Quantitative analysis of resveratrol derivatives in seed coats of tree peonies and their hypoglycemic activities in *vitro/vivo*

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Table S1 Phytochemical composition and content (mg/g) in seed coats of tree peonies.

Species	RD	PF	SA	SB	VF	VT	AD
P. ostii	0.20±0.07	0.55±0.23	18.52±2.17	184.29±22.71	39.25±3.54	1.38±0.29	176.64±15.80
P. ludlowii	12.84±1.14	0.09±0.05	0.03±0.01	0.10±0.04	0.91±0.25	1.44±0.68	142.21±10.97
P. delavayi	8.11±1.20	0.05±0.01	6.55±0.84	33.27±2.76	11.52±1.05	0.85±0.10	98.60±8.72
P. rockii	0.56±0.11	1.24±0.42	27.27±2.16	145.62±19.58	1.01±0.29	0.16±0.08	31.66±2.50
P. qiui	0.09±0.02	0.24±0.07	12.04±1.36	69.64±8.95	3.57±1.17	0.19±0.05	19.06±3.18
P. decomposita	0.02±0.01	0.92±0.30	10.67±1.37	54.30±7.28	0.57±0.22	0.02±0.00	2.19±0.55
P. potaninii	0.26±0.08	0.65±0.22	8.58±2.55	50.03±7.20	0.34±0.11	0.23±0.10	34.38±3.66
P. lutea	2.14±0.43	0.51±0.24	3.15±0.82	15.31±3.31	0.21±0.06	0.20±0.08	28.65±4.59

RD: (E)-resveratrol 3,5-*O*-*β*-diglucoside, PF: paeoniflorin, SA: suffruticosol A, SB: suffruticosol B, VF: trans-*ε*-viniferin, VT: vateriferol, AD: ampelopsin D.

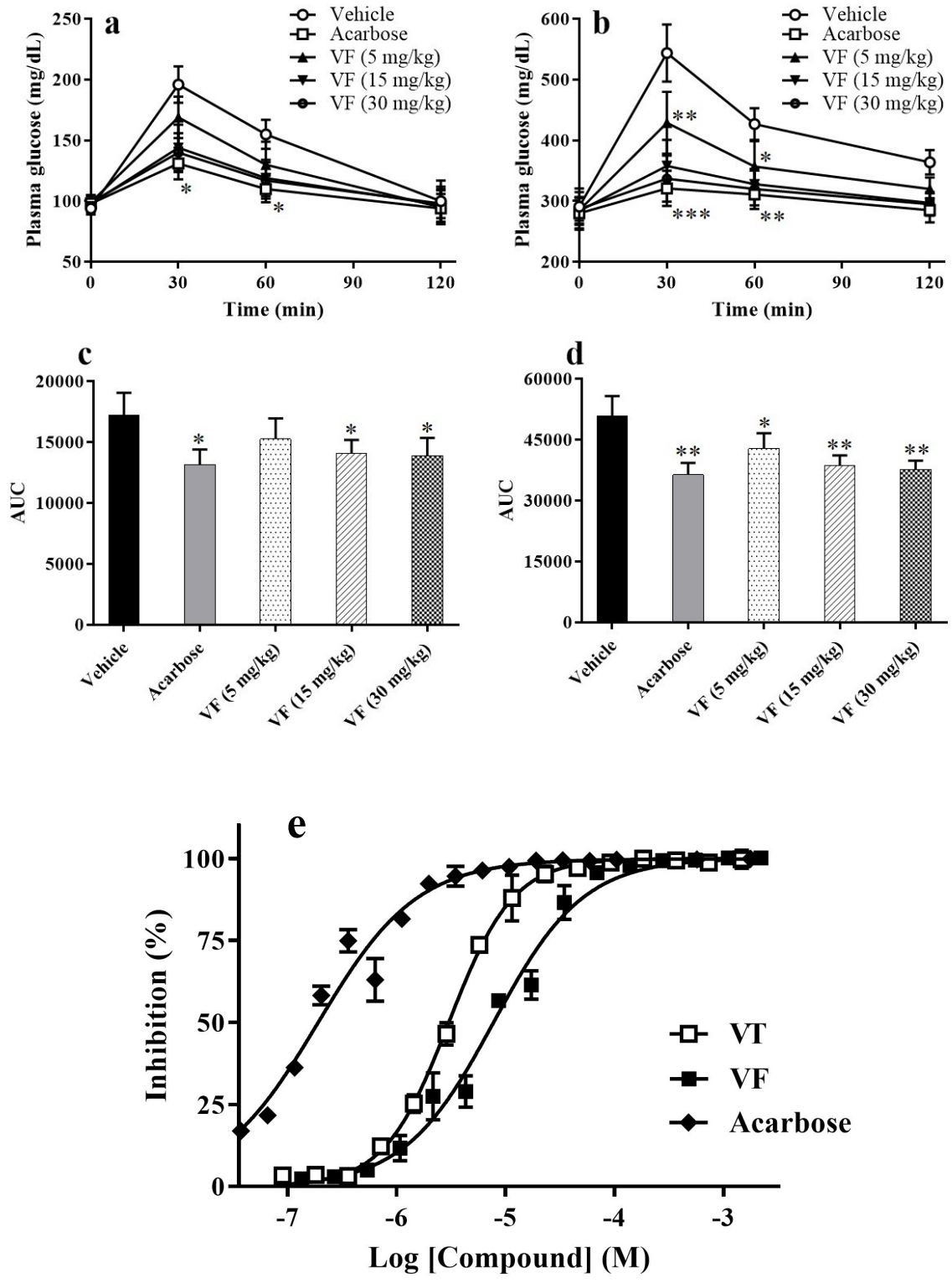


Figure S1. PBG-lowering effect of acarbose and different doses of trans-ε-viniferin (VF) in starch-loaded normal mice (a and c) and diabetic mice (b and d). The data exhibit the mean ± SEM (n = 9; *, $P < 0.05$, **, $P < 0.01$, and ***, $P < 0.001$, compared to the vehicle group). And α-glucosidase inhibition effects of VT, VF and acarbose at different concentrations were fitted with a logistic function to count the IC_{50} value (e).

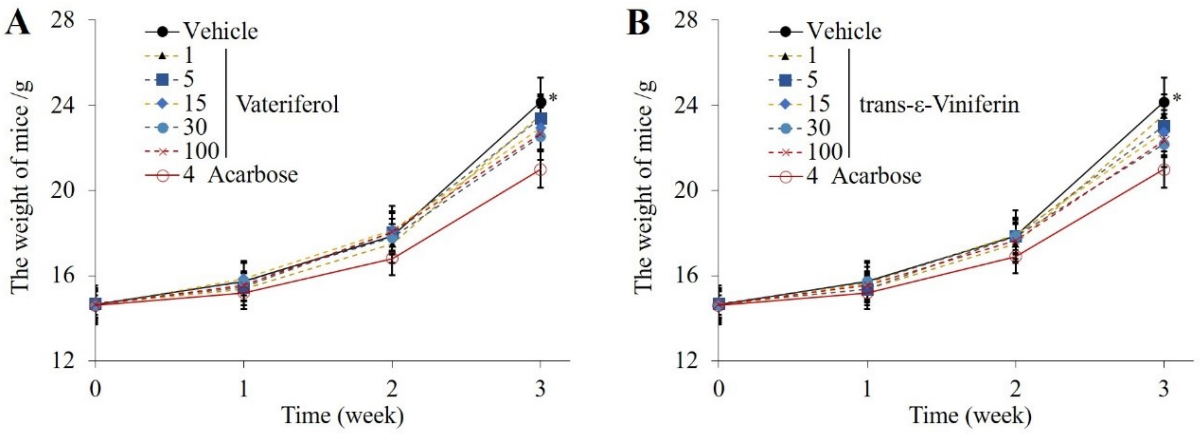


Figure S2. Effects of vateriferol (A) and trans-ε-viniferin (B) on the body weight of mice. Mice were randomly divided into 7 groups (7/group), and the body weight of the mice was measured once a week. The doses of the two compounds were 1, 5, 15, 30, and 100 mg/kg. Data were expressed as mean ± SEM (n = 7/group). Statistical analysis: two-way repeated measures ANOVA, followed by Holm-Sidak multiple comparison test. Vehicle (0.9% saline) and acarbose (4 mg/kg) groups were designated as negative and positive control group, respectively. Difference in body weight between vehicle and acarbose groups at week 3 was statistically significant (*$P < 0.05$).

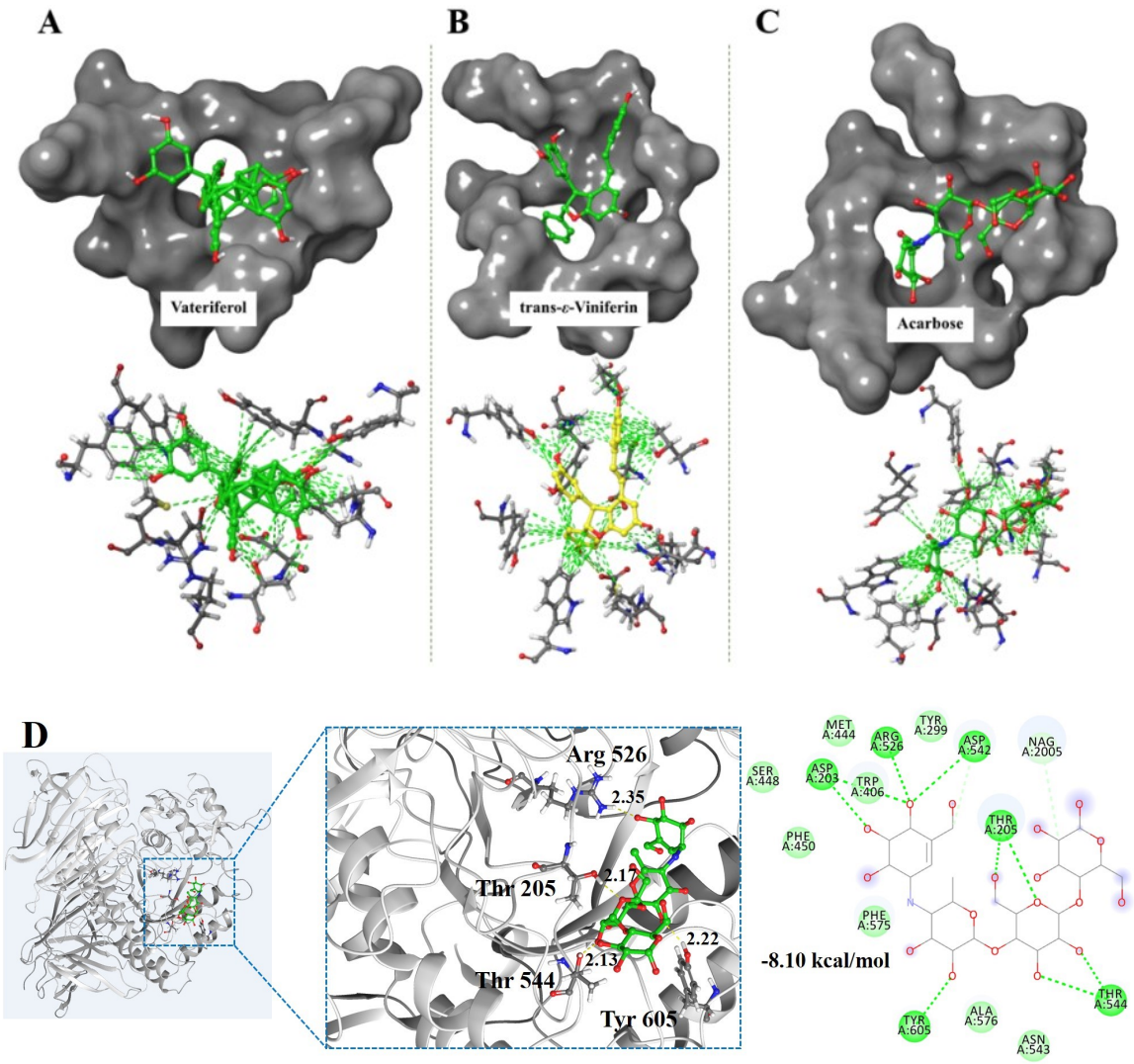
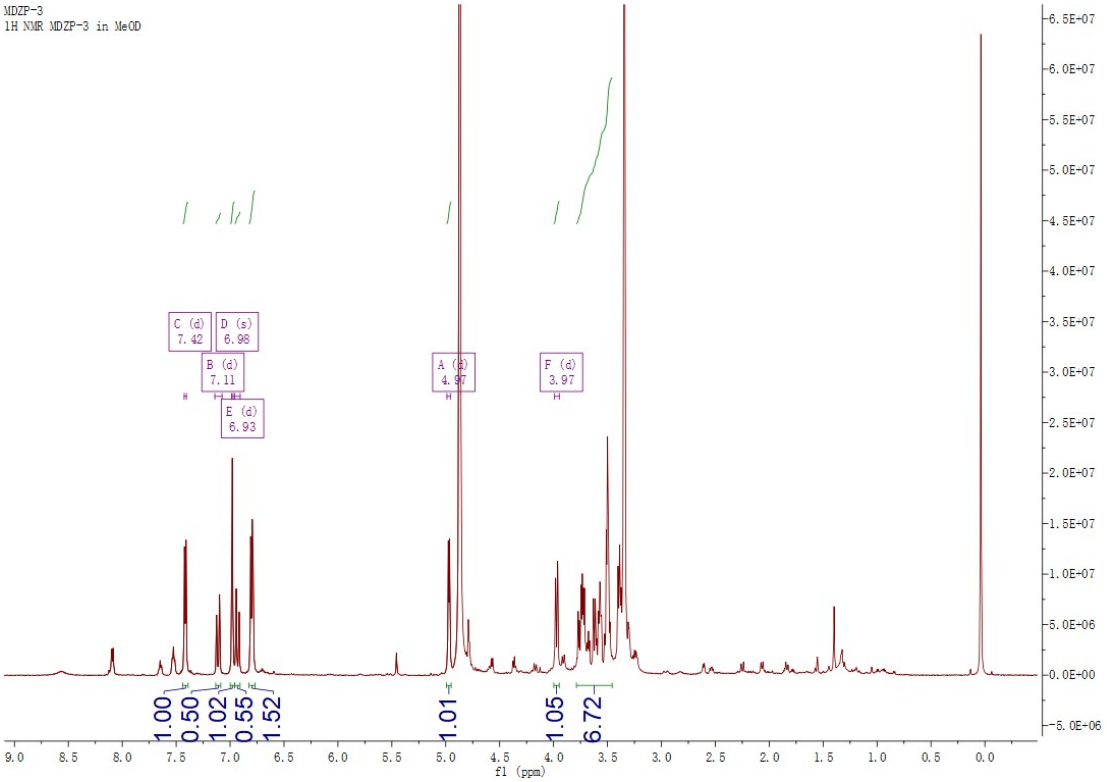


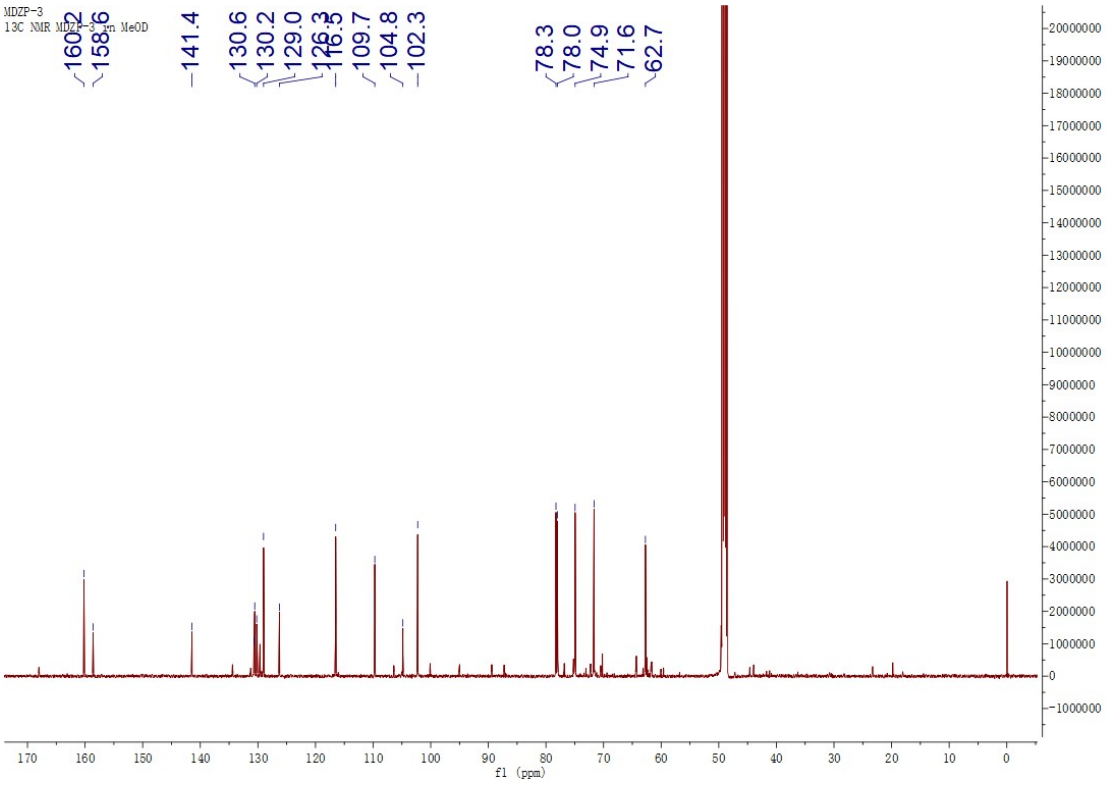
Figure S3. Molecular docking of vateriferol (A), trans-ε-viniferin (B) and acarbose (C and D) in the region of the active site of the protein (PDB: 2QMJ).

Supplementary data

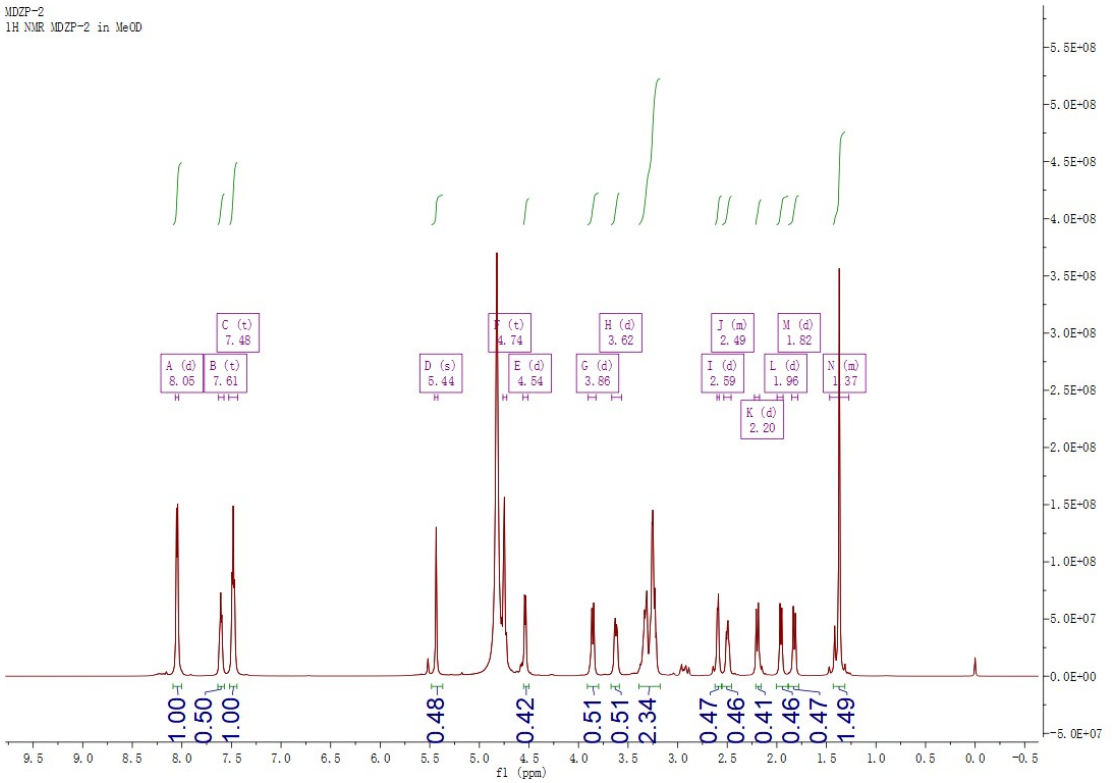
The NMR spectrums of the phytochemicals (**1**-**7**) isolated from *POSC* are as follows.



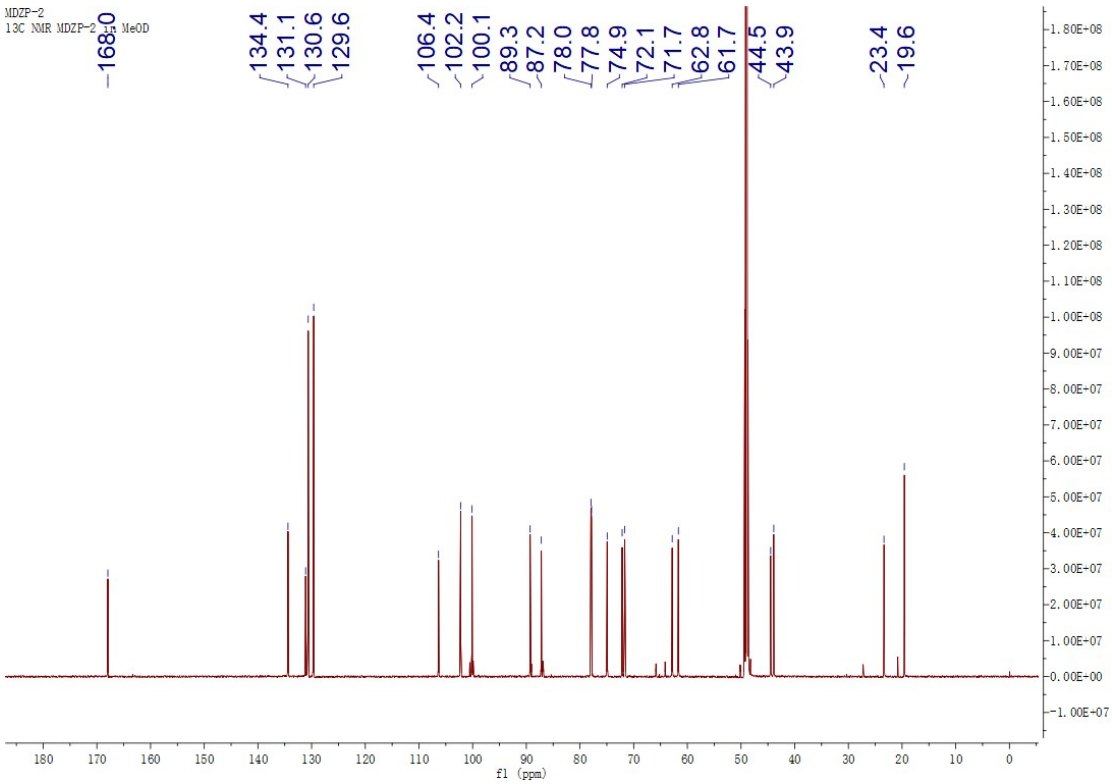
The ^{1}H NMR (600 MHz, MeOD) spectrum of **1**



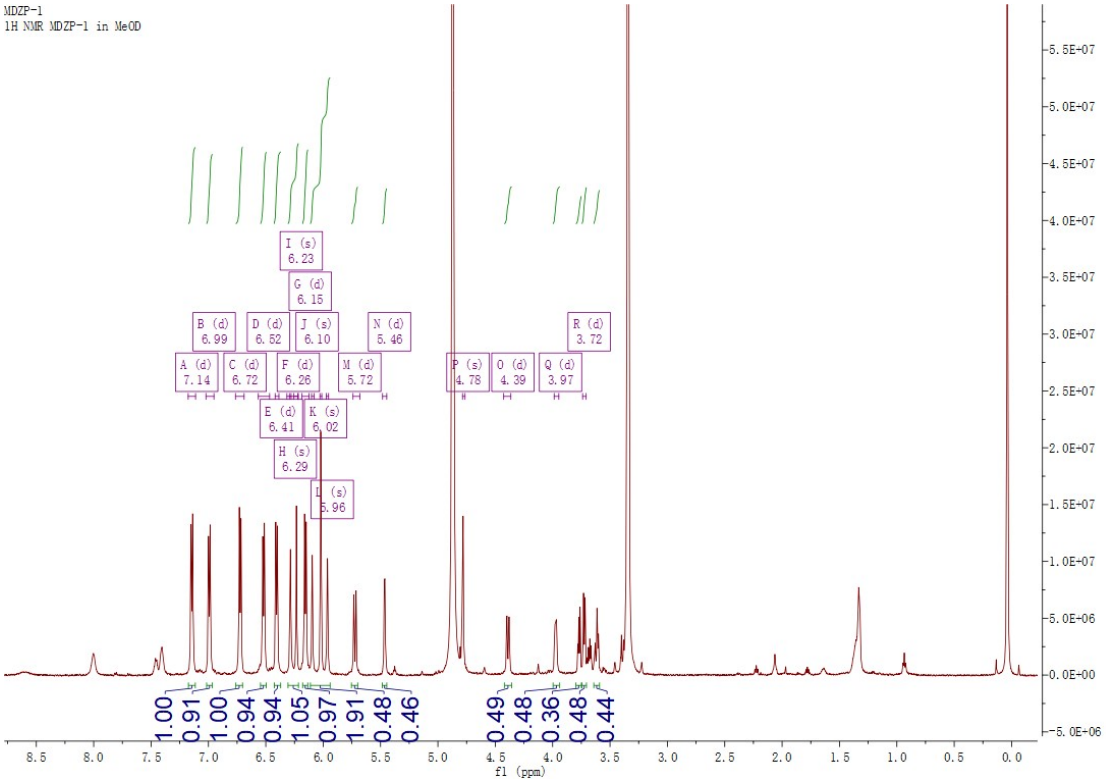
The ^{13}C NMR (151 MHz, MeOD) spectrum of **1**



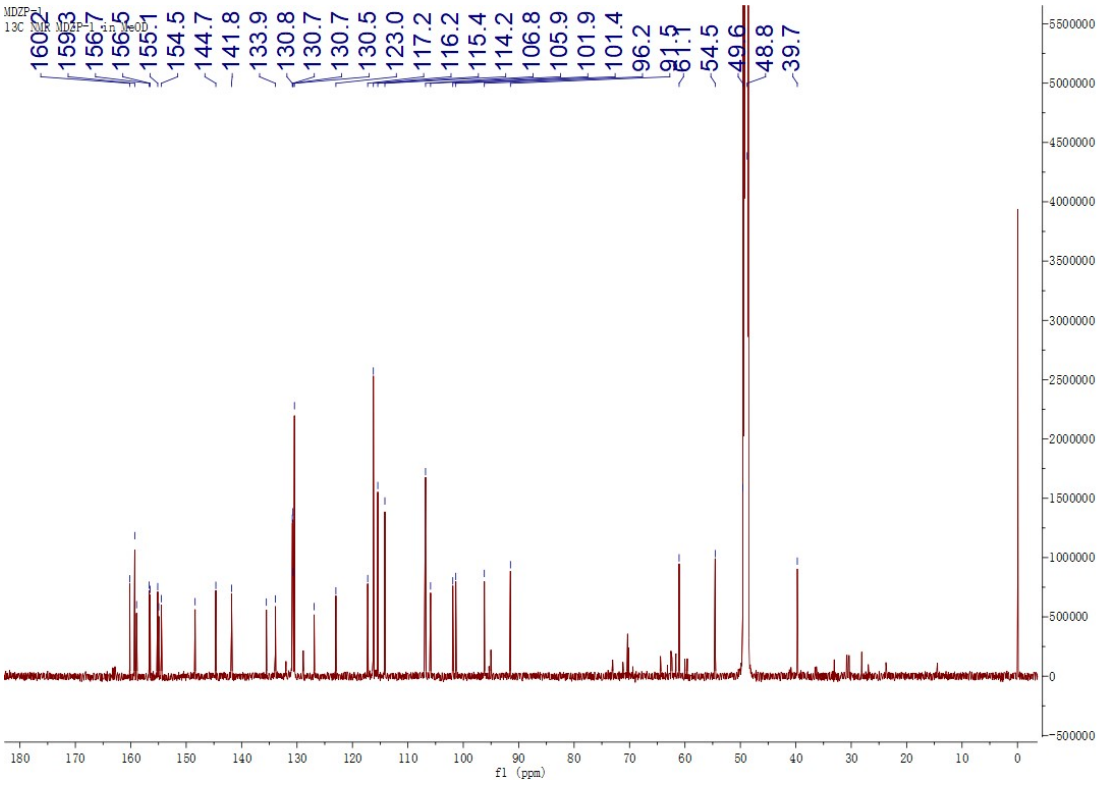
The ^{1}H NMR (600 MHz, MeOD) spectrum of **2**



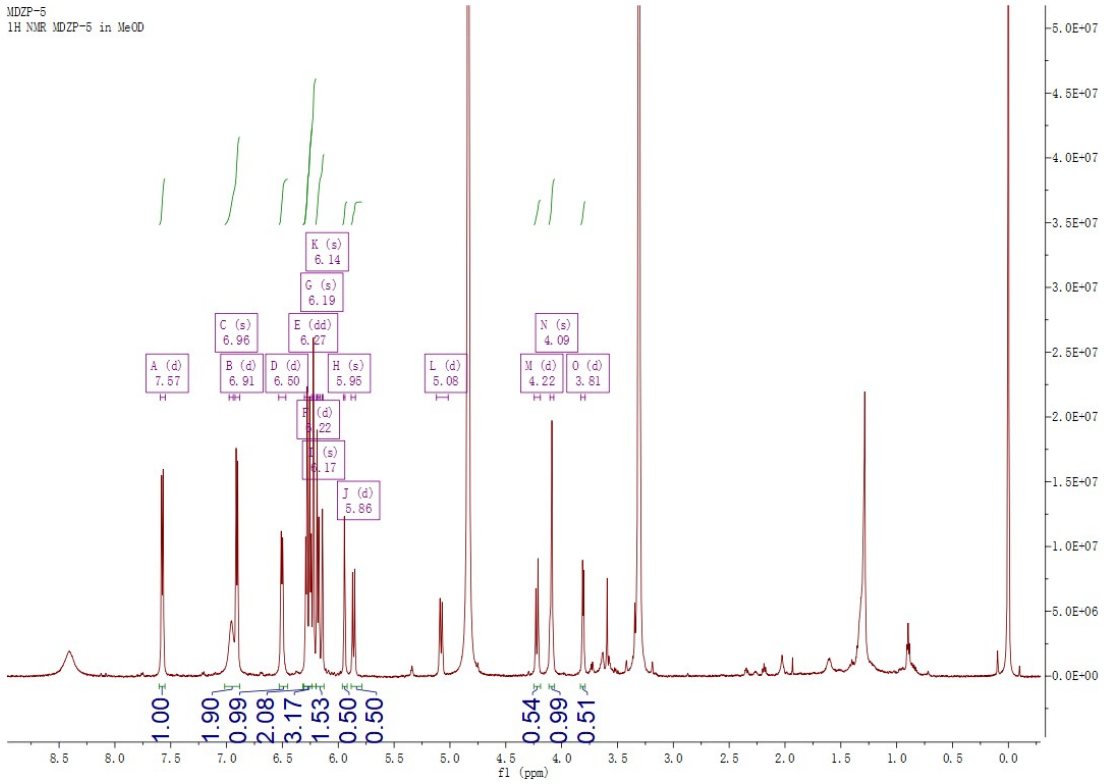
The ^{13}C NMR (151 MHz, MeOD) spectrum of **2**



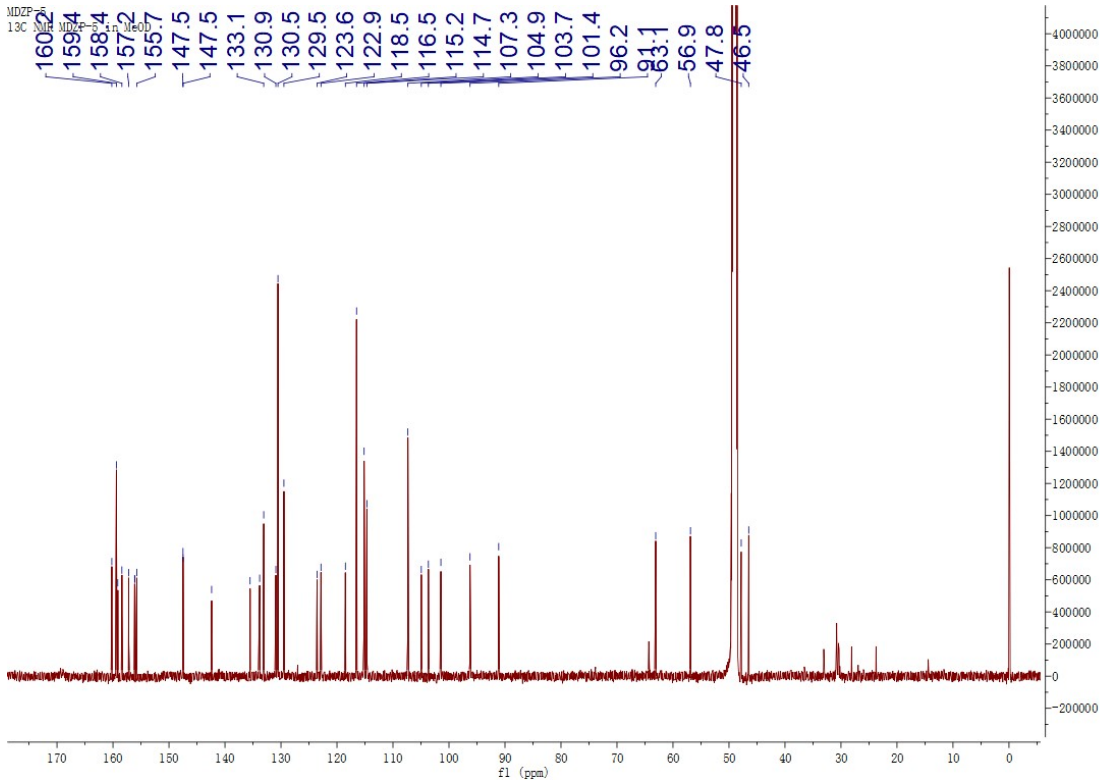
The ^{1}H NMR (600 MHz, MeOD) spectrum of **3**



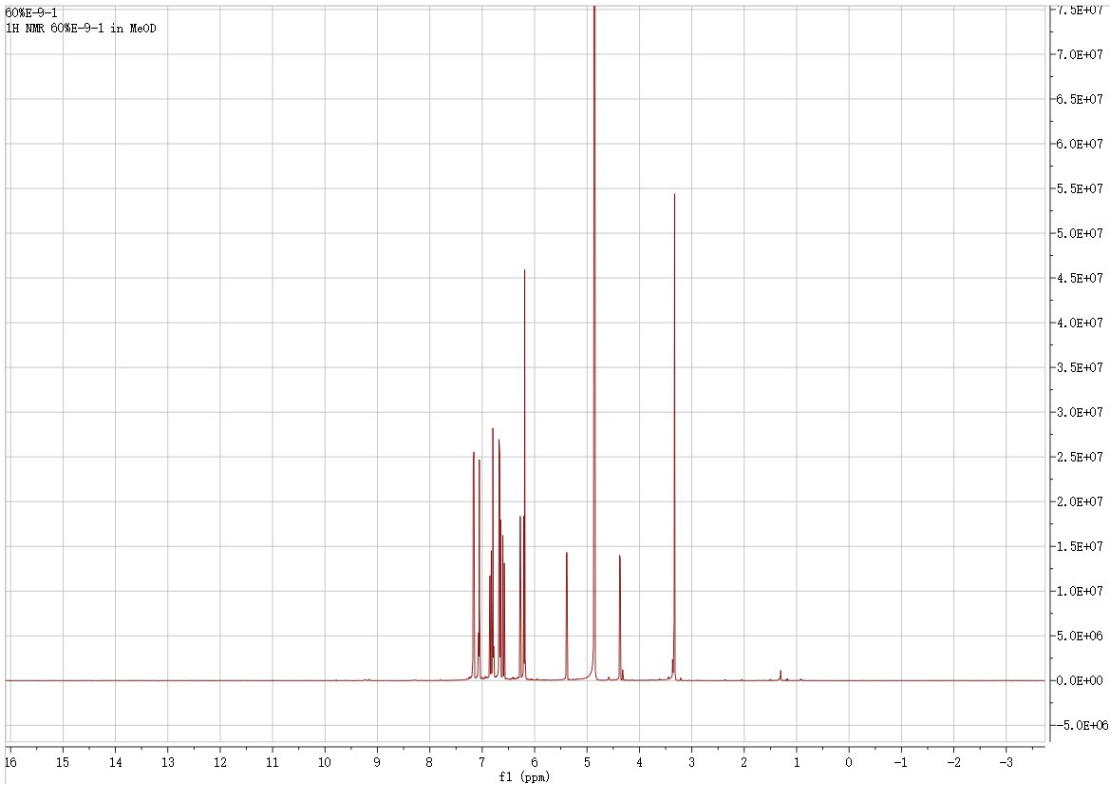
The ^{13}C NMR (151 MHz, MeOD) spectrum of **3**



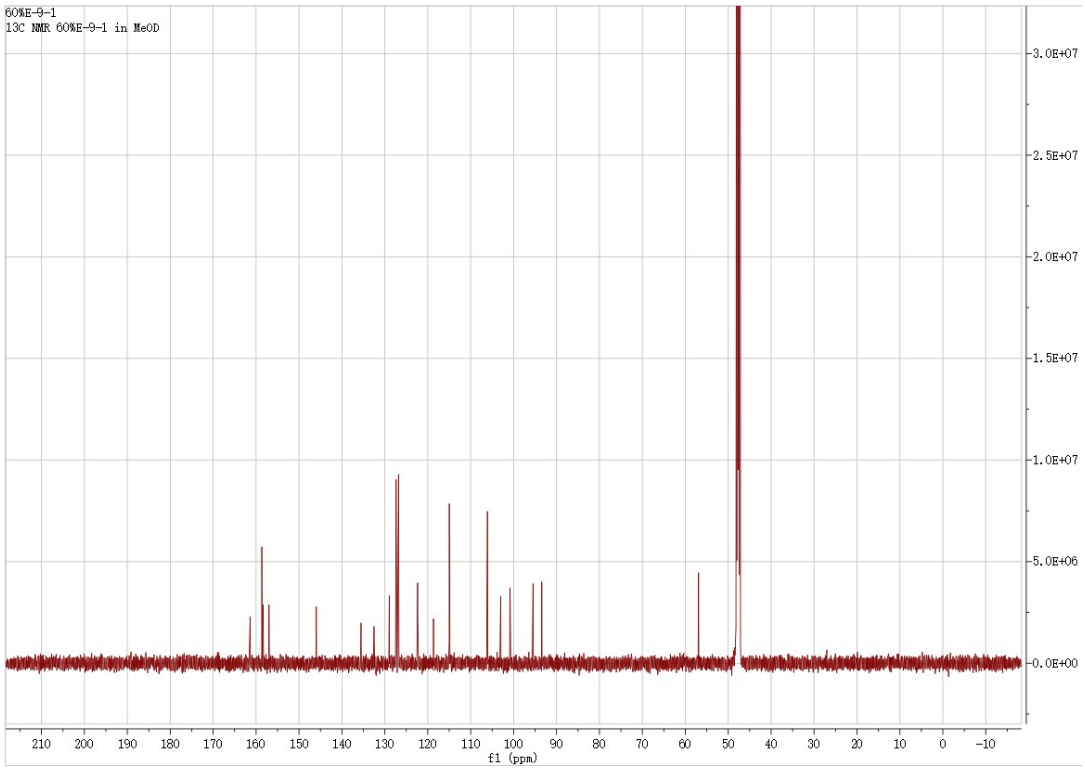
The ^{1}H NMR (600 MHz, MeOD) spectrum of **4**



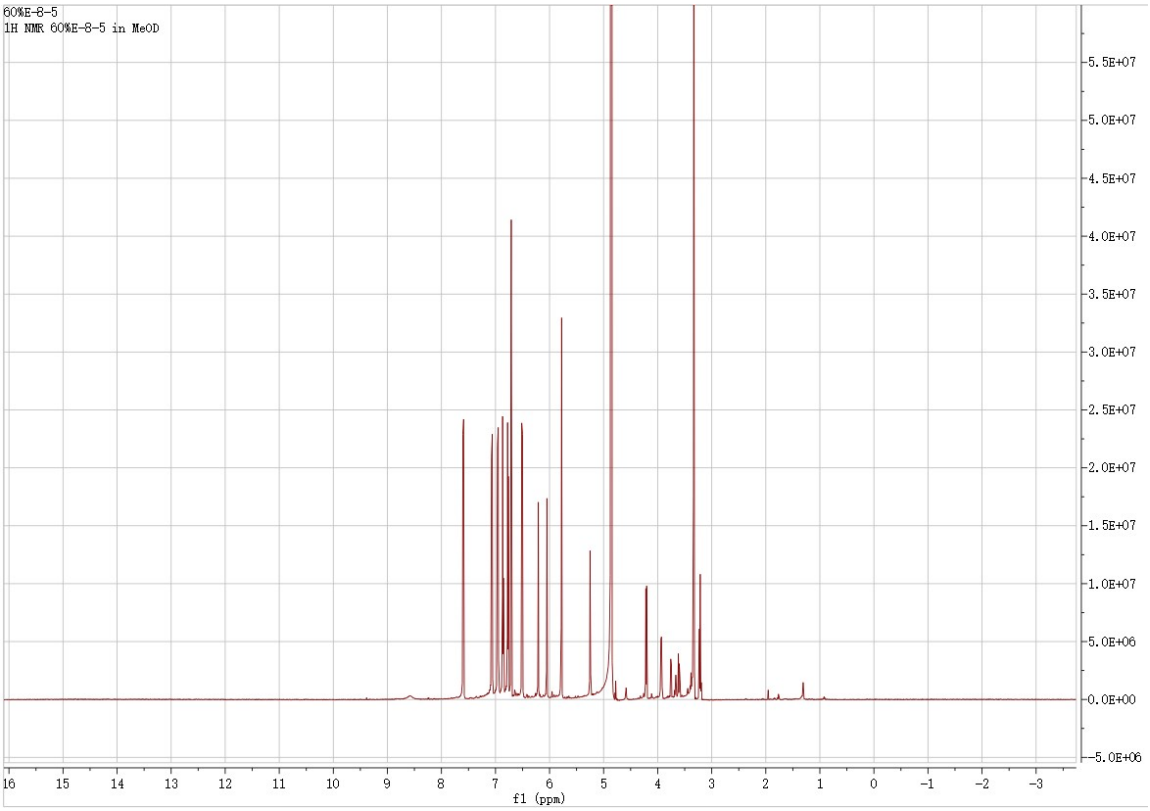
The ^{13}C NMR (151 MHz, MeOD) spectrum of **4**



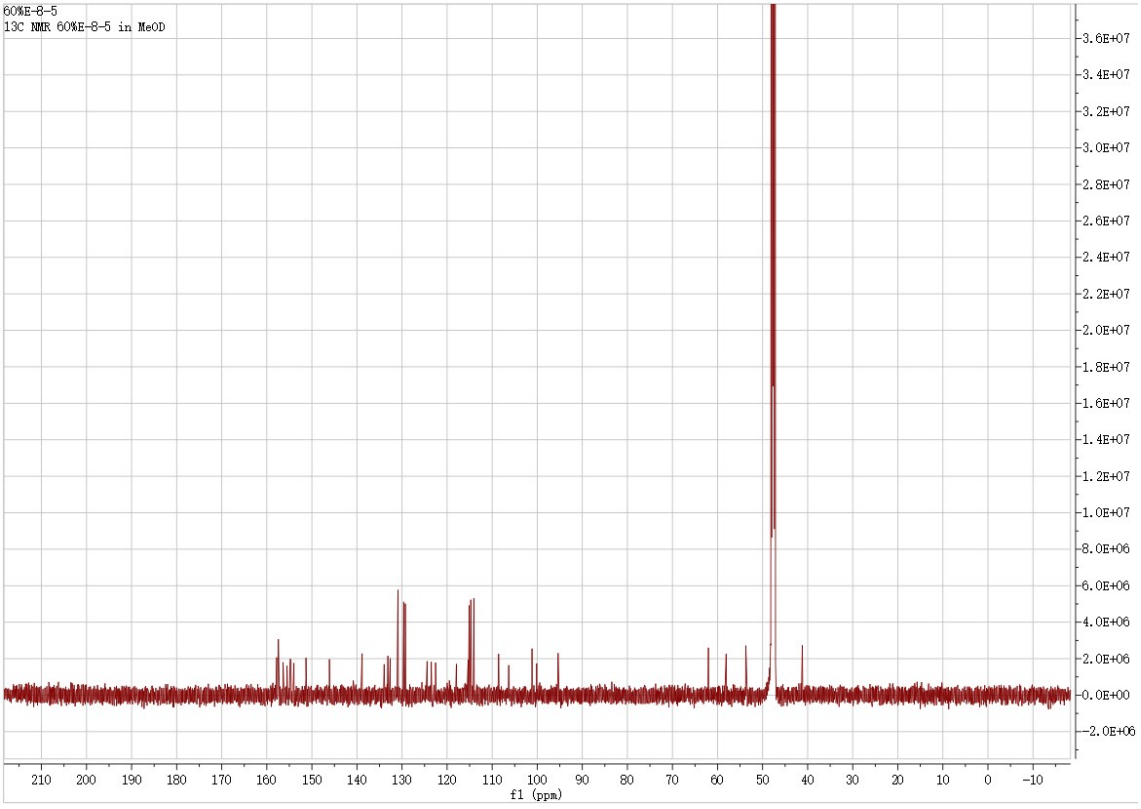
The ^{1}H NMR (600 MHz, MeOD) spectrum of **5**



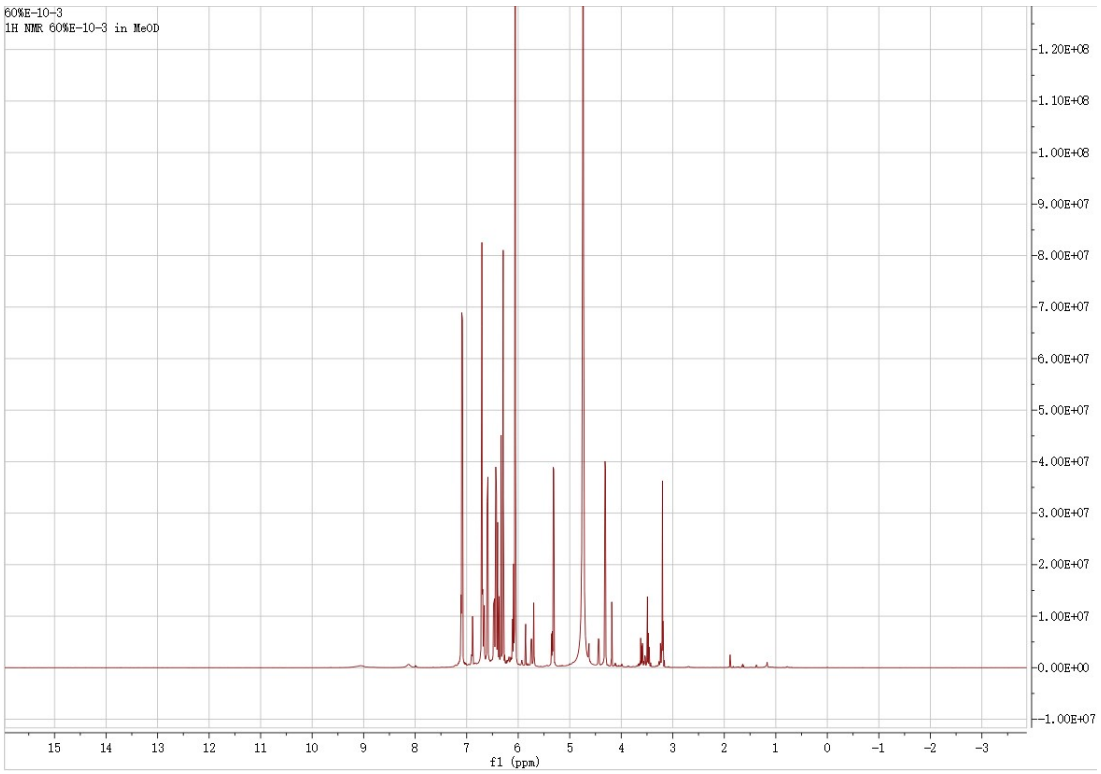
The ^{13}C NMR (151 MHz, MeOD) spectrum of **5**



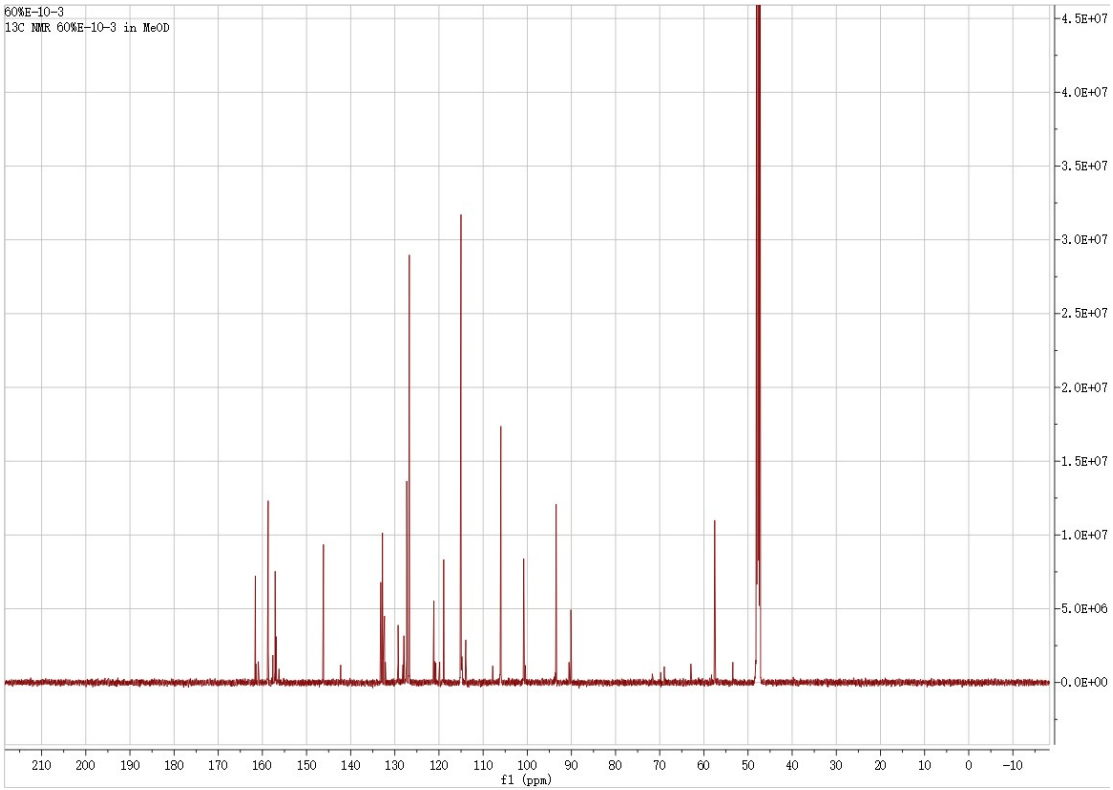
The ^{1}H NMR (600 MHz, MeOD) spectrum of **6**



The ^{13}C NMR (151 MHz, MeOD) spectrum of **6**



The ^{1}H NMR (600 MHz, MeOD) spectrum of **7**



The ^{13}C NMR (151 MHz, MeOD) spectrum of **7**