Regioselective Cyclic Iminium Formation of Ugi Advanced Intermediates: Rapid Access to 3,4-Dihydropyrazin-2(1*H*)-ones and Other Diverse Nitrogen-Containing Heterocycles

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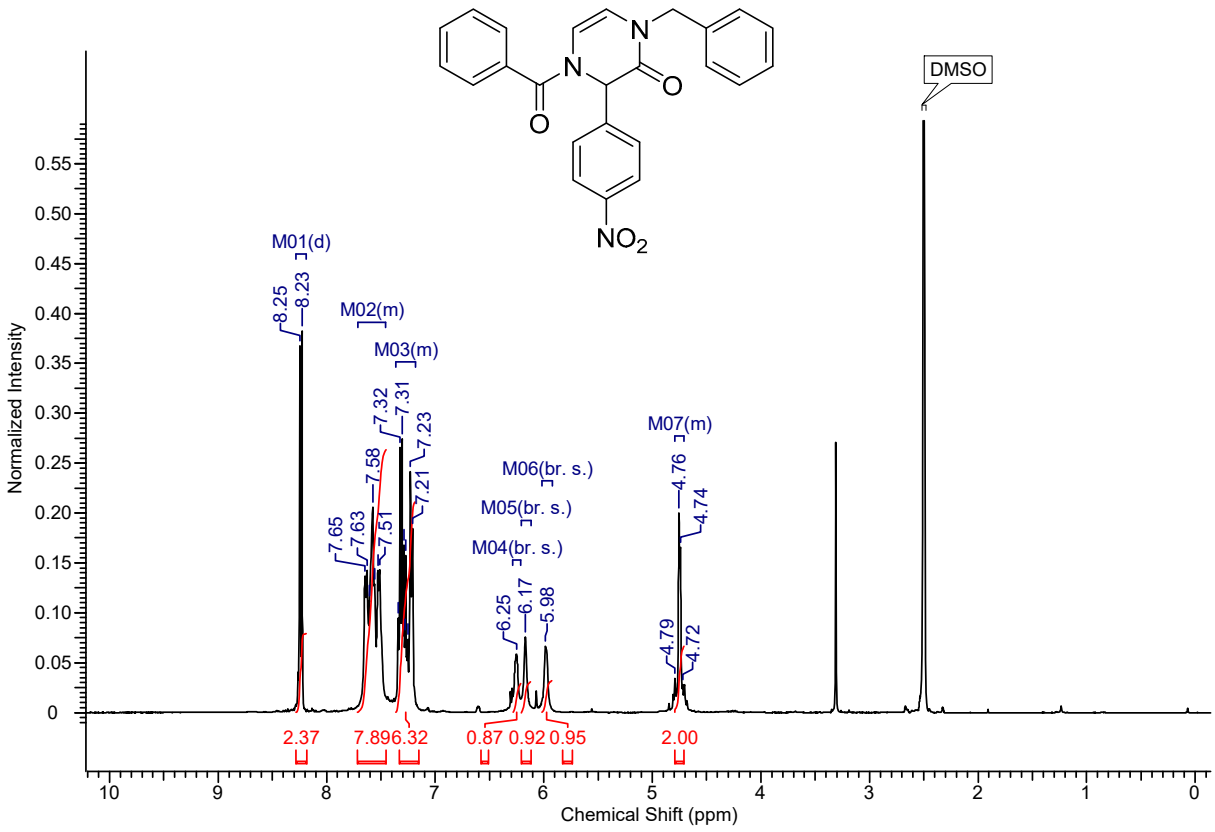
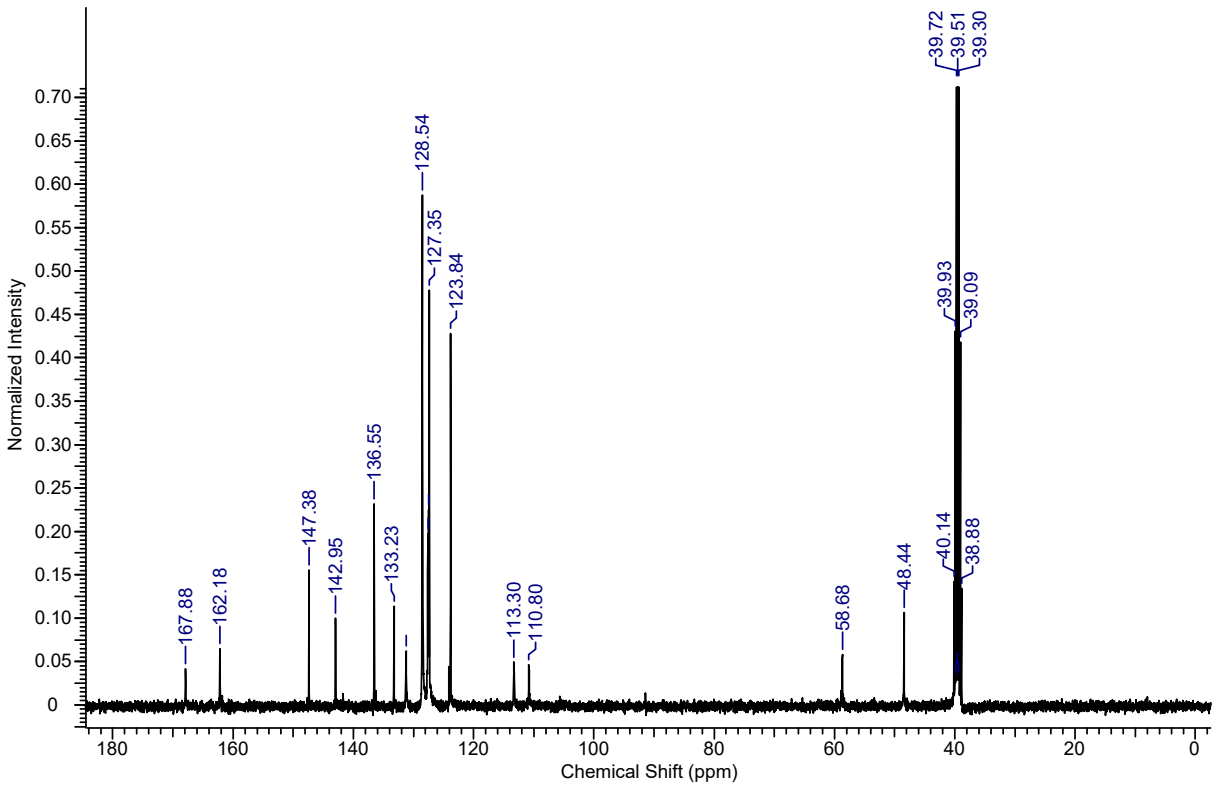
Table of Contents

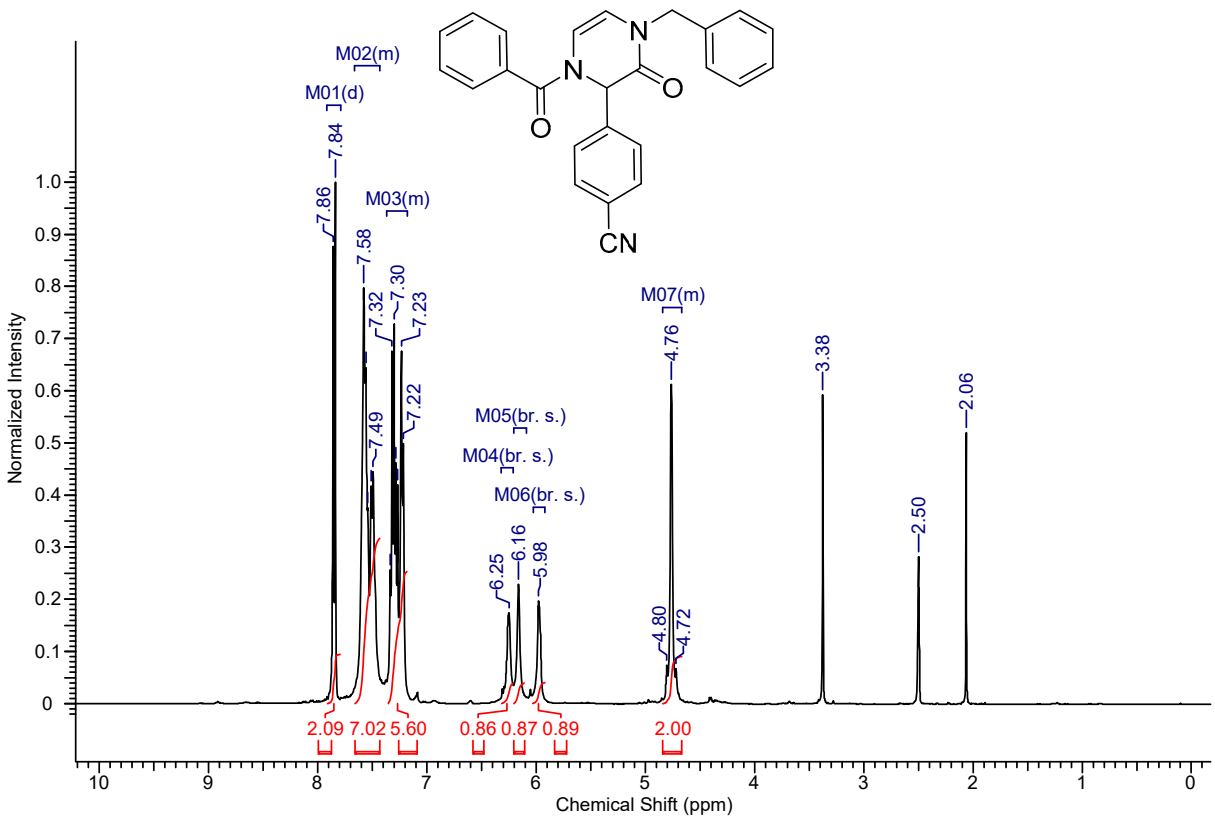
1. ^{1}H and ^{13}C NMR Spectra

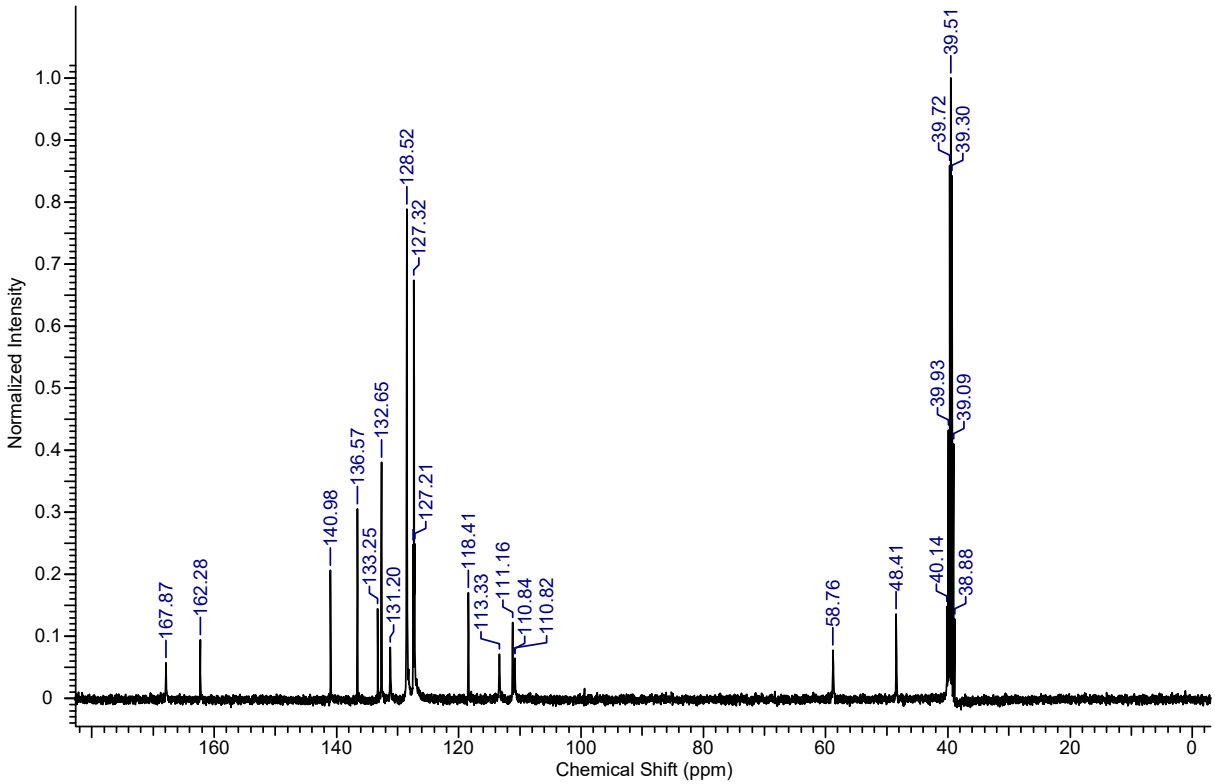
^{1}H and ^{13}C NMR spectra (d_6-DMSO) for compound 2a



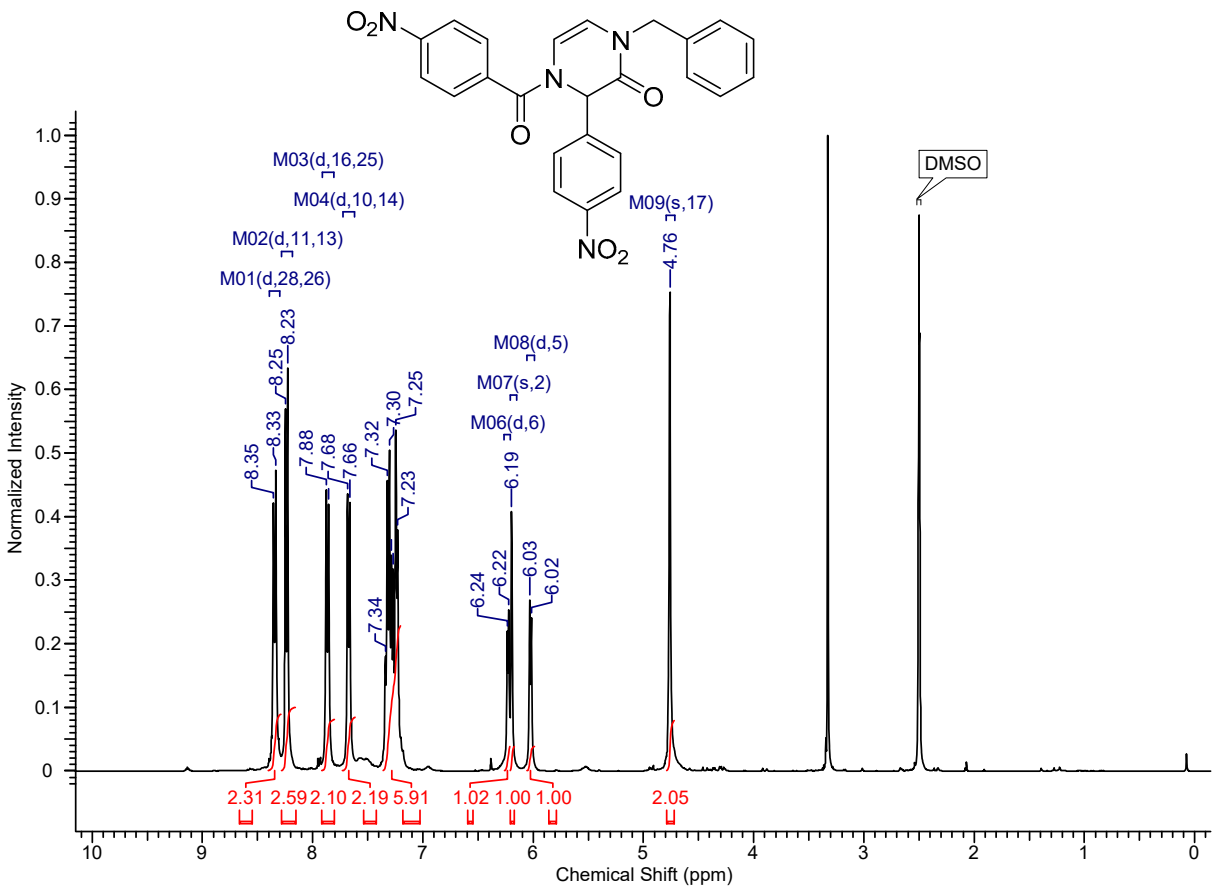


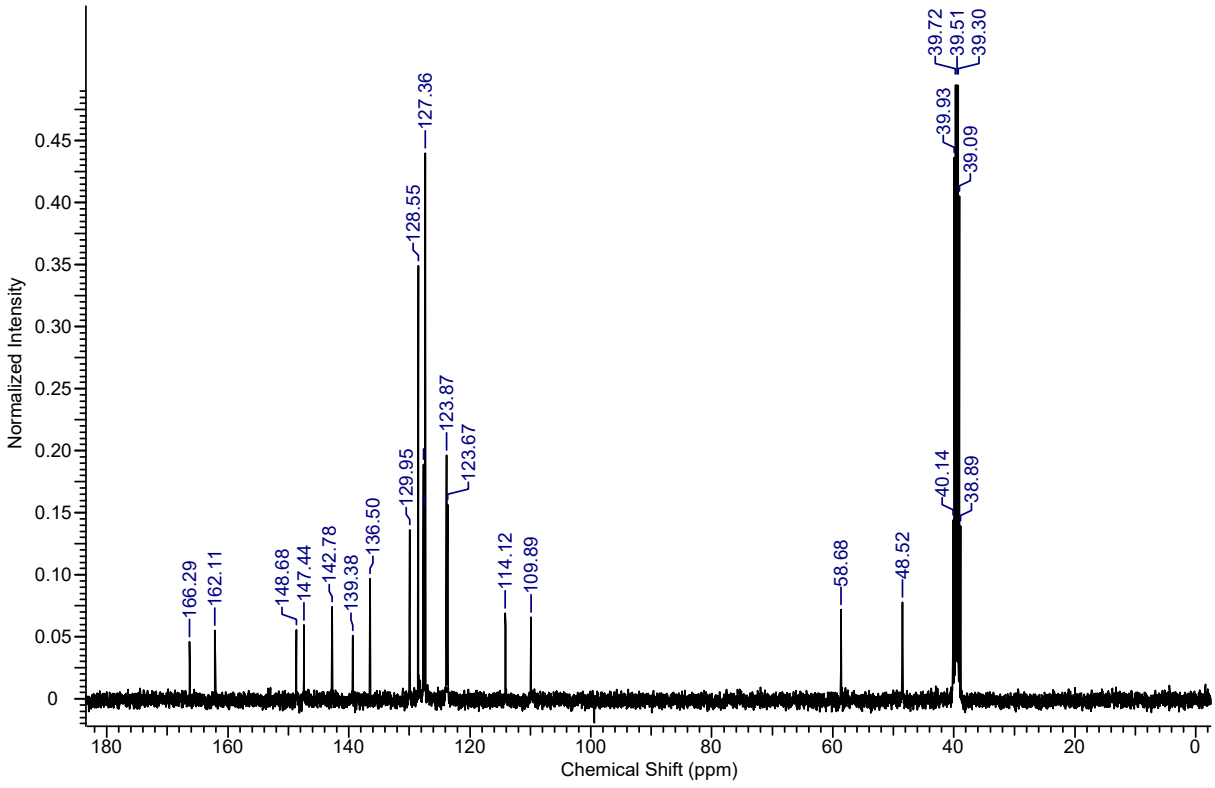
^{1}H and ^{13}C NMR spectra (d_6-DMSO) for compound 2b



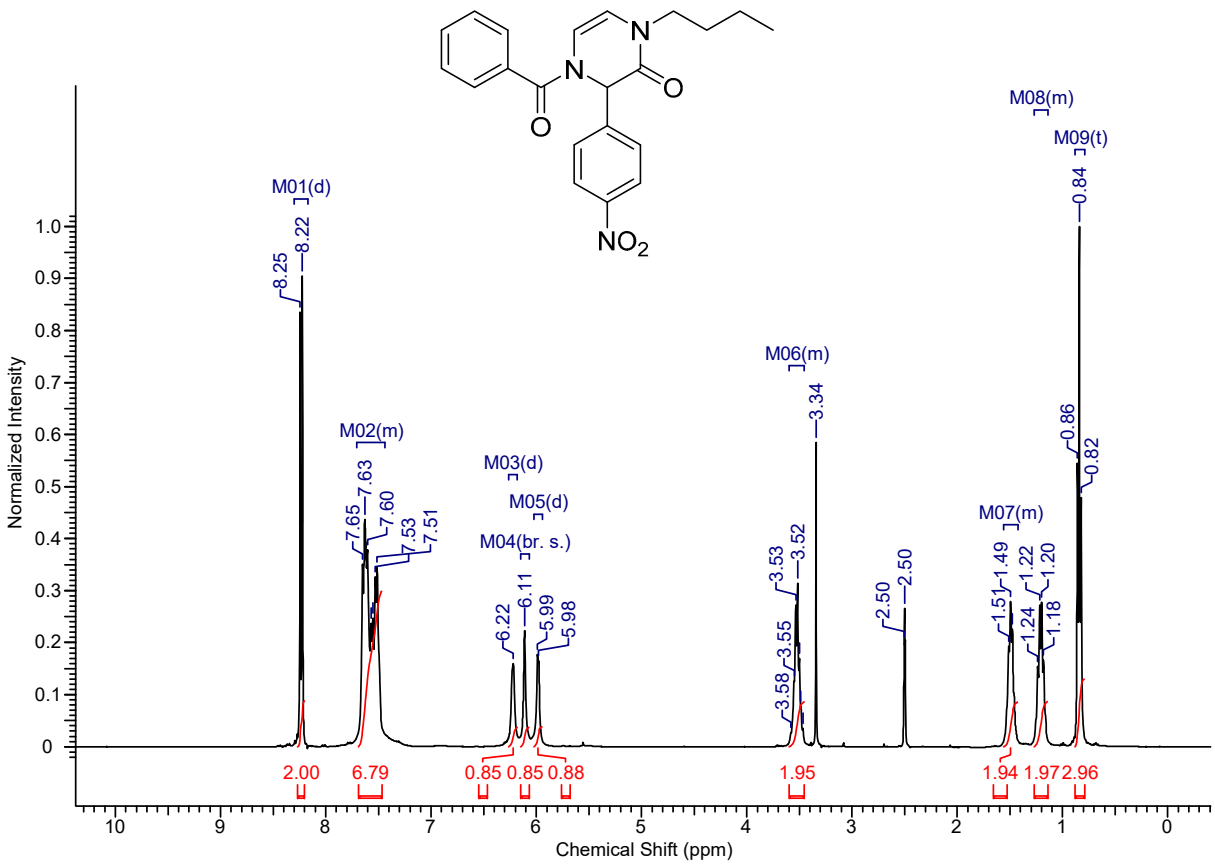


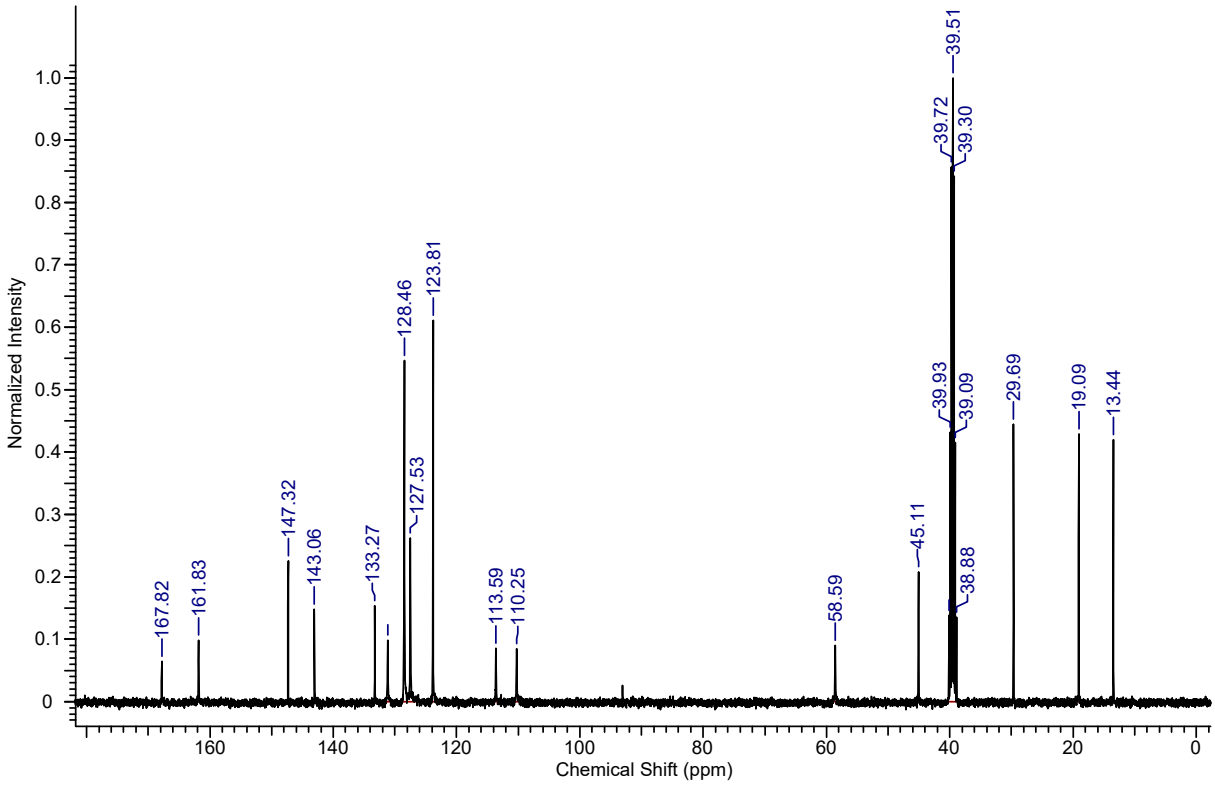
^{1}H and ^{13}C NMR spectra (d_6-DMSO) for compound 2c



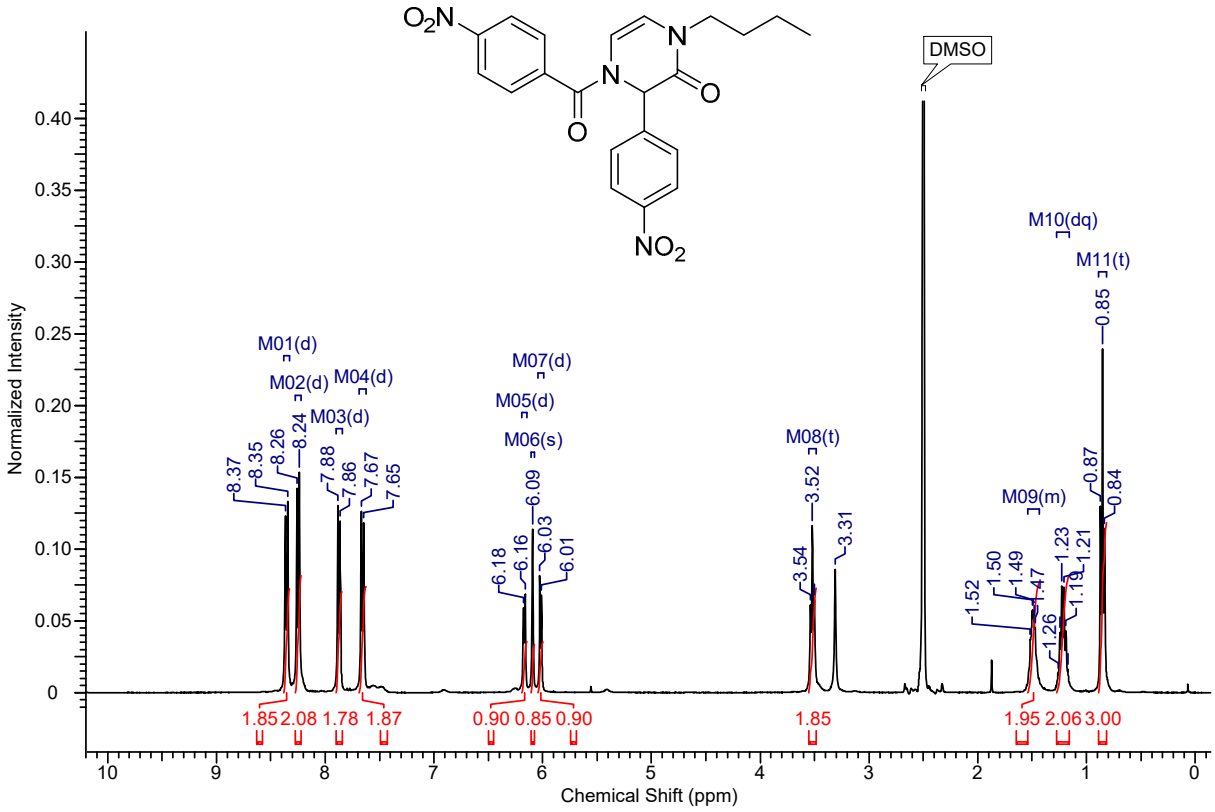


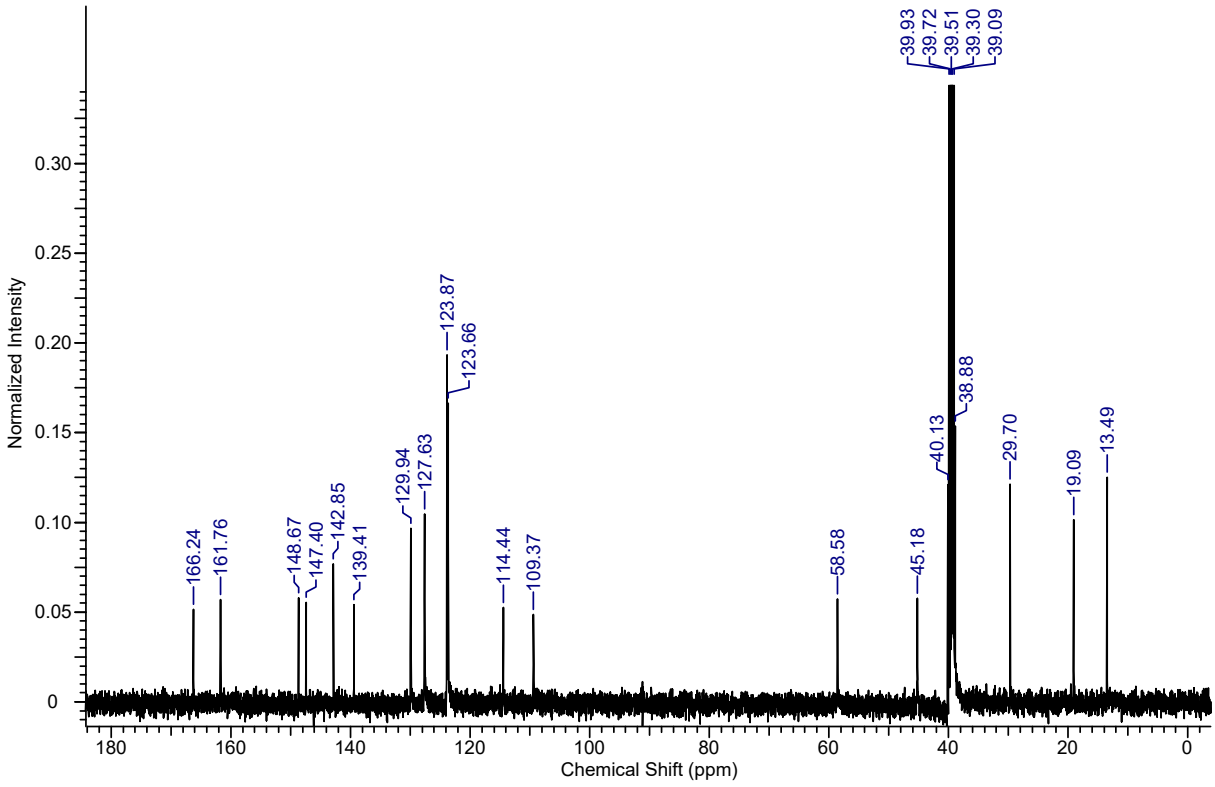
^{1}H and ^{13}C NMR spectra (d_6-DMSO) for compound 2d



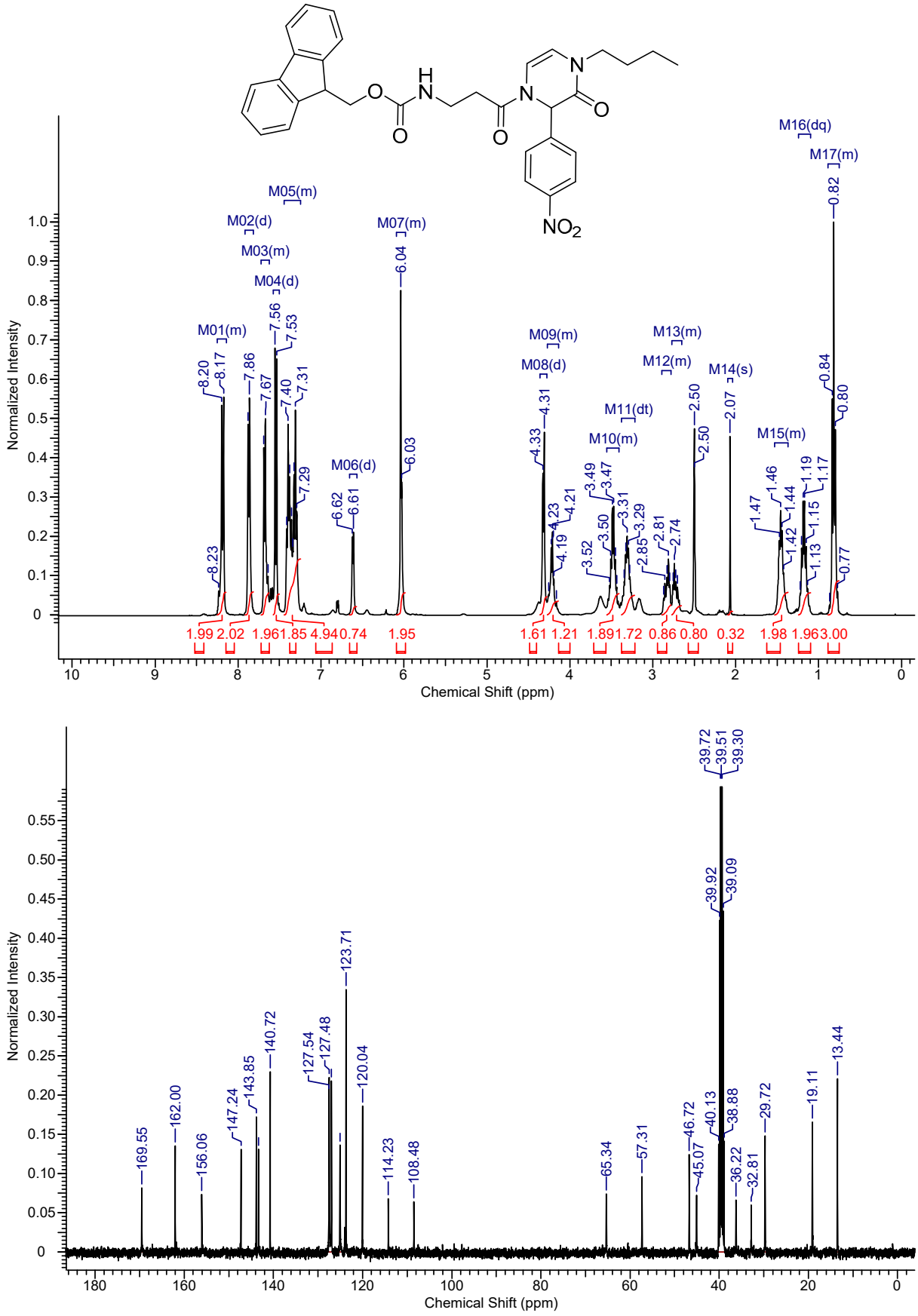


^{1}H and ^{13}C NMR spectra (d_6-DMSO) for compound 2e

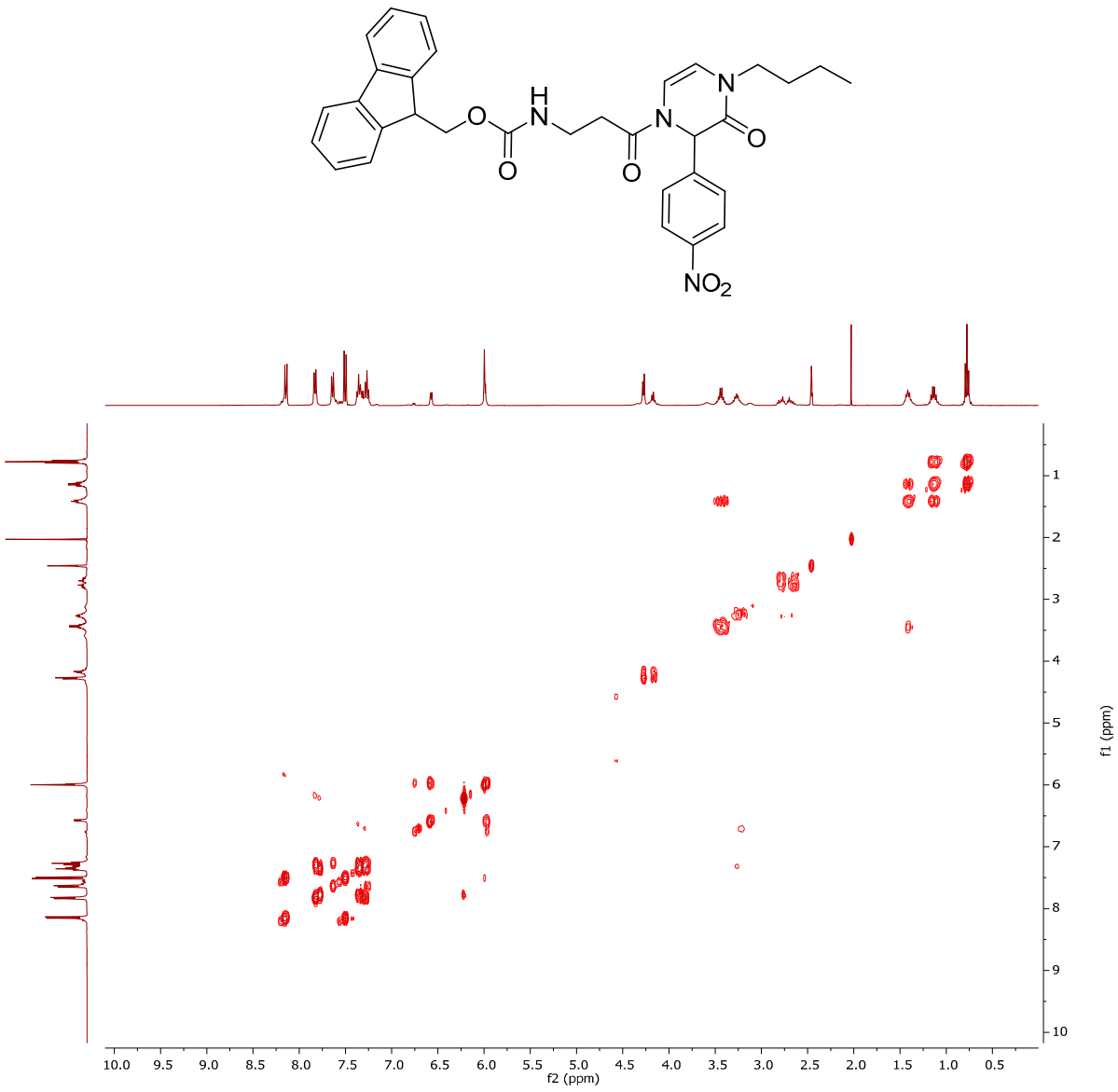




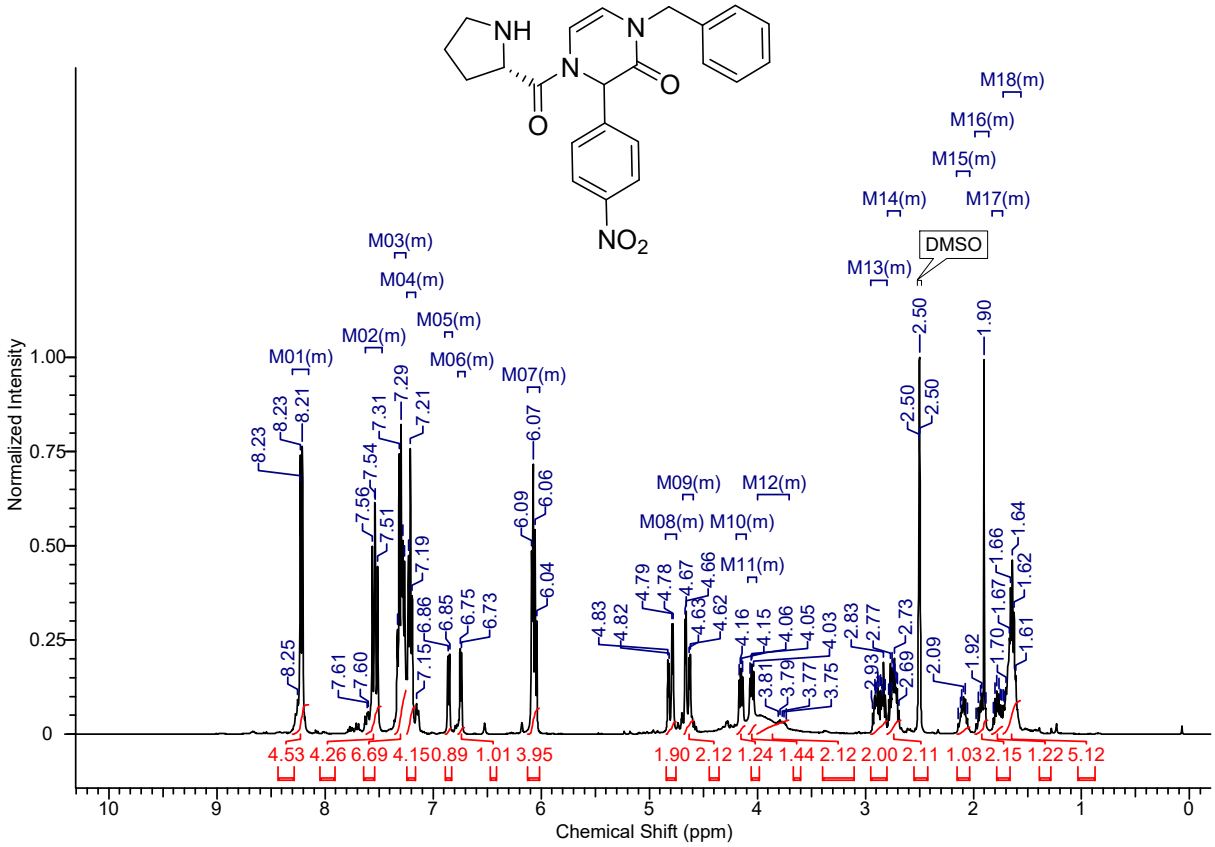
^{1}H and ^{13}C NMR spectra (d_6-DMSO) for compound 2f

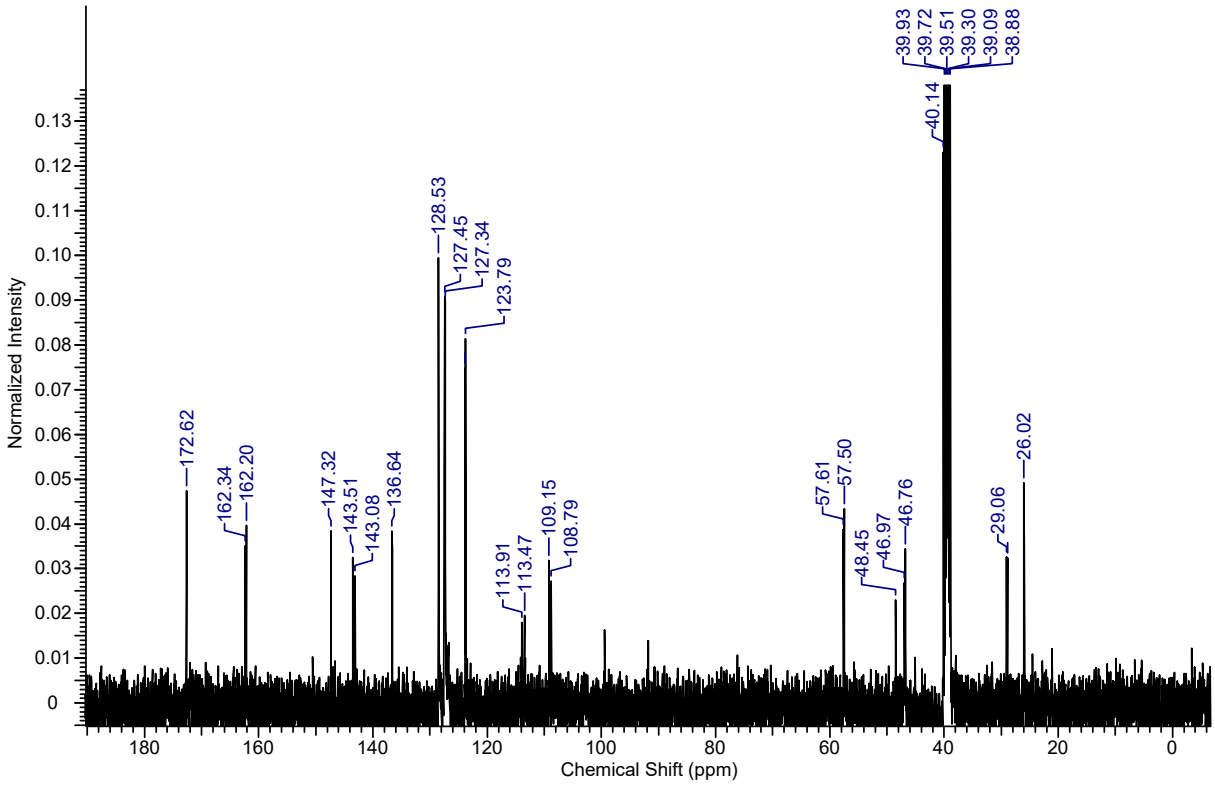


^{1}H – ^{1}H COSY spectrum (d_6-DMSO) for compound 2f

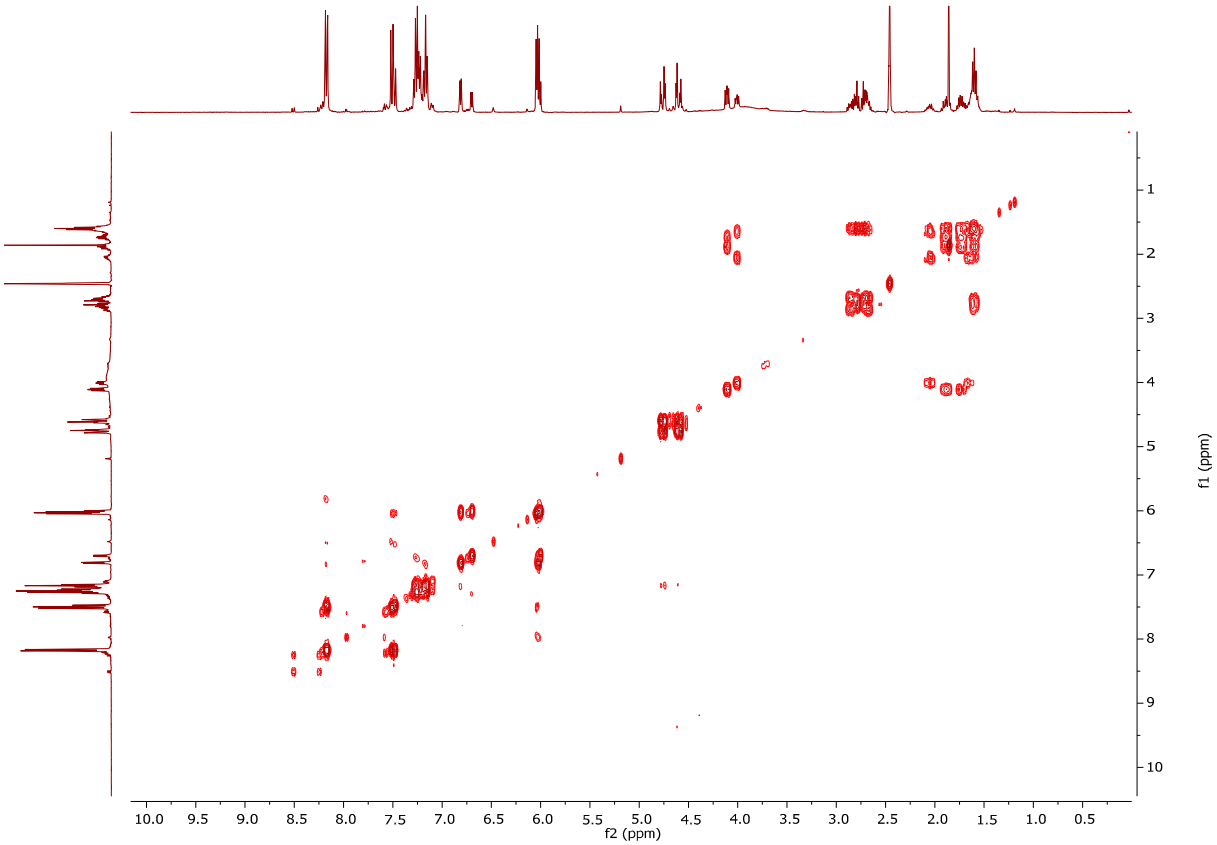


^{1}H and ^{13}C NMR spectra (d_6-DMSO) for compound 2g

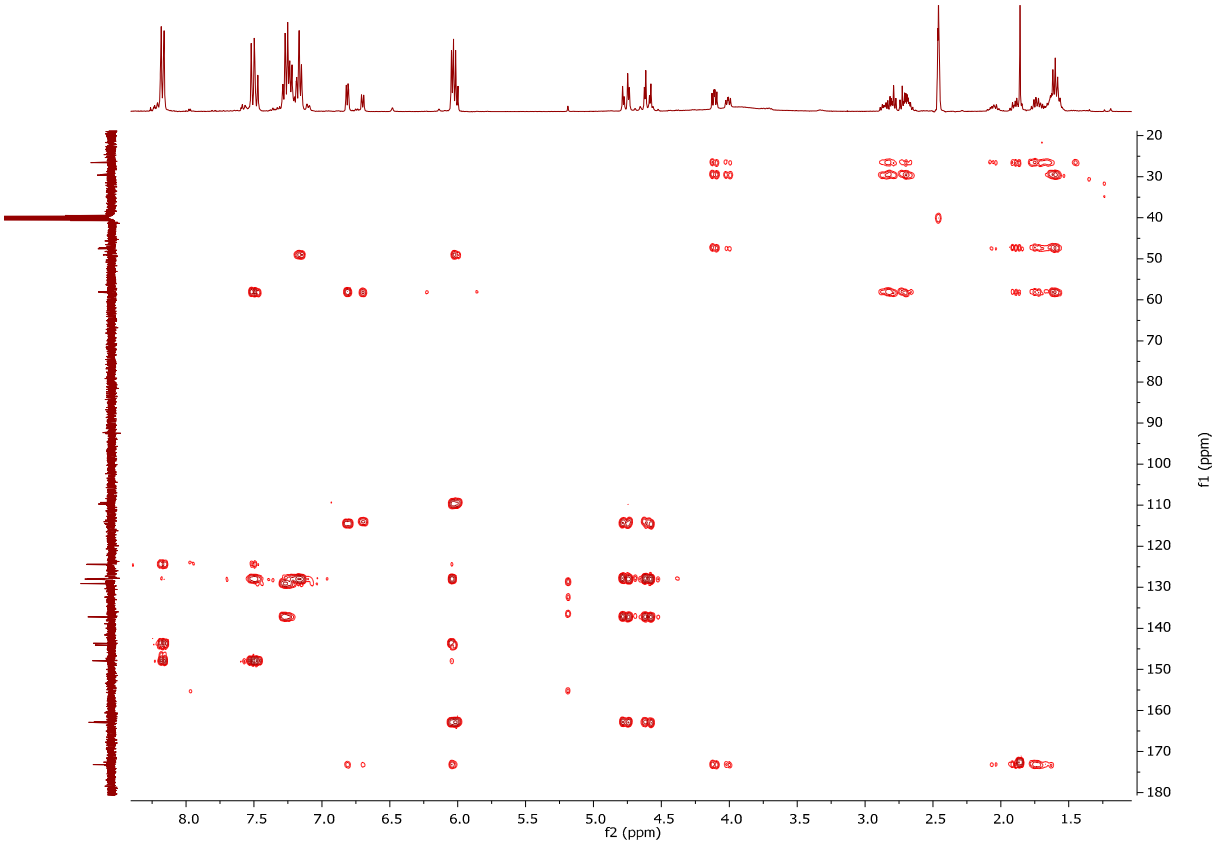




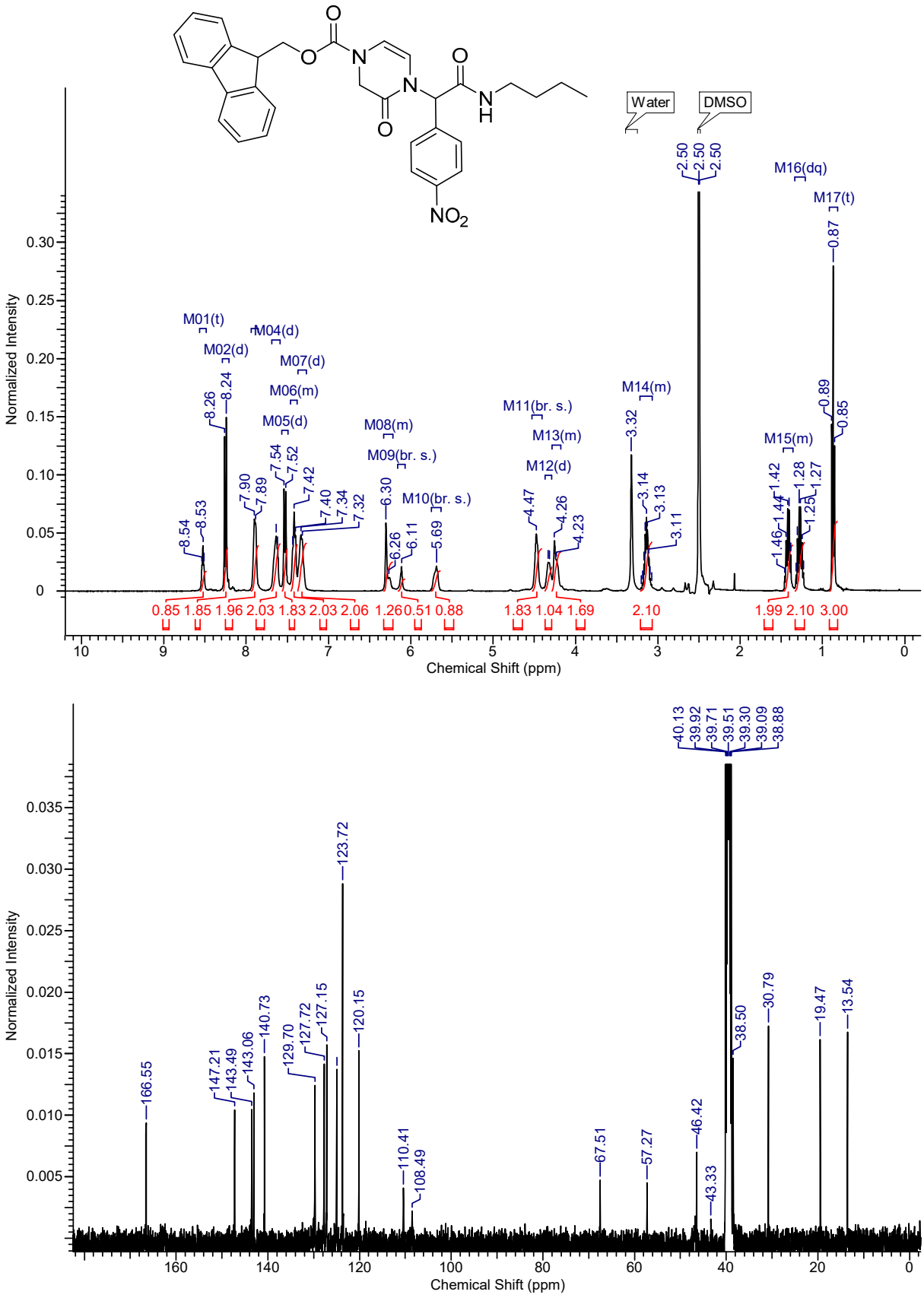
$^{1}H - {}^{1}H$ COSY spectrum (d_6-DMSO) for compound 2g



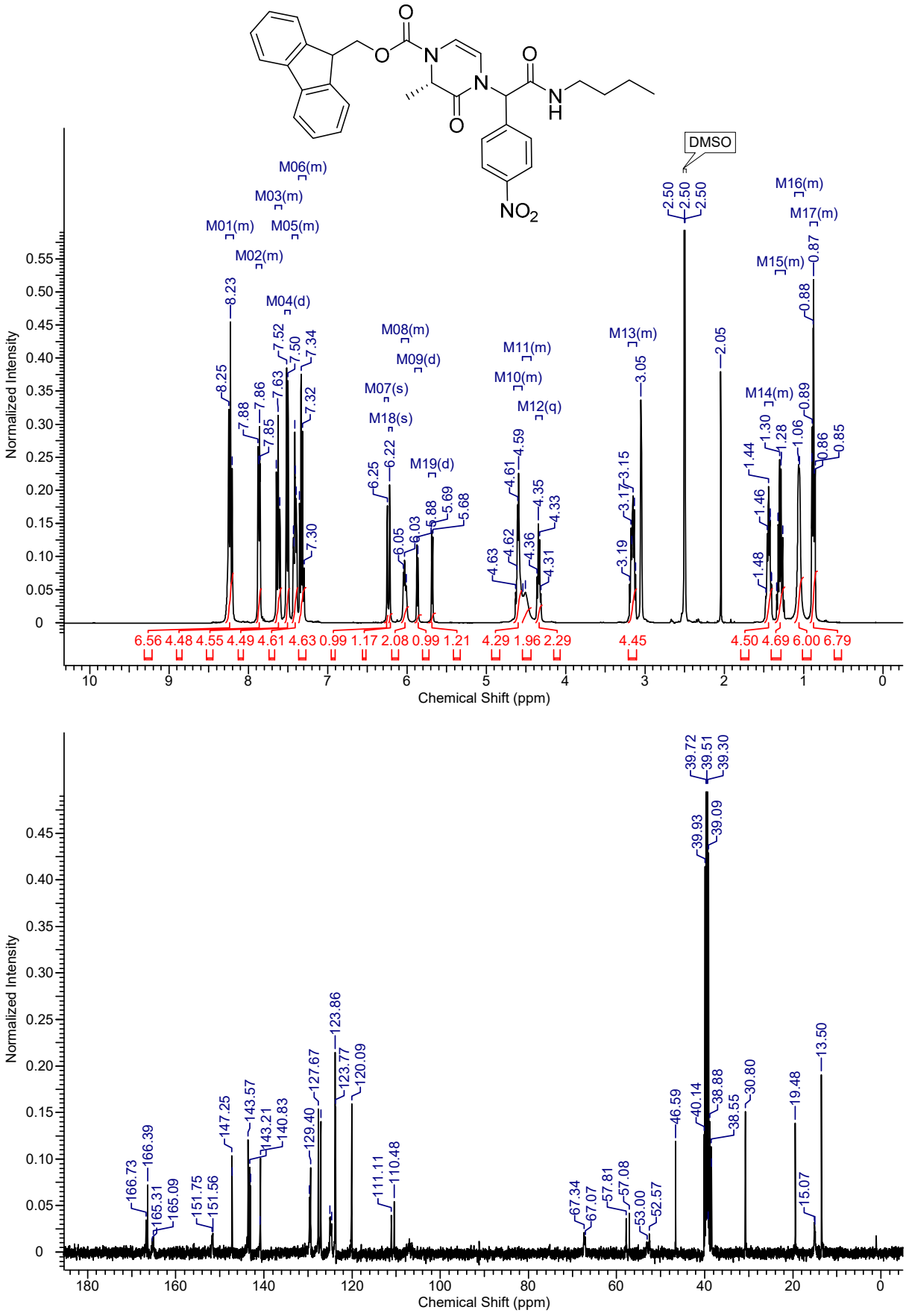
$^{1}H - {}^{13}C$ HMBC spectrum (d_6-DMSO) for compound 2g



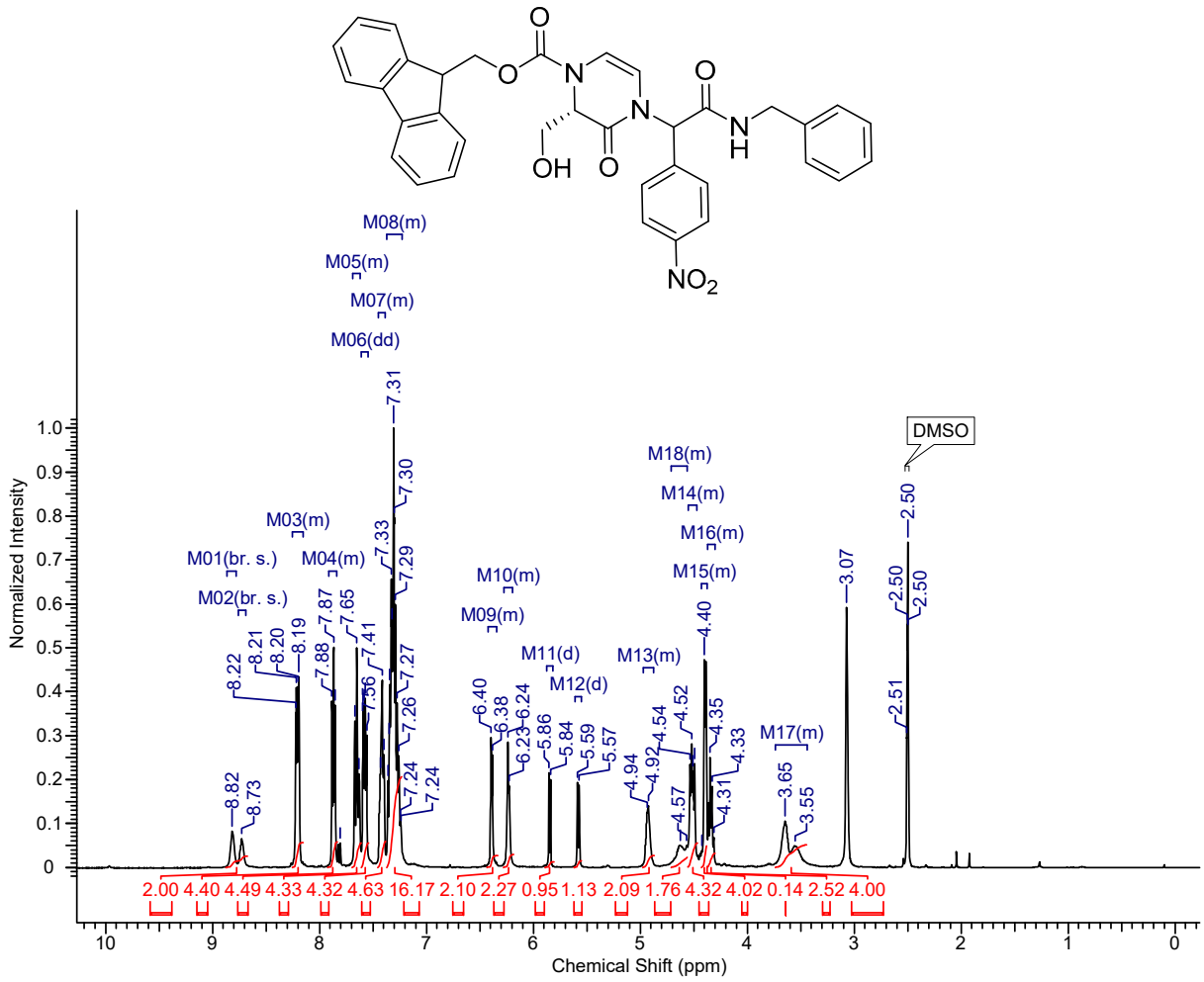
^{1}H and ^{13}C NMR spectra (d_6-DMSO) for compound 3a



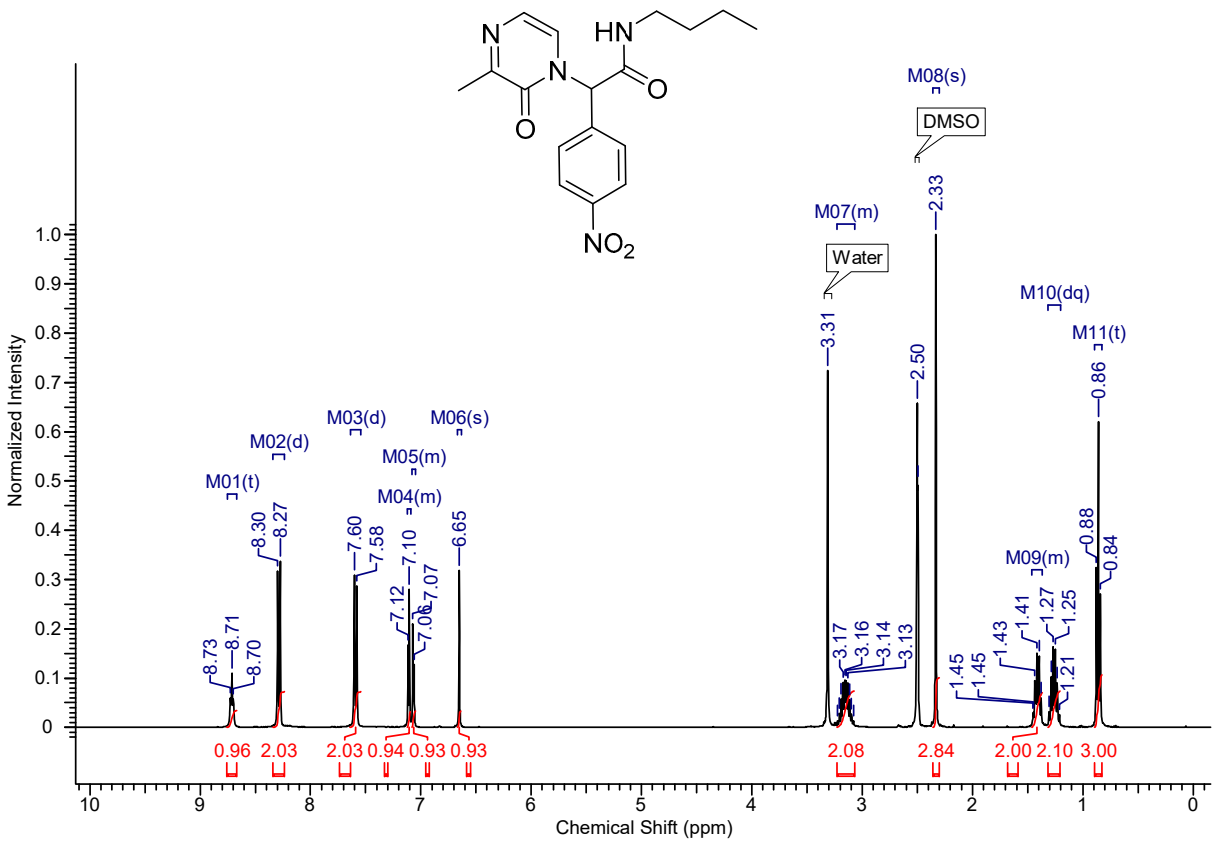
^{1}H and ^{13}C NMR spectra (d_6-DMSO) for compound 3b

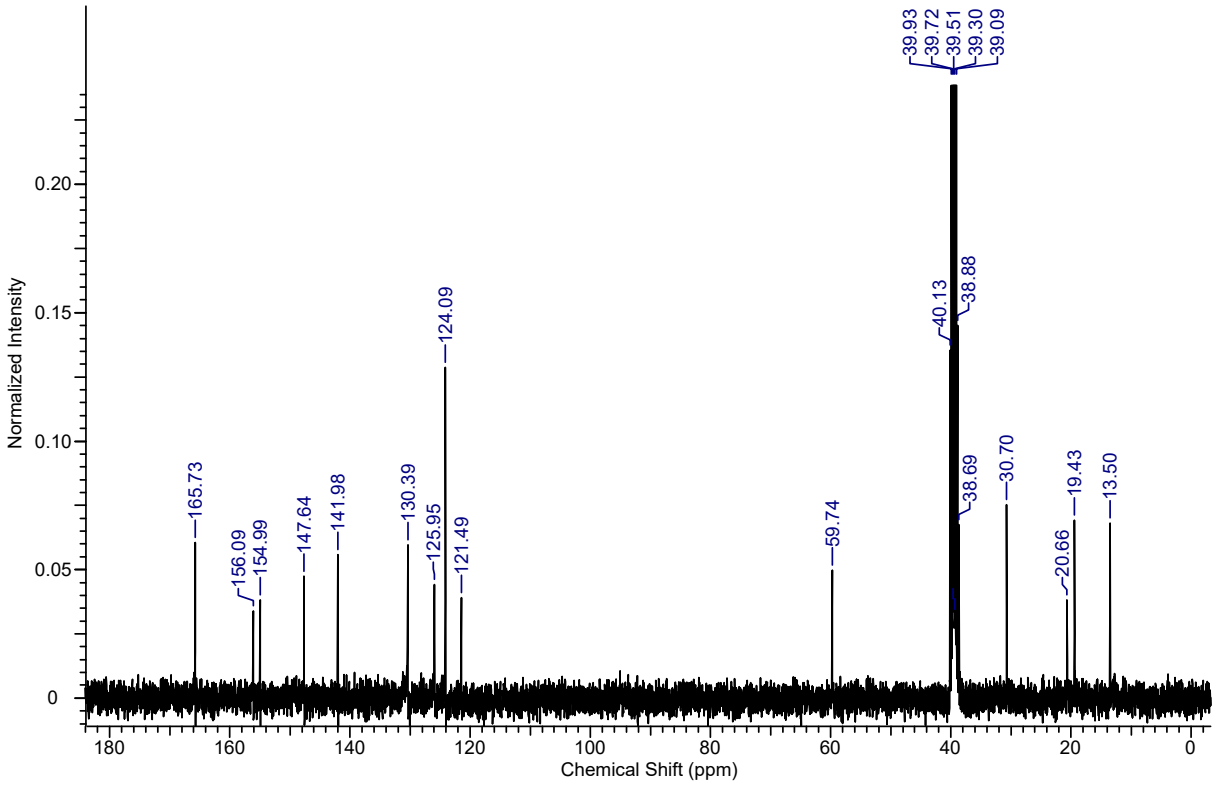


^{1}H and ^{13}C NMR spectra (d_6-DMSO) for compound 3c

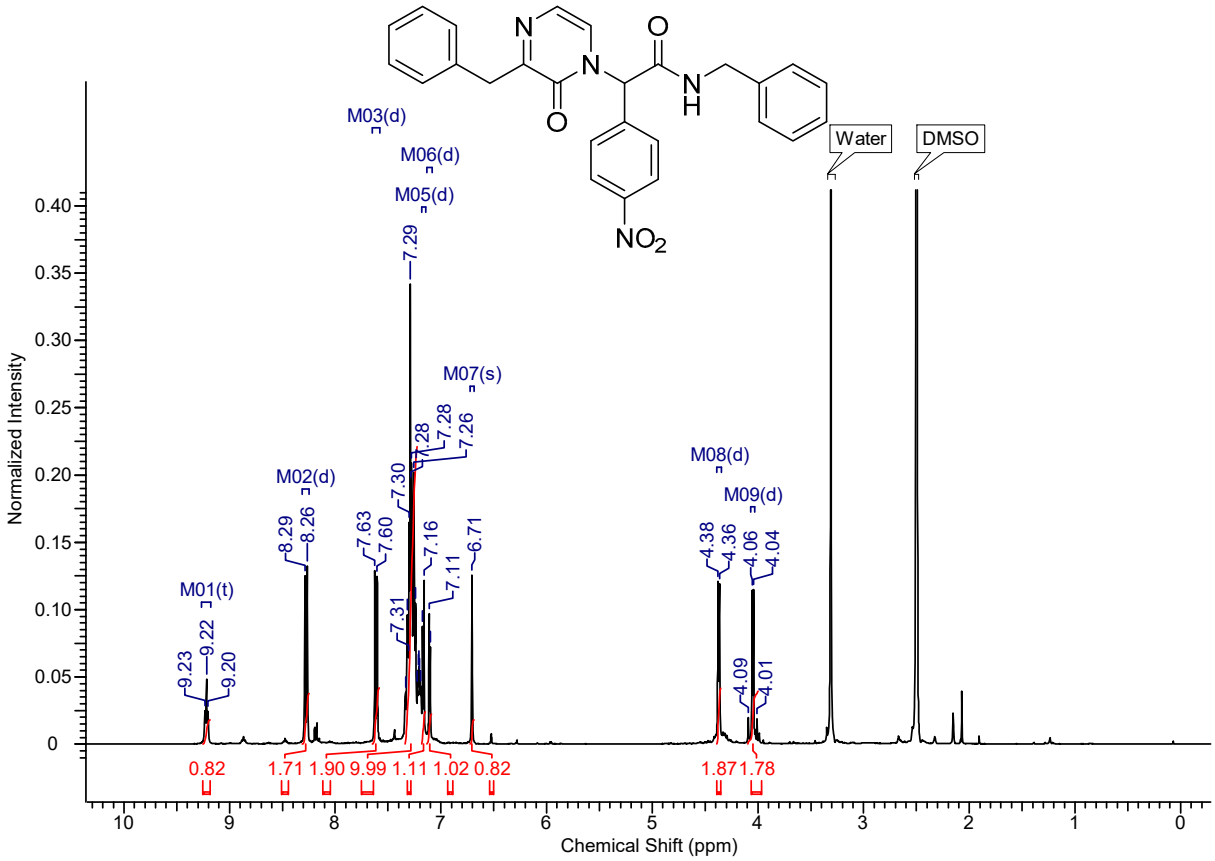


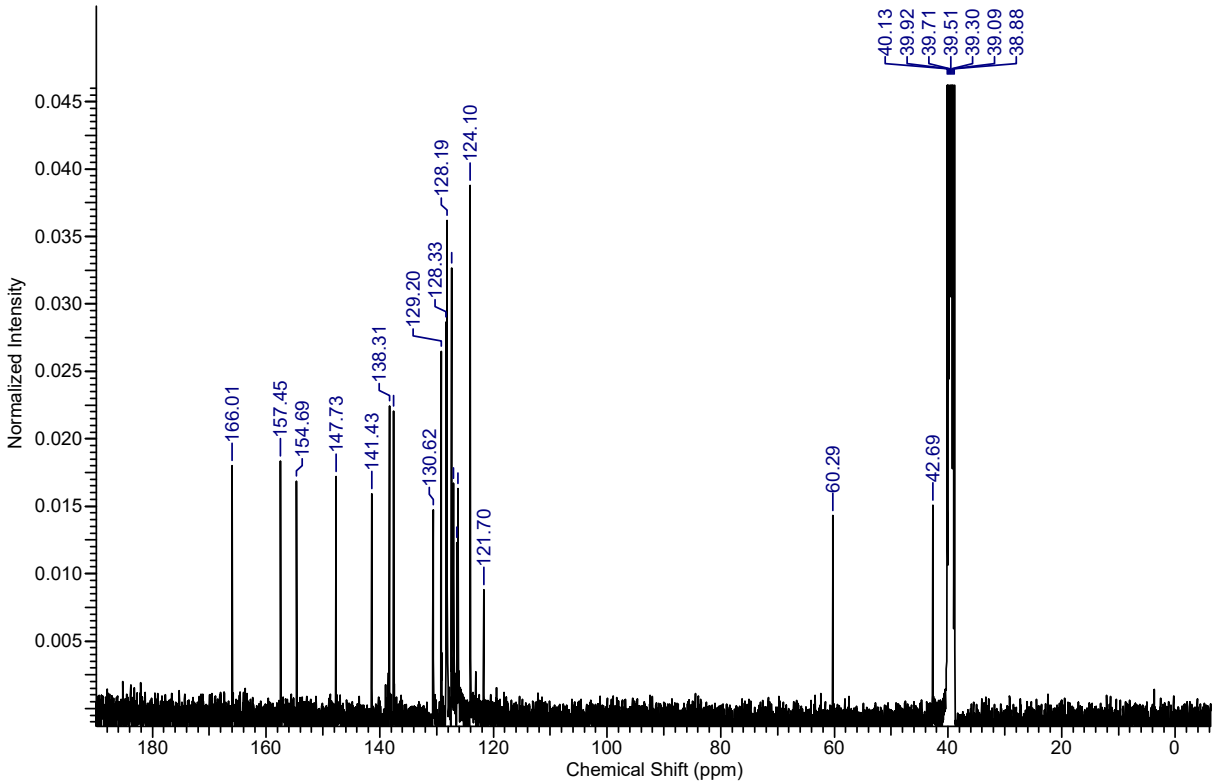
^{1}H and ^{13}C NMR spectra (d_6-DMSO) for compound 4a



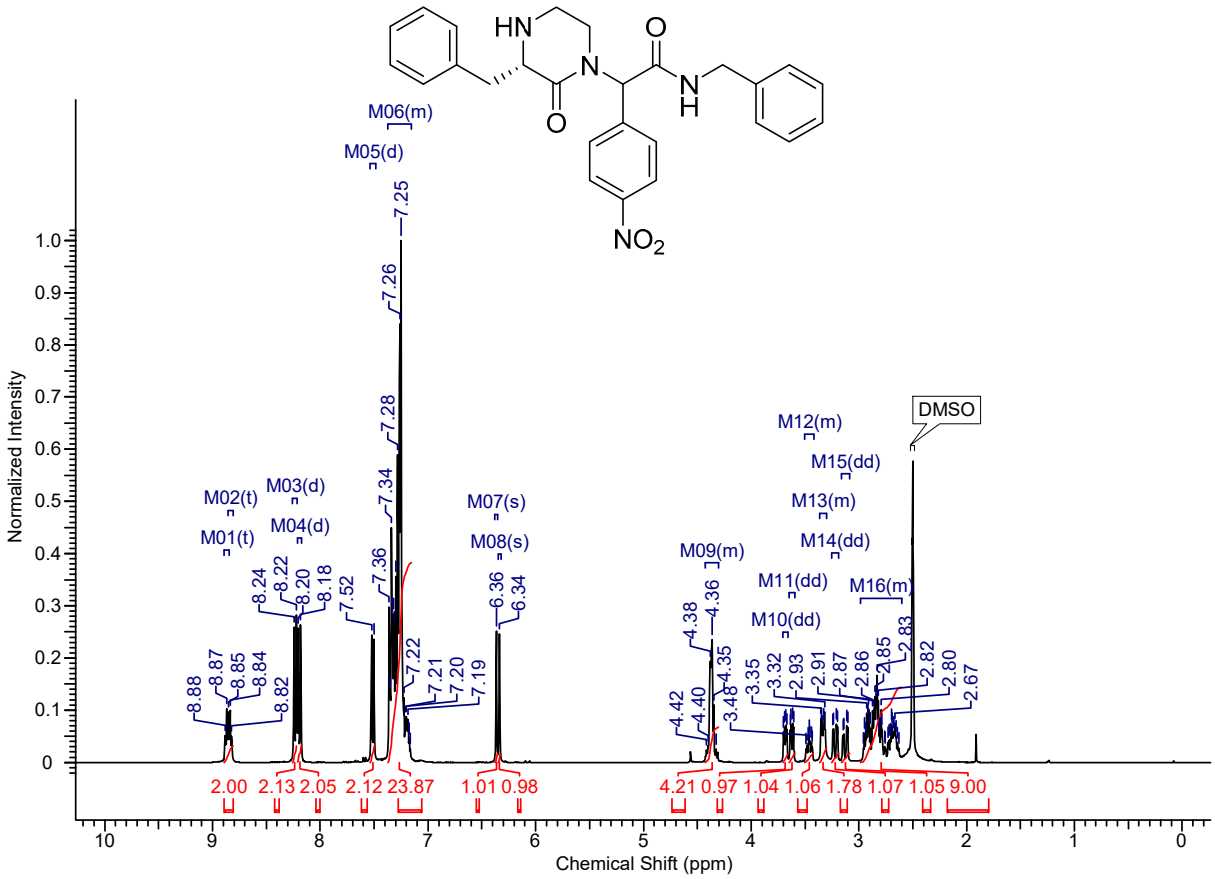


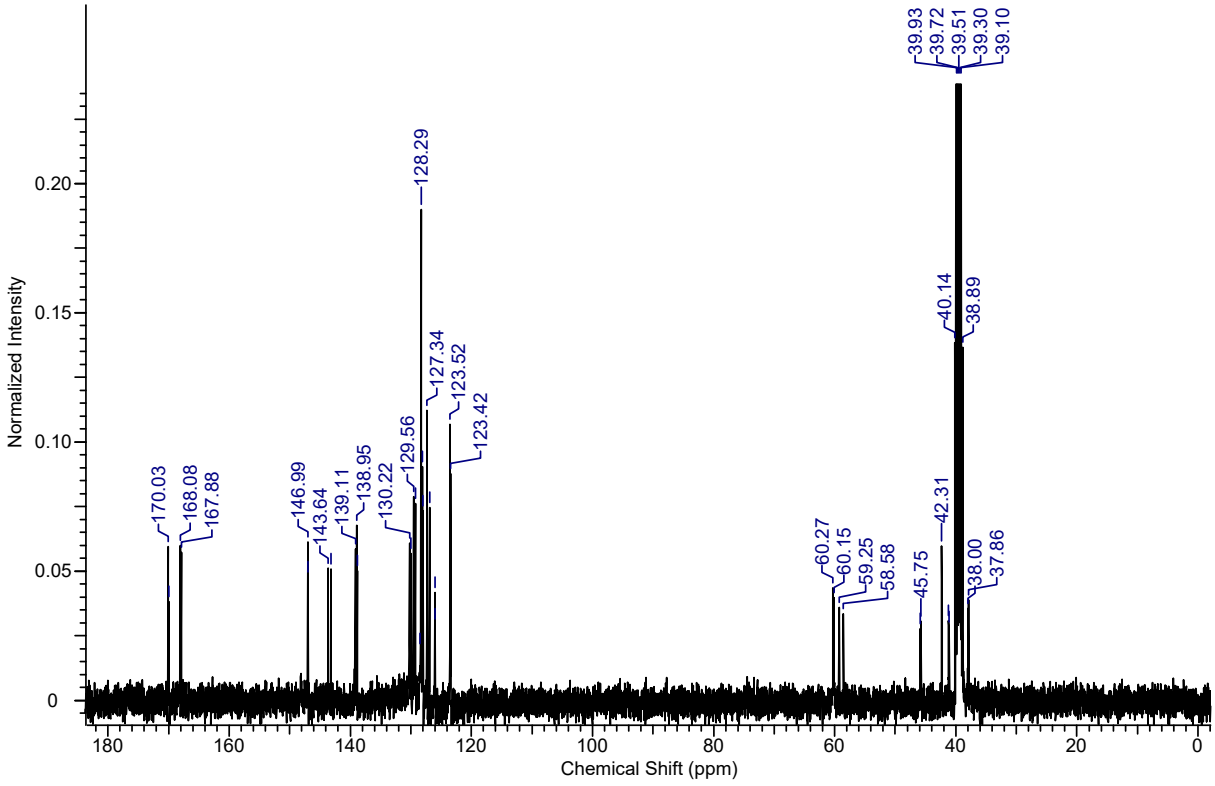
^{1}H and ^{13}C NMR spectra (d_6-DMSO) for compound 4b



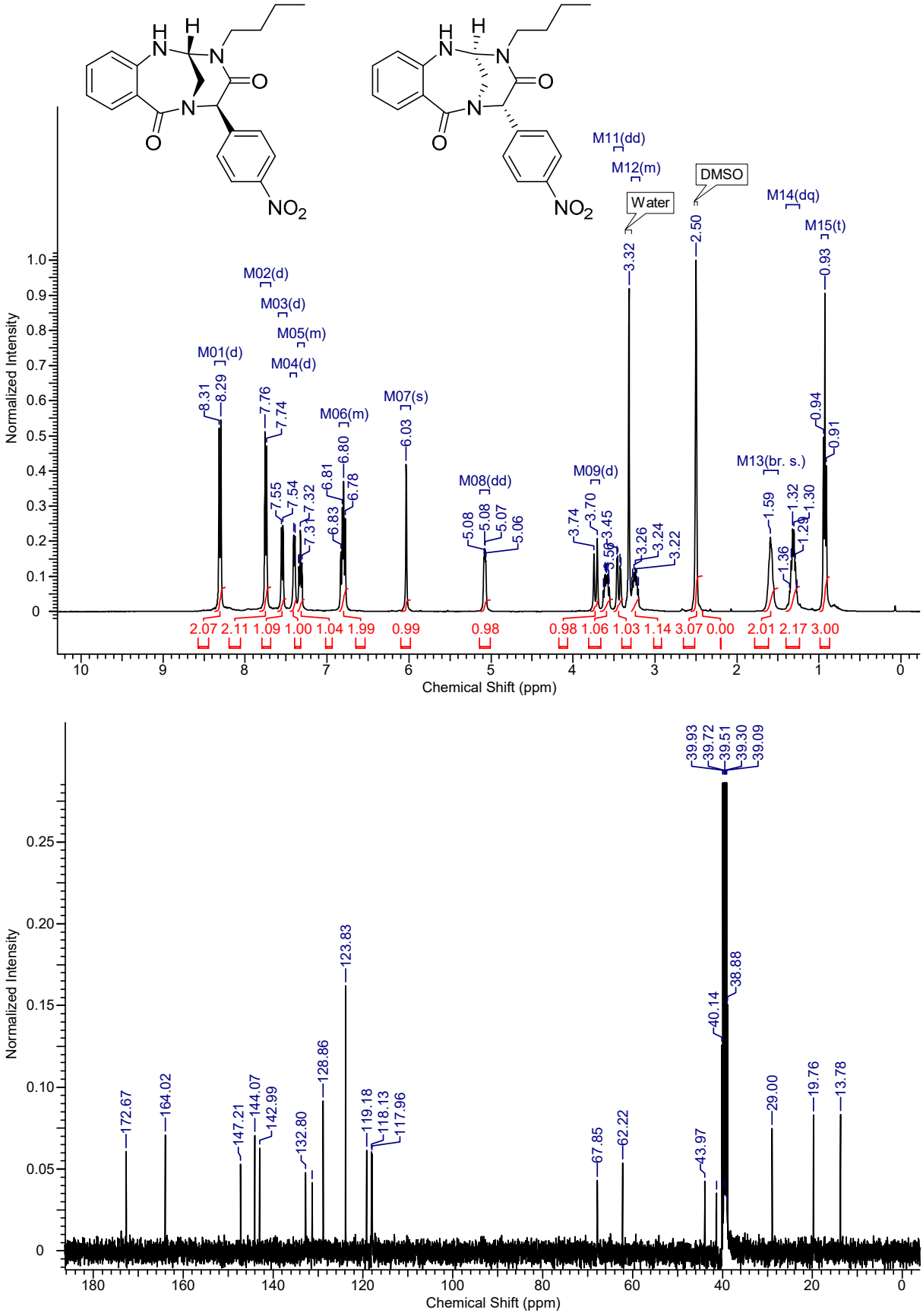


^{1}H and ^{13}C NMR spectra (d_6-DMSO) for compound 5a

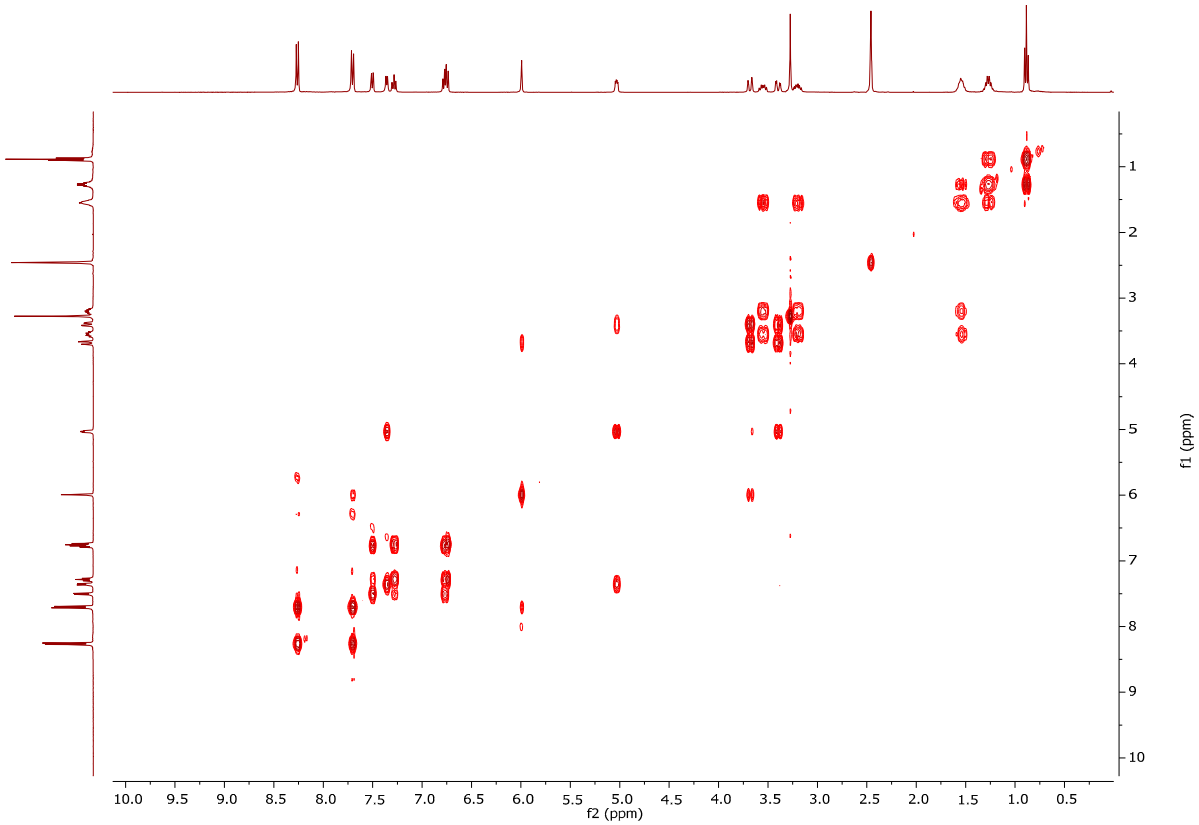




^{1}H and ^{13}C NMR spectra (d_6-DMSO) for compound 6a



^{1}H – ^{1}H COSY spectrum (d_6-DMSO) for compound 6a



^{1}H – ^{13}C HMBC spectrum (d_6-DMSO) for compound 6a