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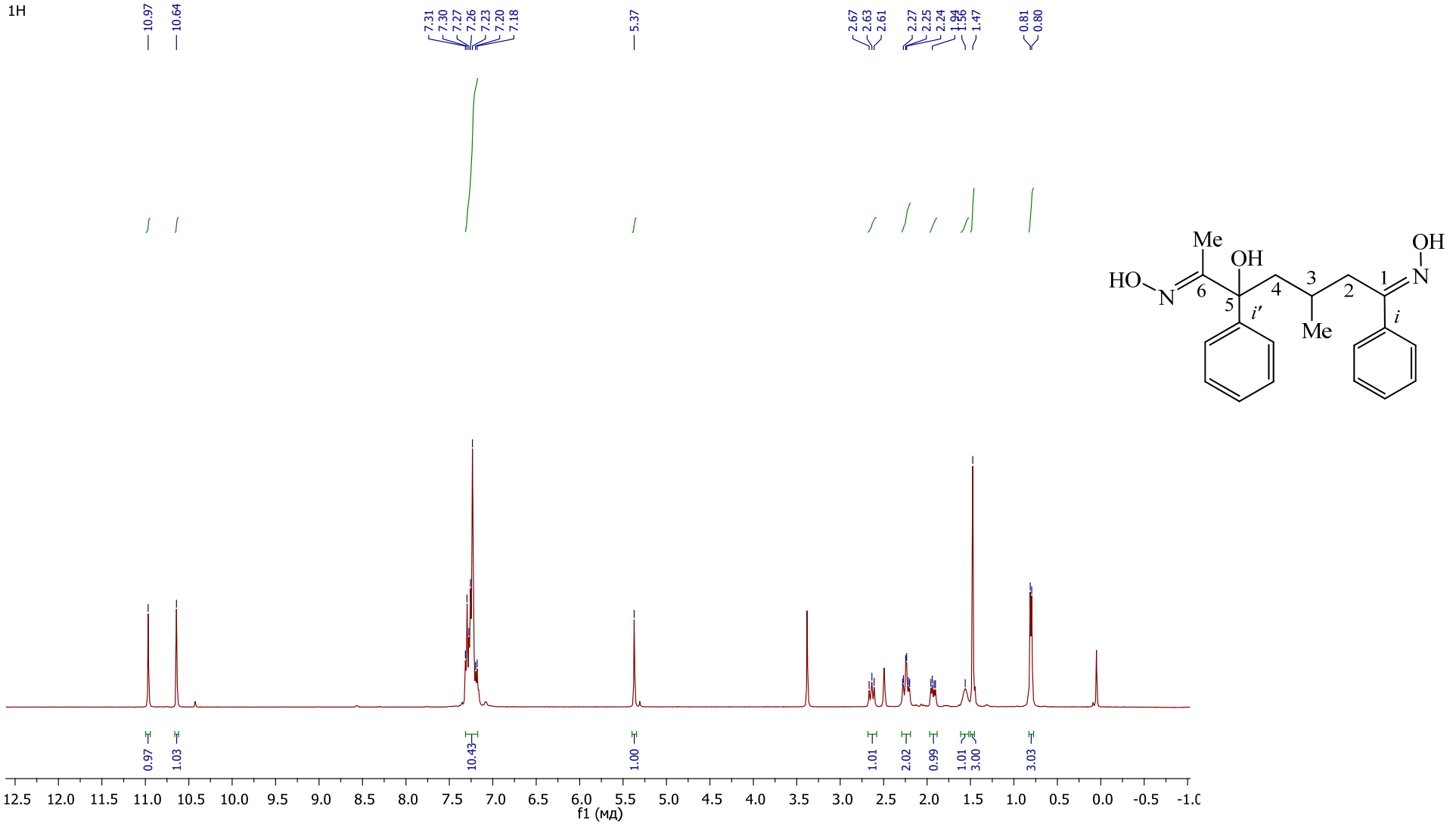
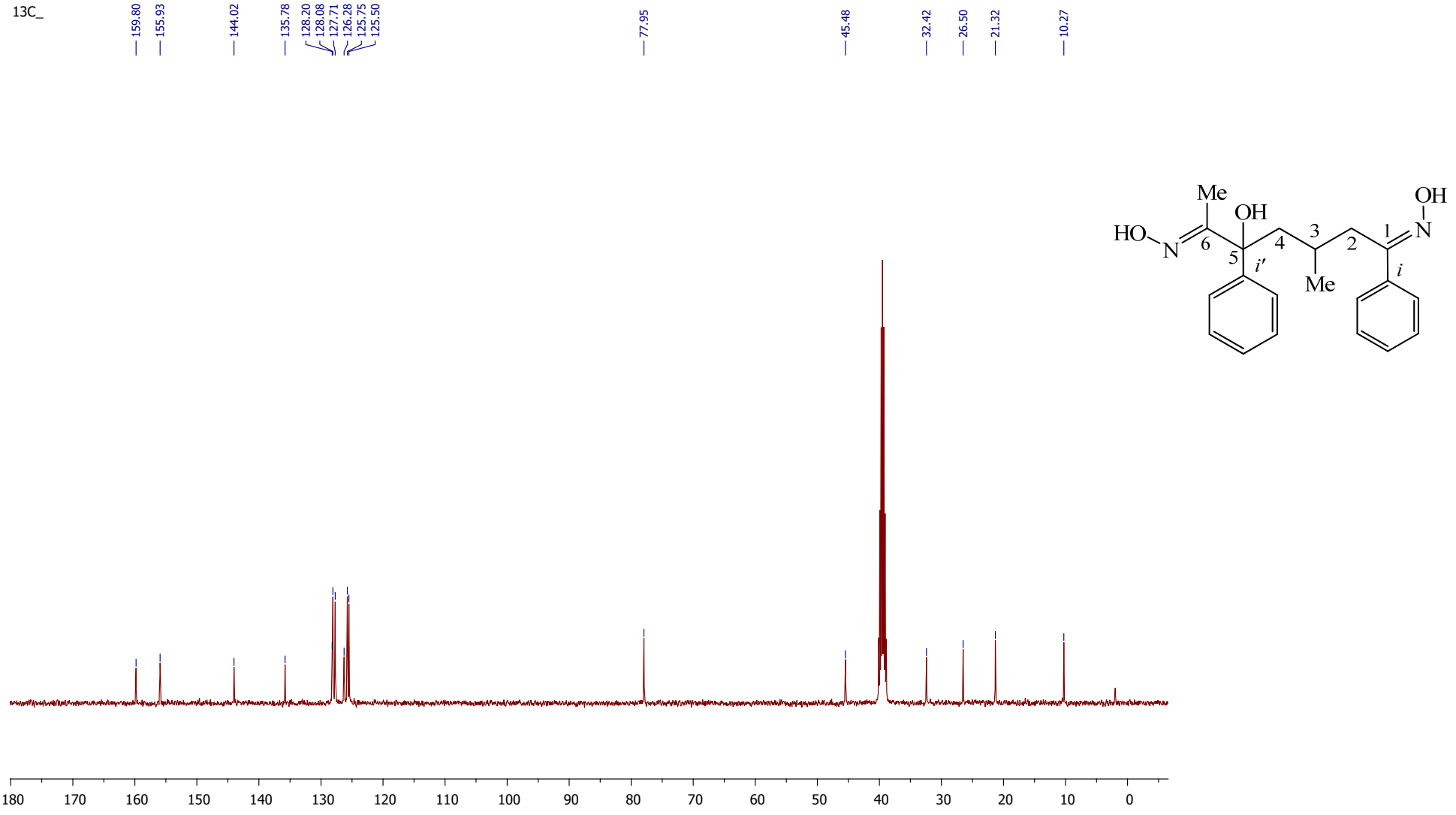
Dioximes of 1,6-heptanediones from acetylene and ketones: only three atom-economic steps

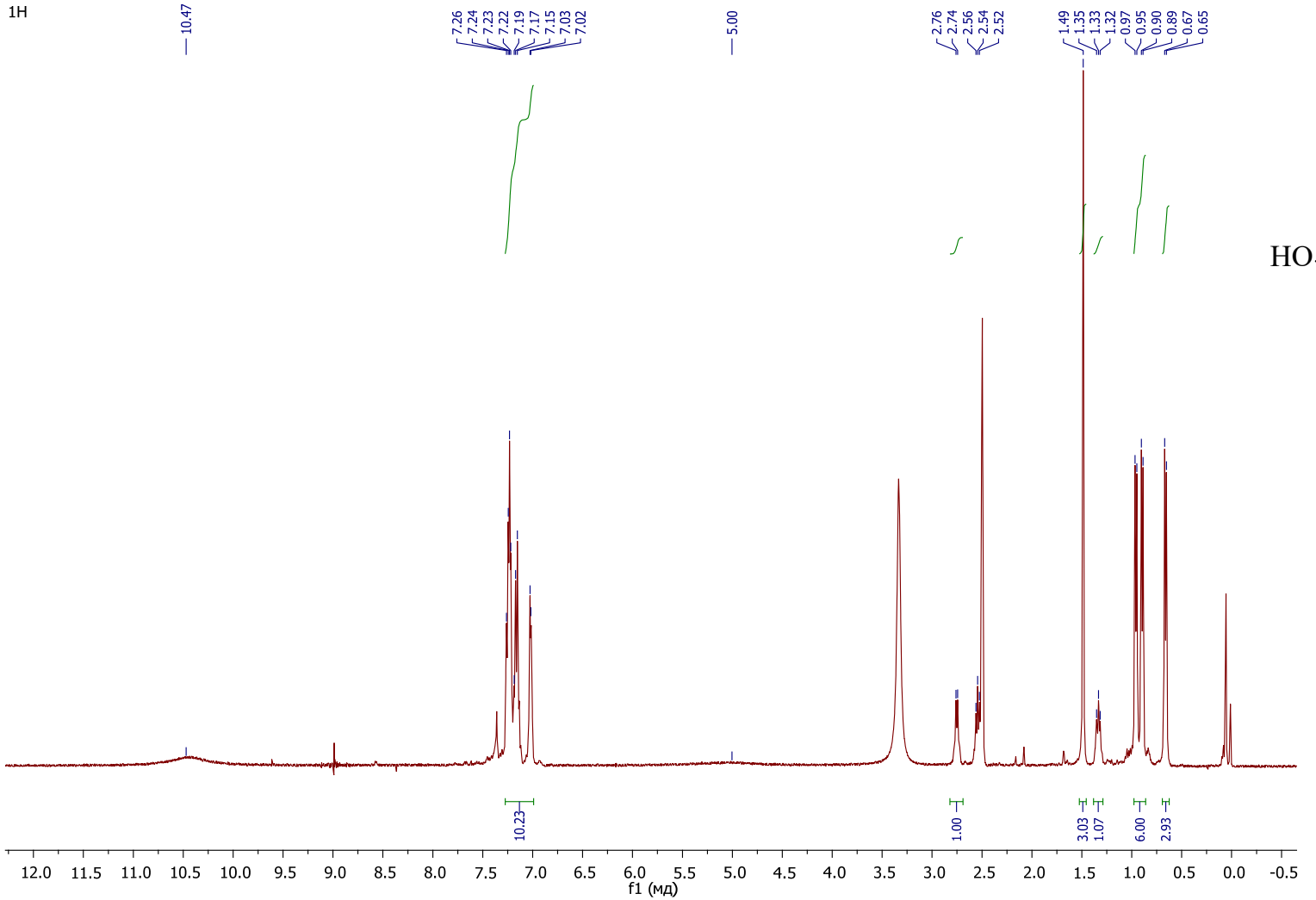
Elena Yu. Schmidt, Inna V. Tatarinova, Nadezhda I. Protsuk, Igor A. Ushakov and Boris A. Trofimov

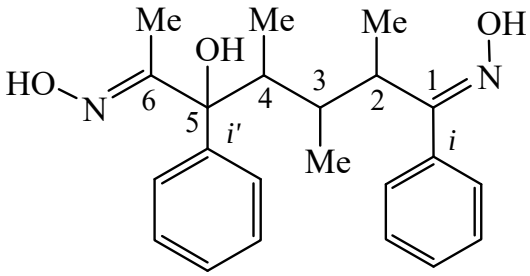


^{1}H NMR spectrum of **3a** (400.1 MHz, DMSO D_6)

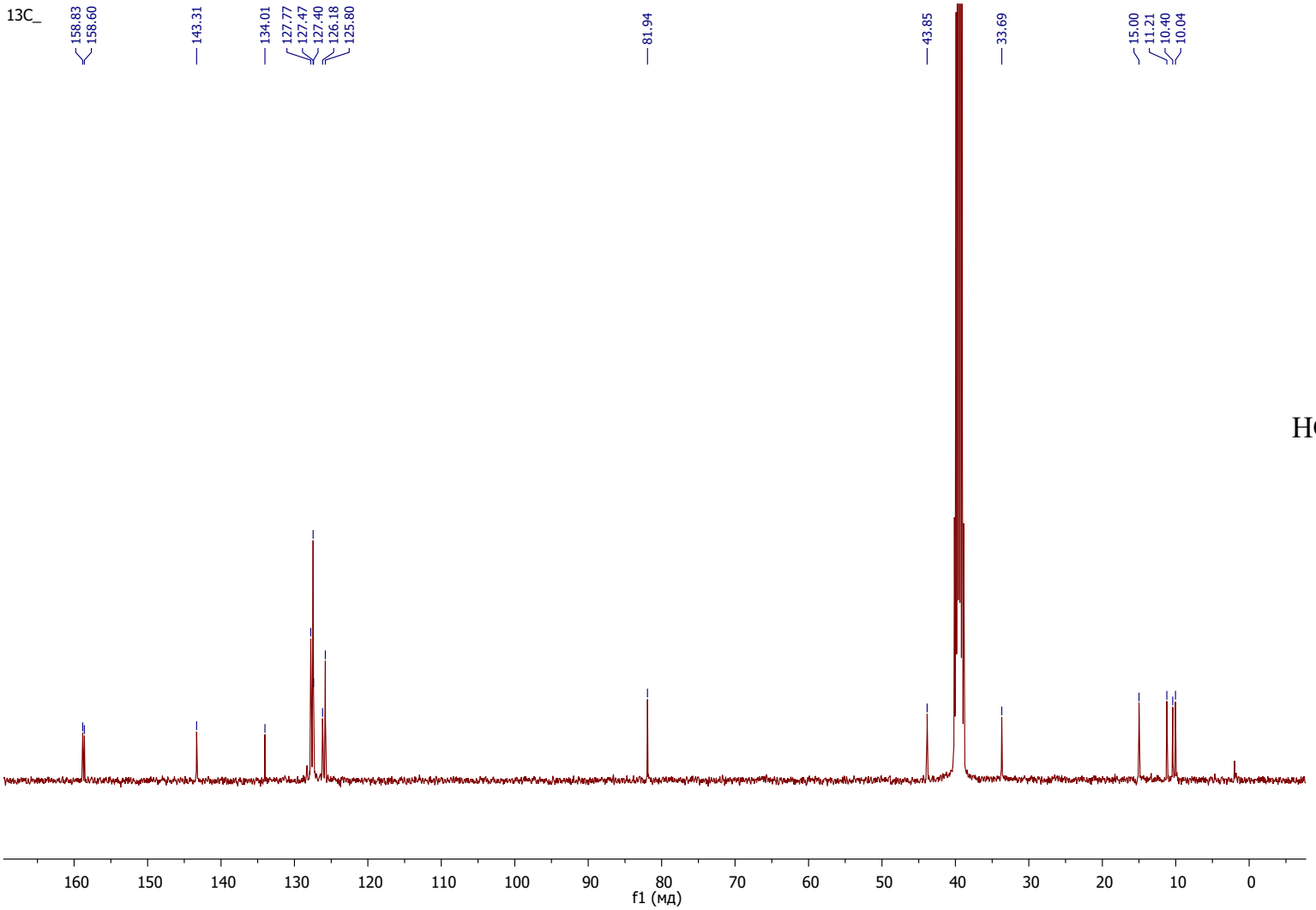


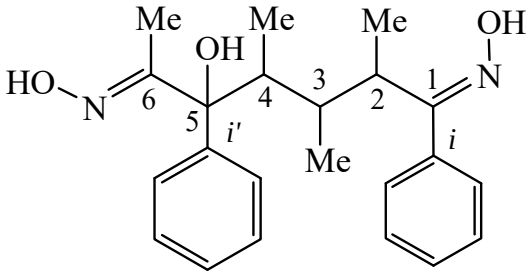
^{13}C NMR spectrum of **3a** (100.6 MHz, DMSO D_6)



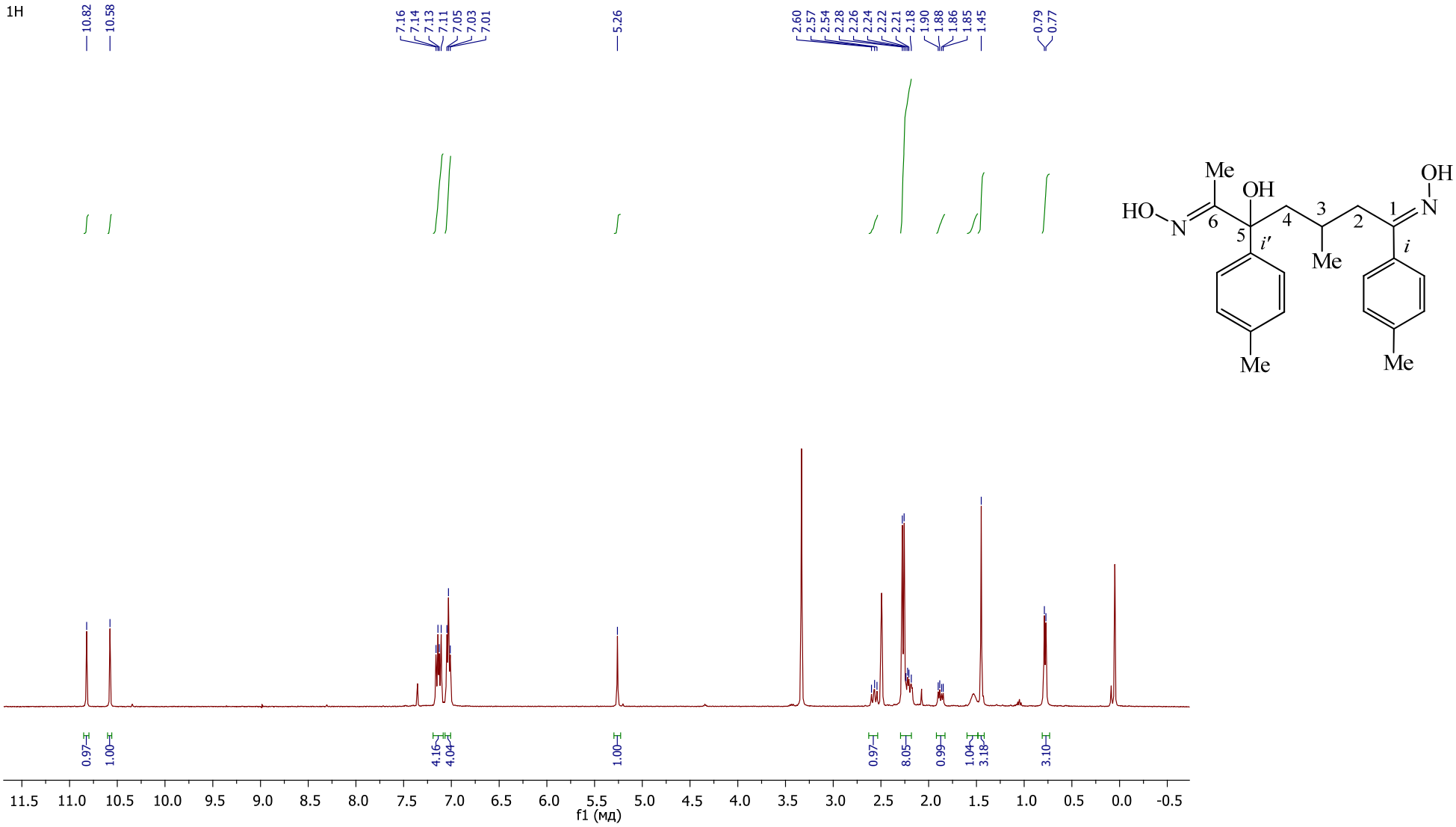


^{1}H NMR spectrum of **3b** (400.1 MHz, DMSO D_6)

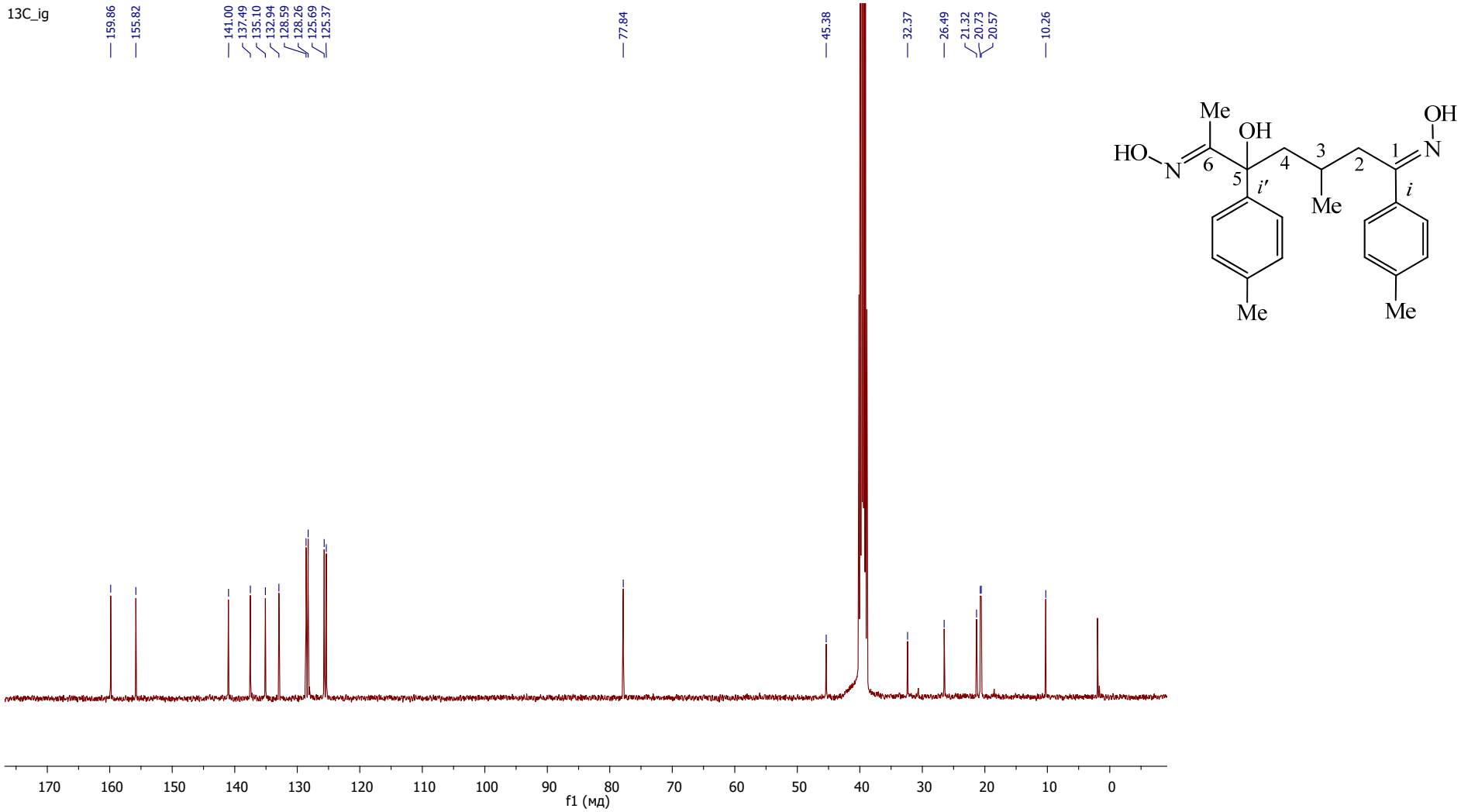




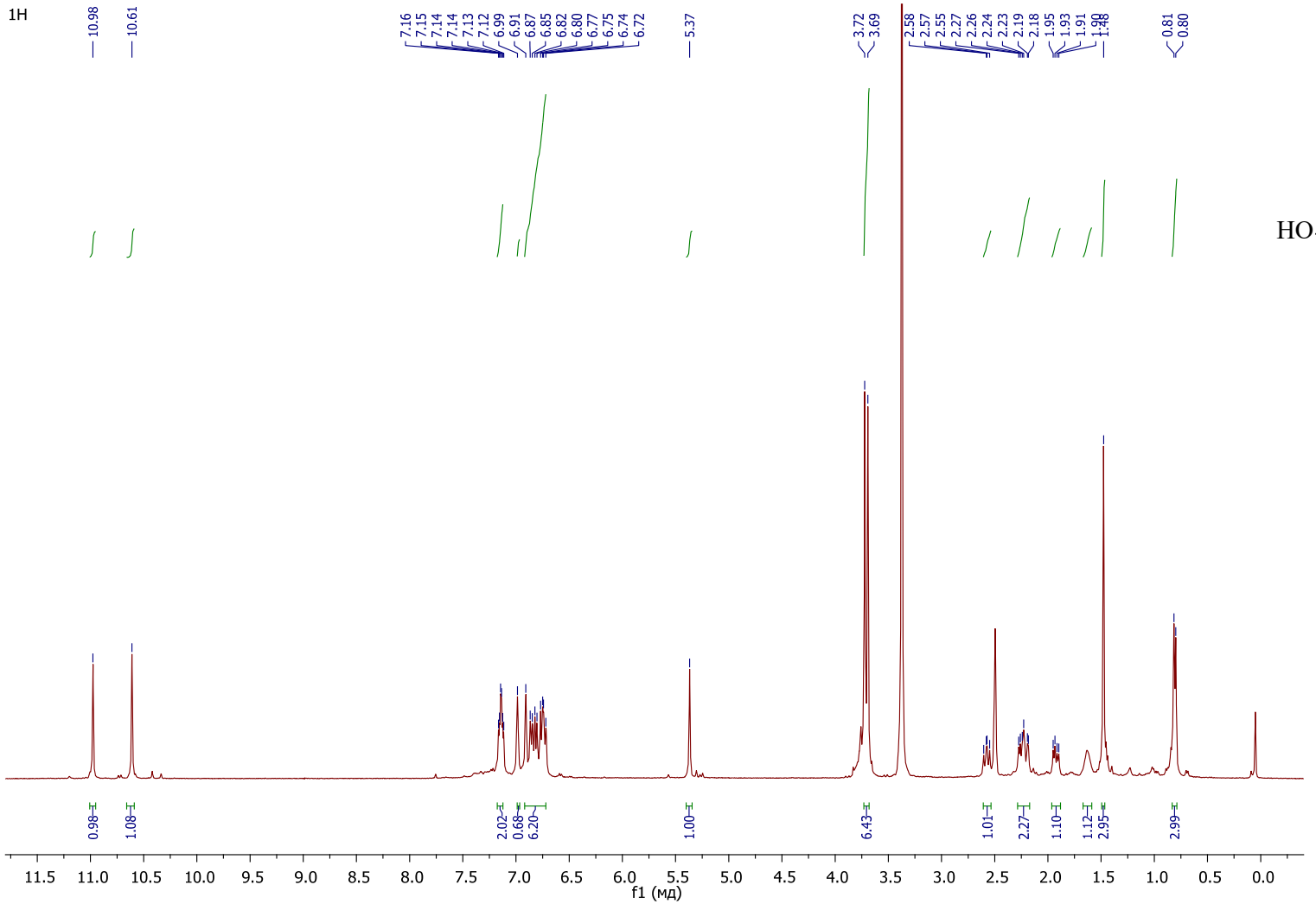
^{13}C NMR spectrum of **3b** (100.6 MHz, DMSO D_6)

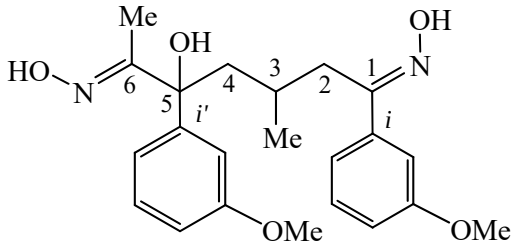


^{1}H NMR spectrum of **3c** (400.1 MHz, DMSO D_6)

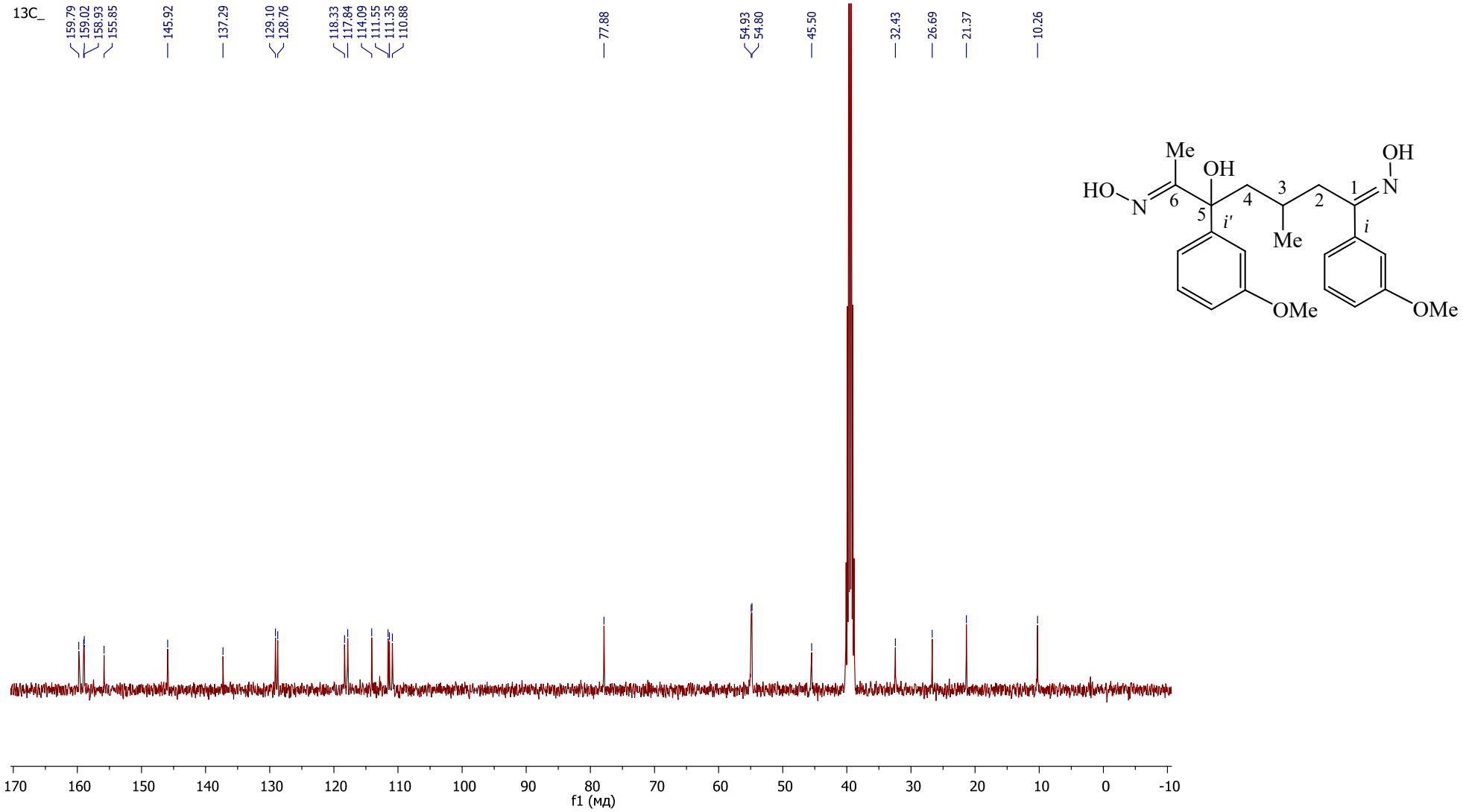


^{13}C NMR spectrum of **3c** (100.6 MHz, DMSO D_6)

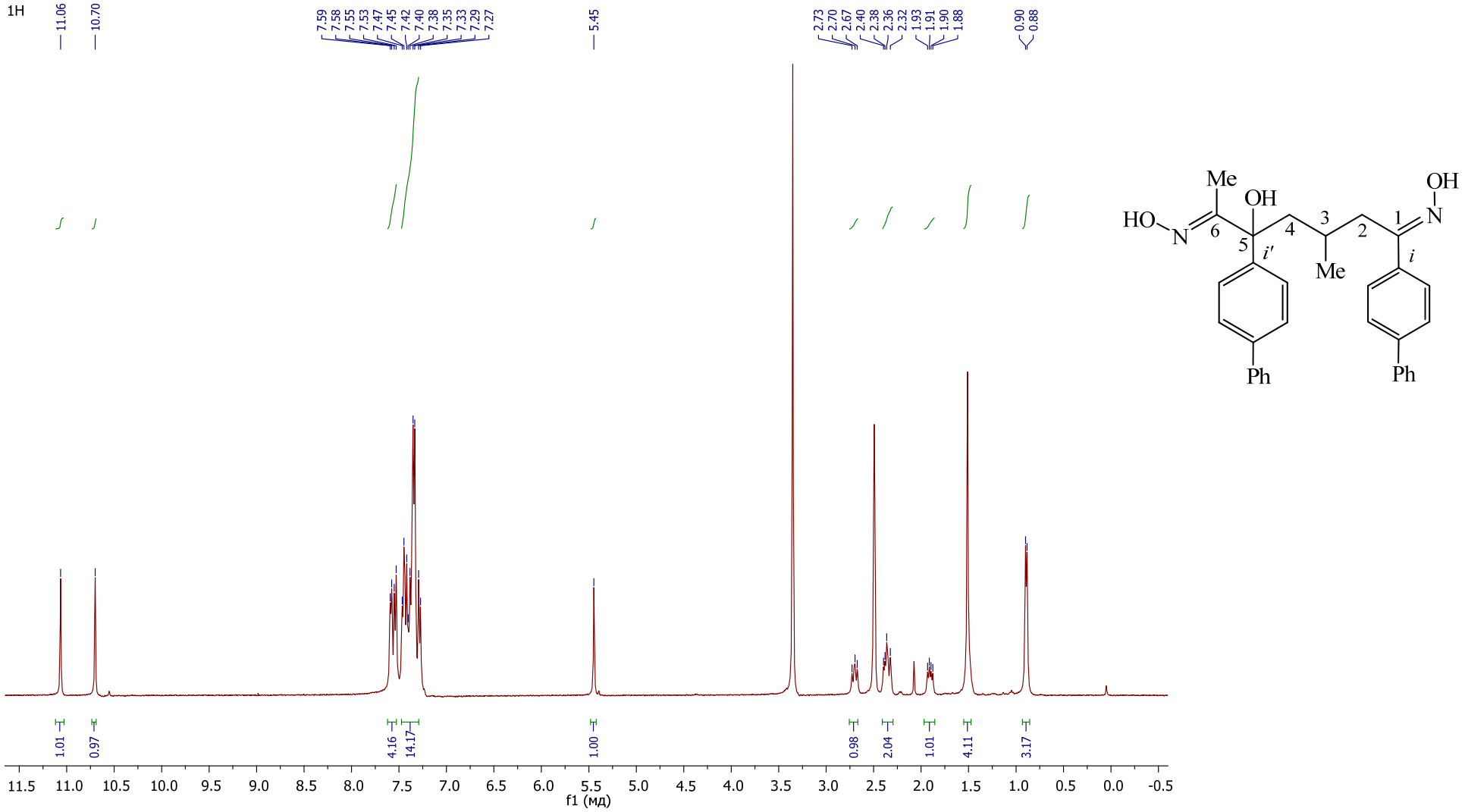




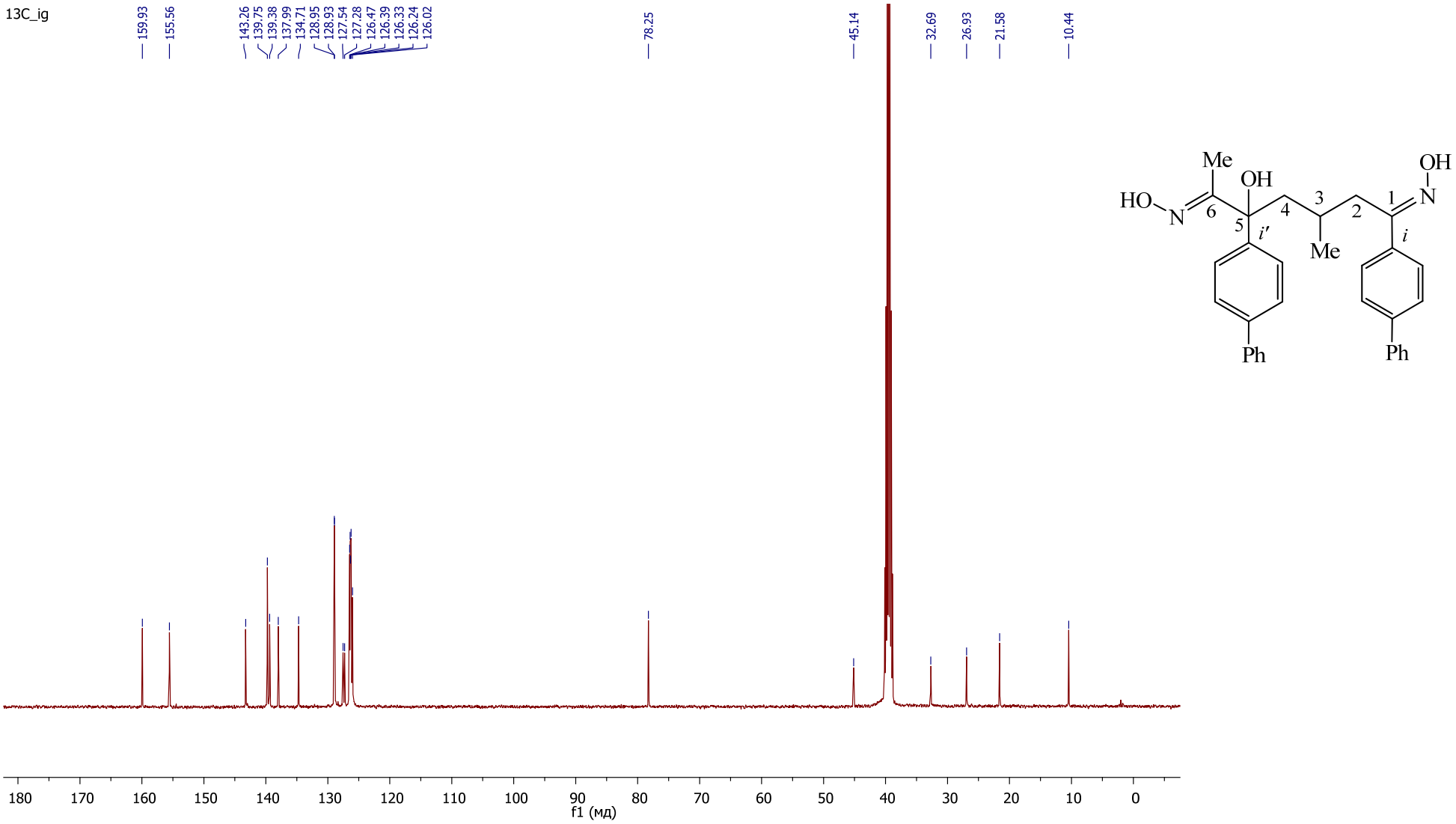
^{1}H NMR spectrum of **3d** (400.1 MHz, DMSO D_6)



^{13}C NMR spectrum of **3d** (100.6 MHz, DMSO D_6)



^{1}H NMR spectrum of **3e** (400.1 MHz, DMSO D_6)



^{13}C NMR spectrum of **3e** (100.6 MHz, DMSO D_6)