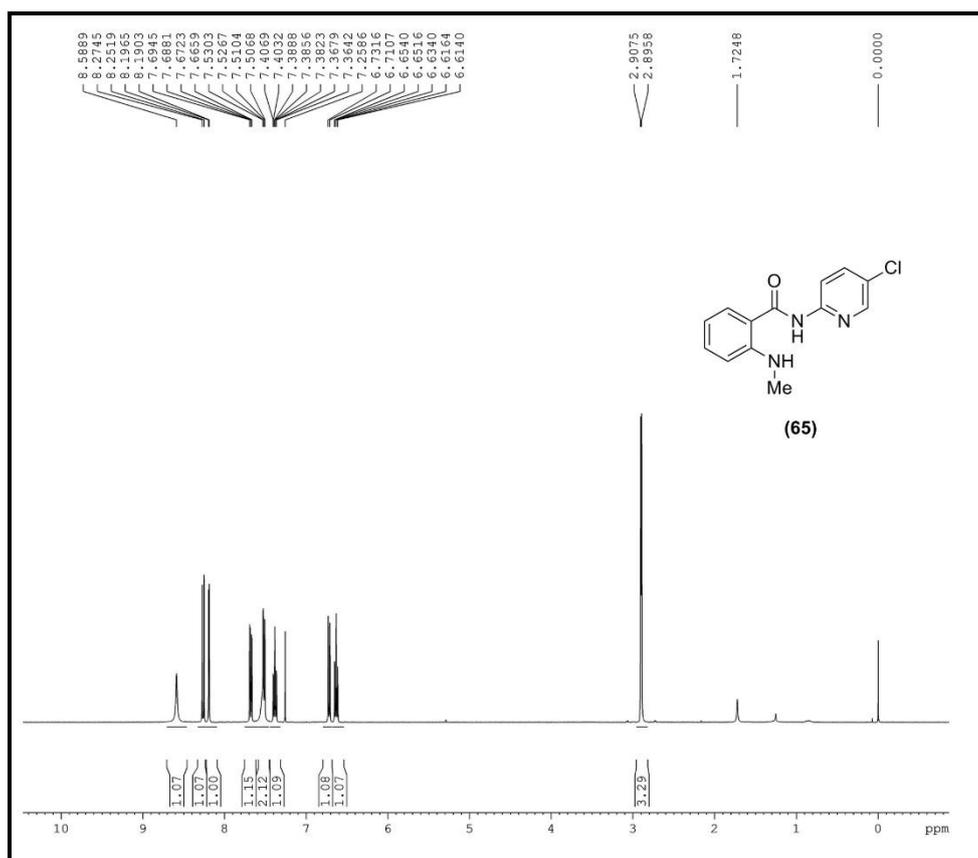
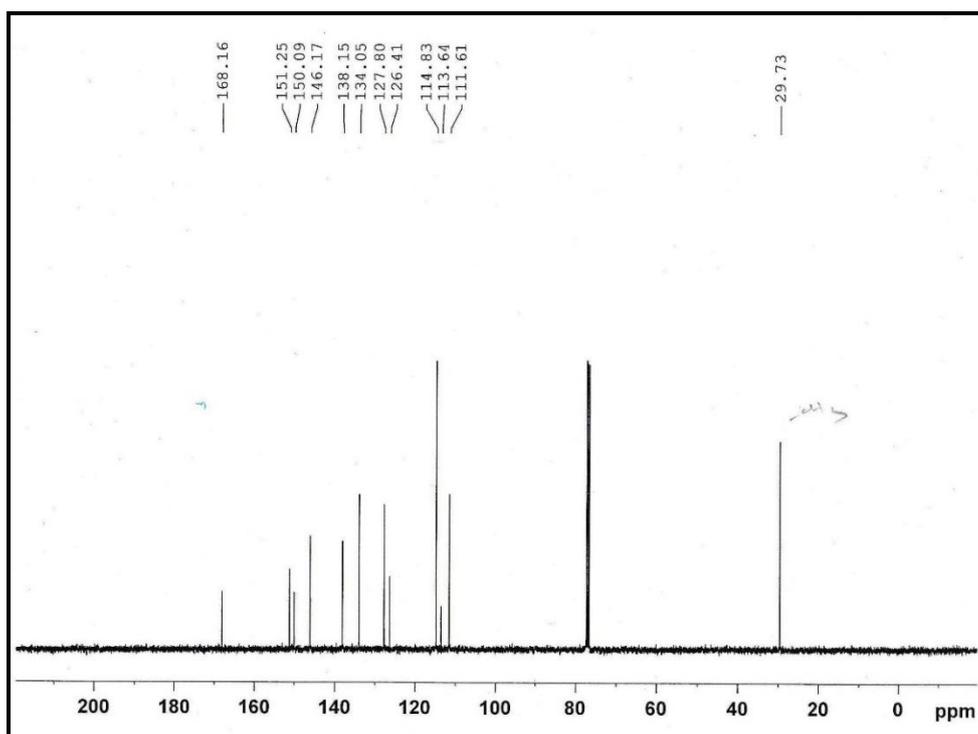


S1. *N*-(5-Chloropyridin-2-yl)-2-methylaminobenzamide (65)Figure S1: ¹H-NMR Spectrum of **65** (CDCl₃, 400 MHz).Figure S2: ¹³C-NMR Spectrum of **65** (CDCl₃, 400 MHz).

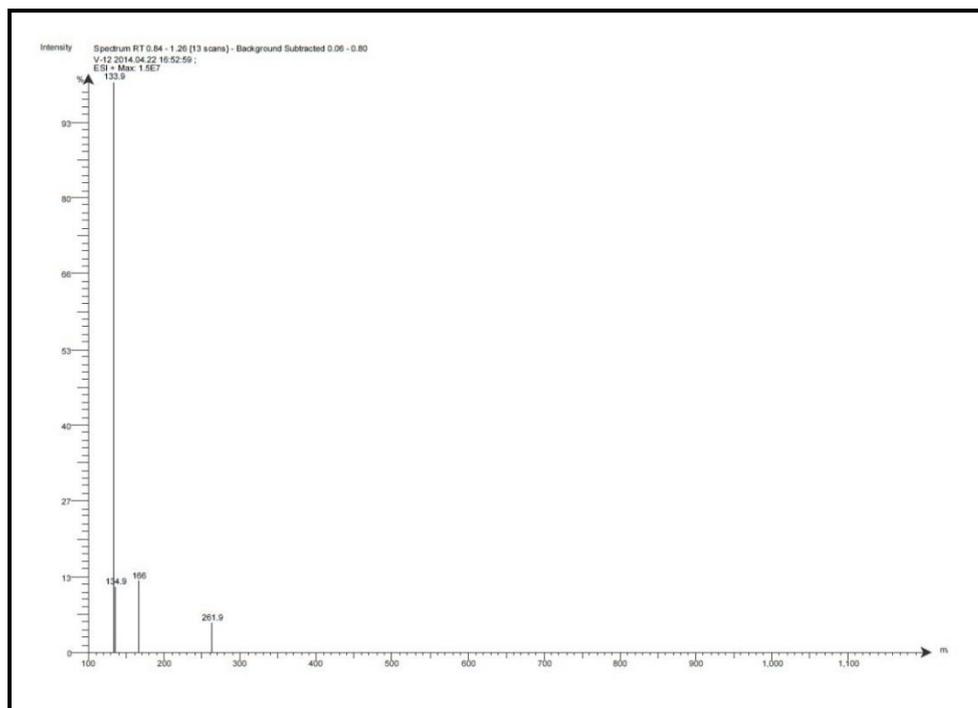


Figure S3: Mass Spectrum of **65** [261.9 (M)⁺, 134.9 (M-127)⁺].

S2. N-(5-Chloropyridin-2-yl)-2-(2-(4-(4-methoxyphenyl)piperazin-1-yl)acetamido)benzamide (80)

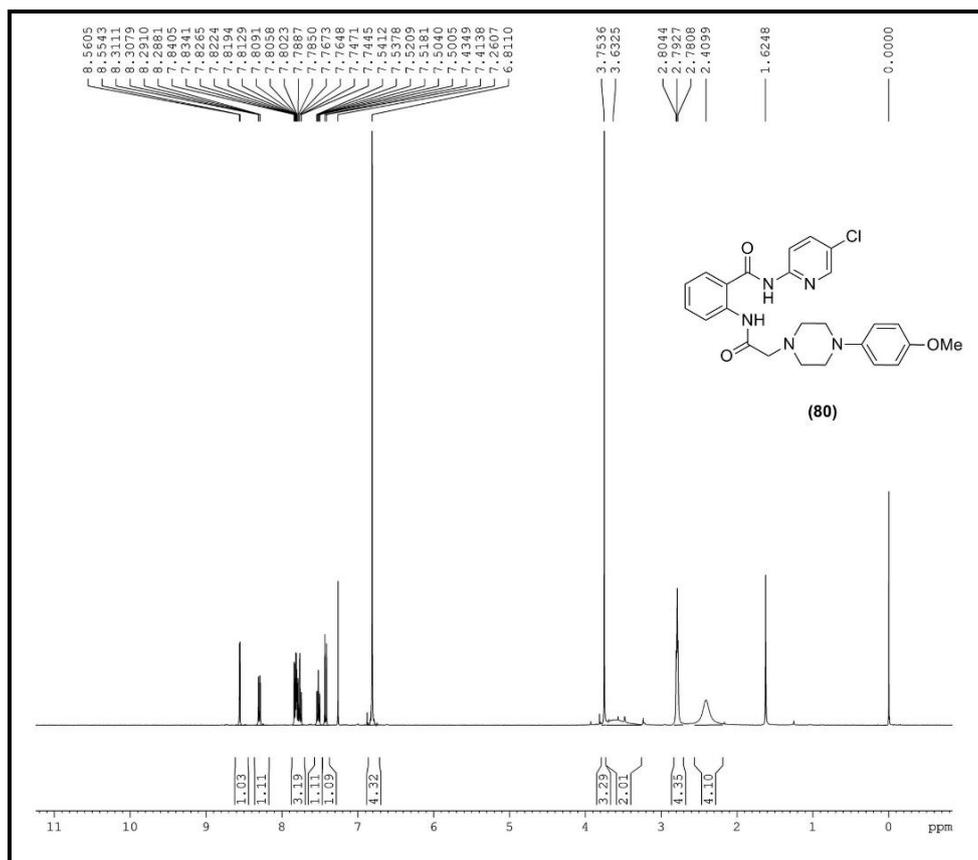


Figure S4: ¹H-NMR Spectrum of **80** (CDCl₃, 400 MHz)

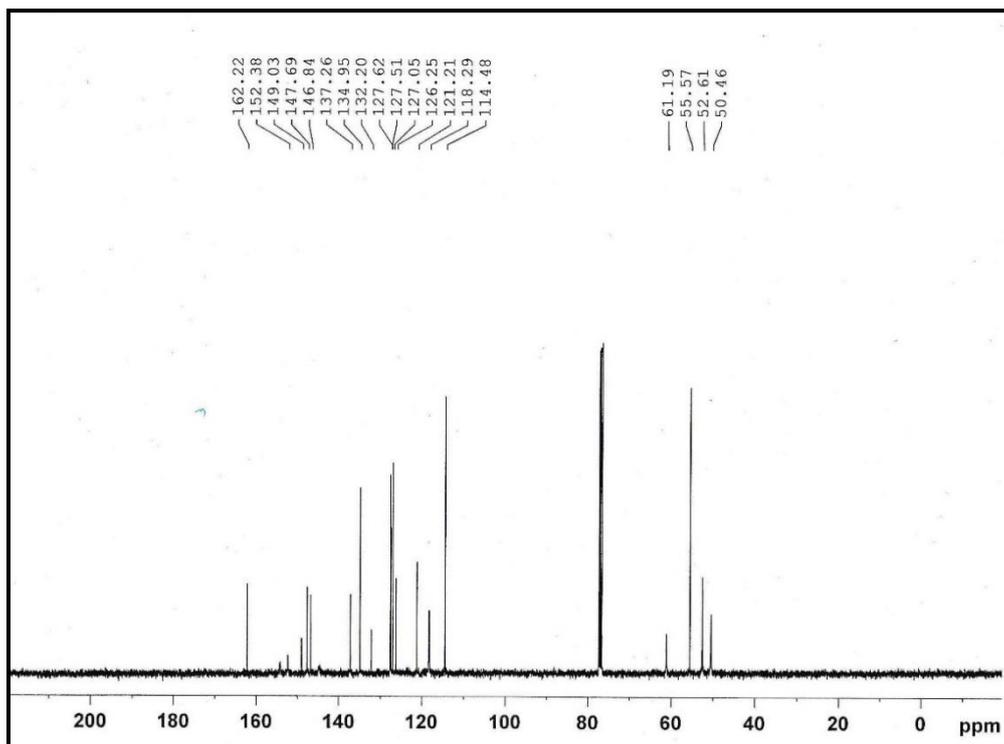


Figure S5: ^{13}C -NMR Spectrum of **80** (CDCl_3 , 400 MHz)

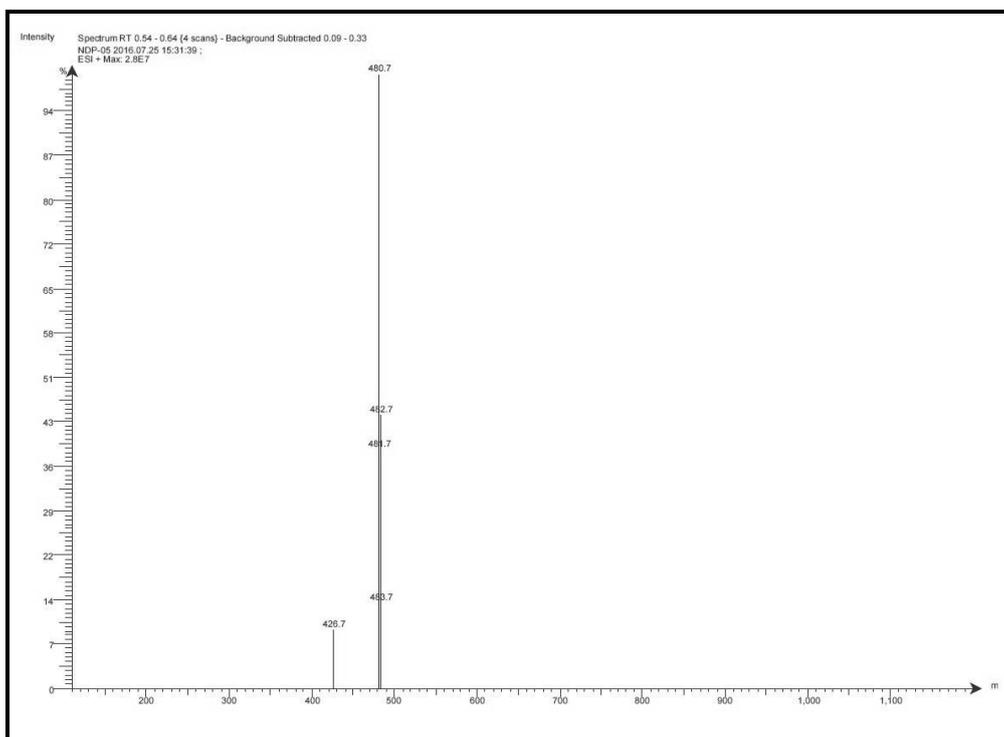
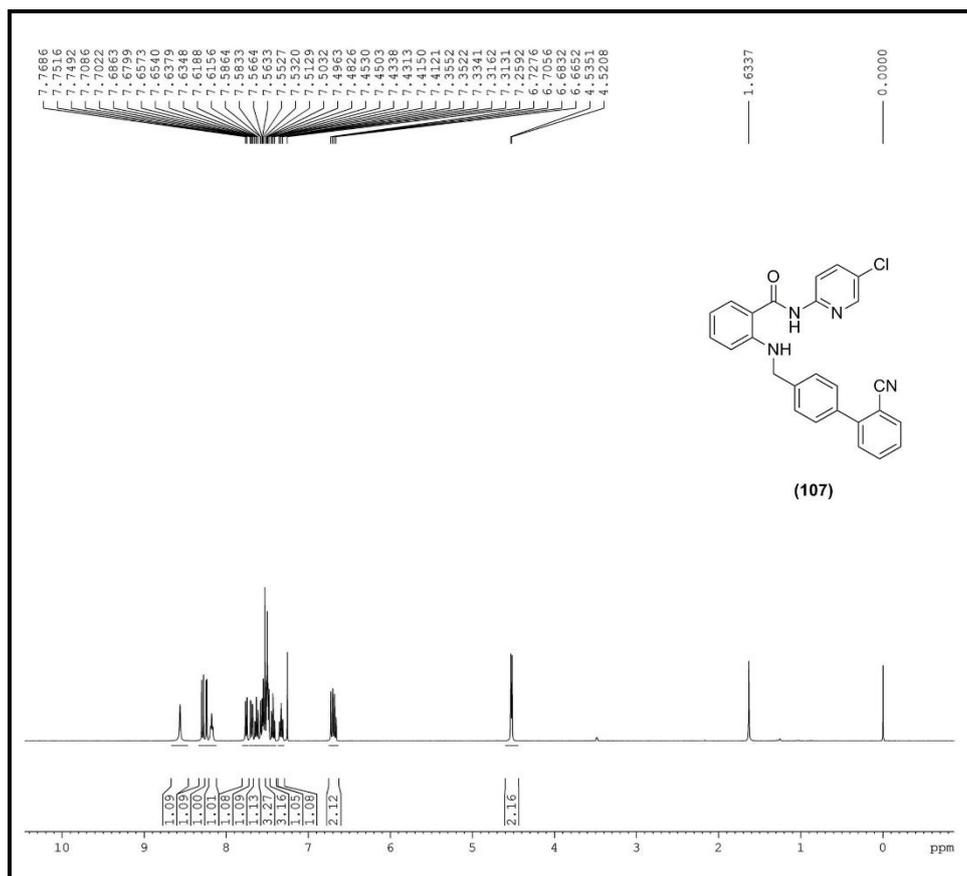
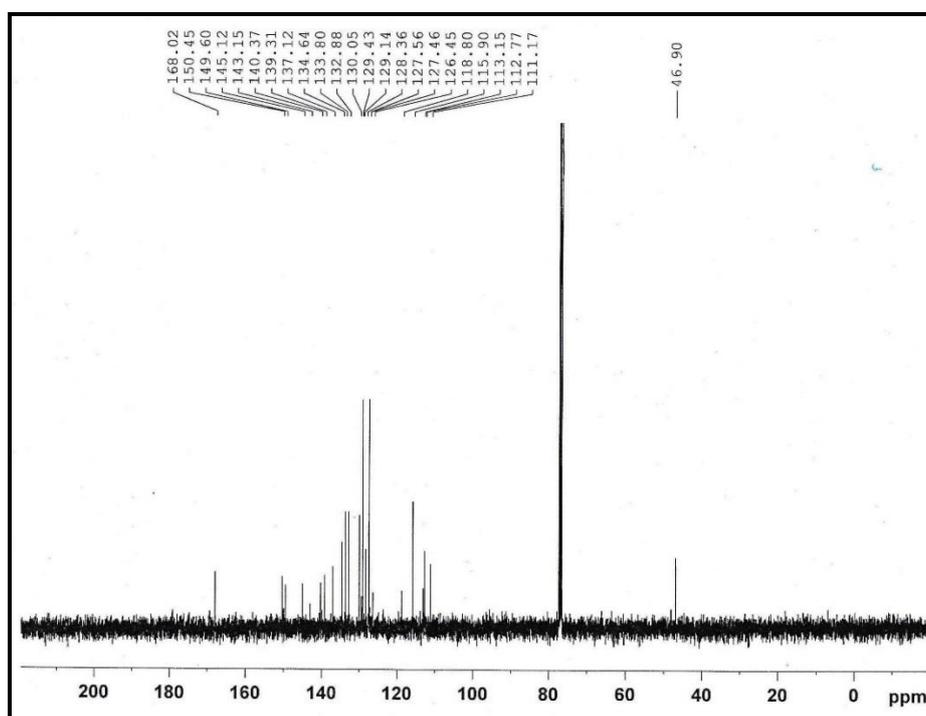


Figure S6: Mass Spectrum of **80** [$480.7 (\text{M})^+$, $482.7 (\text{M}+2)^+$].

S3. N-(5-Chloropyridin-2-yl)-2-(4-(2-cyanophenyl)benzylamino)benzamide (107)**Figure S7:** ¹H-NMR Spectrum of **107** (CDCl₃, 400 MHz).**Figure S8:** ¹³C-NMR Spectrum of **107** (CDCl₃, 400 MHz).

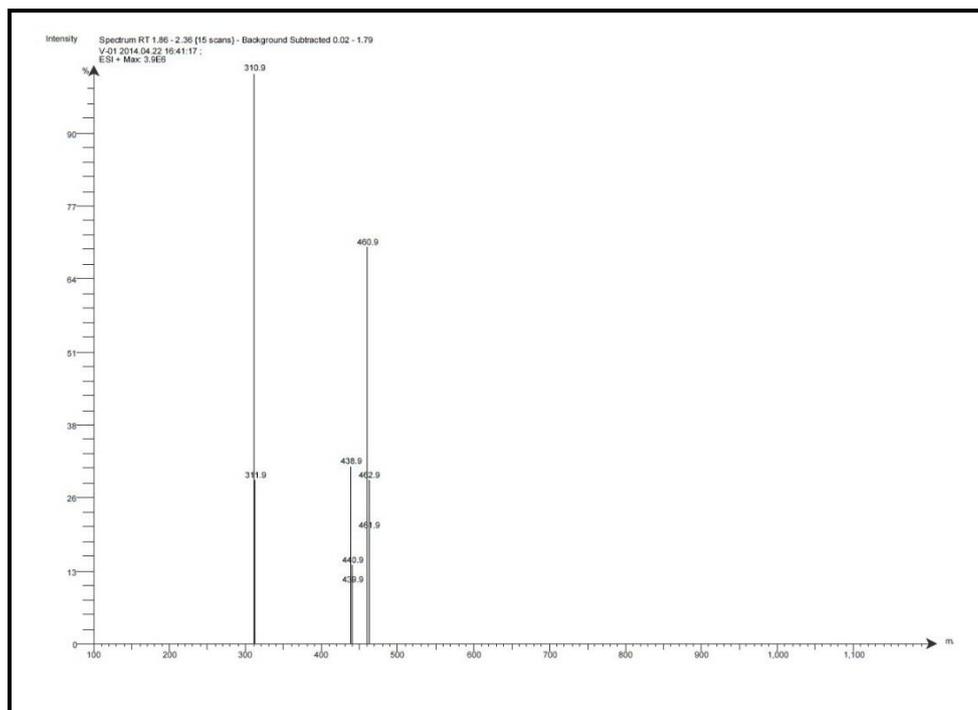


Figure S9: Mass Spectrum of 107 [438 (M)⁺, 440.9 (M+2)⁺, 460.9 (M+Na)⁺].

S4: 4'-(((5-((4-Chlorophenyl)amino)-1,3,4-thiadiazol-2-yl)thio) methyl)-[1,1'-biphenyl]-2-carbonitrile (165)

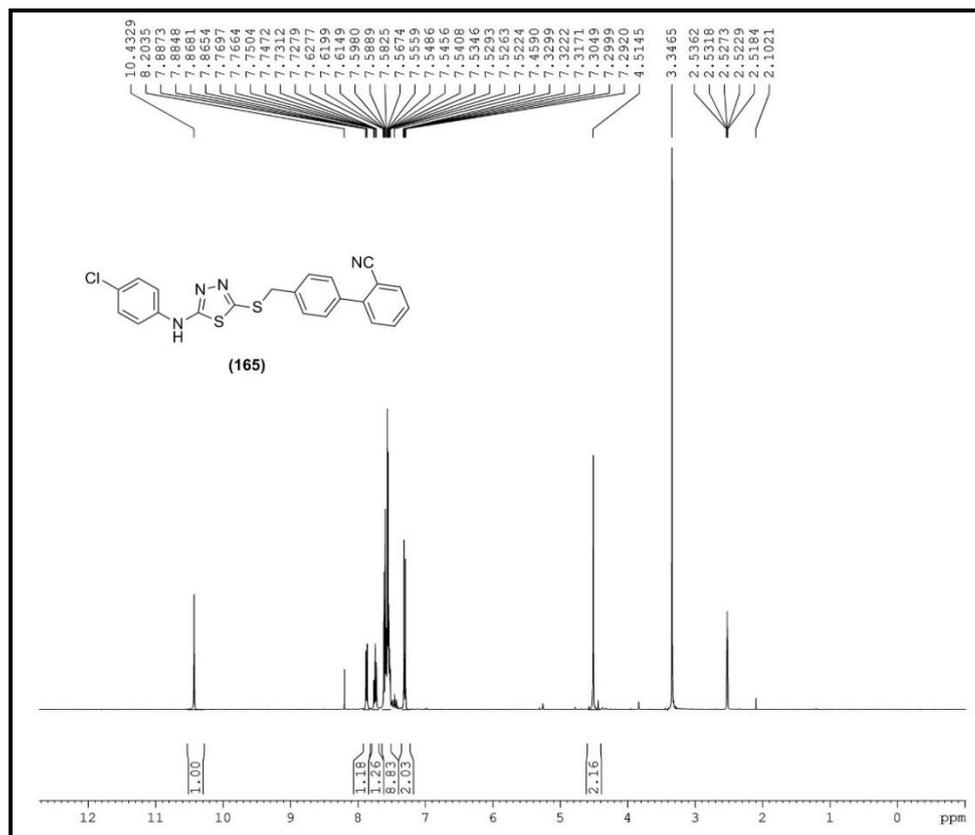


Figure S10: ¹H-NMR Spectrum of 165 (DMSO-*d*₆, 400 MHz).

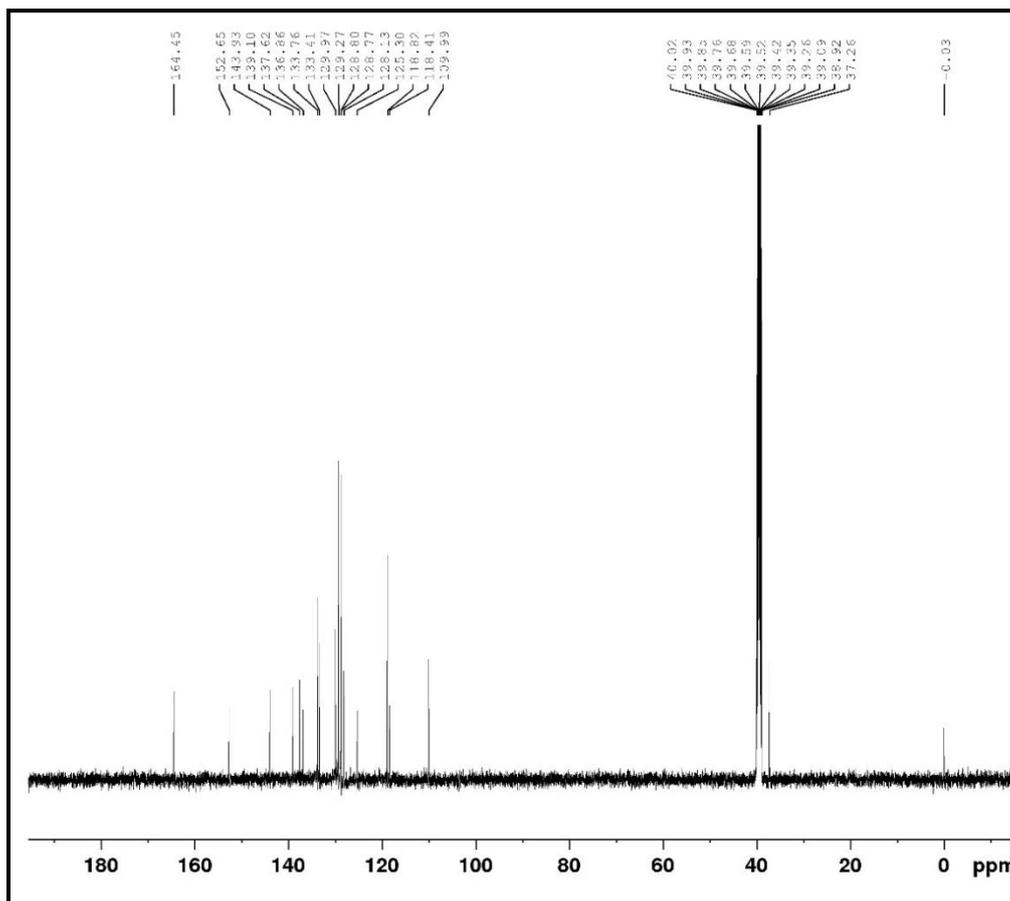


Figure S11: ^{13}C -NMR Spectrum of **165** (DMSO- d_6 , 400 MHz).

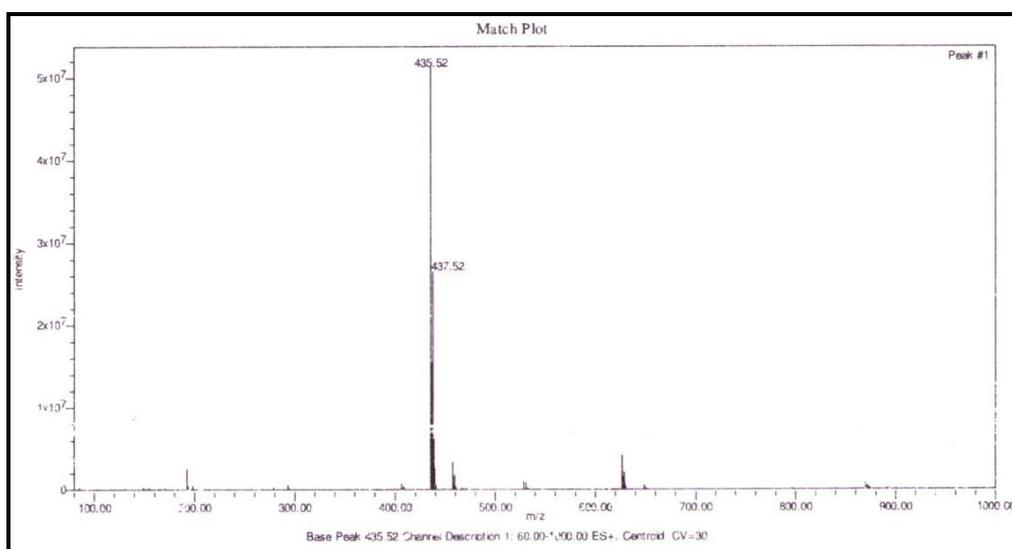


Figure S12: Mass Spectrum of **165** [$435.52 (M+1)^+$, $437.52 (M+2)^+$].

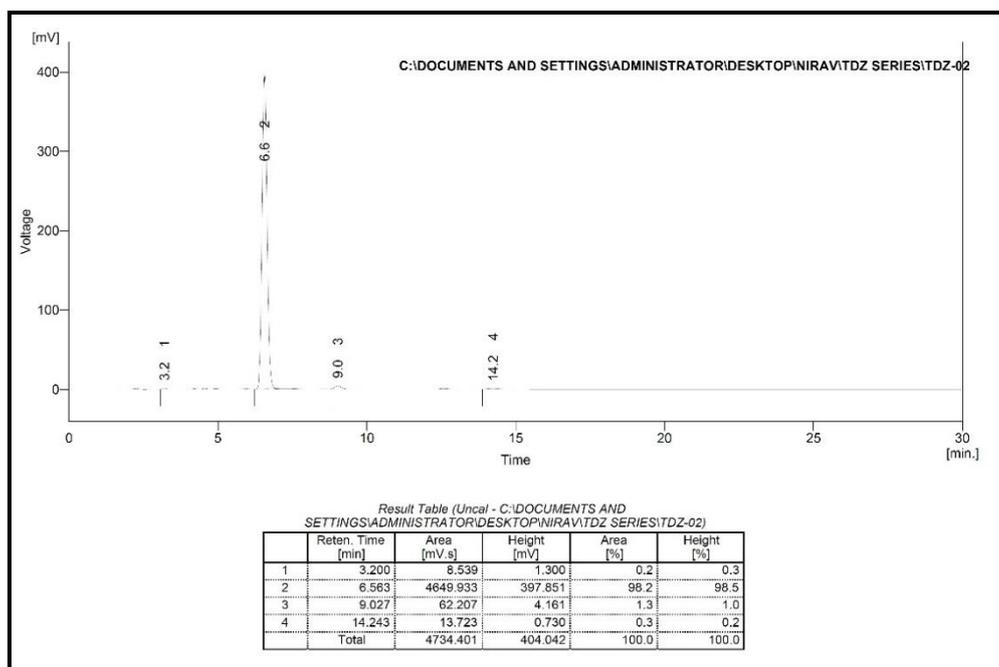


Figure S13: HPLC chromatogram of **165** (purity: 98.5 %, t_R = 6.56 min).

S5: 4-((5-((4-Chlorophenyl)amino)-1,3,4-thiadiazol-2-yl)thio)-1-(pyrrolidin-1-yl)butan-1-one (184)

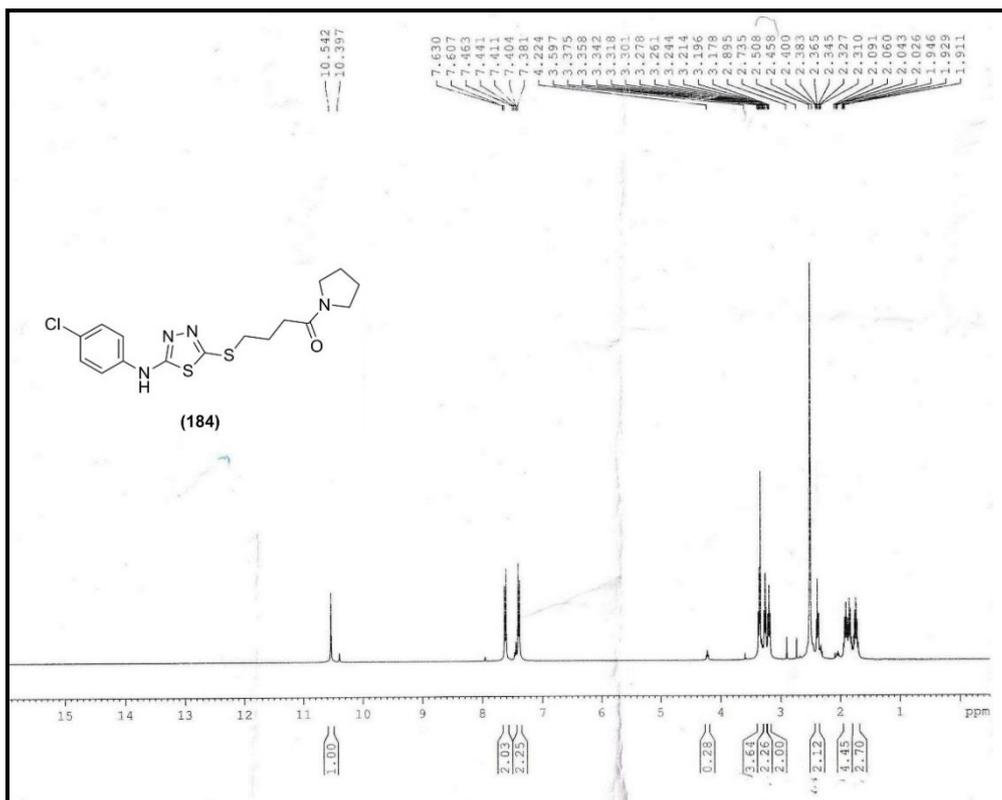


Figure S14: $^1\text{H-NMR}$ Spectrum of **184** ($\text{DMSO-}d_6$, 400 MHz).

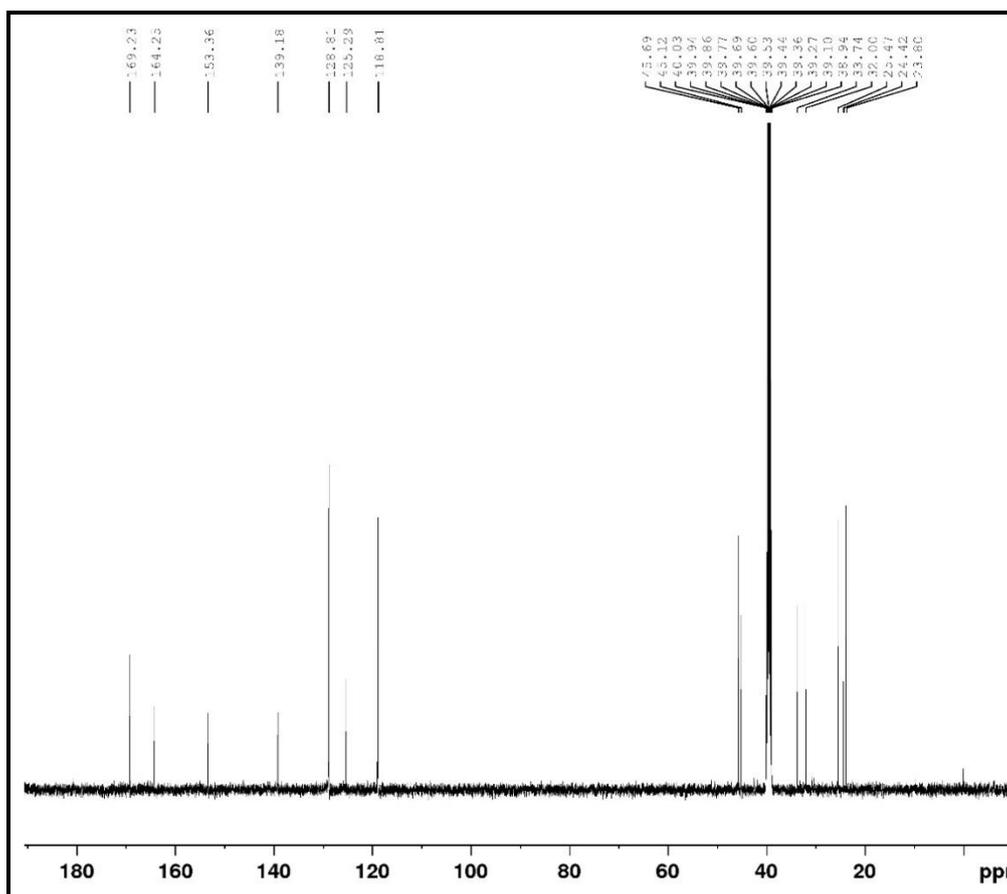


Figure S15: ^{13}C -NMR Spectrum of **184** (DMSO- d_6 , 400 MHz).

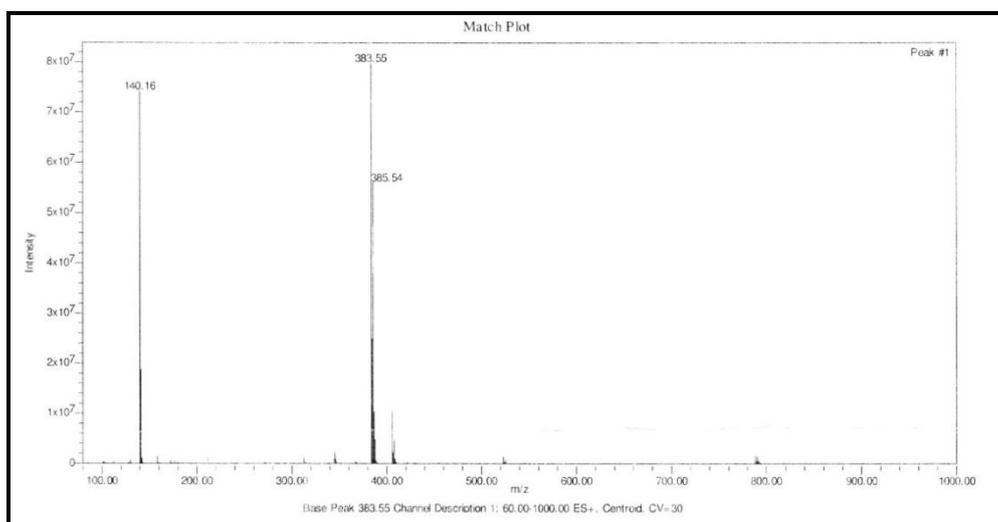


Figure S16: Mass Spectrum of **184** [383.50 (M^+), 385.54 ($\text{M}+2^+$)].

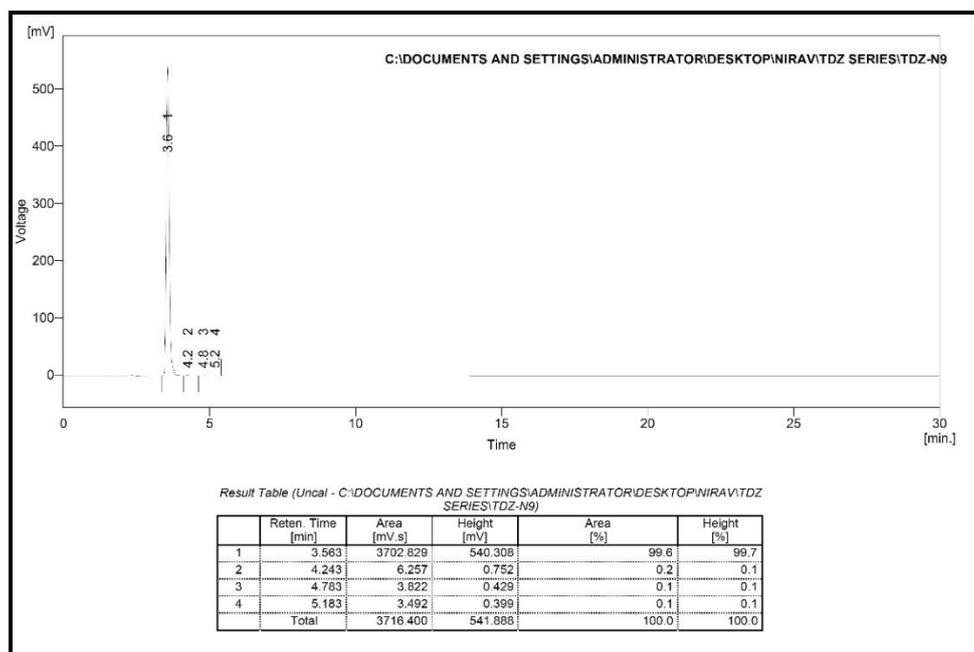


Figure S17: HPLC chromatogram of **184** (purity: 99.7 %, t_R = 3.56 min).

S6: 2-((5-((4-Chlorophenyl)amino)-1,3,4-thiadiazol-2-yl)thio)-N-(4-(2-oxopyridin-1(2H)-yl)phenyl)acetamide (**237**)

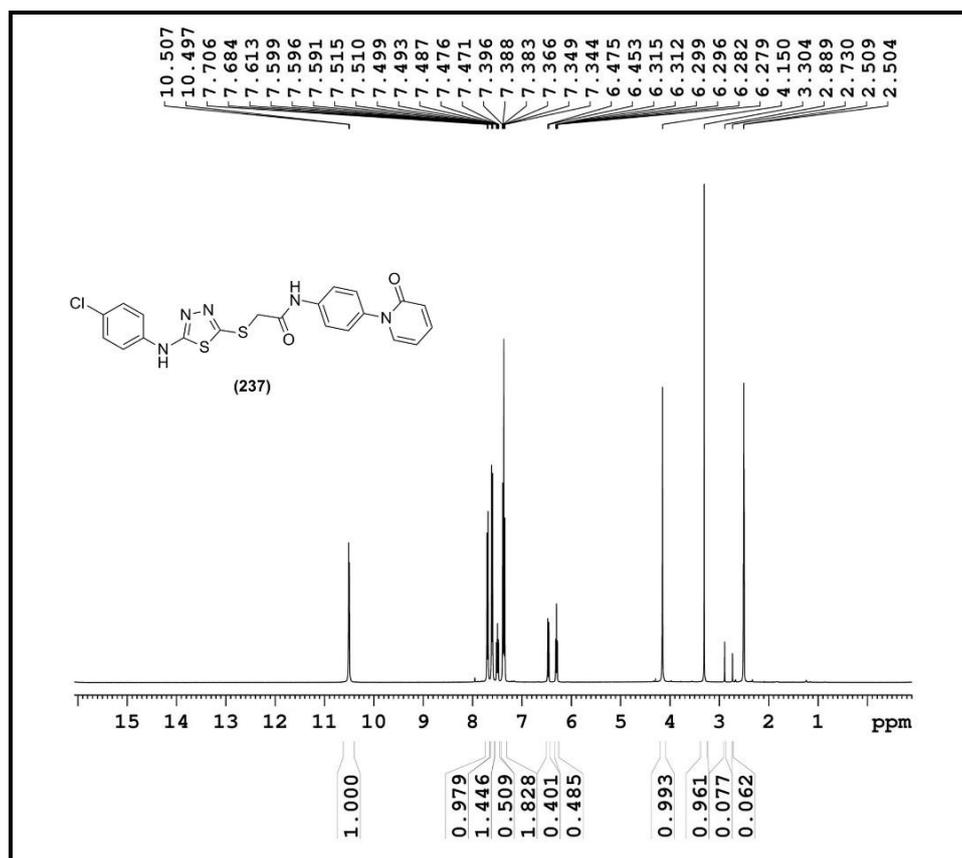


Figure S18: $^1\text{H-NMR}$ Spectrum of **237** ($\text{DMSO-}d_6$, 400 MHz).

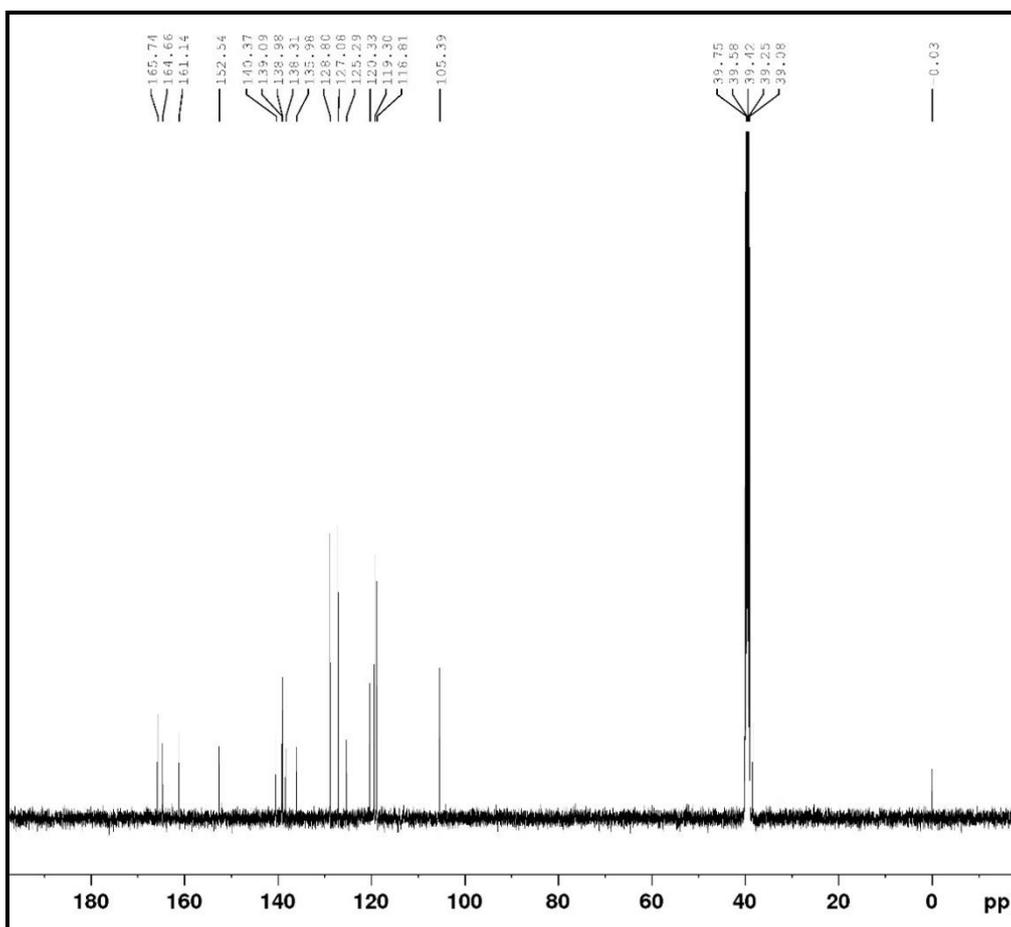


Figure S19: ^{13}C -NMR Spectrum of **237** (DMSO- d_6 , 400 MHz).

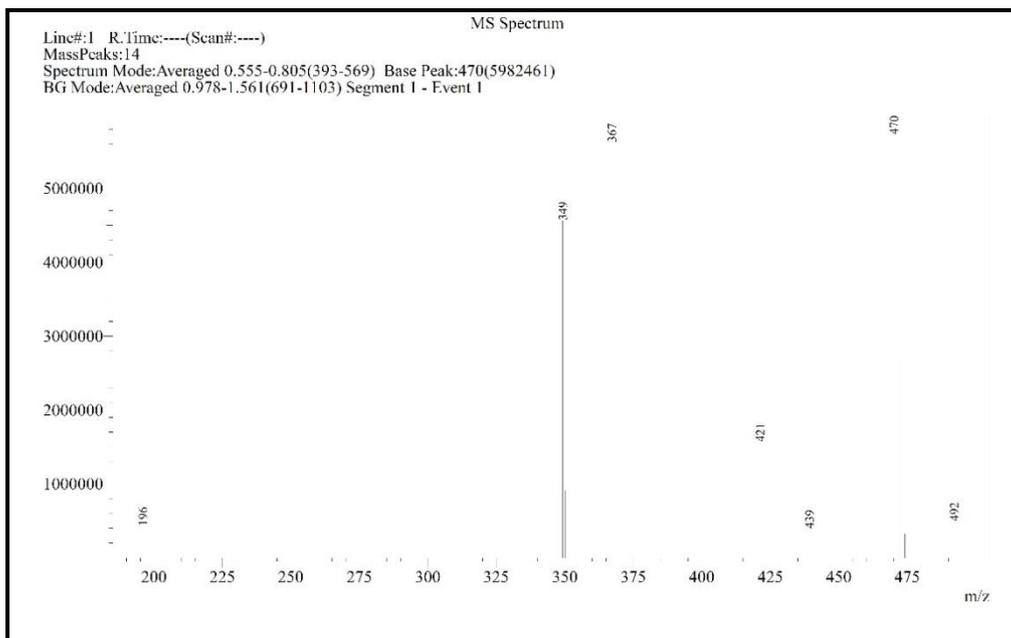


Figure S20: Mass Spectrum of **237** [470.0 (M^+), 472.0 ($\text{M}+2$) $^+$].

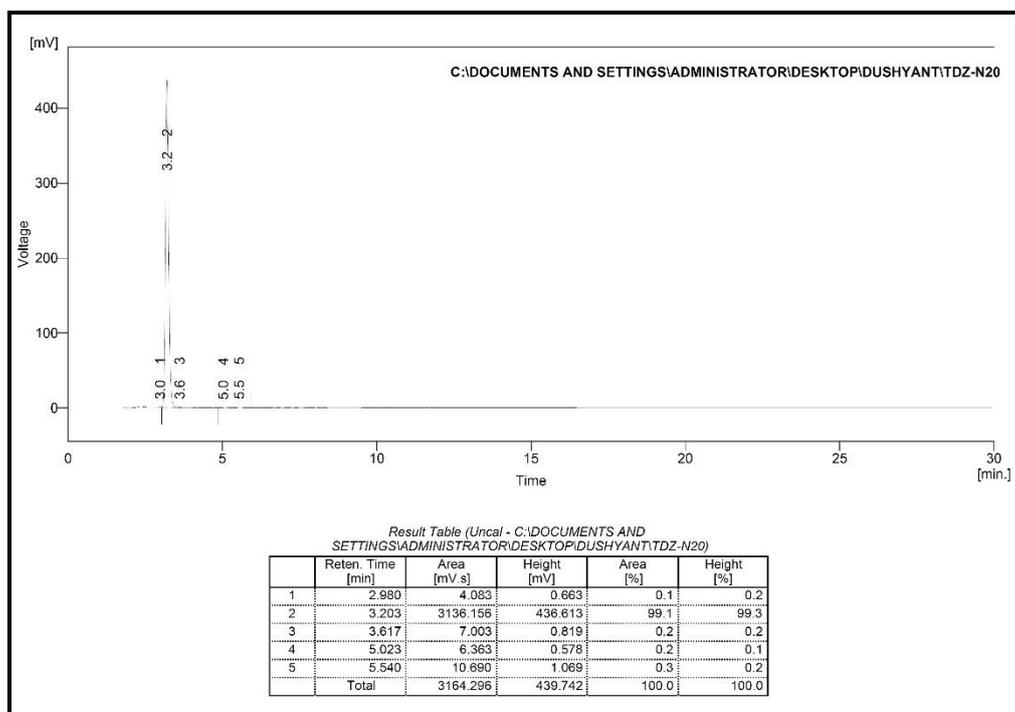


Figure S21: HPLC chromatogram of **237** (purity: 99.1 %, t_R = 3.20 min).

S7: 2-((5-((4-Chlorophenyl)amino)-1,3,4-thiadiazol-2-yl)thio)-N-(4-(3-oxomorpholino)phenyl)acetamide (238)

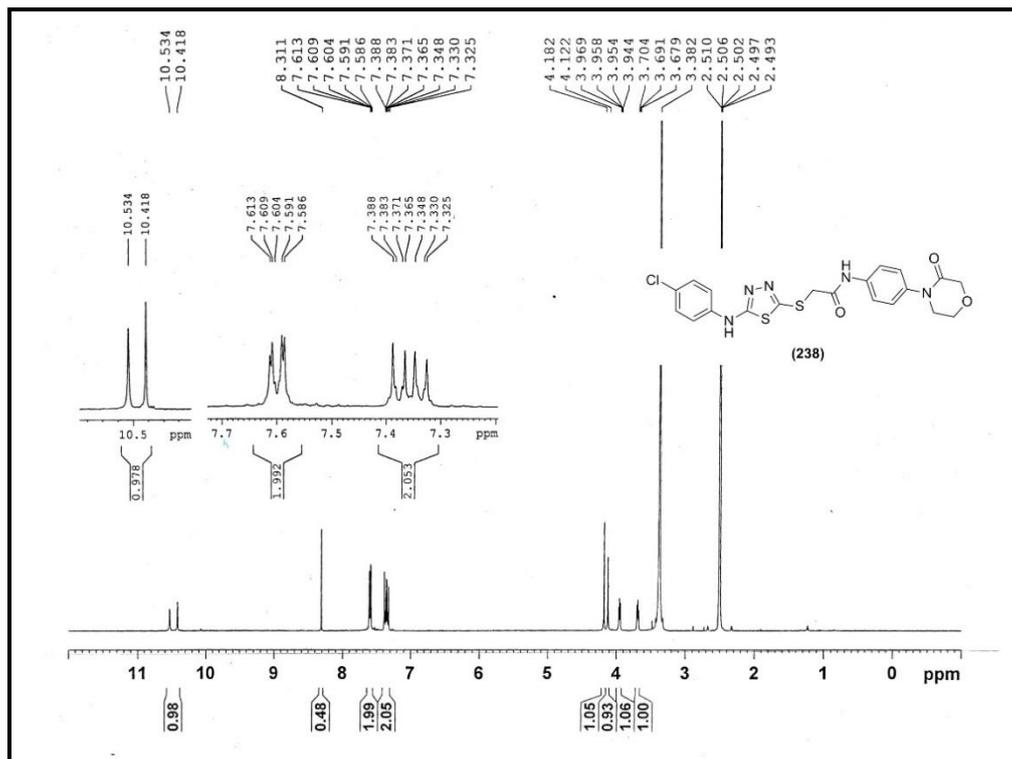


Figure S22: $^1\text{H-NMR}$ Spectrum of **238** (DMSO- d_6 , 400 MHz).

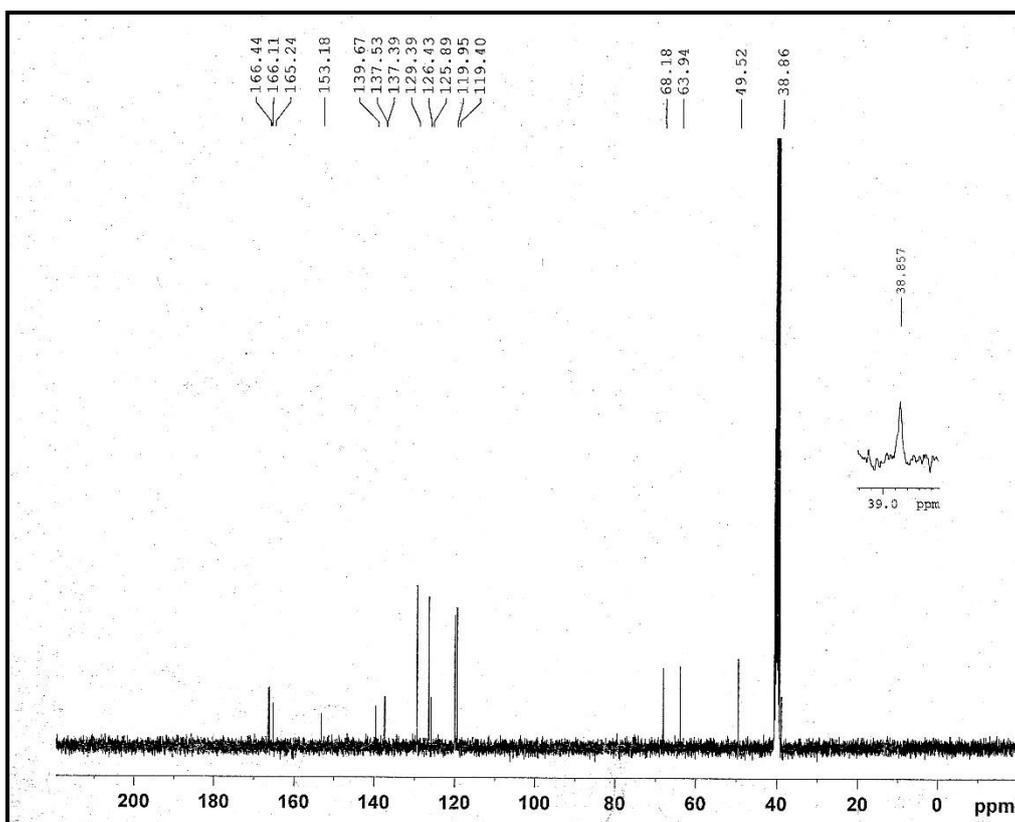


Figure S23: ^{13}C -NMR Spectrum of **238** (DMSO- d_6 , 400 MHz).

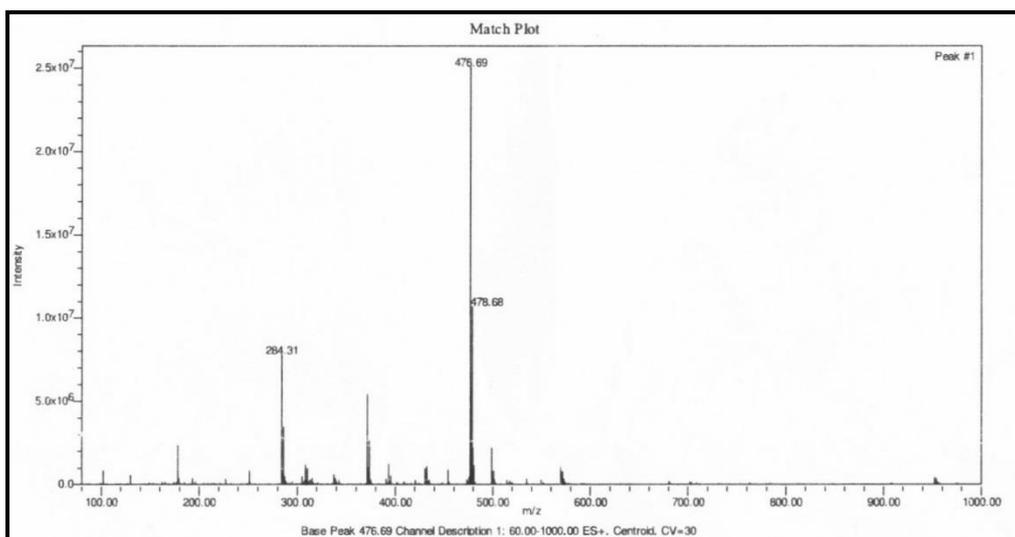


Figure S24: Mass Spectrum of **238** [476.69 (M)⁺, 478.68 (M+2)⁺].

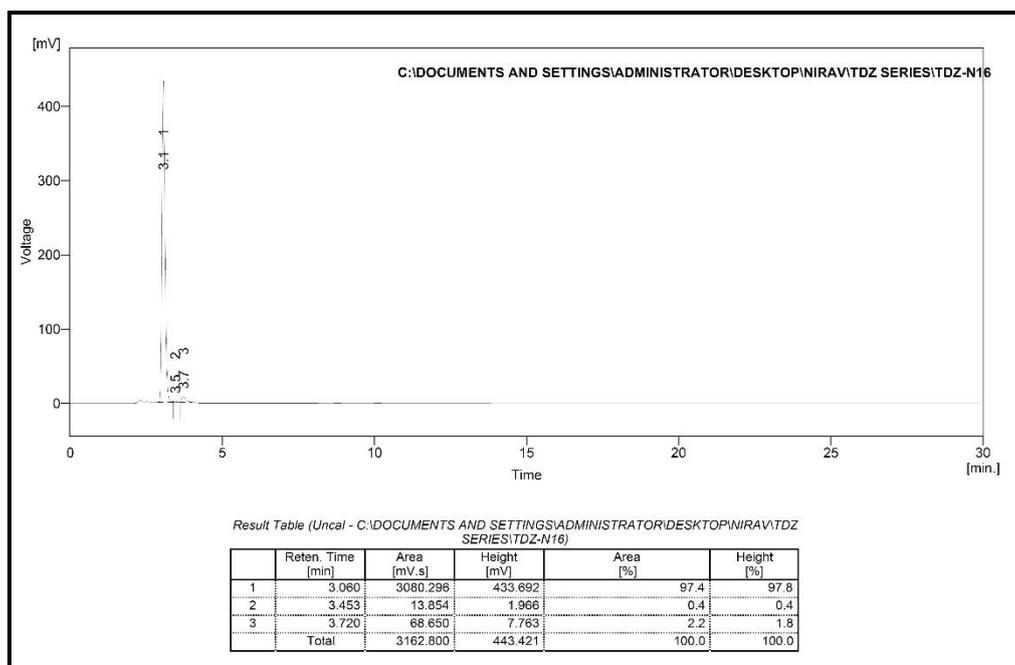


Figure S25: HPLC chromatogram of 238 (Purity: 97.4 %, t_R = 3.04 min).

S8: 2-((5-((5-Chloropyridin-2-yl)amino)-1,3,4-thiadiazol-2-yl)thio)-N-(4-(2-oxopyridin-1(2H)-yl)phenyl)acetamide (247)

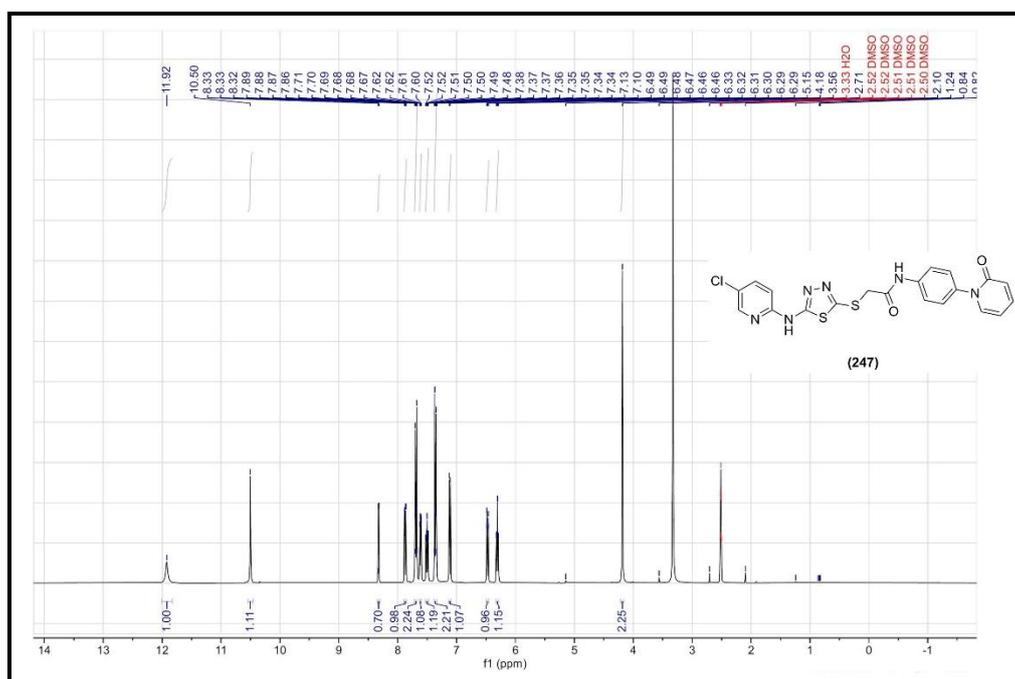


Figure S26: $^1\text{H-NMR}$ Spectrum of 247 (DMSO- d_6 , 400 MHz).

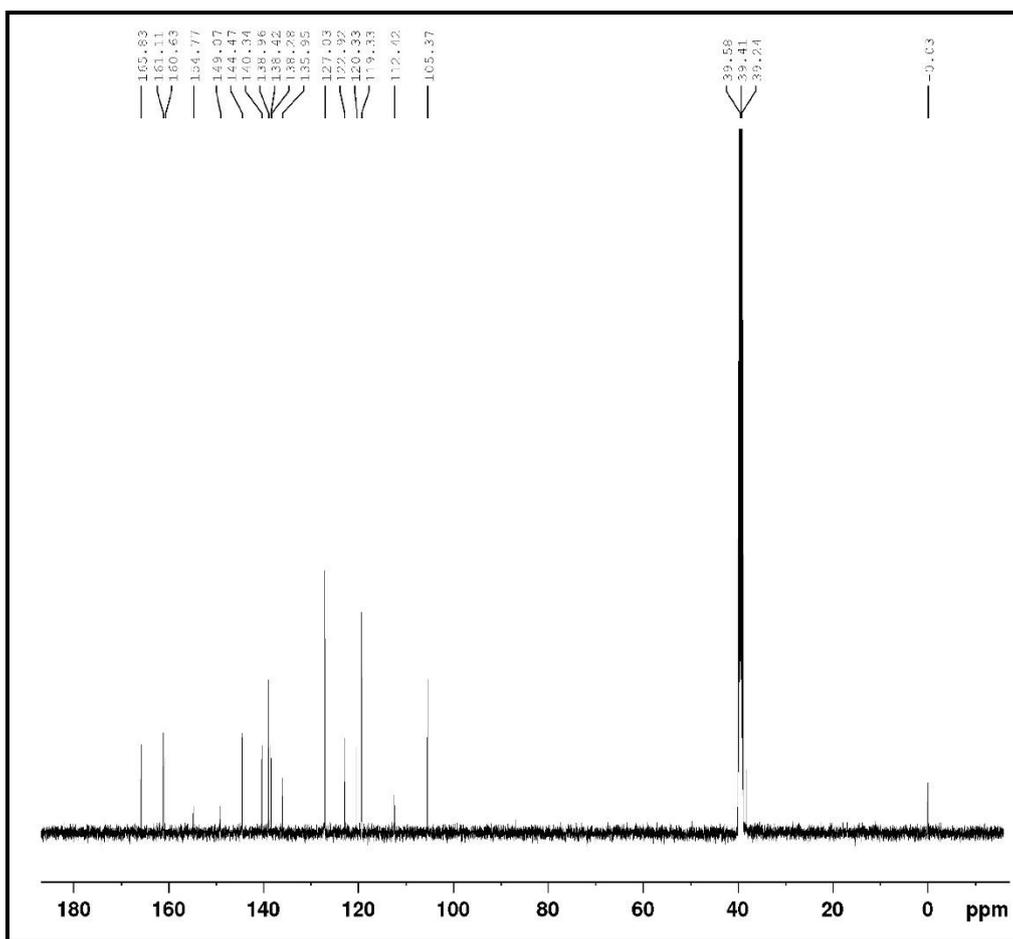


Figure S27: ^{13}C -NMR Spectrum of **247** (DMSO- d_6 , 400 MHz).

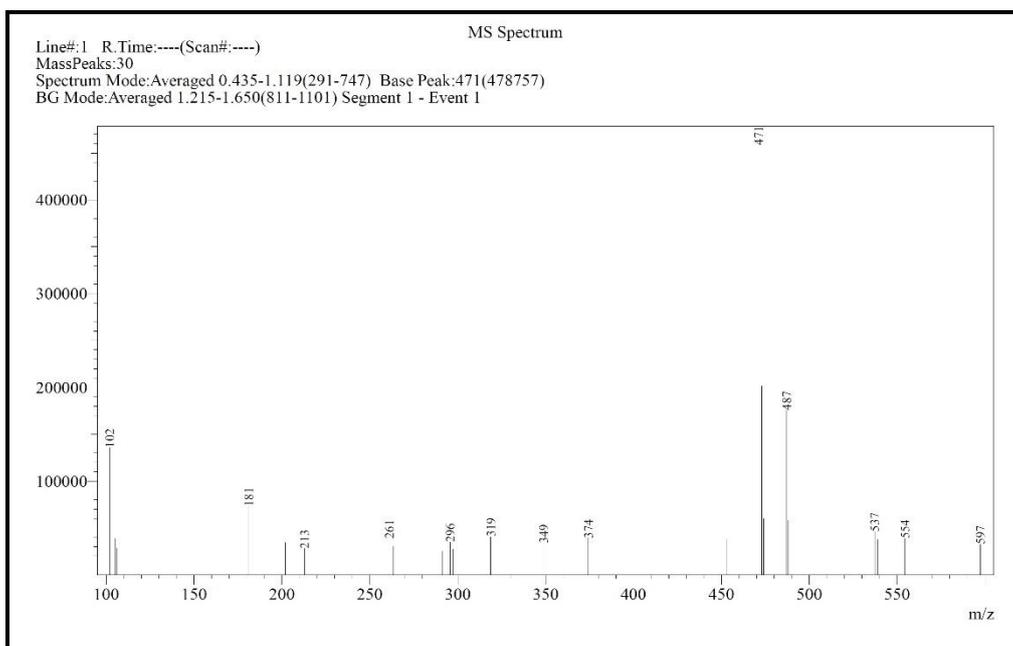


Figure S28: Mass Spectrum of **247** [471.0 (M) $^+$, 473.0 (M+2) $^+$].

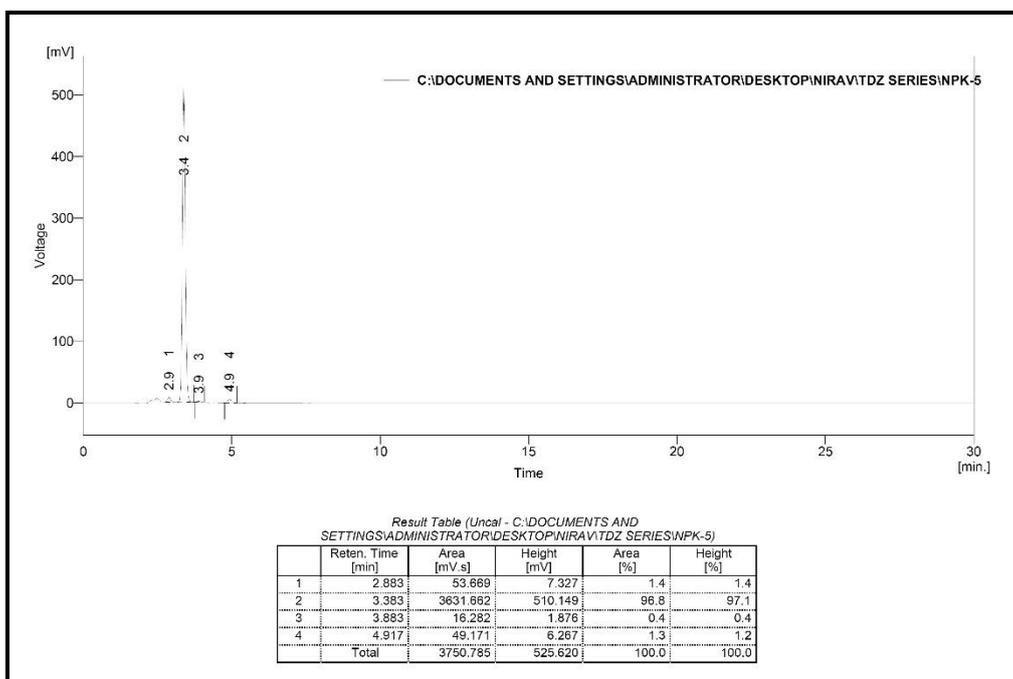


Figure S29: HPLC chromatogram of **247** (Purity: 96.8 %, t_R = 3.38 min).

S9: 2-((5-((4-Chlorobenzyl)amino)-1,3,4-thiadiazol-2-yl)thio)-N-(4-(2-oxopyridin-1(2H)-yl)phenyl)acetamide (**252**)

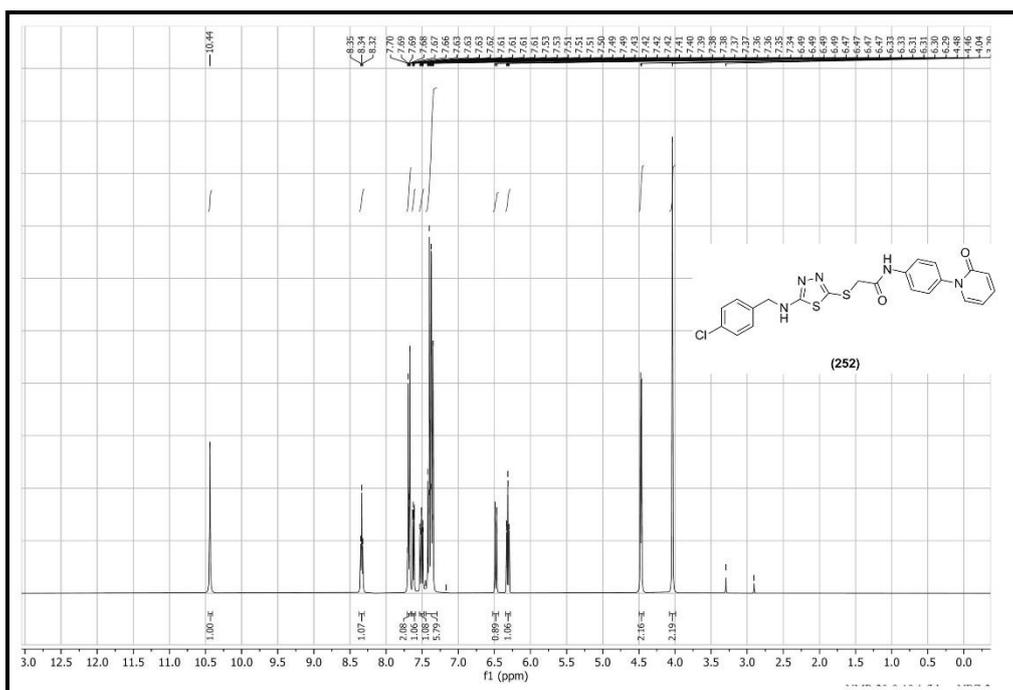


Figure S30: $^1\text{H-NMR}$ Spectrum of **252** (DMSO- d_6 , 400 MHz).

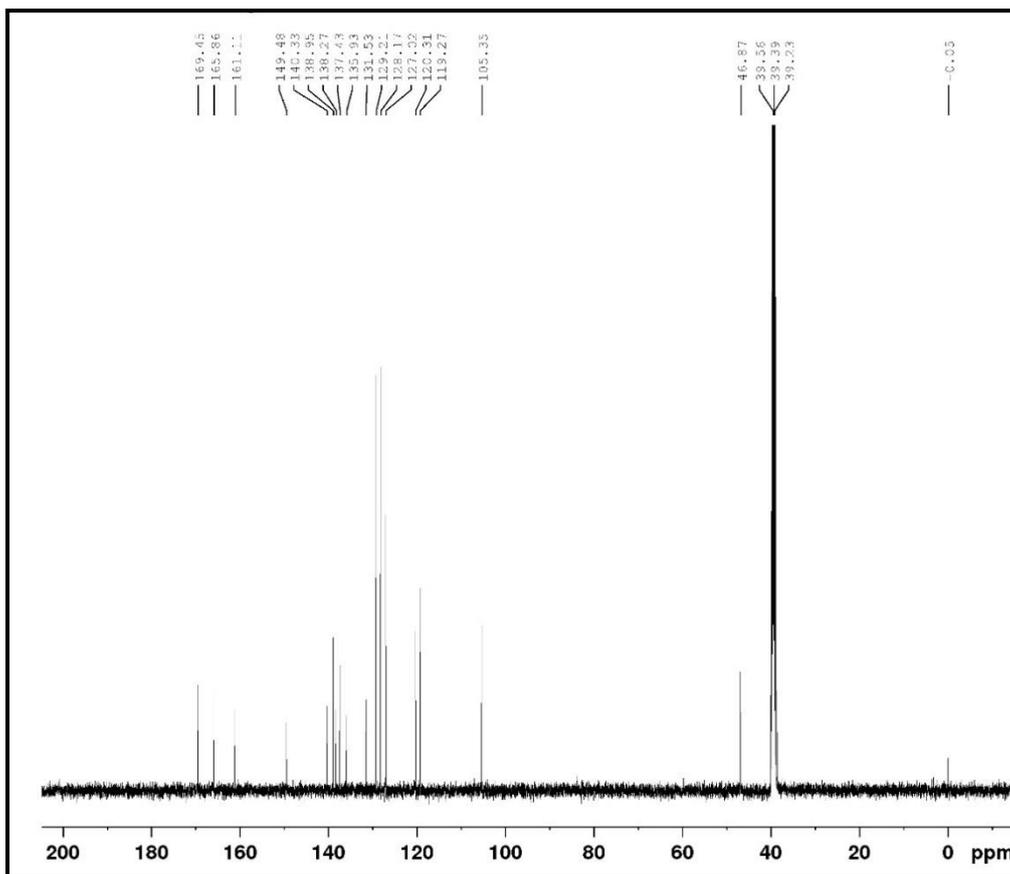


Figure S31: ^{13}C -NMR Spectrum of 252 (DMSO- d_6 , 400 MHz).

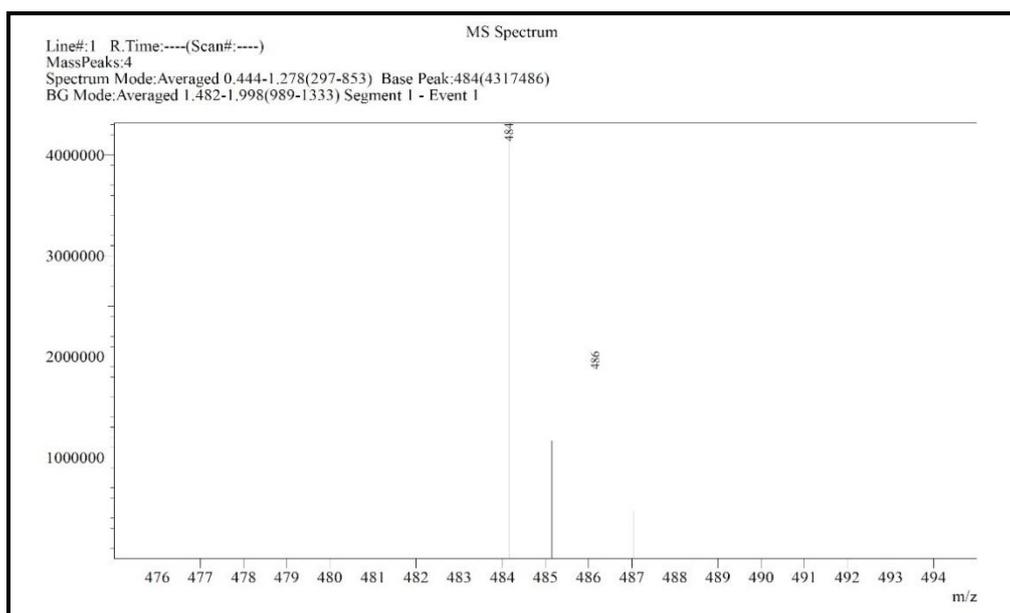


Figure S32: Mass Spectrum of 252 [484.0 (M) $^+$, 486.0 (M+2) $^+$].

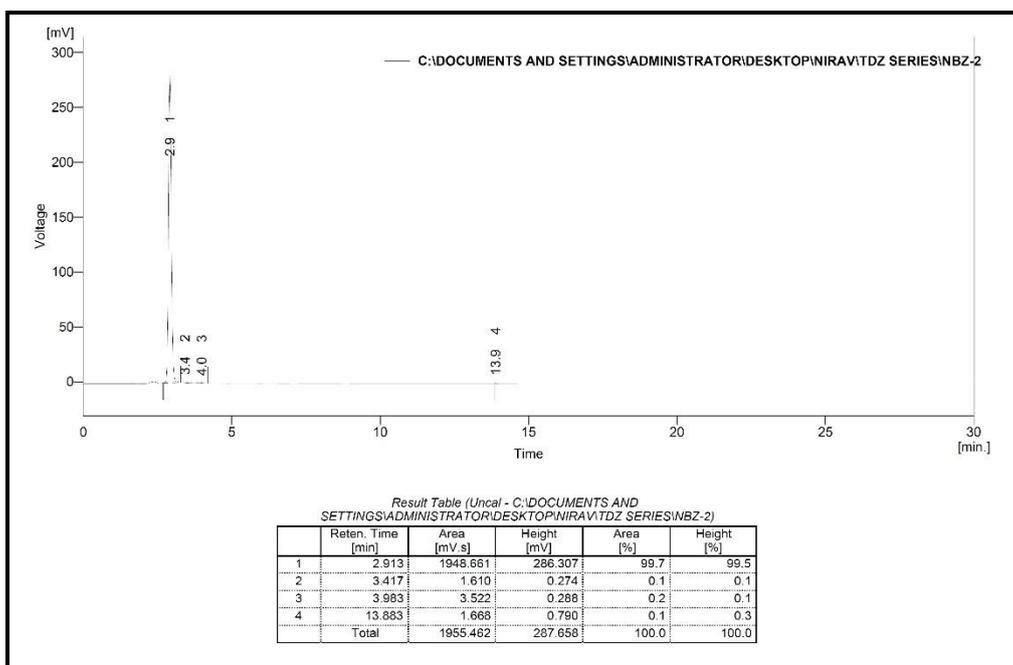


Figure S33: HPLC chromatogram of **252** (Purity: 99.7 %, t_R = 2.91 min).

S10: **9-(4-Chlorobenzyl)-N-(4-(2-oxopyridin-1(2H)-yl)phenyl)-9H-carbazole-3-carboxamide (278)**

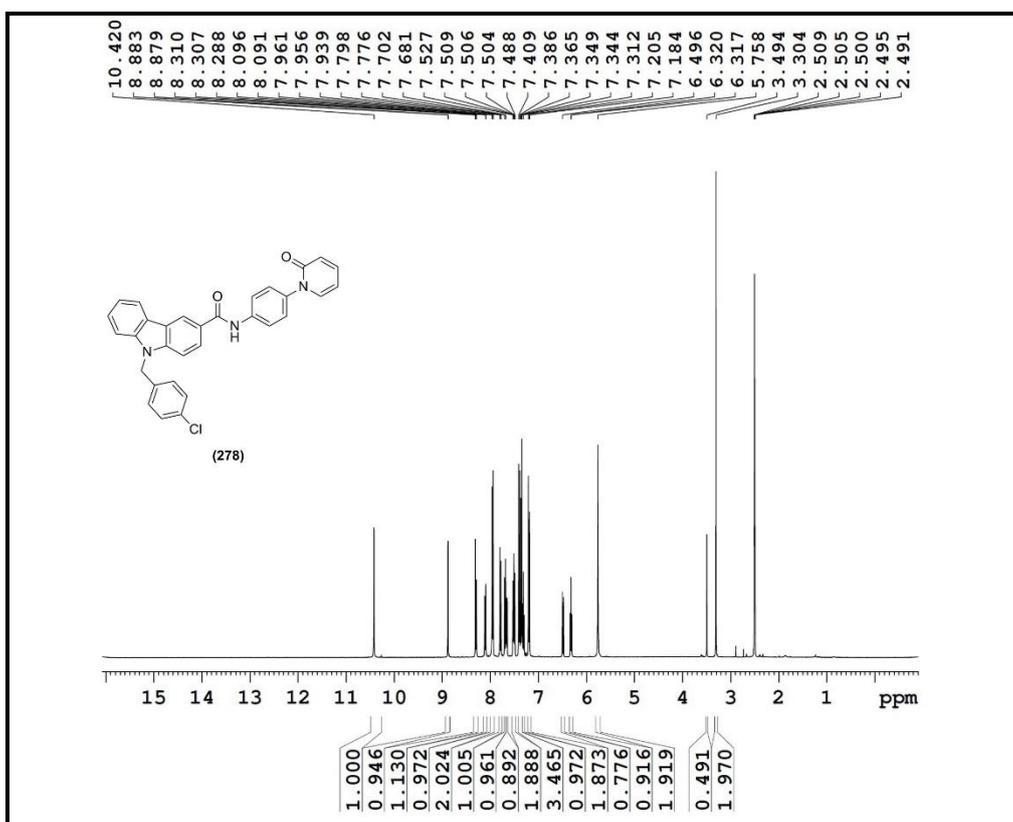


Figure S34: $^1\text{H-NMR}$ Spectrum of **278** (DMSO- d_6 , 400 MHz).

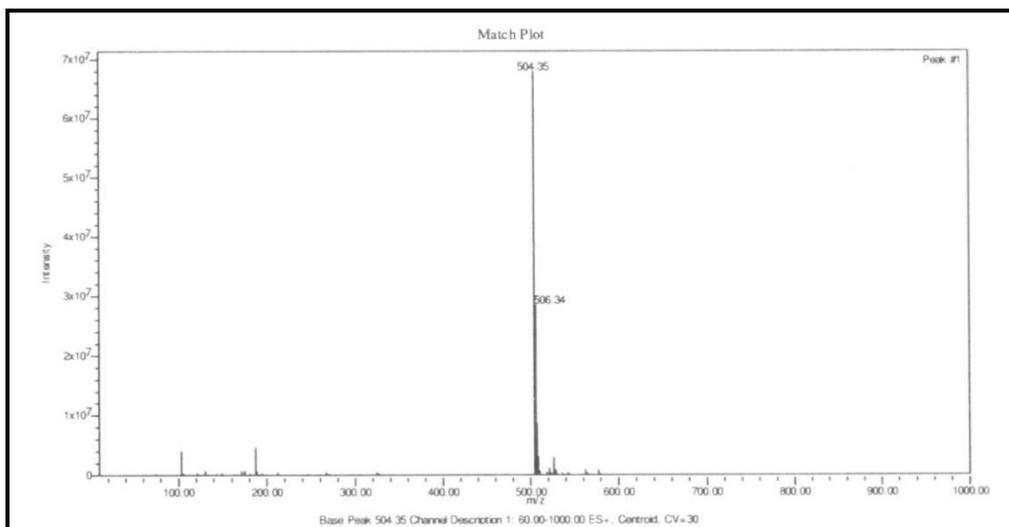


Figure S35: Mass Spectrum of **278** [504.35 (M)⁺, 506.34 (M+2)⁺].

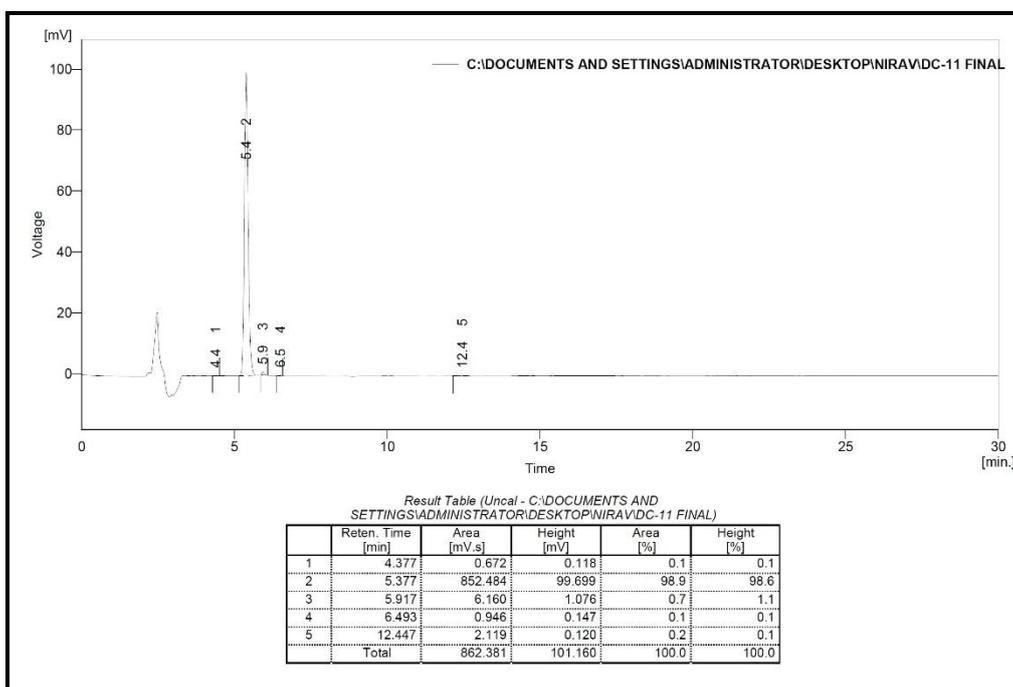


Figure S36: HPLC chromatogram of **278** (Purity: 98.9 %, t_R = 5.38 min).