Supporting Information

Structurally Diverse Metabolites from the rare Actinobacterium *Saccharothrix xinjiangensis*

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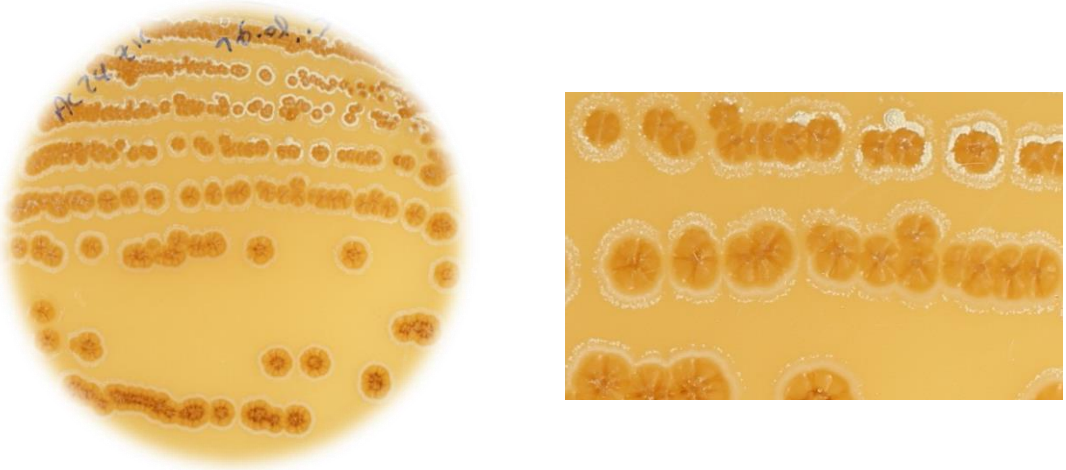


Figure 1. Photographs of growth stage of the strain Act24ZK obtained by Axiocam MRC (Zeiss) camera and further analyzed by using AxioVision LE software on GYM medium after 1 week at 30^0 C.

Phylogenetic study

Alignment of the 16S rRNA gene sequence of strain Act24Zk was performed using the cap contig assembly function of the BioEdit Sequence Alignment Editor version 7.0.5 software. The 16S rRNA partial gene sequence of strain Act24Zk is 900 nucleotides long. NCBI BLAST analysis showed highest similarity (99.5 %) to the type strain of *Saccharothrix xinjiangensis* NBRC 101911^T. 16S rRNA sequence data for references strains were obtained from EzTaxon-e. Bayesian analyses were performed in PAUP v.4.0b10 and MrBayes v3.2.2. The most suitable model of evolution was estimated by using Mrmodeltest v.2.2. The final sequence alignment of the 16S rRNA comprising 30 internal taxa contained 764 characters and 76 unique site patterns. _*Crossiella cryophila* strain NRRLB 1623^T (NR 1024964) was used as the outgroup taxon. GTR+I+G was the best-fitting substitution model. Bayesian analyses resulted in 1742 generations. After discarding the first 25% of generations as burn-in, the remaining 1308 (75%) generations were used to calculate the consensus Bayesian tree and posterior probabilities. Results indicated that the strain Act24Zk clustered in the same clade with *Saccharothrix xinjiangensis* NBRC 101911^T (AB381939) highly supported value (**Fig. 2**).

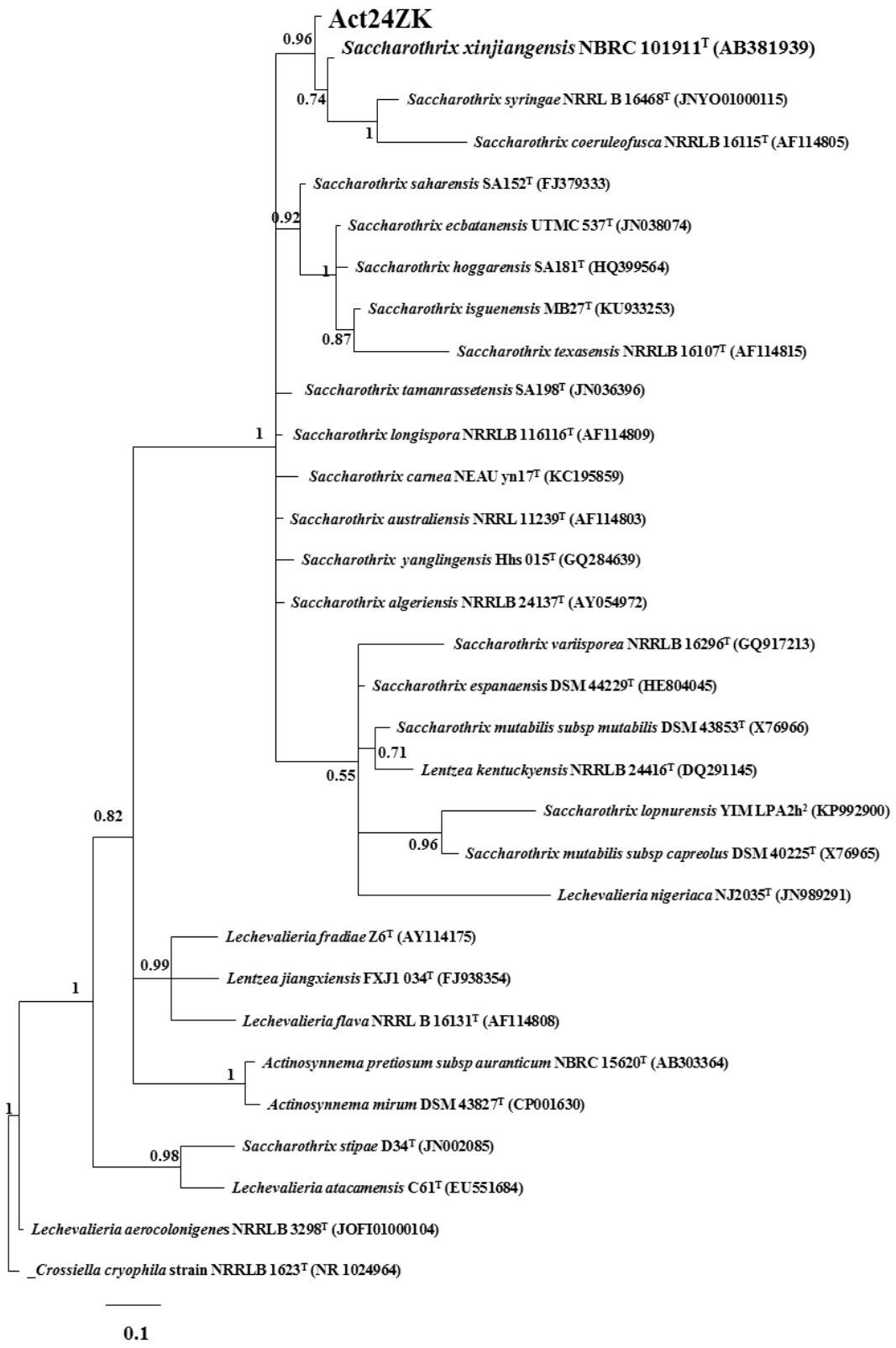


Figure 2. Consensus phylogram (75% majority rule) of 1308 trees resulting from a Bayesian analysis of 16S rRNA gene sequence alignment using MrBayes v. 3.2.2 of various *Saccharotrix* species. The scale bar indicates 0.1 expected changes per site. The tree was rooted to *Saccharothrix xinjiangensis* NBRC 101911^{T} (AB381939).

Figure S3: LC/MS spectrum of **1**

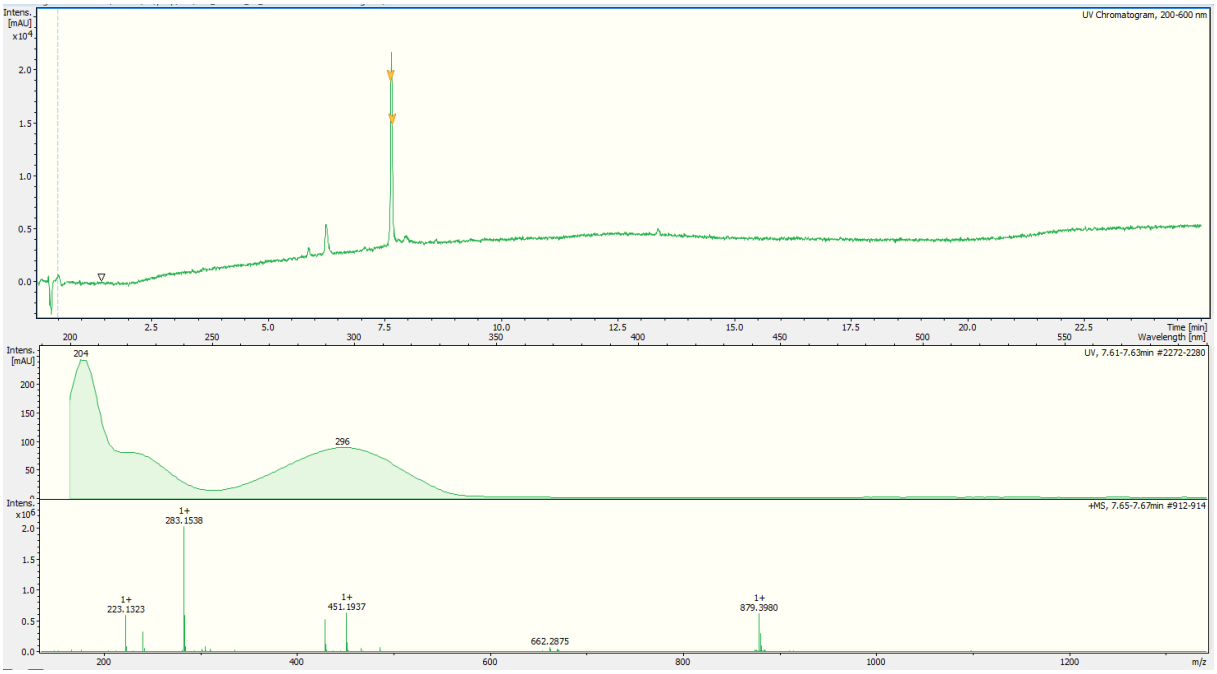


Figure S4: LC/MS spectrum of **2**

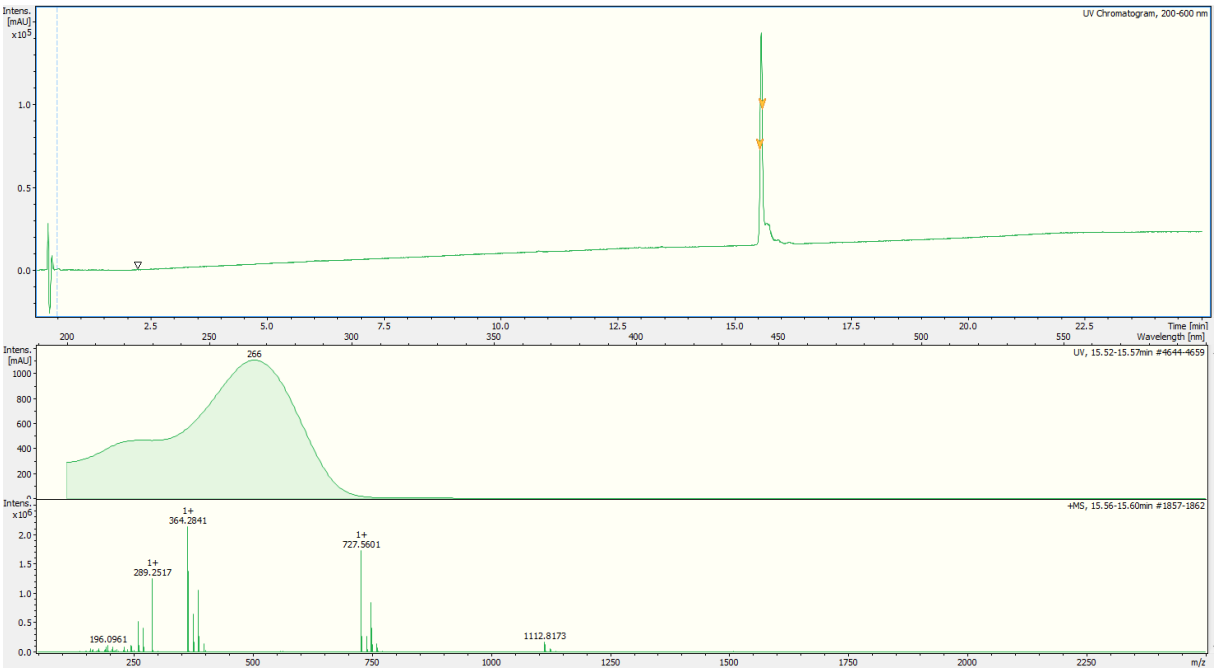


Figure S5: LC/MS spectrum of **3**

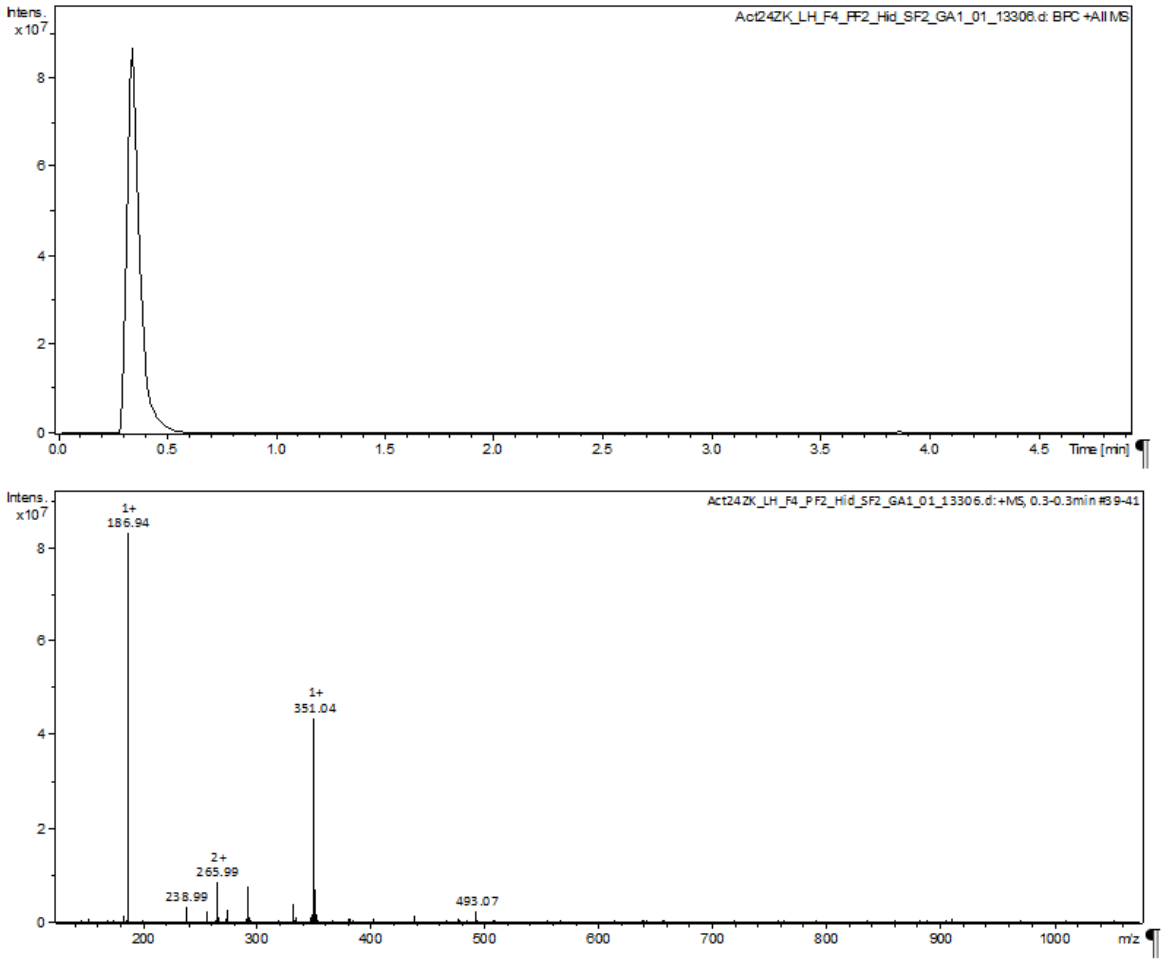


Figure S6: LC/MS spectrum of **1a**

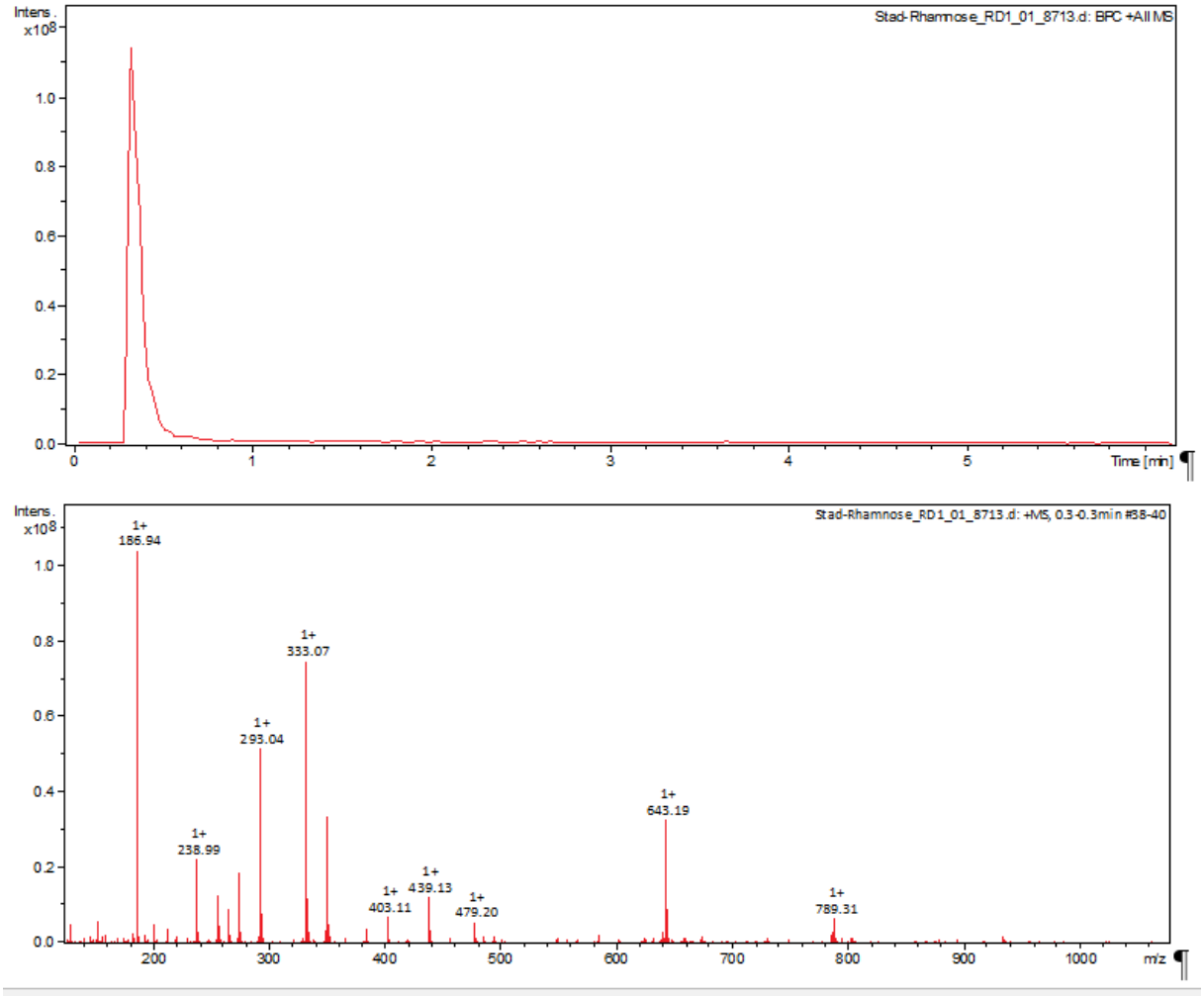


Figure S7: LC/MS spectrum of the reference standard L(+)-rhamnose monohydrate in MeOH

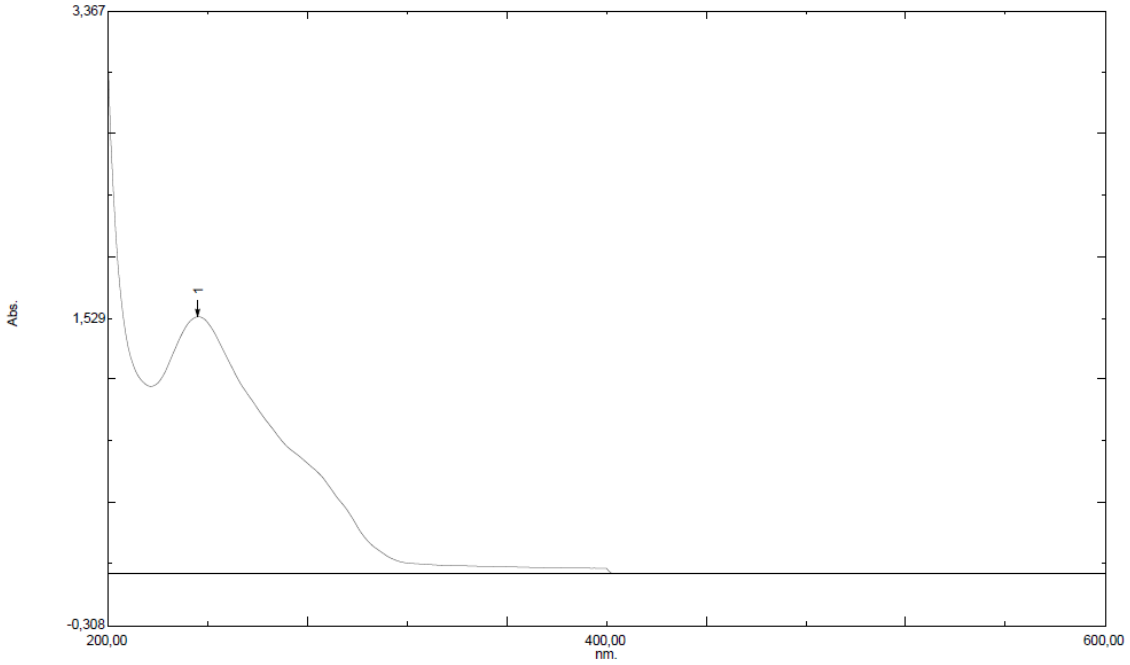


Figure S8: UV spectrum of **1**

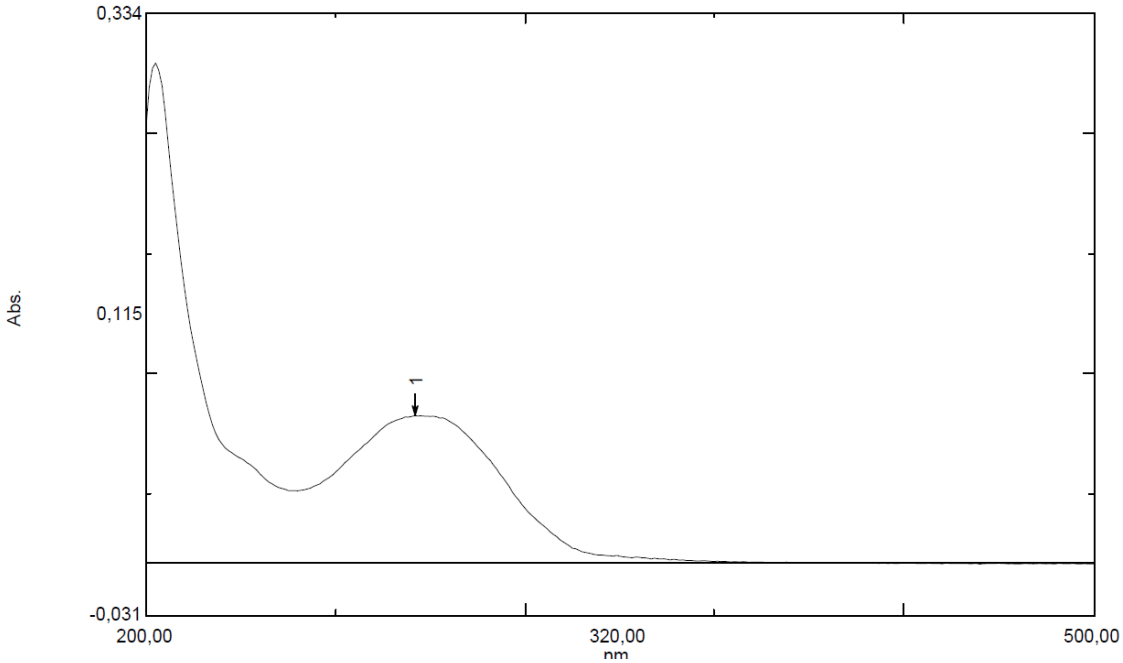


Figure S9: UV spectrum of **2**

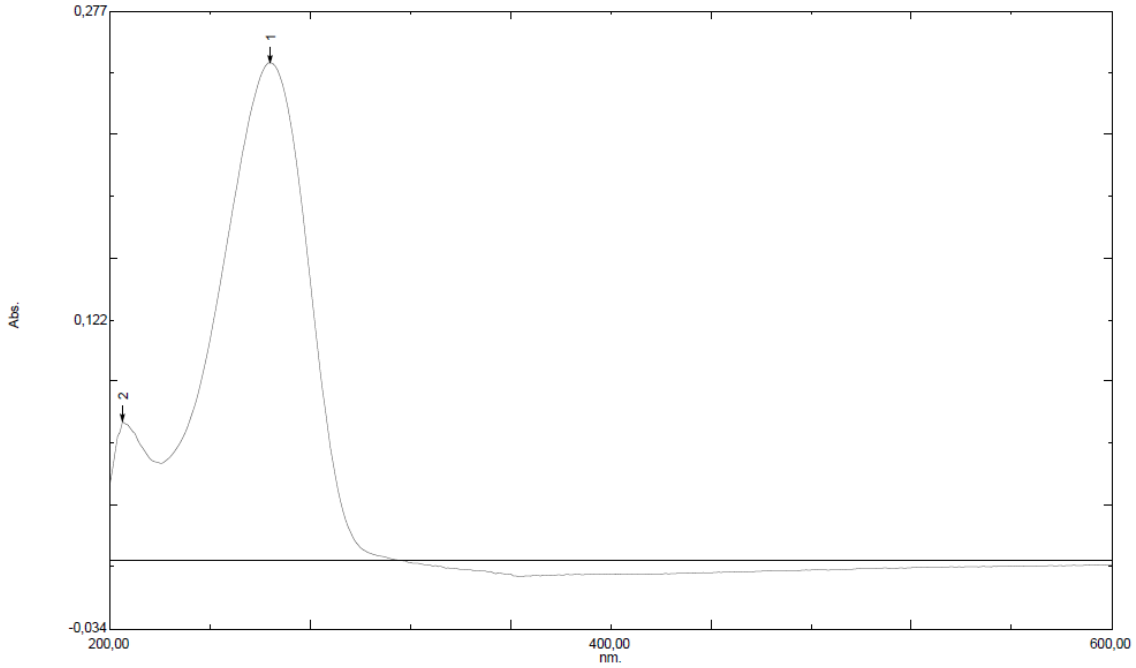
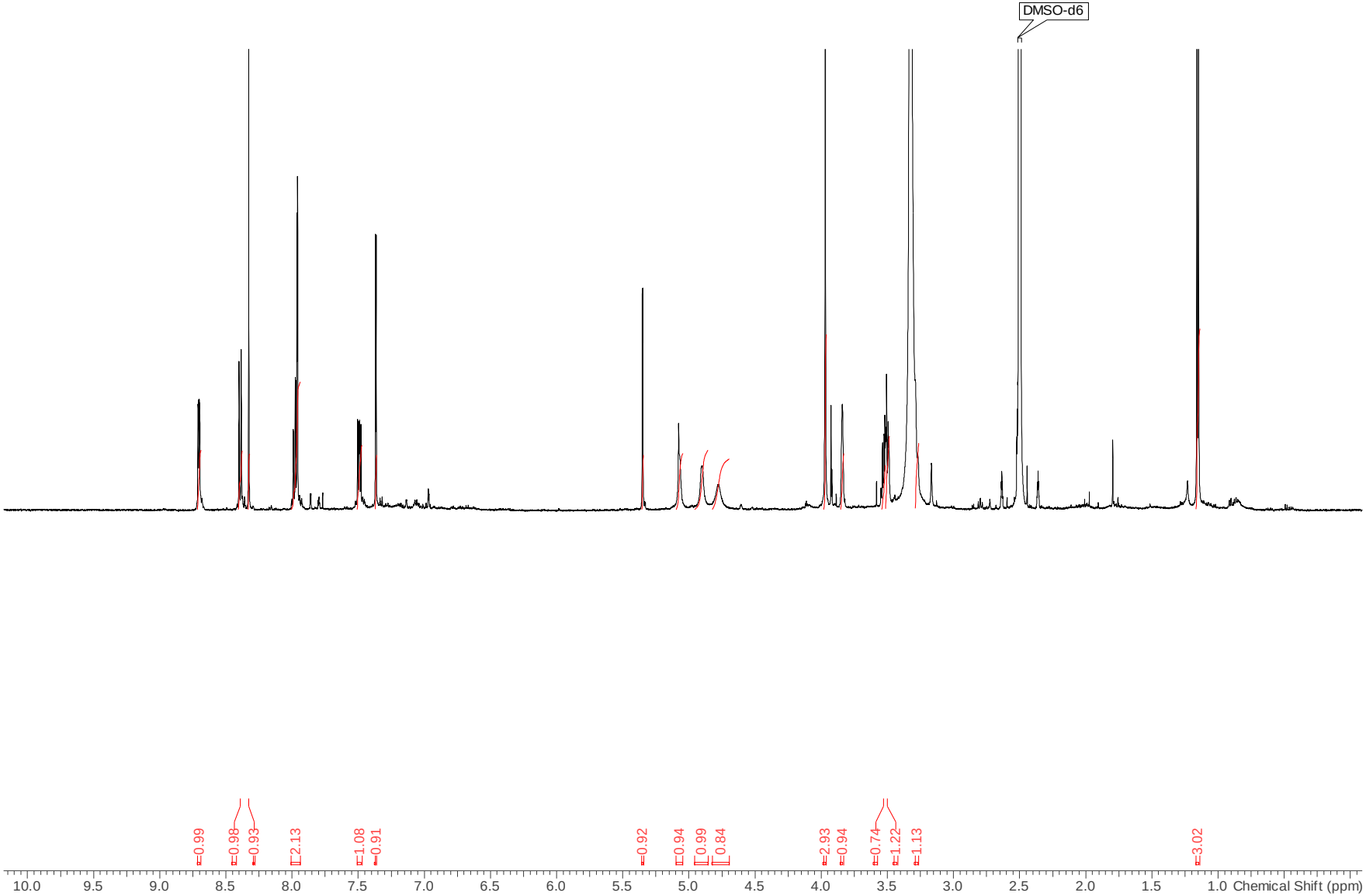
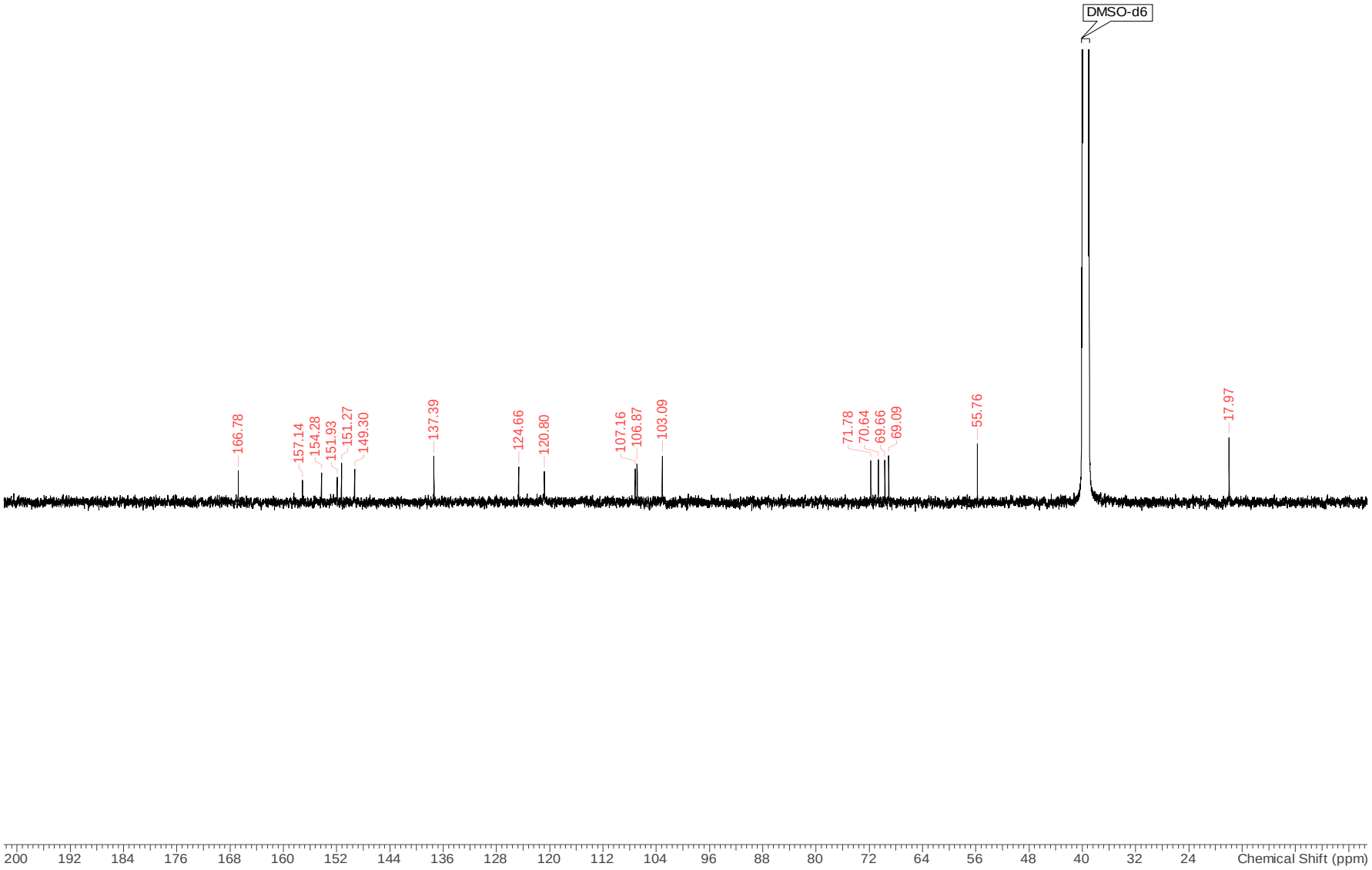


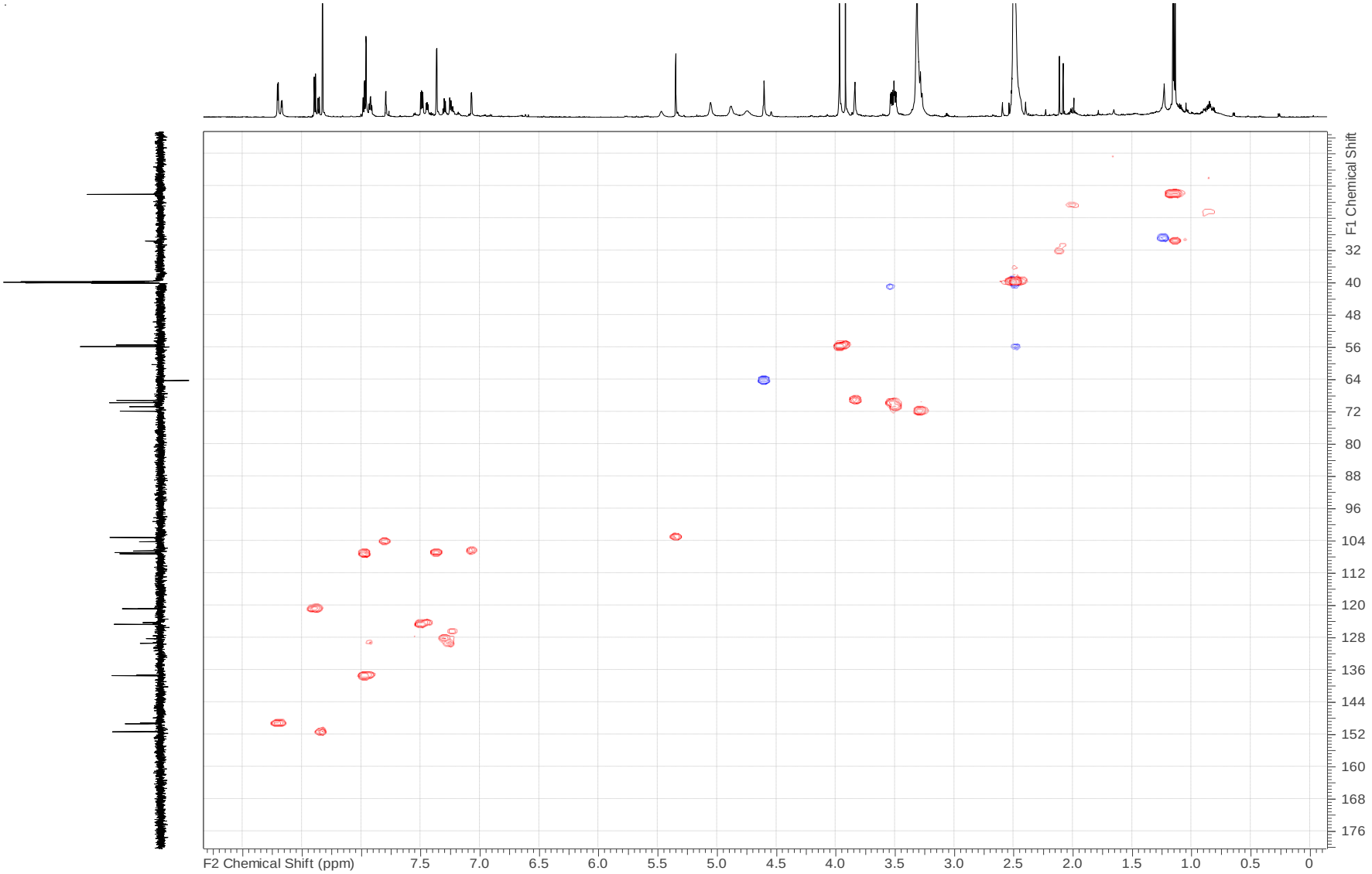
Figure S10: UV spectrum of **3**



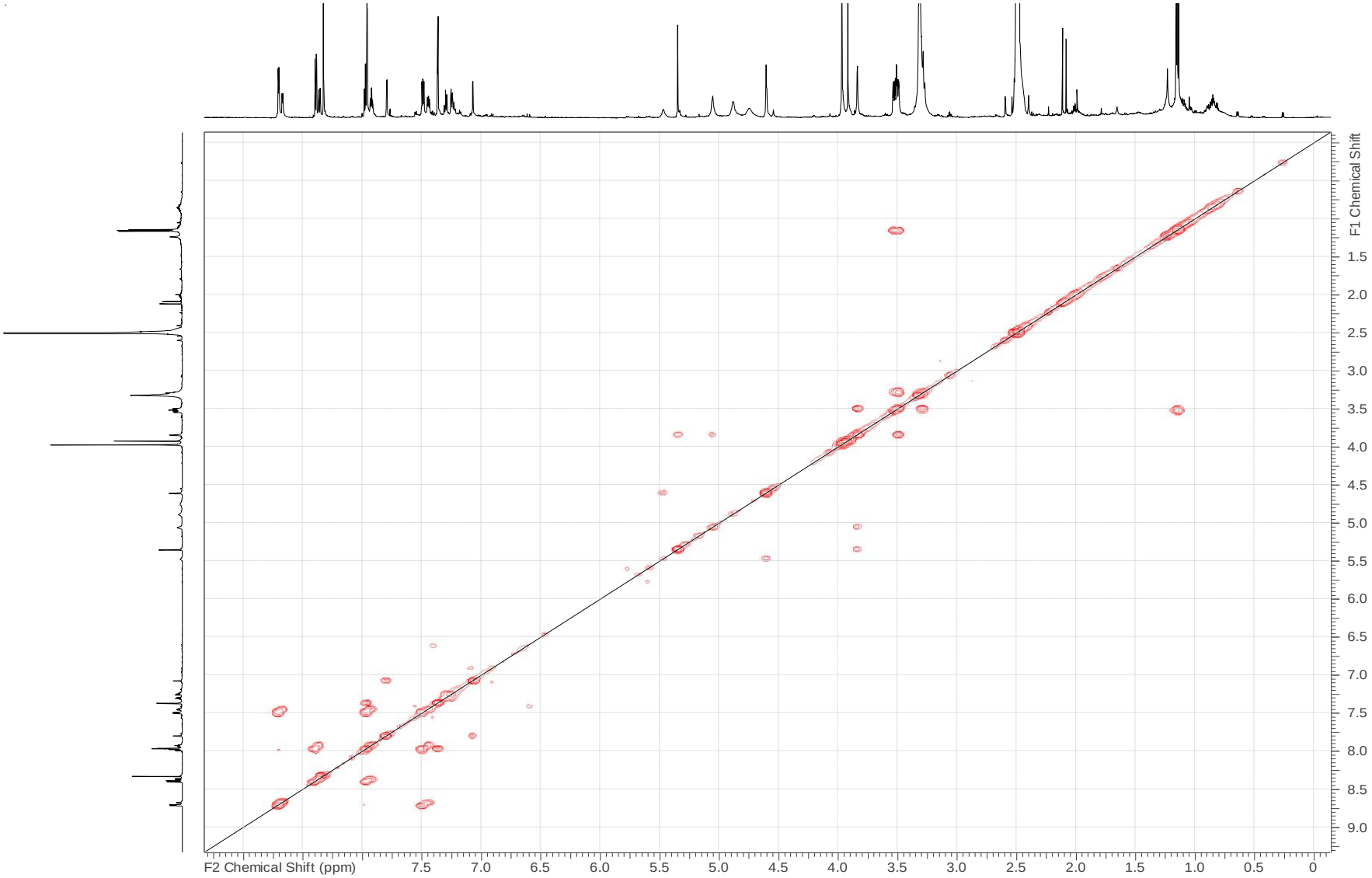
Spectrum S1: ^{1}H NMR spectrum of **1** in DMSO-d_6 (700 MHz).



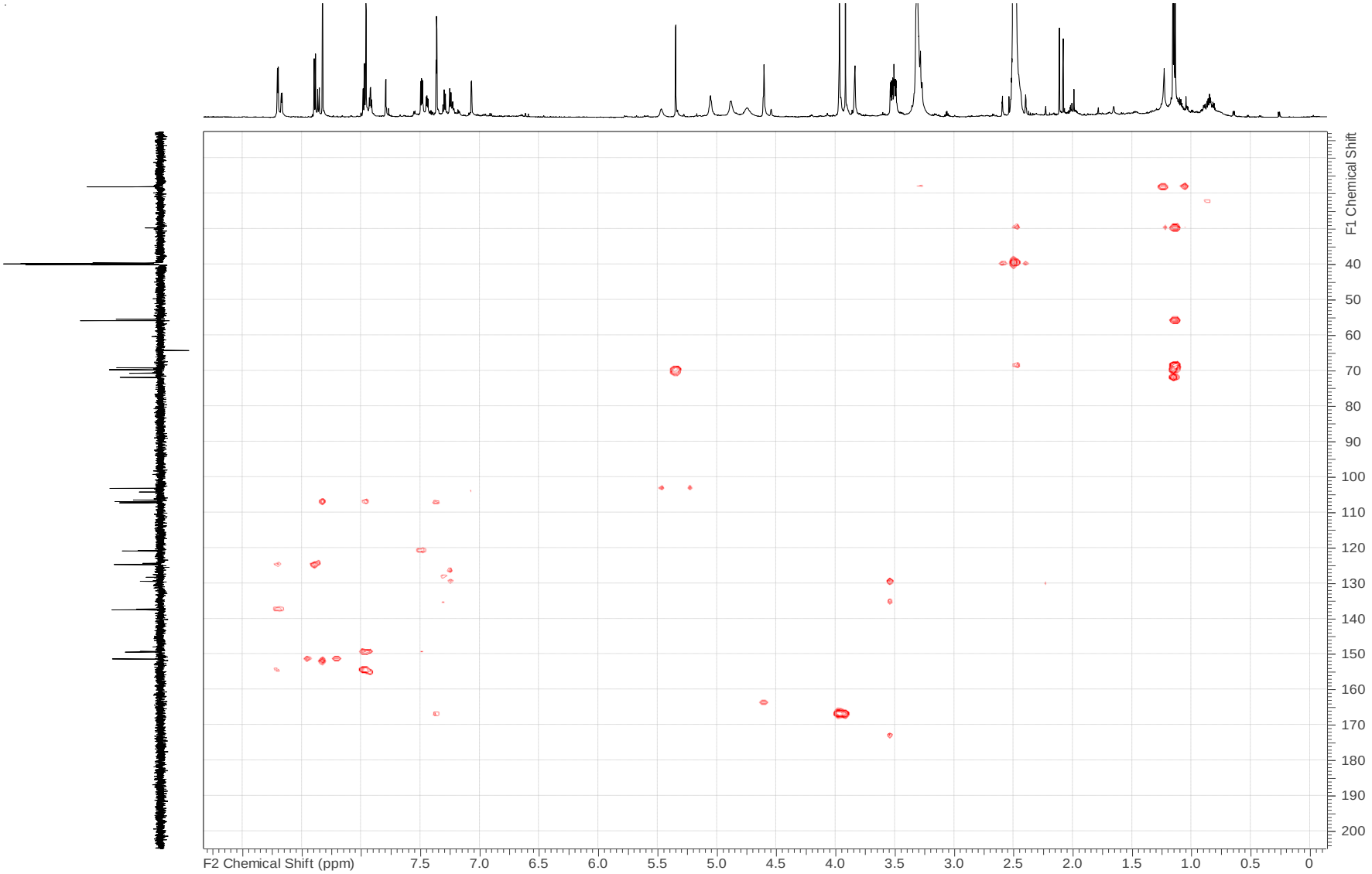
Spectrum S2: ^{13}C NMR spectrum of **1** in DMSO-d_6 (176 MHz).



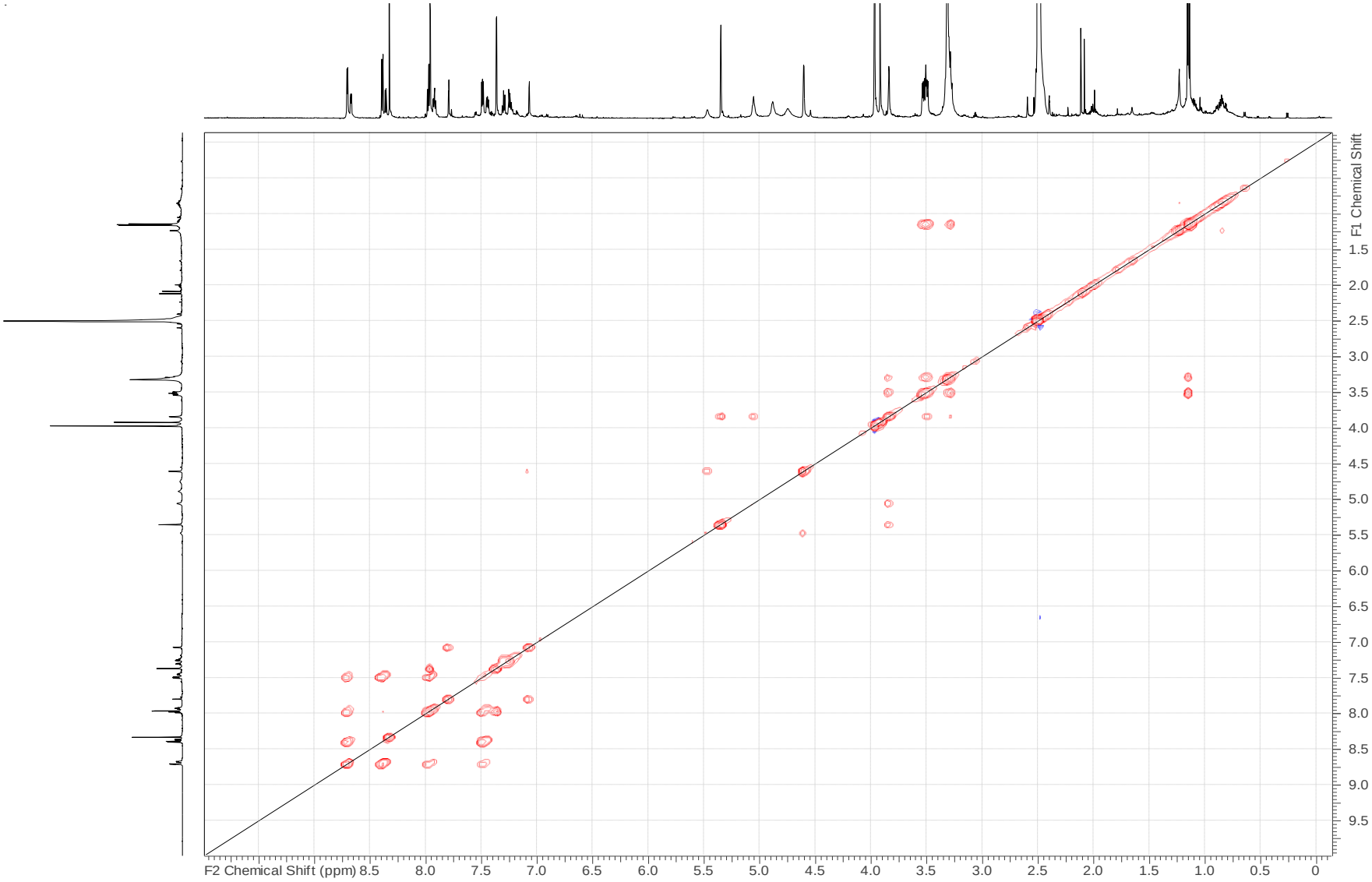
Spectrum S3: HSQC-DEPT spectrum of **1** in DMSO-d_6 (^{1}H 700 MHz, ^{13}C 176 MHz).



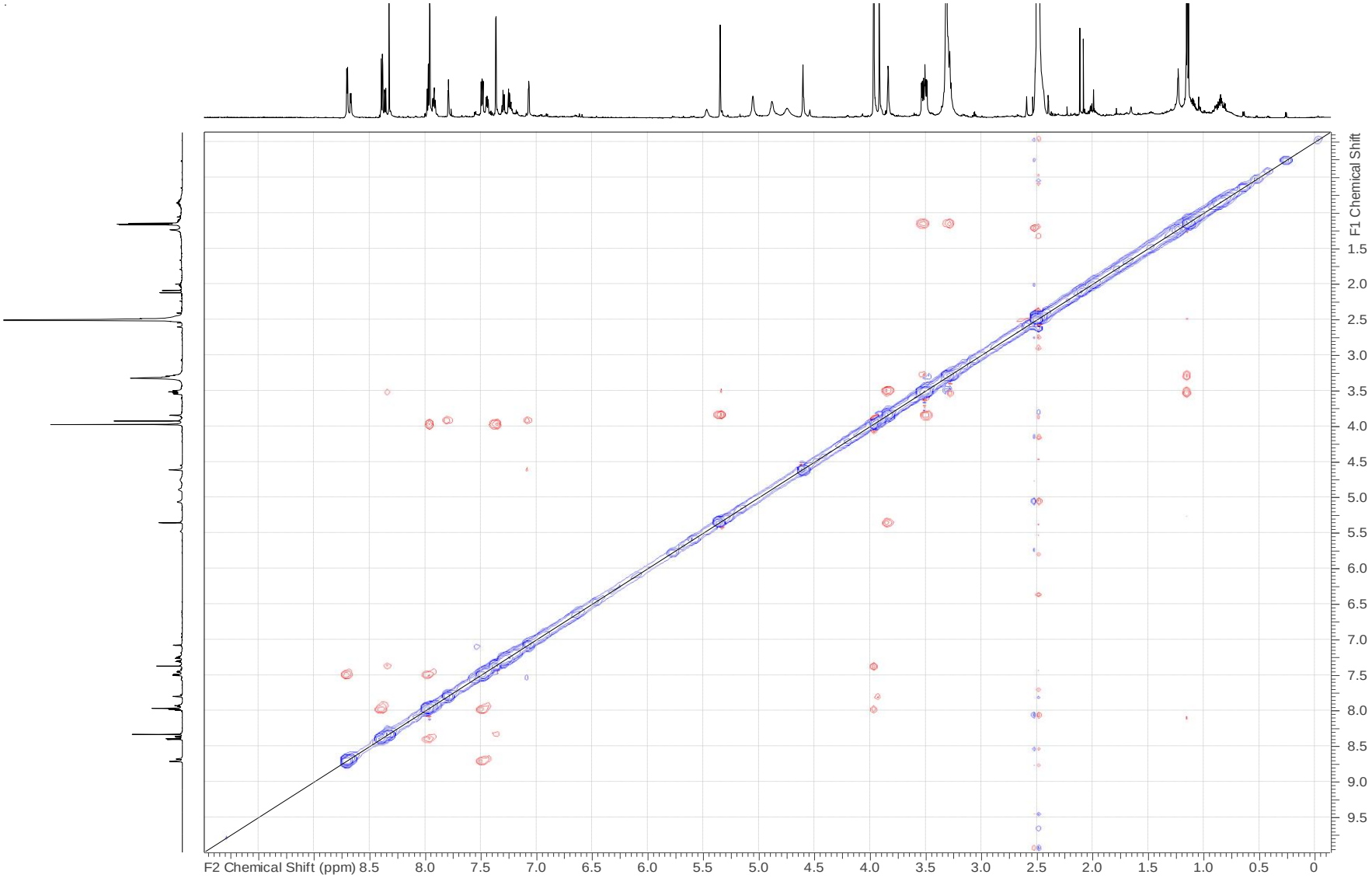
Spectrum S4: COSY spectrum of **1** in DMSO-d_6 (^{1}H 700 MHz).



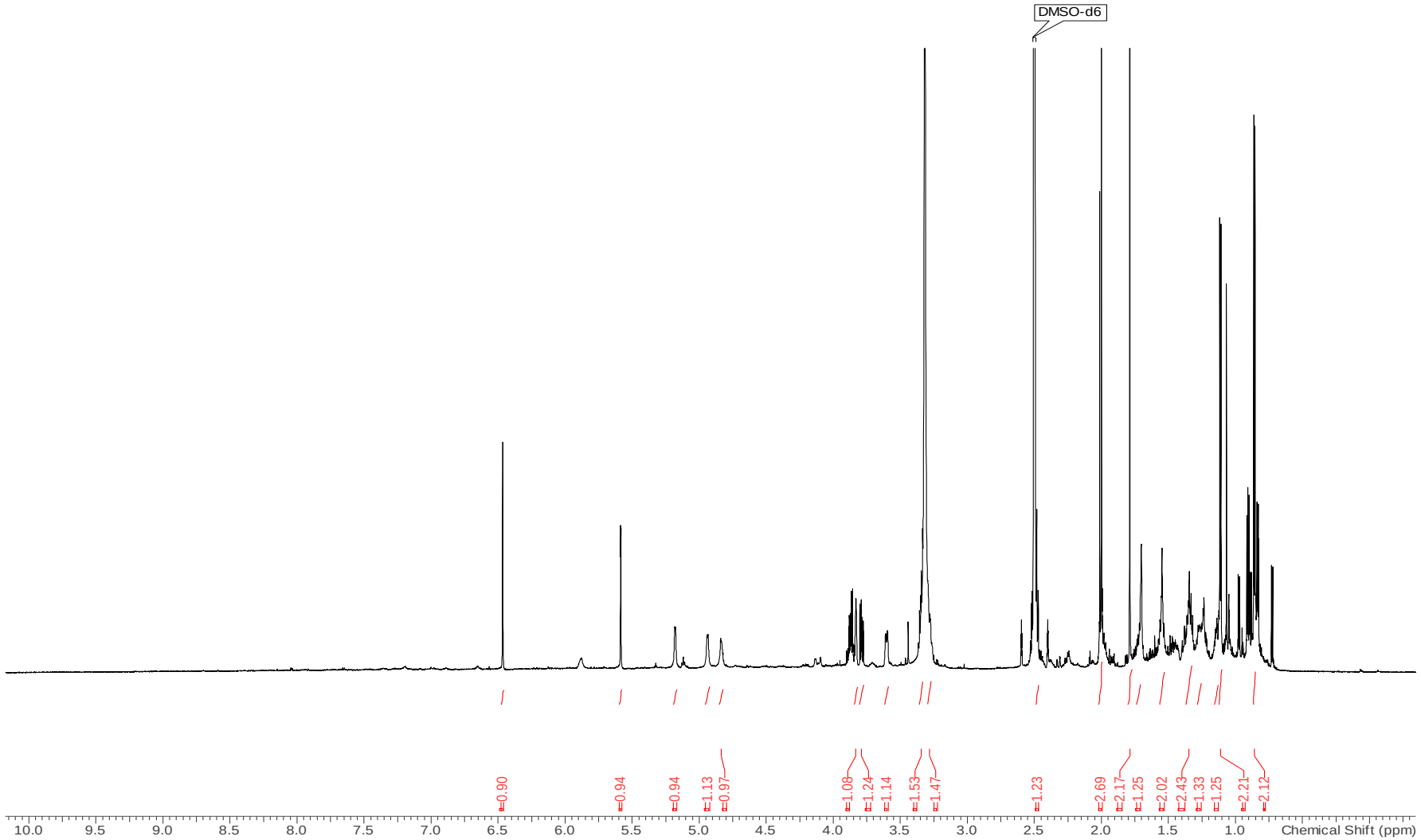
Spectrum S5: HMBC spectrum of **1** in DMSO-d_6 (^{1}H 700 MHz, ^{1}3C 176 MHz).



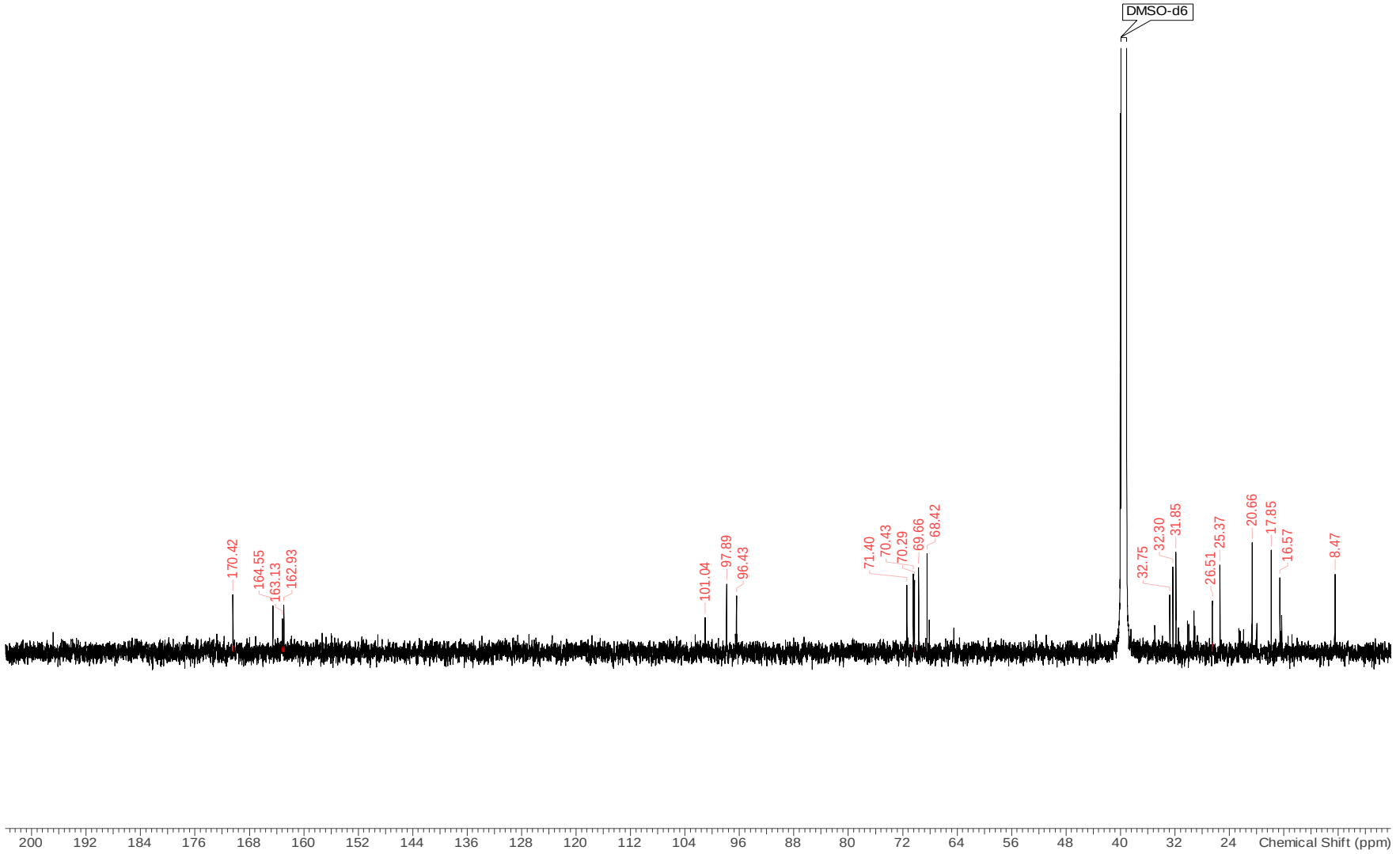
Spectrum S6: TOCSY spectrum of **1** in DMSO-d_6 (^{1}H 700 MHz).



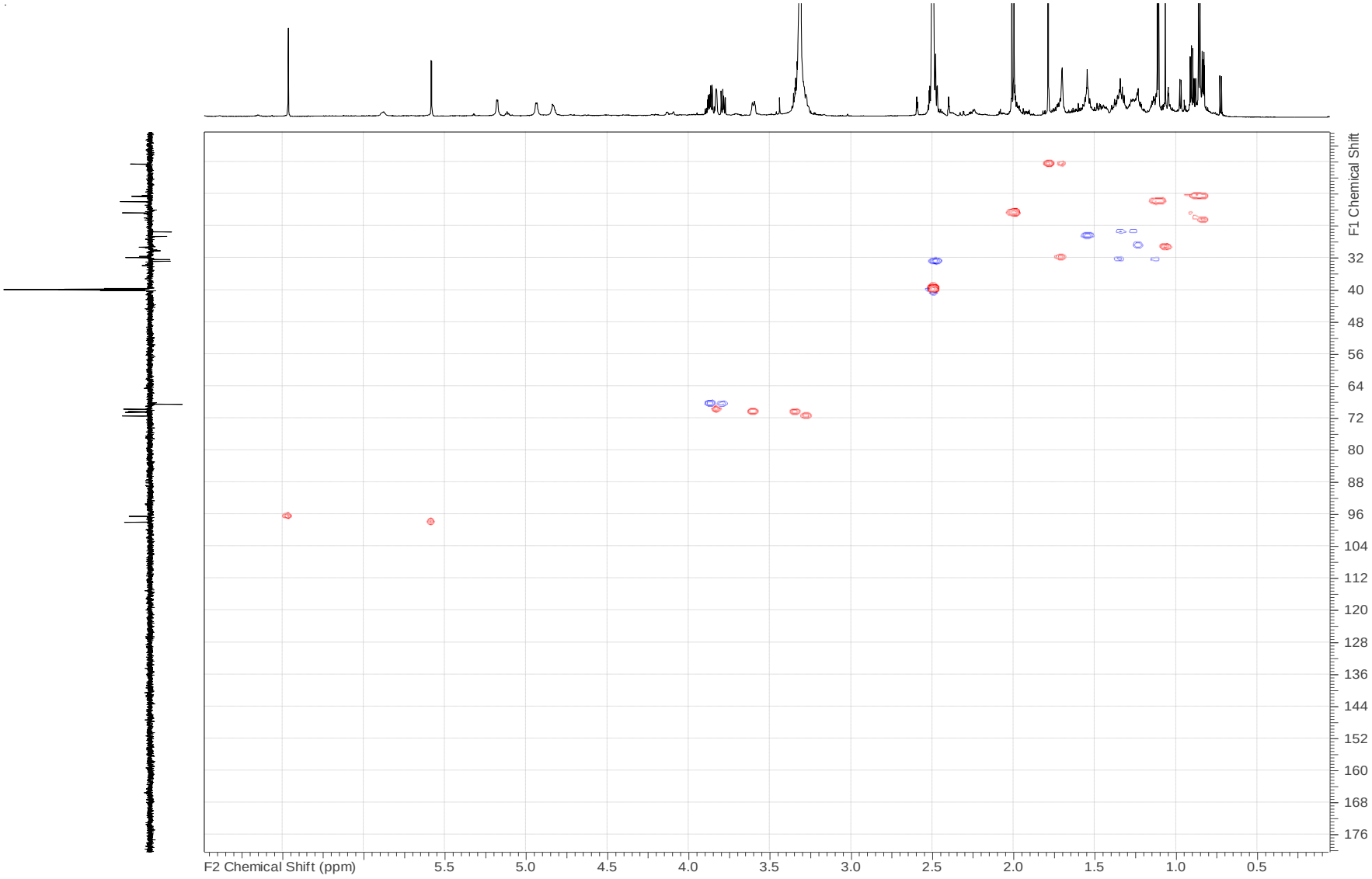
Spectrum S7: ROESY spectrum of **1** in DMSO-d_6 (^{1}H 700 MHz).



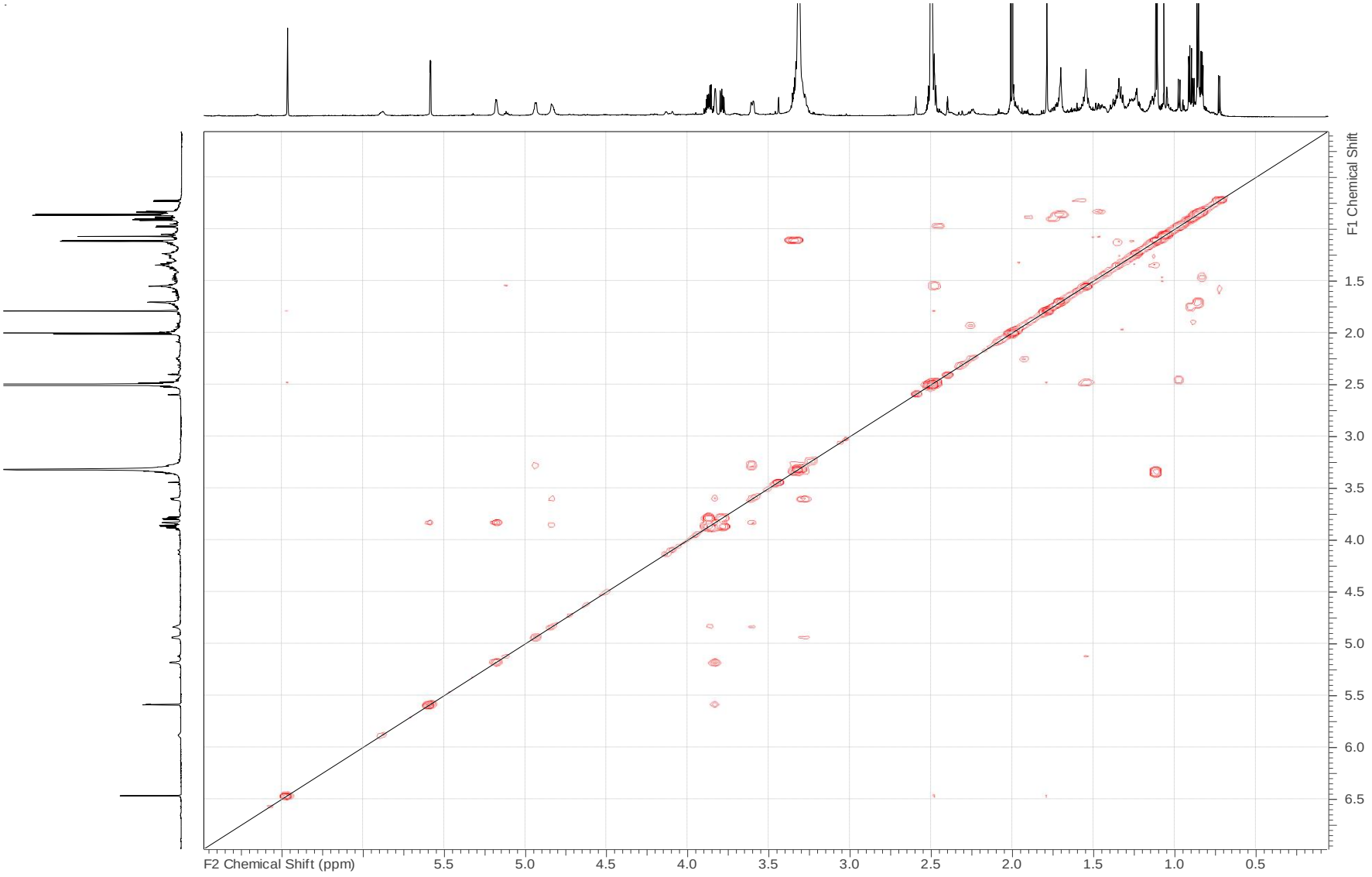
Spectrum S8:^{1}H NMR spectrum of **2** in DMSO-d_6 (^{1}H 700 MHz).



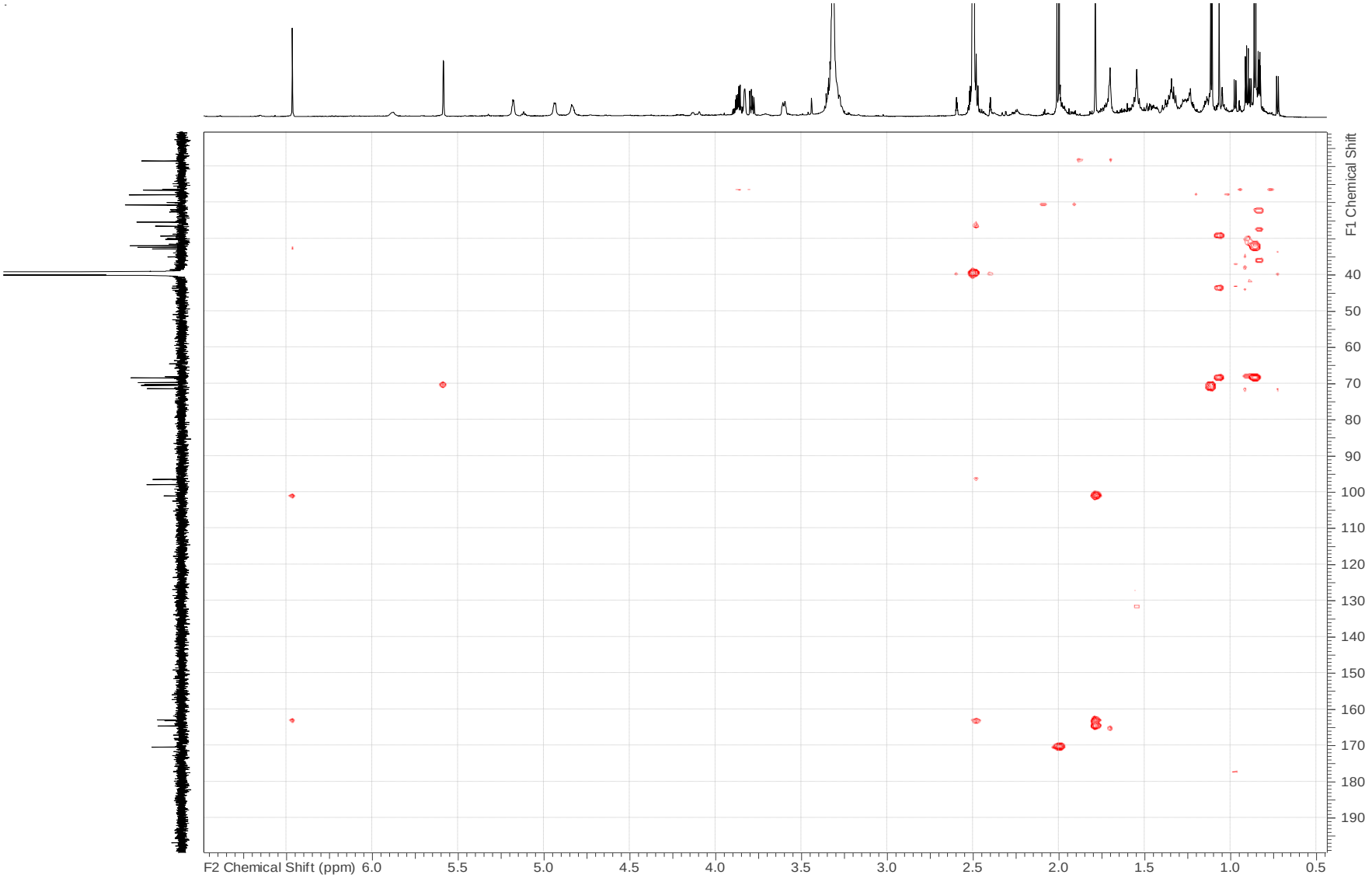
Spectrum S9: ^{13}C NMR spectrum of **2** in DMSO-d_6 (^{13}C 176 MHz).



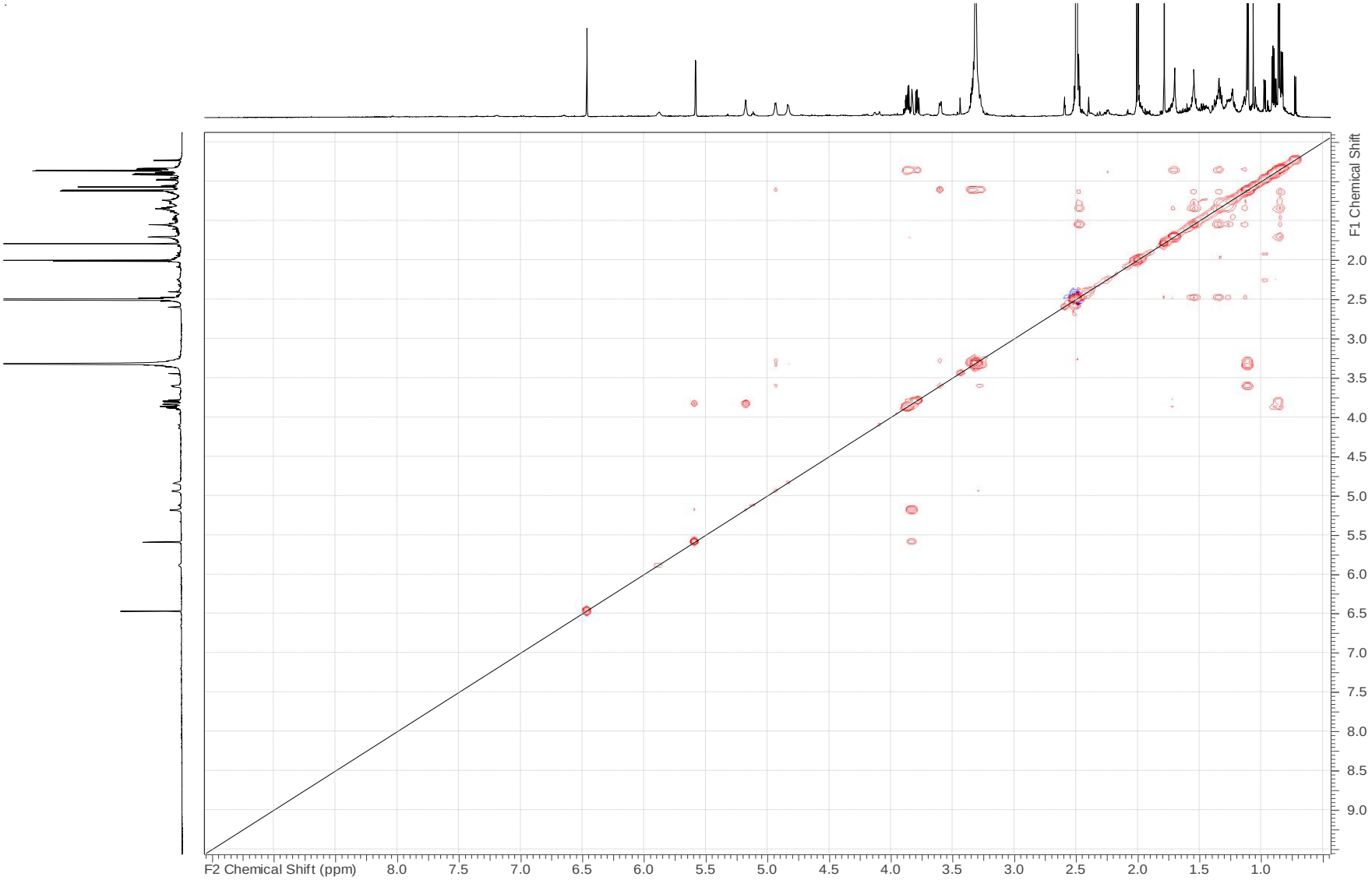
Spectrum S10: HSQC-DEPT spectrum of **2** in DMSO-d_6 (^{1}H 700 MHz, ^{13}C 176 MHz).



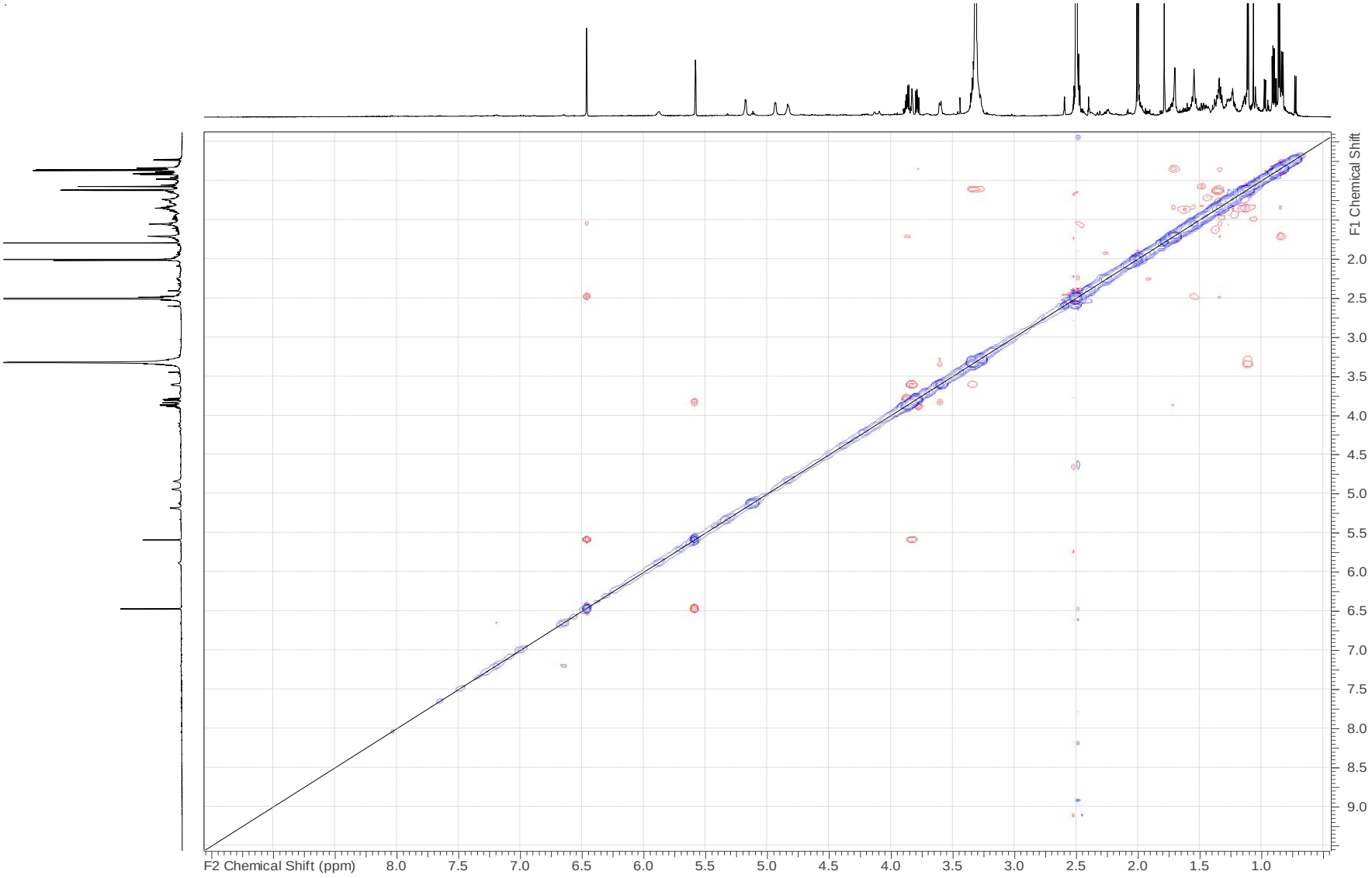
Spectrum S11: COSY spectrum of **2** in DMSO-d_6 (^{1}H 700 MHz).



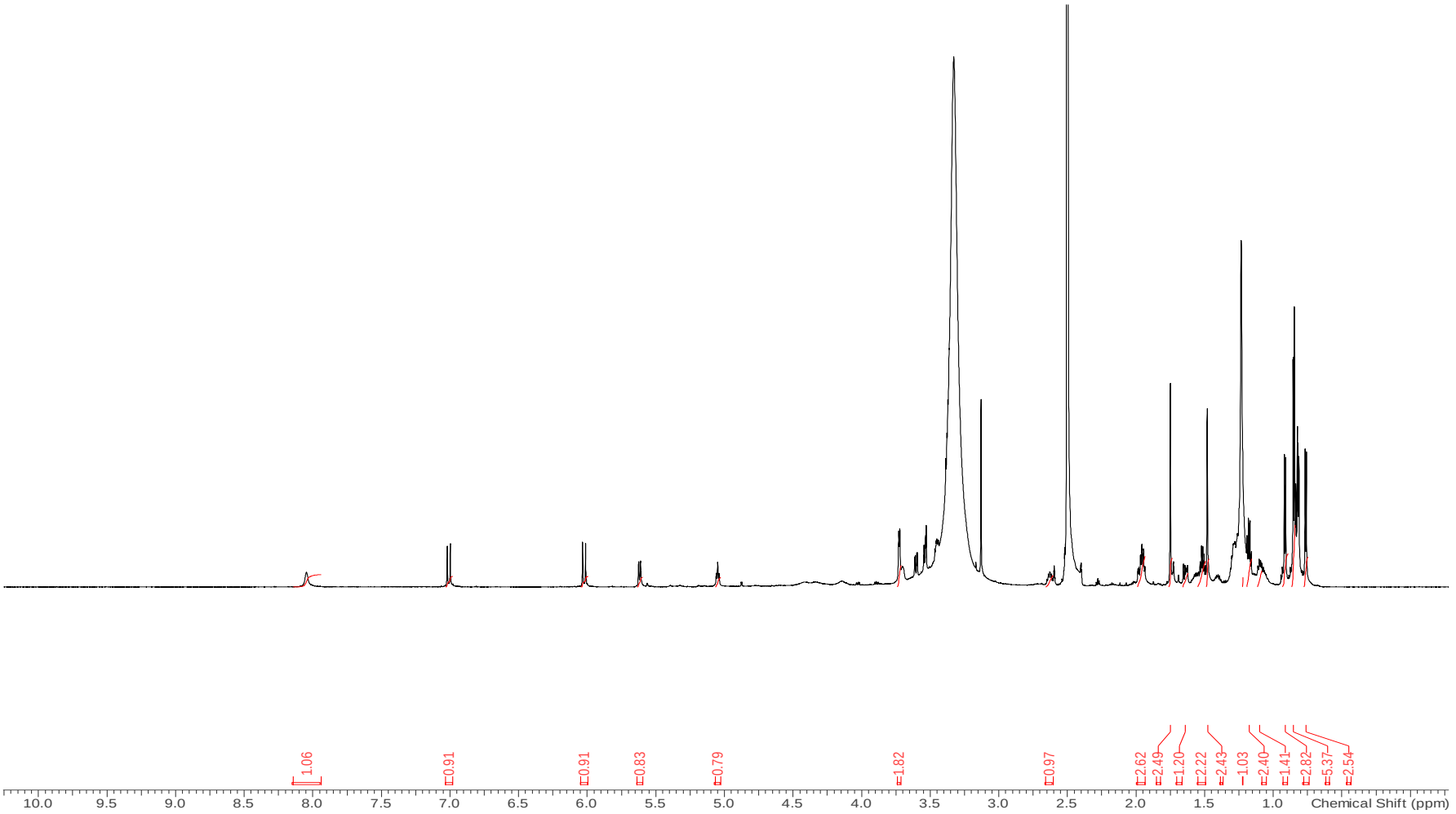
Spectrum S12: HMBC spectrum of **2** in DMSO-d_6 (^{1}H 700 MHz, ^{13}C 176 MHz).



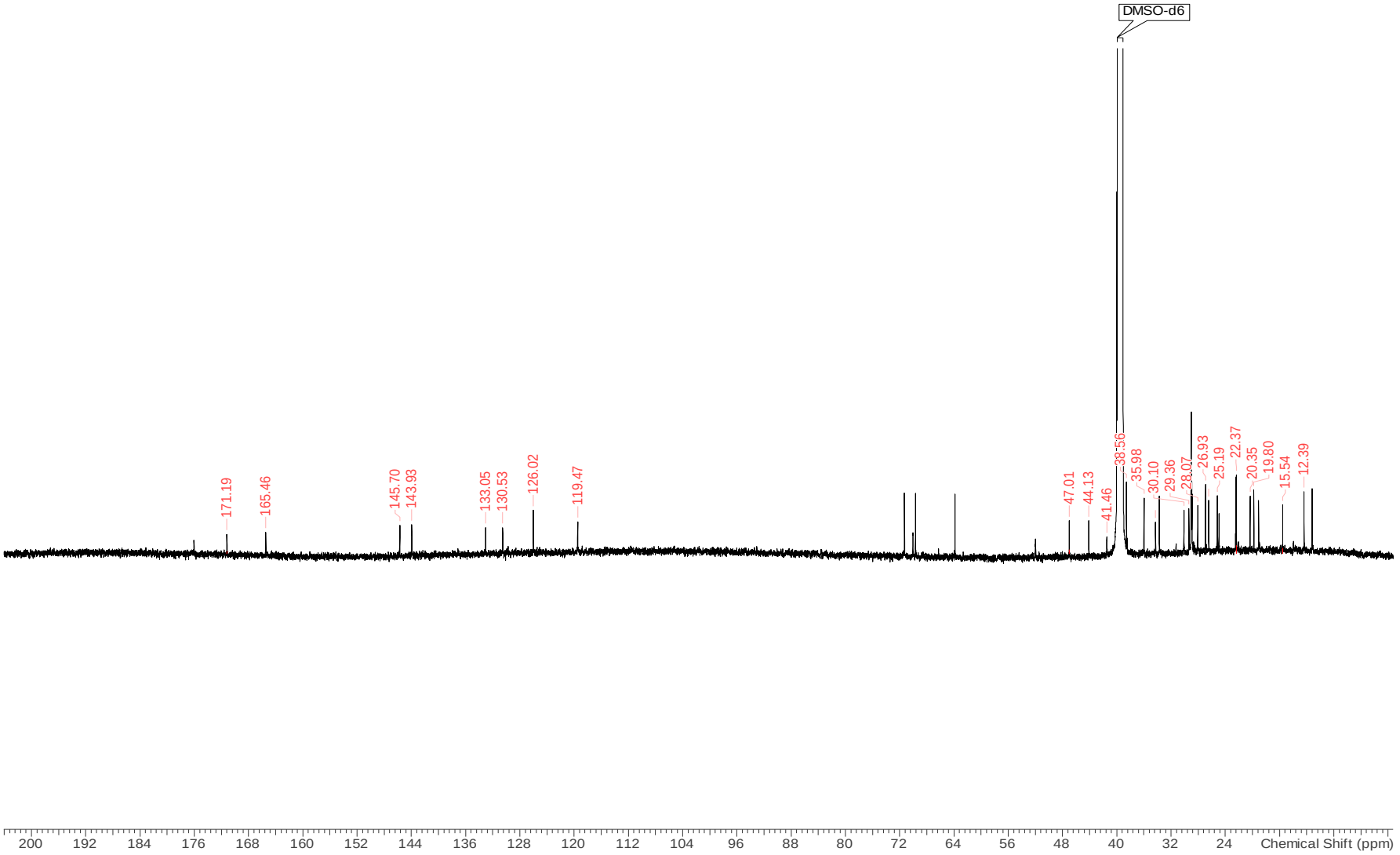
Spectrum S13: TOCSY spectrum of **2** in DMSO-d_6 (^{1}H 700 MHz).



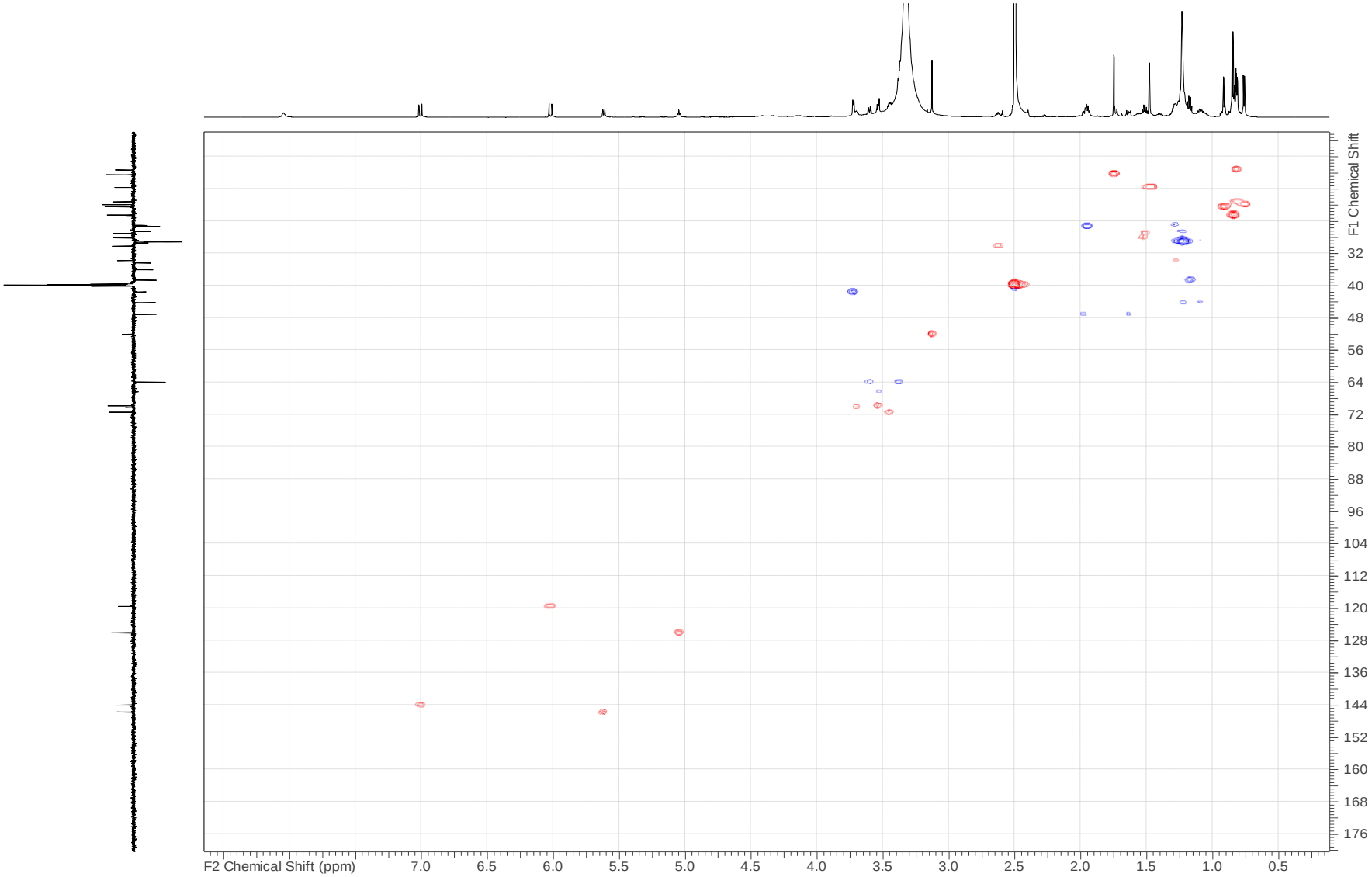
Spectrum S14: ROESY spectrum of **2** in DMSO-d_6 (^{1}H 700 MHz).



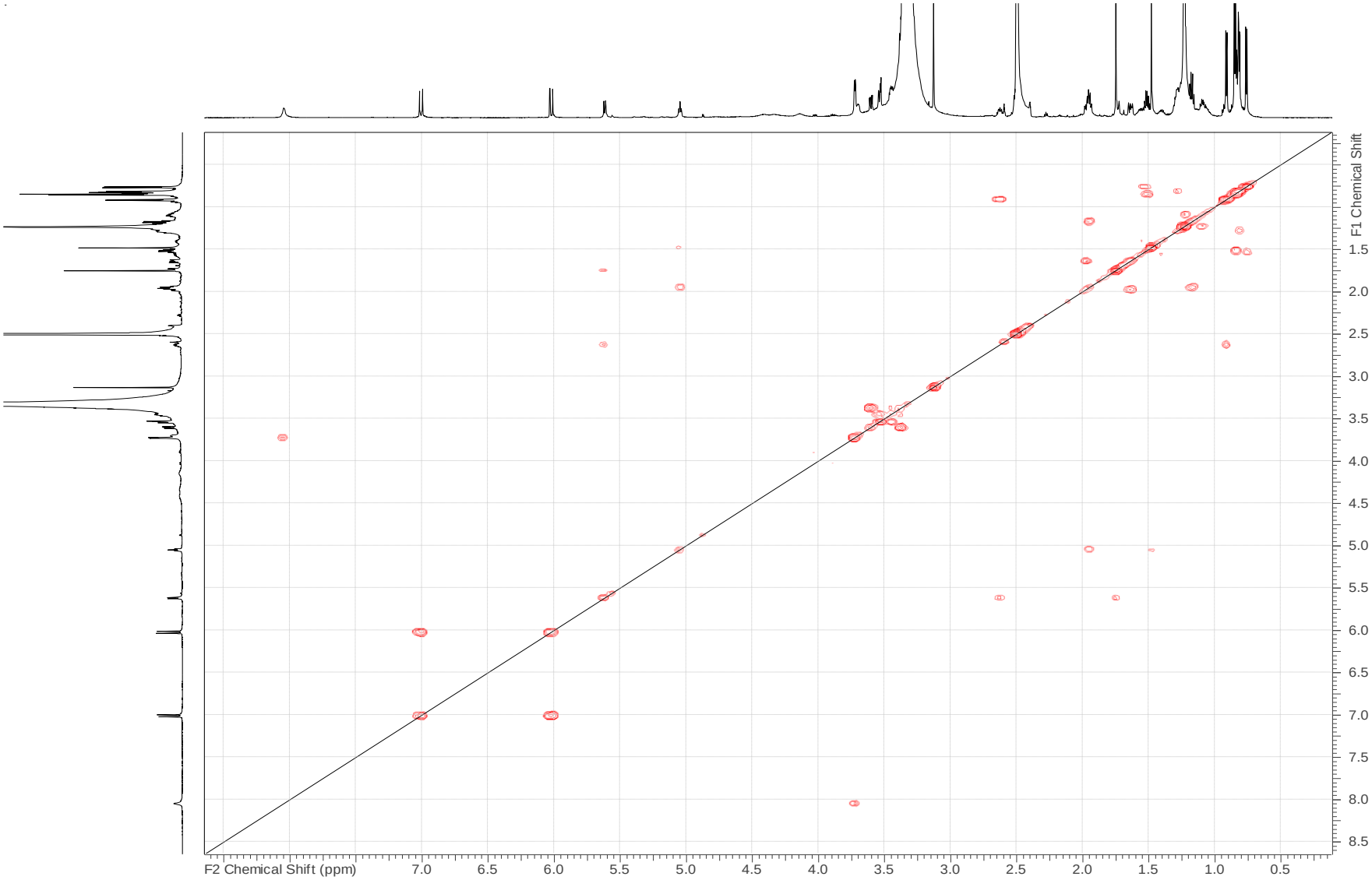
Spectrum S15: ^{1}H NMR spectrum of **3** in DMSO-d_6 (^{1}H 700 MHz).



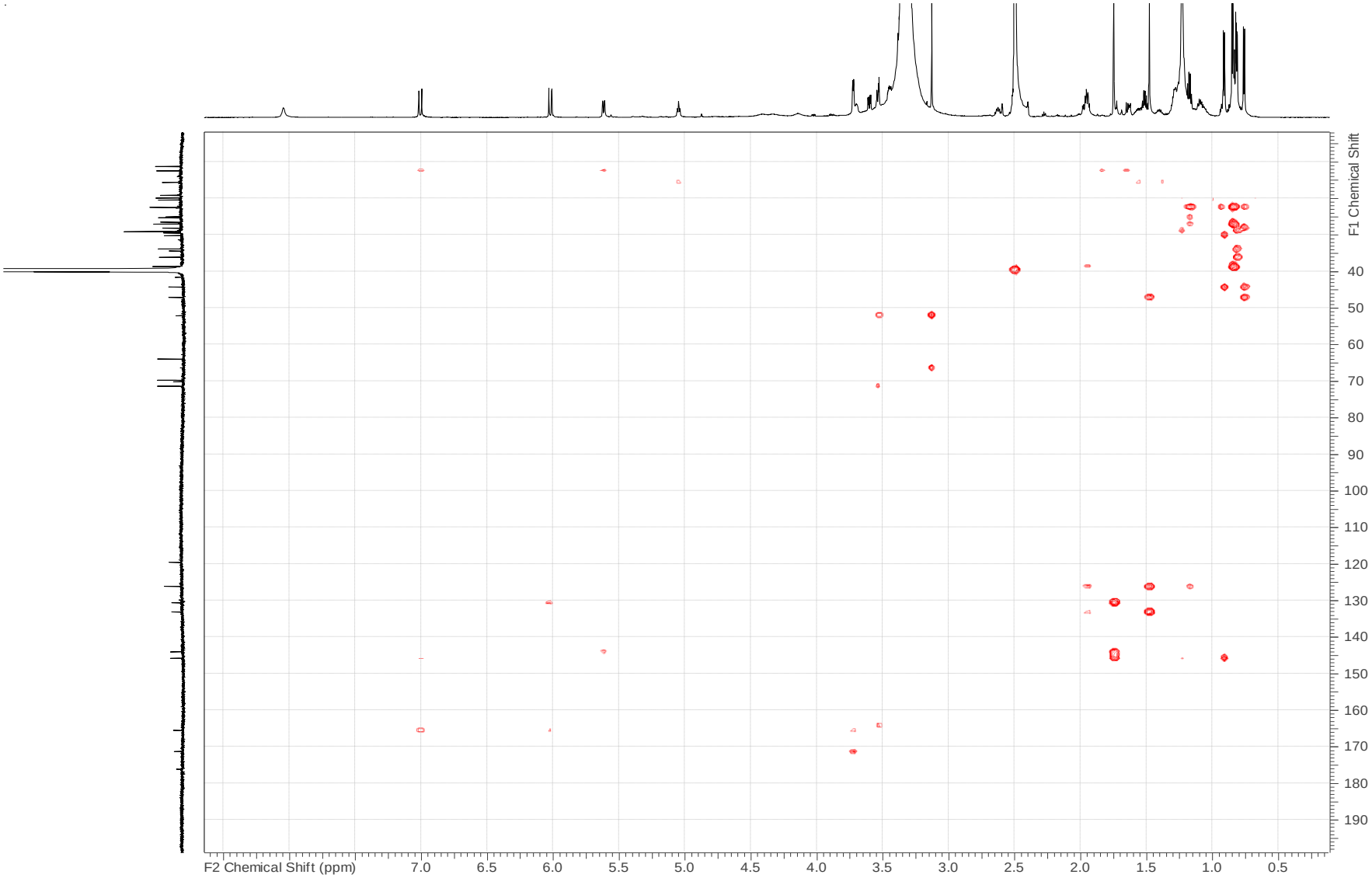
Spectrum S16: ^{13}C NMR spectrum of **3** in DMSO-d_6 (^{13}C 176 MHz).



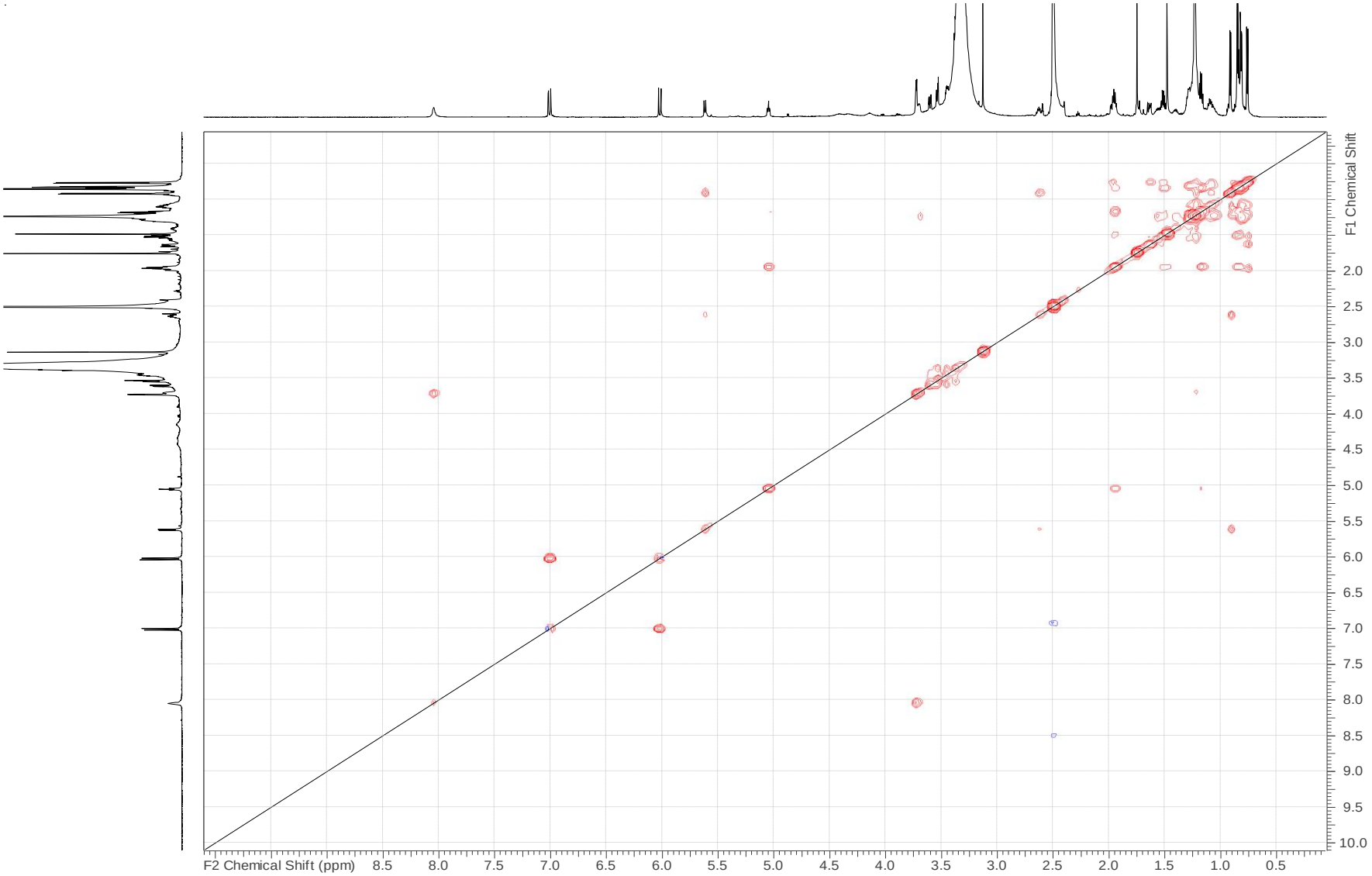
Spectrum S17: HSQC-DEPT spectrum of **3** in DMSO-d_6 (^{1}H 700 MHz, ^{13}C 176 MHz).



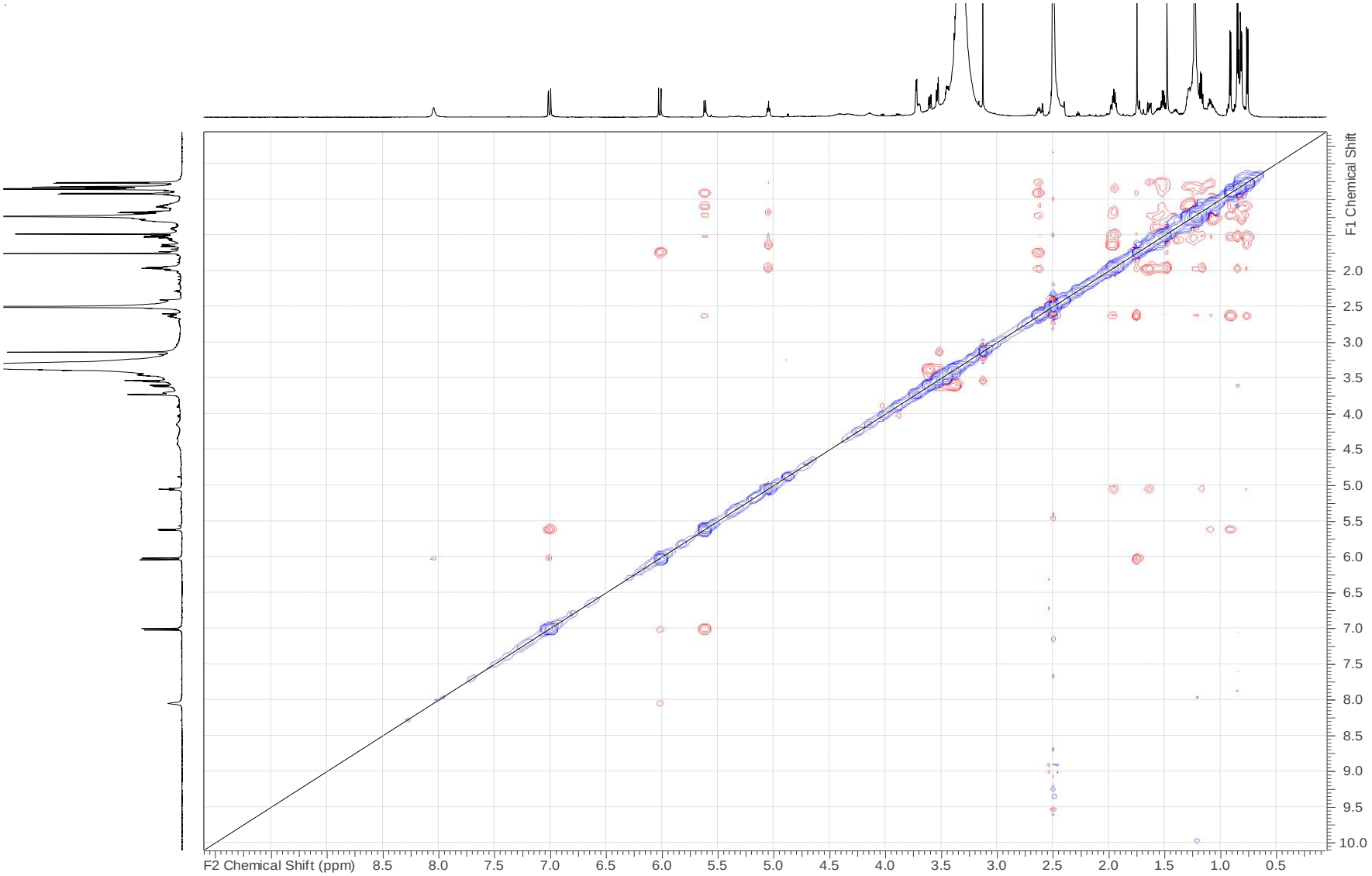
Spectrum S18: COSY spectrum of **3** in DMSO-d_6 (^{1}H 700 MHz).



Spectrum S19: HMBC spectrum of **3** in DMSO-d_6 (^{1}H 700 MHz, ^{13}C 176 MHz).



Spectrum S20: TOCSY spectrum of **3** in DMSO-d_6 (^{1}H 700 MHz).



Spectrum S21: ROESY spectrum of **3** in DMSO-d_6 (^{1}H 700 MHz