Supplementary Material

Convenient multicomponent reaction synthesis of novel pyrano[4,3-*b*]pyran derivatives via a domino reaction under microwave irradiation

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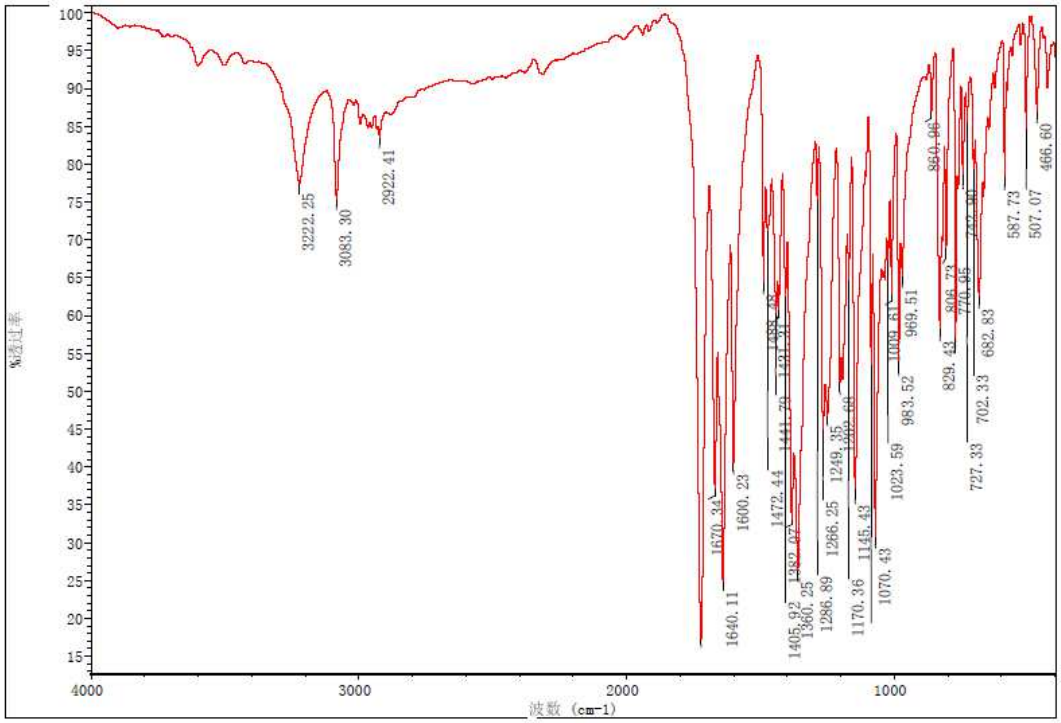

Figure S1 IR spectrum of compound 4a

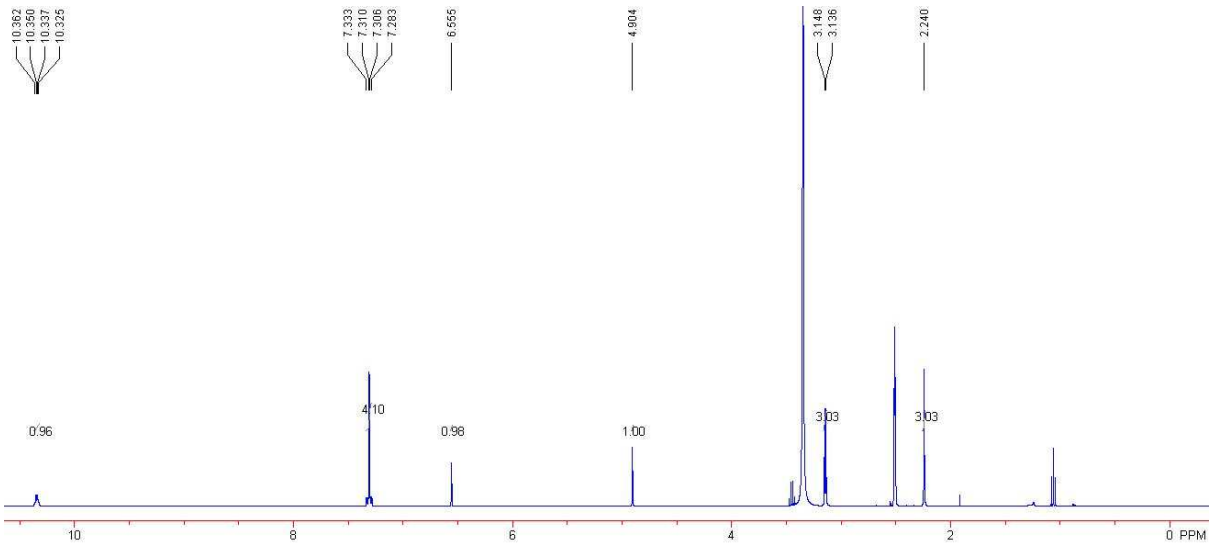

Figure S2 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 4a

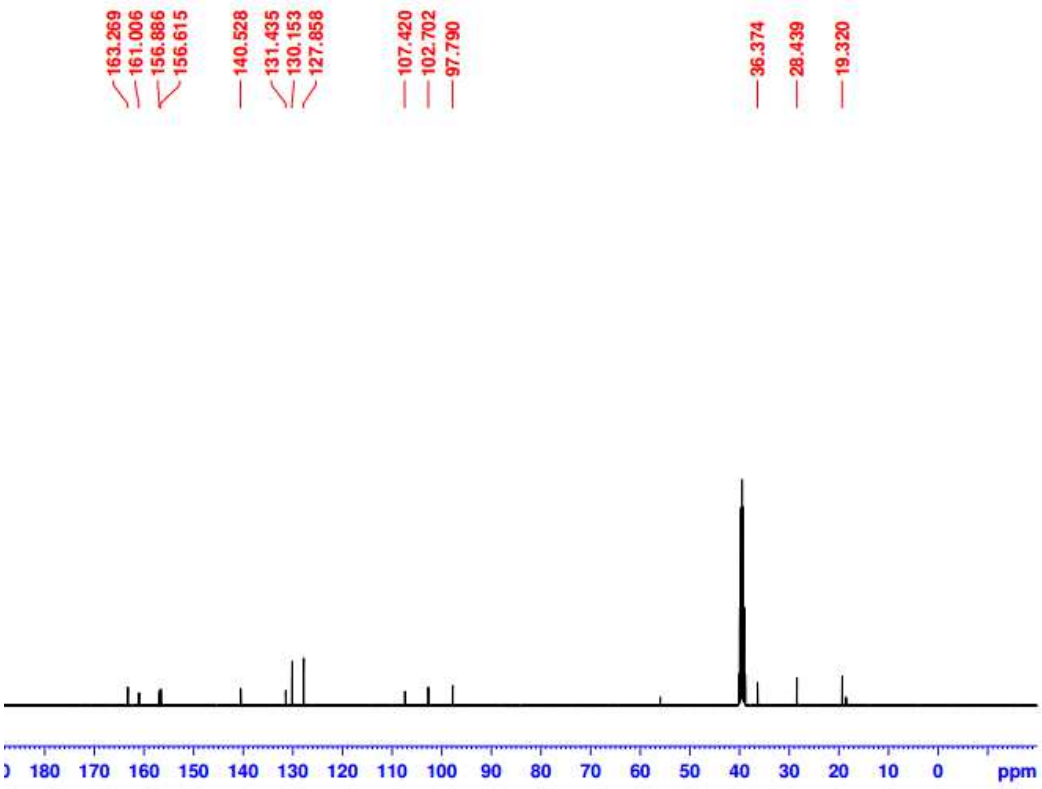

Figure S3 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 4a

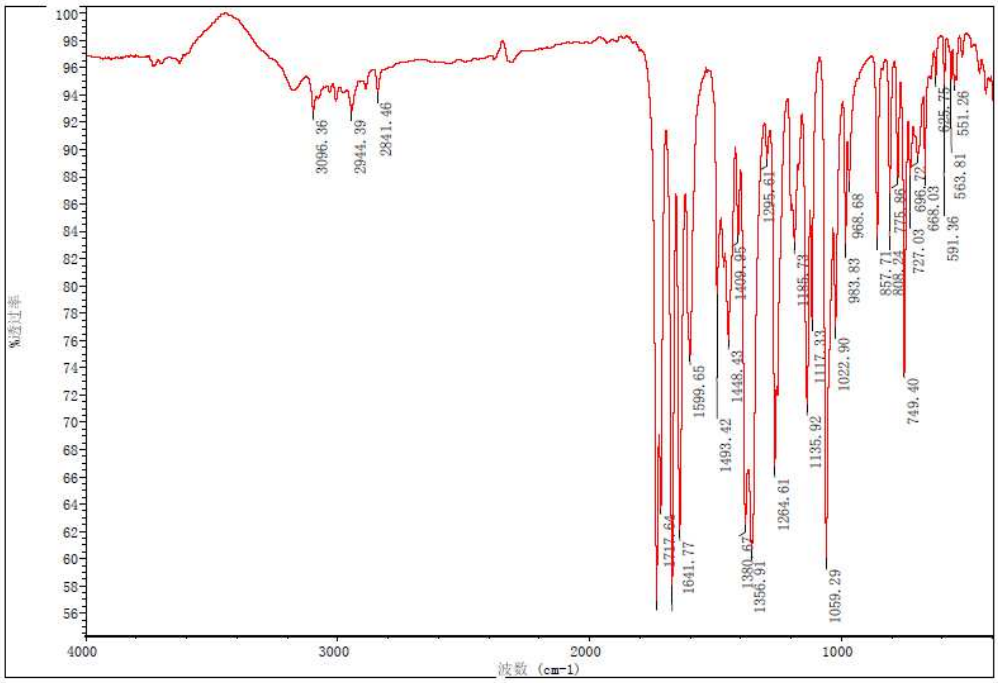

Figure S4 IR spectrum of compound 4b

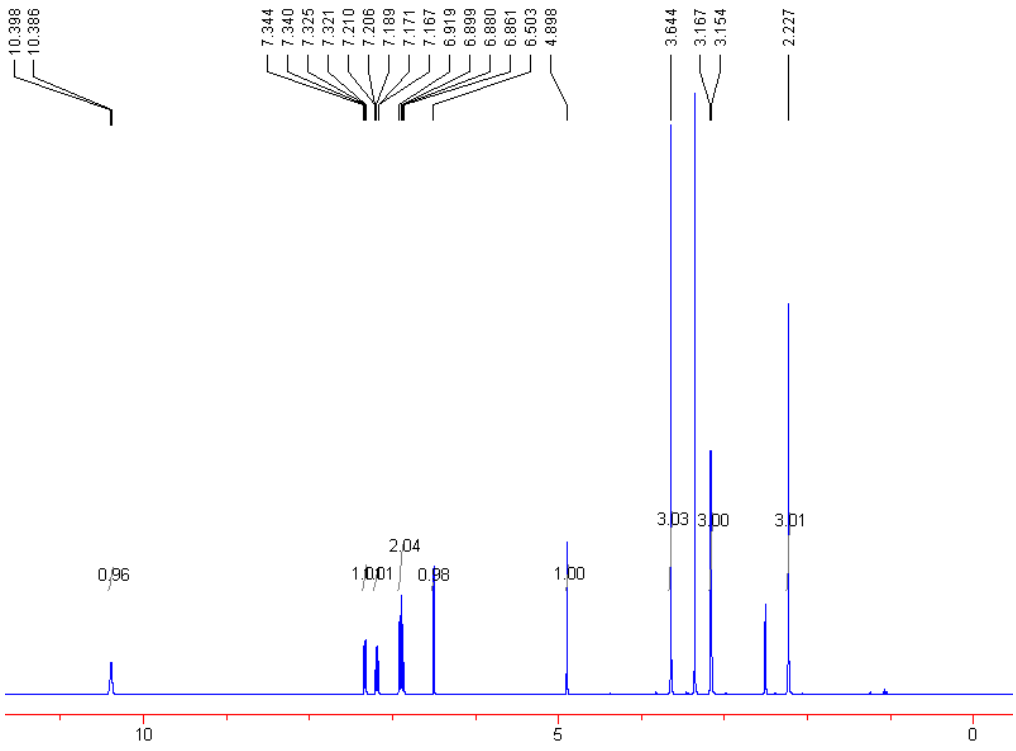

Figure S5 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 4b

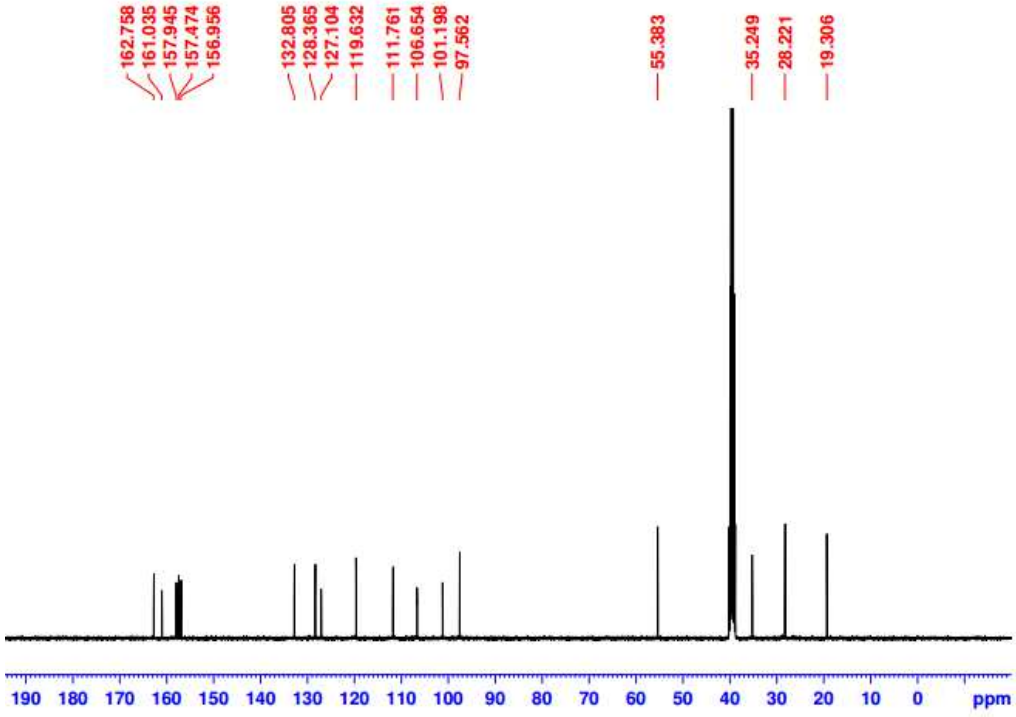

Figure S6 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 4b

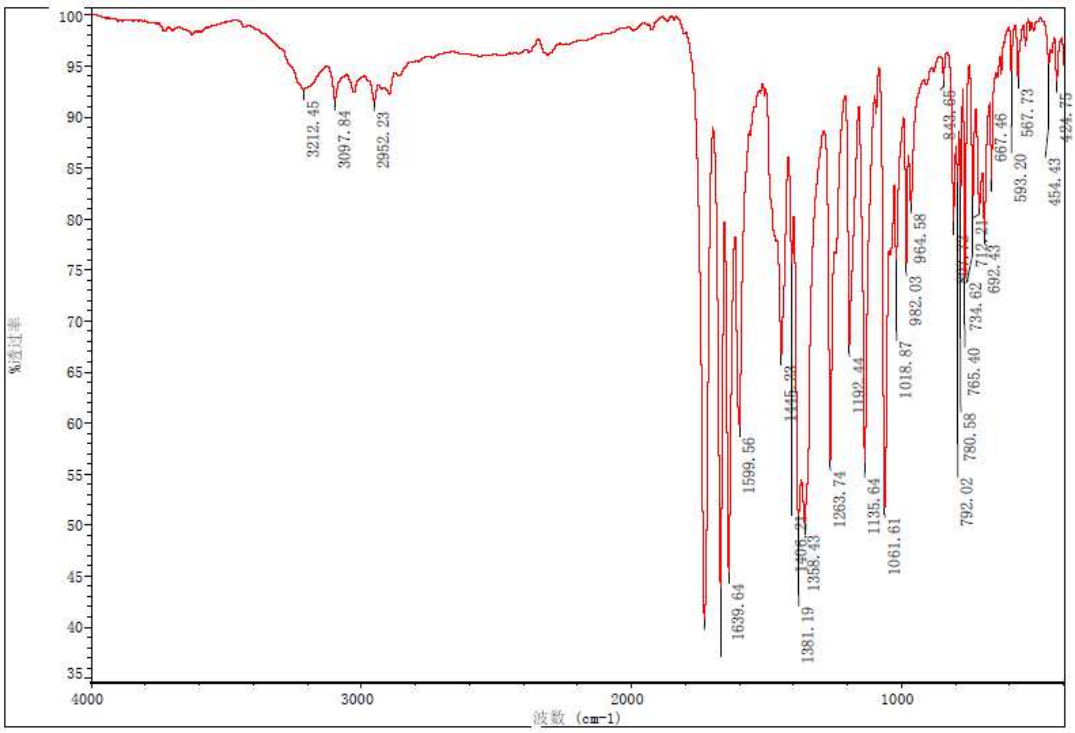

Figure S7 IR spectrum of compound 4c

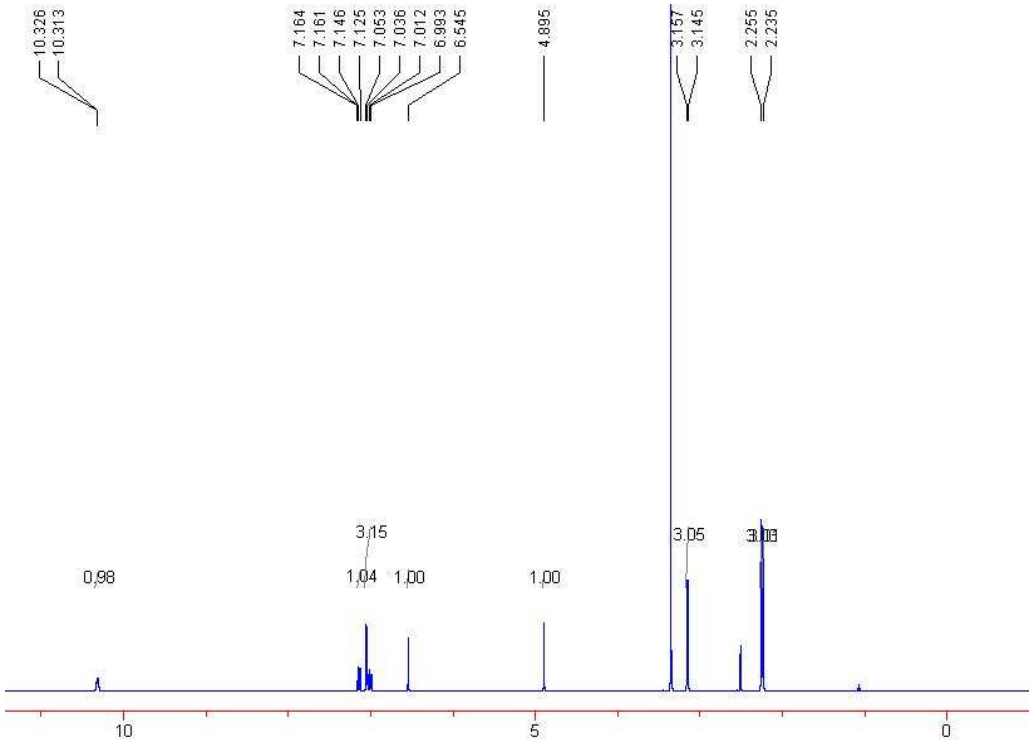

Figure S8 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 4c

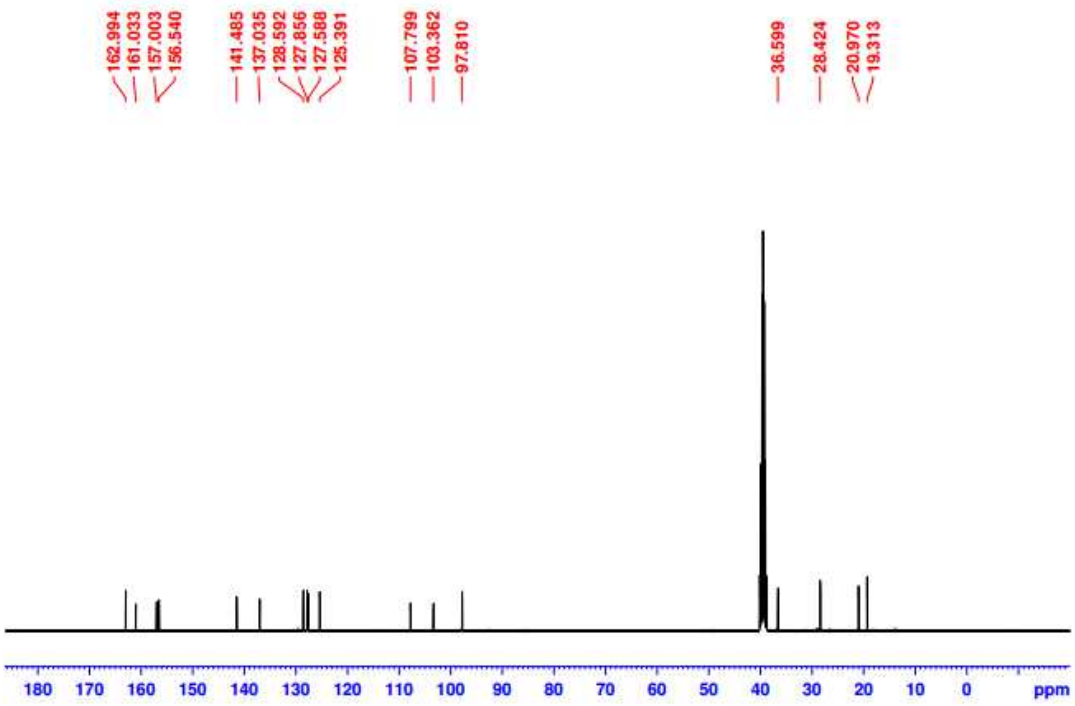

Figure S9 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 4c

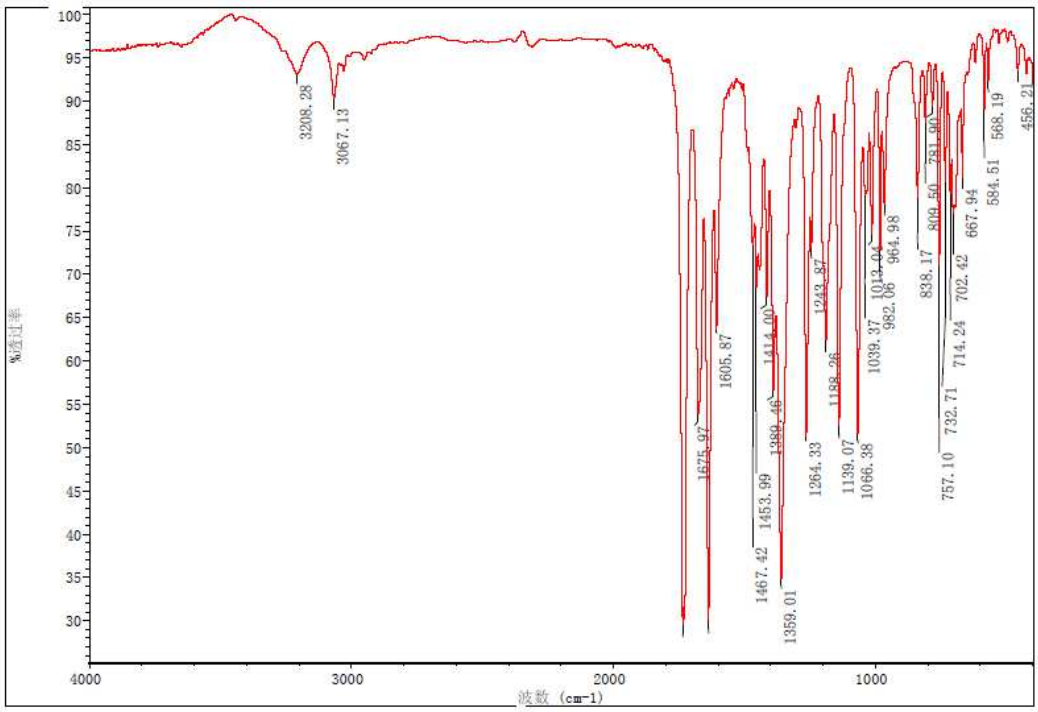

Figure S10 IR spectrum of compound 4d

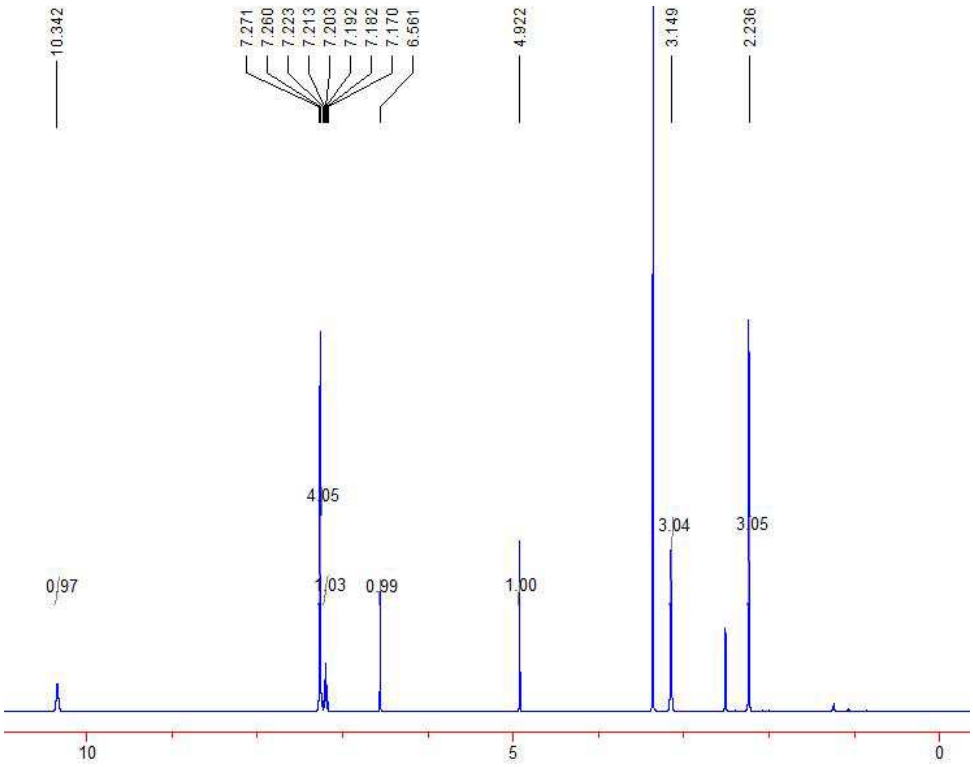

Figure S11 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 4d

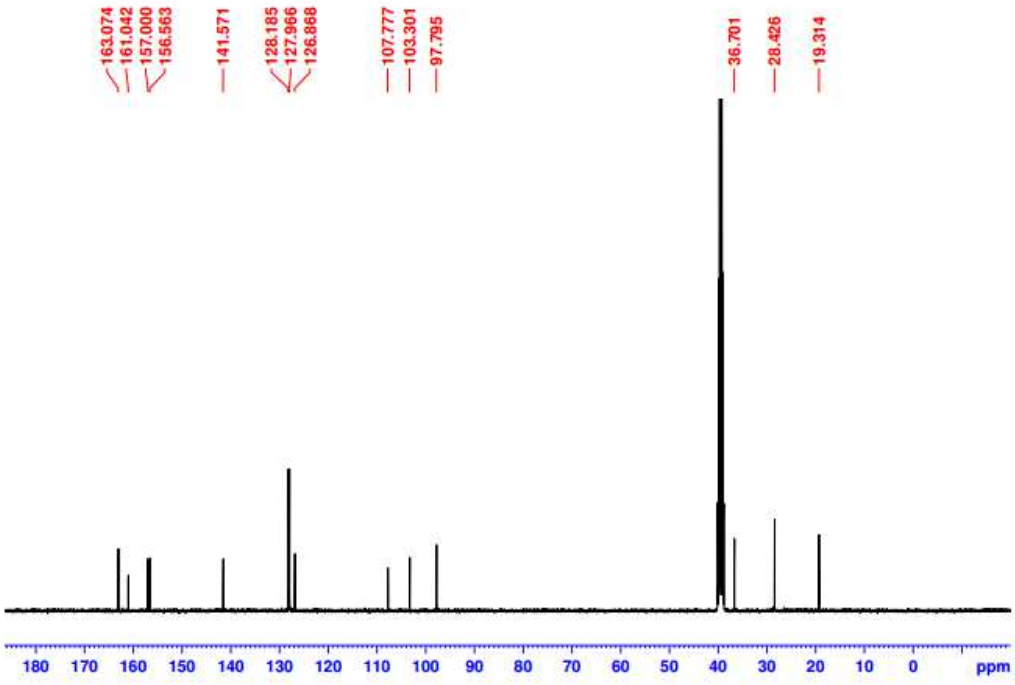

Figure S12 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 4d

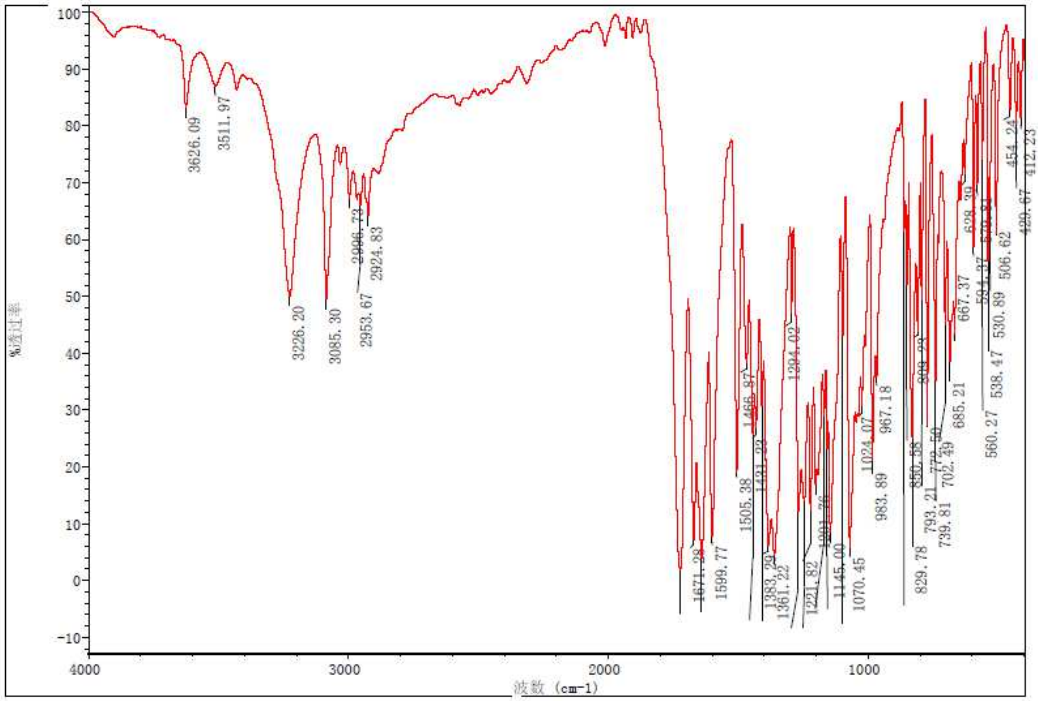

Figure S13 IR spectrum of compound 4e

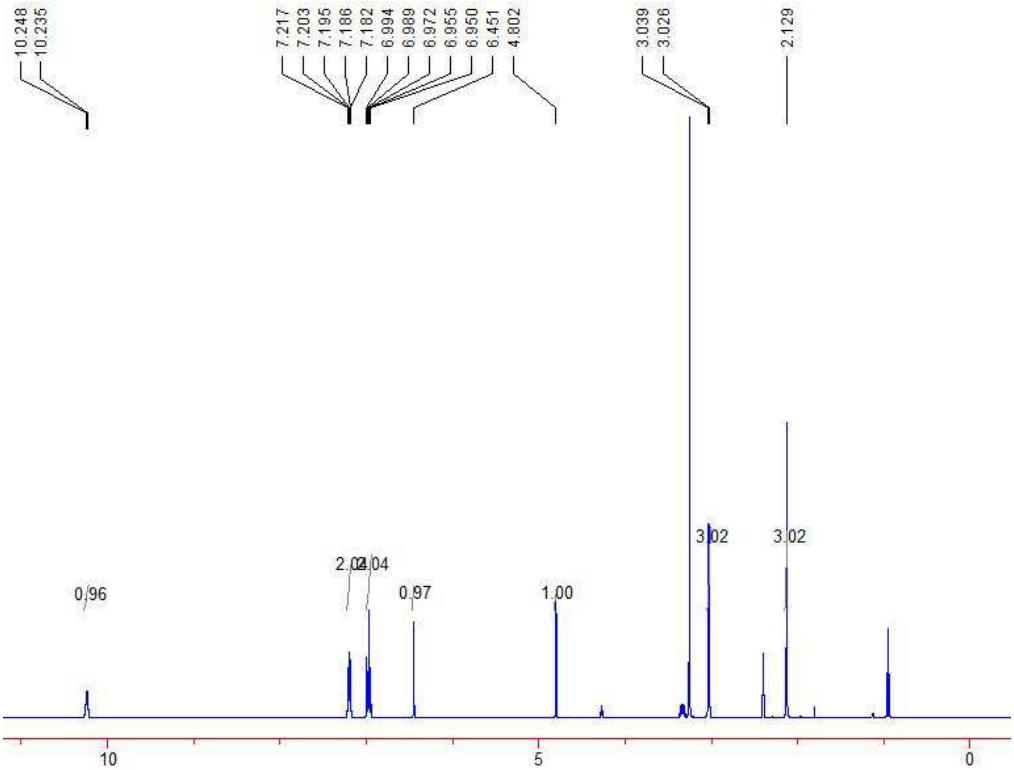

Figure S14 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 4e

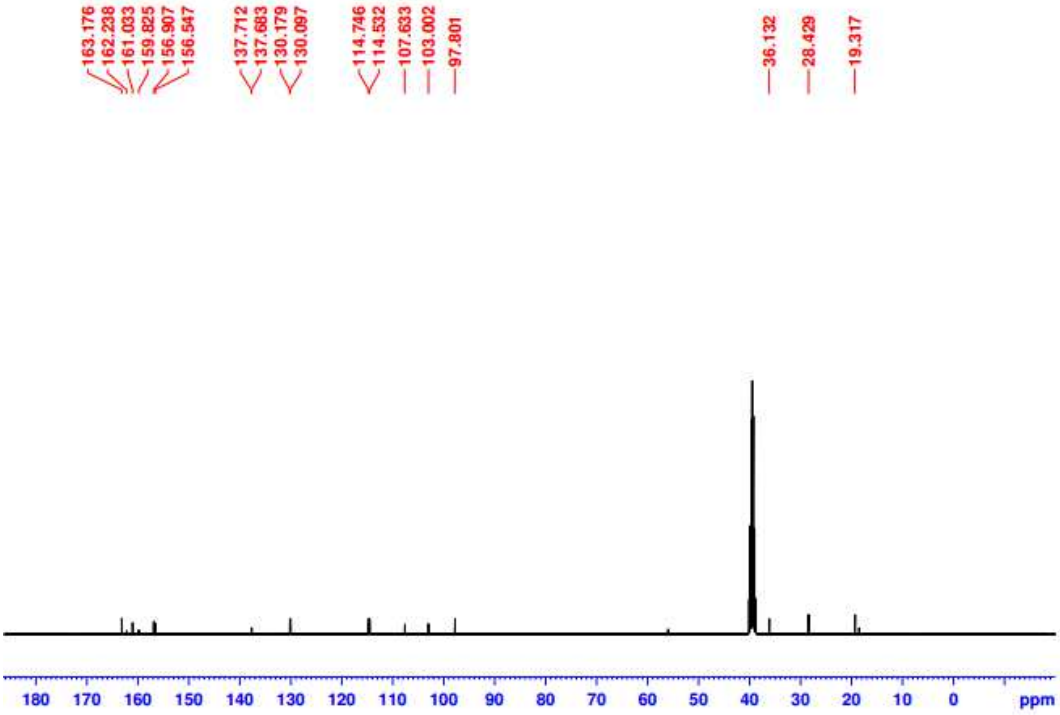

Figure S15 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 4e

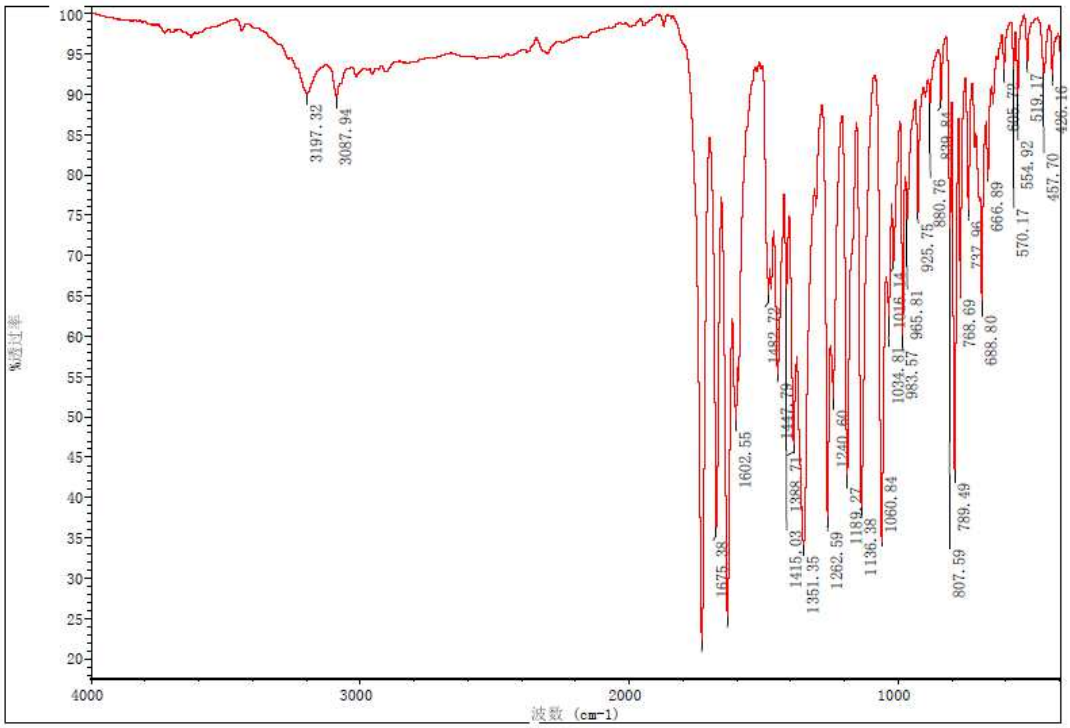

Figure S16 IR spectrum of compound 4f

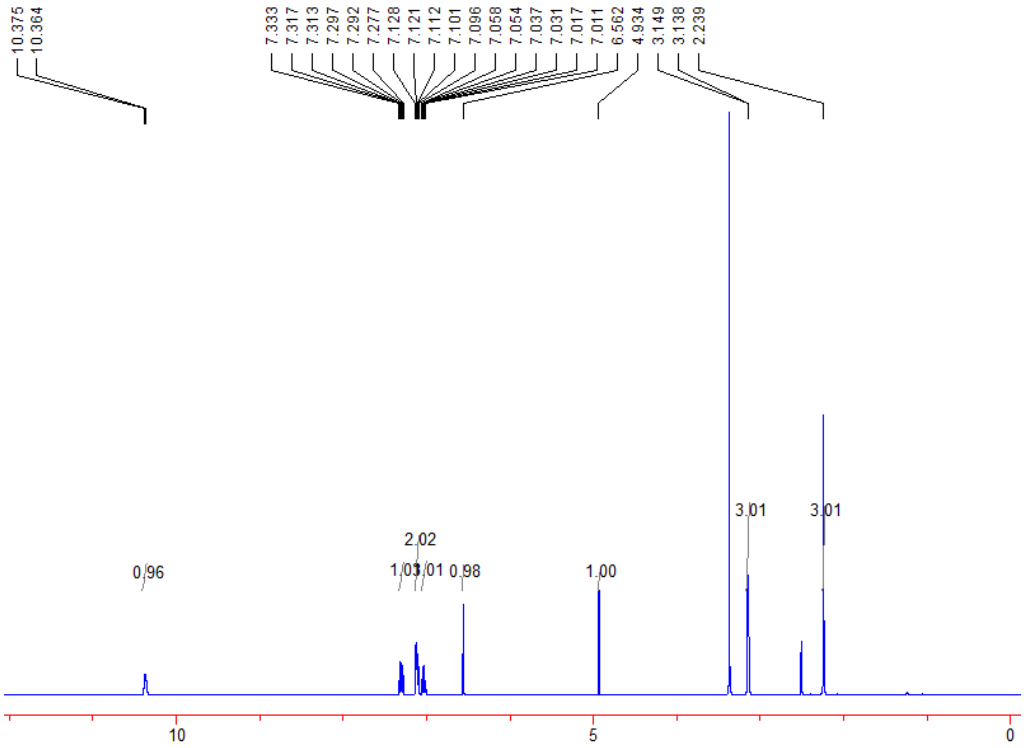

Figure S17 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 4f

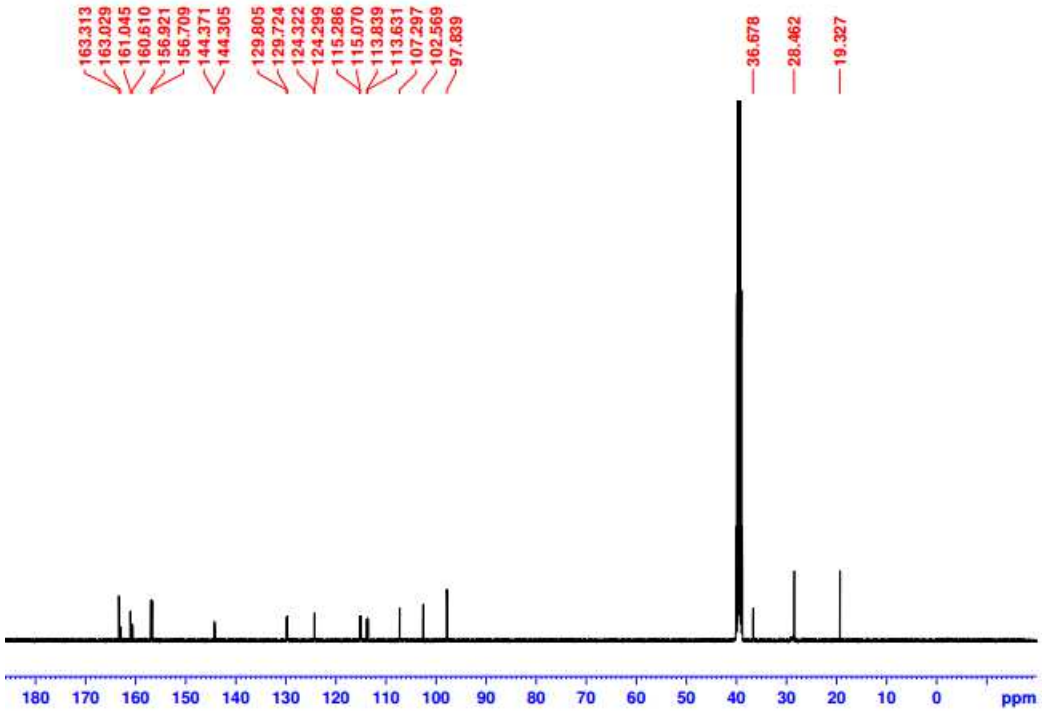

Figure S18 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 4f

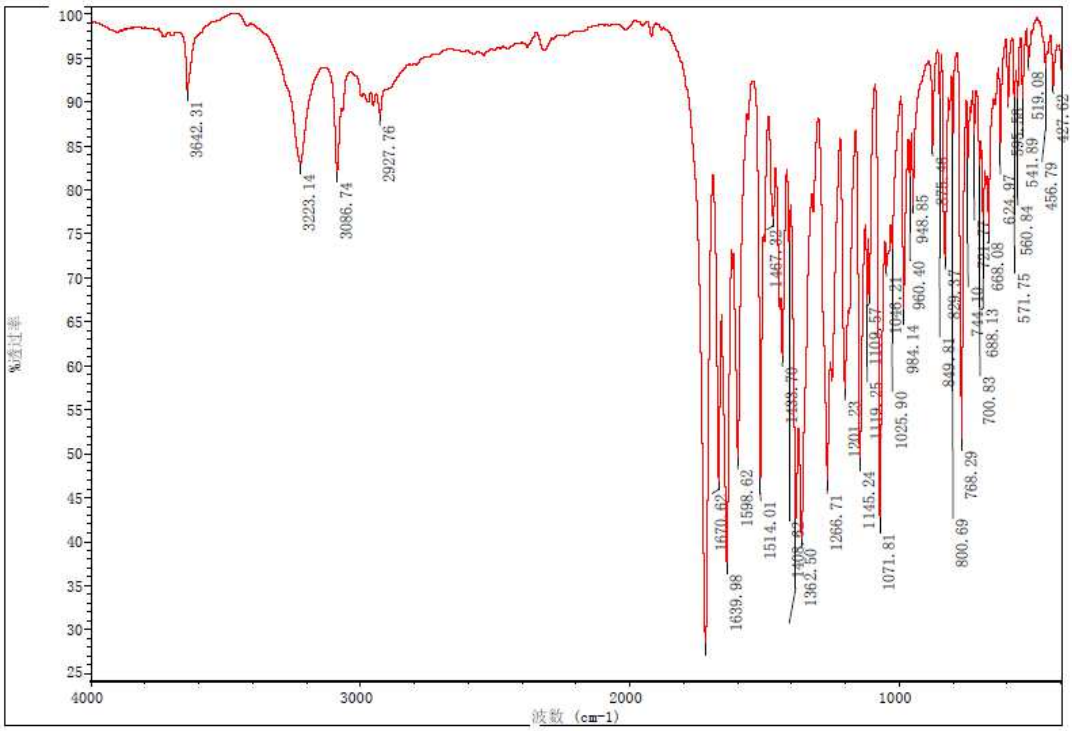

Figure S19 IR spectrum of compound 4g

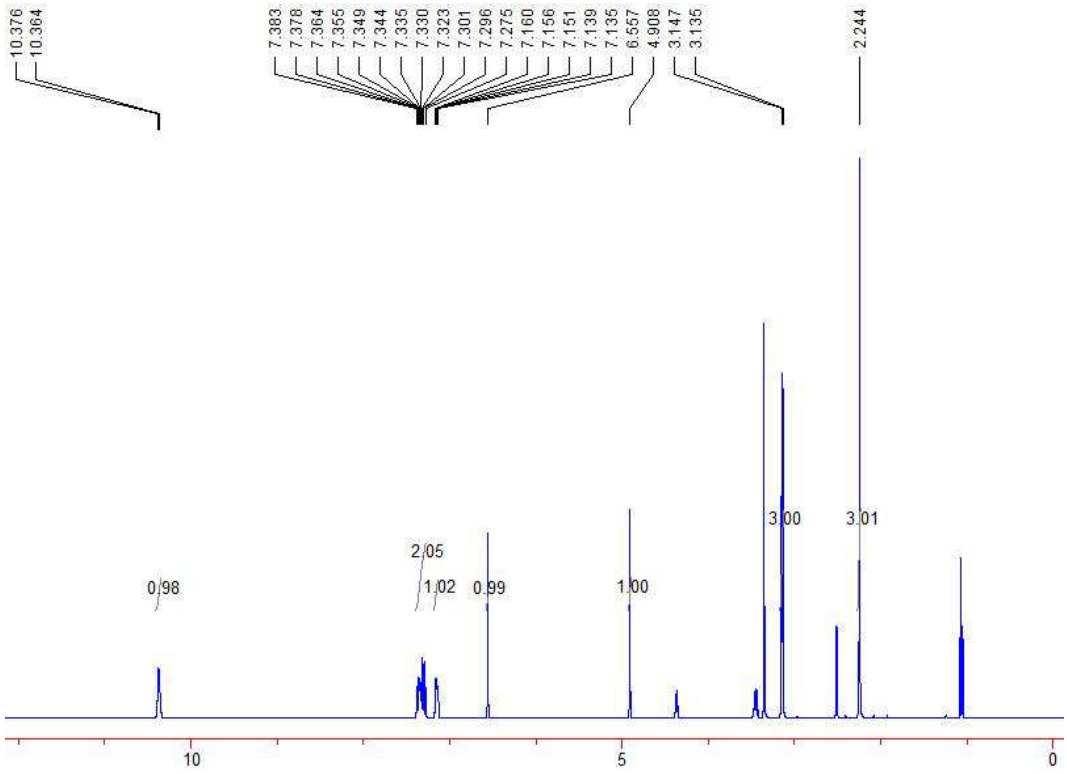

Figure S20 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 4g

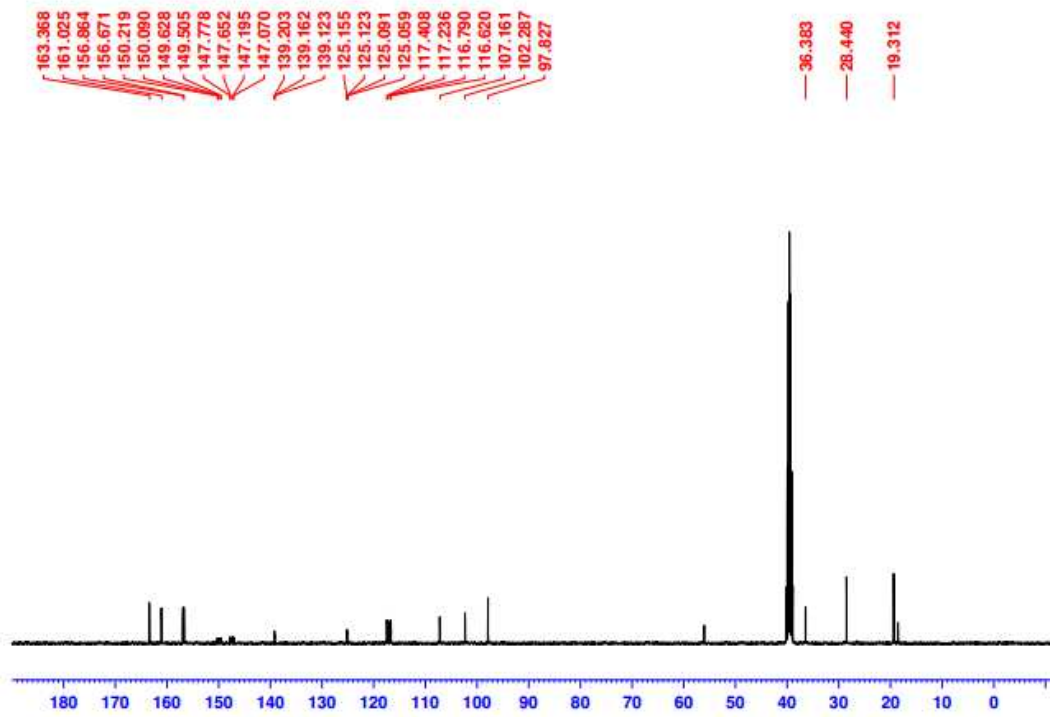

Figure S21 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 4g

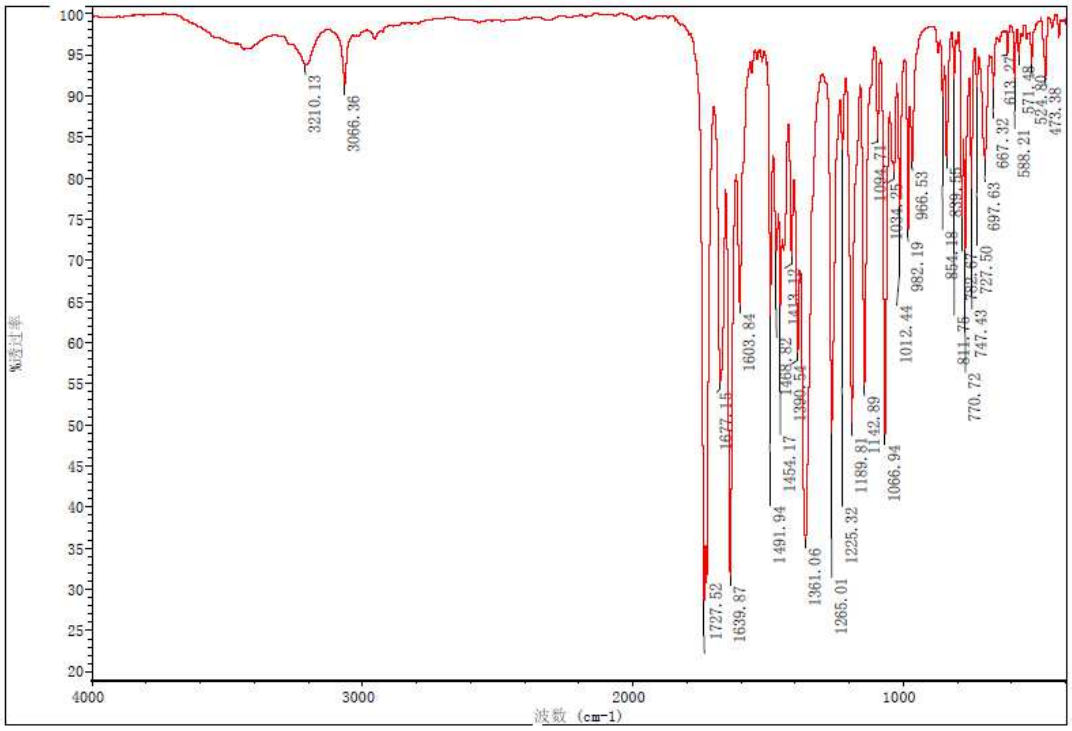

Figure S22 IR spectrum of compound 4h

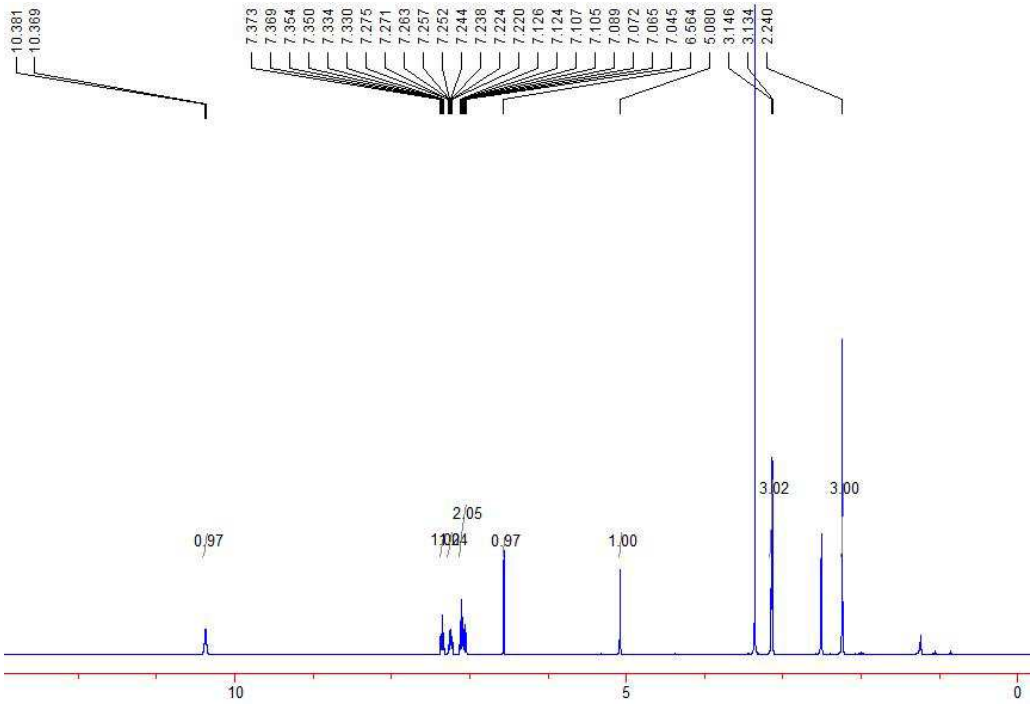

Figure S23 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 4h

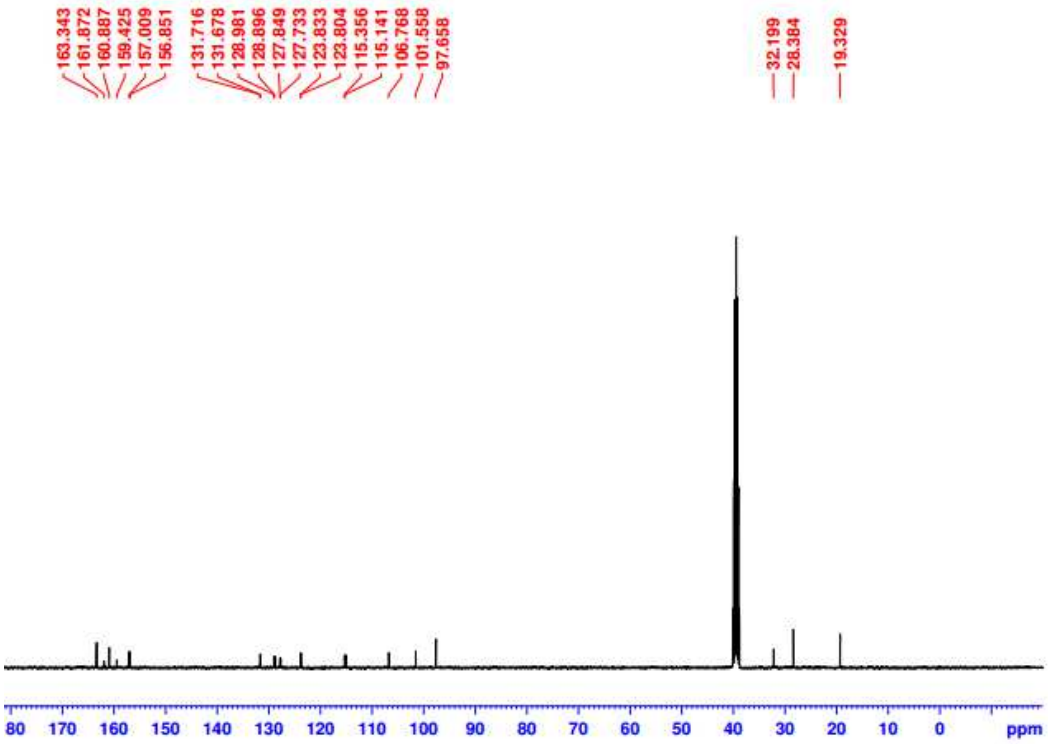

Figure S24 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 4h

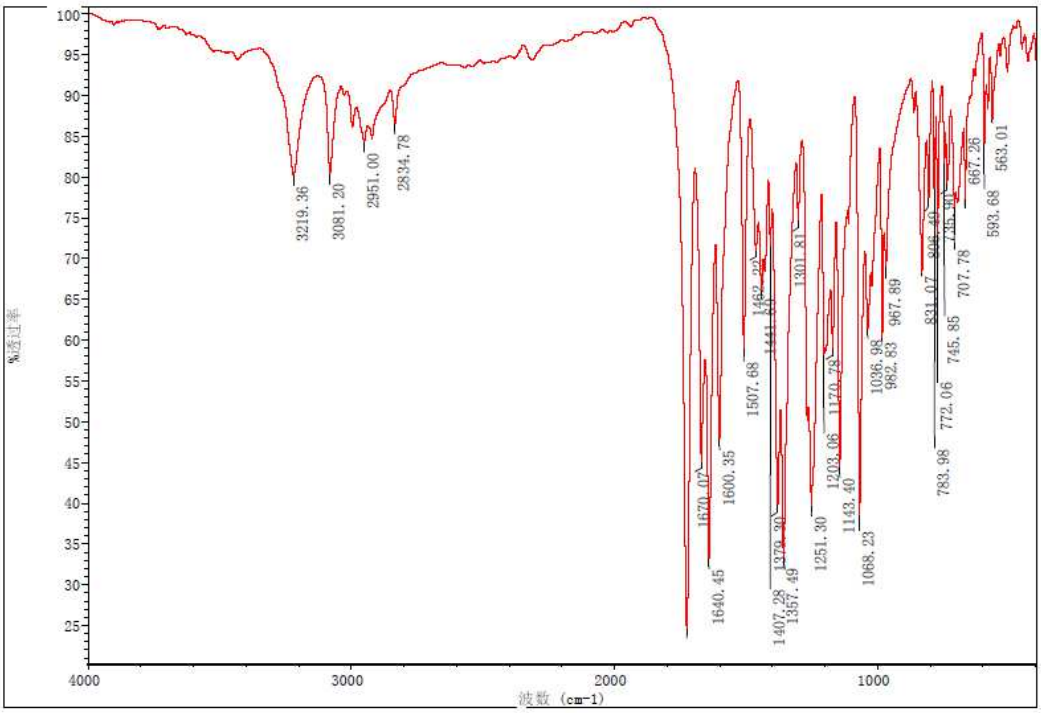

Figure S25 IR spectrum of compound 4i

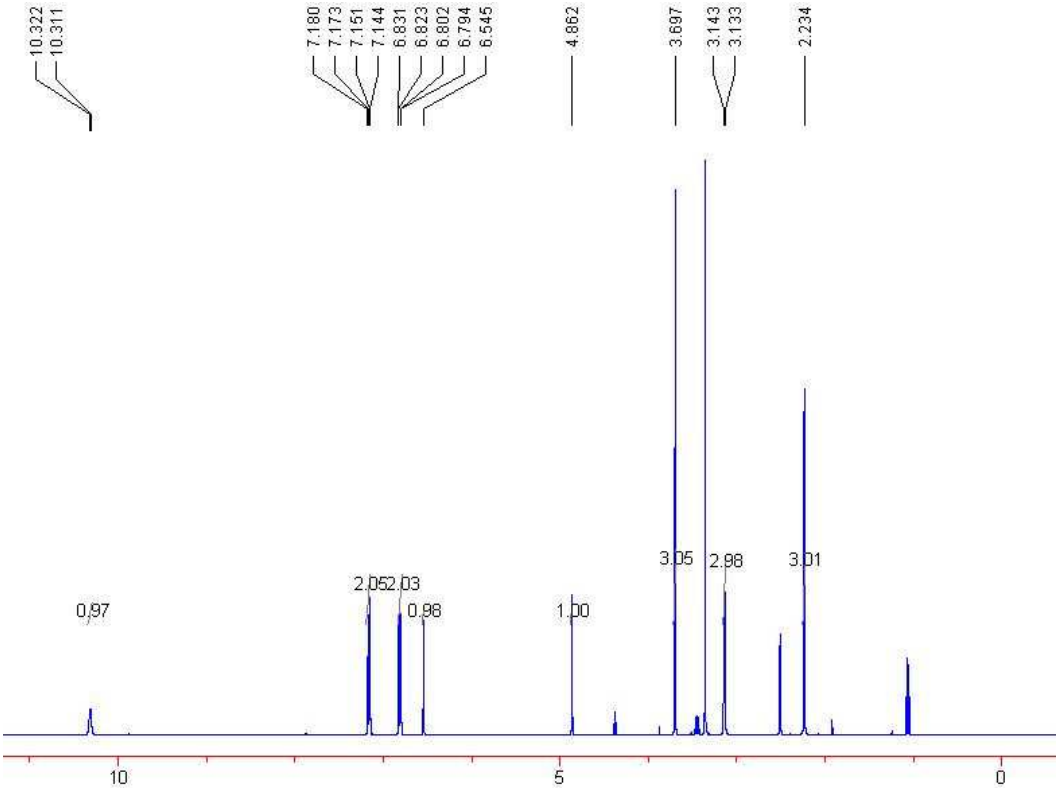

Figure S26 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 4i

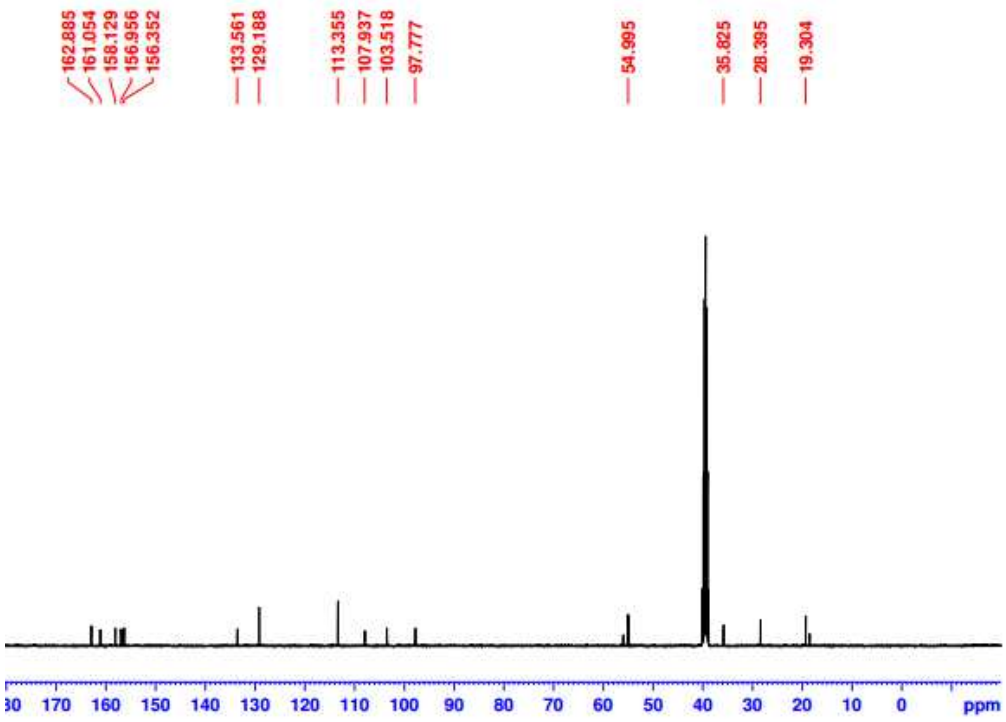

Figure S27 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 4i

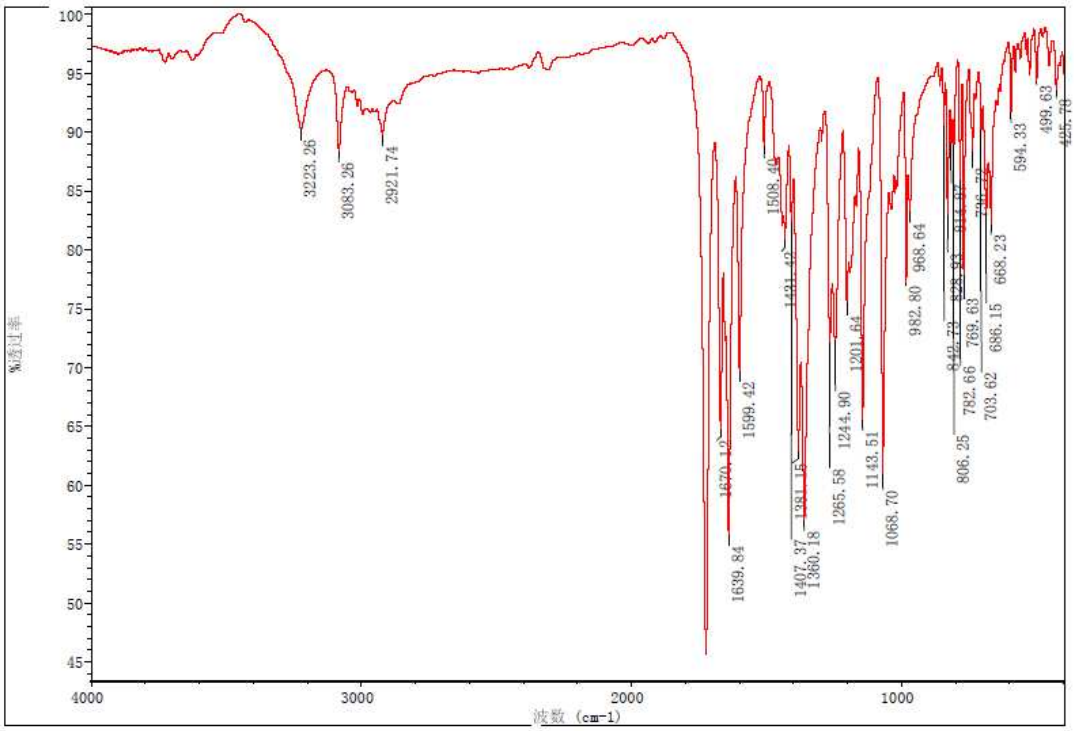

Figure S28 IR spectrum of compound 4j

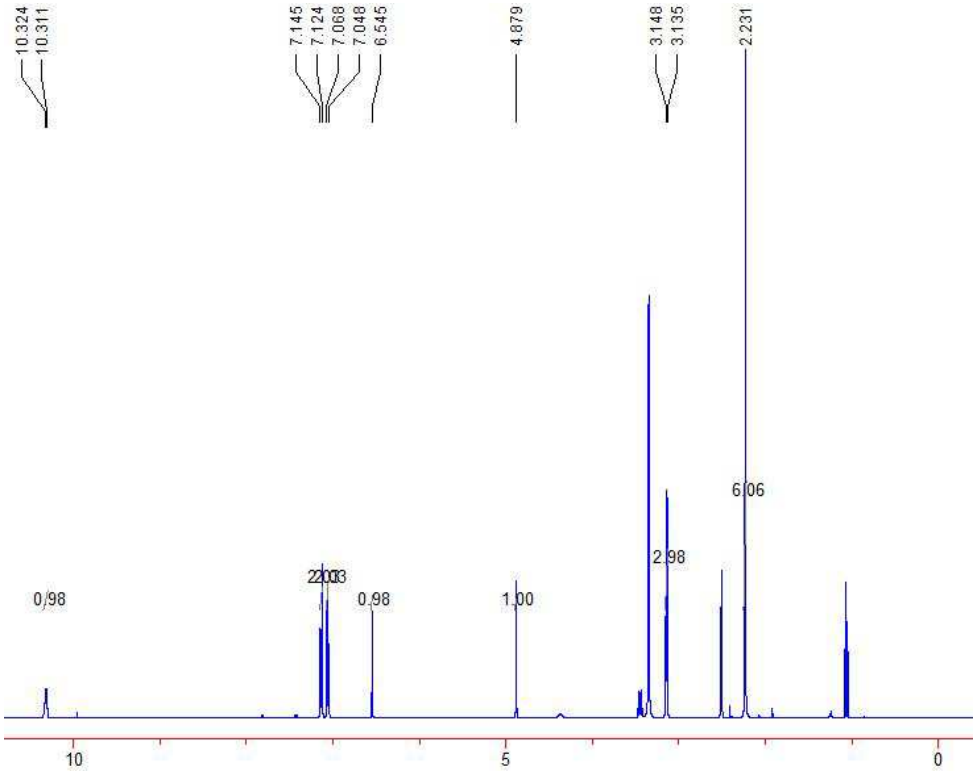

Figure S29 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 4j

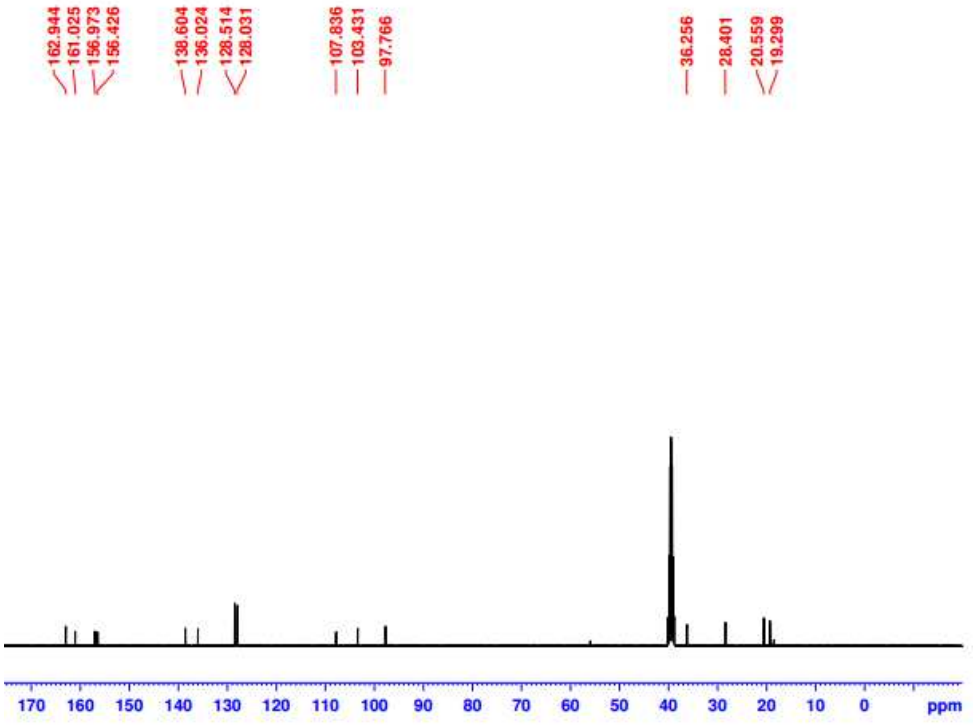

Figure S30 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 4j

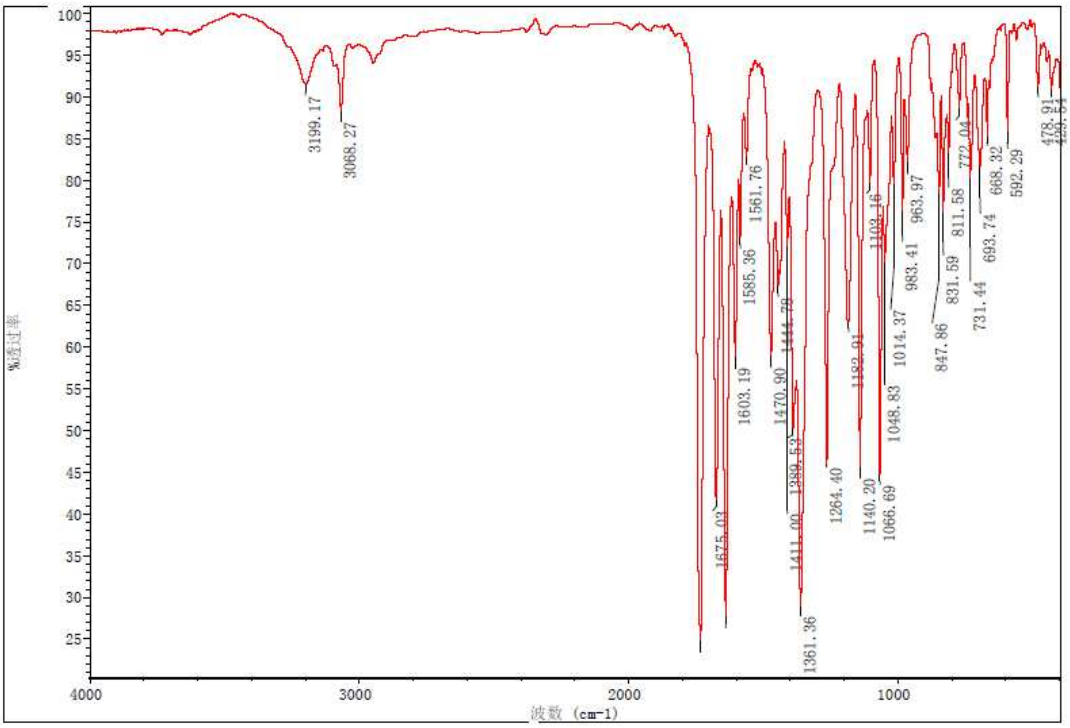

Figure S31 IR spectrum of compound 4k

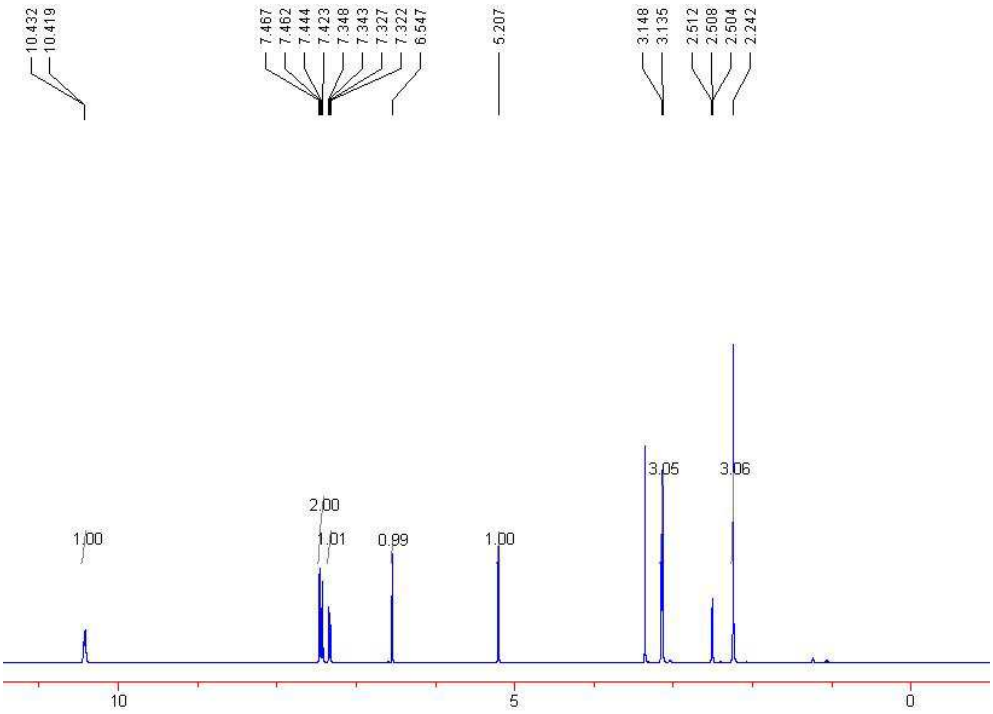

Figure S32 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 4k

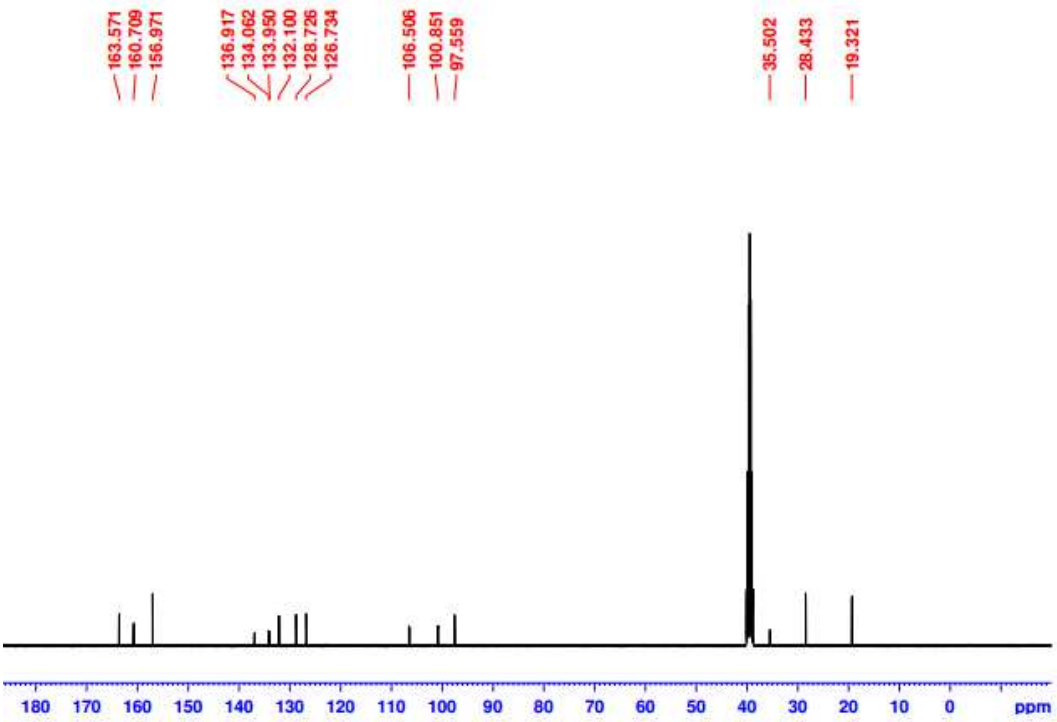

Figure S33 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 4k

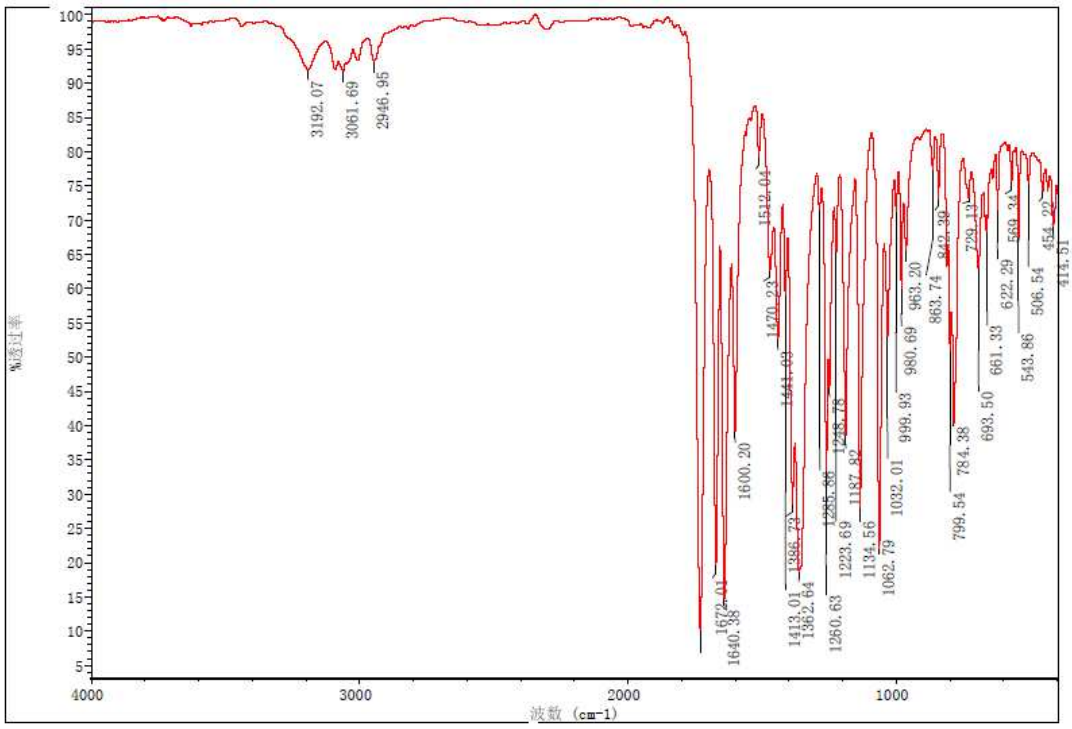

Figure S34 IR spectrum of compound 4l

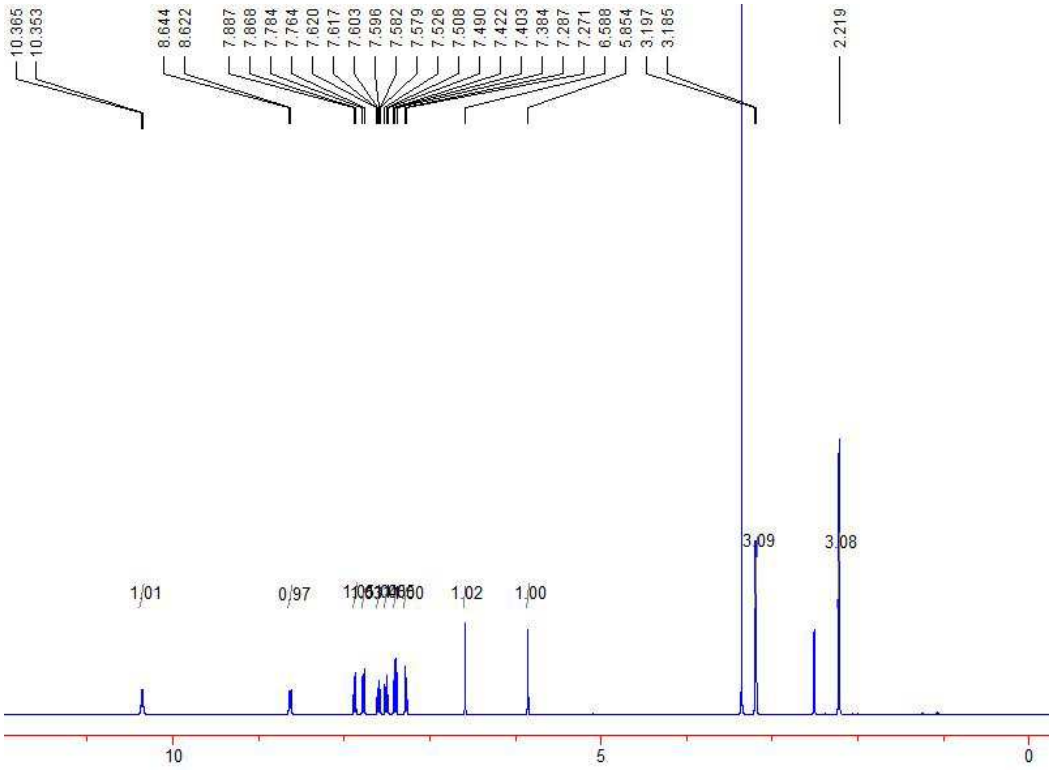

Figure S35 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 4l

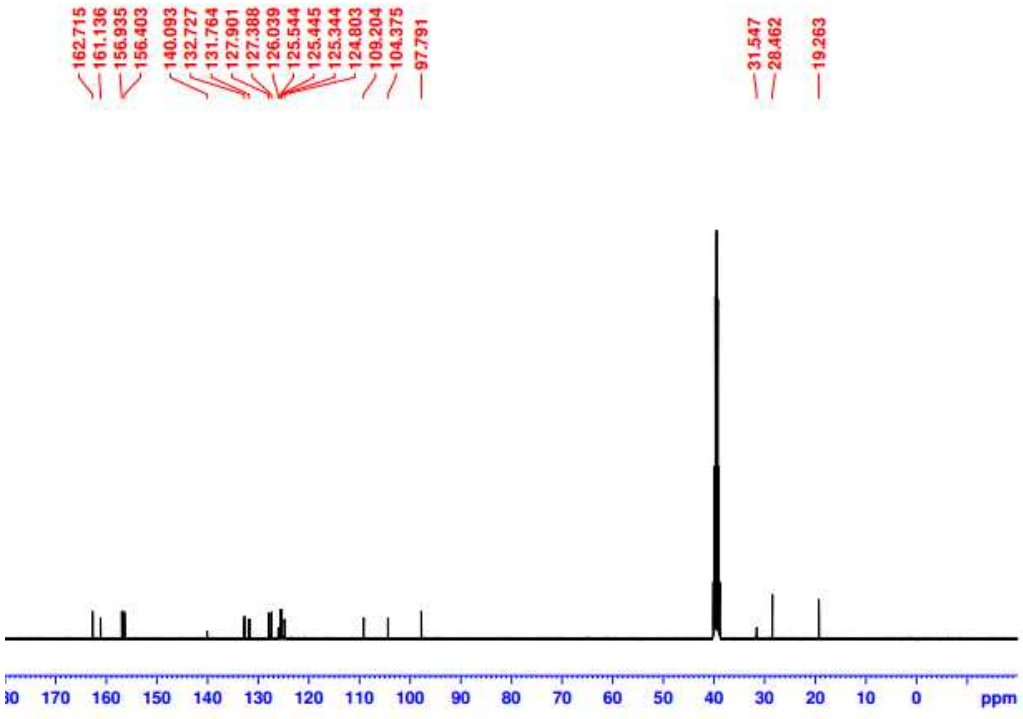

Figure S36 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 4l

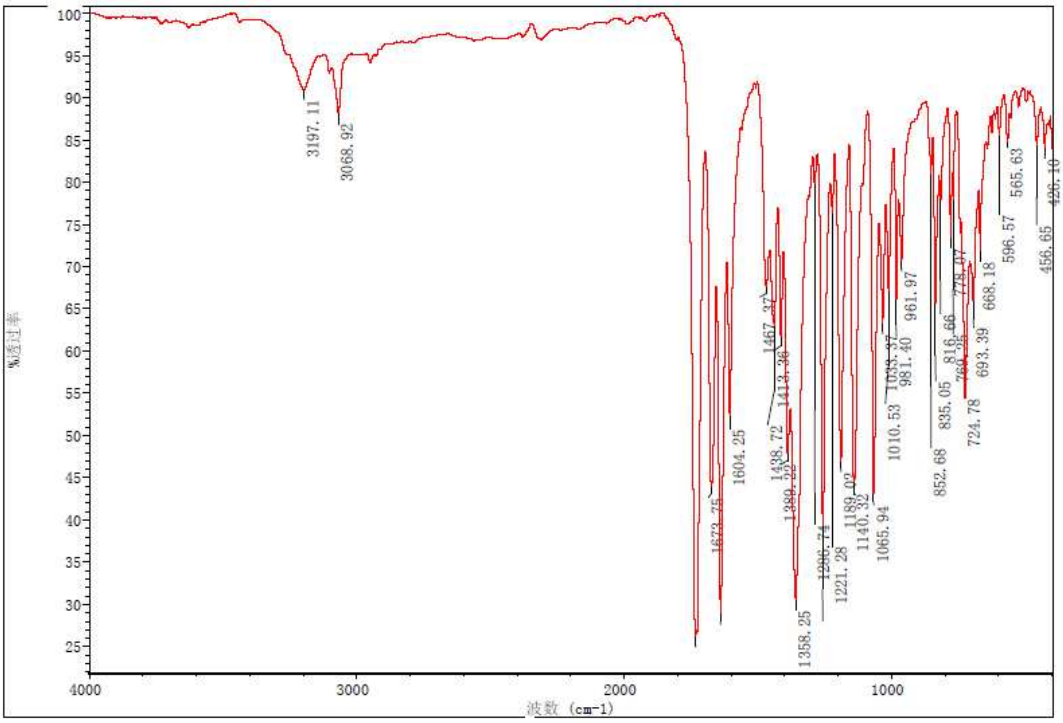

Figure S37 IR spectrum of compound 4m

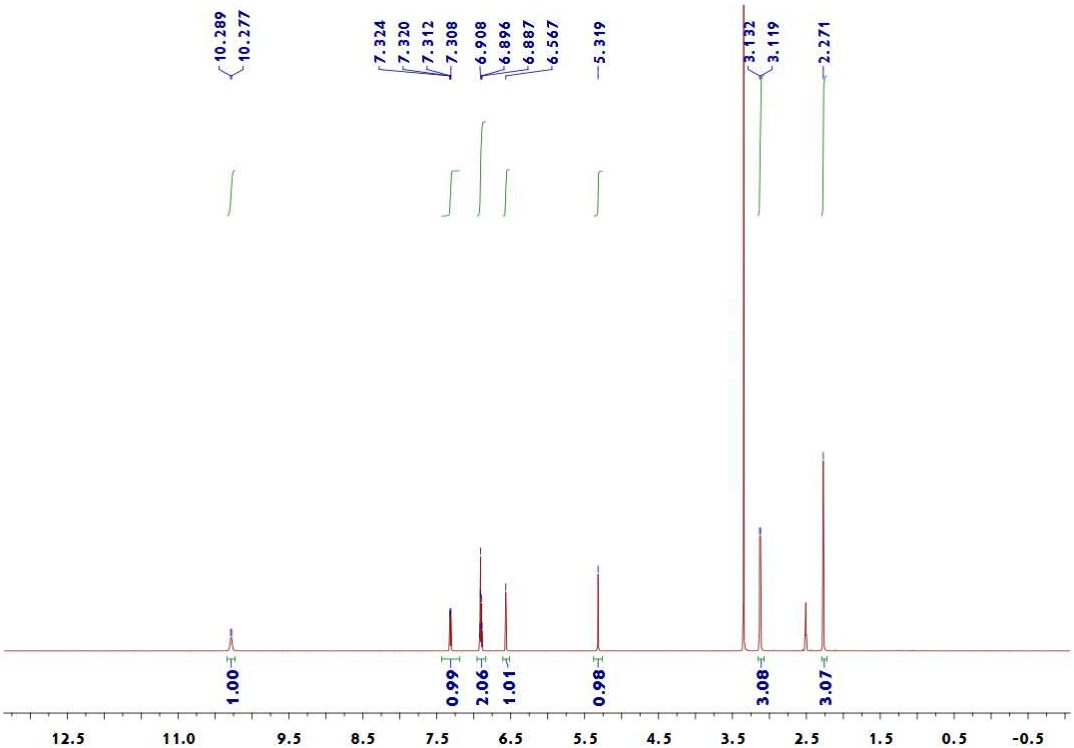

Figure S38 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 4m

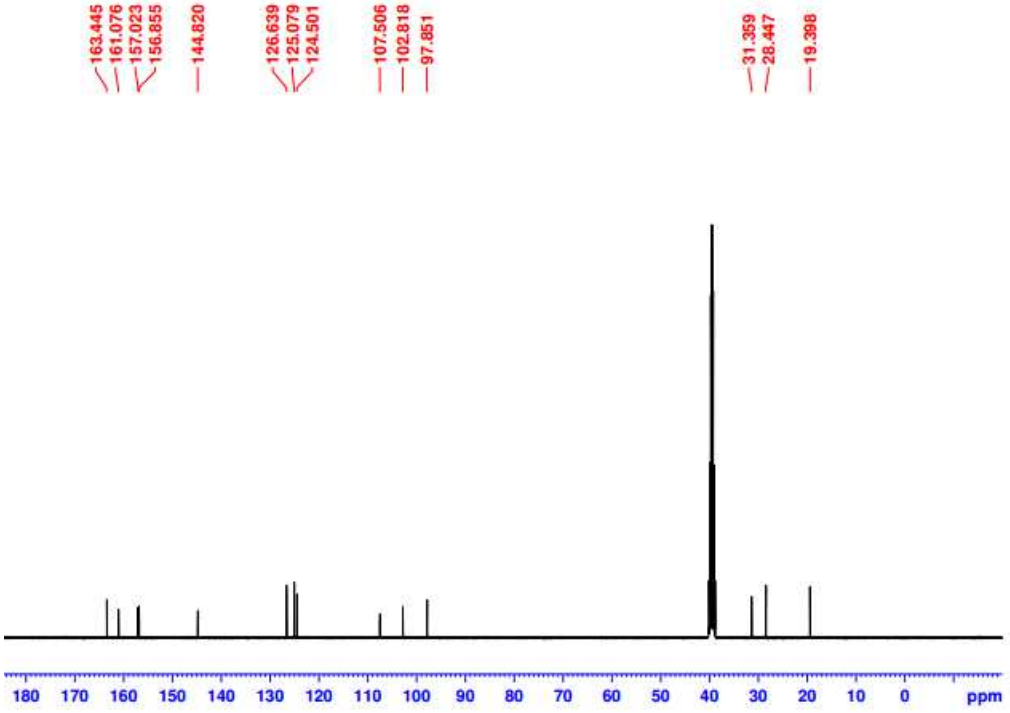

Figure S39 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 4m

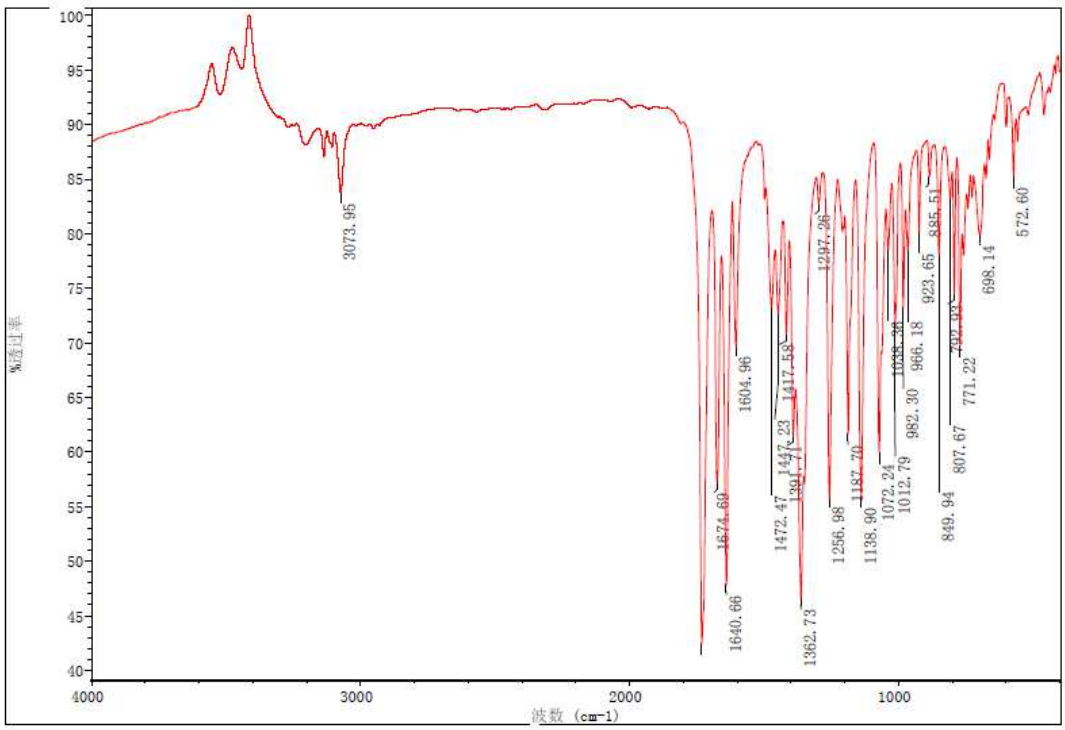

Figure S40 IR spectrum of compound 4n

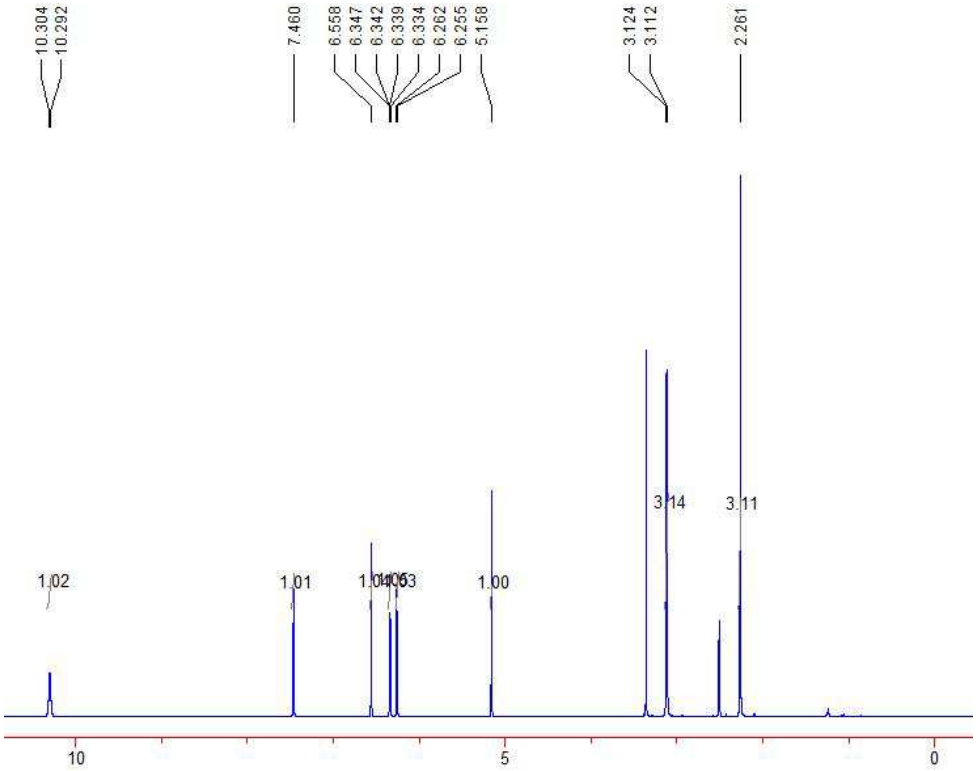

Figure S41 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 4n

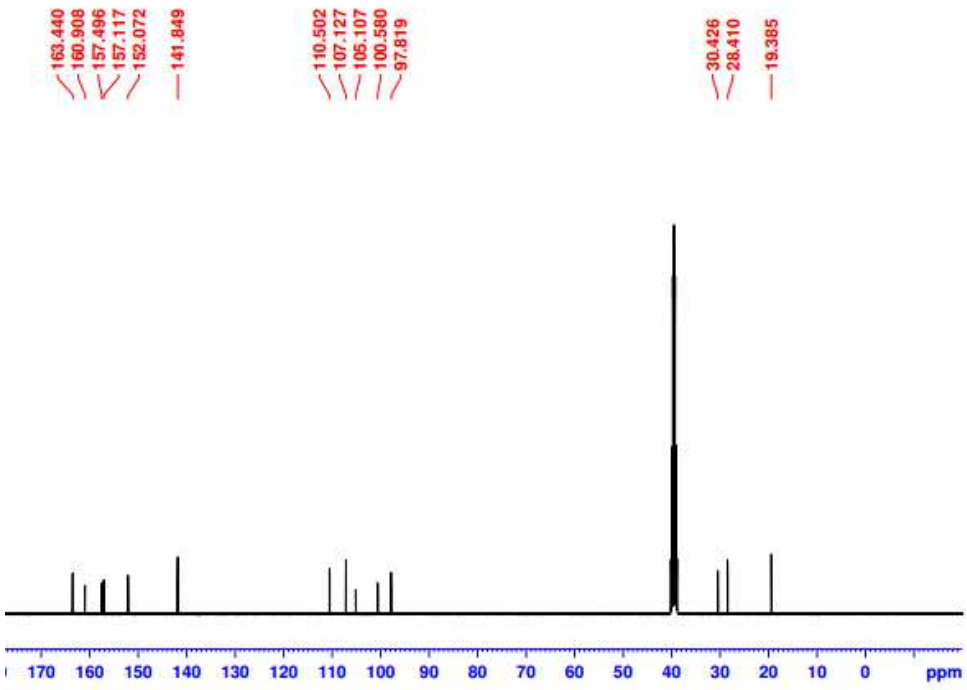

Figure S42 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 4n

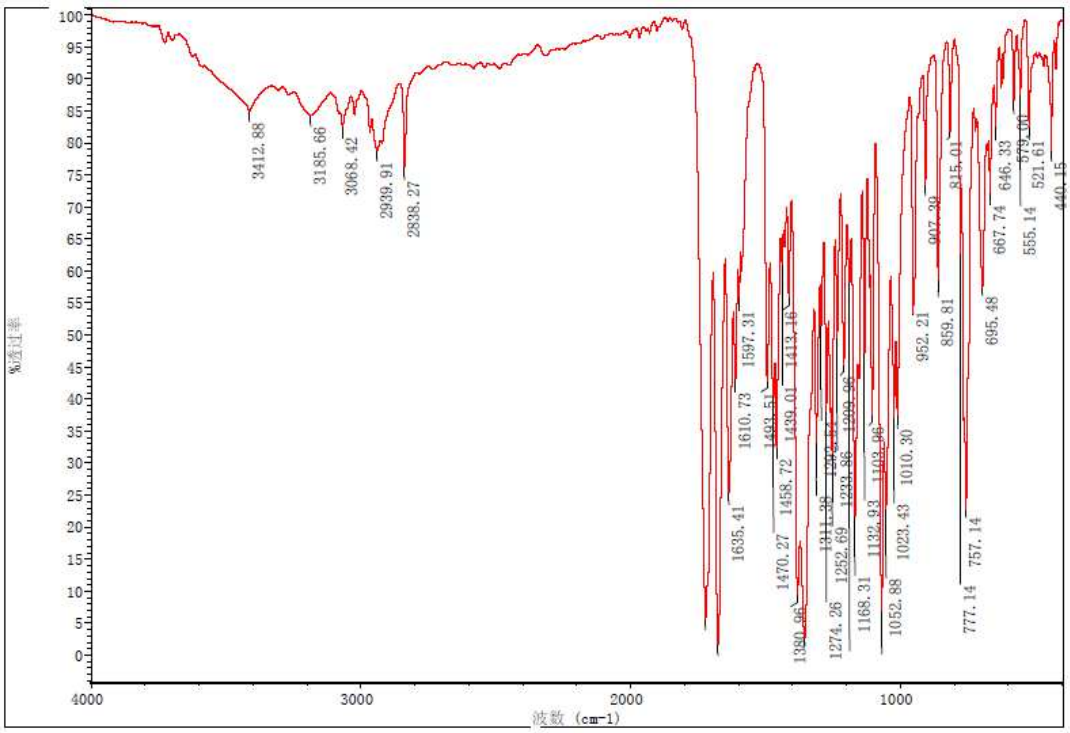

Figure S43 IR spectrum of compound 6a

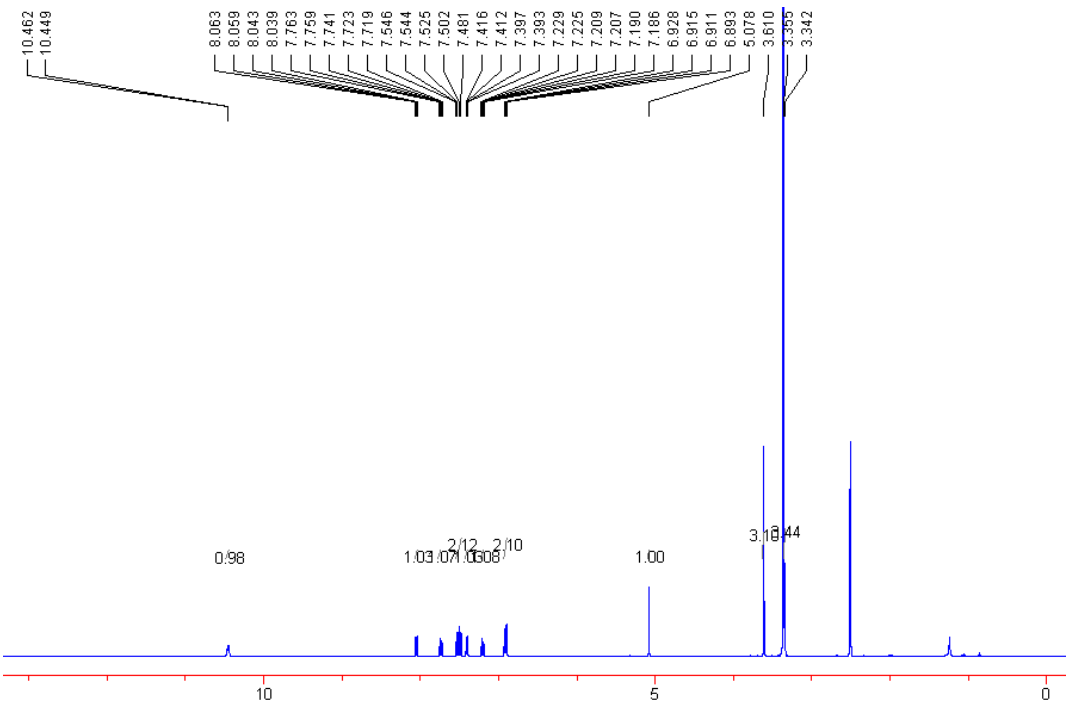

Figure S44 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 6a

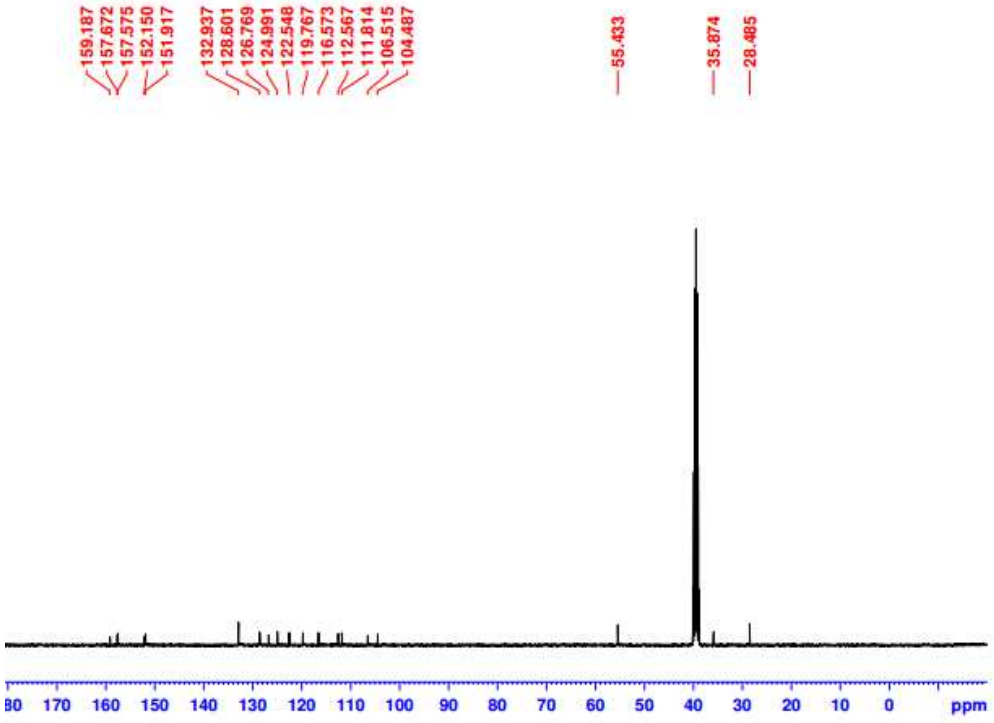

Figure S45 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 6a

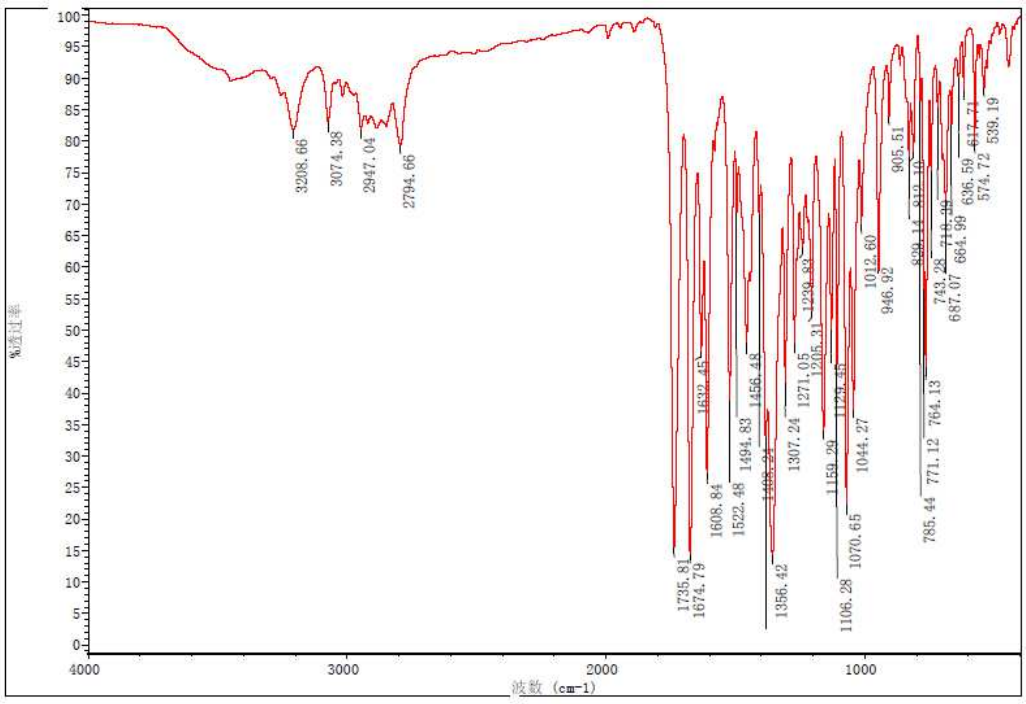

Figure S46 IR spectrum of compound 6b

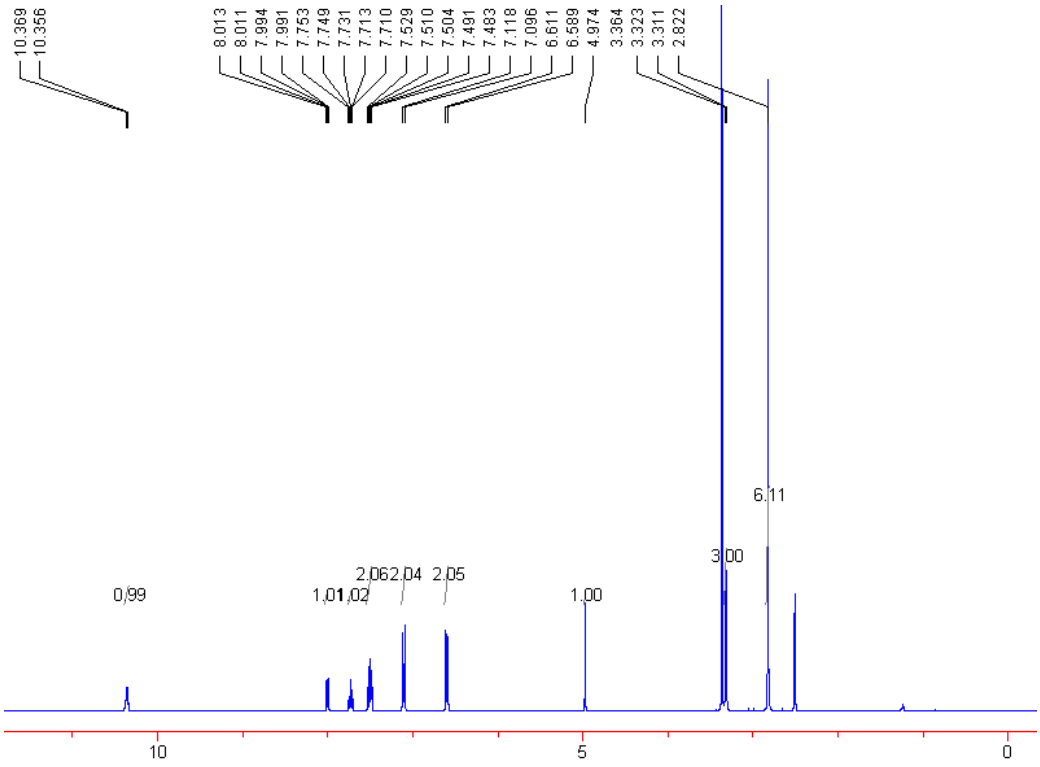

Figure S47 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 6b

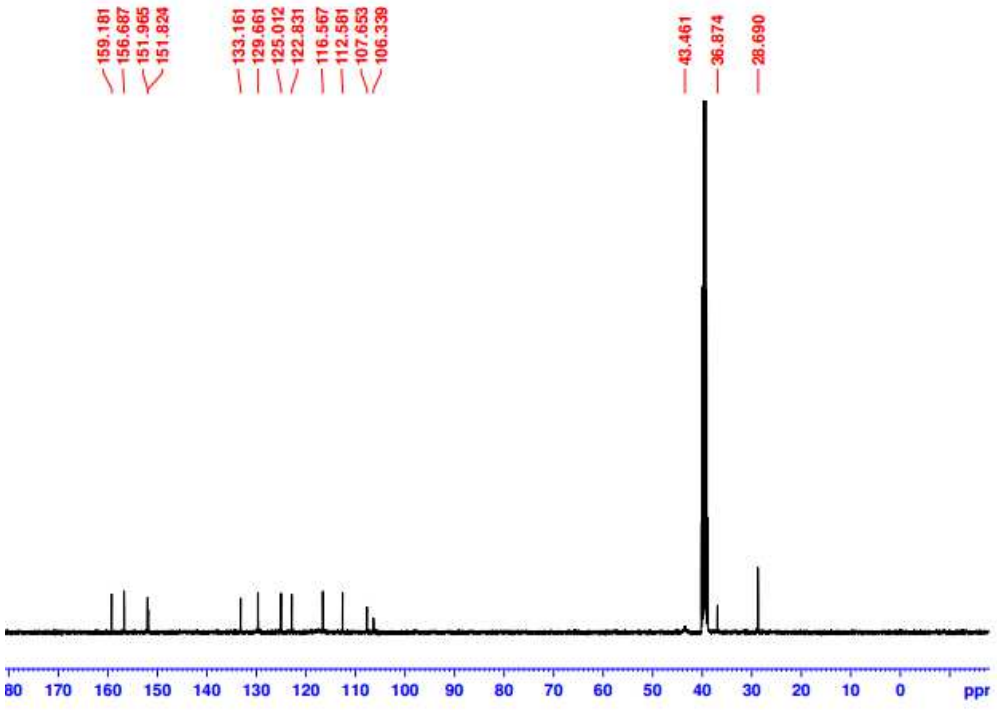

Figure S48 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 6b

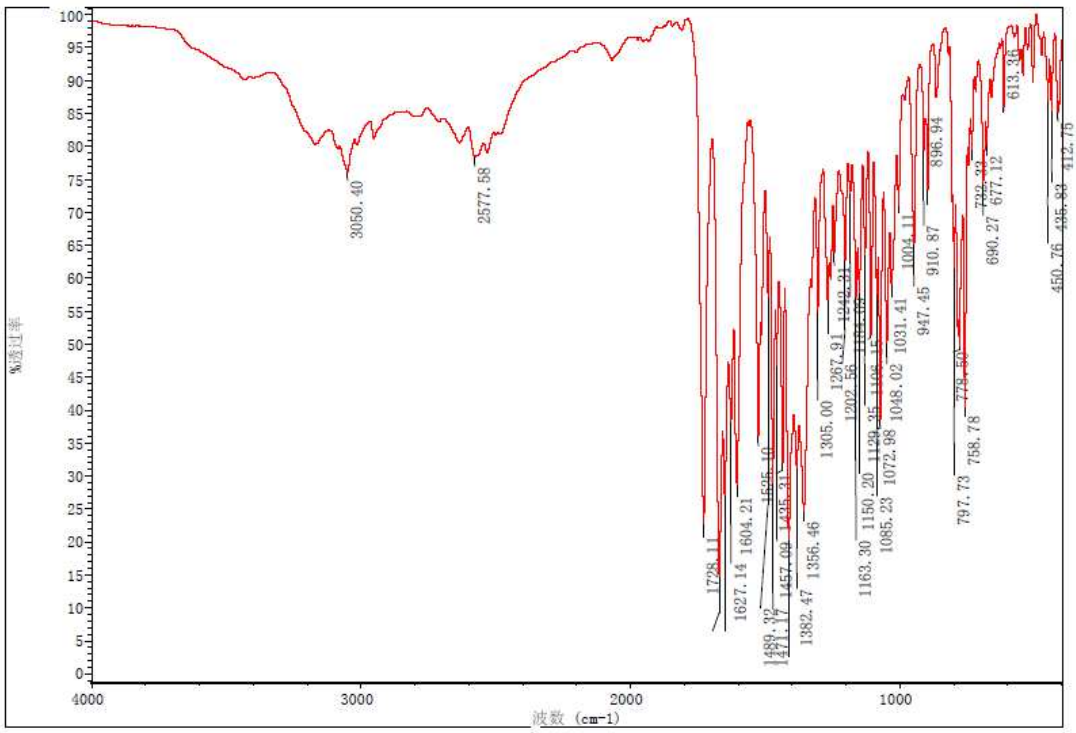

Figure S49 IR spectrum of compound 6c

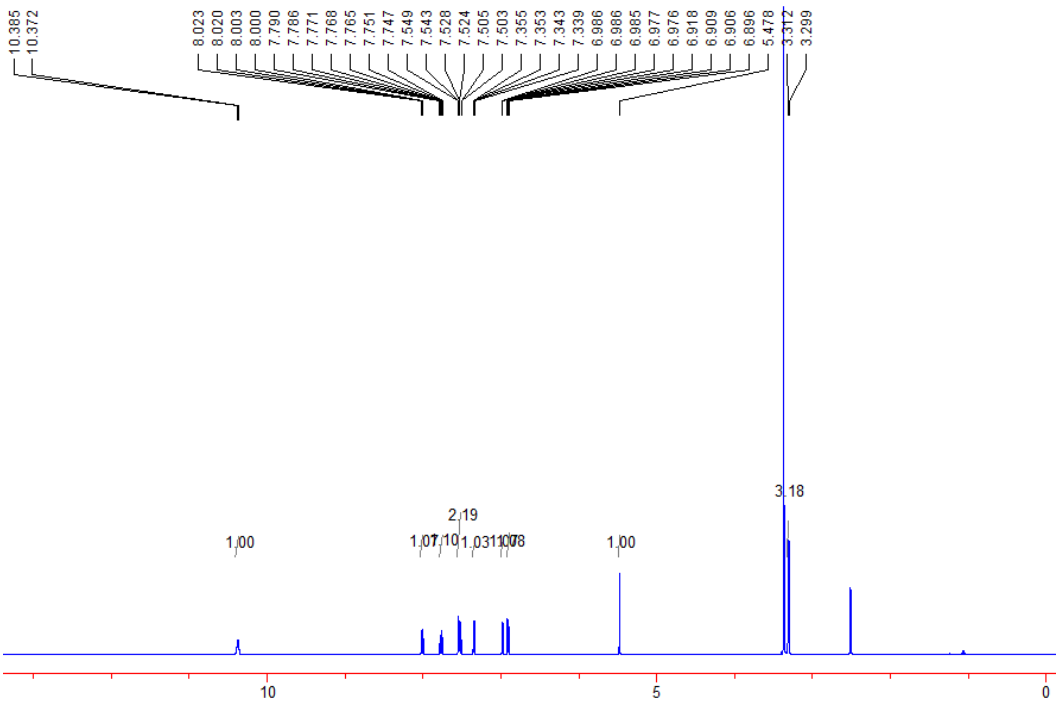

Figure S50 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 6c

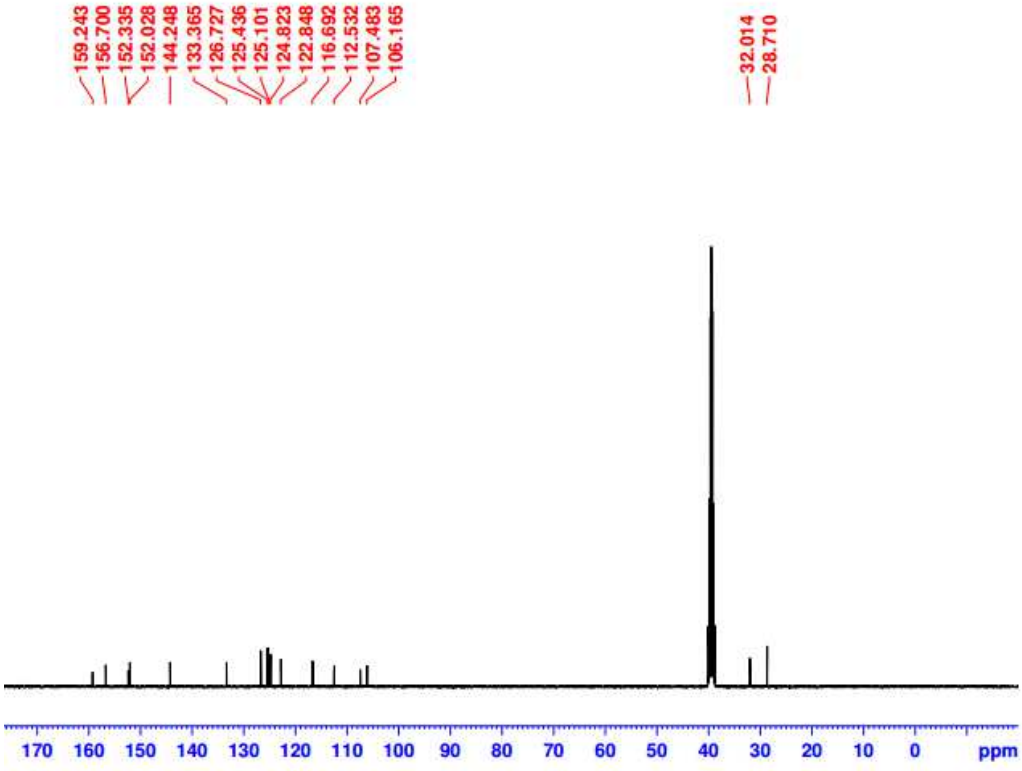

Figure S51 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 6c

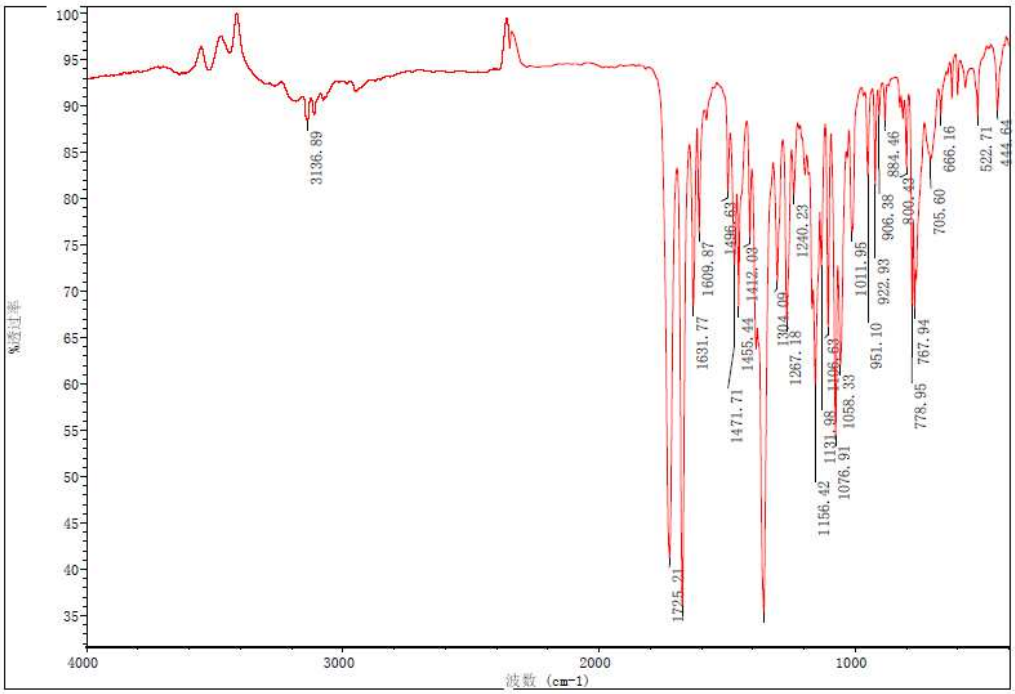

Figure S52 IR spectrum of compound 6d

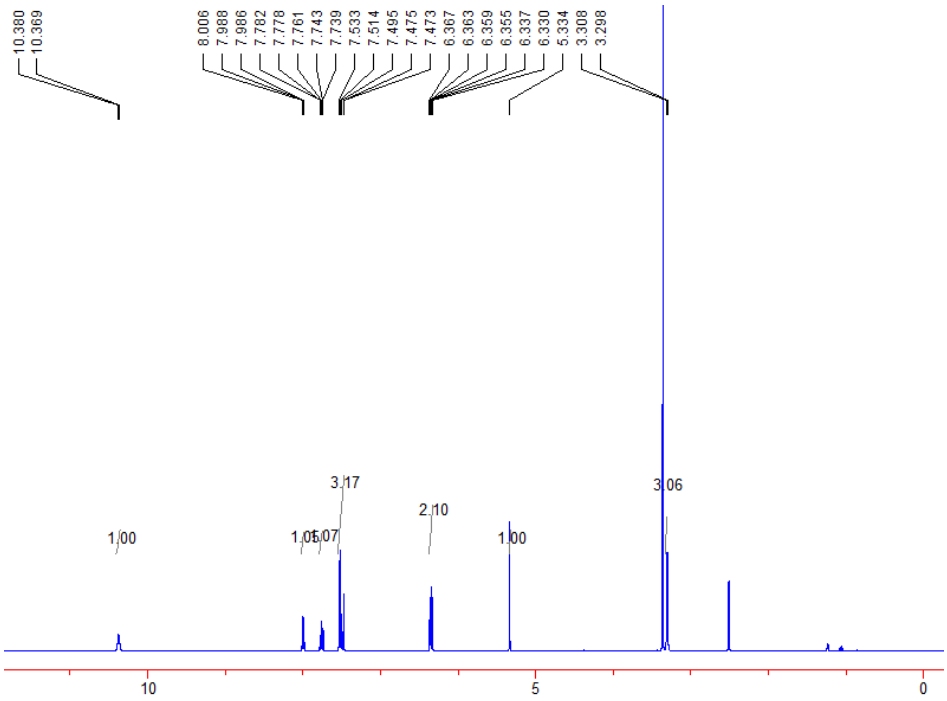

Figure S53 ^{1}H NMR Spectrum (400 MHz, DMSO-d_6) of Compound 6d

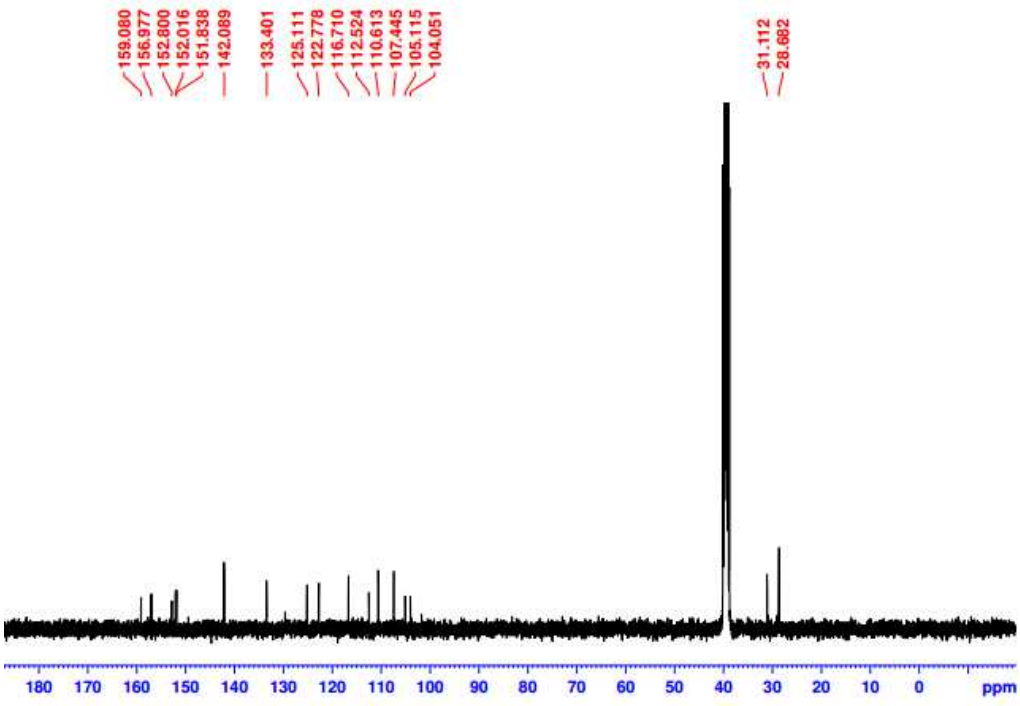

Figure S54 ^{13}C NMR Spectrum (100 MHz, DMSO-d_6) of Compound 6d

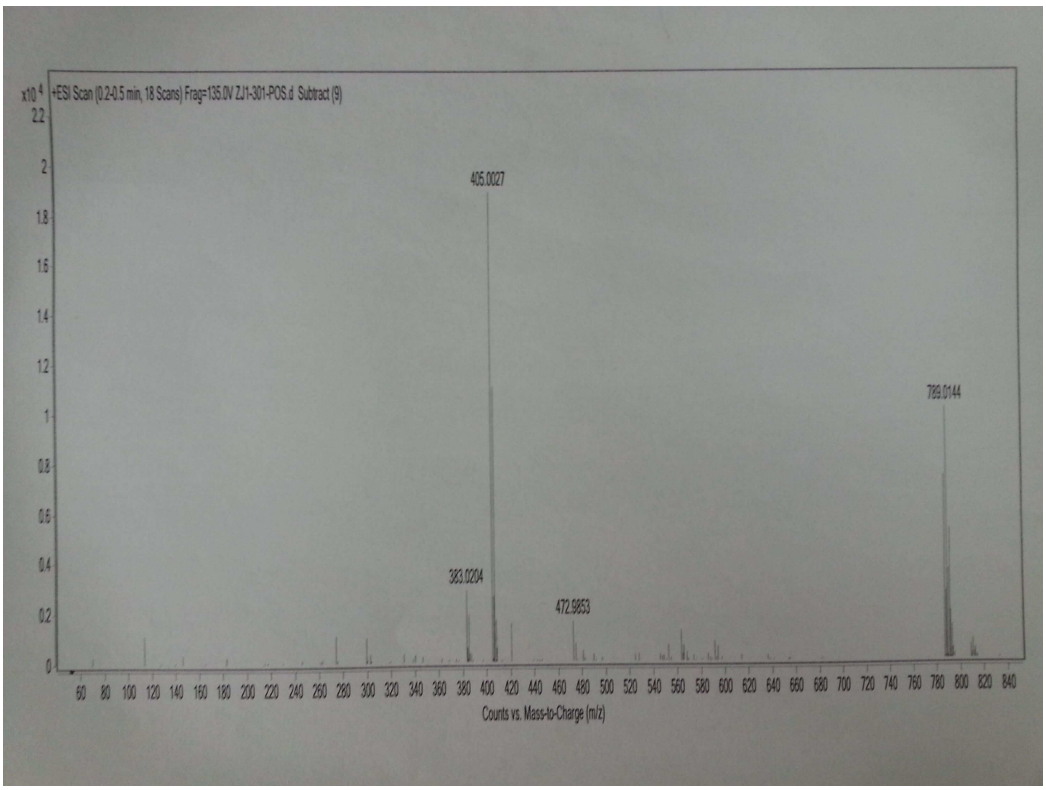

Figure S55 HRMS of Compound 4k

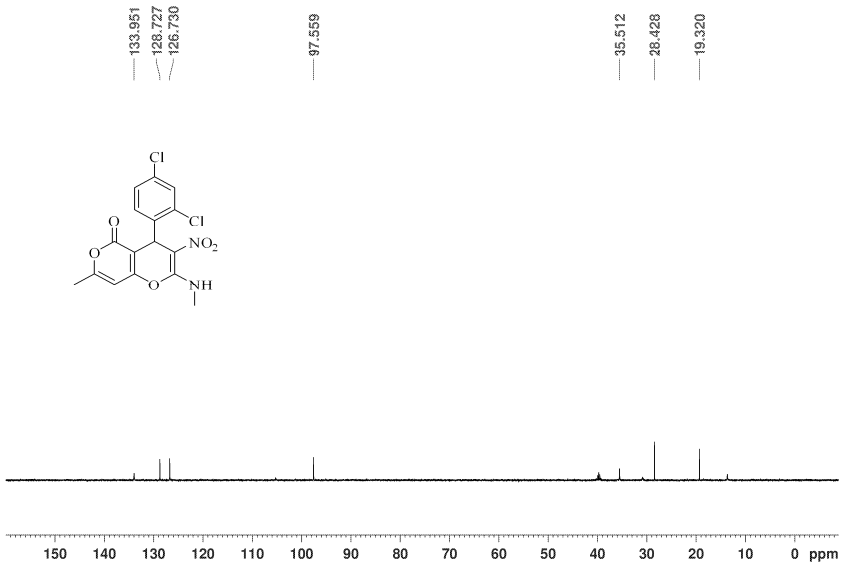

Figure S56 DEPT 135 Spectrum (100 MHz, DMSO-d6) of Compound 4k

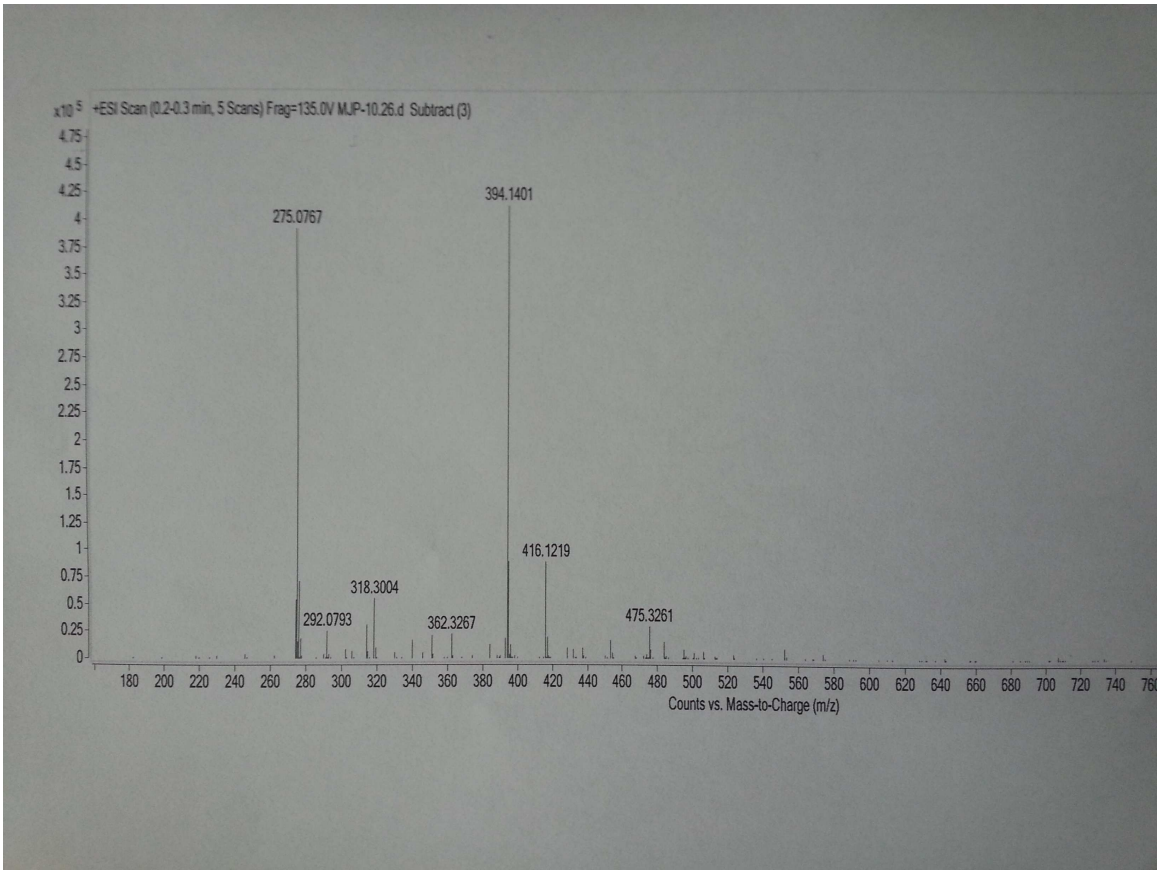

Figure S57 HRMS of Compound 6b

