



Supporting Information

for

Sulfur-containing spiroketals from *Breynia disticha* and evaluations of their anti-inflammatory effect

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1D and 2D NMR data for compounds 1–4

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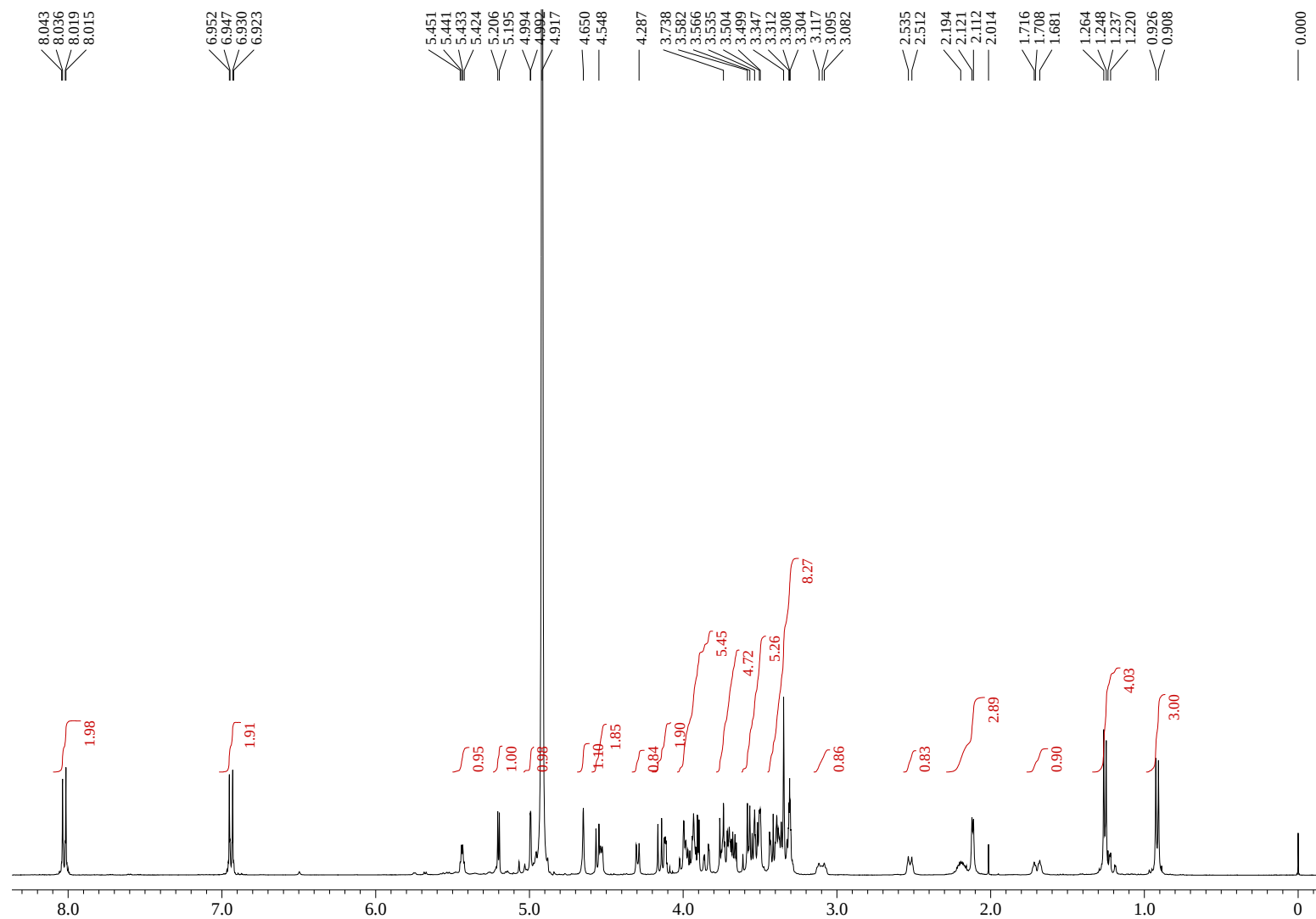


Figure S1 ¹H NMR spectrum of **1** in CD₃OD

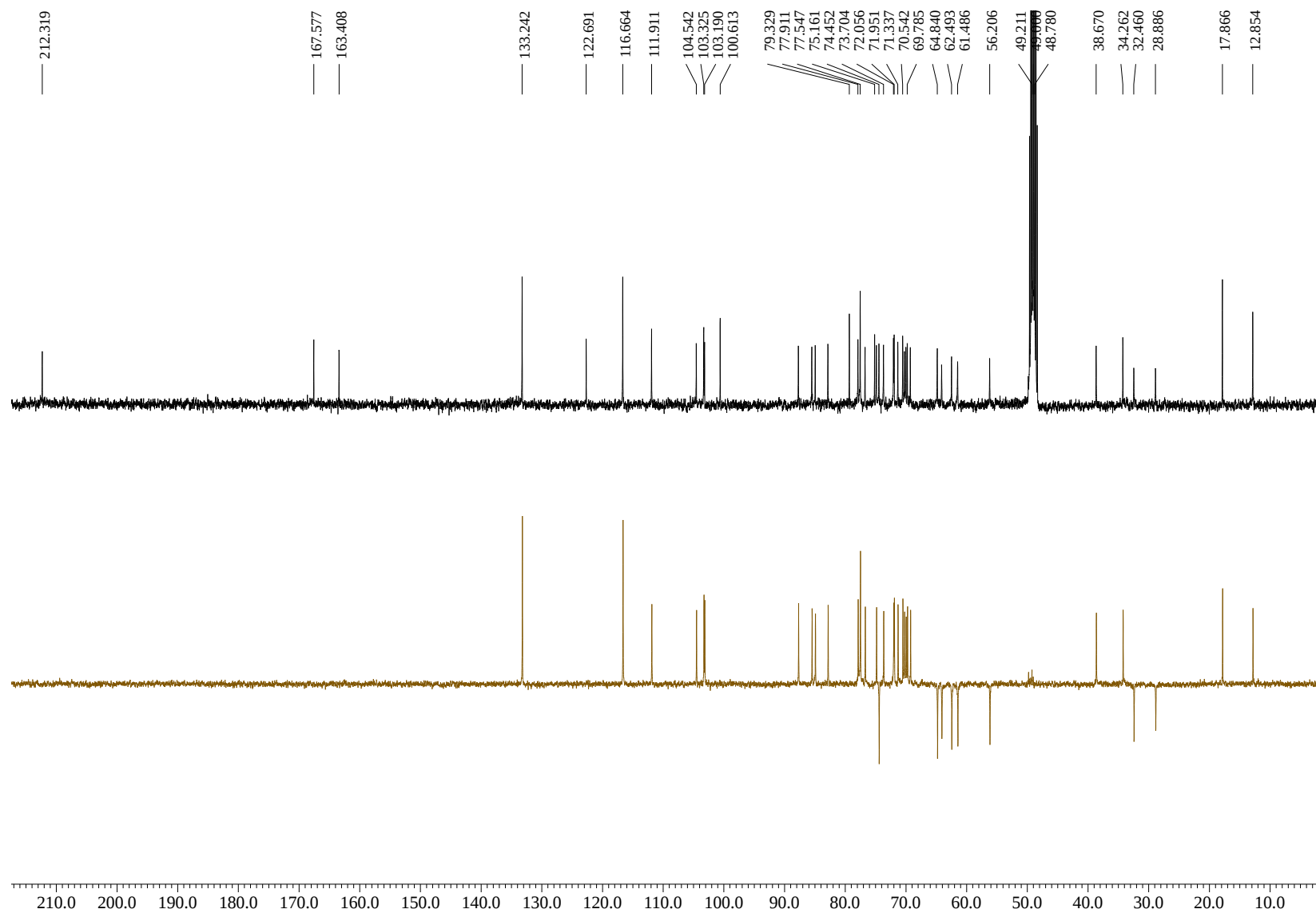


Figure S2 ^{13}C NMR and DEPT135 spectra of **1** in CD_3OD

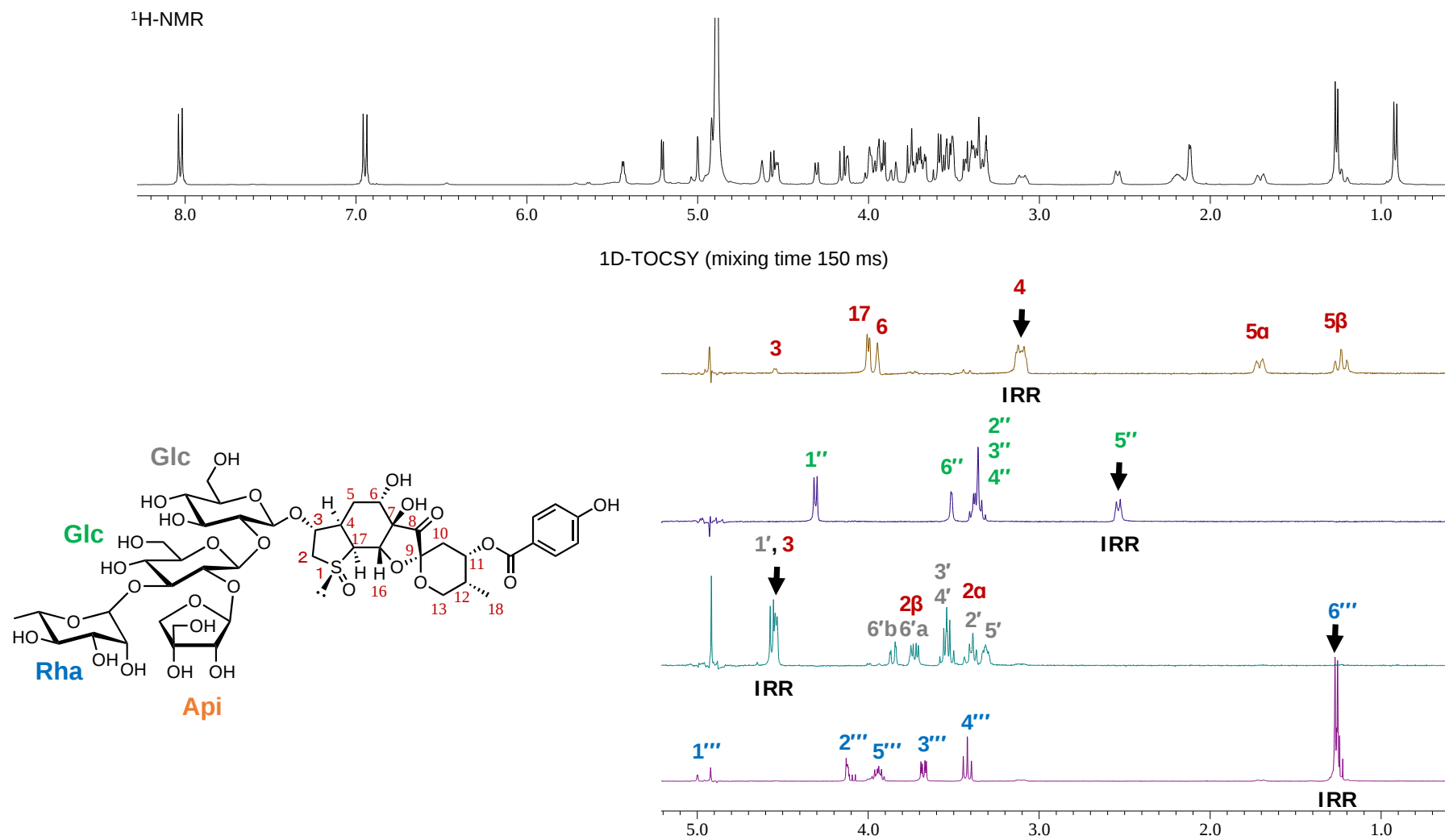


Figure S3 1D-TOCSY spectra of **1** in CD₃OD

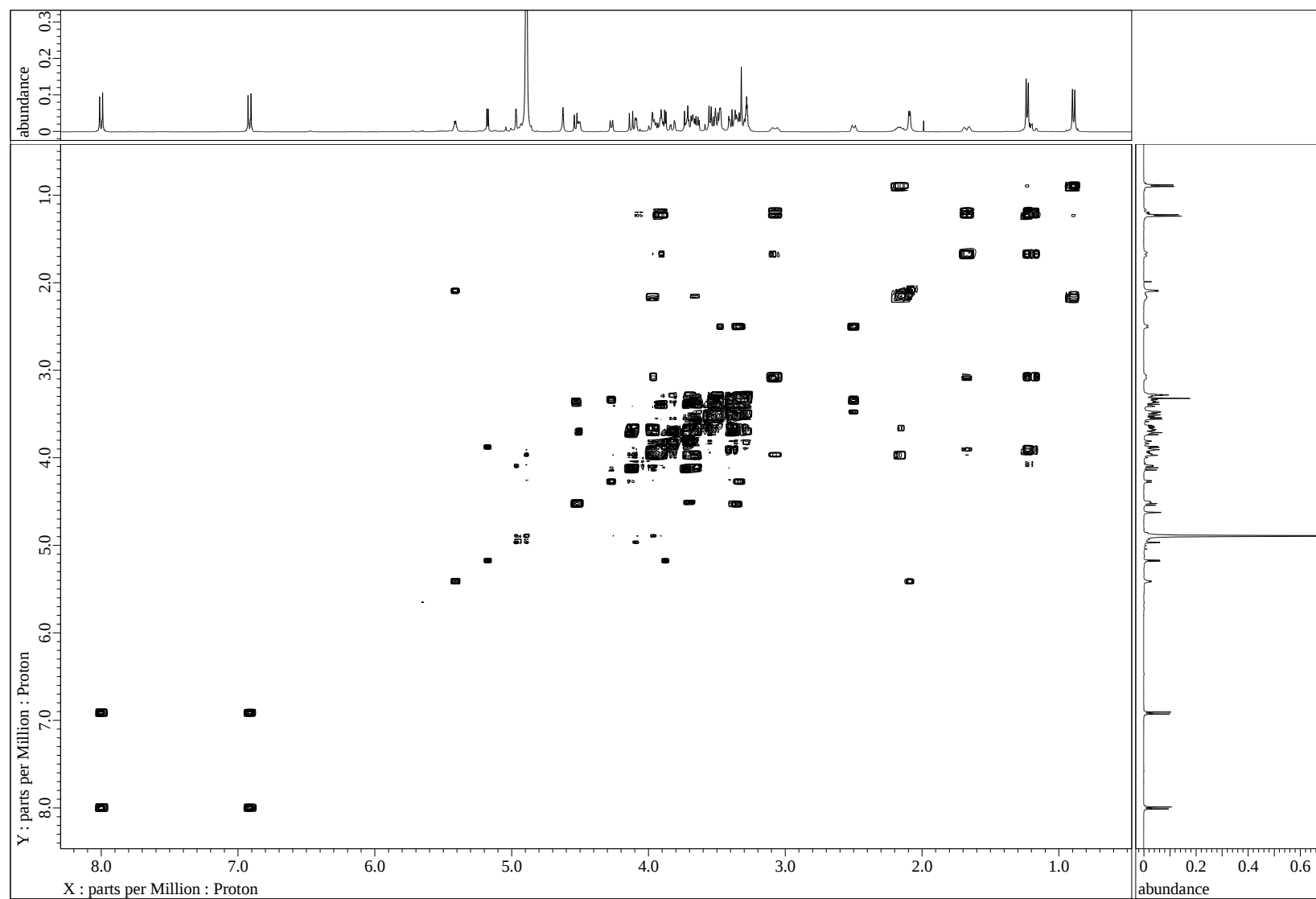


Figure S4 DQF-COSY spectrum of **1** in CD₃OD

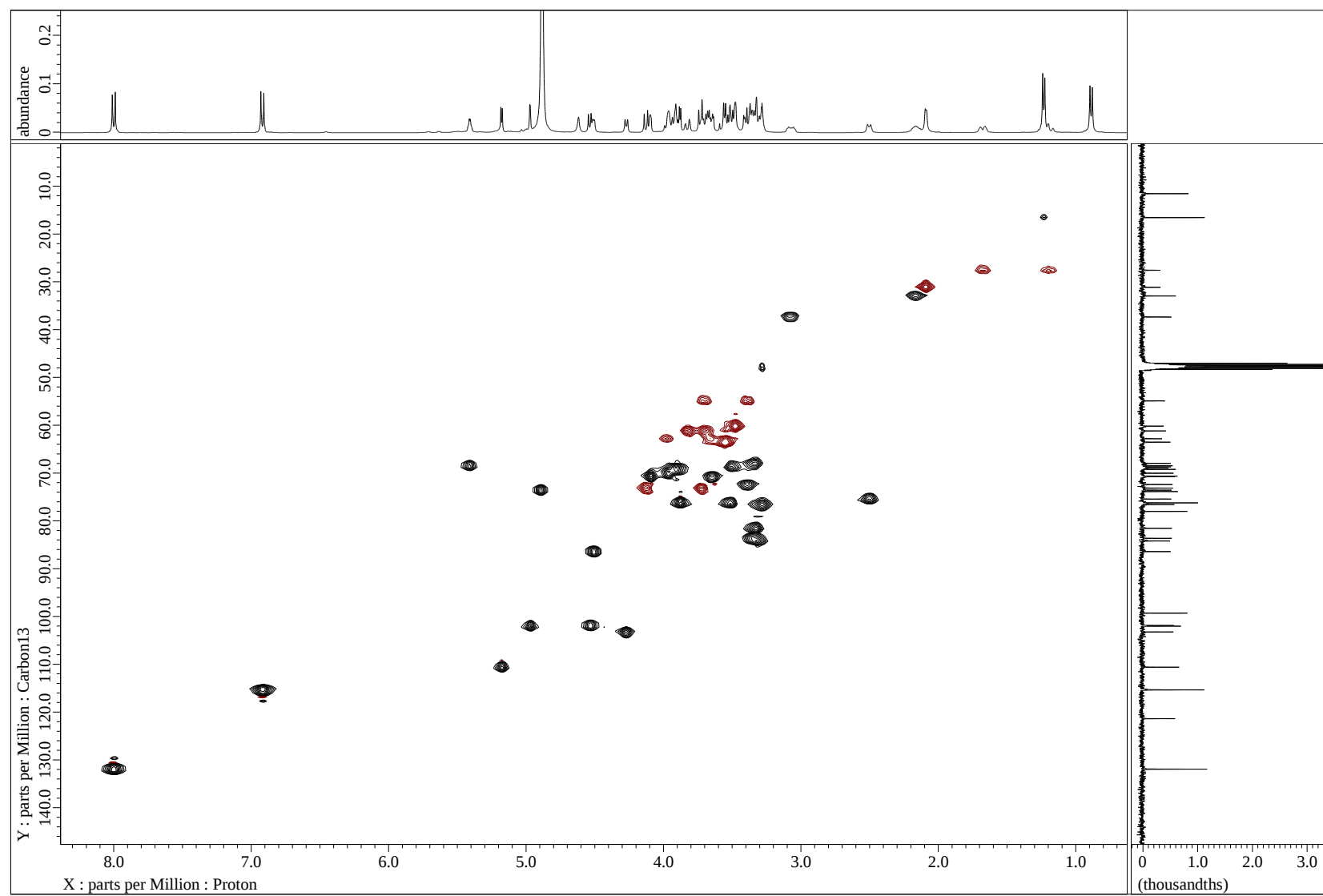


Figure S5 HSQC spectrum of **1** in CD₃OD

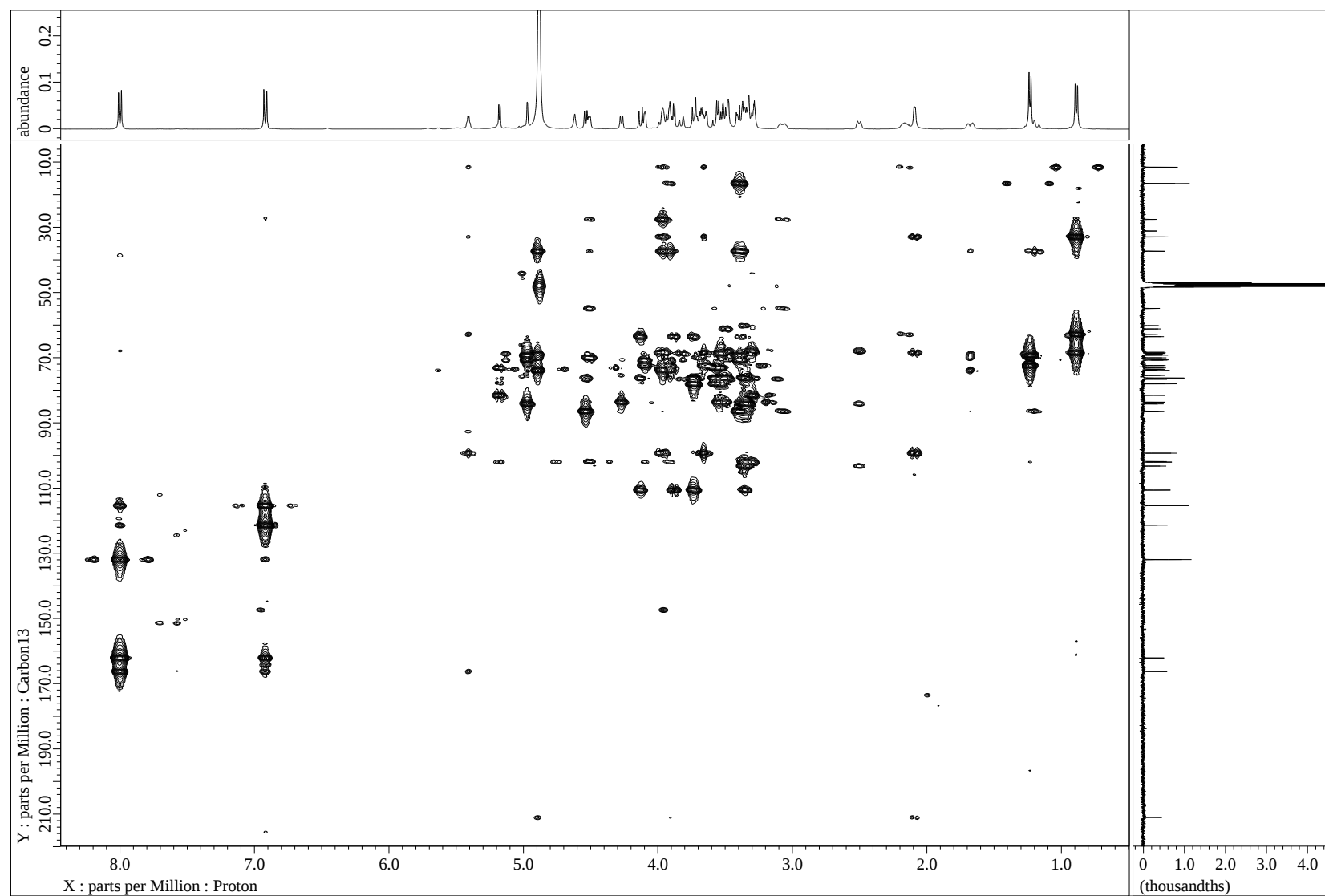


Figure S6 HMBC spectrum of **1** in CD₃OD

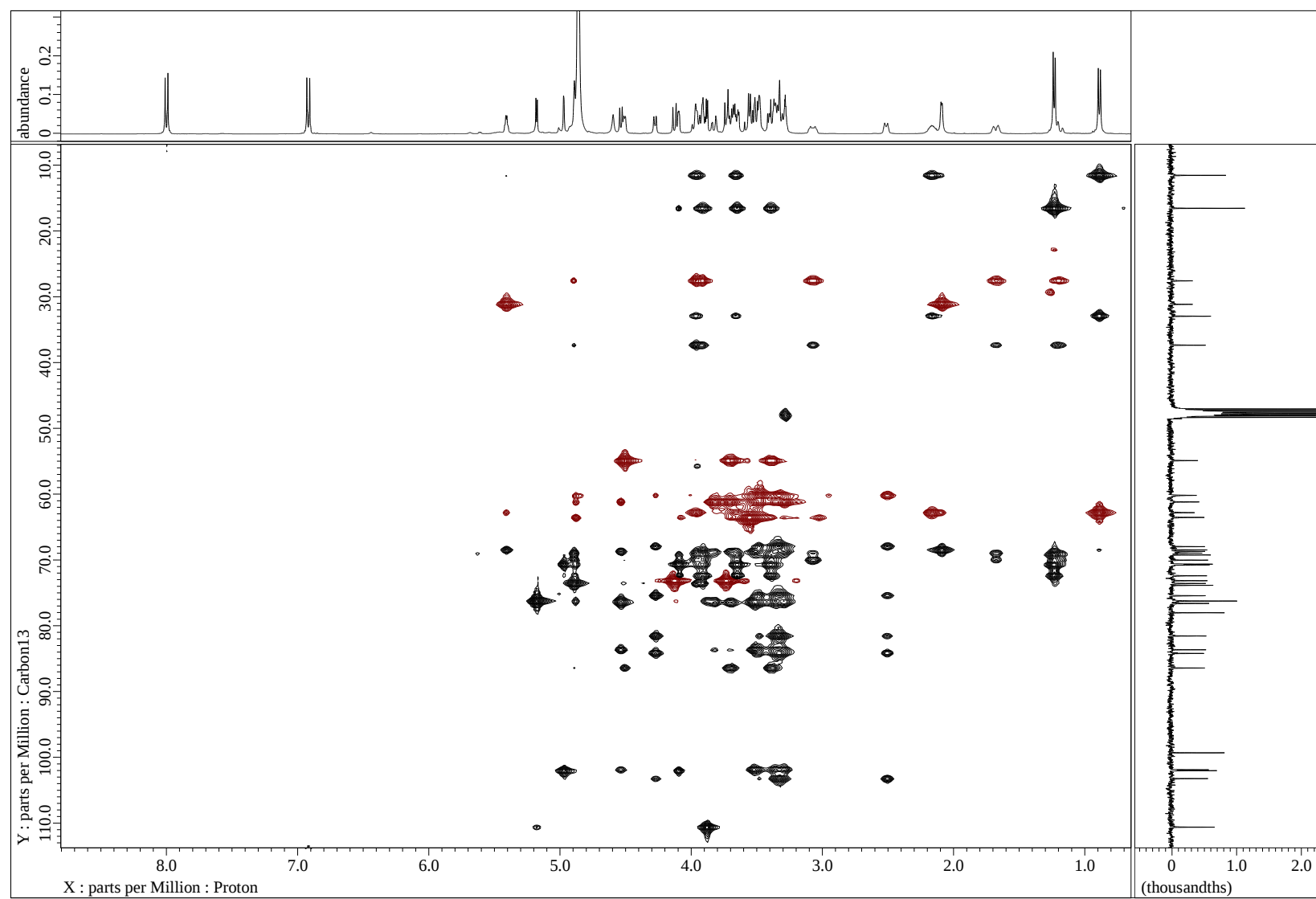


Figure S7 HSQC-TOCSY spectrum of **1** in CD₃OD

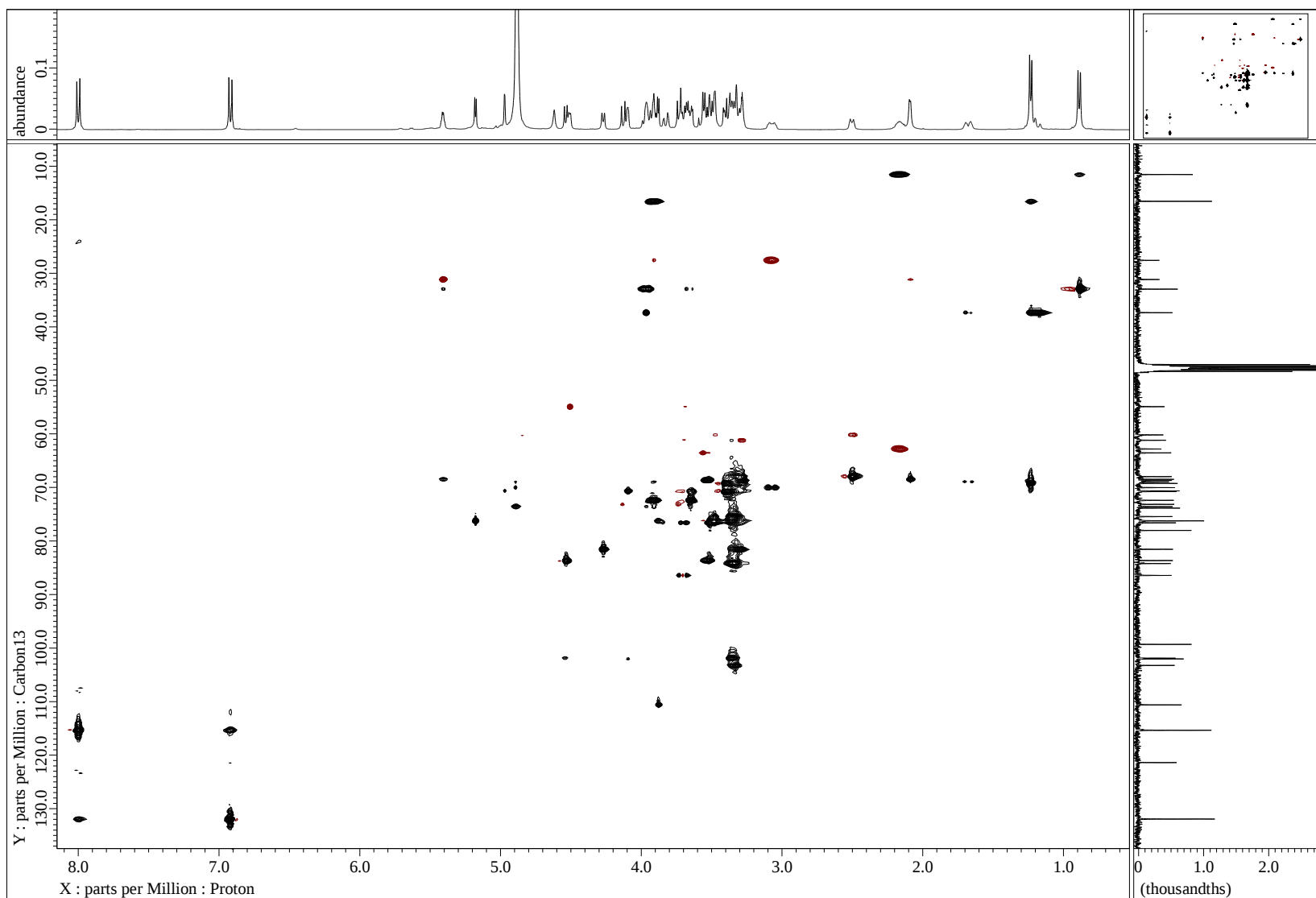


Figure S8 H2BC spectrum of **1** in CD₃OD

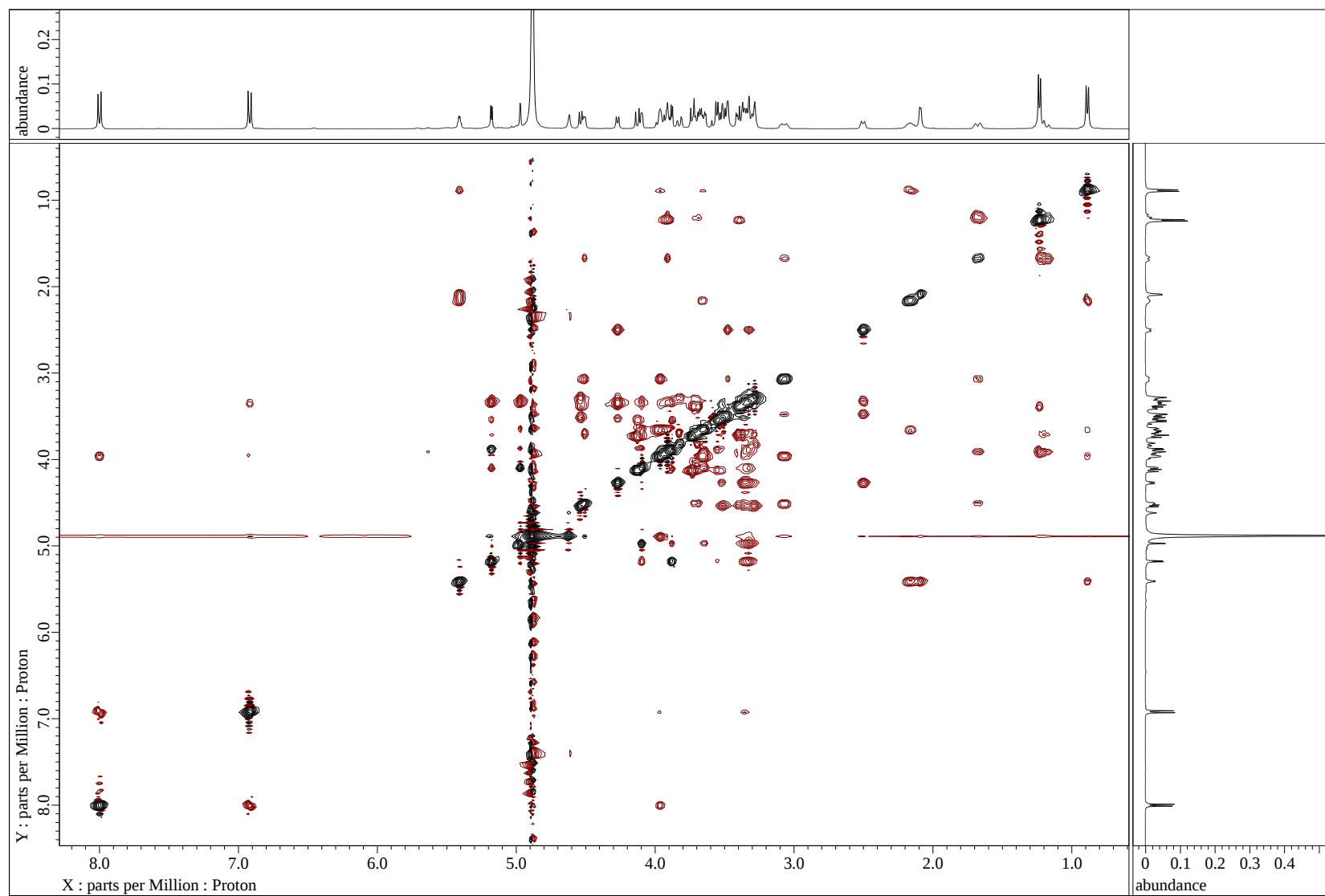


Figure S9 2D ROESY spectrum of **1** in CD₃OD

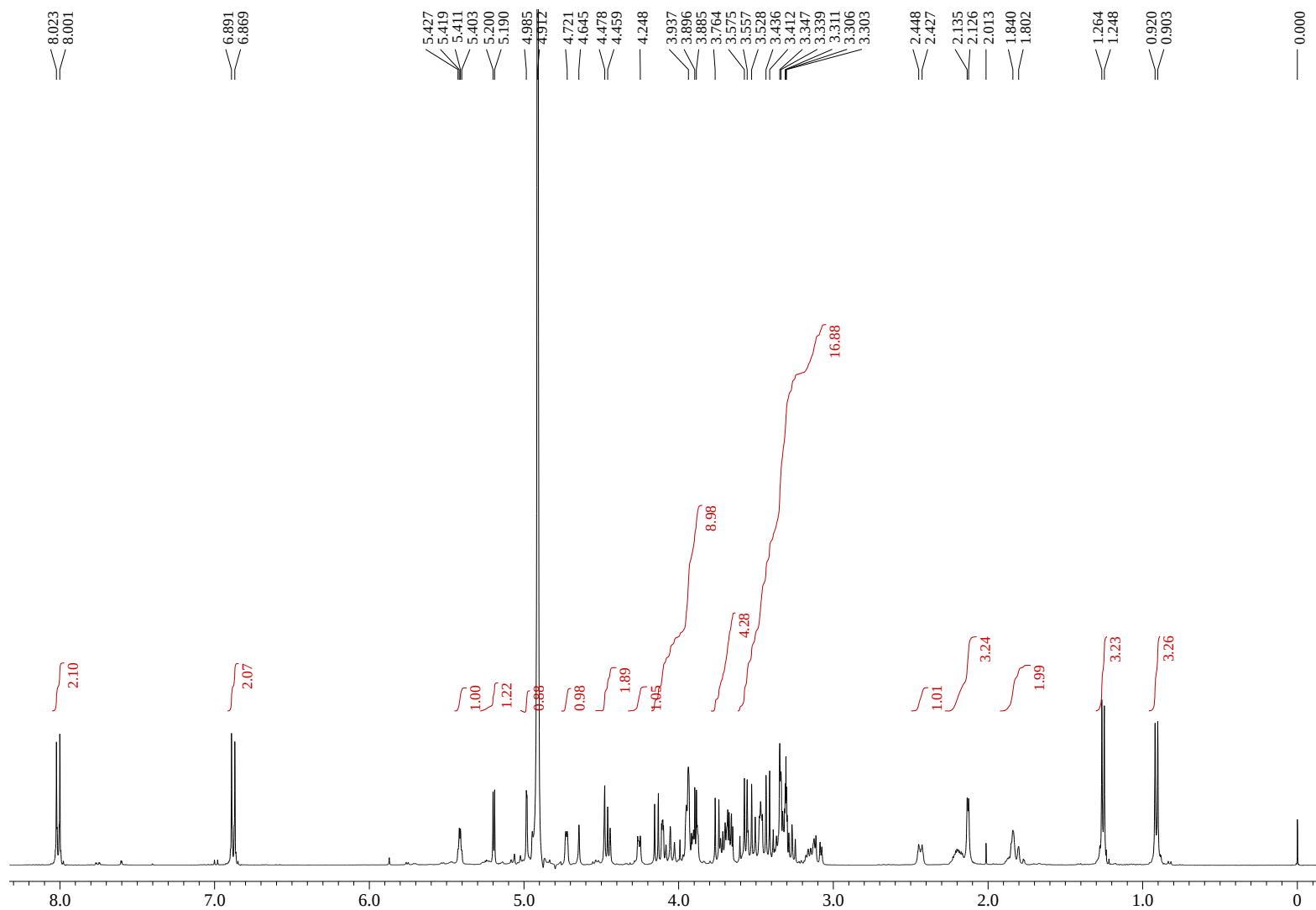


Figure S10 ¹H NMR spectrum of **2** in CD₃OD

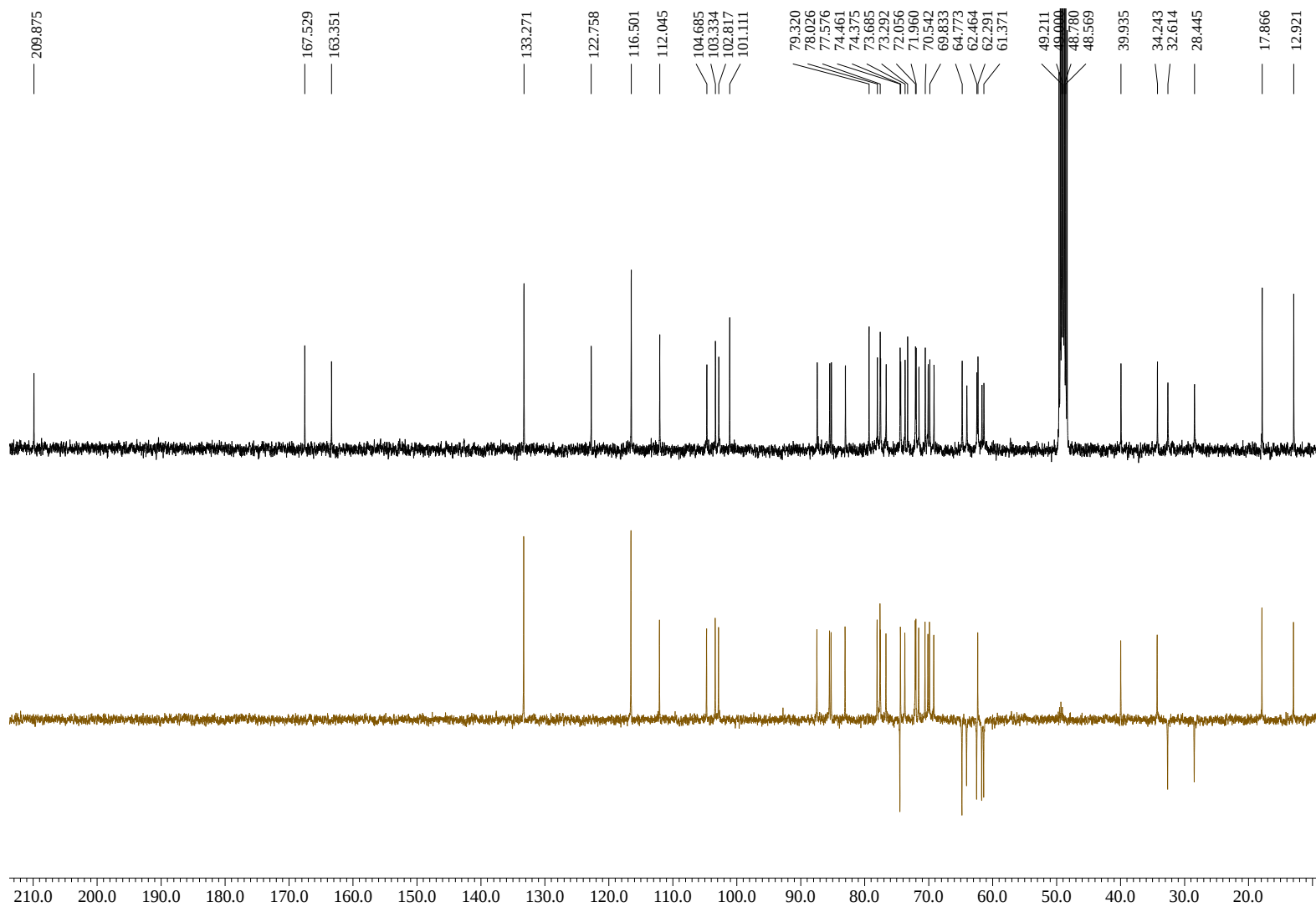


Figure S11 ^{13}C NMR and DEPT135 spectra of **2** in CD_3OD

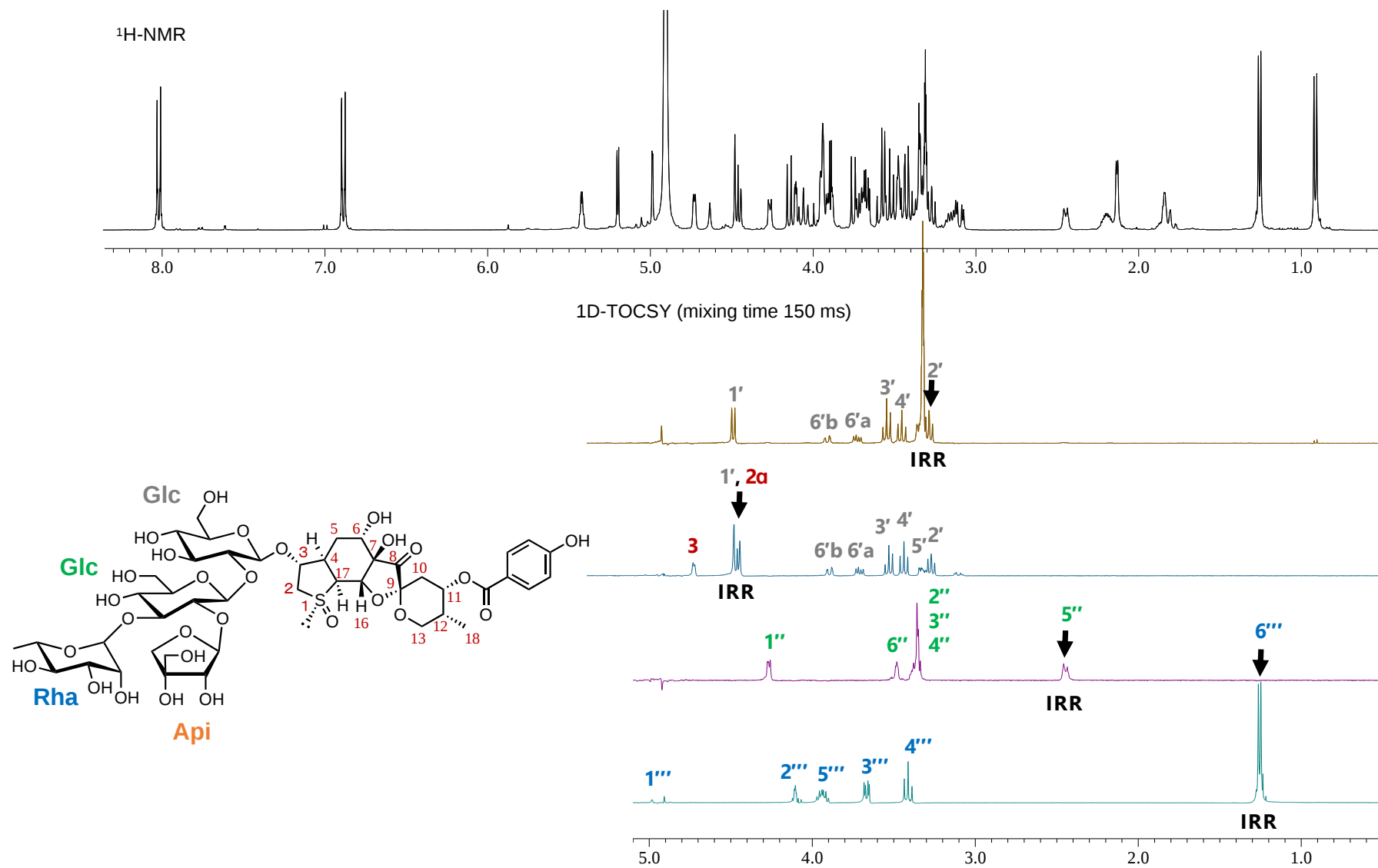


Figure S12 1D-TOCSY spectra of **2** in CD_3OD

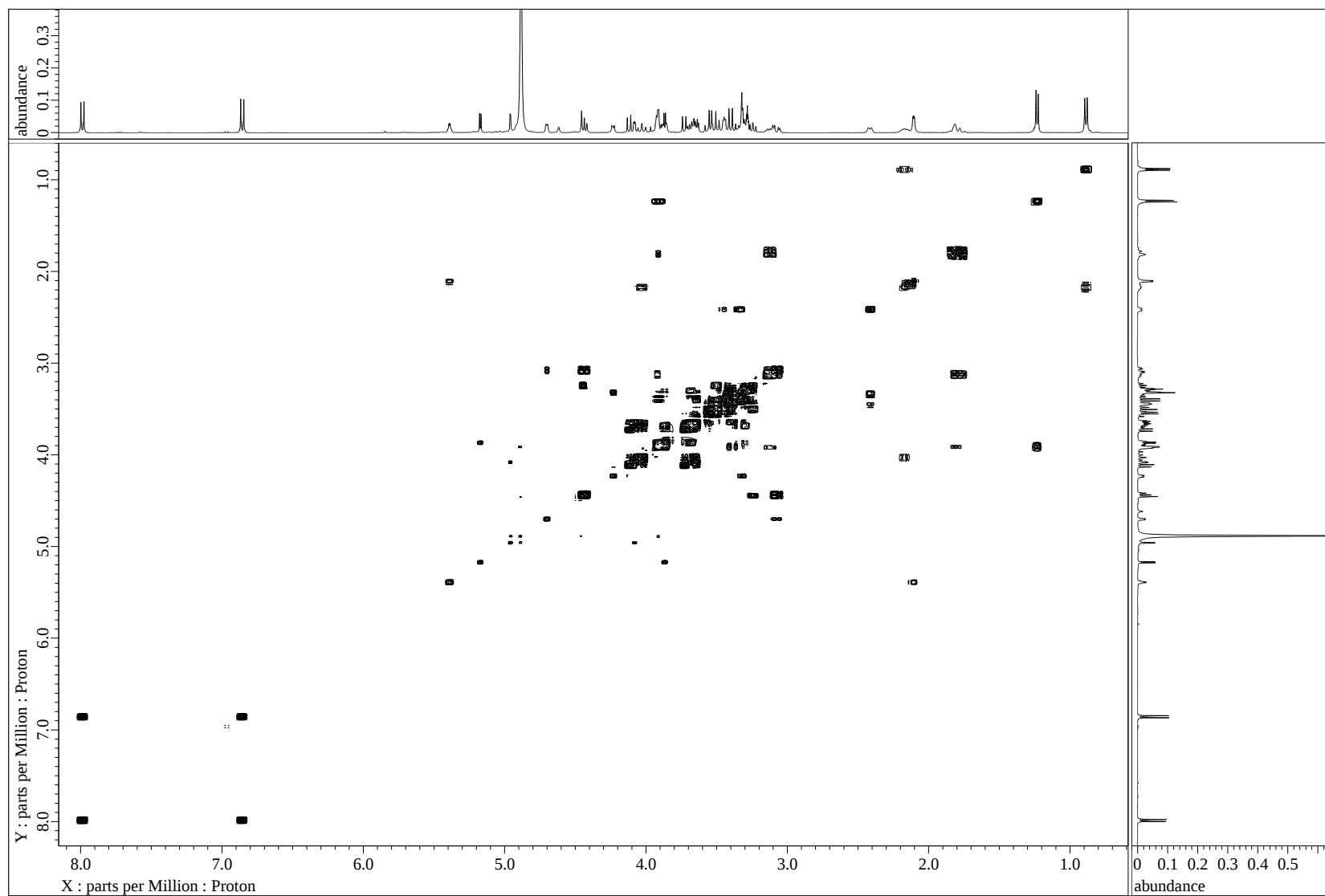


Figure S13 DQF-COSY spectrum of **2** in CD₃OD

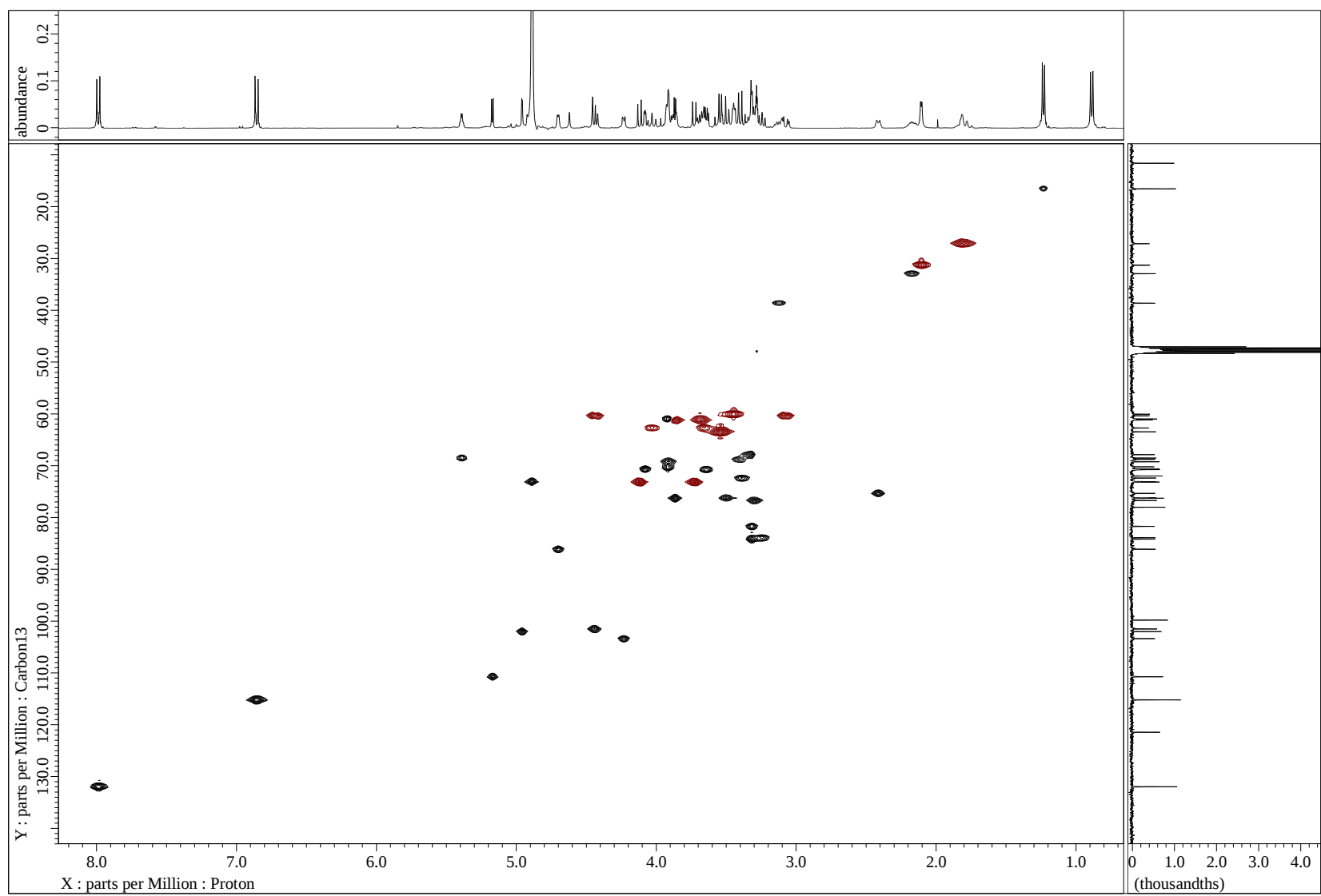


Figure S14 HSQC spectrum of **2** in CD₃OD

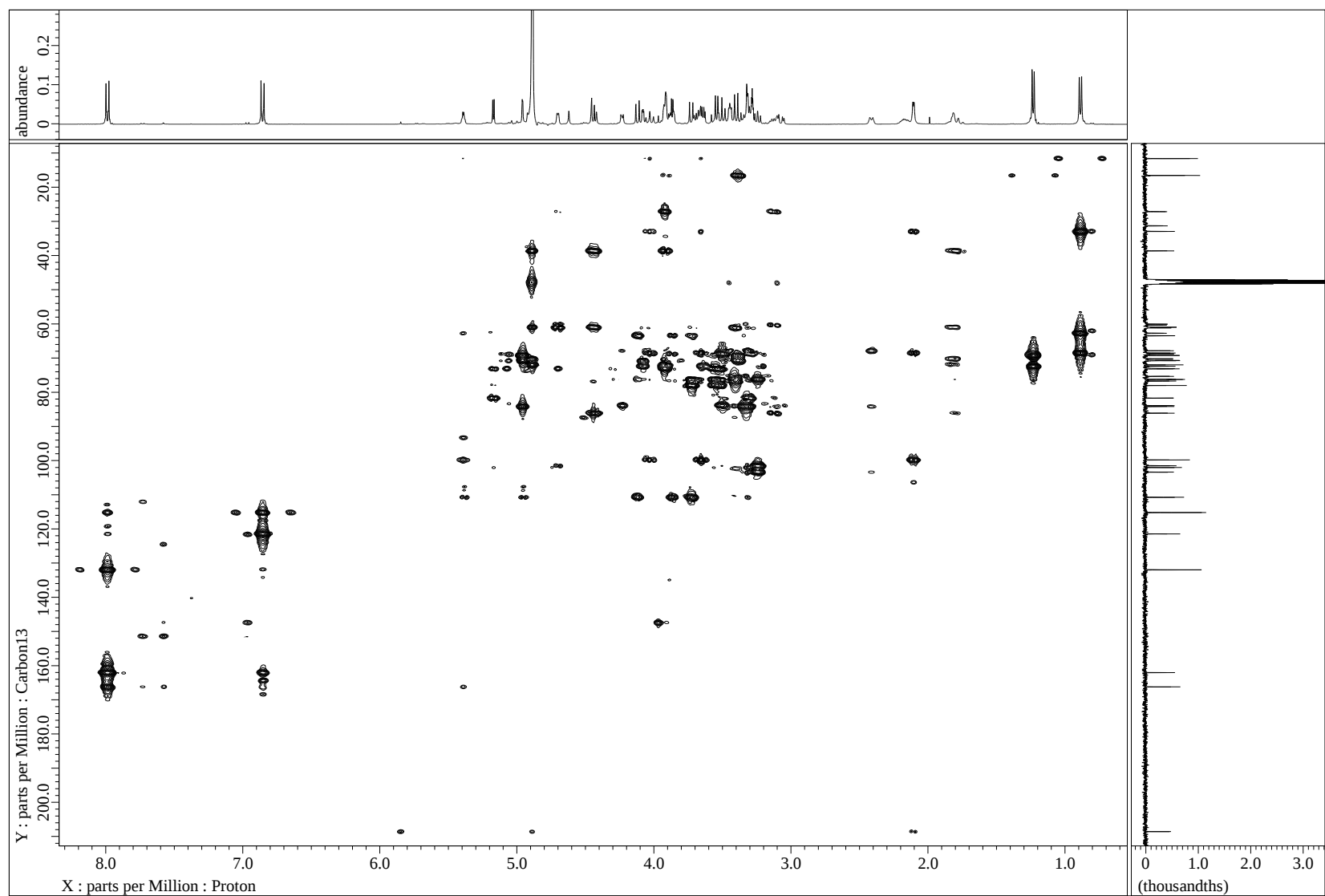


Figure S15 HMBC spectrum of **2** in CD₃OD

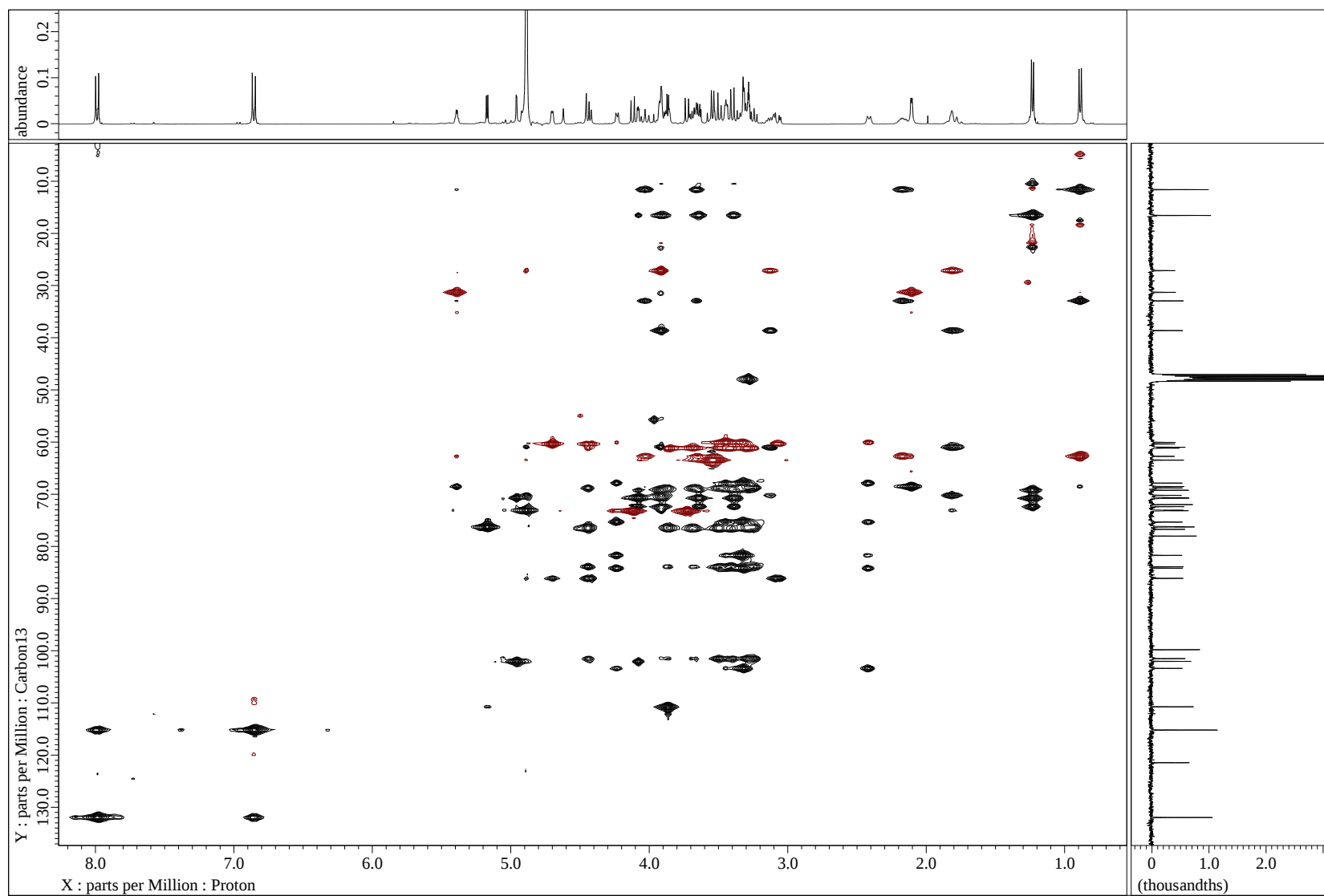


Figure S16 HSQC-TOCSY spectrum of **2** in CD₃OD

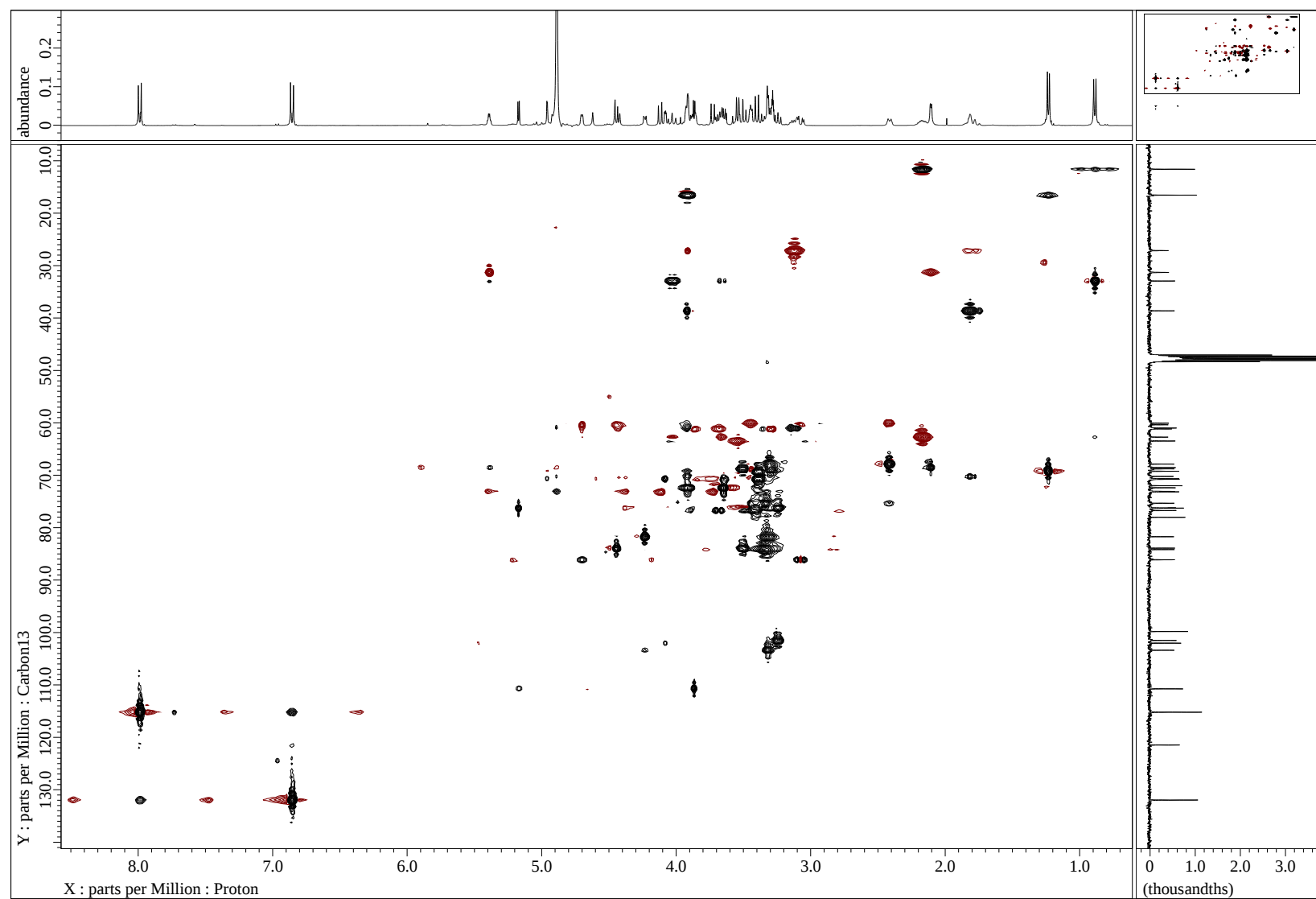


Figure S17 H2BC spectrum of **2** in CD₃OD

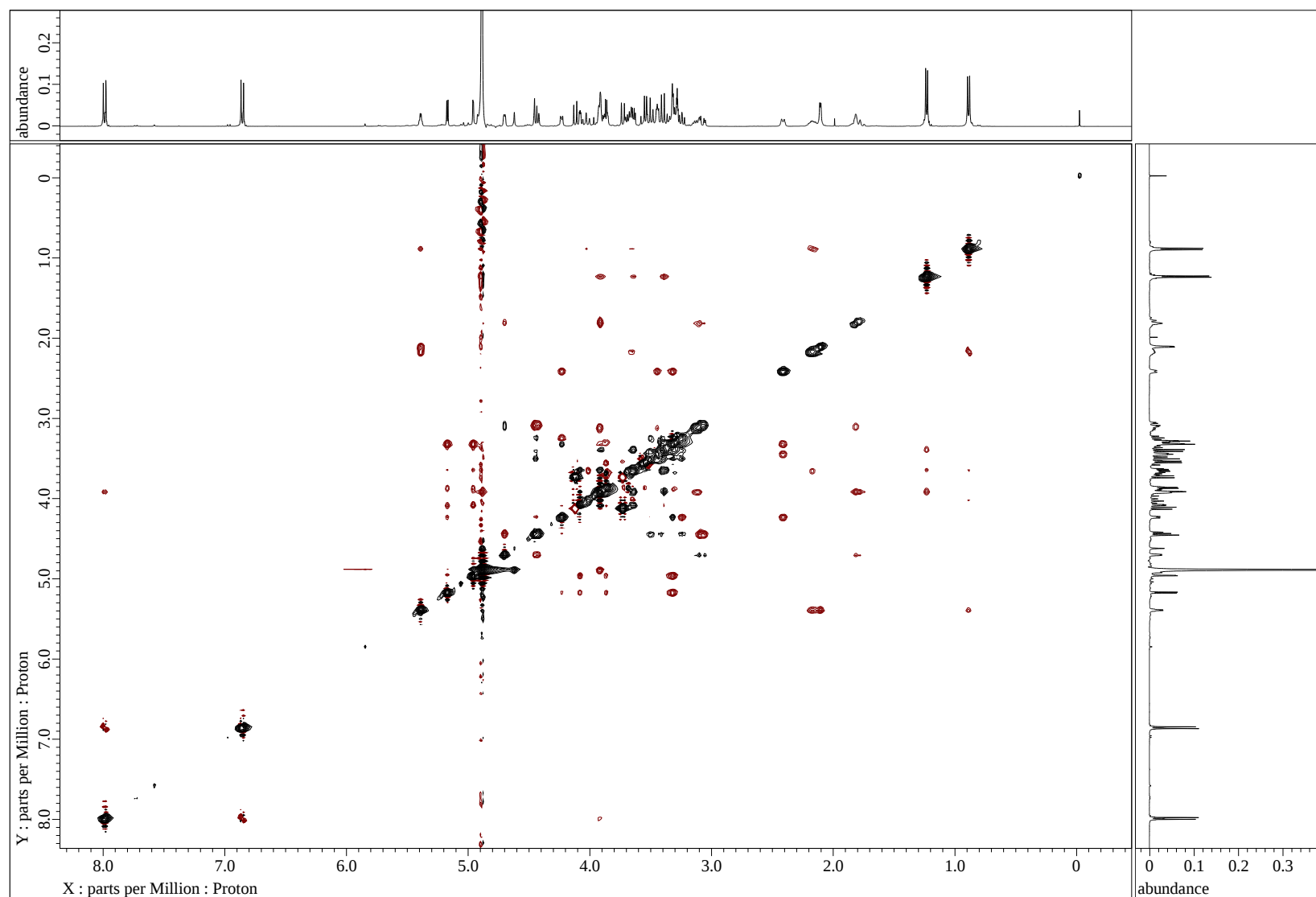


Figure S18 2D ROESY spectrum of **2** in CD₃OD

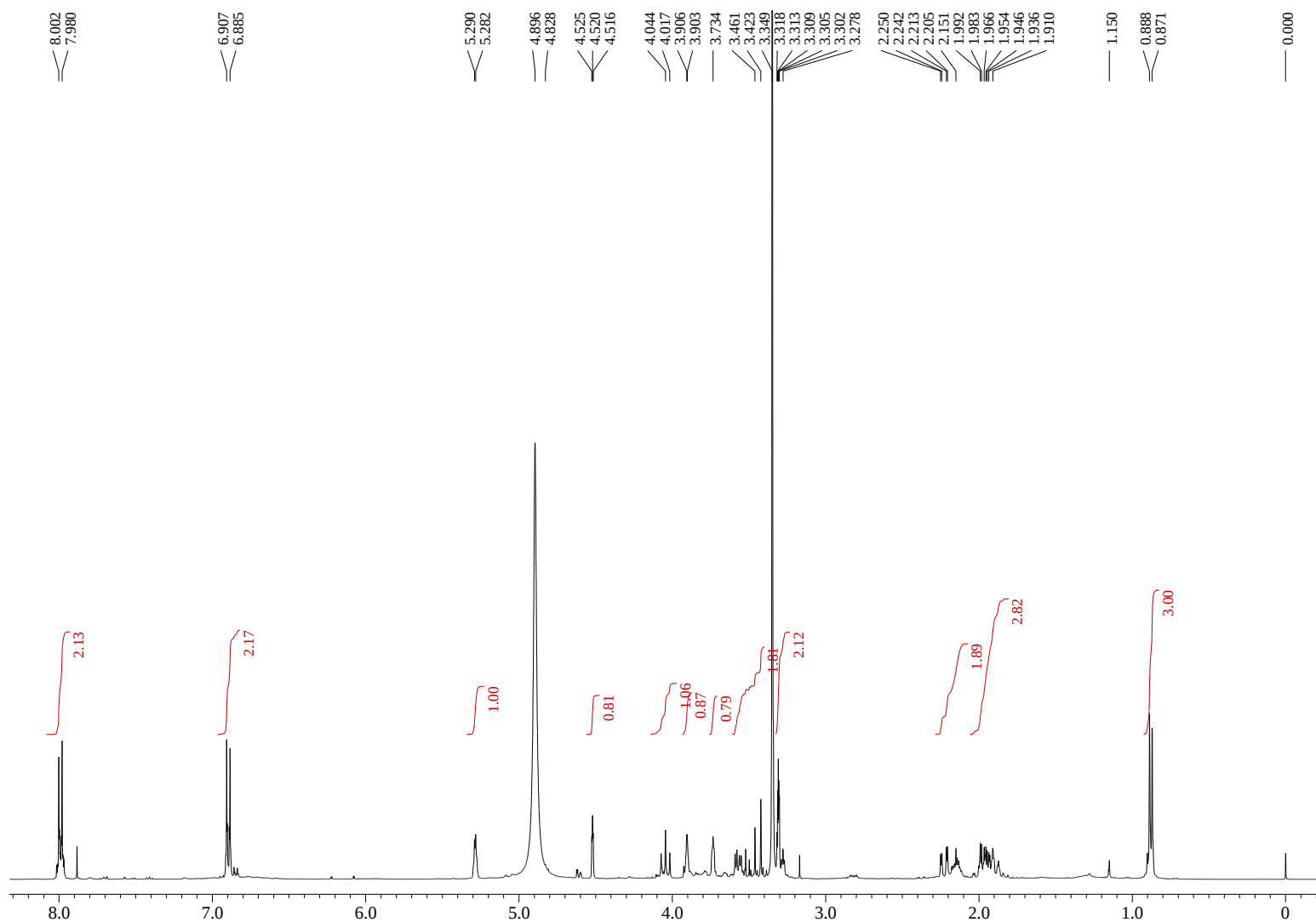


Figure S19 ¹H NMR spectrum of **3** in CD₃OD

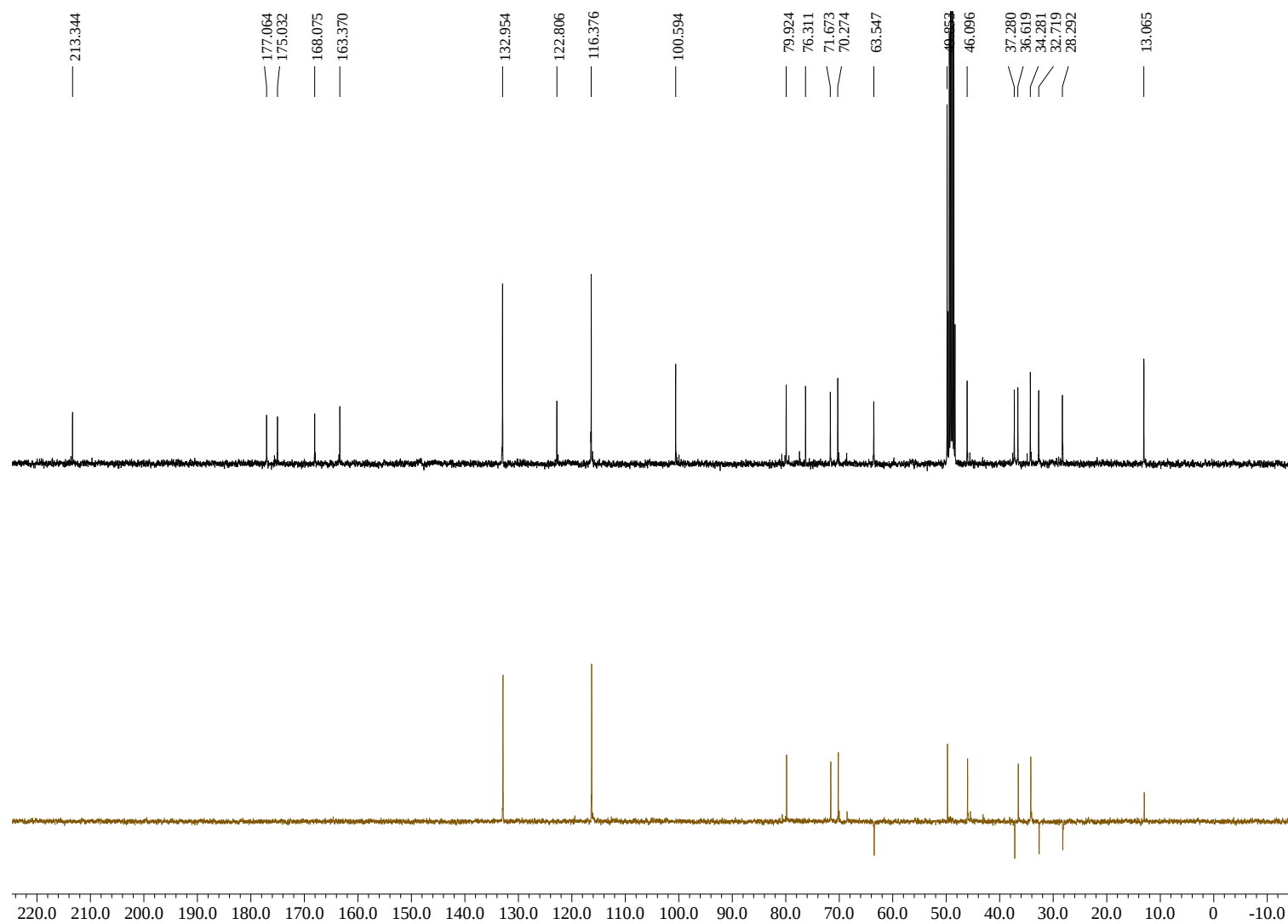


Figure S20 ^{13}C NMR and DEPT135 spectra of **3** in CD_3OD

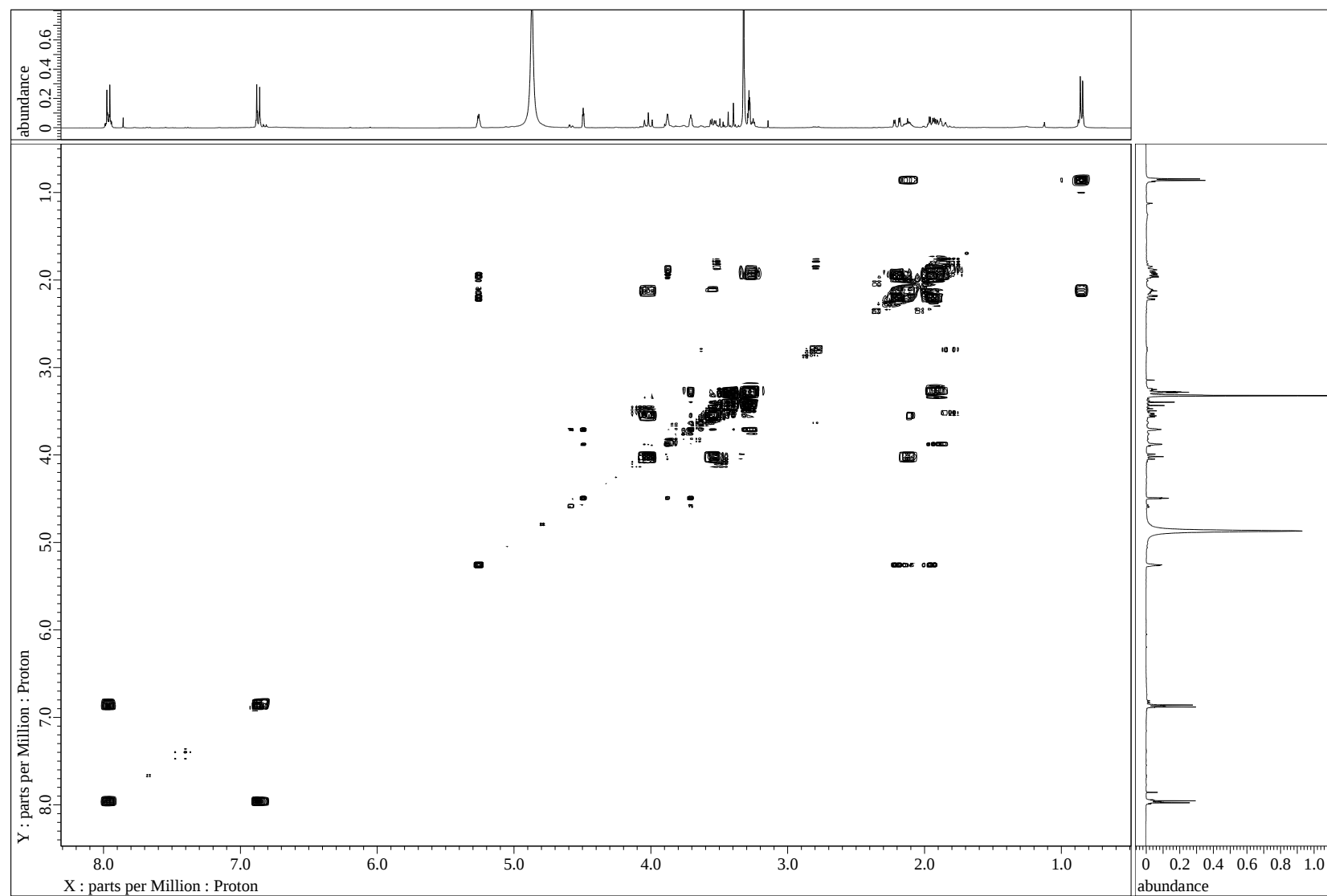


Figure S21 DQF-COSY spectrum of **3** in CD₃OD

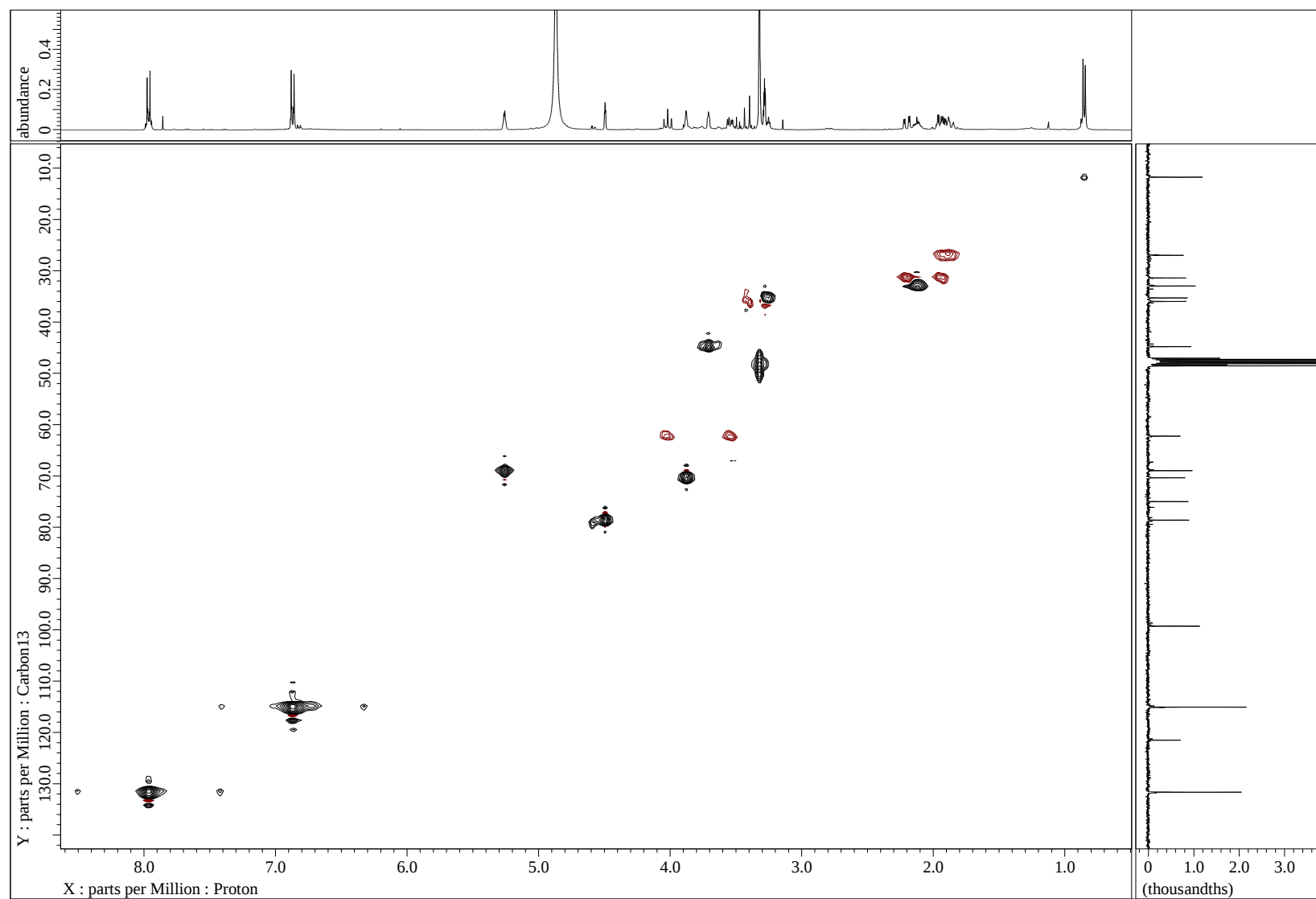


Figure S22 HSQC spectrum of **3** in CD₃OD

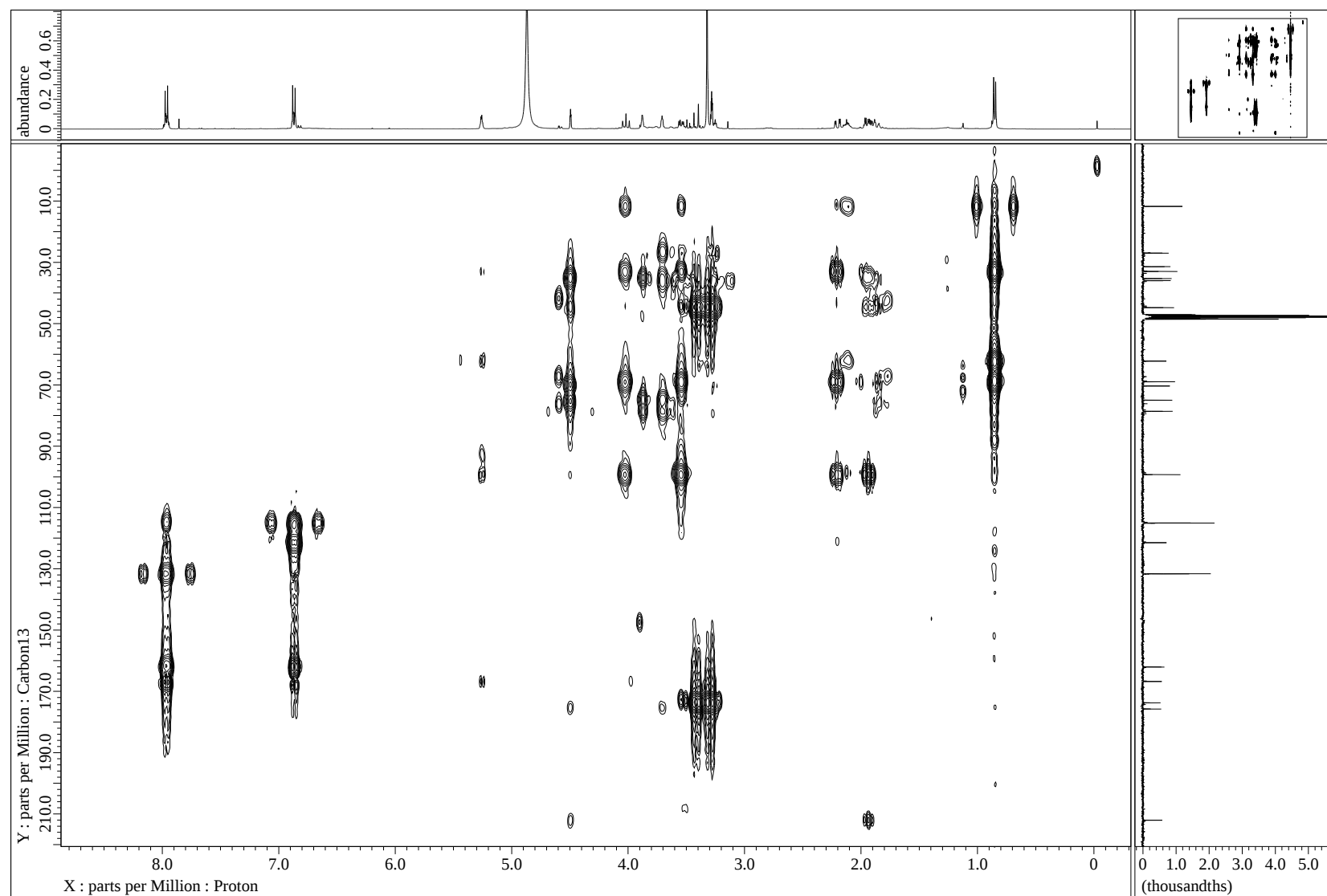


Figure S23 HMBC spectrum of **3** in CD₃OD

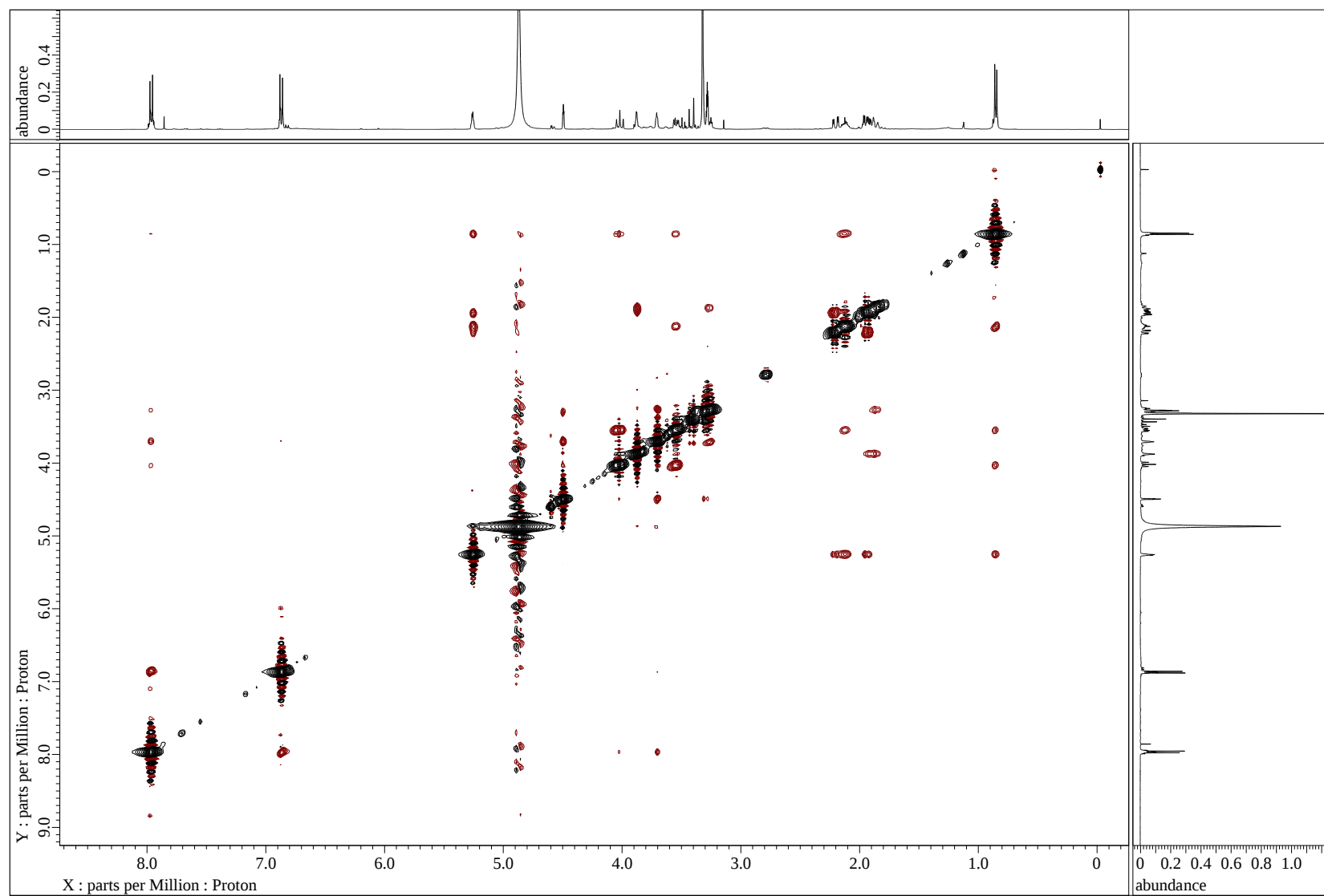


Figure S24 NOESY spectrum of **3** in CD₃OD

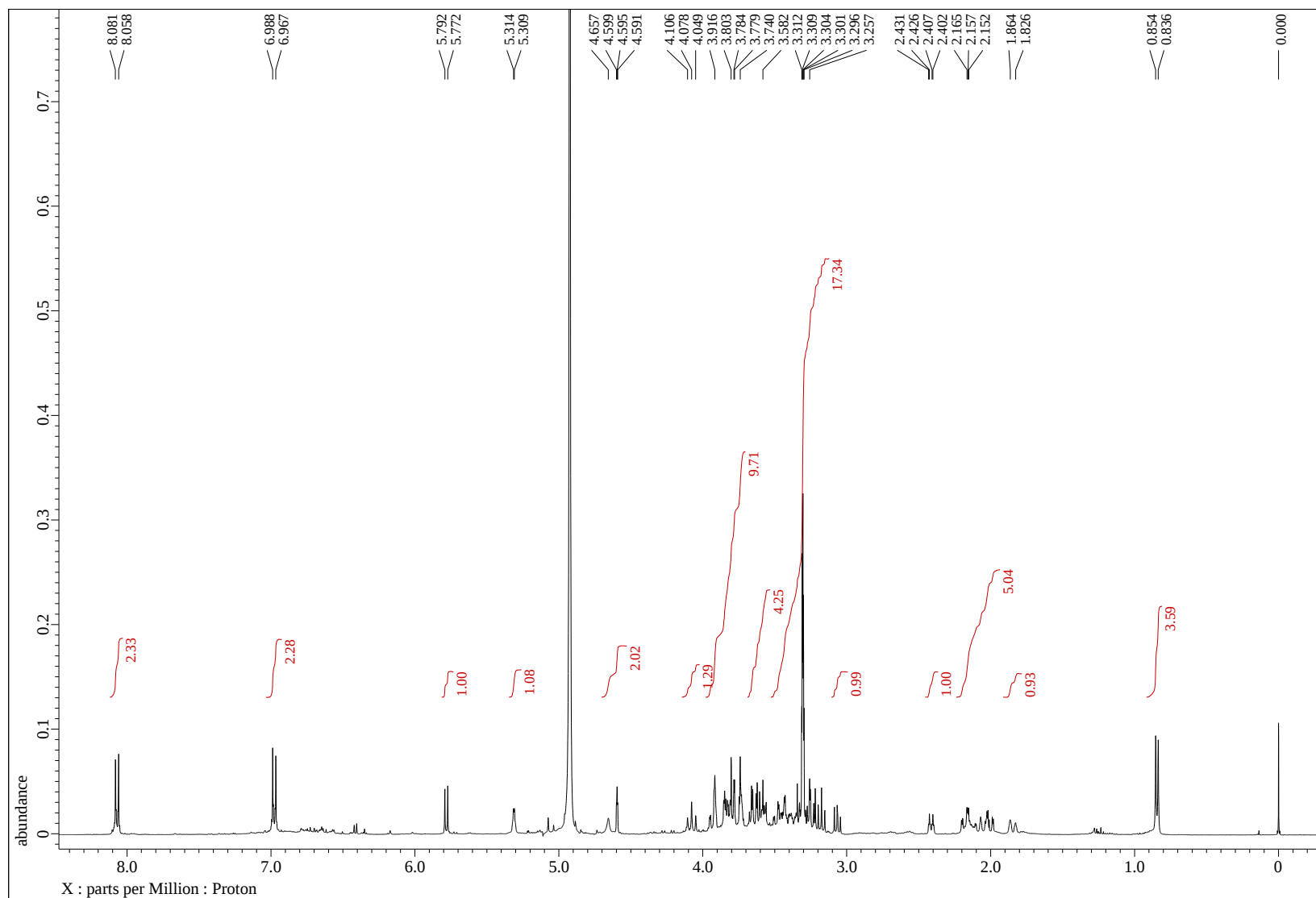


Figure S25 ^1H NMR spectrum of **4** in CD_3OD

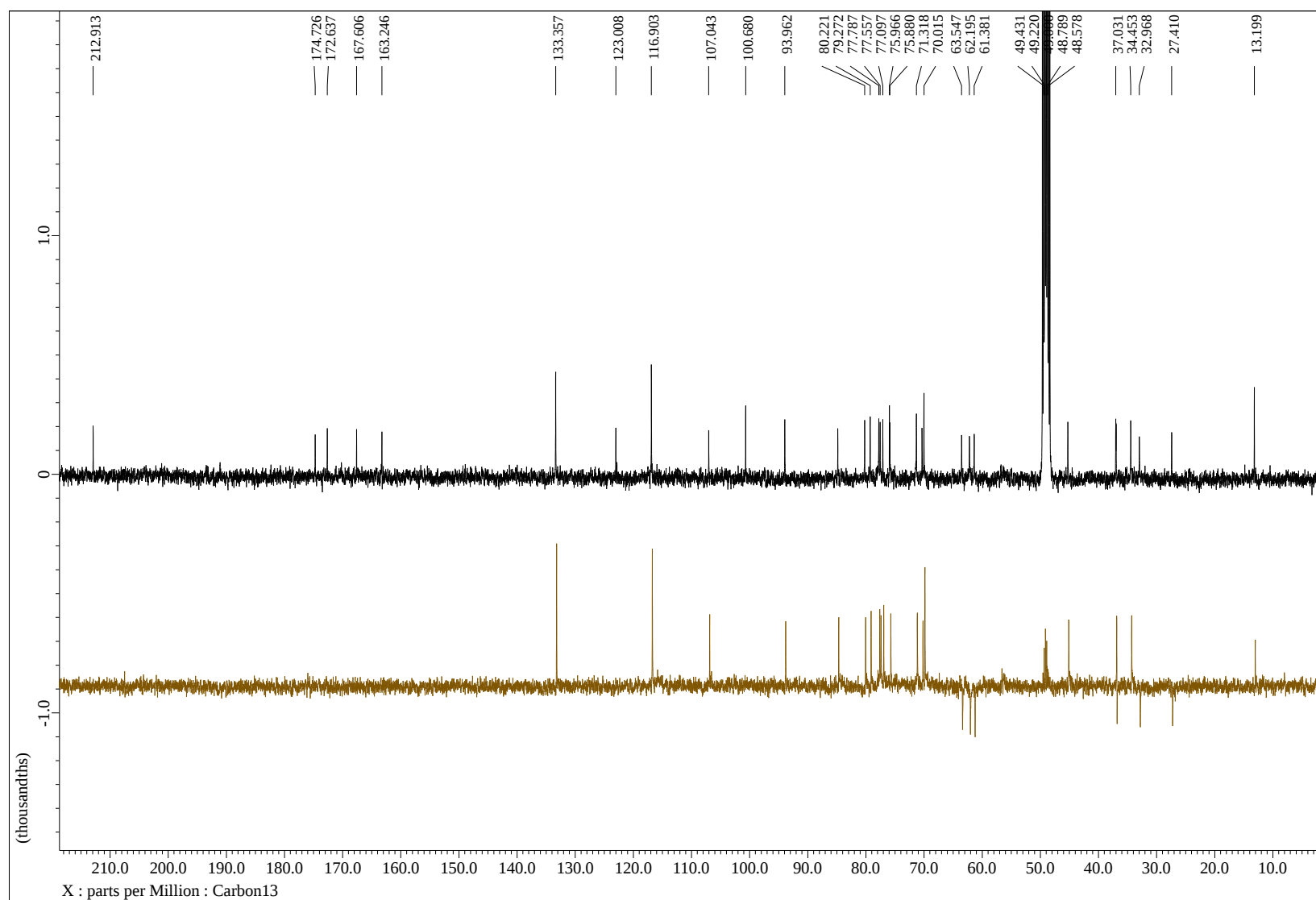


Figure S26 ^{13}C NMR and DEPT135 spectra of **4** in CD_3OD

^1H -NMR

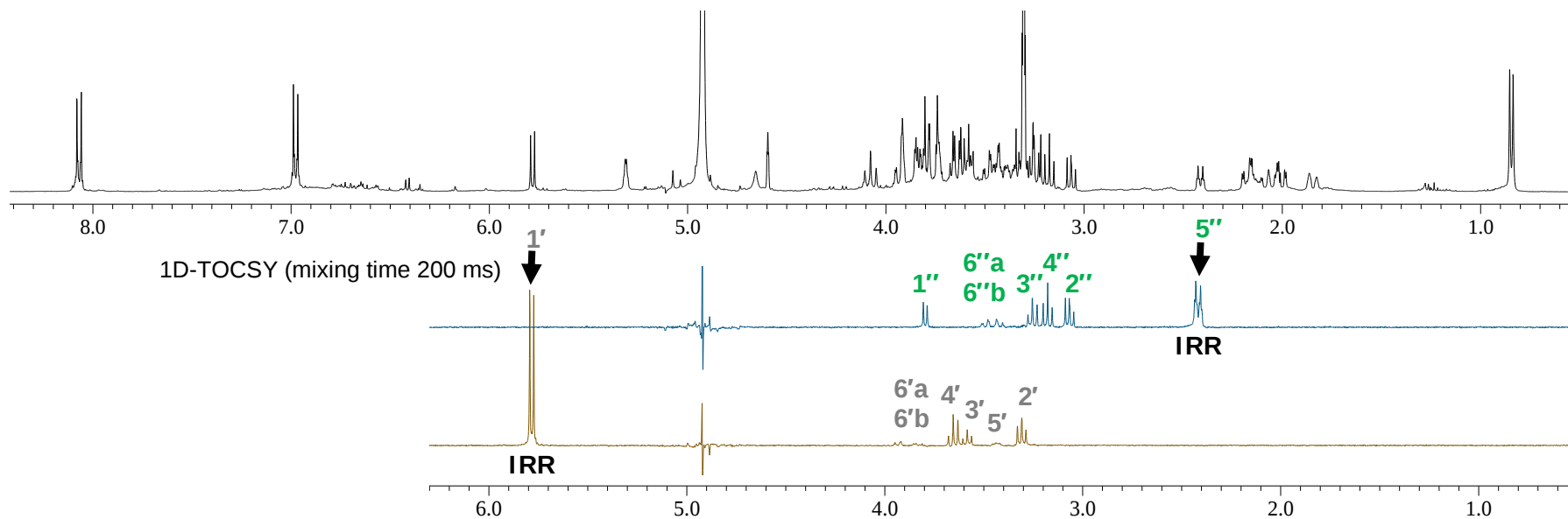


Figure S27 1D-TOCSY spectra of **4** in CD_3OD

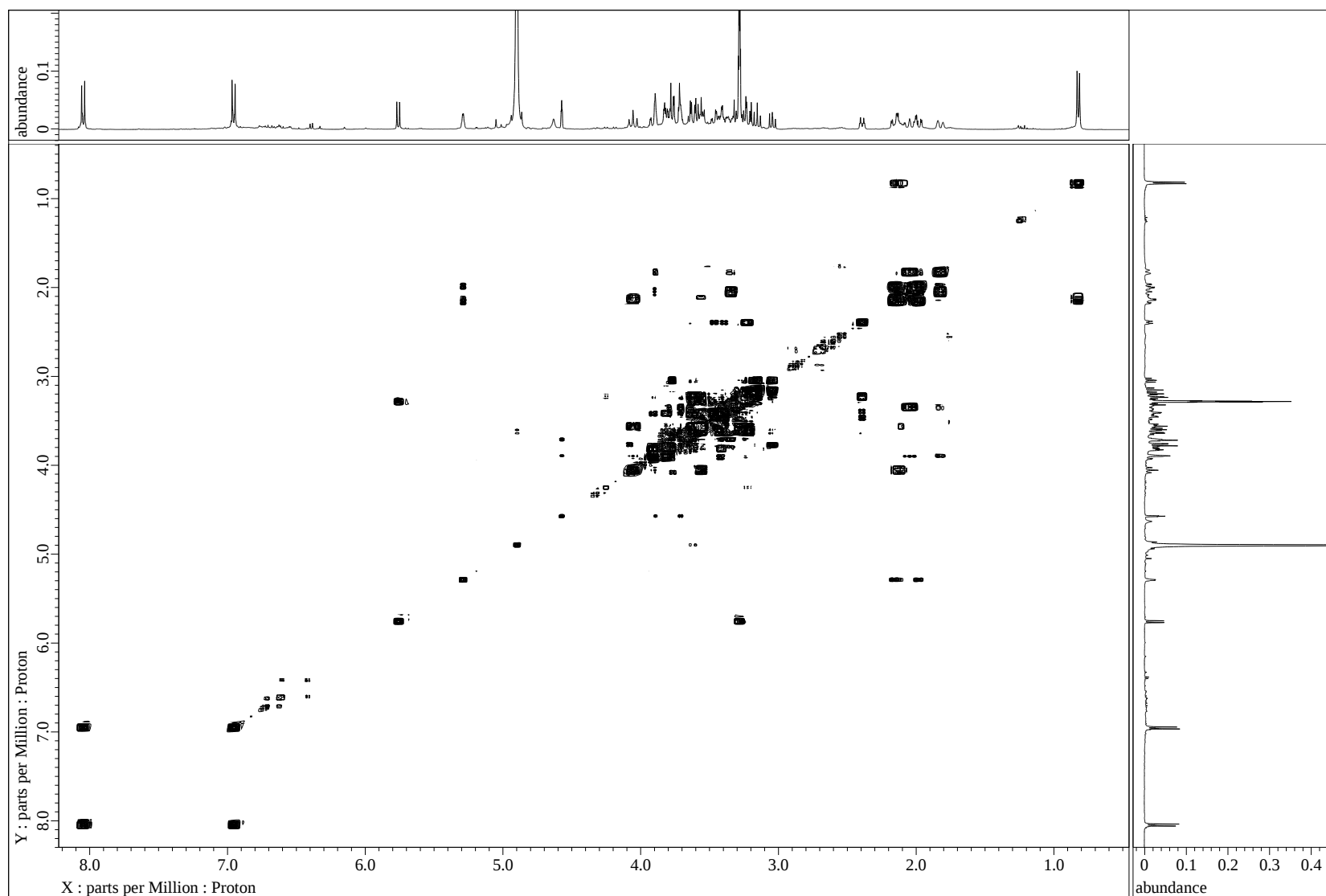


Figure S28 DQF-COSY spectrum of **4** in CD₃OD

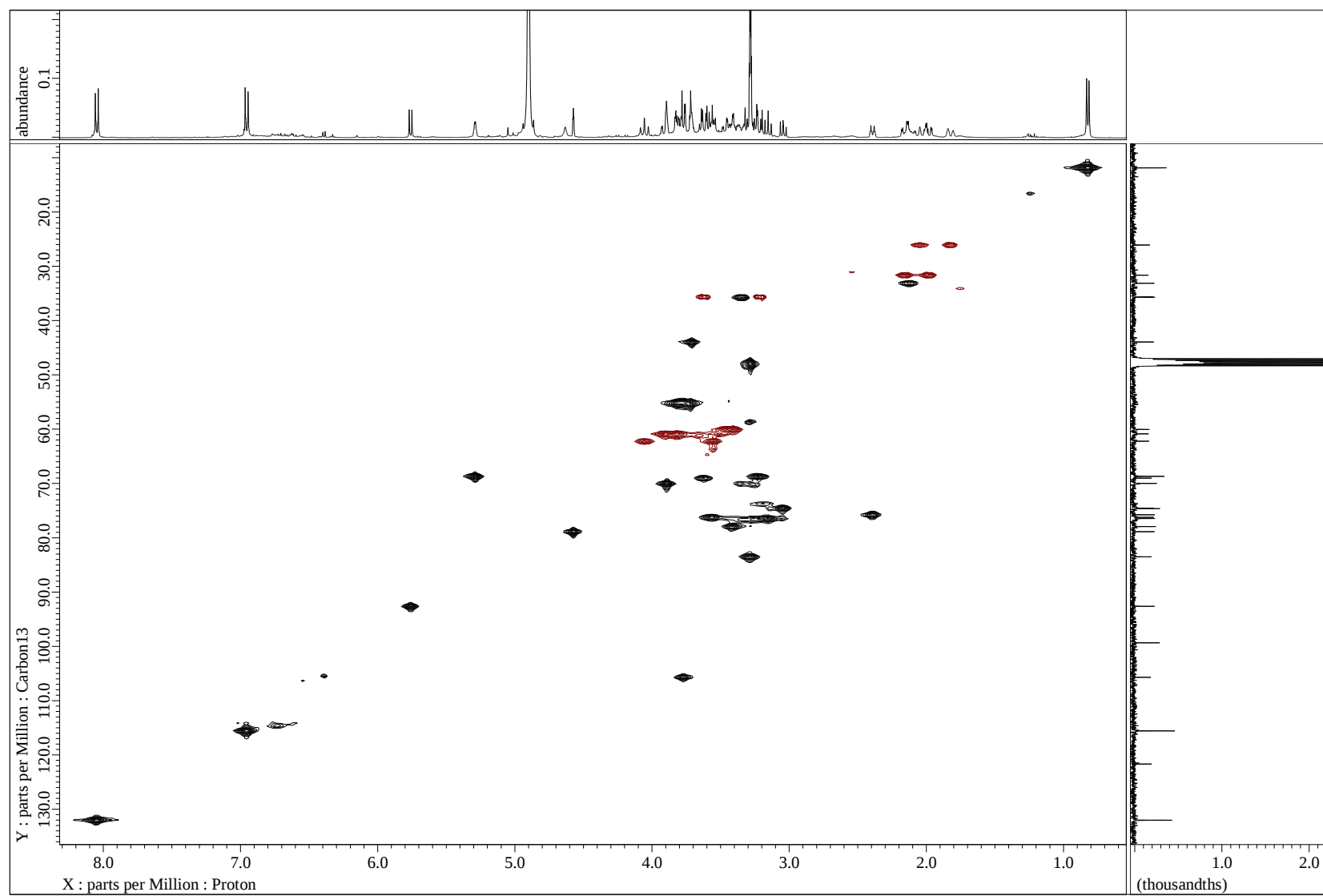


Figure S29 HSQC spectrum of **4** in CD₃OD

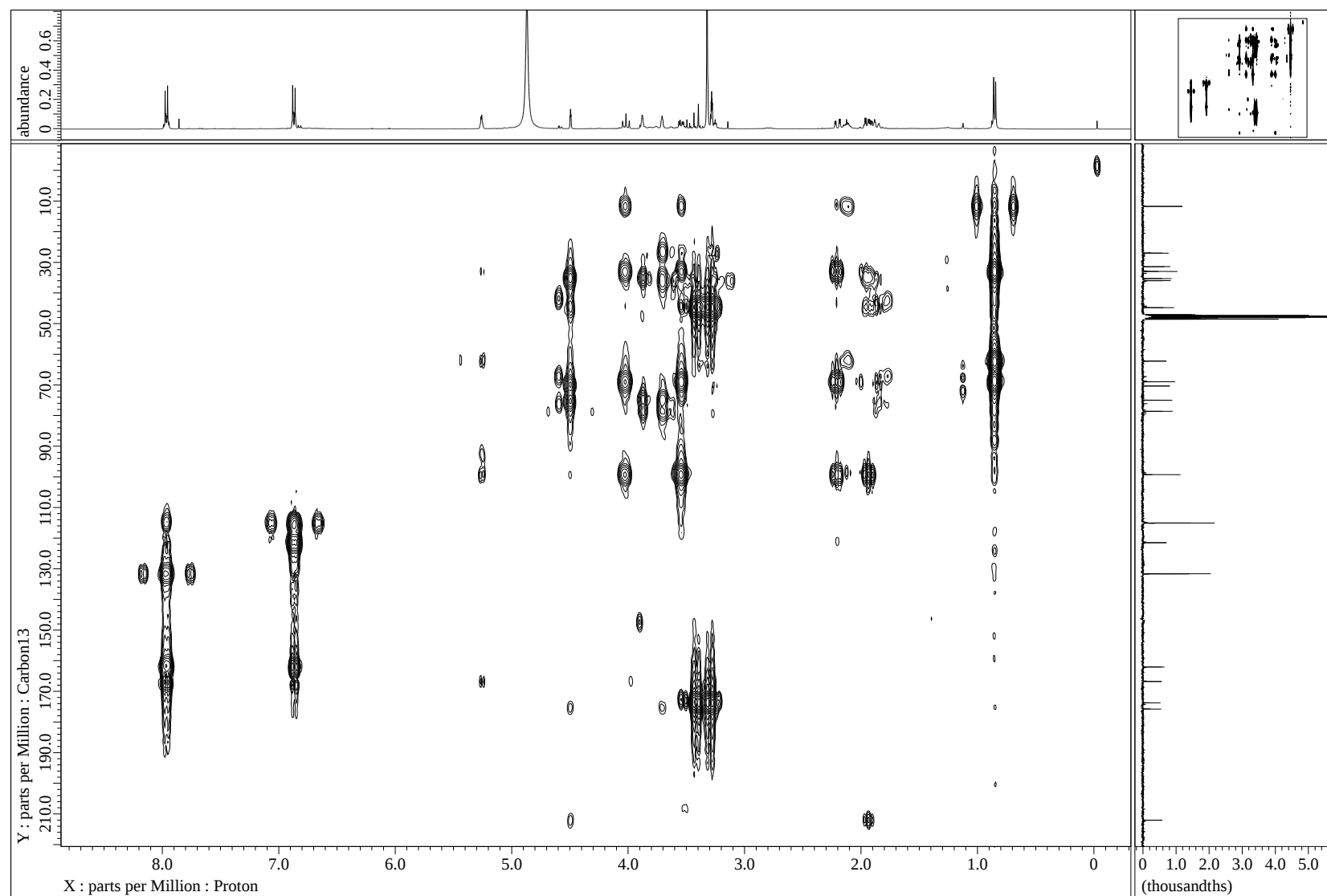


Figure S30 HMBC spectrum of **3** in CD₃OD

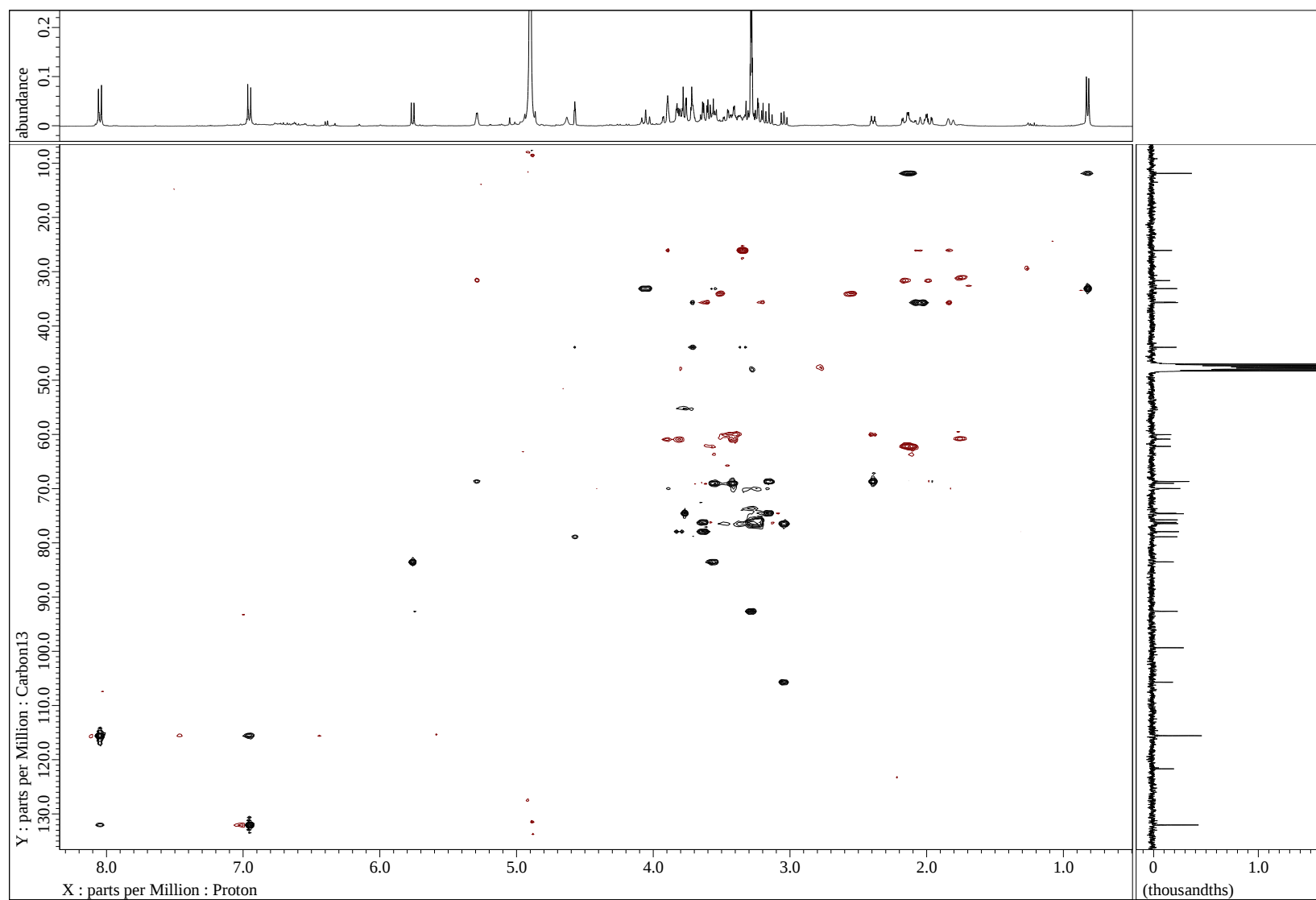


Figure S31 H2BC spectrum of **3** in CD₃OD

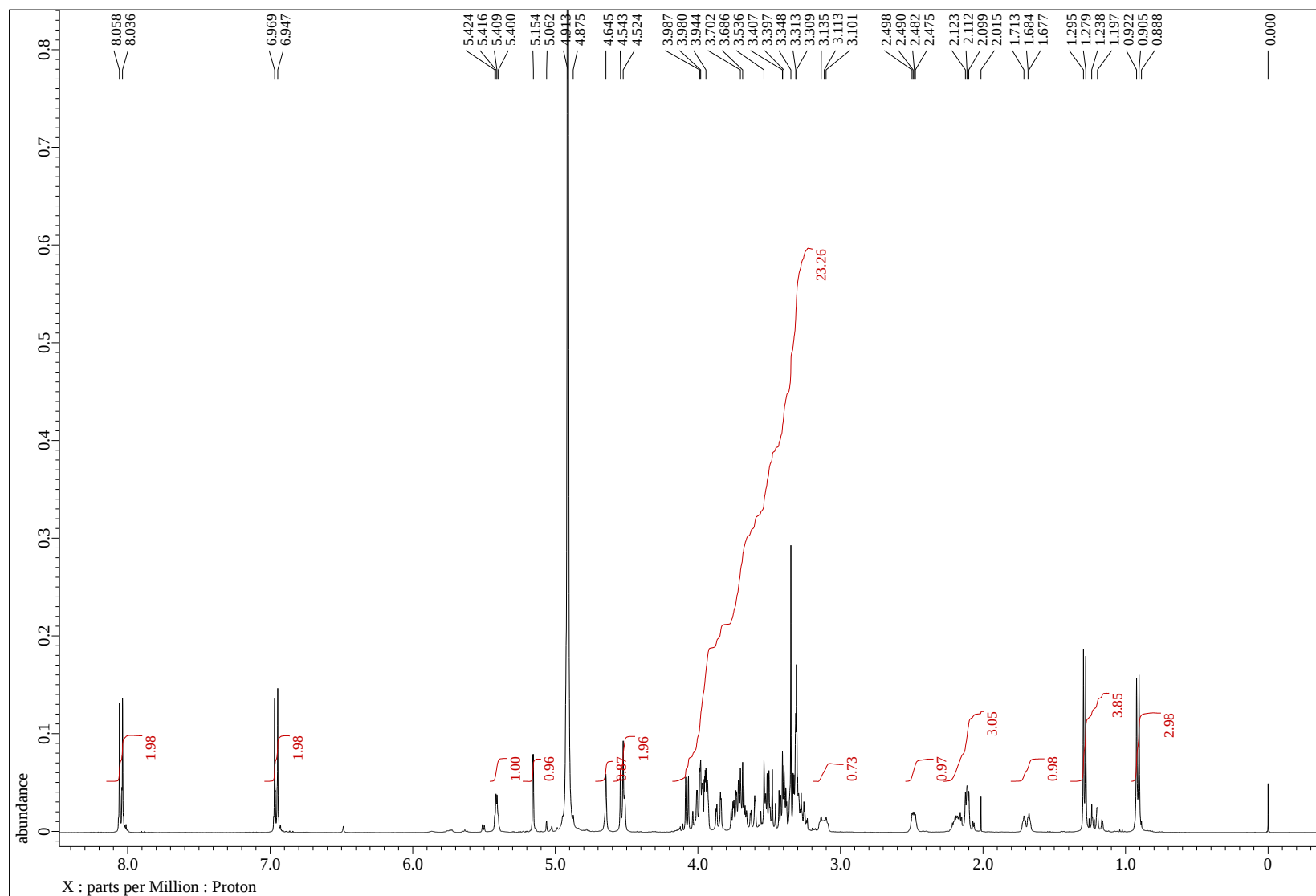


Figure S32 ^1H NMR spectrum of **6** in CD_3OD

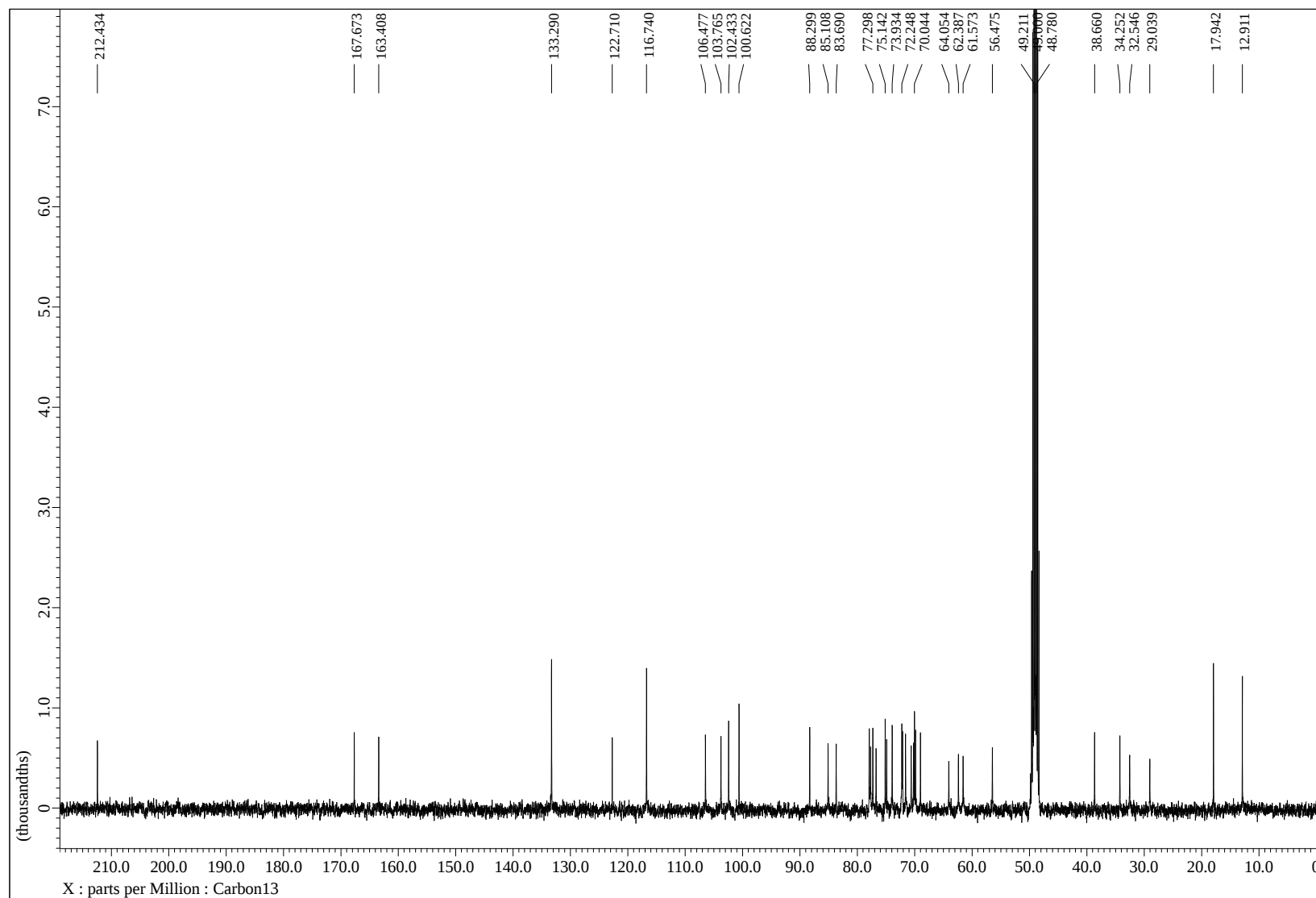


Figure S33 ¹³C NMR spectrum of **6** in CD₃OD

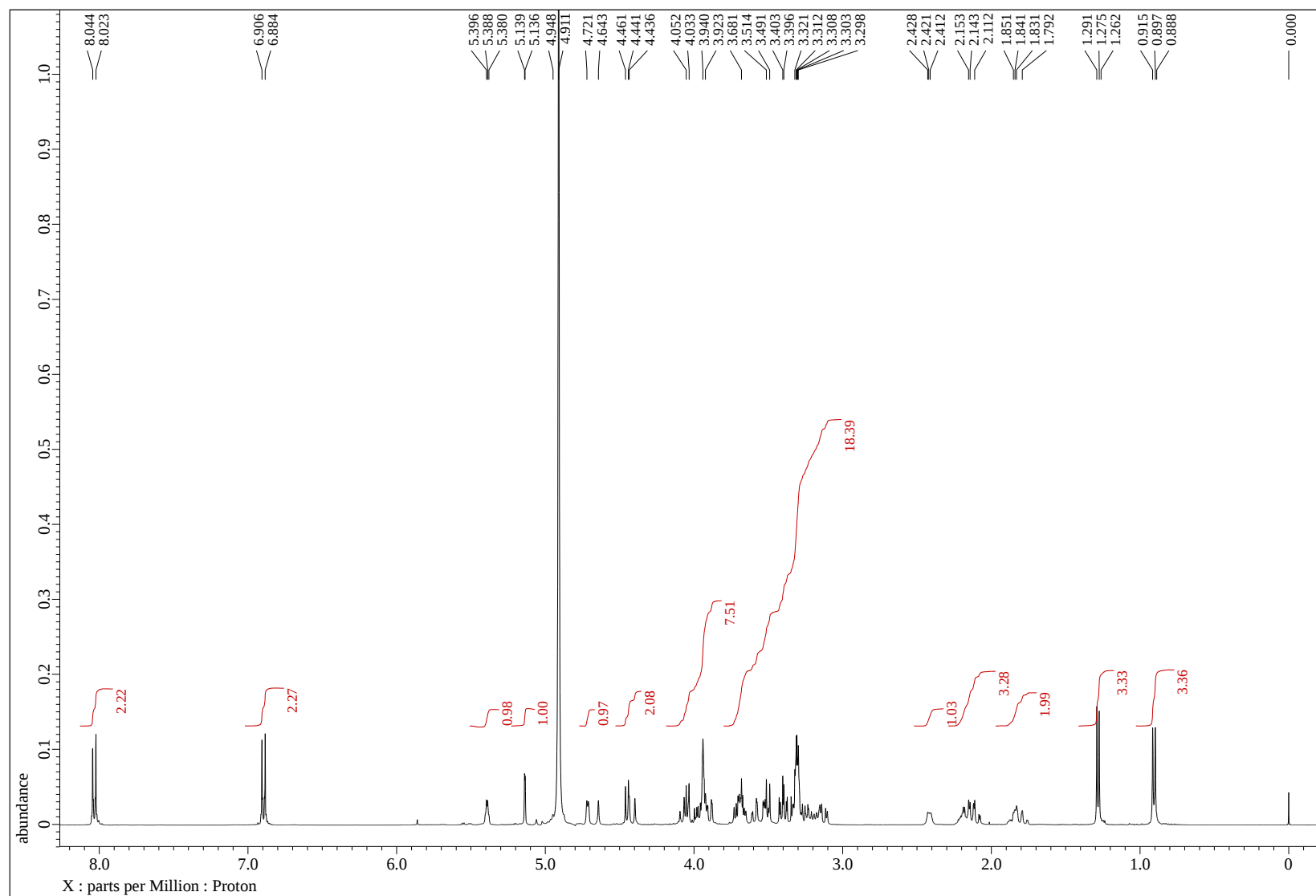


Figure S34 ^1H NMR spectrum of **7** in CD_3OD

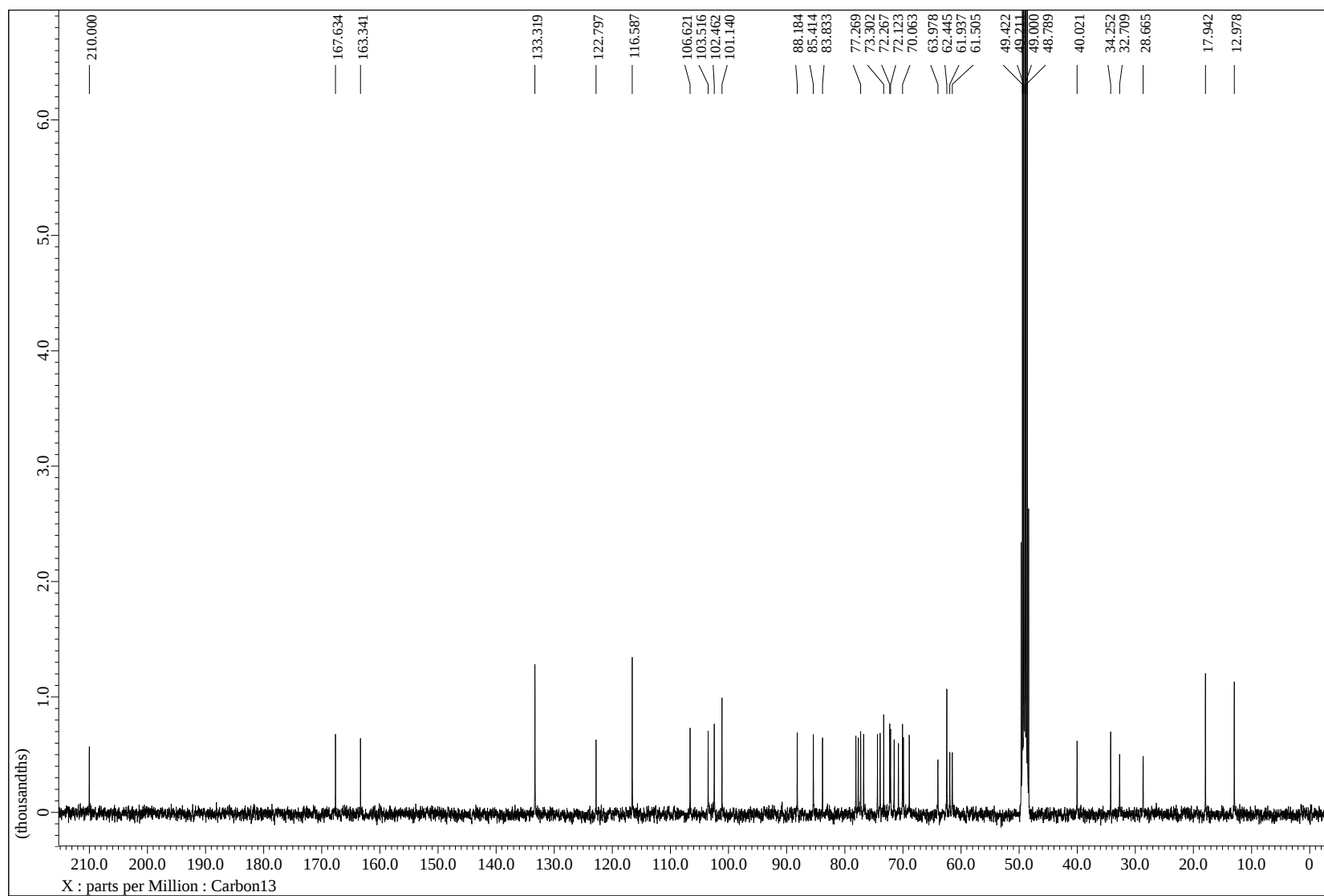


Figure S35 ¹³C NMR spectrum of **7** in CD₃OD

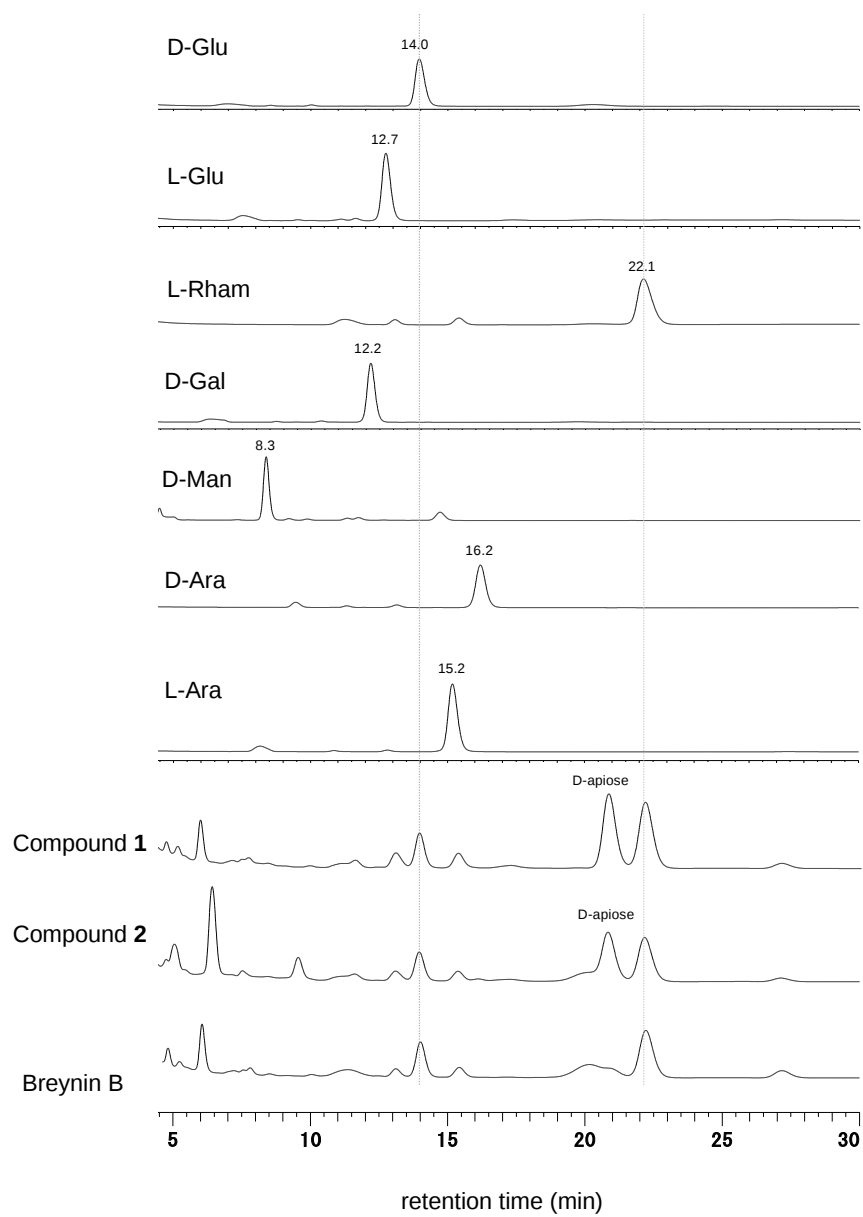


Figure S36 HPLC chromatograms for sugar identification