

Supplementary Material

Four New Insecticidal Xanthene Derivatives from the Mangrove-Derived Fungus *Penicillium* sp. JY246

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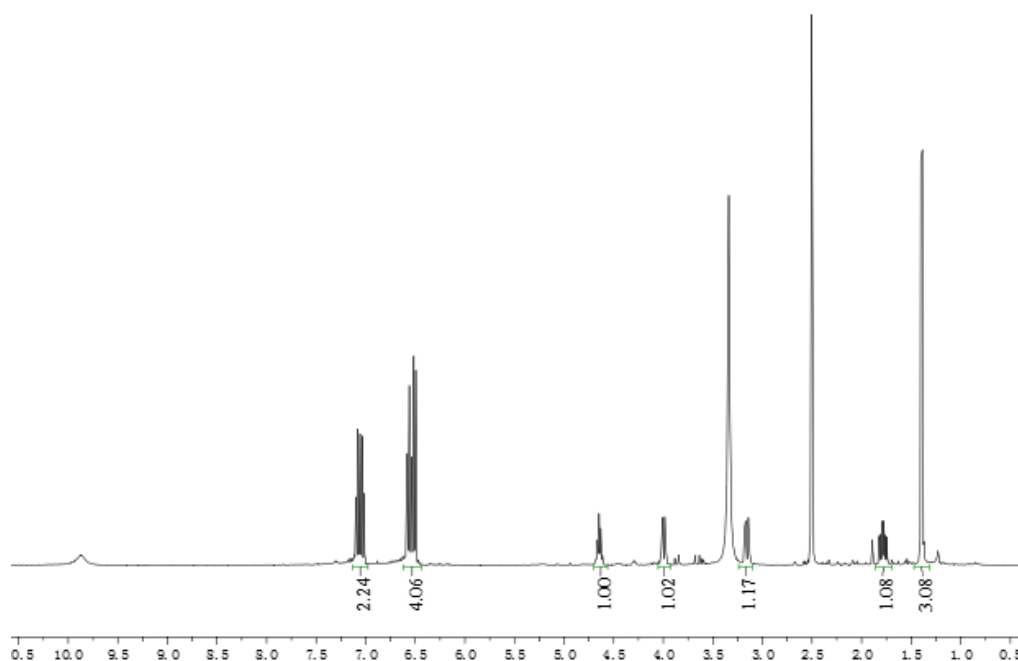


Figure S1. ^1H NMR ($\text{DMSO-}d_6$, 400 MHz) spectrum of **1**.

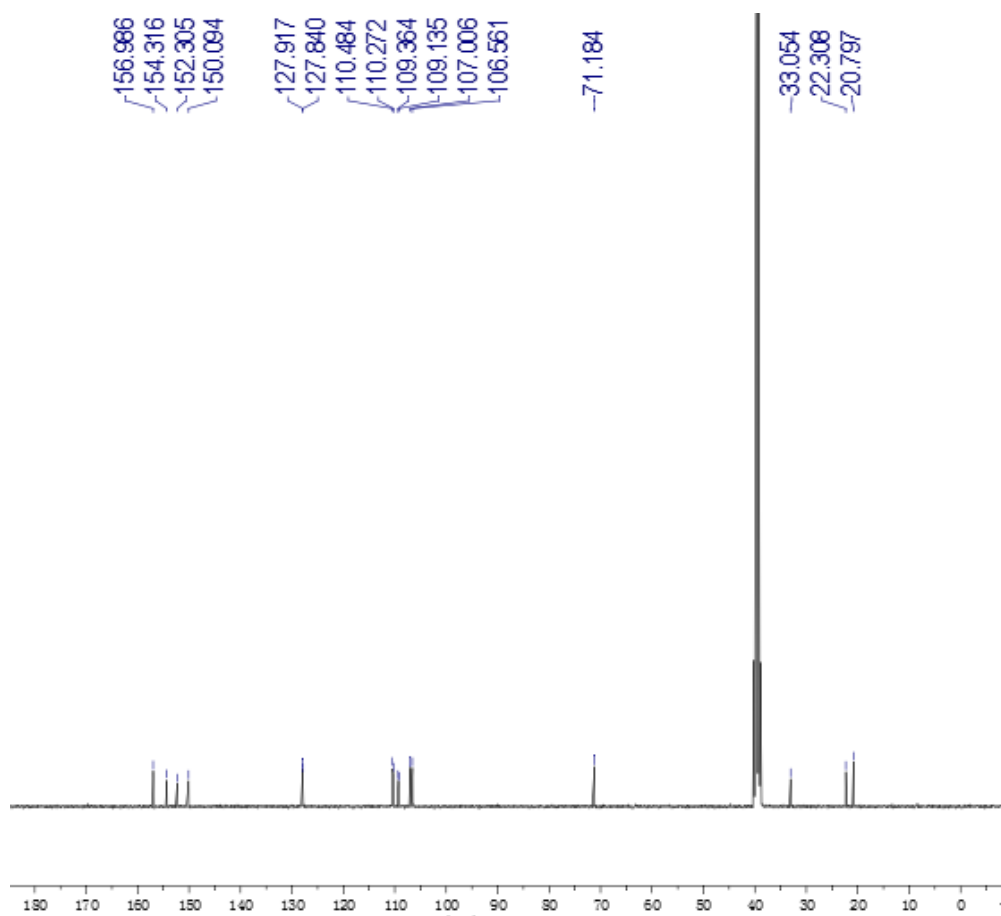


Figure S2 ^{13}C NMR ($\text{DMSO-}d_6$, 100MHz) spectrum of **1**.

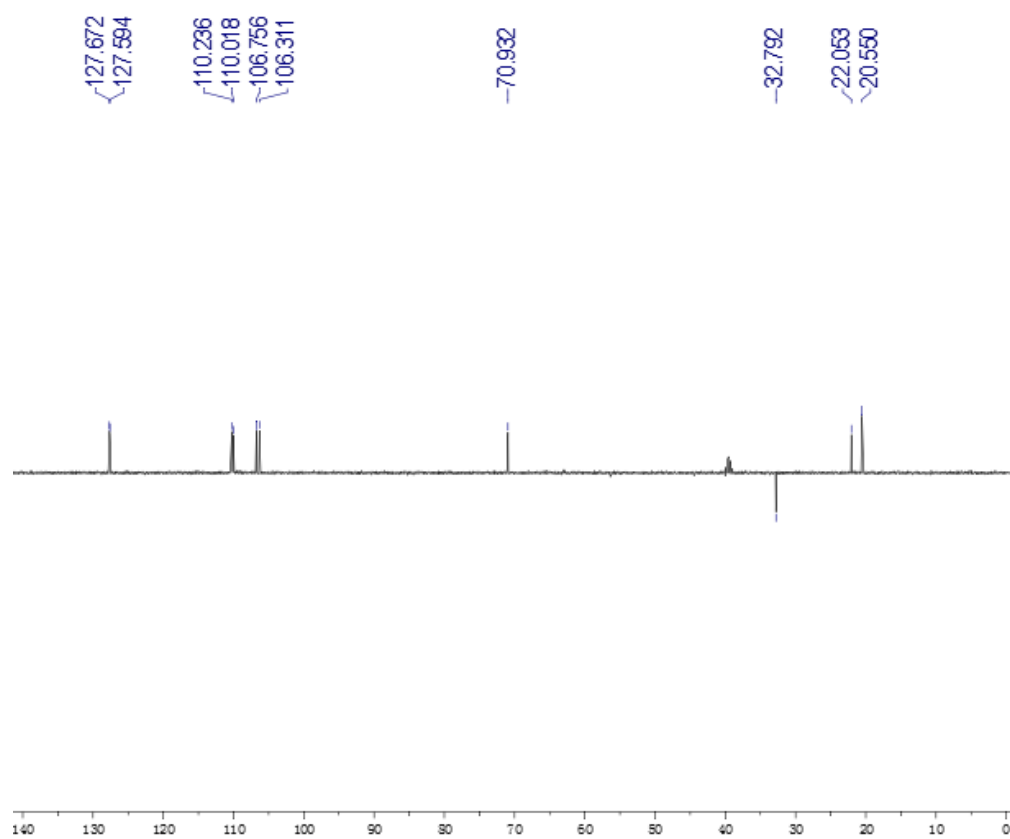


Figure S3 DEPT (DMSO- d_6 , 100 MHz) spectrum of **1**.

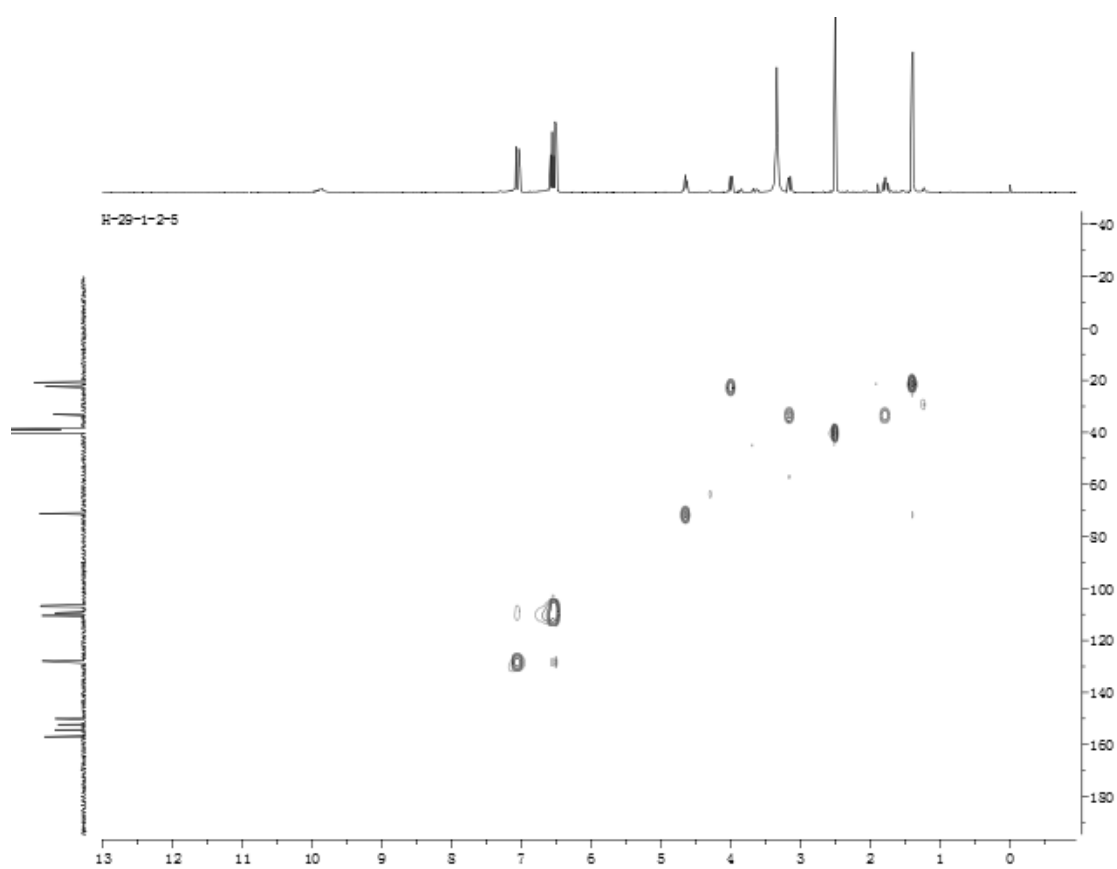


Figure S4 HMQC spectrum of **1**.

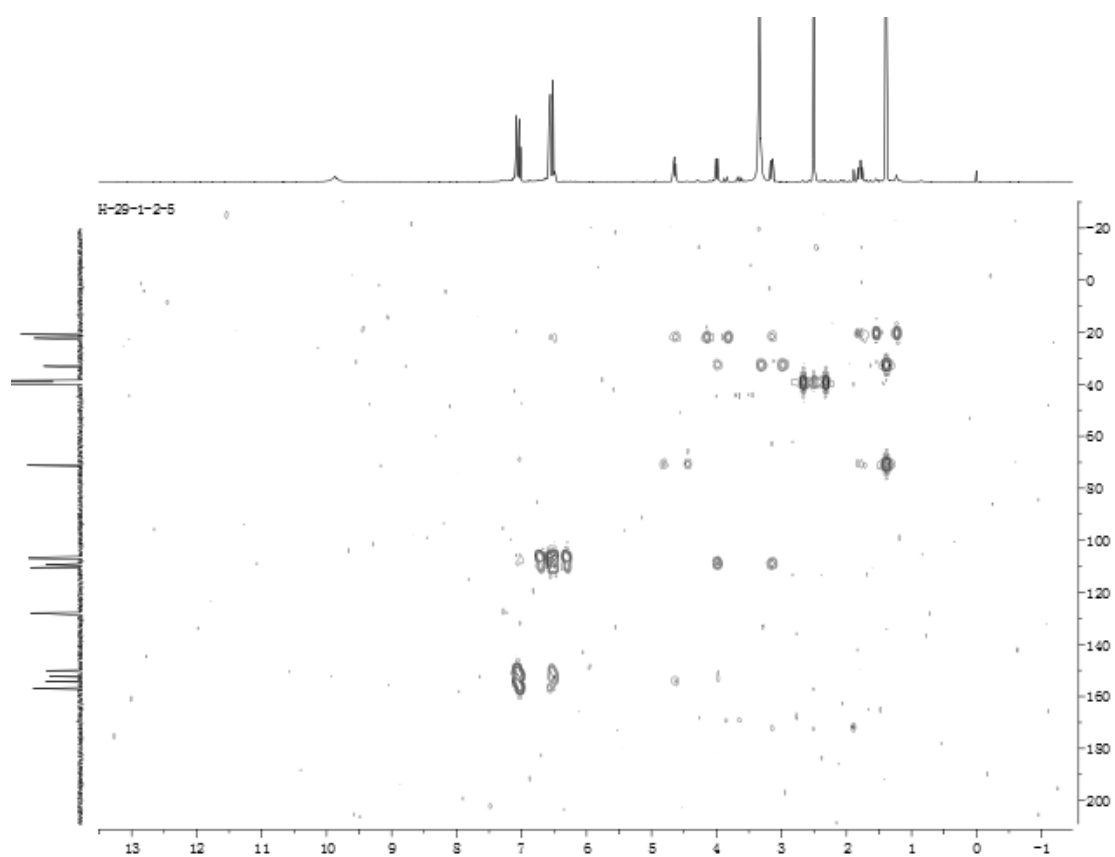


Figure S5 HMBC spectrum of **1**.

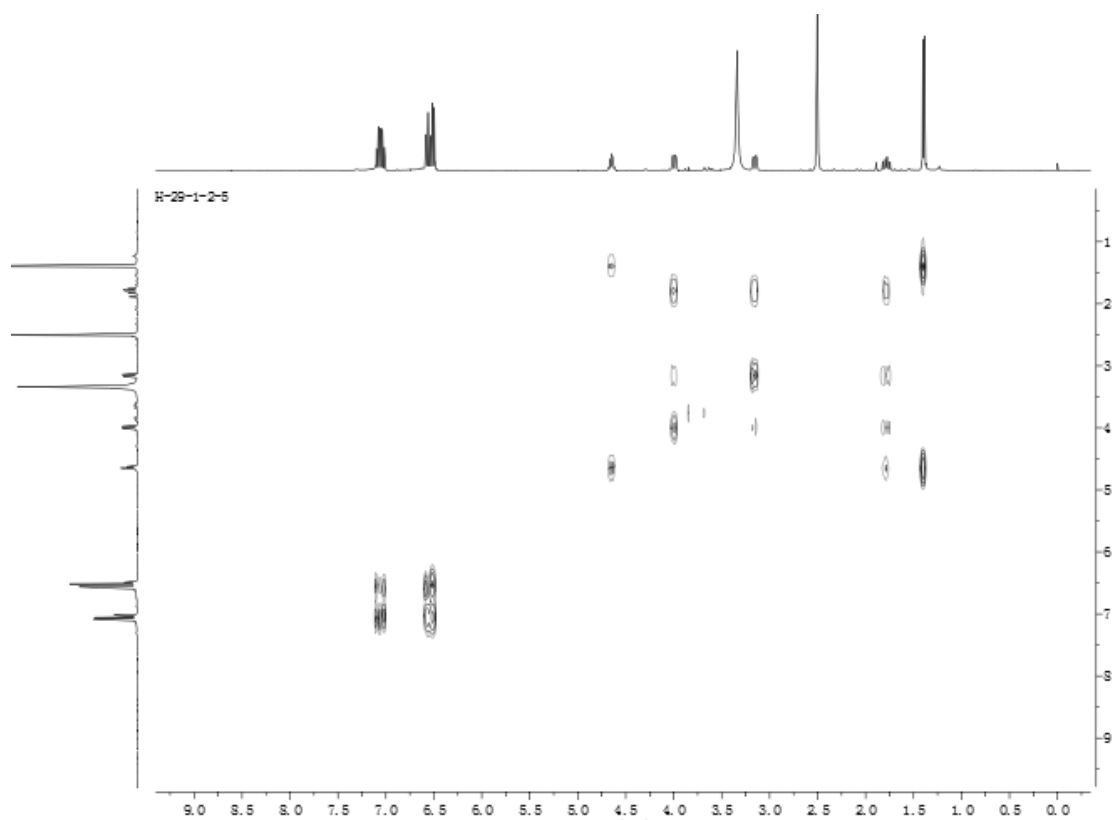


Figure S6 COSY spectrum of **1**.

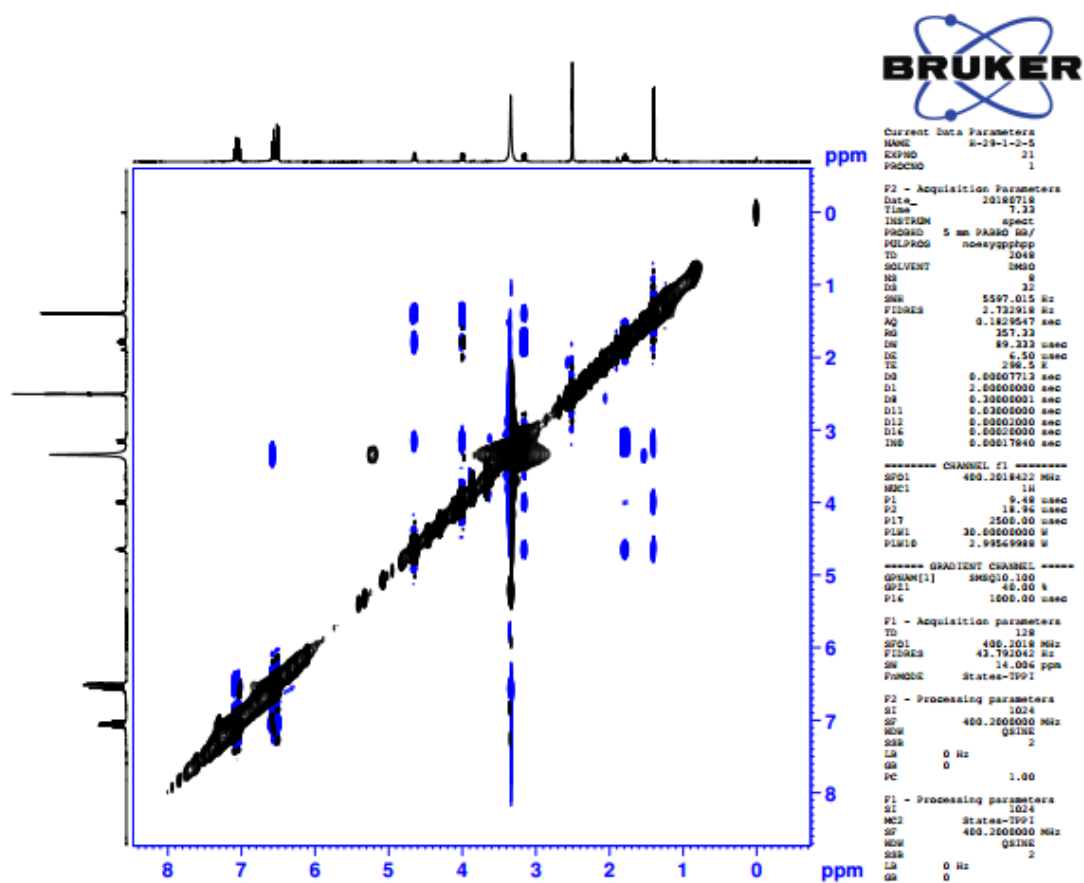


Figure S7 NOESY spectrum of **1**.

0204 #3 RT: 0.03 AV: 1 NL: 3.57E5
T: FTMS + p ESI Full ms [100.00-1000.00]

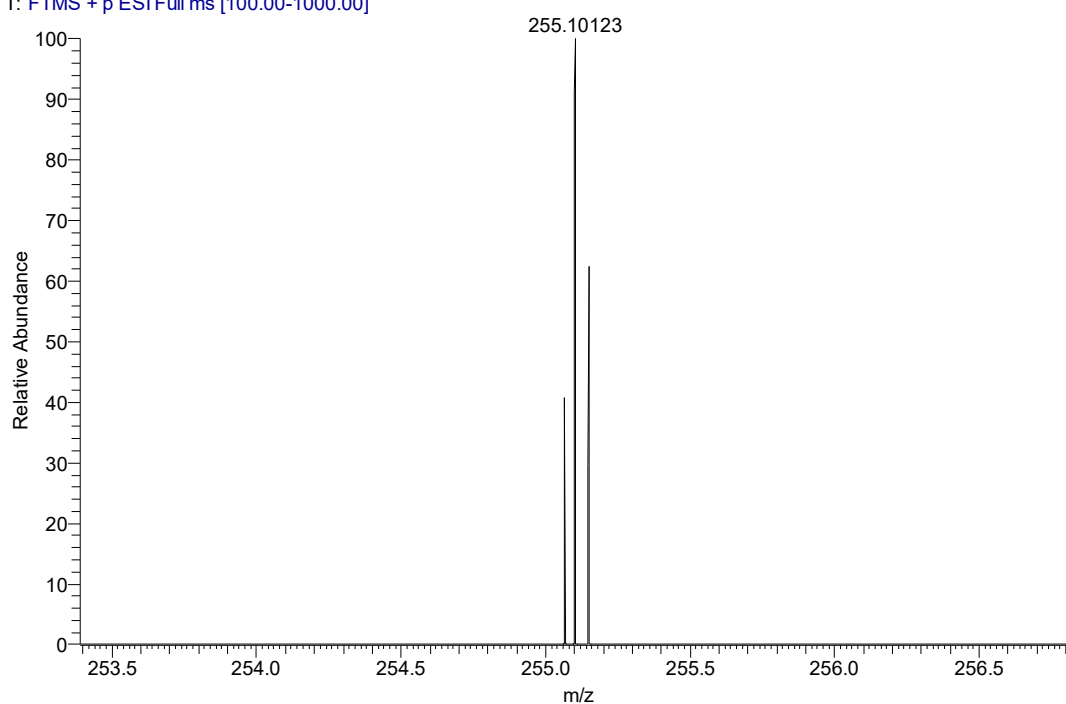


Figure S8 HRESIMS spectrum of **1**.

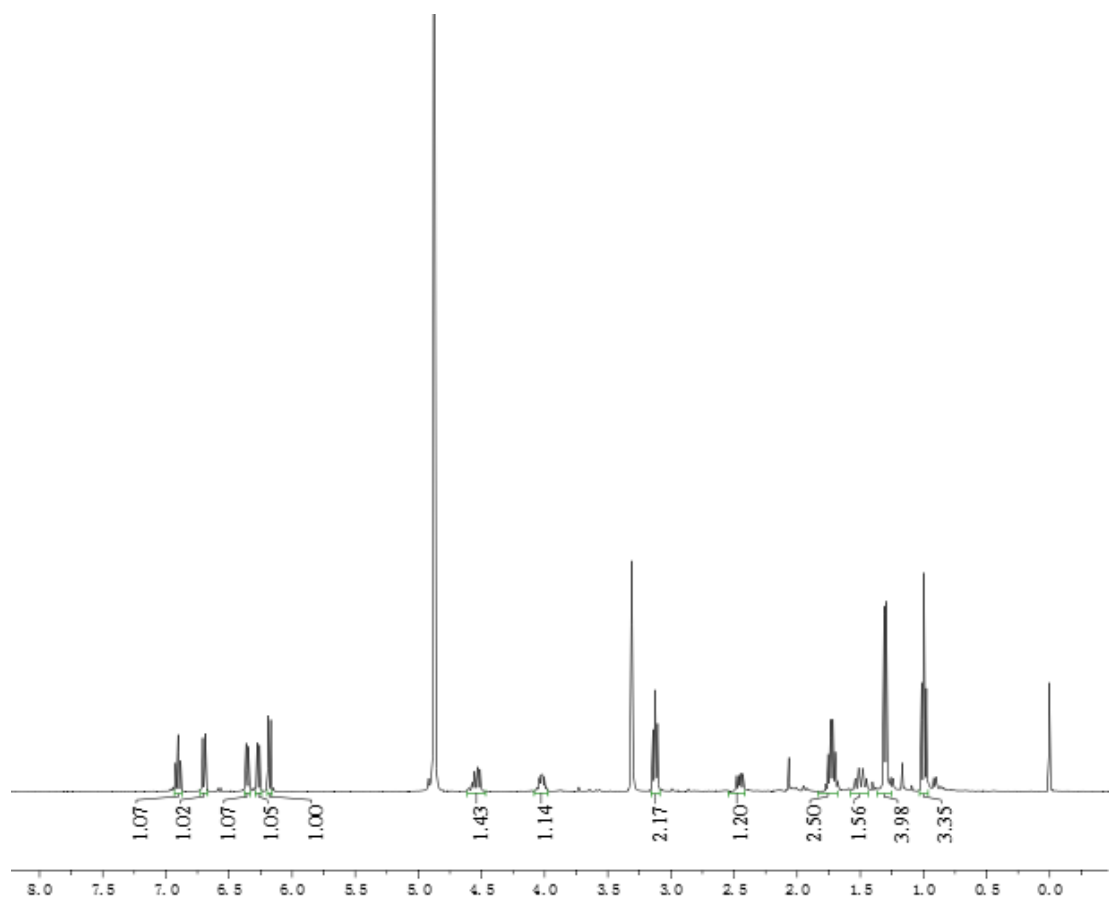


Figure S9 ^1H NMR (CD_3OD , 400 MHz) spectrum of **2**.

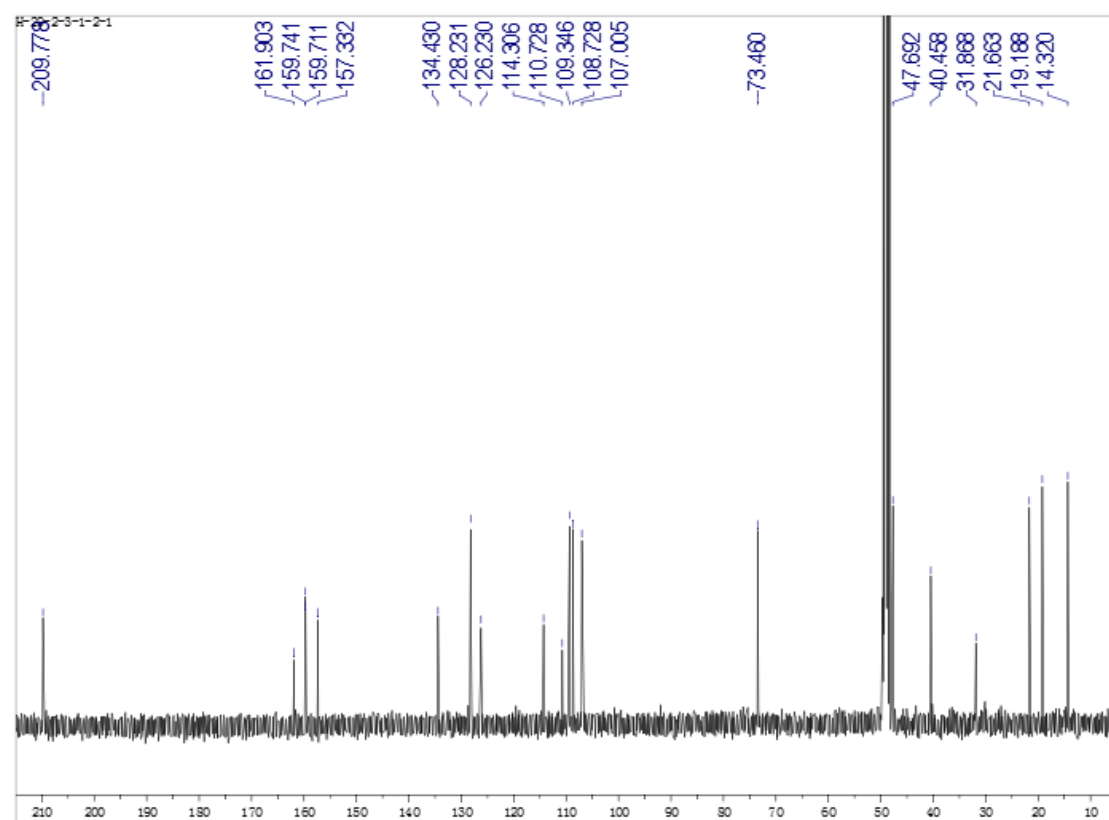


Figure S10 ^{13}C NMR (CD_3OD , 100 MHz) spectrum of **2**.

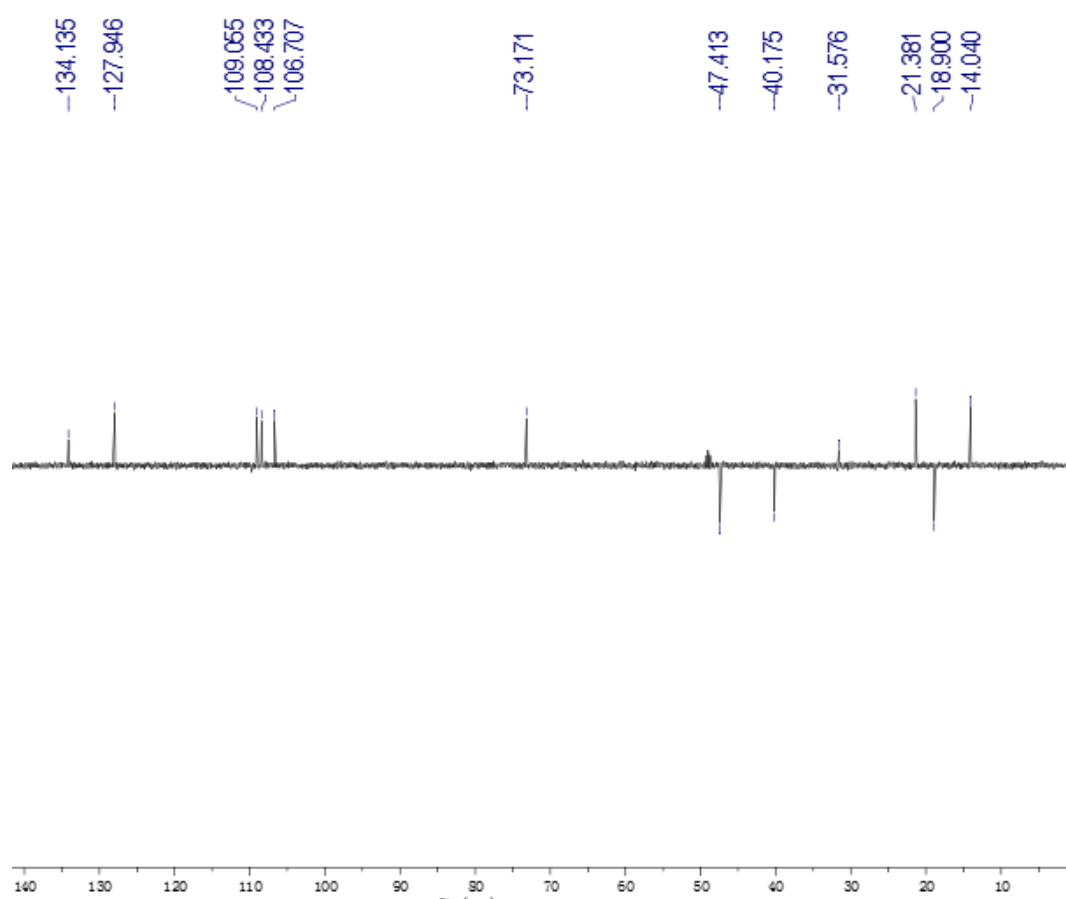


Figure S11 DEPT (CD₃OD, 100 MHz) spectrum of **2**.

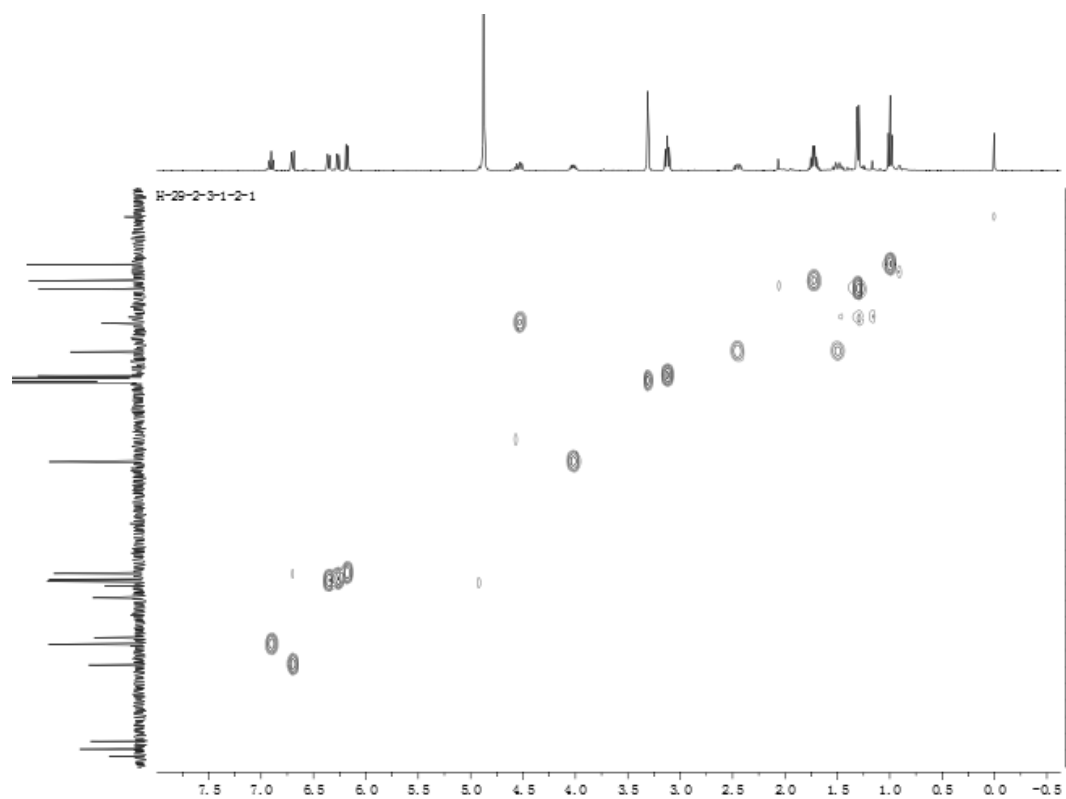


Figure S12 HMQC spectrum of **2**.

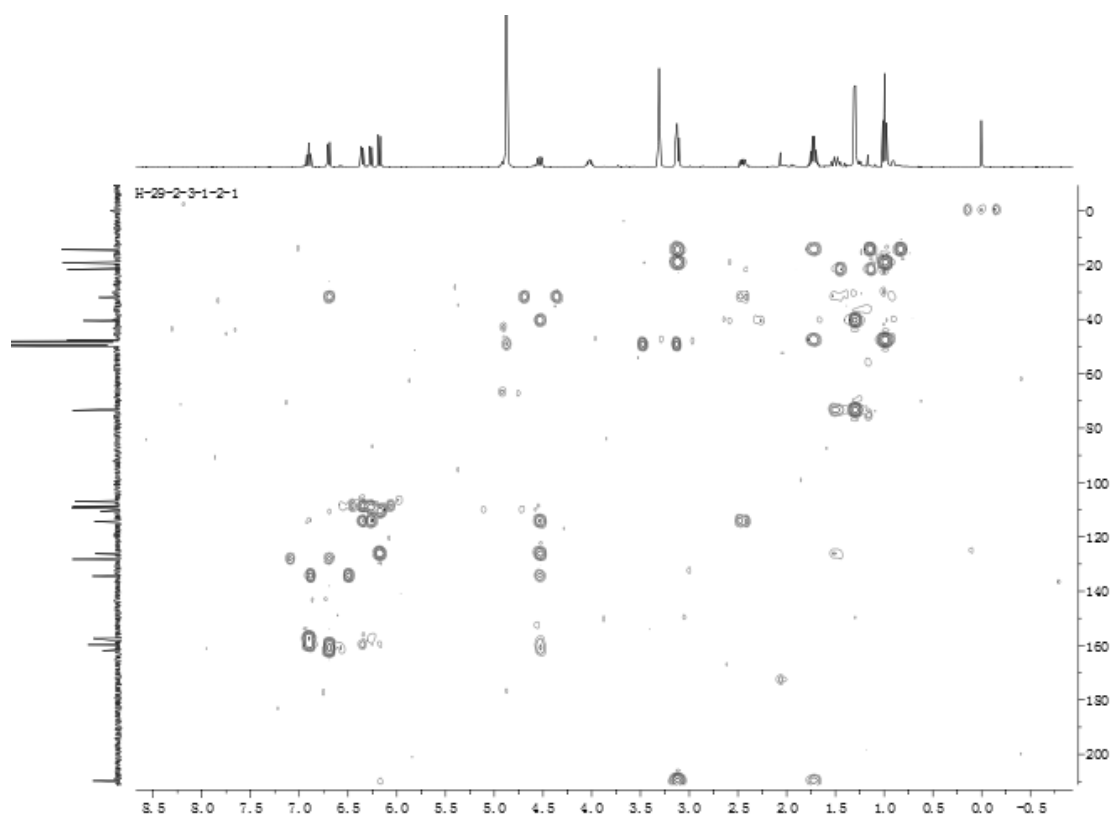


Figure S13 HMBC spectrum of **2**.

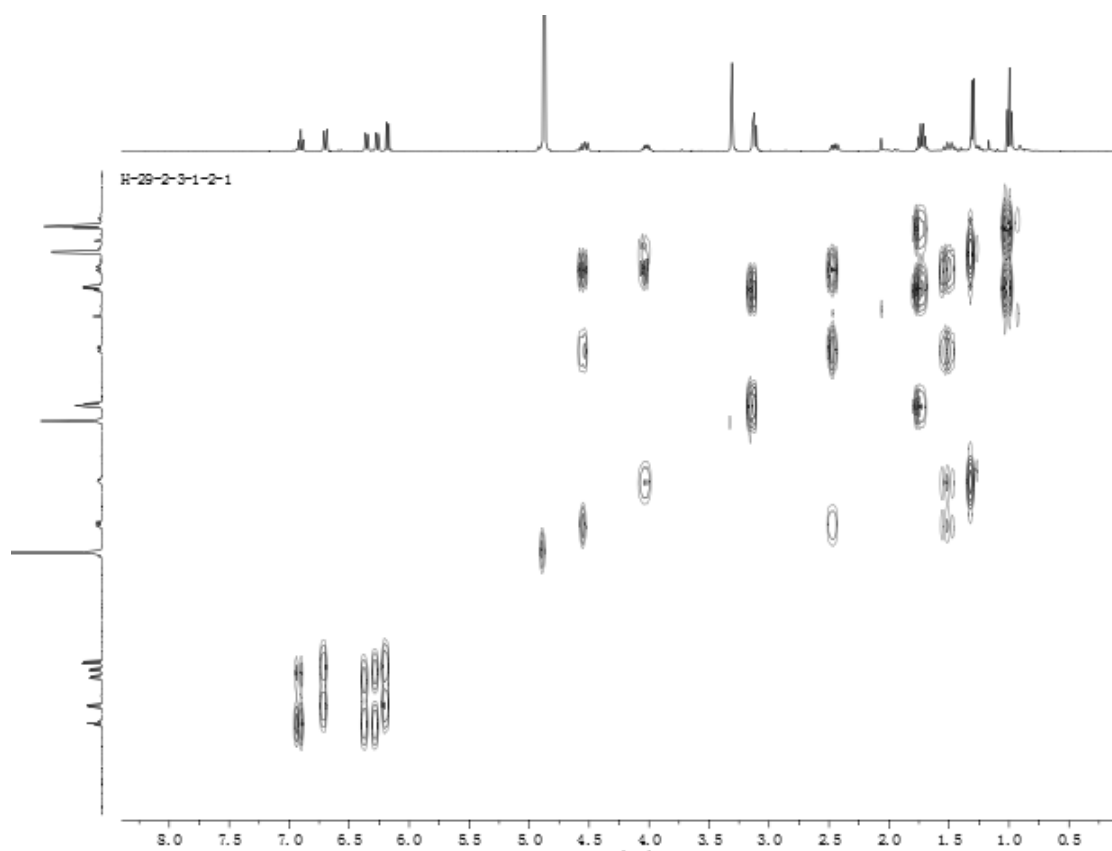


Figure S14 COSY spectrum of **2**.

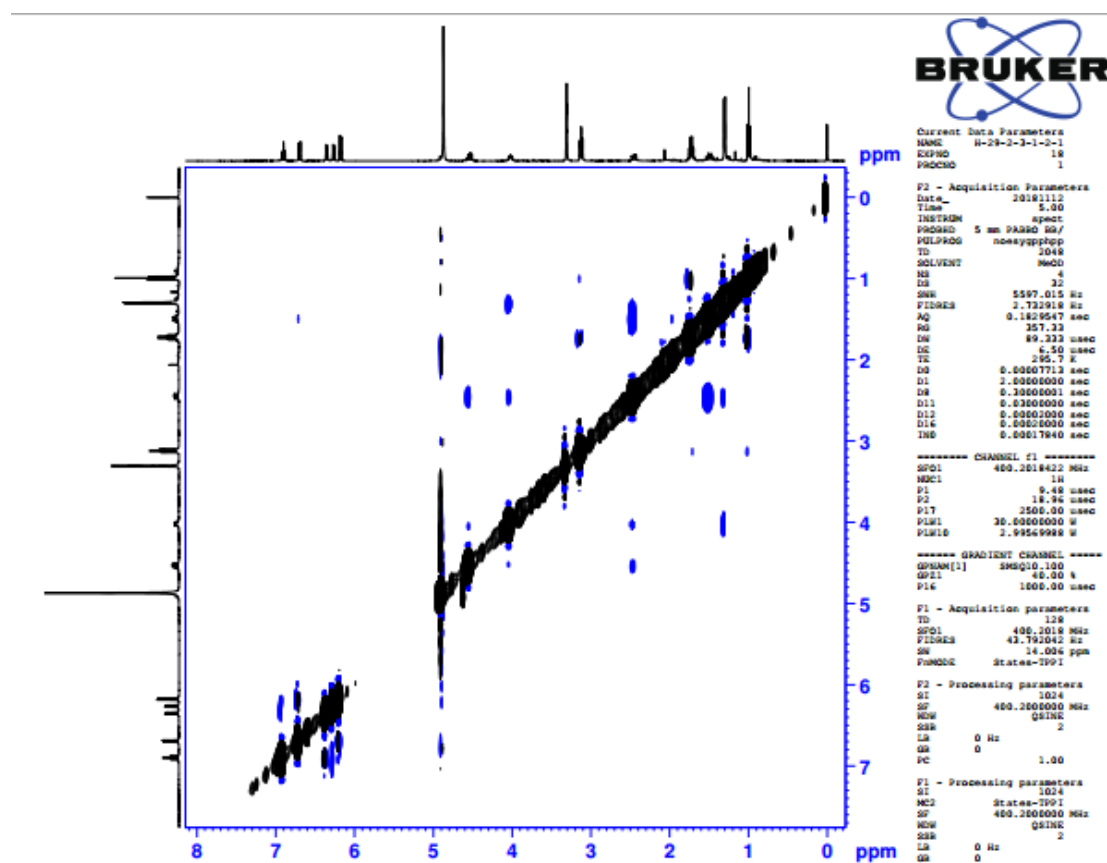


Figure S15 NOESY spectrum of **2**.

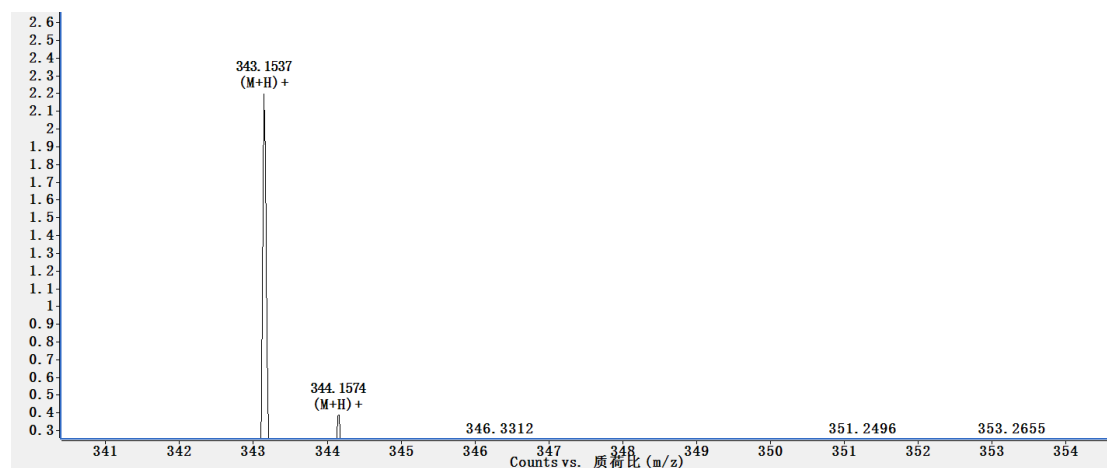


Figure S16 HRESIMS spectrum of **2**.

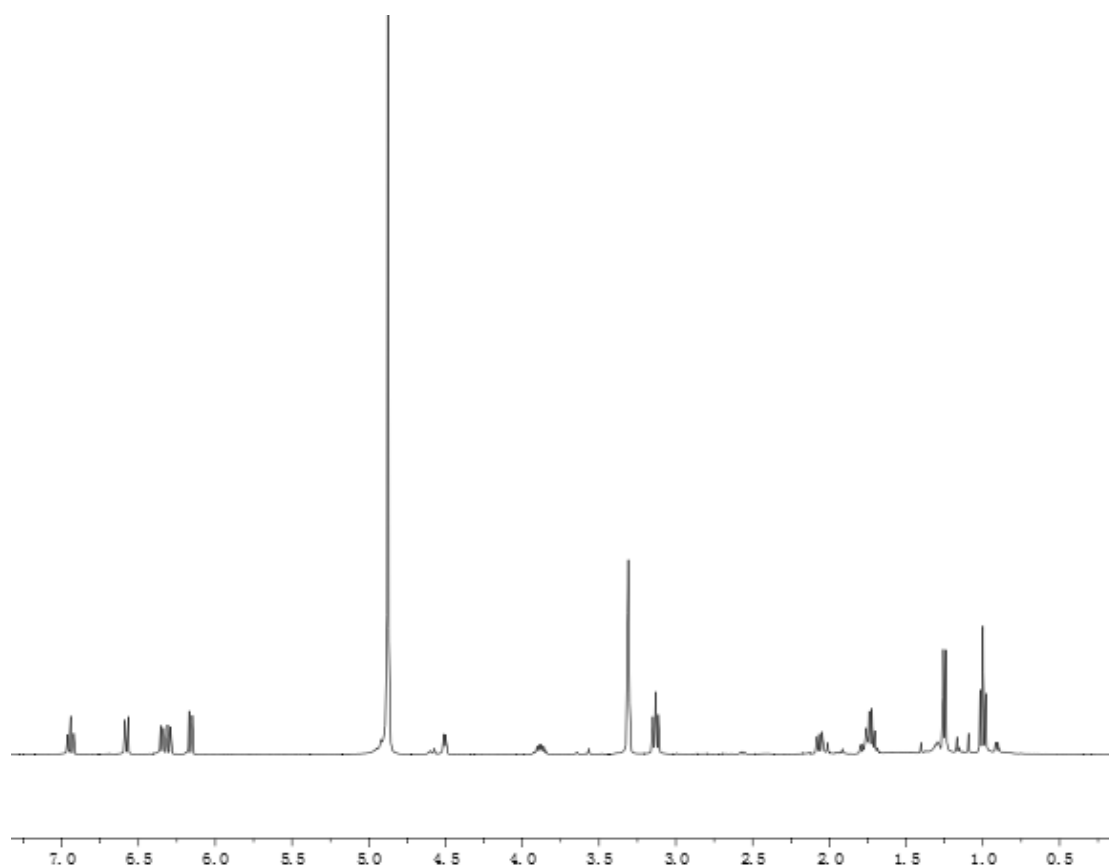


Figure S17 ^1H NMR (CD_3OD , 400 MHz) spectrum of **3**.

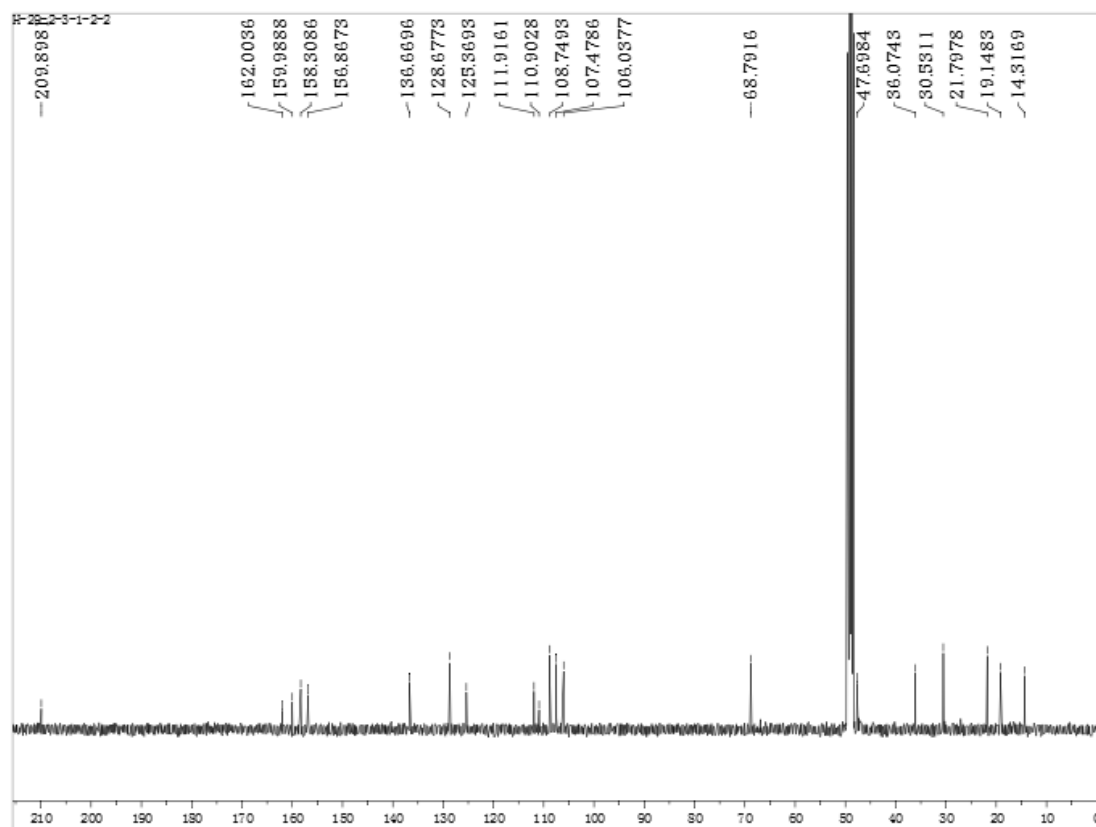


Figure S18 ^{13}C NMR (CD_3OD , 100 MHz) spectrum of **3**.

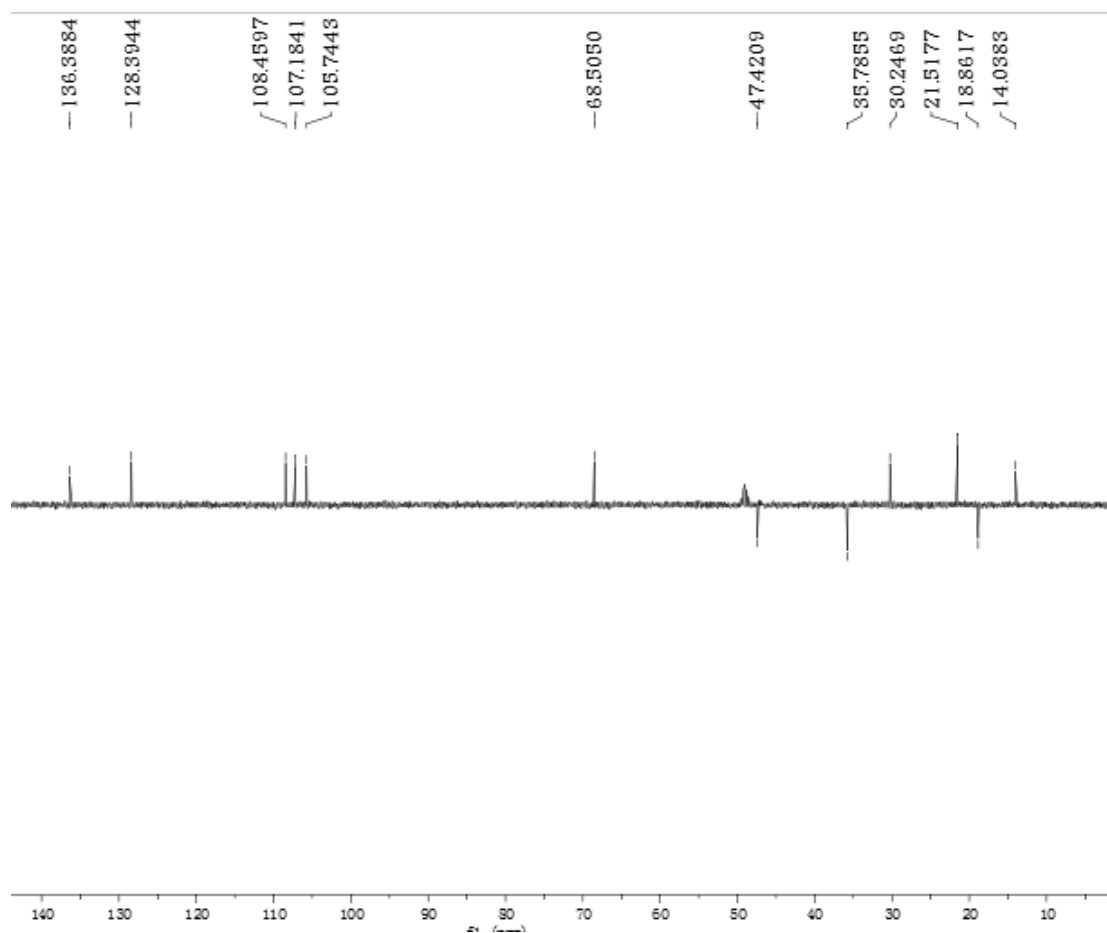


Figure S19 DEPT (CD_3OD , 100 MHz) spectrum of **3**.

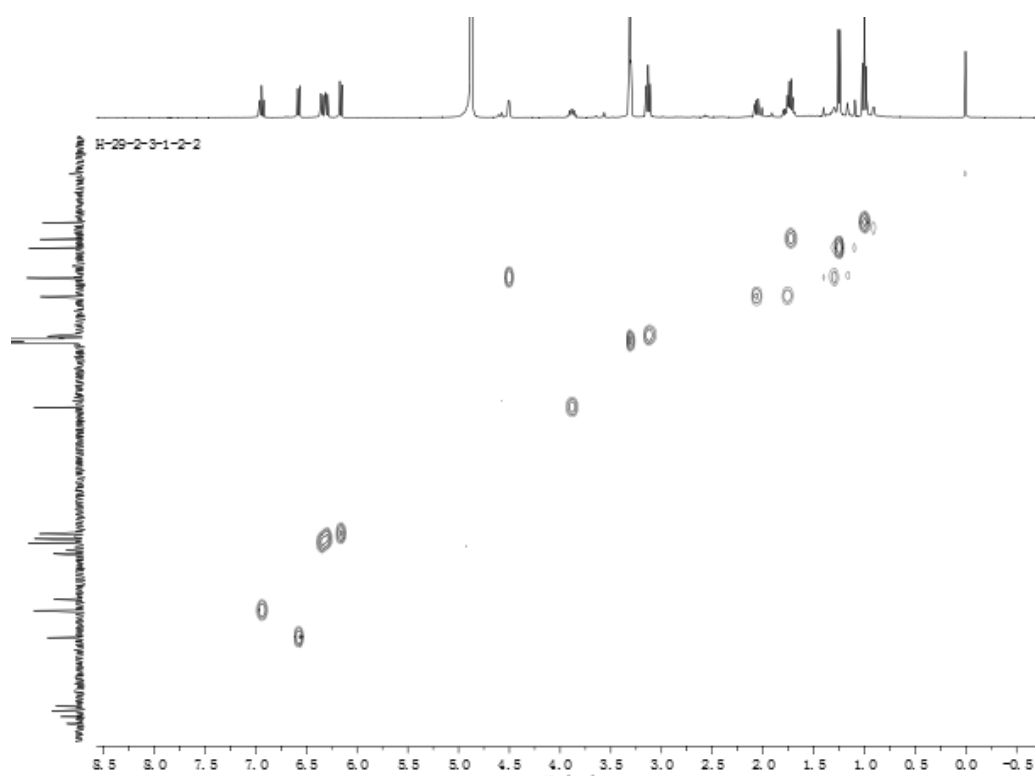


Figure S20 HMQC spectrum of **3**.

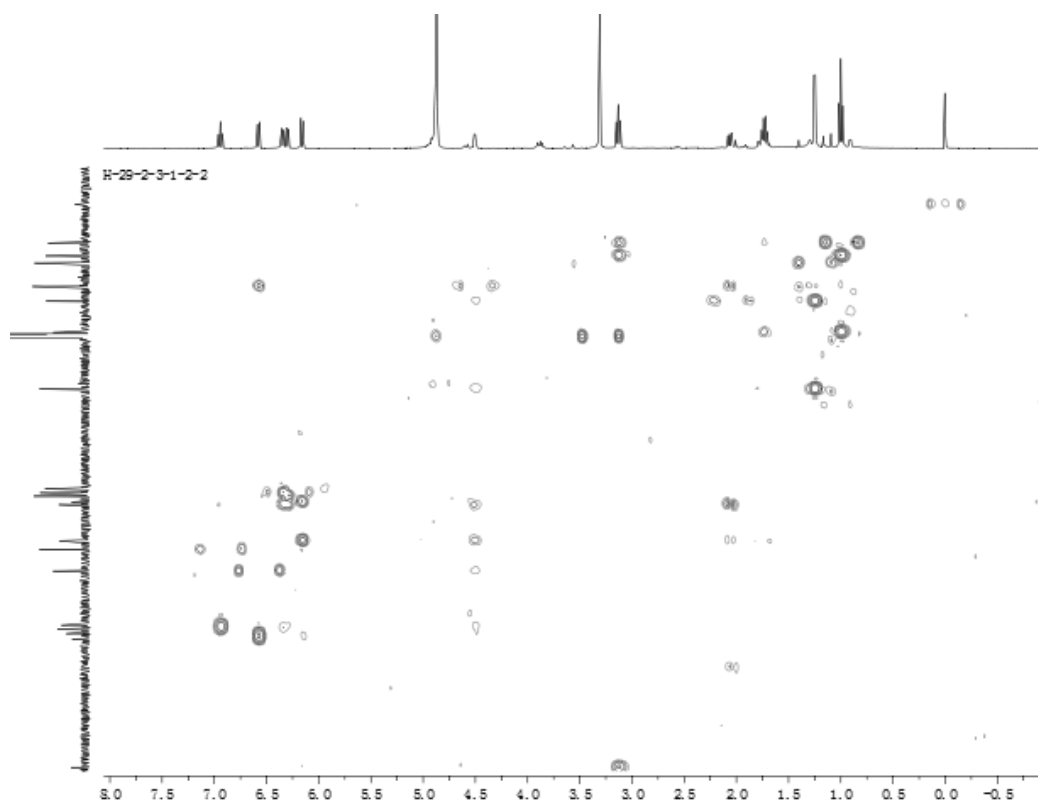


Figure S21 HMBC spectrum of **3**.

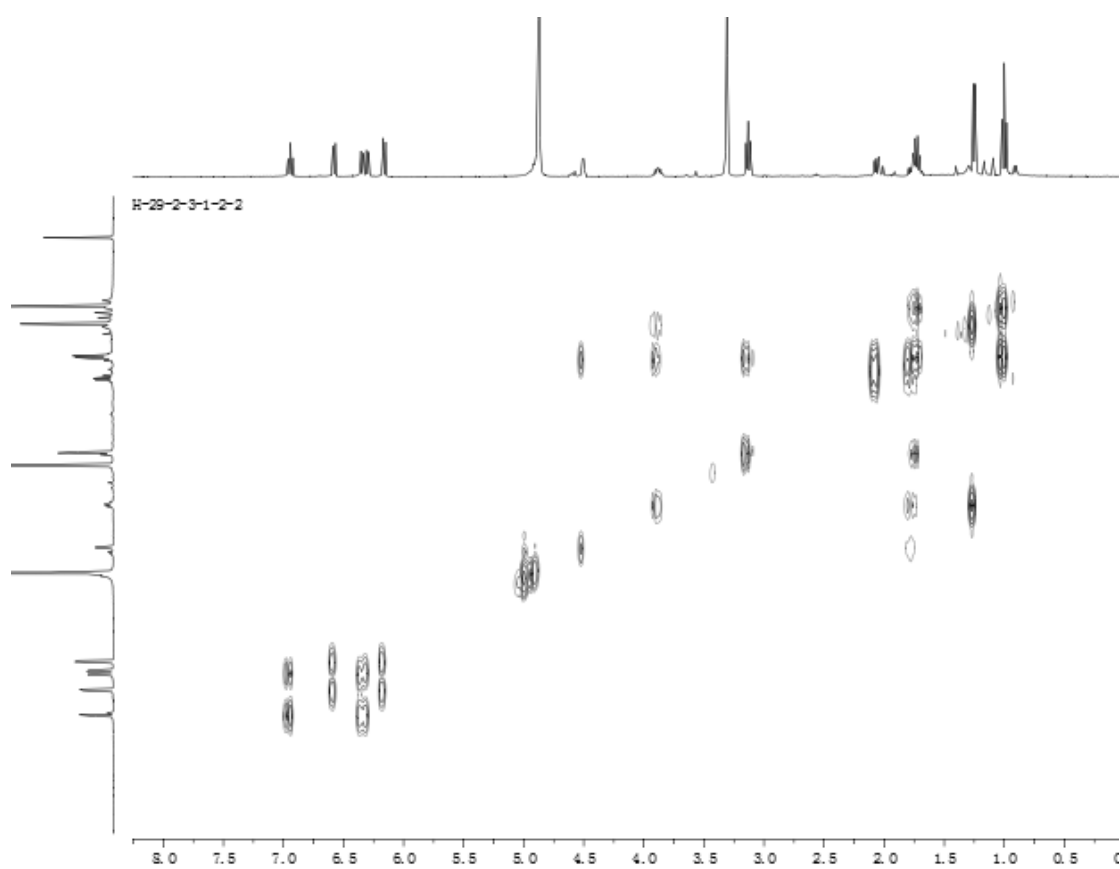


Figure S22 COSY spectrum of **3**.

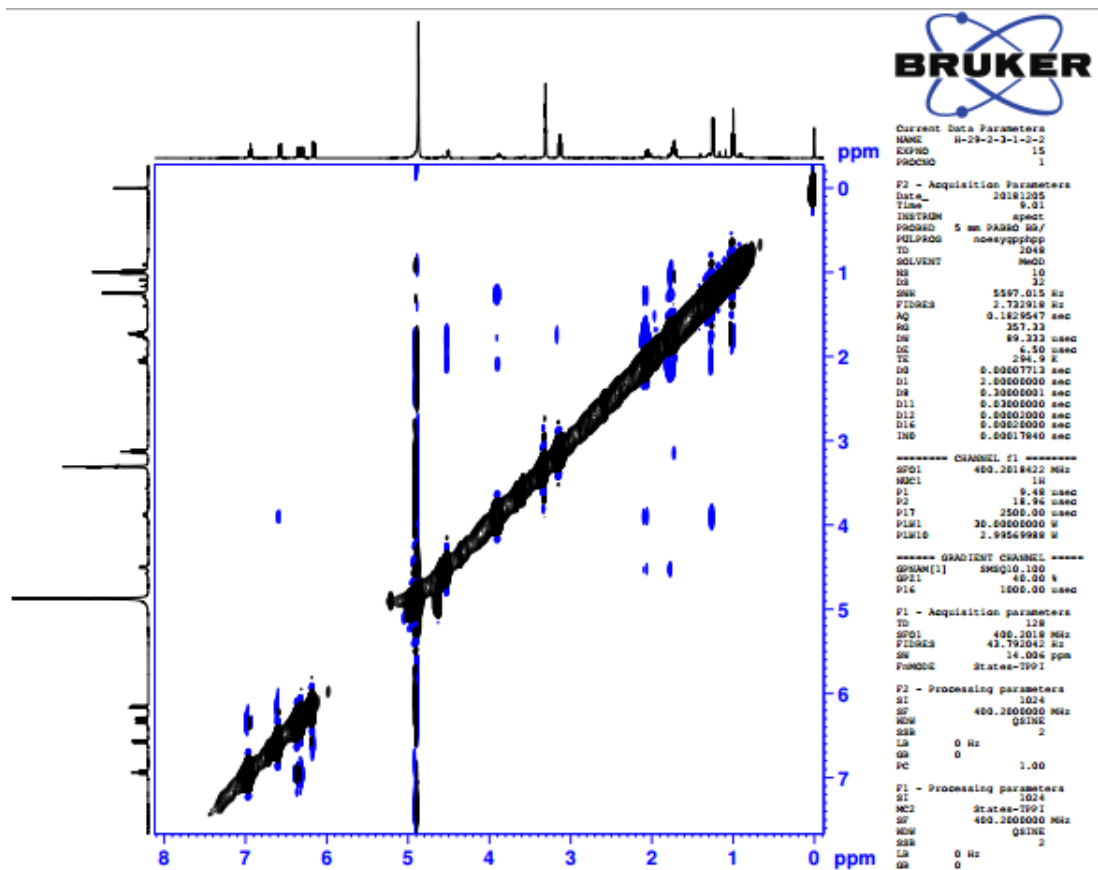


Figure S23 NOESY spectrum of **3**.

120 #19 RT: 0.36 AV: 1 NL: 5.74E3
T: FTMS + p ESI Full ms [150.00-2000.00]

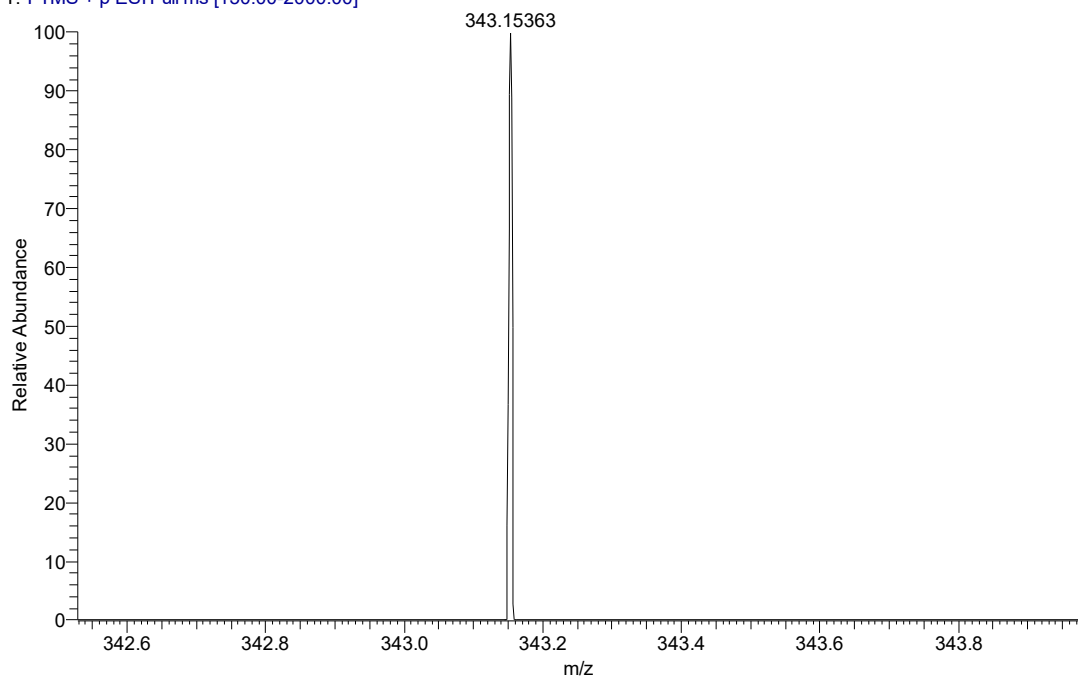


Figure S24 HRESIMS spectrum of **3**.

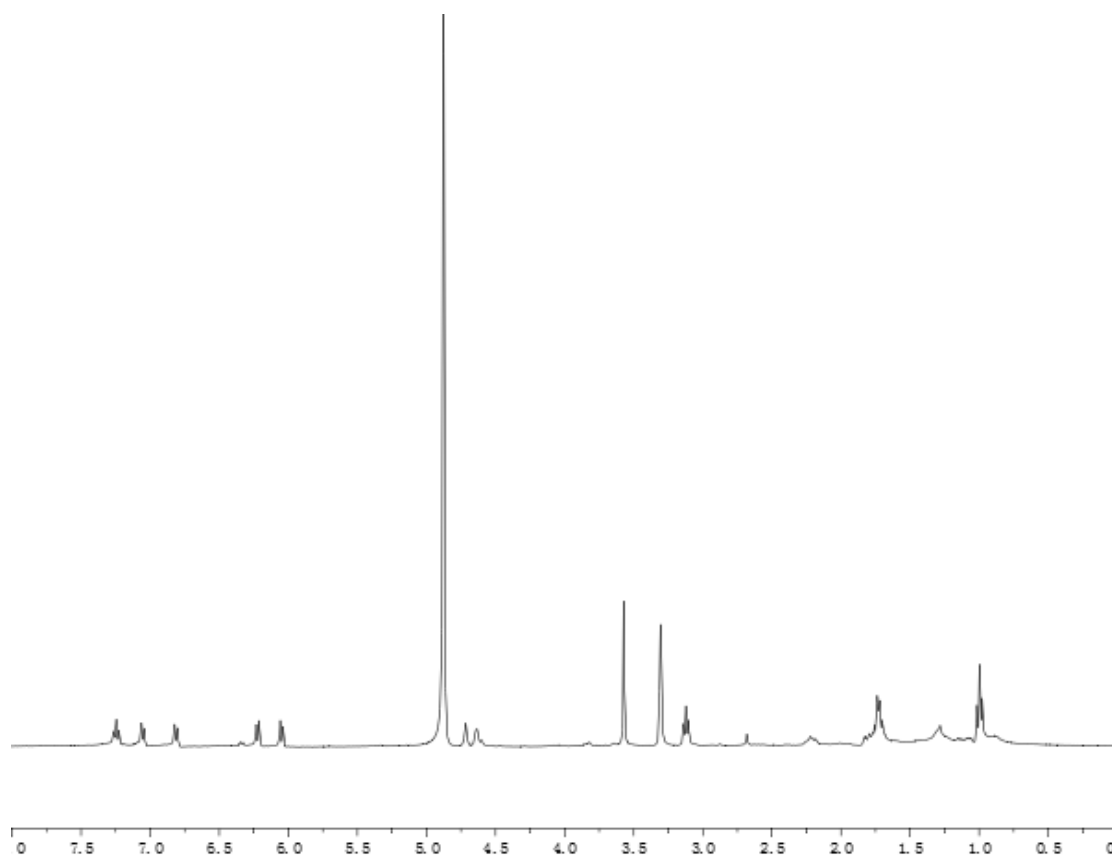


Figure S25. ¹H NMR (CD₃OD, 400 MHz) spectrum of 4.

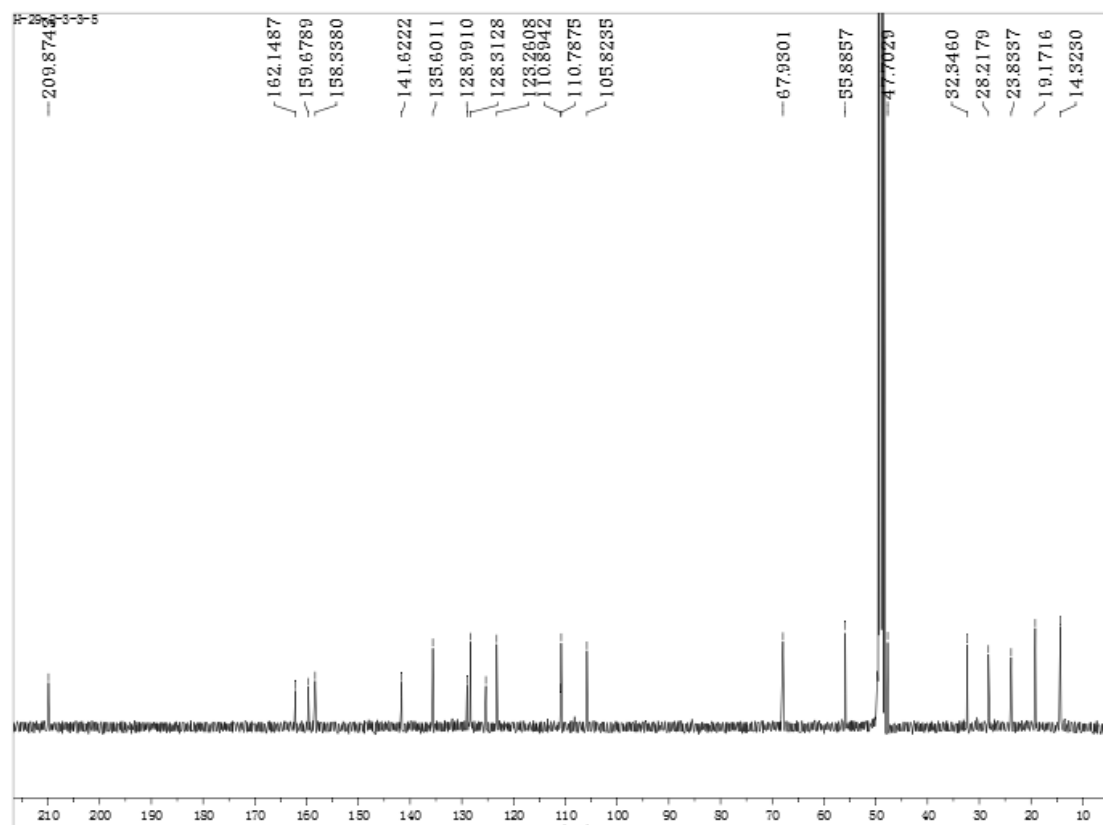


Figure S26. ¹³C NMR (CD₃OD, 100 MHz) spectrum of 4.

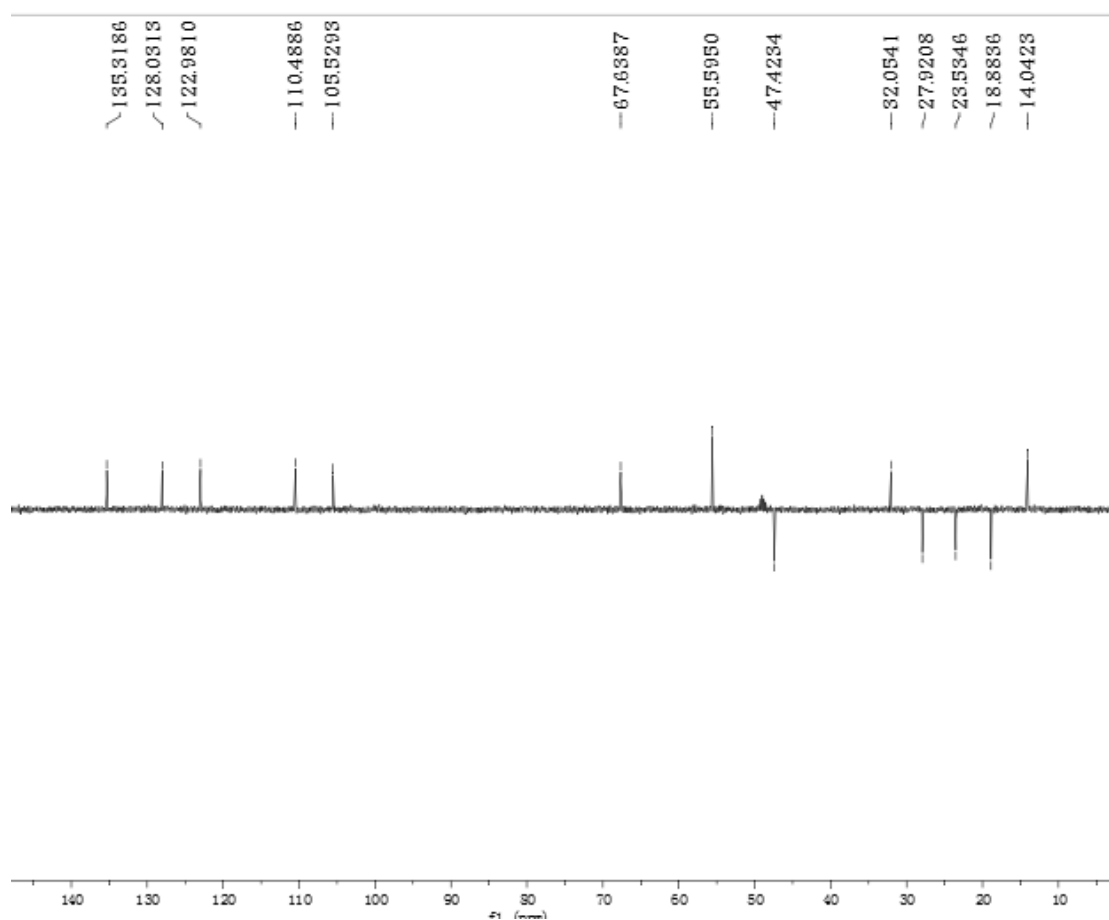


Figure S27. DEPT (CD₃OD, 100 MHz) spectrum of **4**.

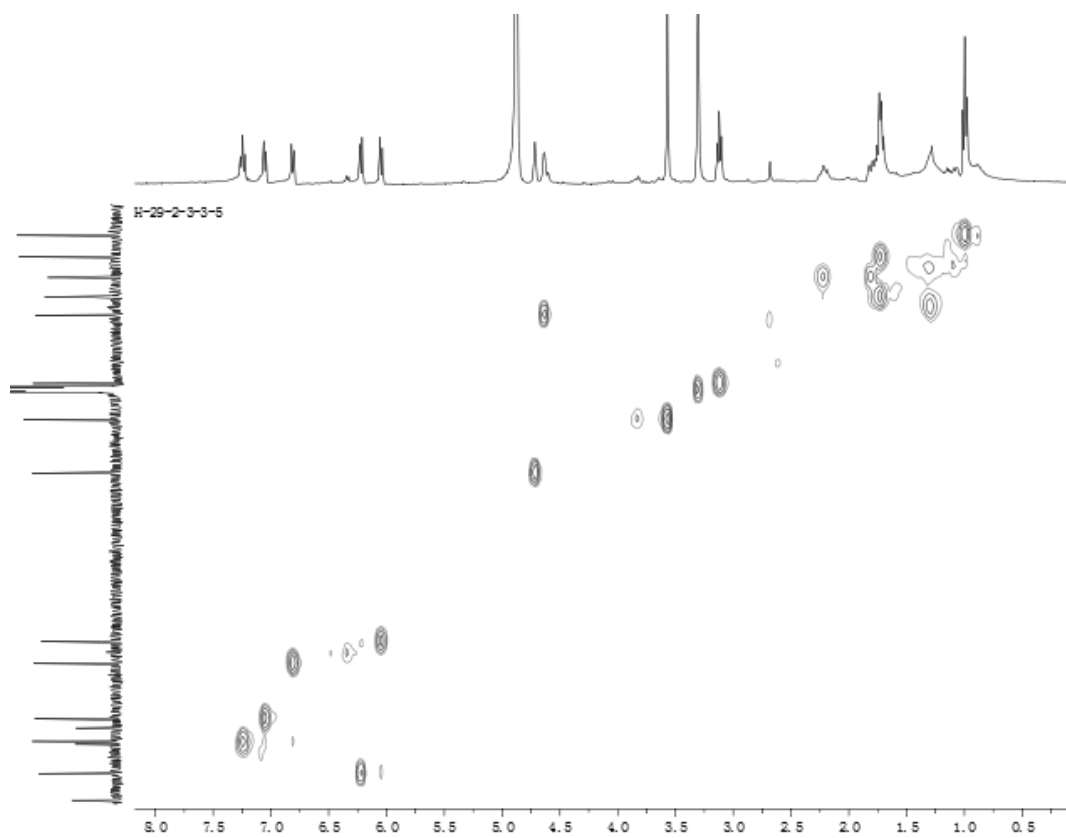


Figure S28. HMQC spectrum of **4**.

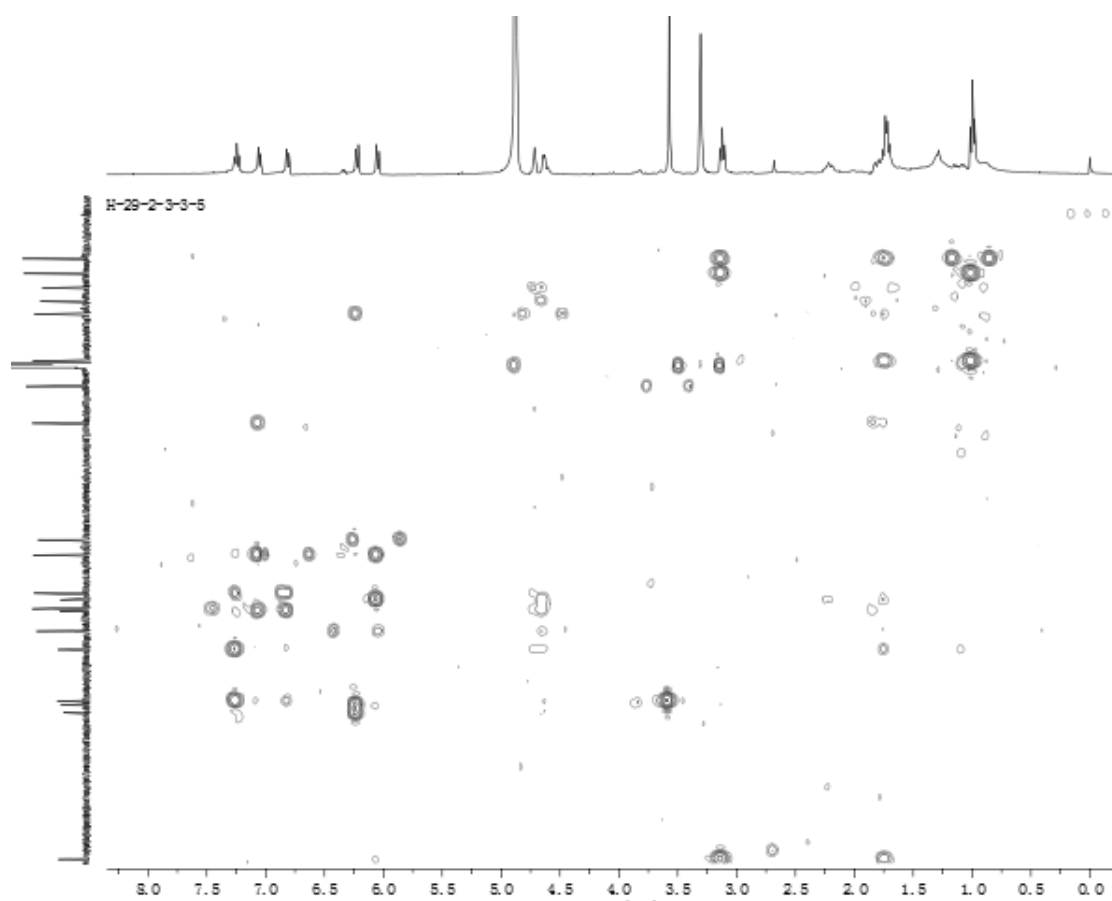


Figure S29. HMBC spectrum of **4**.

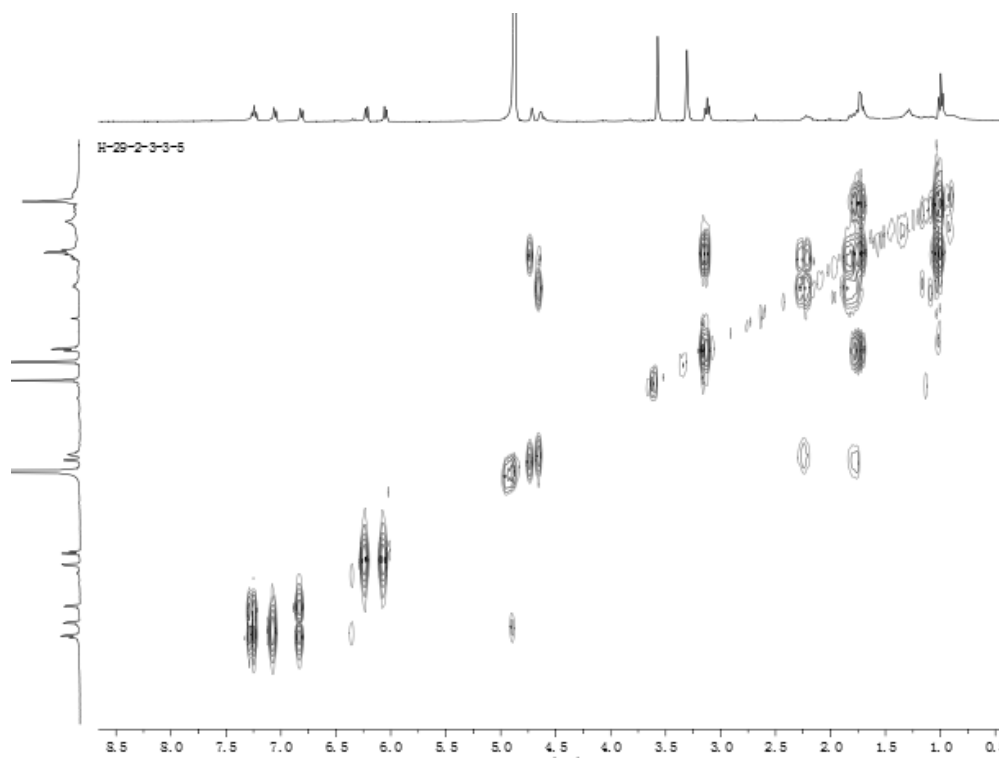


Figure S30. COSY spectrum of **4**.

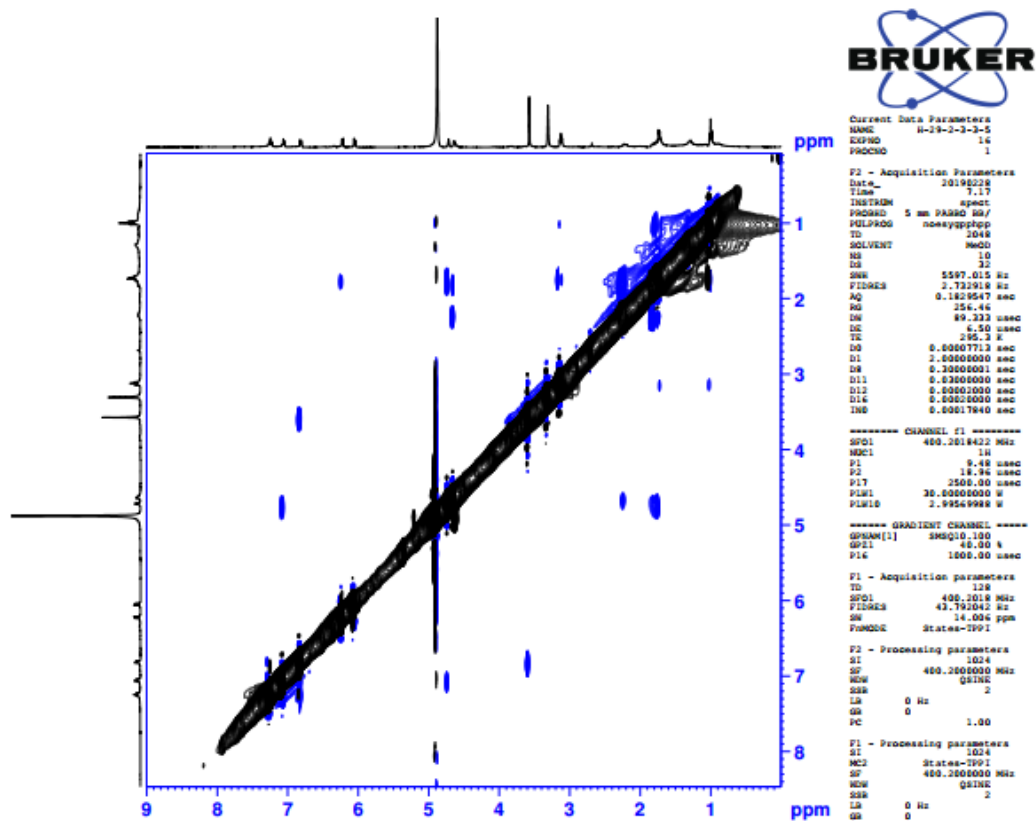


Figure S31. NOESY spectrum of 4.

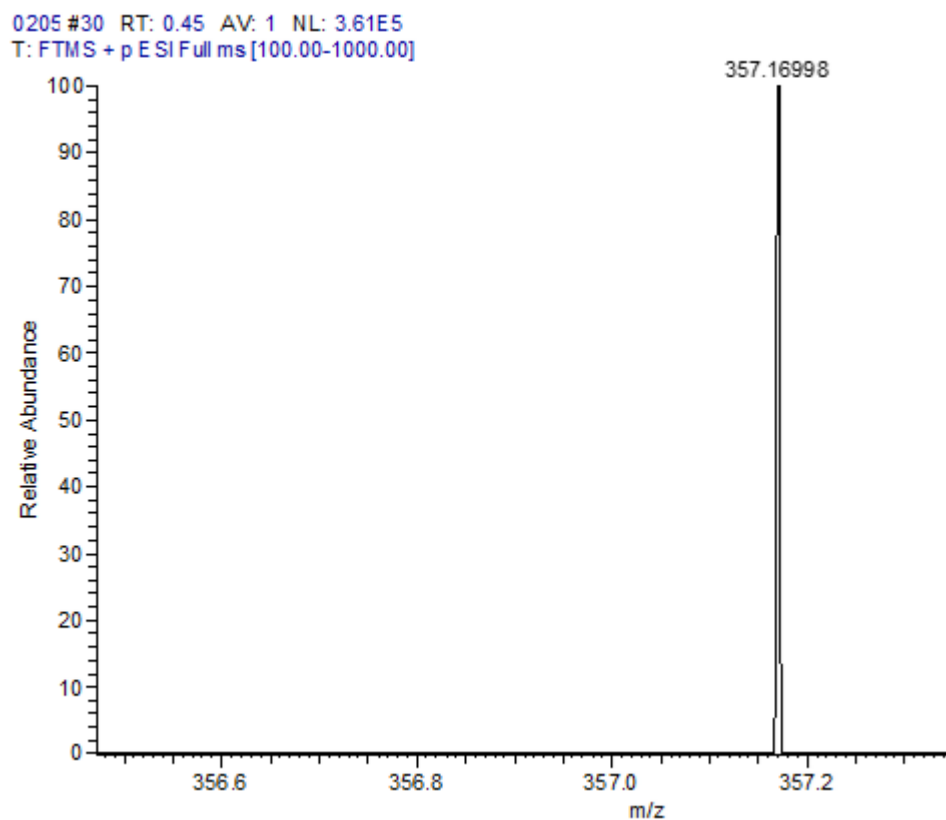


Figure S32. HRESIMS spectrum of 4.

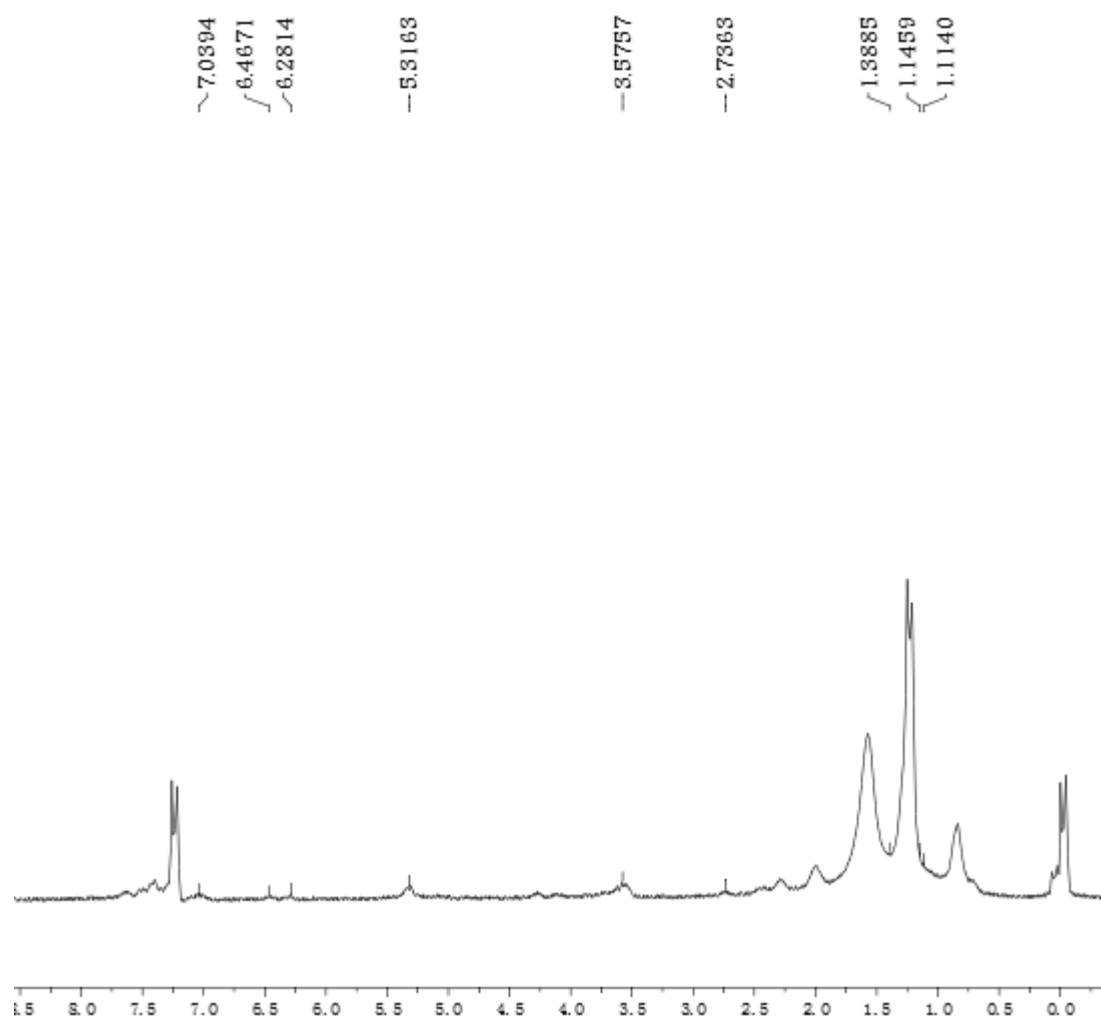


Figure S33. ^1H NMR (CDCl_3 , 400 MHz) of *S*-MTPA ester of **2a**

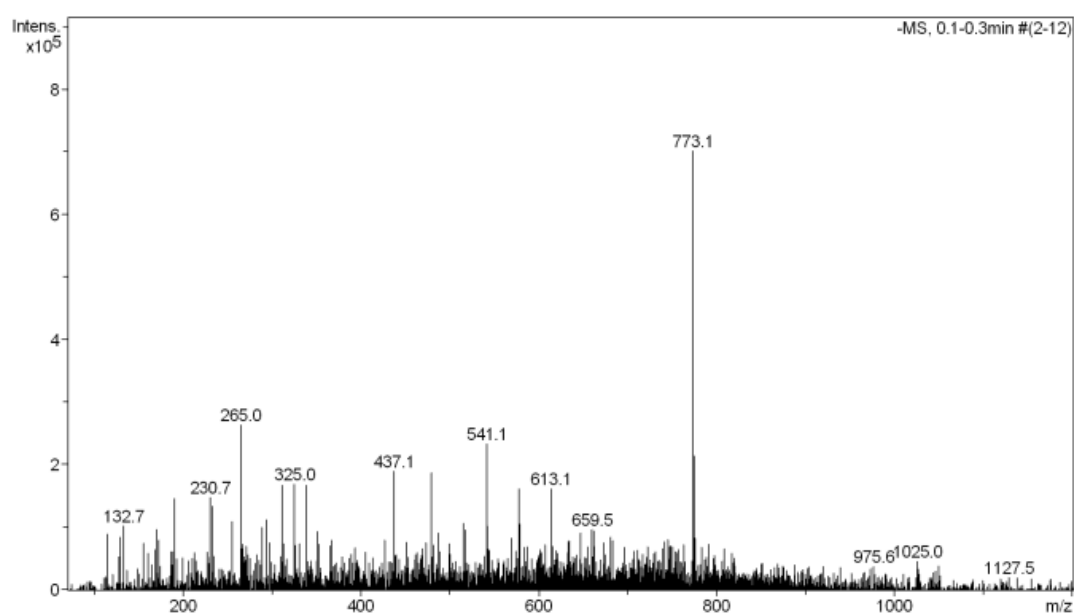


Figure S34. ESI-MS spectrum of **2a**

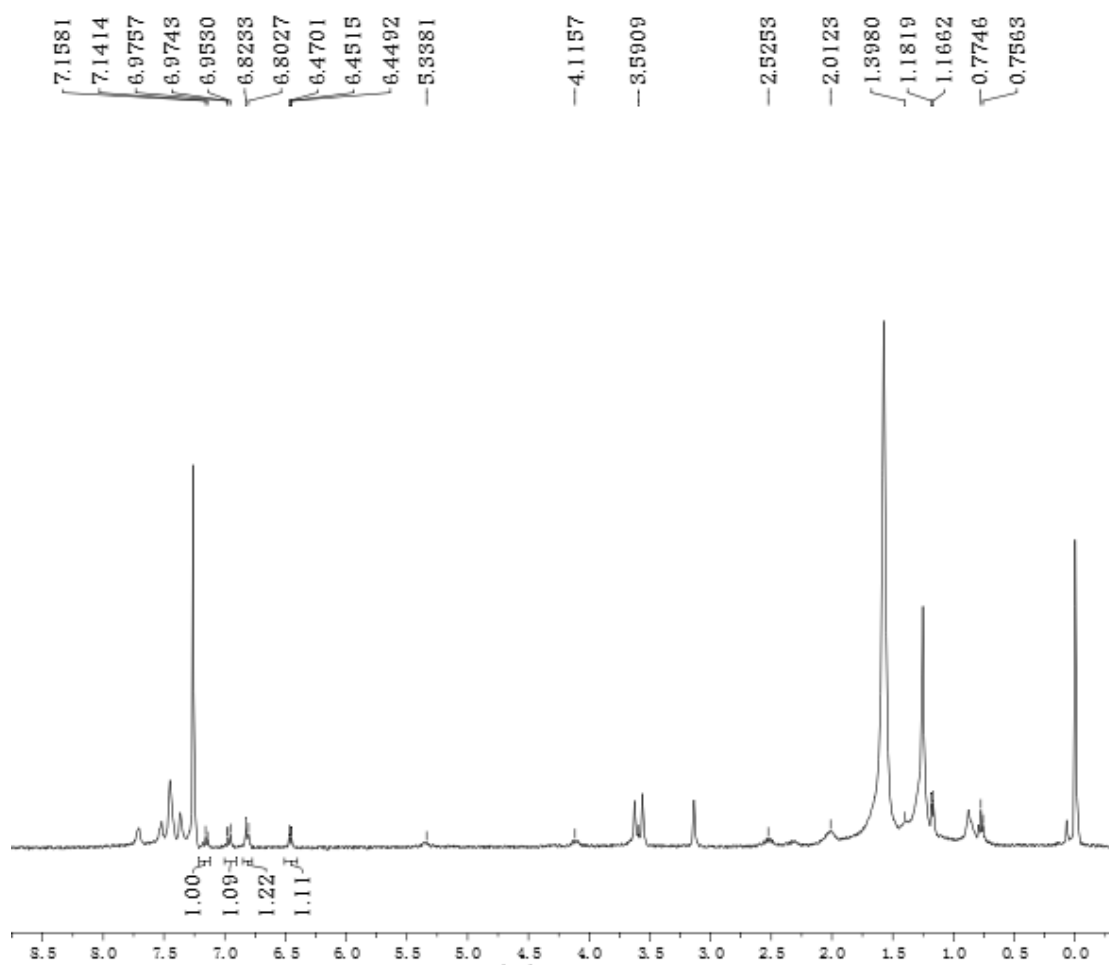


Figure S35. ¹H NMR (CDCl₃, 400 MHz) of R-MTPA ester of **2b**

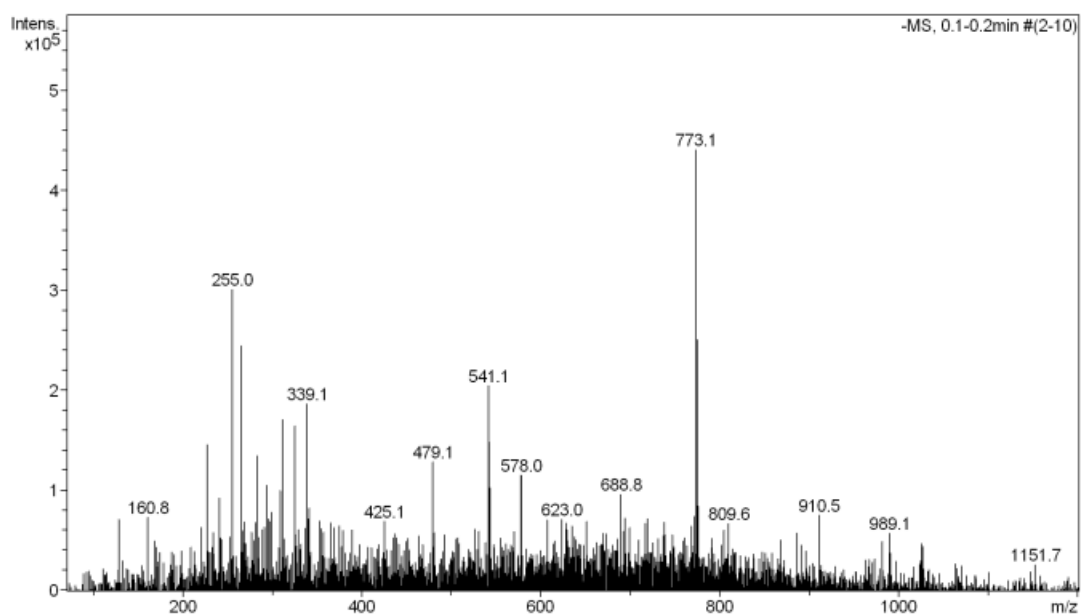


Figure S36. ESI-MS spectrum of **2b**

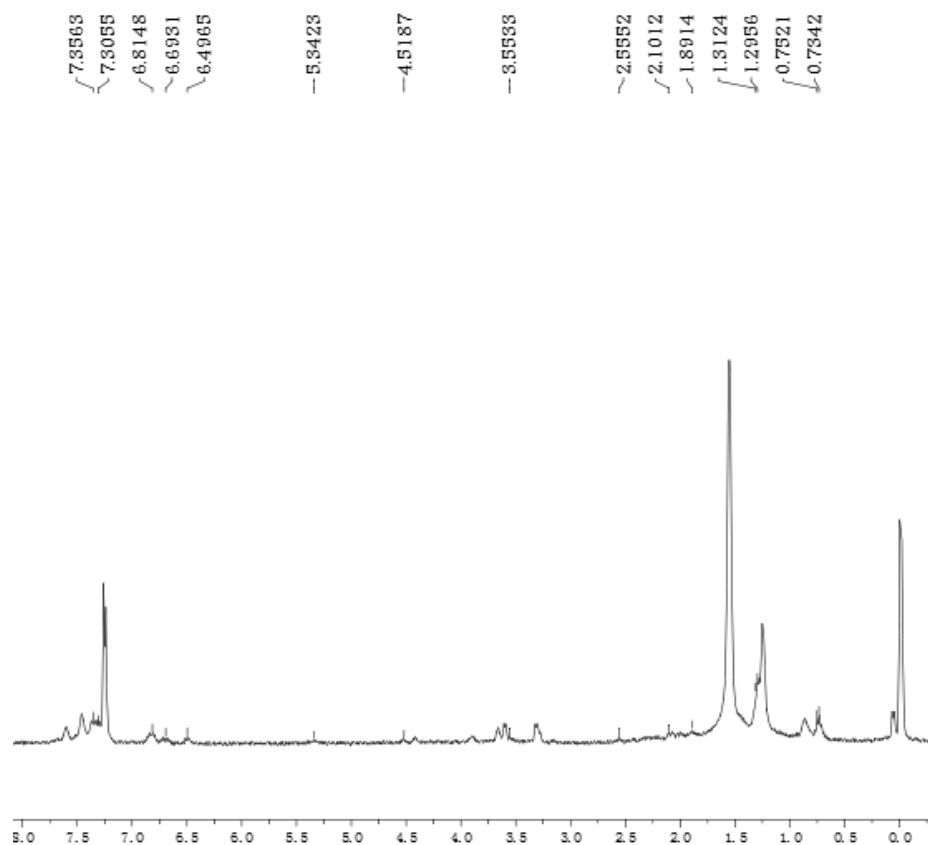
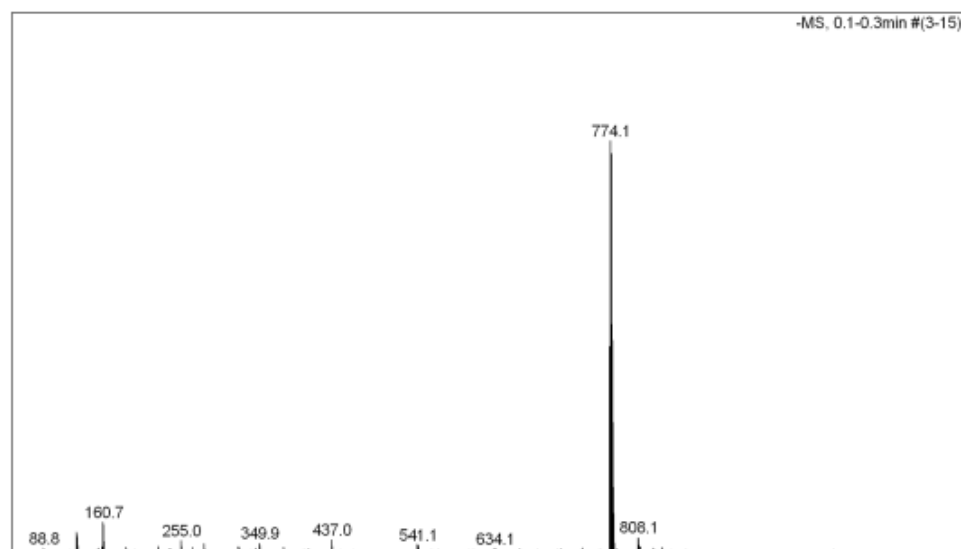


Figure S37. ^1H NMR (CDCl_3 , 400 MHz) of *S*-MTPA ester of **3a**



m/z	z	I	FWHM
128.7	152169	0.2	
160.7	217463	0.2	
255.0	96911	0.3	
437.0	101587	0.2	
773.2	1363135	0.3	
774.1	2709062	0.3	
775.1	2626367	0.3	
776.1	1410613	0.3	
777.1	446813	0.3	
808.1	117650	0.2	

Figure S38. ESIMS spectrum of **3a**

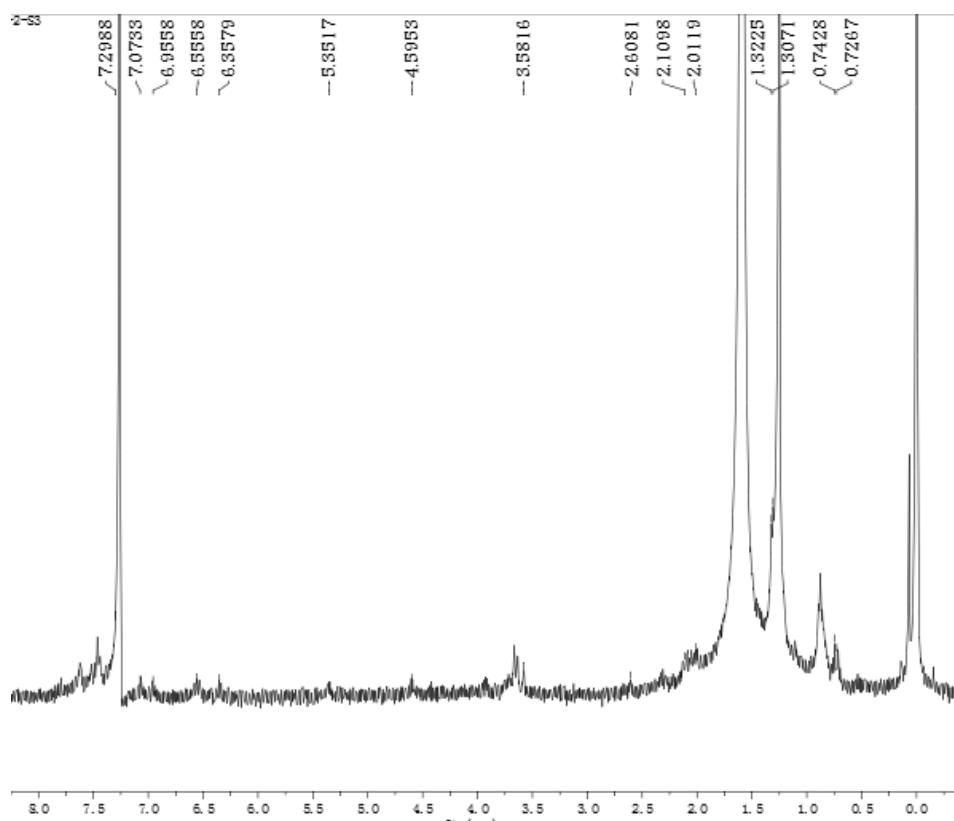
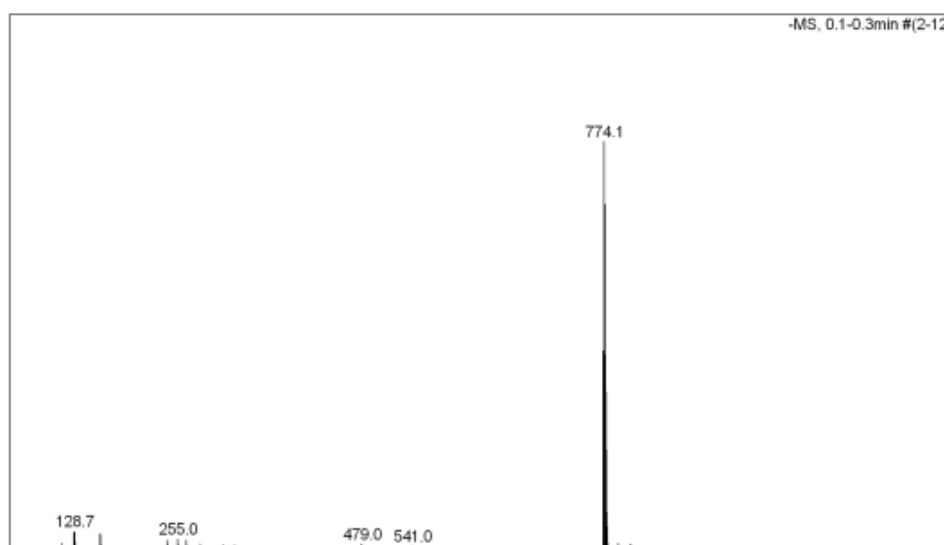


Figure S39. ^1H NMR (CDCl_3 , 400 MHz) of *R*-MTPA ester of **3b**



m/z	z	I	FWHM
128.7	142748	0.2	
160.7	129020	0.2	
241.9	82891	0.3	
255.0	93321	0.3	
264.9	81494	0.2	
773.1	1335563	0.3	
774.1	2716571	0.3	
775.1	2302053	0.3	
776.1	1062379	0.3	
777.1	269089	0.3	

Figure S40. ESIMS spectrum of **3b**