Supplementary Materials

Acyclic Triterpenoids from *Alpinia katsumadai* Inhibit IL-6-Induced STAT3 Activation

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List of Supplementary Materials

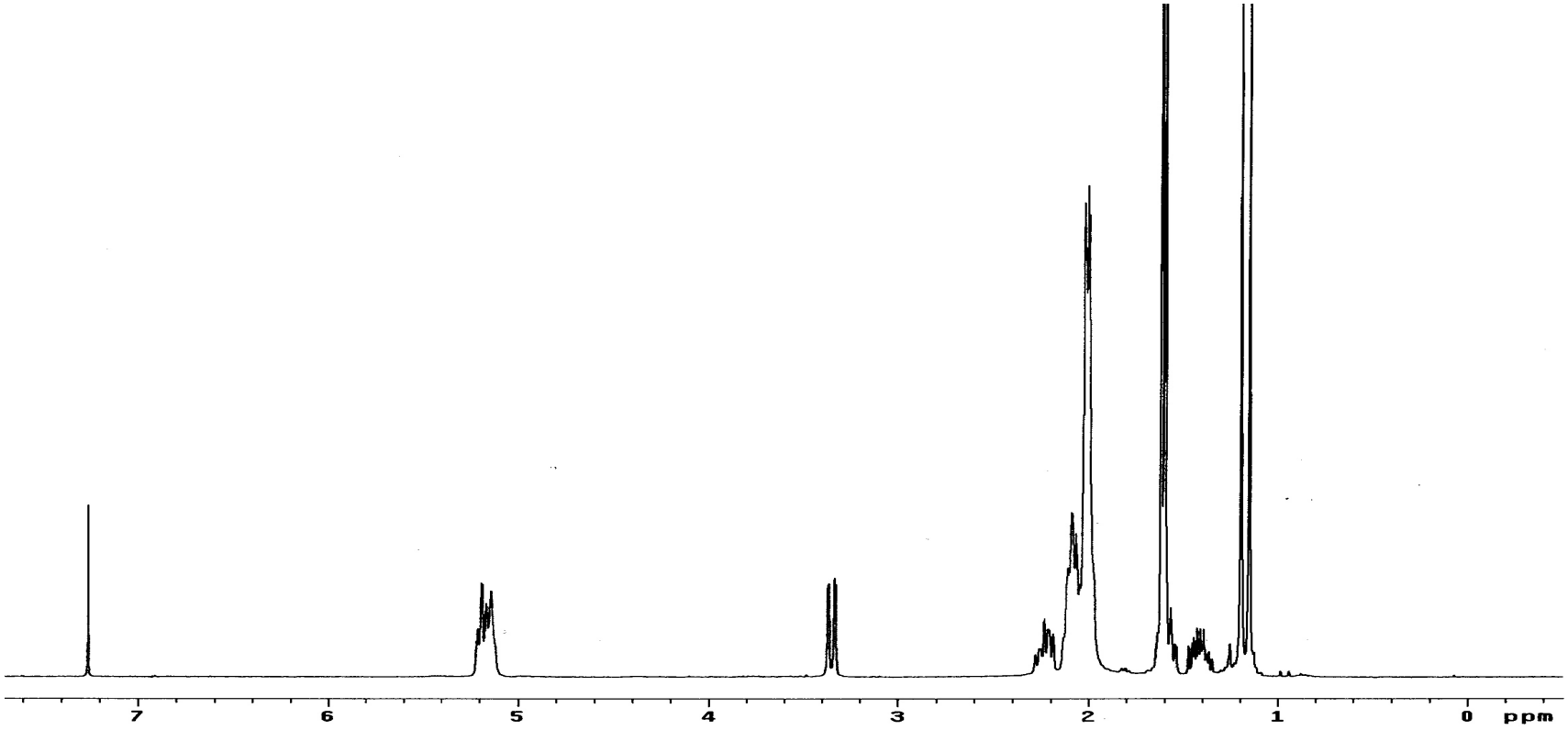

Figure S1. ^{1}H NMR spectrum of 2,3,22,23-tertrahydroxy-2,6,10,15,19,23-hexamethyl-tetracosa-6,10,14,18-tetraene (**1**) (300 MHz in $CDCl_3$).

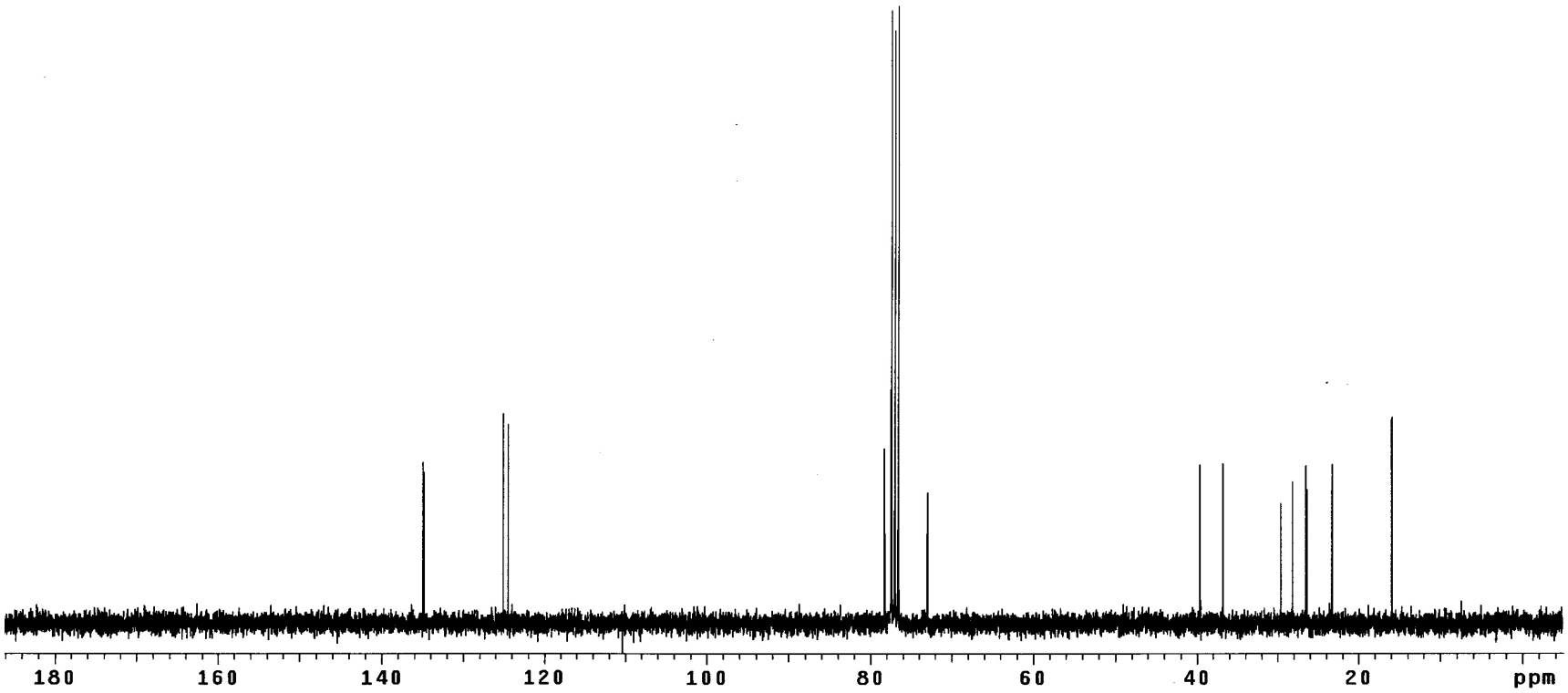

Figure S2. ^{13}C NMR spectrum of 2,3,22,23-tertrahydroxy-2,6,10,15,19,23-hexamethyl-tetracosa-6,10,14,18-tetraene (**1**) (75 MHz in $CDCl_3$).

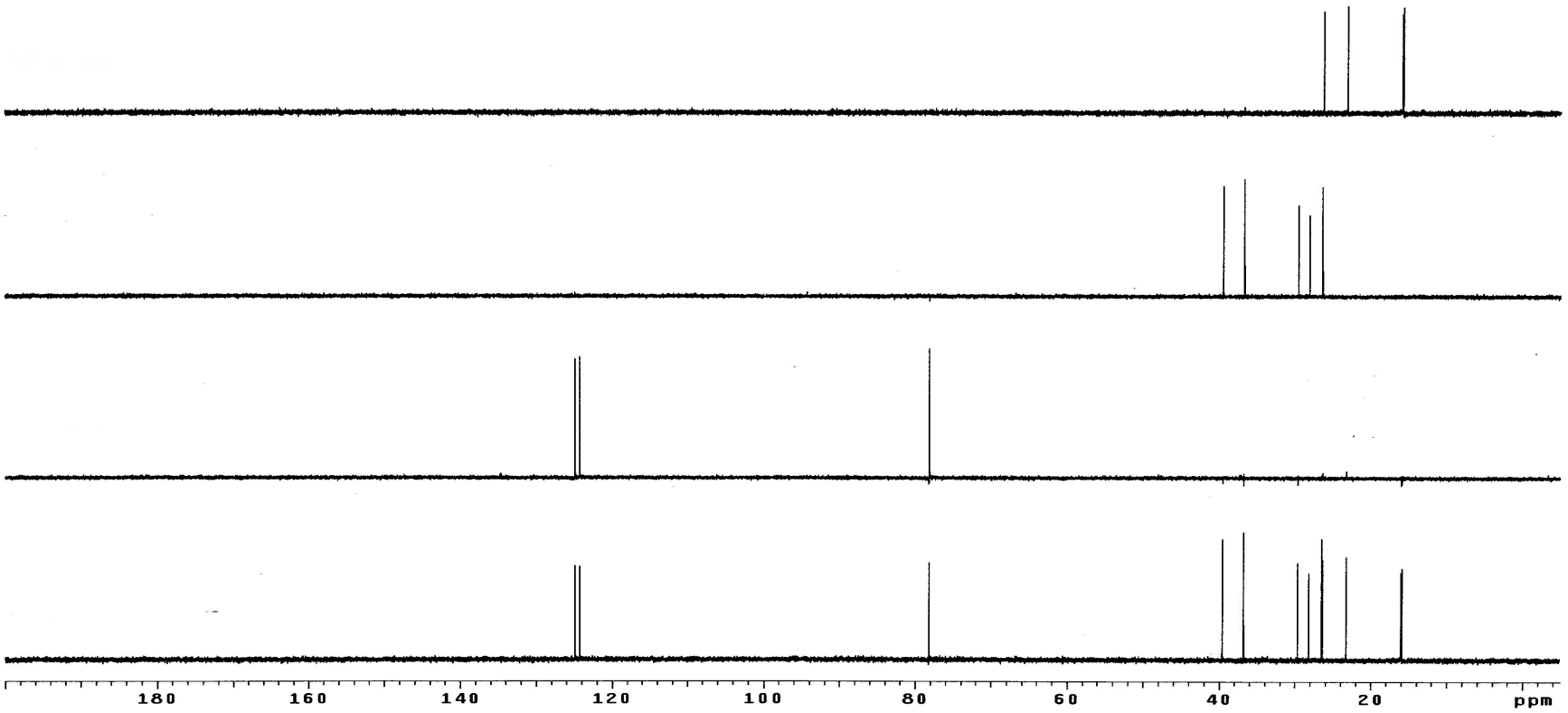

Figure S3. DEPT NMR spectrum of 2,3,22,23-tertrahydroxy-2,6,10,15,19,23-hexamethyl-tetracosa-6,10,14,18-tetraene (**1**) (75 MHz in $CDCl_3$).

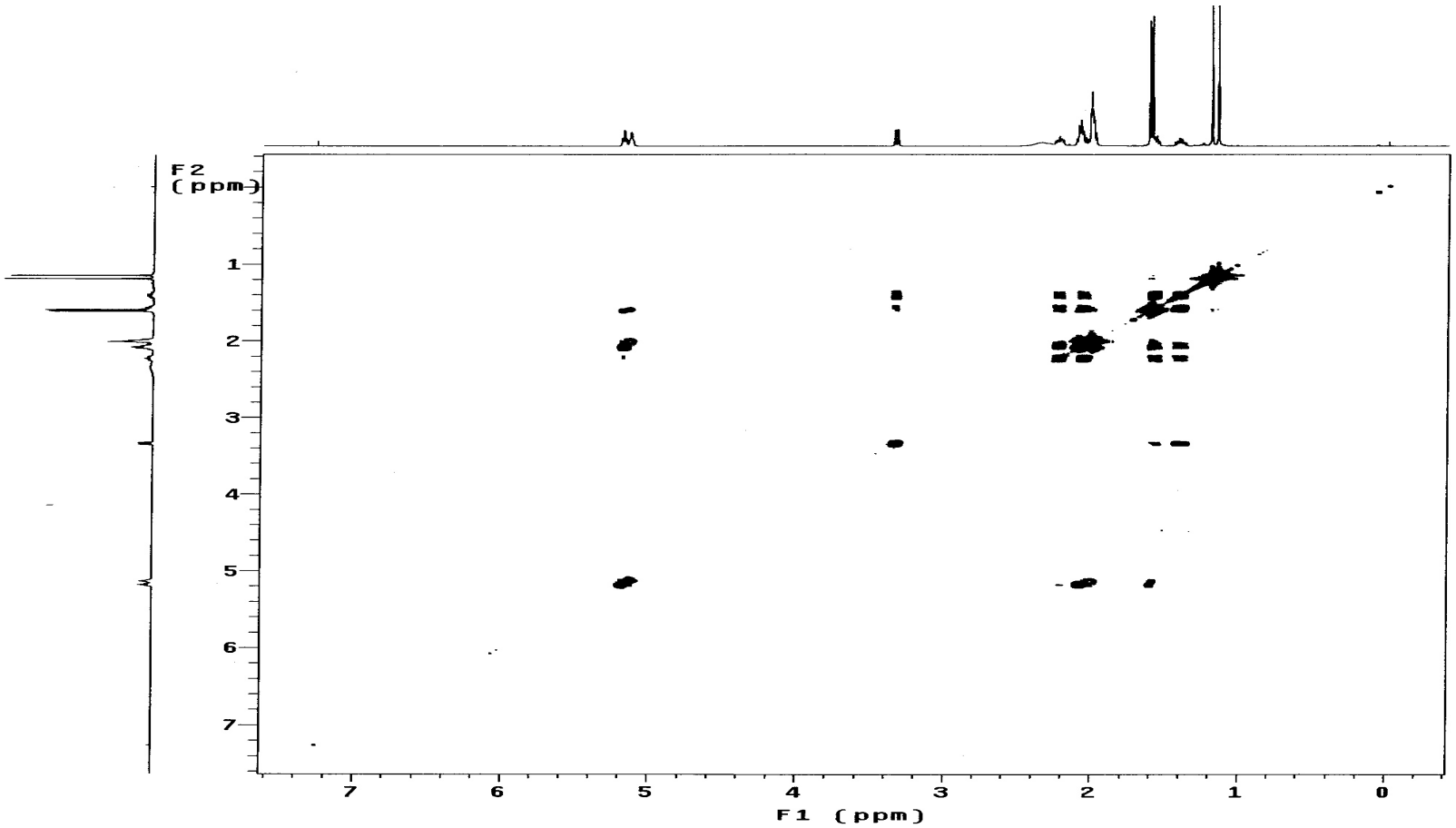

Figure S4. ^{1}H-^{1}H COSY NMR spectrum of 2,3,22,23-tertrahydroxy-2,6,10,15,19,23-hexamethyl-tetracosa-6,10,14,18-tetraene (**1**).

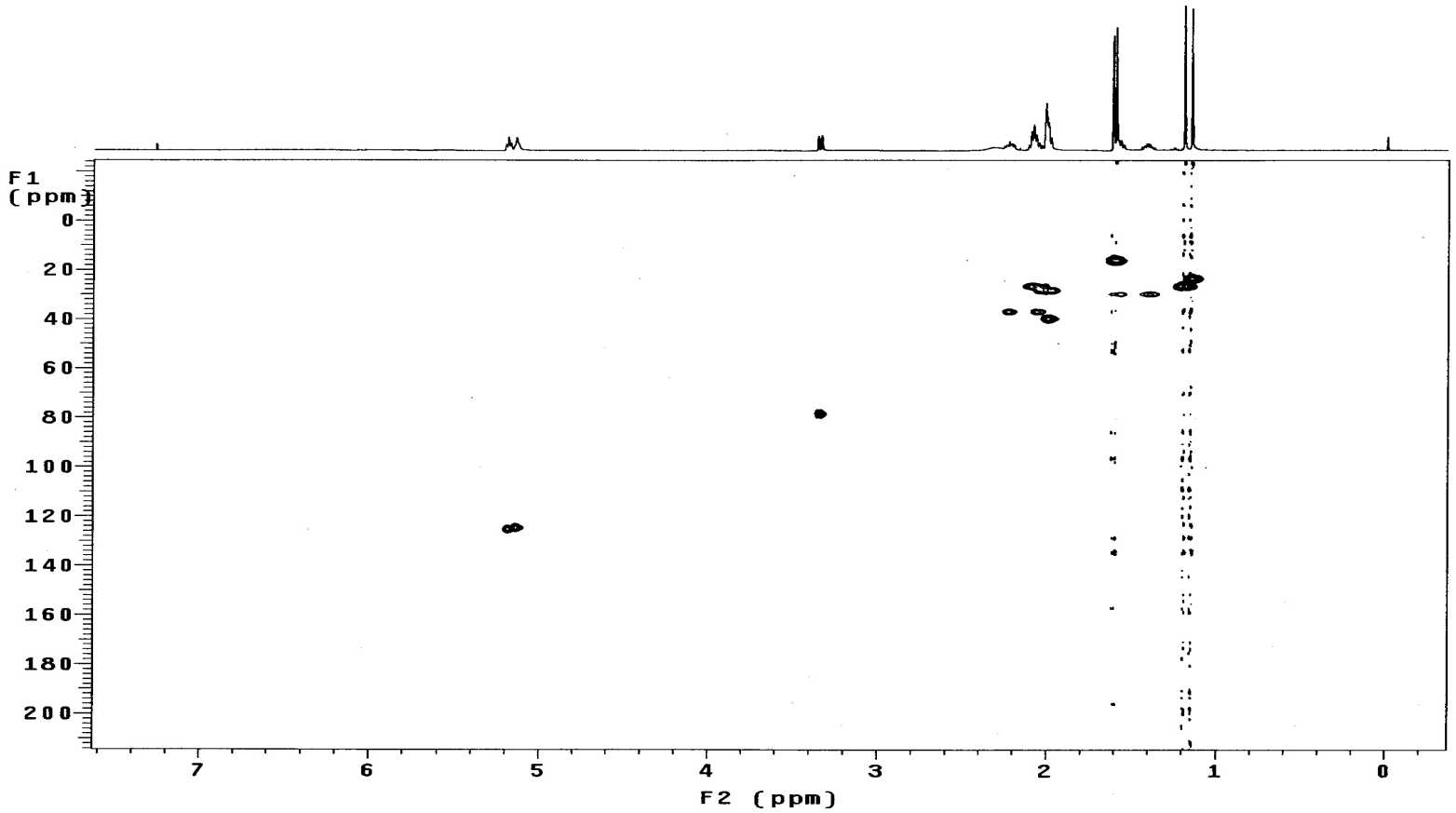

Figure S5. HMQC NMR spectrum of 2,3,22,23-tertrahydroxy-2,6,10,15,19,23-hexamethyl-tetracosa-6,10,14,18-tetraene (**1**).

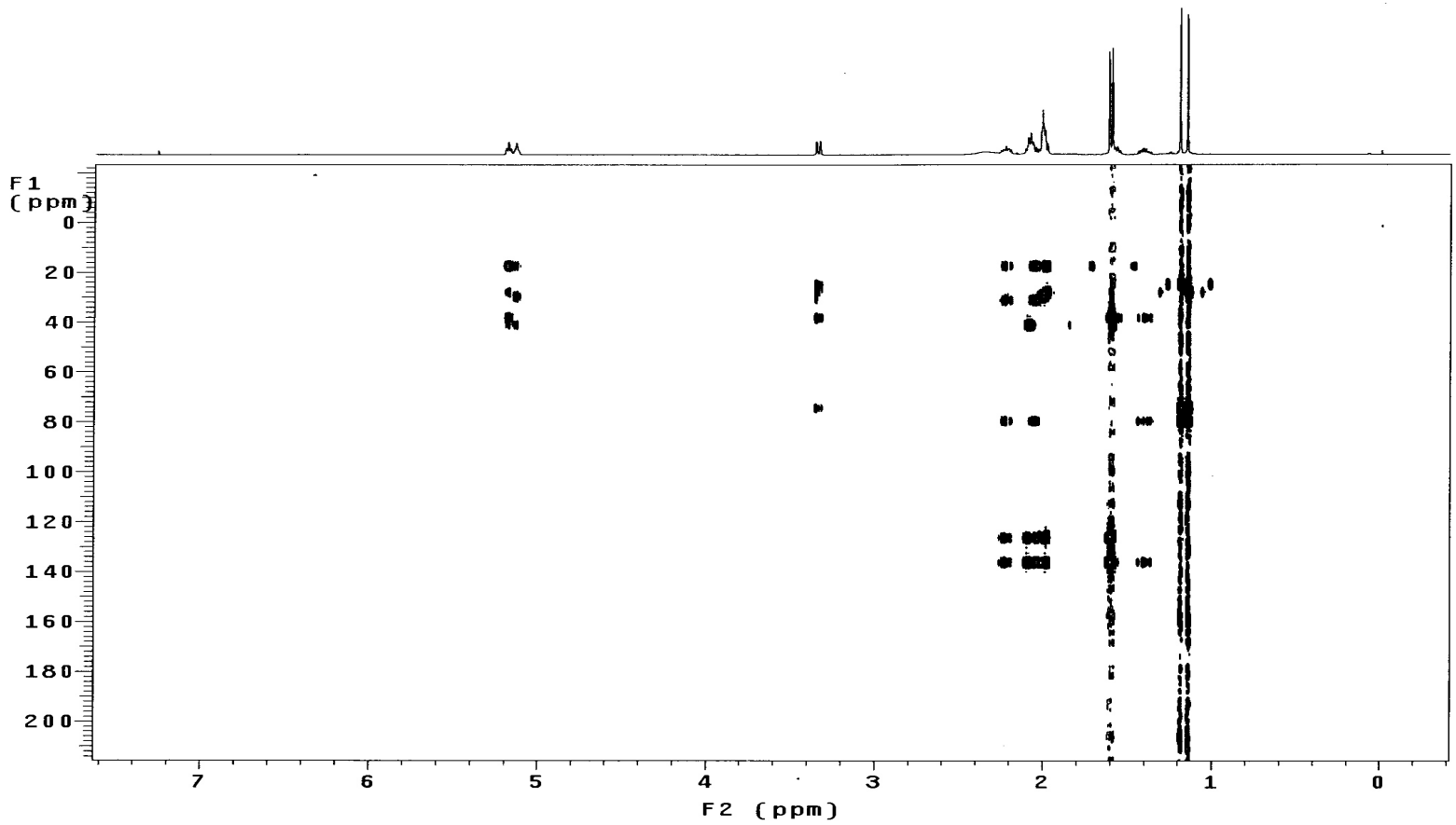

Figure S6. HMBC NMR spectrum of 2,3,22,23-tertrahydroxy-2,6,10,15,19,23-hexamethyl-tetracosa-6,10,14,18-tetraene (**1**).

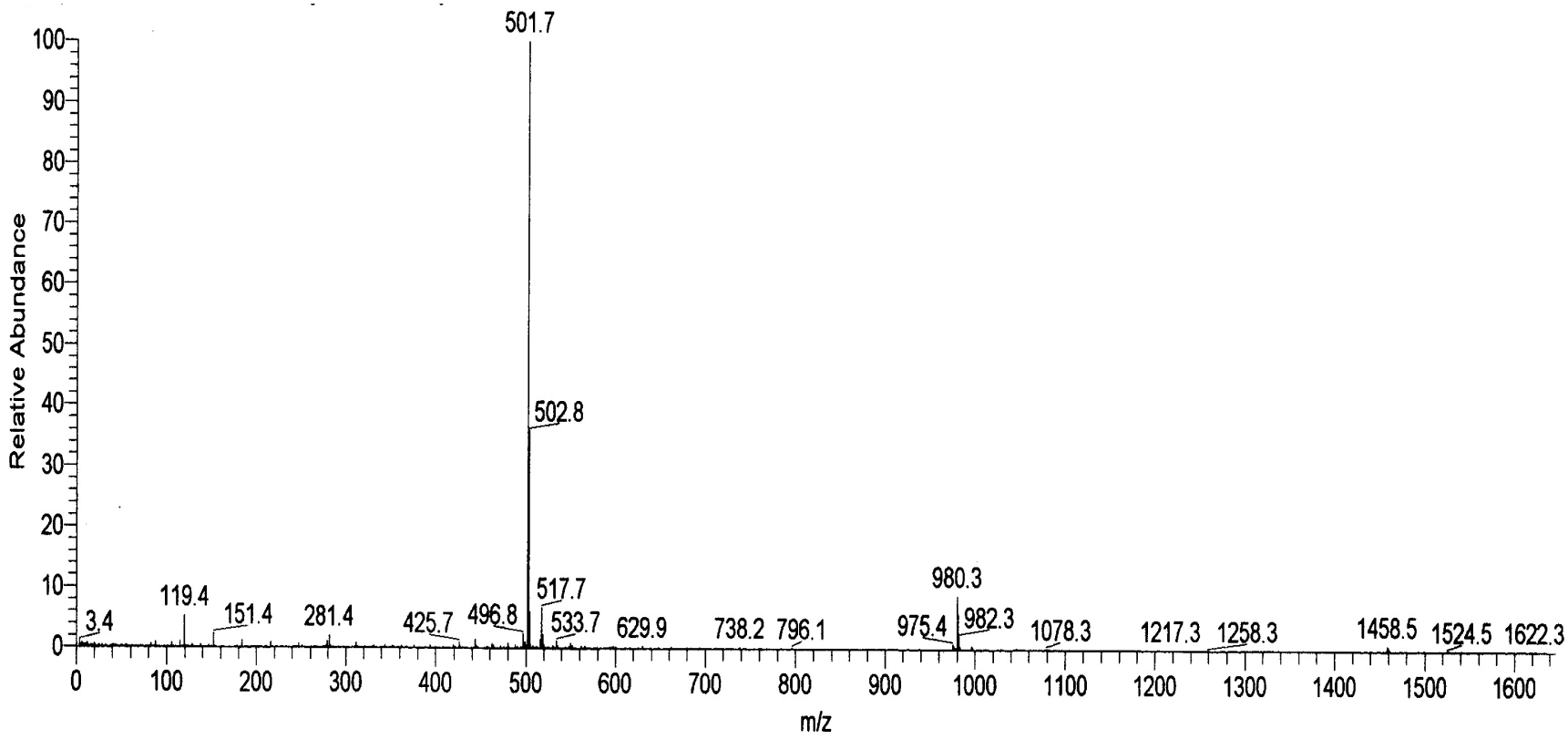

Figure S7. LRESIMS spectrum of 2,3,22,23-tertrahydroxy-2,6,10,15,19,23-hexamethyl-tetracosa-6,10,14,18-tetraene (**1**).

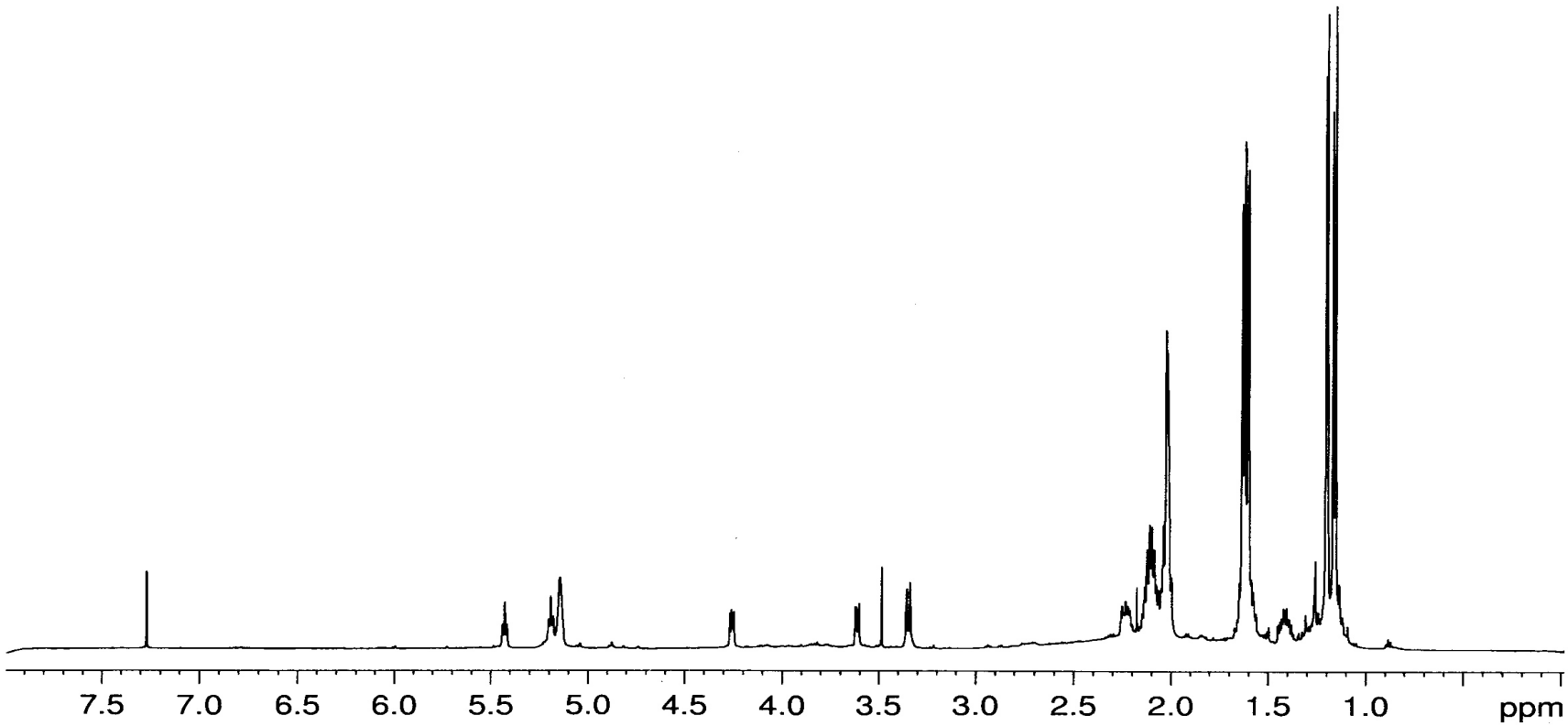

Figure S8. ^{1}H NMR spectrum of 2,3,5,22,23-pentahydroxy-2,6,10,15,19,23-hexamethyl-tetracosa-6,10,14,18-tetraene (**2**) (500 MHz in $CDCl_3$).

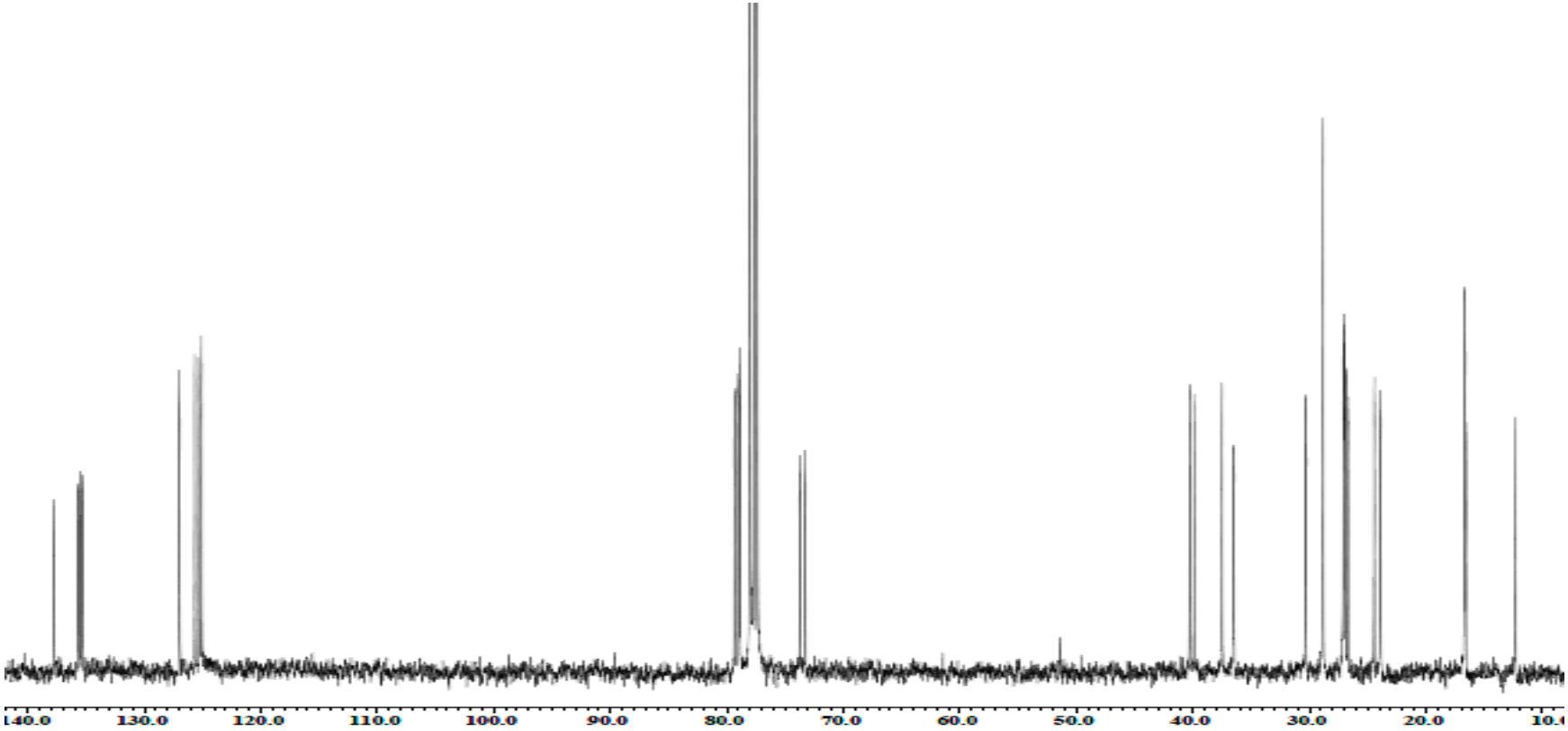

Figure S9. ^{13}C NMR spectrum of 2,3,5,22,23-pentahydroxy-2,6,10,15,19,23-hexamethyl-tetracosa-6,10,14,18-tetraene (**2**) (125 MHz in $CDCl_3$).

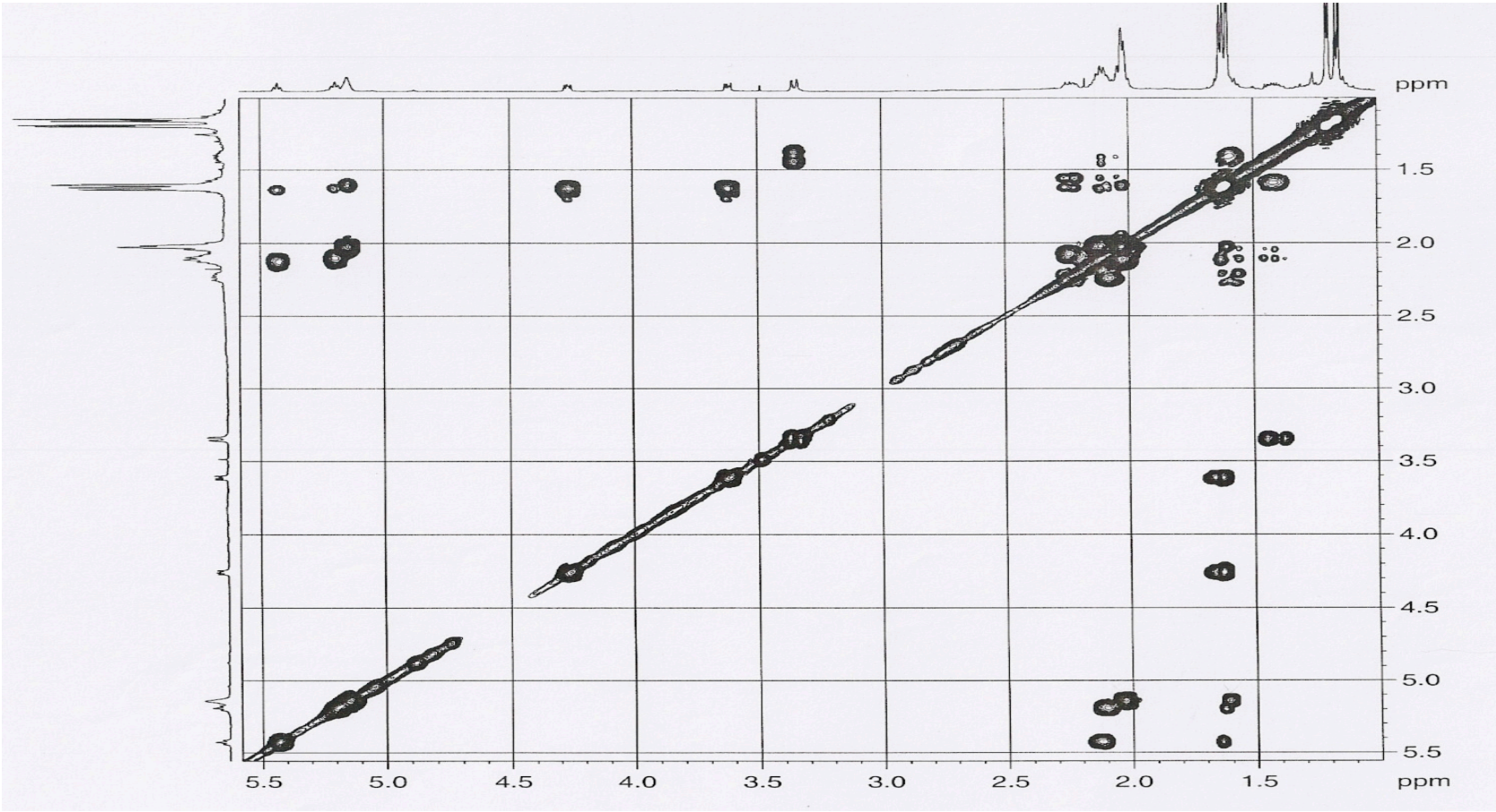

Figure S10. ^{1}H-^{1}H COSY NMR spectrum of 2,3,5,22,23-pentahydroxy-2,6,10,15,19,23-hexamethyl-tetracosa-6,10,14,18-tetraene (**2**).

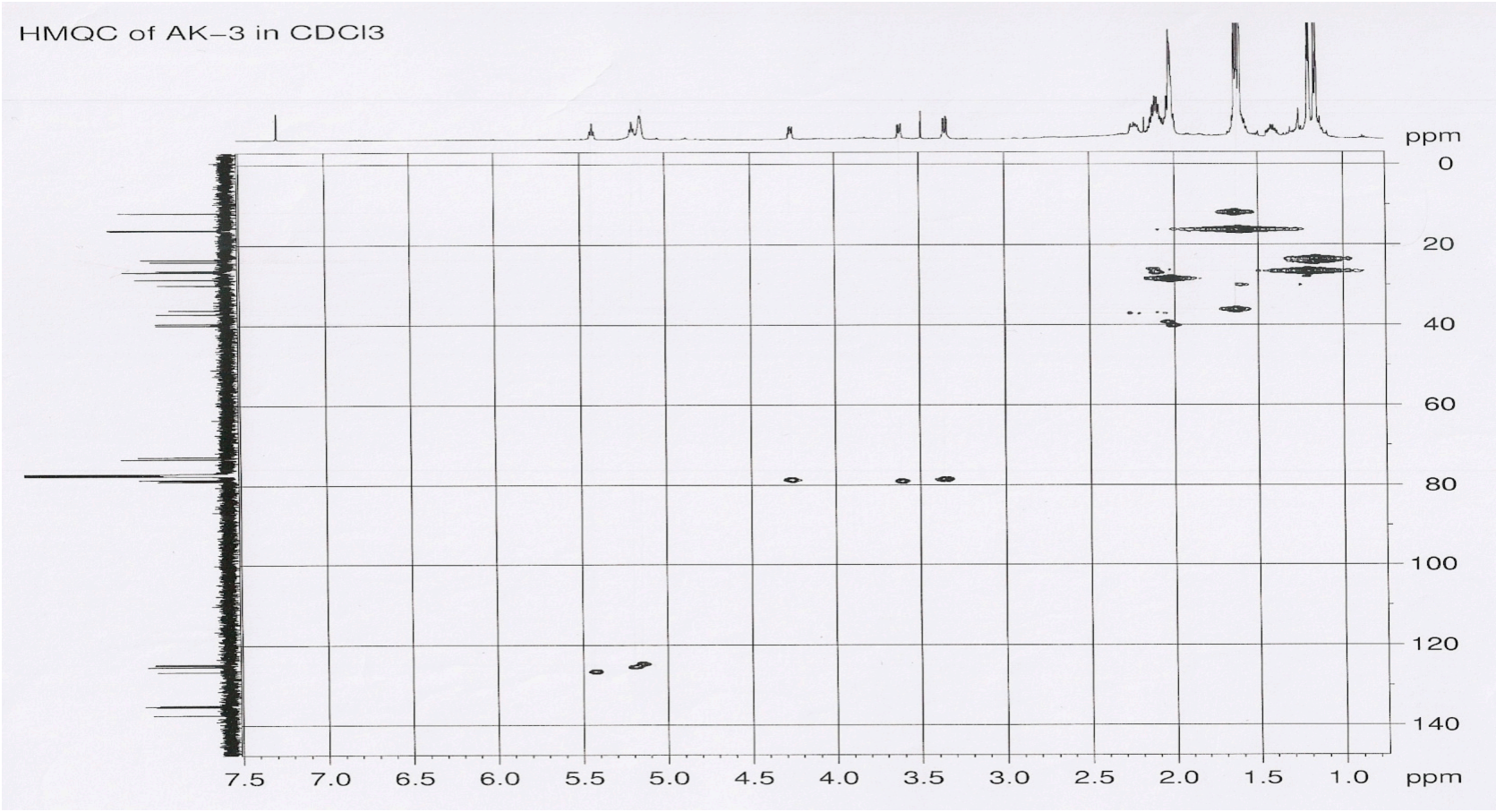

Figure S11. HMQC NMR spectrum of 2,3,5,22,23-pentahydroxy-2,6,10,15,19,23-hexamethyl-tetracosa-6,10,14,18-tetraene (**2**).

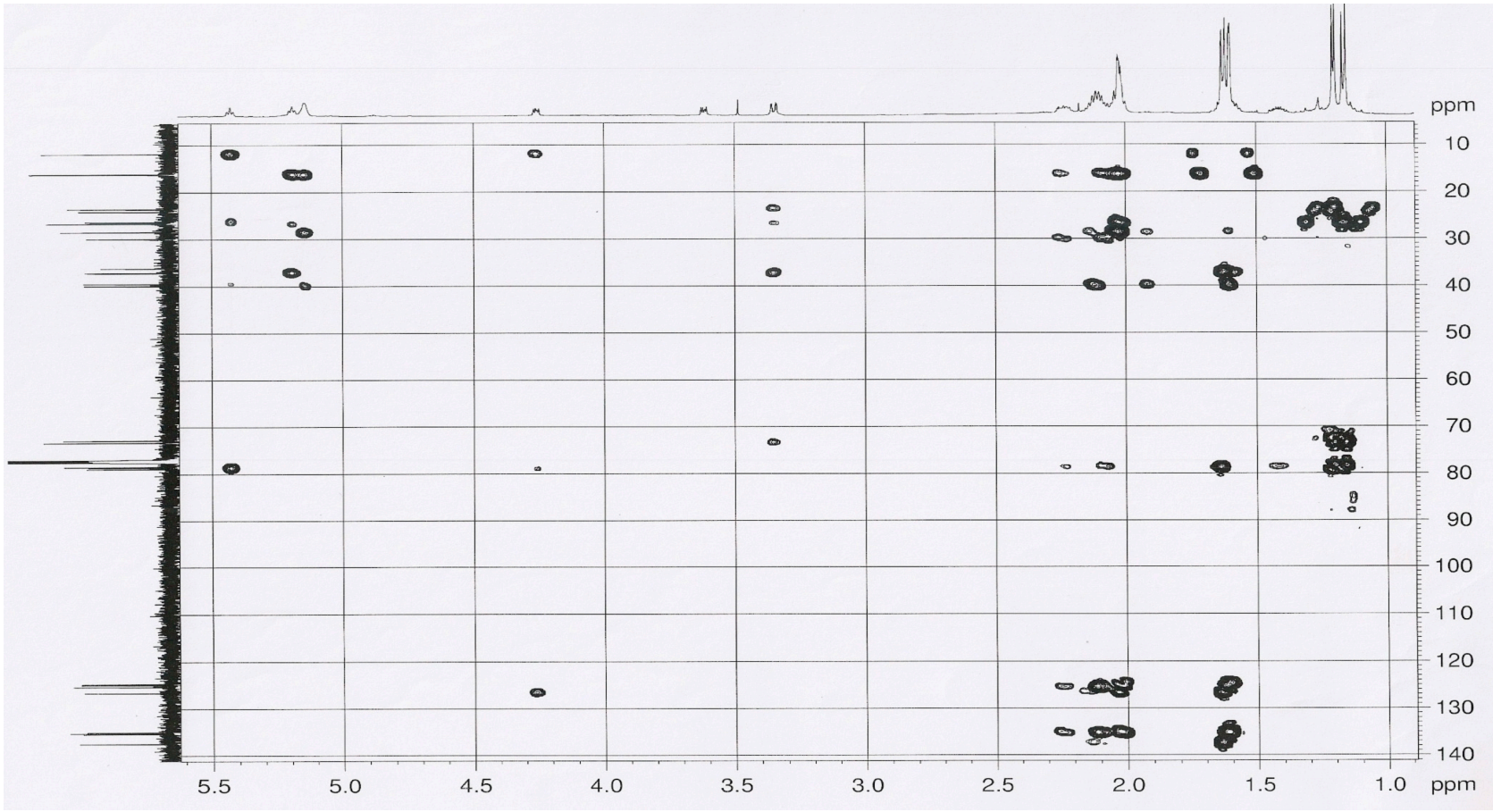

Figure S12. HMBC NMR spectrum of 2,3,5,22,23-pentahydroxy-2,6,10,15,19,23-hexamethyl-tetracosa-6,10,14,18-tetraene (**2**).

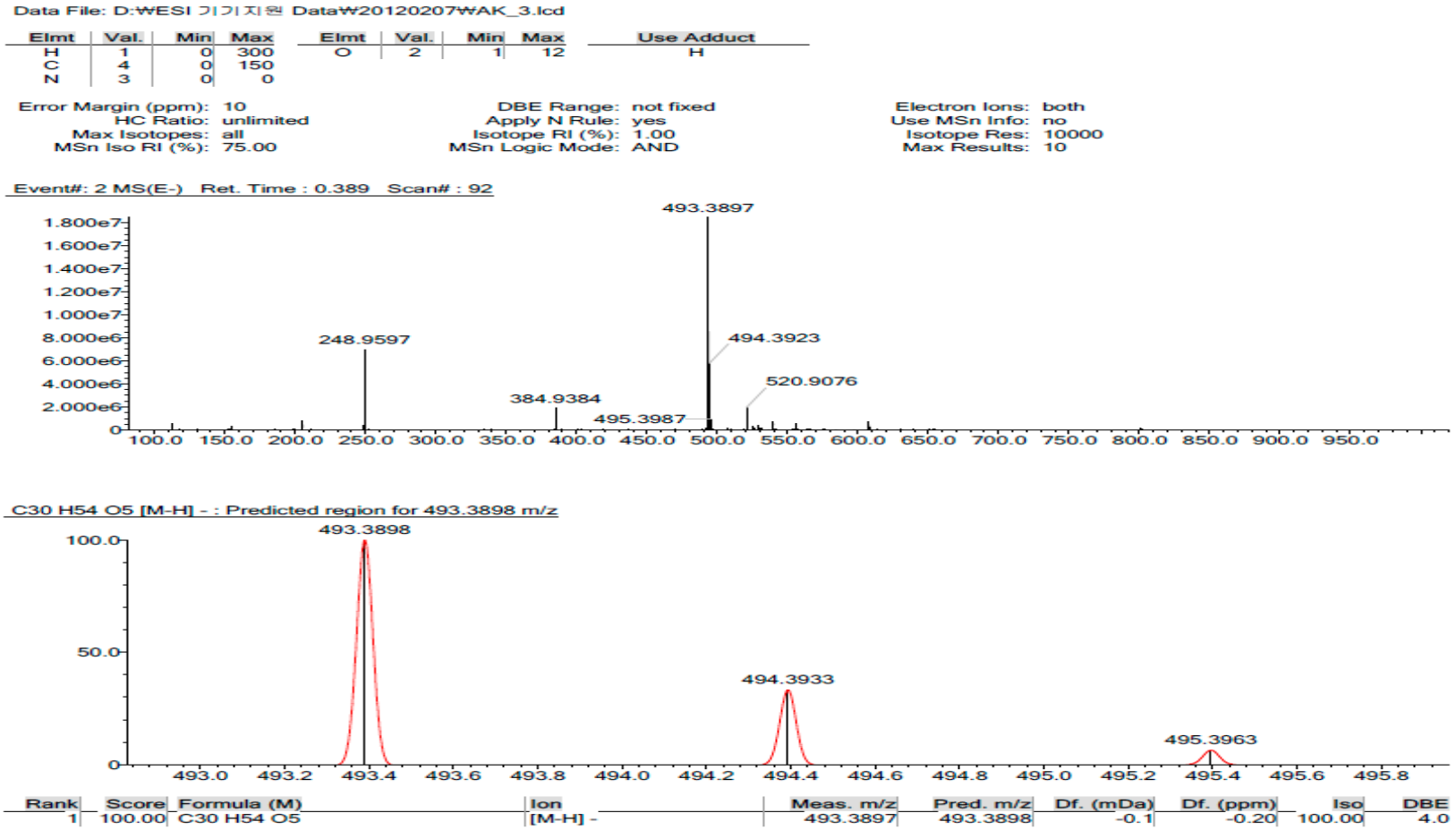

Figure S13. HRESIMS spectrum of 2,3,5,22,23-pentahydroxy-2,6,10,15,19,23-hexamethyl-tetracosa-6,10,14,18-tetraene (**2**).

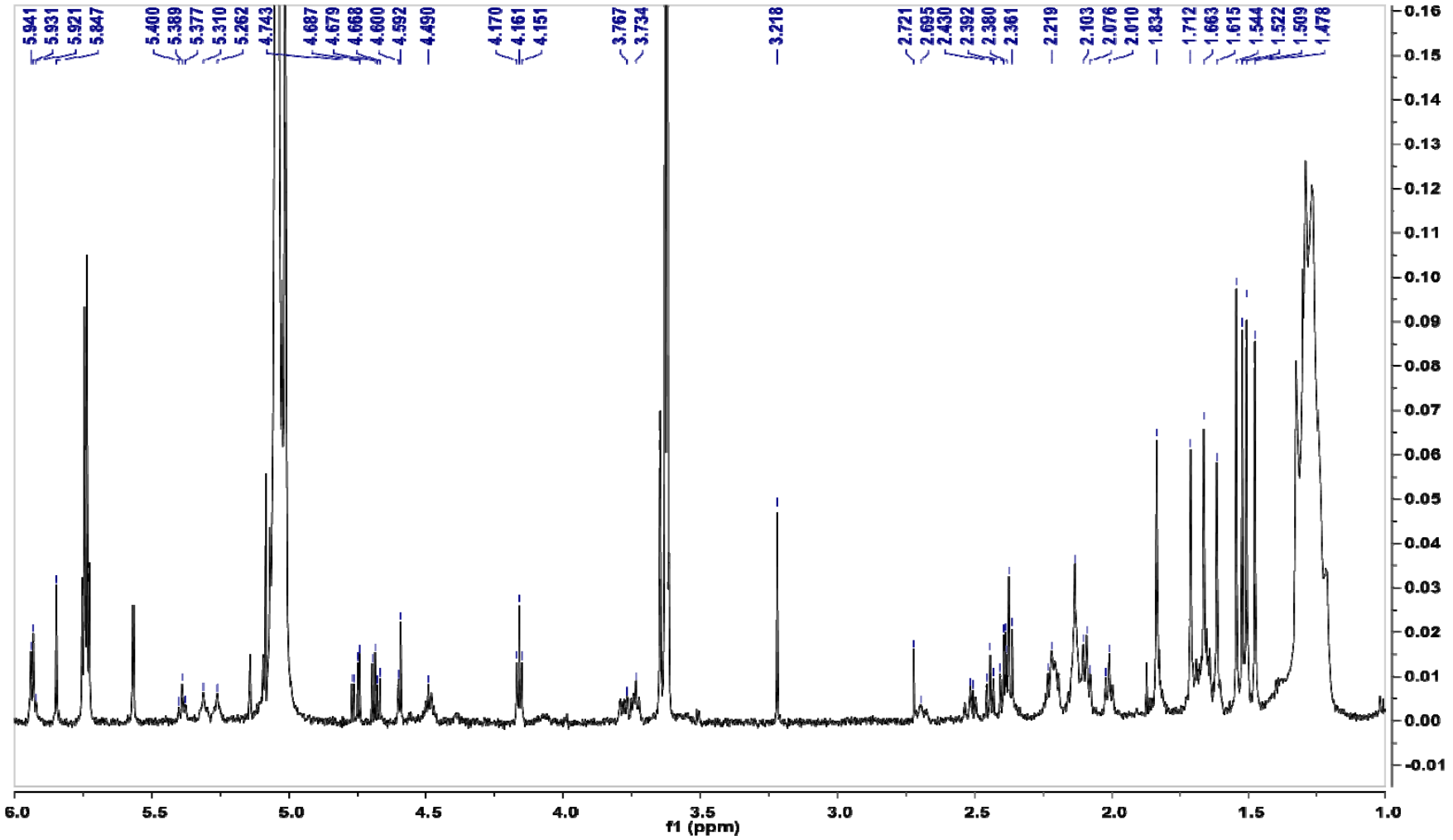

Figure S14. ^{1}H NMR spectrum of 5-mono-(*S*)-MTPA ester of **2** (**2a**) (600 MHz in pyridine-d_5).

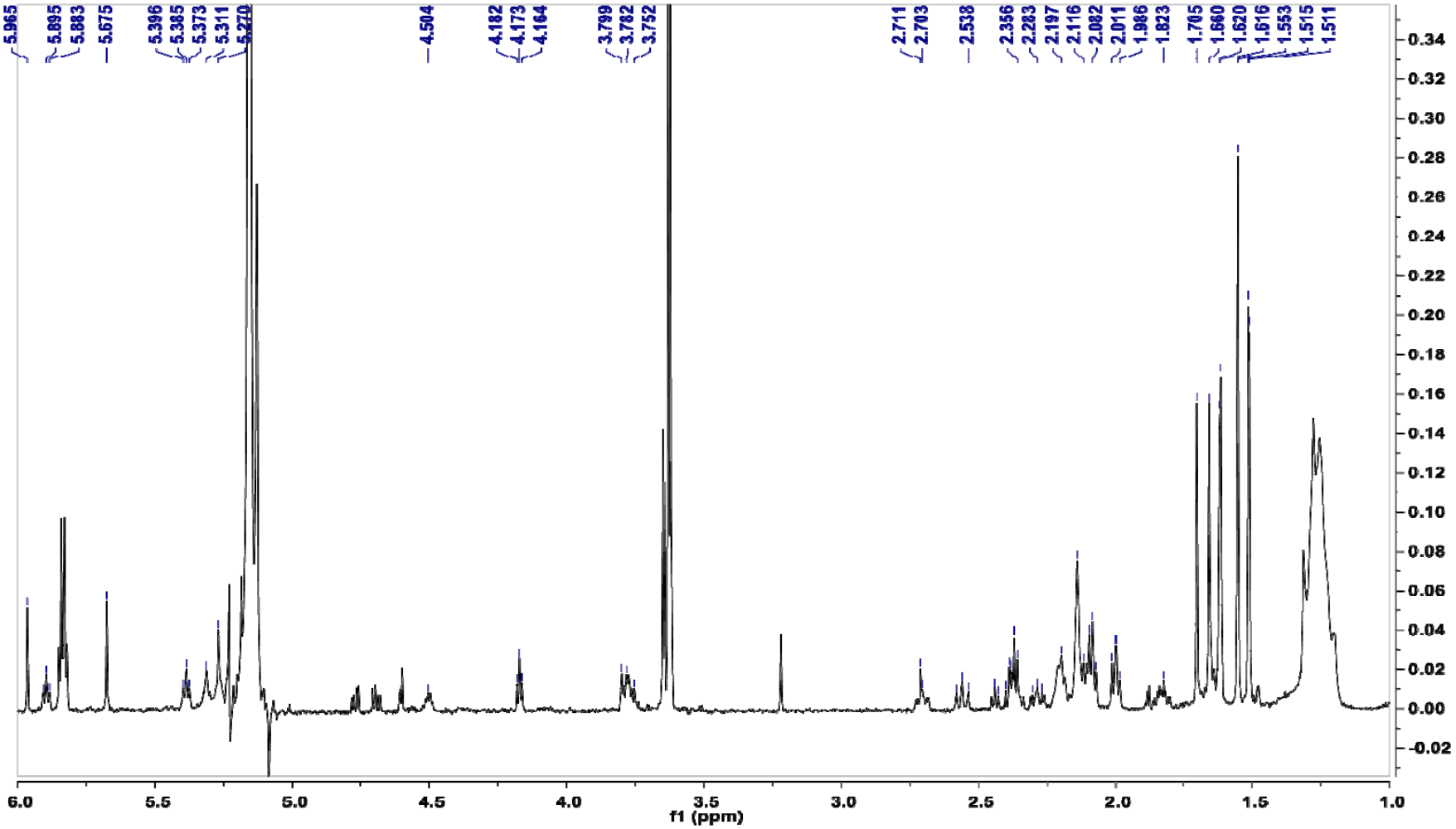

Figure S15. ^{1}H NMR spectrum of 5-mono-(*R*)-MTPA ester of **2** (**2c**) (600 MHz in pyridine-d_5).

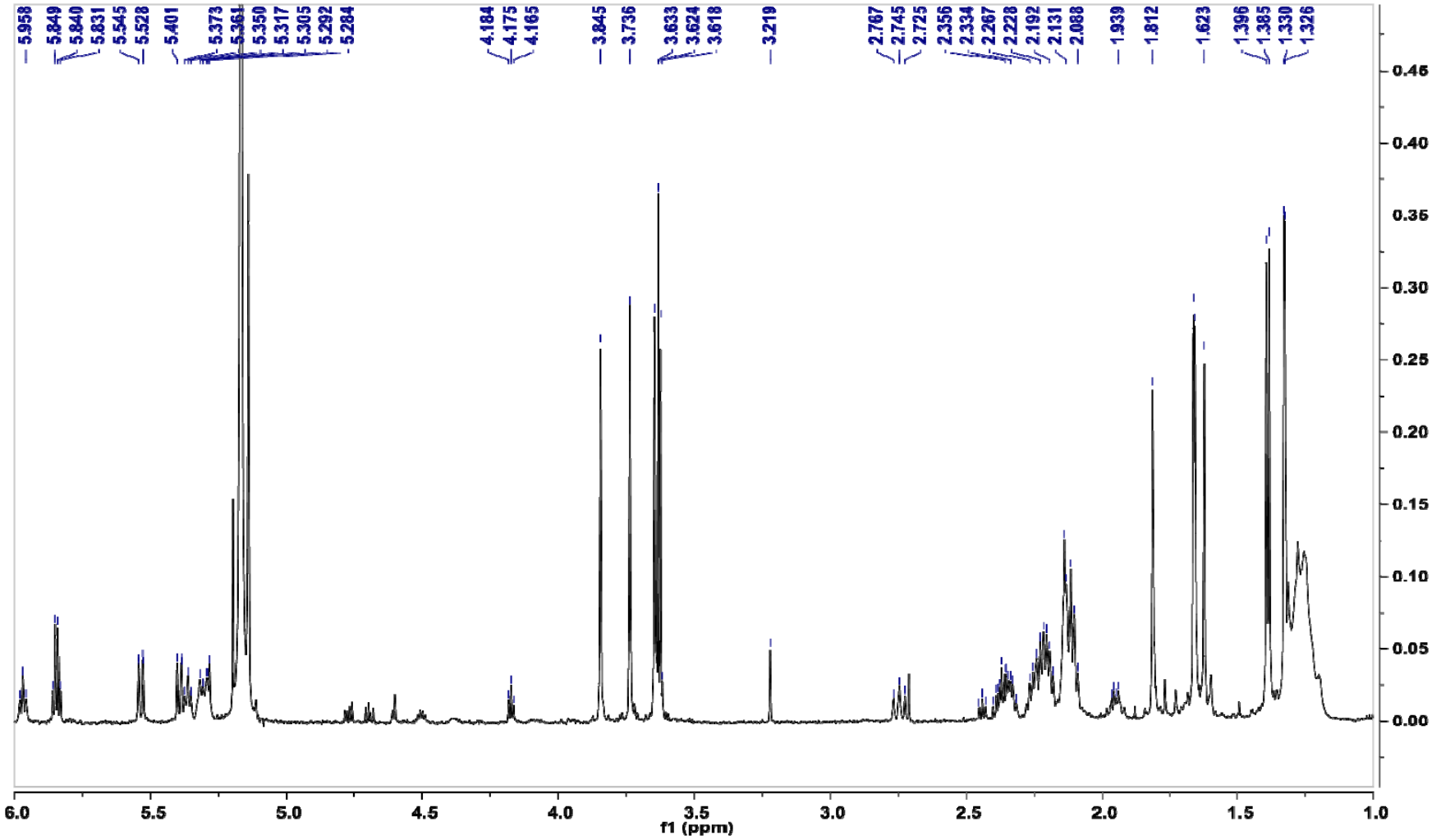

Figure S16. ^{1}H NMR spectrum of 3,5,22-tris-(*S*)-MTPA ester of **2** (**2b**) (600 MHz in pyridine-d_5).

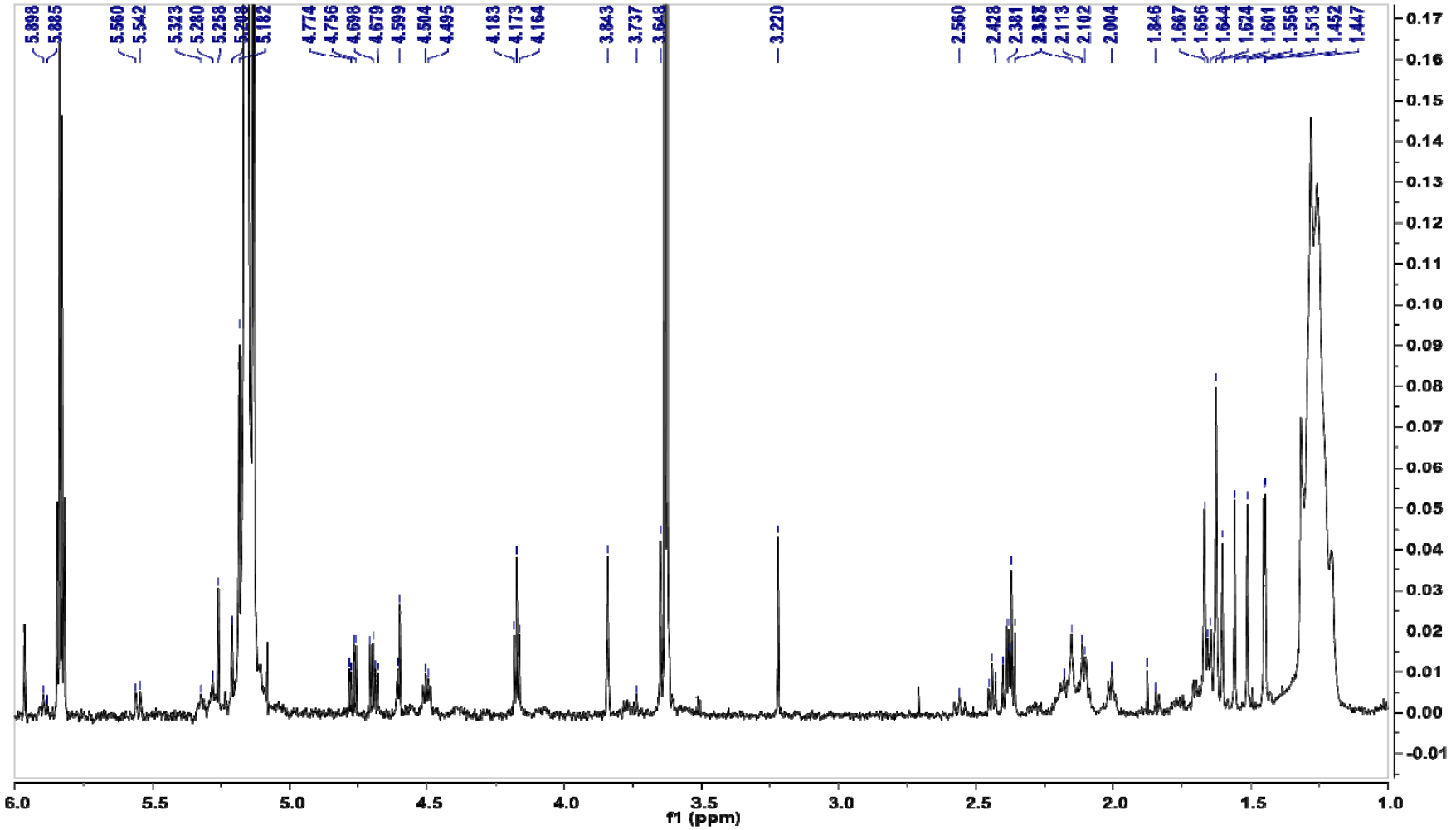

Figure S17. ^{1}H NMR spectrum of 3,5,22-tris-(*R*)-MTPA ester of **2** (**2d**) (600 MHz in pyridine-d_5).

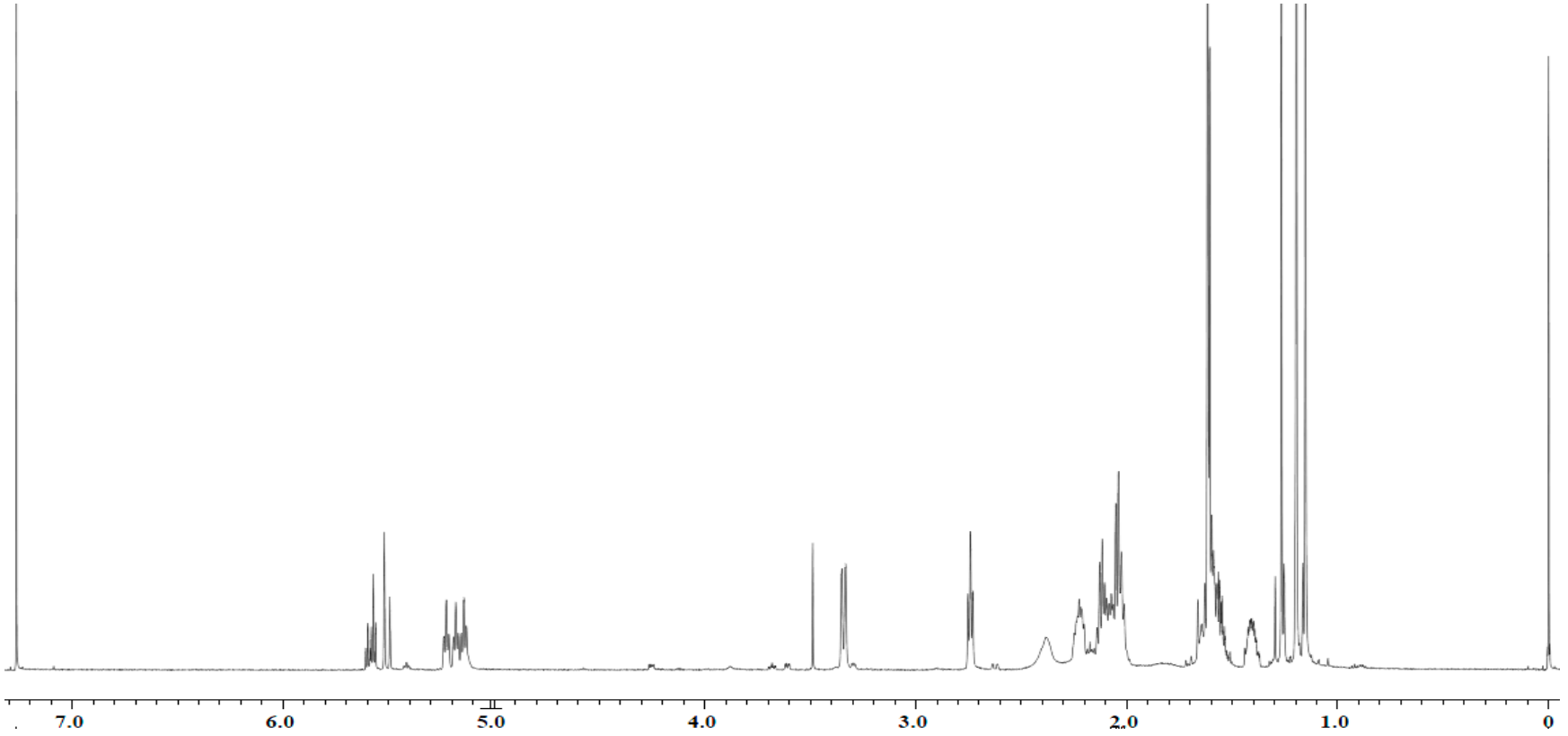

Figure S18. ^{1}H NMR spectrum of 2,3,6,22,23-Pentahydroxy-2,6,11,15,19,23-hexamethyl-tetracosa-7,10,14,18-tetraene (**3**) (600 MHz in $CDCl_3$).

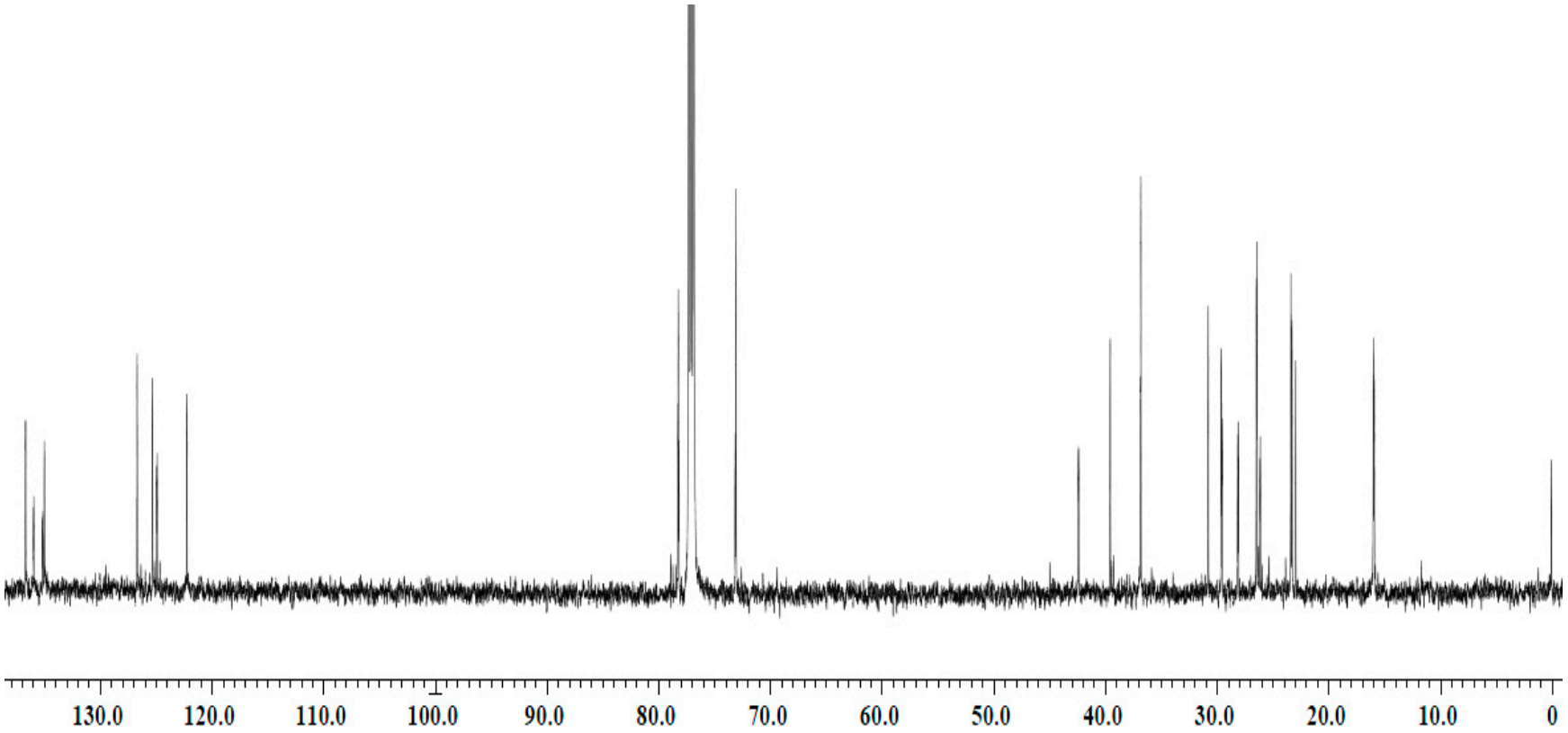

Figure S19. ^{13}C NMR spectrum of 2,3,6,22,23-Pentahydroxy-2,6,11,15,19,23-hexamethyl-tetracosa-7,10,14,18-tetraene (**3**) (150 MHz in $CDCl_3$).

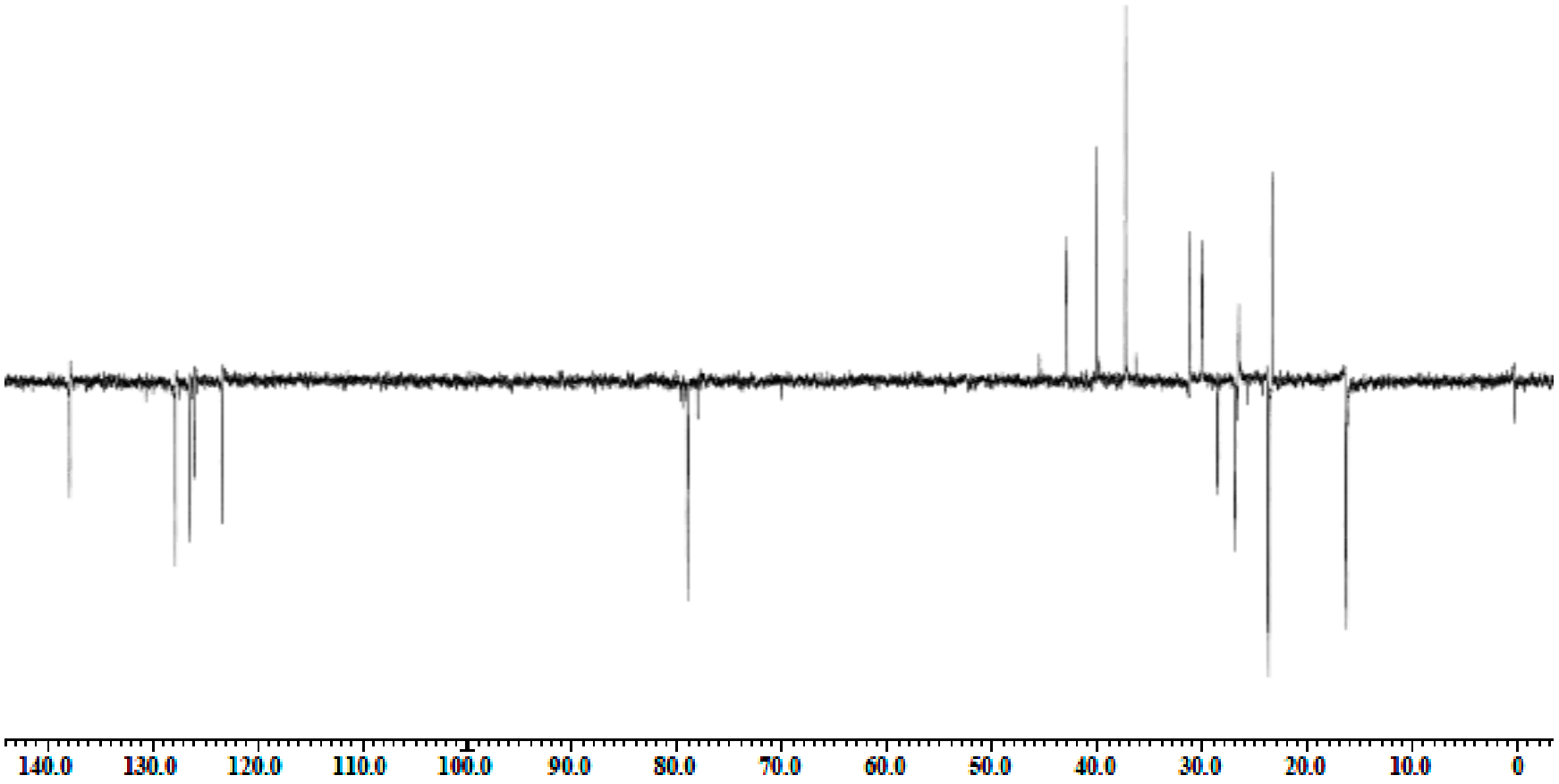

Figure S20. DEPT-135 NMR spectrum of 2,3,6,22,23-Pentahydroxy-2,6,11,15,19,23-hexamethyl-tetracosa-7,10,14,18-tetraene (**3**) (150 MHz in $CDCl_3$).

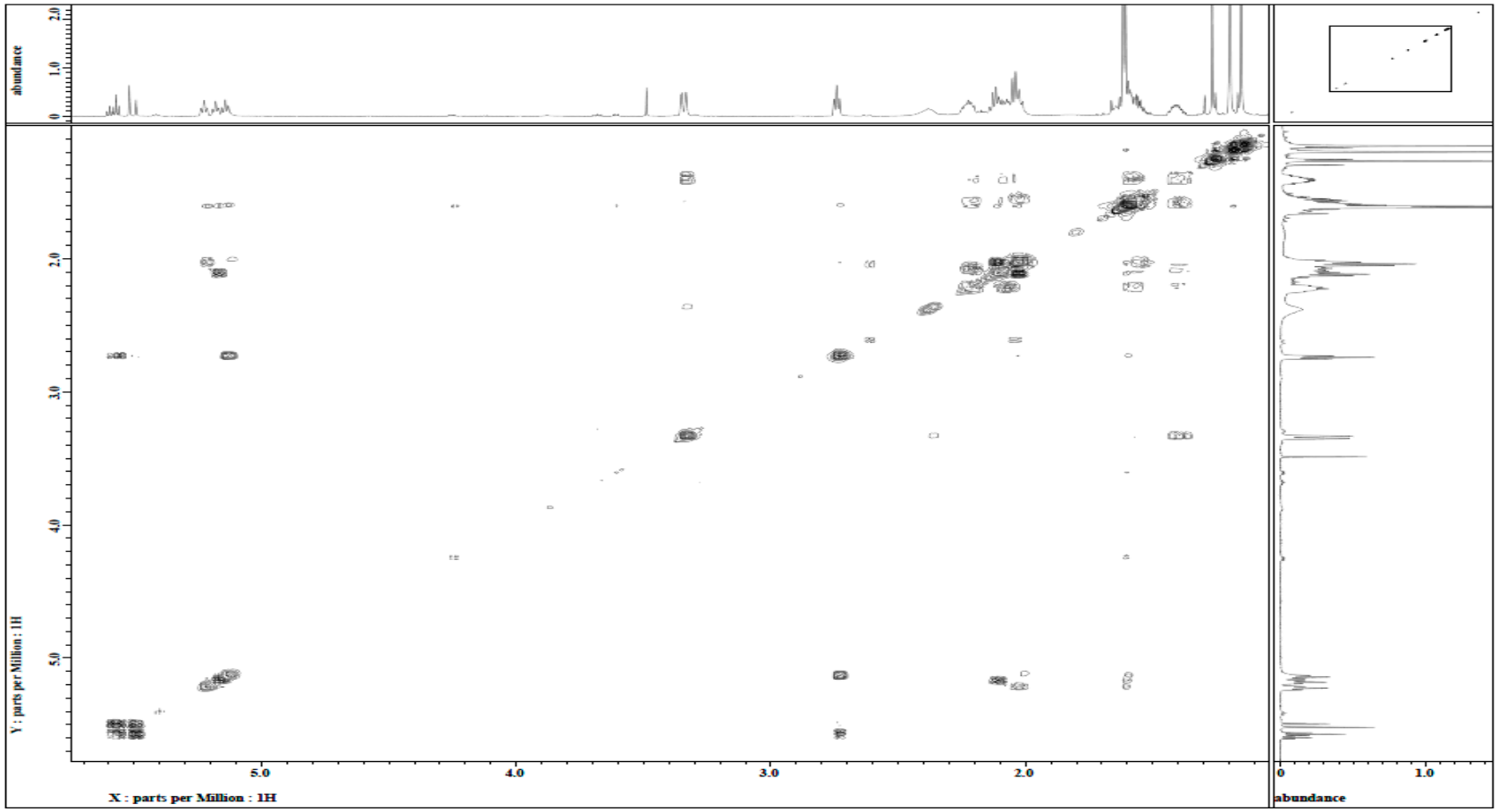

Figure S21. ^{1}H-^{1}H COSY NMR spectrum of 2,3,6,22,23-Pentahydroxy-2,6,11,15,19,23-hexamethyl-tetracosa-7,10,14,18-tetraene (**3**).

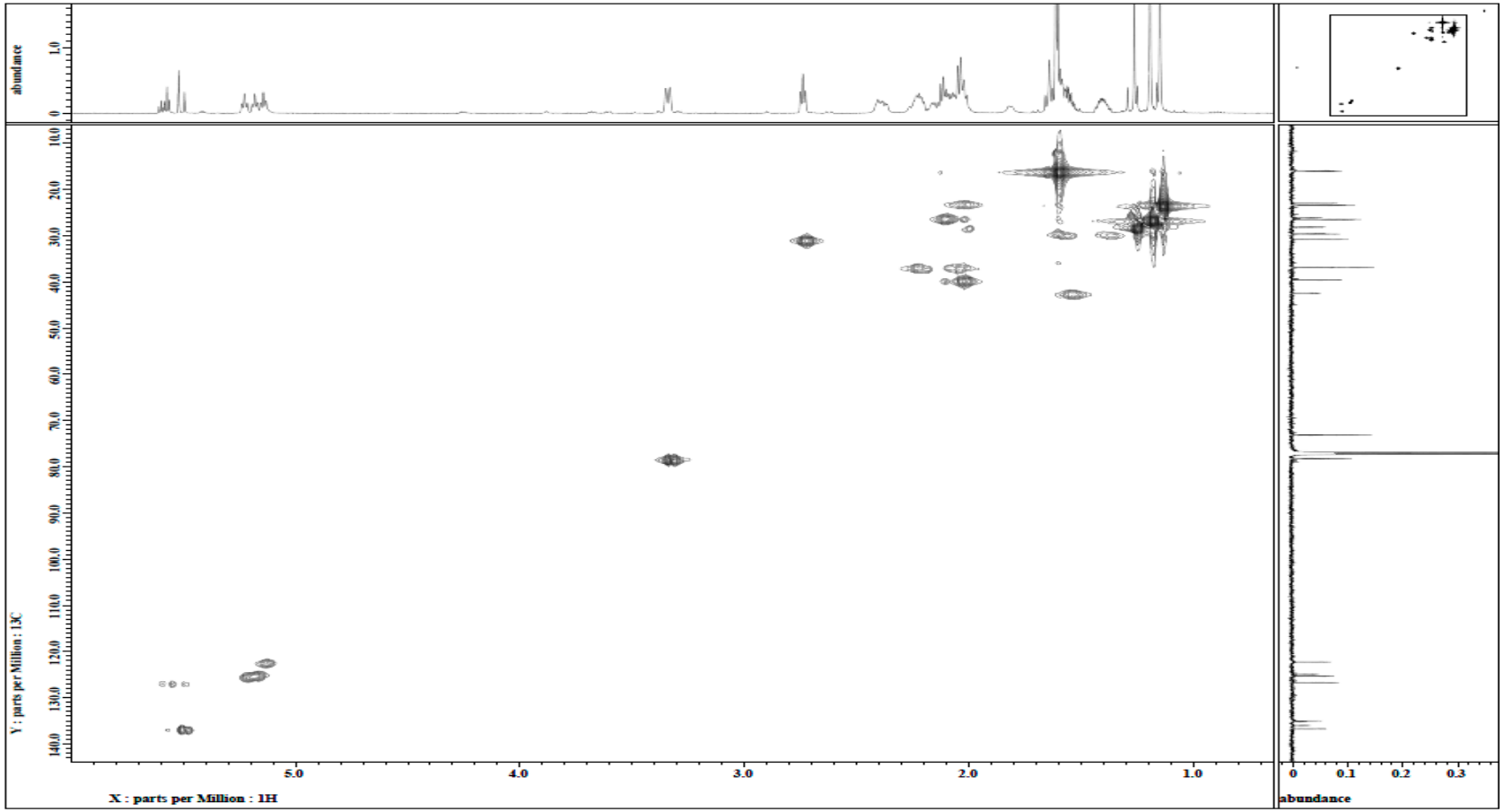

Figure S22. HSQC NMR spectrum of 2,3,6,22,23-Pentahydroxy-2,6,11,15,19,23-hexamethyl-tetracosa-7,10,14,18-tetraene (**3**).

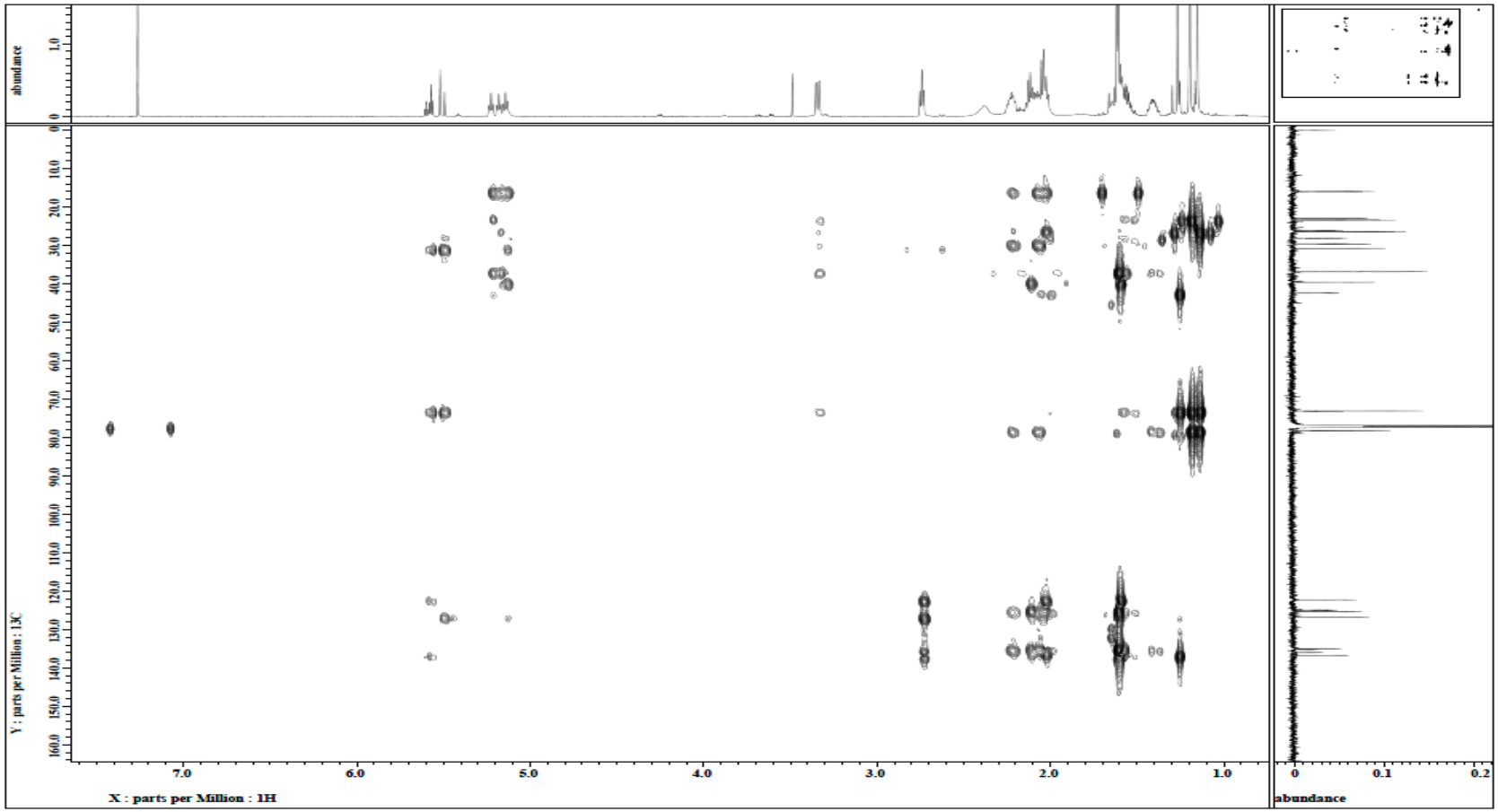

Figure S23. HMBC NMR spectrum of 2,3,6,22,23-Pentahydroxy-2,6,11,15,19,23-hexamethyl-tetracosa-7,10,14,18-tetraene (**3**).

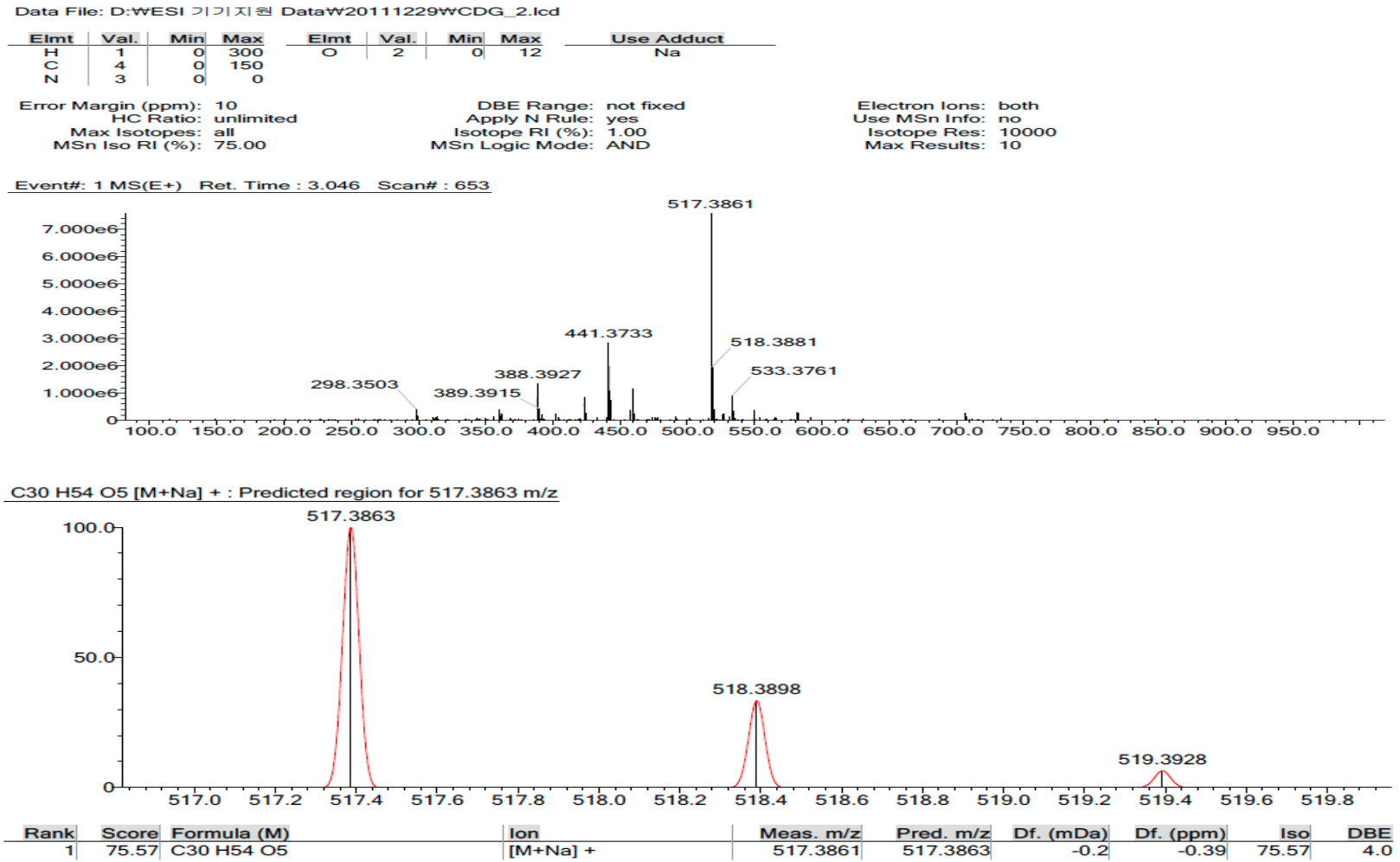

Figure S24. HRESIMS spectrum of 2,3,6,22,23-Pentahydroxy-2,6,11,15,19,23-hexamethyl-tetracosa-7,10,14,18-tetraene (**3**).

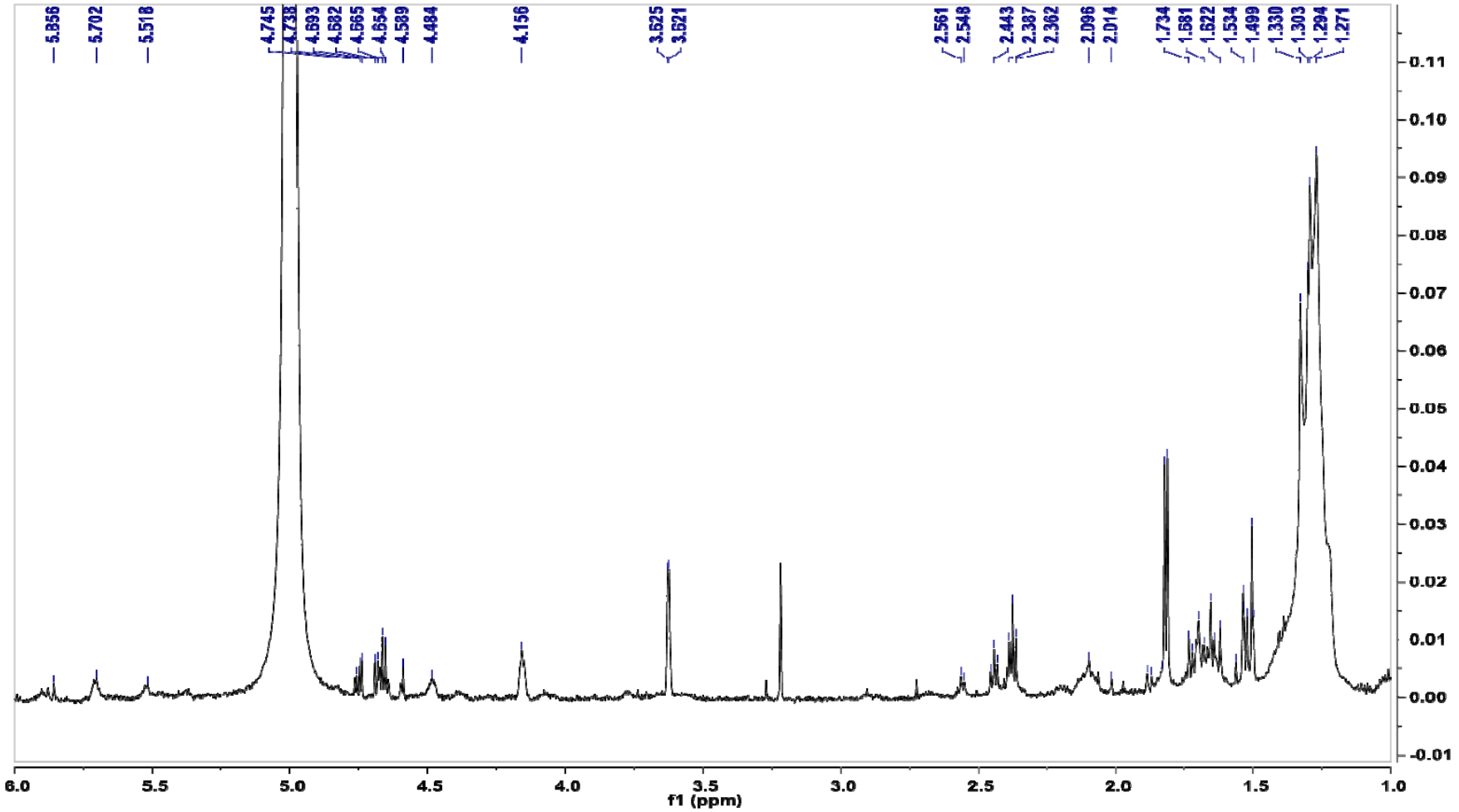

Figure S25. ^{1}H NMR spectrum of 3,22-bis-(*S*)-MTPA ester of **3** (**3a**) (600 MHz in pyridine-d_5).

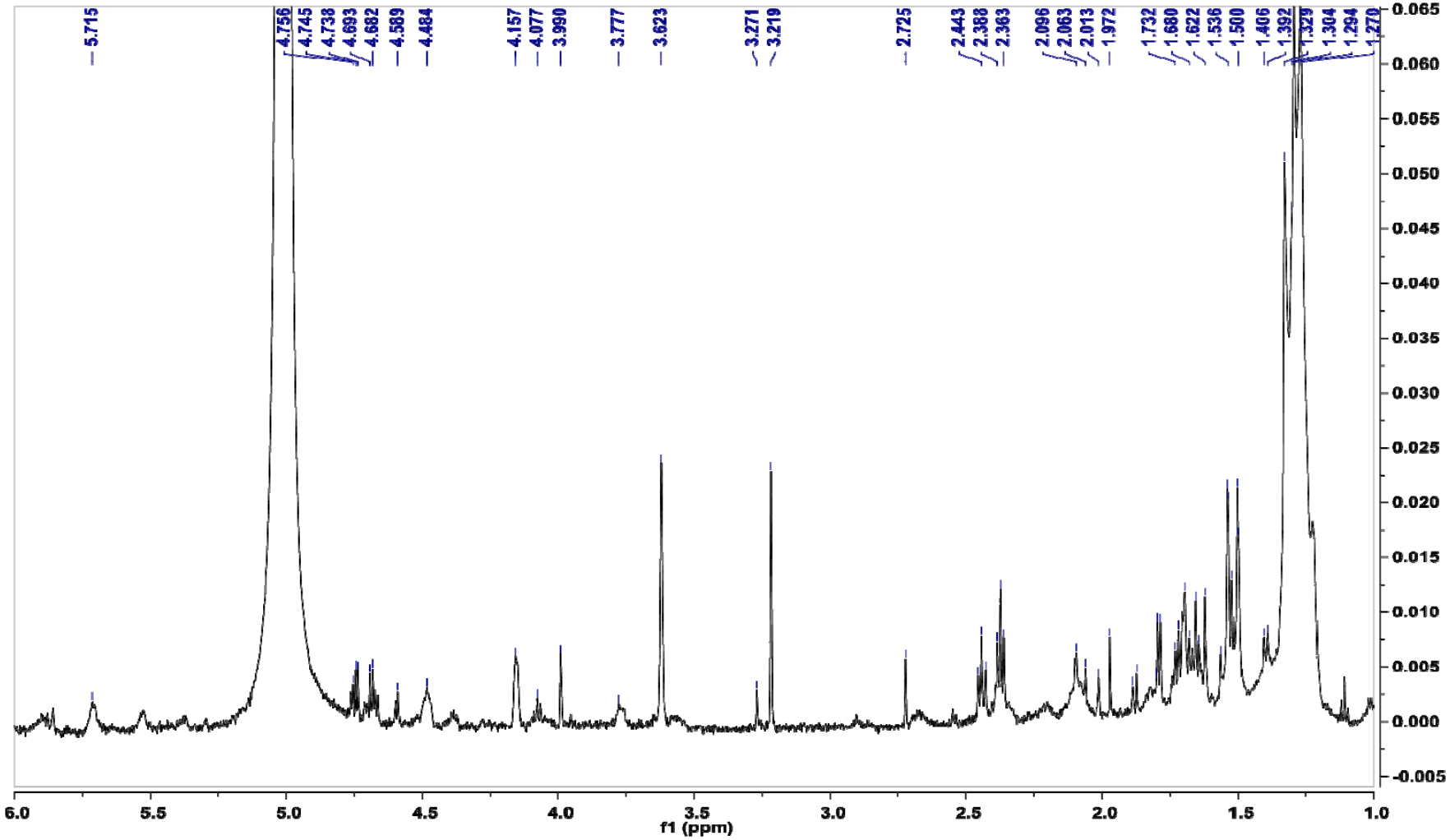

Figure S26. ^{1}H NMR spectrum of 3,22-bis-(*R*)-MTPA ester of **3** (**3b**) (600 MHz in pyridine-d_5).

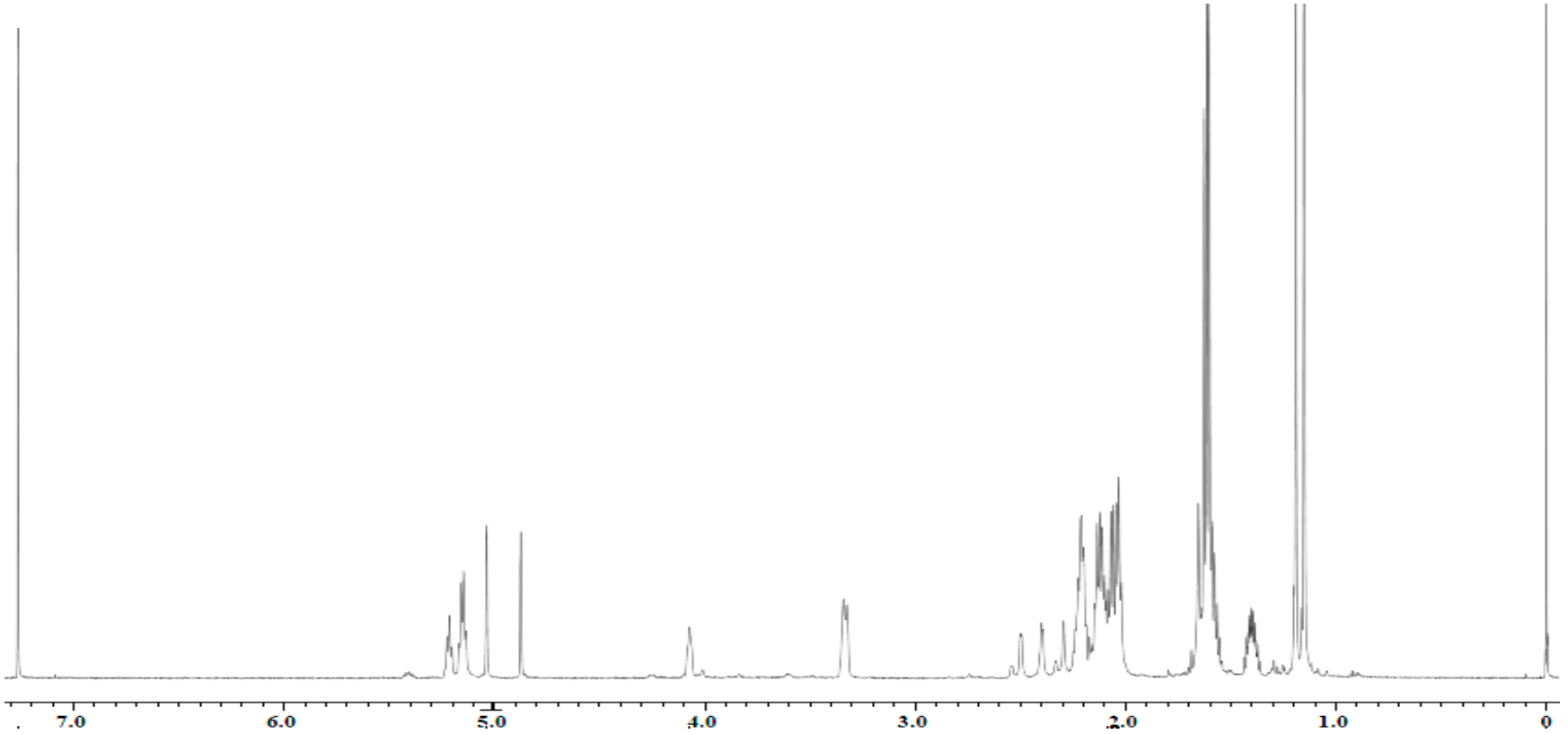

Figure S27. ^{1}H NMR spectrum of 2,3,6,22,23-pentahydroxy-2,10,15,19,23-hexamethyl-7-methylenetetracosa-10,14,18-triene (**4**) (600 MHz in $CDCl_3$).

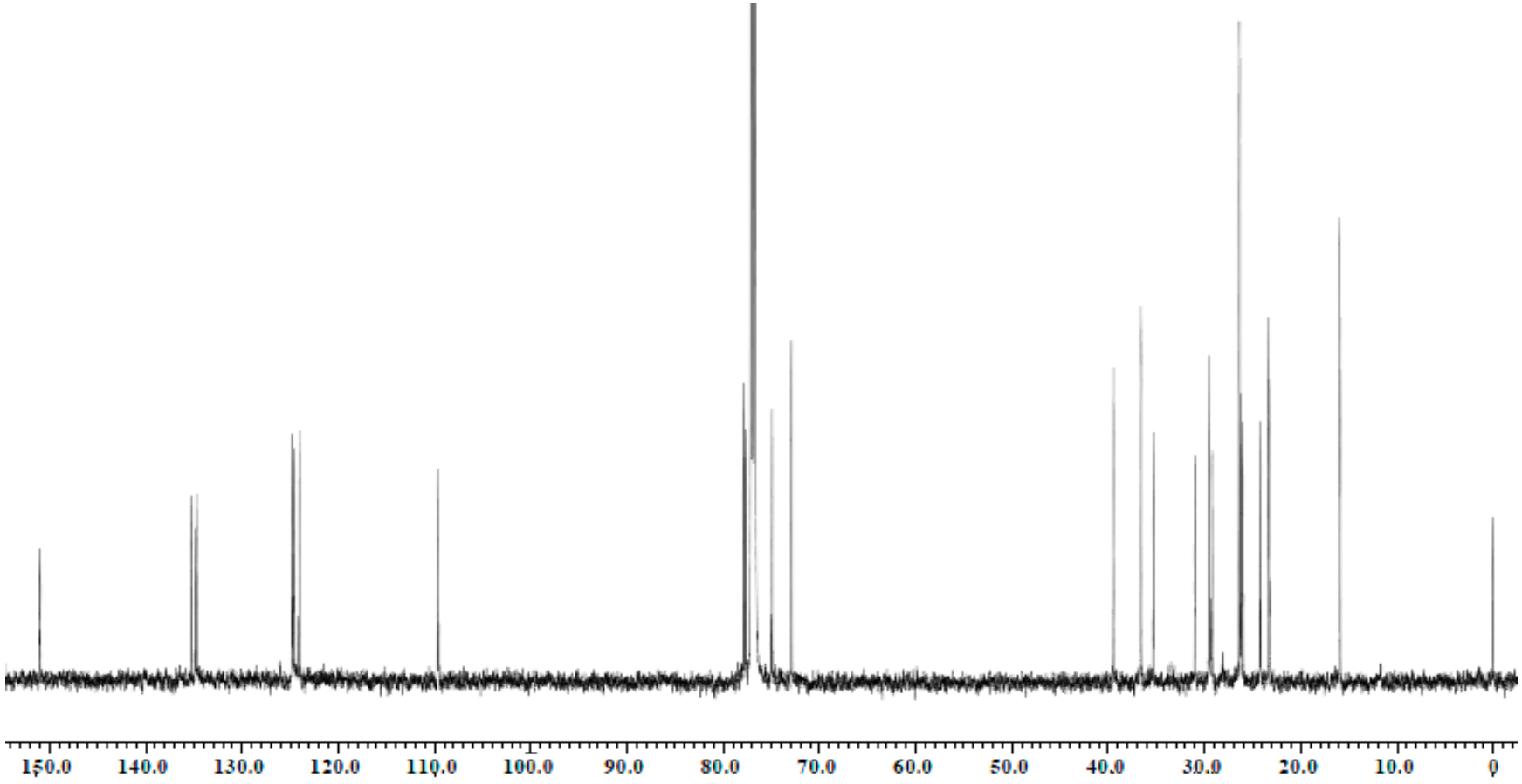

Figure S28. ^{13}C NMR spectrum of 2,3,6,22,23-pentahydroxy-2,10,15,19,23-hexamethyl-7-methylenetetracosa-10,14,18-triene (**4**) (150 MHz in $CDCl_3$).

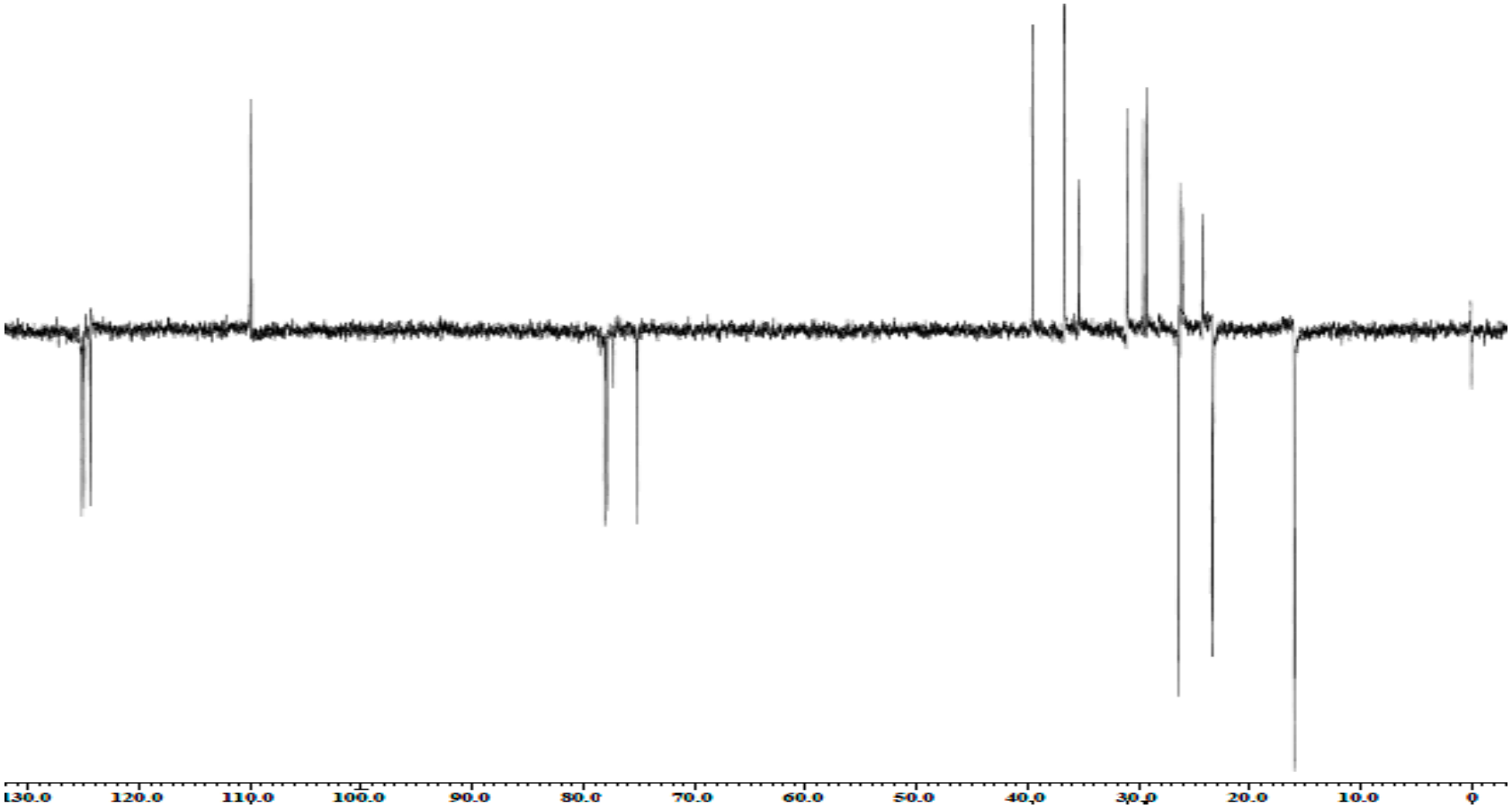

Figure S29. DEPT-135 NMR spectrum of 2,3,6,22,23-pentahydroxy-2,10,15,19,23-hexamethyl-7-methylenetetracosa-10,14,18-triene (**4**) (150 MHz in $CDCl_3$).

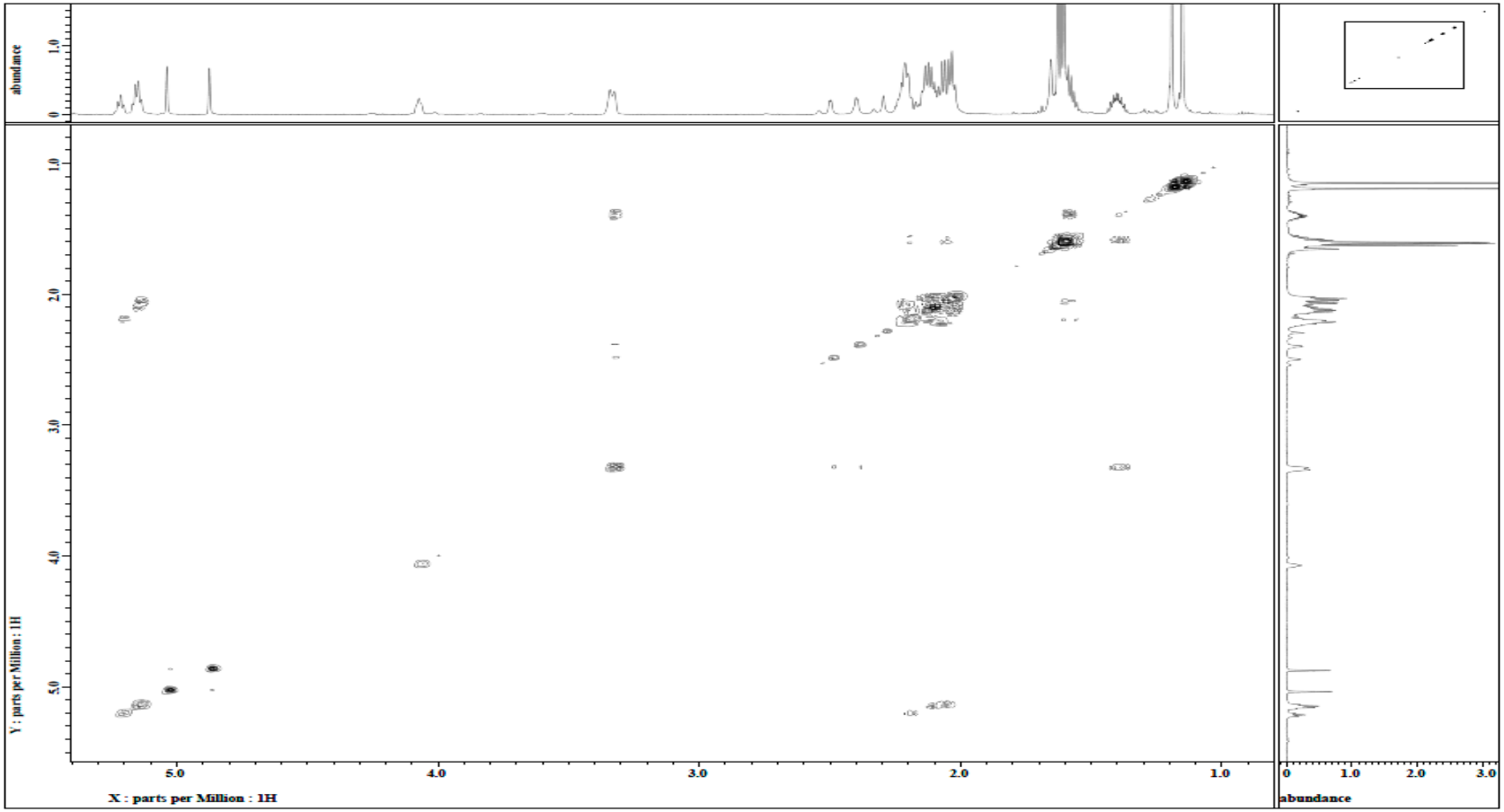

Figure S30. ^{1}H-^{1}H COSY NMR spectrum of 2,3,6,22,23-pentahydroxy-2,10,15,19,23-hexamethyl-7-methylenetetracosa-10,14,18-triene (**4**).

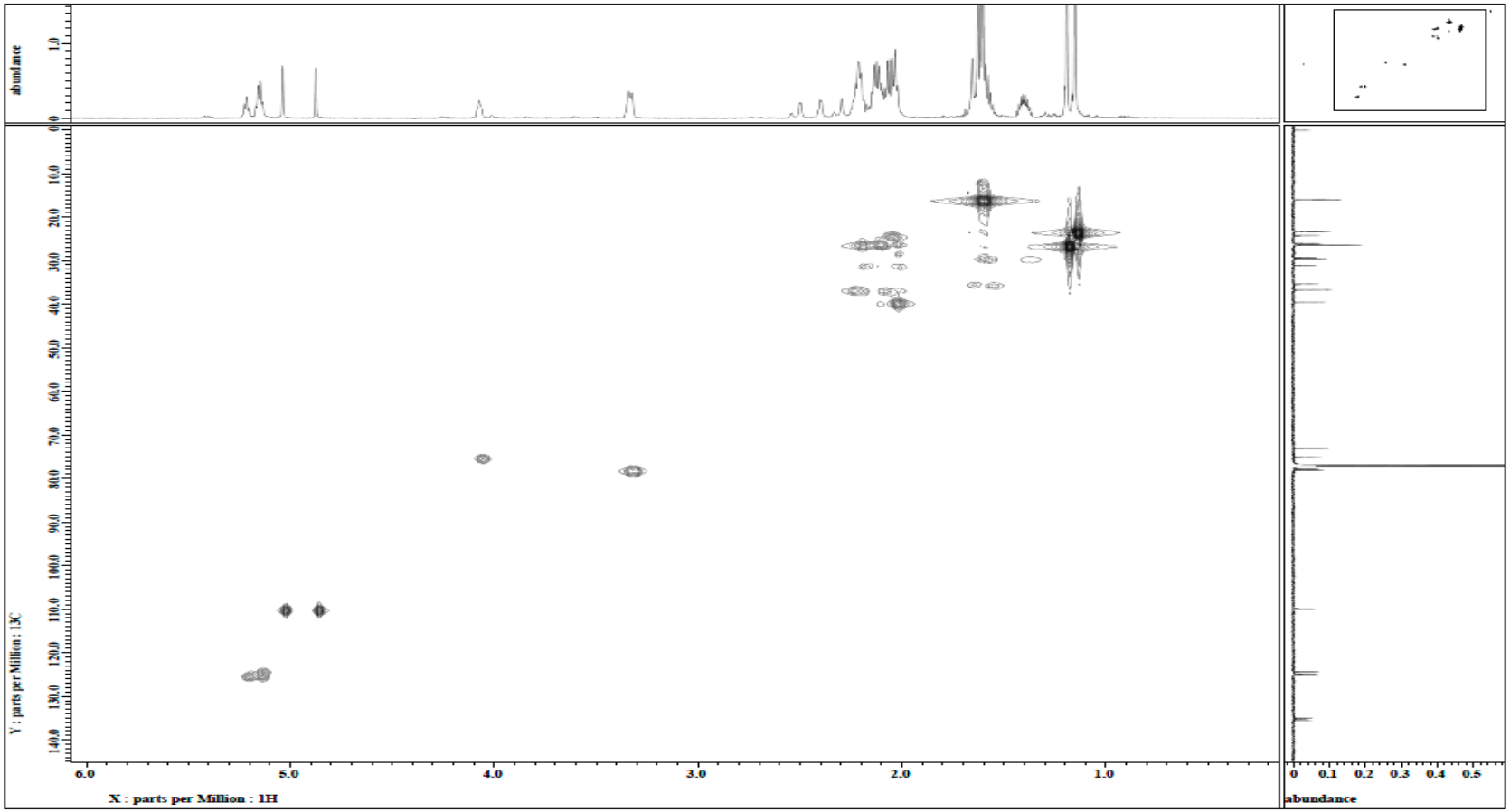

Figure S31. HMQC NMR spectrum of 2,3,6,22,23-pentahydroxy-2,10,15,19,23-hexamethyl-7-methylenetetracosa-10,14,18-triene (**4**).

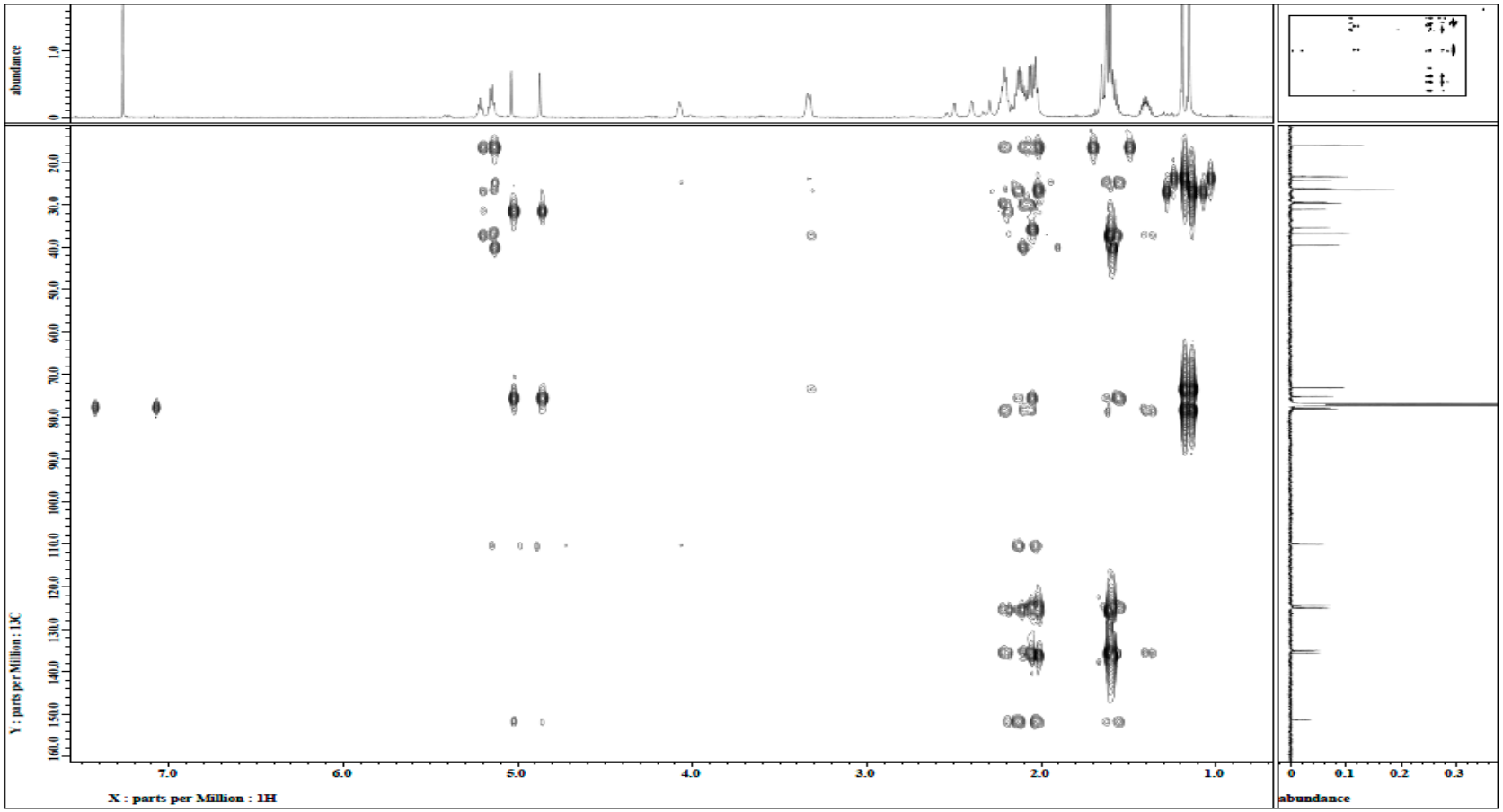

Figure S32. HMBC NMR spectrum of 2,3,6,22,23-pentahydroxy-2,10,15,19,23-hexamethyl-7-methylenetetracosa-10,14,18-triene (**4**).

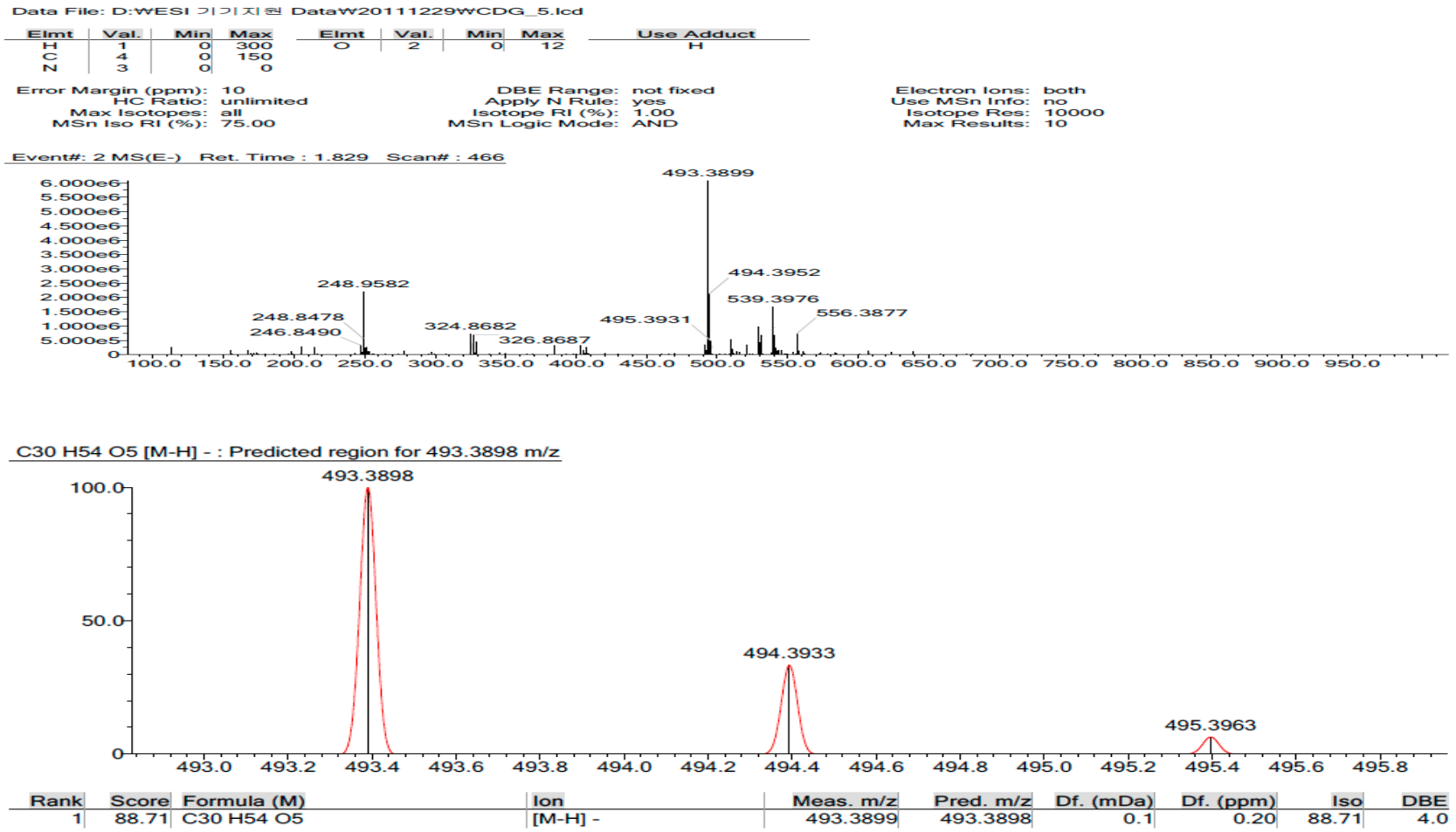

Figure S33. HR-ESI MS spectrum of 2,3,6,22,23-pentahydroxy-2,10,15,19,23-hexamethyl-7-methylenetetracosa-10,14,18-triene (**4**).

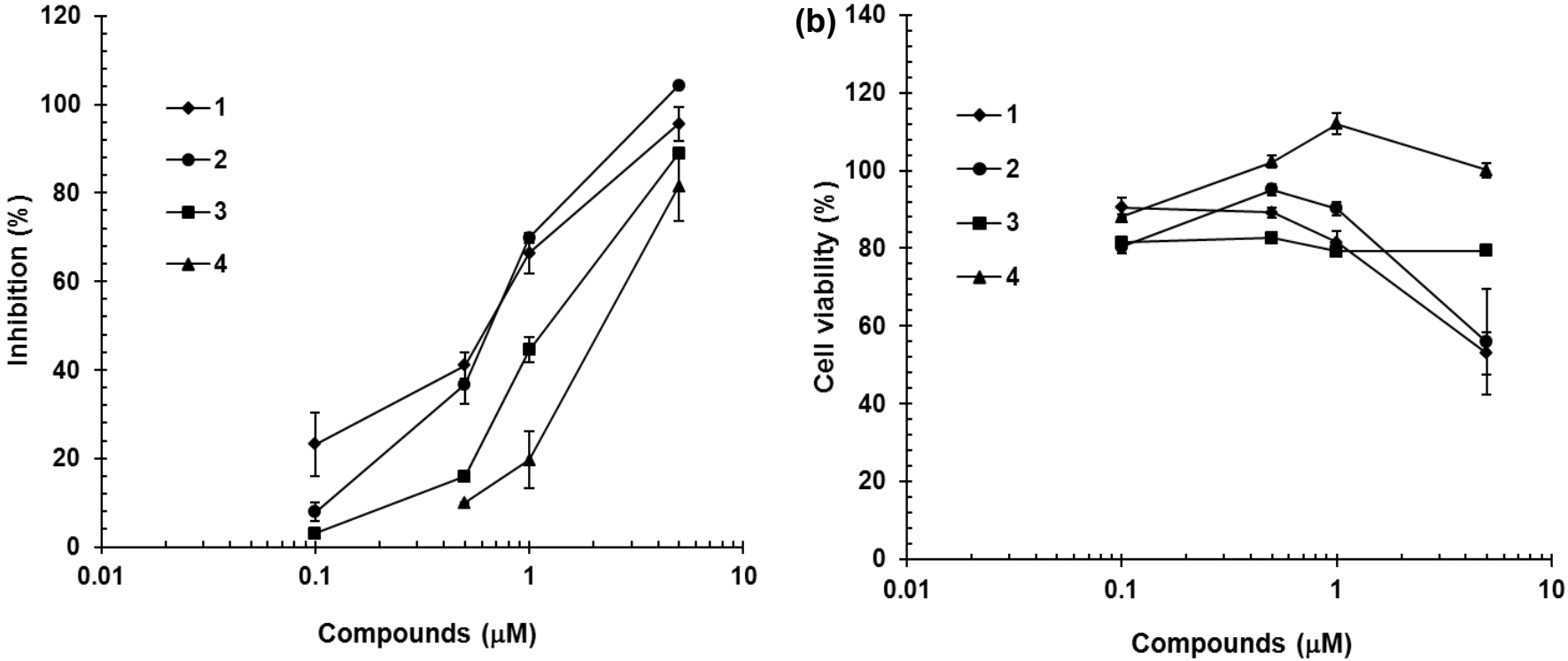

Figure S34. Inhibitory effects of compounds **2**-**4** on IL-6/STAT3 activation (a) and cell viability (b) in Hep3B cells.

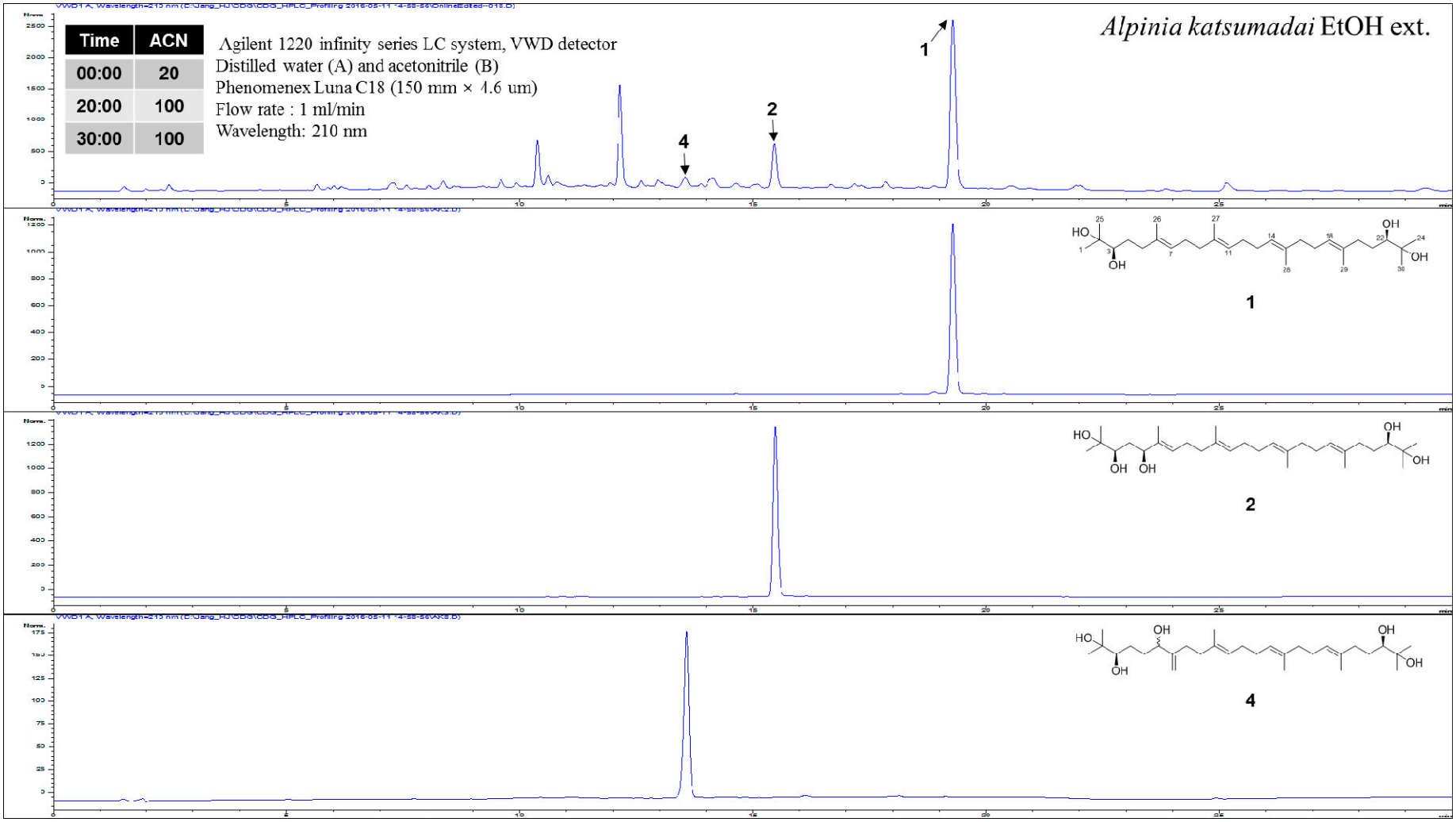

Figure S35. HPLC chromatogram of compounds **1**, **2**, and **4** of *A. katsumadai* ethanol-soluble extract (Agilent 1220 Infinity series; wavelength: 210 nm; column: Phenomenex Luna C_{18}; mobile phase: H_2O and acetonitrile; time of analysis: 30 min).

Table S1. Inhibitory effects of EtOH extract, $CHCl_3$ and H_2O layer of *A. katsumadai* on IL-6-induced STAT3 activation.

Samples (μg/mL)		Inhibition (%) [a]	Cytotoxicity (%) [a]
EtOH extract	0.5	45.3 ± 0.9	97.2 ± 0.8
	1	66.8 ± 3.6	101.4 ± 0.2
	5	102.7 ± 0.6	55.4 ± 1.6
$CHCl_3$ layer	0.5	29.2 ± 1.9	90.6 ± 0.1
	1	42.7 ± 2.9	92.0 ± 0.4
	5	90.0 ± 0.1	95.6 ± 0.4
H_2O layer	0.5	17.4 ± 4.5	87.5 ± 0.4
	1	19.6 ± 1.4	86.1 ± 0.5
	5	50.3 ± 4.6	93.2 ± 0.7

[a] The data are presented as the means from three independent experiments performed in duplicate.