Supplementary data

for

Triterpenoids from *Cyclocarya paliurus* that Enhance Glucose Uptake in 3T3-L1 Adipocytes

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† These authors contributed equally to this work.

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f1 (ppm)
1.02
1.12
1.00
1.05
1.02
0.97
1.00
1.00
1.04
1.00
1.01
0.96
1.12
1.08
1.09
5.02
1.02
3.00
7.01
1.16
1.05
1.01
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3.02
3.01
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1934.6
1932.8
1900.2
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1885.9
1883.2
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1776.6
1764.8
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842.3
800.0
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727.3
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613.6
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529.1
500.3

Figure S1. ^{1}H NMR spectrum (500 MHz, Methanol-d_4) of compound **1**.

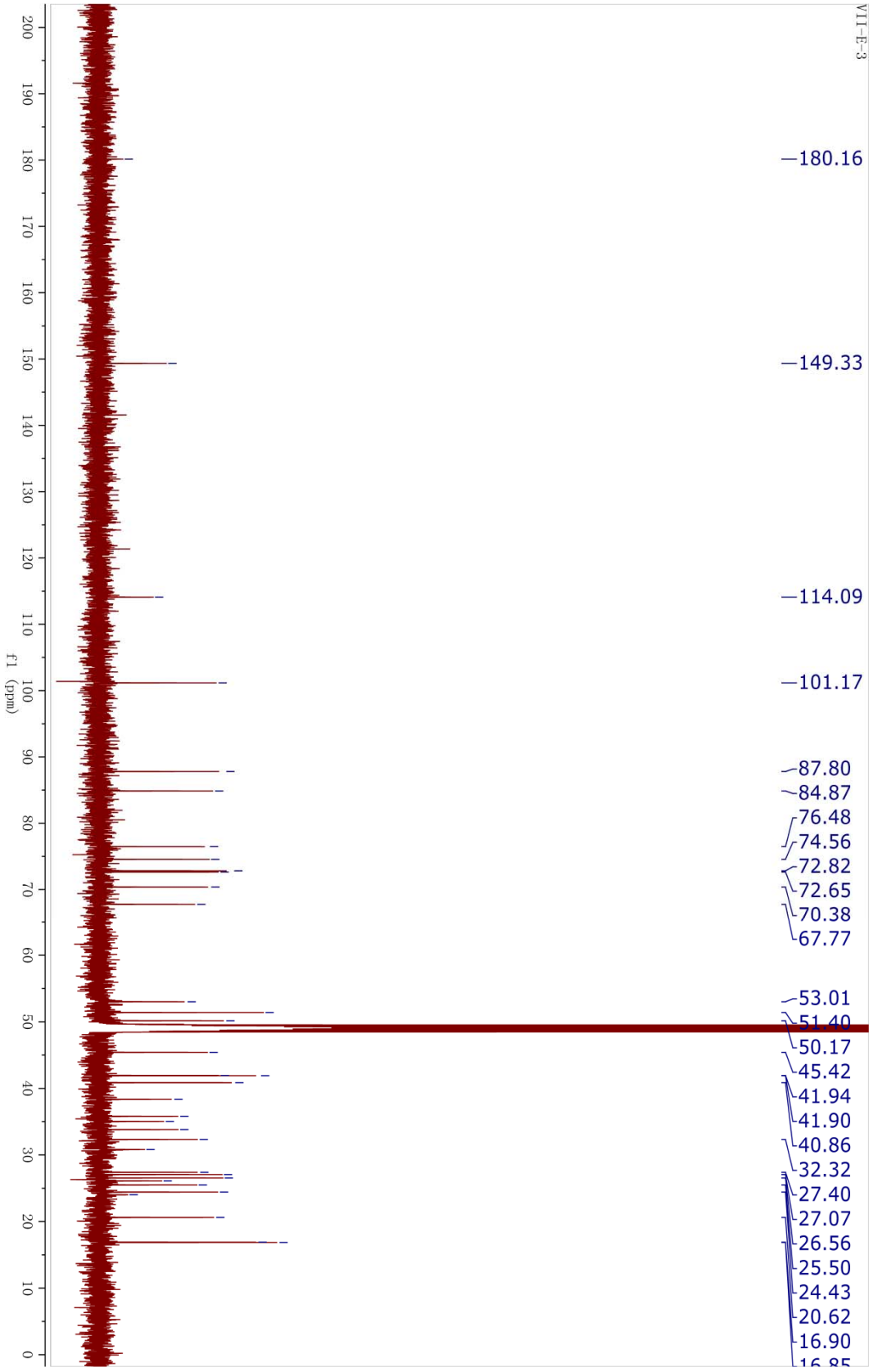


Figure S2. ^{13}C NMR spectrum (125 MHz, Methanol-d_4) of compound **1**.

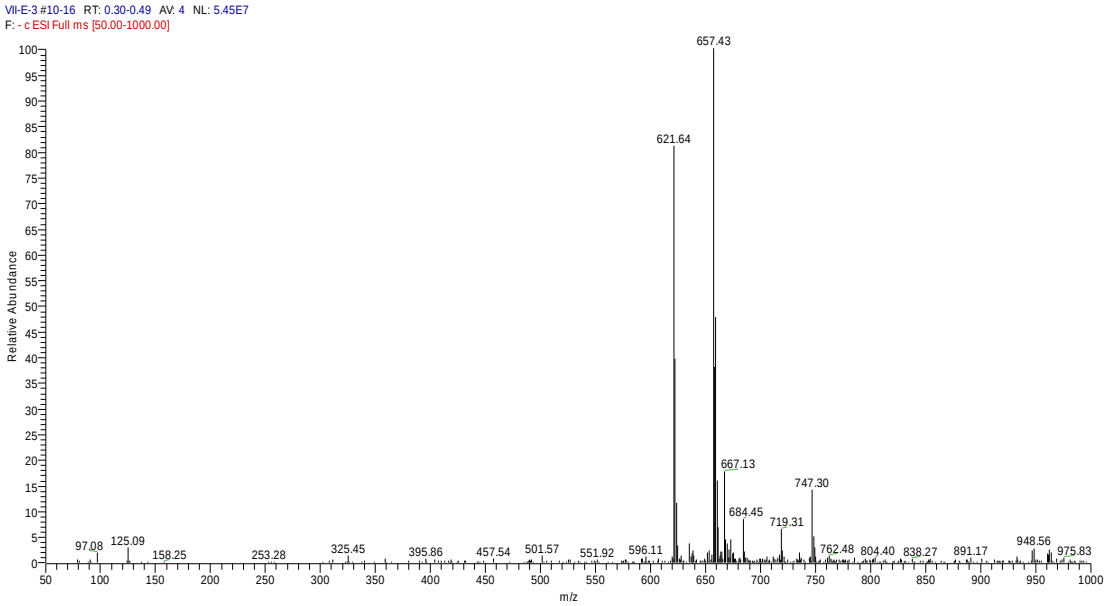


Figure S3. ESI MS (negative mode) spectrum of compound **1**.

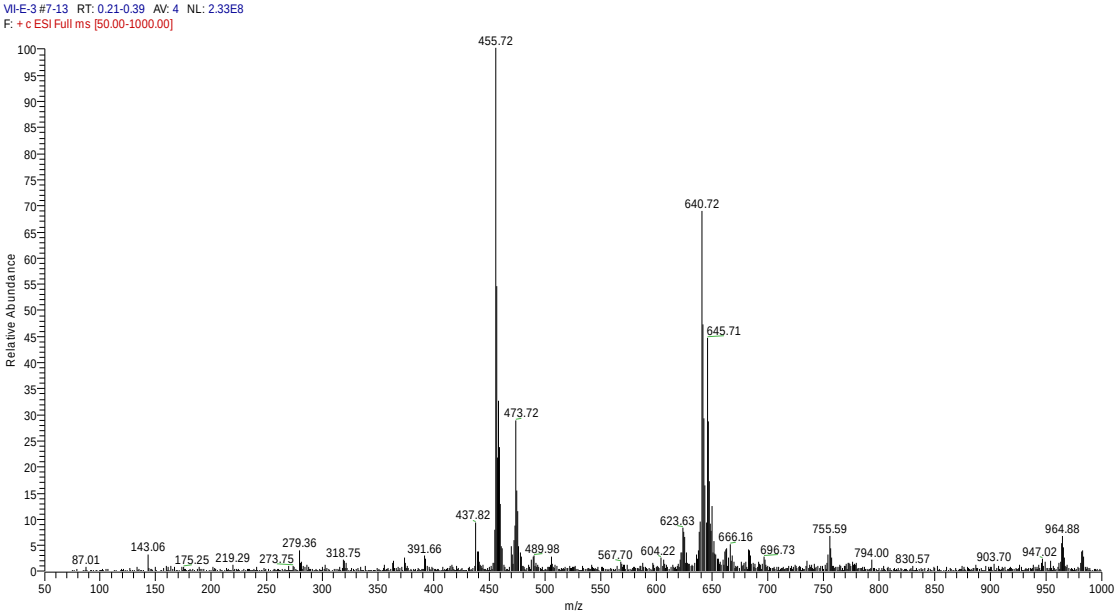


Figure S4. ESI MS (positive mode) spectrum of compound **1**.

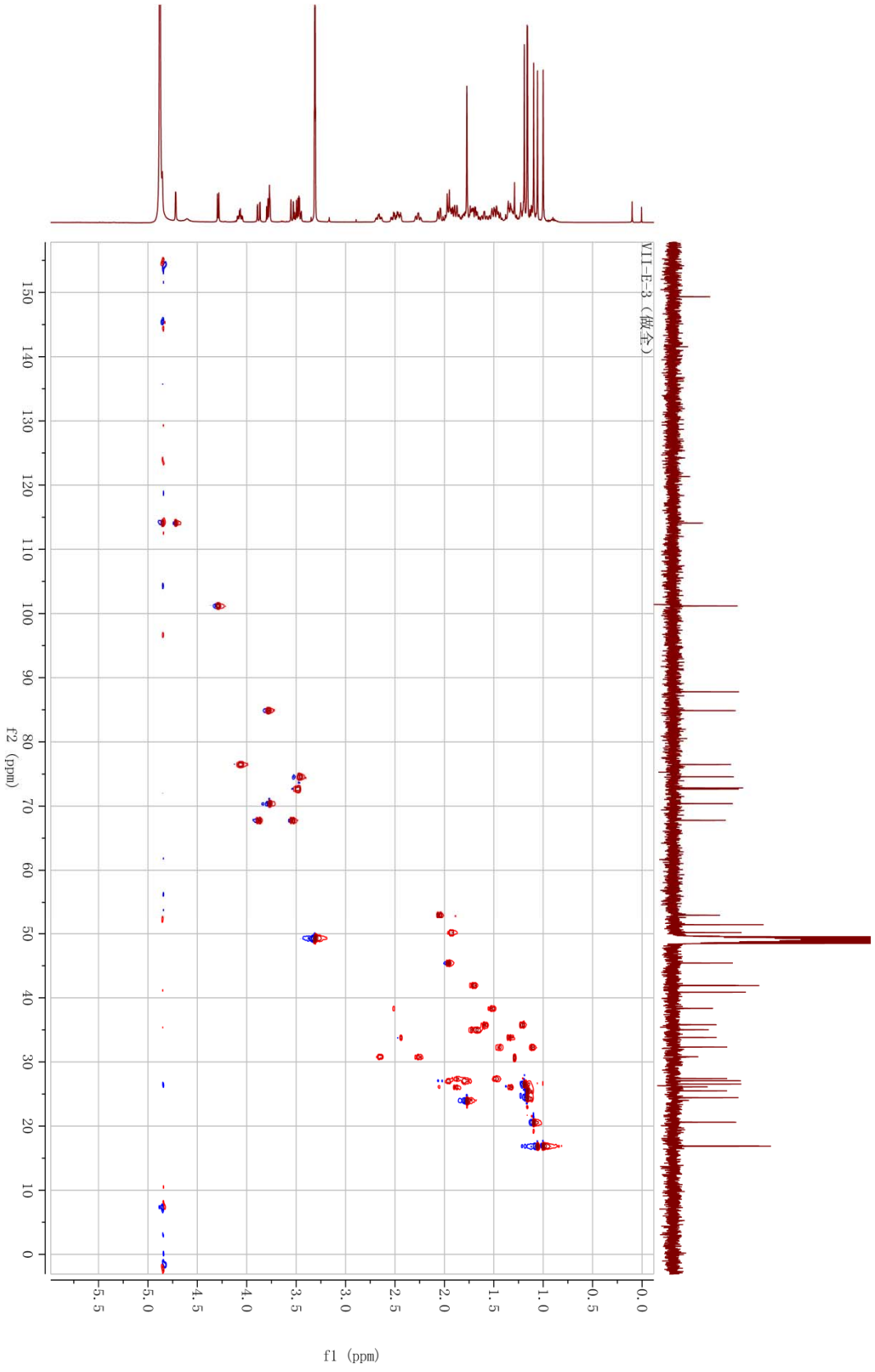


Figure S5. HMQC spectrum (500 MHz, Methanol-d_4) of compound **1**.

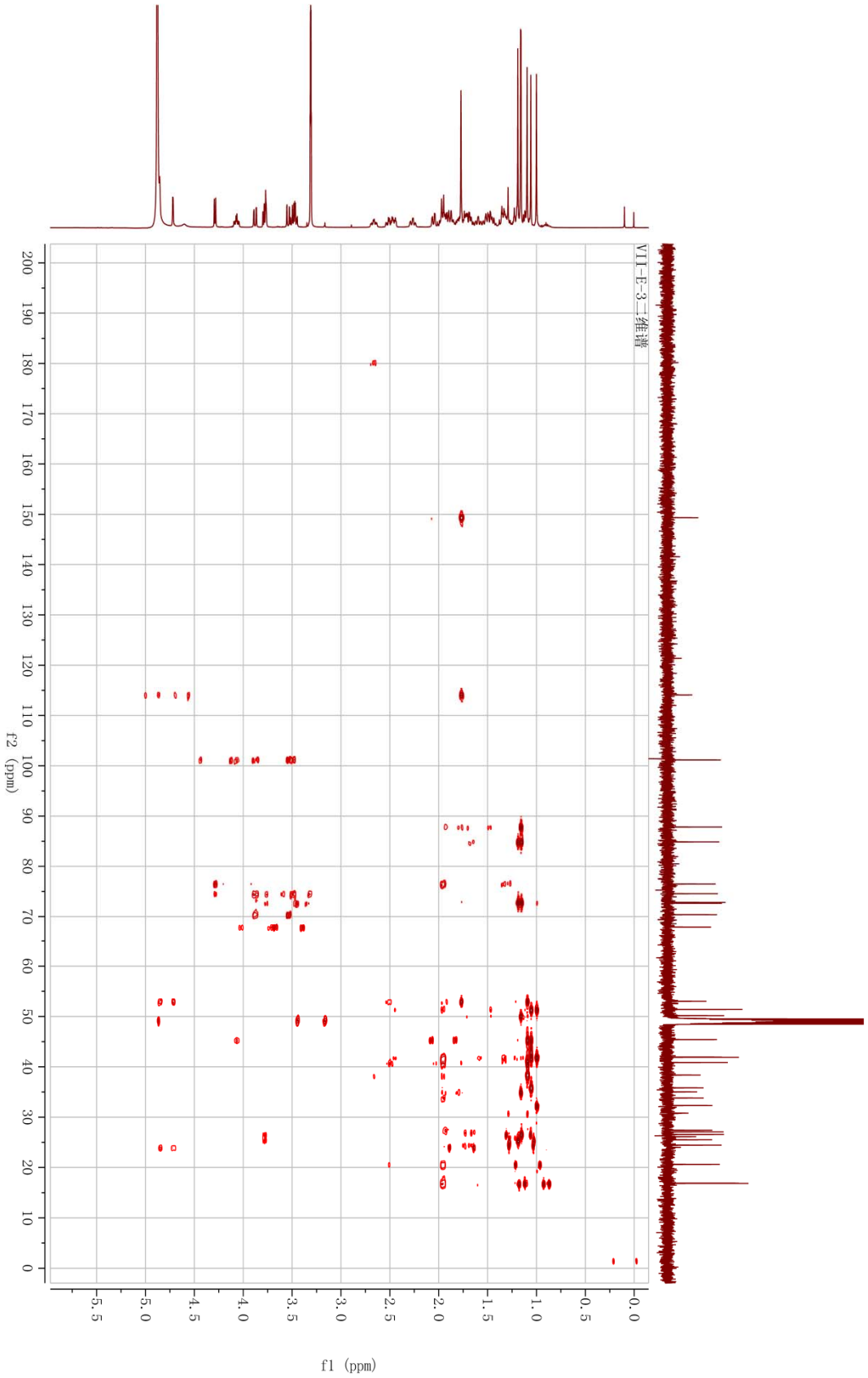


Figure S6. HMBC spectrum (500 MHz, Methanol-d_4) of compound **1**.

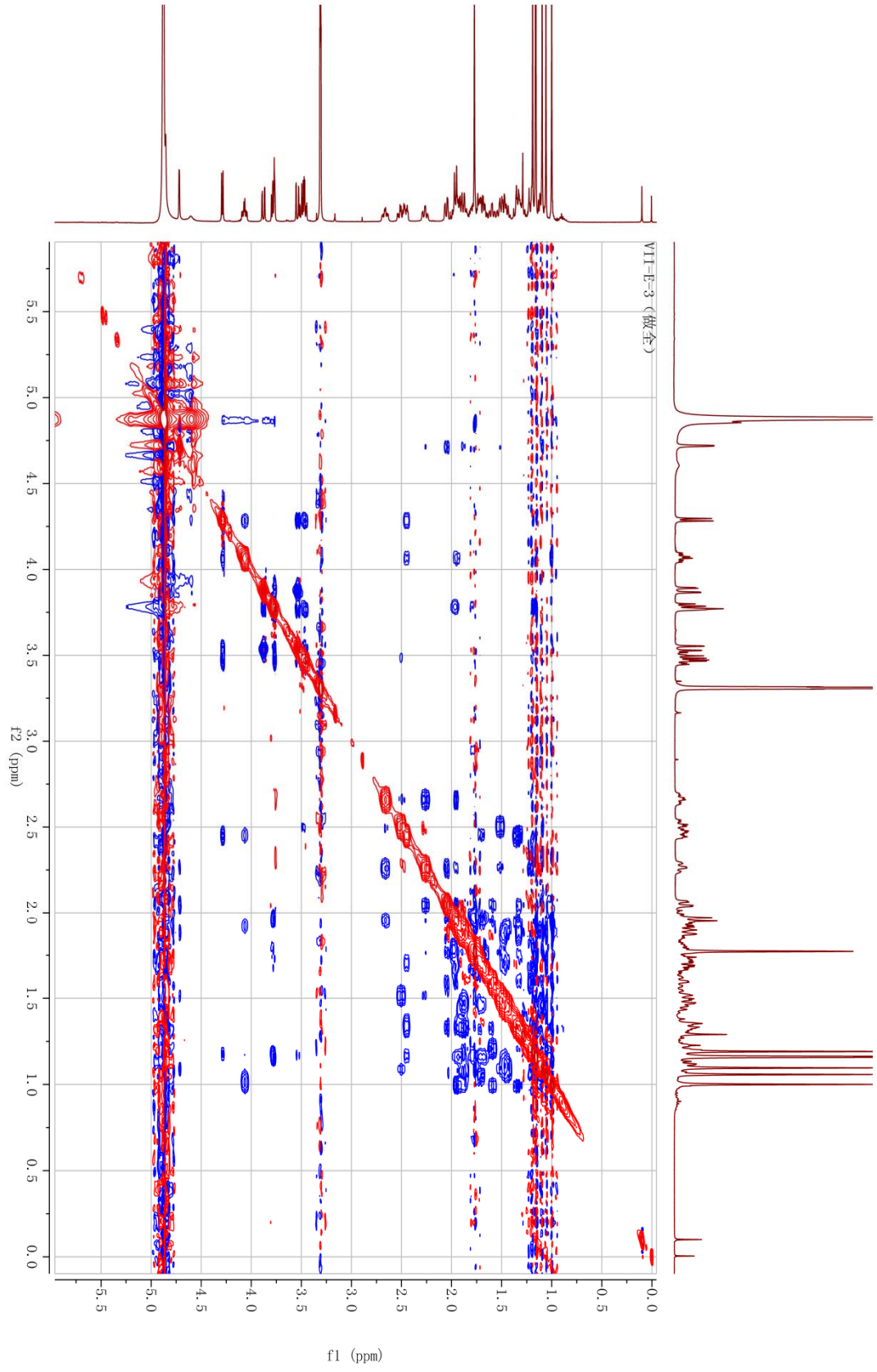


Figure S7. NOESY spectrum (500 MHz, Methanol-d_4) of compound **1**.

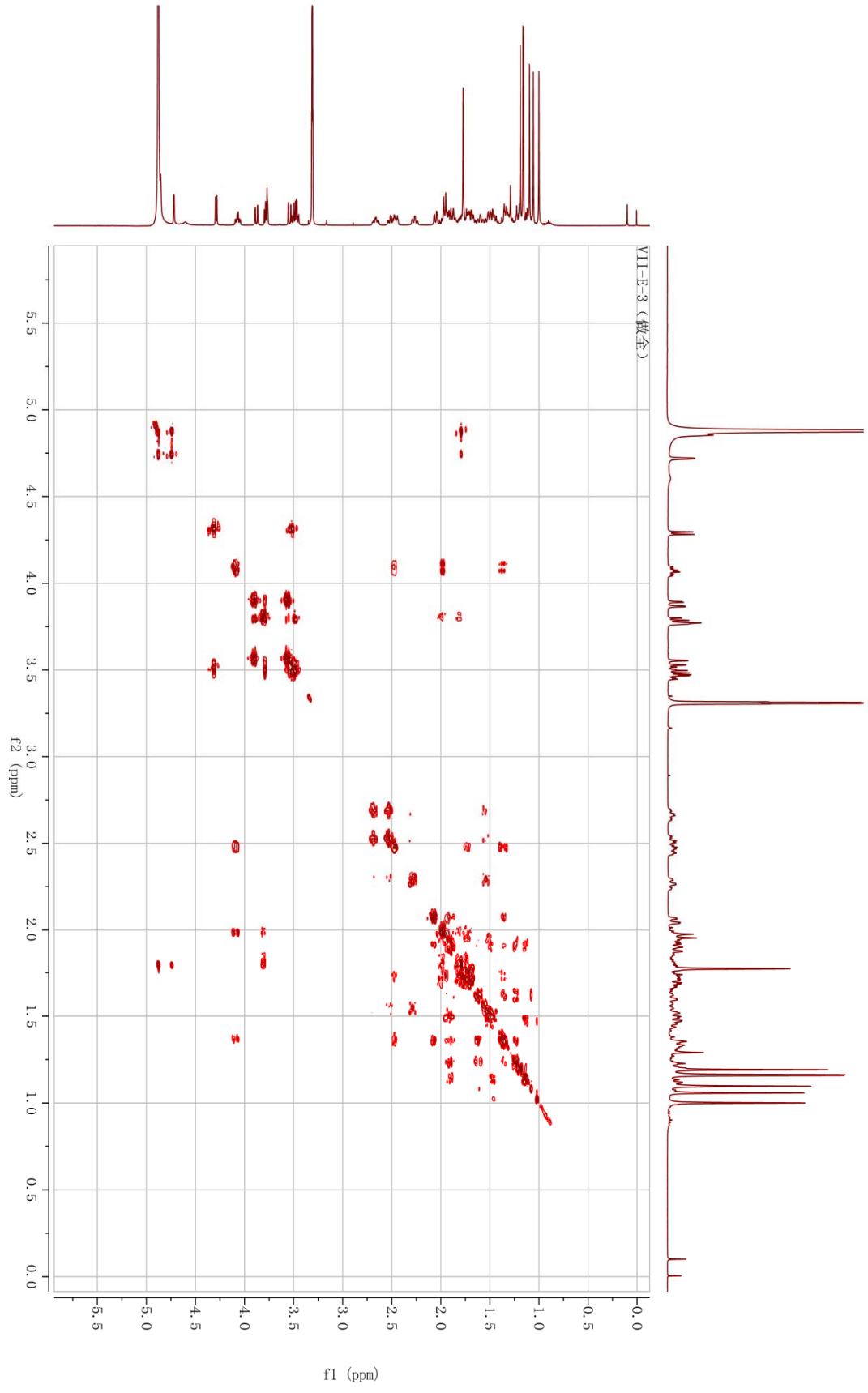


Figure S8. ^{1}H-^{1}H COSY spectrum (500 MHz, Methanol-d_4) of compound **1**.

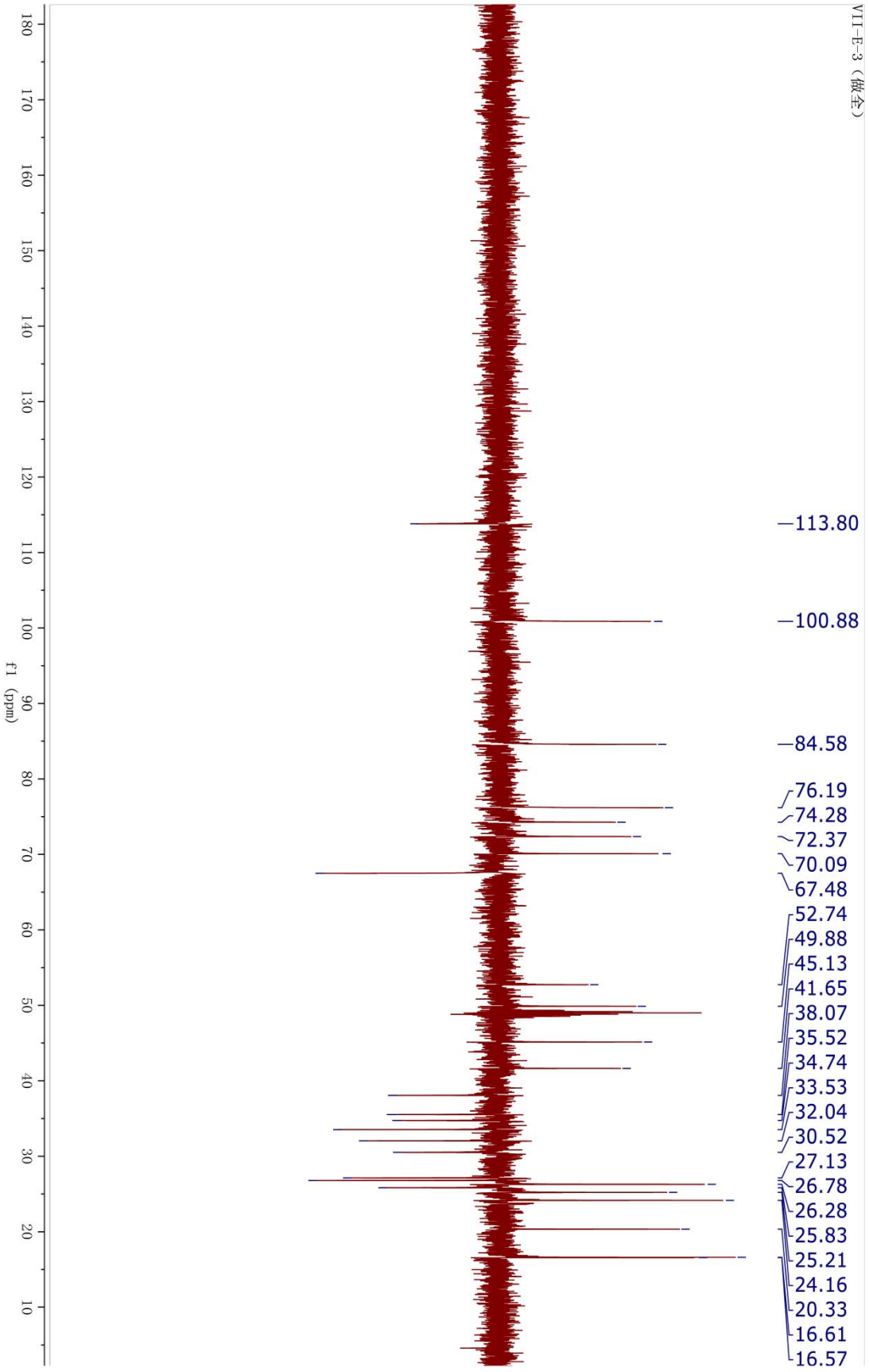


Figure S9. DEPT 135 spectrum (125 MHz, Methanol-d_4) of compound **1**.

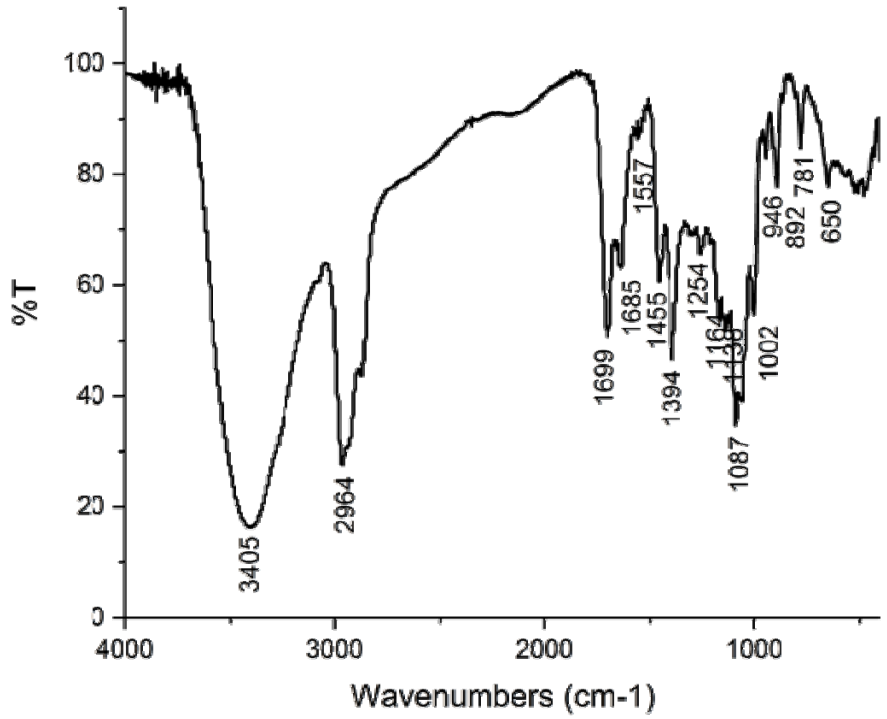


Figure S10. IR (KBr disc) spectrum of compound **1**.

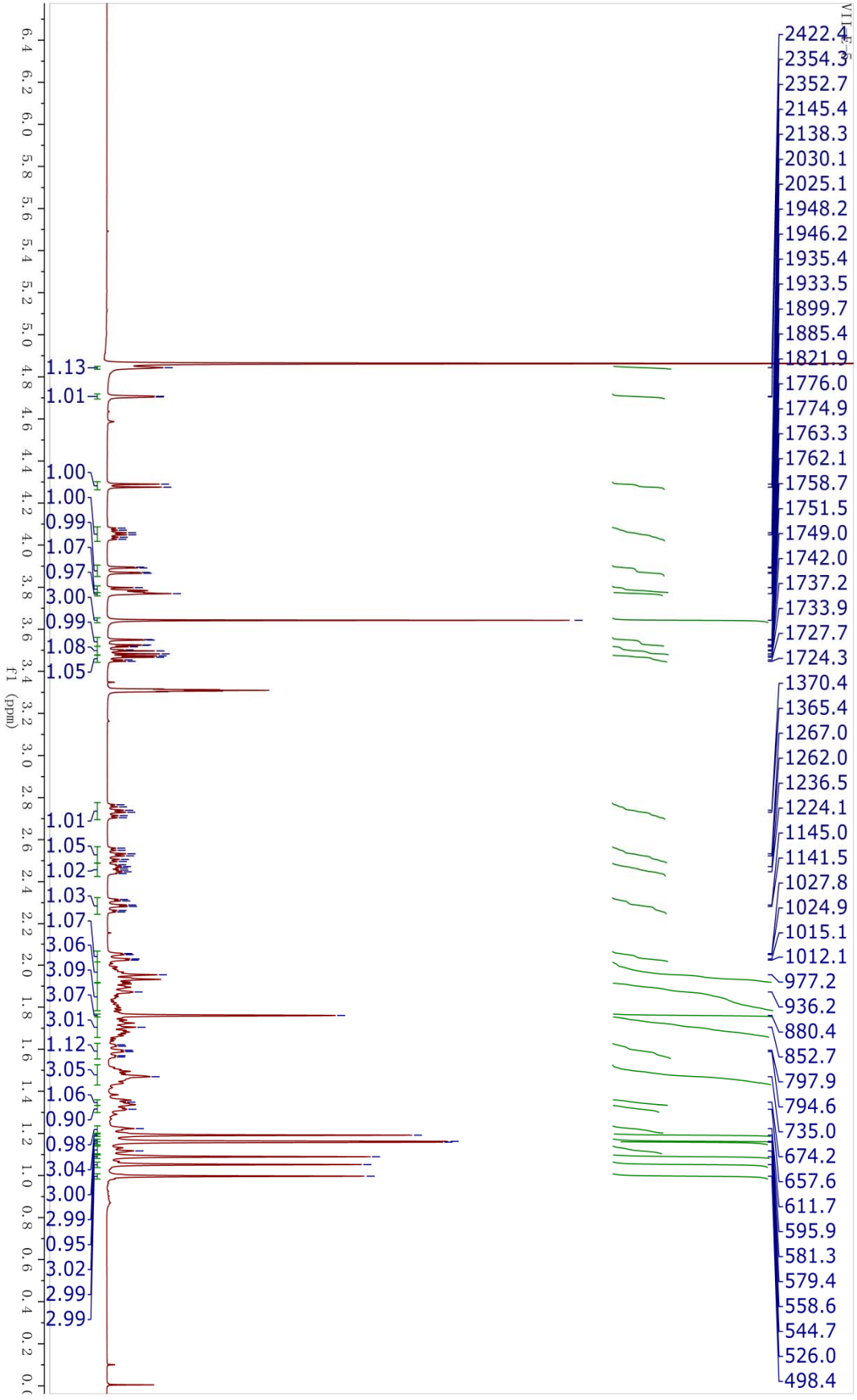


Figure S11. ^{1}H NMR spectrum (500 MHz, Methanol-d_4) of compound **2**.

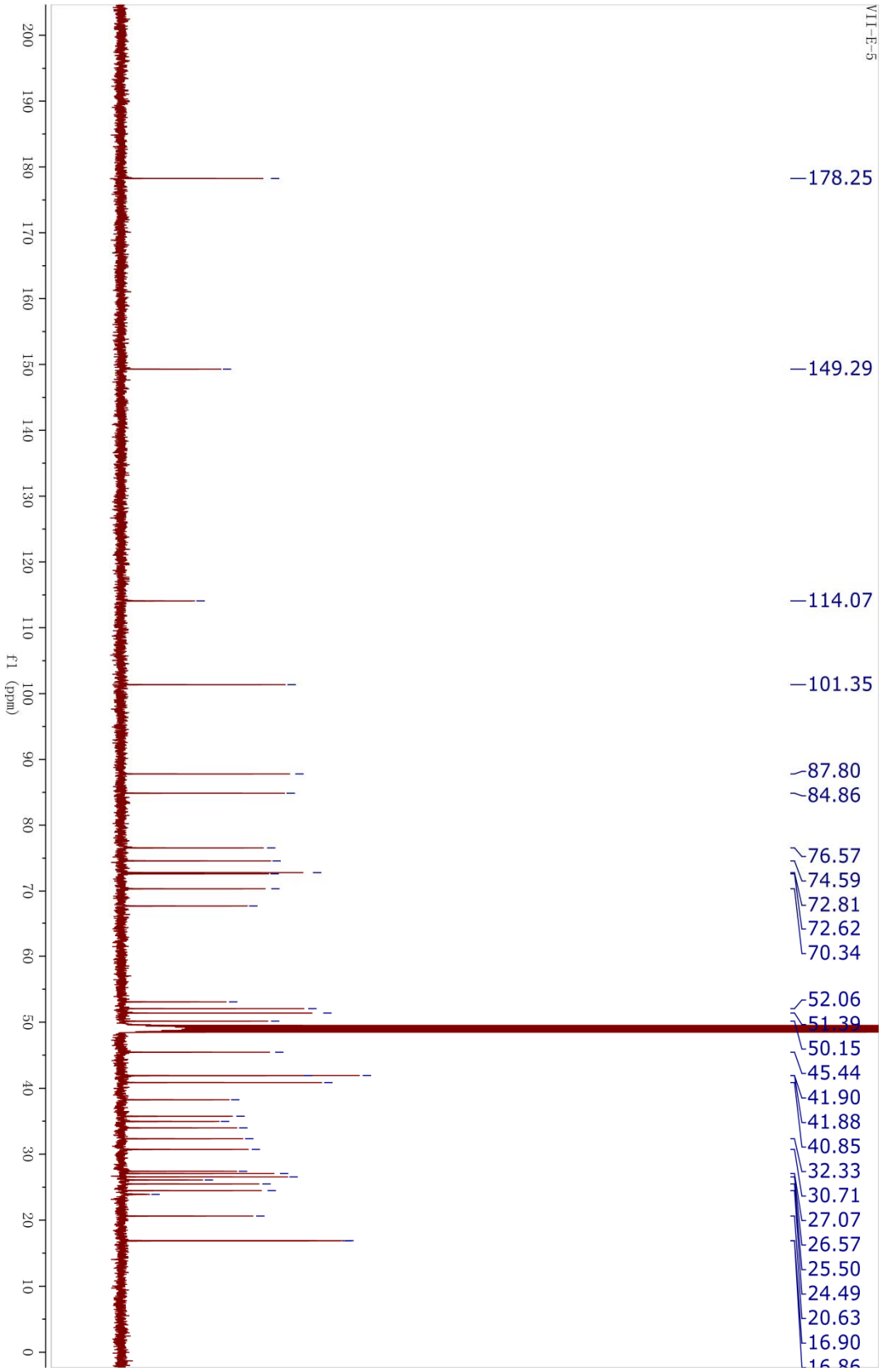


Figure S12. ^{13}C NMR spectrum (125 MHz, Methanol-d_4) of compound **2**.

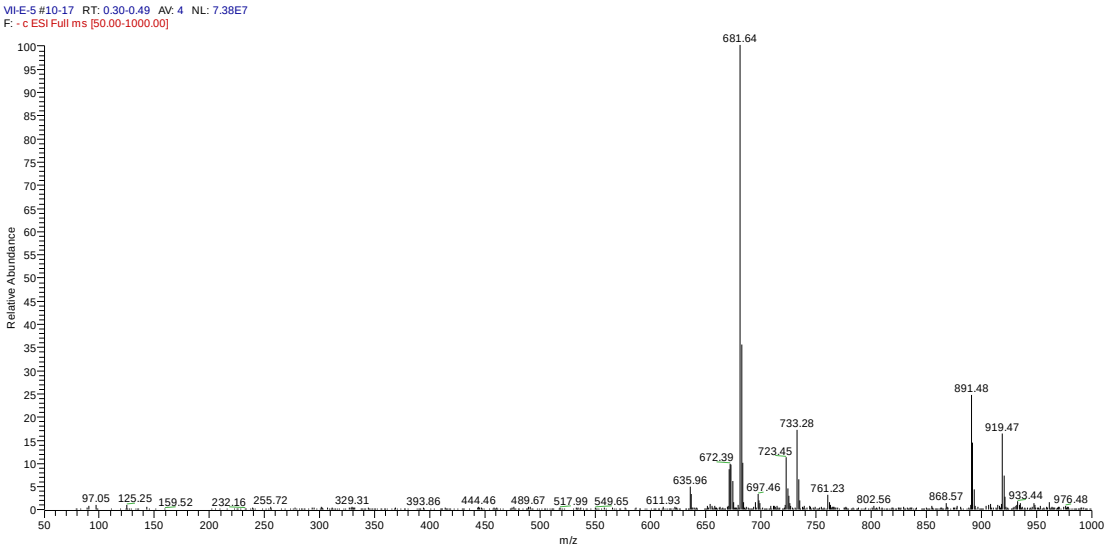


Figure S13. ESI MS (negative mode) spectrum of compound **2**.

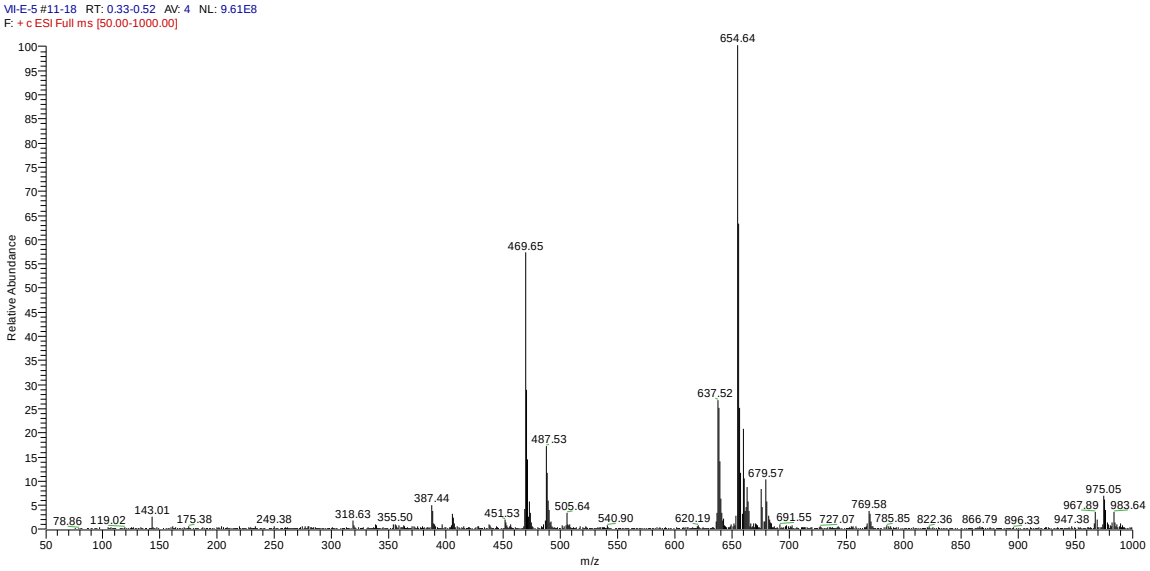


Figure S14. ESI MS (positive mode) spectrum of compound **2**.

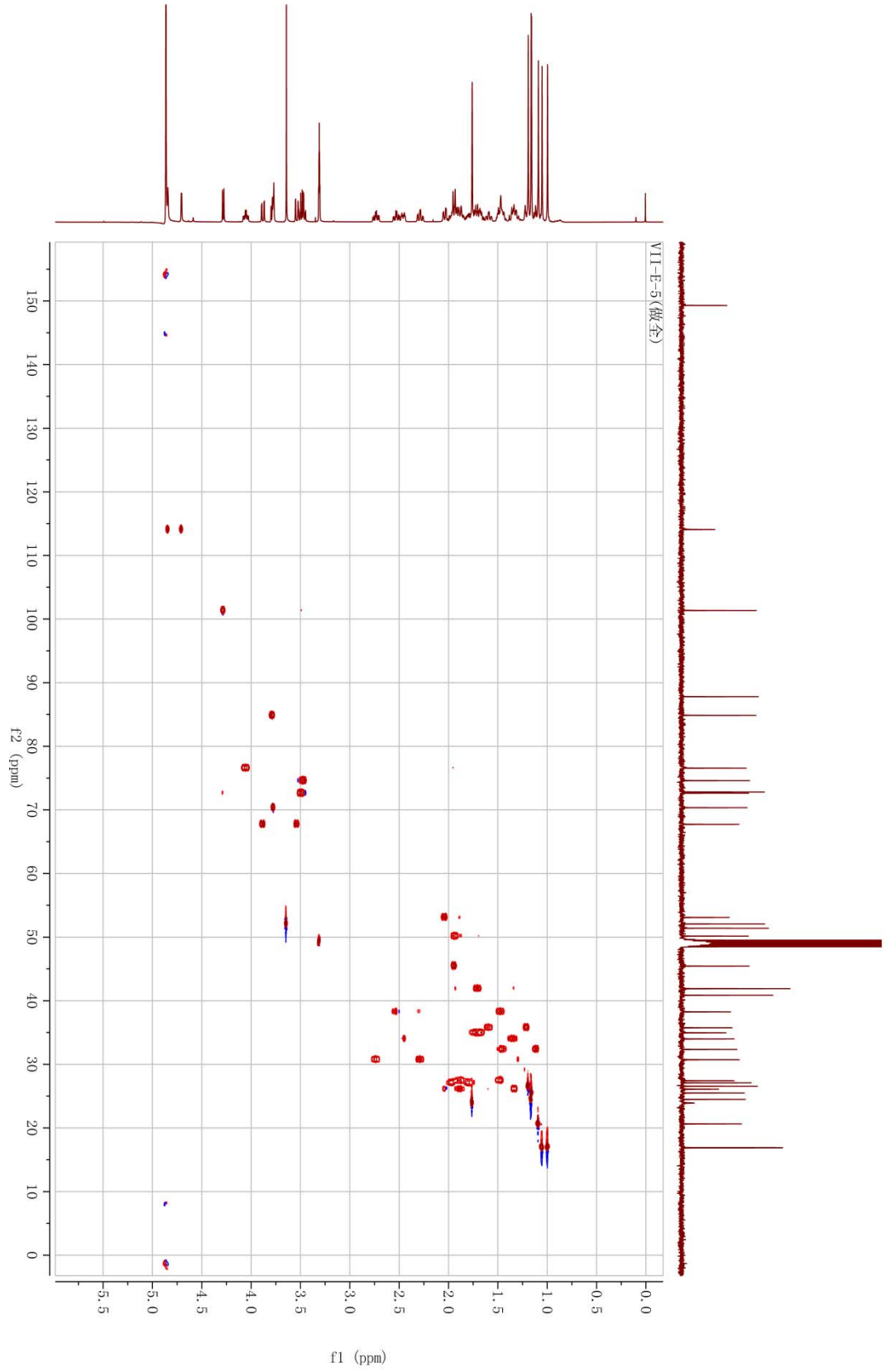


Figure S15. HMQC spectrum (500 MHz, Methanol-d_4) of compound **2**.

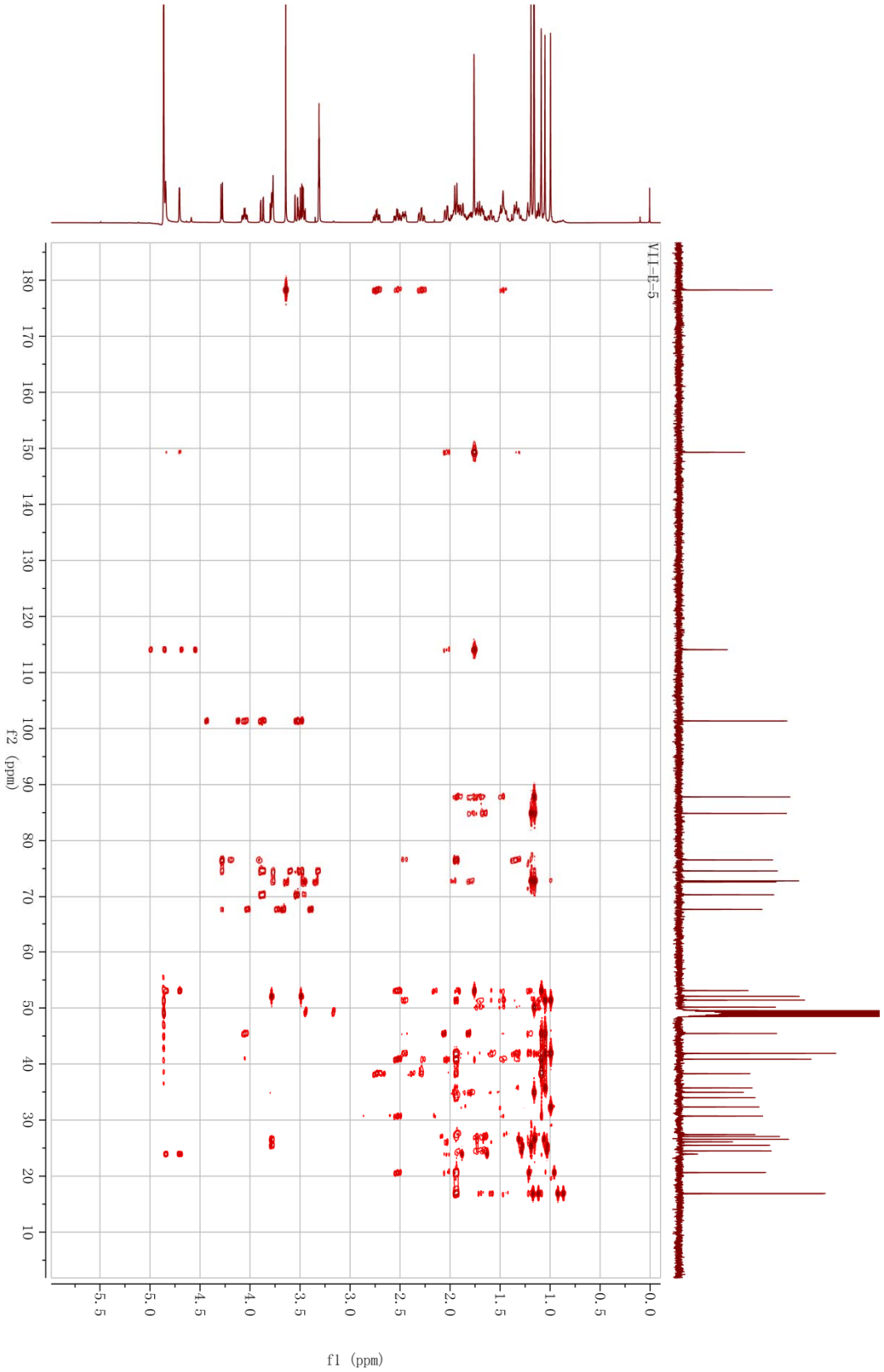


Figure S16. HMBC spectrum (500 MHz, Methanol-d_4) of compound **2**.

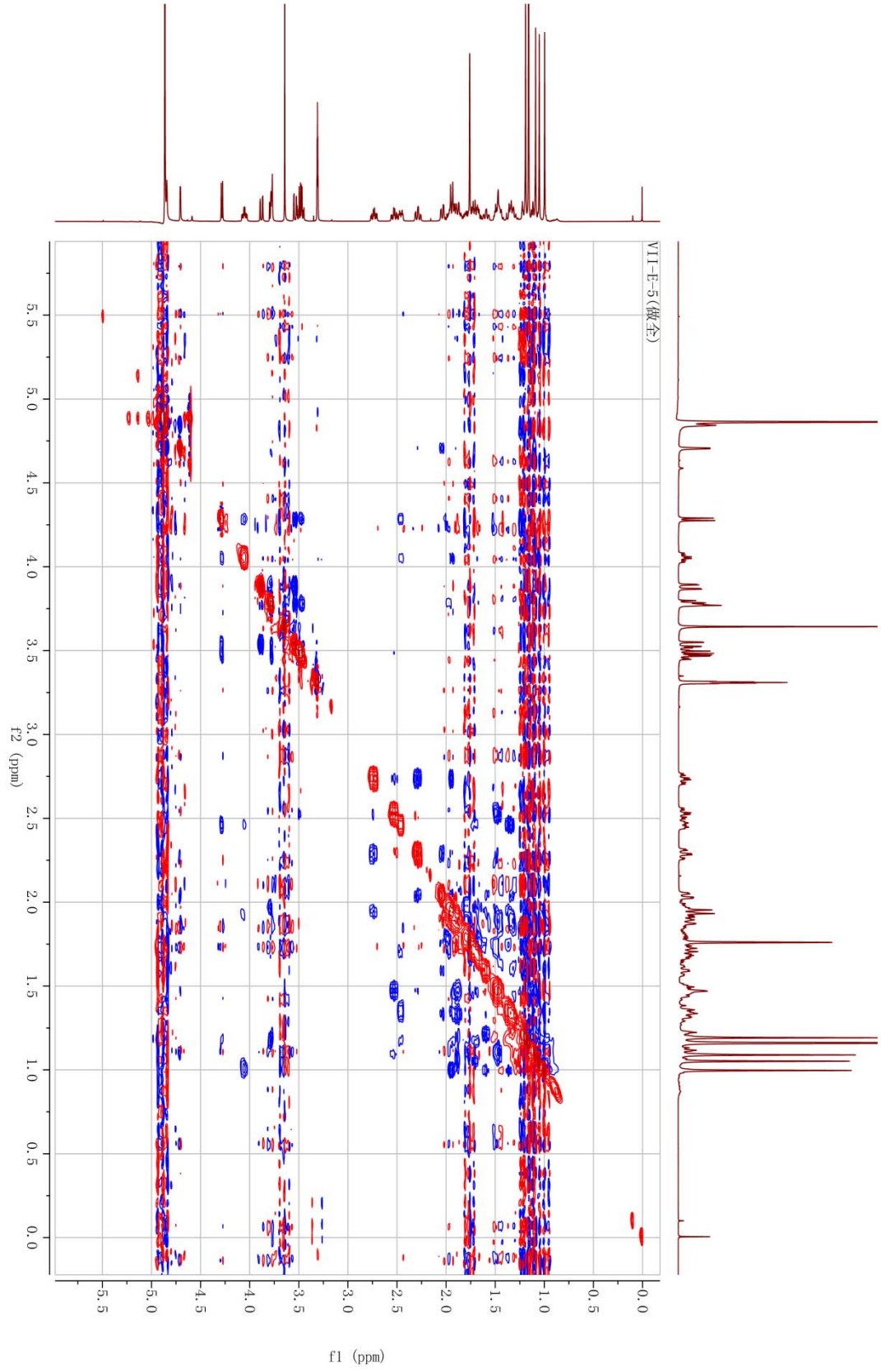


Figure S17. NOESY spectrum (500 MHz, Methanol-d_4) of compound **2**.

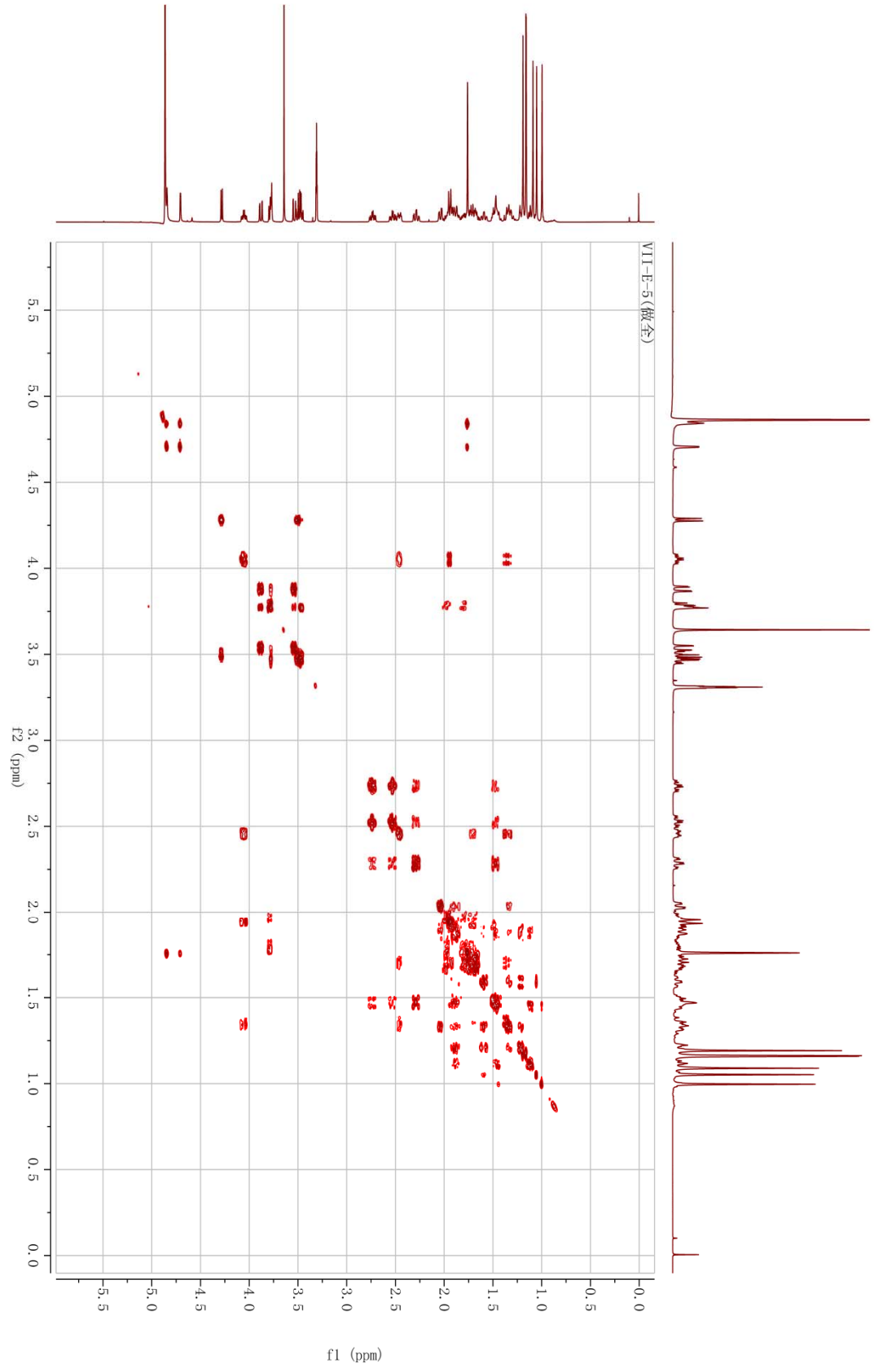


Figure S18. ^{1}H-^{1}H COSY spectrum (500 MHz, Methanol-d_4) of compound **2**.

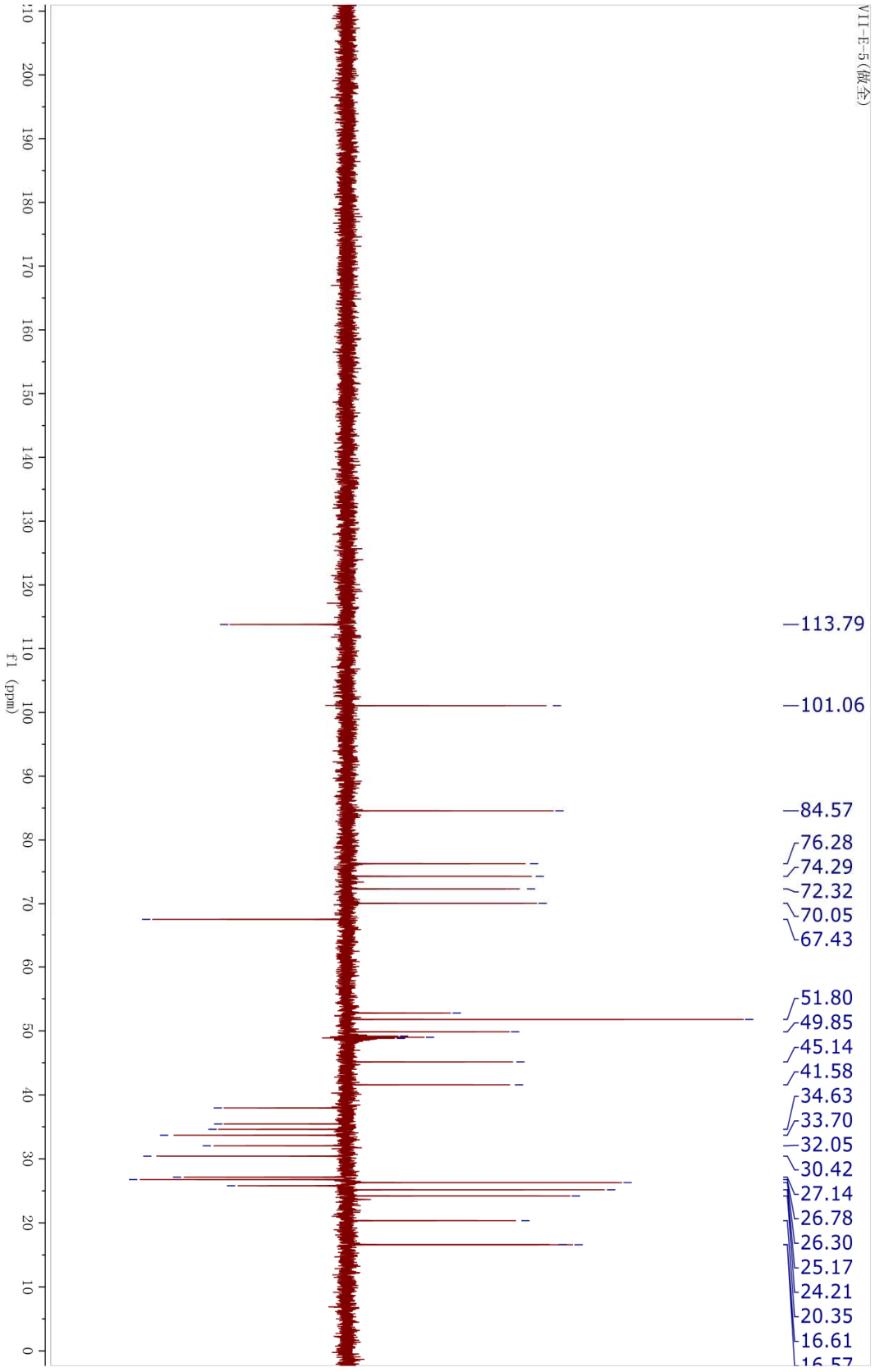


Figure S19. DEPT 135 spectrum (125 MHz, Methanol-d_4) of compound **2**.

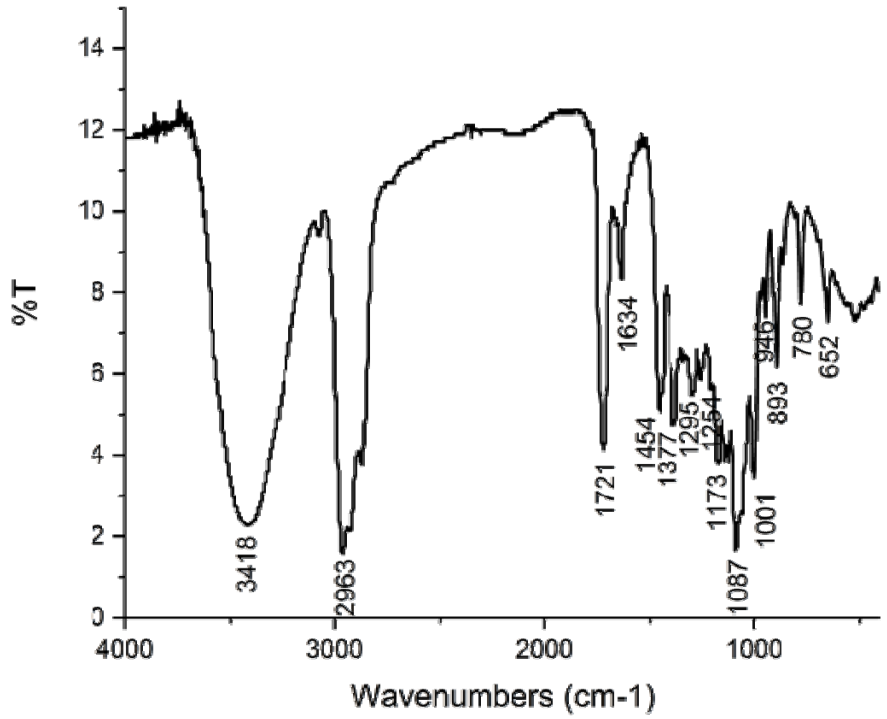


Figure S20. IR (KBr disc) spectrum of compound **2**.

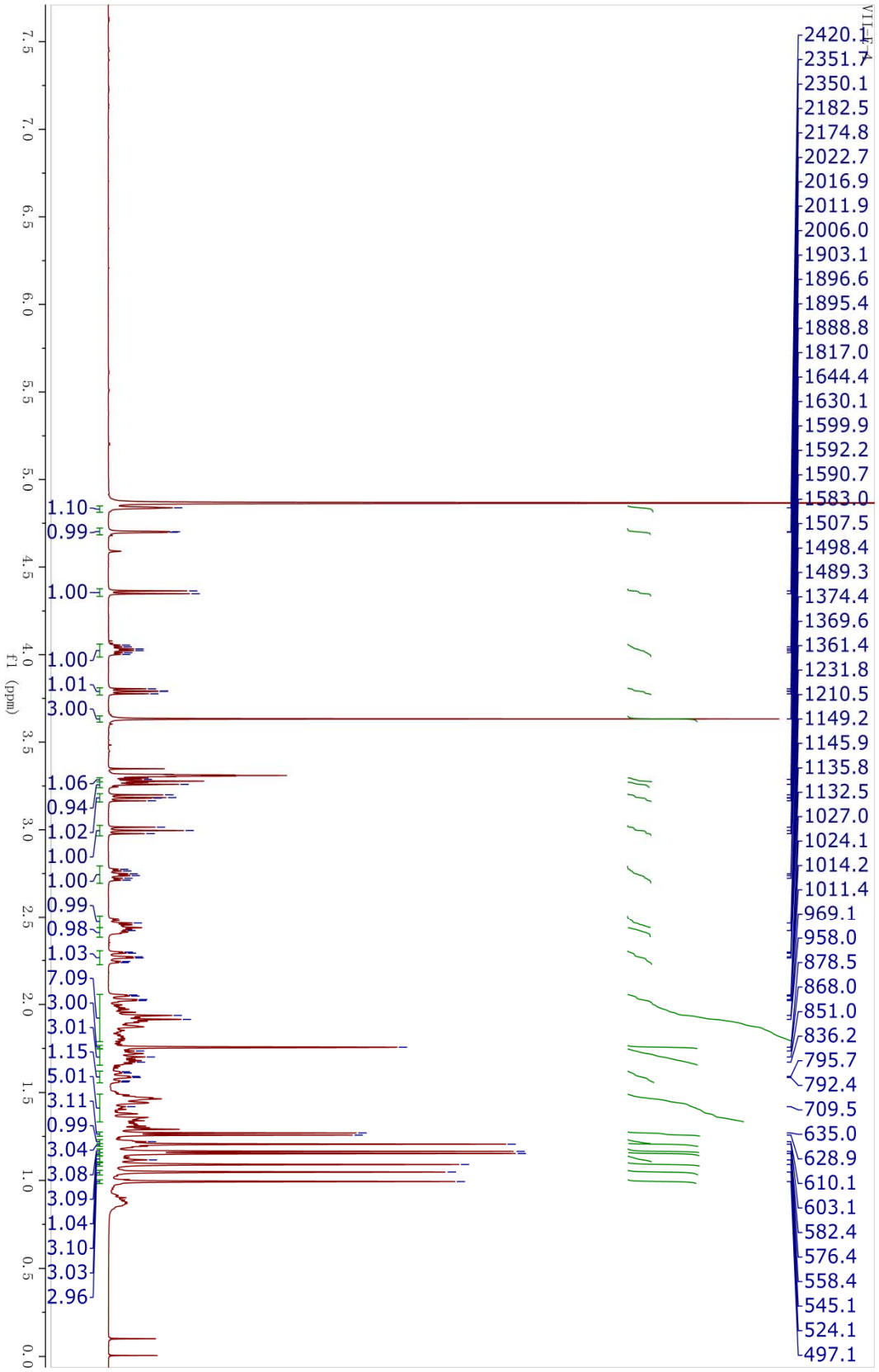


Figure S21. ^{1}H NMR spectrum (500 MHz, Methanol-d_4) of compound **3**.

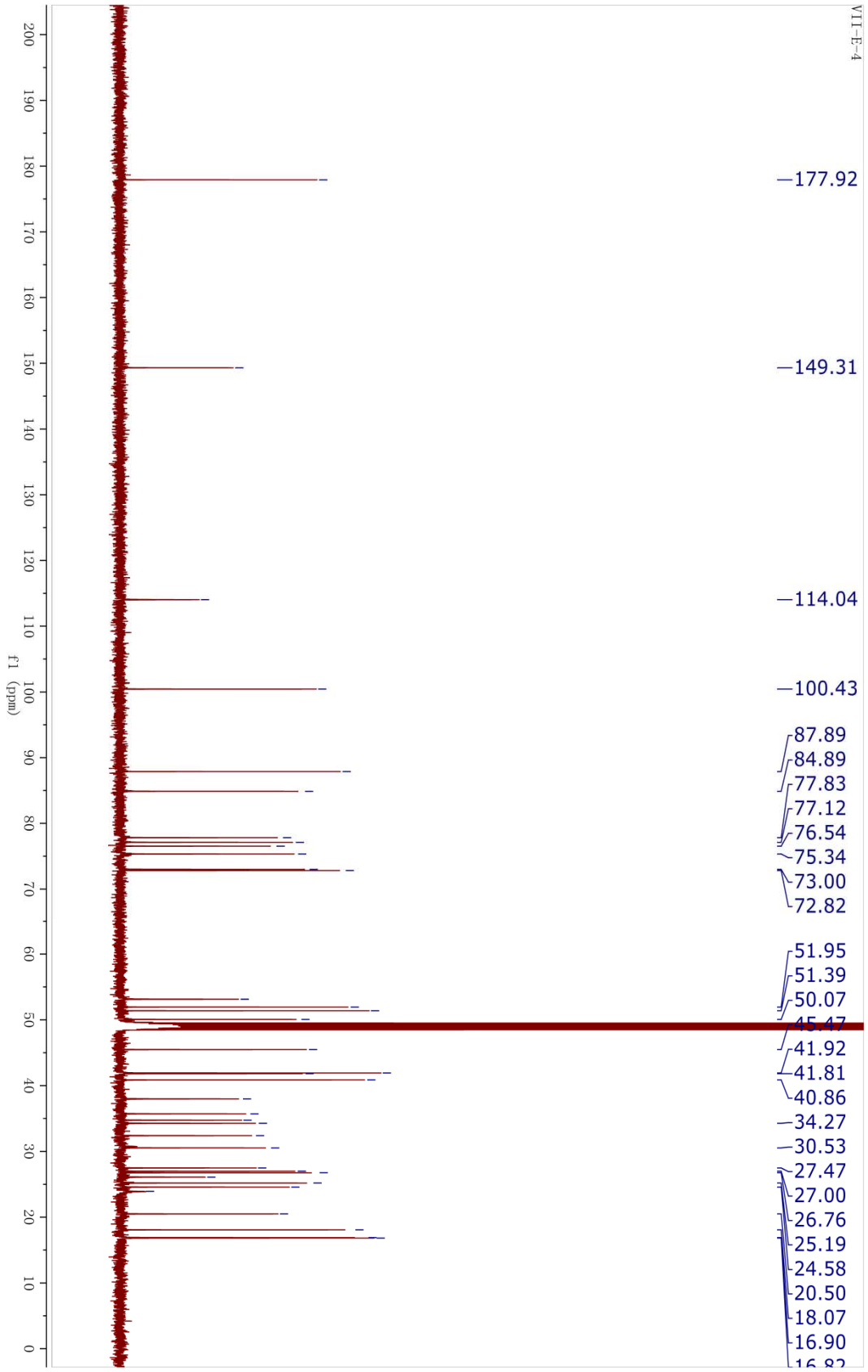


Figure S22. ^{13}C NMR spectrum (125 MHz, Methanol-d_4) of compound **3**.

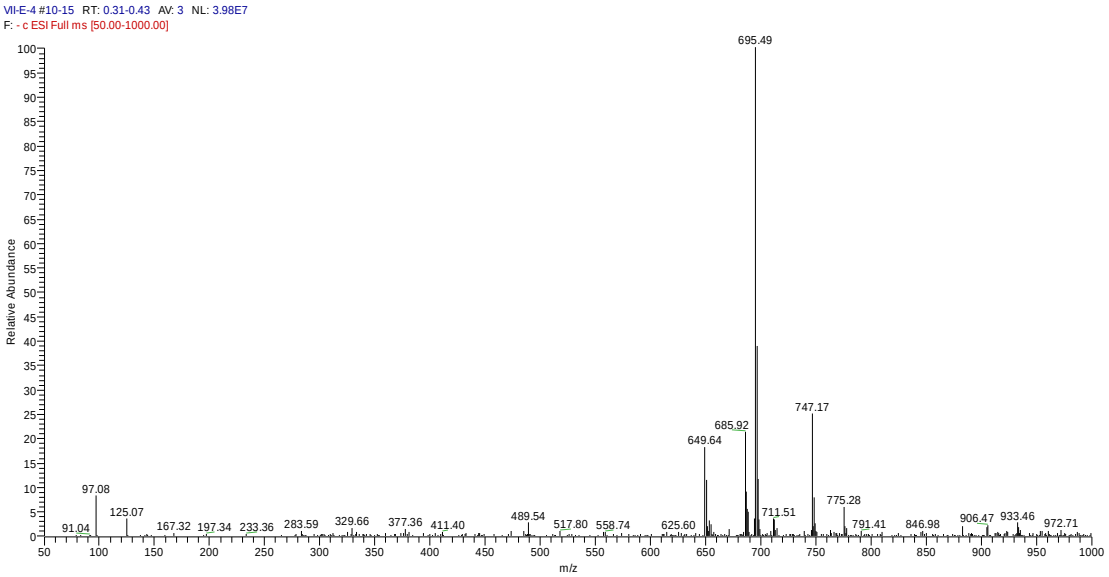


Figure S23. ESI MS (negative mode) spectrum of compound **3**.

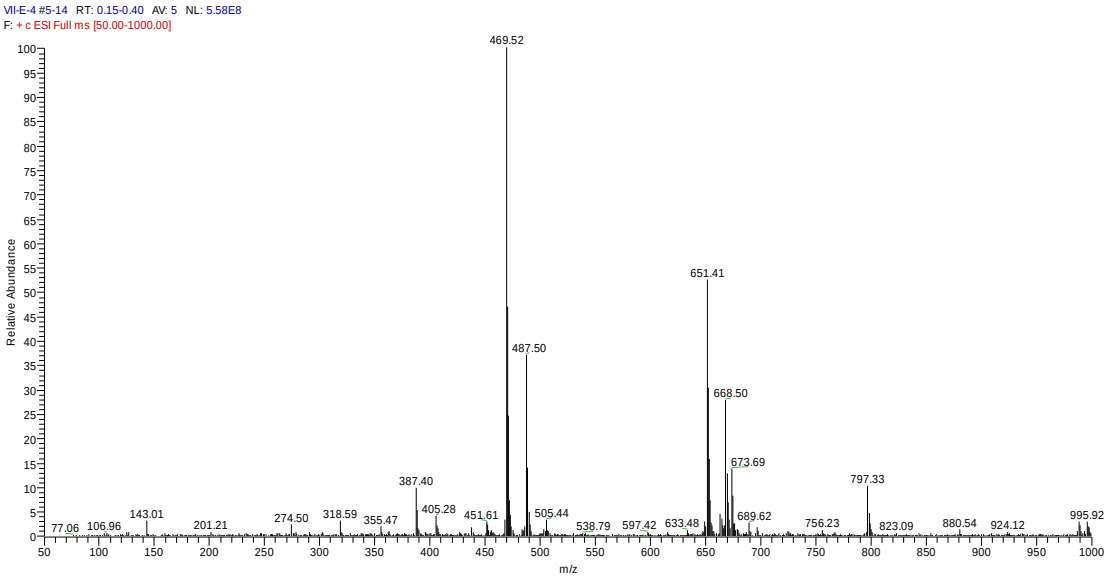


Figure S24. ESI MS (positive mode) spectrum of compound **3**.

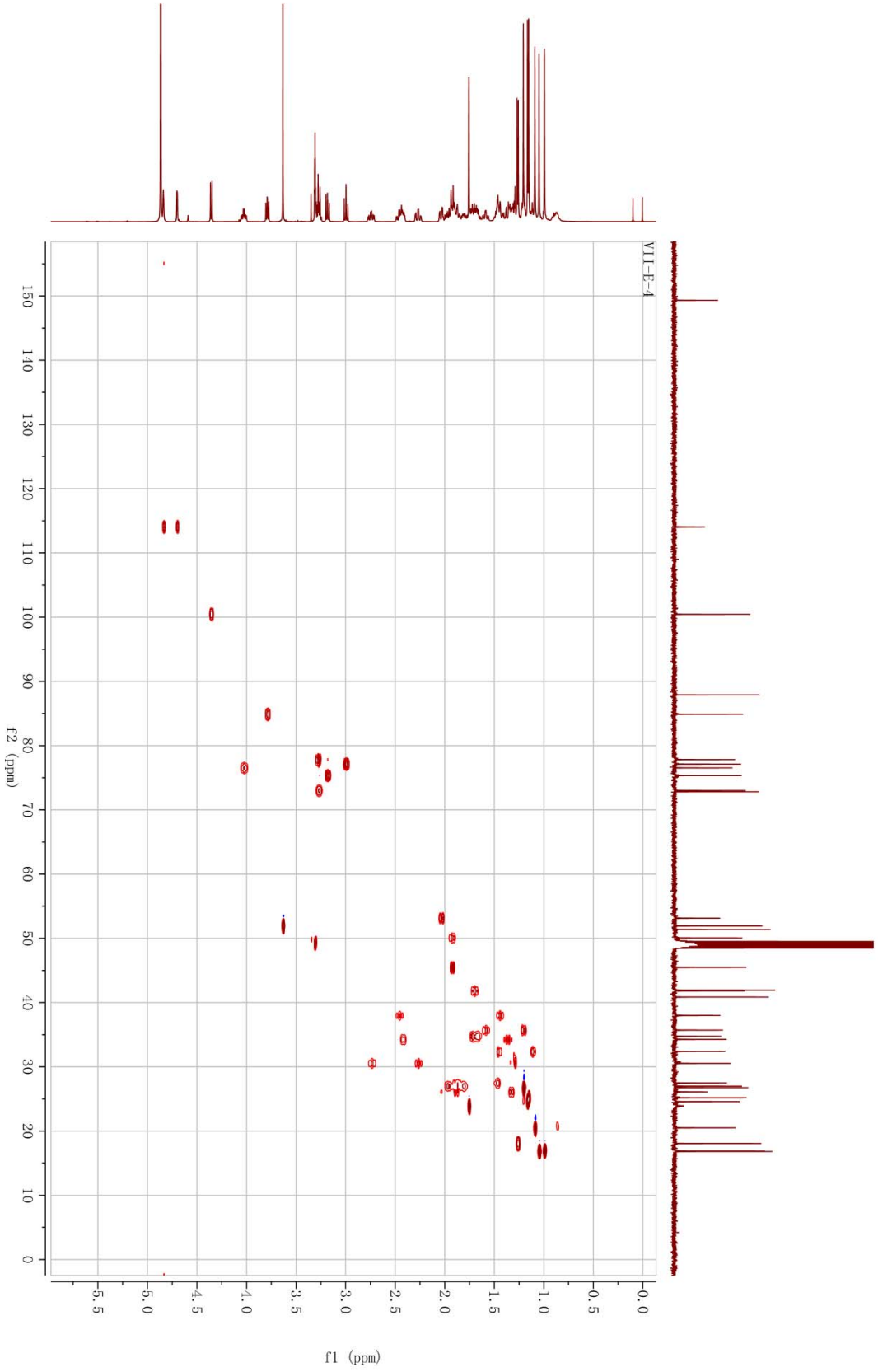


Figure S25. HMQC spectrum (500 MHz, Methanol-d_4) of compound **3**.

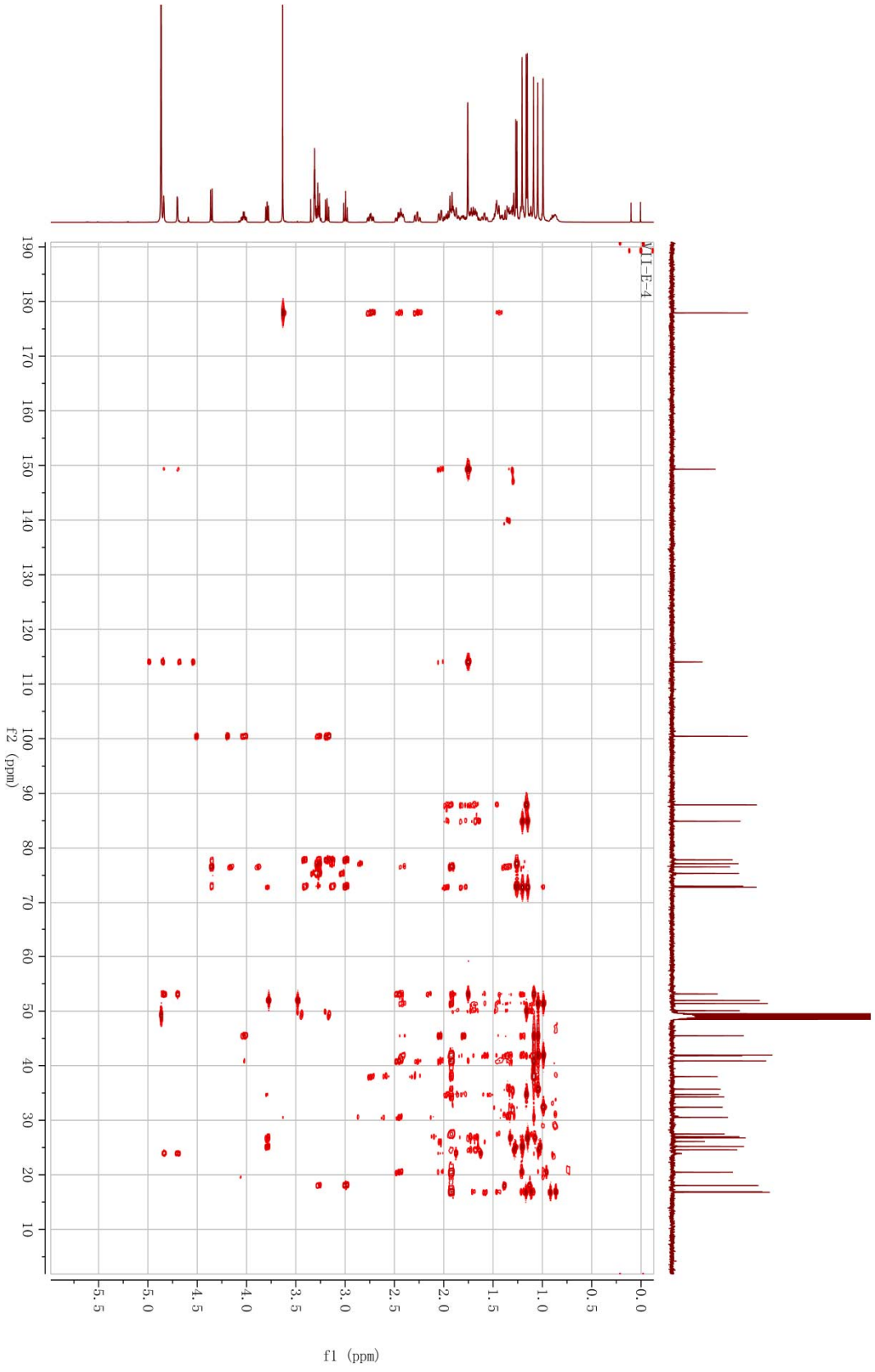


Figure S26. HMBC spectrum (500 MHz, Methanol-d_4) of compound **3**.

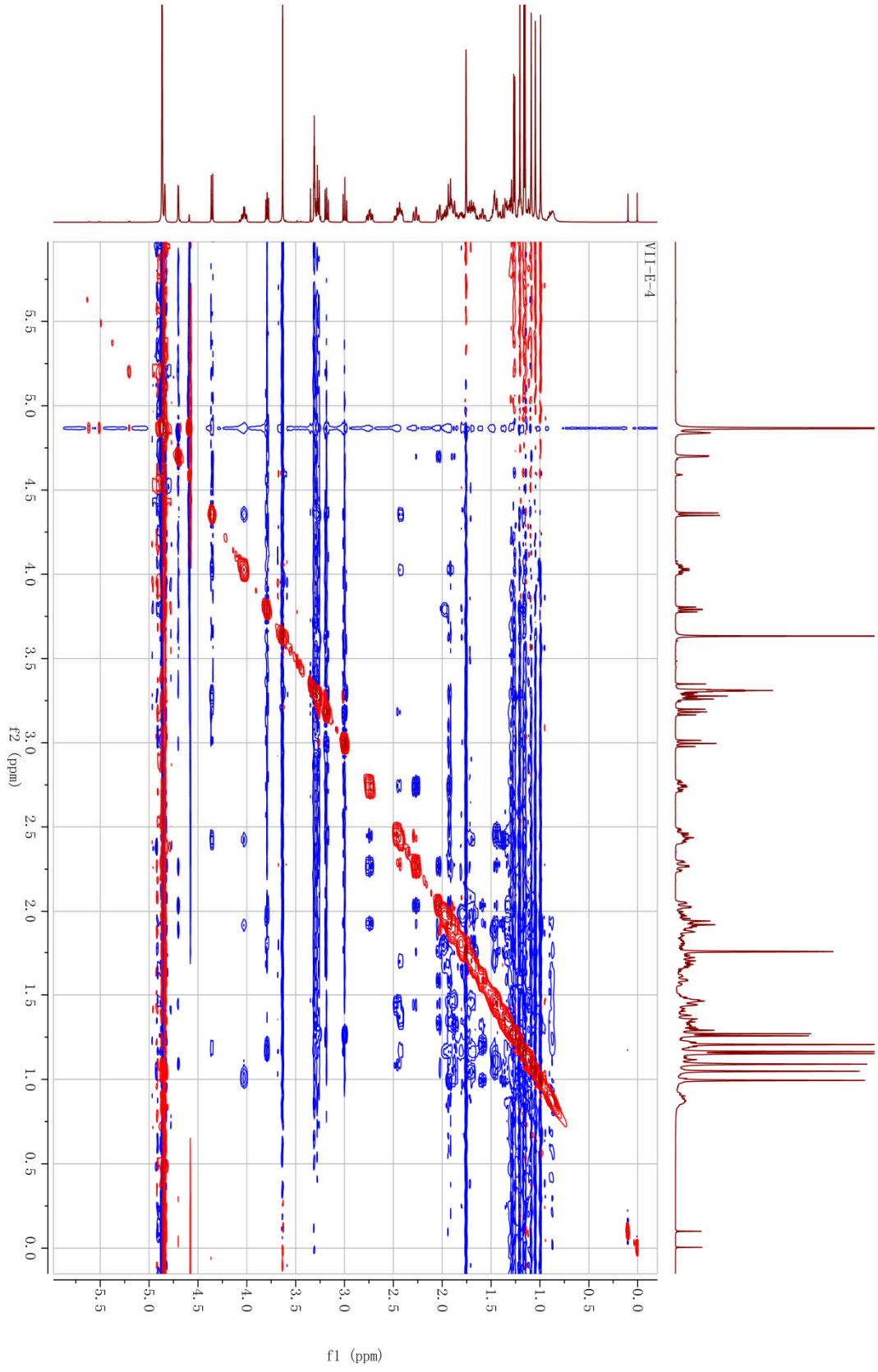


Figure S27. NOESY spectrum (500 MHz, Methanol-d_4) of compound **3**.

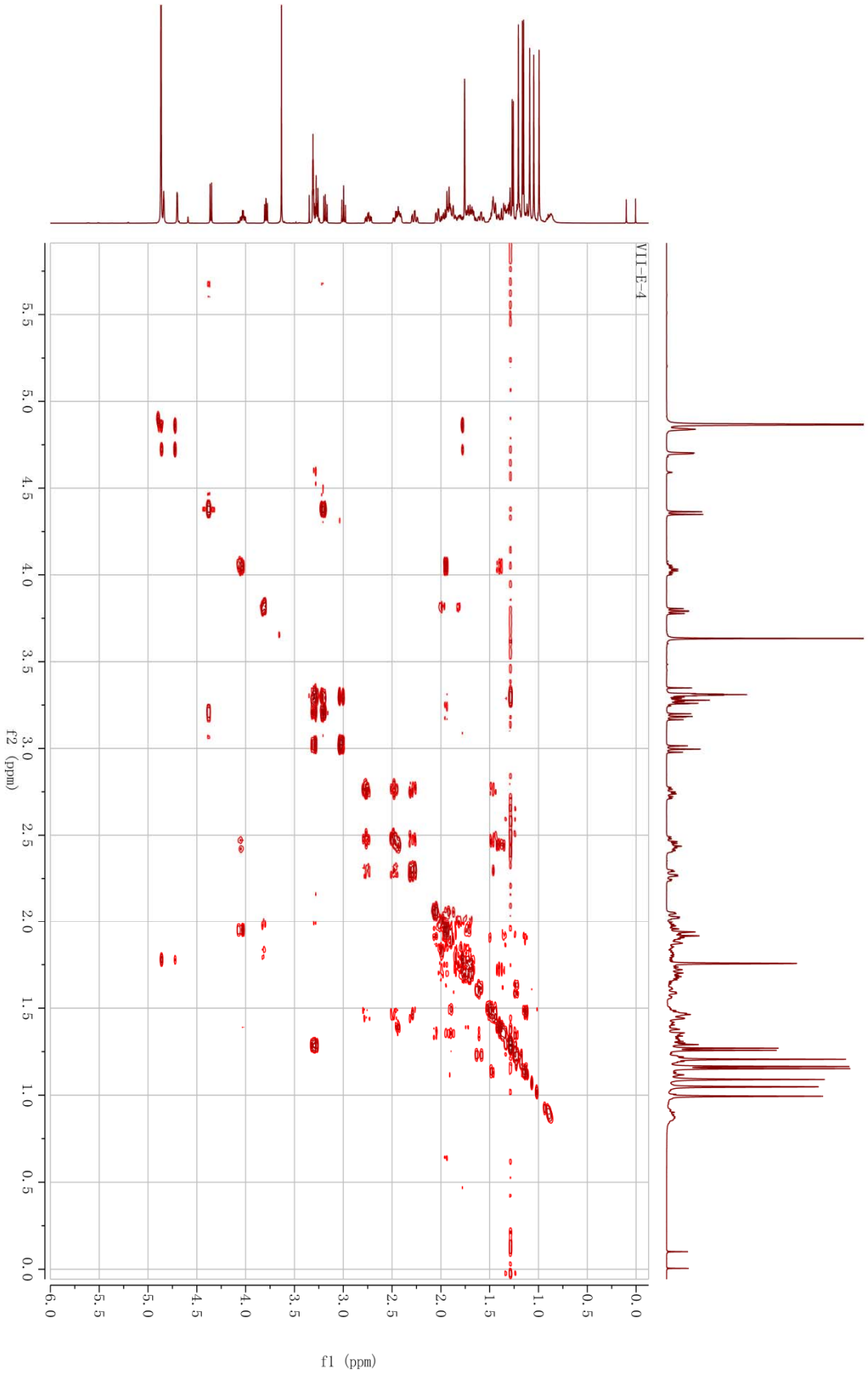


Figure S28. ^{1}H-^{1}H COSY spectrum (500 MHz, Methanol-d_4) of compound **3**.

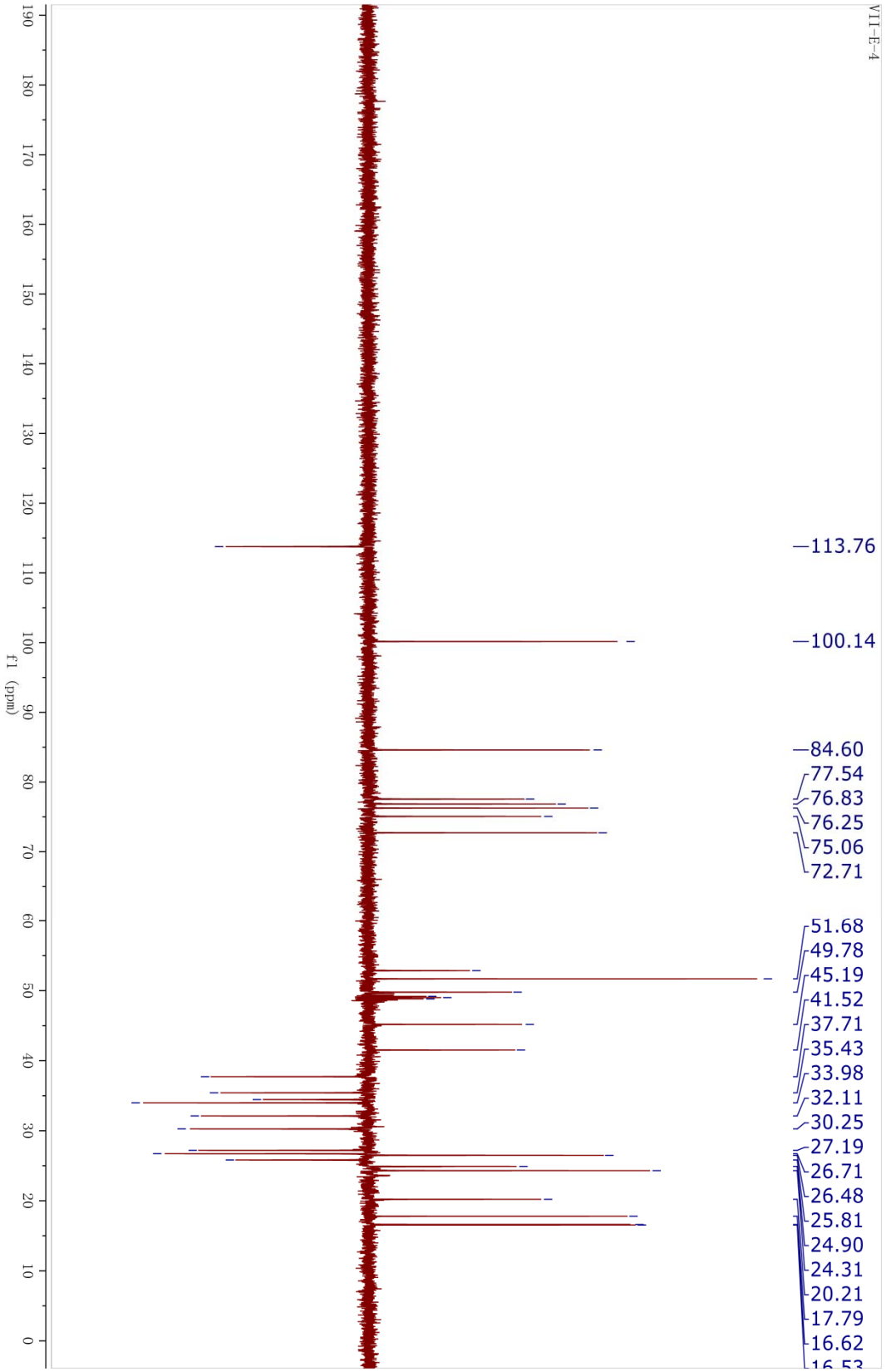


Figure S29. DEPT 135 spectrum (125 MHz, Methanol-d_4) of compound **3**.

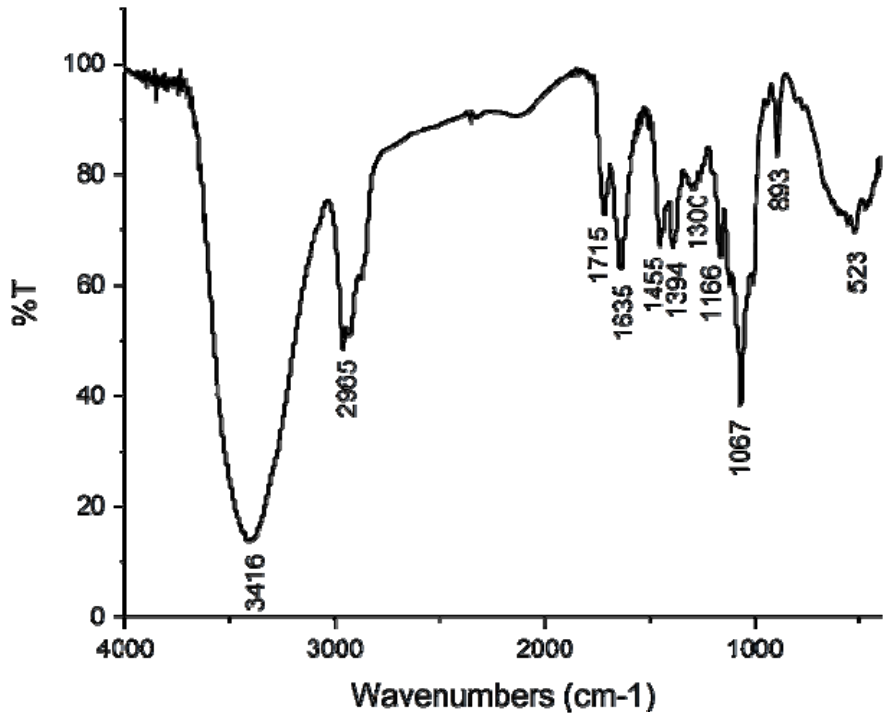


Figure S30. IR (KBr disc) spectrum of compound **3**.

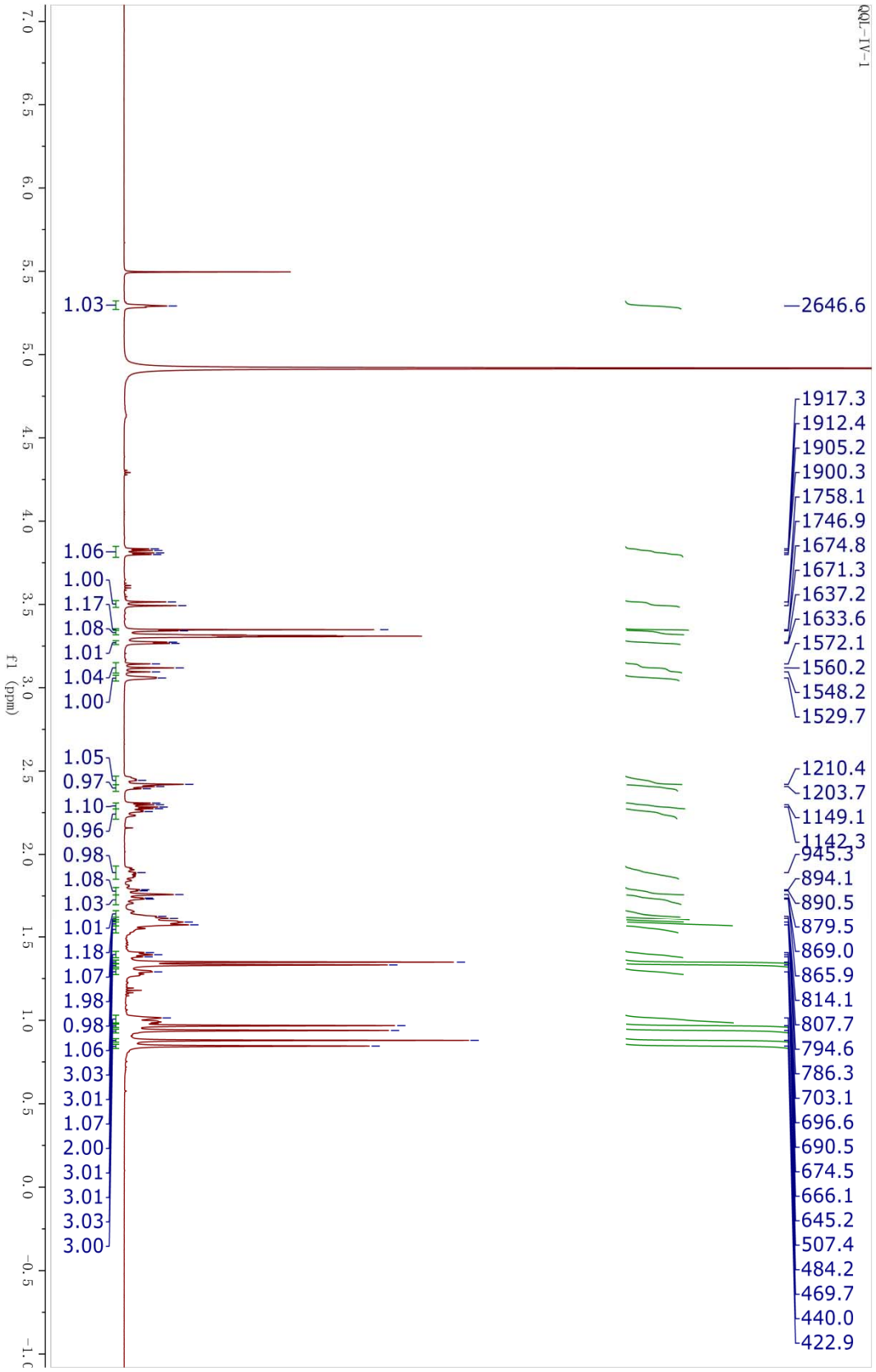


Figure S31. ^{1}H NMR spectrum (500 MHz, Methanol-d_4) of compound **4**.

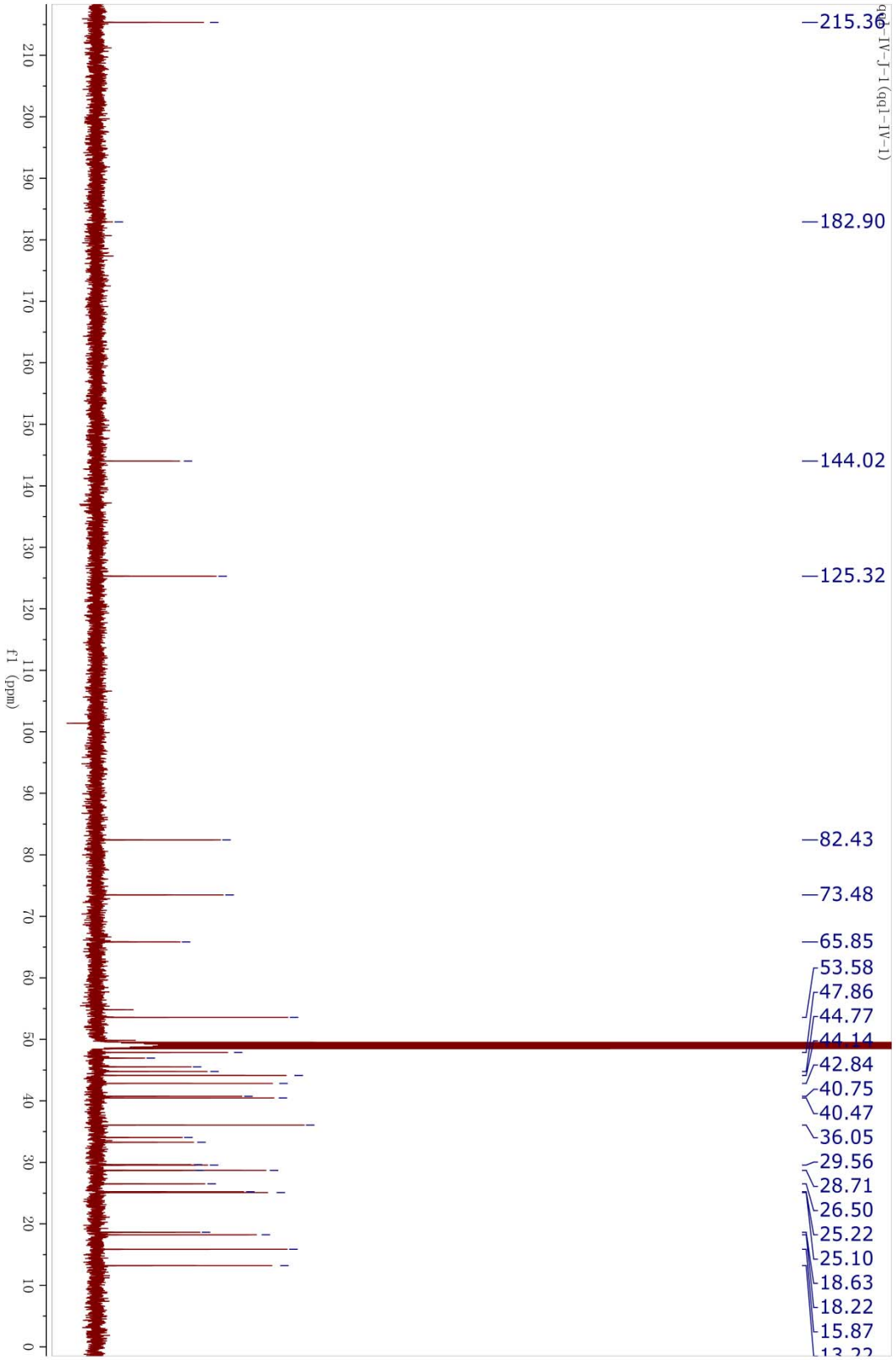


Figure S32. ^{13}C NMR spectrum (125 MHz, Methanol-d_4) of compound **4**.

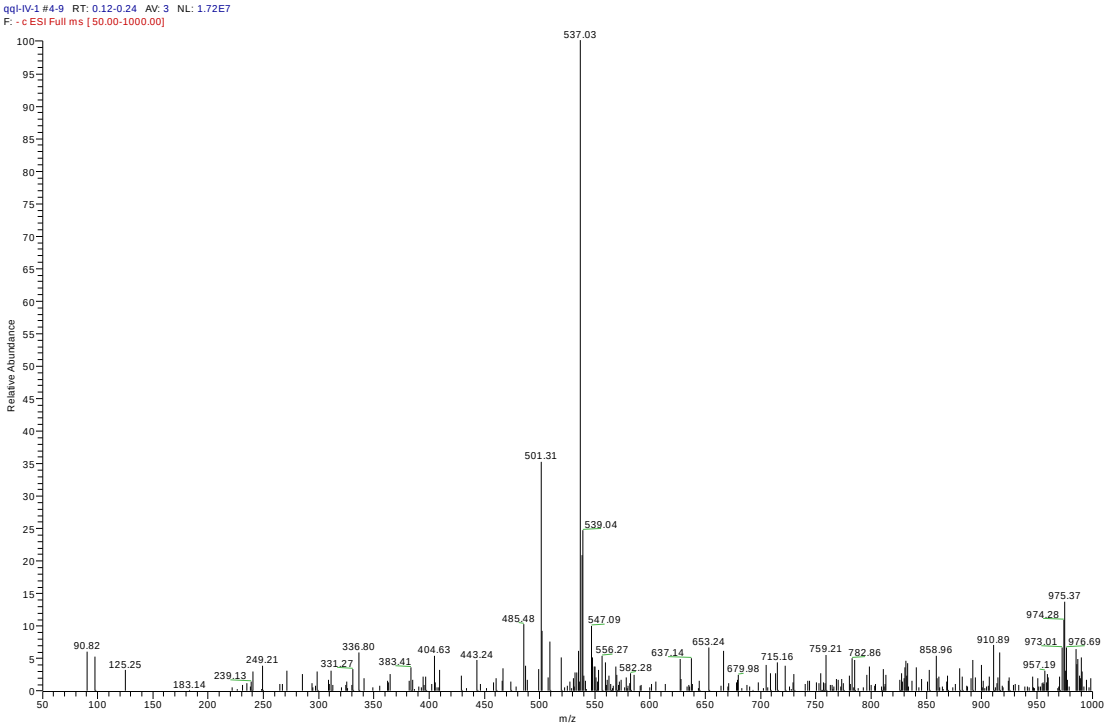


Figure S33. ESI MS (negative mode) spectrum of compound **4**.

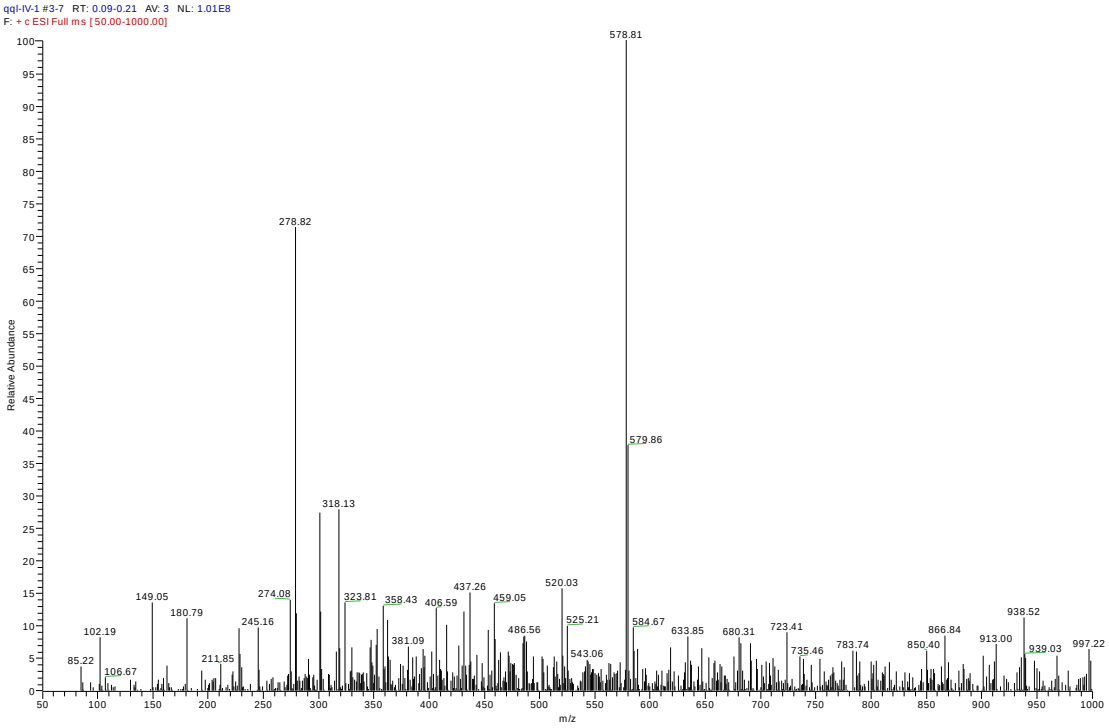


Figure S34. ESI MS (positive mode) spectrum of compound **4**.

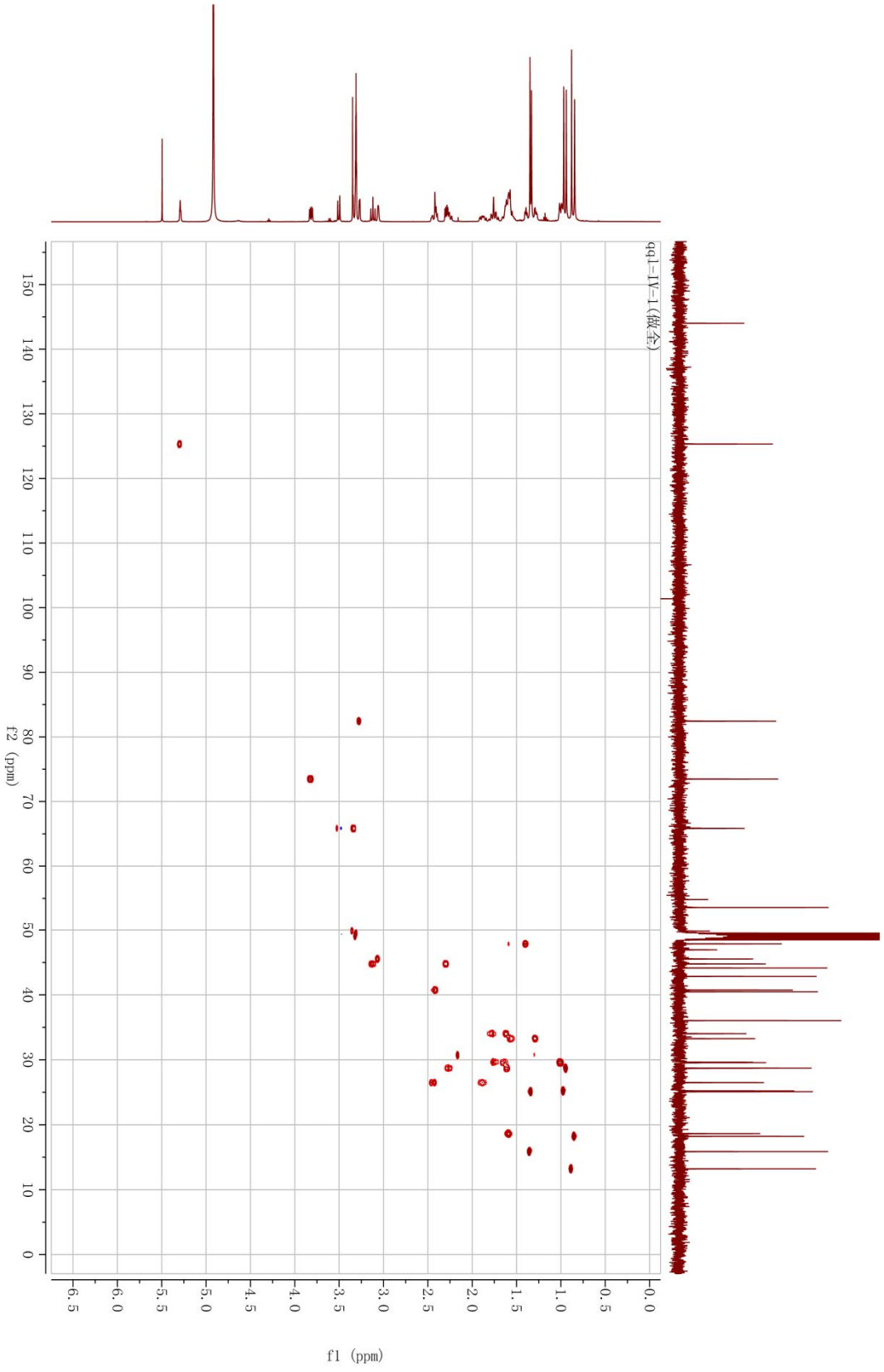


Figure S35. HMQC spectrum (500 MHz, Methanol-d_4) of compound **4**.

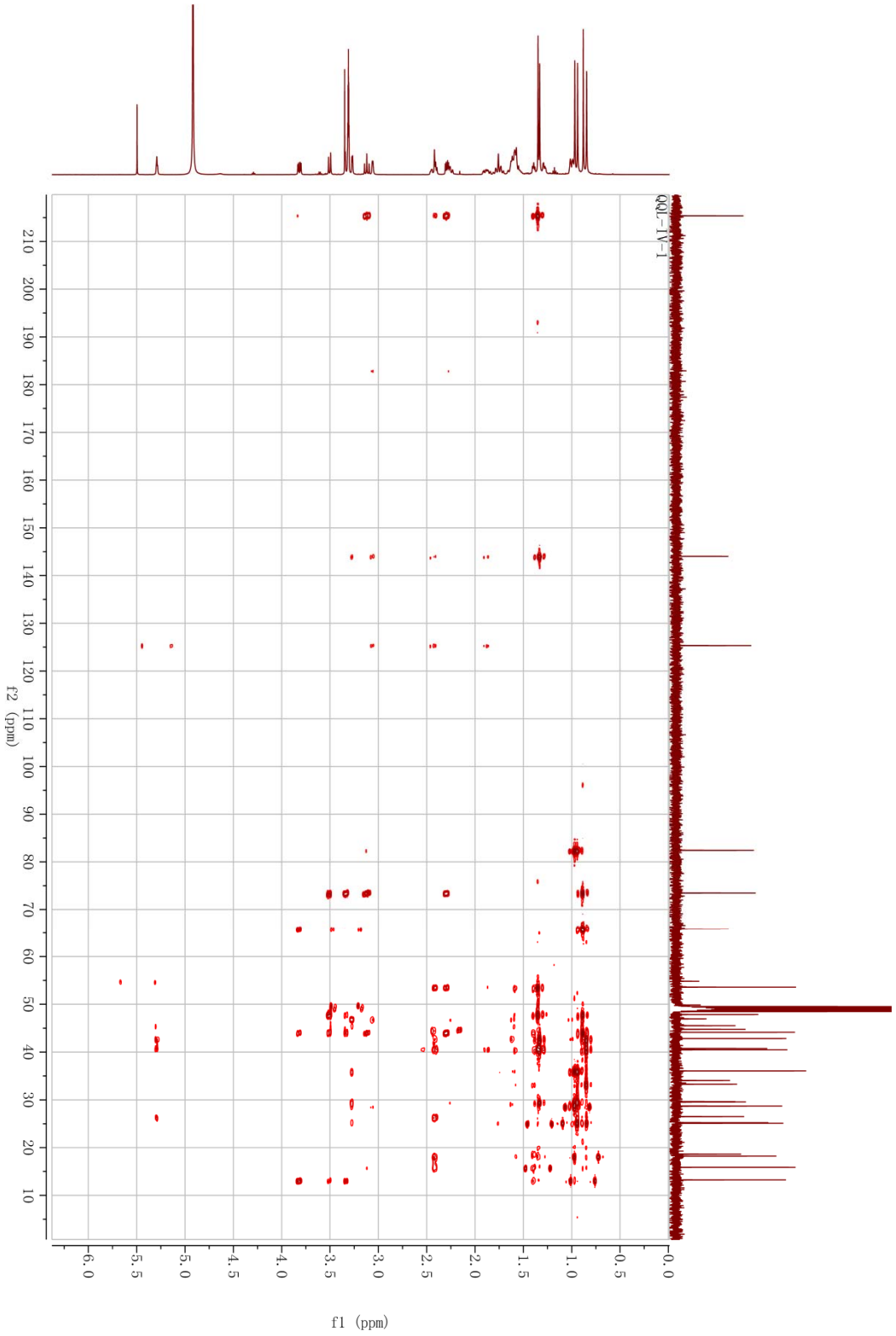


Figure S36. HMBC spectrum (500 MHz, Methanol-d_4) of compound **4**.

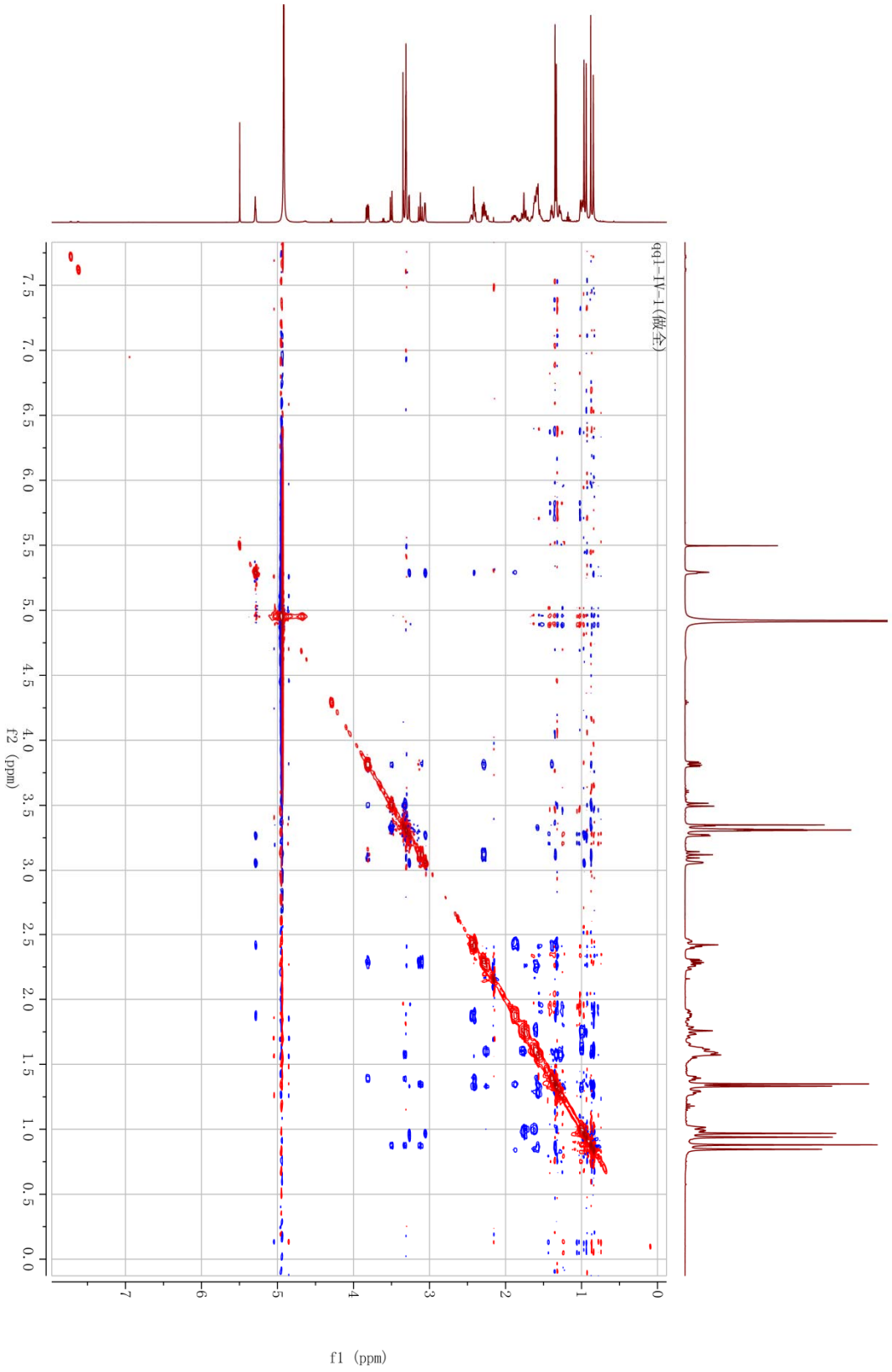


Figure S37. NOESY spectrum (500 MHz, Methanol-d_4) of compound **4**.

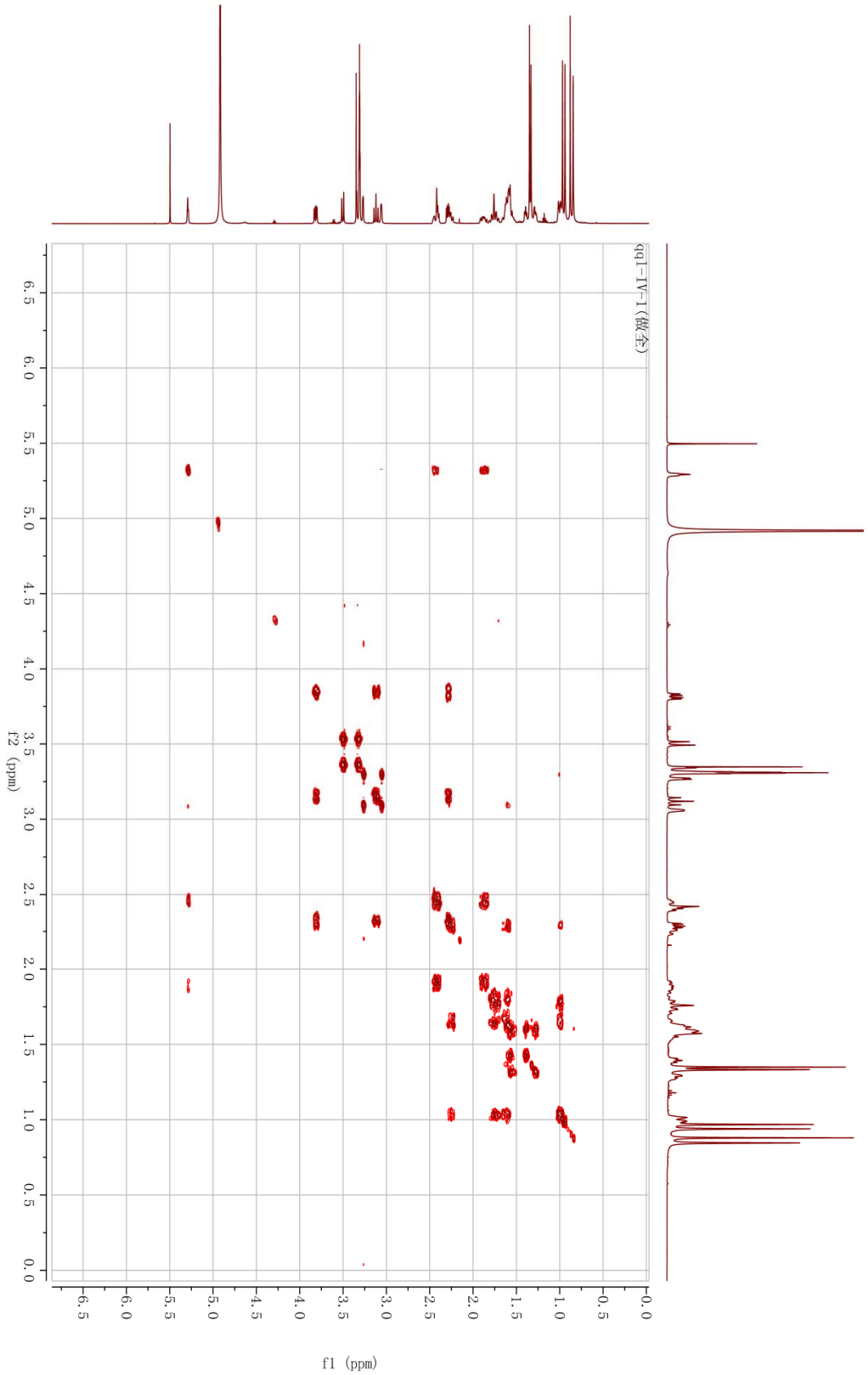


Figure S38. ^{1}H-^{1}H COSY spectrum (500 MHz, Methanol-d_4) of compound **4**.

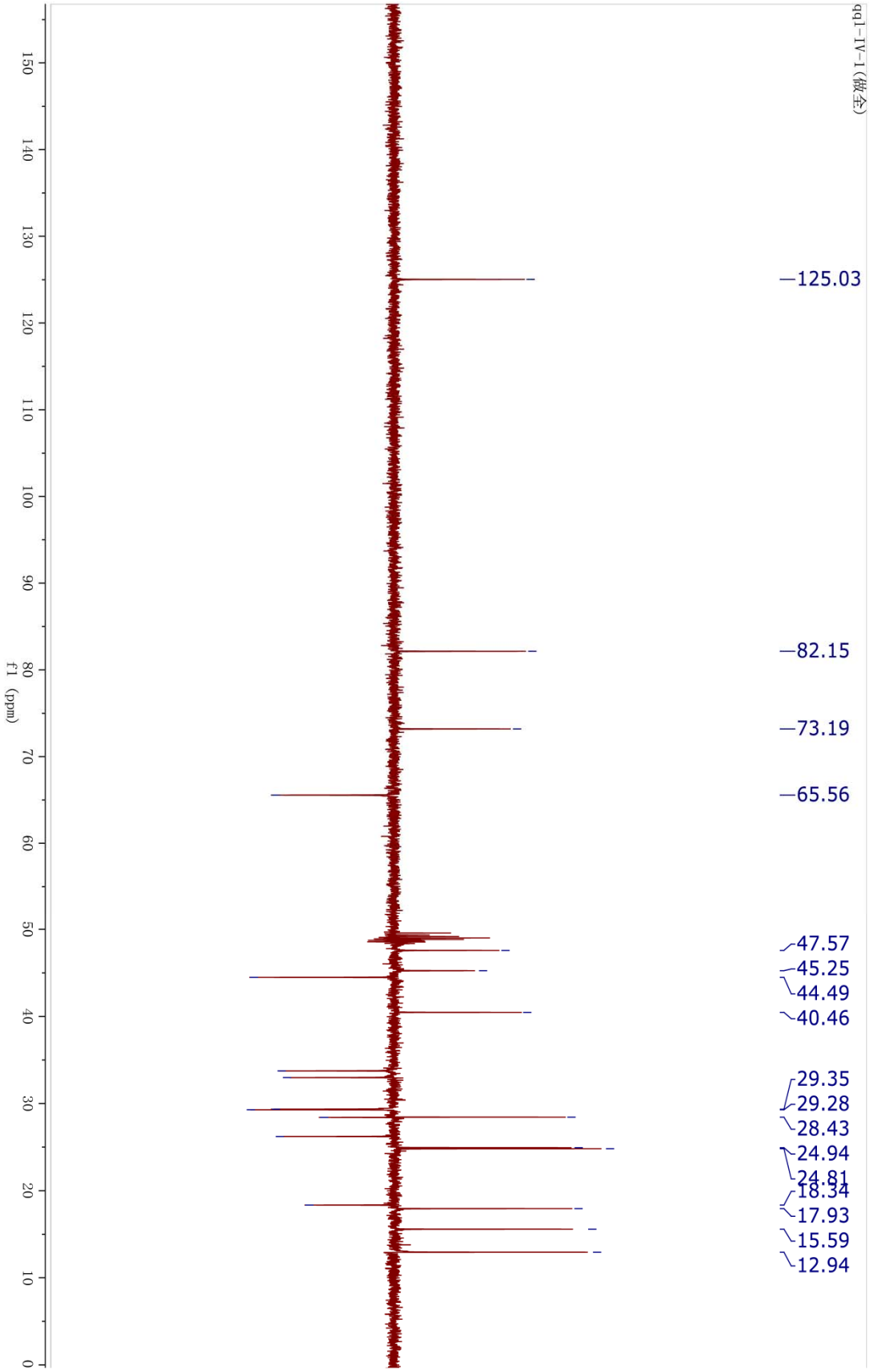


Figure S39. DEPT 135 spectrum (125 MHz, Methanol-d_4) of compound **4**.

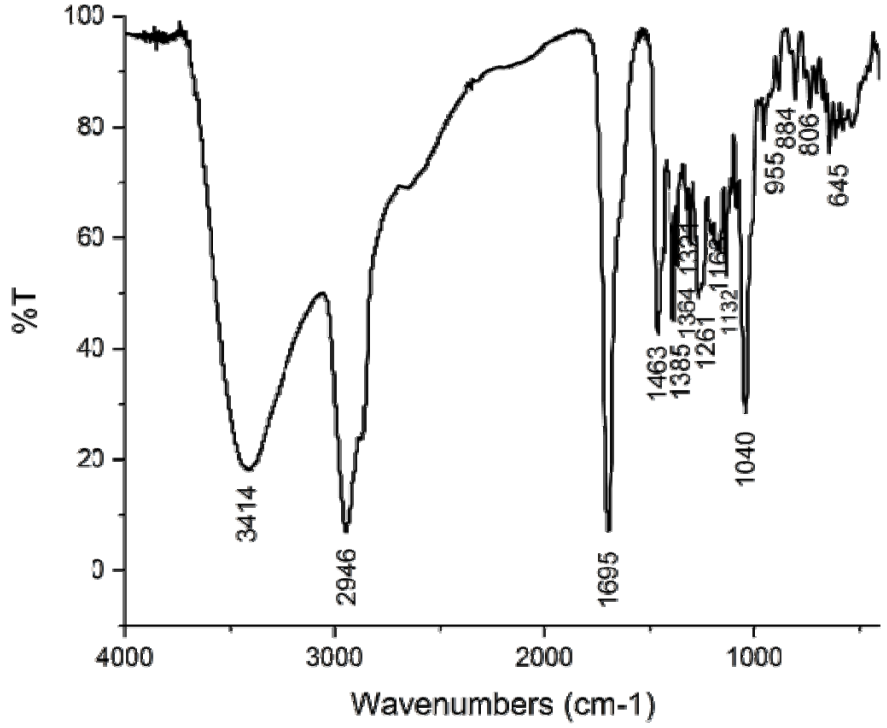
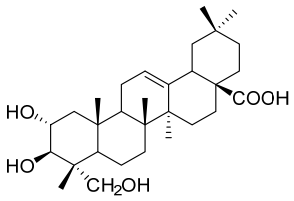
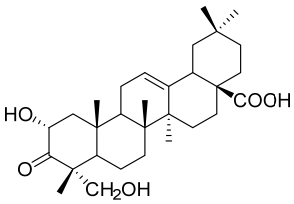
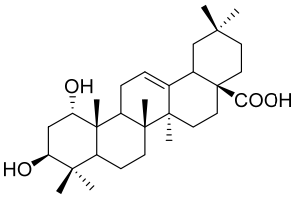
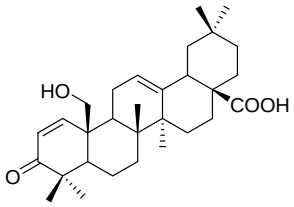
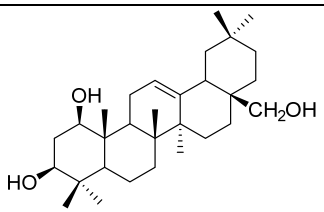
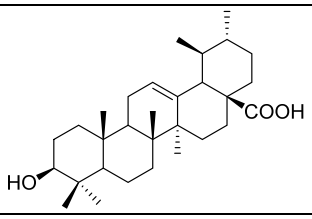
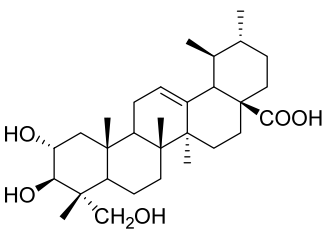


Figure S40. IR (KBr disc) spectrum of compound **4**.

Table S1. Structures of known compounds.

comp.	name	structure	molecular formula
5	arjunolic acid		$C_{30}H_{48}O_5$
6	cyclocaric acid B		$C_{30}H_{46}O_5$
7	1α, 3β-dihydroxy-olean-12-en-28-oic acid		$C_{30}H_{48}O_4$
8	punicaone		$C_{30}H_{44}O_4$
9	olean-12-en-1β,3β,28-triol		$C_{30}H_{50}O_3$
10	ursolic acid		$C_{30}H_{48}O_3$
11	asiatic acid		$C_{30}H_{48}O_5$

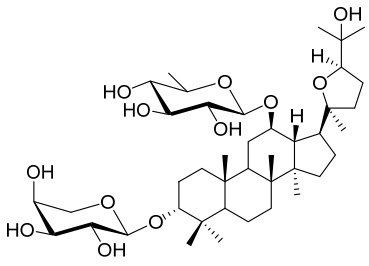
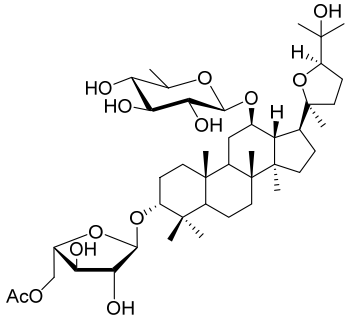
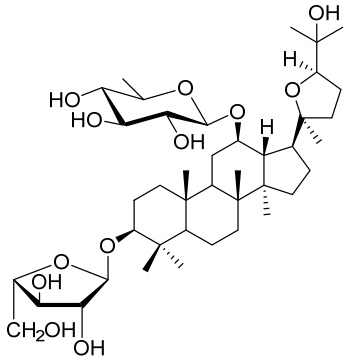
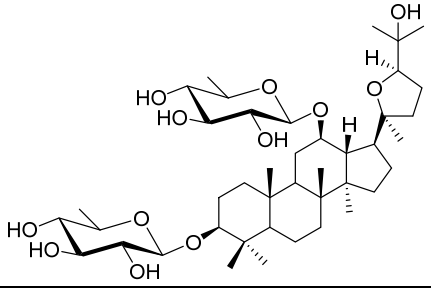
12	cyclocarioside K		$C_{41}H_{70}O_{12}$
13	cyclocarioside H		$C_{43}H_{72}O_{13}$
14	cyclocarioside I		$C_{41}H_{70}O_{12}$
15	cyclocarioside B		$C_{42}H_{72}O_{12}$

Table S2. Cytotoxicity of the isolates in C2C12 myotubes and 3T3-L1 adipocytes. *n* = 9.

	Cell viability (%)	
Compound (μM)	C2C12 myotubes	3T3-L1 adipocytes
DMSO	100.05 ± 1.77	100.14 ± 1.22
RSV (5)	95.96 ± 2.15	100.65 ± 1.90
1 (10)	93.61 ± 2.42	99.92 ± 2.63
2 (2)	104.52 ± 2.78	98.23 ± 3.36
3 (2)	100.32 ± 1.70	100.38 ± 1.91
4 (10)	106.49 ± 2.58	99.68 ± 2.86
5 (10)	92.29 ± 5.23	97.75 ± 1.43
6 (10)	93.92 ± 1.28	98.88 ± 2.69
7 (10)	98.64 ± 1.69	100.03 ± 1.19
8 (10)	97.39 ± 1.07	100.54 ± 3.64
9 (10)	95.76 ± 2.57	98.19 ± 1.27
10 (10)	96.24 ± 7.70	99.61 ± 3.43
11 (10)	95.28 ± 4.98	98.18 ± 1.23
12 (10)	100.26 ± 1.92	99.25 ± 3.47
13 (2)	96.99 ± 2.75	100.86 ± 1.08
14 (10)	96.05 ± 6.66	101.71 ± 0.96
15 (10)	98.79 ± 2.55	98.68 ± 2.11