

Supproting Information

Traceless Solid-Phase Synthesis of thiazolo[4,5-*b*] pyridi n-7(4*H*)-one Derivatives

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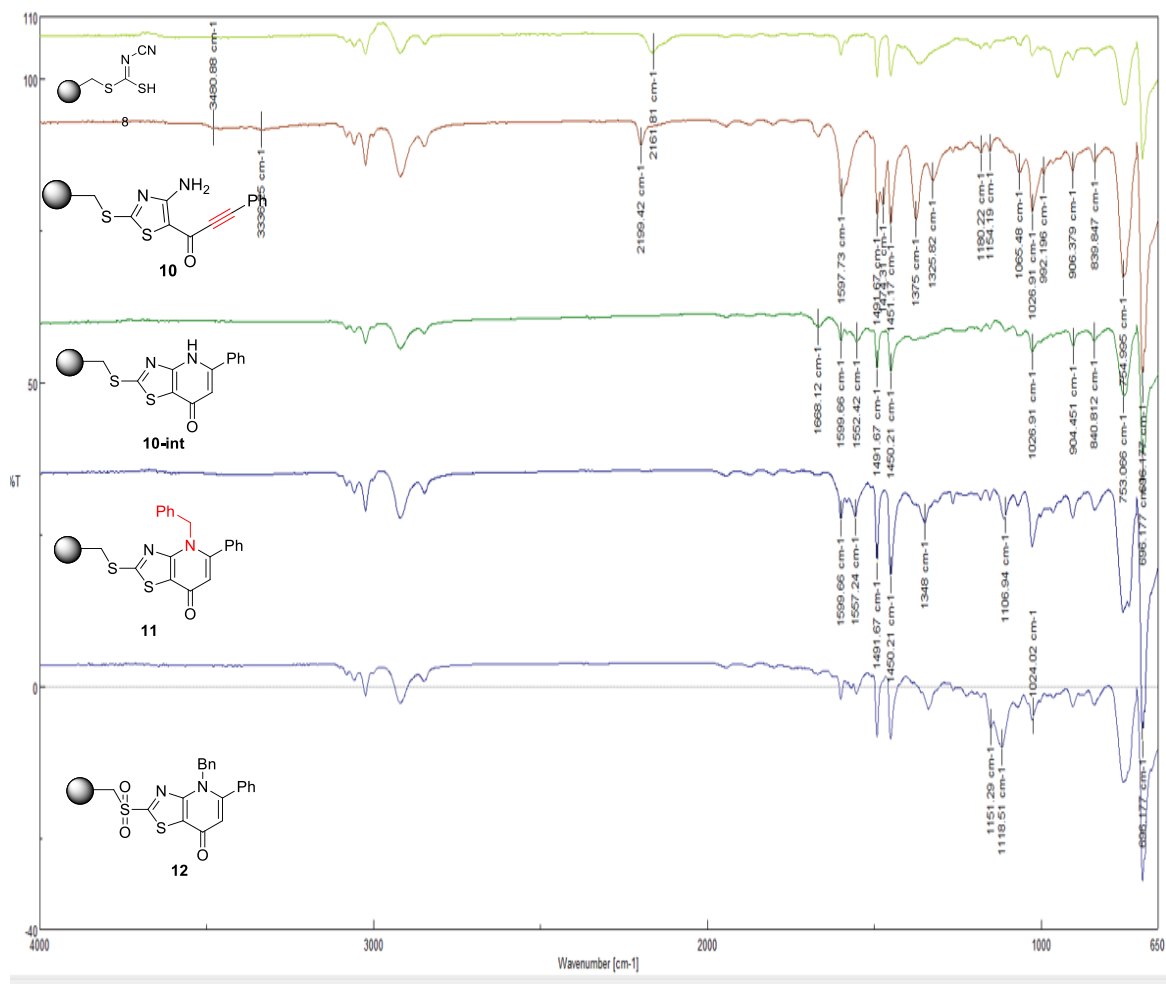
1. Experimental

1.1 General information

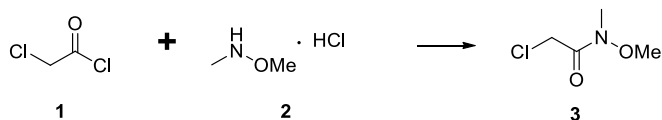
All chemicals were reagent grade and used as purchased. Reactions were monitored by TLC analysis using Merck silica gel 60 F-254 thin layer plates. Flash column chromatography was carried out on Merck silica gel 60 (230-400 mesh). The crude products, which are derived from solid support, were purified by parallel chromatography using CombiFlash™. ¹H NMR and ¹³C NMR spectra were recorded in d units relative to deuterated solvent (CDCl₃, DMSO-*d*₆, etc.) as internal reference by Bruker 500 MHz NMR instrument. High-performance liquid chromatography (HPLC) system, specifically the Ultimate 3000, coupled with the Q-Exactive Focus quadrupole-Orbitrap MS (Thermo Fisher Scientific, Mass Spectrometry Based Convergence Research Institute, Kyungpook National University, Bremen, Germany).

1.2 General procedure

Figure S1. FT-IR spectra of resin 8 to 12

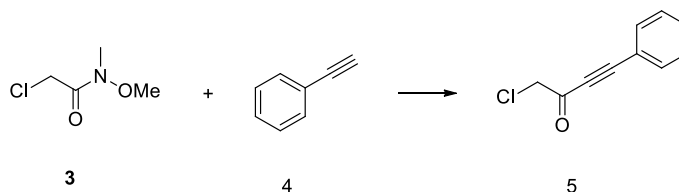


Synthesis of 2-chloro-*N*-methoxy-*N*-methylacetamide (3)



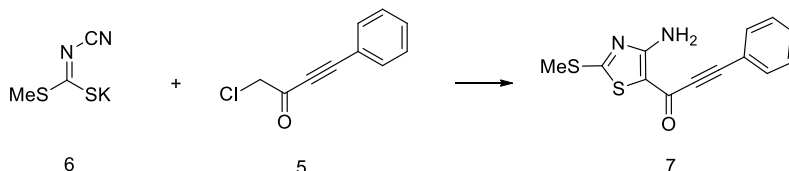
A solution of chloroacetic chloridein (0.5 g, 4.38 mmol) in CH₂Cl₂ (20 ml) was added dropwise to a suspension of *N*, *O*-dimethylhydroxylamine hydrochloride (0.42 g, 4.38 mmol) and triethylamine (0.93 mL, 6.5 mmol) in dichloromethane (10 mL) at 0 °C with stirring. The reaction mixture was then allowed to warm to room temperature and stirred for 1 hour. The mixture was cooled to 0 °C, diluted with water, and extracted with dichloromethane. The combined organic layers were dried over anhydrous sodium sulfate, filtered, and concentrated under reduced pressure. The residue was purified by flash silica gel column chromatography (hexane/ethyl acetate= 3/1) to give 3 (0.54 g, 89.6 %) as a colorless solid ¹HNMR (500 MHz, CDCl₃): δ4.01 (s, 2H), 3.79 (s, 3H), 3.24 (s, 3H); ¹³C{¹H} NMR (125 MHz, CDCl₃): 167.6 , 61.6 , 32.5 , 25.1

Synthesis of 1-chloro-4-phenylbut-3-yn-2-one (5)



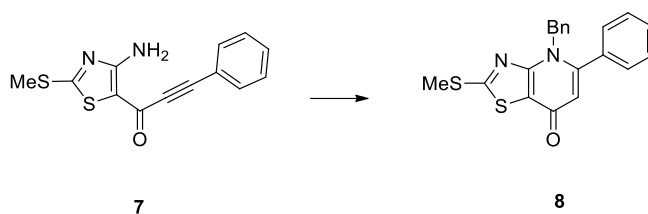
to a stirred solution of phenylacetylene 3 (0.58 ml, 5.29 mmol) in dry THF (10 ml) under a nitrogen atmosphere and cooled to -78°C , $n\text{-BuLi}$ (1.6 M in hexane) (2.21 ml, 3.88 mmol) was added dropwise. The resulting solution was stirred at -78°C for 30 minutes to generate the lithium acetylide intermediate. A solution of the Weinreb amide 3 (0.48 g, 3.53 mmol) in dry THF (0.5 M) was then added dropwise to the reaction mixture at 0°C . Stirring was continued for an additional 30 minutes. The reaction was quenched with 1 N aqueous HCl, and the layers were separated. The organic layer was washed with water and brine, then dried over anhydrous sodium sulfate. After filtration, the solvent was removed under reduced pressure. The crude product was purified by column chromatography (hexane/AcOEt=20/1 to 10/1) to give 5 (0.41 g, 70 %) as a gummy oil. ^1H NMR (500 MHz, CDCl_3): δ 7.6 (m, 2H), 7.4 (m, 3H), 4.2 (s, 2H). ^{13}C NMR (126 MHz, CDCl_3): δ 50, 85.6, 95.4, 119.2, 128.8, 131.5, 133.4, 189.8.

Synthesis of 1-(4-amino-2-(methylthio)thiazol-5-yl)-3-phenylprop-2-yn-1-one (7)



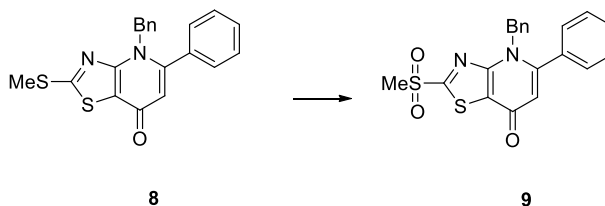
To a solution of 6 (0.14 g, 0.82 mmol) in acetone was added 1-chloro-4-phenylbut-3-yn-2-one 5 (0.17 g, 0.98 mmol). The mixture was stirred at room temperature for 5 h, and the mixture was added TEA (0.23 ml, 1.2 mmol) at room temperature for 2 h. It was then diluted with saturated sodium bicarbonate solution, extracted with CH_2Cl_2 . The organic layers were washed with brine, dried over MgSO_4 , and filtered. The crude product was purified by flash silica gel column chromatography (hexane/AcOEt=2/1) to give 7 (0.16 g, 70 %). ^1H NMR (500 MHz, CDCl_3): δ 8.06 (dd, $J = 8.3, 1.3$ Hz, 2H), 7.45 (ddd, $J = 11.6, 5.0, 3.1$ Hz, 5H), 2.88 (s, 3H).

Synthesis of 4-benzyl-2-(methylthio)-5-phenylthiazolo[4,5-*b*]pyridin-7(4*H*)-one (8)



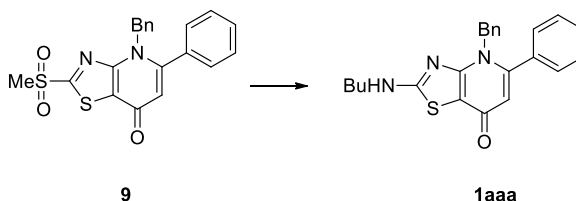
To a solution of 8 (50 mg, 0.19 mmol) in DMF (3 mL) was added K_2CO_3 (39.7 mg, 0.28 mmol). The reaction mixture was stirred at 80 °C for 4 h. And then Benzyl bromide (34 μ L 0.28 mmol). The mixture was stirred at room temperature for 5 h, It was then diluted with saturated sodium bicarbonate solution, extracted with EA. The organic layers were washed with brine, dried over $MgSO_4$, and filtered. The crude product was purified by flash silica gel column chromatography (hexane/AcOEt=4/1) give sulfone 8 (52 mg, 74.3 %) as yellow solid. 1H NMR (500 MHz, $CDCl_3$) δ 8.06 (dd, J = 8.3, 1.3 Hz, 2H), 7.45 (ddd, J = 11.6, 5.0, 3.1 Hz, 8H), 7.22 (s, 1H), 5.37 (s, 2H), 2.88 (s, 3H).

Synthesis of 4-benzyl-2-(methylsulfonyl)-5-phenylthiazolo[4,5-*b*] pyridin-7(4*H*)-one (9)



To a solution of 8 (50 mg, 0.14 mmol) in CH_2Cl_2 . (5 mL) was slowly added *m*-CPBA (65 mg, 0.28 mmol, 77 % max) at 0 °C. The reaction mixture was stirred at room temperature for 24 h. It was then diluted with saturated sodium bicarbonate solution, extracted with CH_2Cl_2 . The organic layers were washed with brine, dried over $MgSO_4$, and filtered. The crude product was purified by flash silica gel column chromatography (hexane/AcOEt=2.5/1 give sulfone 9 (40 mg, 73.6 %) as white solid: 1H NMR (500 MHz, $CDCl_3$) δ 8.11 (dd, J = 8.0, 1.6 Hz, 2H), 7.52 (ddd, J = 26.2, 14.5, 10.2 Hz, 9H), 5.49 (s, 2H), 3.53 (s, 3H).

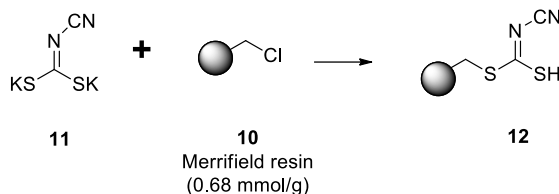
Synthesis of 4-benzyl-2-(butylamino)-5-phenylthiazolo[4,5-*b*] pyridin-7(4*H*)-one (1aaa)



To a solution of sulfoxide 9 (40 mg, 0.1 mmol) in CH_2Cl_2 (3 mL) were added *n*-butylamine (20 μ L, 0.2 mmol) and triethylamine (29 μ L, 0.2 mmol) at room temperature for 5 h. It was then diluted with saturated sodium bicarbonate solution, extracted with CH_2Cl_2 . The organic layers were washed with brine, dried over $MgSO_4$, and filtered. The crude product was purified by silica gel column chromatography (hexane/AcOEt=2/1) to give 1aaa (25 mg, 65 %) as a white solid. 1H NMR (500 MHz, $CDCl_3$) δ 8.08 (dd, J = 8.3, 1.3 Hz, 2H), 7.53 – 7.38 (m, 8H), 7.11 (s,

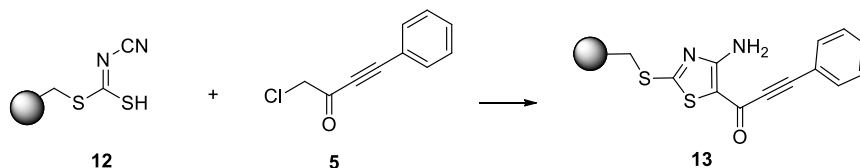
1H), 5.52 (s, 1H), 5.37 (s, 2H), 3.55 (d, $J = 5.3$ Hz, 2H), 1.73 (d, $J = 7.2$ Hz, 2H), 1.48 (d, $J = 7.6$ Hz, 2H), 1.00 (t, $J = 7.4$ Hz, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 170.34, 166.15, 159.89, 156.73, 139.64, 135.73, 128.79, 128.51, 128.46, 127.46, 127.21, 109.37, 98.33, 70.51, 45.55, 31.37, 20.12, 13.75.

Preparation of (E)-ethyl hydrogen cyanocarbonimidodithioate resin 12



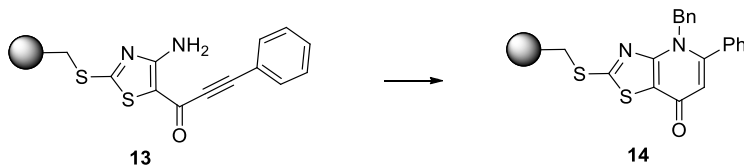
Merrifield resin (30.0 g, 20.4 mmol, 0.68 mmol/g) in DMF (150 ml) was swollen for 30 min and added potassium cyanocarbonimidodithioate (22 g, 100.2 mmol). After the reaction mixture was shaken at room temperature for 9 h. The reaction mixture was filtered, washed several times with H_2O , DMF, MeOH and CH_2Cl_2 and dried in a vacuum oven to give of 16 (31.8 g) as an ivory solid. On-bead ATR-FTIR (neat) ν_{max} 2161, 1342 (cm^{-1}).

Preparation of 1-(4-amino-2-(methylthio) thiazol-5-yl)-3-phenylprop-2-yn-1-one Resin 13



A mixture of resin 12 (0.5 g, theoretically 0.32 mmol 0.64 mmol/g), in acetone was added 1-chloro-4-phenylbut-3-yn-2-one 5 (74 mg, 0.41 mmol) The mixture was stirred at room temperature for 5 h, and the mixture was added TEA (92 μL 0.64 mmol) at room temperature for 2 h. and then filtered, washed several times with CH_2Cl_2 , MeOH, DMF, and H_2O , and dried in a vacuum oven to give resin 13 (0.48 g): On-bead ATR-FTIR (neat) ν_{max} 3480, 3336 (cm^{-1}).

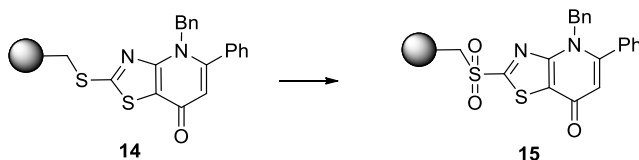
Preparation of 4-benzyl-2-(ethyl Thio)-5-phenylthiazolo[4,5-b]pyridin-7(4H)-one resin 14.



A mixture of resin 13 (0.2 g, theoretically 0.13 mmol 0.66 mmol/g), in DMF (10 mL) was added K_2CO_3 (55 mg, 0.39 mmol), The reaction mixture was stirred at 80 $^\circ\text{C}$ for 4 h. And then Benzyl bromide (46 μL 0.39 mmol) The mixture was stirred at room temperature for 5 h, and then

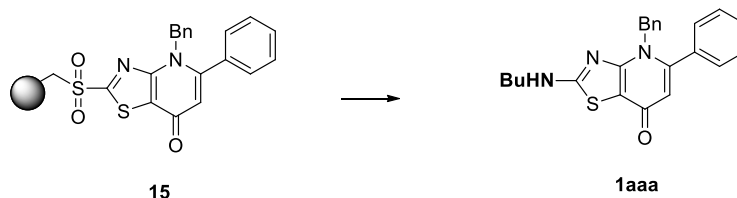
filtered, washed several times with CH₂Cl₂, MeOH, DMF, and H₂O, and dried in a vacuum oven to give resin 14 (0.22 g): On-bead ATR-FTIR (neat) ν_{max} 1599, 1557 (cm⁻¹).

Preparation of 4-benzyl-2-(ethyl sulfonyl)-5-phenylthiazolo[4,5-b]pyridin-7(4H)-one Resin 15.



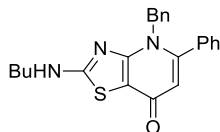
To a mixture of resin 14 (0.22 g, theoretically 0.13 mmol 0.59 mmol/g) in CH₂Cl₂ (10 mL) was added *m*-CPBA (102 mg, 0.45 mmol, 77% max). The reaction mixture was shaken at room temperature for 15 h, and then filtered, washed several times with CH₂Cl₂, MeOH, DMF, and H₂O, and dried in a vacuum oven to give sulfone resin 15 (0.23 mg): On-bead ATR-FTIR (neat) ν_{max} 1151, 1118 (cm⁻¹).

Preparation of 4-benzyl-2-(butylamine)-5-phenylthiazolo[4,5-b]pyridin-7(4H)-one 1aaa.



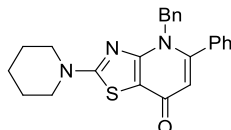
The sulfone resin 15 (350 mg, theoretically 0.21 mmol 0.6 mmol/g) in CH₂Cl₂ (7 ml) was treated with *n*-Butylamine (64 μ l, 0.63 mmol), and triethylamine (90 μ l, 0.63 mmol). The mixture was shaken at room temperature for 10 h, and then filtered, washed several times with CH₂Cl₂, and MeOH, and concentrated under reduced pressure in a centrifugal vacuum evaporator. The residue was purified by silica gel column chromatography to give the 1aaa (32.2 mg, 48 % from Merrifield resin 10, 95 % purity).

4-benzyl-2-(butylamino)-5-phenylthiazolo[4,5-b]pyridin-7(4H)-one (1aaa)



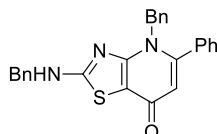
Isolated yield: 26.8 %. As a white solid ¹H NMR (500 MHz, CDCl₃) δ 8.08 (dd, *J* = 8.3, 1.3 Hz, 2H), 7.53 – 7.38 (m, 8H), 7.11 (s, 1H), 5.52 (s, 1H), 5.37 (s, 2H), 3.55 (d, *J* = 5.3 Hz, 2H), 1.73 (d, *J* = 7.2 Hz, 2H), 1.48 (d, *J* = 7.6 Hz, 2H), 1.00 (t, *J* = 7.4 Hz, 3H). ¹³C NMR (126 MHz, CDCl₃) δ 170.34, 166.15, 159.89, 156.73, 139.64, 135.73, 128.79, 128.51, 128.46, 127.46, 127.21, 109.37, 98.33, 70.51, 45.55, 31.37, 20.12, 13.75. HRMS (ESI) *m/z*: [M+H]⁺ Calcd for C₂₃H₂₄N₃OS⁺ 390.1635; Found 390.1624

4-benzyl-5-phenyl-2-(piperidin-1-yl) thiazolo[4,5-*b*] pyridin-7(4*H*)-one (1aab)



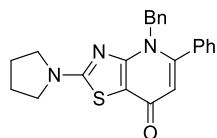
Isolated yield: 29.6 %; 95 % purity. Yellow solid ^1H NMR (500 MHz, CDCl_3) δ 8.09 (dd, $J = 8.3$, 1.3 Hz, 2H), 7.51 – 7.38 (m, 8H), 7.08 (s, 1H), 5.37 (s, 2H), 3.73 (s, 4H), 1.75 (s, 6H) ^{13}C NMR (126 MHz, CDCl_3) δ 170.64, 160.41, 156.15, 135.21, 128.80, 128.50, 128.47, 127.42, 110.12, 98.54, 70.67, 49.65, 25.37, 24.21. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{24}\text{H}_{24}\text{N}_3\text{OS}^+$ 402.1635; Found 402.1636

4-benzyl-2-(benzylamino)-5-phenylthiazolo[4,5-*b*] pyridin-7(4*H*)-one (1aac)



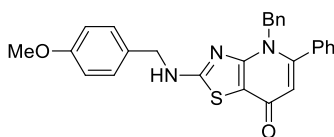
Isolated yield: 35 %; 95 % purity. White solid ^1H NMR (500 MHz, CDCl_3) δ 8.11 – 8.07 (m, 2H), 7.55 – 7.34 (m, 13H), 7.13 (s, 1H), 5.83 (s, 1H), 5.37 (s, 2H), 4.78 (s, 2H). ^{13}C NMR (126 MHz, CDCl_3) δ 170.33, 165.20, 160.71, 156.75, 128.82, 128.81, 128.56, 127.84, 127.49, 127.29, 98.84, 70.97, 50.13, 29.81. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{26}\text{H}_{22}\text{N}_3\text{OS}^+$ 424.1478; Found 424.1474

4-benzyl-2-(benzylamino)-5-phenylthiazolo[4,5-*b*] pyridin-7(4*H*)-one (1aad)



Isolated yield: 31 %; 95 % purity. White solid. ^1H NMR (500 MHz, CDCl_3) δ 8.15 – 8.09 (m, 2H), 7.52 – 7.33 (m, 8H), 7.10 (s, 1H), 5.37 (s, 2H), 3.70 (s, 4H), 2.13 (s, 4H). ^{13}C NMR (126 MHz, CDCl_3) δ 166.95, 166.47, 159.82, 156.58, 139.50, 135.82, 128.77, 128.45, 128.41, 127.43, 127.34, 110.39, 97.85, 70.46, 49.58, 29.74, 25.68. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{15}\text{H}_{16}\text{N}_5\text{O}_2\text{S}^+$ 388.1478; Found 388.1474

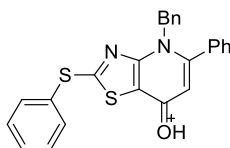
4-benzyl-2-((4-methoxybenzyl)amino)-5-phenylthiazolo[4,5-*b*]pyridin-7(4*H*)-one (1aae)



Isolated yield: 21 %; 95 % purity. Yellow solid.

^1H NMR (500 MHz, CDCl_3) δ 8.08 (d, J = 7.1 Hz, 2H), 7.52 – 7.34 (m, 10H), 7.13 (s, 1H), 6.93 (d, J = 8.7 Hz, 2H), 5.67 (s, 1H), 5.37 (s, 2H), 4.70 (s, 2H) 3.84 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 169.89, 165.11, 160.06, 159.29, 156.58, 139.10, 135.58, 129.27, 129.17, 128.95, 128.81, 128.57, 128.52, 127.49, 127.29, 114.16, 110.05, 98.70, 70.62, 55.32, 48.69, 43.99. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{27}\text{H}_{24}\text{N}_3\text{O}_2\text{S}^+$ 454.1584; Found 454.1584

4-benzyl-5-phenyl-2-(phenylthio)thiazolo[4,5-*b*] pyridin-7(4*H*)-one (1aaf)

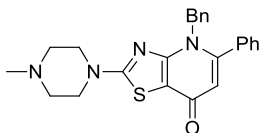


Chemical Formula: $\text{C}_{25}\text{H}_{19}\text{N}_2\text{OS}_2^+$
Exact Mass: 427.0933

Isolated yield: 46.9 %; 95 % purity. Yellow solid.

^1H NMR (500 MHz, CDCl_3) δ 8.11 – 8.06 (m, 2H), 7.83 – 7.80 (m, 2H), 7.50 (dddd, J = 11.9, 8.9, 5.7, 3.9 Hz, 11H), 7.23 (s, 1H), 5.33 (s, 2H). ^{13}C NMR (126 MHz, CDCl_3) δ 175.19, 166.50, 160.20, 158.00, 138.91, 135.93, 135.12, 131.06, 130.24, 129.35, 128.85, 128.78, 128.70, 128.68, 127.66, 127.43, 116.19, 99.71, 70.91. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{15}\text{H}_{19}\text{N}_2\text{OS}_2^+$ 427.0933; Found 427.0932

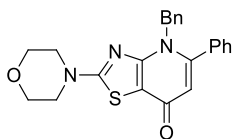
4-benzyl-2-(4-methylpiperazin-1-yl)-5-phenylthiazolo[4,5-*b*] pyridin-7(4*H*)-one (1aag)



Isolated yield: 30.8 %; 95 % purity. Yellow solid.

^1H NMR (500 MHz, CDCl_3) δ 8.08 (dd, J = 8.3, 1.3 Hz, 2H), 7.53 – 7.35 (m, 8H), 7.11 (s, 1H), 5.37 (s, 2H), 3.79 (s, 4H), 2.58 (d, J = 5.0 Hz, 4H), 2.39 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 170.22, 166.31, 159.83, 157.10, 139.70, 135.75, 128.79, 128.48, 128.44, 127.41, 127.26, 110.38, 98.33, 70.46, 54.15, 47.99, 46.02. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{24}\text{H}_{25}\text{N}_4\text{OS}^+$ 417.1744; Found 417.1744

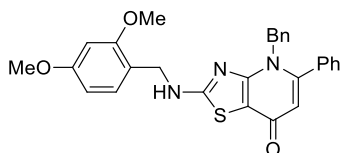
4-benzyl-2-morpholino-5-phenylthiazolo[4,5-*b*] pyridin-7(4*H*)-one (1aaf)



Isolated yield: 35 %; 95 % purity. White solid

^1H NMR (500 MHz, CDCl_3) δ 8.11 – 8.06 (m, 2H), 7.53 – 7.38 (m, 8H), 7.13 (s, 1H), 5.38 (s, 2H), 3.93 – 3.84 (m, 4H), 3.78 – 3.71 (m, 4H). ^{13}C NMR (126 MHz, CDCl_3) δ 170.67, 165.86, 160.01, 157.05, 139.33, 135.63, 128.95, 128.81, 128.53, 128.51, 127.44, 127.34, 110.33, 98.53, 70.57, 66.22, 48.36. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{23}\text{H}_{22}\text{N}_3\text{O}_2\text{S}^+$ 404.1427; Found 404.1427

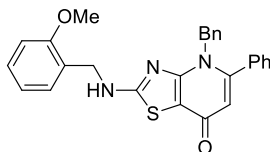
4-benzyl-2-(2,4-dimethoxybenzyl) amino)-5-phenylthiazolo[4,5-*b*] pyridin-7(4*H*)-one (1aai)



Isolated yield: 40%; 95 % purity. White solid.

^1H NMR (500 MHz, CDCl_3) δ 8.07 (dd, J = 8.3, 1.3 Hz, 2H), 7.52 – 7.39 (m, 8H), 7.33 (d, J = 8.2 Hz, 1H), 7.10 (s, 1H), 6.52 (s, 1H), 6.48 (dd, J = 8.3, 2.4 Hz, 1H), 5.99 (s, 1H), 5.36 (s, 2H), 4.66 (s, 2H), 3.89 (s, 3H), 3.83 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 169.66, 165.62, 160.82, 159.88, 158.59, 156.68, 139.57, 135.74, 130.37, 128.78, 128.52, 128.44, 127.47, 127.25, 117.77, 109.90, 103.93, 98.65, 98.46, 70.49, 55.43, 55.39, 44.79. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{28}\text{H}_{26}\text{N}_3\text{O}_3\text{S}^+$ 484.1689; Found 484.1687

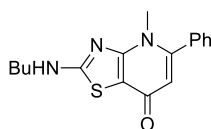
4-benzyl-2-(2-methoxybenzyl) amino)-5-phenylthiazolo[4,5-*b*] pyridin-7(4*H*)-one (1aaj)



Isolated yield: 23 %; 95 % purity. Yellow solid.

^1H NMR (500 MHz, CDCl_3) δ 8.12 – 8.05 (m, 2H), 7.55 – 7.38 (m, 9H), 7.36 – 7.32 (m, 1H), 7.10 (s, 1H), 6.96 (dd, J = 13.1, 4.6 Hz, 2H), 6.11 (s, 1H), 5.36 (s, 2H), 4.74 (s, 2H), 3.92 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 169.99, 164.87, 159.99, 157.52, 156.65, 139.26, 135.61, 129.47, 129.26, 128.92, 128.80, 128.55, 128.50, 127.49, 127.29, 125.06, 120.63, 110.37, 109.72, 98.64, 70.59, 55.38, 45.29. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{27}\text{H}_{23}\text{N}_3\text{O}_2\text{S}^+$ 454.1584; Found 454.1581

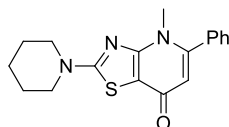
2-(butylamino)-4-methyl-5-phenylthiazolo[4,5-*b*] pyridin-7(4*H*)-one (1aba)



Isolated yield: 24 %; 95 % purity. Brown solid

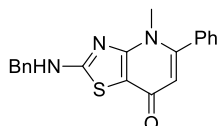
^1H NMR (500 MHz, CDCl_3) δ 8.14 – 8.04 (m, 2H), 7.46 (dd, J = 8.3, 1.2 Hz, 2H), 7.40 (d, J = 7.3 Hz, 1H), 7.02 (s, 1H), 5.50 (s, 1H), 4.05 (s, 3H), 3.52 (s, 2H), 1.70 (dd, J = 8.4, 6.2 Hz, 2H), 1.45 (d, J = 7.6 Hz, 2H), 0.97 (t, J = 7.4 Hz, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 170.11, 165.93, 160.67, 157.00, 139.88, 128.73, 128.49, 127.21, 109.15, 97.01, 55.81, 45.46, 31.42, 20.11, 13.76. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{17}\text{H}_{20}\text{N}_3\text{OS}^+$ 314.1322; Found 314.1323

4-methyl-5-phenyl-2-(piperidin-1-yl)thiazolo[4,5-*b*]pyridin-7(4H)-one (1abb)



Isolated yield: 26.3 %; 95 % purity. Yellow solid ^1H NMR (500 MHz, CDCl_3) δ 8.13 (dd, J = 8.3, 1.3 Hz, 2H), 7.49 – 7.45 (m, 2H), 7.44 – 7.40 (m, 1H), 7.03 (s, 1H), 4.08 (s, 3H), 3.73 (s, 4H), 1.75 (s, 6H). ^{13}C NMR (126 MHz, CDCl_3) δ 170.34, 166.39, 160.56, 156.96, 139.87, 128.67, 128.43, 127.26, 109.83, 96.79, 55.79, 49.55, 25.36, 24.25. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{18}\text{H}_{20}\text{N}_3\text{OS}^+$ 326.1322; Found 326.1322

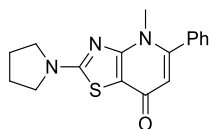
2-(benzylamino)-4-methyl-5-phenylthiazolo[4,5-*b*]pyridin-7(4H)-one (1abc)



Isolated yield: 29 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 8.20 – 8.05 (m, 2H), 7.54 – 7.34 (m, 8H), 7.08 (d, J = 1.2 Hz, 1H), 5.80 – 5.62 (m, 1H), 4.79 (d, J = 4.6 Hz, 2H), 4.08 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 166.77, 166.64, 160.56, 156.90, 139.89, 128.65, 128.41, 127.28, 109.83, 96.50, 55.77, 49.53, 25.68. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{20}\text{H}_{18}\text{N}_3\text{OS}^+$ 348.1165; Found 348.1166

4-methyl-5-phenyl-2-(pyrrolidin-1-yl)thiazolo[4,5-*b*]pyridin-7(4H)-one (1abd)

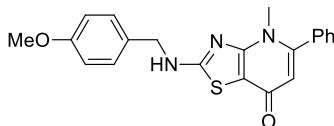


Isolated yield: 30 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 8.15 (dd, J = 8.4, 1.3 Hz, 2H), 7.48 (dd, J = 8.1, 6.7 Hz, 2H), 7.42 (d, J = 7.4 Hz, 1H), 7.04 (s, 1H), 4.08 (s, 3H), 3.67 (s, 4H), 2.17 – 2.08 (m, 4H). ^{13}C NMR (126 MHz, CDCl_3) δ 166.77, 166.64, 160.56, 156.90, 139.89, 128.65, 128.41, 127.28, 109.83, 96.50,

55.77, 49.53, 25.68. HRMS (ESI) m/z : $[M+H]^+$ Calcd for $C_{17}H_{18}N_3OS^+$ 312.1165; Found 312.1165

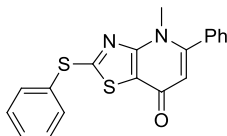
2-((4-methoxybenzyl)amino)-4-methyl-5-phenylthiazolo[4,5-*b*]pyridin-7(4*H*)-one(1abe)



Isolated yield: 20 %; 95 % purity. Ivory solid

1H NMR (500 MHz, $CDCl_3$) δ 8.13 (dd, J = 8.3, 1.3 Hz, 2H), 7.51 – 7.46 (m, 2H), 7.44 (d, J = 7.3 Hz, 1H), 7.38 – 7.33 (m, 2H), 7.07 (s, 1H), 6.96 – 6.90 (m, 2H), 5.62 (s, 1H), 4.71 (d, J = 3.0 Hz, 2H), 4.08 (s, 3H), 3.84 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 169.46, 165.93, 160.47, 158.75, 157.02, 139.72, 129.33, 128.76, 128.52, 127.23, 114.16, 109.37, 97.22, 55.81, 55.32, 48.68. HRMS (ESI) m/z : $[M+H]^+$ Calcd for $C_{21}H_{20}N_3O_2S^+$ 378.1271; Found 378.1271

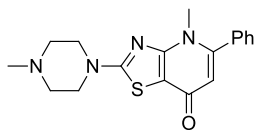
4-methyl-5-phenyl-2-(phenylthio)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1abf)



Isolated yield: 47 %; 95 % purity. Ivory solid

1H NMR (500 MHz, $CDCl_3$) δ 8.14 (dd, J = 8.3, 1.2 Hz, 2H), 7.85 – 7.80 (m, 2H), 7.59 – 7.45 (m, 6H), 7.17 (s, 1H), 4.06 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 174.82, 166.67, 160.95, 158.26, 139.23, 135.96, 130.99, 130.18, 129.27, 128.89, 128.68, 127.38, 115.81, 98.40, 56.03. HRMS (ESI) m/z : $[M+H]^+$ Calcd for $C_{19}H_{15}N_2OS_2^+$ 351.0620; Found 351.0619

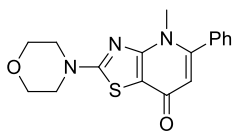
4-methyl-2-(4-methylpiperazin-1-yl)-5-phenylthiazolo[4,5-*b*]pyridin-7(4*H*)-one (1abg)



Isolated yield: 25 %; 95 % purity. Ivory solid

1H NMR (500 MHz, $CDCl_3$) δ 8.15 – 8.08 (m, 2H), 7.54 – 7.46 (m, 2H), 7.42 (d, J = 7.3 Hz, 1H), 7.04 (s, 1H), 4.07 (s, 3H), 3.81 – 3.74 (m, 4H), 2.67 – 2.54 (m, 4H), 2.38 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 170.21, 166.23, 160.68, 157.19, 139.77, 128.77, 128.47, 127.27, 109.89, 97.03, 55.83, 54.26, 48.16, 46.18. HRMS (ESI) m/z : $[M+H]^+$ Calcd for $C_{18}H_{21}N_4OS^+$ 341.1431; Found 341.1422

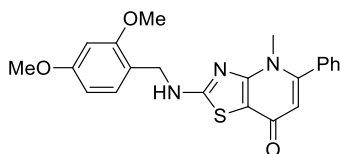
4-methyl-2-morpholino-5-phenylthiazolo[4,5-*b*]pyridin-7(4*H*)-one (1abh)



Isolated yield: 21.8 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 8.18 – 8.09 (m, 2H), 7.53 – 7.47 (m, 2H), 7.46 – 7.40 (m, 1H), 7.07 (s, 1H), 4.09 (s, 3H), 3.94 – 3.81 (m, 4H), 3.81 – 3.72 (m, 4H). ^{13}C NMR (126 MHz, CDCl_3) δ 170.54, 165.97, 160.78, 157.37, 139.69, 128.85, 128.50, 127.29, 109.80, 97.21, 66.24, 55.87, 48.33 HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{17}\text{H}_{18}\text{N}_3\text{O}_2\text{S}^+$ 328.1114; Found 328.1115

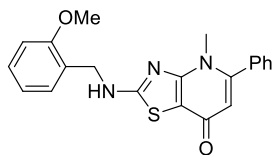
2-((2,4-dimethoxybenzyl)amino)-4-methyl-5-phenylthiazolo[4,5-*b*]pyridin-7(4H)-one (1abi)



Isolated yield: 33 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 8.12 (dd, J = 8.3, 1.3 Hz, 2H), 7.52 – 7.44 (m, 2H), 7.42 (s, 1H), 7.33 (d, J = 8.2 Hz, 1H), 7.04 (s, 1H), 6.51 (d, J = 2.3 Hz, 1H), 6.48 (dd, J = 8.2, 2.4 Hz, 1H), 5.87 (s, 1H), 4.67 (d, J = 5.2 Hz, 2H), 4.07 (s, 3H), 3.89 (s, 3H), 3.83 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 169.23, 166.06, 160.86, 160.64, 158.65, 156.94, 139.87, 130.58, 128.70, 128.48, 127.24, 117.91, 109.63, 103.92, 98.69, 97.11, 55.78, 55.44, 55.42, 44.78 HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{22}\text{H}_{22}\text{N}_3\text{O}_3\text{S}^+$ 408.1376; Found 408.1376

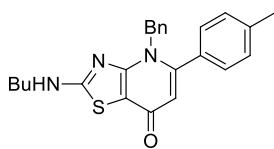
2-((2-methoxybenzyl)amino)-4-methyl-5-phenylthiazolo[4,5-*b*]pyridin-7(4H)-one (1abj)



Isolated yield: 29 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 8.15 – 8.11 (m, 2H), 7.48 (d, J = 7.7 Hz, 2H), 7.45 – 7.40 (m, 1H), 7.37 (d, J = 8.7 Hz, 2H), 7.07 (s, 1H), 6.93 (d, J = 8.7 Hz, 2H), 5.61 (s, 1H), 4.71 (d, J = 4.3 Hz, 2H), 4.08 (s, 3H), 3.84 (d, J = 1.7 Hz, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 169.31, 165.85, 160.73, 159.30, 157.10, 139.82, 129.36, 129.34, 128.76, 128.52, 127.23, 114.17, 113.77, 109.57, 97.24, 55.81, 55.32, 48.67. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{21}\text{H}_{20}\text{N}_3\text{O}_2\text{S}^+$ 378.1271; Found 378.1270

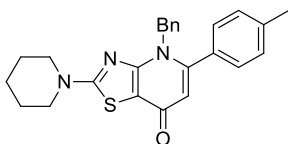
4-benzyl-2-(butylamino)-5-(*p*-tolyl)thiazolo[4,5-*b*]pyridin-7(4H)-one (1baa)



Isolated yield: 30 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, DMSO) δ 8.41 (s, 1H), 7.99 (d, J = 8.2 Hz, 2H), 7.50 (d, J = 7.1 Hz, 2H), 7.43 (t, J = 7.5 Hz, 2H), 7.37 (t, J = 3.6 Hz, 2H), 7.28 (d, J = 8.0 Hz, 1H), 5.45 (s, 2H), 2.36 (s, 3H), 1.68 – 1.53 (m, 2H), 1.38 (dd, J = 15.0, 7.4 Hz, 2H), 0.92 (t, J = 7.4 Hz, 3H). ^{13}C NMR (126 MHz, DMSO) δ 168.62, 165.33, 159.66, 154.81, 139.10, 136.71, 129.66, 129.12, 128.73, 128.31, 127.25, 109.84, 99.06, 70.89, 44.46, 31.61, 20.85, 19.34, 14.10. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{24}\text{H}_{26}\text{N}_3\text{OS}^+$ 404.1791; Found 404.1791

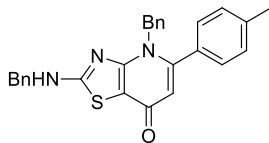
4-benzyl-2-(piperidin-1-yl)-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1bab)



Isolated yield: 37 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 8.00 (d, J = 8.2 Hz, 2H), 7.54 – 7.47 (m, 2H), 7.43 (dd, J = 8.1, 6.6 Hz, 2H), 7.38 (s, 1H), 7.27 (d, J = 7.9 Hz, 2H), 7.05 (s, 1H), 5.33 (s, 2H), 3.71 (s, 4H), 2.42 (s, 3H), 1.72 (s, 6H). ^{13}C NMR (126 MHz, CDCl_3) δ 170.14, 166.64, 159.68, 156.82, 138.60, 137.00, 135.93, 129.17, 128.74, 128.35, 127.40, 127.10, 109.86, 97.67, 70.34, 49.54, 25.37, 24.27, 21.30. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{25}\text{H}_{26}\text{N}_3\text{OS}^+$ 416.1791; Found 416.1790

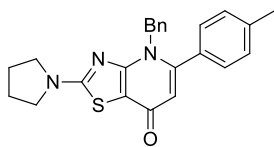
4-benzyl-2-(benzylamino)-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1bac)



Isolated yield: 28 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 7.97 (d, J = 8.2 Hz, 2H), 7.48 (s, 2H), 7.45 (d, J = 7.1 Hz, 4H), 7.39 (dd, J = 8.4, 6.3 Hz, 3H), 7.36 – 7.31 (m, 1H), 7.27 (d, J = 8.0 Hz, 2H), 7.10 (s, 1H), 6.34 (s, 1H), 5.34 (s, 2H), 4.77 (s, 2H), 2.42 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 168.78, 166.14, 159.91, 157.19, 139.32, 137.35, 136.73, 135.82, 129.25, 128.85, 128.79, 127.88, 127.48, 127.08, 110.27, 98.26, 70.47, 49.18, 21.29. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{27}\text{H}_{24}\text{N}_3\text{OS}^+$ 438.1635; Found 438.1635

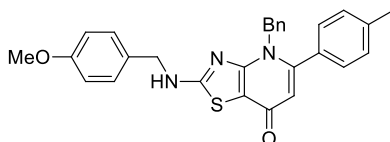
4-benzyl-2-(pyrrolidin-1-yl)-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1bad)



Isolated yield: 44 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 8.02 (d, J = 8.2 Hz, 2H), 7.49 (d, J = 7.2 Hz, 2H), 7.43 (t, J = 7.4 Hz, 2H), 7.39 (d, J = 7.2 Hz, 1H), 7.26 (d, J = 8.0 Hz, 2H), 7.06 (s, 1H), 5.33 (s, 2H), 3.65 (d, J = 6.8 Hz, 4H), 2.42 (s, 3H), 2.13 – 2.05 (m, 4H). ^{13}C NMR (126 MHz, CDCl_3) δ 166.79, 166.74, 159.69, 156.78, 138.58, 137.03, 135.95, 129.16, 128.74, 128.34, 127.42, 127.11, 109.95, 97.40, 70.33, 49.51, 25.68, 21.29. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{24}\text{H}_{24}\text{N}_3\text{OS}^+$ 402.1635; Found 402.1636

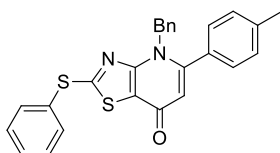
4-benzyl-2-((4-methoxybenzyl)amino)-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1bae)



Isolated yield: 29 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 7.97 (d, J = 8.2 Hz, 2H), 7.51 – 7.42 (m, 4H), 7.37 (d, J = 8.7 Hz, 3H), 7.27 (d, J = 7.9 Hz, 2H), 7.09 (s, 2H), 6.96 – 6.88 (m, 3H), 6.21 (s, 1H), 5.34 (s, 2H), 4.69 (s, 2H), 3.83 (s, 3H), 2.42 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 169.00, 166.37, 159.86, 159.01, 157.41, 139.71, 137.09, 135.59, 129.31, 129.25, 128.78, 128.44, 127.48, 127.08, 114.82, 110.04, 98.46, 71.34, 55.20, 49.09, 43.41, 21.29. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{28}\text{H}_{26}\text{N}_3\text{O}_2\text{S}^+$ 468.1740; Found 468.1741

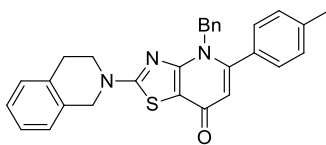
4-benzyl-2-(phenylthio)-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1baf)



Isolated yield: 47 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 8.00 (d, J = 8.2 Hz, 2H), 7.84 – 7.77 (m, 2H), 7.54 (d, J = 7.3 Hz, 4H), 7.44 – 7.42 (m, 3H), 7.41 – 7.36 (m, 1H), 7.29 (d, J = 7.9 Hz, 2H), 7.18 (s, 1H), 5.30 (s, 2H), 2.43 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 174.68, 166.75, 160.05, 158.11, 139.33, 136.36, 135.93, 135.23, 130.99, 130.20, 129.41, 128.86, 128.83, 128.62, 127.64, 127.21, 115.79, 99.27, 70.77, 21.34. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{26}\text{H}_{21}\text{N}_2\text{OS}_2^+$ 441.1090; Found 441.1091

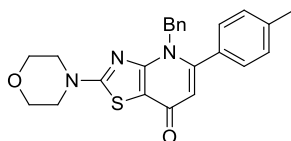
4-benzyl-2-(4-methylpiperazin-1-yl)-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1bak)



Isolated yield: 29 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, DMSO) δ 8.03 (d, J = 8.1 Hz, 2H), 7.51 (d, J = 7.3 Hz, 2H), 7.43 (t, J = 7.4 Hz, 3H), 7.38 (d, J = 7.3 Hz, 1H), 7.30 (d, J = 7.8 Hz, 3H), 7.24 (s, 3H), 5.48 (s, 2H), 4.83 (s, 2H), 3.87 (s, 2H), 3.01 (t, J = 5.8 Hz, 2H), 2.37 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 169.70, 166.31, 159.81, 157.07, 143.66, 138.72, 136.94, 135.85, 134.24, 132.32, 129.20, 128.78, 128.60, 128.41, 127.44, 127.14, 127.01, 126.71, 126.43, 109.15, 97.78, 70.01, 60.66, 49.90, 46.46, 28.71, 21.30. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{29}\text{H}_{26}\text{N}_3\text{OS}^+$ 464.1791; Found 464.1791

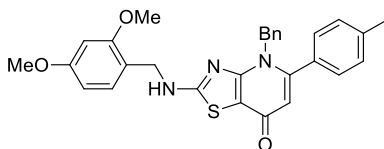
4-benzyl-2-morpholino-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1bah)



Isolated yield: 38 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 8.02 – 7.93 (m, 2H), 7.51 – 7.47 (m, 2H), 7.46 – 7.42 (m, 2H), 7.40 (d, J = 7.2 Hz, 1H), 7.27 (d, J = 7.9 Hz, 2H), 7.09 (s, 1H), 5.34 (s, 2H), 3.85 (dd, J = 6.5, 3.3 Hz, 4H), 3.77 – 3.67 (m, 4H), 2.42 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 170.53, 166.06, 159.89, 157.23, 138.82, 136.81, 135.75, 129.24, 128.79, 128.45, 127.43, 127.12, 109.90, 98.09, 70.46, 66.24, 53.20, 48.33, 21.30. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{24}\text{H}_{24}\text{N}_3\text{O}_2\text{S}^+$ 418.1584; Found 418.1582

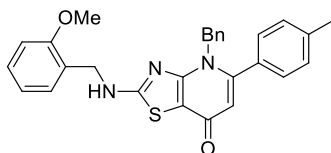
4-benzyl-2-((2,4-dimethoxybenzyl)amino)-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1bai)



Isolated yield: 30 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 8.02 – 7.95 (m, 2H), 7.52 – 7.47 (m, 2H), 7.46 – 7.42 (m, 2H), 7.39 (d, J = 7.2 Hz, 1H), 7.33 (d, J = 8.3 Hz, 1H), 7.26 (s, 1H), 7.07 (s, 1H), 6.50 (d, J = 2.4 Hz, 1H), 6.46 (dd, J = 8.3, 2.4 Hz, 1H), 6.13 (s, 1H), 5.33 (s, 2H), 4.66 (s, 2H), 3.86 (s, 3H), 3.82 (s, 3H), 2.42 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 169.21, 166.15, 160.87, 159.79, 158.65, 156.85, 138.65, 137.00, 135.86, 130.53, 129.22, 128.76, 128.39, 127.45, 127.08, 117.91, 110.05, 103.92, 98.71, 98.06, 70.40, 55.44, 55.42, 44.83, 21.29. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{29}\text{H}_{28}\text{N}_3\text{O}_3\text{S}^+$ 498.1846; Found 398.1843

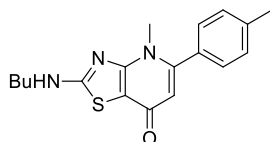
4-benzyl-2-((2-methoxybenzyl)amino)-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1baj)



Isolated yield: 34 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 8.04 – 7.93 (m, 2H), 7.51 – 7.46 (m, 2H), 7.47 – 7.35 (m, 4H), 7.36 – 7.25 (m, 2H), 7.07 (s, 1H), 6.94 (ddd, J = 11.6, 9.0, 4.6 Hz, 2H), 6.32 (s, 1H), 5.33 (s, 2H), 4.74 (s, 2H), 3.89 (s, 3H), 2.43 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 169.90, 166.12, 159.81, 157.58, 156.88, 138.66, 136.99, 135.85, 129.68, 129.26, 129.23, 128.77, 128.40, 127.46, 127.08, 125.39, 120.69, 110.38, 109.75, 98.09, 70.41, 55.38, 45.23, 21.30. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{28}\text{H}_{26}\text{N}_3\text{O}_2\text{S}^+$ 468.1740; Found 468.1739

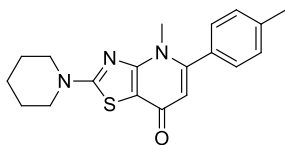
2-(butylamino)-4-methyl-5-(p-tolyl)thiazolo[4,5-b]pyridin-7(4H)-one (1bba)



Isolated yield: 28 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 7.97 (d, J = 8.2 Hz, 4H), 7.82 – 7.75 (m, 1H), 7.51 – 7.42 (m, 8H), 7.37 (d, J = 8.7 Hz, 6H), 7.27 (d, J = 7.9 Hz, 4H), 7.09 (s, 2H), 6.96 – 6.88 (m, 6H), 6.21 (s, 1H), 5.34 (s, 2H), 4.69 (s, 2H), 3.83 (s, 3H), 2.42 (s, 3H). ^{13}C NMR (126 MHz, DMSO) δ 166.37, 161.16, 155.26, 138.88, 129.92, 127.30, 109.18, 97.57, 56.71, 44.23, 31.15, 21.73, 20.02, 13.67. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{18}\text{H}_{22}\text{N}_3\text{OS}^+$ 328.1478; Found 328.1480

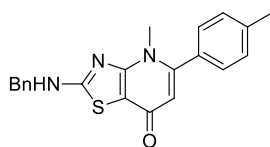
4-methyl-2-(piperidin-1-yl)-5-(p-tolyl)thiazolo[4,5-b]pyridin-7(4H)-one (1b b b)



Isolated yield: 29.5 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 8.03 (d, J = 8.2 Hz, 2H), 7.28 (d, J = 9.0 Hz, 3H), 4.05 (s, 3H), 3.62 (d, J = 5.2 Hz, 4H), 2.36 (s, 3H), 1.65 (s, 6H). ^{13}C NMR (126 MHz, DMSO) δ 169.88, 166.15, 160.92, 155.91, 138.88, 137.31, 129.71, 127.29, 109.38, 96.68, 56.92, 49.30, 25.02, 23.90, 21.27. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{19}\text{H}_{22}\text{N}_3\text{OS}^+$ 340.1478; Found 340.1479

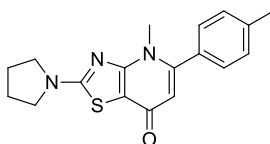
2-(benzylamino)-4-methyl-5-(p-tolyl)thiazolo[4,5-b]pyridin-7(4H)-one (1bbc)



Isolated yield: 26 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, DMSO) δ 8.89 (s, 1H), 8.01 (d, J = 8.2 Hz, 2H), 7.38 (qd, J = 8.2, 1.7 Hz, 4H), 7.32 – 7.25 (m, 4H), 4.64 (d, J = 5.7 Hz, 2H), 4.04 (s, 3H), 2.36 (s, 3H). ^{13}C NMR (126 MHz, DMSO) δ 168.40, 165.55, 160.70, 156.15, 129.59, 128.94, 127.64, 127.12, 109.37, 97.57, 56.70, 47.96, 20.85. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{21}\text{H}_{20}\text{N}_3\text{OS}^+$ 362.1322; Found 362.1312

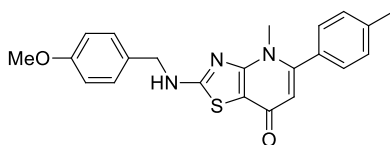
4-methyl-2-(pyrrolidin-1-yl)-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4H)-one (1bbd)



Isolated yield: 29.3 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, DMSO) δ 8.04 (d, J = 8.2 Hz, 2H), 7.29 (s, 1H), 7.28 (d, J = 2.6 Hz, 2H), 4.06 (s, 3H), 3.53 (s, 4H), 2.36 (s, 3H), 2.04 (s, 4H). ^{13}C NMR (126 MHz, DMSO) δ 166.15, 160.71, 155.48, 139.11, 137.10, 129.70, 127.08, 109.83, 97.12, 56.95, 49.68, 25.02, 21.28. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{18}\text{H}_{20}\text{N}_3\text{OS}^+$ 326.1322; Found 326.1324

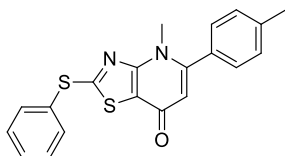
2-((4-methoxybenzyl)amino)-4-methyl-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4H)-one (1bbe)



Isolated yield: 22 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, DMSO) δ 8.81 (s, 1H), 8.02 (d, J = 8.2 Hz, 2H), 7.40 – 7.21 (m, 5H), 6.92 (d, J = 8.7 Hz, 2H), 4.56 (d, J = 5.5 Hz, 2H), 4.03 (s, 3H), 3.73 (s, 3H), 2.36 (s, 3H). ^{13}C NMR (126 MHz, DMSO) δ 165.78, 160.48, 159.21, 155.93, 138.66, 137.09, 130.98, 129.48, 129.00, 126.86, 114.83, 109.14, 97.56, 56.26, 54.53, 47.74, 20.61. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{22}\text{H}_{22}\text{N}_3\text{O}_2\text{S}^+$ 392.1427; Found 392.1427

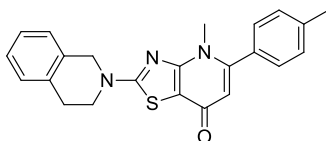
4-methyl-2-(phenylthio)-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4H)-one (1bbf)



Isolated yield: 24 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, DMSO) δ 8.11 (d, J = 8.2 Hz, 2H), 7.92 – 7.83 (m, 2H), 7.66 (dd, J = 16.2, 10.2 Hz, 3H), 7.54 (s, 1H), 7.35 (d, J = 8.0 Hz, 2H), 4.08 (s, 3H), 2.40 (s, 3H). ^{13}C NMR (126 MHz, DMSO) δ 173.85, 166.59, 161.59, 157.88, 140.61, 136.50, 132.55, 131.40, 129.91, 128.58, 127.31, 115.28, 100.18, 57.59, 21.74. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{20}\text{H}_{17}\text{N}_2\text{OS}_2^+$ 365.0777; Found 365.0778

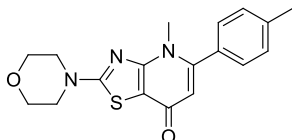
4-methyl-2-(4-methylpiperazin-1-yl)-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1bbk)



Isolated yield: 5 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, DMSO) δ 8.05 (d, J = 8.1 Hz, 2H), 7.31 (s, 4H), 7.24 (s, 3H), 4.83 (s, 2H), 4.07 (s, 3H), 3.87 (s, 2H), 3.01 (t, J = 5.8 Hz, 2H), 2.37 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 169.77, 165.85, 160.80, 156.44, 138.90, 136.13, 134.29, 131.87, 129.24, 128.57, 127.24, 127.03, 126.72, 126.44, 109.16, 96.68, 55.89, 49.60, 46.00, 28.71, 21.30. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{23}\text{H}_{22}\text{N}_3\text{OS}^+$ 388.1478; Found 388.1476

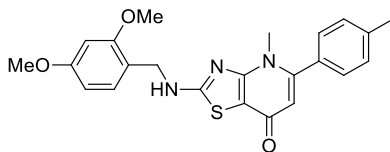
4-methyl-2-morpholino-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1bbh)



Isolated yield: 23 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, MeOD) δ 7.89 (d, J = 8.2 Hz, 2H), 7.29 (d, J = 7.9 Hz, 2H), 7.16 (s, 1H), 4.09 (s, 3H), 3.92 – 3.77 (m, 4H), 3.73 – 3.65 (m, 4H), 2.40 (s, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 170.61, 165.94, 160.87, 157.42, 138.99, 136.50, 129.26, 127.21, 109.57, 96.96, 66.23, 55.91, 48.35, 21.30. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{18}\text{H}_{20}\text{N}_3\text{O}_2\text{S}^+$ 342.1271; Found 342.1273

2-((2,4-dimethoxybenzyl)amino)-4-methyl-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1bbi)

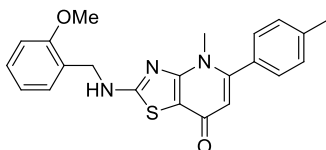


Isolated yield: 28 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, DMSO) δ 8.62 (s, 1H), 8.02 (d, J = 8.2 Hz, 2H), 7.35 – 7.25 (m, 3H), 7.22 (d, J = 8.3 Hz, 1H), 7.09 (s, 1H), 6.59 (d, J = 2.4 Hz, 1H), 6.50 (dd, J = 8.3, 2.4 Hz, 1H), 4.50 (d, J =

5.4 Hz, 2H), 4.03 (s, 3H), 3.83 (s, 3H), 3.75 (s, 3H), 2.36 (s, 3H). ^{13}C NMR (126 MHz, DMSO) δ 166.59, 160.48, 158.77, 155.69, 139.11, 137.32, 129.59, 127.10, 118.34, 109.37, 105.44, 99.06, 97.13, 56.72, 56.26, 55.97, 55.81, 55.71, 42.50, 40.17, 40.00, 39.83, 20.84. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{23}\text{H}_{24}\text{N}_3\text{O}_3\text{S}^+$ 422.1533; Found 422.1530

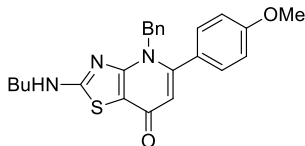
2-((2-methoxybenzyl)amino)-4-methyl-5-(p-tolyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one(1bbj)



Isolated yield: 23 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, DMSO) δ 8.75 (t, J = 5.5 Hz, 1H), 8.03 (d, J = 8.2 Hz, 2H), 7.36 – 7.25 (m, 5H), 7.05 (d, J = 7.8 Hz, 1H), 6.94 (td, J = 7.4, 0.9 Hz, 1H), 4.61 (d, J = 5.6 Hz, 2H), 4.08 – 3.97 (m, 3H), 3.87 (s, 3H), 2.37 (s, 3H). ^{13}C NMR (126 MHz, DMSO) δ 165.93, 161.14, 157.86, 155.69, 138.89, 137.33, 129.70, 129.03, 128.56, 127.30, 126.41, 120.94, 111.09, 109.60, 97.13, 57.15, 55.81, 43.40, 21.29. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{22}\text{H}_{22}\text{N}_3\text{O}_2\text{S}^+$ 392.1427; Found 392.1426

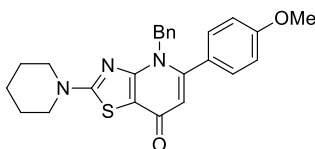
4-benzyl-2-(butylamino)-5-(4-methoxyphenyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1caa)



Isolated yield: 37 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, DMSO) δ 8.39 (s, 1H), 8.13 – 8.01 (m, 2H), 7.52 – 7.47 (m, 2H), 7.42 (dd, J = 8.1, 6.8 Hz, 2H), 7.37 (d, J = 7.3 Hz, 1H), 7.33 (s, 1H), 7.10 – 6.99 (m, 2H), 5.45 (s, 2H), 3.82 (s, 3H), 3.39 (d, J = 5.8 Hz, 2H), 1.65 – 1.57 (m, 2H), 1.38 (dd, J = 15.0, 7.4 Hz, 2H), 0.92 (t, J = 7.4 Hz, 3H). ^{13}C NMR (126 MHz, CDCl_3) δ 160.35, 159.89, 135.79, 128.78, 128.46, 128.42, 127.45, 113.86, 97.57, 70.45, 55.37, 45.47, 31.39, 20.11, 13.77. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{24}\text{H}_{26}\text{N}_3\text{O}_2\text{S}^+$ 420.1740; Found 420.1739

4-benzyl-5-(4-methoxyphenyl)-2-(piperidin-1-yl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1cab)

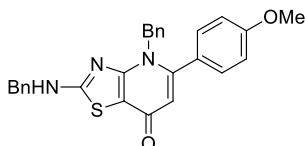


Isolated yield: 44 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, CDCl_3) δ 8.09 – 8.03 (m, 2H), 7.78 (d, J = 8.9 Hz, 1H), 7.55 – 7.38 (m, 4H),

7.03 – 6.95 (m, 3H), 5.37 (s, 2H), 3.89 (s, 3H), 3.74 (s, 4H), 1.74 (s, 6H). ¹³C NMR (126 MHz, CDCl₃) δ 170.20, 160.30, 159.74, 156.39, 135.90, 128.75, 128.52, 128.36, 127.39, 113.78, 109.47, 97.30, 70.36, 55.35, 49.55, 25.36, 24.25. HRMS (ESI) *m/z*: [M+H]⁺ Calcd for C₂₅H₂₆N₃O₂S⁺ 432.1740; Found 432.1739

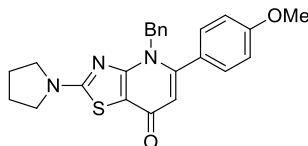
4-benzyl-2-(benzylamino)-5-(4-methoxyphenyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1cac)



Isolated yield: 33.3 %; 95 % purity. Ivory solid

¹H NMR (500 MHz, DMSO) δ 8.90 (t, *J* = 5.5 Hz, 1H), 8.04 (d, *J* = 8.9 Hz, 2H), 7.49 (s, 2H), 7.45 – 7.33 (m, 9H), 7.28 (t, *J* = 7.1 Hz, 2H), 7.02 (d, *J* = 9.0 Hz, 2H), 5.45 (s, 2H), 4.64 (d, *J* = 5.7 Hz, 2H), 3.81 (s, 3H). ¹³C NMR (126 MHz, DMSO) δ 166.18, 160.42, 159.83, 155.53, 139.06, 136.77, 132.23, 129.10, 128.94, 128.68, 128.51, 128.29, 127.92, 127.65, 114.36, 109.21, 98.21, 70.42, 55.69, 47.83. HRMS (ESI) *m/z*: [M+H]⁺ Calcd for C₂₇H₂₄N₃O₂S⁺ 454.1584; Found 454.1582

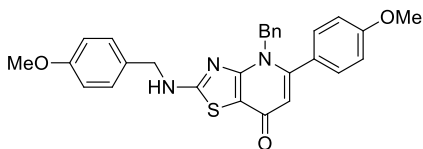
4-benzyl-5-(4-methoxyphenyl)-2-(pyrrolidin-1-yl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1cad)



Isolated yield: 50 %; 95 % purity. Ivory solid

¹H NMR (500 MHz, CDCl₃) δ 8.13 – 8.05 (m, 2H), 7.80 (d, *J* = 8.9 Hz, 1H), 7.54 – 7.35 (m, 4H), 7.09 – 6.92 (m, 3H), 5.41 (s, 2H), 3.89 (d, *J* = 1.0 Hz, 3H), 3.70 (d, *J* = 49.1 Hz, 4H), 2.14 (d, *J* = 4.5 Hz, 4H). ¹³C NMR (126 MHz, CDCl₃) δ 166.81, 166.52, 160.27, 159.73, 156.33, 135.92, 132.27, 128.72, 128.52, 128.32, 127.38, 113.75, 109.54, 97.00, 70.32, 55.34, 49.51, 25.65. HRMS (ESI) *m/z*: [M+H]⁺ Calcd for C₂₄H₂₄N₃O₂S⁺ 418.1584 Found 418.1582

4-benzyl-2-((4-methoxybenzyl)amino)-5-(4-methoxyphenyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1cae)

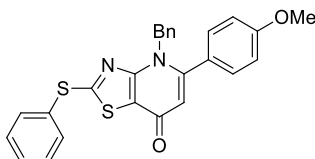


Isolated yield: 31 %; 95 % purity. Ivory solid

¹H NMR (500 MHz, DMSO) δ 8.82 (s, 1H), 8.05 (d, *J* = 9.0 Hz, 2H), 7.49 (d, *J* = 7.0 Hz, 2H), 7.42 (t, *J* = 7.5 Hz, 2H), 7.38 – 7.31 (m, 4H), 7.02 (d, *J* = 9.0 Hz, 2H), 6.92 (d, *J* = 8.7 Hz, 2H),

5.45 (s, 2H), 4.55 (d, $J = 5.2$ Hz, 2H), 4.10 – 4.01 (m, 1H), 3.82 (s, 3H), 3.73 (s, 3H). ^{13}C NMR (126 MHz, DMSO) δ 166.22, 160.42, 159.80, 158.99, 155.49, 136.78, 132.24, 130.85, 129.37, 129.10, 128.68, 128.50, 128.29, 114.36, 114.34, 109.16, 98.16, 70.41, 55.70, 55.57, 47.37. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{28}\text{H}_{26}\text{N}_3\text{O}_3\text{S}^+$ 484.1689; Found 484.1688

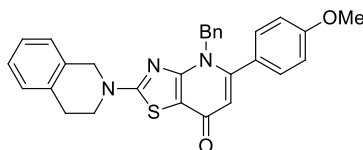
4-benzyl-5-(4-methoxyphenyl)-2-(phenylthio)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1caf)



Isolated yield: 56 %; 95 % purity. Yellow solid

^1H NMR (500 MHz, DMSO) δ 8.16 – 8.10 (m, 2H), 7.85 (dd, $J = 6.8, 1.5$ Hz, 2H), 7.63 (ddd, $J = 13.1, 7.9, 5.7$ Hz, 4H), 7.49 – 7.44 (m, 2H), 7.41 – 7.31 (m, 3H), 7.10 – 7.03 (m, 2H), 5.47 (s, 2H), 3.84 (s, 3H). ^{13}C NMR (126 MHz, DMSO) δ 173.70, 166.32, 160.96, 160.32, 157.50, 136.21, 136.14, 131.97, 131.40, 131.01, 129.12, 128.97, 128.86, 128.53, 128.28, 114.94, 114.54, 100.04, 71.07, 55.77. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{26}\text{H}_{21}\text{N}_2\text{O}_2\text{S}_2^+$ 457.1039; Found 457.1038

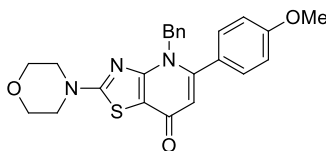
4-benzyl-2-(3,4-dihydroisoquinolin-2(1*H*)-yl)-5-(4-methoxyphenyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1cak)



Isolated yield: 54 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, DMSO) δ 8.10 (s, 1H), 7.52 (d, $J = 7.2$ Hz, 2H), 7.45 – 7.36 (m, 4H), 7.31 (d, $J = 7.6$ Hz, 1H), 7.27 – 7.20 (m, 4H), 7.04 (d, $J = 8.9$ Hz, 2H), 5.48 (s, 2H), 4.83 (s, 2H), 3.87 (s, 2H), 3.83 (s, 3H), 3.01 (t, $J = 6.0$ Hz, 2H). ^{13}C NMR (126 MHz, DMSO) δ 168.60, 165.92, 160.25, 160.03, 157.41, 155.25, 136.87, 135.15, 133.21, 132.08, 129.70, 129.09, 128.69, 128.60, 128.27, 127.38, 126.88, 120.74, 114.40, 110.64, 109.60, 98.03, 74.21, 70.52, 55.72, 50.35, 49.53, 46.25, 28.24. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{29}\text{H}_{26}\text{N}_3\text{O}_2\text{S}^+$ 480.1740; Found 480.1741

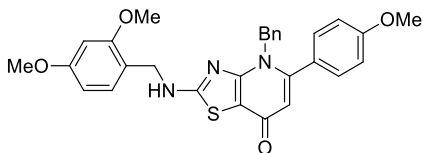
4-benzyl-5-(4-methoxyphenyl)-2-morpholinothiazolo[4,5-*b*]pyridin-7(4*H*)-one (1cah)



Isolated yield: 55 %; 95 % purity. Ivory solid

¹H NMR (500 MHz, DMSO) δ 8.13 – 8.04 (m, 2H), 7.45 (t, *J* = 4.3 Hz, 2H), 7.38 (s, 1H), 7.05 (d, *J* = 9.0 Hz, 2H), 5.50 (s, 2H), 4.09 – 4.03 (m, 1H), 3.84 (s, 3H), 3.78 – 3.70 (m, 4H), 3.64 (d, *J* = 5.0 Hz, 4H). ¹³C NMR (126 MHz, DMSO) δ 170.25, 165.91, 160.54, 159.99, 156.07, 136.67, 132.10, 129.10, 128.71, 128.61, 128.27, 114.39, 109.33, 98.22, 70.53, 65.93, 55.71, 48.36. HRMS (ESI) *m/z*: [M+H]⁺ Calcd for C₂₄H₂₄N₃O₃S⁺ 434.1533; Found 434.1534

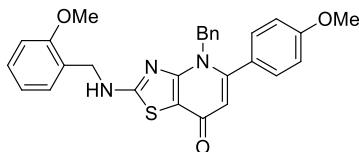
4-benzyl-2-((2,4-dimethoxybenzyl)amino)-5-(4-methoxyphenyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1cai)



Isolated yield: 33 %; 95 % purity. White solid

¹H NMR (500 MHz, DMSO) δ 8.64 (s, 1H), 8.06 (d, *J* = 8.9 Hz, 2H), 7.51 (d, *J* = 7.1 Hz, 2H), 7.43 (d, *J* = 7.7 Hz, 2H), 7.36 (d, *J* = 13.4 Hz, 2H), 7.24 (d, *J* = 8.3 Hz, 1H), 7.04 (d, *J* = 8.9 Hz, 2H), 6.61 (d, *J* = 2.4 Hz, 1H), 6.53 (s, 1H), 5.46 (s, 2H), 4.52 (d, *J* = 5.2 Hz, 2H), 3.84 (d, *J* = 3.6 Hz, 6H), 3.76 (s, 3H). ¹³C NMR (126 MHz, DMSO) δ 168.39, 166.31, 160.59, 160.40, 159.79, 158.49, 155.44, 136.80, 132.31, 129.86, 129.09, 128.66, 128.50, 128.27, 118.49, 114.34, 109.21, 104.84, 98.87, 98.08, 70.40, 55.95, 55.69, 55.67, 42.96. HRMS (ESI) *m/z*: [M+H]⁺ Calcd for C₂₉H₂₈N₃O₄S⁺ 514.1795; Found 514.1796

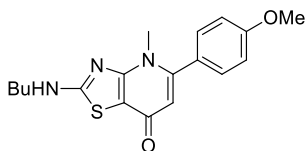
4-benzyl-2-((2-methoxybenzyl)amino)-5-(4-methoxyphenyl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1caj)



Isolated yield: 35 %; 95 % purity. White solid

¹H NMR (500 MHz, DMSO) δ 8.74 (s, 1H), 8.10 – 8.01 (m, 2H), 7.55 – 7.50 (m, 2H), 7.44 (t, *J* = 7.4 Hz, 2H), 7.40 – 7.34 (m, 2H), 7.34 – 7.27 (m, 2H), 7.07 – 7.01 (m, 3H), 6.94 (d, *J* = 0.9 Hz, 1H), 5.47 (s, 2H), 4.61 (d, *J* = 5.4 Hz, 2H), 3.86 (s, 3H), 3.83 (s, 3H). ¹³C NMR (126 MHz, DMSO) δ 168.17, 166.22, 160.41, 159.81, 157.39, 155.47, 136.79, 132.26, 129.10, 129.03, 128.67, 128.61, 128.50, 128.27, 126.32, 120.69, 114.35, 111.14, 109.23, 98.15, 70.40, 55.87, 55.69, 43.19. HRMS (ESI) *m/z*: [M+H]⁺ Calcd for C₂₈H₂₆N₃O₃S⁺ 484.1689; Found 484.1690

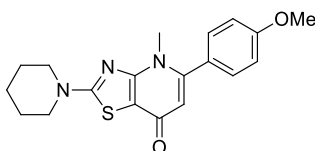
2-(butylamino)-5-(4-methoxyphenyl)-4-methylthiazolo[4,5-*b*]pyridin-7(4*H*)-one (1cba)



Isolated yield: 30 %; 95 % purity. Yellow solid

^1H NMR (500 MHz, EtOD) δ 7.01 (s, 1H), 6.83 – 6.65 (m, 2H), 5.85 (s, 1H), 5.75 – 5.62 (m, 2H), 2.67 (d, J = 8.2 Hz, 3H), 2.46 (s, 3H), 2.03 (d, J = 6.0 Hz, 2H), 0.26 – 0.12 (m, 2H), 0.02 (d, J = 7.6 Hz, 2H), -0.44 (t, J = 7.4 Hz, 3H). ^{13}C NMR (126 MHz, DMSO) δ 161.38, 160.49, 154.20, 130.58, 129.23, 114.59, 109.15, 97.36, 57.16, 54.76, 44.22, 31.16, 19.13, 14.33. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{18}\text{H}_{22}\text{N}_3\text{O}_2\text{S}^+$ 344.1427; Found 344.1427

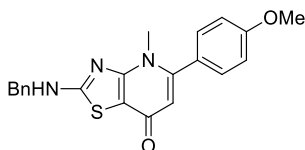
5-(4-methoxyphenyl)-4-methyl-2-(piperidin-1-yl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one(1cbb)



Isolated yield: 32.3 %; 95 % purity. Yellow solid

^1H NMR (500 MHz, DMSO) δ 8.10 (d, J = 8.9 Hz, 2H), 7.26 (s, 1H), 7.05 (d, J = 8.9 Hz, 2H), 4.06 (d, J = 5.6 Hz, 3H), 3.84 (s, 3H), 3.64 (d, J = 5.2 Hz, 4H), 1.67 (s, 6H). ^{13}C NMR (126 MHz, DMSO) δ 169.58, 166.19, 160.81, 160.46, 156.00, 132.25, 128.59, 114.33, 108.82, 96.81, 56.68, 55.69, 49.41, 25.35, 24.07. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{19}\text{H}_{22}\text{N}_3\text{O}_2\text{S}^+$ 356.1427; Found 356.1429

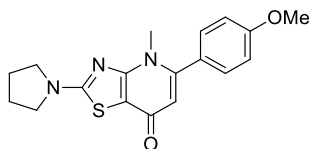
2-(benzylamino)-5-(4-methoxyphenyl)-4-methylthiazolo[4,5-*b*]pyridin-7(4*H*)-one(1cbc)



Isolated yield: 25 %; 95 % purity. Yellow solid

^1H NMR (500 MHz, DMSO) δ 8.89 (s, 1H), 8.20 – 8.04 (m, 2H), 7.46 – 7.36 (m, 4H), 7.31 (s, 1H), 7.25 (s, 1H), 7.10 – 6.96 (m, 2H), 4.66 (d, J = 5.7 Hz, 2H), 4.05 (s, 3H), 3.83 (s, 3H). ^{13}C NMR (126 MHz, DMSO) δ 168.41, 166.00, 160.77, 160.40, 155.69, 139.07, 132.28, 128.94, 128.56, 127.91, 127.63, 114.33, 108.76, 97.05, 56.62, 55.69, 47.81. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{21}\text{H}_{20}\text{N}_3\text{O}_2\text{S}^+$ 378.1271; Found 378.1272

5-(4-methoxyphenyl)-4-methyl-2-(pyrrolidin-1-yl)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1cbd)

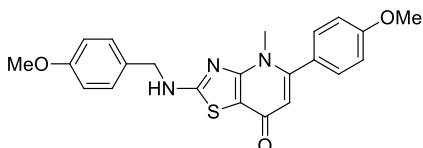


Isolated yield: 36 %; 95 % purity. Yellow solid

^1H NMR (500 MHz, DMSO) δ 8.11 (d, J = 8.9 Hz, 2H), 7.26 (s, 1H), 7.05 (d, J = 8.9 Hz, 2H), 4.

07 (s, 3H), 3.84 (s, 3H), 3.55 (d, $J = 4.8$ Hz, 4H), 2.05 (t, $J = 6.6$ Hz, 4H). ^{13}C NMR (126 MHz, DMSO) δ 166.40, 166.15, 161.15, 160.47, 155.70, 132.77, 128.81, 114.61, 109.82, 96.66, 56.71, 55.82, 49.54, 25.25. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{18}\text{H}_{20}\text{N}_3\text{O}_2\text{S}^+$ 342.1271; Found 342.1270

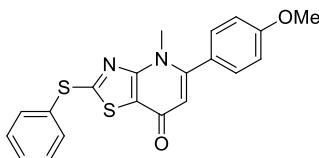
2-((4-methoxybenzyl)amino)-5-(4-methoxyphenyl)-4-methylthiazolo[4,5-*b*]pyridin-7(4*H*)-one (1cbe)



Isolated yield: 21 %; 95 % purity. white solid

^1H NMR (500 MHz, DMSO) δ 8.82 (s, 1H), 8.16 – 8.05 (m, 2H), 7.35 (s, 1H), 7.24 (s, 1H), 7.11 – 7.00 (m, 2H), 6.96 – 6.91 (m, 2H), 4.57 (d, $J = 5.7$ Hz, 2H), 4.08 – 3.98 (m, 3H), 3.84 (s, 3H), 3.75 (s, 3H). ^{13}C NMR (126 MHz, DMSO) δ 166.16, 160.71, 160.03, 159.01, 156.14, 132.53, 130.98, 129.37, 128.55, 114.33, 108.92, 97.13, 56.93, 55.69, 55.57, 47.52. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{22}\text{H}_{22}\text{N}_3\text{O}_3\text{S}^+$ 408.1376; Found 408.1373

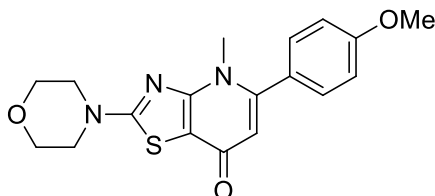
5-(4-methoxyphenyl)-4-methyl-2-(phenylthio)thiazolo[4,5-*b*]pyridin-7(4*H*)-one (1cbf)



Isolated yield: 41 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, DMSO) δ 8.17 (d, $J = 8.9$ Hz, 2H), 7.87 (d, $J = 7.0$ Hz, 2H), 7.66 (dt, $J = 8.5$, 7.1 Hz, 3H), 7.50 (s, 1H), 7.08 (d, $J = 8.9$ Hz, 2H), 4.07 (s, 3H), 3.85 (s, 3H). ^{13}C NMR (126 MHz, DMSO) δ 173.63, 165.92, 161.30, 160.48, 157.43, 136.19, 131.93, 131.19, 130.99, 130.14, 129.02, 128.36, 114.52, 99.08, 57.19, 55.77. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{20}\text{H}_{17}\text{N}_2\text{O}_2\text{S}_2^+$ 381.0726. Found 381.0726

5-(4-methoxyphenyl)-4-methyl-2-morpholinothiazolo[4,5-*b*]pyridin-7(4*H*)-one (1cbh)

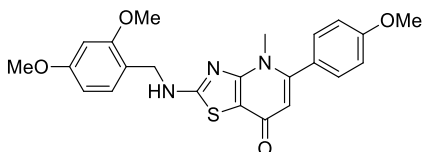


Isolated yield: 32 %; 95 % purity. White solid

^1H NMR (500 MHz, DMSO) δ 8.11 (d, $J = 8.9$ Hz, 2H), 7.30 (s, 1H), 7.05 (d, $J = 8.9$ Hz, 2H),

4.08 (s, 3H), 3.84 (s, 3H), 3.79 – 3.73 (m, 4H), 3.66 – 3.57 (m, 4H). ^{13}C NMR (126 MHz, DMSO) δ 170.23, 165.75, 160.95, 160.52, 156.22, 152.87, 132.15, 128.65, 114.36, 108.86, 97.12, 65.93, 60.67, 56.76, 55.70, 48.32, 40.50, 40.33, 40.16, 40.00, 39.83, 39.66, 39.50, 21.28, 14.94. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{18}\text{H}_{20}\text{N}_3\text{O}_3\text{S}^+$ 358.1220; Found 358.1221

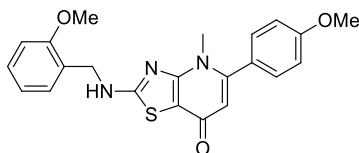
2-((2,4-dimethoxybenzyl)amino)-5-(4-methoxyphenyl)-4-methylthiazolo[4,5-*b*]pyridin-7(4*H*)-one (1cbi)



Isolated yield: 28 %; 95 % purity. Ivory solid

^1H NMR (500 MHz, DMSO) δ 8.63 (s, 1H), 8.14 – 8.02 (m, 2H), 7.24 (t, J = 4.1 Hz, 2H), 7.05 (s, 2H), 6.61 (d, J = 2.3 Hz, 1H), 6.52 (dd, J = 8.3, 2.4 Hz, 1H), 4.52 (d, J = 5.4 Hz, 2H), 4.10 – 3.94 (m, 3H), 3.84 (d, J = 4.2 Hz, 6H), 3.76 (d, J = 3.4 Hz, 3H). ^{13}C NMR (126 MHz, DMSO) δ 170.58, 168.21, 166.12, 160.71, 160.57, 160.38, 158.48, 155.57, 132.34, 129.84, 128.53, 119.02, 114.31, 108.73, 104.84, 98.85, 96.91, 60.20, 56.58, 55.96, 55.70, 55.68, 21.06, 14.59. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{23}\text{H}_{24}\text{N}_3\text{O}_4\text{S}^+$ 438.1482; Found 438.1482

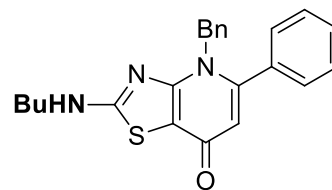
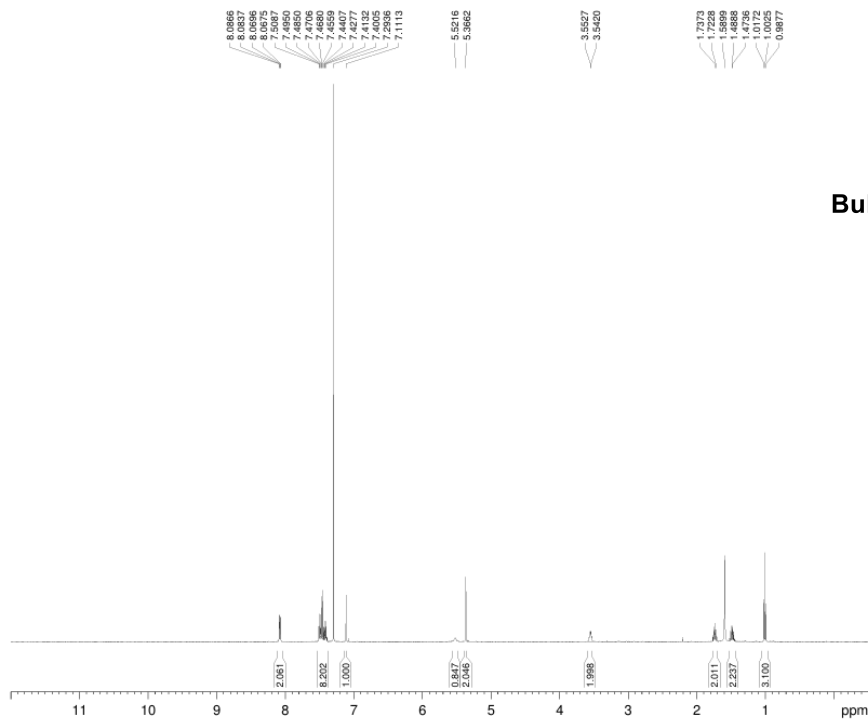
2-((2-methoxybenzyl)amino)-5-(4-methoxyphenyl)-4-methylthiazolo[4,5-*b*]pyridin-7(4*H*)-one (1cbj)



Isolated yield: 22 %; 95 % purity. Yellow solid

^1H NMR (500 MHz, DMSO) δ 8.72 (s, 1H), 8.08 (d, J = 8.9 Hz, 2H), 7.37 – 7.27 (m, 2H), 7.24 (s, 1H), 7.03 (d, J = 8.9 Hz, 3H), 6.94 (s, 1H), 4.61 (d, J = 5.5 Hz, 2H), 4.05 (s, 3H), 3.87 (s, 3H), 3.83 (s, 3H). ^{13}C NMR (126 MHz, DMSO) δ 168.61, 165.91, 160.74, 160.39, 157.38, 155.70, 132.54, 129.02, 128.60, 128.54, 126.63, 120.68, 114.32, 111.14, 108.47, 97.13, 56.60, 55.87, 55.69, 43.22. HRMS (ESI) m/z : $[\text{M}+\text{H}]^+$ Calcd for $\text{C}_{22}\text{H}_{22}\text{N}_3\text{O}_3\text{S}^+$ 408.1376; Found 408.1376

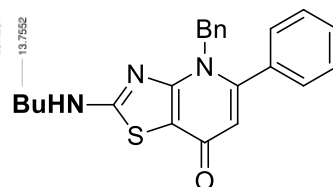
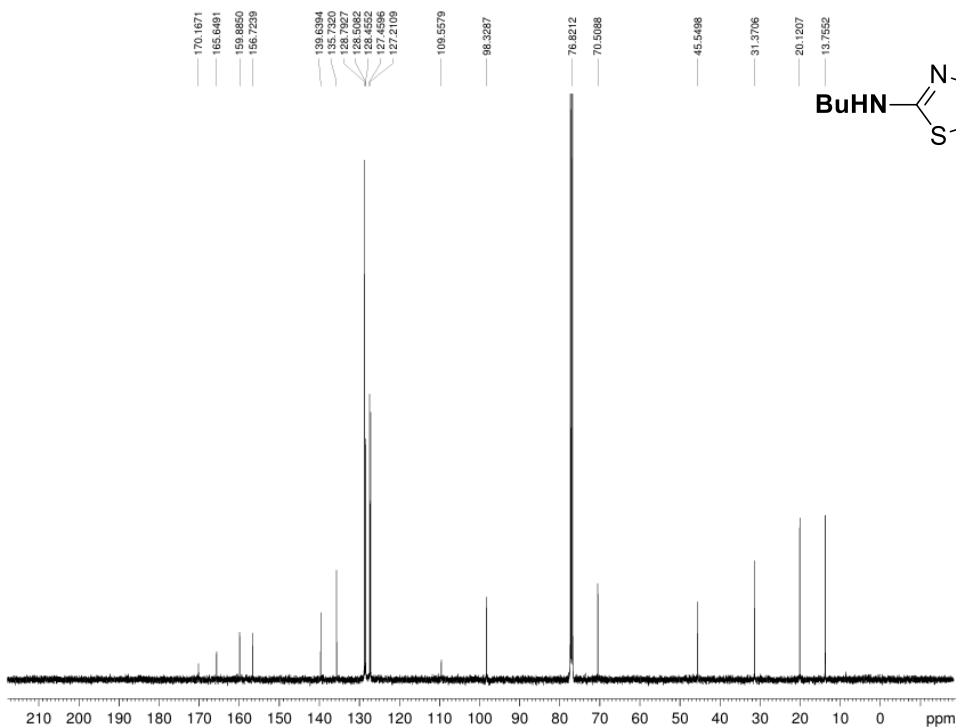
1.3 NMR spectra



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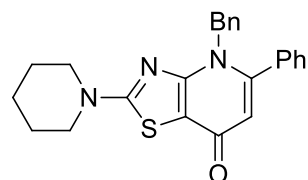
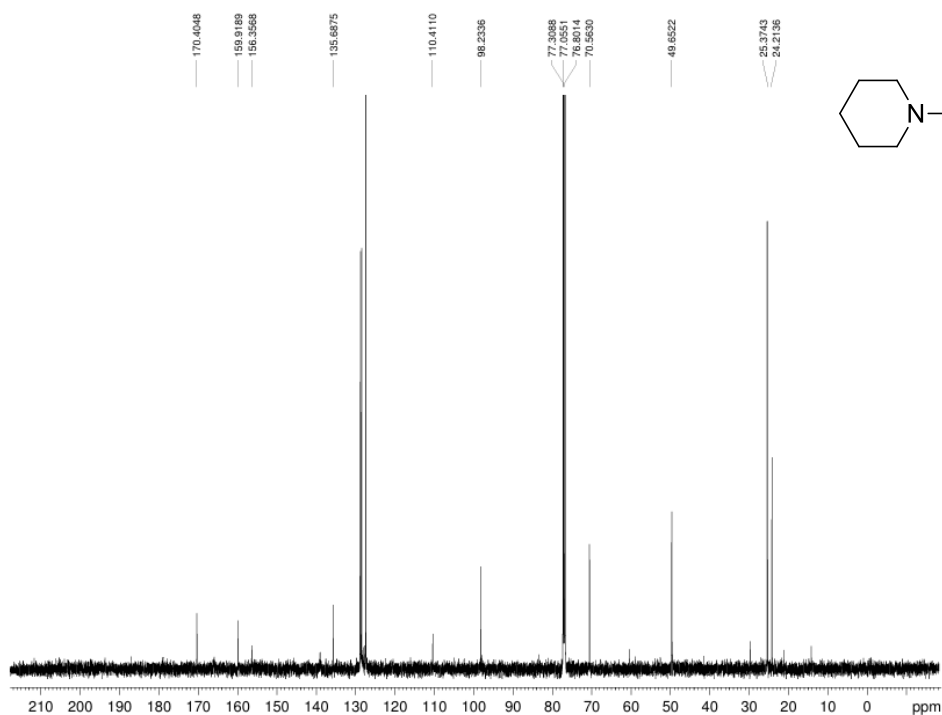
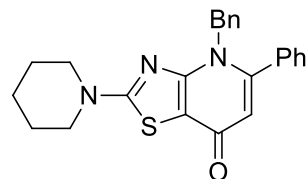
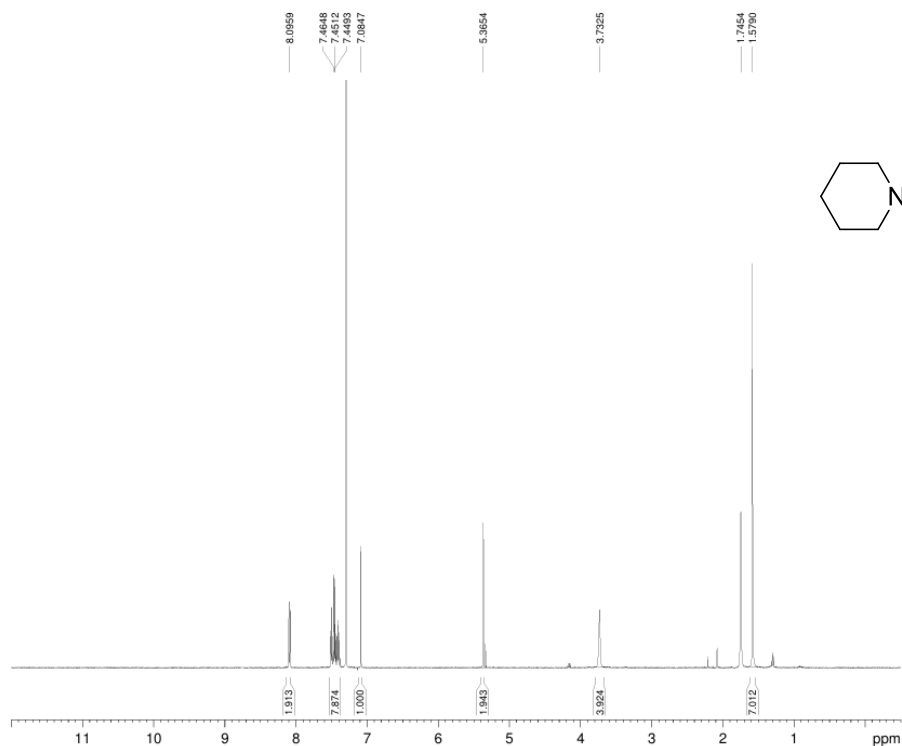


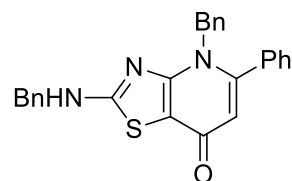
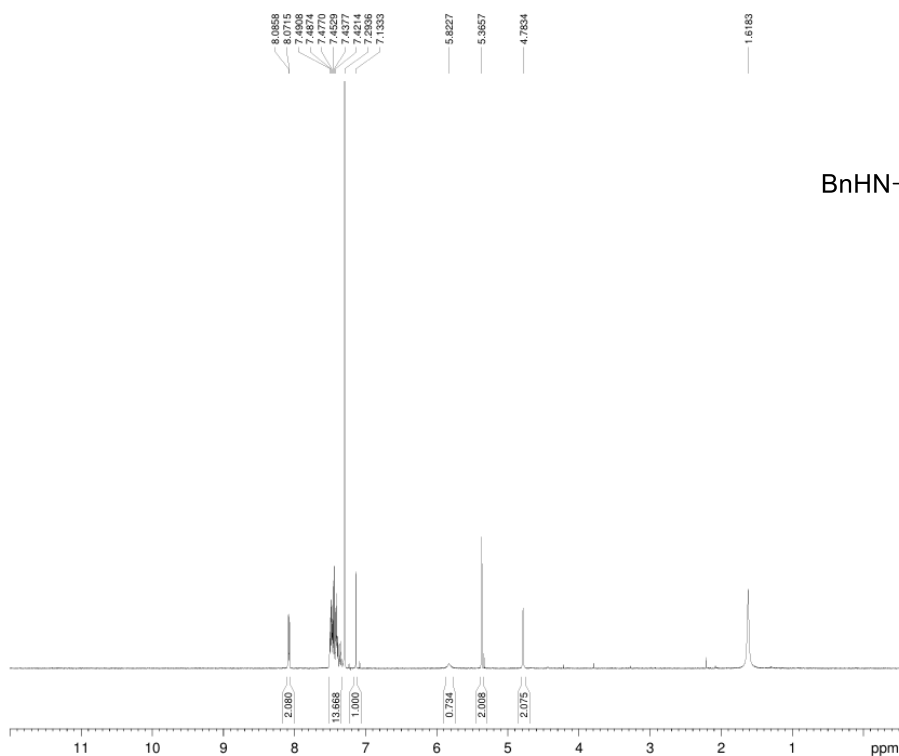
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1aac

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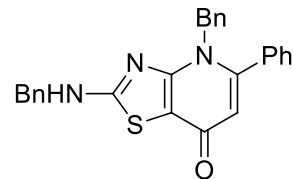
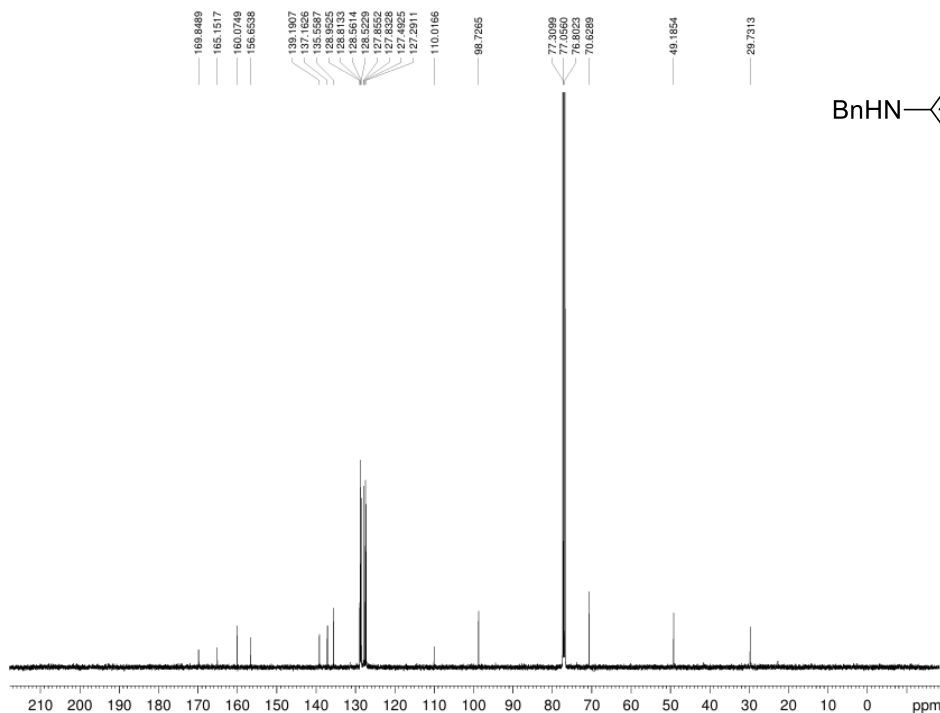
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1aac

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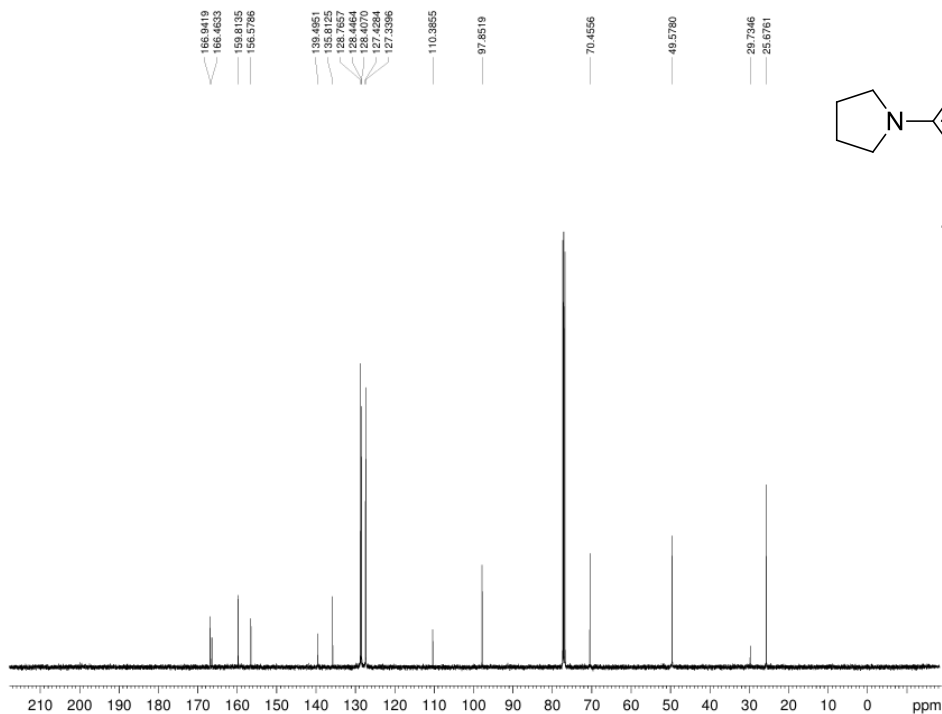
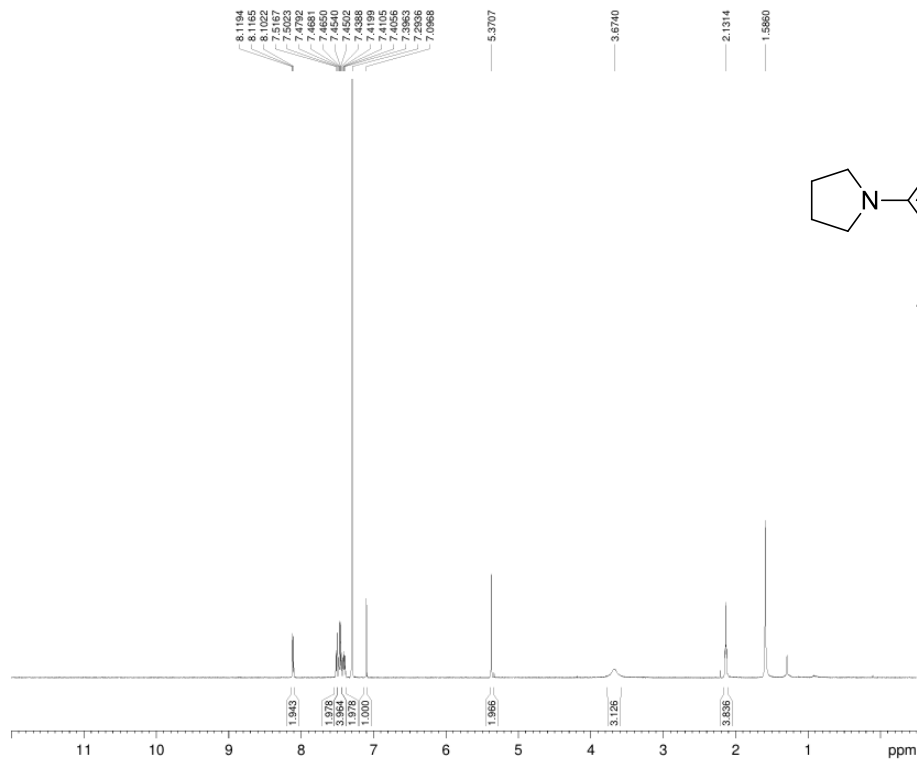
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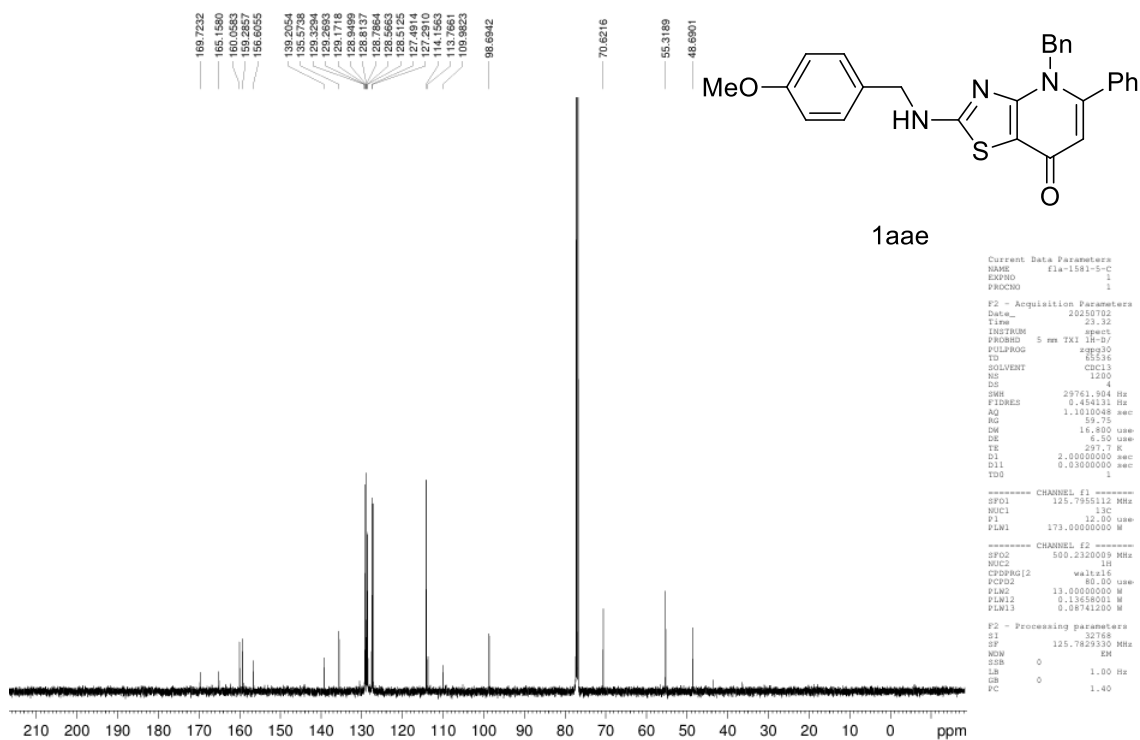
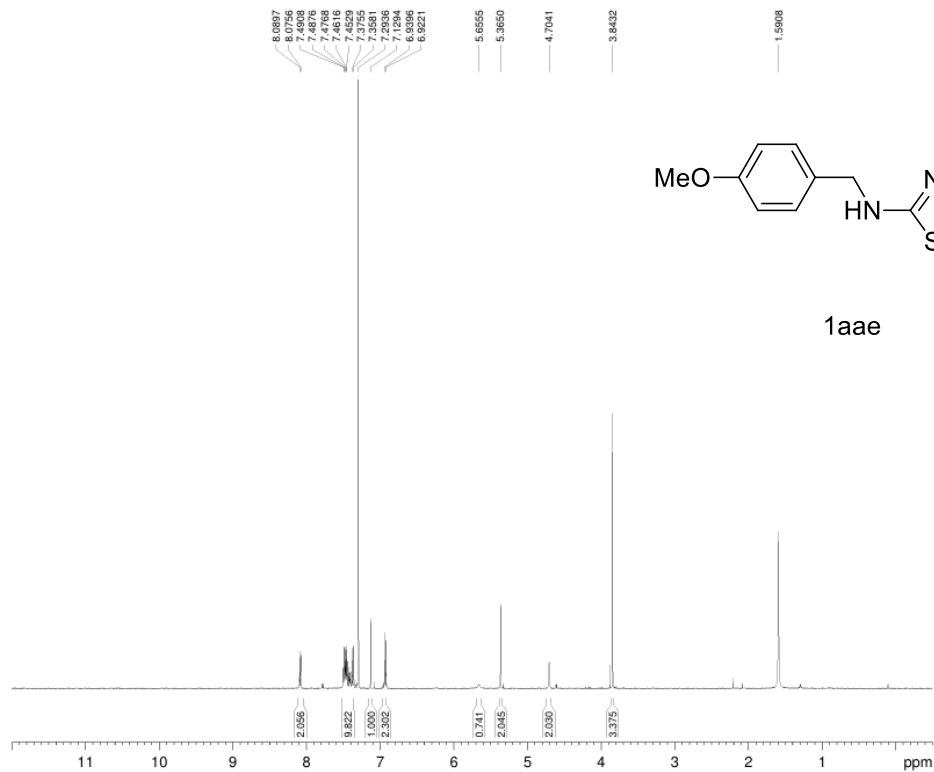
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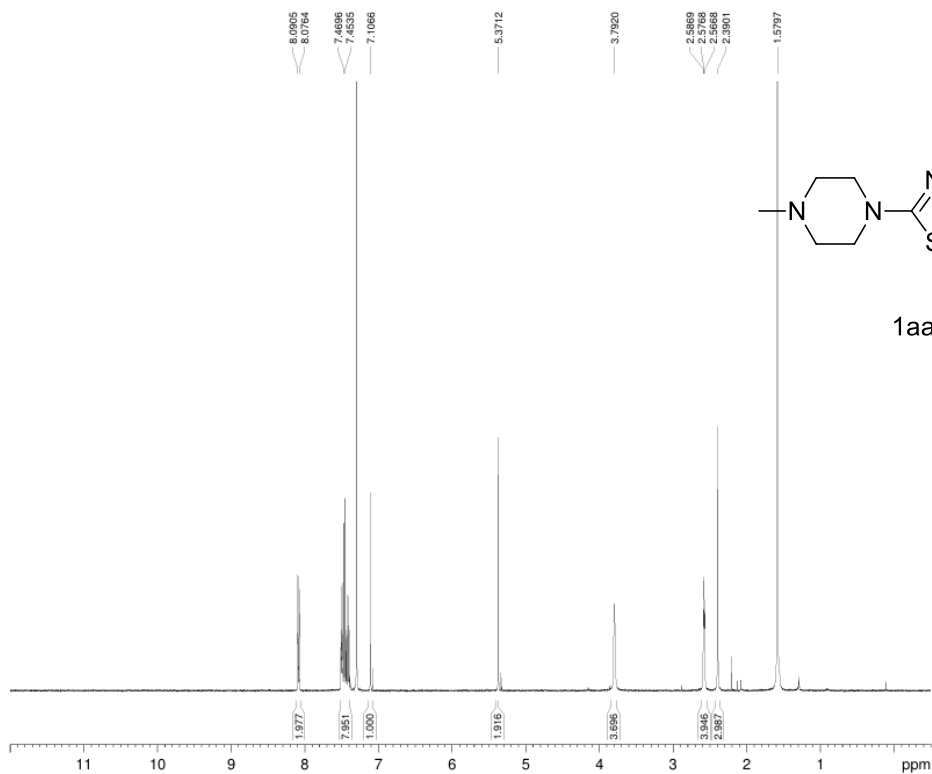
F2 - Processing parameters
SI          65536
SF          125.7823335 MHz
WDW         EM
SSB         0
LB          1.00 Hz
GB          0
PC          1.40

```









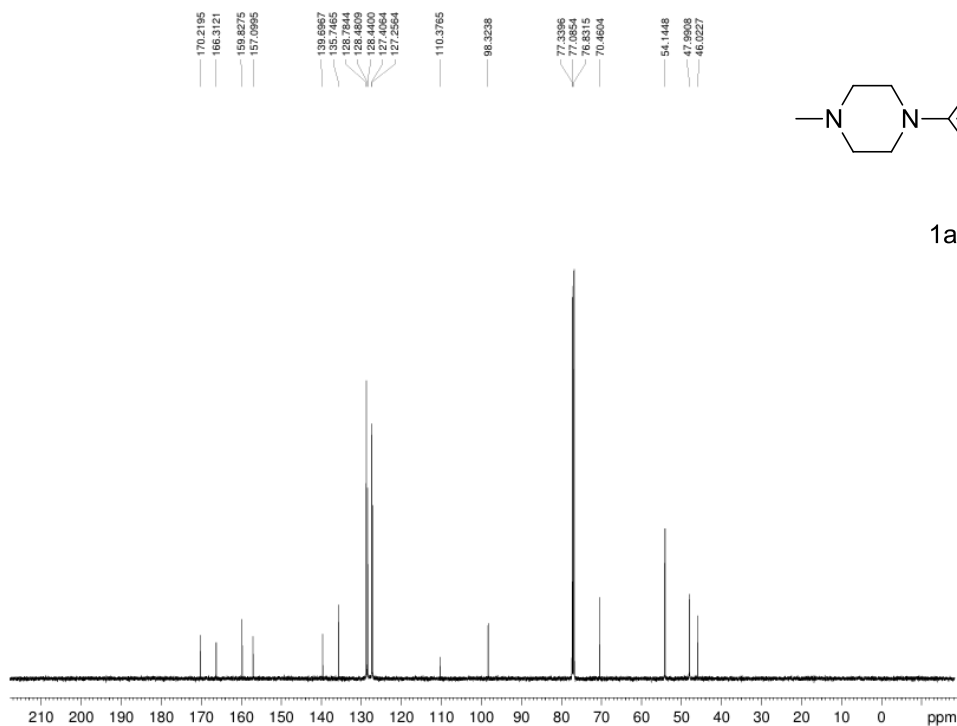
1aag

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Current Data Parameters
NAME      HUA1581-7
EXPNO     1
PROCNO    1

F2 - Acquisition Parameters
Date_     20250428
Time      17.12
INSTRUM   spect
PROBHD    5 mm TXI 1H-2/
PULPROG   zg30
TD         65536
SOLVENT   CDCl3
NS         16
DS         2
SWH        10000.000 Hz
FIDRES     0.152588 Hz
AQ         3.2767999 sec
RG         993.63
DM         50.000 usec
DE         6.50 usec
TE         296.8 K
D1         1.00000000 sec
TD0        1

***** CHANNEL f1 *****
SFO1      500.2300891 MHz
NUC1       1H
P1         8.20 usec
PLW1      13.00000000 W

F2 - Processing parameters
SI         65536
SF         500.2300000 MHz
WDW        EM
SSB        0
LB         0.30 Hz
GB         0
PC         1.00
```



1aag

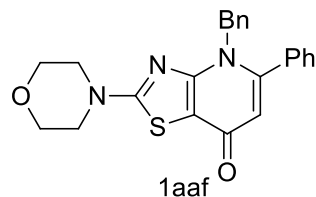
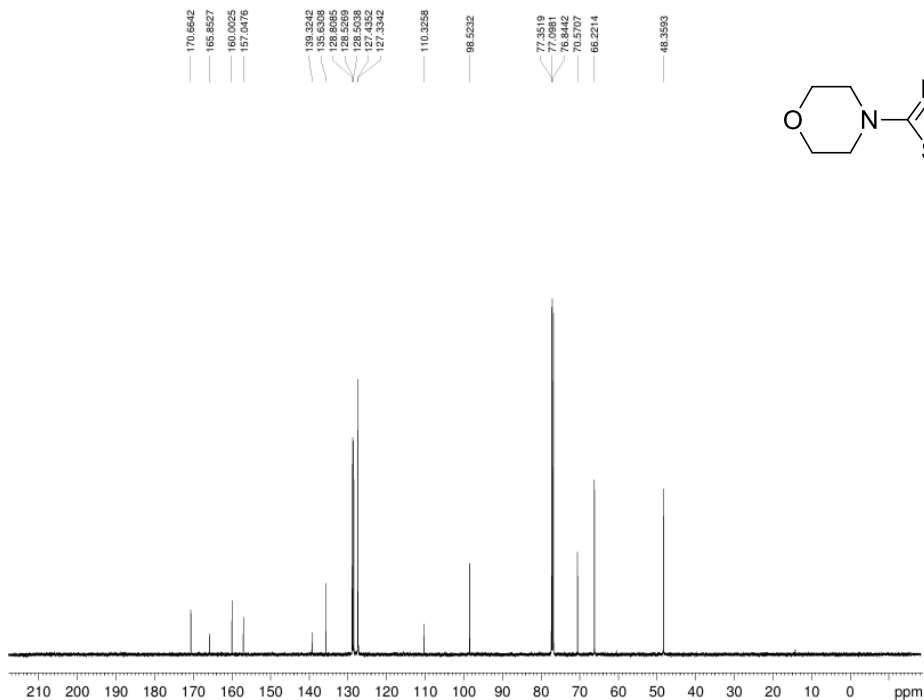
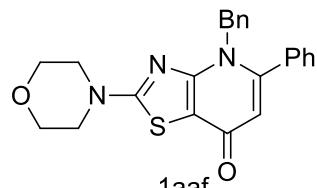
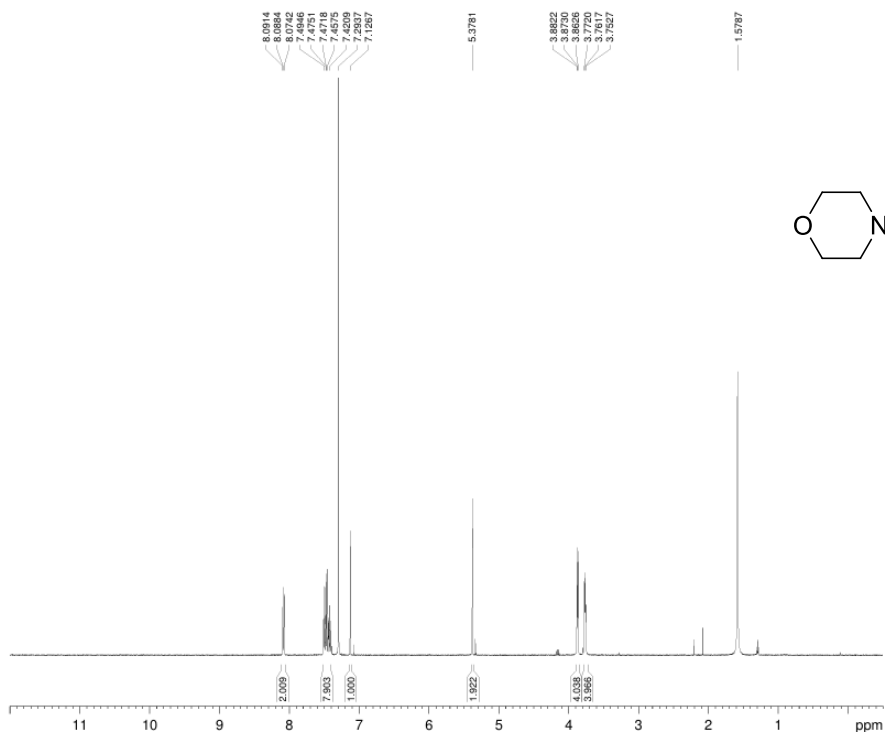
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Current Data Parameters
NAME      fla-1581-7-c
EXPNO     2
PROCNO    1

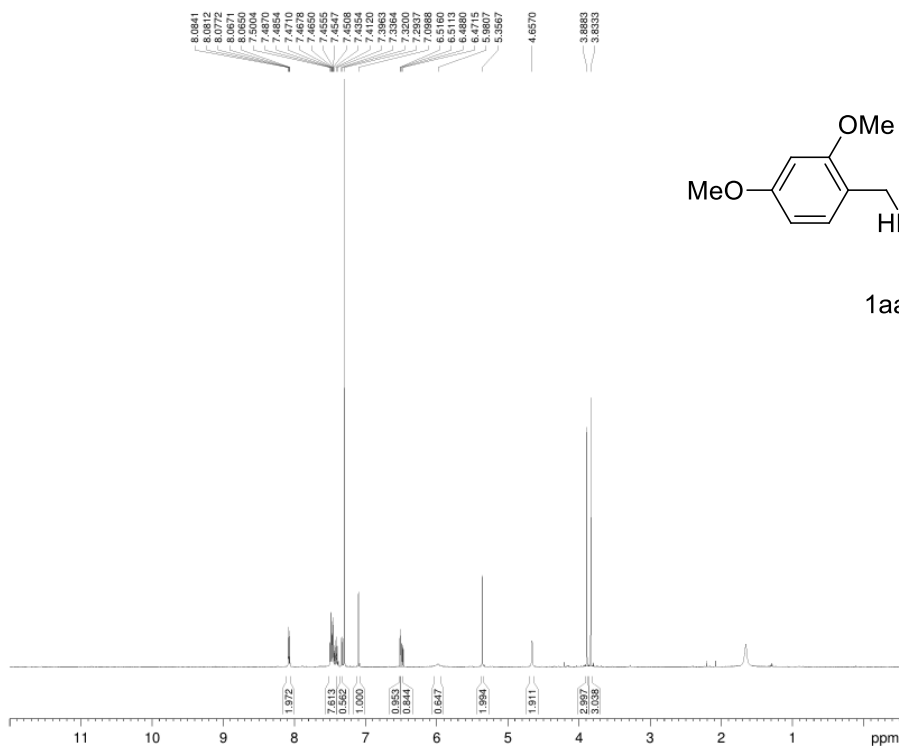
F2 - Acquisition Parameters
Date_     20250703
Time      1.48
INSTRUM   spect
PROBHD    5 mm TXI 1H-2/
PULPROG   zgpg30
TD         65536
SOLVENT   CDCl3
NS         1280
DS         4
SWH        29761.904 Hz
FIDRES     0.454111 Hz
AQ         1.1010048 sec
RG         59.75
DM         16.800 usec
DE         6.50 usec
TE         297.7 K
D1         2.00000000 sec
D11        0.03000000 sec
TD0        1

***** CHANNEL f1 *****
SFO1      125.7955112 MHz
NUC1       13C
P1         12.00 usec
PLW1      173.00000000 W

***** CHANNEL f2 *****
SFO2      500.2300009 MHz
NUC2       1H
CPDPRG2   waltz16
PCPD2     80.00 usec
PLW2      13.00000000 W
PLW12     0.13658001 W
PLW13     0.06741200 W

F2 - Processing parameters
SI         65536
SF         125.7823330 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40
```



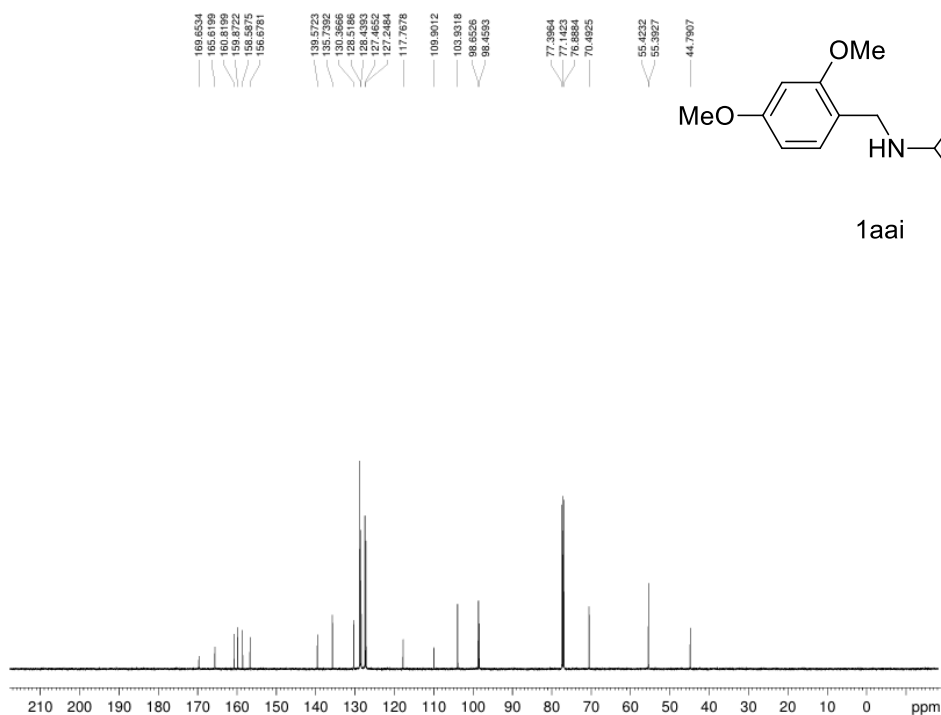


Current Data Parameters
NAME HUA1581-9
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20250428
Time 17.22
INSTRUM spect
PROBHD 5 mm TXI 1H-5/
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 15
DS 1
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2167899 sec
RG 549.91
DM 50.000 usec
DE 6.50 usec
TE 296.9 K
D1 1.00000000 sec
TDO 1

***** CHANNEL f1 *****
SFO1 500.2330891 MHz
NUC1 1H
P1 8.20 usec
PL1 13.00000000 W

F2 - Processing parameters
SI 65336
SF 500.2300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



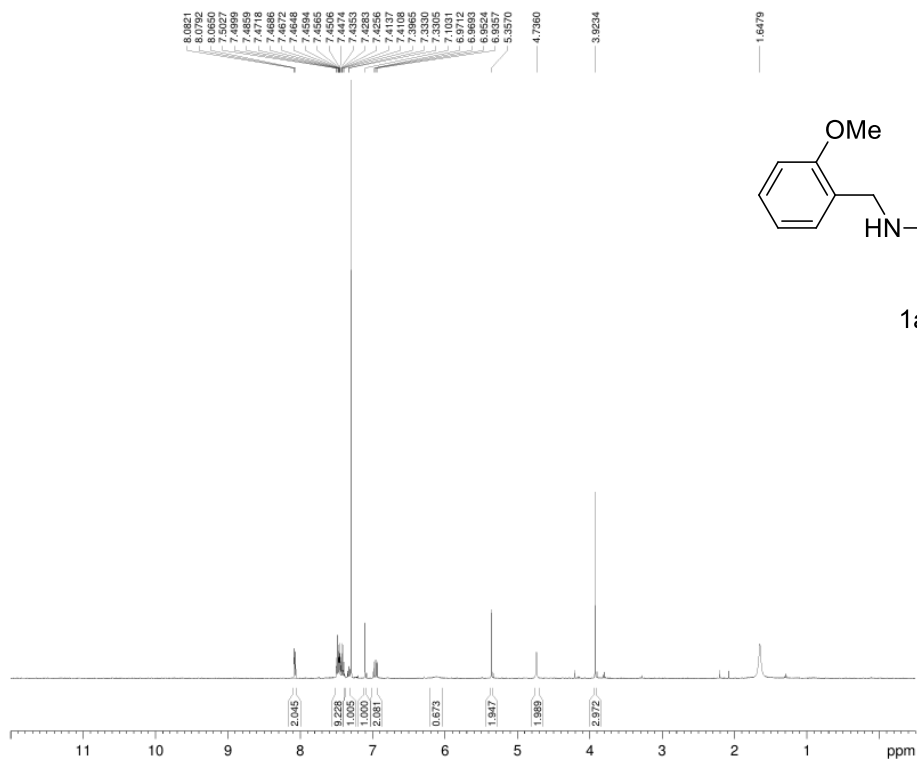
Current Data Parameters
NAME fla-1581-9-C
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20250703
Time 3.53
INSTRUM spect
PROBHD 5 mm TXI 1H-5/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 1000
DS 1
SWH 29761.904 Hz
FIDRES 0.484131 Hz
AQ 1.1010048 sec
RG 59.75
DM 16.800 usec
DE 6.50 usec
TE 297.7 K
D1 2.00000000 sec
D11 0.03000000 sec
TDO 1

***** CHANNEL f1 *****
SFO1 125.7955112 MHz
NUC1 13C
P1 12.00 usec
PL1 173.00000000 W

***** CHANNEL f2 *****
SFO2 100.2300000 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 80.00 usec
P1A2 13.00000000 W
PLM12 0.13658001 W
PLM13 0.08741200 W

F2 - Processing parameters
SI 32768
SF 125.7829330 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

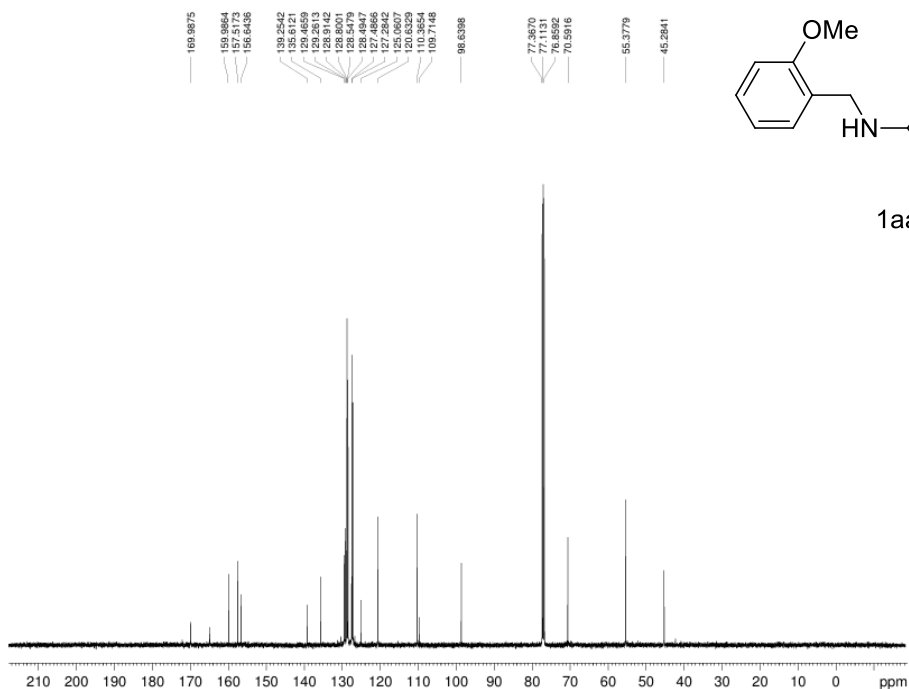


Current Data Parameters
NAME HUA1581-10
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20250428
Time 17.27
INSTRUM spect
PROBHD 5 mm TXI 1H-CP
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.216799 sec
RG 993.63
DM 50.000 usec
DE 6.50 usec
TE 296.9 K
D1 1.0000000 sec
TDO 1

***** CHANNEL f1 *****
SFO1 500.2330891 MHz
NUC1 1H
P1 8.20 usec
PLM1 13.0000000 W

F2 - Processing parameters
SI 65536
SF 500.2300000 MHz
MDM 0 EM
SFB 0
LB 0.30 Hz
GB 0
PC 1.00



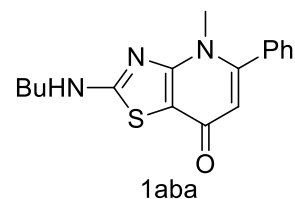
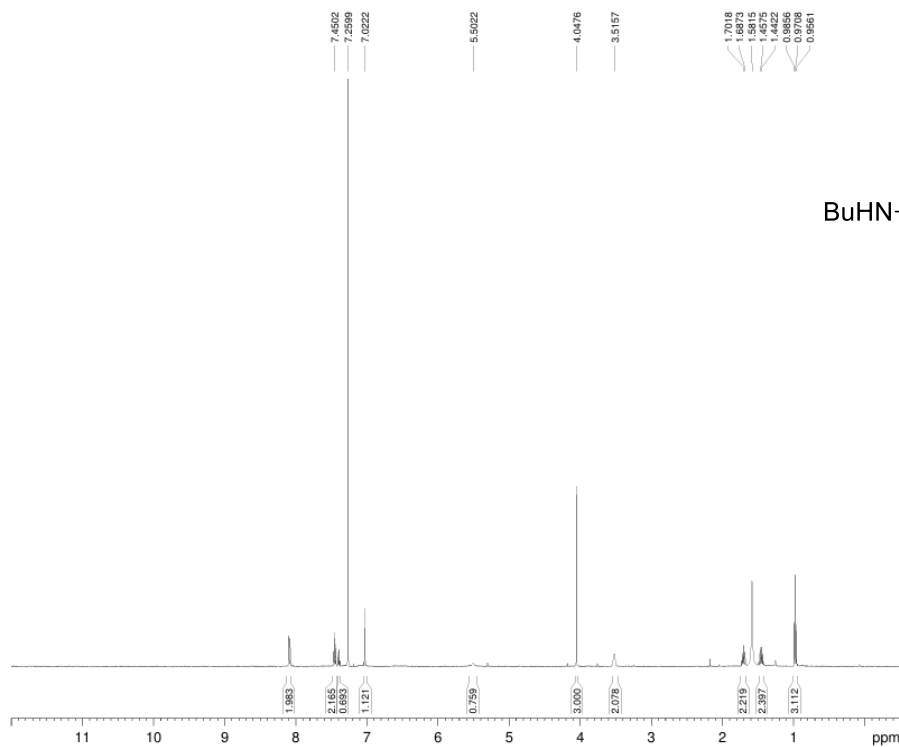
Current Data Parameters
NAME file-1581-10-C
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20250703
Time 9.50
INSTRUM spect
PROBHD 5 mm TXI 1H-CP
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 1200
DS 4
SWH 20761.904 Hz
FIDRES 0.454813 Hz
AQ 1.1010048 sec
RG 129.14
DM 16.800 usec
DE 6.50 usec
TE 297.8 K
D1 2.0000000 sec
D11 0.0300000 sec
TDS 1

***** CHANNEL f1 *****
SFO1 125.7955112 MHz
NUC1 13C
P1 12.00 usec
PLM1 173.0000000 W

***** CHANNEL f2 *****
SFO2 500.2320009 MHz
NUC2 1H
PCPDG2 wait16
PCPDG2 0.1000000 sec
PLM2 13.0000000 W
PLM3 0.08761200 W

F2 - Processing parameters
SI 65536
SF 125.7825330 MHz
MDM 0 EM
SFB 0
LB 1.00 Hz
GB 0
PC 1.40

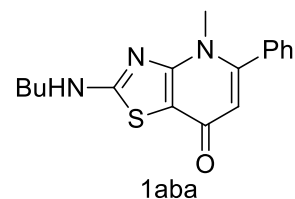
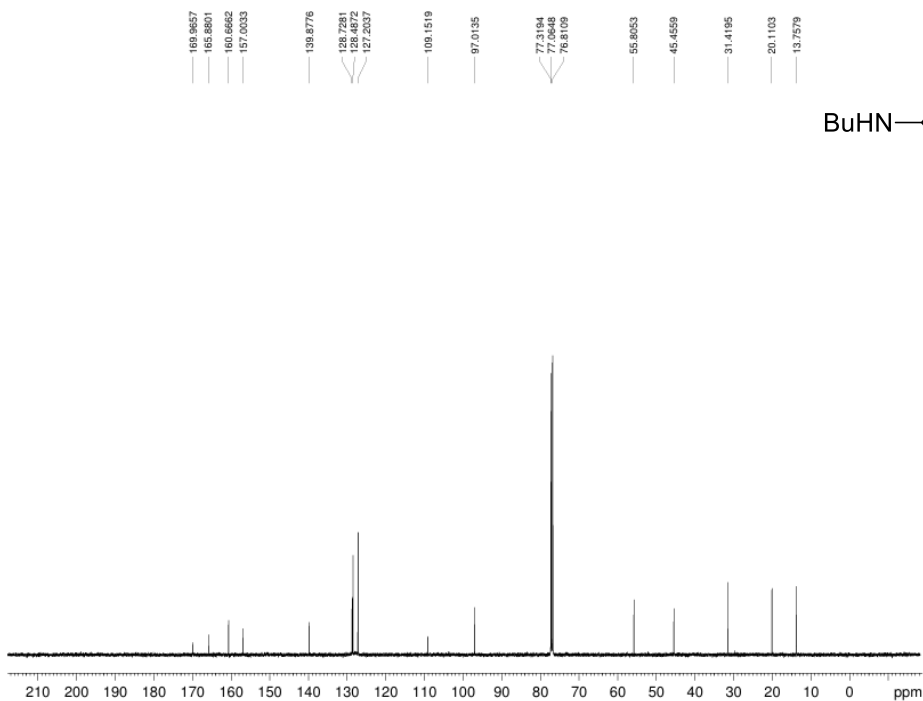


Current Data Parameters
NAME HUA1582-1
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20250512
Time 17.35
INSTRUM spect
PROBHD 5 mm TXI 1H-5/
PULPROG zgpg30
TD 65536
FIDRES 0.152588 Hz
AQ 3.2767993 sec
RG 549.91
DM 50.000 usec
DE 6.50 usec
TE 296.4 K
D1 1.00000000 sec
D11 1
D12 1

===== CHANNEL f1 =====
SFO1 500.2330891 MHz
NUC1 1H
P1 8.20 usec
PLW1 13.00000000 W

F2 - Processing parameters
SI 65536
SF 500.2300169 MHz
WDW EM
SSB 0
GB 0
LB 0.30 Hz
PC 1.00



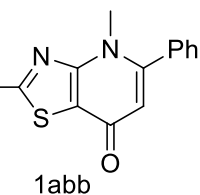
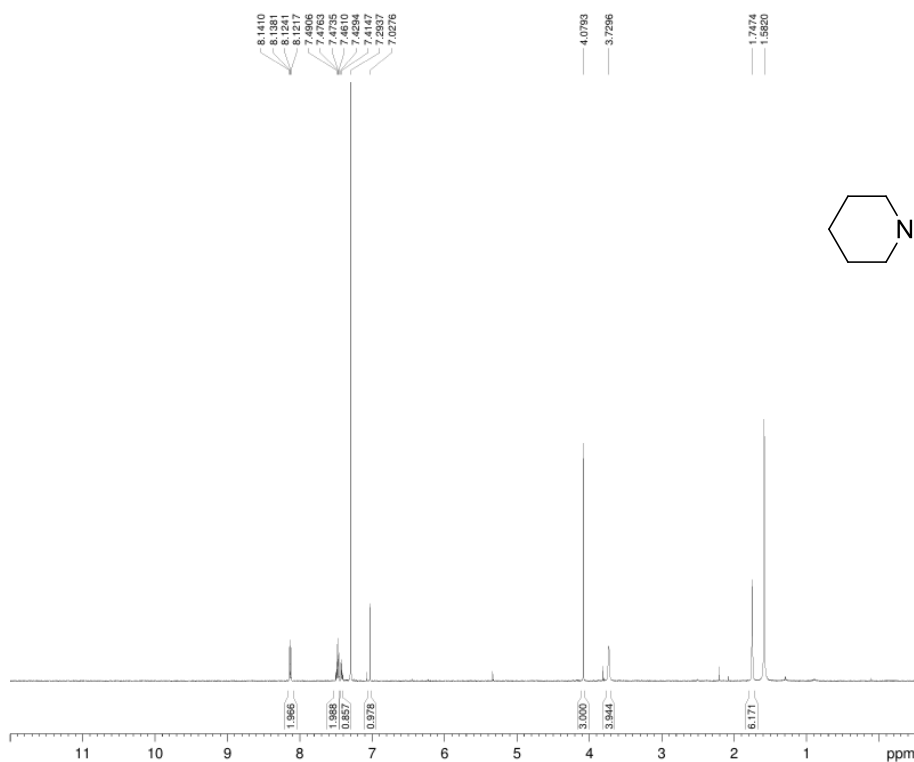
Current Data Parameters
NAME HUA1582-1-C
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20250513
Time 6.37
INSTRUM spect
PROBHD 5 mm TXI 1H-5/
PULPROG zgpg30
TD 65536
FIDRES 0.152588 Hz
AQ 3.2767993 sec
RG 549.91
DM 50.000 usec
DE 6.50 usec
TE 296.4 K
D1 1.00000000 sec
D11 1
D12 1

===== CHANNEL f1 =====
SFO1 125.7585112 MHz
NUC1 13C
P1 12.00 usec
PLW1 173.00000000 W

===== CHANNEL f2 =====
SFO2 500.2320009 MHz
NUC2 1H
P2 8.20 usec
PLW2 13.00000000 W

F2 - Processing parameters
SI 65536
SF 125.7633330 MHz
WDW EM
SSB 0
GB 0
LB 1.00 Hz
PC 1.40

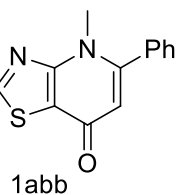
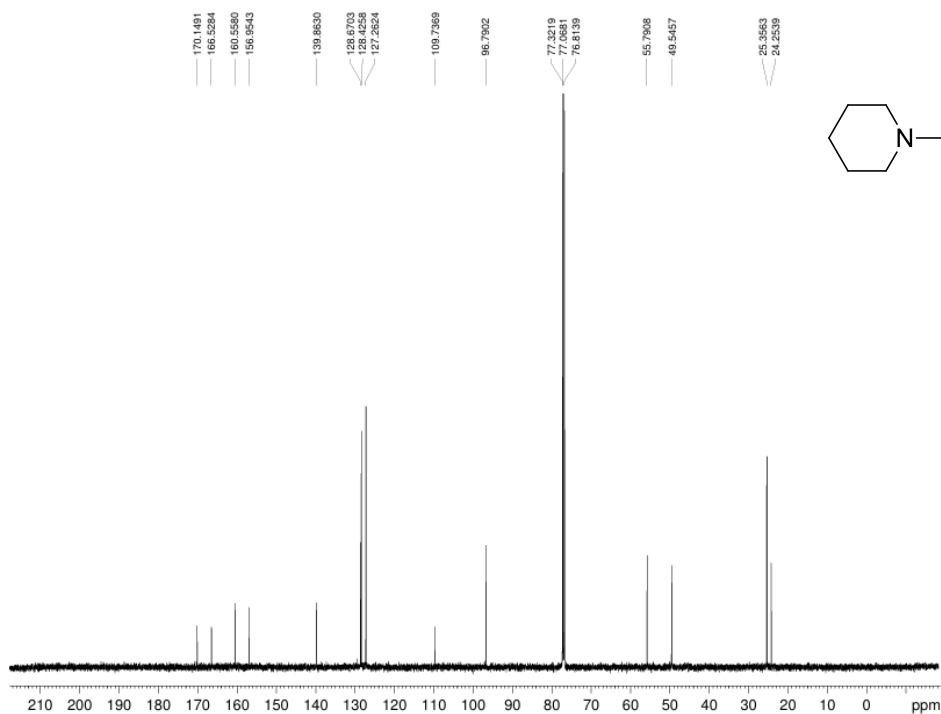


Current Data Parameters
NAME HUA1582-2
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20250512
Time 17:40
INSTRUM spect
PROBHD 5 mm TXI 1H-5/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 16
DS 10000.000 Hz
SHE FIDRES 0.152588 Hz
AQ 3.2767799 sec
RG 1020
DM 50.000 usec
DE 6.50 usec
TE 296.5 K
D1 1.00000000 sec
TDO

***** CHANNEL f1 *****
SFO1 500.2330891 MHz
NUC1 1H
P1 8.20 usec
PLM1 13.00000000 W

F2 - Processing parameters
SI 65536
SF 500.2330891 MHz
WDW EM
GB 0
LB 0.30 Hz
GB 0
PC 1.00



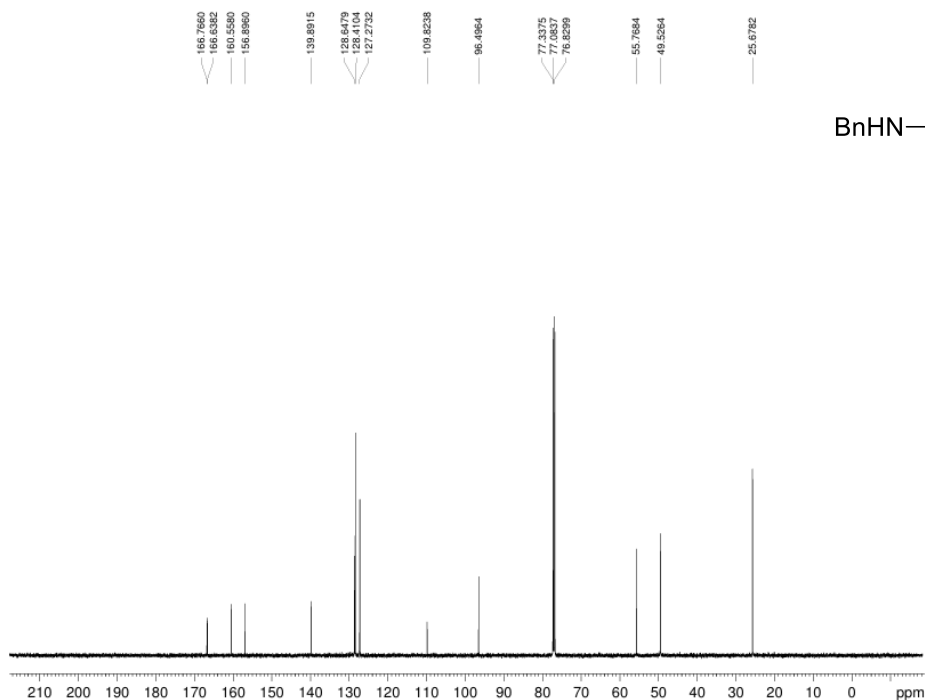
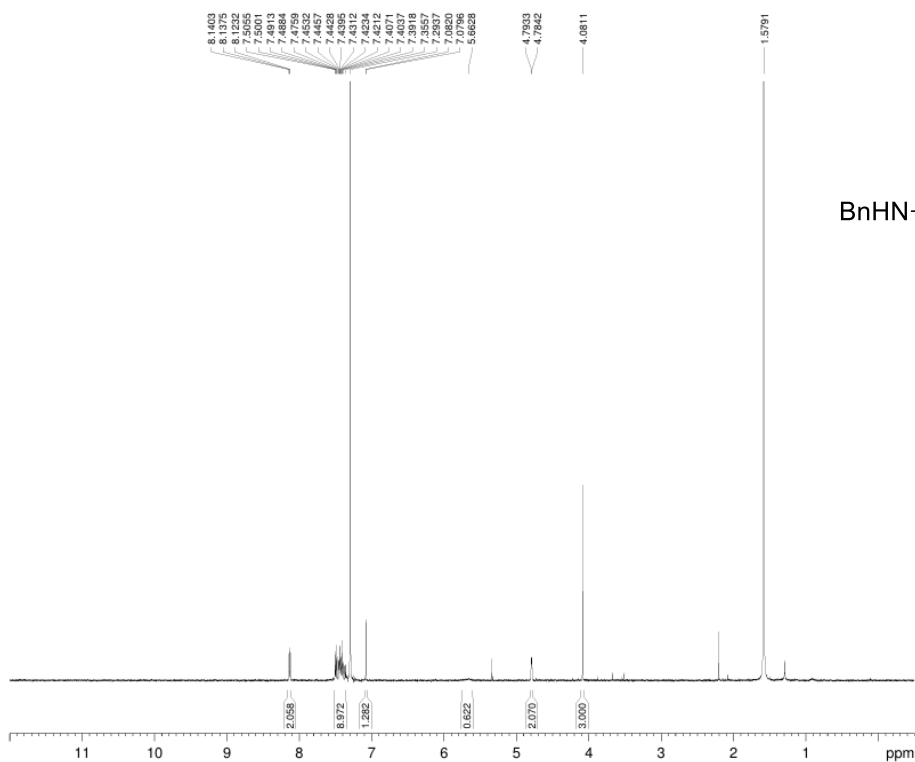
Current Data Parameters
NAME HUA1582-2-C
EXPNO 1
PROCNO 1

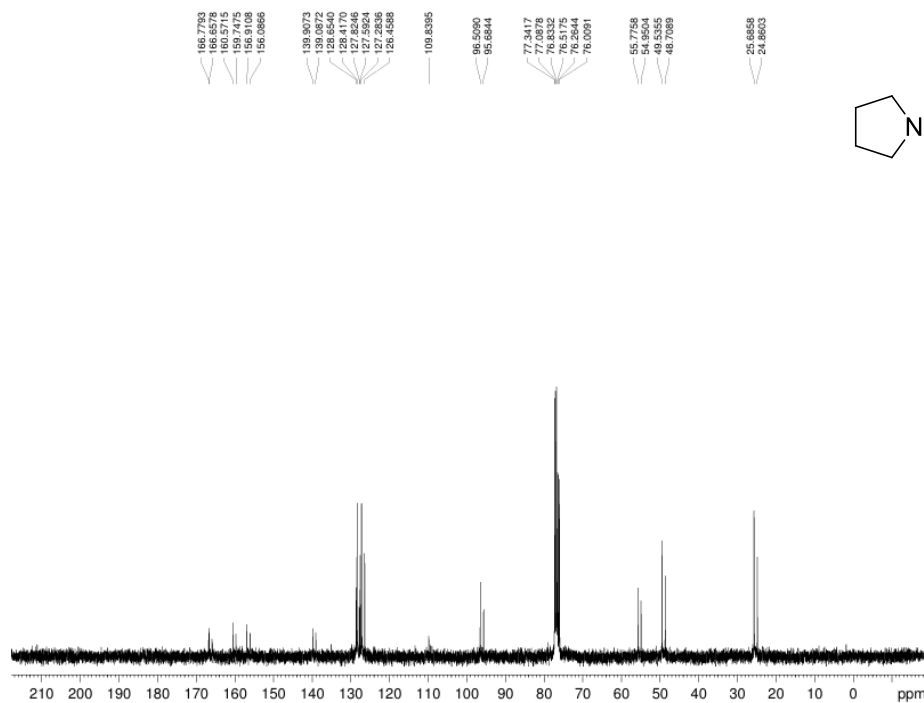
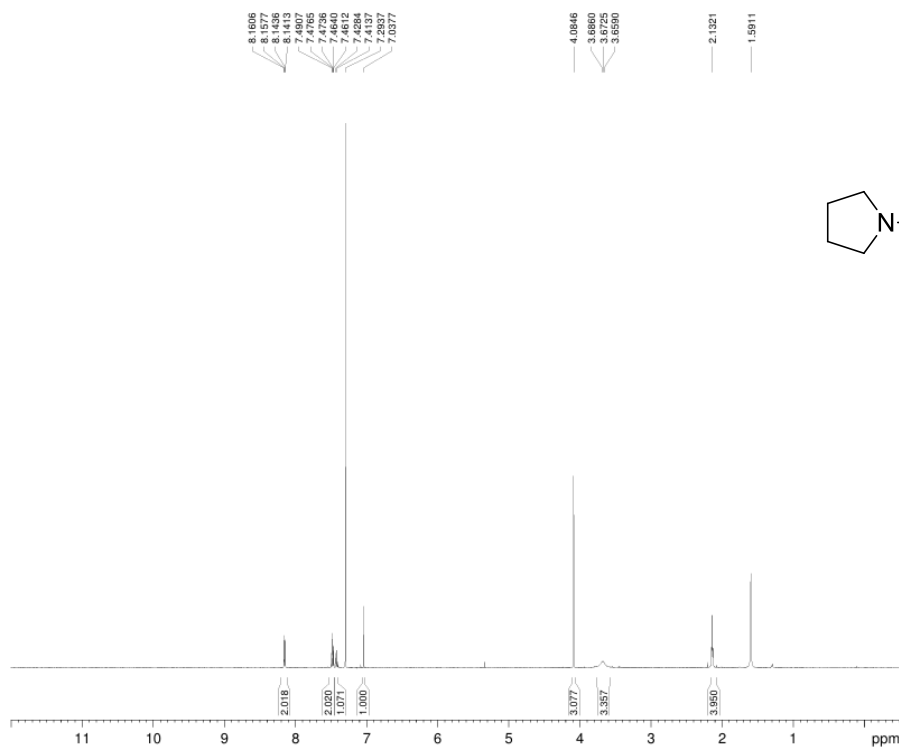
F2 - Acquisition Parameters
Date_ 20250513
Time 7:55
INSTRUM spect
PROBHD 5 mm TXI 1H-5/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 16
DS 4
SHE FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 59.75
DM 16.800 usec
DE 6.50 usec
TE 296.7 K
D1 2.00000000 sec
D11 0.03000000 sec
TDO

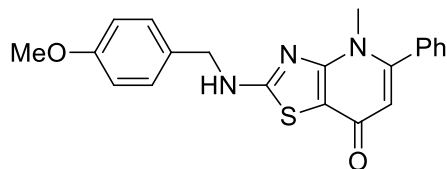
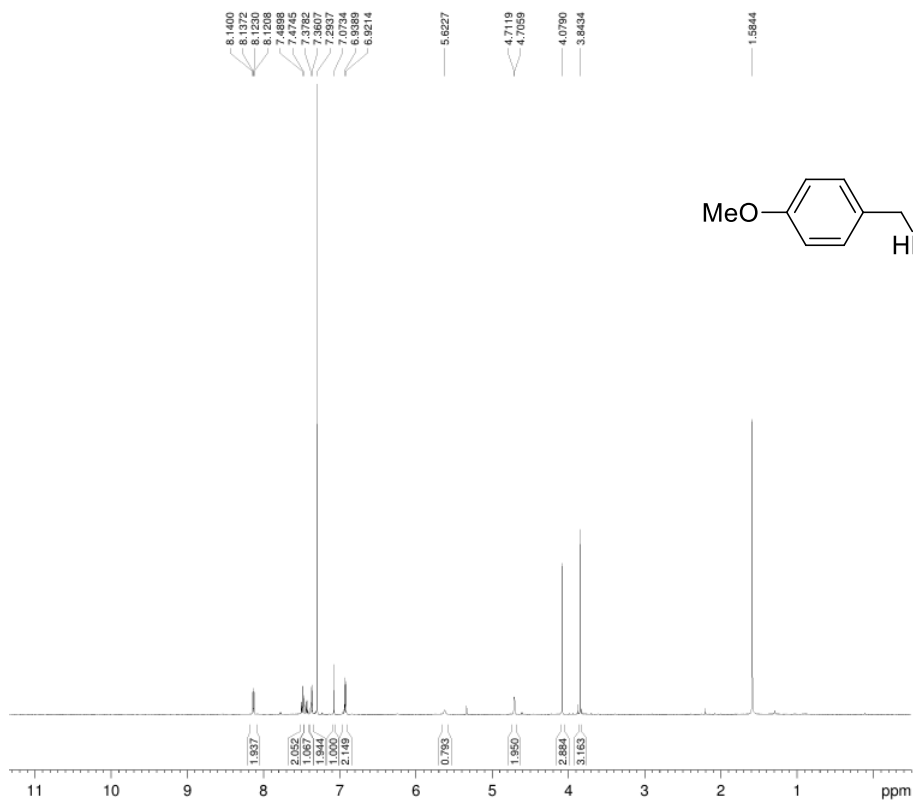
***** CHANNEL f1 *****
SFO1 125.7958112 MHz
NUC1 13C
P1 12.00 usec
PLM1 173.00000000 W

***** CHANNEL f2 *****
SFO2 500.2320009 MHz
NUC2 1H
PCPD2 zgpg30
P2 13.00000000 W
PLM2 0.08741200 W

F2 - Processing parameters
SI 32768
SF 125.7829330 MHz
WDW EM
GB 0
LB 1.00 Hz
GB 0
PC 1.40







1abe

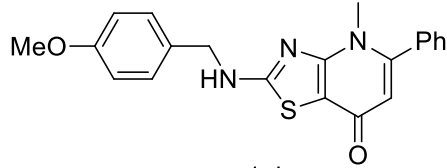
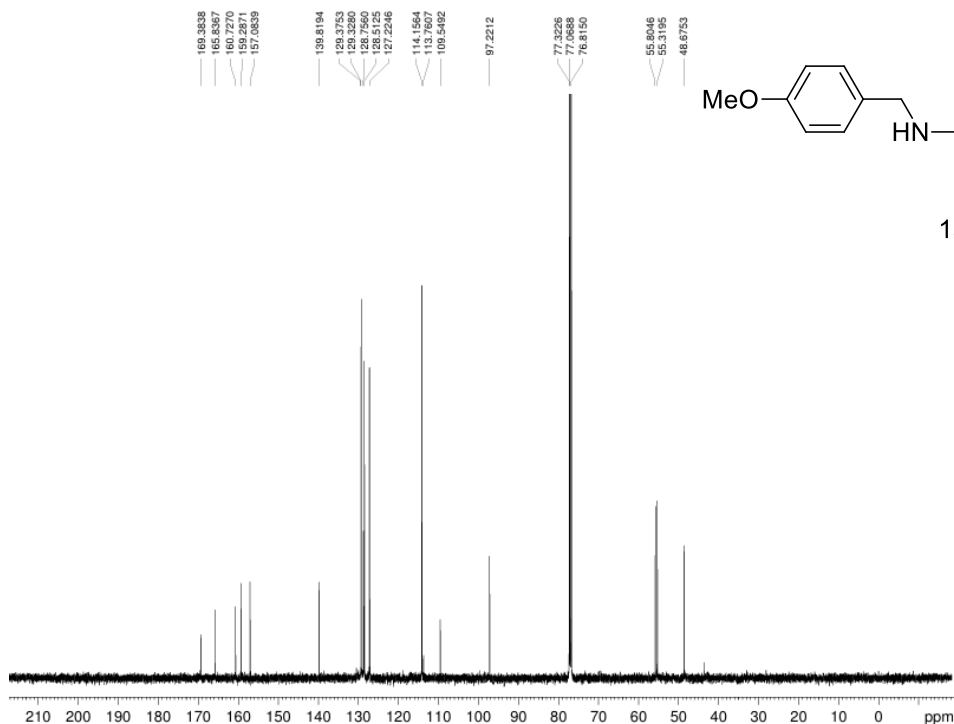
Current Data Parameters
NAME HUA1582-5-C
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20250512
Time 22.12
INSTRUM spect
PROBHD 5 mm TXI 1H-5/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 160
DS 4
SWH 29761.904 Hz
FIDRES 0.464131 Hz
AQ 1.1010048 sec
RG 104.49
DM 16.800 usec
DE 6.50 usec
TE 297.1 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 125.7955112 MHz
NUC1 13C
P1 12.00 usec
PLW1 173.00000000 W

===== CHANNEL f2 =====
SFO2 500.2330000 MHz
NUC2 1H
PCPD2 waltz16
PCPD2 80.00 usec
PLW2 13.00000000 W
PLW12 0.13658001 W
PLW13 0.08741200 W

F2 - Processing parameters
SI 52718
SF 125.7825330 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
FC 1.40



1abe

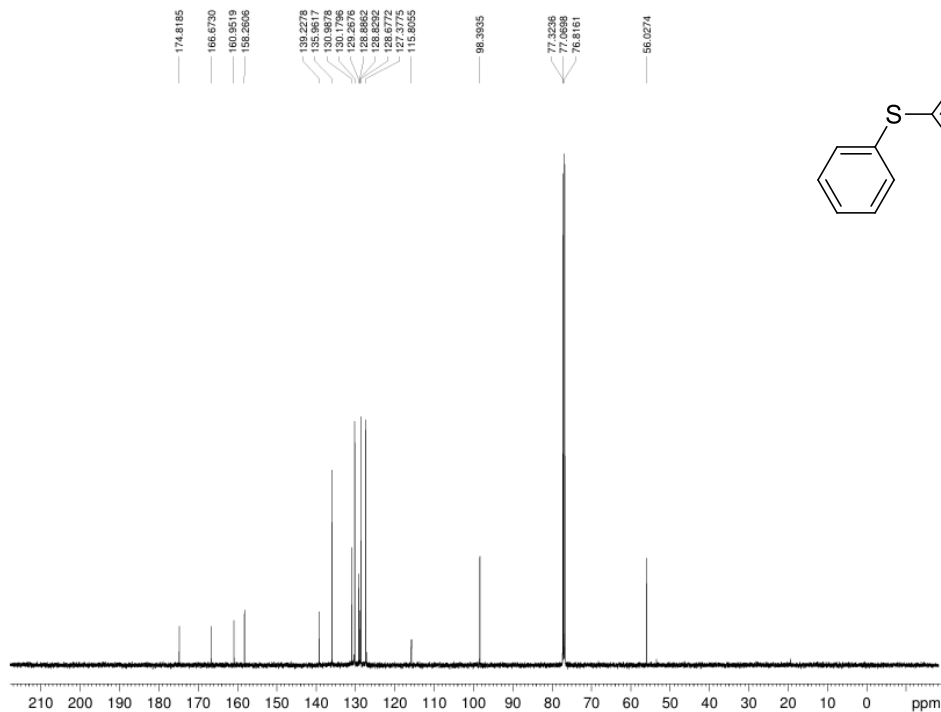
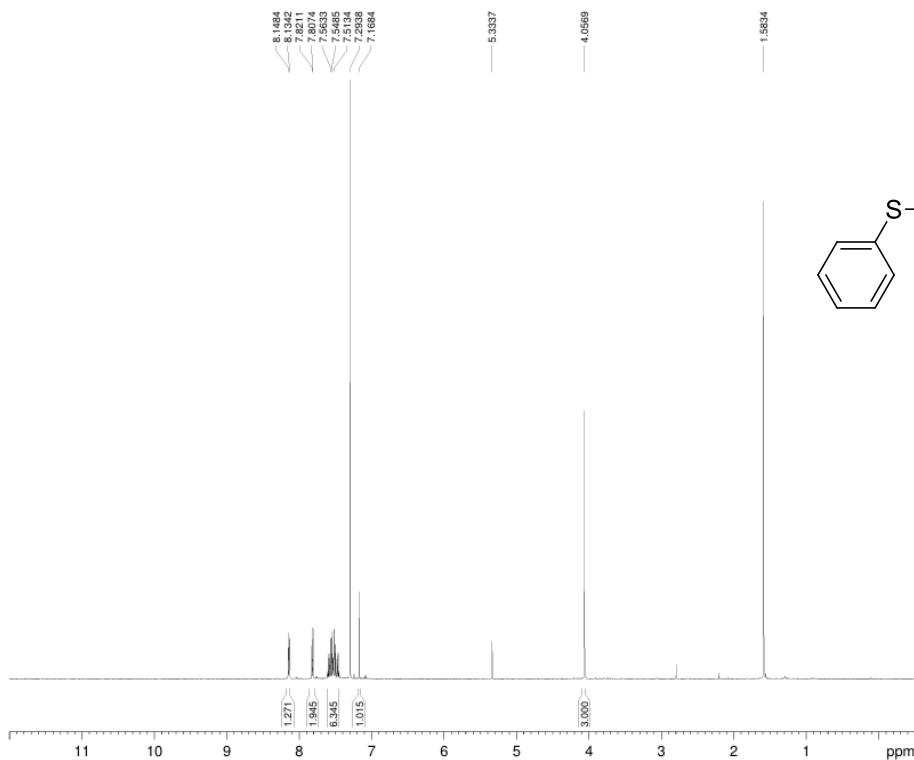
Current Data Parameters
NAME HUA1582-5-C
EXPNO 1
PROCNO 1

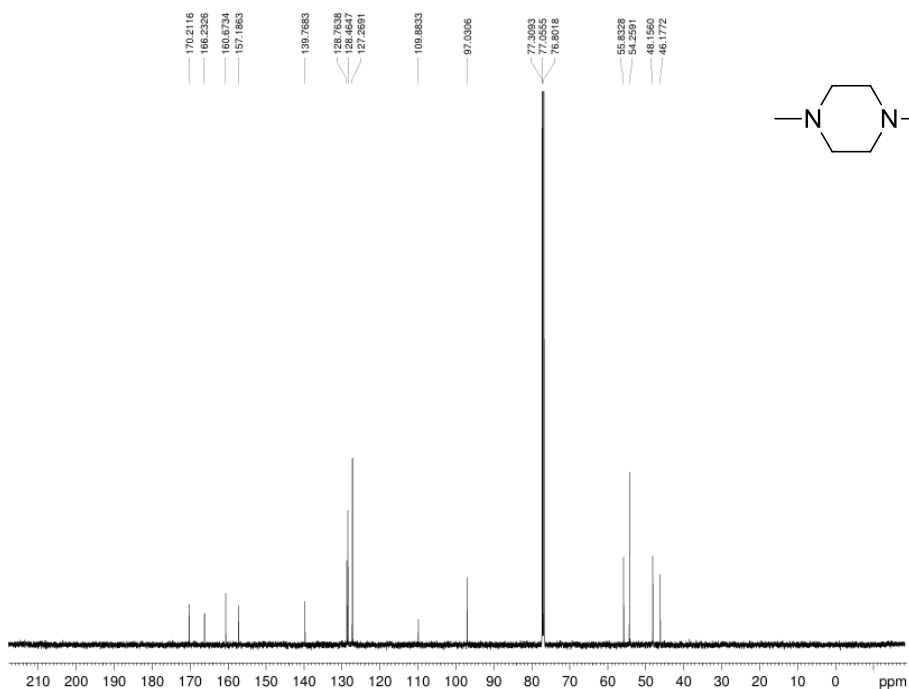
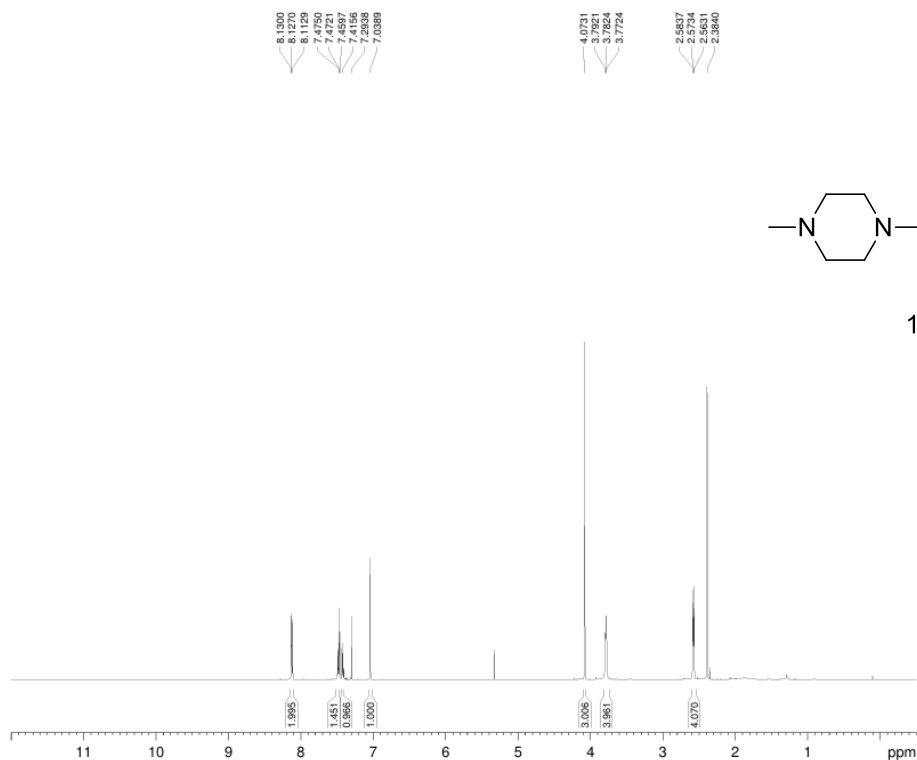
F2 - Acquisition Parameters
Date_ 20250512
Time 22.12
INSTRUM spect
PROBHD 5 mm TXI 1H-5/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 160
DS 4
SWH 29761.904 Hz
FIDRES 0.464131 Hz
AQ 1.1010048 sec
RG 104.49
DM 16.800 usec
DE 6.50 usec
TE 297.1 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

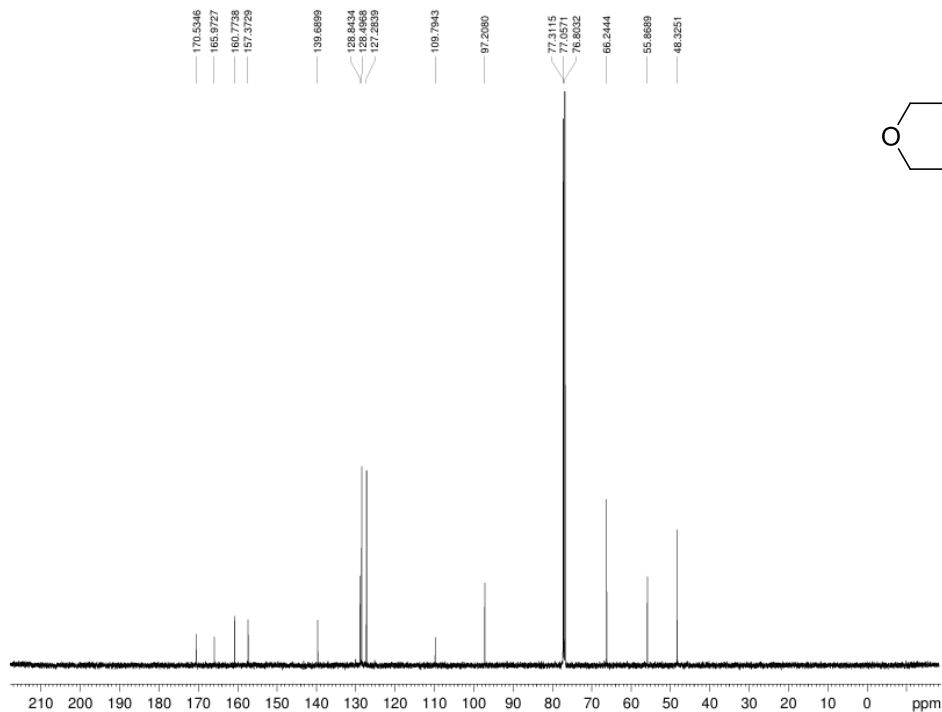
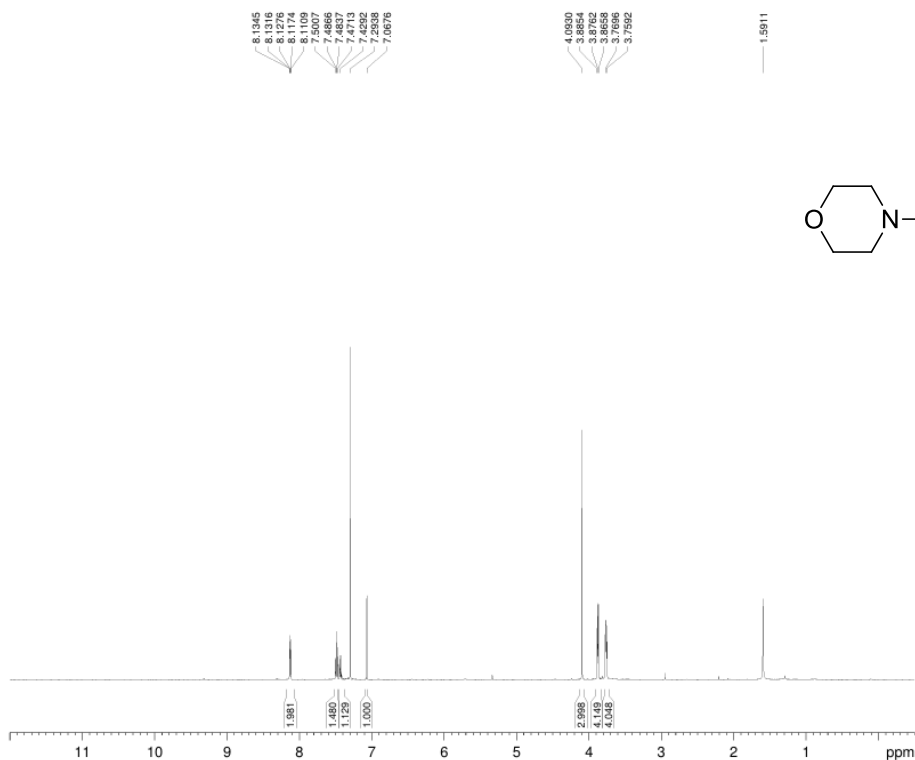
===== CHANNEL f1 =====
SFO1 125.7955112 MHz
NUC1 13C
P1 12.00 usec
PLW1 173.00000000 W

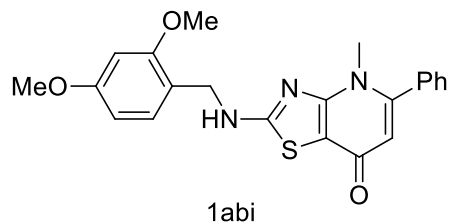
===== CHANNEL f2 =====
SFO2 500.2330000 MHz
NUC2 1H
PCPD2 waltz16
PCPD2 80.00 usec
PLW2 13.00000000 W
PLW12 0.13658001 W
PLW13 0.08741200 W

F2 - Processing parameters
SI 52718
SF 125.7825330 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
FC 1.40

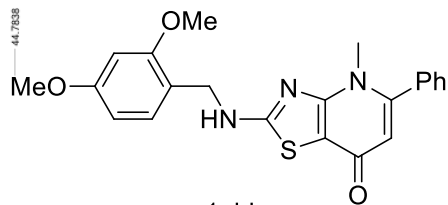




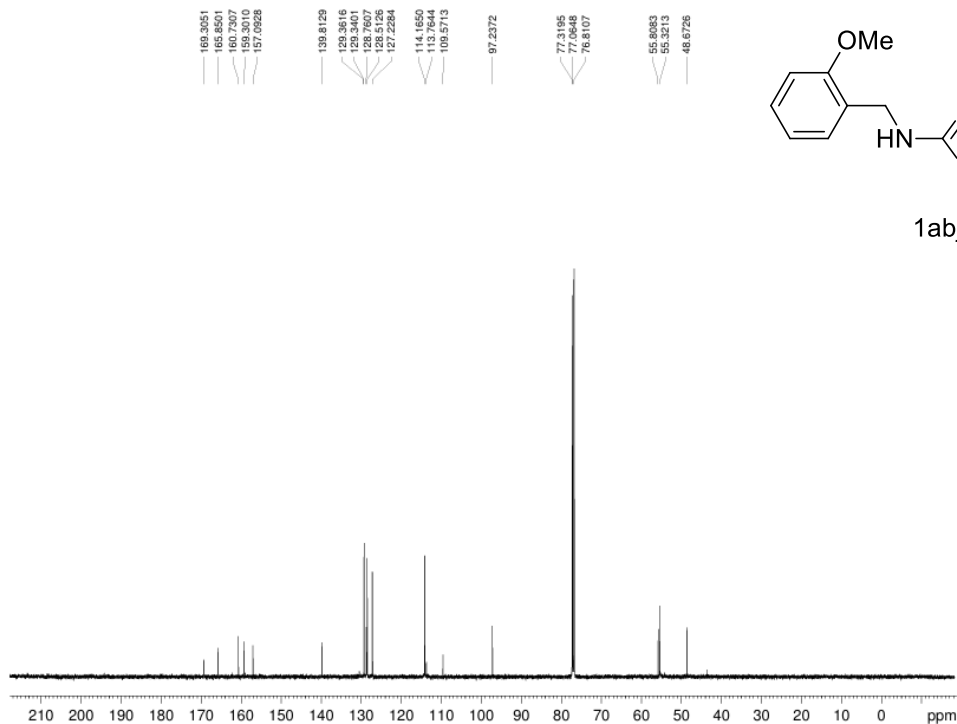
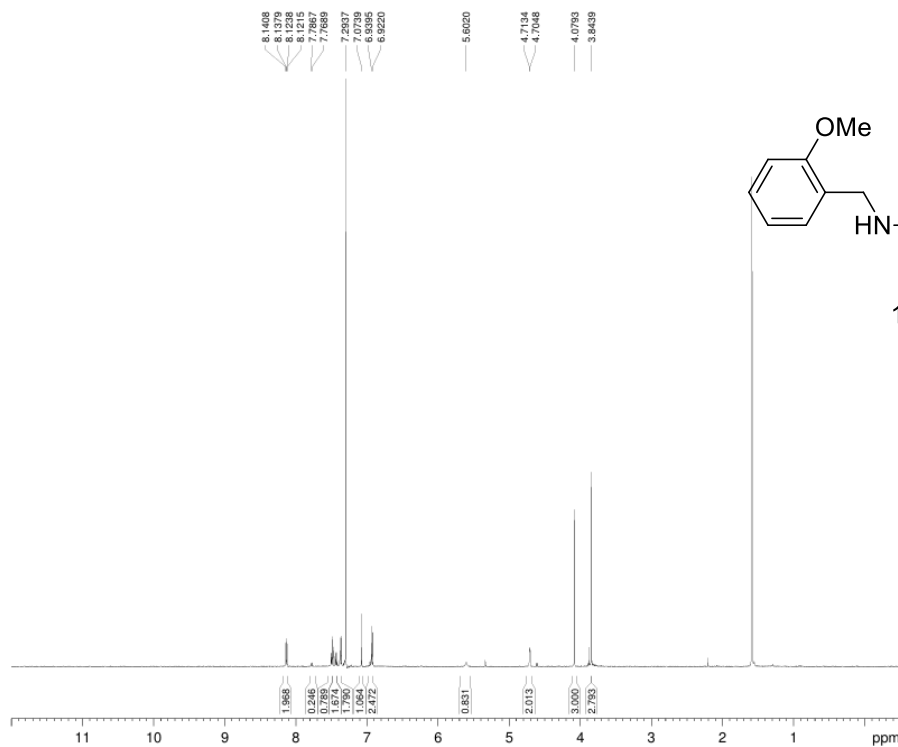


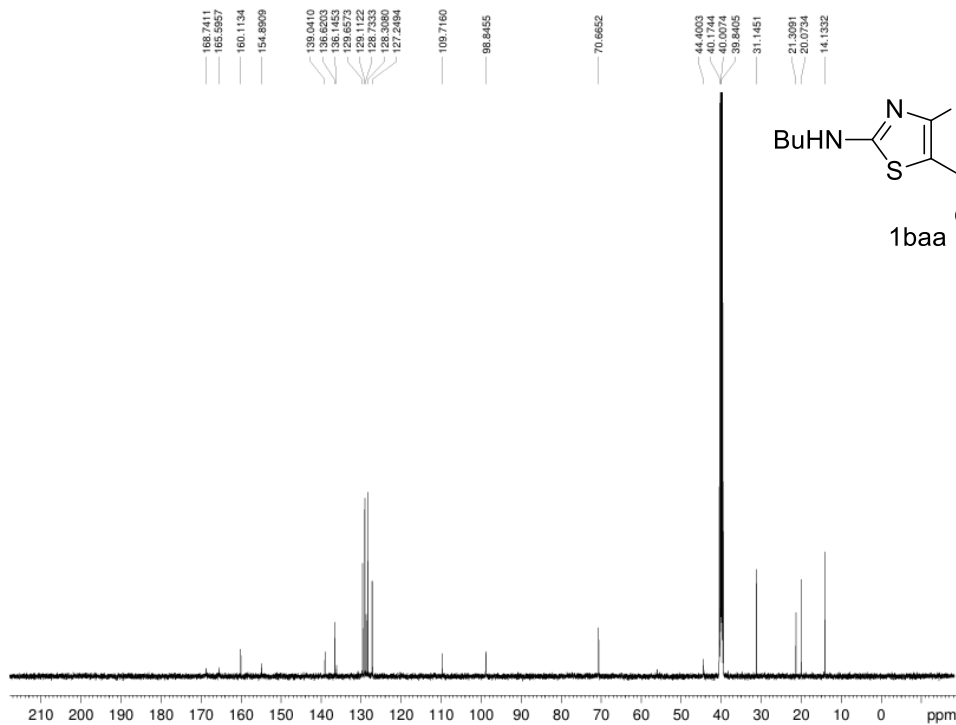
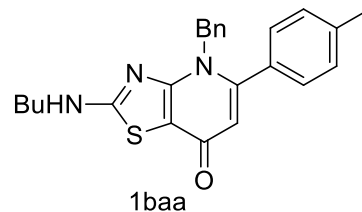
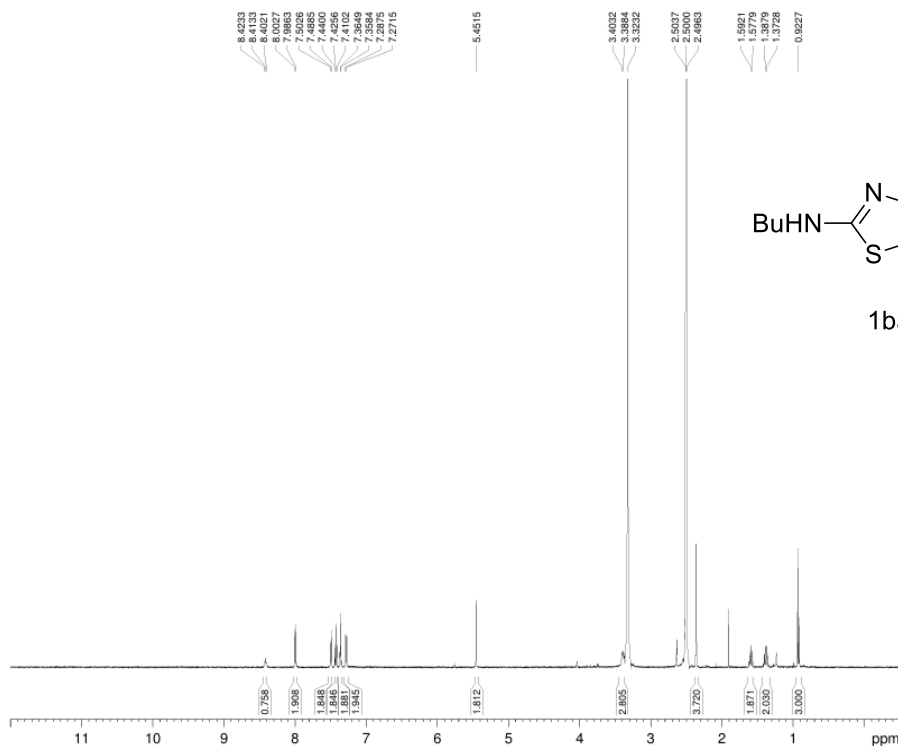


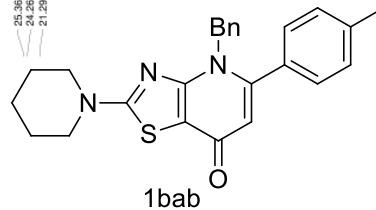
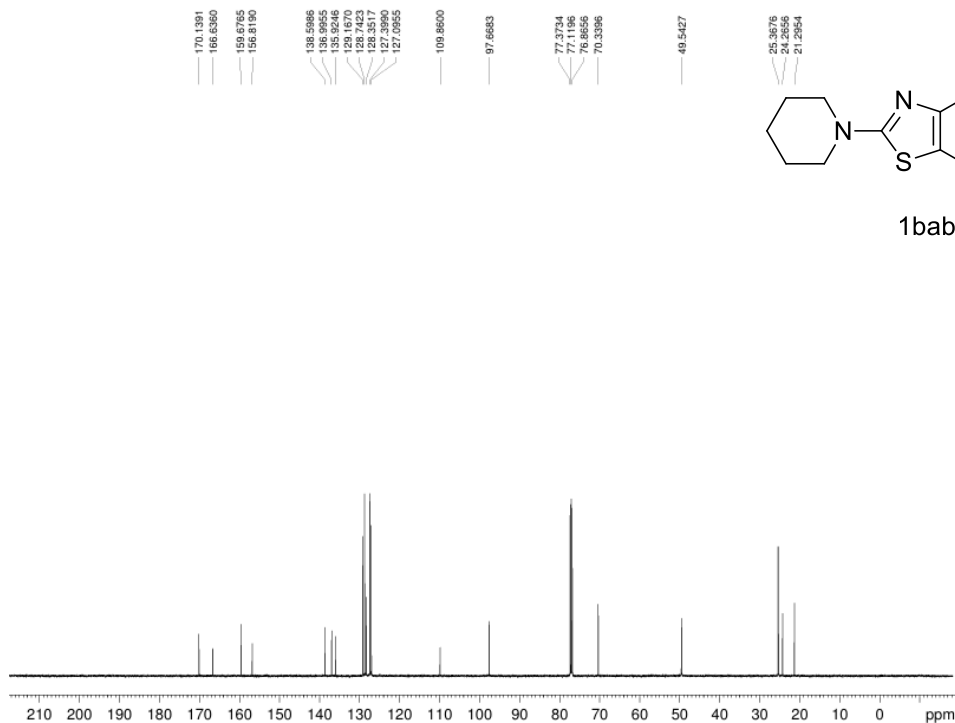
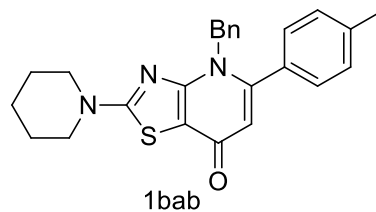
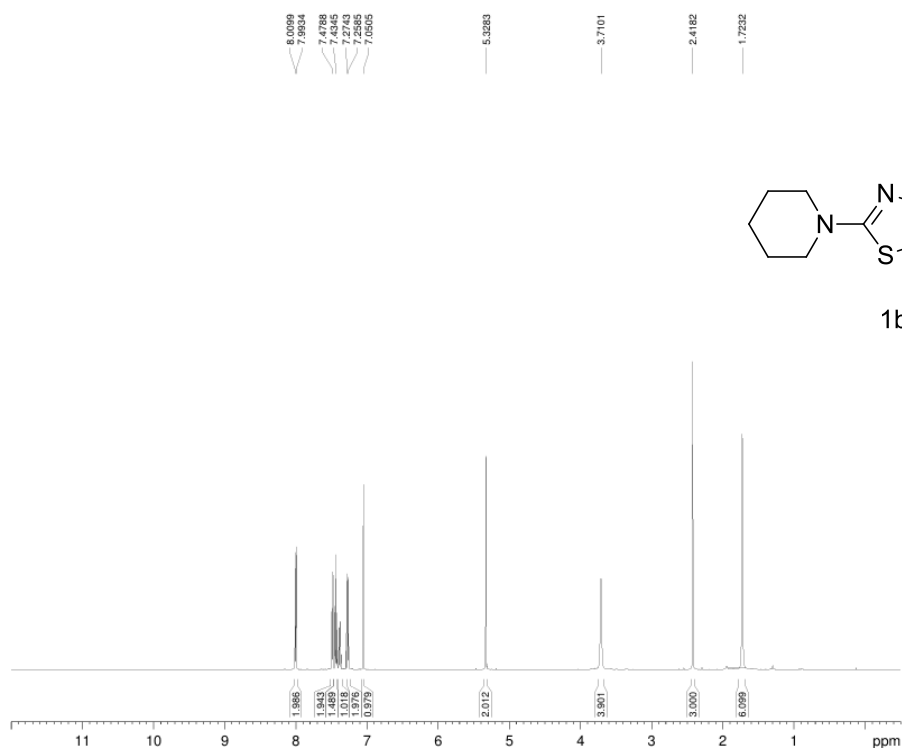
```
F2 - Processing parameters
SI                      65536
SF                      500.2300000 MHz
NDM                      EM
SSB                      0
LB                      0.30 Hz
GB                      0
PC                      1.00
```

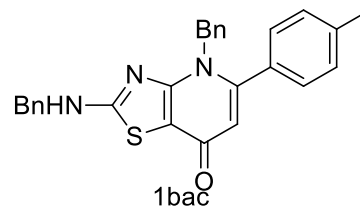


F2 - Processing parameters	
S1	32768
SF	125.7829330 MHz
NDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40



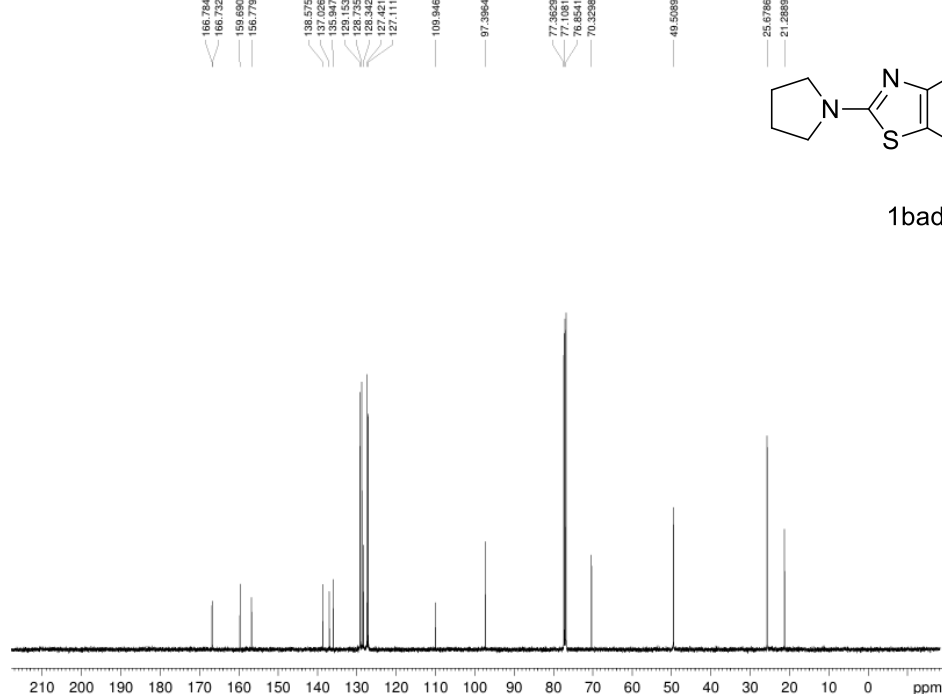
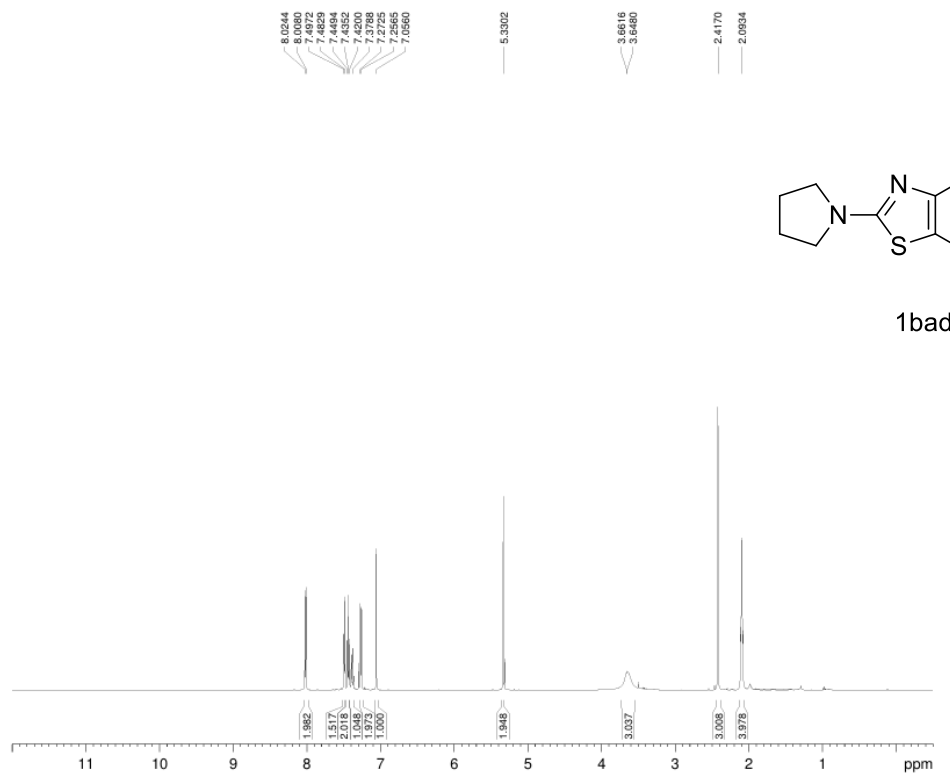


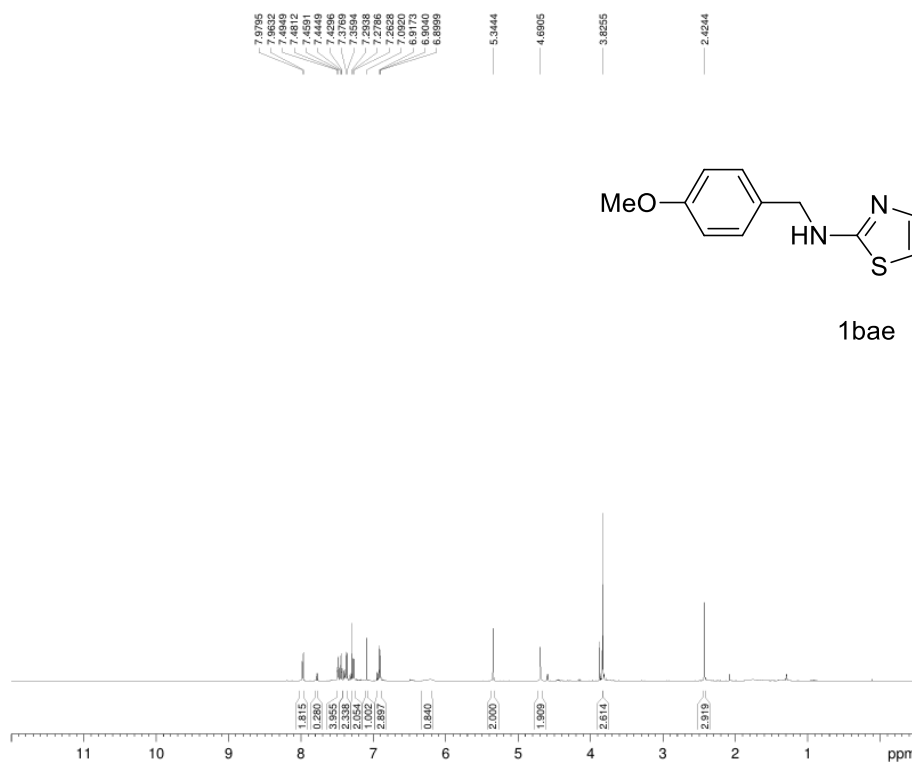




Chemical structure of 1bac (1-benzyl-4-benzyl-5-methyl-1H-thiazole-2-carboxamide) is shown. The structure is a thiazole ring with a benzyl group (BnHN) at position 1, a benzyl group (B) at position 4, and a methyl group (Me) at position 5. The thiazole ring is substituted with a carboxamide group (CONH2) at position 2.

¹³C NMR spectrum (CDCl₃) of 1bac. The spectrum shows peaks corresponding to the following chemical shifts (ppm): 169.2799, 165.9091, 159.9890, 157.8626, 139.7535, 137.9294, 136.9014, 135.7541, 129.2467, 128.9822, 128.7852, 128.4457, 127.8188, 127.5818, 127.0744, 109.7234, 98.2558, 77.2633, 77.0000, 76.7955, 70.4584, 48.1755, and 21.2084.



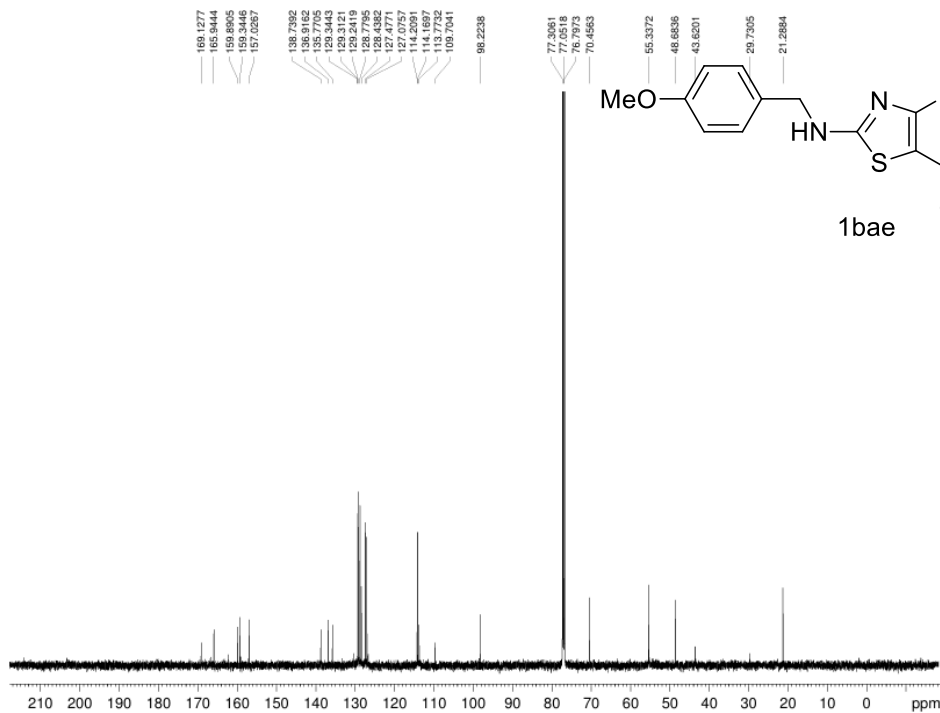


Current Data Parameters
 NAME HUA1587-A5-H
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20250524
 Time 1.04
 INSTRUM spect
 PROBHD 5 mm TXI 1H-D/
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SSB 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2767939 sec
 RG 192.71
 DM 50.000 usec
 DE 6.50 usec
 TE 296.2 K
 D1 1.00000000 sec
 D11 1

===== CHANNEL f1 =====
 SF01 500.2300891 MHz
 NUC1 1H
 P1 8.20 usec
 PL1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 500.2300000 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



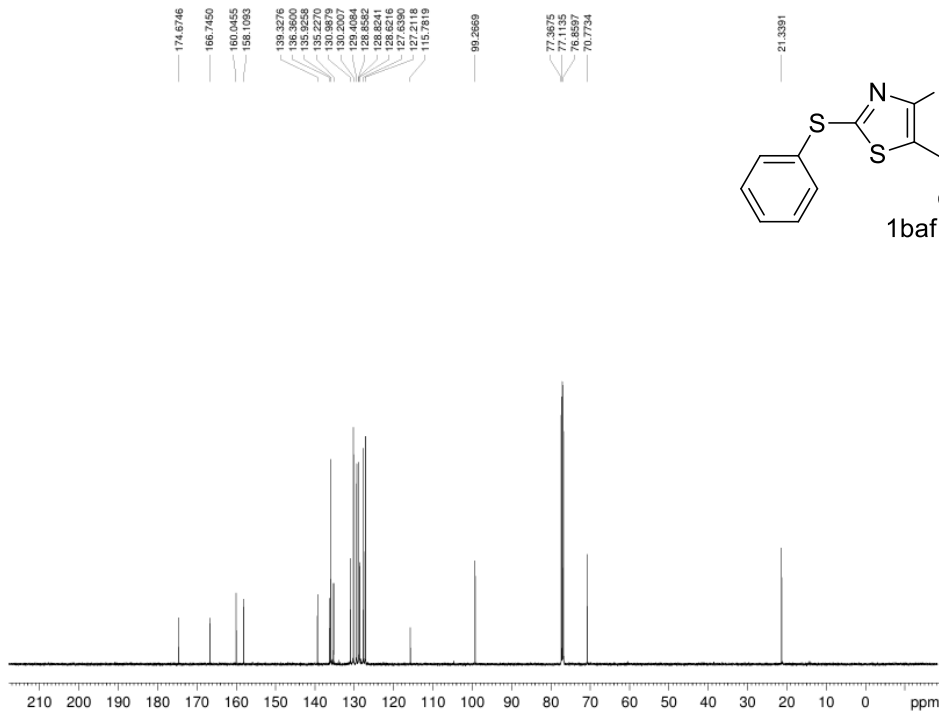
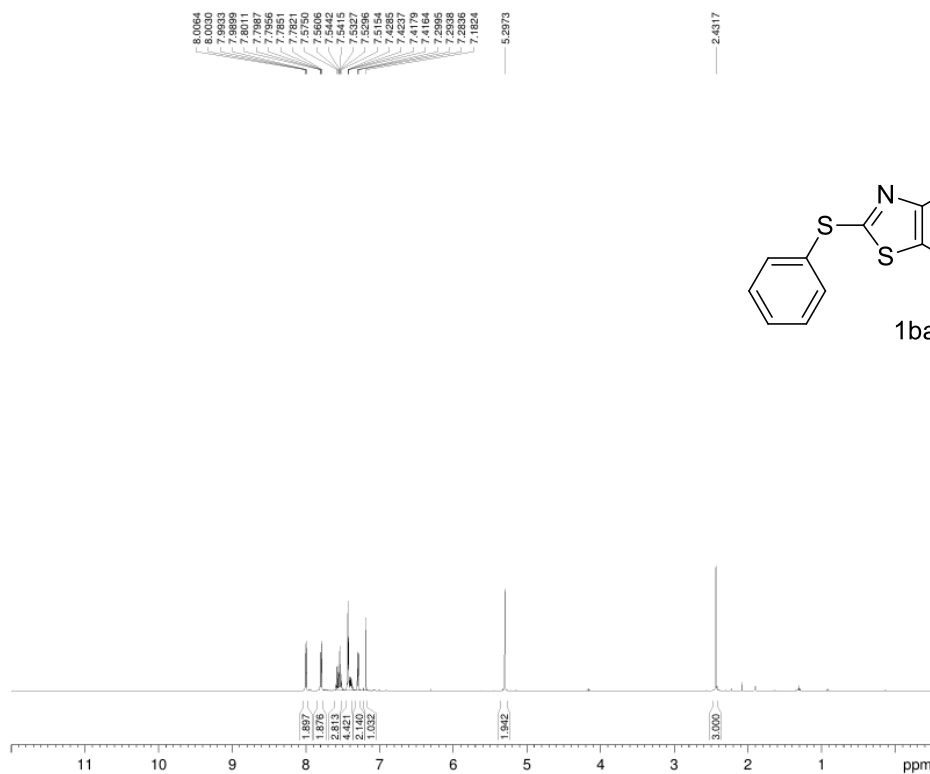
Current Data Parameters
 NAME HUA1587-A5-C
 EXPNO 1
 PROCNO 1

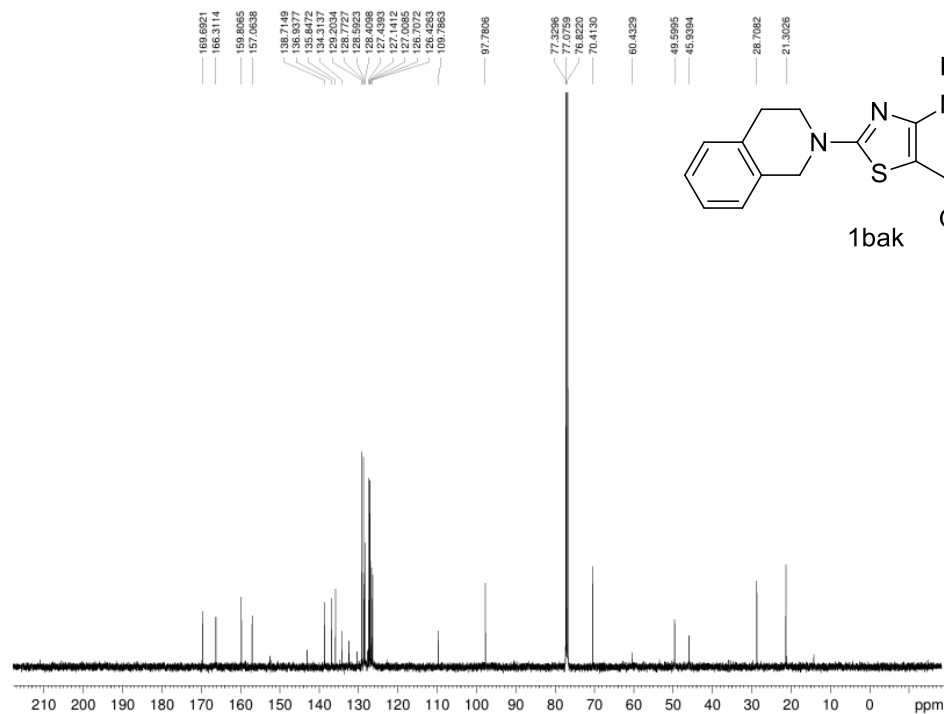
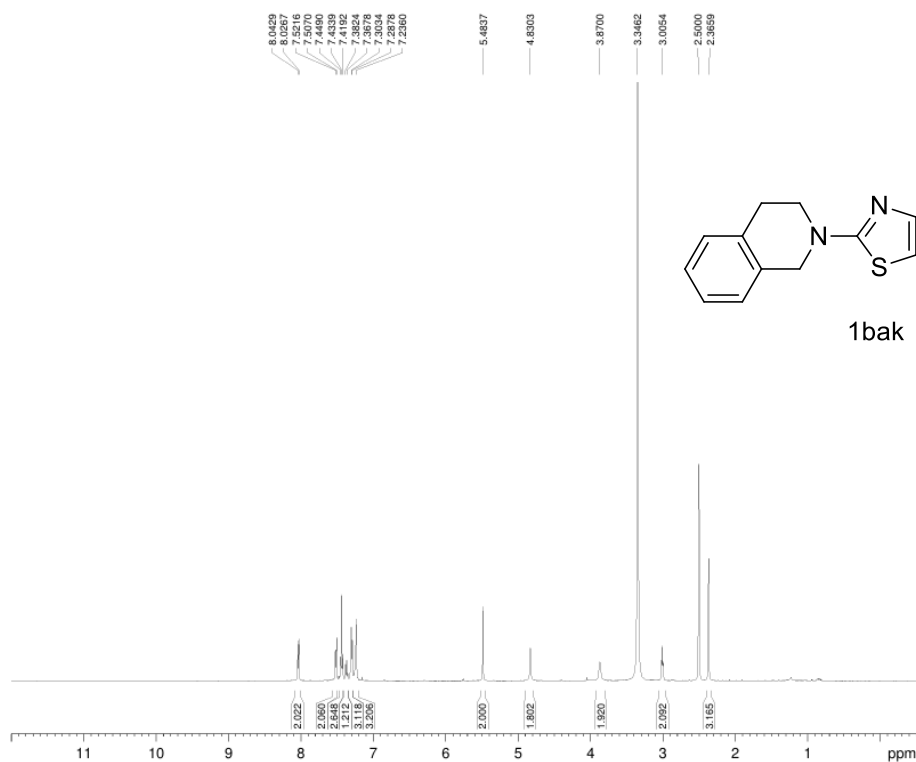
F2 - Acquisition Parameters
 Date_ 20250524
 Time 3.43
 INSTRUM spect
 PROBHD 5 mm TXI 1H-D/
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 3000
 DS 8
 SSB 29761.904 Hz
 FIDRES 0.454131 Hz
 AQ 1.1010048 sec
 RG 104.49
 DM 16.800 usec
 DE 6.50 usec
 TE 296.2 K
 D1 2.00000000 sec
 D11 0.03000000 sec
 D12 1

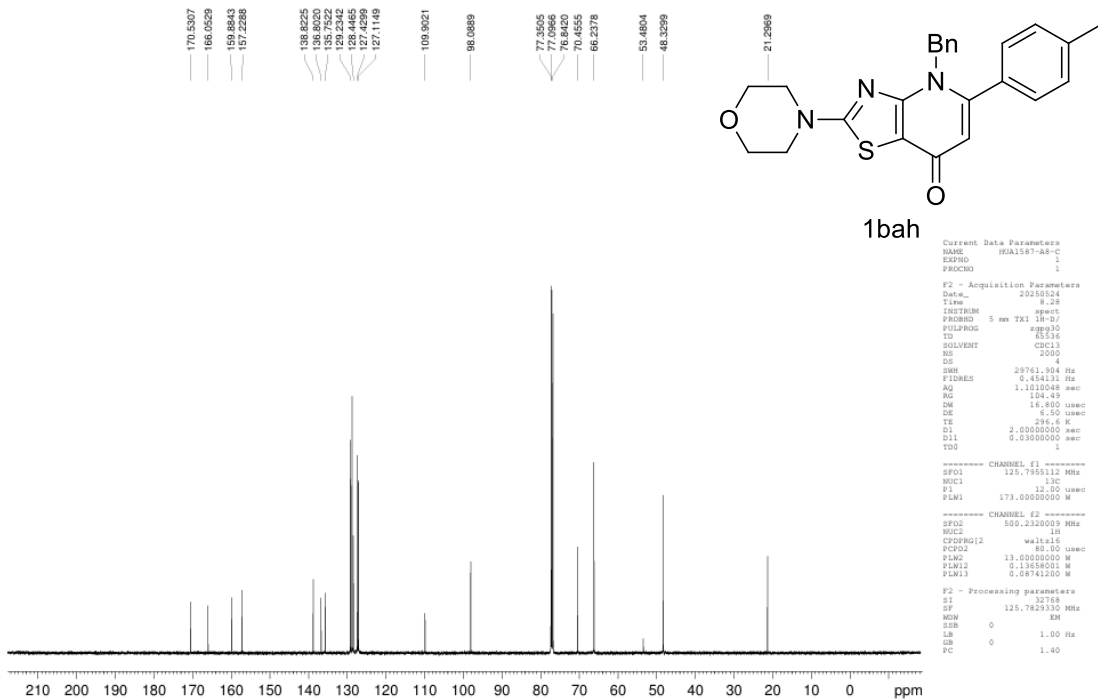
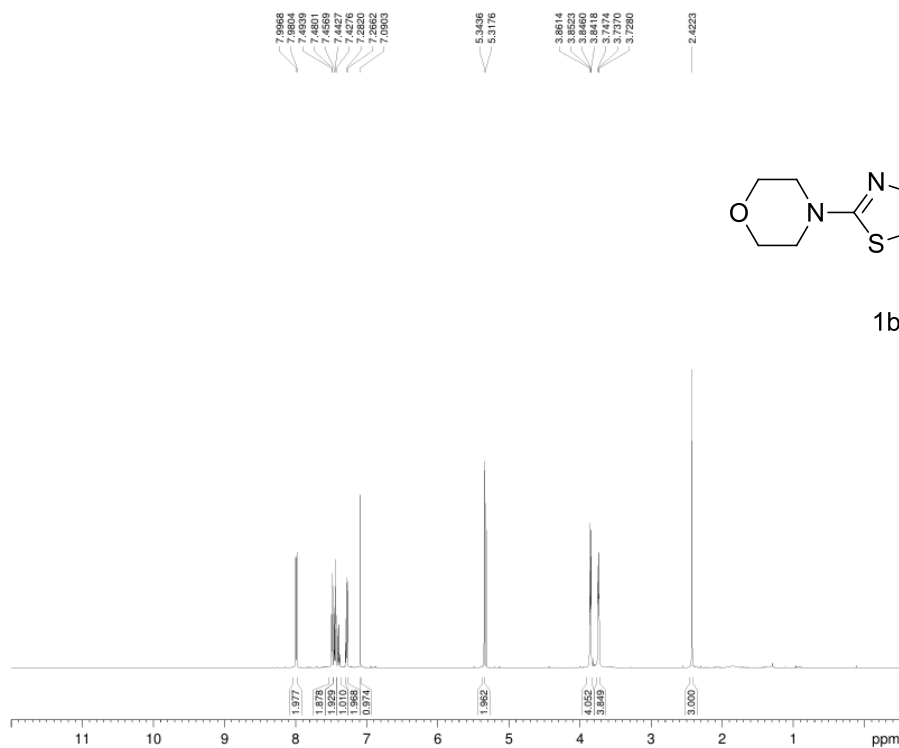
===== CHANNEL f1 =====
 SF01 125.7955112 MHz
 NUC1 13C
 P1 12.90 usec
 PL1 173.00000000 W

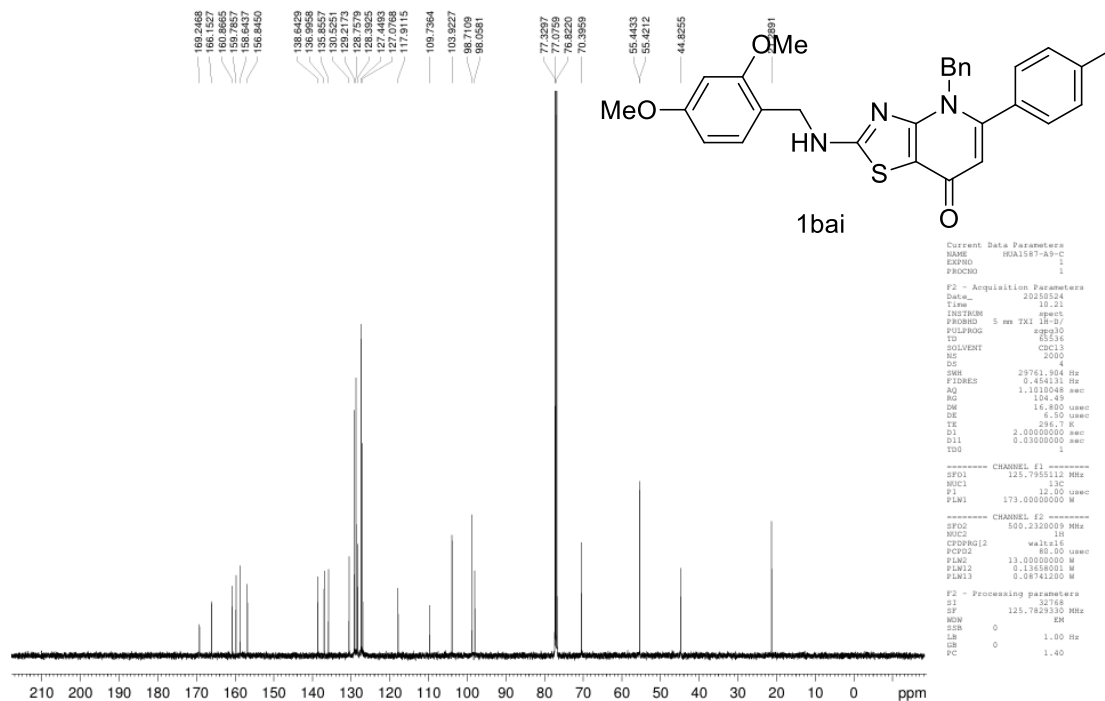
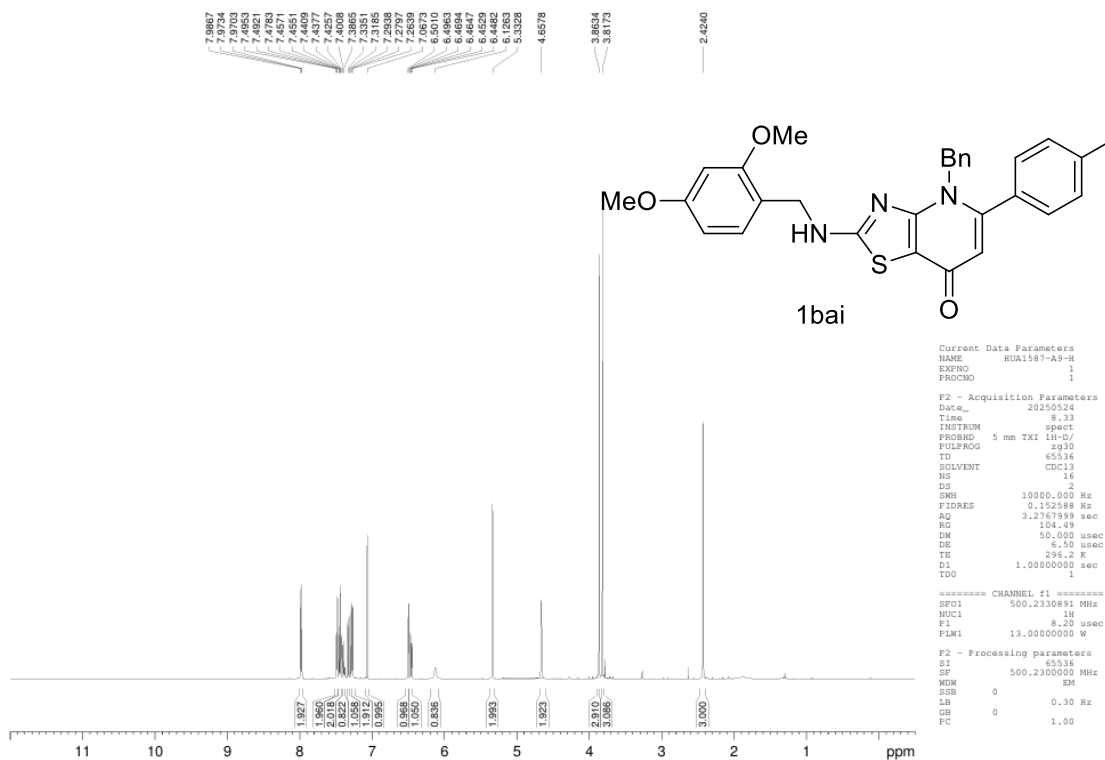
===== CHANNEL f2 =====
 SF02 500.2320009 MHz
 NUC2 1H
 CPDPRG2 waltz16
 PCPD2 80 usec
 PL12 13.00000000 W
 PL12 0.13458001 W
 PL13 0.0741200 W

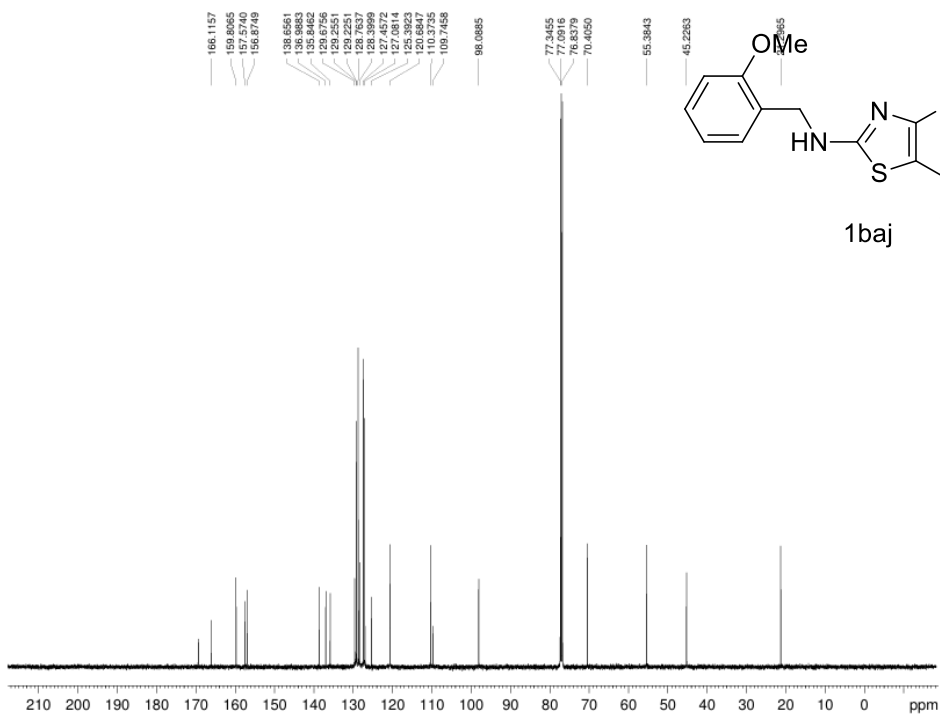
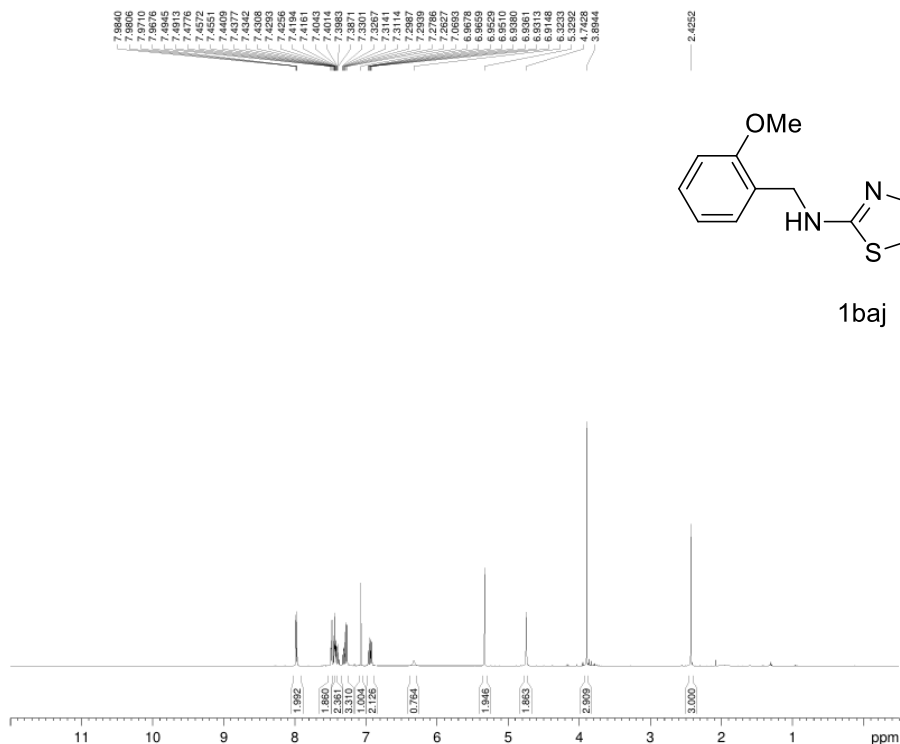
F2 - Processing parameters
 SI 32768
 SF 125.7829330 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

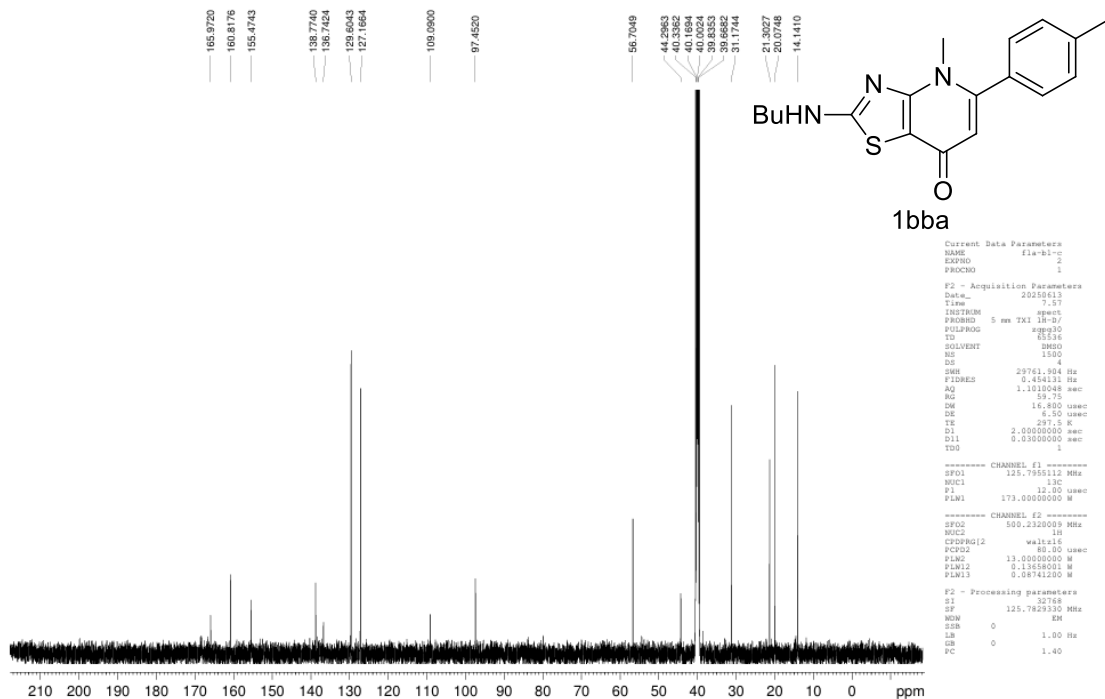
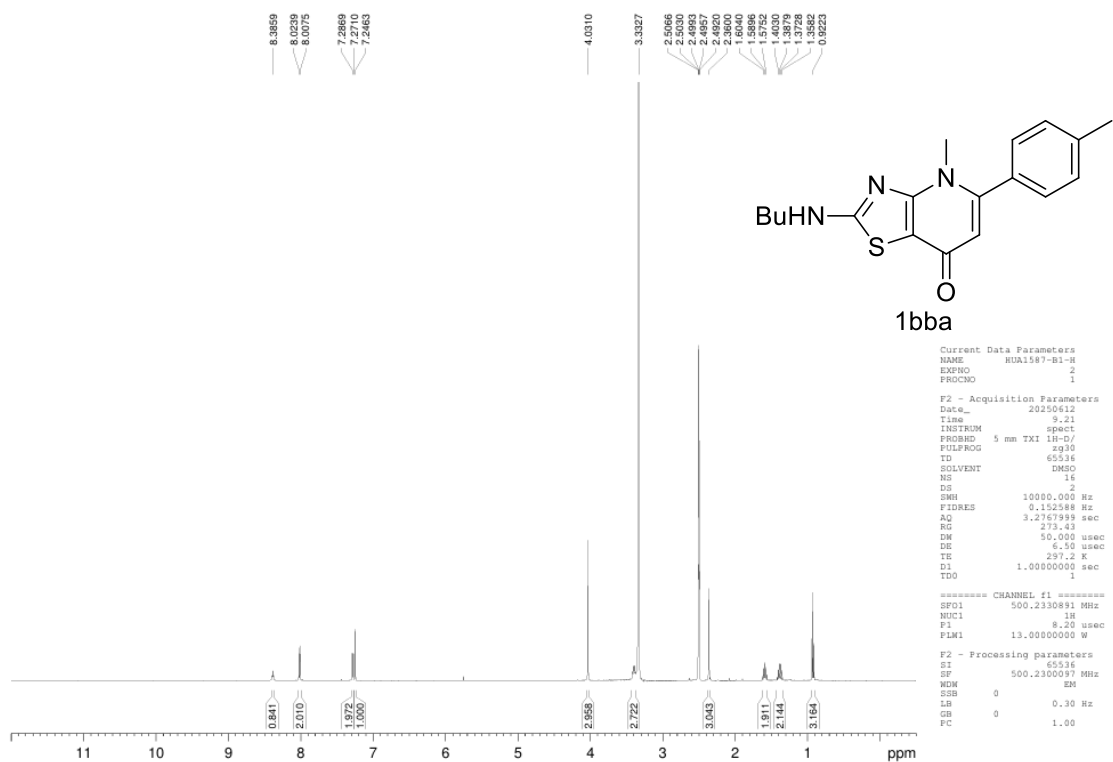


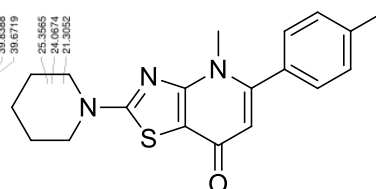
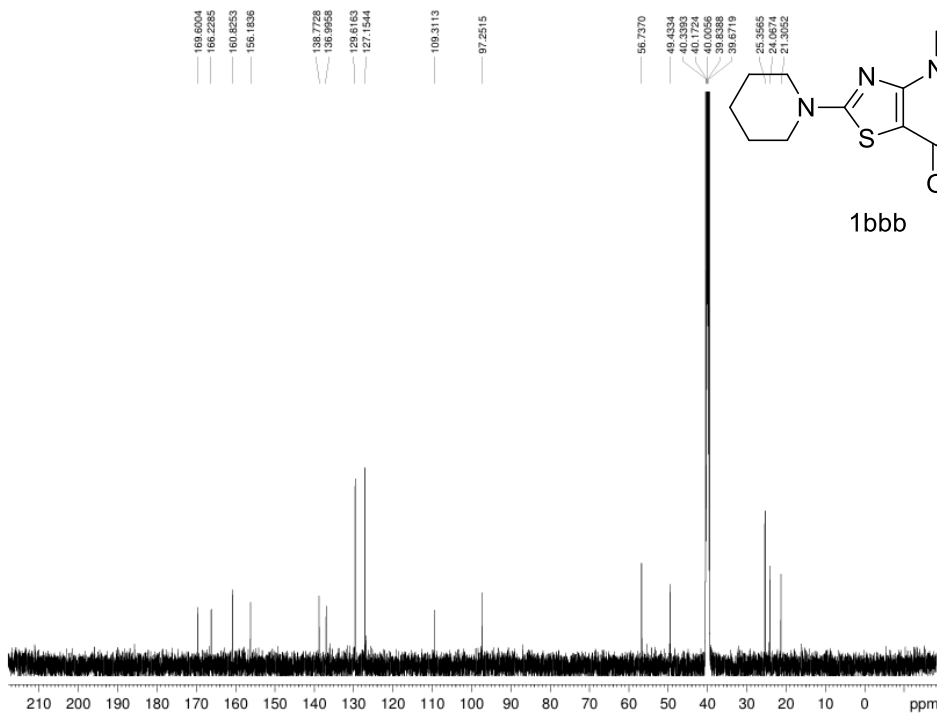
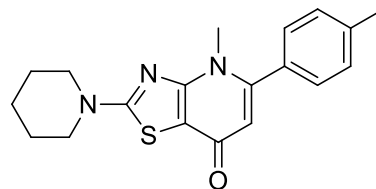
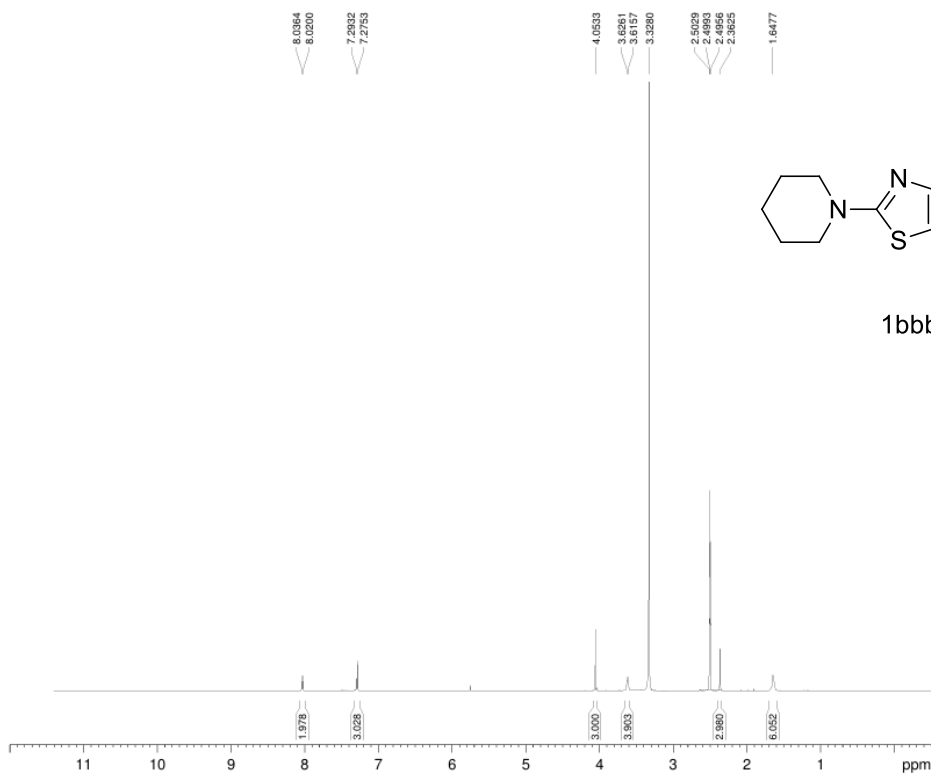


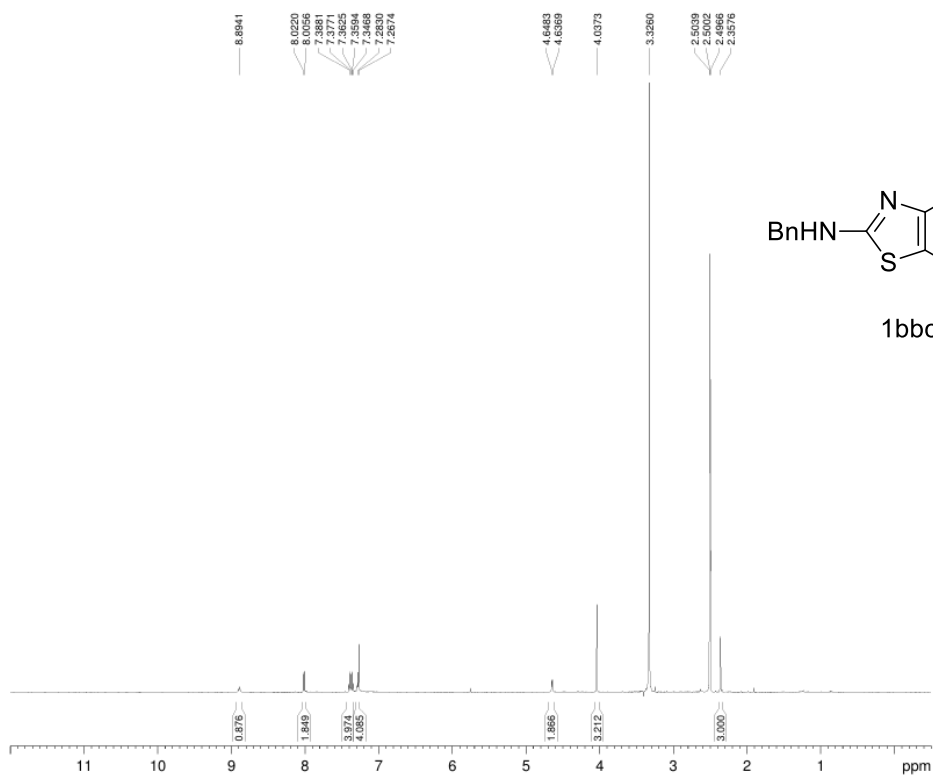










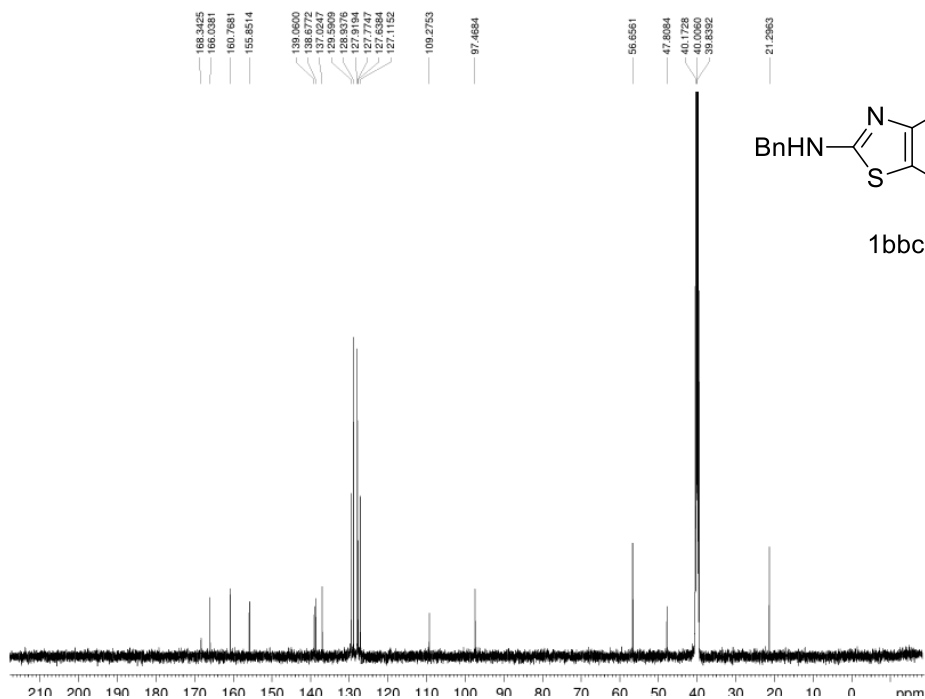


Current Data Parameters
 NAME HUA1587-B3-H
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20250612
 Time 10.08
 INSTRUM spect
 PROBHD 5 mm TXI 1H-D/
 PULPROG zgpg30
 TD 65536
 SOLVENT DMSO
 NS 16
 DS 2
 SWH 10080.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2767999 sec
 RG 344.6
 DW 50.000 usec
 DE 6.50 usec
 TE 297.2 K
 D1 1.00000000 sec
 TDS 1

===== CHANNEL f1 =====
 SFO1 500.2330891 MHz
 NUC1 1H
 P1 8.20 usec
 PLW1 13.00000000 W

F2 - Processing parameters
 SI 65536
 SF 500.2300092 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



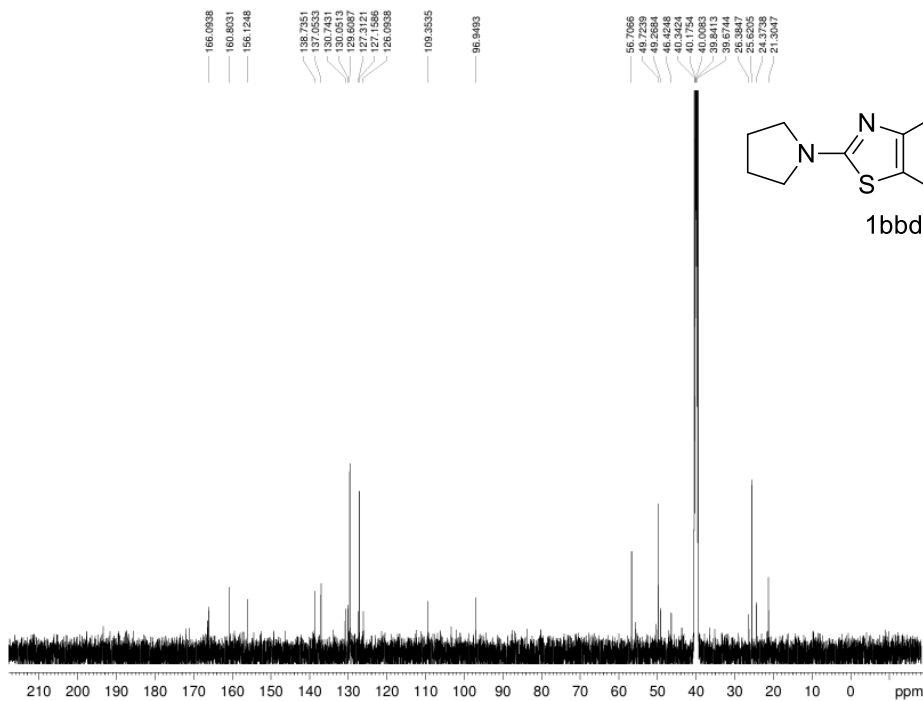
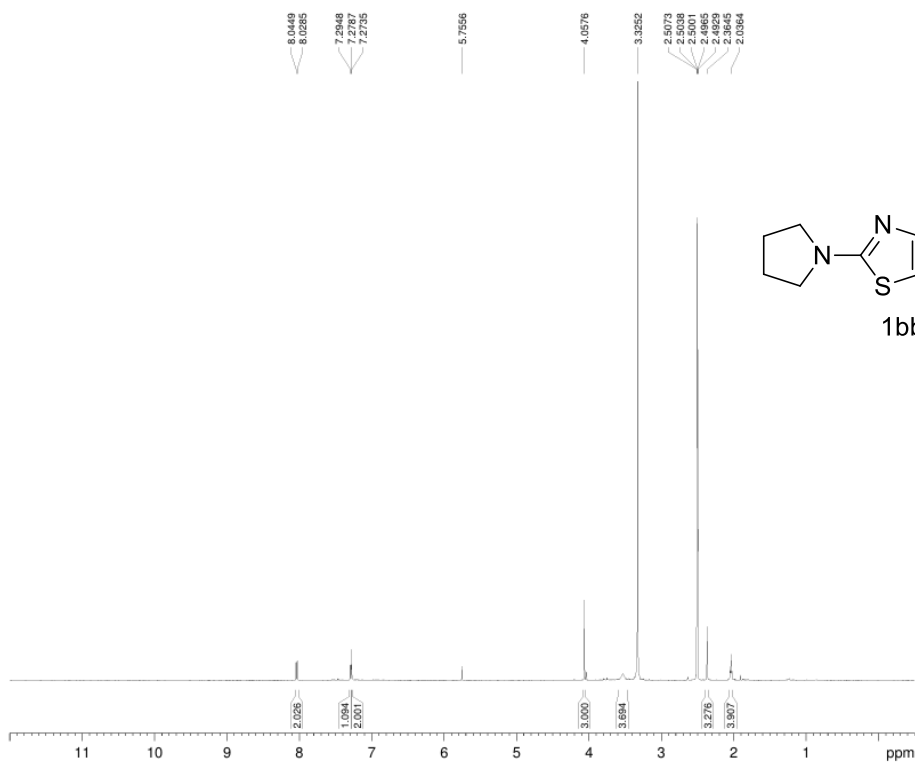
Current Data Parameters
 NAME fla-b3-c
 EXPNO 1
 PROCNO 1

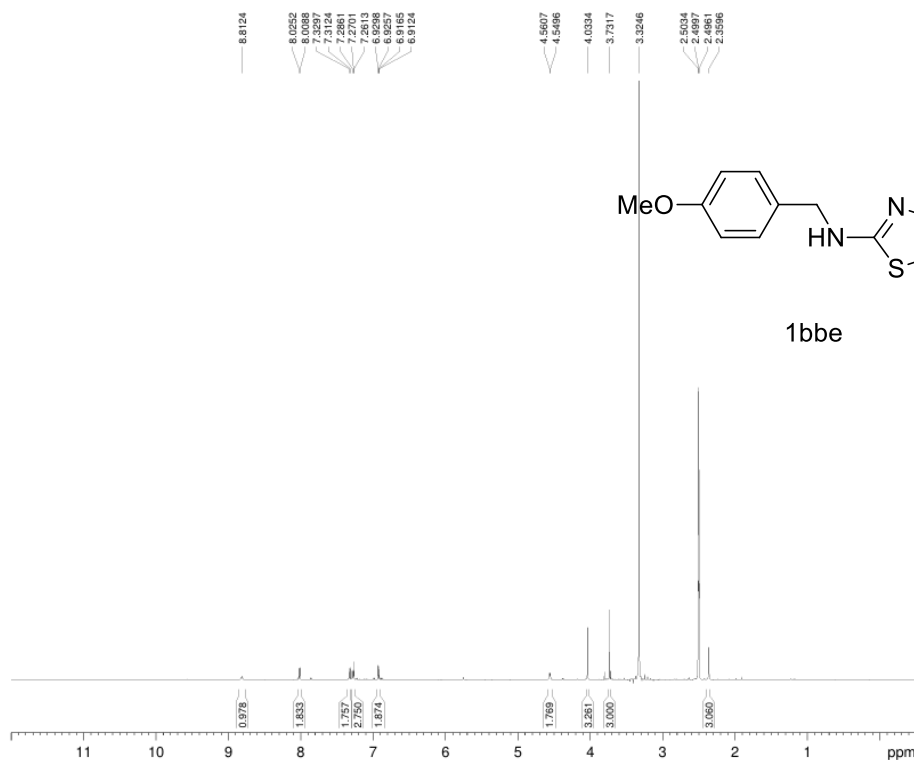
F2 - Acquisition Parameters
 Date_ 20250613
 Time 6.34
 INSTRUM spect
 PROBHD 5 mm TXI 1H-D/
 PULPROG zgpg30
 TD 65536
 SOLVENT DMSO
 NS 2080
 DS 2
 SWH 29761.994 Hz
 FIDRES 0.454131 Hz
 AQ 1.1010048 sec
 RG 32.97
 DW 14.480 usec
 DE 6.50 usec
 TE 297.2 K
 D1 2.00000000 sec
 D11 0.00000000 sec
 TDS 1

===== CHANNEL f1 =====
 SFO1 125.7653112 MHz
 NUC1 13C
 P1 11.00 usec
 PLW1 173.00000000 W

===== CHANNEL f2 =====
 SFO2 500.2320019 MHz
 NUC2 1H
 CPDPRG2 waltz16
 PULPROG zgpg30
 PLW2 13.00000000 W
 PLW12 0.116689001 W
 PLW13 0.08741200 W

F2 - Processing parameters
 SI 32768
 SF 125.7623330 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40



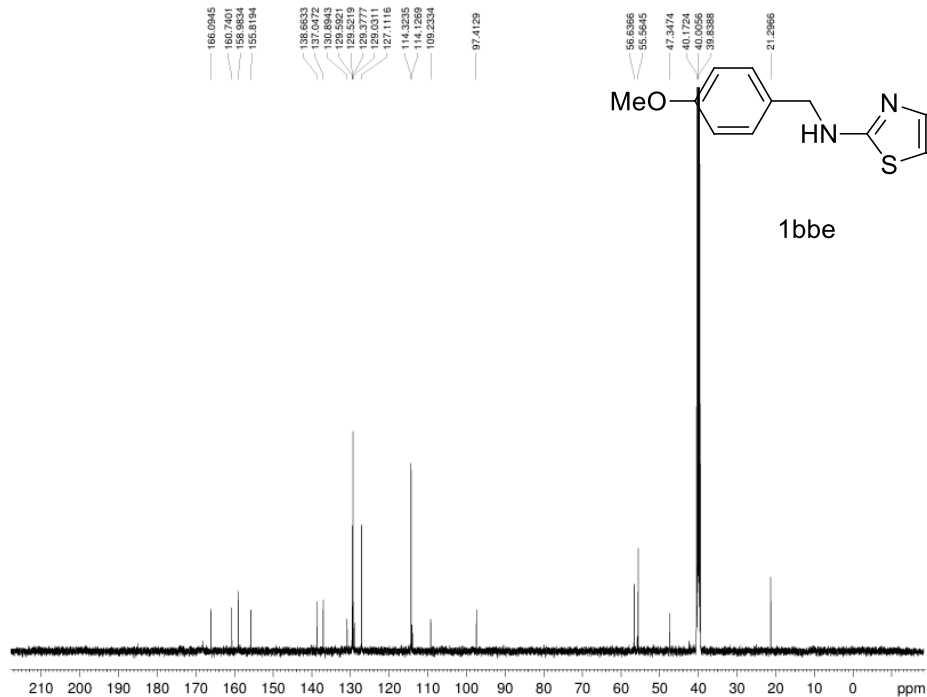


Current Data Parameters
NAME HDA1587-B5-N
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20250612
Time 9.59
INSTRUM spect
PROBHD 5 mm TXI 1H-0/
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 15
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.276789 sec
RG 344.6
DM 50.000 usec
DE 6.50 usec
TE 297.3 K
D1 1.09800000 sec
TD0 1

***** CHANNEL f1 *****
SFO1 500.2330891 MHz
NUC1 1H
P1 8.20 usec
PLM1 13.99800000 W

F2 - Processing parameters
SI 65536
SF 500.2300095 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



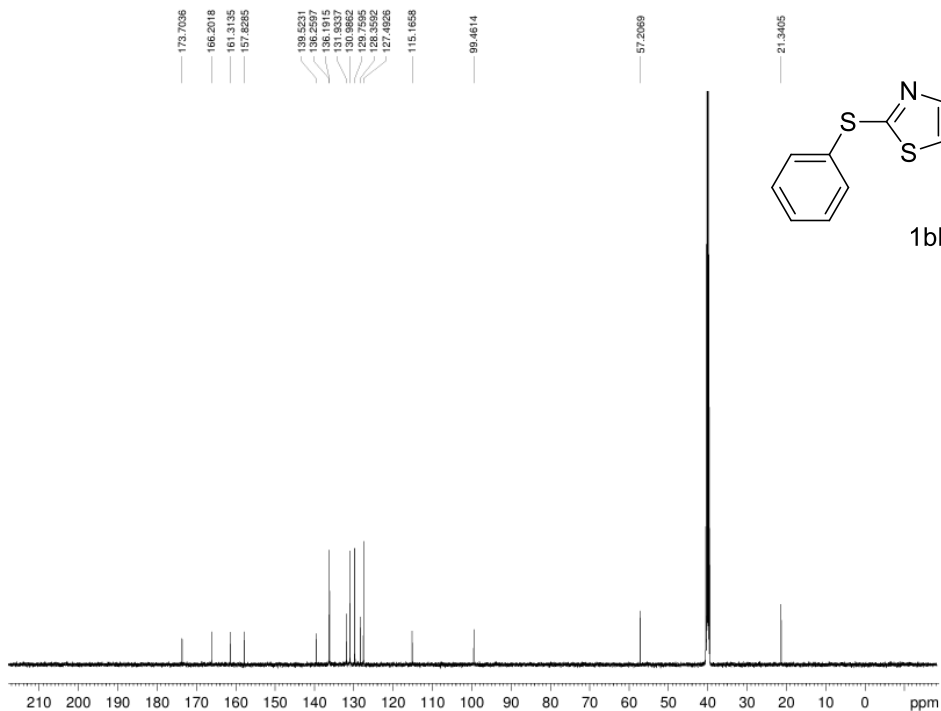
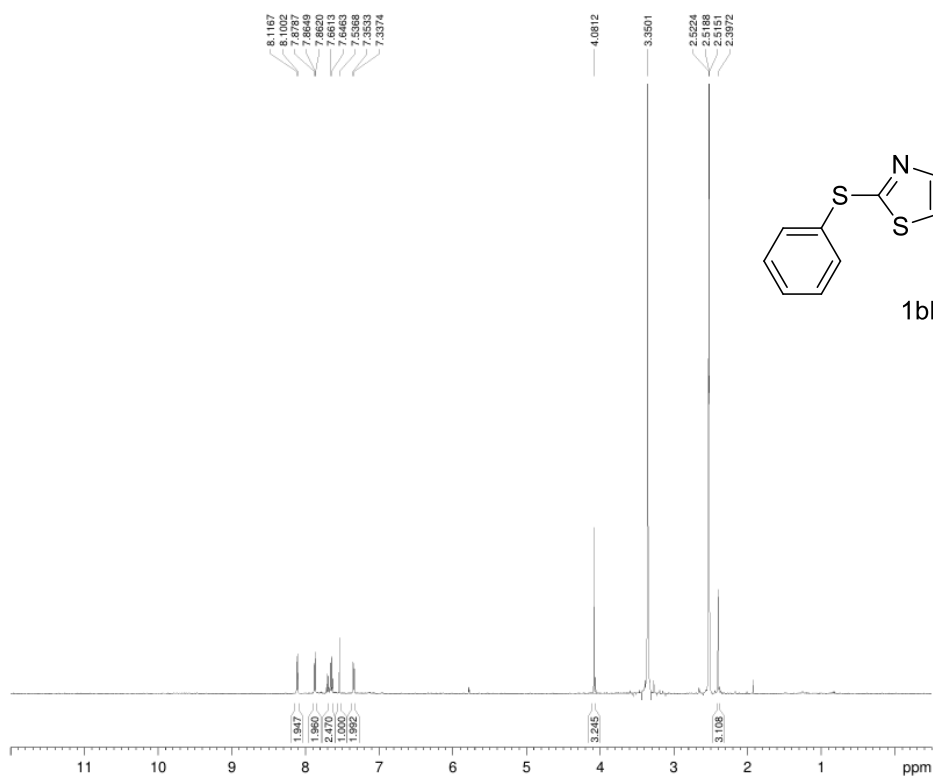
Current Data Parameters
NAME f1a-b5-c
EXPNO 1
PROCNO 1

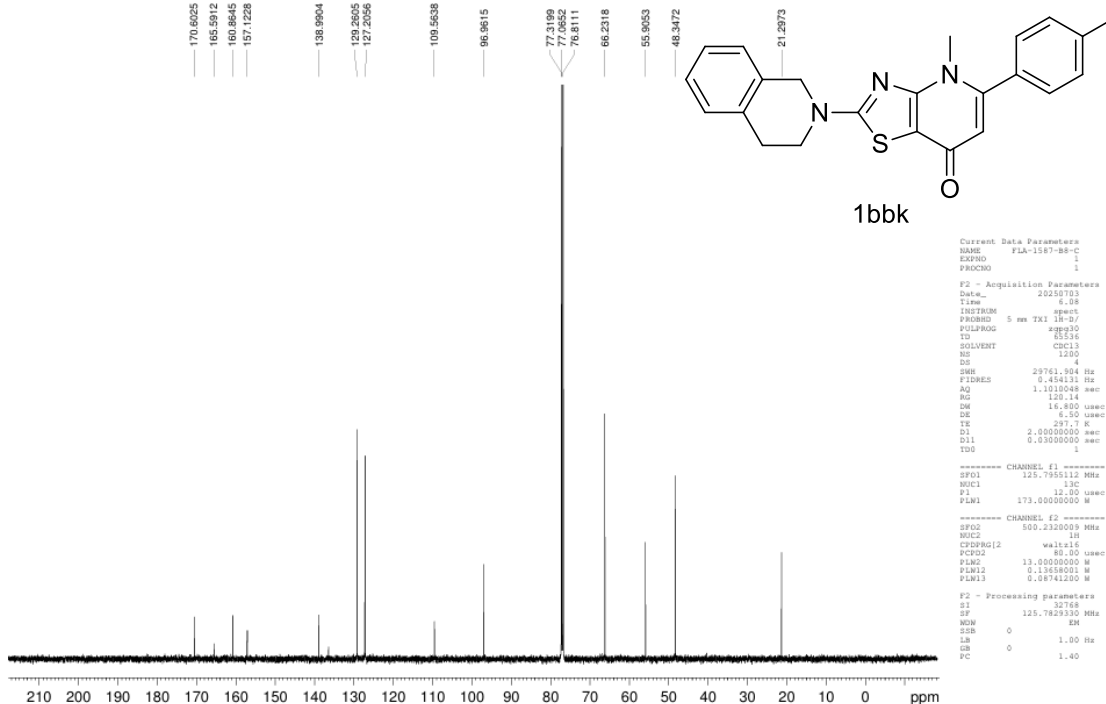
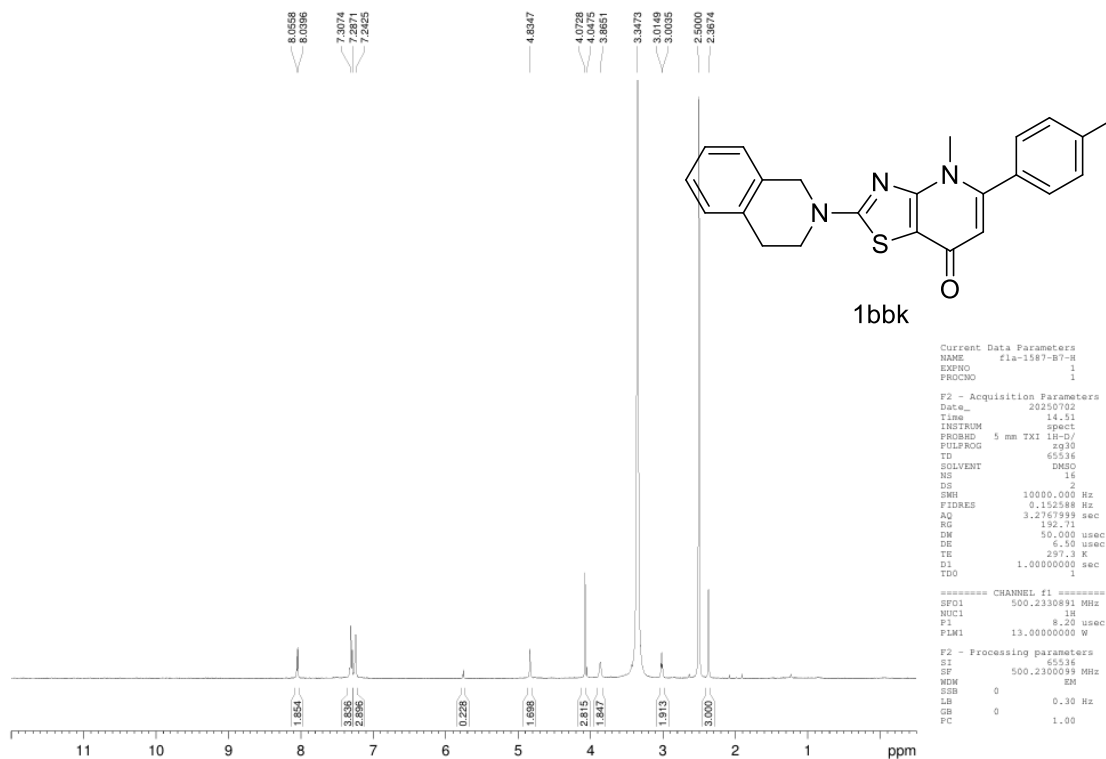
F2 - Acquisition Parameters
Date_ 20250612
Time 9.20
INSTRUM spect
PROBHD 5 mm TXI 1H-0/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 15
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010041 sec
RG 72.97
DM 16.400 usec
DE 6.50 usec
TE 297.3 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

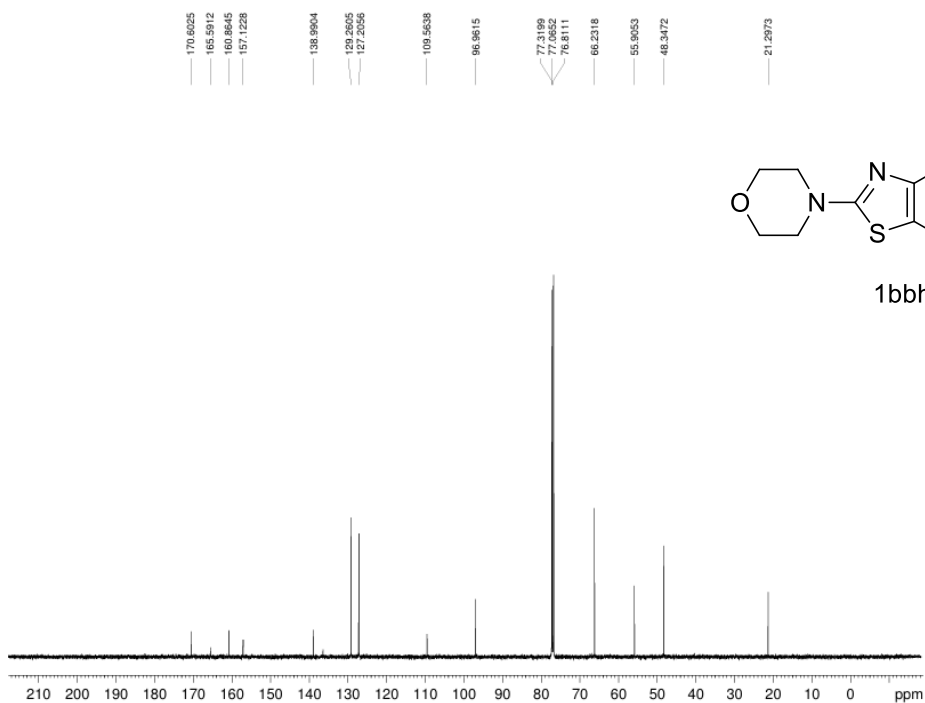
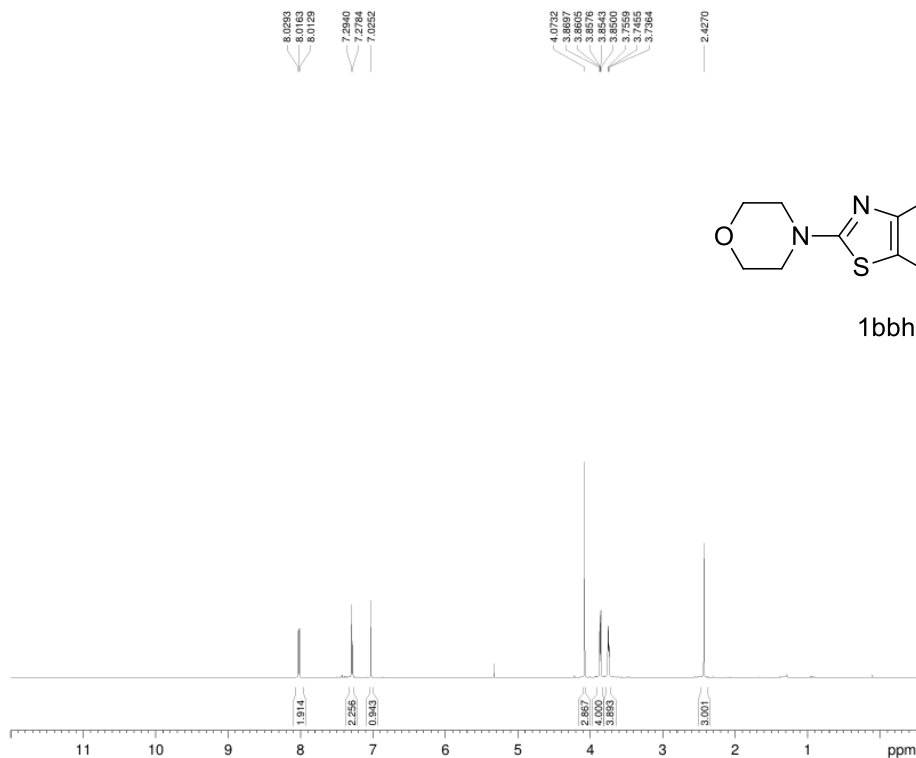
***** CHANNEL f1 *****
SFO1 125.7950112 MHz
NUC1 13C
P1 12.00 usec
PLM1 173.00000000 W

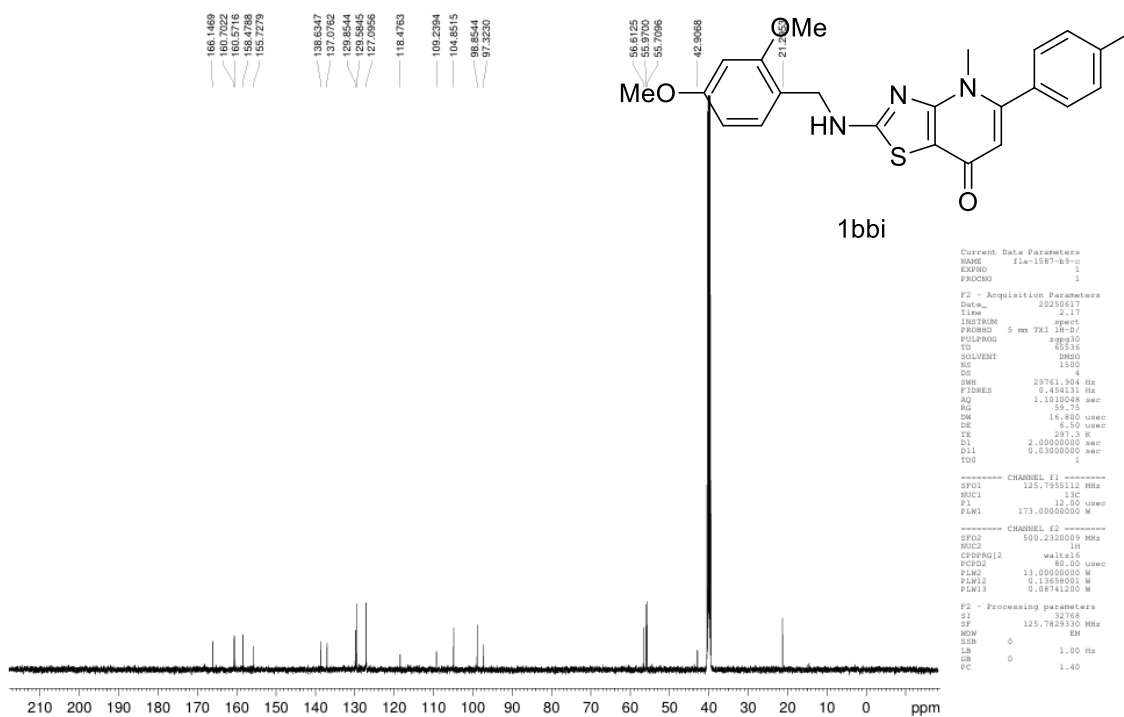
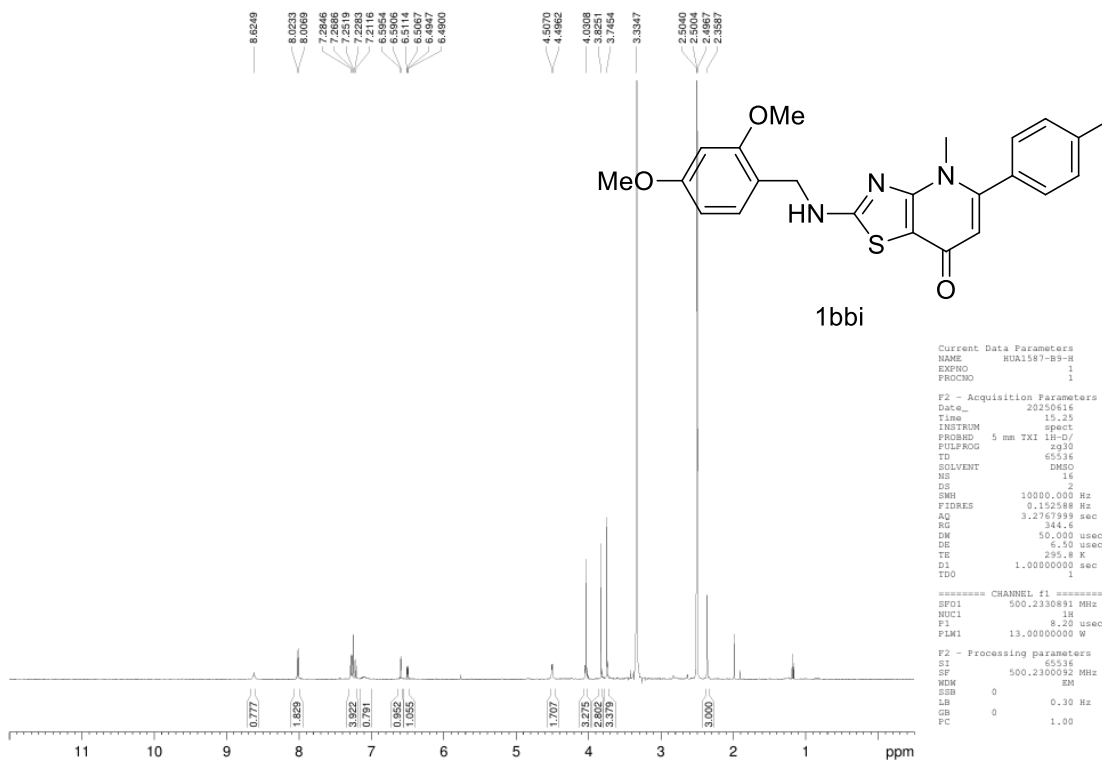
***** CHANNEL f2 *****
SFO2 500.2320009 MHz
NUC2 1H
PCPGPG12 waltz16
RFO2 85.00 usec
PLM2 13.00000000 W
PLM12 0.13450001 W
PLM13 0.08741200 W

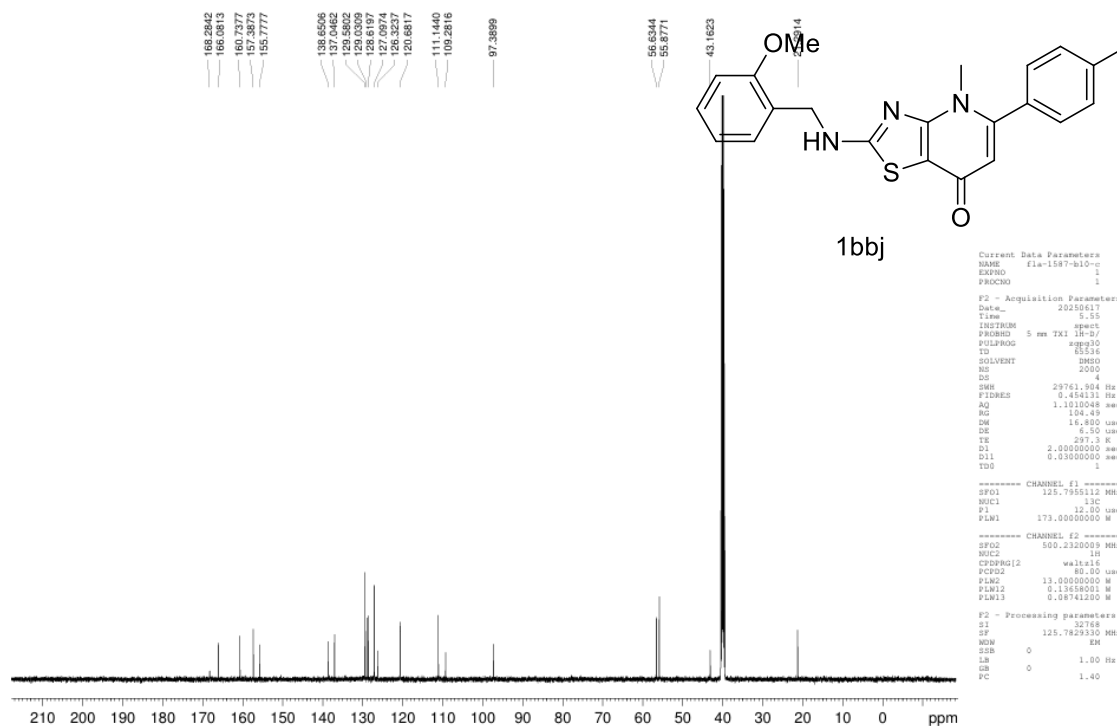
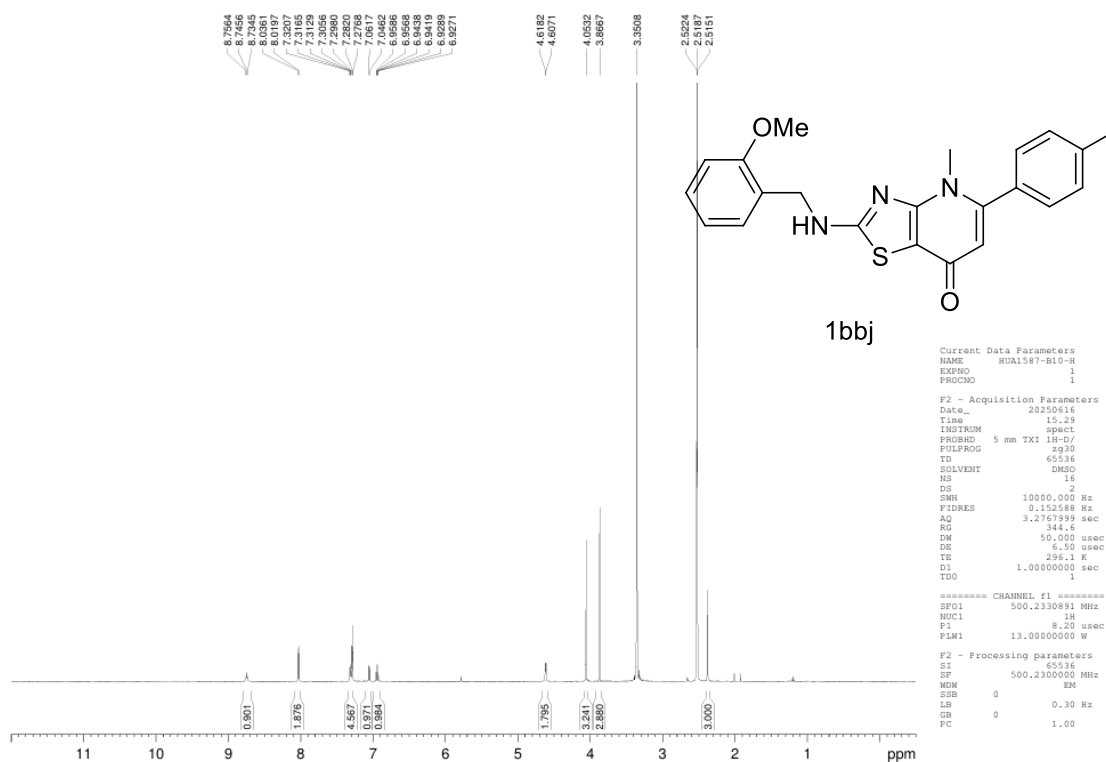
F2 - Processing parameters
SI 65536
SF 125.7829330 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

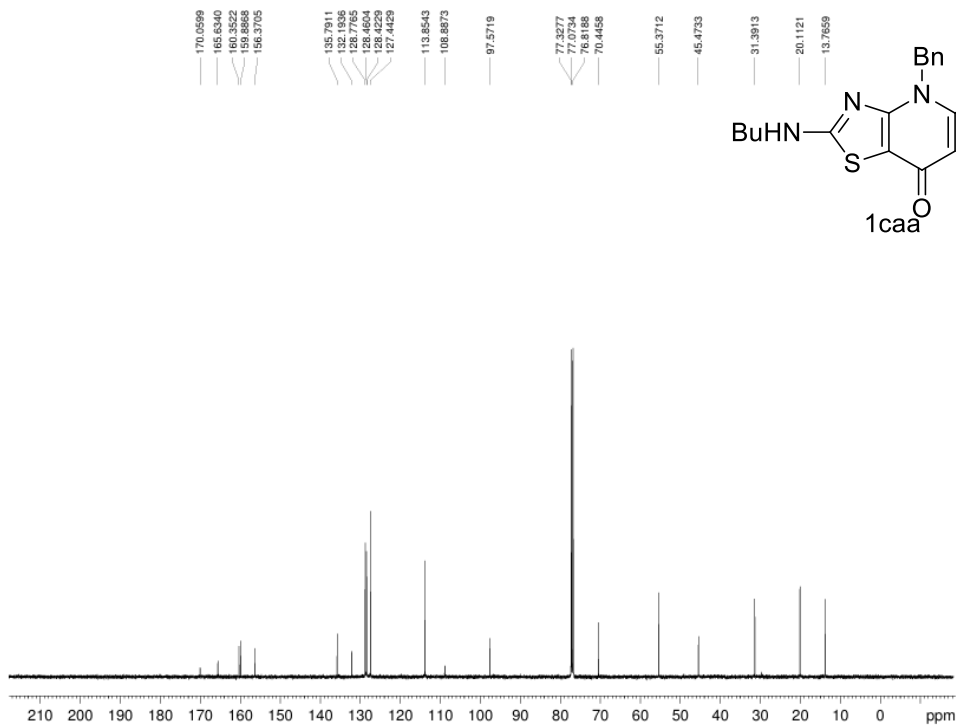
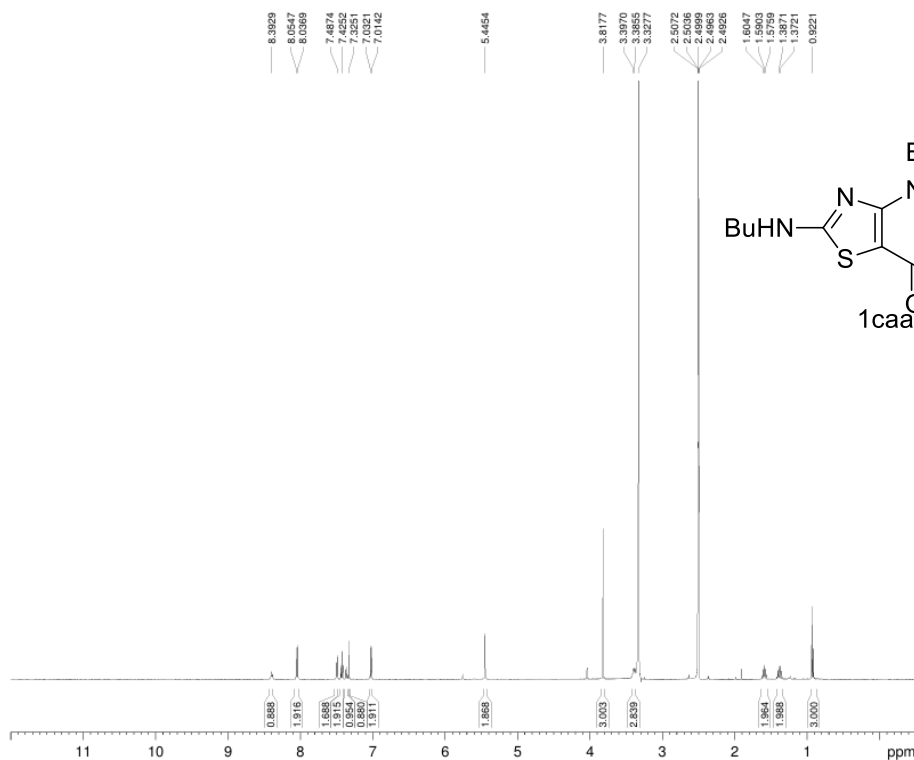


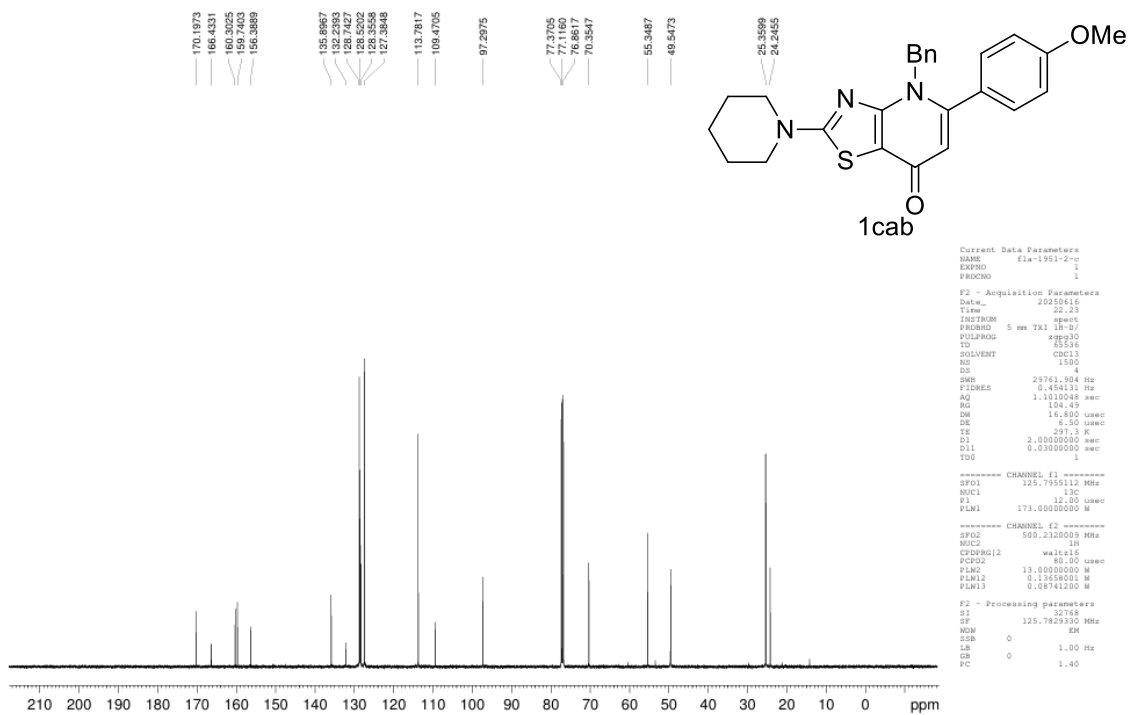
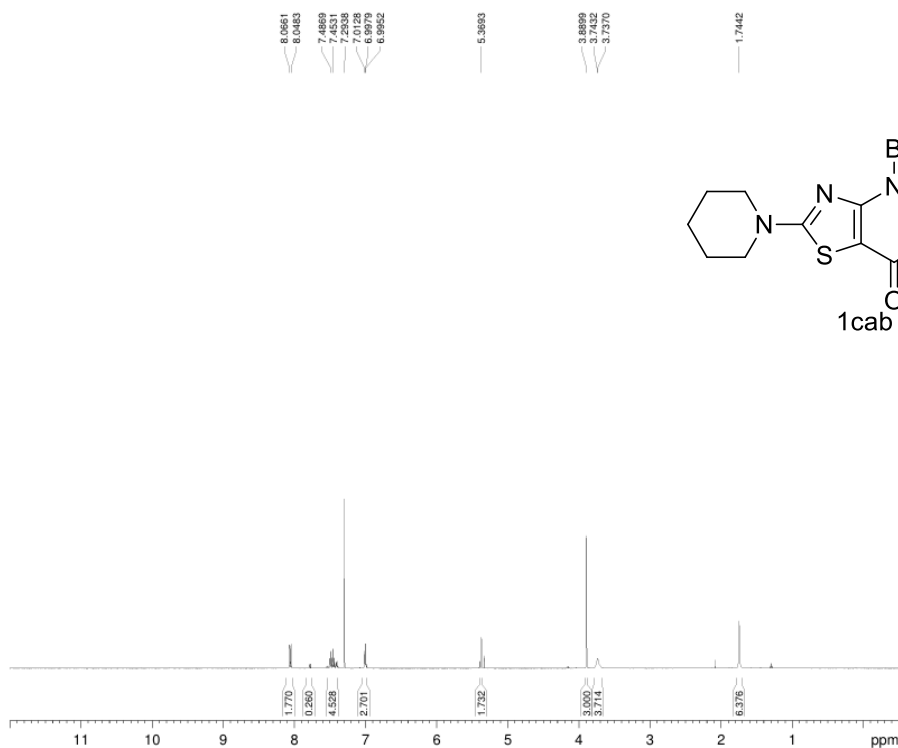


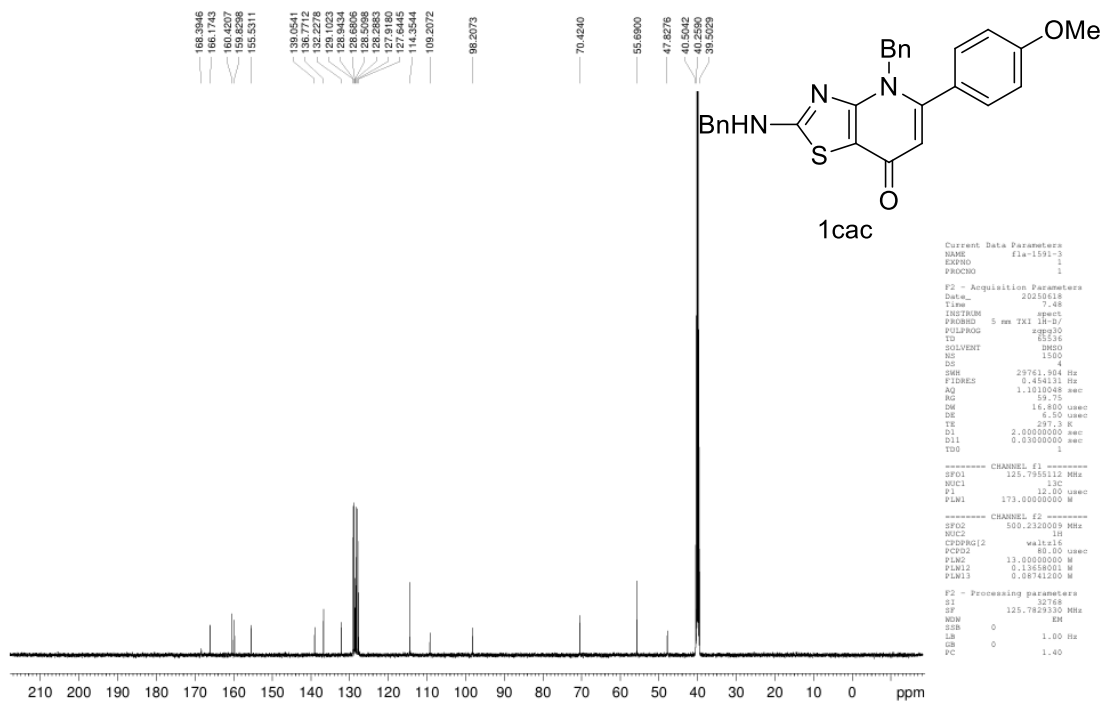
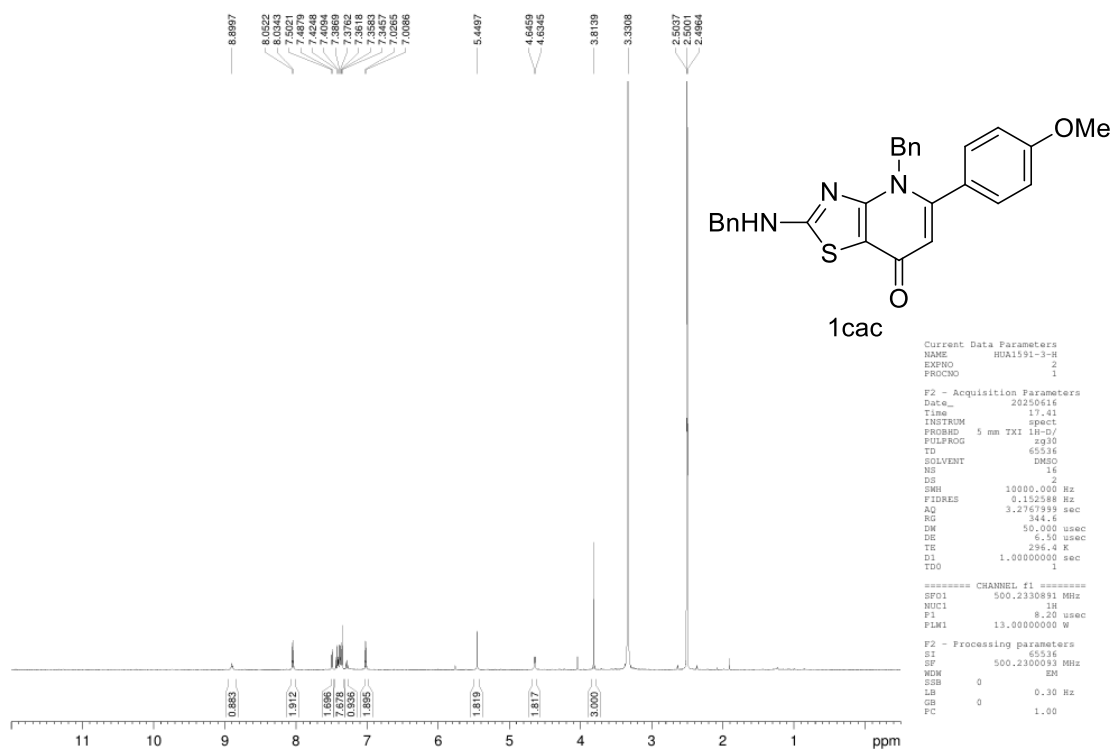












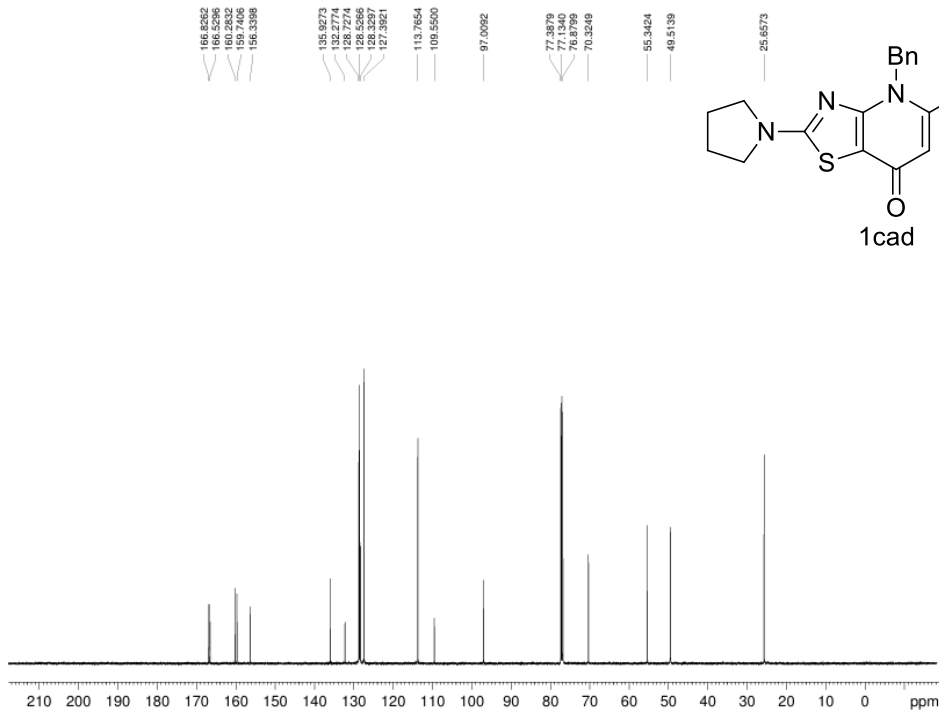


Current Data Parameters
 NAME HDA1591-4-H
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20250616
 Time 15.08
 INSTRUM spect
 PROBRD 5 mm TXI 1H-Q/
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2767989 sec
 RG 549.91
 DM 50.000 usec
 DE 6.50 usec
 TE 296.8 K
 D1 1.00000000 sec
 TDO

***** CHANNEL f1 *****
 SFO1 500.2330891 MHz
 NUC1 1H
 P1 8.20 usec
 PLW1 13.00000000 W

F2 - Processing Parameters
 SI 65536
 SF 500.2300000 MHz
 WDM EM
 SSB 0 0.30 Hz
 LB 0
 GB 0 1.00
 FC



Current Data Parameters
 NAME f1a-1591-4-c
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20250616
 Time 23.46
 INSTRUM spect
 PROBRD 5 mm TXI 1H-Q/
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 1600
 DS 4
 SWH 29761.904 Hz
 FIDRES 0.454131 Hz
 AQ 1.1010048 sec
 RG 59.75
 DM 16.480 usec
 DE 6.50 usec
 TE 297.3 K
 D1 2.00000000 sec
 D11 0.33000000 sec
 TDO 1

***** CHANNEL f1 *****
 SFO1 125.7951112 MHz
 NUC1 13C
 P1 12.25 usec
 PLW1 173.00000000 W

***** CHANNEL f2 *****
 SFO2 500.2320009 MHz
 NUC2 1H
 CPDPRG12 waltz16
 PCPD2 16.480 usec
 PLW2 13.00000000 W
 PLW12 0.13698888 W
 PLW13 0.08741200 W

F2 - Processing parameters
 SI 2768
 SF 125.7823330 MHz
 WDM EM
 SSB 0
 LB 1.00 Hz
 GB 0
 FC 1.40

