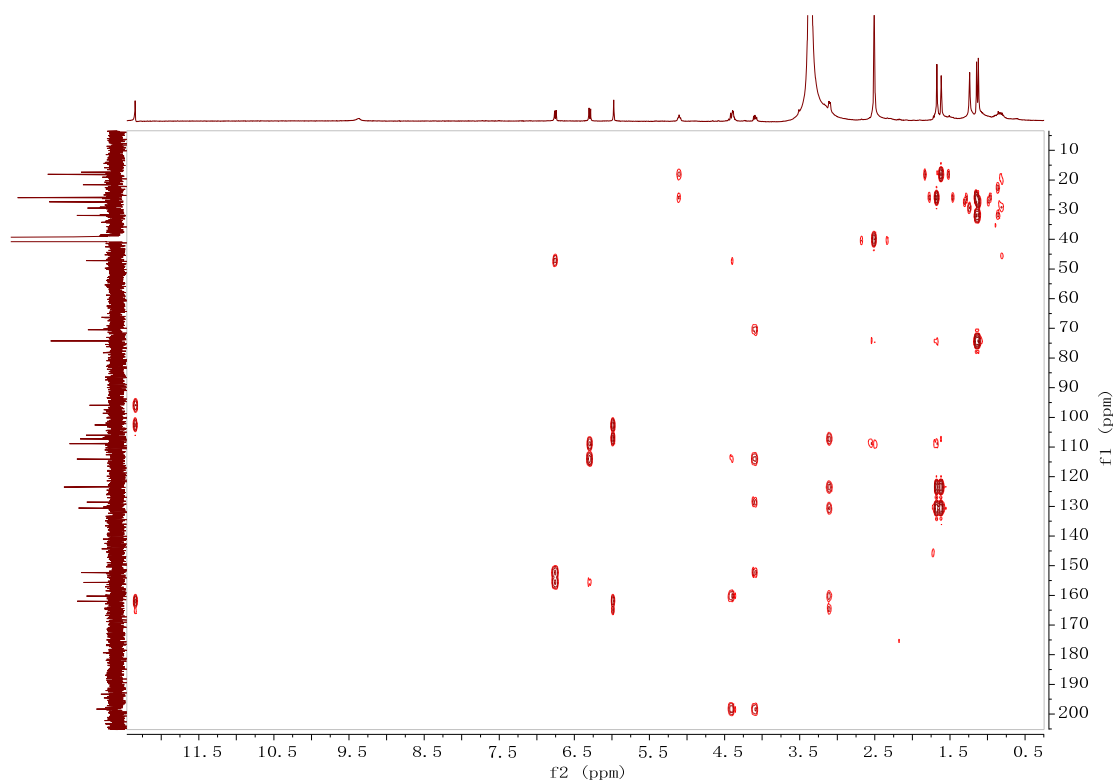


Figure S24. HMBC spectrum of compound **3** in DMSO-*d*₆

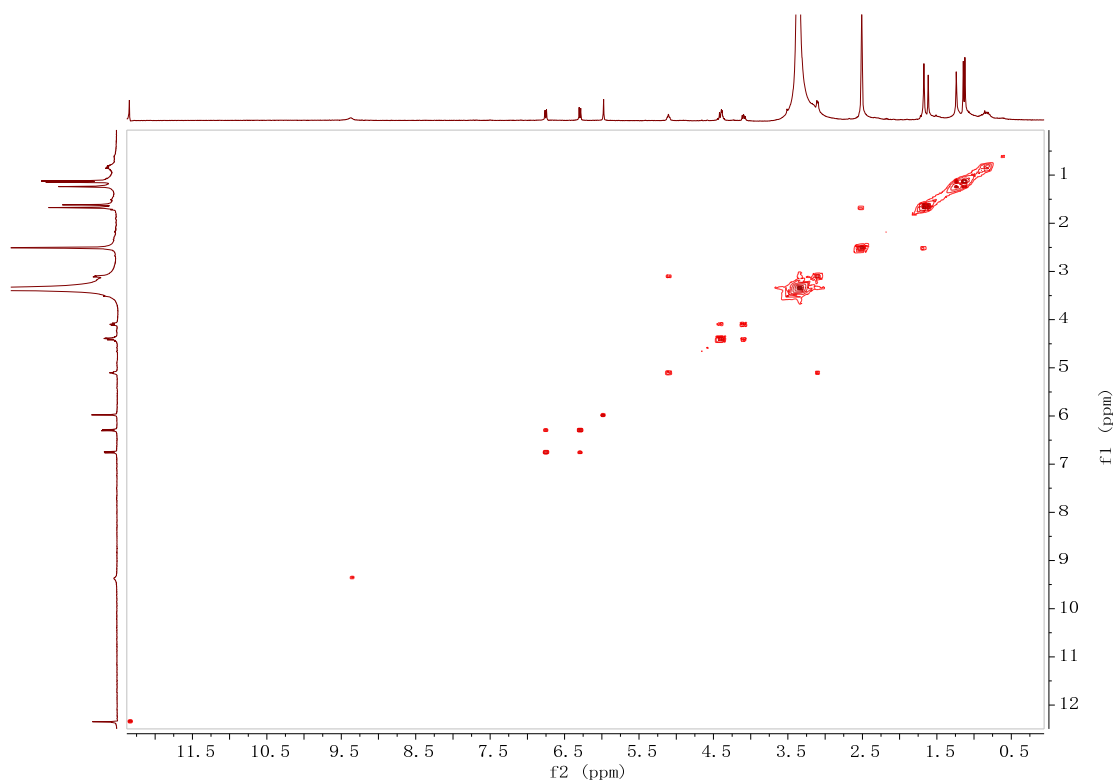


Figure S25. ^1H - ^1H COSY spectrum of compound **3** in $\text{DMSO-}d_6$

Table S1. Rf value and UV lambda Max of Compounds **4-21**.

	CHCl_3 : MeOH(15:1) Rf	CH_2Cl_2 : MeOH(20:1) Rf	Petroleum ether: acetone (7.5:2.5) Rf	Wavelength (nm)
4	0.67	0.51	0.68	233, 324
5	0.49	0.34	0.23	231, 276, 373
6	0.34	0.25	0.62	226 ,228 ,351
7	0.71	0.54	0.45	271
8	0.49	0.31	0.31	268
9	0.23	0.22	0.51	208, 264
10	0.40	0.25	0.22	209, 265
11	0.43	0.23	0.20	208 ,267
12	0.60	0.37	0.34	121 ,269
13	0.91	0.80	0.54	220 ,267
14	0.68	0.46	0.45	218 ,260
15	0.80	0.28	0.25	212, 261
16	0.60	0.37	0.28	210, 262
17	0.65	0.45	0.37	206, 295
18	0.45	0.29	0.20	233, 279, 369
19	0.66	0.40	0.31	222, 289
20	0.69	0.48	0.34	217 ,279 ,318
21	0.80	0.57	0.40	229, 299