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Supporting Information

for

Identification of volatiles from six marine *Celeribacter* strains

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DMSP demethylation pathway in *Celeribacter* spp. and copies of spectra

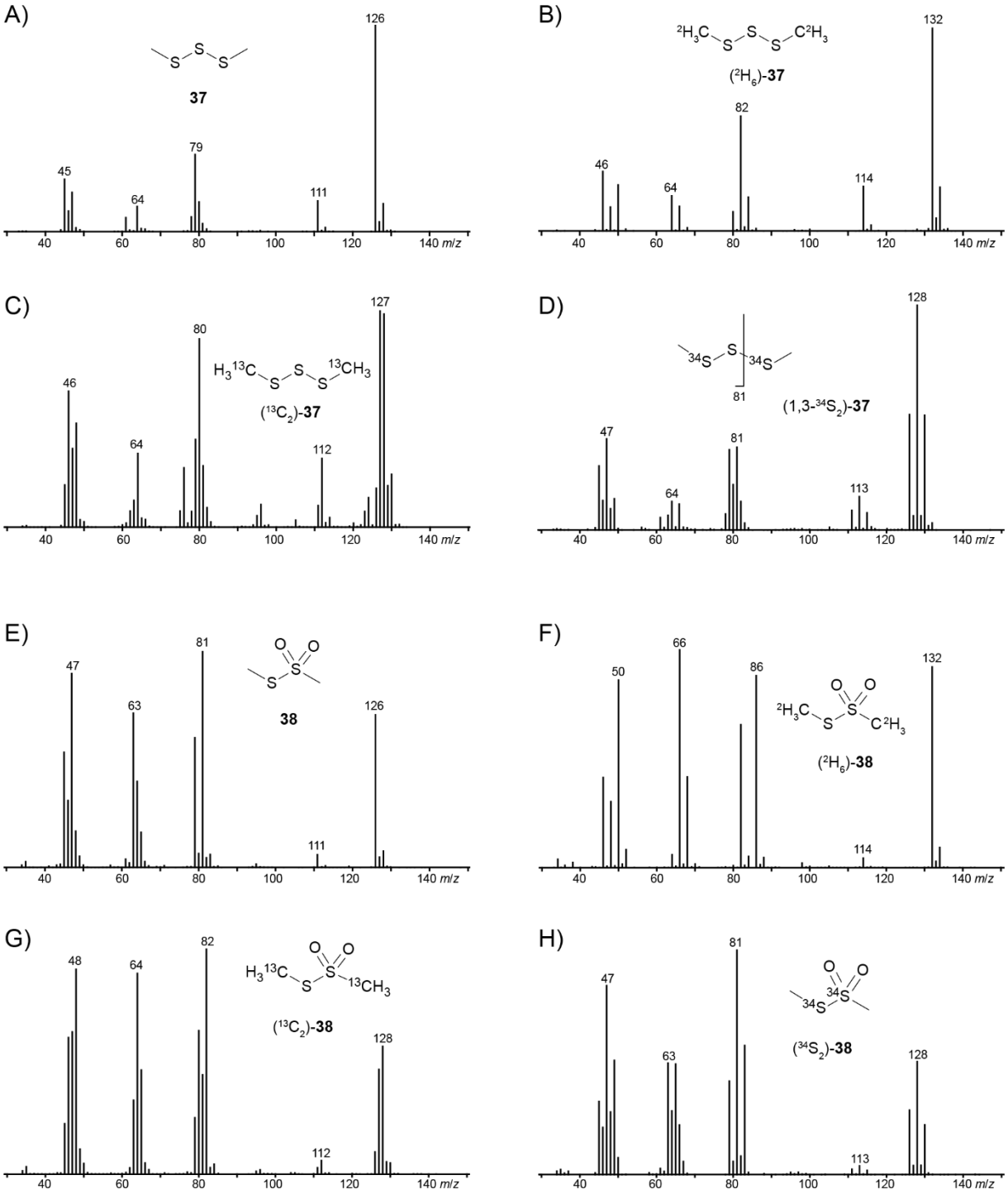

Figure S1: EI mass spectra of A) unlabeled dimethyl trisulfide (**37**) and of labeled **37** after feeding of B) [*methyl*-$^{2}H_3$]methionine, C) [*methyl*-^{13}C]methionine and D) [^{34}S]DMSP, E) unlabeled S-methyl methanethiosulfonate (**38**) and of labeled **38** after feeding of F) [*methyl*-$^{2}H_3$]methionine, G) [*methyl*-^{13}C]methionine, and H) [^{34}S]DMSP. The structures of labeled compounds show the isotopomers of maximum incorporation of labeling.

Table S1: The DMSP demethylation pathway in *Celeribacter* spp.

Strain	DmdA[a]	DmdB[a]	DmdC[a]	DmdD[a]
C. marinus DSM 100036^T	WP_062220065 (21%)	WP_062217242 (22%)	WP_062219918 (38%)	WP_062217896 (30%)
C. neptunius DSM 26471^T	WP_090061255 (26%)[b]	WP_090061186 (25%)	WP_090062142 (40%)	WP_090062168 (43%)
C. manganoxidans DSM 27541^T	WP_097373155 (21%)[b]	WP_097373111 (31%)	WP_097372585 (41%)	WP_088662863 (30%)
C. baekdonensis DSM 27375^T	WP_074644298 (28%)[b]	WP_107720993 (32%)	WP_107720980 (46%)	WP_074641224 (43%)
C. halophilus DSM 26270^T	WP_066599093 (25%)[b]	WP_066604139 (26%)	WP_066603281 (39%)	WP_066601109 (31%)
C. indicus DSM 27257^T	–	WP_139267207 (27%)	WP_043868654 (40%)	WP_043869106 (42%)

[a]NCBI accession numbers and % identity of the closest homologs of the functionally characterized enzymes DmdABCD from *Ruegeria pomeroyi* DSS-3 obtained by BLAST search; [b]identity by comparison to C-terminal domain.

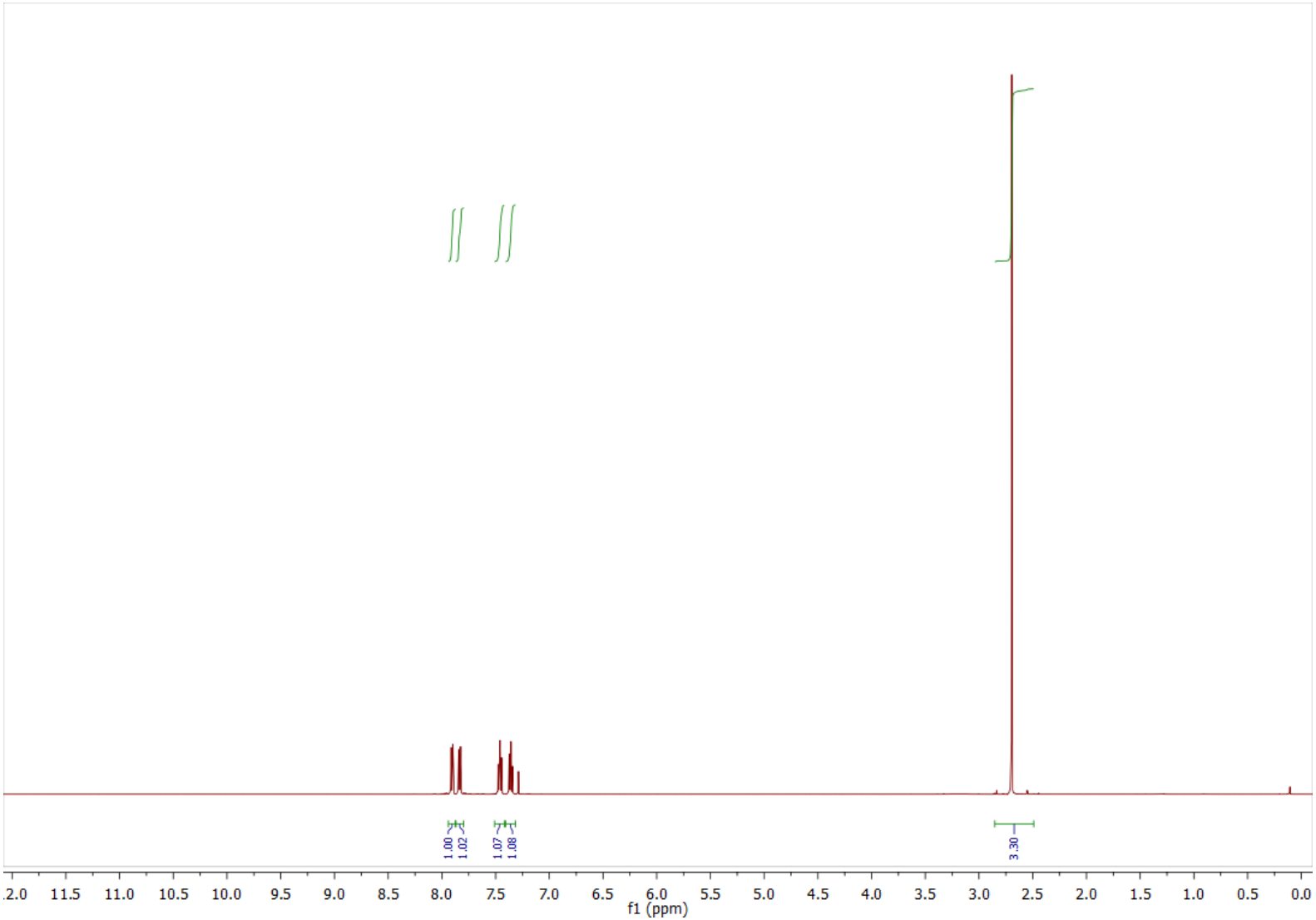

Figure S2: ^{1}H NMR spectrum ($CDCl_3$, 500 MHz) of **41**.

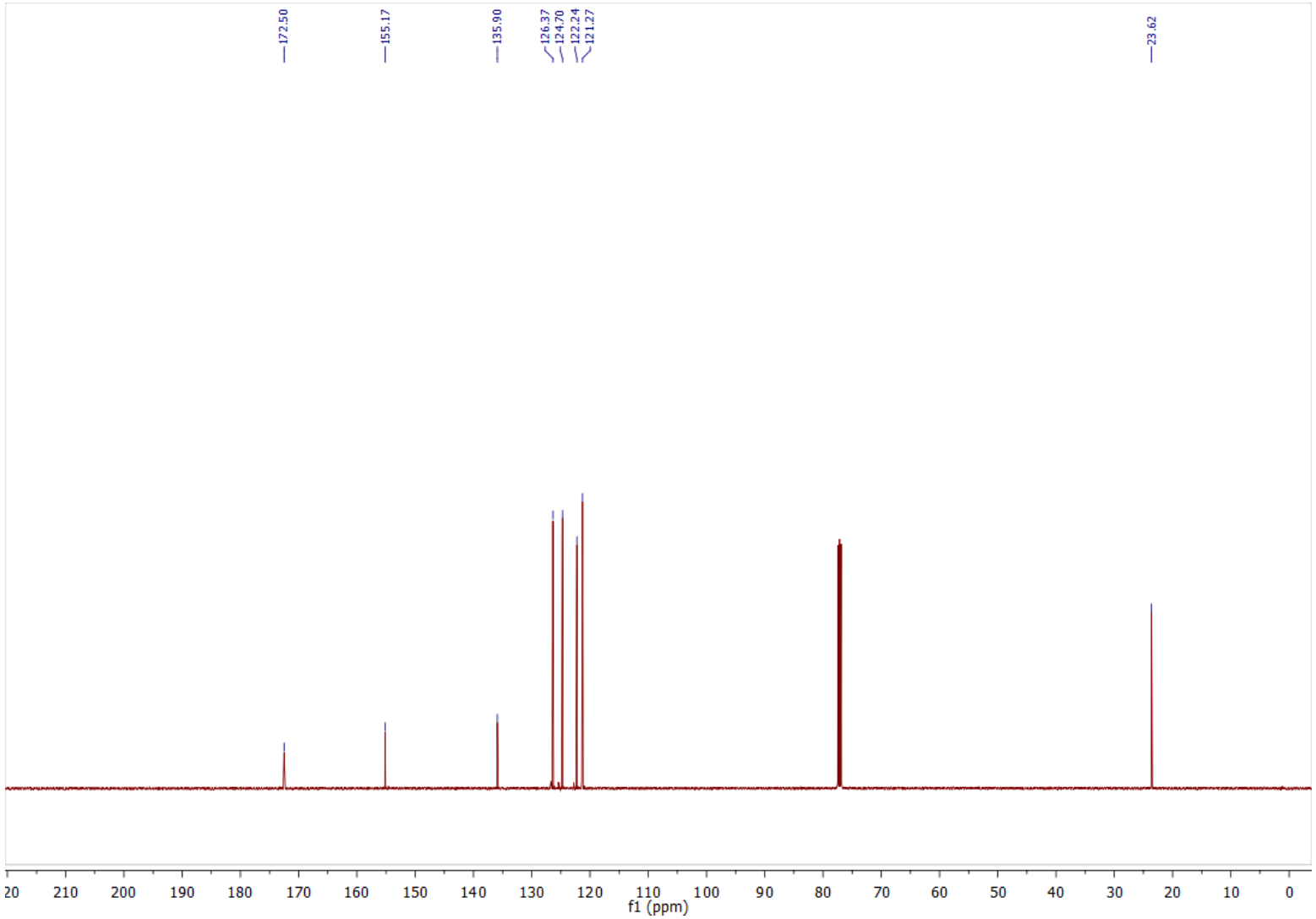

Figure S3: ^{13}C NMR spectrum ($CDCl_3$, 125 MHz) of **41**.

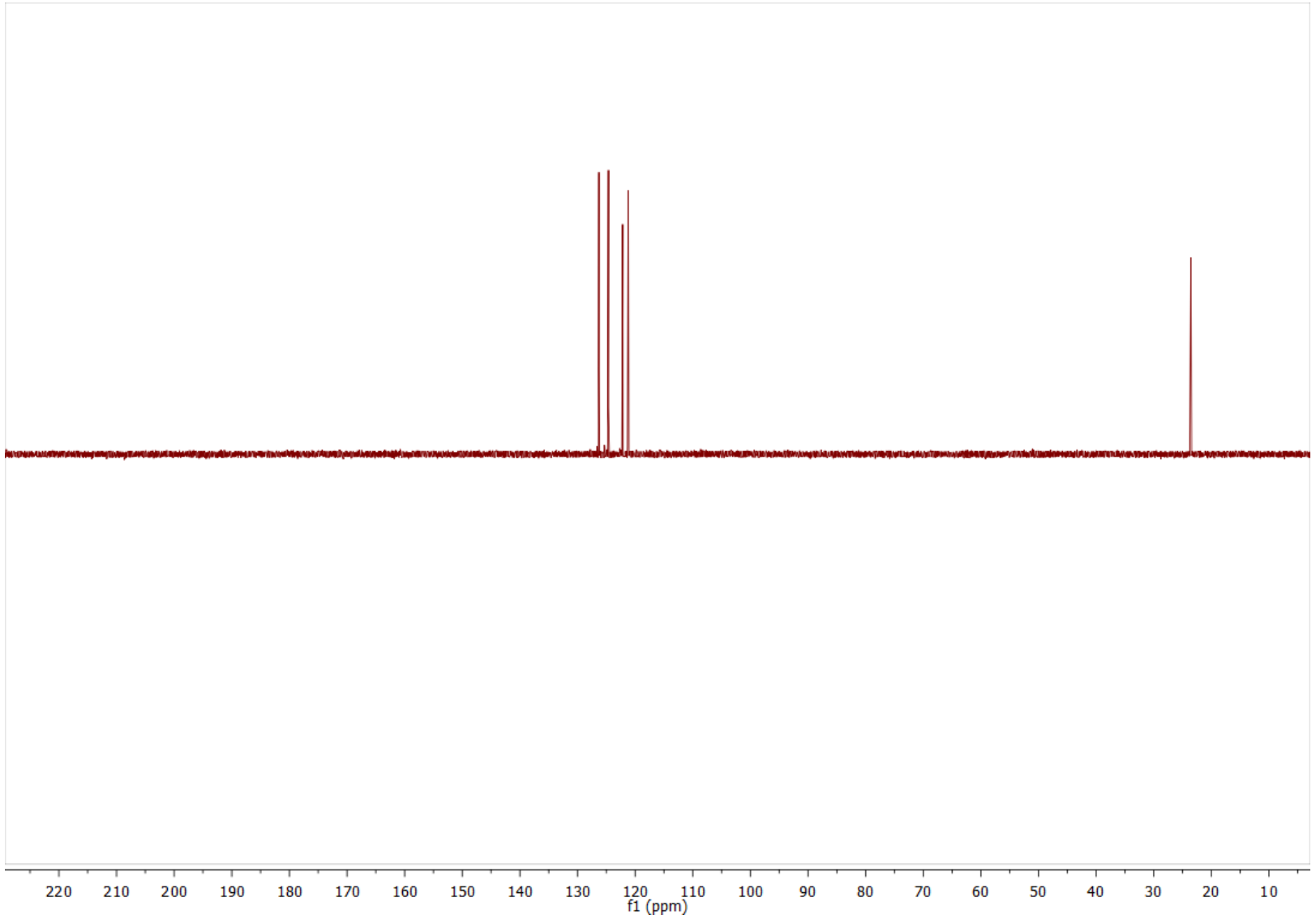

Figure S4: ^{13}C-DEPT spectrum ($CDCl_3$, 125 MHz) of **41**.

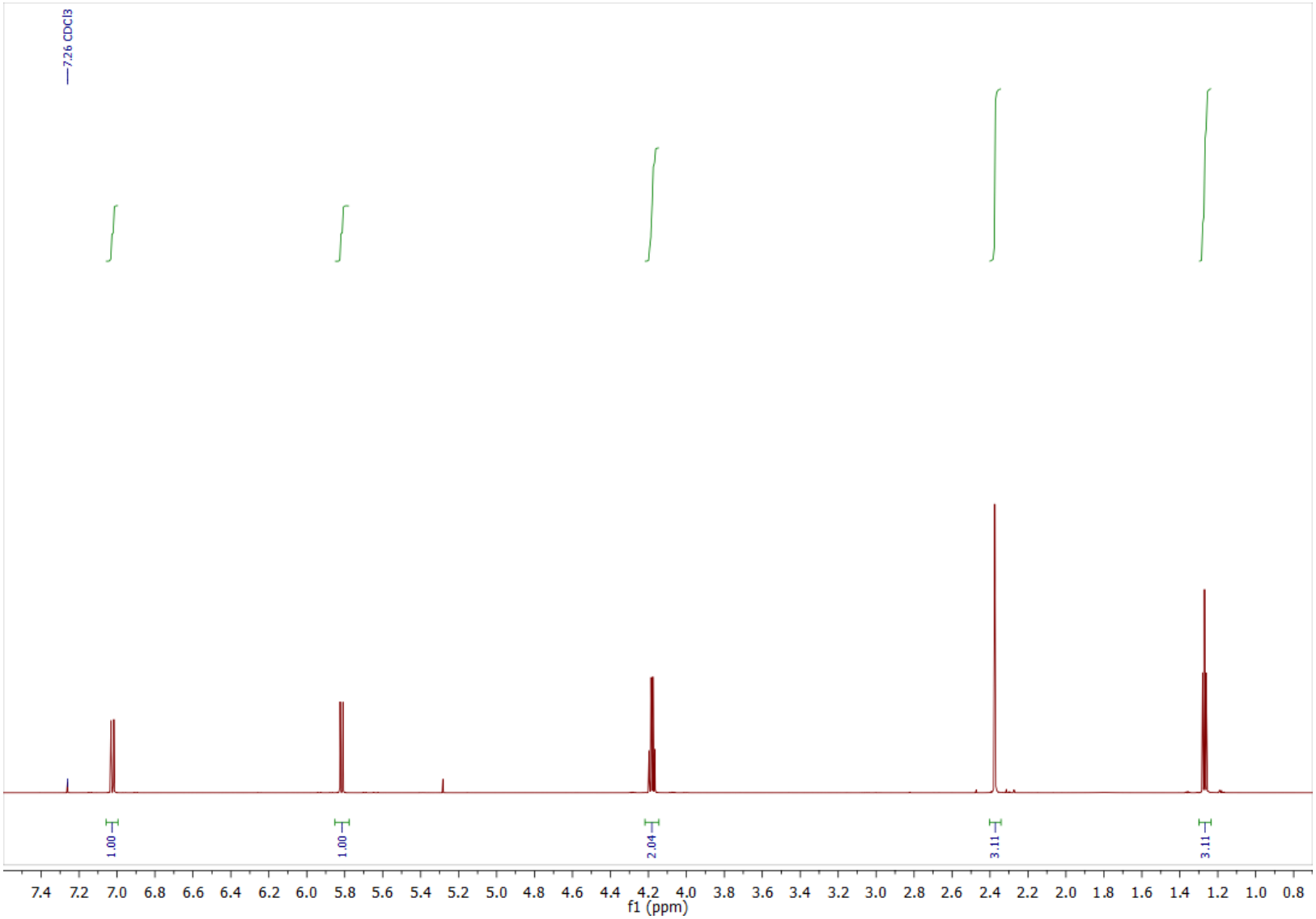

Figure S5: ^{1}H NMR spectrum ($CDCl_3$, 700 MHz) of (*Z*)-**42**.

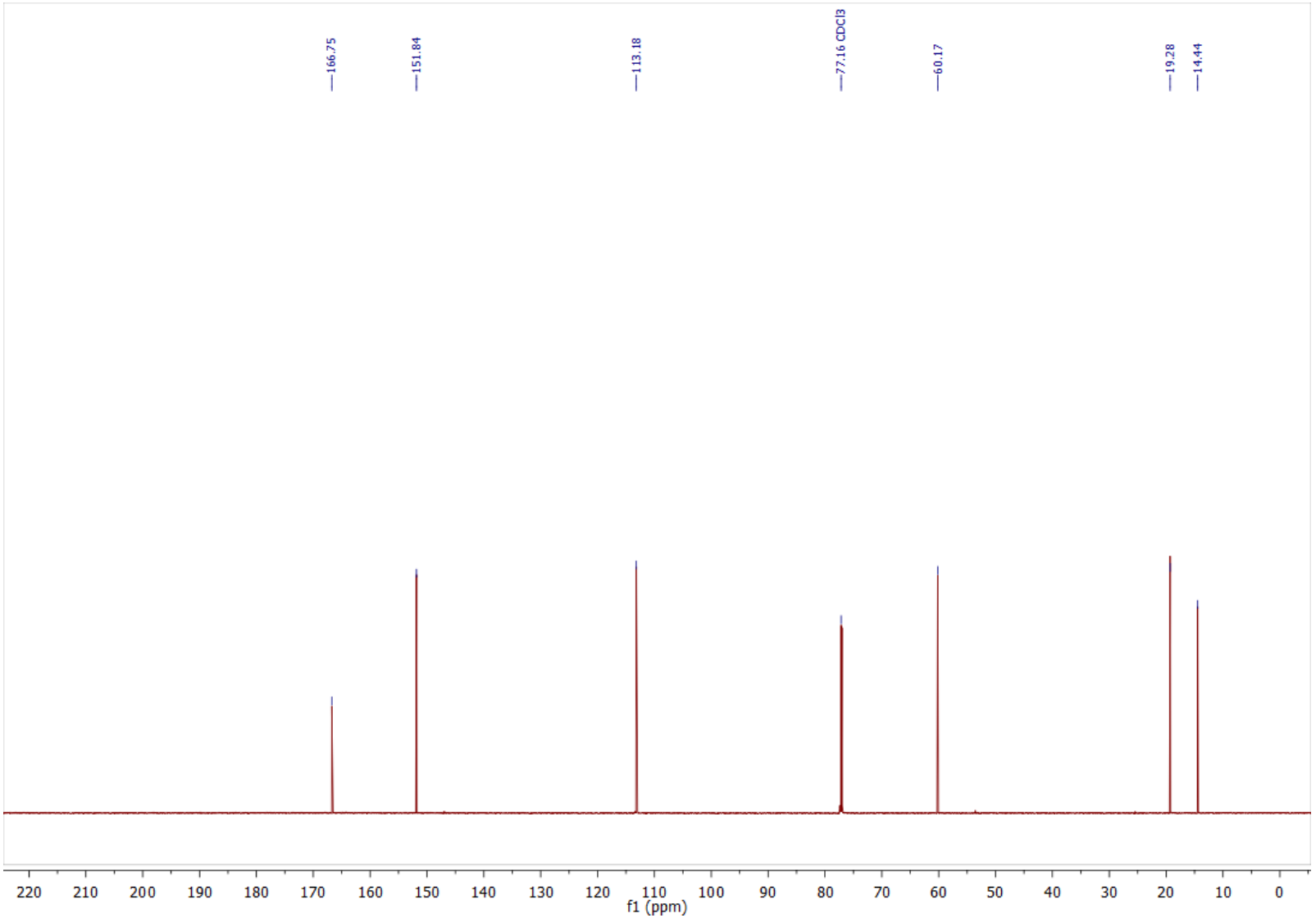

Figure S6: ^{13}C NMR spectrum ($CDCl_3$, 175 MHz) of (*Z*)-**42**.

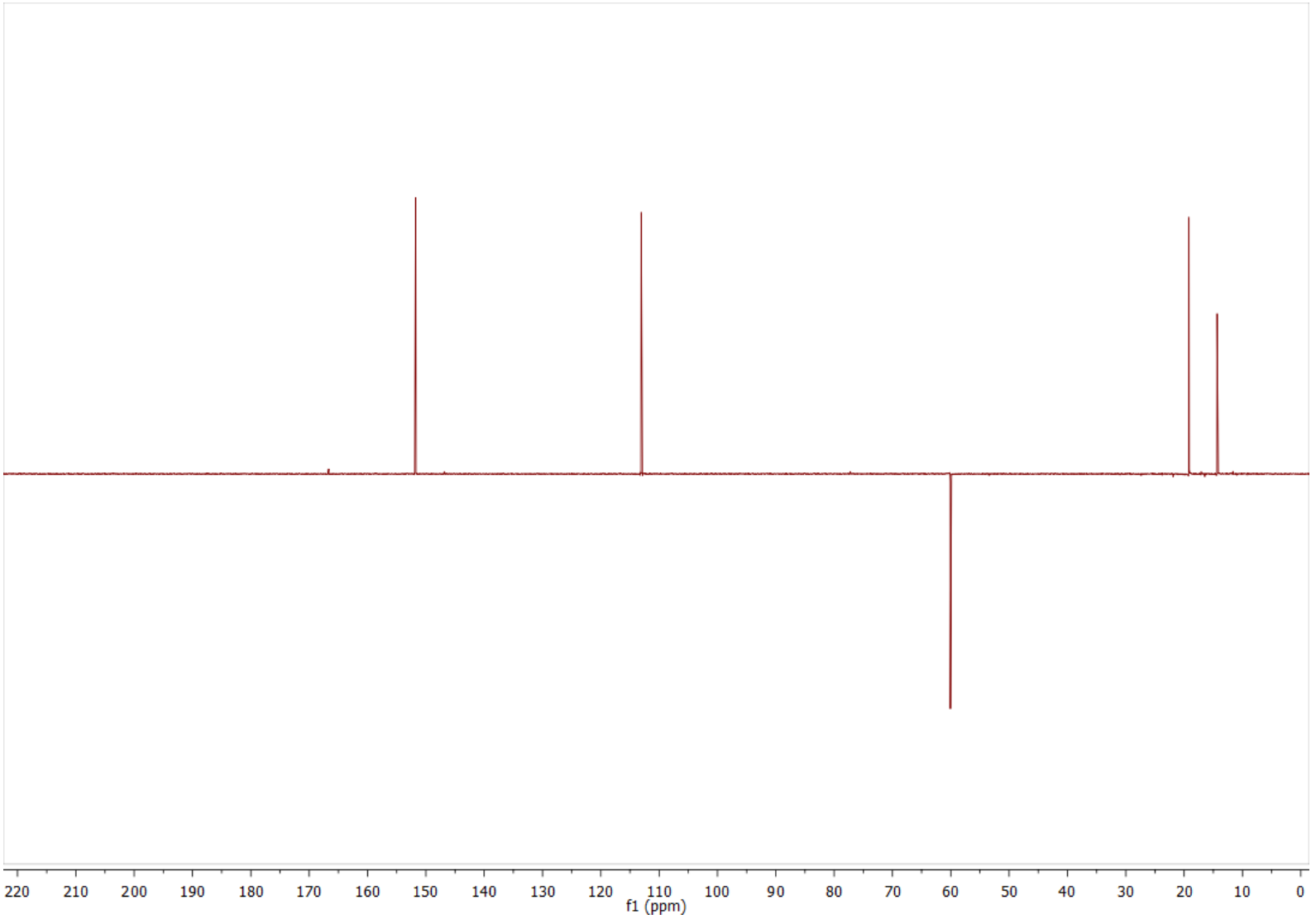

Figure S7: ^{13}C-DEPT spectrum (D_2O, 175 MHz) of (*Z*)-**42**.

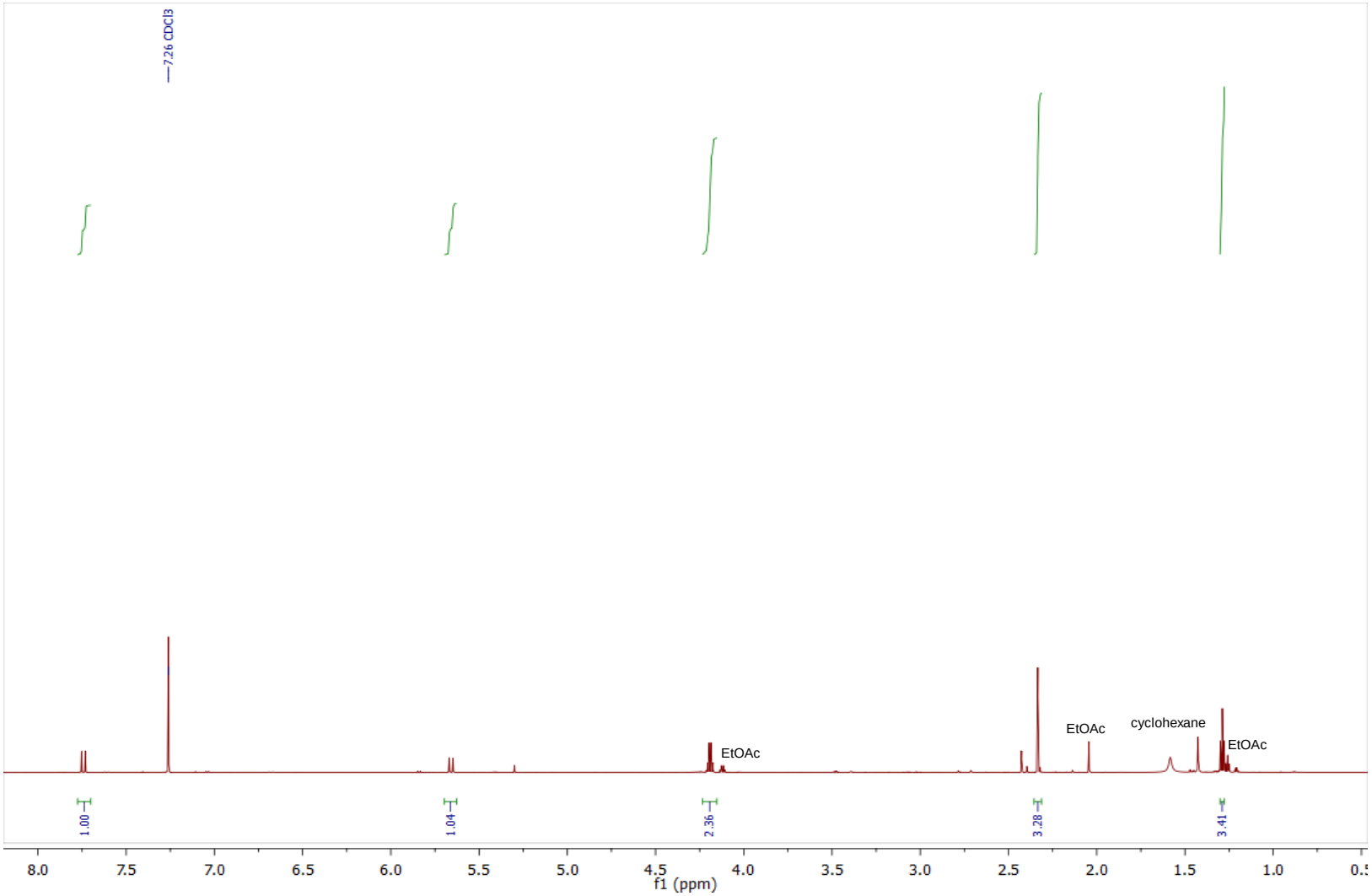

Figure S8: ^{1}H NMR spectrum ($CDCl_3$, 700 MHz) of (*E*)-**42**. Minor impurities originate from solvents which were not rigorously removed, because the compound was obtained in small amounts and is volatile.

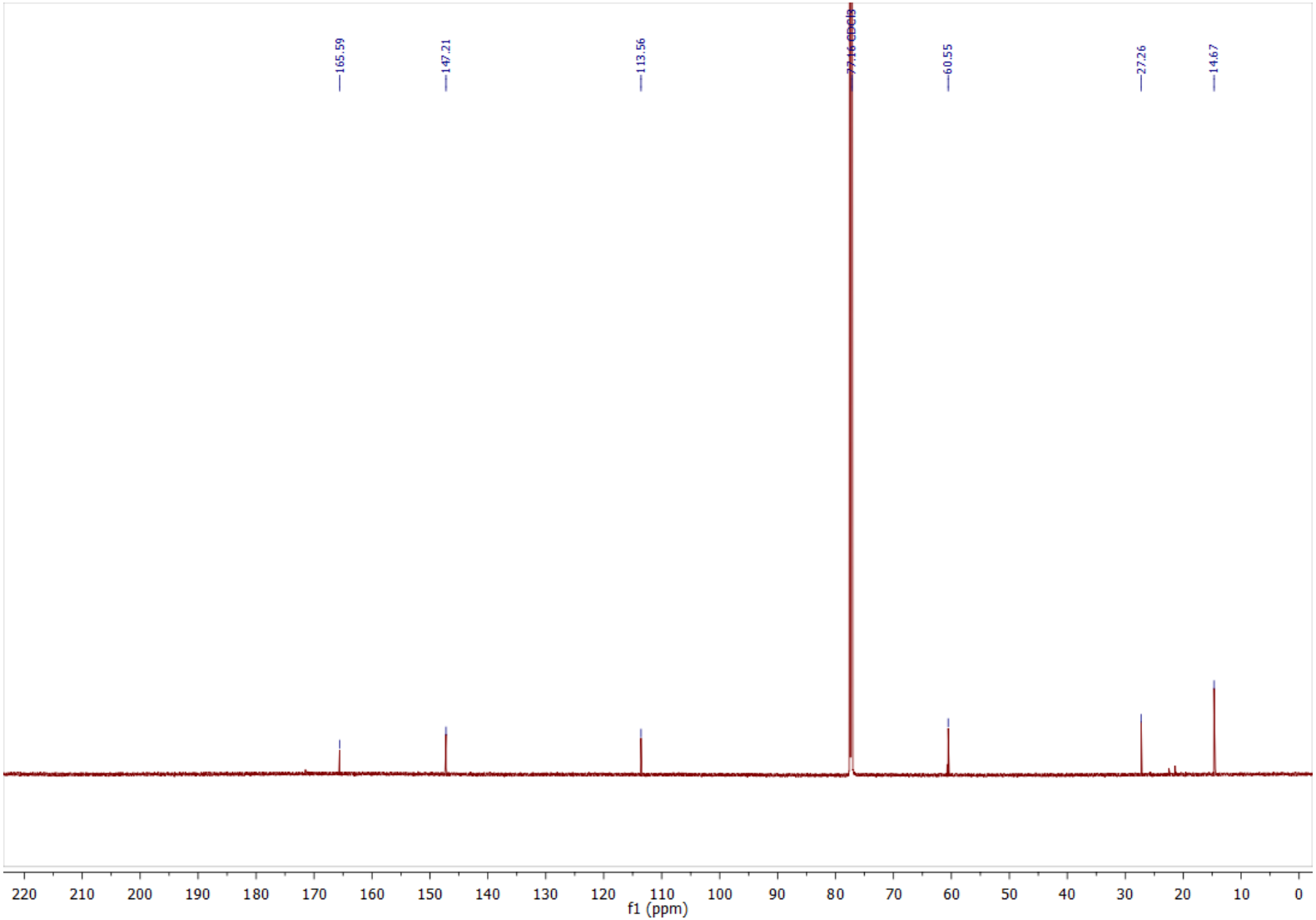

Figure S9: ^{13}C NMR spectrum ($CDCl_3$, 175 MHz) of (*E*)-**42**.

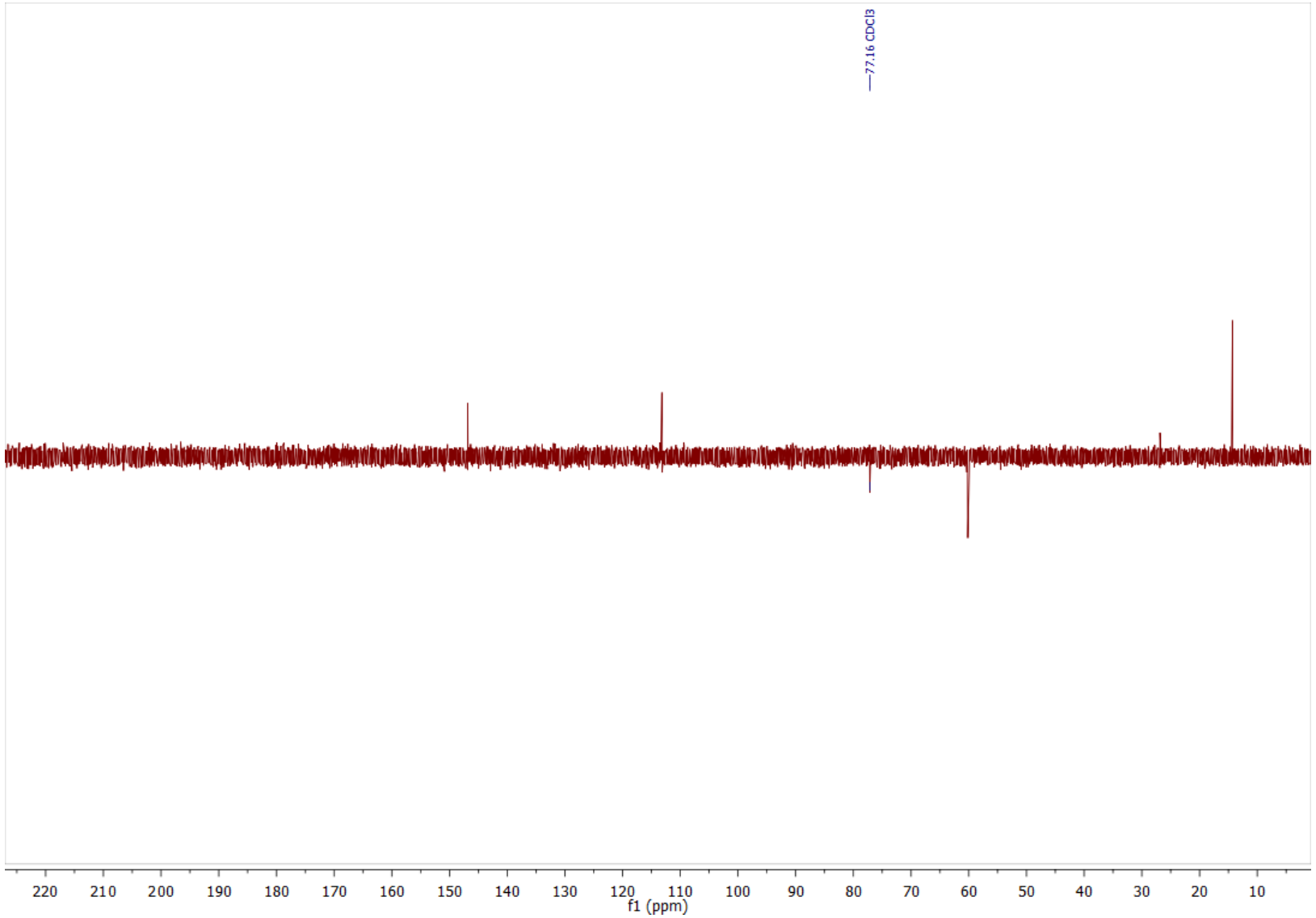

Figure S10: ^{13}C-DEPT spectrum ($CDCl_3$, 175 MHz) of (*E*)-**42**.