Supplementary Material

Article

Stieleriacines, *N*-Acyl Dehydrotyrosines from the Marine Planctomycete *Stieleria neptunia* sp. nov.

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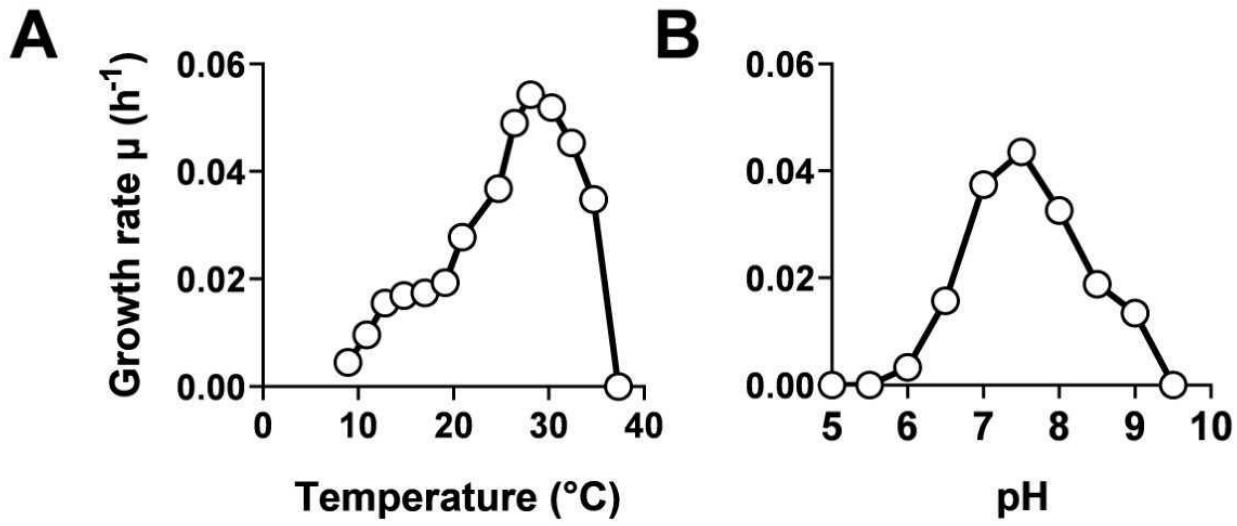


Figure S1: Temperature and pH optimum of strain Enr13^{T}. **A**) For determination of the optimal growth temperature, optical density measured at 600 nm (OD_{600}), was followed for a cultivation time of 160 hours. The calculated growth rates for the different tested cultivation temperatures are shown. Data represent mean values from triplicates. All cultivations were performed at pH 8.0. **B**) For determination of the optimal pH OD_{600} was followed for a cultivation time of 160 hours. Calculated growth rates for the different tested pH values are shown. Data represent mean values from triplicate measurements. All cultivations were performed at 28 °C.

Table S1: Genome information of strain Enr13^T and its current closest relatives.

	Enr13^T	*Stieleria maiorica* Mal15^T	*Rubripirellula obstinata* LF1^T	*Rhodopirellula baltica* SH 1^T	*Roseimaritima ulvae* UC8^T
Genome size (bp)	10,975,817	9,894,293	7,094,218	7,145,576	8,212,515
Scaffolds	1	1	27	1	1
N50 (scaffolds)	10,975,817	9,894,293	6,586,311	7,145,576	8,212,515
Completeness (%)	98.3	98.3	98.3	98.3	98.3
G+C content (%)	58.9	59.3	54.3 (± 1.7)	55.4	59.1
Coding density (%)	86.0	87.0	84.4	88.7	87.5
Total genes	7,904	7,016	5,950	5,569	5,919
Genes/Mb	720.1	709.1	838.7	779.4	720.7
Protein-coding genes	7,797	6,920	5,870	5,465	5,815
Protein-coding genes/Mb	710	700	827	765	708
Hypothetical proteins (%)	43.9	41.9	49.2	56.3	39.5
tRNA genes	99	81	67	91	71
tRNA genes/Mb	9.0	8.2	9.4	12.7	8.6
16S rRNA genes	3	3	2	1	1
Transposable elements	54	17	72	0	6
Transposable elements/Mb	4.9	1.7	10.1	0.0	0.7
Giant genes	14	13	9	6	10

Table S2: Phylogenetic comparisons between strain Enr13^T and its current closest relatives.

	16S rRNA identity (%)	*rpoB* identity (%)	Average nucleotide identity (%)
Enr13^T	100	100	100
Stieleria maiorica Mal15^T	99.5	97.6	80.1
Rubripirellula obstinata LF1^T	93.4	87.4	70.3
Rhodopirellula baltica SH 1^T	94.3	86.7	69.8
Roseimaritima ulvae UC8^T	93.2	85.1	70.5

Table S3: Minimum inhibitory concentration (MIC) for bacteria, yeasts and fungi in µg/mL. MeOH (20 µL) was used as negative control and displayed no inhibitory effects. The following reference antimicrobials were used: [O] Oxytetracycline, [G] Gentamycin, [K] Kanamycin for bacteria; [N] Nystatin for yeasts and fungi; n. i. = no inhibition up to 100 µg/mL.

Test organism	Strain number	O-methyl-Stieleriacine	Reference [N, O, G, K]
Schizosaccharomyces pombe	DSM70572	n.i.	33.3 [N]
Pichia anomala	DSM6766	n.i.	66.7 [N]
Mucor hiemalis	DSM2656	n.i.	33.3 [N]
Candida albicans	DSM1665	n.i.	66.7 [N]
Rhodoturula glutinis	DSM10134	n.i.	16.7 [N]
Micrococcus luteus	DSM1790	16.7	0.8 [O]
Bacillus subtilis	DSM10	n.i.	16.7 [O]
Escherichia coli	DSM1116	n.i.	3.3 [O]
Staphylococcus aureus	DSM346	66.7	0.4 [O]
Mycobacterium smegmatis	ATCC700084	n.i.	3.3 [K]
Chromobacterium violaceum	DSM30191	n.i.	0.8 [O]
Pseudomonas aeruginosa	PA14	n.i.	0.8 [G]

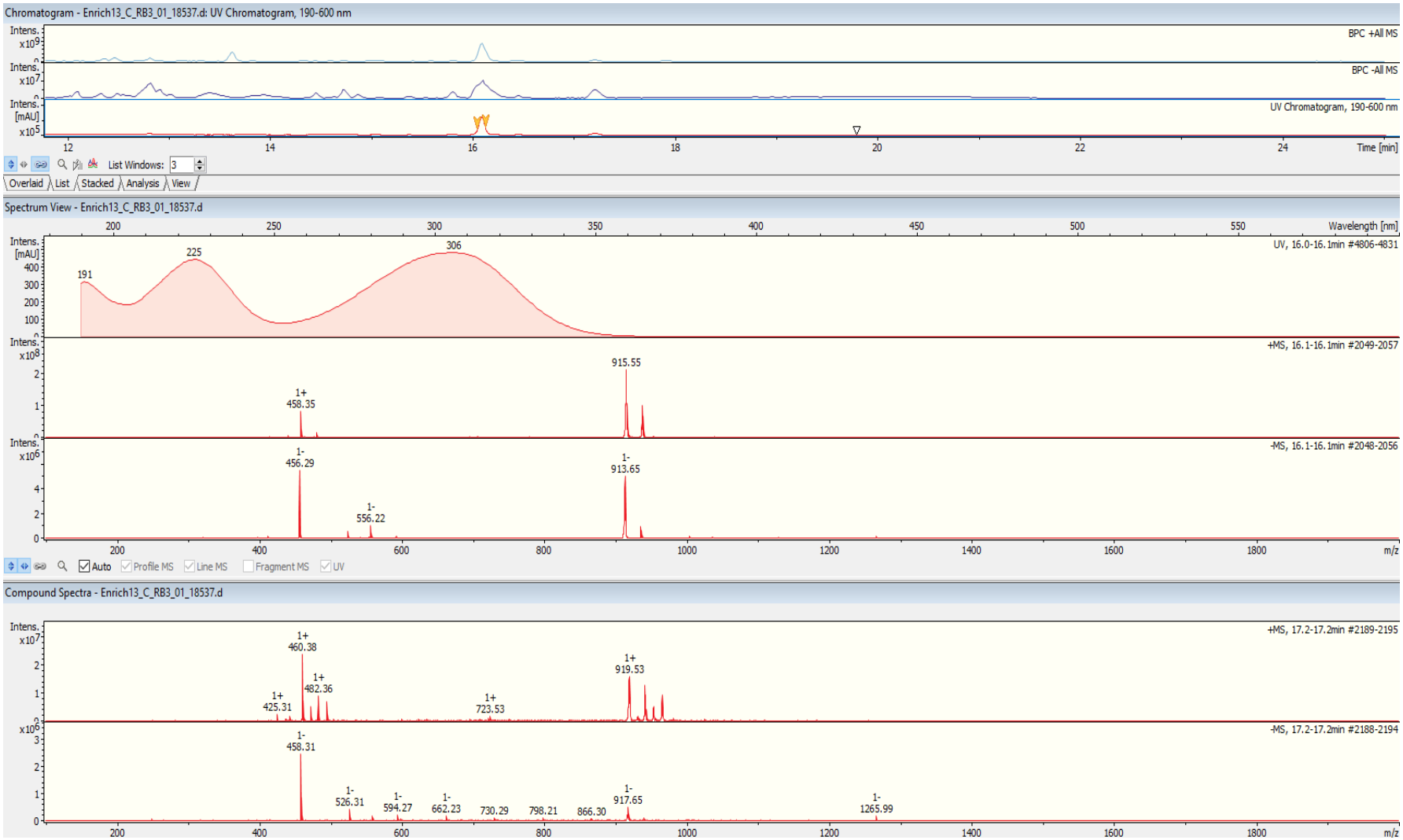


Figure S3: ESI-MS spectrum of **1**.

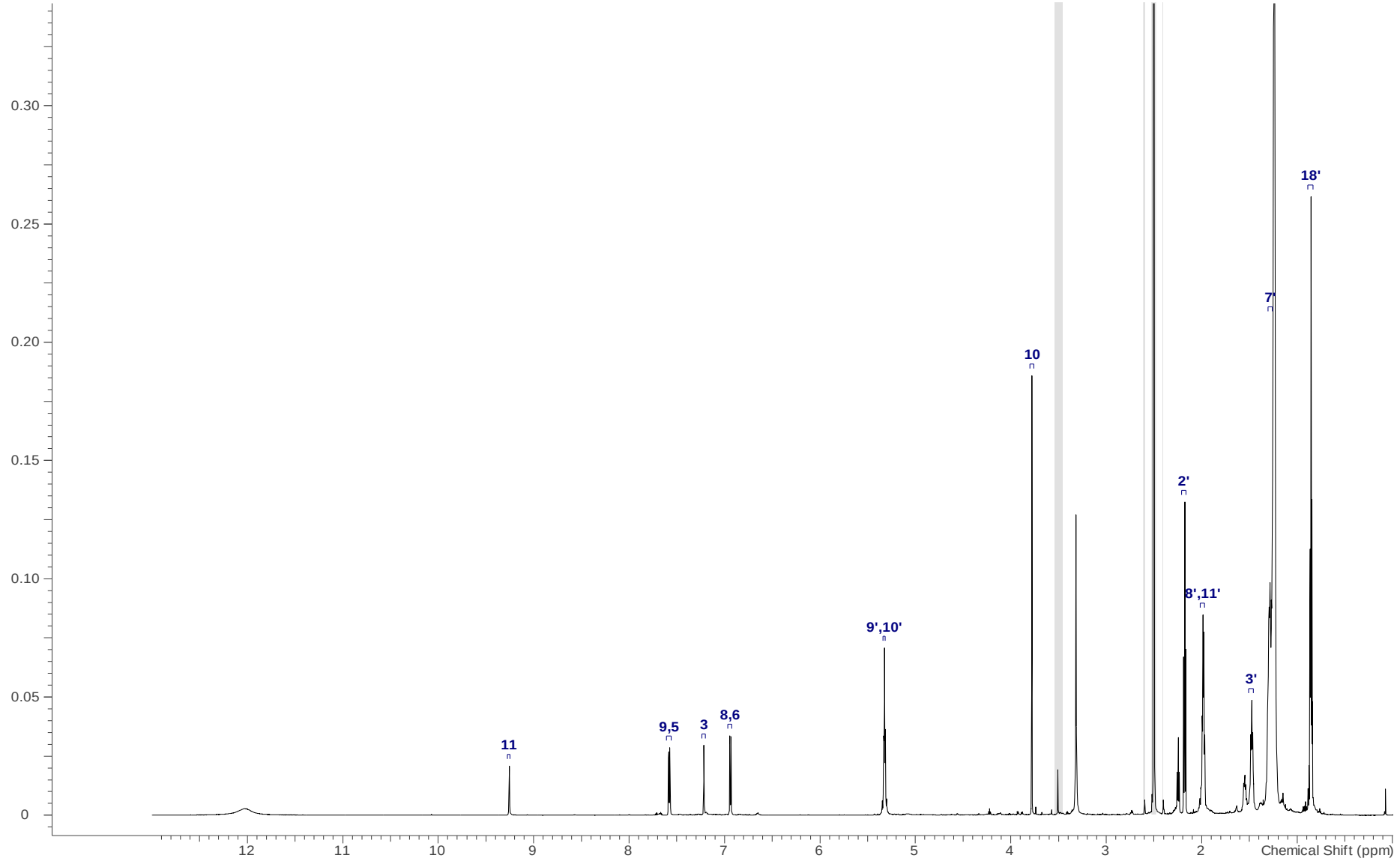


Figure S4: ^{1}H NMR spectral data (700 MHz, DMSO-d_6) of **1**.

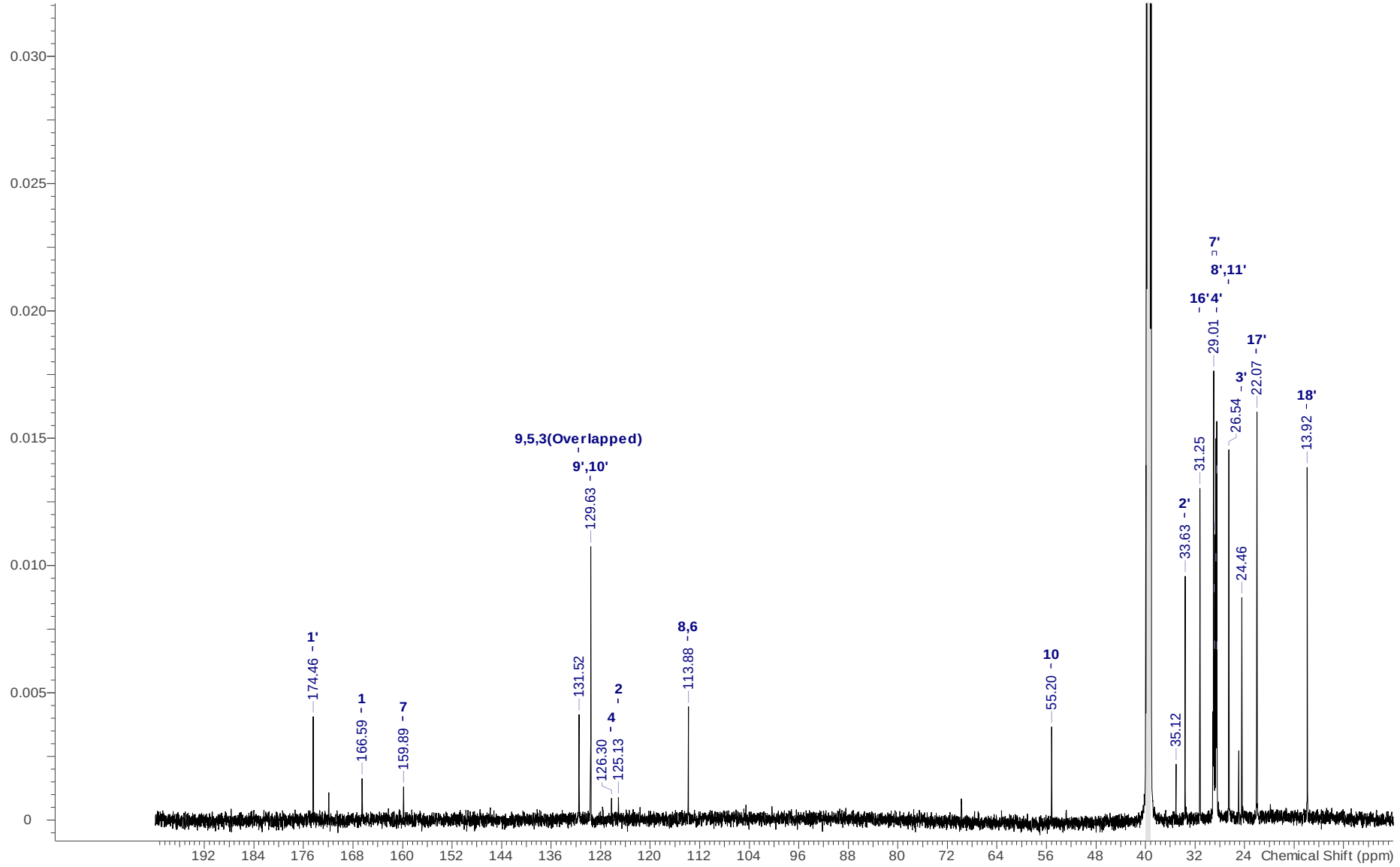


Figure S5: NMR spectral data (175 MHz, DMSO-d_6) of **1**

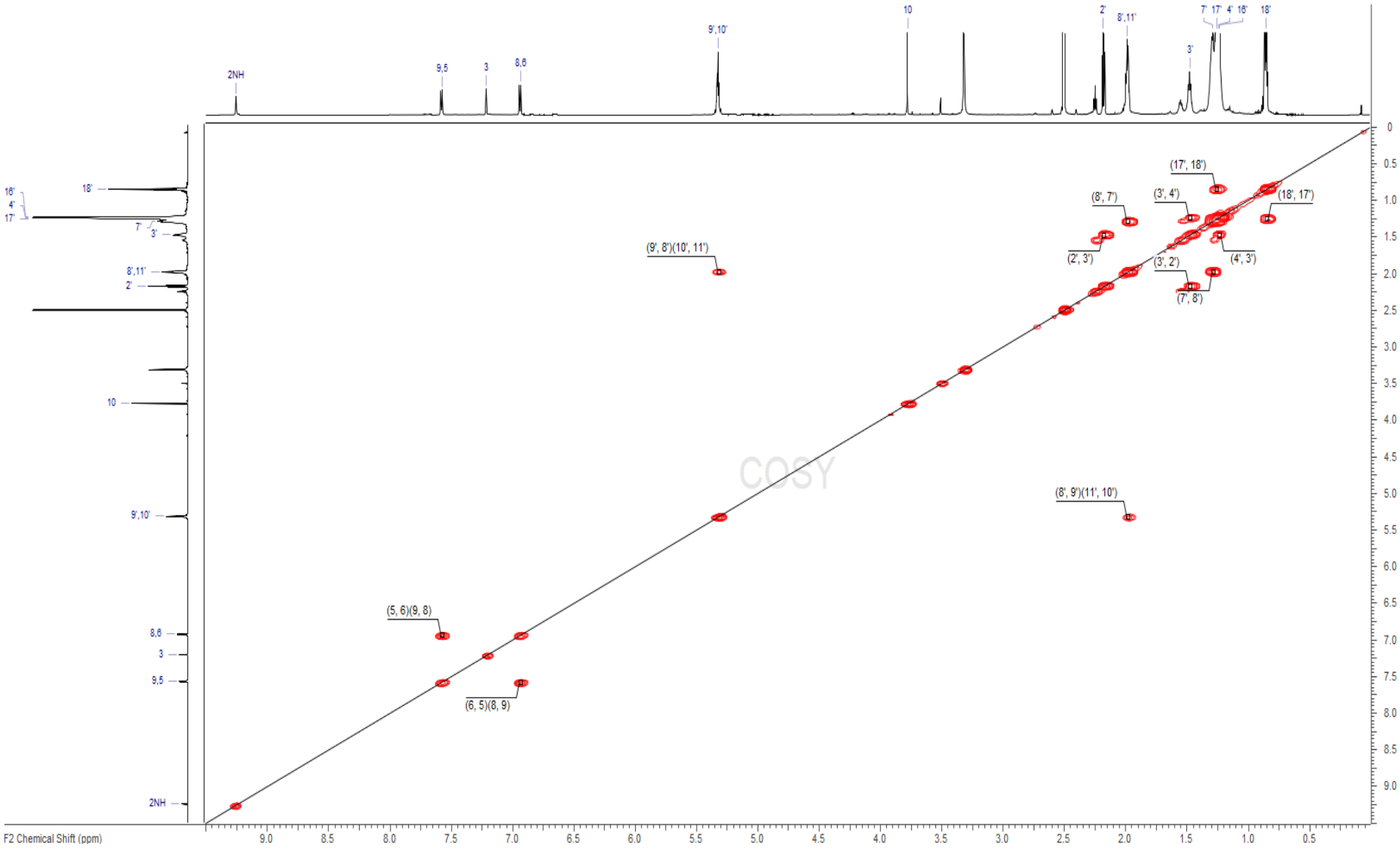


Figure S6: COSY NMR spectral data (700 MHz, DMSO-d_6) of **1**.

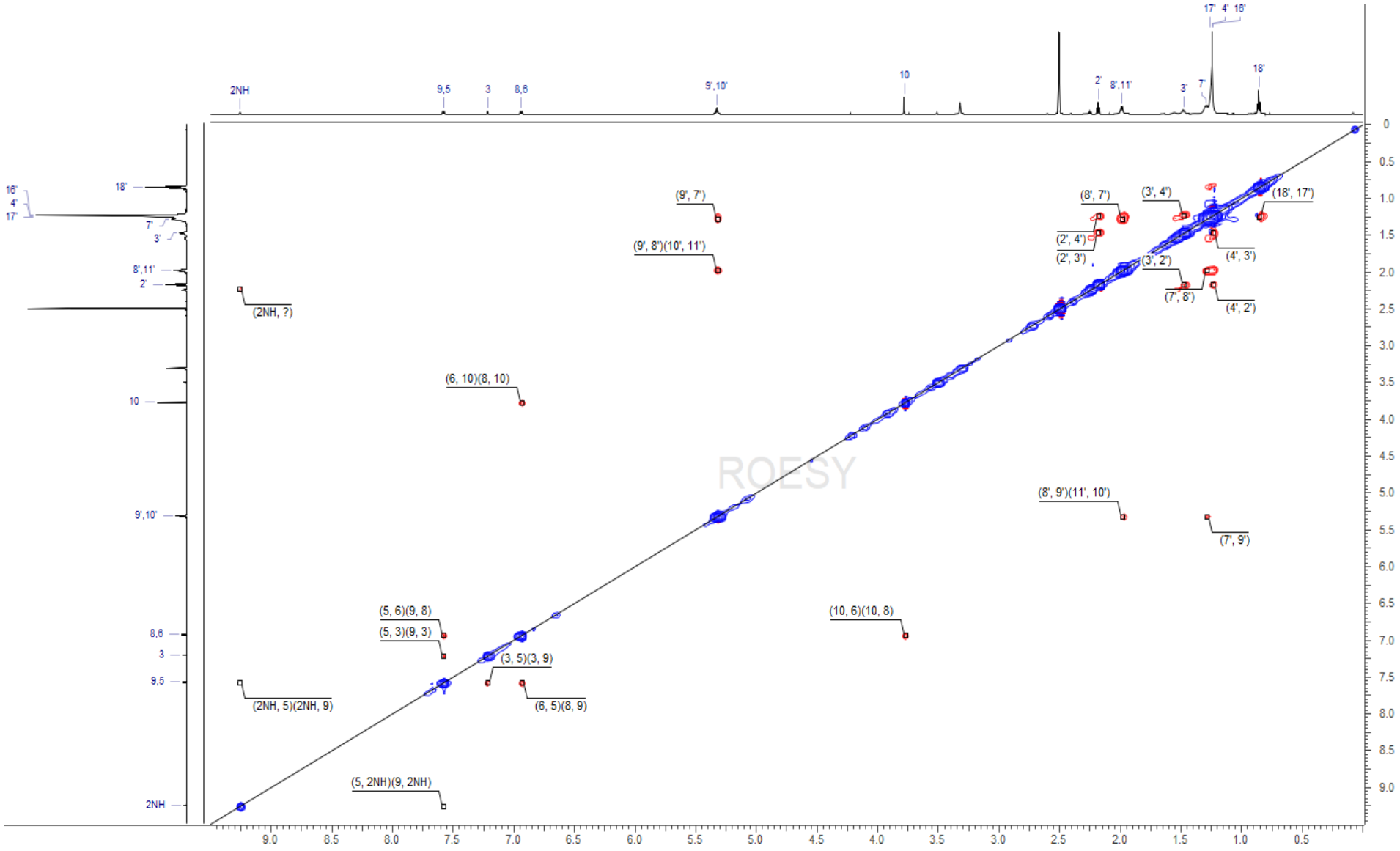


Figure S7: ROESY NMR spectral data (700 MHz, DMSO-d_6) of **1**.

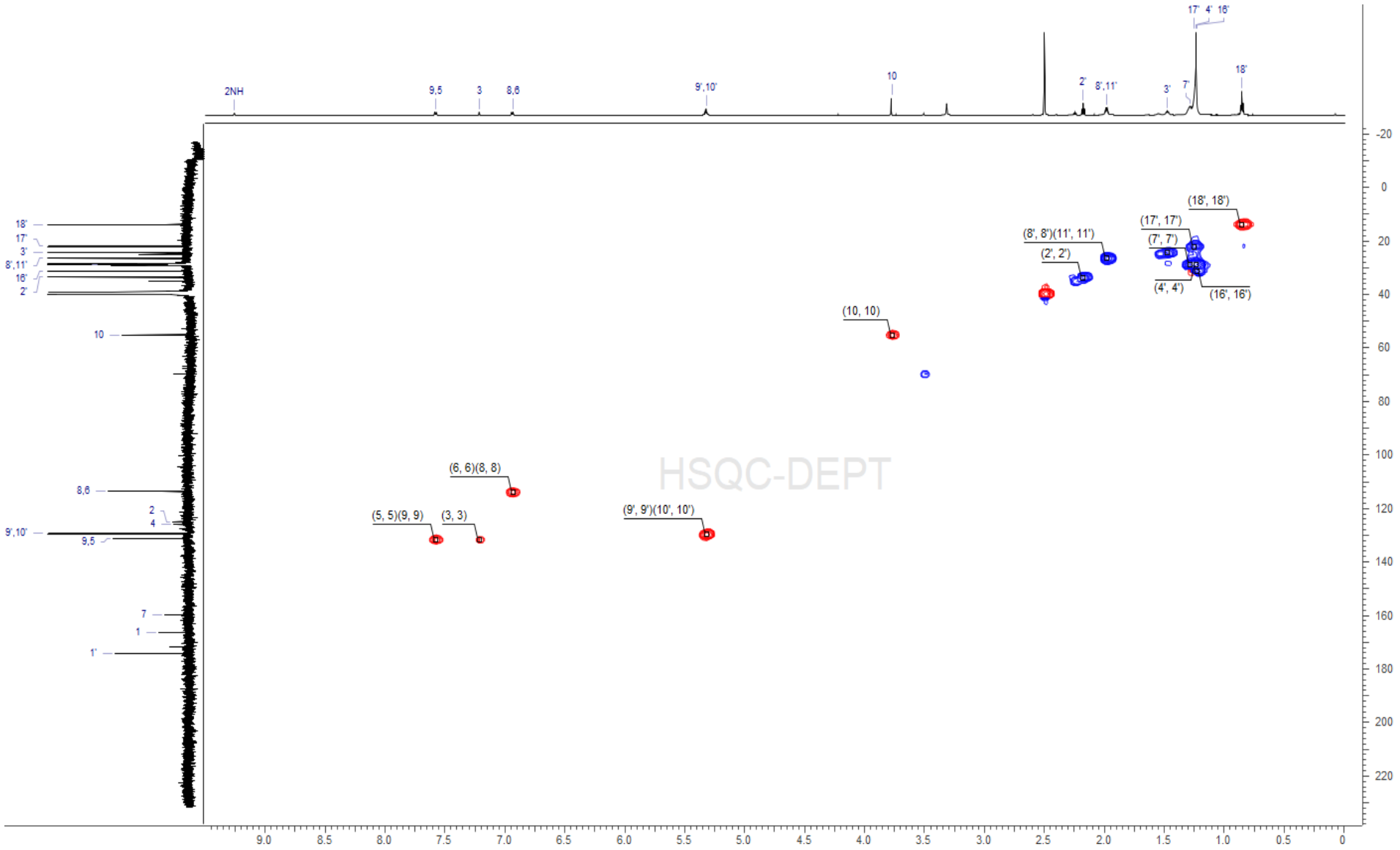


Figure S8: HSQC NMR spectral data (700 MHz, DMSO-d_6) of **1**.

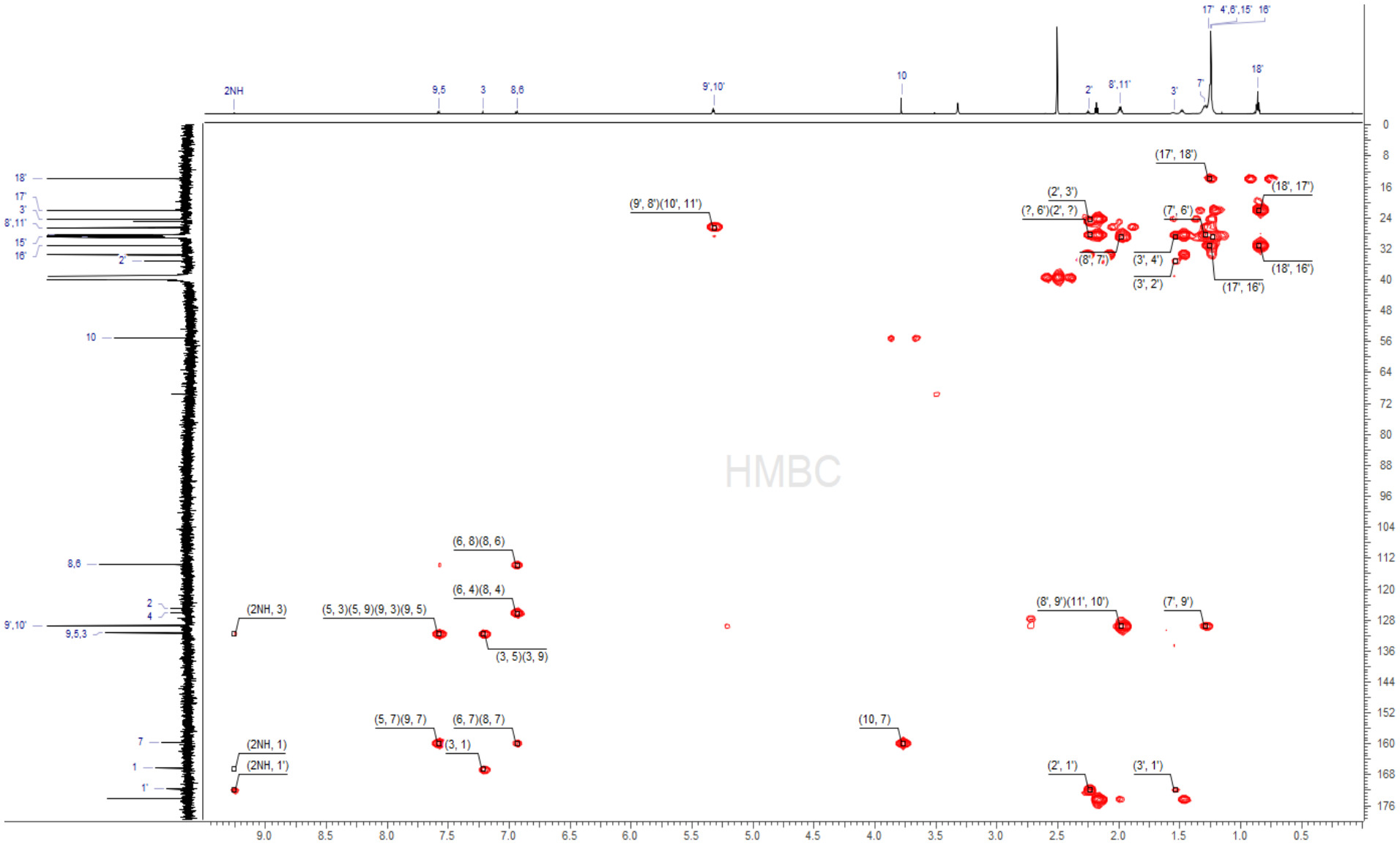


Figure S9: HMBC NMR spectral data (700 MHz, DMSO-d_6) of **1**.

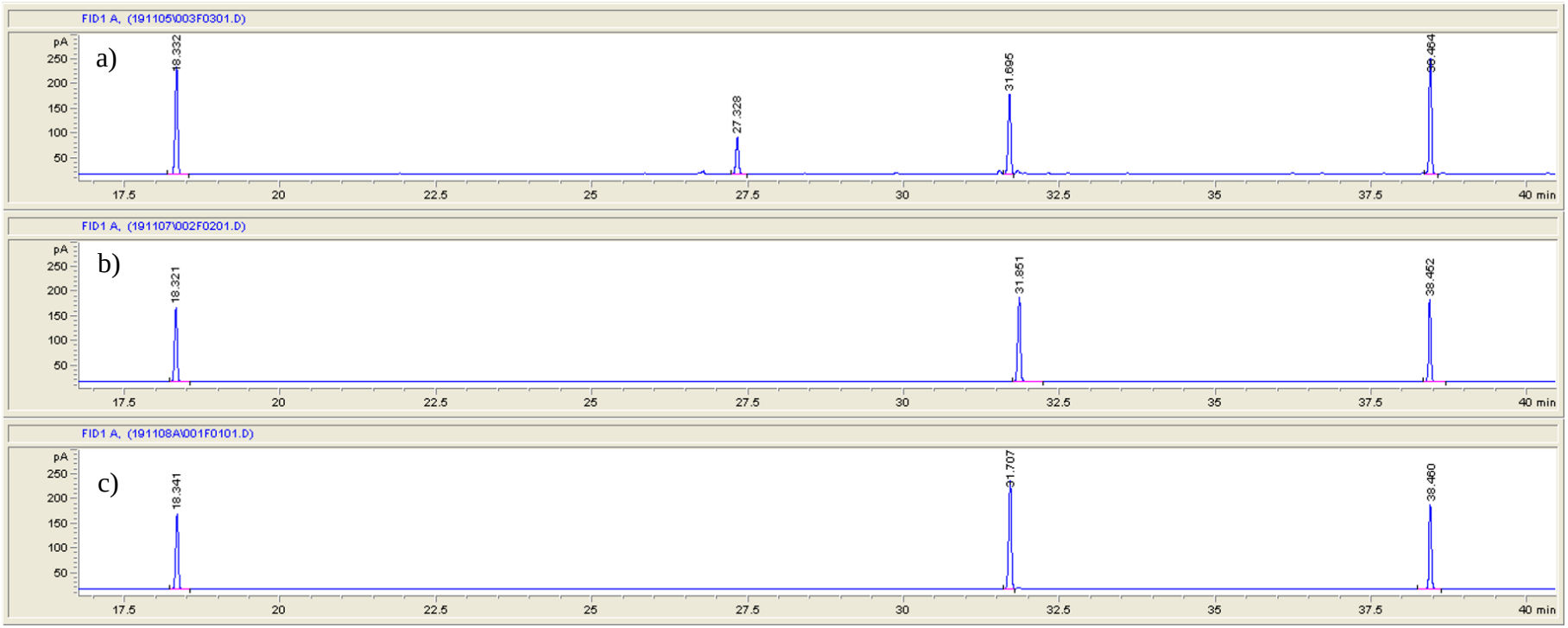


Figure S10: Fatty acid methyl ester analysis. a) Sample obtained from **1**, **b**) authentic oleic acid standard, **c**) authentic elaidic acid standard. Retention times of authentic standards in GC-MS database: t_R 32.117 = 18:1ω5, t_R 31.107 = 18:1ω6c, t_R 31.78 = 18:1ω6t, t_R 31.985 = 18:1ω7t (*trans*-vaccenic acid), t_R 31.873 = 18:1ω7c (*cis*-vaccenic acid), t_R 31.704 = 18:1ω9c (oleic acid), t_R 31.733 = 18:1ω9t (elaidic acid), t_R 31.733 = 18:1ω12c. Peaks at t_R = 18.332 and t_R = 38.464 are hexadecane and tetracosan standards, respectively.