Supporting Information for

Furan Derivatives and Polyketides from the Fungus *Irpex lacteus*

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Section S2. Specific Optical Rotation Calculation for compound 6.

Section S1. NMR and MS spectra for Compounds 1–6.

Figure S1. ^{1}H NMR (600 MHz, $CDCl_3$) spectrum of compound **1**

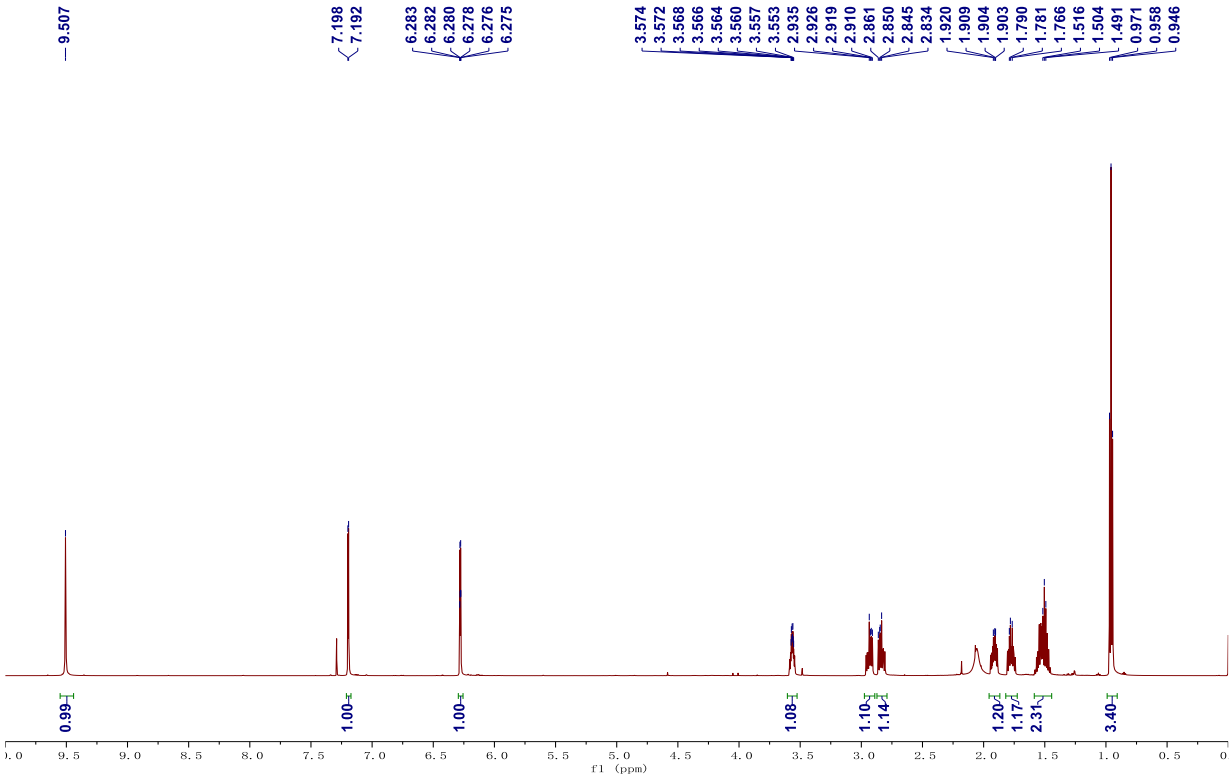


Figure S2. ^{13}C NMR (150 MHz, $CDCl_3$) spectrum of compound **1**

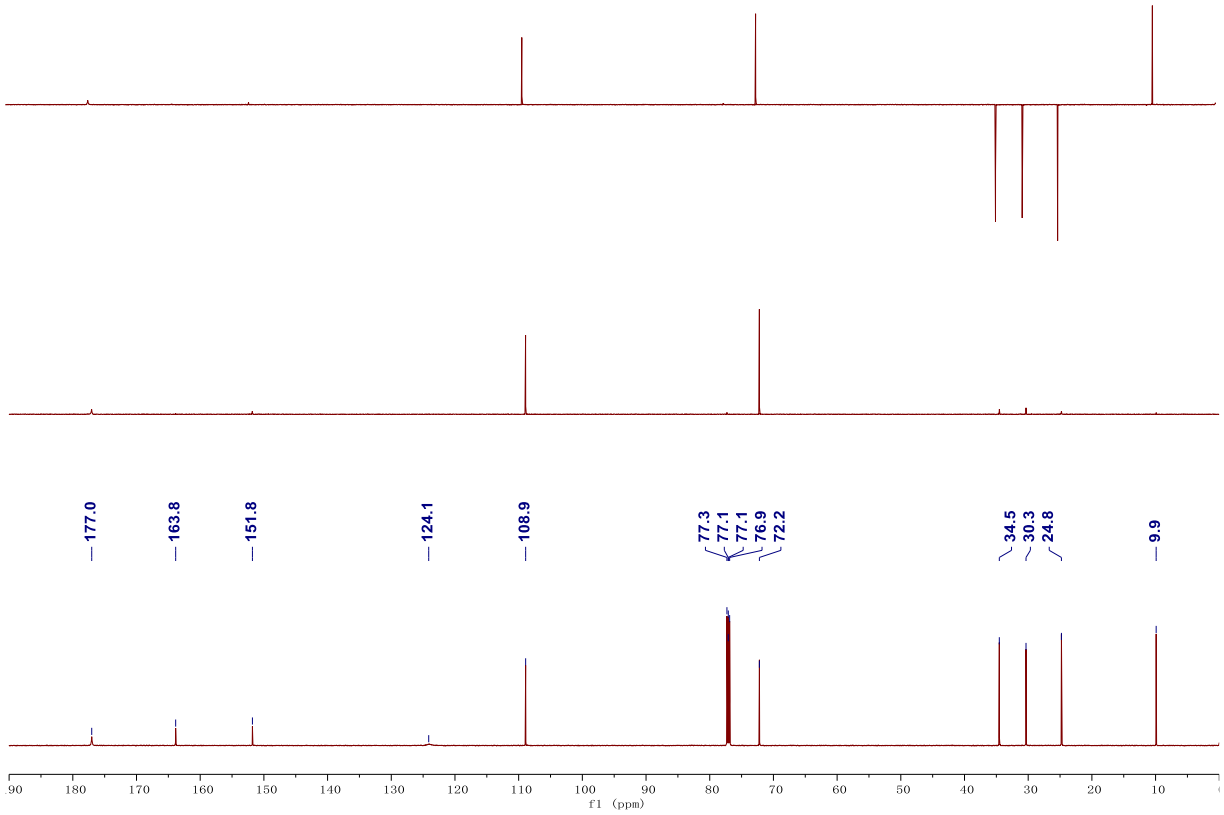


Figure S3. HSQC spectrum of compound **1**

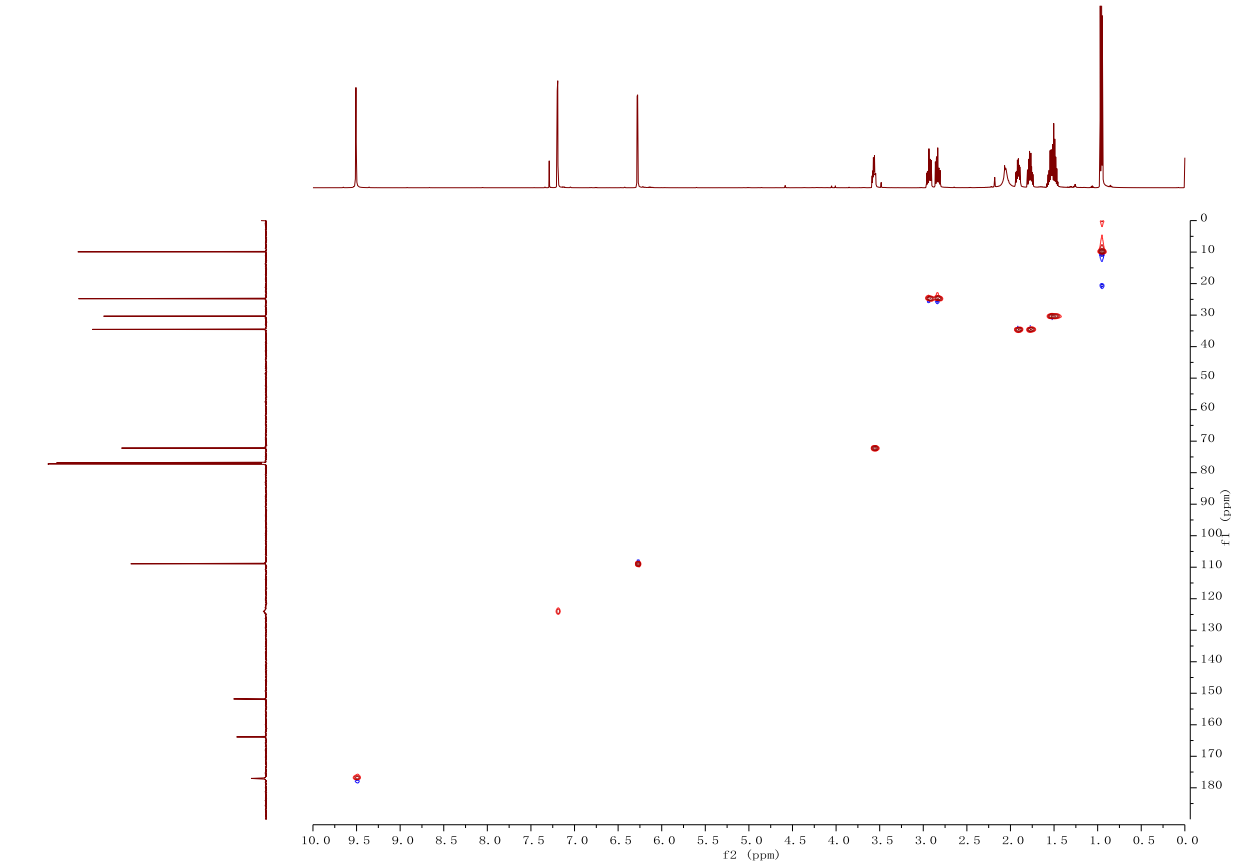


Figure S5. HMBC spectrum of compound **1**

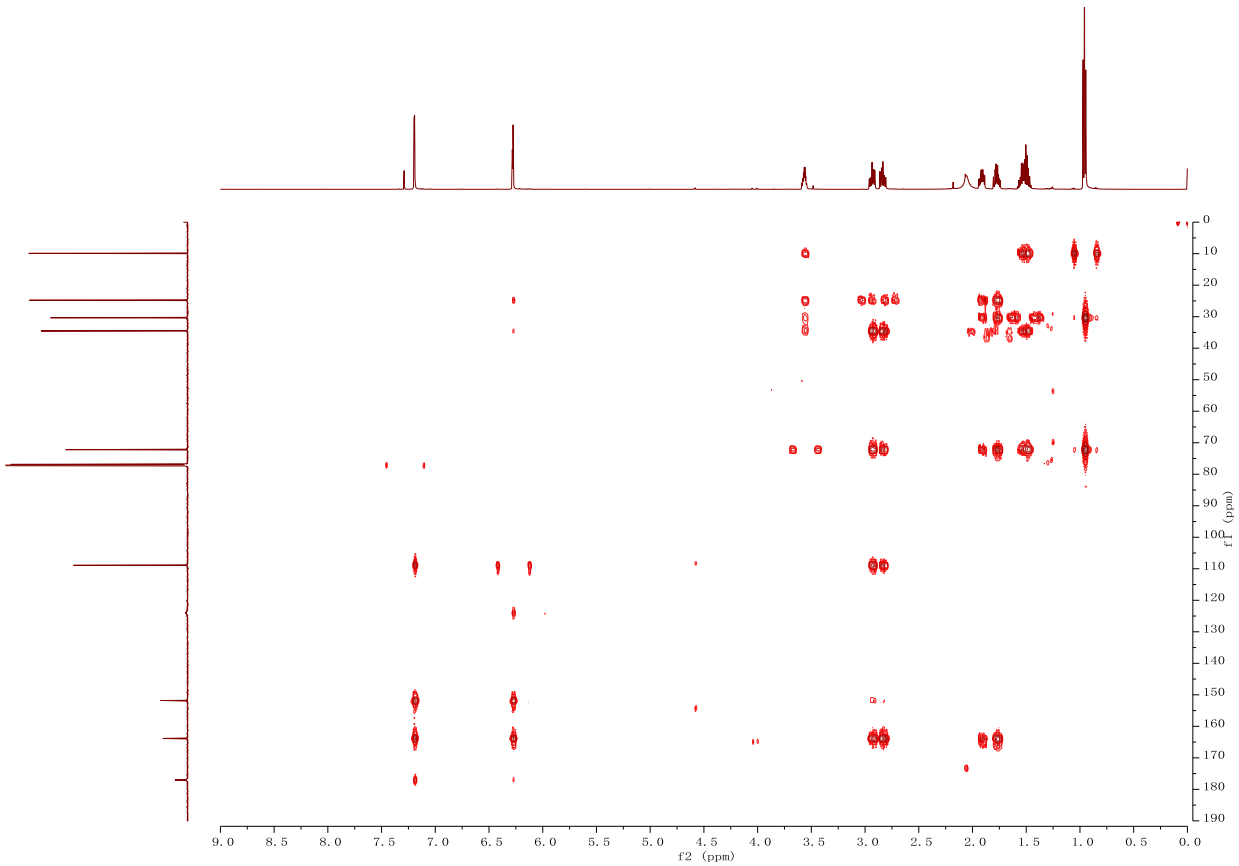


Figure S4. COSY spectrum of compound **1**

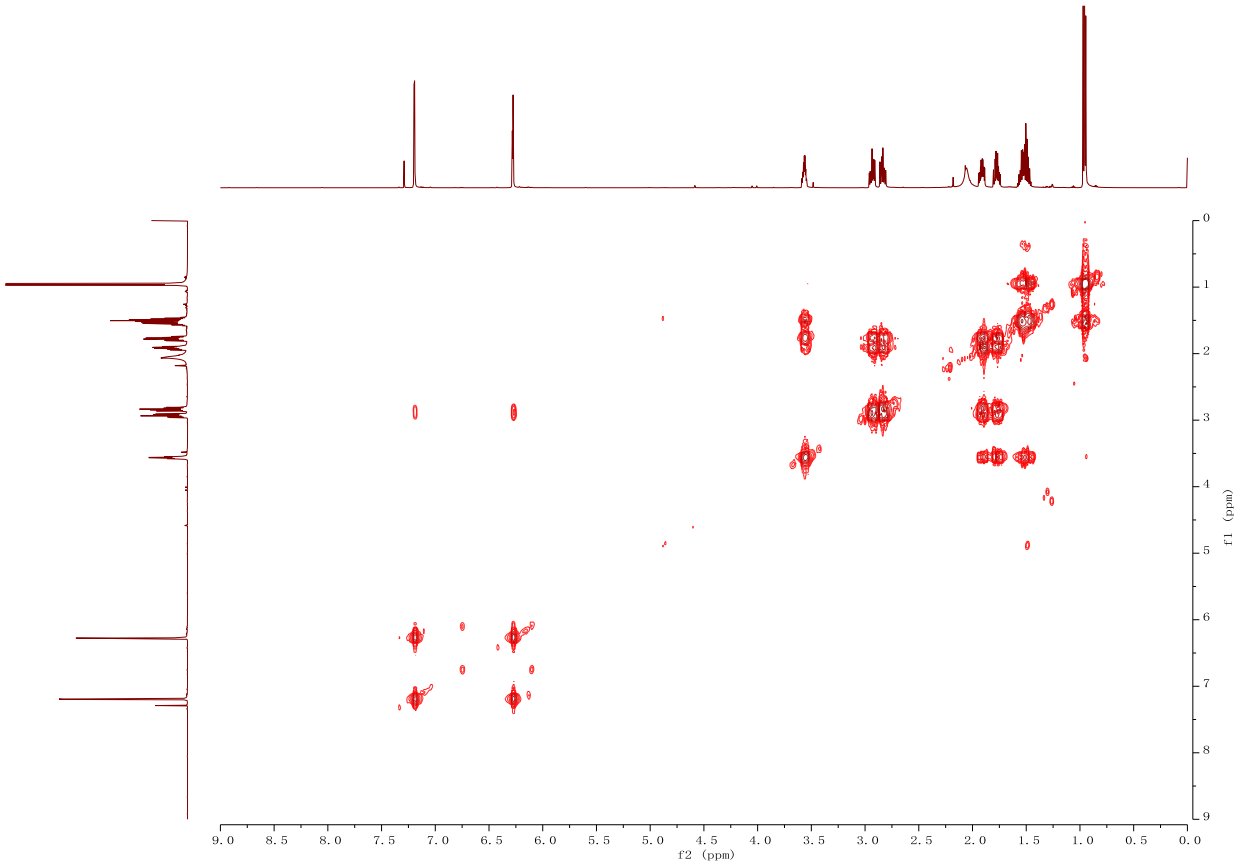


Figure S6. ROESY spectrum of compound **1**

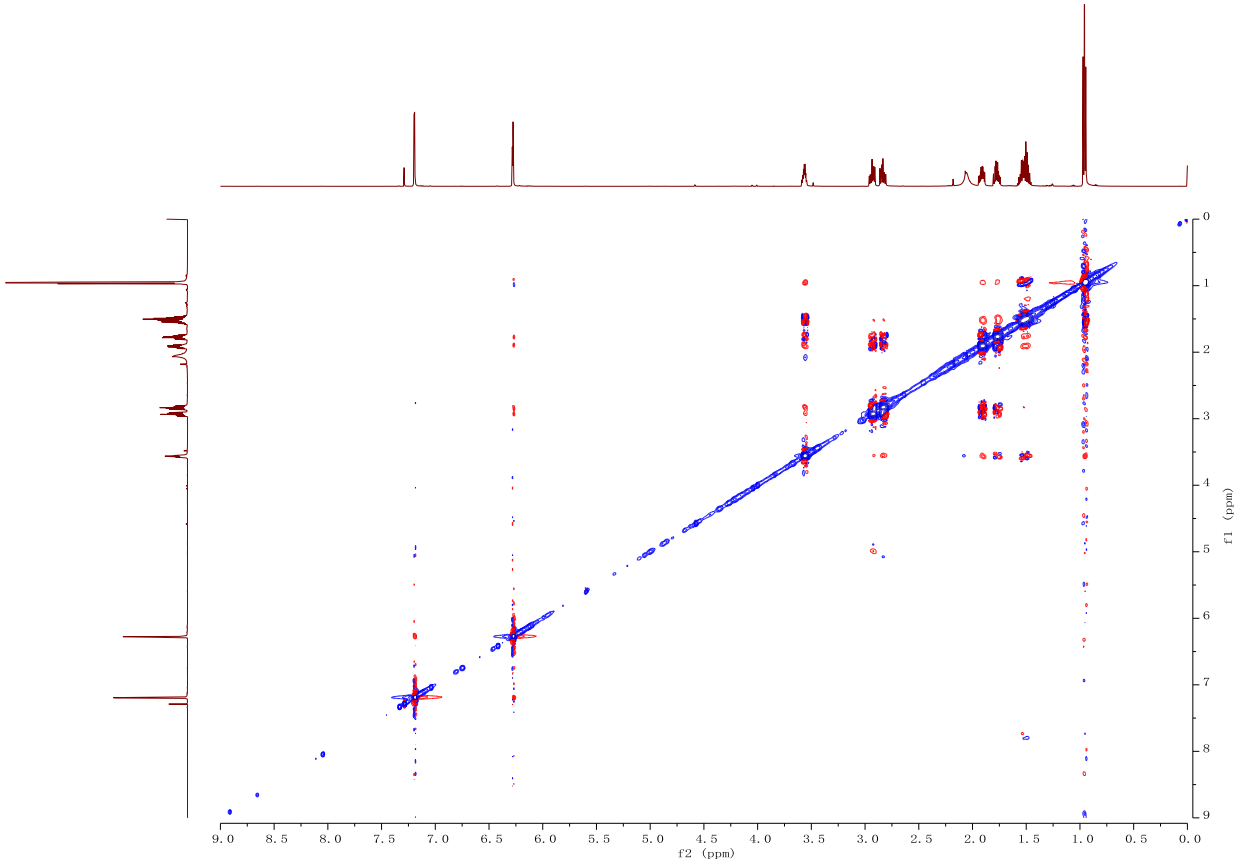


Figure S7. HR-ESI-MS of compound **1**

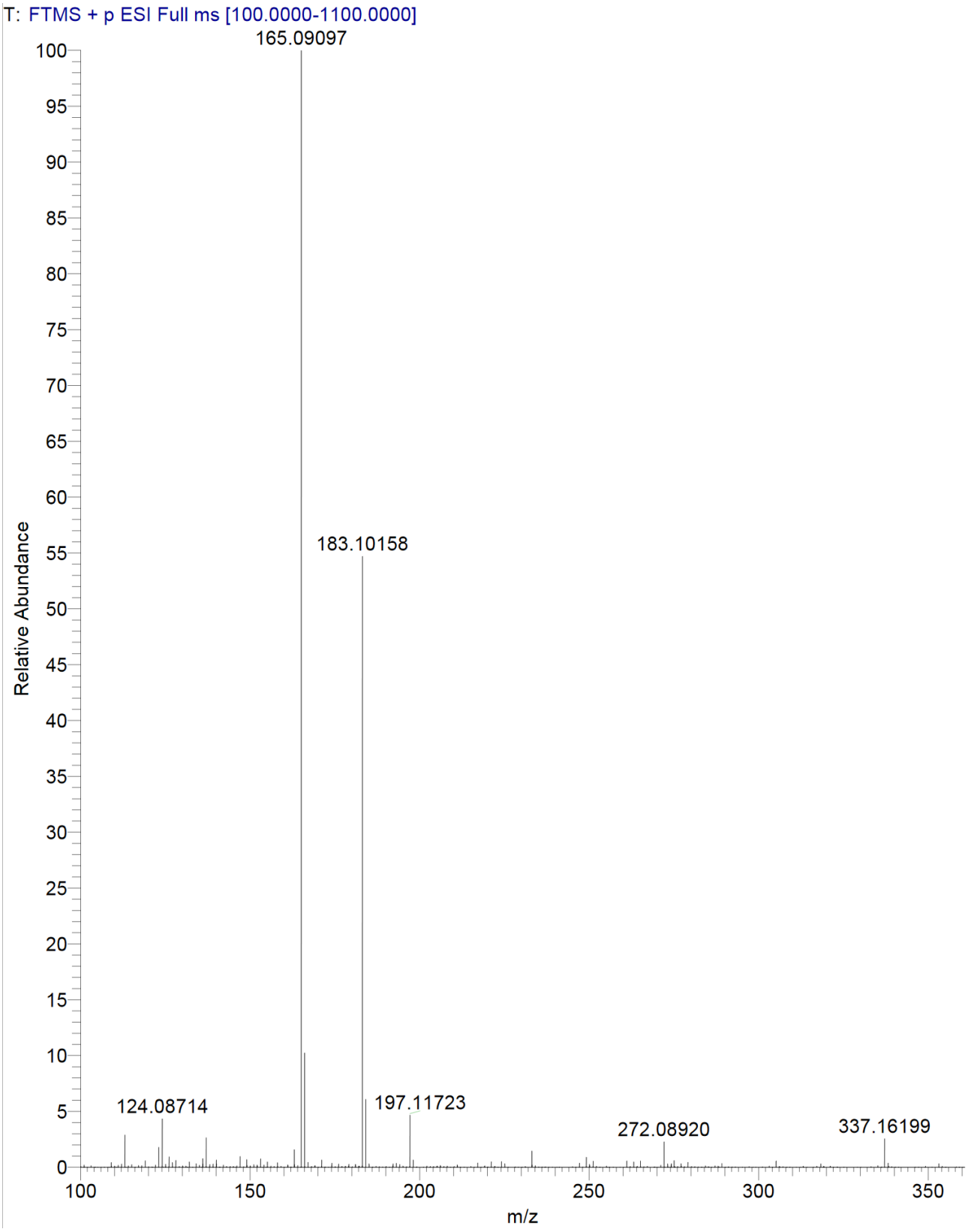


Figure S8. ^{1}H NMR (600 MHz, $CDCl_3$) spectrum of compound **1a**

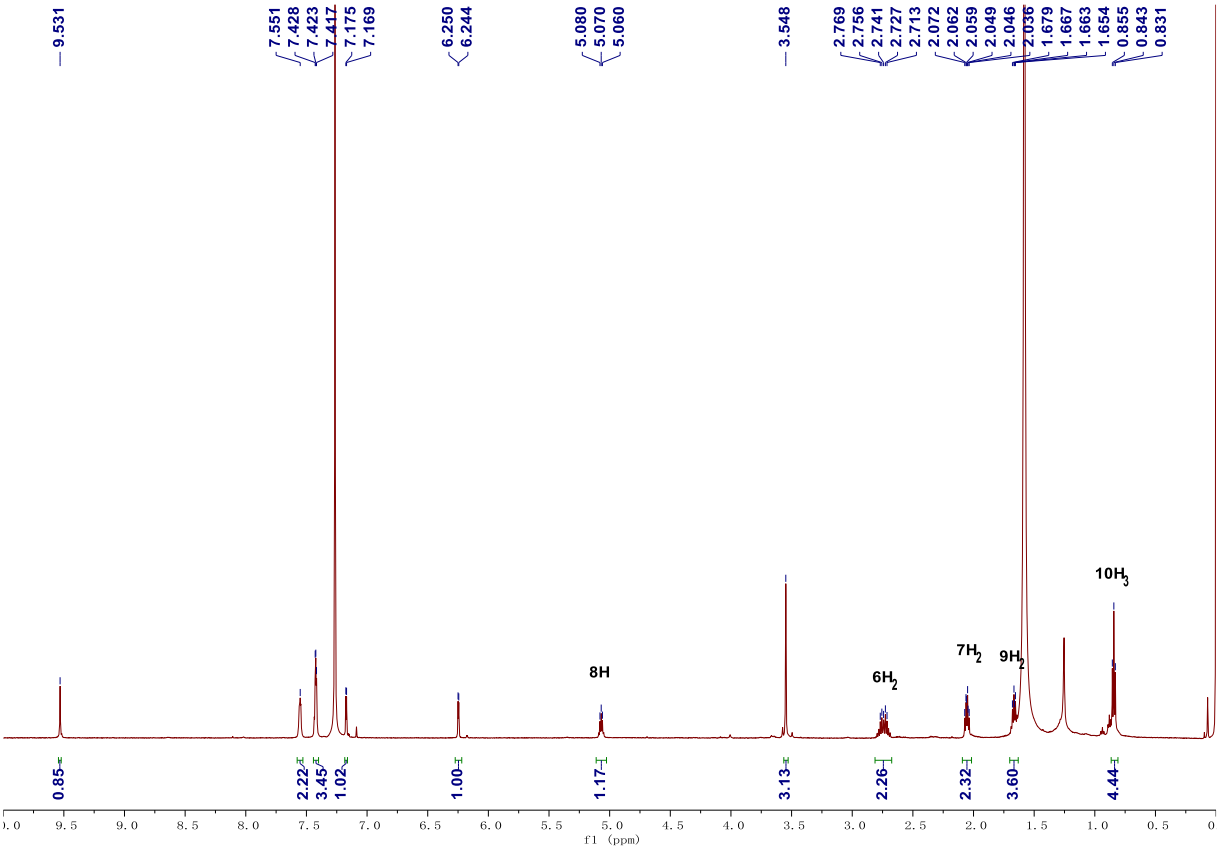


Figure S9. ^{1}H NMR (600 MHz, $CDCl_3$) spectrum of compound **1b**

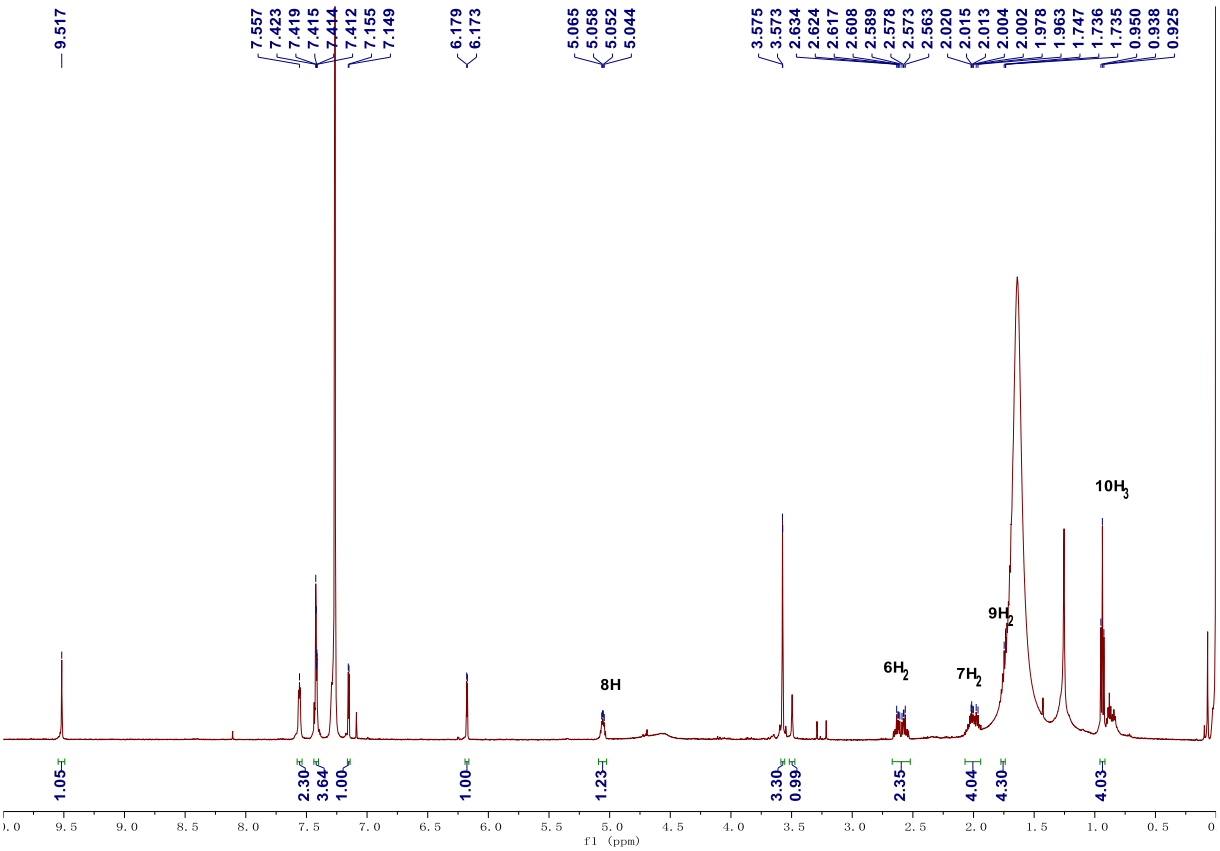


Figure S10. ^{1}H NMR (600 MHz, $CDCl_3$) spectrum of compound **2**

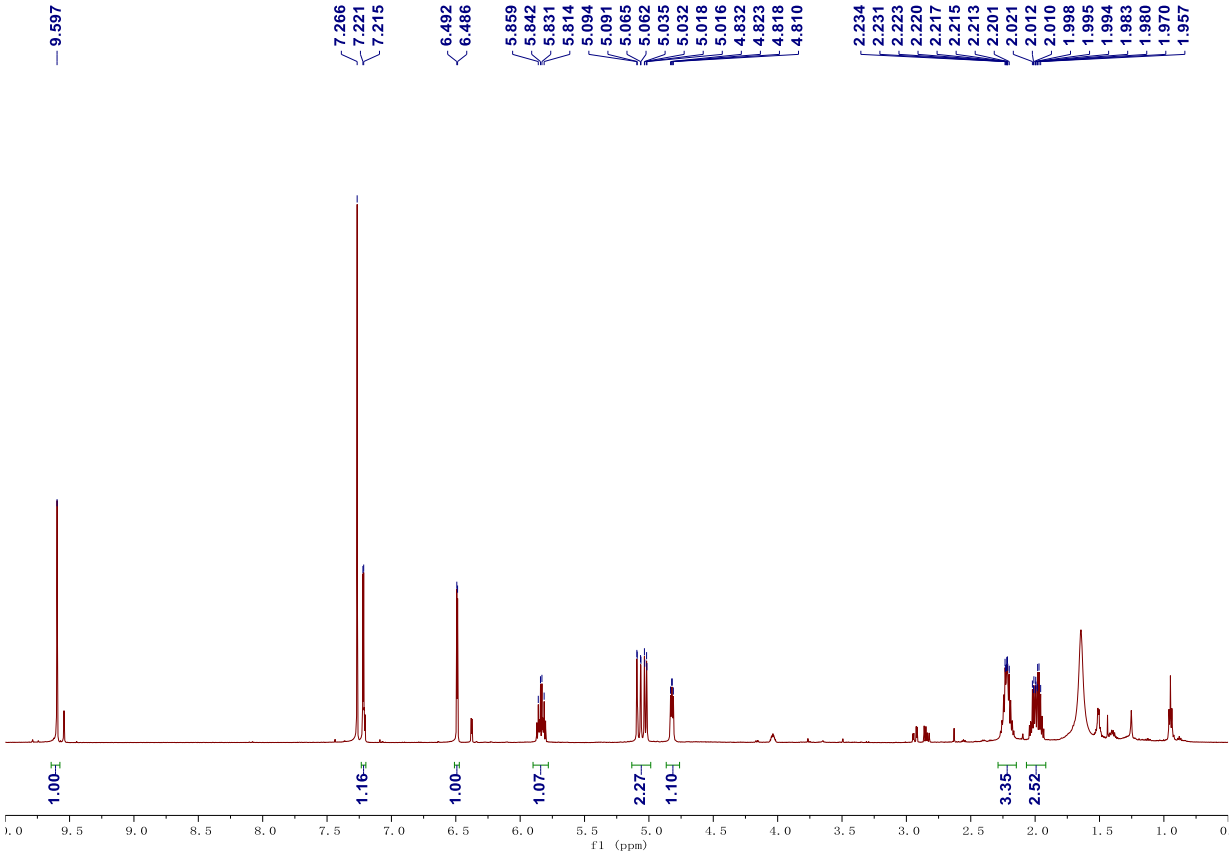


Figure S11. ^{13}C NMR (150 MHz, $CDCl_3$) spectrum of compound **2**

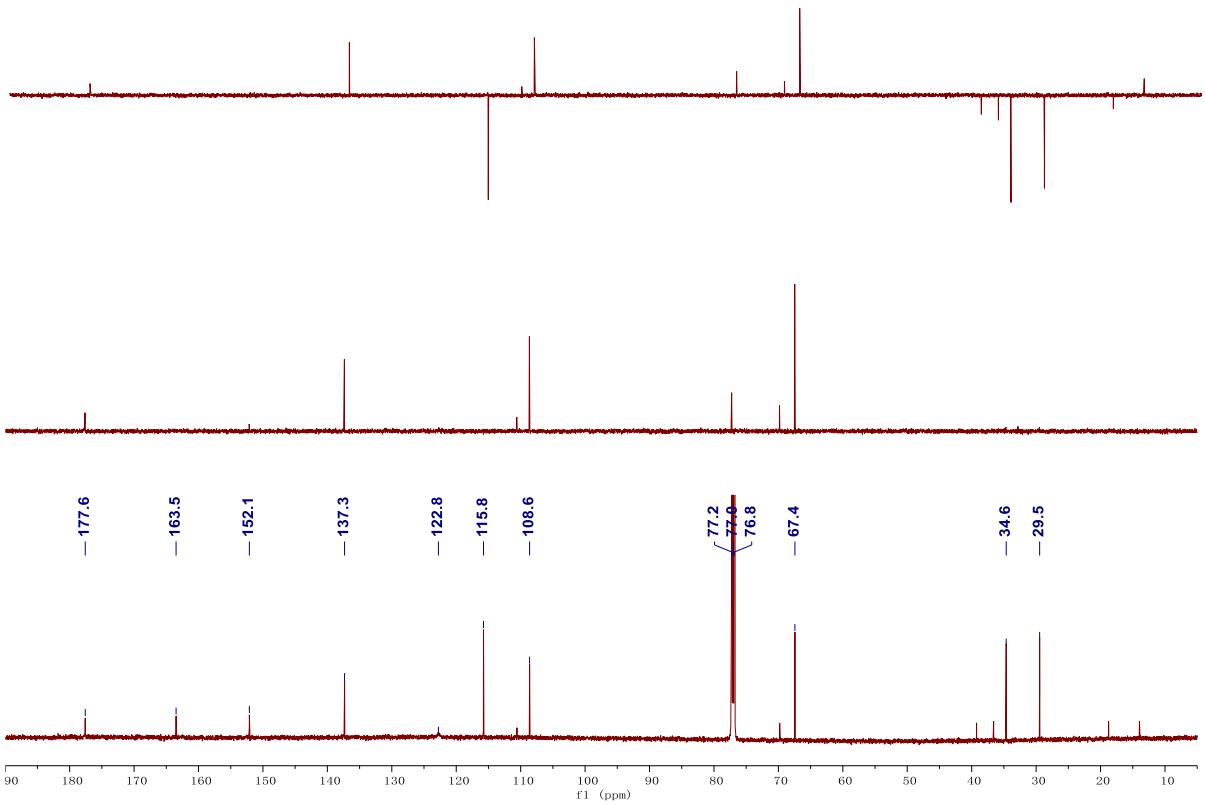


Figure S12. HSQC spectrum of compound **2**

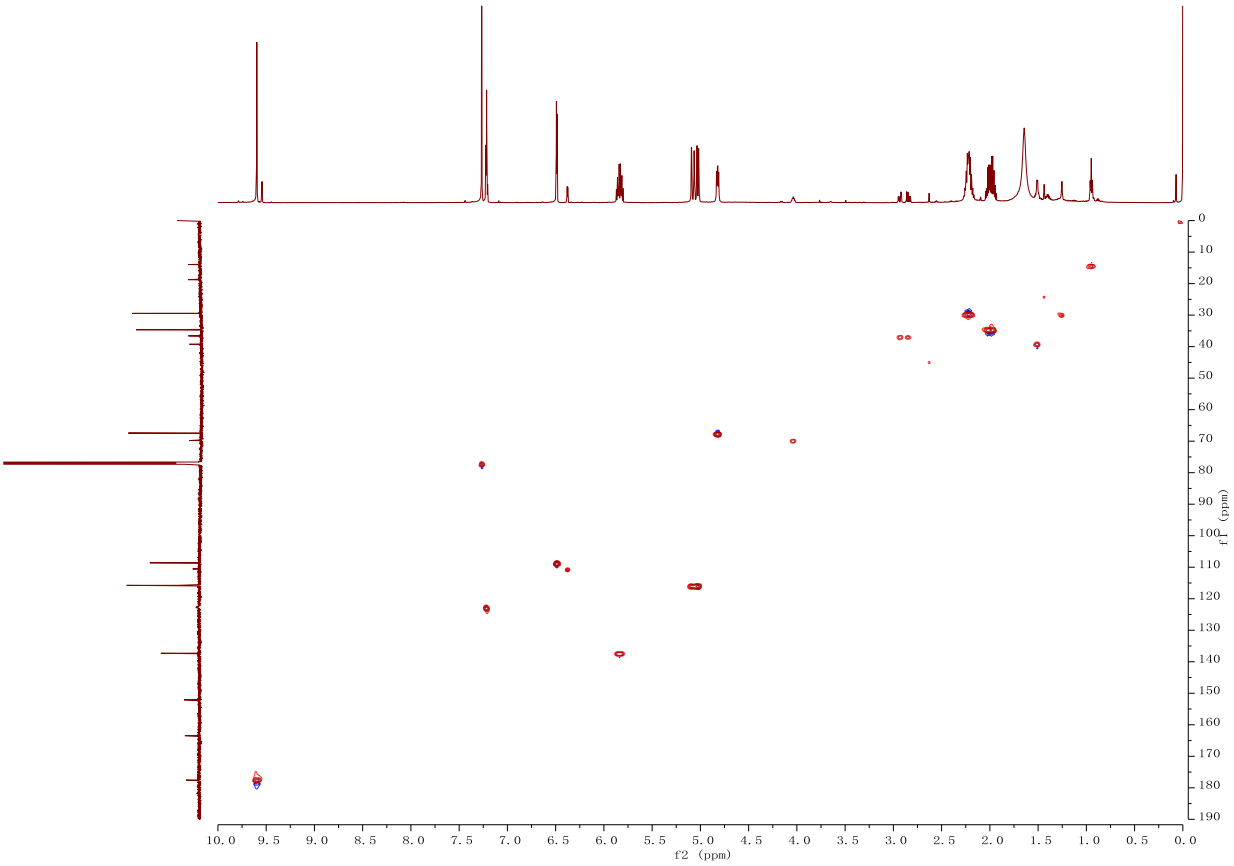


Figure S13. HMBC spectrum of compound **2**

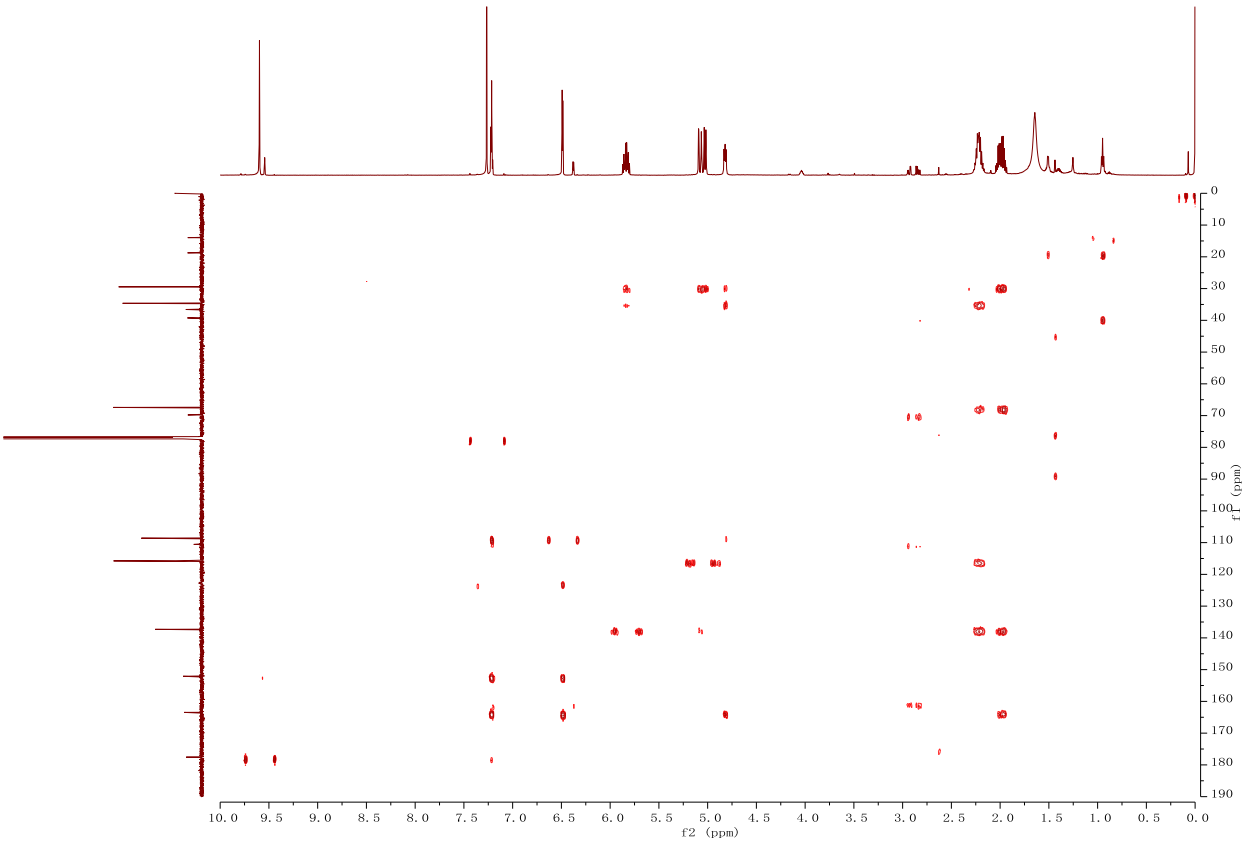


Figure S14. COSY spectrum of compound **2**

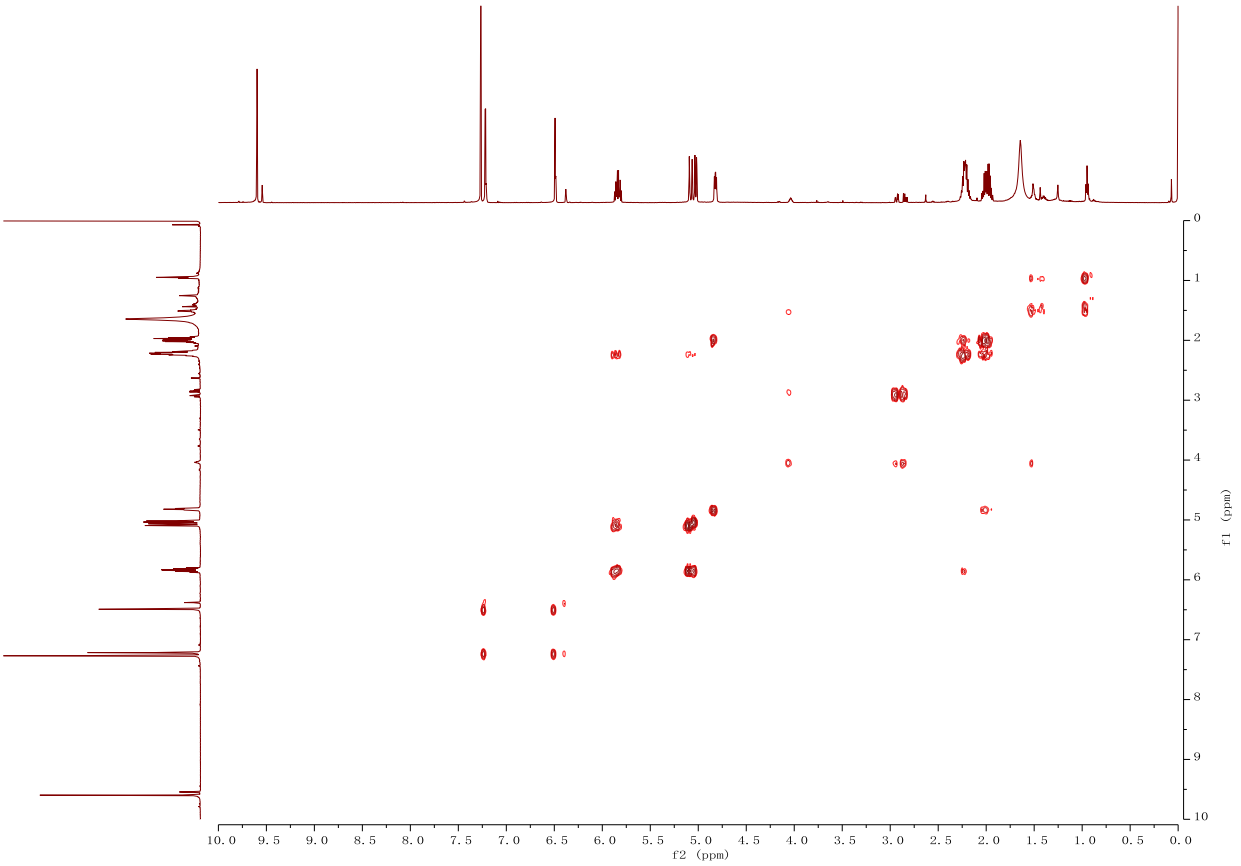


Figure S15. ROESY spectrum of compound **2**

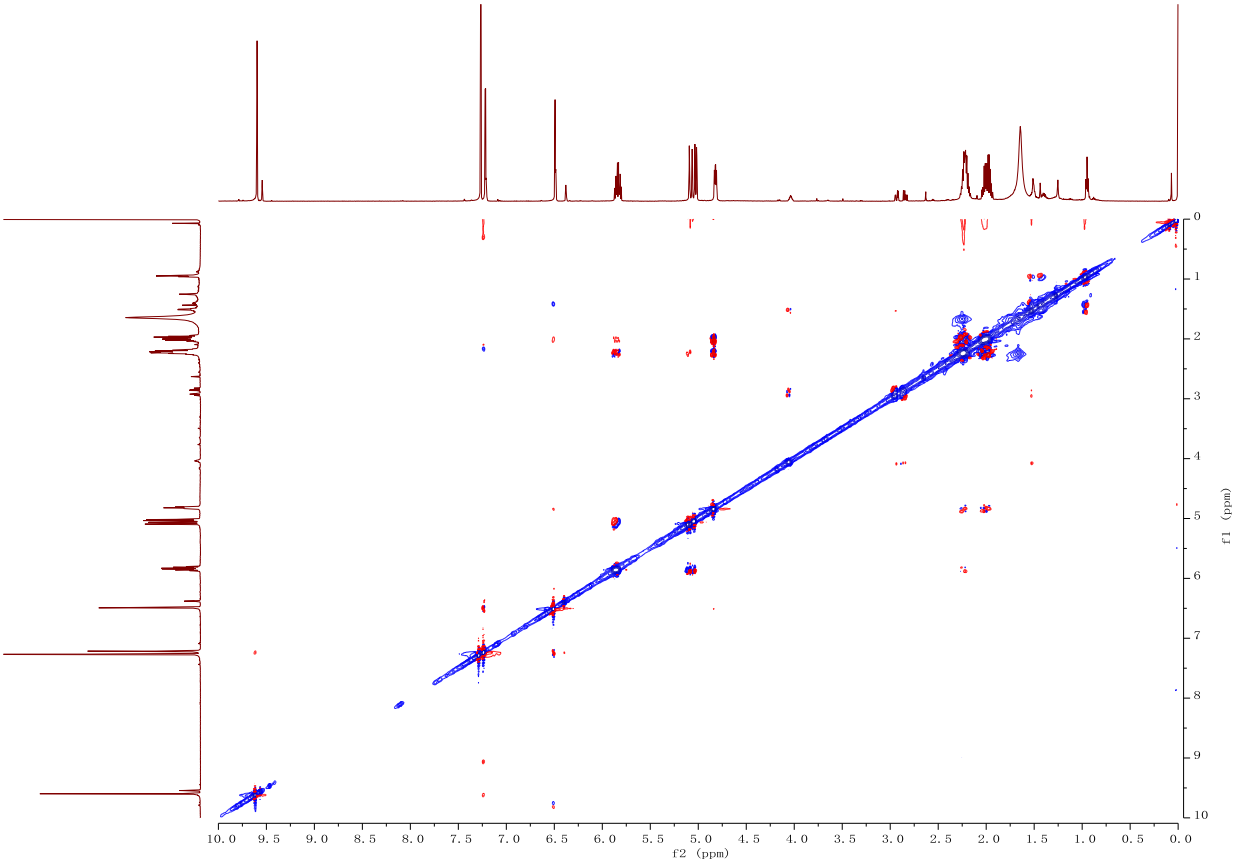


Figure S16. HR-ESI-MS of compound **2**

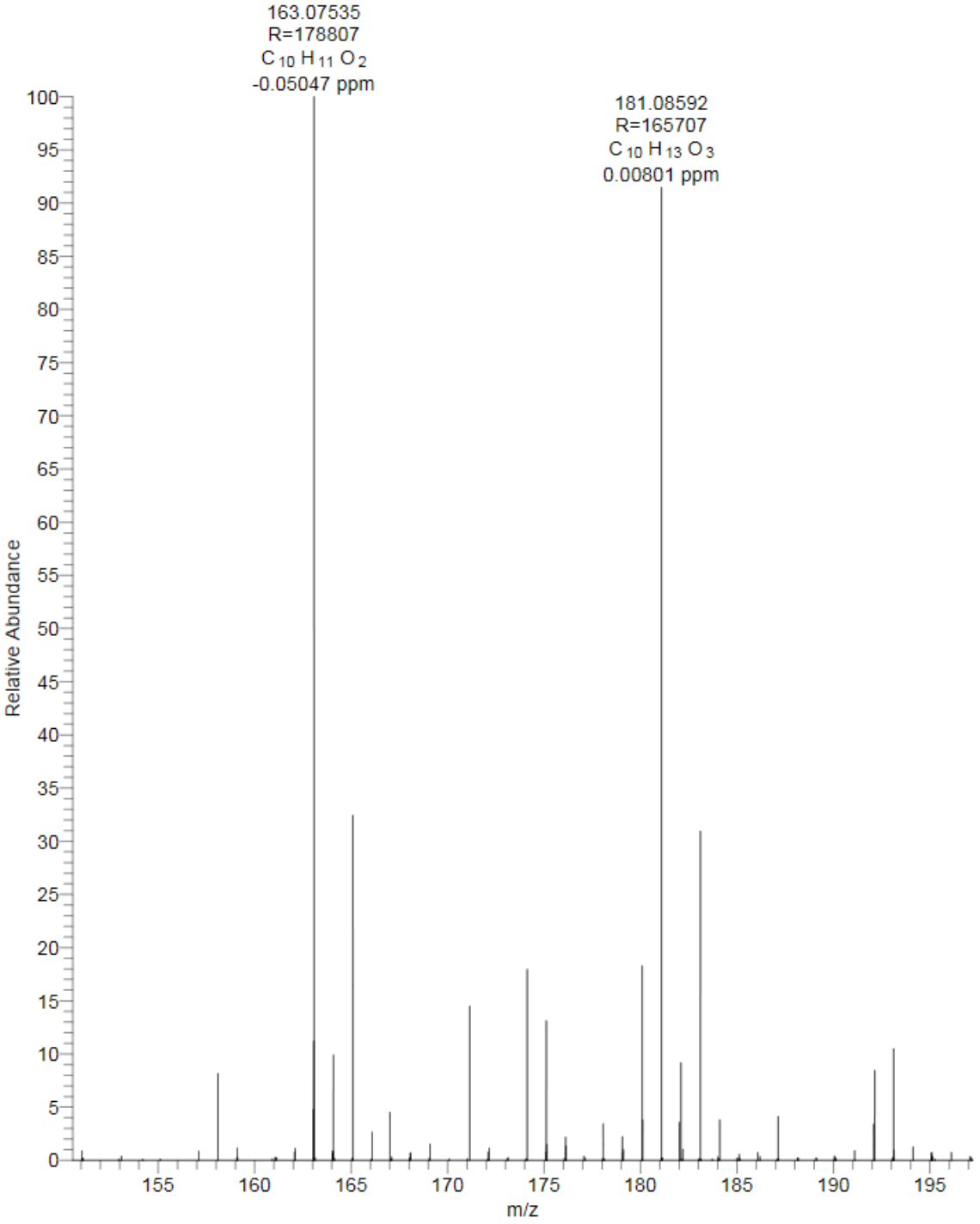


Figure S17. ^{1}H NMR (600 MHz, $CDCl_3$) spectrum of compound **3**

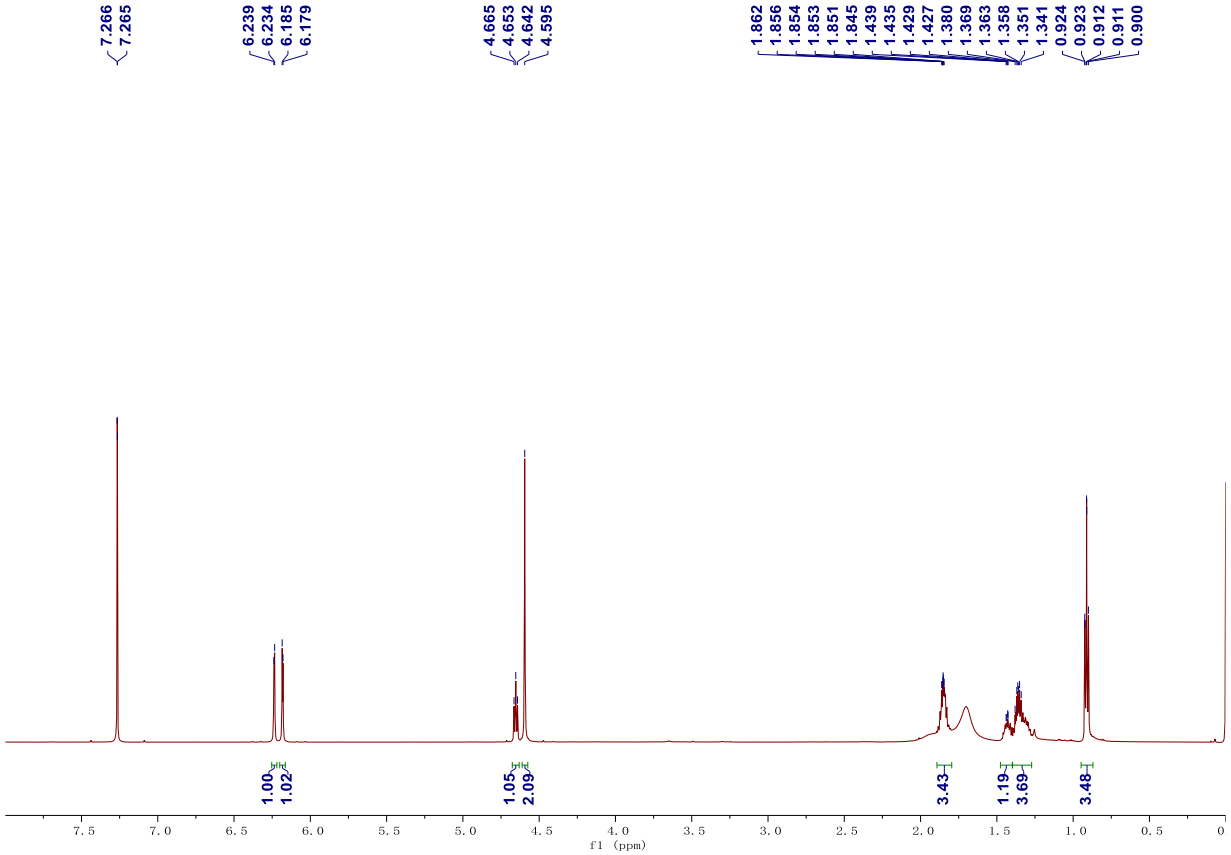


Figure S18. ^{13}C NMR (150 MHz, $CDCl_3$) spectrum of compound **3**

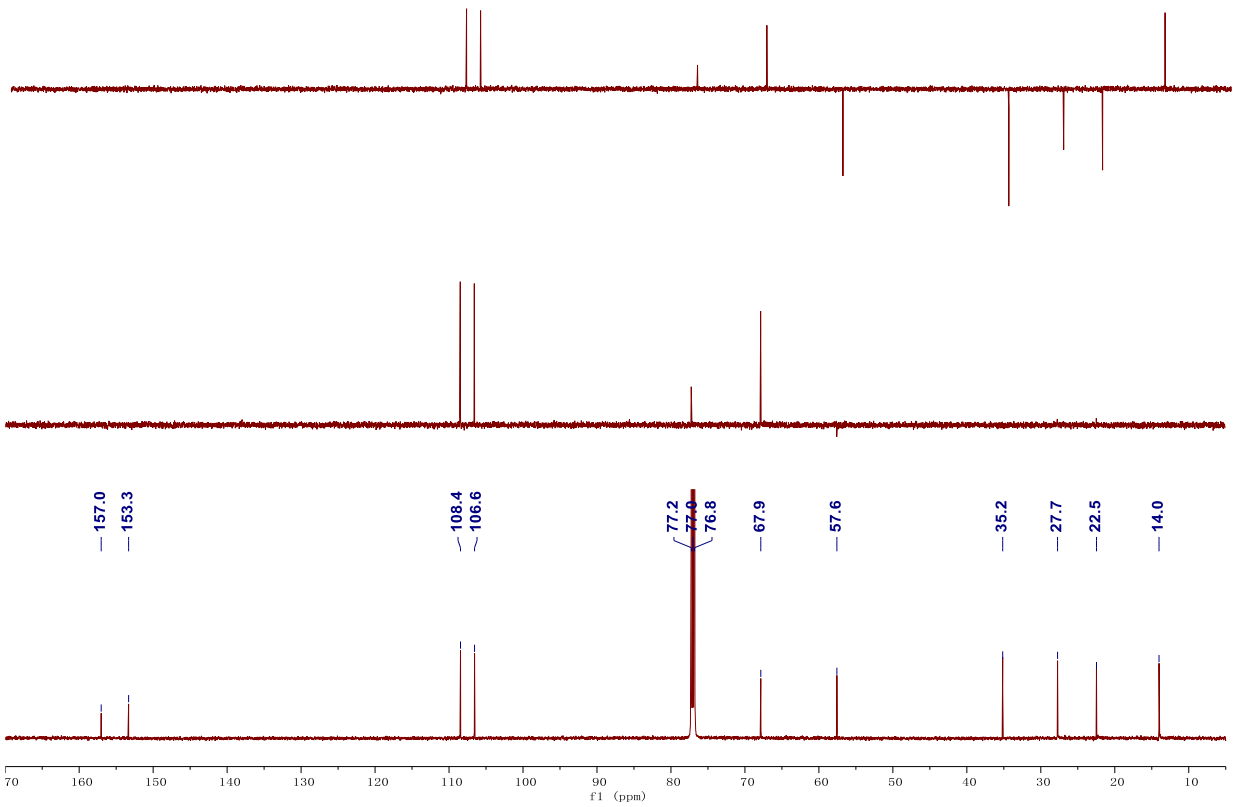


Figure S19. HSQC spectrum of compound **3**

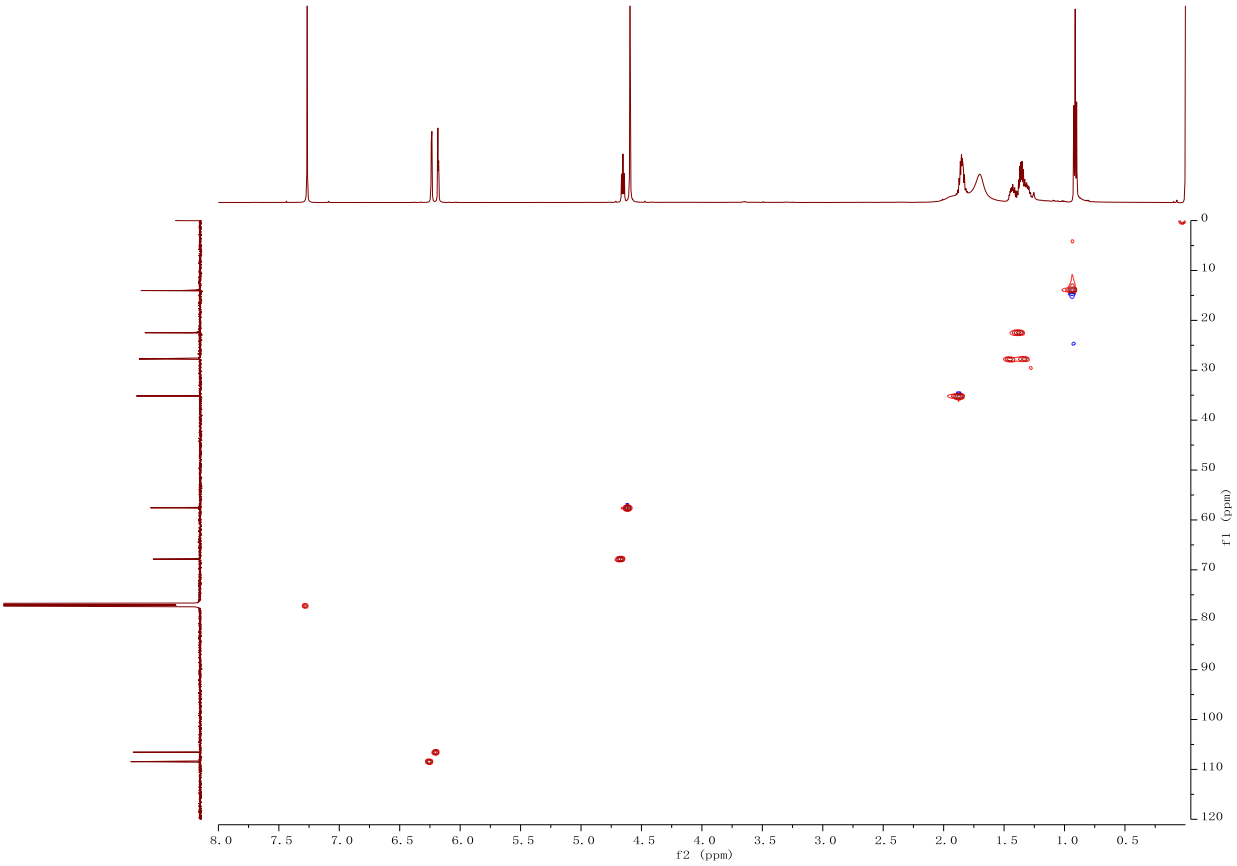


Figure S20. HMBC spectrum of compound **3**

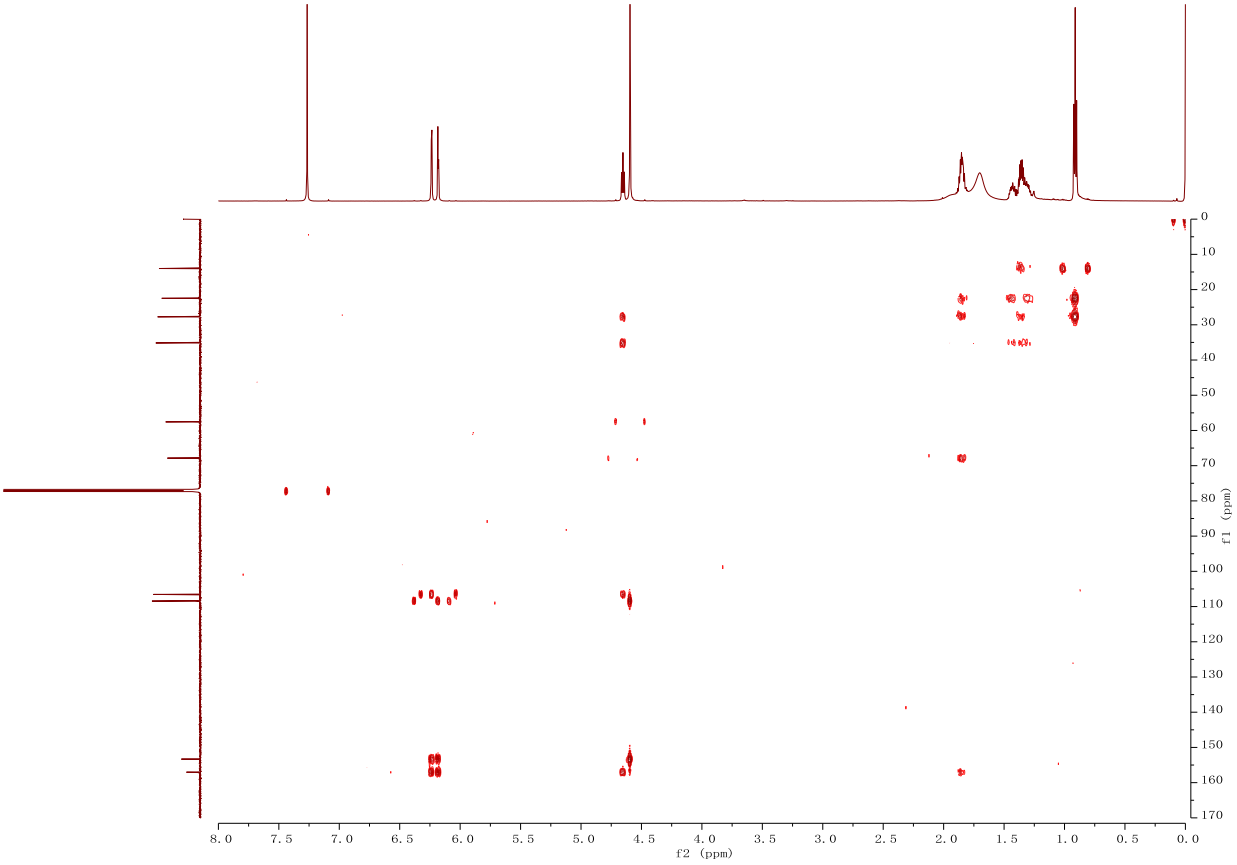


Figure S21. COSY spectrum of compound **3**

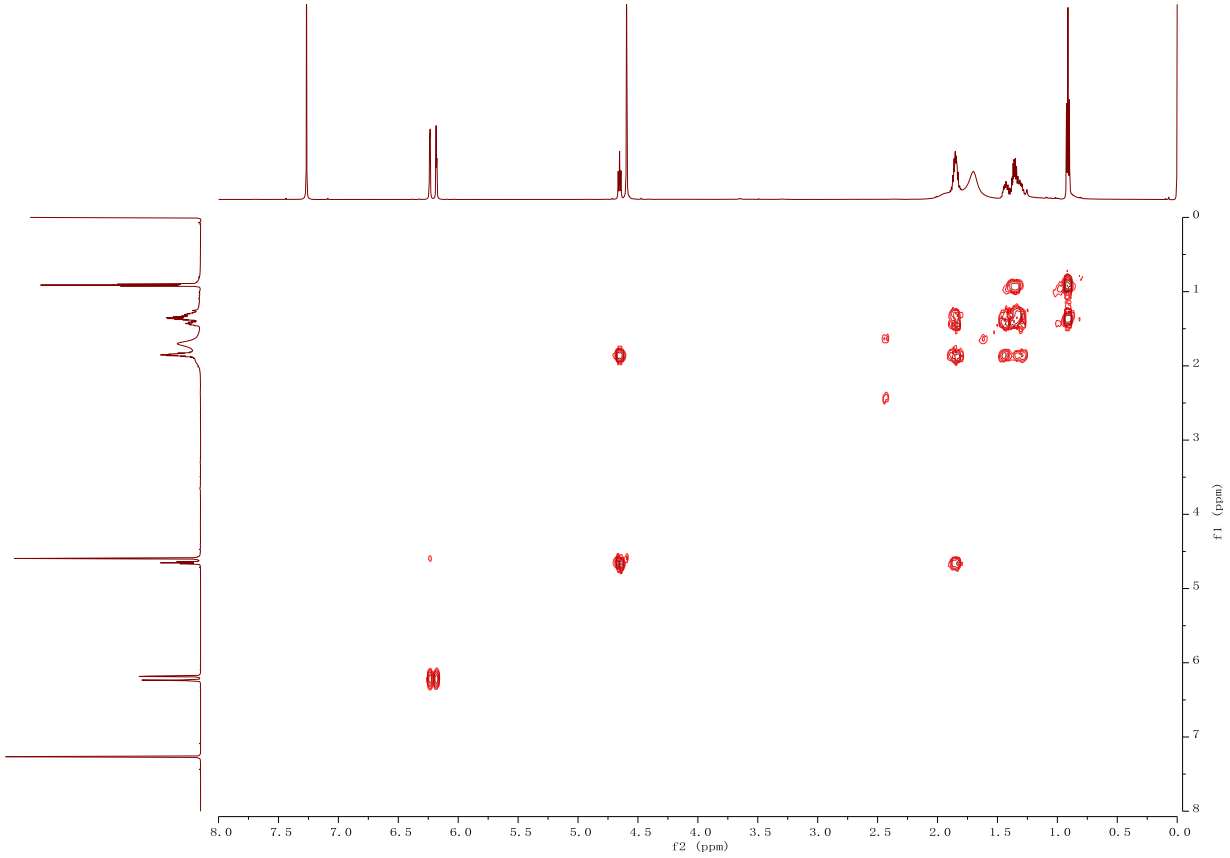


Figure S22. ROESY spectrum of compound **3**

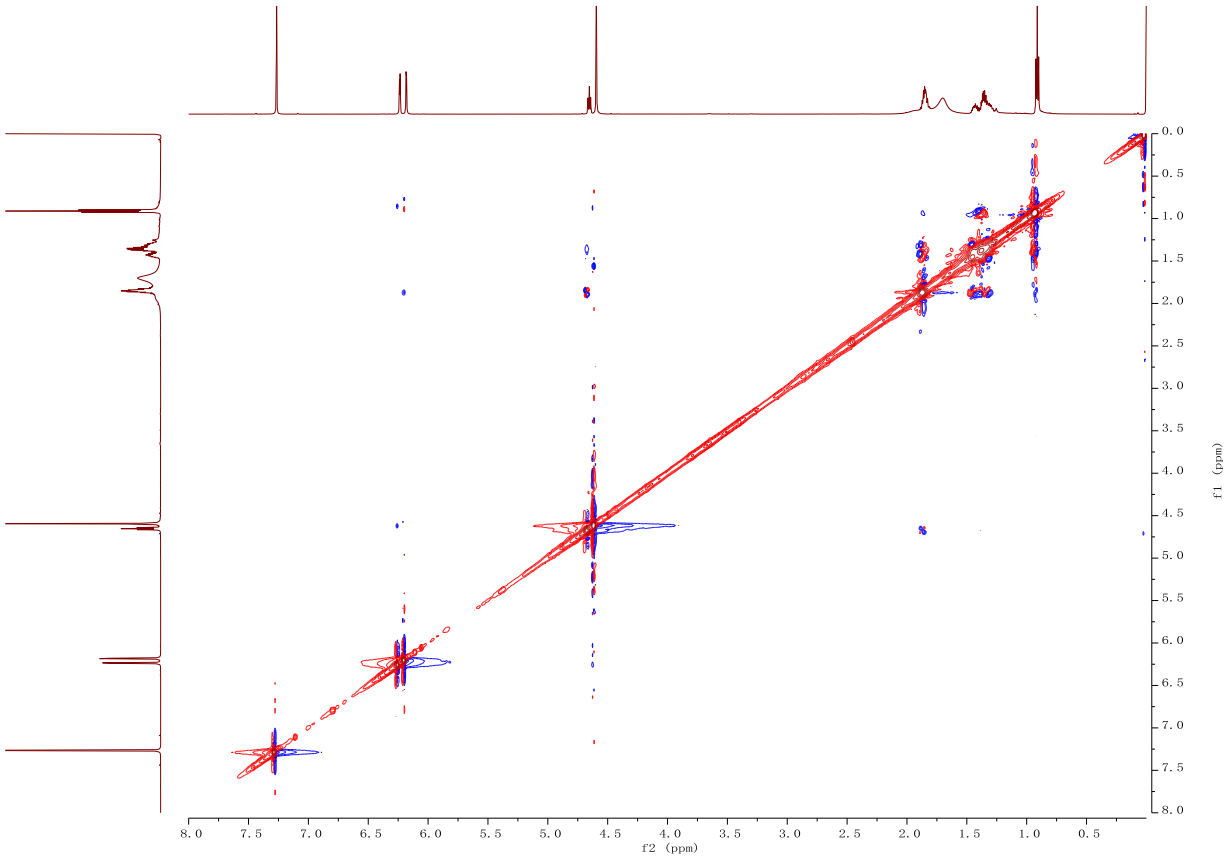


Figure S23. HR-ESI-MS of compound **3**

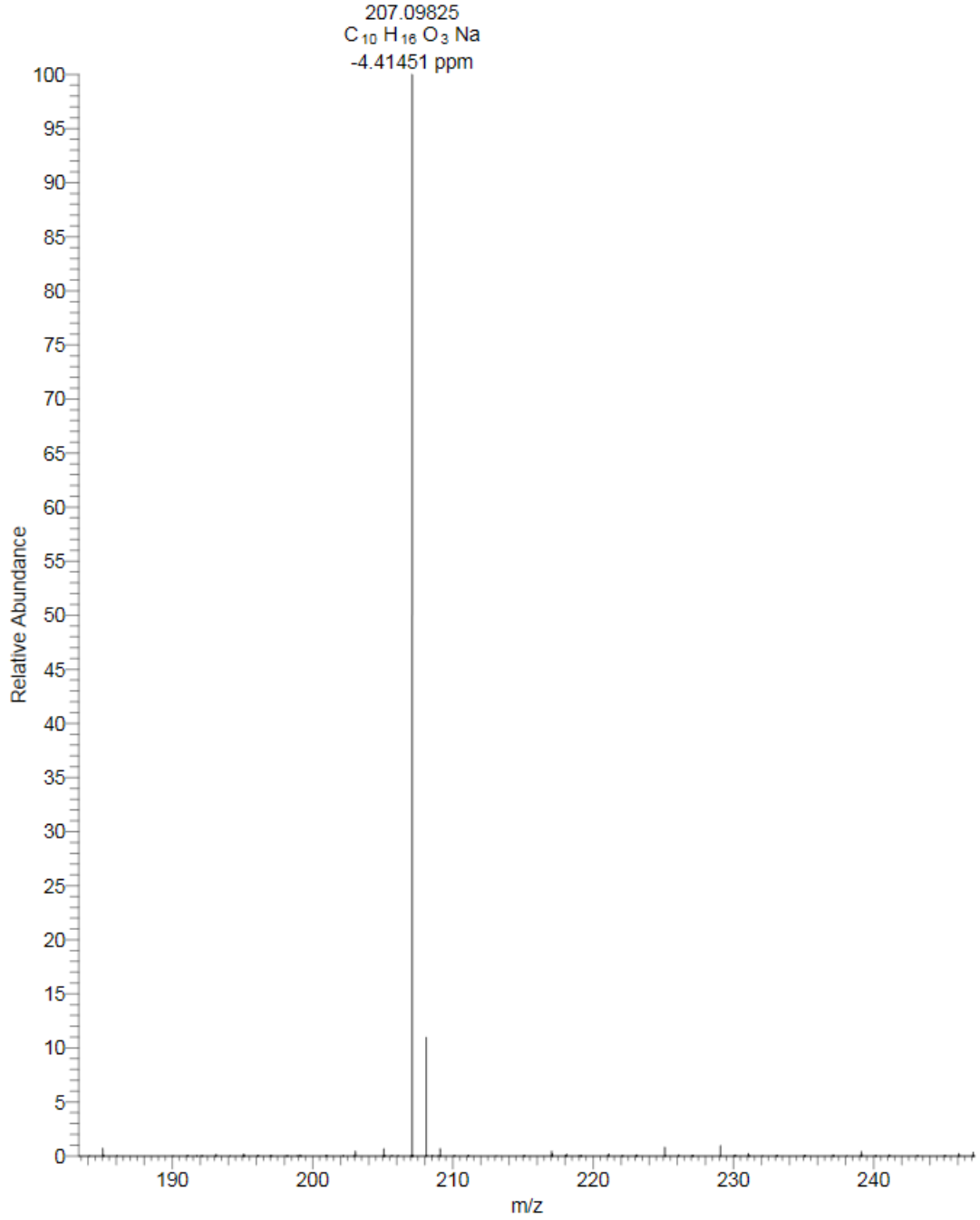


Figure S24. ^{1}H NMR (600 MHz, $CDCl_3$) spectrum of compound **4**

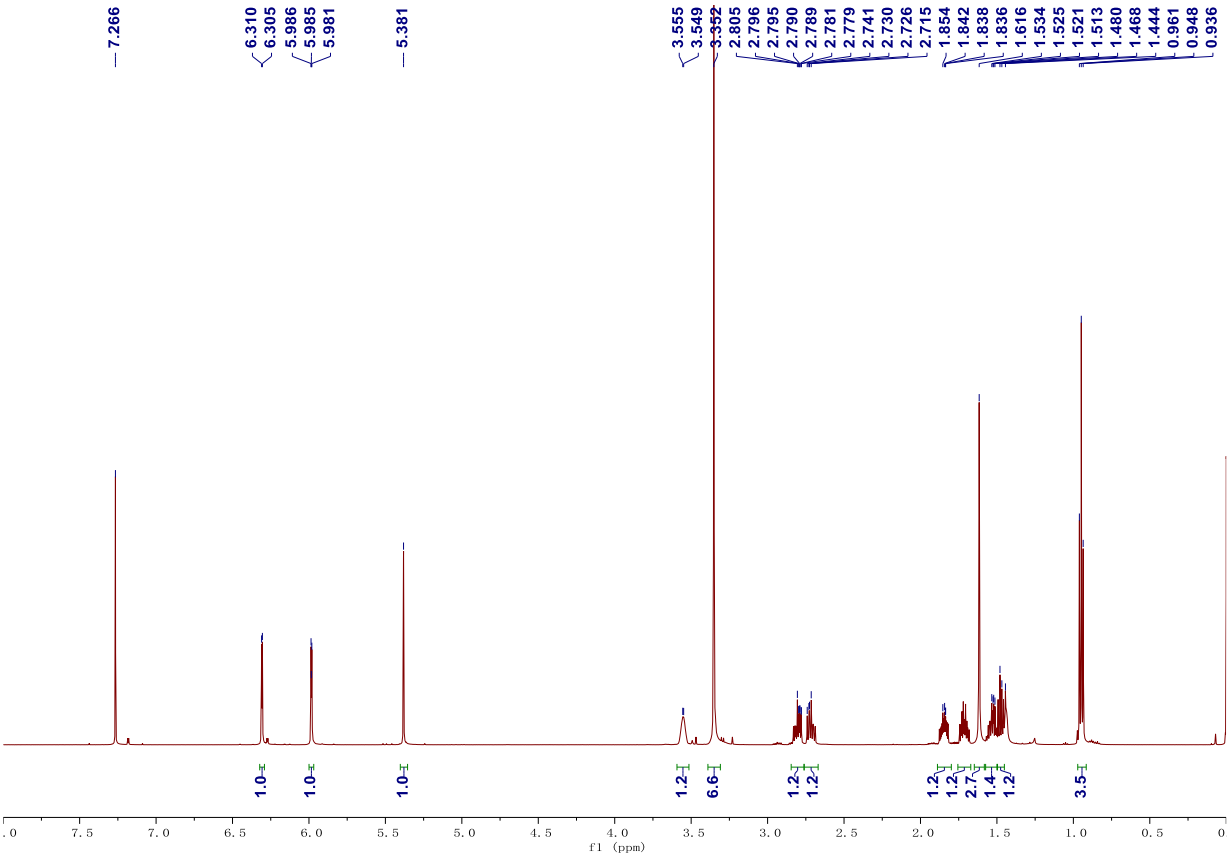


Figure S25. ^{13}C NMR (150 MHz, $CDCl_3$) spectrum of compound **4**

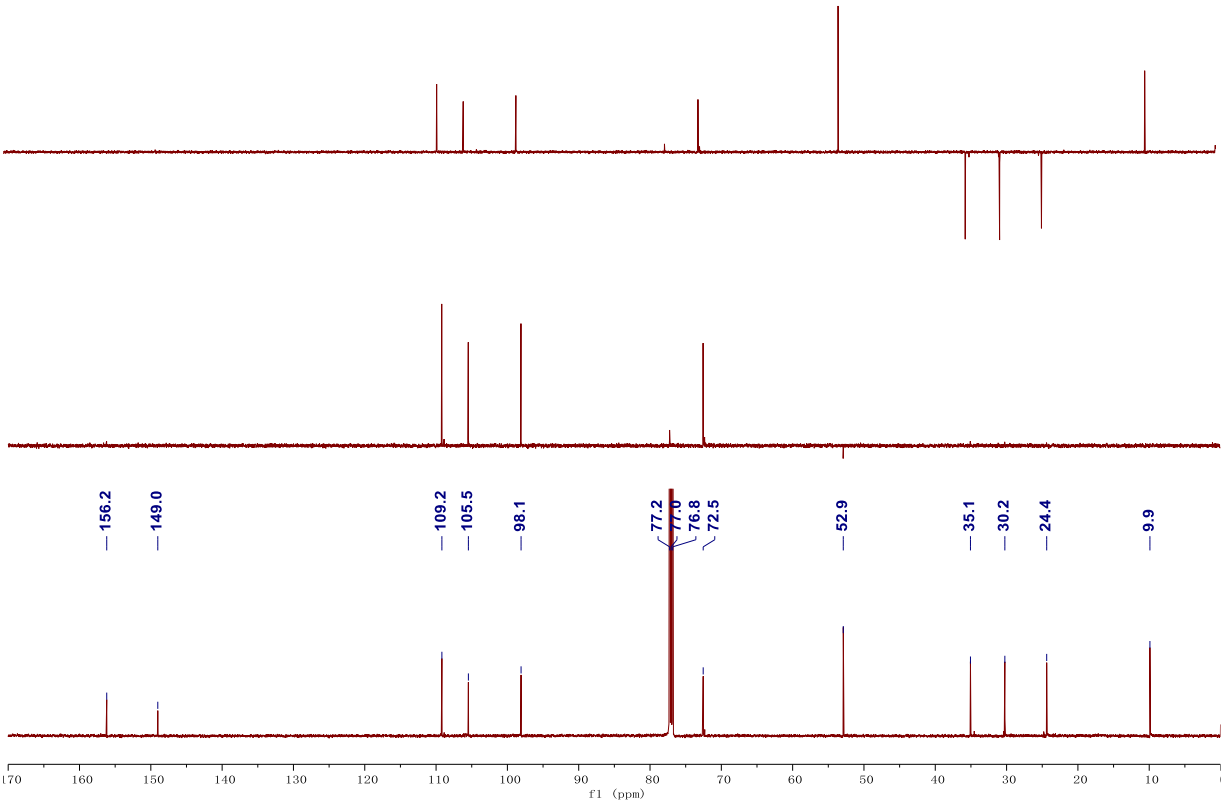


Figure S26. HSQC spectrum of compound **4**

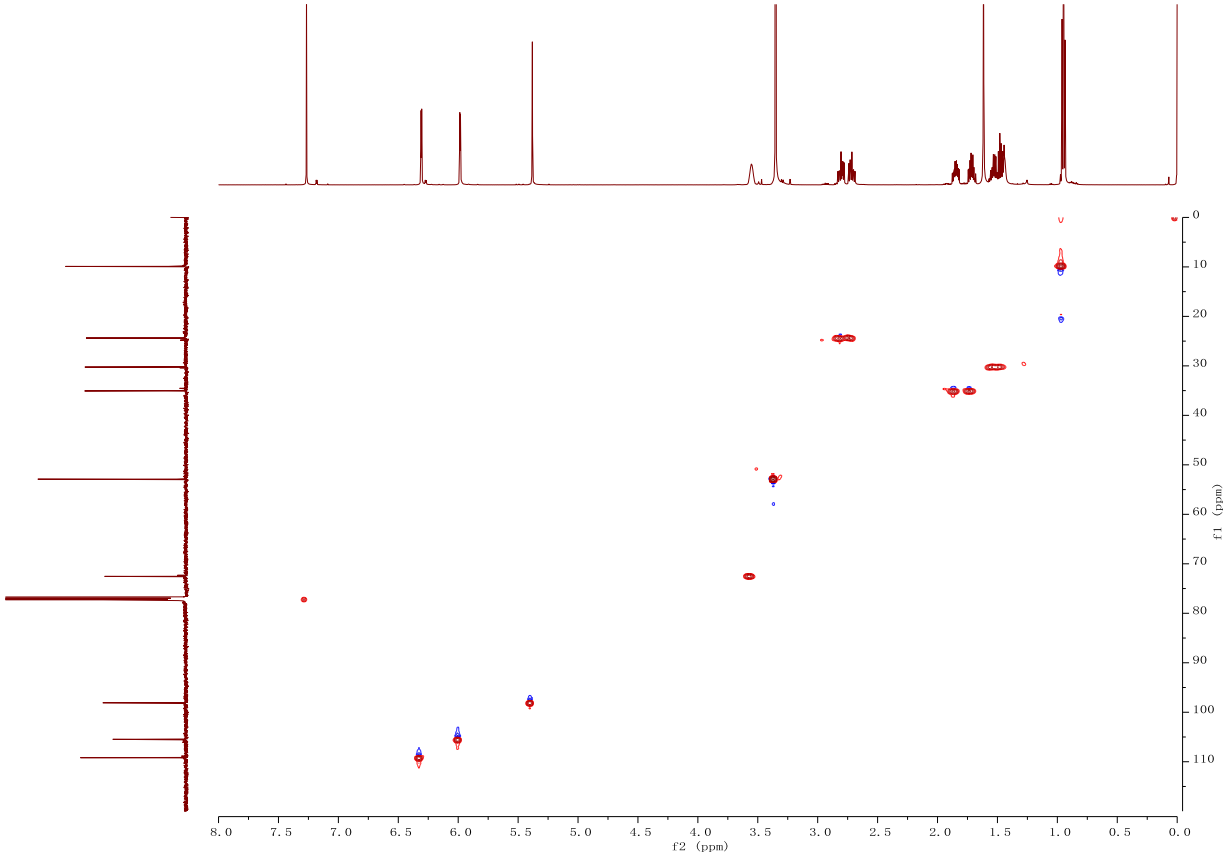


Figure S27. HMBC spectrum of compound **4**

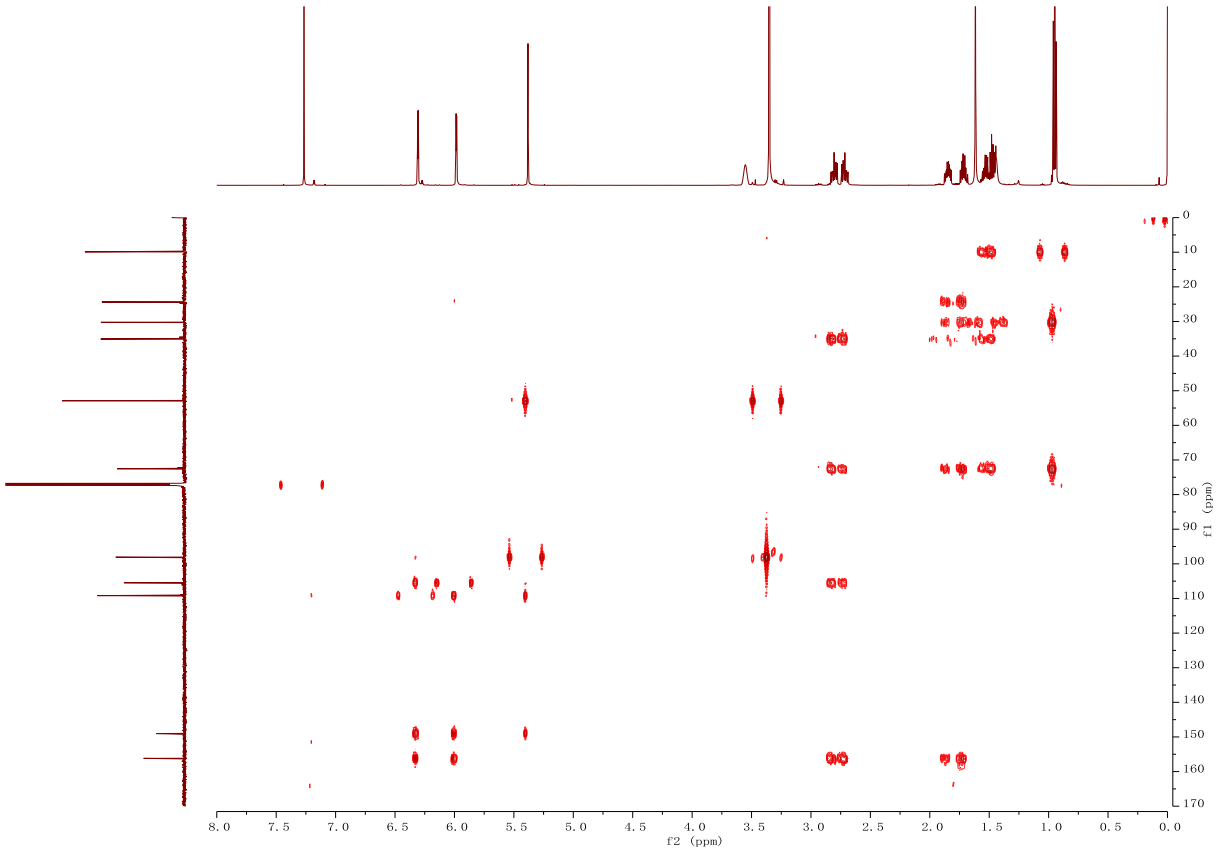


Figure S28. COSY spectrum of compound **4**

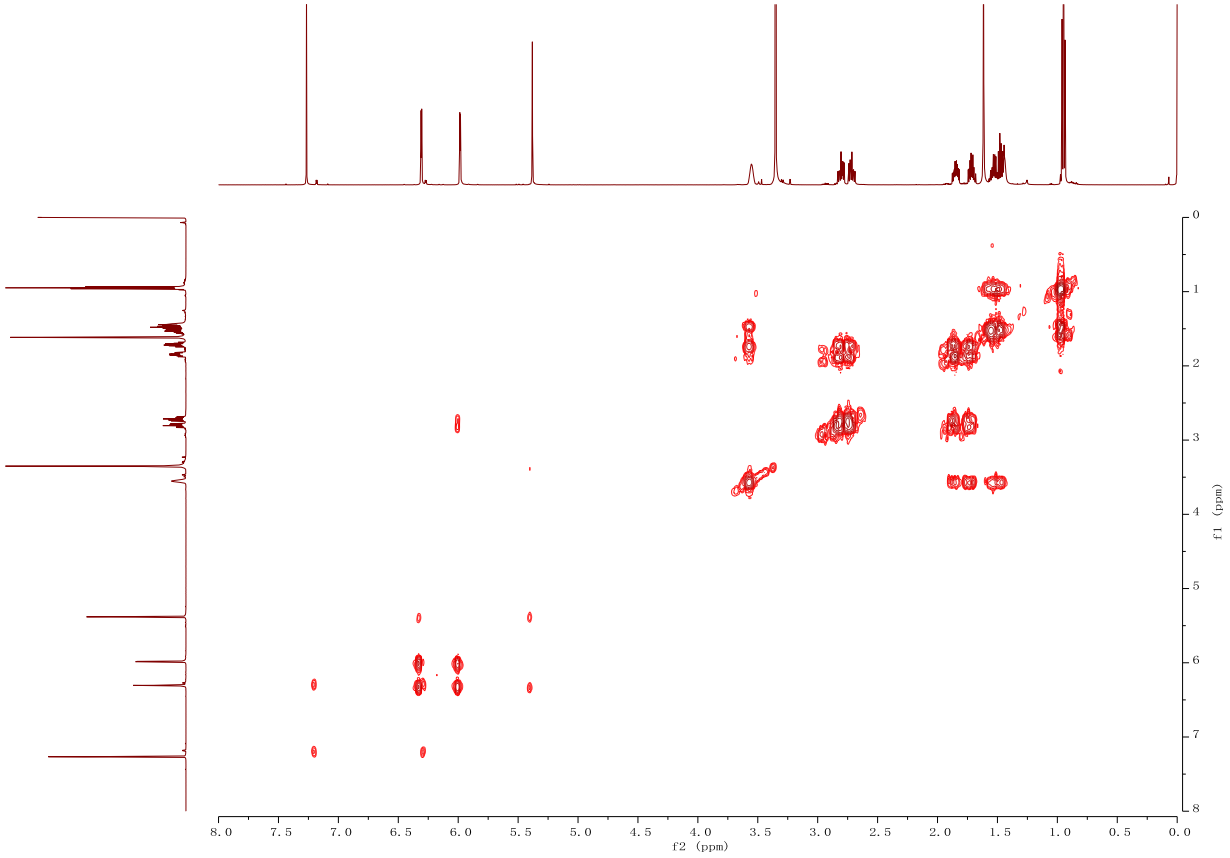


Figure S29. ROESY spectrum of compound **4**

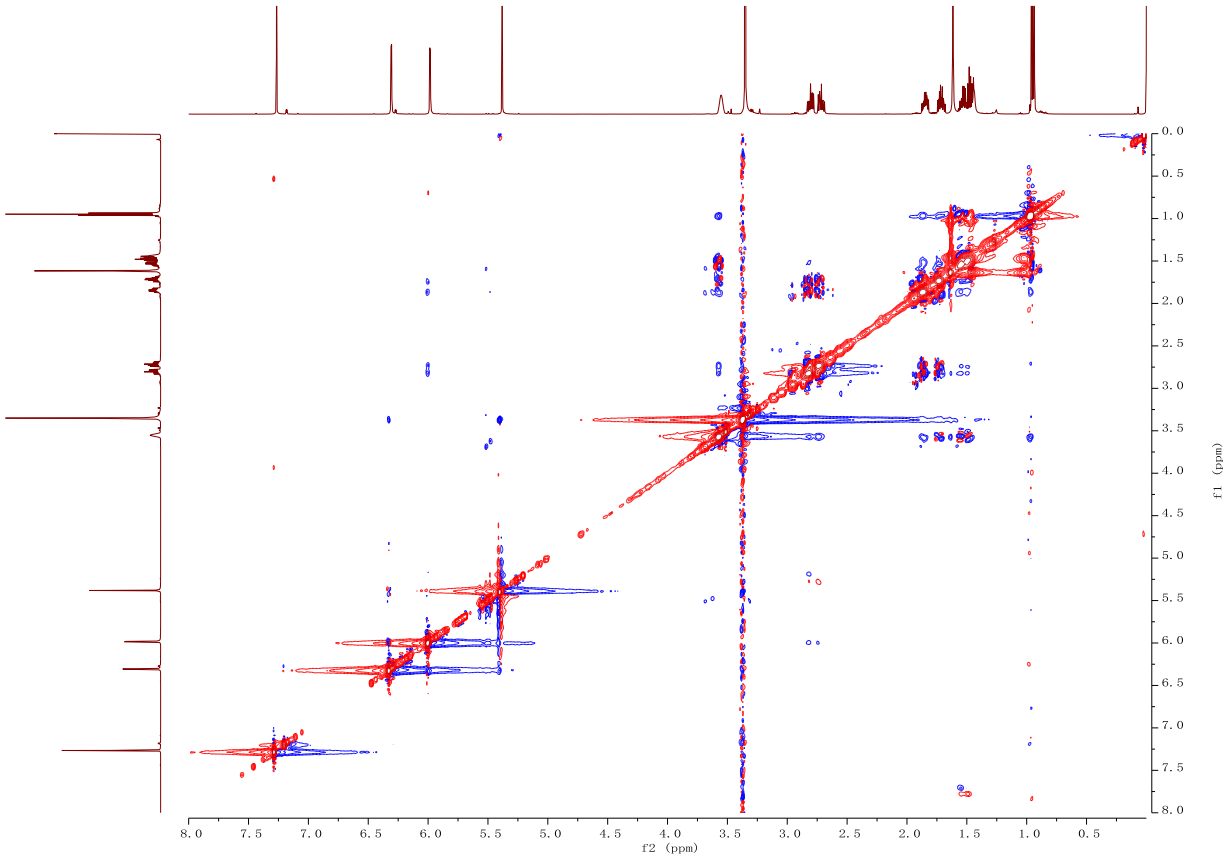


Figure S30. HR-ESI-MS of compound **4**

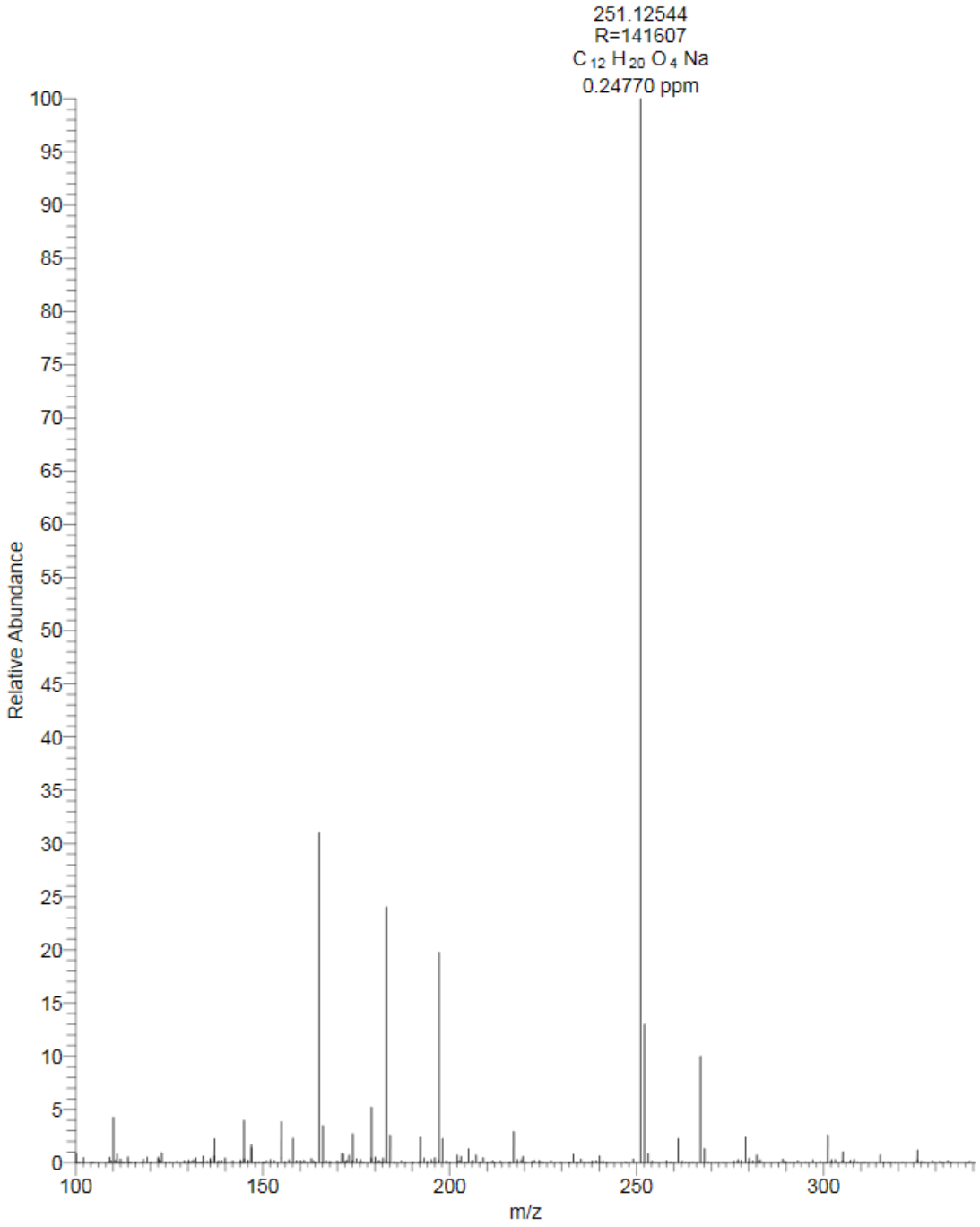


Figure S31. ^{1}H NMR (600 MHz, $CDCl_3$) spectrum of compound **5**

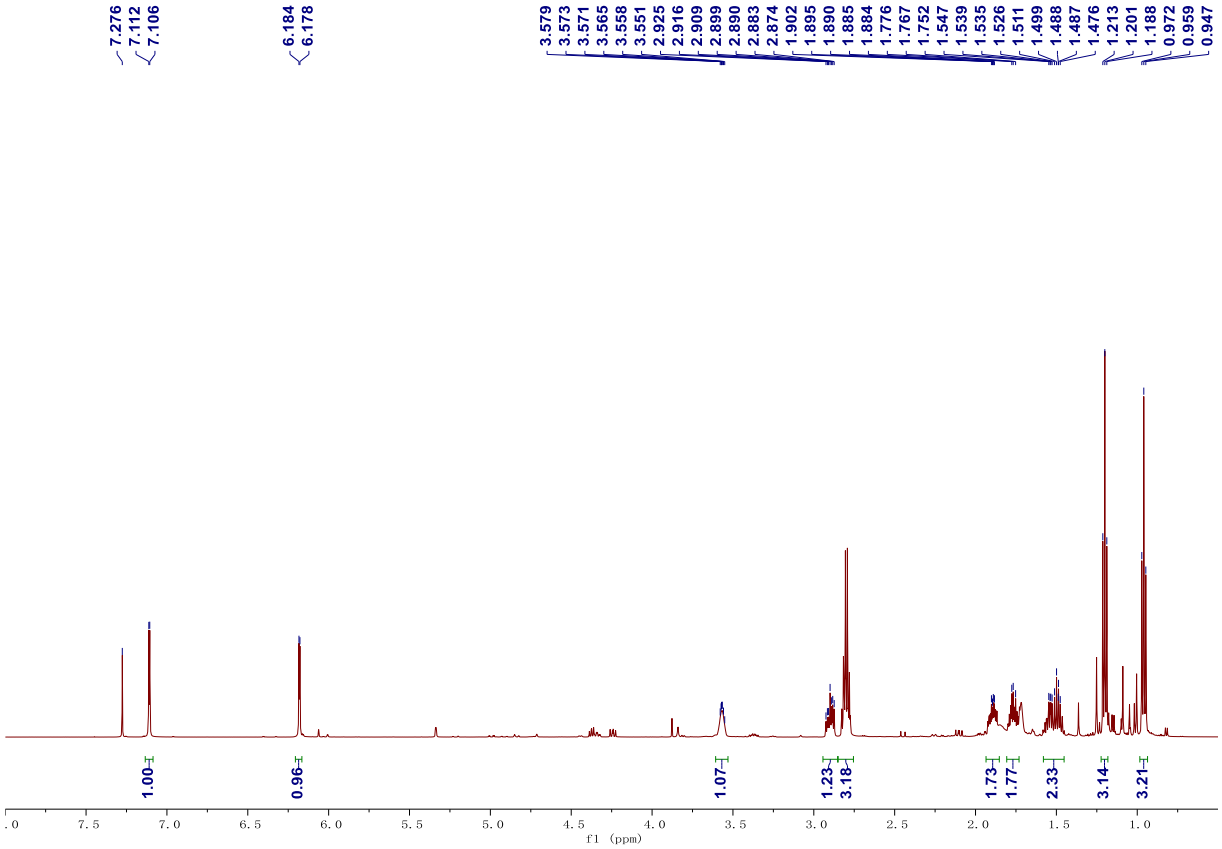


Figure S32. ^{13}C NMR (150 MHz, $CDCl_3$) spectrum of compound **5**

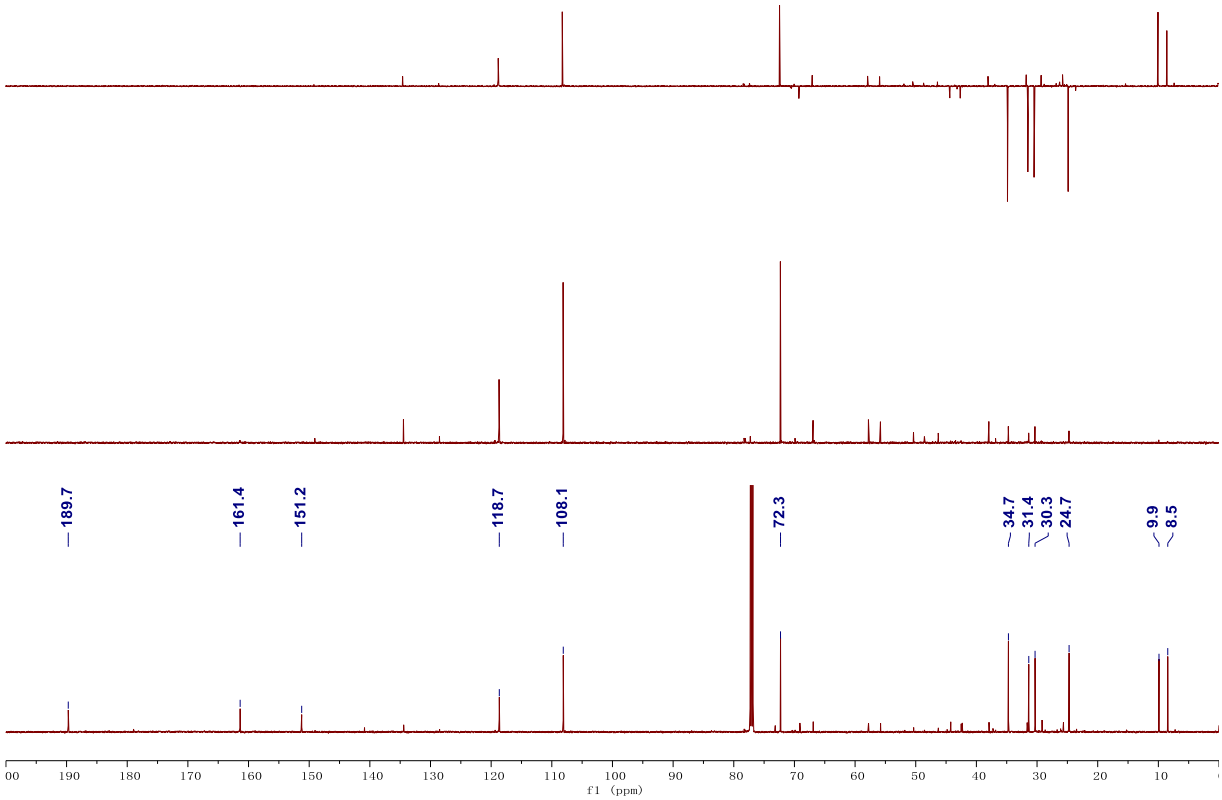


Figure S33. HSQC spectrum of compound **5**

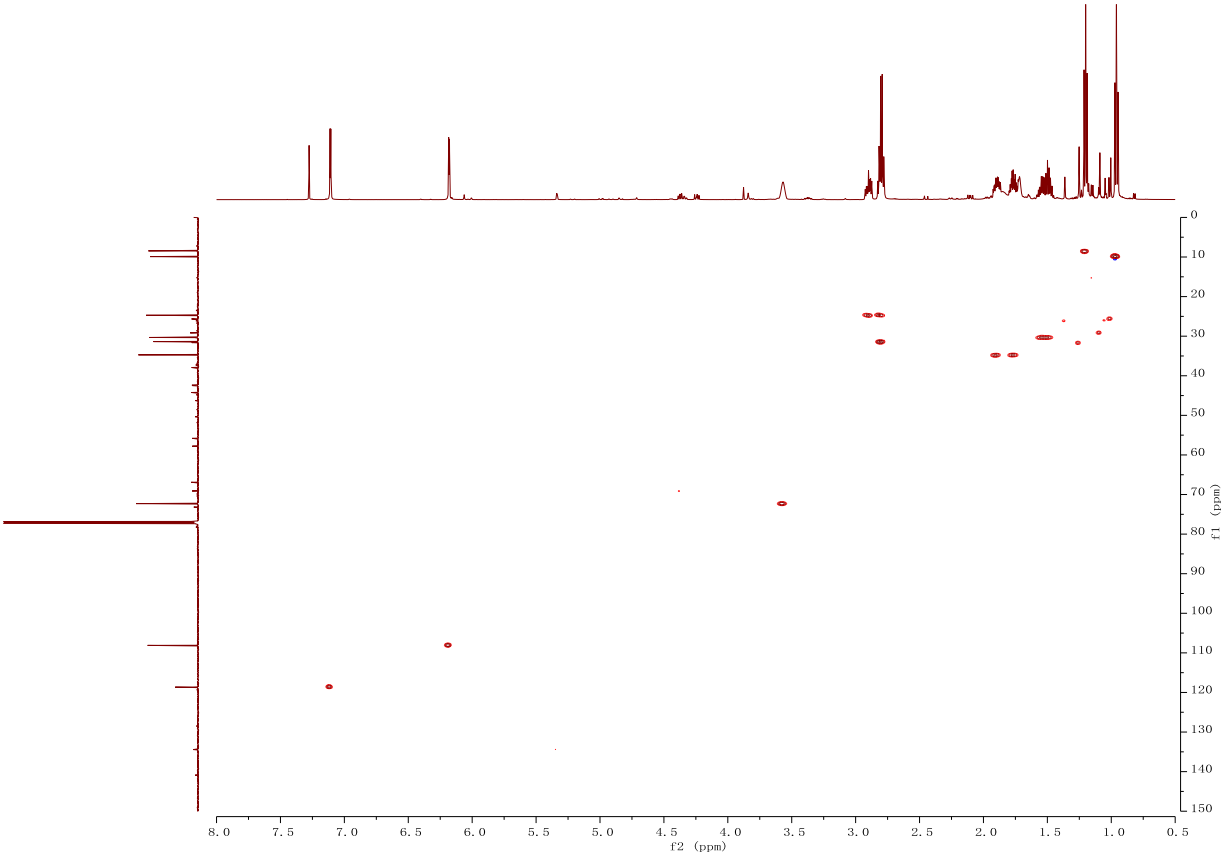


Figure S34. HMBC spectrum of compound **5**

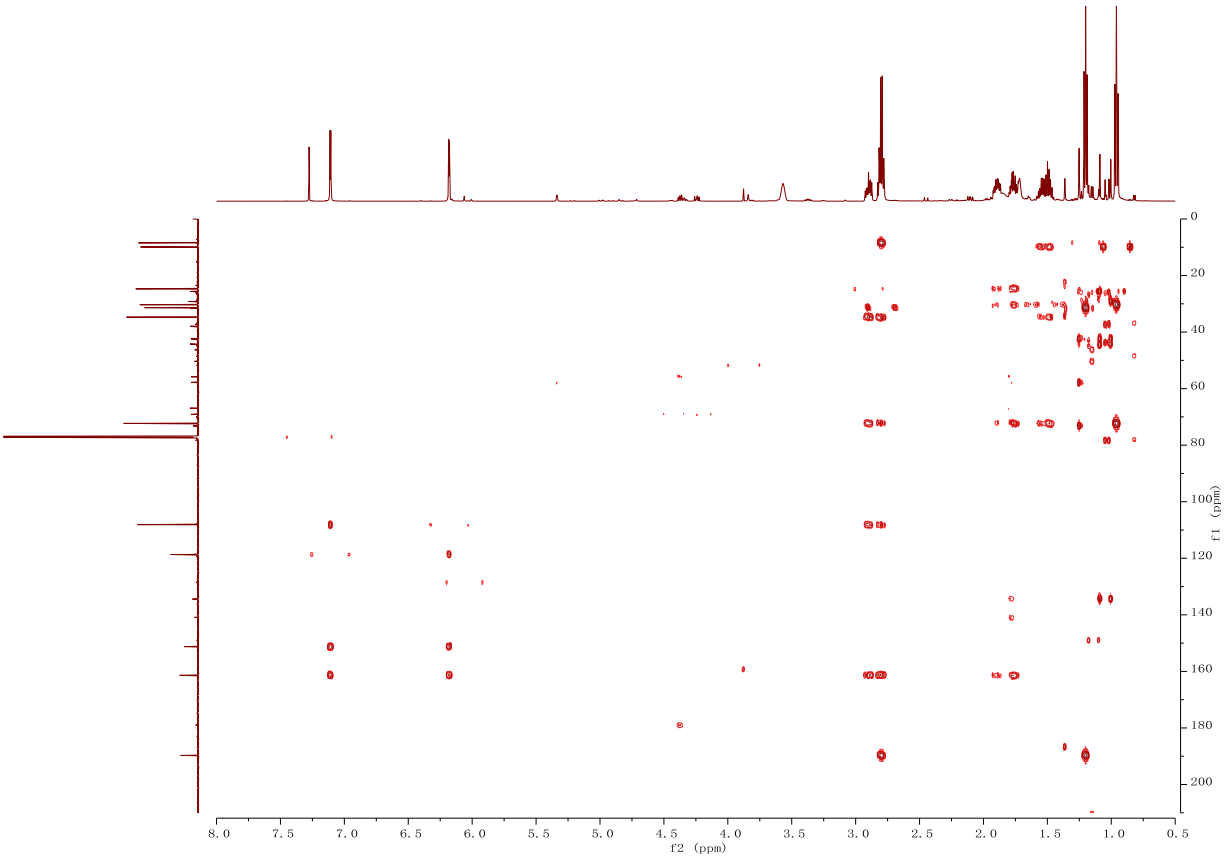


Figure S35. COSY spectrum of compound **5**

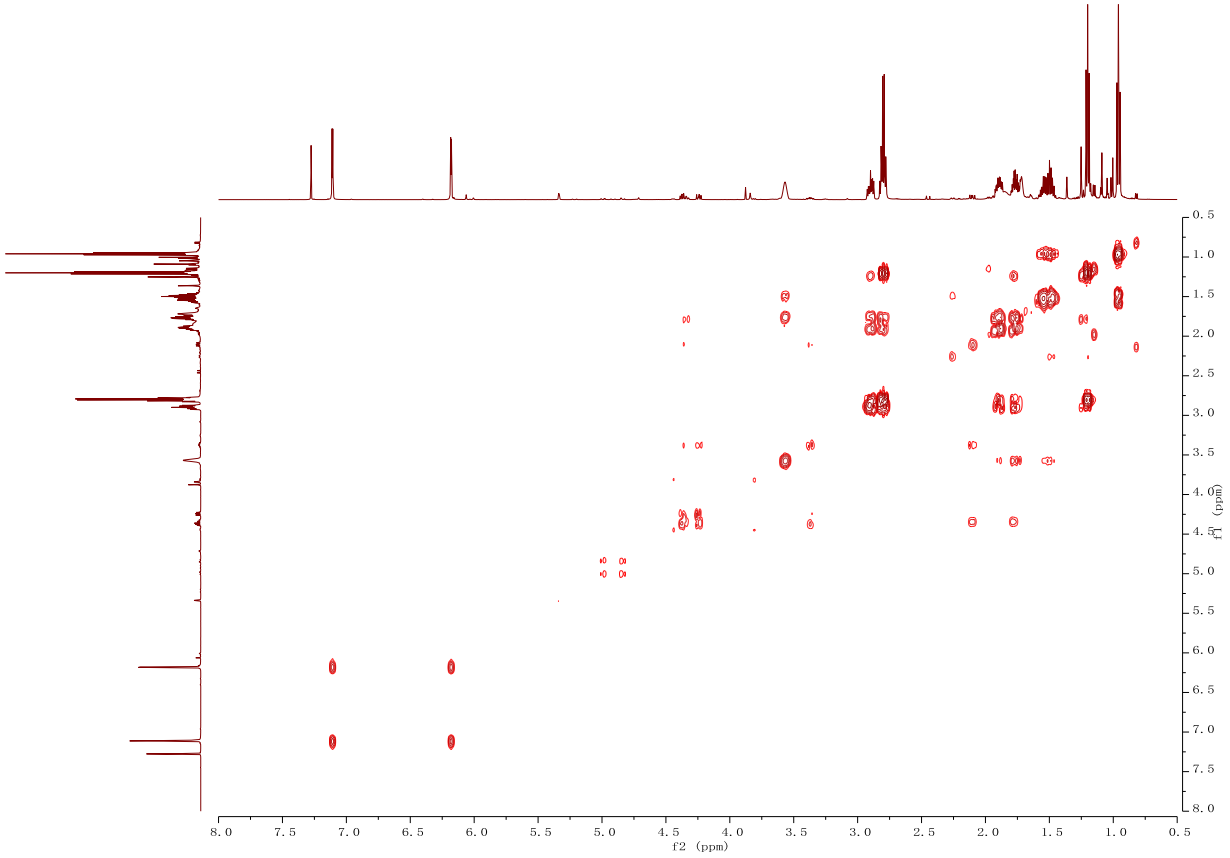


Figure S36. ROESY spectrum of compound **5**

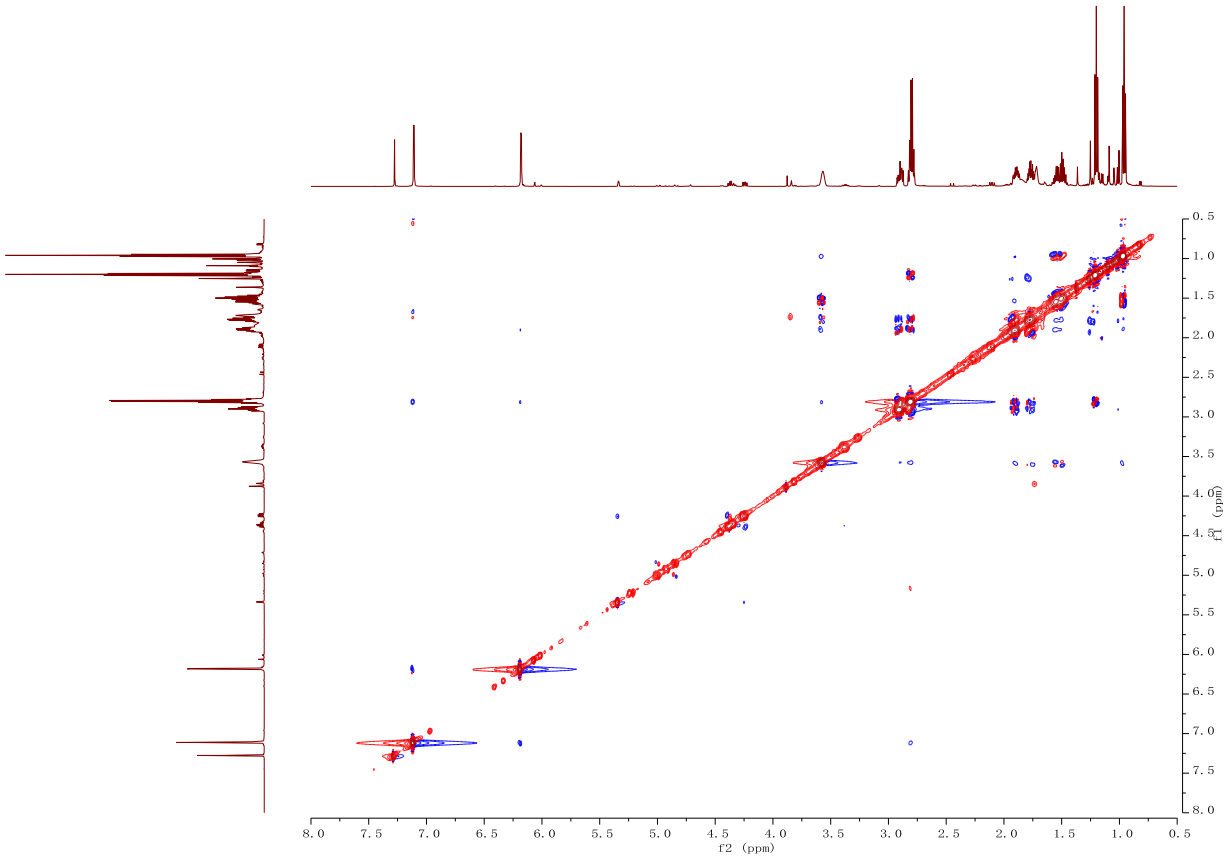


Figure S37. HR-ESI-MS of compound **5**

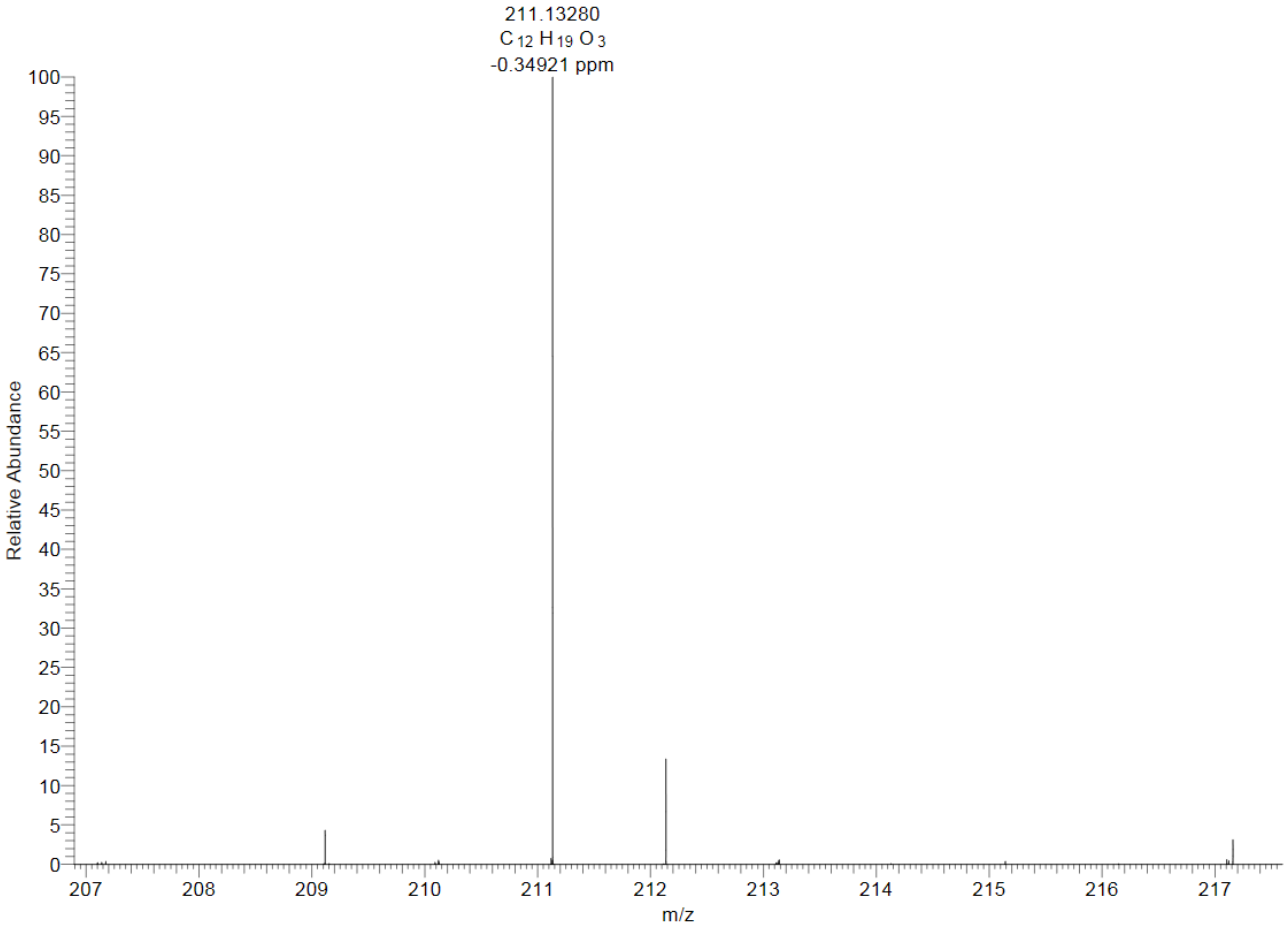


Figure S38. ^{1}H NMR (600 MHz, $CDCl_3$) spectrum of compound **6**

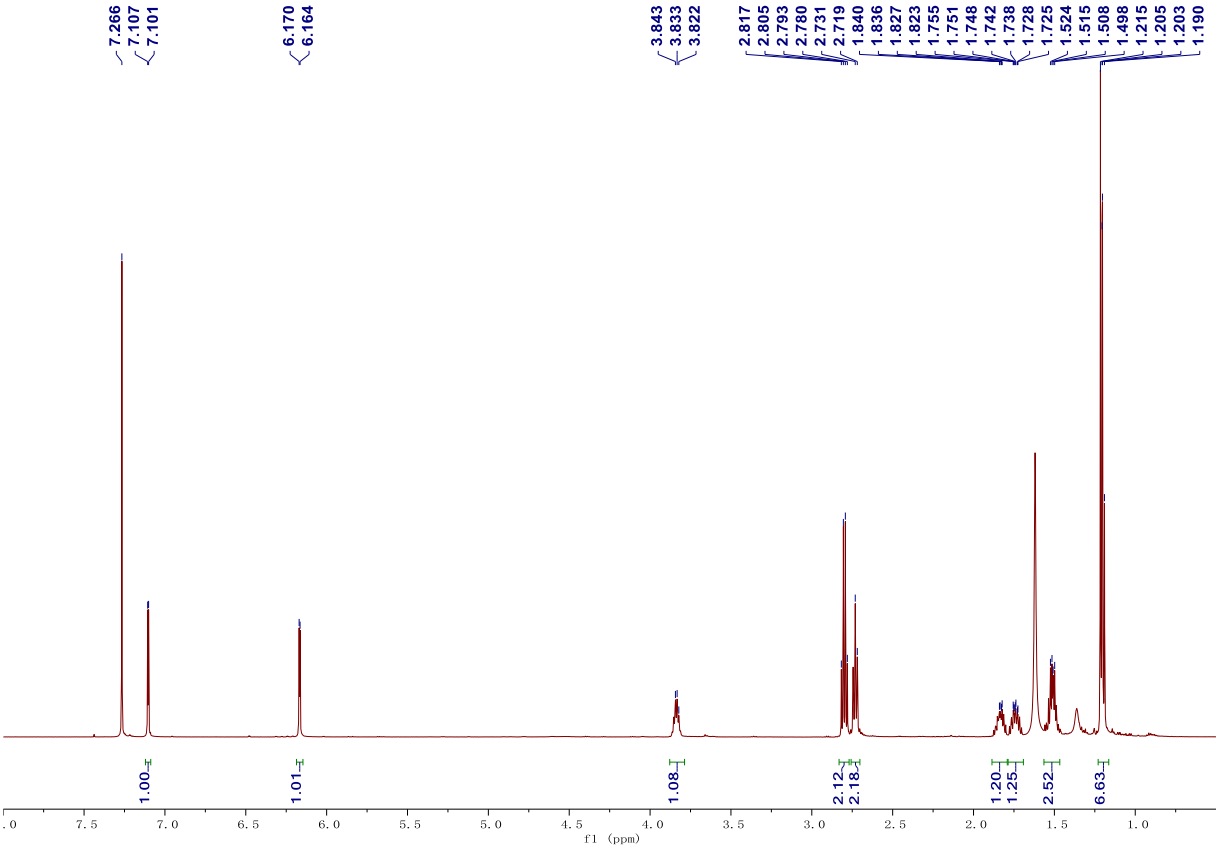


Figure S39. ^{13}C NMR (150 MHz, $CDCl_3$) spectrum of compound **6**

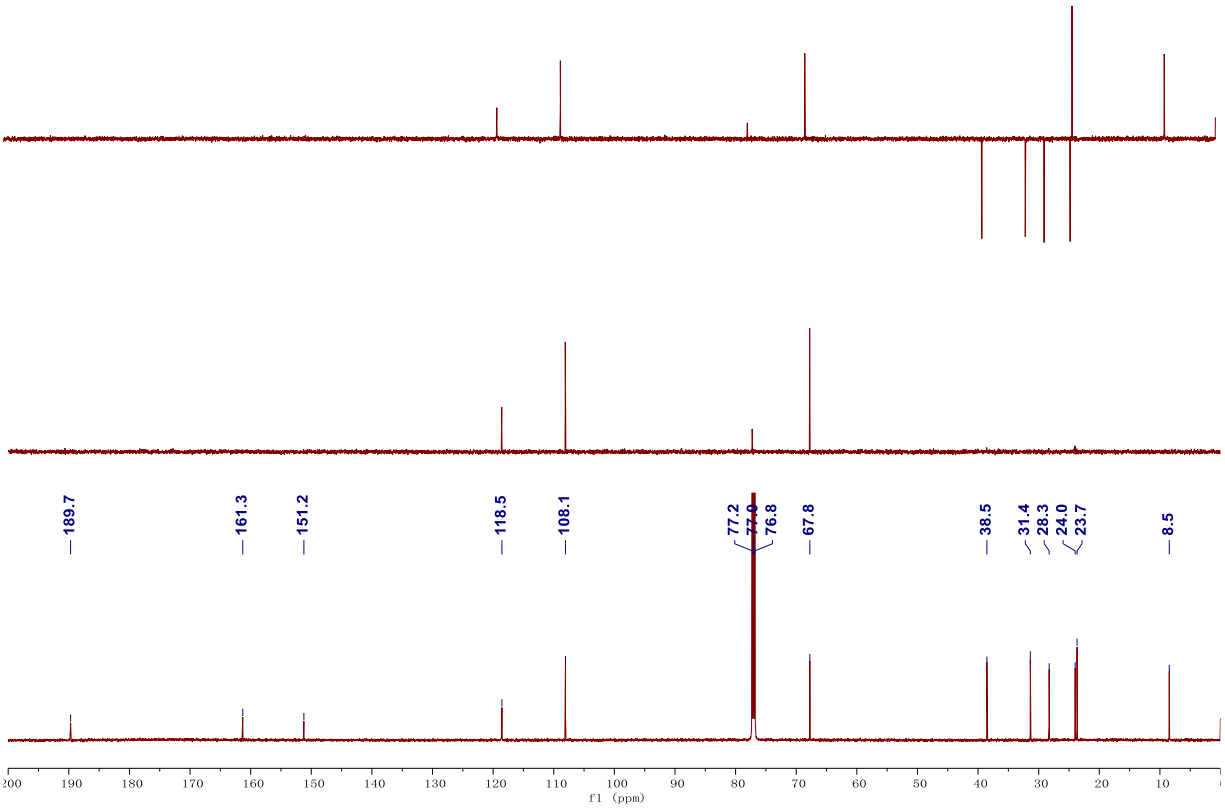


Figure S40. HSQC spectrum of compound **6**

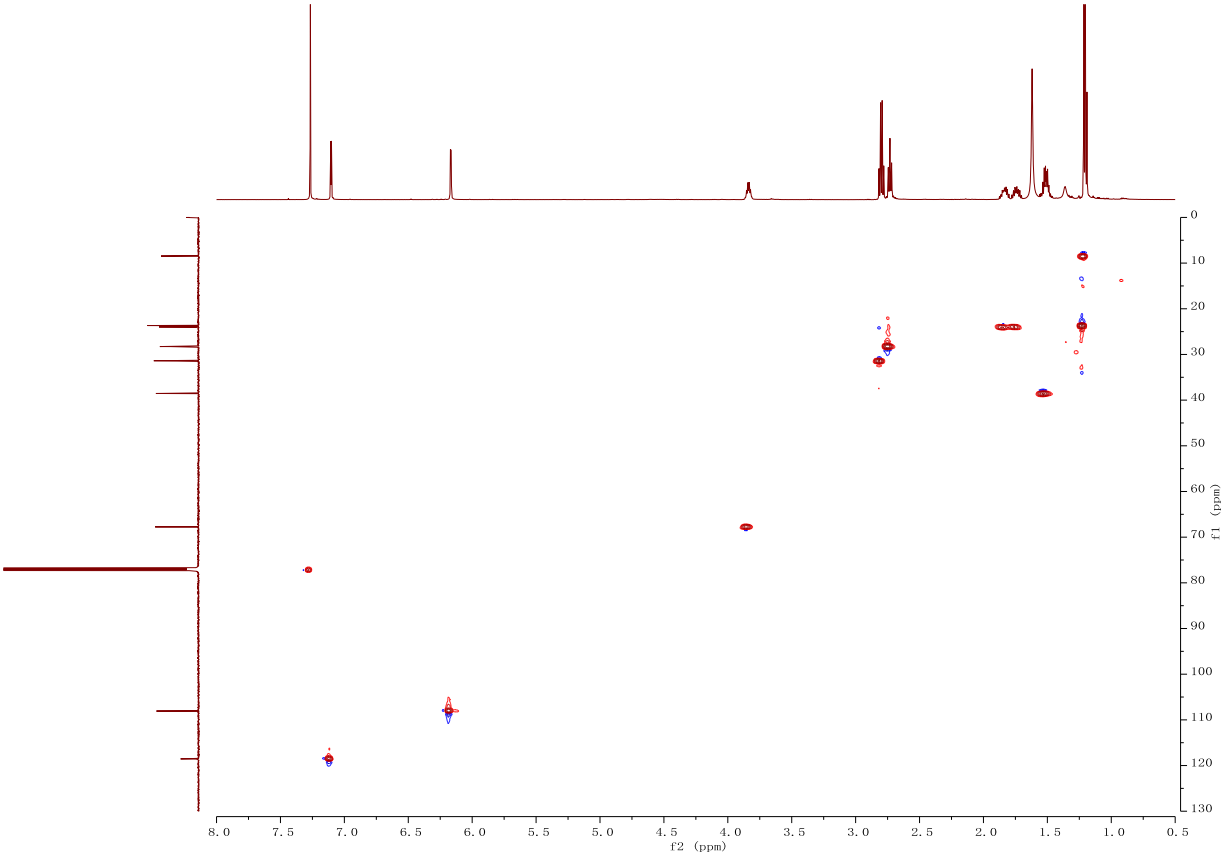


Figure S41. HMBC spectrum of compound **6**

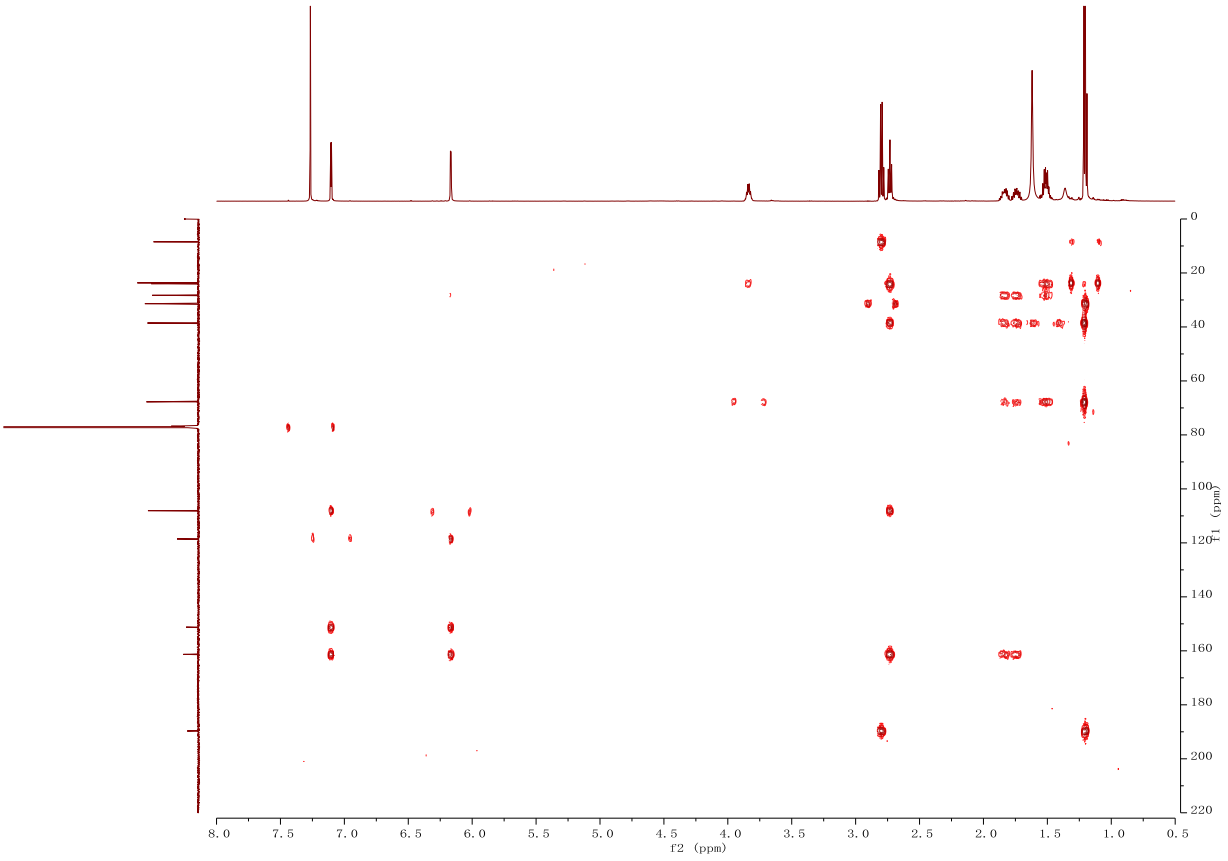


Figure S42. COSY spectrum of compound **6**

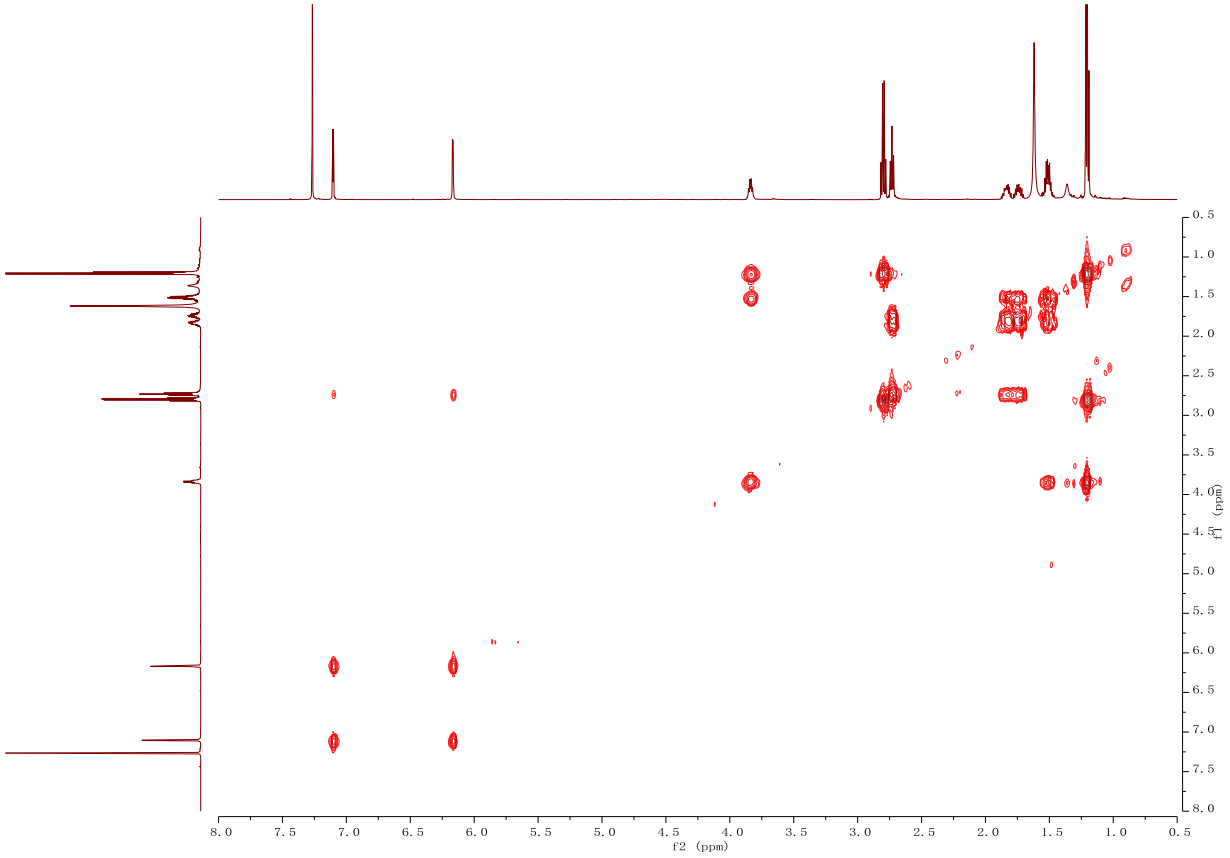


Figure S43. ROESY spectrum of compound **6**

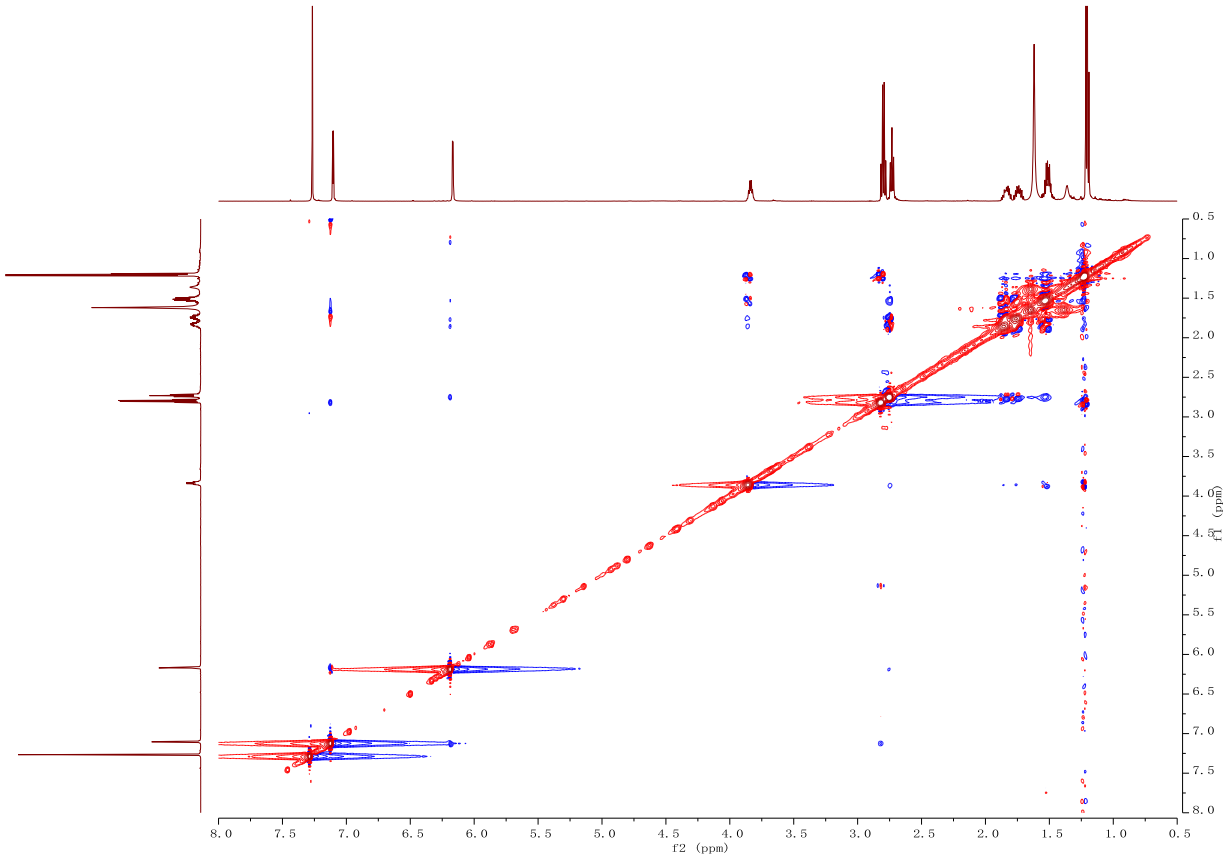


Figure S44. HR-ESI-MS of compound **6**

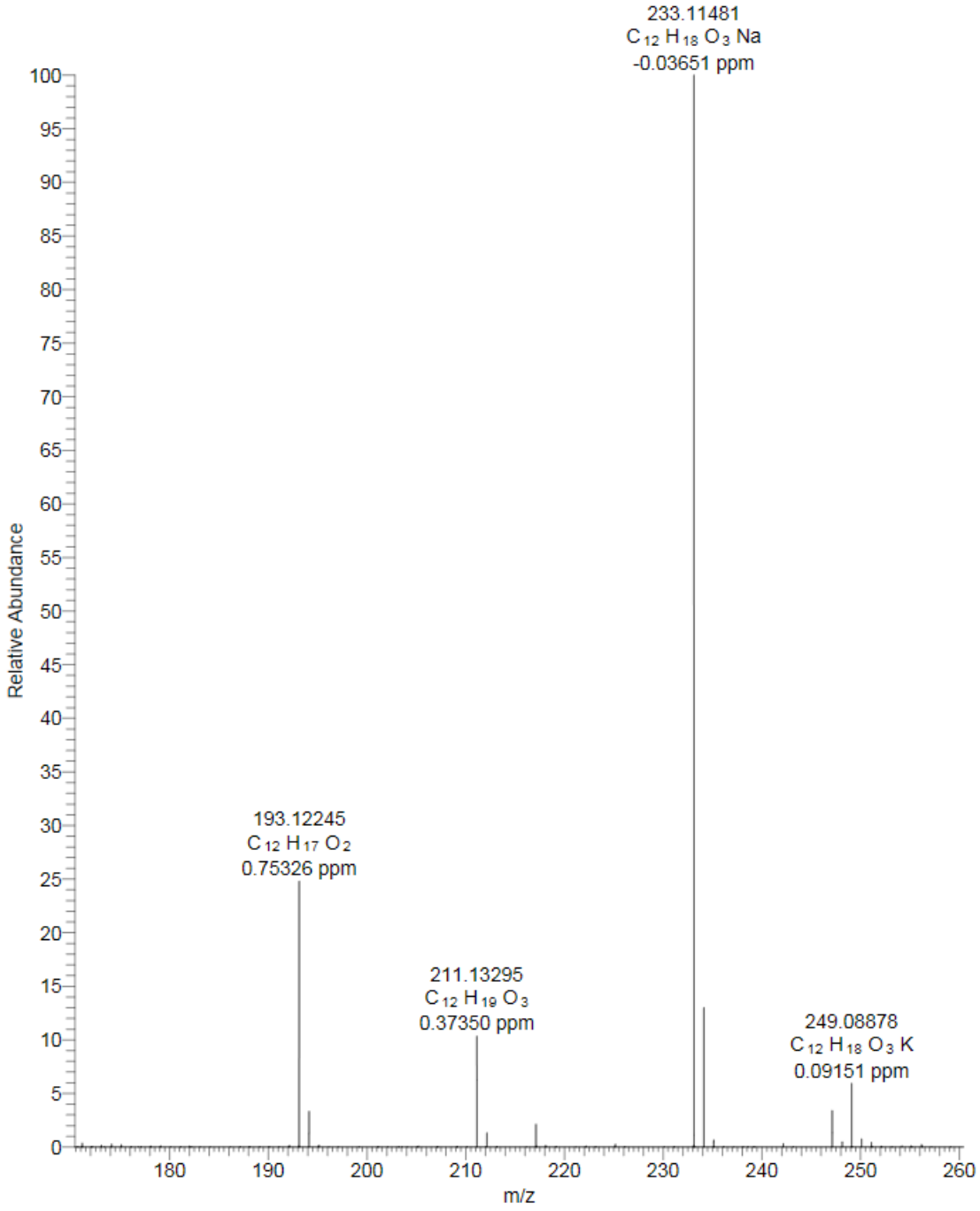


Figure S45. ^{1}H NMR (600 MHz, $CDCl_3$) spectrum of compound **7**

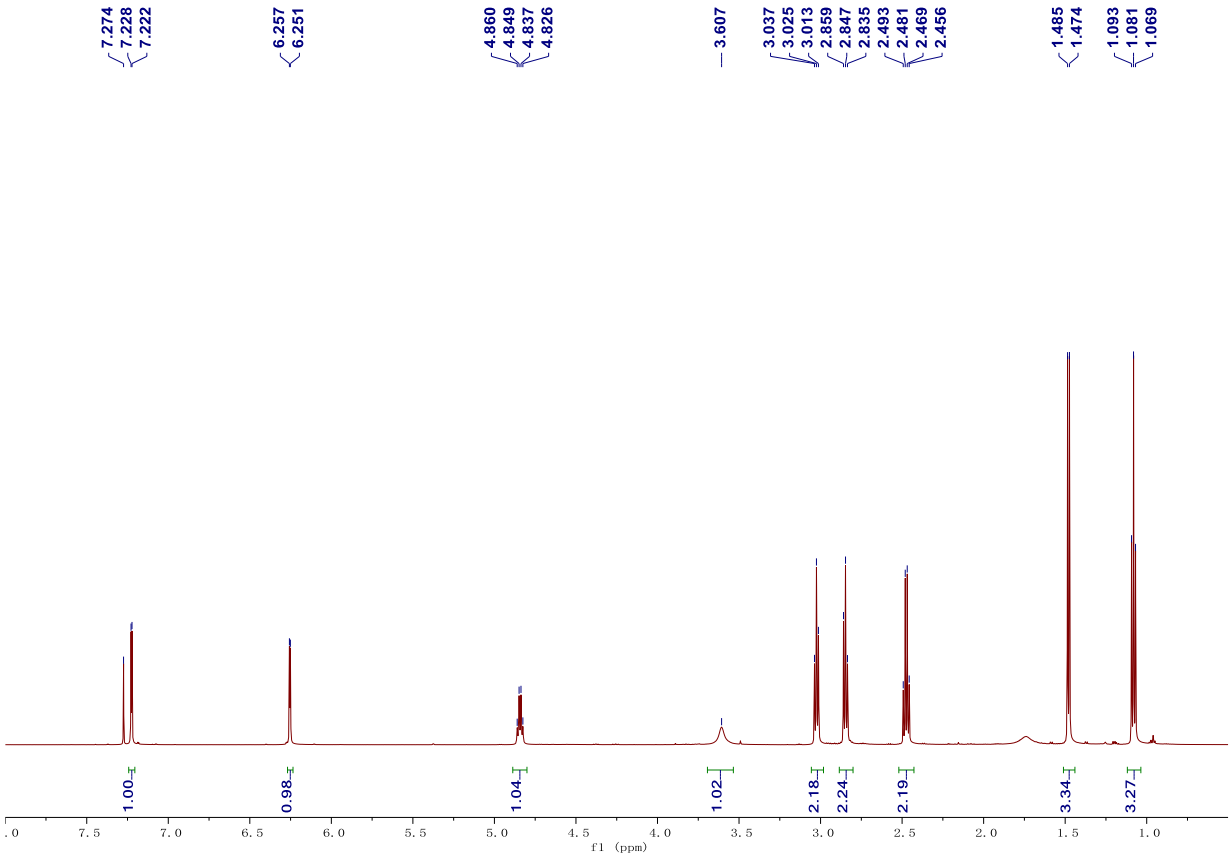


Figure S46. ^{13}C NMR (150 MHz, $CDCl_3$) spectrum of compound **7**

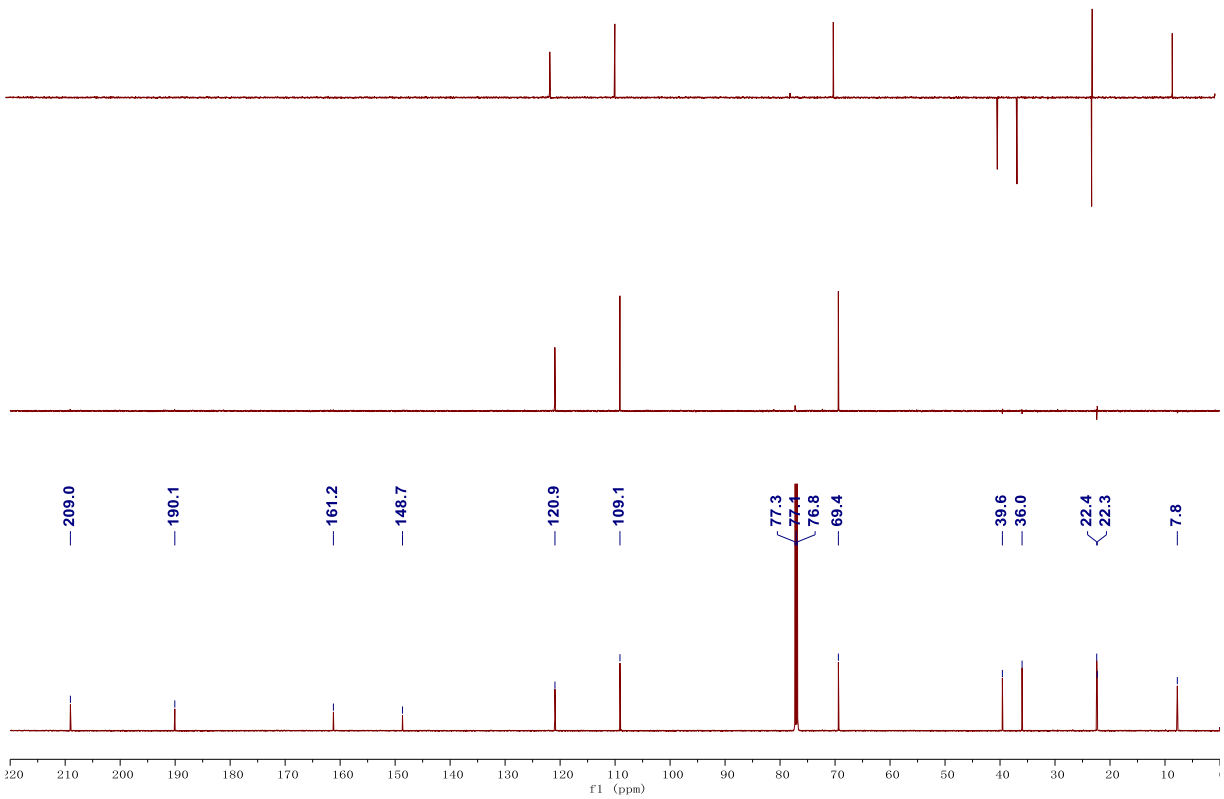


Figure S47. HSQC spectrum of compound **7**

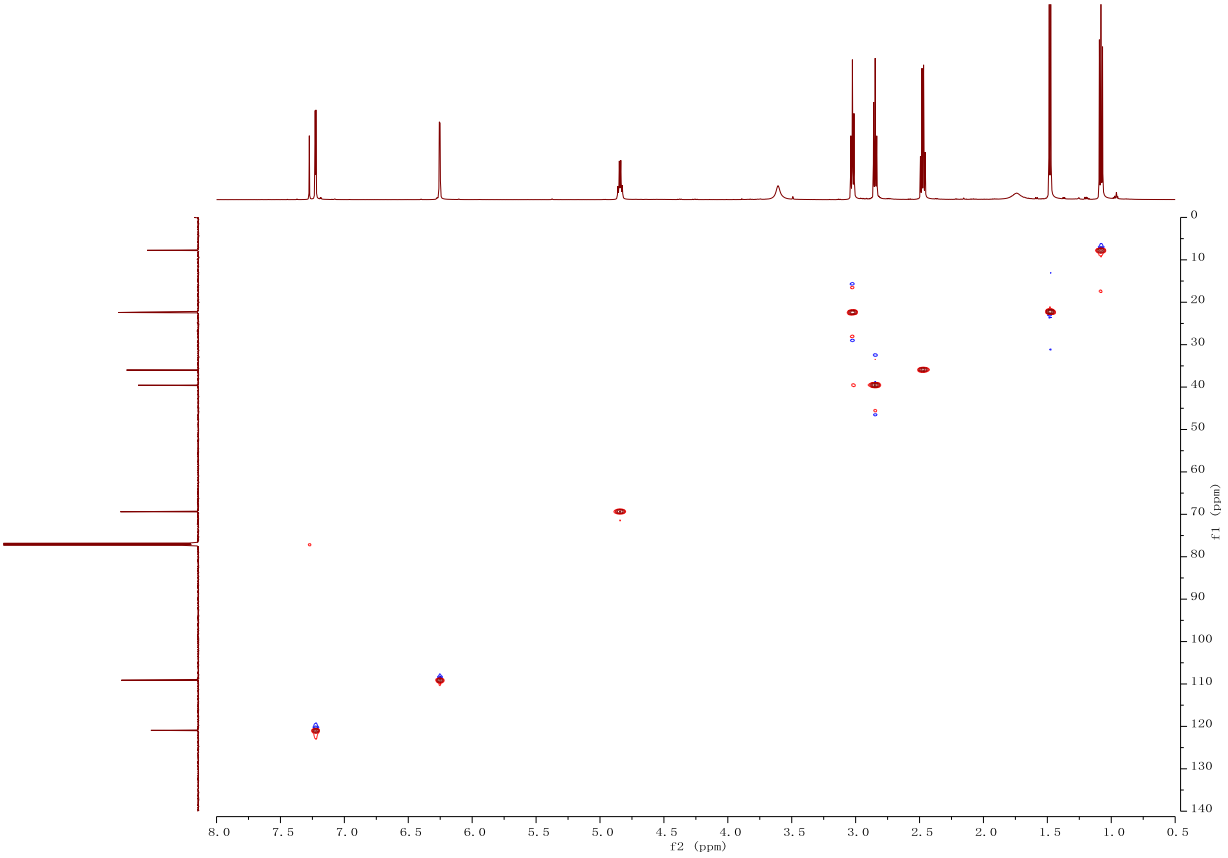


Figure S48. HMBC spectrum of compound **7**

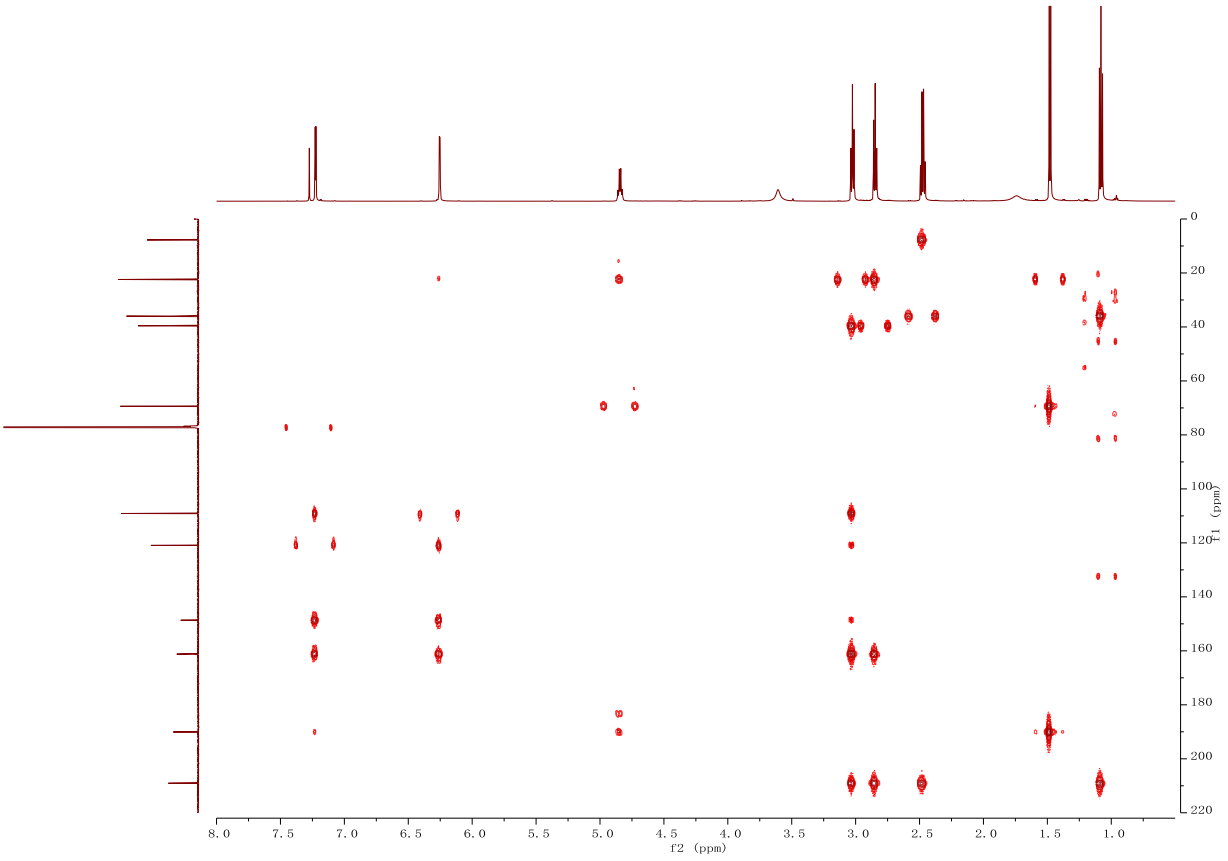


Figure S49. COSY spectrum of compound **7**

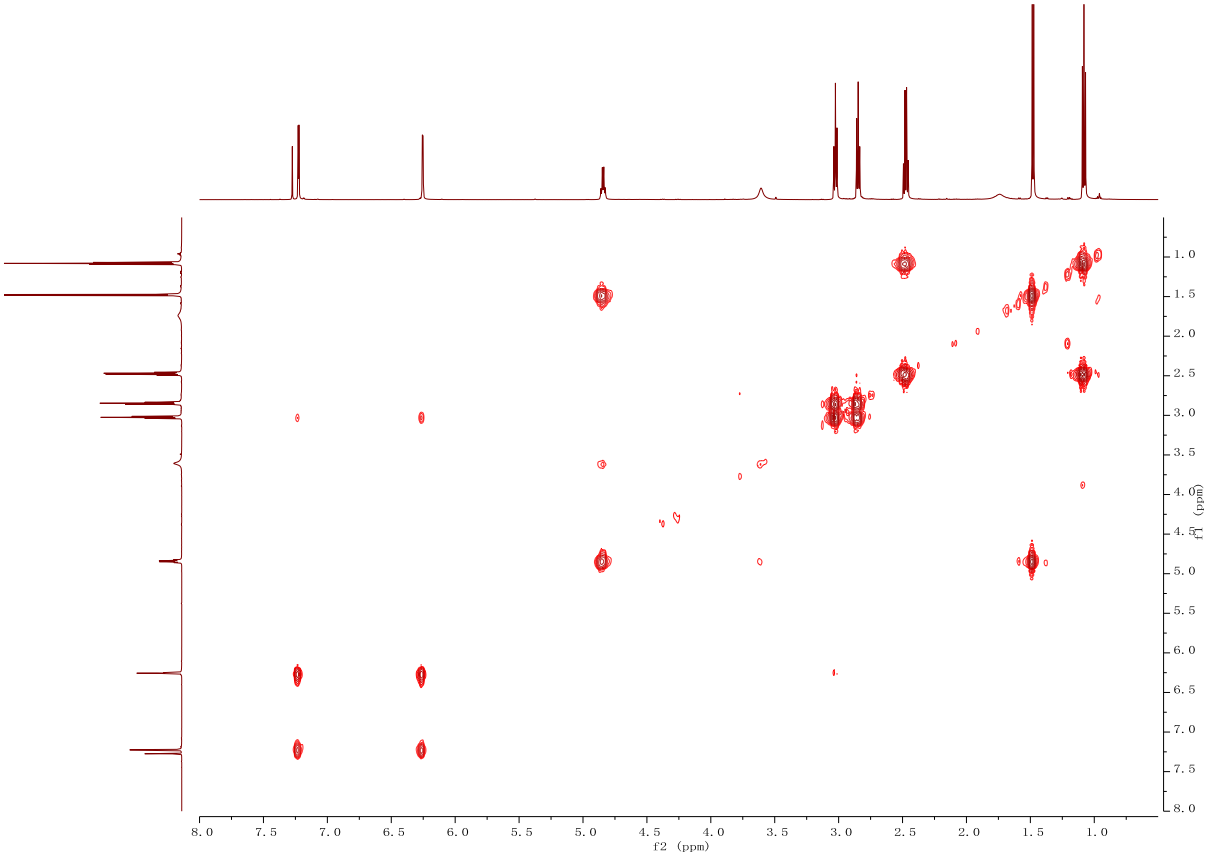


Figure S50. ROESY spectrum of compound **7**

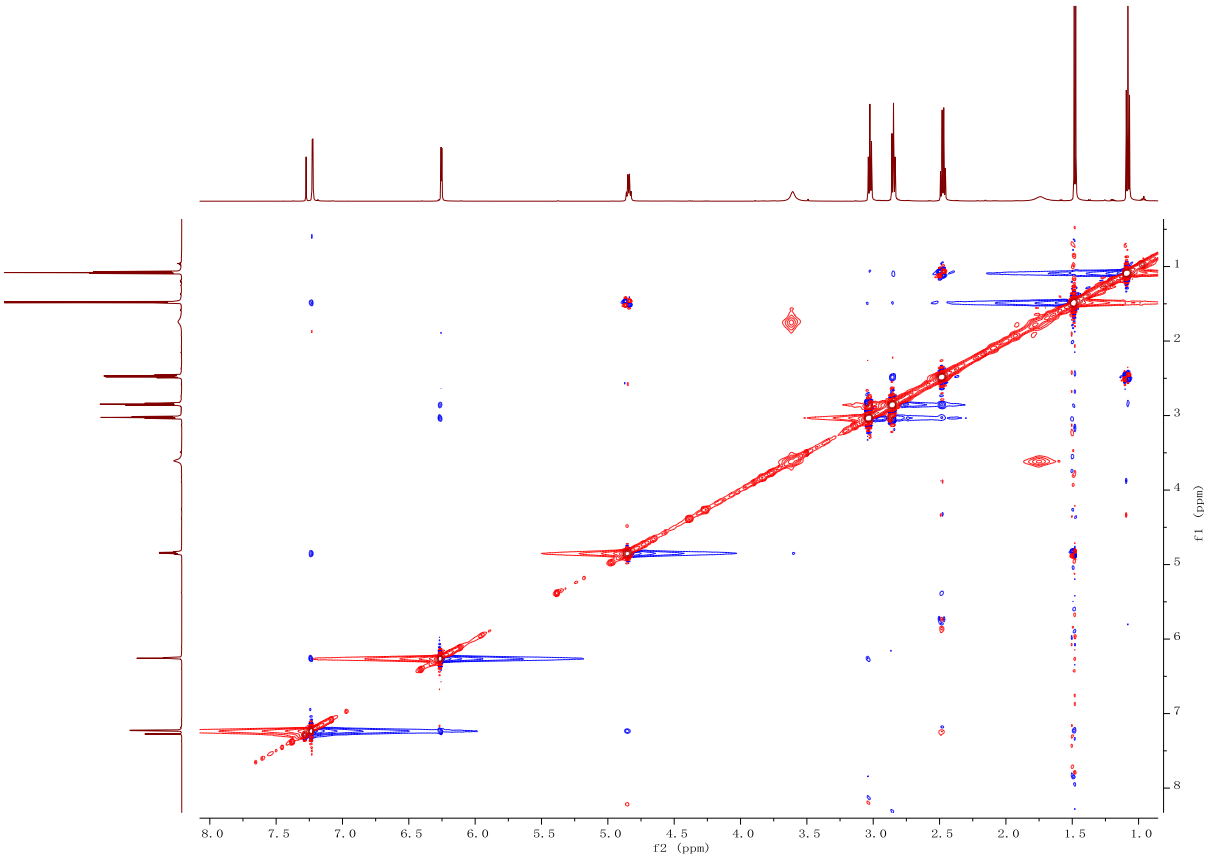


Figure S51. HR-ESI-MS of compound **7**

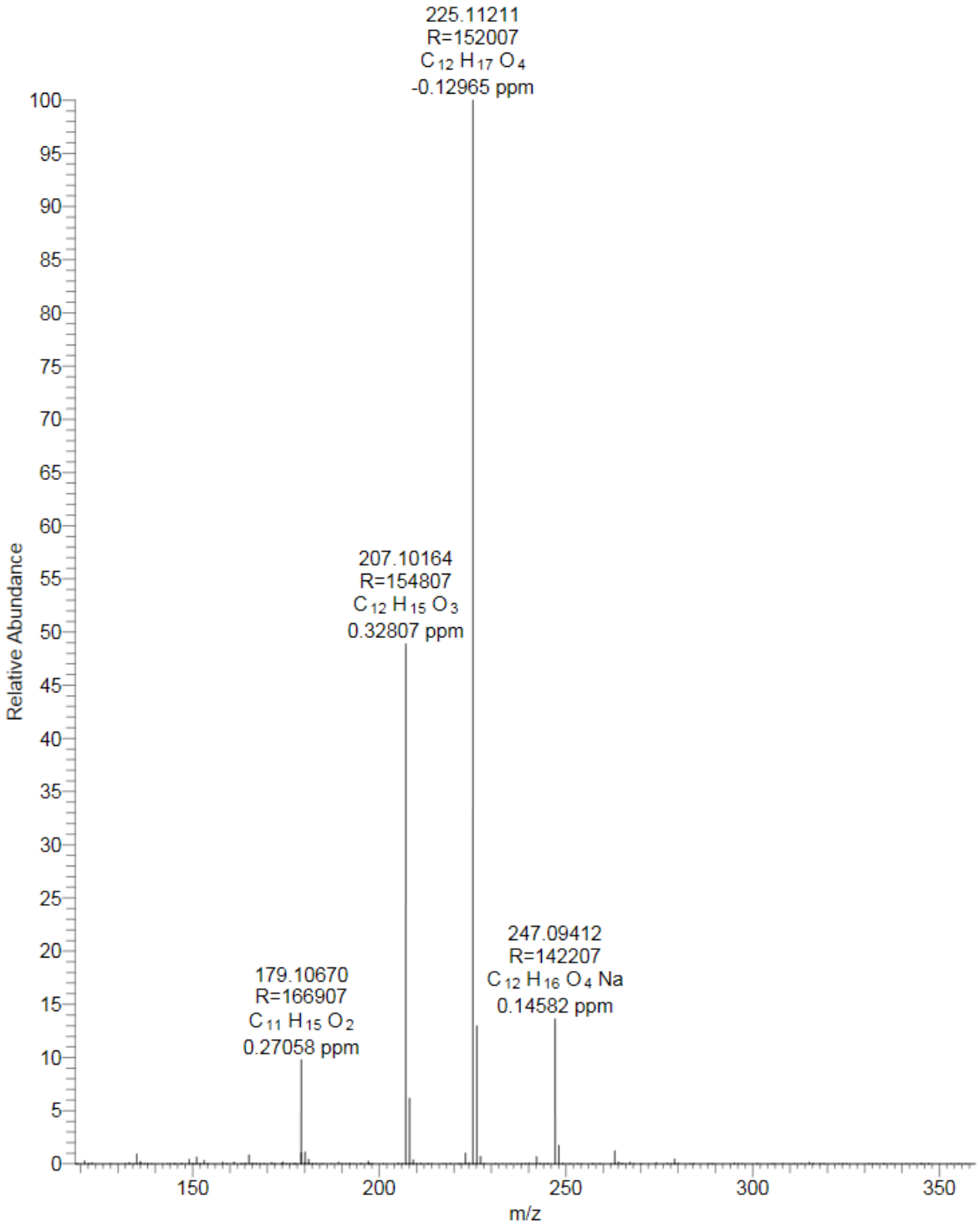


Figure S52. ^{1}H NMR (600 MHz, methanol-d_4) spectrum of compound **8**

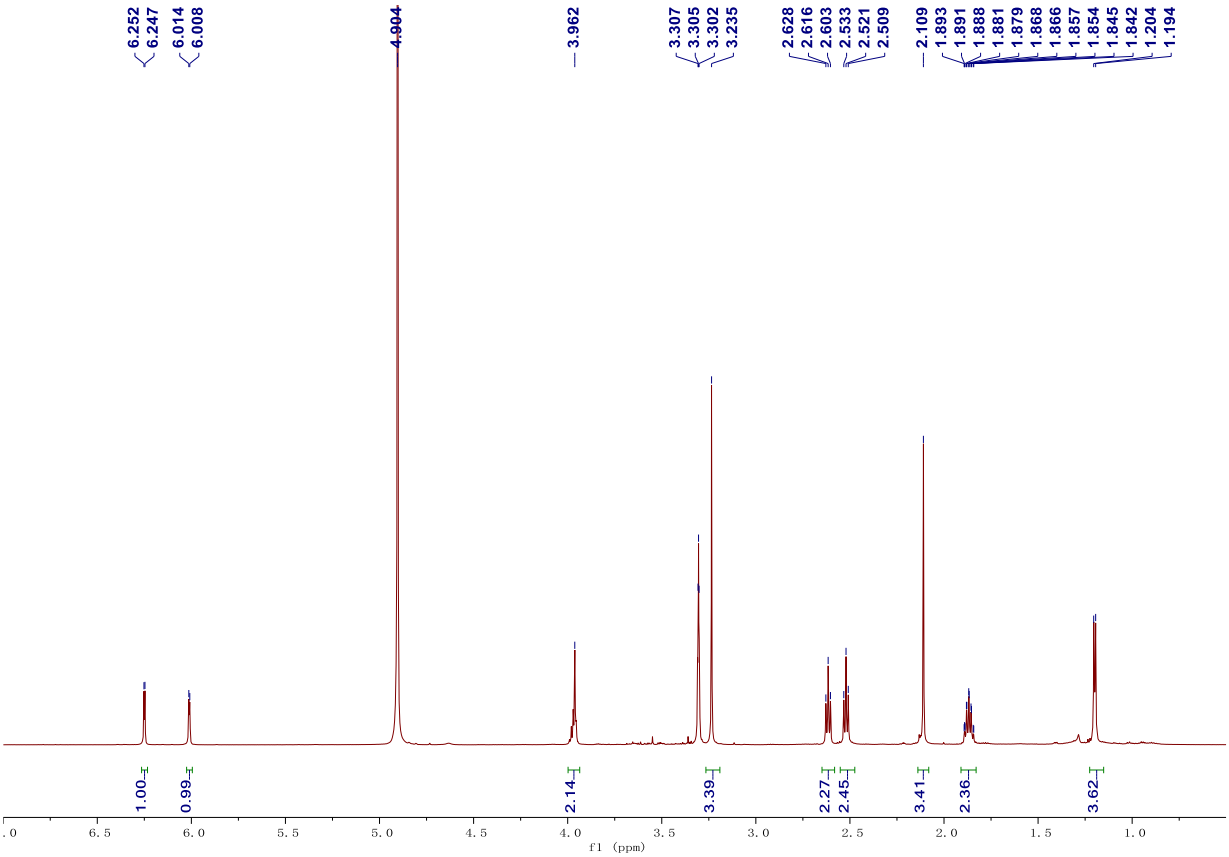


Figure S53. ^{13}C NMR (150 MHz, methanol-d_4) spectrum of compound **8**

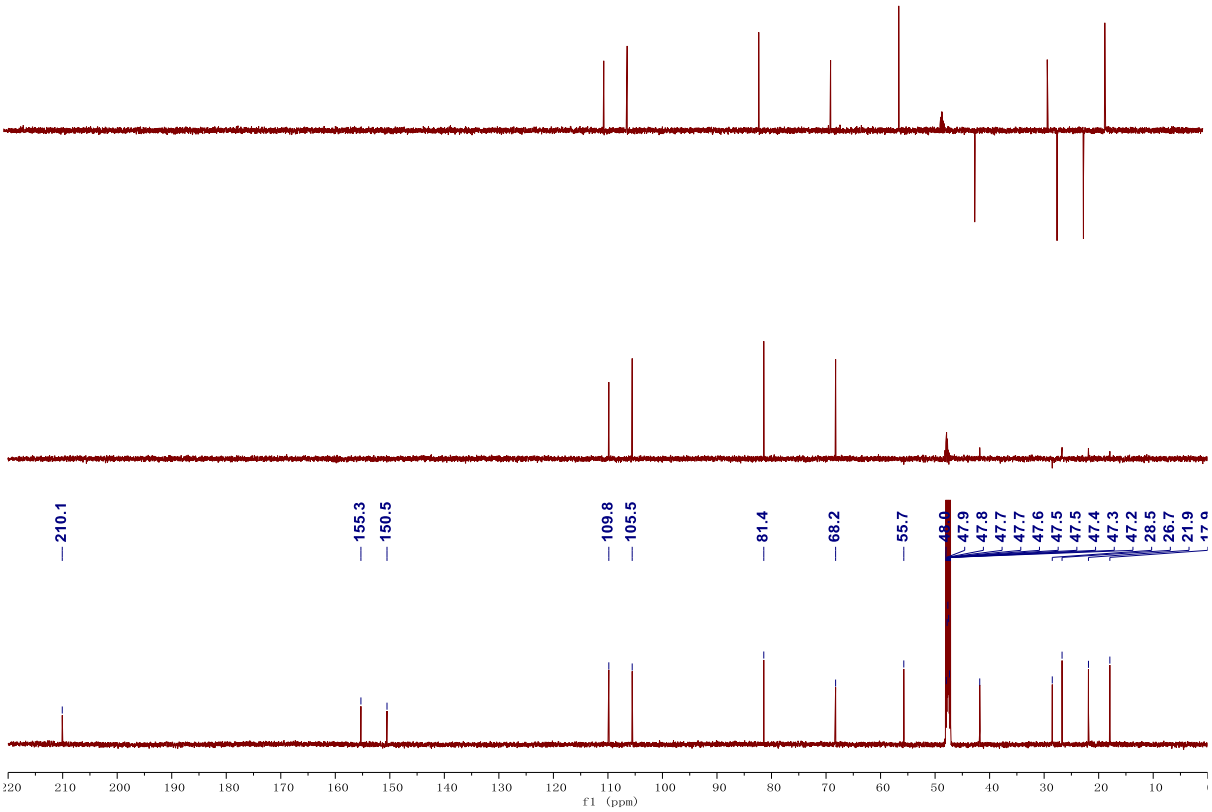


Figure S54. HSQC spectrum of compound **8**

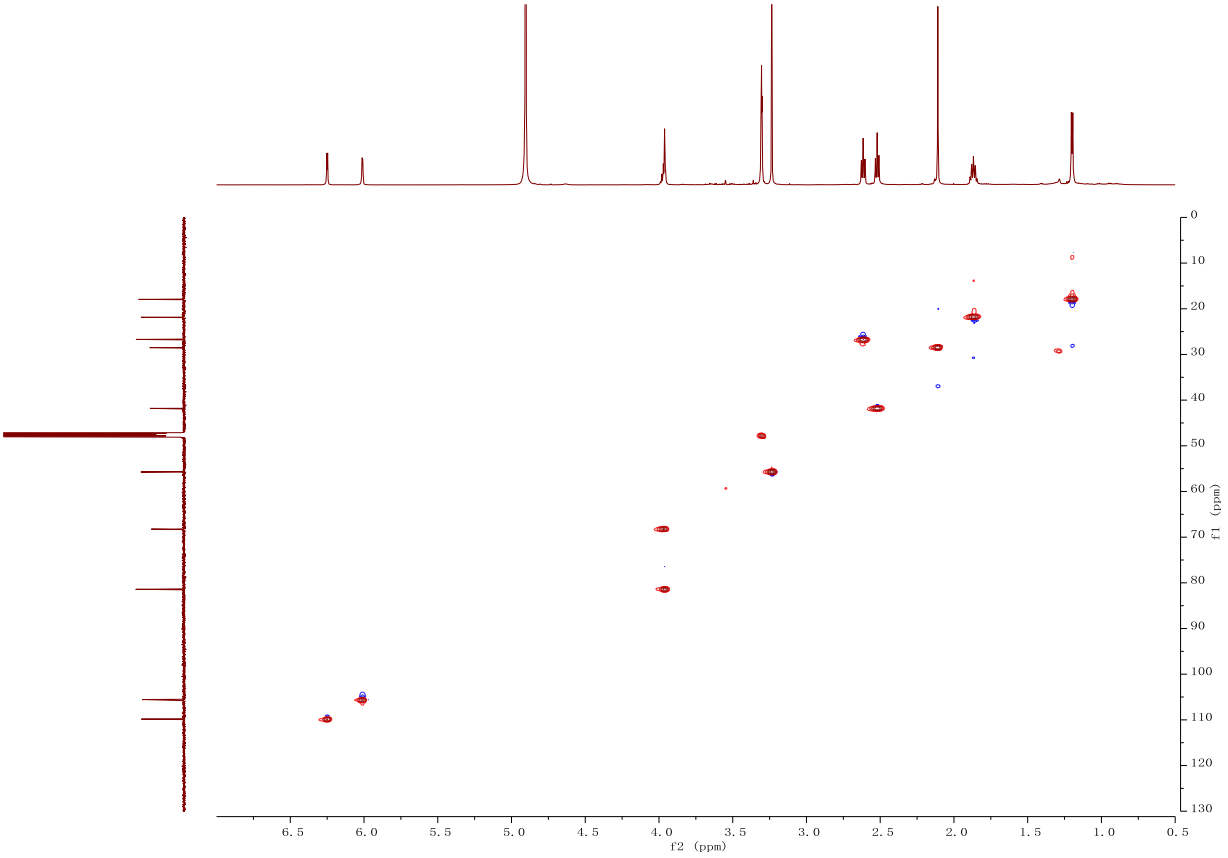


Figure S55. HMBC spectrum of compound **8**

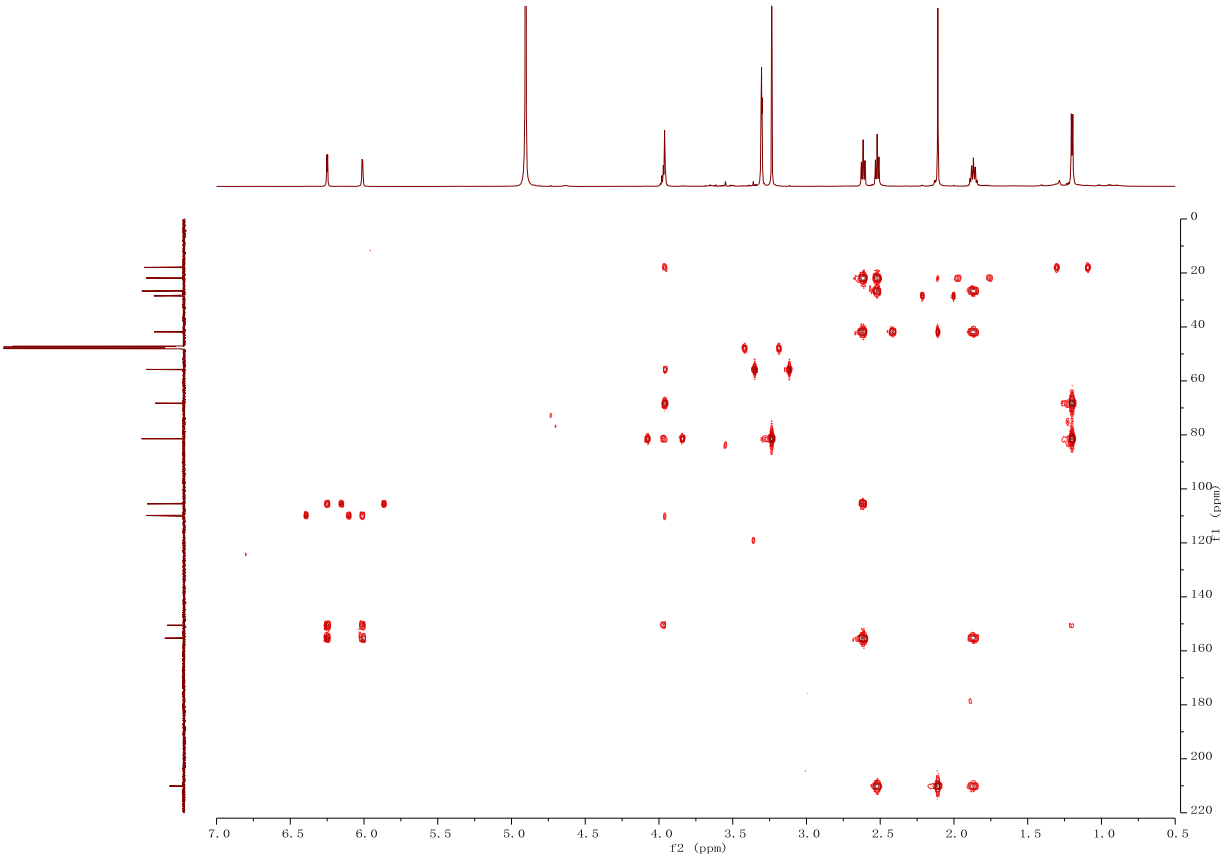


Figure S56. COSY spectrum of compound **8**

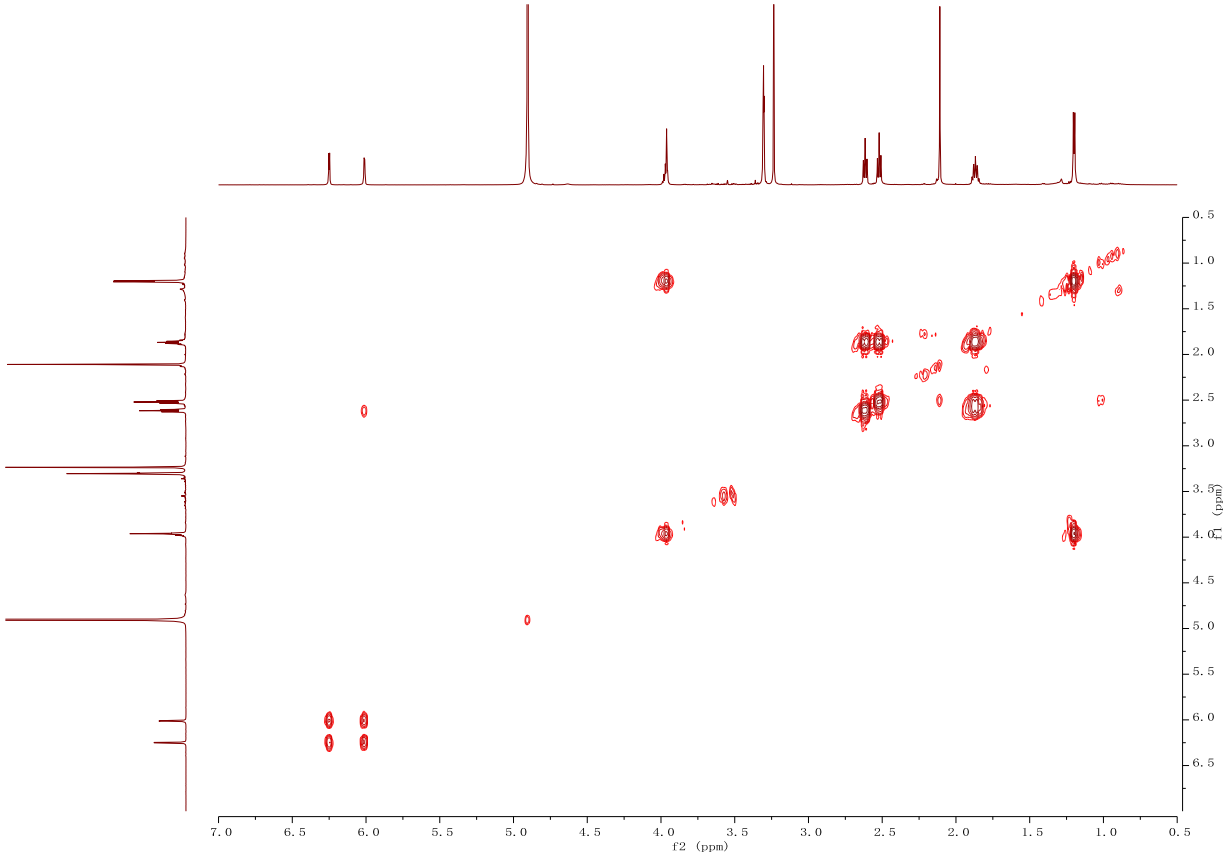


Figure S57. ROESY spectrum of compound **8**

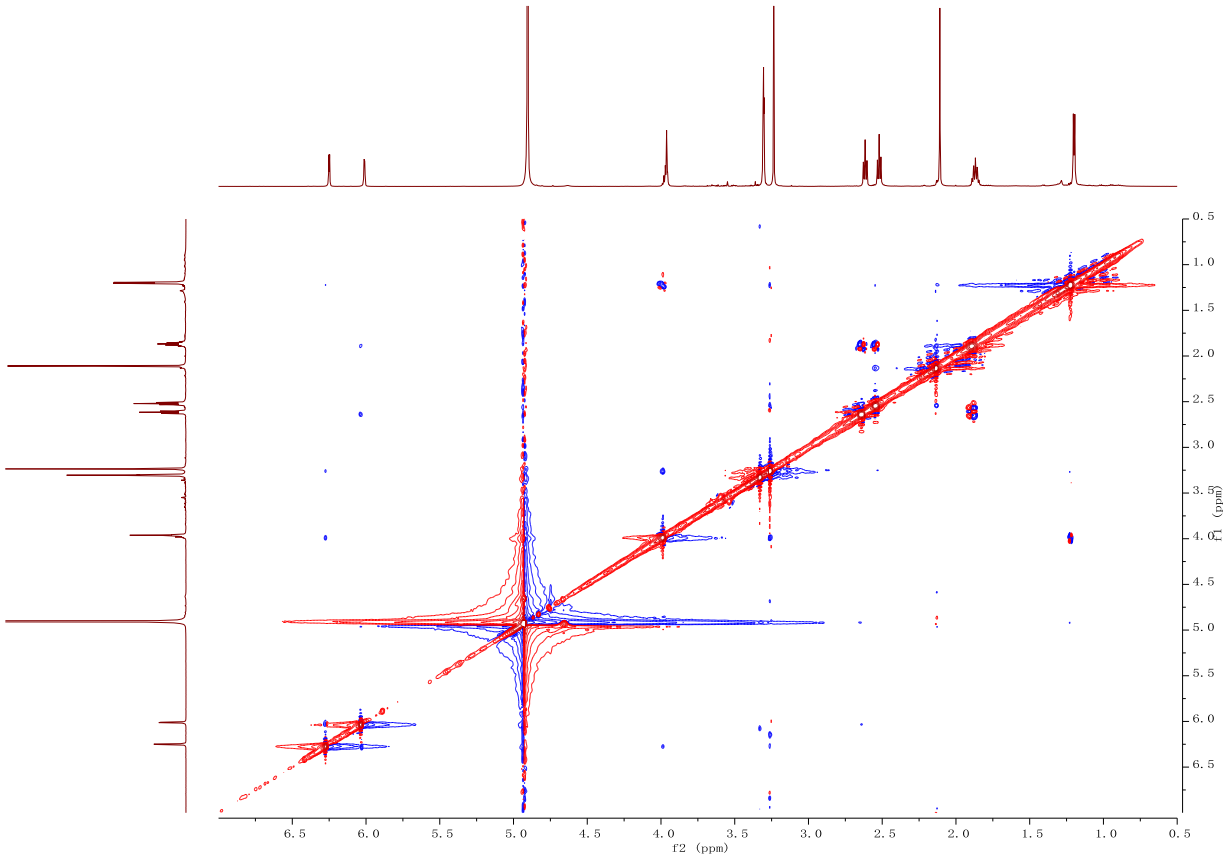


Figure S58. HR-ESI-MS of compound **8**

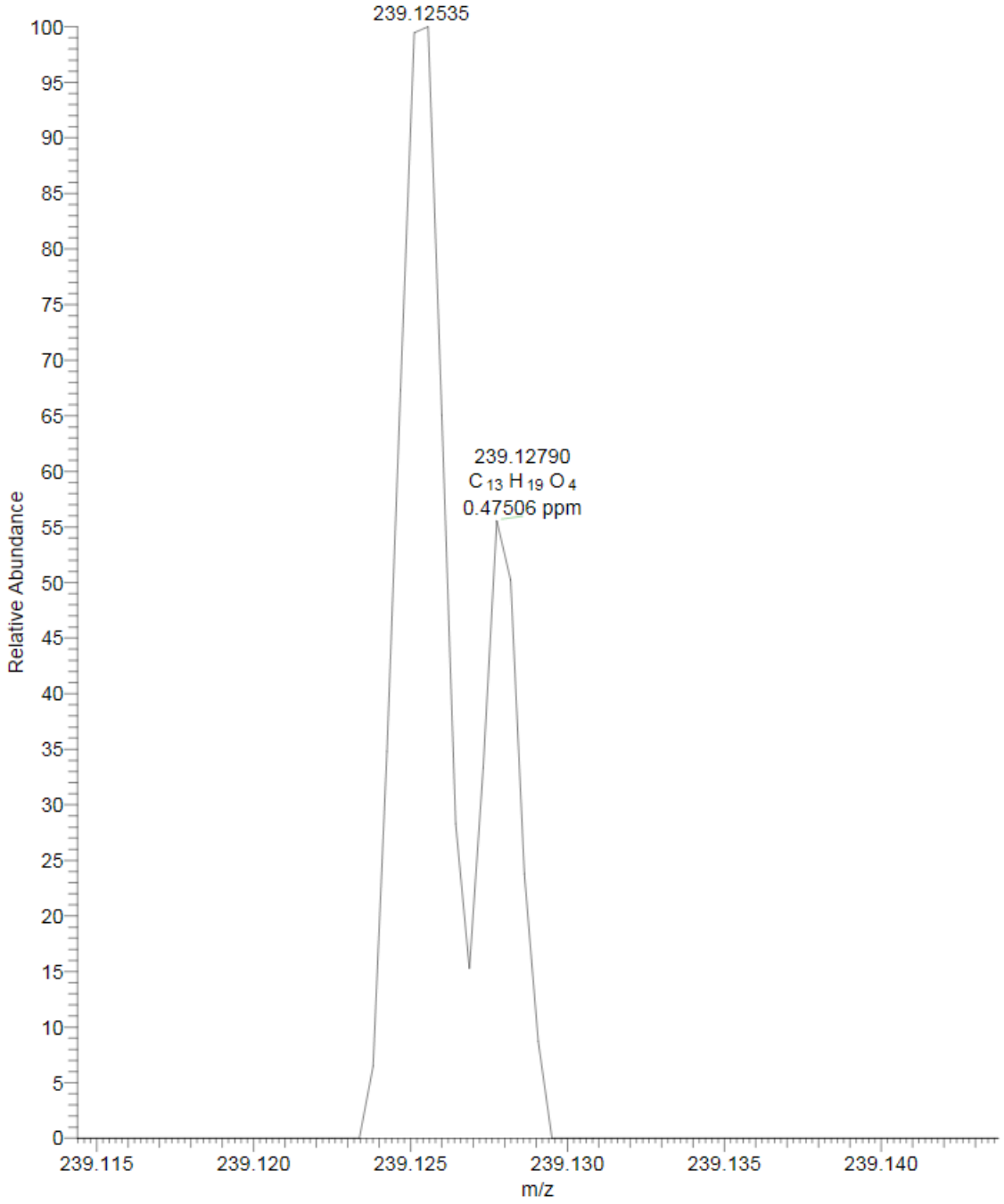


Figure S59. ^{1}H NMR (600 MHz, $CDCl_3$) spectrum of compound **9**

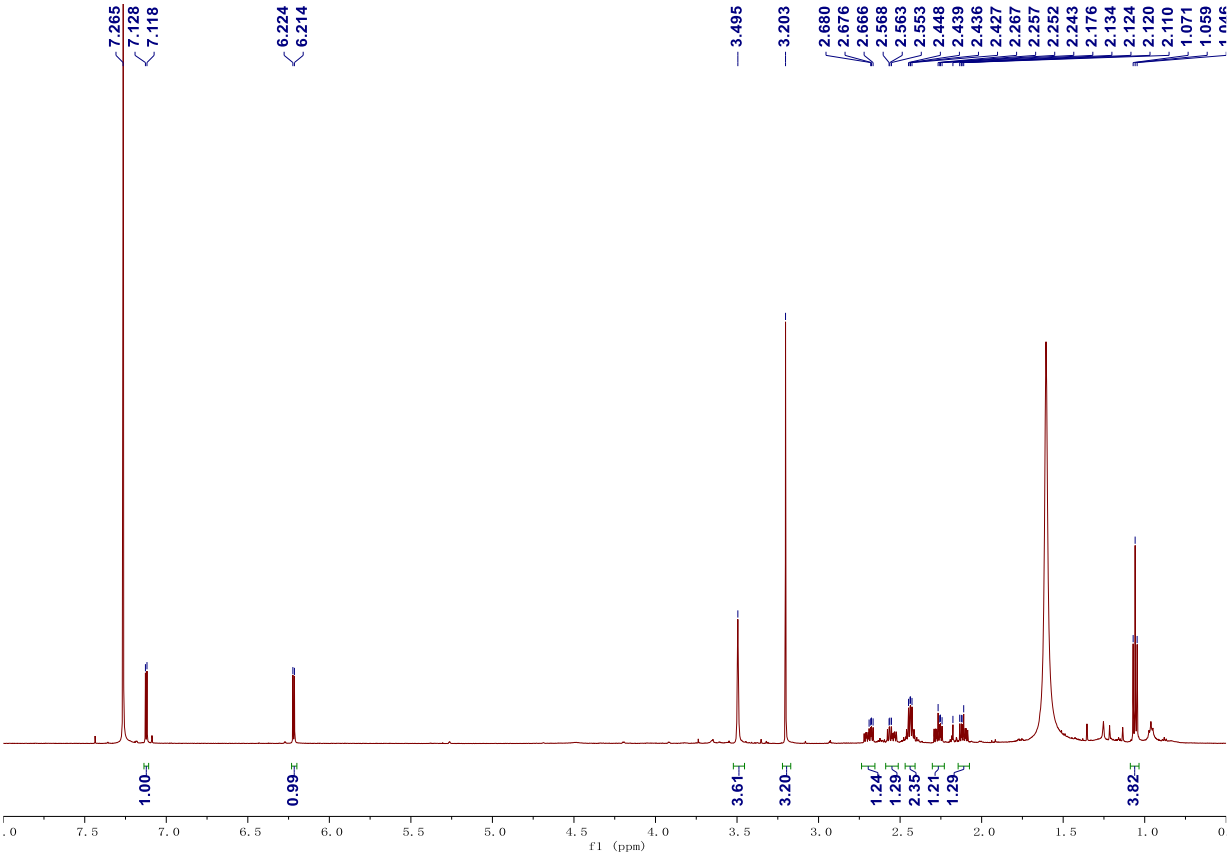


Figure S60. ^{13}C NMR (150 MHz, $CDCl_3$) spectrum of compound **9**

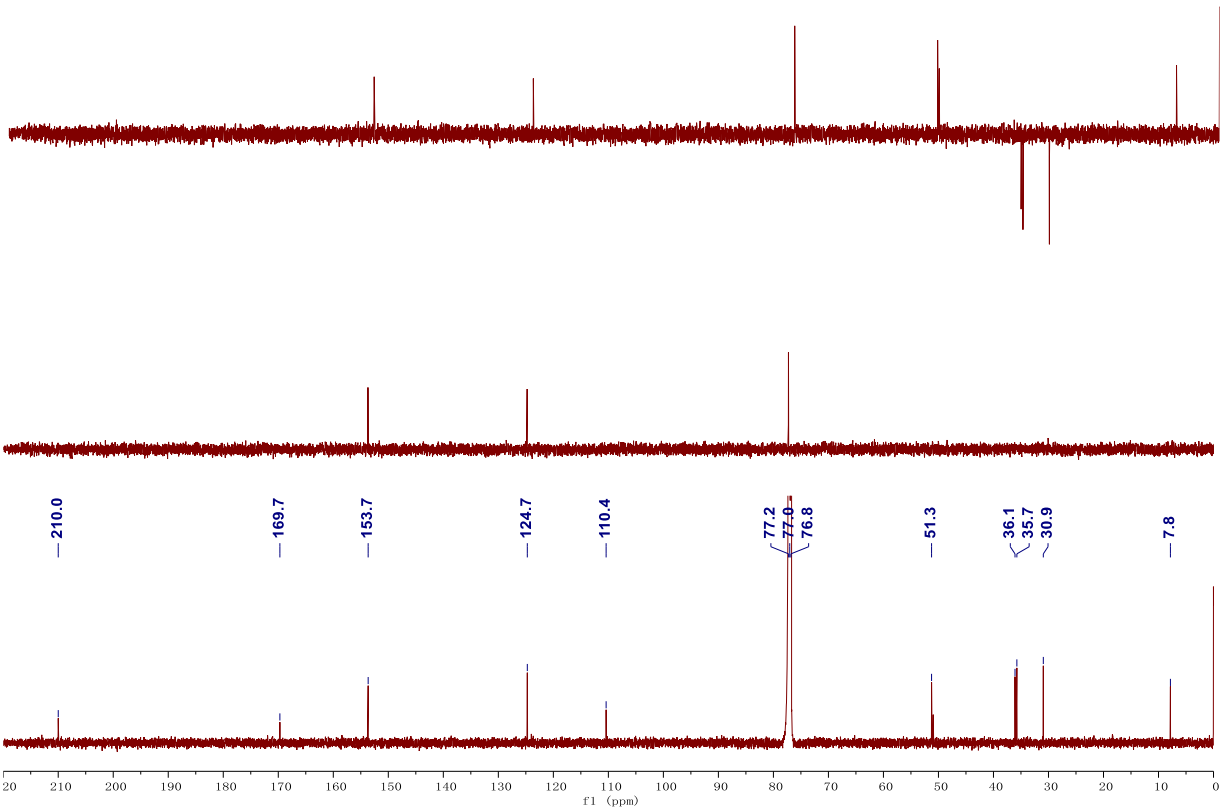


Figure S61. HSQC spectrum of compound **9**

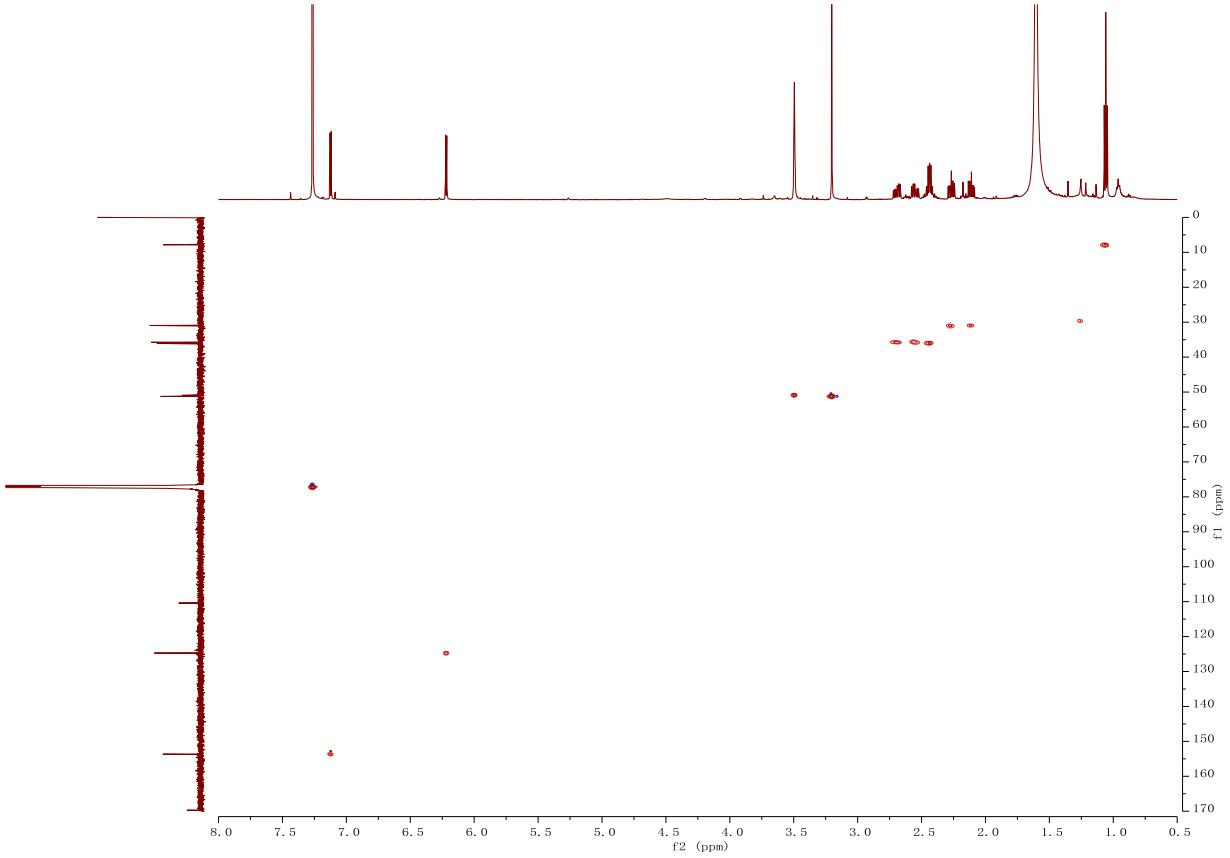


Figure S62. HMBC spectrum of compound **9**

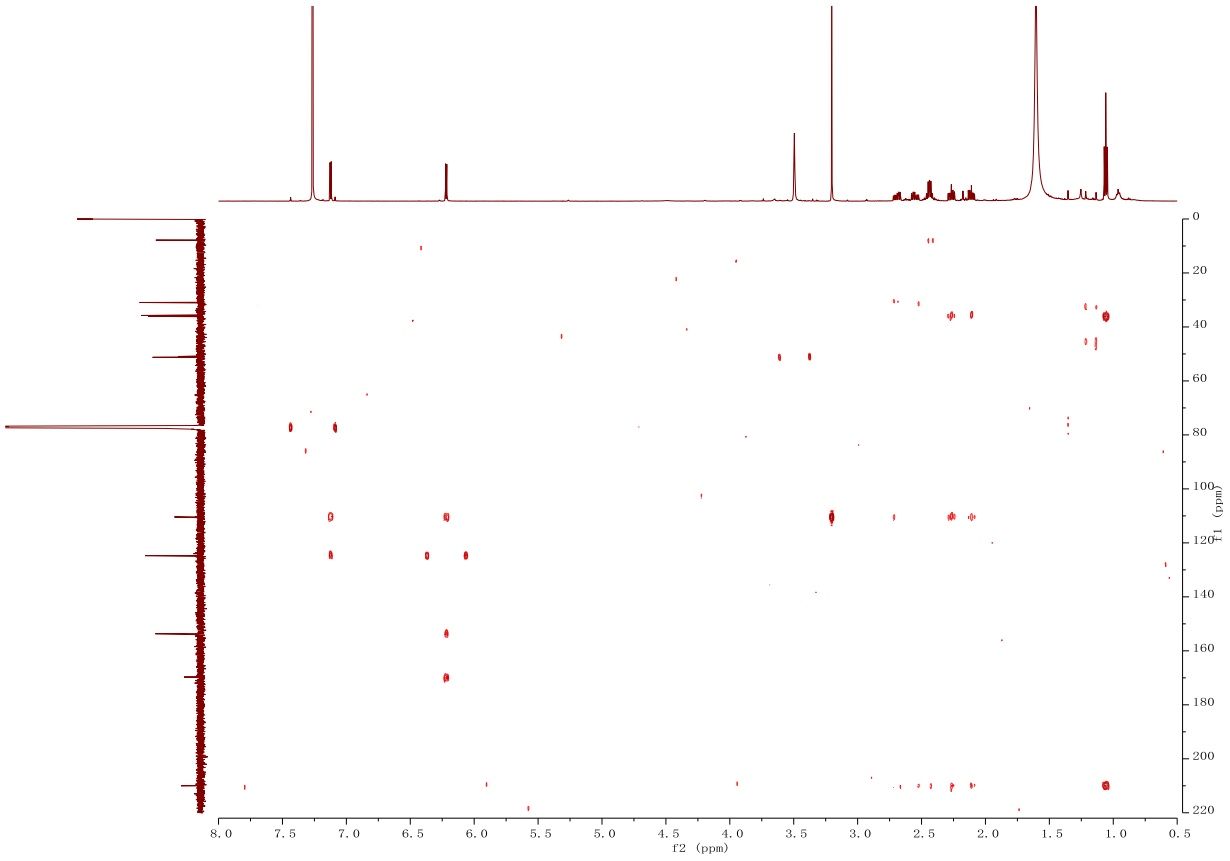


Figure S63. COSY spectrum of compound **9**

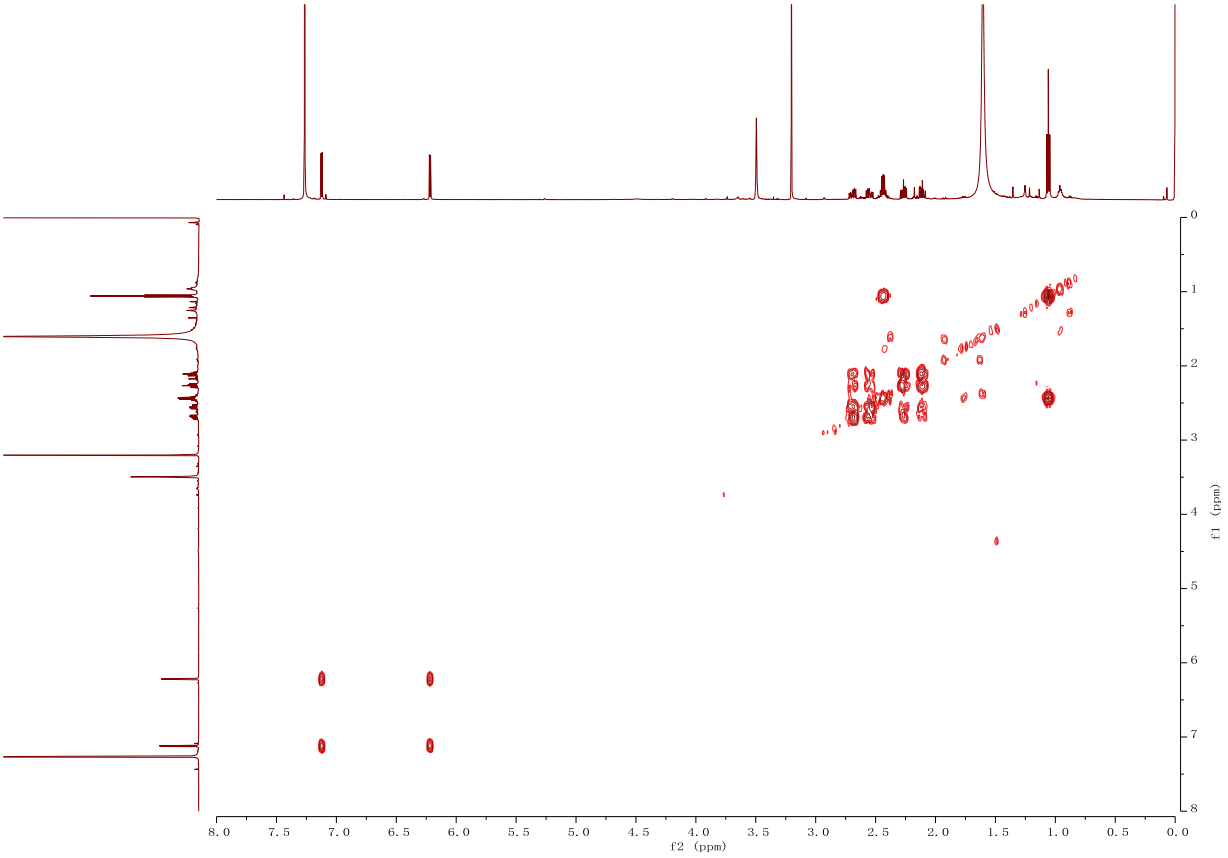


Figure S64. ROESY spectrum of compound **9**

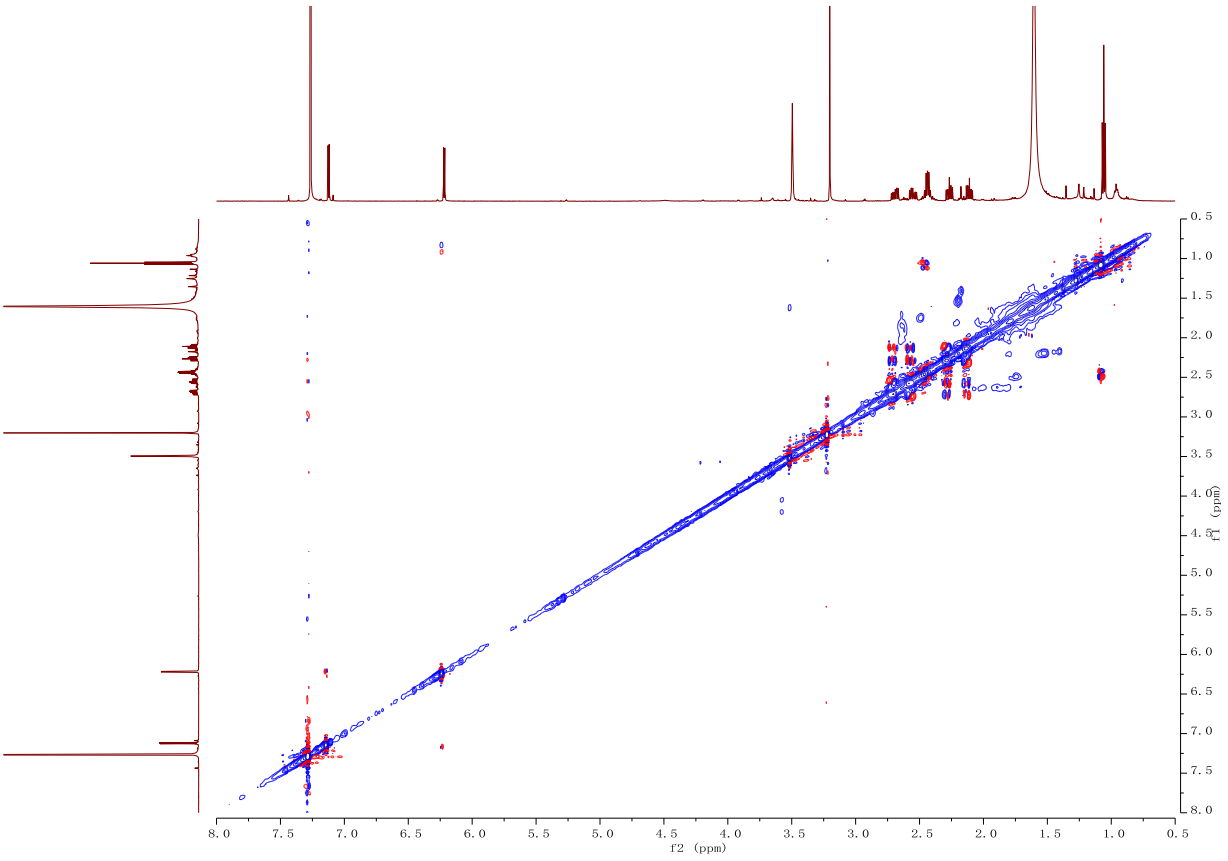


Figure S65. HR-ESI-MS of compound **9**

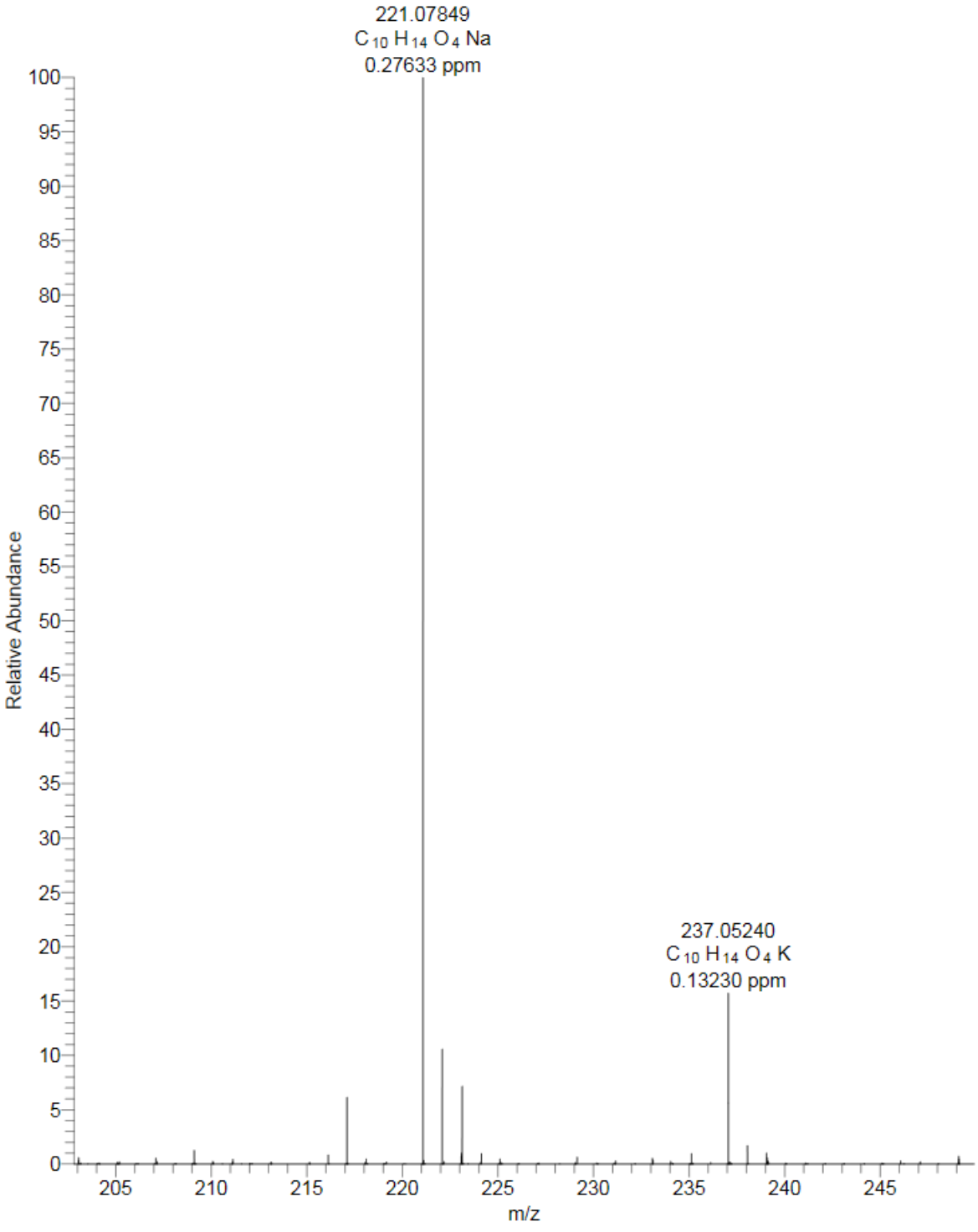


Figure S66. ^{1}H NMR (600 MHz, $CDCl_3$) spectrum of compound **10**

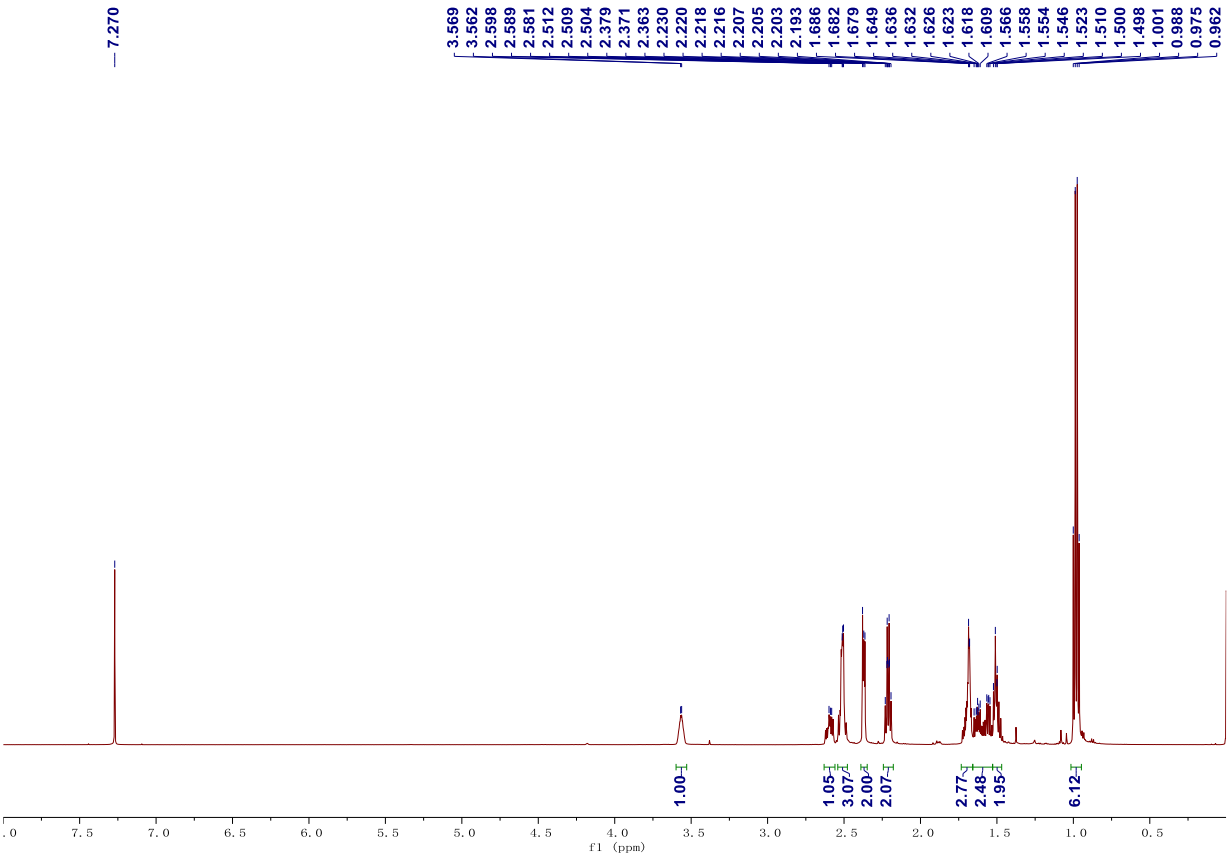


Figure S67. ^{13}C NMR (150 MHz, $CDCl_3$) spectrum of compound **10**

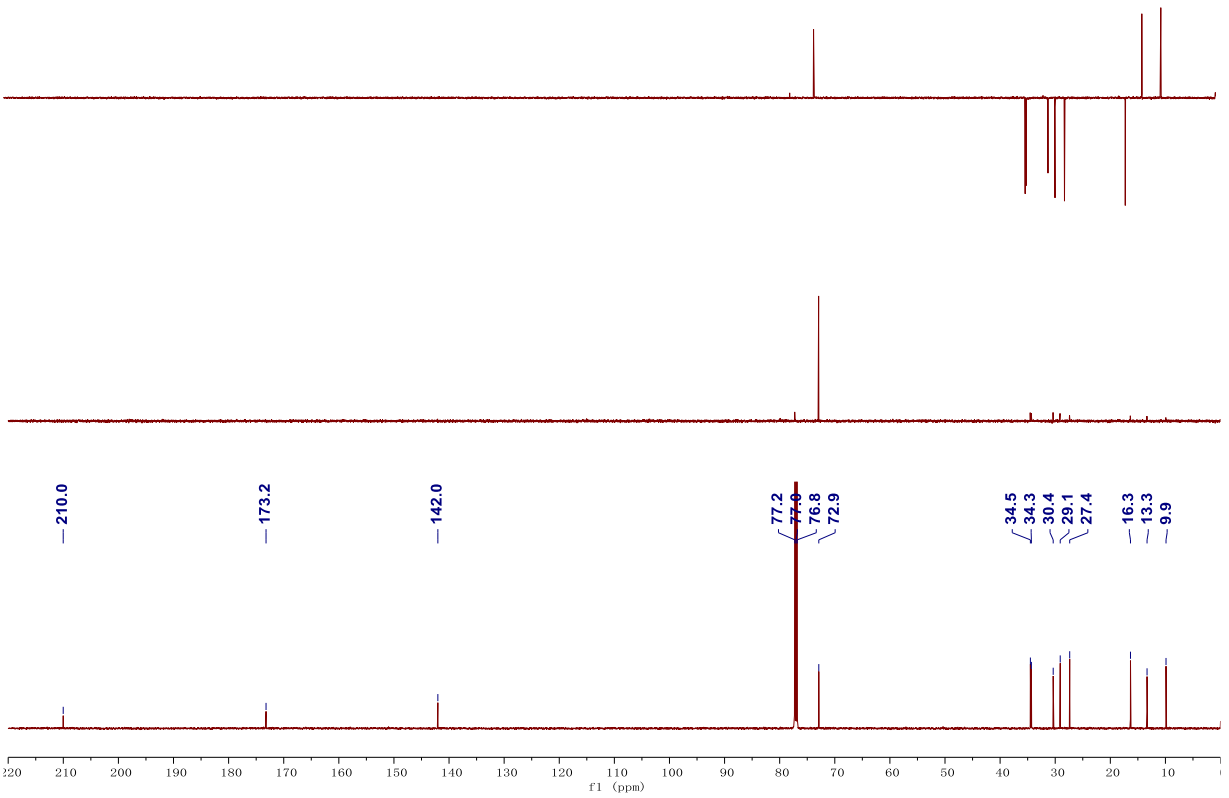


Figure S68. HSQC spectrum of compound **10**

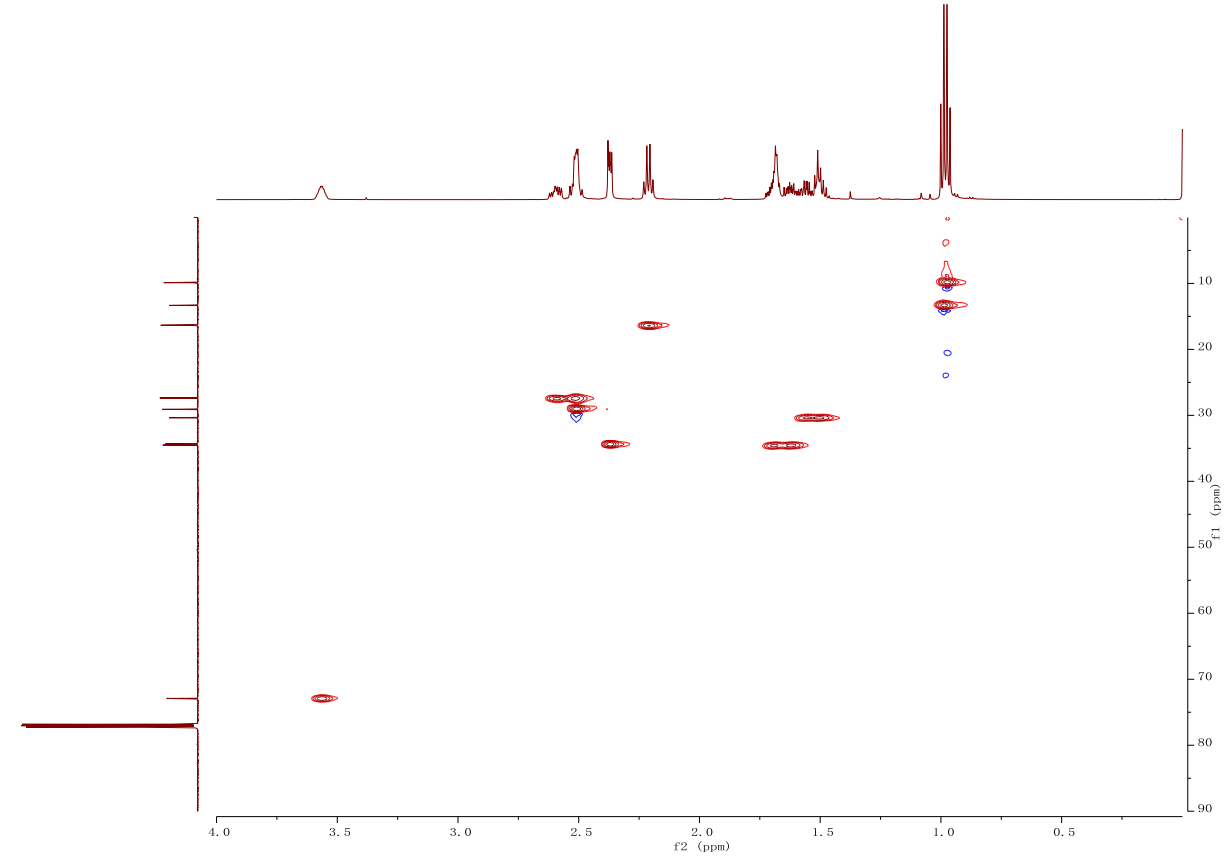


Figure S69. HMBC spectrum of compound **10**

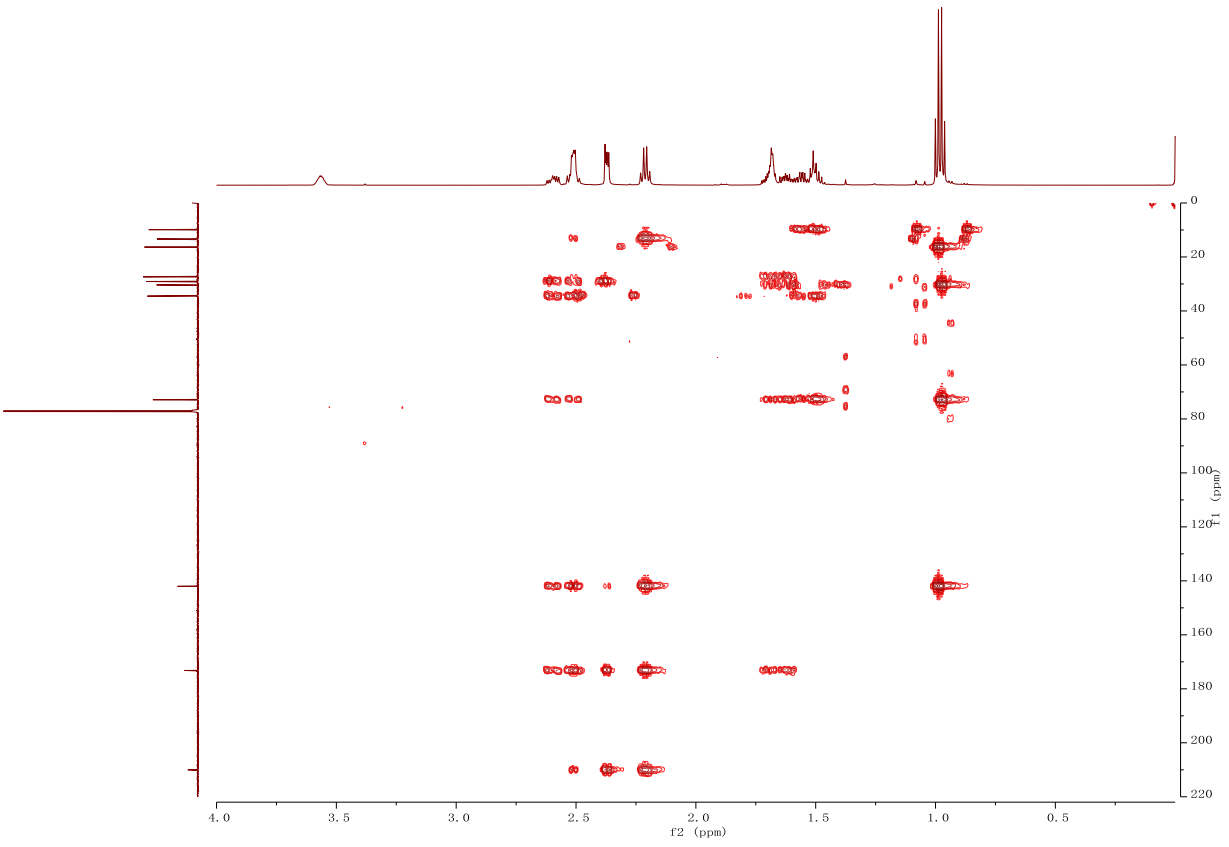


Figure S70. COSY spectrum of compound **10**

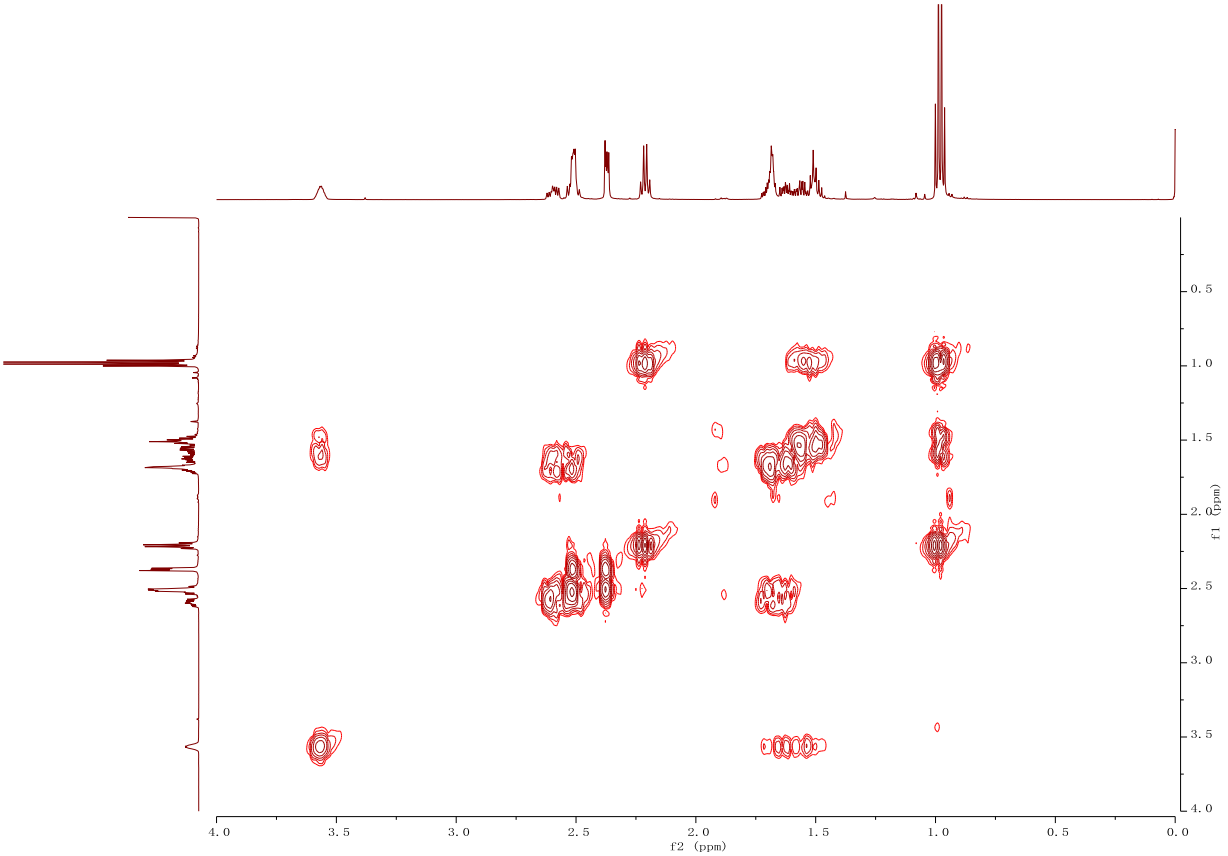


Figure S71. ROESY spectrum of compound **10**

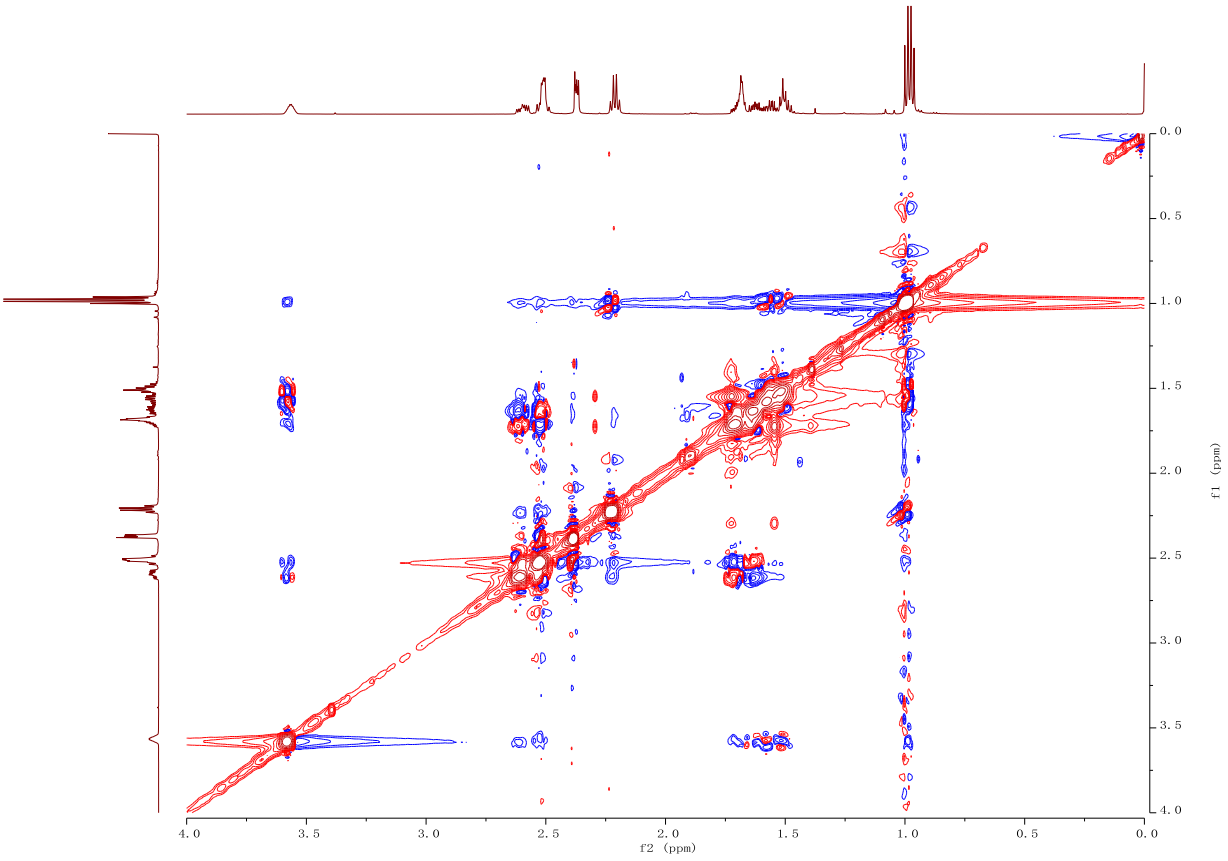
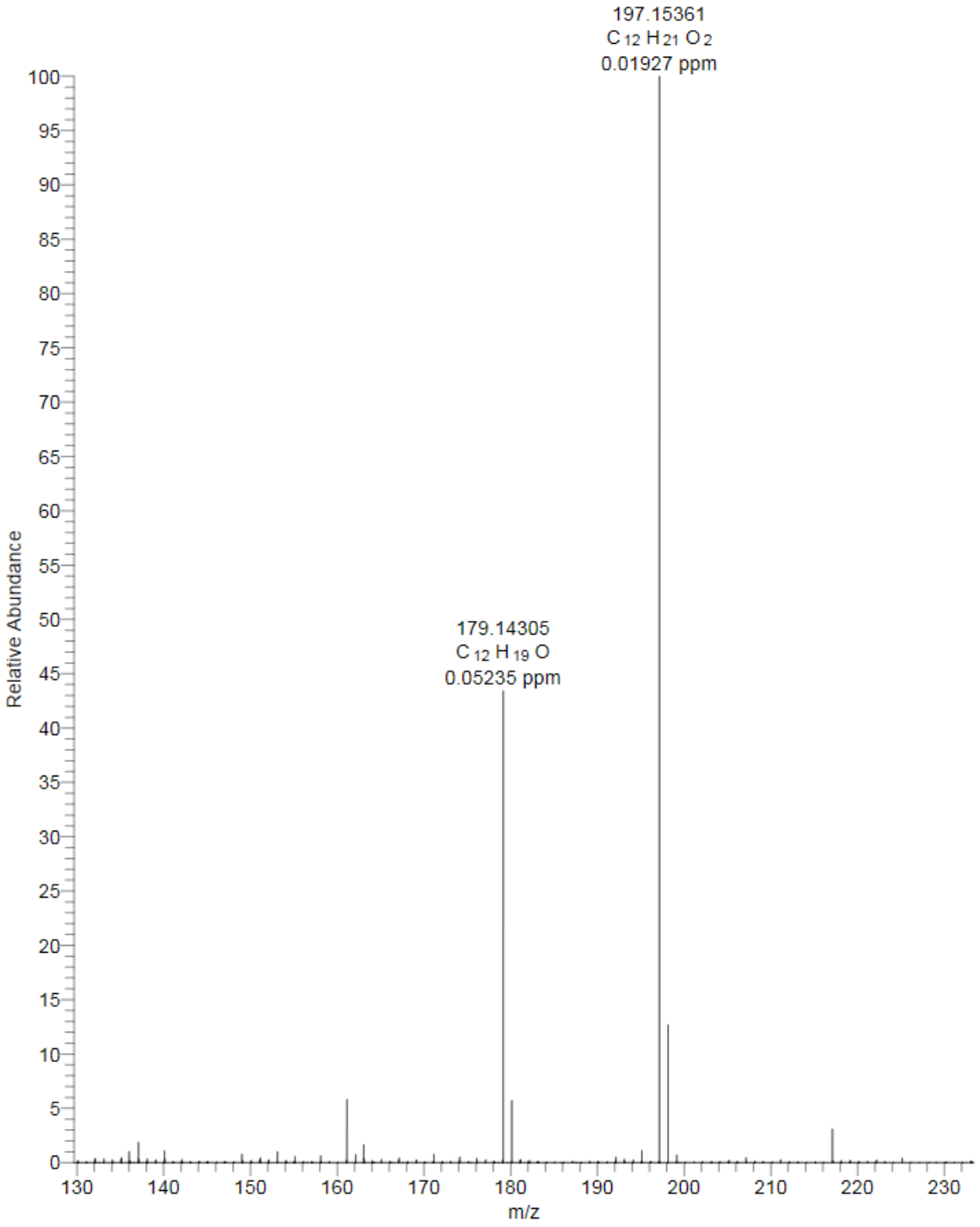
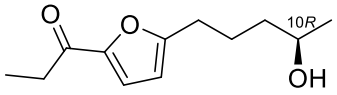


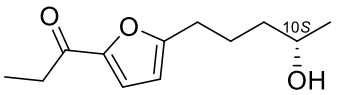
Figure S72. HR-ESI-MS of compound **10**



Section S2. Specific Optical Rotation Calculation for compound 6.



6a



6b

Two plausible configurations of 10*R* (**6a**) and 10*S* (**6b**) for compound **6**.

Systematic conformational analyses were performed via Spartan 16 using the MMFF94 molecular mechanics force field calculation.[1,2] All of the conformers were further optimized by the density functional theory (DFT) method at the B3LYP/TZVP level in Gaussian 09 program package.[3] These conformers were subjected to specific optical rotation calculations at the B3LYP/6-311++G(2d,p) level in methanol with PCM model. The calculated specific optical rotation data of these conformers were averaged according to the Boltzmann distribution theory and their relative Gibbs free energy.[4]

Table S1. *Energy analysis for conformers of* ***6aA-6aP*** *at B3LYP/TZVP level in the gas phase*

Species	*E′=E+ZPE*	*E*	*H*	*G*	*ΔG*	*ΔE*(kcal/mol)66	*PE*%	$[\alpha]_D$
6aA	-693.799030	-693.782619	-693.781675	-693.845162	0.000888	0.557228	5.72%	10.33
6aB	-693.798989	-693.782596	-693.781652	-693.845011	0.001039	0.651982	4.87%	9.07
6aC	-693.798356	-693.781777	-693.780833	-693.845353	0.000697	0.437374	7.00%	-21.89
6aD	-693.799206	-693.782633	-693.781689	-693.846050	0.000000	0.000000	14.65%	69.76
6aE	-693.797989	-693.781424	-693.780480	-693.845385	0.000665	0.417294	7.24%	22.79
6aF	-693.798982	-693.782630	-693.781686	-693.844973	0.001077	0.675828	4.68%	-24.71
6aG	-693.798040	-693.781463	-693.780519	-693.845033	0.001017	0.638177	4.99%	-14.46
6aH	-693.797876	-693.781284	-693.780340	-693.845040	0.001010	0.633785	5.02%	14.90
6aI	-693.798837	-693.782313	-693.781369	-693.845881	0.000169	0.106049	12.25%	-60.54
6aJ	-693.798729	-693.782198	-693.781254	-693.845468	0.000582	0.365211	7.91%	37.14
6aK	-693.797800	-693.781323	-693.780379	-693.844384	0.001666	1.045431	2.51%	-10.17
6aL	-693.798802	-693.782232	-693.781287	-693.845741	0.000309	0.193900	10.56%	-52.02
6aM	-693.797892	-693.781642	-693.780698	-693.843731	0.002319	1.455195	1.25%	-4.42
6aN	-693.798233	-693.781656	-693.780712	-693.845115	0.000935	0.586721	5.44%	26.30
6aO	-693.796970	-693.780376	-693.779432	-693.843745	0.002305	1.446409	1.27%	-7.17
6aP	-693.797505	-693.781081	-693.780137	-693.843926	0.002124	1.332830	1.54%	-5.59
Total								**-10.70**

Table S2. *Energy analysis for conformers of* ***6bA-6bR*** *at B3LYP/TZVP level in the gas phase*

Species	*E'=E+ZPE*	*E*	*H*	*G*	*ΔG*	*ΔE*(kcal/mol)	*PE*%	$[\alpha]_D$
6bA	-693.799030	-693.782619	-693.781675	-693.845162	0.000889	0.557856	5.06%	-9.22
6bB	-693.798988	-693.782595	-693.781651	-693.845009	0.001042	0.653865	4.31%	-8.07
6bC	-693.798356	-693.781777	-693.780833	-693.845354	0.000697	0.437374	6.21%	19.57
6bD	-693.799206	-693.782633	-693.781689	-693.846051	0.000000	0.000000	12.99%	-62.37
6bE	-693.797989	-693.781424	-693.780480	-693.845386	0.000665	0.417294	6.42%	-20.38
6bF	-693.798974	-693.782624	-693.781680	-693.844962	0.001089	0.683358	4.10%	21.63
6bG	-693.798982	-693.782630	-693.781686	-693.844974	0.001077	0.675828	4.15%	22.10
6bH	-693.798040	-693.781463	-693.780519	-693.845034	0.001017	0.638177	4.42%	12.93
6bI	-693.797876	-693.781284	-693.780340	-693.845041	0.001010	0.633785	4.46%	-13.33
6bJ	-693.798837	-693.782313	-693.781369	-693.845881	0.000170	0.106677	10.85%	54.07
6bK	-693.798729	-693.782198	-693.781254	-693.845467	0.000584	0.366466	7.00%	-33.13
6bL	-693.797800	-693.781323	-693.780379	-693.844384	0.001667	1.046058	2.22%	9.09
6bM	-693.798802	-693.782232	-693.781287	-693.845741	0.000310	0.194528	9.36%	46.46
6bN	-693.797713	-693.781160	-693.780215	-693.844157	0.001894	1.188503	1.75%	-3.23
6bO	-693.799198	-693.782875	-693.781931	-693.844834	0.001217	0.763679	3.58%	-16.87
6bP	-693.797885	-693.781236	-693.780292	-693.844842	0.001209	0.758659	3.61%	-7.86
6bQ	-693.797824	-693.781270	-693.780326	-693.844971	0.001080	0.677710	4.14%	18.09
6bR	-693.796785	-693.780208	-693.779264	-693.844017	0.002034	1.276354	1.51%	-5.27
Total								**24.21**

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