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General Considerations

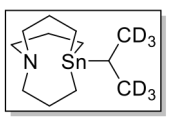
All reactions were carried out in oven or flame-dried glassware under dry nitrogen atmosphere using standard Schlenk techniques or in a glove box. 1,2-Dichloroethane and CD_2Cl_2 were distilled over CaH_2 and then degassed via 3 freeze-pump-thaw cycles following distillation. Reactions were monitored by thin-layer chromatography on commercially prepared plates with a particle size of 60 Å. Developed plates were visualized under a UV lamp (254 nm), or stained with ceric ammonium molybdate. Flash chromatography was performed using 230-400 mesh silica gel.

Characterization

Unless otherwise noted, ^{1}H and ^{13}C NMR spectra for all adduct products were obtained in $CDCl_3$ at 300 and 75 MHz, respectively. Chemical shifts are reported in parts per million (ppm, δ) relative to tetramethylsilane (TMS) as an external standard. Proton and carbon spectra were calibrated against the solvent residual peak [$CHCl_3$ (7.24 ppm) and $CDCl_3$ (77.0 ppm)], [CH_2Cl_2 (5.32 ppm) and CD_2Cl_2 (53.8 ppm)], and in case of 1,2-dichlorethane against known solvent resonance [^{1}H (3.72 ppm) and ^{13}C (43.6 ppm)]. ^{11}B and ^{119}Sn NMR spectra of tricarbastannatranes were recorded on Bruker Avance-300 (^{11}B: 96 MHz, ^{119}Sn: 112 MHz) with ^{1}H decoupling in 1,2-dichloroethane calibrated against external $BF_3{\bullet}OEt_2$ and Me_4Sn, respectively. The spectral references (sr) which were obtained from the external standards, were used to calibrate all ^{119}Sn NMR and ^{11}B NMR chemical shifts. Spectral reference values of –171.61 Hz and –5.13 Hz were used to calibrate ^{119}Sn and ^{11}B chemical shifts in 1,2-dichloroethane, respectively. Abbreviations used to define NMR spectral mutiplicities are as follows: s = singlet; d = doublet; t = triplet; q = quartet; m = multiplet; br = broad. High resolution mass spectra (ESI) were run at the University of Waterloo Mass Spectrometry facility. Fragment signals are given in mass per charge number (m/z).

The following compounds were prepared according to literature procedures: 5-(*iso*-propyl)-1-aza-5-stannabicyclo[3.3.3]undecane,[1] 5-benzylidene-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6a**),[2] 5-(4-methoxybenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6b**),[3] 5-(4-chlorobenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6c**),[4] 1,3-dimethyl-5-(4-nitrobenzylidene)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6m**),[5] Other reagents were purchased from commercial suppliers and used without further purification.

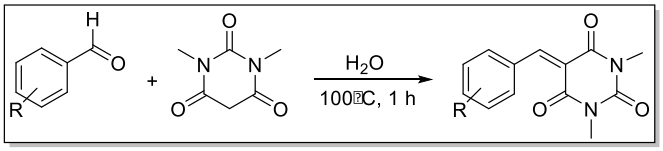
5-(Propan-2-yl-1,1,1,3,3,3-*d*$_6$)-1-aza-5-stannabicyclo[3.3.3]undecane (2-*d*$_6$)



(Propan-2-yl-1,1,1,3,3,3-*d*$_6$)magnesium bromide reagent (2.0 M in diethyl ether) (2 equiv.) was synthesized from 2-bromopropane-1,1,1,3,3,3-d_6 (99% atom D),[6] and was added

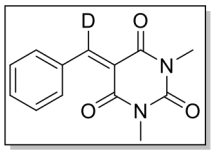
dropwise to a suspension of 5-chloro-1-aza-5-stannabicyclo[3.3.3]undecane (235 mg, 0.798 mmol) in anhydrous THF at -78°C. The resulting mixture was stirred at -78 °C for 3 hours, allowed to warm to room temperature, and stirred overnight. The reaction mixture was poured into a separatory funnel containing a mixture of Et_2O and water. The layers were partitioned, and the organic layer was washed with brine, dried over $MgSO_4$, and filtered. Solvent was removed under reduced pressure to provide the crude product. A yellow oil (259 mg, 84 % yield) was isolated and was used without further purification; ^{1}H NMR ($CDCl_3$,300 MHz) δ 2.33 (t, J = 5.4 Hz, 6H), 1.62 (m, 6H), 1.45 (m, 7H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 54.7, 23.4, 16.8, 4.4; ^{2}H NMR ($CHCl_3$, 46 MHz) δ 1.00 (brd, J = 0.1 Hz). HRMS (+ESI) *m/z* calcd. for $C_{12}H_{19}{}^2H_6NSn$ $(M)^+$: 309.13801. Found: 309.15384.

General Experimental Procedure A - Synthesis of Benzylidene 1,3-Dimethylbarbituric Acids (6a-d_1, 6d–6l)



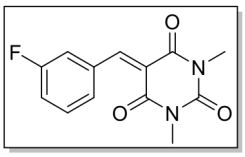
To a stirred solution of the 1,3-dimethylbarbituric acid (1.56 g, 10.0 mmol) in water (40 ml) was added the corresponding benzaldehyde (10.0 mmol) in one portion at ambient temperature. After refluxing for an hour, the resulting suspension was filtered and the solid was collected and was dried under vacuum. Products **6a-d_1, 6d−6l** were used without further purification unless otherwise noted.

1,3-Dimethyl-5-(phenylmethylene-*d*)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (6a-d_1)



Prepared according to General Procedure A from 1,3-dimethylbarbituric acid (454 mg, 2.90 mmol), water (12 ml), and benzaldehyde-α-d_1 (312 mg, 2.90 mmol); isolated as a yellow solid (636 mg, 89% yield); ^{1}H NMR ($CDCl_3$, 300 MHz) δ 8.03 (d, J = 7.1 Hz, 2H), 7.44 (m, 3H), 3.37 (s, 3H), 3.32 (s, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 162.4, 160.3, 158.6 (t), 151.1, 133.4, 132.9, 132.4, 128.1, 117.3, 29.0, 28.3; ^{2}H NMR ($CHCl_3$, 46 MHz) δ 8.61(brs). HRMS (ESI) *m/z* calcd for $C_{13}H_{12}{}^2HN_2O_3$ $(M+H)^+$: 246.09835; Found: 246.09835.

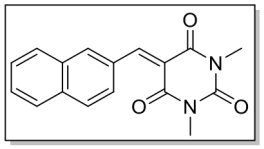
5-(3-Fluorobenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (6d).



Prepared according to General Procedure A from 4-fluorobenzaldehyde (1.24 g, 10.0 mmol); reaction was purified by recrystallization from MeOH and isolated as a white solid (2.12 g, 81% yield); M.p. 143-145 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 8.49 (s, 1H), 7.89 (d, J = 10.2 Hz, 1H), 7.66 (d, J = 7.8 Hz, 1H), 7.41 (q, J = 5.7 Hz, 1H), 7.21 (td, J = 8.3, 2.7 Hz, 1H), 3.41 (s, 3H), 3.36 (s, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 162.1, 162.0 (d, $J_{C\text{-}F}$ = 245.0

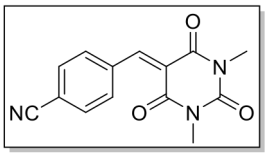
Hz), 160.0, 157.1 (d, $J_{C\text{-}F}$ = 2.3 Hz), 151.0, 134.5 (d, $J_{C\text{-}F}$ = 8.5 Hz), 129.6 (d, $J_{C\text{-}F}$ = 8.0 Hz), 129.3 (d, $J_{C\text{-}F}$ = 2.9 Hz), 119.4 (d, $J_{C\text{-}F}$ = 5.7 Hz),) 119.3 (d, $J_{C\text{-}F}$ = 50.2 Hz), 118.6, 29.0, 28.4. HRMS (ESI) *m/z* calcd for $C_{13}H_{12}O_3N_2F$ $(M+H)^+$: 263.08320; Found: 263.08249.

1,3-Dimethyl-5-(naphthalen-2-ylmethylene)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (6e).



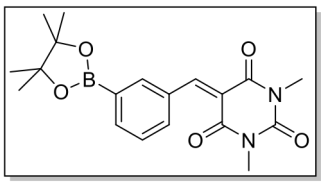
Prepared according to General Procedure A from 2-naphthaldehyde (1.56 g, 10.0 mmol); isolated as a pale yellow solid (2.56 g, 87% yield); M.p. 206-207 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 8.69 (s, 1H), 8.57 (s, 1H), 8.13 (d, J = 8.7 Hz, 1H), 7.92 (d, J = 7.8 Hz, 1H), 7.84 (d, J = 8.7 Hz, 2H), 3.41 (s, 3H), 3.38 (s, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 162.6, 160.4, 159.2, 151.3, 136.4, 135.3, 132.5, 130.3, 129.6, 129.0, 128.7, 127.7, 127.6, 126.7, 117.2, 29.1, 28.4. HRMS (ESI) *m/z* calcd for $C_{17}H_{15}N_2O_3$ $(M+H)^+$: 295.10827; Found: 295.10764.

4-((1,3-Dimethyl-2,4,6-trioxotetrahydropyrimidin-5(2H)-ylidene)methyl)benzonitrile (6f).



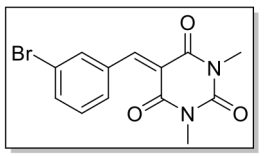
Prepared according to General Procedure A from 4-formylbenzonitrile (1.31 g, 10.0 mmol); isolated as a white solid (2.40 g, 89% yield). M.p. 185-186 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 8.50 (s, 1H), 7.91 (d, J = 8.1 Hz, 2H), 7.70 (d, J = 8.1 Hz, 2H), 3.41 (s, 3H), 3.33 (s, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 161.5, 159.8, 155.8, 150.9, 137.1, 132.0, 131.7, 120.3, 118.1, 114.8, 29.2, 28.5. HRMS (ESI) *m/z* calcd for $C_{14}H_{11}O_3N_3$ $(M+H)^+$: 270.08787; Found: 270.08701.

1,3-Dimethyl-5-(3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzylidene)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (6g).



Prepared according to General Procedure A from 3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzaldehyde (2.32 g, 10.0 mmol); isolated as a white solid (2.36 g, 64% yield); M.p. 189-190 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 8.59 (s, 1H), 8.34 (d, J = 8.1 Hz,1H), 8.19 (s, 1H), 7.92 (d, J = 7.2 Hz, 1H), 7.45 (t, J = 7.8 Hz, 1H), 3.39 (s, 3H), 3.34 (s, 3H) ,1.33 (s, 12H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 162.4, 160.3, 159.5, 151.3, 140.5, 139.1, 135.0, 132.2, 127.6, 117.5, 84.1, 29.0, 28.4, 24.9. HRMS (ESI) *m/z* calcd for $C_{19}H_{24}O_5N_2B$ $(M+H)^+$: 371.17783. Found: 371.17722.

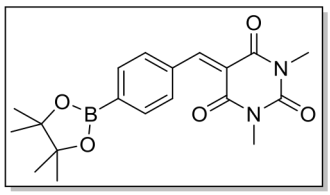
5-(3-Bromobenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (6h).



Prepared according to General Procedure A from 3-bromobenzaldehyde (1.85 g, 10.0 mmol); recrystallized from MeOH and isolated as a white solid (2.77 g, 86% yield); M.p. 151-153 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 8.44 (s, 1H), 8.16 (s, 1H), 7.87 (d, J

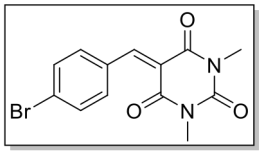
= 7.8 Hz, 1H), 7.62 (d, *J* = 8.1 Hz, 1H), 7.31 (t, *J* = 7.8 Hz, 1H), 3.40 (s, 3H), 3.35 (s, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 162.0, 160.0, 157.0, 151.0, 135.2, 135.2, 134.5, 131.4, 129.6, 122.2, 118.8, 29.1, 28.5. HRMS (ESI) *m/z* calcd for $C_{13}H_{12}O_3N_2Br$ $(M+H)^+$: 323.00313; Found: 323.00320.

1,3-Dimethyl-5-(4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzylidene)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (6i).



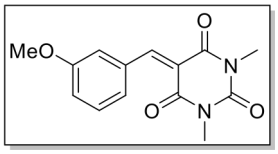
Prepared according to General Procedure A from 4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzaldehyde (2.32 g, 10.0 mmol); isolated as a white solid (1.96 g, 53% yield); M.p. 195-197 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 8.55 (s, 1H), 7.92 (d, *J* = 7.8 Hz, 2H), 7.86 (d, *J* = 7.8 Hz, 2H), 3.40 (s, 3H), 3.34 (s, 3H), 1.33 (s, 12H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 162.3, 160.1, 159.1, 151.2, 135.1, 134.3, 131.7, 118.2, 84.1, 29.0, 28.4, 24.8. HRMS (ESI) *m/z* calcd for $C_{19}H_{24}O_5N_2B$ $(M+H)^+$: 371.17783. Found: 371.17685.

5-(4-Bromobenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (6j).



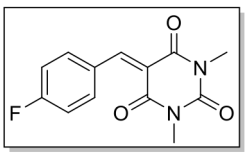
Prepared according to General Procedure A from 4-bromobenzaldehyde (1.85 g, 10.0 mmol); isolated as a white solid (2.77 g, 86% yield); M.p. 175-176 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 8.43 (s, 1H), 7.90 (d, *J* = 8.4 Hz, 2H), 7.56 (d, *J* = 8.7 Hz, 2H), 3.38 (s, 3H), 3.34 (s, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 162.2, 160.3, 157.5, 151.1, 134.8, 131.6, 131.4, 128.0, 117.9, 29.1, 28.4. HRMS (ESI) *m/z* calcd for $C_{13}H_{12}O_3N_2Br$ $(M+H)^+$: 323.00313; Found: 323.00311.

5-(3-Methoxybenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (6k).



Prepared according to General Procedure A from 3-methoxybenzaldehdye (1.36 mg, 10.0 mmol); isolated as a yellow solid (2.47 g, 90% yield); M.p. 139-141 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 8.52 (s, 1H), 7.76 (s, 1H), 7.55 (d, *J* = 7.6 Hz, 1H), 7.35 (t, *J* = 7.8 Hz, 1H), 7.06 (dd, *J* = 8.3, 2.7 Hz, 1H), 3.84 (s, 3H), 3.40 (s, 3H), 3.35 (s, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 162.5, 160.3, 159.2, 159.1, 151.2, 133.8, 129.2, 126.6, 119.4, 117.7, 117.6, 55.4, 29.1, 28.5. HRMS (ESI) *m/z* calcd for $C_{14}H_{15}O_4N_2$ $(M+H)^+$: 275.10318; Found: 275.10260.

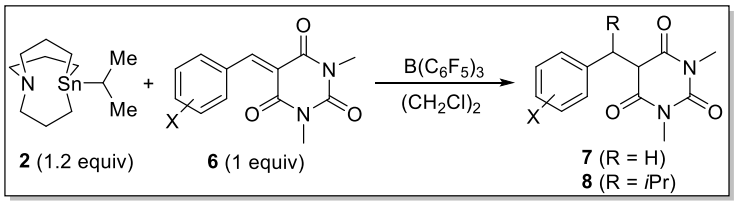
5-(4-Fluorobenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (6l).



Prepared according to General Procedure A from 4-fluorobenzaldehyde (1.24 g, 10.0 mmol); isolated as a pale yellow solid (2.04 g, 78% yield). M.p. 169-171°C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 8.50 (s, 1H), 8.20-8.15 (m, 2H), 7.16-7.09 (m, 2H), 3.40 (s, 3H),

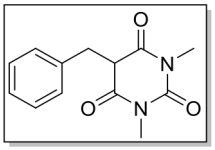
3.36 (s, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 165.3 (d, $^{1}J_{C\text{-}F}$ = 256.0 Hz), 162.4, 160.4, 157.7, 151.1, 136.7 (d, $^{3}J_{C\text{-}F}$ = 9.3 Hz), 128.8 (d, $^{4}J_{C\text{-}F}$ = 3.1 Hz), 116.9, 115.5 (d, $^{2}J_{C\text{-}F}$ = 21.6 Hz), 29.0, 28.3. HRMS (ESI) *m/z* calcd for $C_{13}H_{12}O_3N_2F$ $(M+H)^+$: 263.08320; Found: 263.08237.

General Experimental Procedure B - $B(C_6F_5)_3$-Catalyzed Transfer 1,4-Hydrostannylation



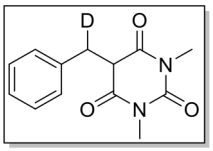
In a J. Young NMR tube, benzylidene 1,3-dimethylbarbituric acid (0.100 mmol) was added to a solution of 5-isopropyl-1-aza-5-stannabicyclo[3.3.3]undecane (36.2 mg, 0.120 mmol) and tris(pentafluorophenyl)borane (8.0 mg, 0.015 mmol) in 1 mL of 1,2-dichloroethane in a glove box and the mixture was put in a preheated oil bath at 95 °C for 36 h. All volatiles were evaporated under vacuum and the product was purified by flash chromatography (EtOAc:pentane) on silica gel. In these reactions, compounds **8a-l** were isolated as byproducts.

5-Benzylidene-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7a).



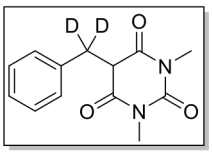
Prepared according to General Procedure B from **6a** (24.4 mg, 0.100 mmol); reaction was purified eluting with EtOAc:pentane (1:5 to 1:4) and the product was isolated as a white solid (22.4 mg, 91% yield); M.p. 115-116 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.23-7.21 (m, 3H), 7.03-6.99 (m, 2H), 3.75 (t, J = 4.8 Hz, 1H), 3.45 (d, J = 4.5 Hz, 2H), 3.10 (s, 6H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 168.3, 151.0, 135.1, 128.8, 128.6, 127.8, 50.7, 37.9, 28.2. HRMS (ESI) *m/z* calcd for $C_{13}H_{15}O_3N_2$ $(M+H)^+$: 247.10827; Found: 247.10773; 1,3-Dimethyl-5-(2-methyl-1-phenylpropyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione **(8a)**: Isolated as a white solid (2.3 mg, 8% yield); M.p. 88-89 °C; ^{1}H NMR (CDCl3, 300 MHz) δ 7.22-7.19 (m, 3H), 6.91-6.88 (m, 2H), 3.91 (d, J = 3.6 Hz, 1H), 3.06 (s, 3H), 3.00 (dd, J = 11.3, 3.6 Hz, 2H), 2.94 (s, 3H), 2.53-2.41 (m, 1H), 1.31 (d, J = 6.6 Hz, 3H), 0.72 (d, J = 6.6 Hz, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 169.5, 167.3, 150.9, 138.0, 128.4, 128.1, 127.6, 59.3, 52.0, 28.6, 28.0, 27.8, 21.5, 21.3. HRMS (ESI) *m/z* calcd for $C_{16}H_{21}O_3N_2$ $(M+H)^+$: 289.15522; Found: 289.15463.

1,3-Dimethyl-5-(phenylmethyl-*d*)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7a-d_1).



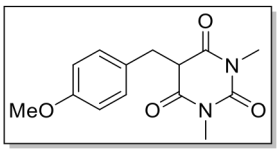
In a vial, **6a** (24.4 mg, 0.100 mmol) was added to a solution of 5-(propan-2-yl-1,1,1,3,3,3-d_6)-1-aza-5-stannabicyclo[3.3.3]undecane (30.0 mg, 0.0974 mmol) and tris(pentafluorophenyl)borane (52.0 mg, 0.102 mmol) in 1,2-dichloroethane (1 ml). After stirring for 18 hours at room temperature, all volatiles were removed and the reaction was purified eluting with EtOAc:pentane (1:5 to 1:4) and the product was isolated as a white solid (22.0 mg, 92% yield, 54% D-incorporation); M.p. 115-116 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.23-7.20 (m, 3H), 7.02-6.99 (m, 2H), 3.76-3.74 (m, 1H), 3.45-3.44 (m, 1.46 H), 3.10 (s, 6H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 168.3, 151.0, 135.1, 135.0, 128.8, 128.6, 127.8, 50.7, 50.6, 37.6 (t), 28.2. ^{2}H NMR ($CHCl_3$, 46 MHz) δ 3.45. HRMS (ESI) *m/z* calcd for $C_{13}H_{14}{}^2HO_3N_2$ $(M+H)^+$: 248.11400; Found: 248.11369.

1,3-Dimethyl-5-(phenylmethyl-d_2)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7a-d_2).



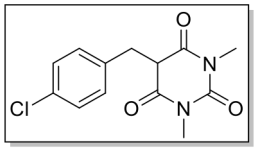
In a vial, **6a**-d_1 (24.5 mg, 0.100 mmol) was added to a solution of 5-(propan-2-yl-1,1,1,3,3,3-d_6)-1-aza-5-stannabicyclo[3.3.3]undecane (30.0 mg, 0.0974 mmol) and tris(pentafluorophenyl)borane (52.0 mg, 0.102 mmol) in 1,2-dichloroethane (1 ml). After stirring for 18 hours at room temperature, all volatiles were removed and the reaction was purified eluting with EtOAc:pentane (1:5 to 1:4) and the product was isolated as a white solid (21.9 mg, 89% yield, 55% D-incorporation); ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.24-7.21 (m, 3H), 7.03-7.00 (m, 2H), 3.76-3.75 (m, 1H), 3.44-3.41 (m, 0.45 H), 3.11 (s, 6H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 168.3, 151.0, 135.1, 135.0, 128.8, 128.6, 127.8, 50.62, 50.60, 37.8-36.9 (m), 28.2. ^{2}H NMR ($CHCl_3$, 46 MHz) δ 3.44. HRMS (ESI) *m/z* calcd for $C_{13}H_{13}{}^2H_2N_2O_3$ $(M+H)^+$: 249.12027; Found: 249.12036.

5-(4-Methoxybenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7b).



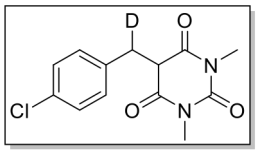
Prepared according to General Procedure B from **6b** (27.4 mg, 0.100 mmol); reaction was purified eluting with EtOAc:pentane (1:4) and the product was isolated as a white solid (19.9 mg, 72% yield); M.p. 88-89 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 6.93 (d, J = 8.7 Hz, 2H), 6.73 (d, J = 8.7 Hz, 2H), 3.74-3.70 (m, 4H), 3.39 (d, J = 4.5 Hz, 2H), 3.12 (s, 6H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 168.4, 159.1, 151.0, 130.0, 127.0, 113.9, 55.2, 50.9, 37.1, 28.2. HRMS (ESI) *m/z* calcd for $C_{14}H_{17}O_4N_2$ $(M+H)^+$: 277.11883; Found: 277.11841; 5-(1-(4-Methoxyphenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione **(8b)**: Isolated as a colorless oil (6.7 mg, 21% yield); ^{1}H NMR ($CDCl_3$, 300 MHz) δ 6.82 (dt, J = 8.7, 2.7 Hz, 2H), 6.73 (dt, J = 9.0, 2.7 Hz, 2H), 3.88 (d, J = 3.6 Hz, 2H), 3.74 (s, 3H), 3.07 (s, 3H), 2.99-2.94 (m, 4H), 2.48-2.35 (m, 1H), 1.29 (d, J = 6.3 Hz, 3H), 0.70 (d, J = 6.6 Hz, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 169.7, 167.4, 159.2, 150.9, 129.9, 128.6, 113.8, 58.4, 55.2, 52.0, 28.8, 28.0, 27.9, 21.5, 21.4. HRMS (ESI) *m/z* calcd for $C_{17}H_{23}O_4N_2$ $(M+H)^+$: 319.16578; Found: 319.16525.

5-(4-Chlorobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7c).[7]



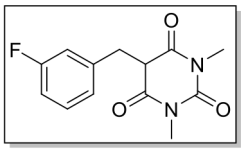
Prepared according to General Procedure B from **6c** (27.9 mg, 0.100 mmol); reaction was purified eluting with EtOAc:pentane (1:4) and the product was isolated as a white solid (23.3 mg, 83% yield); ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.19 (d, J = 8.4 Hz, 2H), 6.99 (d, J = 8.4 Hz, 2H), 3.74 (t, J = 4.8 Hz, 1H), 3.44 (d, J = 4.8 Hz, 2H), 3.15 (s, 6H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 167.8, 150.9, 134.0, 133.7, 130.4, 128.8, 50.4, 36.0, 28.3; 5-(1-(4-Chlorophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione **(8c)**: Isolated as a colorless oil (4.5 mg, 14% yield); ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.19 (d, J = 8.1 Hz, 2H), 6.86 (d, J = 8.4 Hz, 2H), 3.89 (d, J = 3.6 Hz, 1H), 3.08-2.99 (m, 4H), 2.51-2.38 (m, 1H), 1.28 (d, J = 6.3 Hz, 3H), 0.69 (d, J = 6.6 Hz, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 169.2, 167.0, 150.7, 136.8, 133.8, 129.0, 128.7, 58.0, 51.6, 28.8, 28.1, 27.9, 21.4, 21.3. HRMS (ESI) *m/z* calcd for $C_{16}H_{20}O_3N_2Cl$ $(M+H)^+$: 323.11625; Found: 323.11572.

5-((4-Chlorophenyl)methyl-*d*)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7c-d_1).



In a vial, **6c** (27.0 mg, 0.0969 mmol) was added to a solution of 5-(propan-2-yl-1,1,1,3,3,3-d_6)-1-aza-5-stannabicyclo[3.3.3]undecane (30.0 mg, 0.0974 mmol) and tris(pentafluorophenyl)borane (52.0 mg, 0.102 mmol) in 1,2-dichloroethane (1 ml). After stirring for 18 hours at room temperature, all volatiles were removed and the reaction was purified eluting with EtOAc:pentane (1:5) and the product was isolated as a clear oil (23.3 mg, 86% yield, 59% D-incorporation);); ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.19 (d, J = 8.4 Hz, 2H), 6.99 (d, J = 8.4 Hz, 2H), 3.76-3.73 (m, 1H), 3.45-3.43 (m, 1.41H), 3.16 (s, 6H); ^{13}C NMR (CDCl3, 75 MHz) δ 167.9, 150.9, 134.02, 133.98, 133.7, 130.5, 128.8, 50.4, 50.3, 35.7 (t), 28.3; ^{2}H NMR ($CHCl_3$, 46 MHz) δ 3.44. HRMS (ESI) *m/z* calcd for $C_{13}H_{13}{}^2HN_2O_3Cl$ $(M+H)^+$: 282.07502; Found: 282.07504.

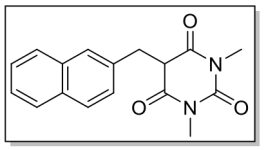
5-(3-Fluorobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7d).



Prepared according to General Procedure B from **6d** (26.2 mg, 0.100 mmol); reaction was purified eluting with EtOAc:pentane (1:4) and the product was isolated as a white solid (21.4 mg, 81% yield); M.p. 100-102 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.17 (q, J = 6.6 Hz, 1H), 6.89 (t, J = 8.4 Hz, 1H), 6.82-6.74 (m, 2H), 3.74 (t, J = 4.5 Hz, 1H), 3.43 (d, J = 4.8 Hz, 2H), 3.13 (s, 6H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 167.8, 162.6 (d, $J_{C\text{-}F}$ = 245.4 Hz), 150.9, 137.9 (d, $J_{C\text{-}F}$ = 7.4 Hz), 130.1 (d, $J_{C\text{-}F}$ = 8.3 Hz), 124.6 (d, $J_{C\text{-}F}$ = 2.9 Hz), 115.9 (d, $J_{C\text{-}F}$ = 21.5 Hz), 114.6 (d, $J_{C\text{-}F}$ = 20.8 Hz), 50.3, 36.5, 36.4, 28.2. HRMS (ESI) *m/z* calcd for $C_{13}H_{14}O_3N_2F$ $(M+H)^+$: 265.09885; Found: 265.09818; 5-(1-(3-Fluorophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione **(8d)**: Isolated as a white solid (5.2 mg, 17% yield); M.p. 68-70 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.19 (q, J = 6.0 Hz, 1H), 6.92 (td, J = 8.4, 2.4 Hz, 1H), 6.72-6.64 (m, 2H), 3.89 (d, J = 3.6 Hz, 3H), 3.10-2.99 (m, 4H), 2.51-2.38 (m, 1H), 1.30 (d, J = 6.3 Hz, 3H), 0.73 (d, J = 6.6 Hz, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 167.1(d,

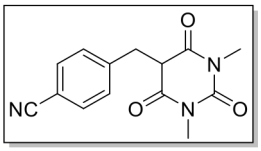
$J_{C\text{-}F}$ = 163.6 Hz), 162.8 (d, $J_{C\text{-}F}$ = 245.9 Hz), 150.8, 140.9 (d, $J_{C\text{-}F}$ = 6.8 Hz), 130.0 (d, $J_{C\text{-}F}$ = 8.3 Hz), 123.4 (d, $J_{C\text{-}F}$ = 2.7 Hz), 115.1, 114.9, 114.5 (d, $J_{C\text{-}F}$ = 21.5 Hz), 58.5, 51.6, 28.7, 28.1, 27.9, 21.4, 21.2. HRMS (ESI) *m/z* calcd for $C_{16}H_{20}O_3N_2F$ $(M+H)^+$: 307.14580; Found: 307.14545.

1,3-Dimethyl-5-(naphthalen-2-ylmethyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7e).



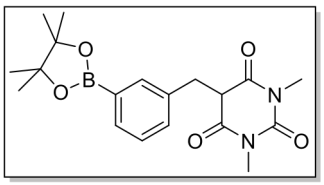
Prepared according to General Procedure B from **6e** (29.4 g, 0.100 mmol); reaction was purified by flash chromatography on silica gel with EtOAc:pentane (1:5) and the product was isolated as a yellow solid (25.5 mg, 86% yield); M.p. 126-128 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.78-7.69 (m, 3H), 7.52 (s, 1H), 7.45-7.42 (m, 2H), 7.13 (d, J = 8.4 Hz, 1H), 3.83 (t, J = 4.8 Hz, 1H), 3.62 (d, J = 4.8 Hz, 1H), 3.08 (s, 6H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 168.2, 150.5, 133.3, 132.7, 132.6, 128.3, 127.9, 127.7, 127.5, 126.7, 126.4, 126.1, 50.7, 37.6, 28.2. HRMS (ESI) *m/z* calcd for $C_{17}H_{17}O_3N_2$ $(M+H)^+$: 279.12392; Found: 279.12296; 1,3-Dimethyl-5-(2-methyl-1-(naphthalen-2-yl)propyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione **(8e)**: Isolated as a yellow oil (3.7 mg, 11% yield); ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.77-7.69 (m, 3H), 7.45-7.40 (m, 3H), 7.02 (d, J = 8.4 Hz, 1H), 3.98 (d, J = 3.6 Hz, 1H), 3.20 (dd, J = 11.1, 3.6 Hz, 1H), 3.05 (s, 3H), 2.85 (s, 3H), 2.67-2.55 (m, 1H), 1.36 (d, J = 6.3 Hz, 3H), 0.74 (d, J = 6.6 Hz, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 169.5, 167.3, 150.7, 135.5, 133.2, 132.8, 128.2, 127.7, 127.5, 127.1, 126.5, 126.2, 124.8, 59.2, 52.0, 28.7, 28.0, 27.9, 21.6, 21.4. HRMS (ESI) *m/z* calcd for $C_{20}H_{23}O_3N_2$ $(M+H)^+$: 339.17087; Found: 339.17111.

4-((1,3-Dimethyl-2,4,6-trioxohexahydropyrimidin-5-yl)methyl)benzonitrile (7f).[8]



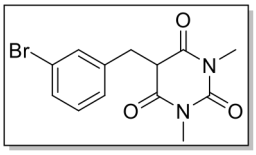
Prepared according to General Procedure B from **6f** (26.9 mg, 0.100 mmol); reaction was purified eluting with EtOAc:pentane (1:4) and the product was isolated as a colorless oil (22.8 mg, 84% yield); ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.53 (d, J = 8.1 Hz, 2H), 7.24 (d, J = 8.1 Hz, 2H), 3.79 (t, J = 4.8 Hz, 1H), 3.52 (d, J = 4.8 Hz, 2H), 3.18 (s, 6H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 167.3, 150.8, 141.6, 132.3, 130.1, 118.4, 111.6, 50.1, 35.3, 28.5. HRMS (ESI) *m/z* calcd for $C_{14}H_{14}O_3N_3$ $(M+H)^+$: 272.10297; Found: 272.10278; 4-(1-(1,3-Dimethyl-2,4,6-trioxohexahydropyrimidin-5-yl)-2-methylpropyl)benzonitrile **(8f)**: Isolated as a colorless oil (4.4 mg, 14% yield); ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.53 (d, J = 8.1 Hz, 2H), 7.09 (d, J = 8.4 Hz, 2H), 3.92 (d, J = 3.6 Hz, 1H), 3.17-3.10 (m, 4H), 3.00 (s, 3H), 2.59-2.45 (m, 1H), 1.29 (d, J = 6.6 Hz, 2H), 0.69 (d, J = 6.6 Hz, 2H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 168.6, 166.6, 150.5, 144.2, 132.3, 128.7, 118.2, 112.1, 58.0, 51.3, 28.7, 28.2, 28.0, 21.4, 21.1. HRMS (ESI) *m/z* calcd for $C_{17}H_{20}O_3N_3$ $(M+H)^+$: 314.15047; Found: 314.15012.

1,3-Dimethyl-5-(3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7g).



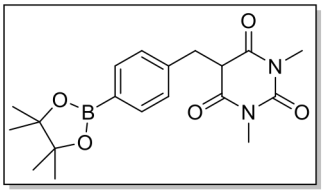
Prepared according to General Procedure B from **6g** (37.0 mg, 0.100 mmol); reaction was purified eluting with EtOAc:pentane (1:4) and the product was isolated as a white solid (31.6 mg, 85% yield); M.p. 142-144 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) 7.65 (d, J = 7.2 Hz, 1H), 7.43 (s, 1H), 7.22 (t, J = 7.5 Hz, 1H), 7.09 (d, J = 7.5 Hz, 1H), 3.75 (t, J = 4.5 Hz, 1H), 3.43 (d, J = 4.5 Hz, 1H), 3.08 (s, 6H), 1.30 (s, 12H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 168.4, 150.9, 134.8, 134.2, 131.7, 127.9, 83.9, 50.8, 38.5, 28.5, 24.8. HRMS (ESI) *m/z* calcd for $C_{19}H_{26}O_5N_2B$ $(M+H)^+$: 373.19348. Found: 373.19266; 1,3-Dimethyl-5-(2-methyl-1-(3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl)propyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione **(8g)**: Isolated as a white solid (5.4 mg, 13% yield); M.p. 161-163 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) 7.64 (d, J = 7.5 Hz, 1H), 7.32 (s, 1H), 7.21 (t, J = 7.8 Hz, 1H), 6.99 (d, J = 7.8 Hz, 1H), 3.90 (d, J = 3.6 Hz, 1H), 3.06 (s, 3H), 3.01 (dd, J = 19.1, 3.9 Hz, 1H), 2.89 (s, 3H), 2.54-2.41 (m, 1H), 1.33-1.30 (m, 15H), 0.72 (d, J = 6.6 Hz, 1H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 169.6, 167.3, 150.8, 137.1, 134.5, 133.5, 130.9, 127.7, 83.9, 59.5, 52.1, 28.5, 27.9, 27.8, 24.9, 24.8, 21.7, 21.3. HRMS (ESI) *m/z* calcd for $C_{22}H_{32}O_5N_2B$ $(M+H)^+$: 415.24043. Found: 415.24023.

5-(3-Bromobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7h).



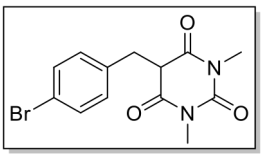
Prepared according to General Procedure B from **6h** (32.3 mg, 0.100 mmol); reaction was purified eluting with EtOAc:pentane (1:4) and the product was isolated as a white solid (25.7 mg, 79% yield); M.p. 84-86 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.36 (d, J = 7.8 Hz, 1H), 7.22 (s, 1H), 7.09 (t, J = 7.8 Hz, 1H), 6.97 (d, J = 7.8 Hz, 1H), 3.74 (t, J = 4.8 Hz, 1H), 3.41 (d, J = 4.8 Hz, 2H), 3.15 (s, 6H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 167.8, 150.9, 137.7, 132.0, 130.9, 127.6, 122.6, 50.4, 36.6, 28.3. HRMS (ESI) *m/z* calcd for $C_{13}H_{14}O_3N_2Br$ $(M+H)^+$: 325.01878; Found: 325.01837; 5-(1-(3-Bromophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione **(8h)**: Isolated as a white solid (7.3 mg, 20% yield); M.p. 121-124 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.36 (d, J = 8.7 Hz, 1H), 7.12-7.07 (m, 2H), 6.85 (d, J = 7.8 Hz, 1H), 3.90 (d, J = 3.9 Hz, 1H), 3.11 (s, 3H), 3.01-2.96 (m, 4H), 2.50-2.38 (m, 1H), 1.30 (d, J = 6.3 Hz, 3H), 0.73 (d, J = 6.6 Hz, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 169.2, 167.0, 150.8, 140.6, 131.2, 130.7, 130.0, 126.4, 122.7, 58.6, 51.7, 28.6, 28.1, 27.9, 21.5, 21.2. HRMS (ESI) *m/z* calcd for $C_{16}H_{20}O_3N_2Br$ $(M+H)^+$: 367.06573; Found: 367.06549.

1,3-Dimethyl-5-(4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7i).



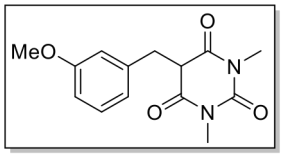
Prepared according to General Procedure B from **6i** (37.0 mg, 0.100 mmol); reaction was purified eluting with EtOAc:pentane (1:6 to 1:4) and the product was isolated as a white solid (30.5 mg, 82% yield); M.p. 131-133 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.64 (d, J = 7.8 Hz, 2H), 7.02 (d, J= 7.8 Hz, 2H), 3.76 (t, J = 4.8 Hz, 1H), 3.46 (d, J= 4.8 Hz, 2H), 3.12 (s, 6H), 1.32 (s, 12H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 168.2, 150.9, 138.3, 135.1, 128.3, 83.9, 50.5, 37.7, 28.2, 24.9. HRMS (ESI) *m/z* calcd for $C_{19}H_{26}O_5N_2B$ $(M+H)^+$: 373.19348. Found: 373.19247; 1,3-Dimethyl-5-(2-methyl-1-(4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl)propyl) pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione **(8i)**: Isolated as a colorless oil (5.8 mg, 14% yield); ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.63 (d, J = 7.8 Hz, 2H), 6.91 (d, J= 7.5 Hz, 2H), 3.91 (d, J= 3.6 Hz, 1H), 3.08-2.96 (m, 7H), 2.55-2.43 (m, 1H), 1.32-1.29 (m, 15H), 0.67 (d, J= 6.6 Hz, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 169.4, 167.3, 150.8, 141.3, 135.0, 127.1, 83.9, 59.1, 51.7, 28.7, 28.1, 27.9, 24.9, 21.5, 21.3. HRMS (ESI) *m/z* calcd for $C_{22}H_{32}O_5N_2B$ $(M+H)^+$: 415.24043. Found: 415.23969.

5-(4-Bromobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7j).



Prepared according to General Procedure B from **6j** (32.3 mg, 0.100 mmol); reaction was purified eluting with EtOAc:pentane (1:4) and the product was isolated as a white solid (24.1 mg, 74% yield); M.p. 85-87 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.35 (d, J = 8.4 Hz, 2H), 6.94 (d, J= 8.1 Hz, 2H), 3.74 (t, J = 4.8 Hz, 1H), 3.42 (d, J = 4.5 Hz, 2H), 3.16 (s, 6H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 167.8, 150.9, 134.6, 131.8, 130.8, 121.8, 50.3, 36.0, 28.4. HRMS (ESI) *m/z* calcd for $C_{13}H_{14}O_3N_2Br$ $(M+H)^+$: 325.01878. Found: 325.01831; 5-(1-(4-Bromophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione **(8j)**: Isolated as a colorless oil (8.4 mg, 23% yield); ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.34 (d, J = 8.4 Hz, 2H), 6.80 (d, J= 8.1 Hz, 2H), 3.89 (d, J= 3.6 Hz, 2H), 3.09 (s, 3H), 3.04-3.00 (m, 4H), 2.51-2.39 (m, 1H), 1.28 (d, J= 6.3 Hz, 3H), 0.69 (d, J= 6.6 Hz, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 169.1, 167.0, 150.7, 137.4, 131.7, 129.4, 121.9, 58.0, 51.5, 28.8, 28.1, 27.9, 21.4, 21.3. HRMS (ESI) *m/z* calcd for $C_{16}H_{20}O_3N_2Br$ $(M+H)^+$: 367.06573. Found: 367.06542.

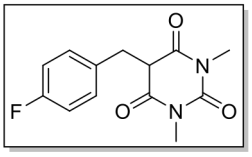
5-(3-Methoxybenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7k).



Prepared according to General Procedure B from **6k** (27.4 mg, 0.100 mmol); reaction was purified eluting with EtOAc:pentane (1:4) and the product was isolated as a pale yellow solid (26.0 mg, 94% yield); M.p. 64-66 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.13 (t, J = 7.8 Hz, 1H), 6.75 (d, J = 8.1 Hz, 1H), 6.60-6.56 (m, 2H), 3.76-3.72 (m, 4H), 3.42 (d, J= 4.8 Hz, 2H), 3.12 (s, 6H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 168.2, 159.7, 151.0, 136.6, 129.6, 121.1, 114.4, 113.3, 55.1, 50.6, 37.7, 28.2. HRMS (ESI) *m/z* calcd for $C_{14}H_{17}O_4N_2$

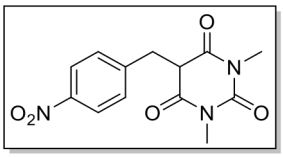
$(M+H)^+$: 277.11883. Found: 277.11789; 5-(1-(3-Methoxyphenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione **(8k)**: Isolated as a white solid (1.6 mg, 5% yield); M.p. 100-102 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.12 (t, J = 7.8 Hz, 1H), 6.74 (dd, J = 8.4, 2.4 Hz, 1H), 6.50-6.47 (m, 2H), 3.89 (d, J = 3.6 Hz, 2H), 3.72 (s, 3H), 3.08 (s, 3H), 3.00-3.95 (m, 4H), 2.50-2.38 (m, 1H), 1.30 (d, J = 6.3 Hz, 3H), 0.74 (d, J = 6.6 Hz, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 169.5, 167.3, 159.8, 139.6, 129.4, 119.8, 113.7, 113.0, 59.1, 55.2, 51.9, 28.6, 28.0, 27.9, 21.5, 21.3. HRMS (ESI) *m/z* calcd for $C_{17}H_{23}O_4N_2$ $(M+H)^+$: 319.16578. Found: 319.16437.

5-(4-Fluorobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7l).



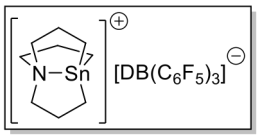
Prepared according to General Procedure B from **6l** (26.2 mg, 0.100 mmol); reaction was purified eluting with EtOAc:pentane (1:4) and the product was isolated as a white solid (23.3 mg, 88% yield); M.p. 59-61 °C; ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.03-6.87 (m, 4H), 3.73 (t, J = 4.8 Hz, 1H), 3.43 (d, J = 4.8 Hz, 2H), 3.13 (s, 6H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 168.0, 162.6 (d, $J_{C\text{-}F}$ = 245.3 Hz), 150.9, 131.1, 130.6 (d, $J_{C\text{-}F}$ = 8.0 Hz), 115.5 (d, $J_{C\text{-}F}$ = 21.2 Hz), 50.6, 36.3, 28.3. HRMS (ESI) *m/z* calcd for $C_{13}H_{14}O_3N_2F$ $(M+H)^+$: 265.09885. Found: 265.09769; 5-(1-(4-Fluorophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione **(8l)**: Isolated as a colorless oil (3.1 mg, 10% yield); ^{1}H NMR ($CDCl_3$, 300 MHz) δ 6.95-6.86 (m, 4H), 3.90 (d, J = 3.6 Hz, 1H), 3.09 (s, 3H), 3.05-2.99 (m, 4H), 2.50-2.38 (m, 1H), 1.30 (d, J = 6.3 Hz, 3H), 0.70 (d, J = 6.9 Hz, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 169.3, 167.1, 162.2 (d, $^1J_{C\text{-}F}$ = 246.0 Hz), 150.8, 133.9 (d, $^4J_{C\text{-}F}$ = 3.8 Hz), 129.2 (d, $^3J_{C\text{-}F}$ = 7.8 Hz), 115.5 (d, $^2J_{C\text{-}F}$ = 21.1 Hz), 58.1, 51.8, 28.9, 28.1, 27.9, 21.4, 21.3. HRMS (ESI) *m/z* calcd for $C_{16}H_{20}O_3N_2F$ $(M+H)^+$: 307.14580. Found: 307.14517.

1,3-Dimethyl-5-(4-nitrobenzyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (7m).[9]



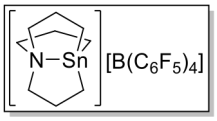
Prepared according to General Procedure B from **6m** (28.9 mg, 0.100 mmol); reaction was purified eluting with EtOAc:pentane (1:4) and the product was isolated as a white solid (7.0 mg, 24% yield); ^{1}H NMR ($CDCl_3$, 300 MHz) δ 8.10 (d, J = 8.7 Hz, 2H), 7.31 (d, J = 8.7 Hz, 2H), 3.82 (t, J = 4.8 Hz, 1H), 3.58 (d, J = 5.1 Hz, 2H), 3.20 (s, 6H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 167.2, 150.5, 147.4, 143.9, 130.3, 123.7, 50.0, 34.7, 28.5. 1,3-Dimethyl-5-(2-methyl-1-(4-nitrophenyl)propyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione **(8m)**: Isolated as a pale yellow oil (24.3 mg, 76% yield); ^{1}H NMR ($CDCl_3$, 300 MHz) δ 8.10 (d, J = 8.7 Hz, 2H), 7.17 (d, J = 8.4 Hz, 2H), 3.94 (d, J = 3.3 Hz, 1H), 3.25 (d, J = 3.3 Hz, 1H), 3.21 (d, J = 3.3 Hz, 1H), 3.12 (s, 3H), 3.02 (s, 3H), 2.51 (m, 1H), 1.30 (d, J = 6.3 Hz, 3H), 0.70 (d, J = 6.6 Hz, 3H); ^{13}C NMR ($CDCl_3$, 75 MHz) δ 168.5, 166.6, 150.5, 147.5, 146.4, 128.9, 123.7, 57.6, 51.2, 28.9, 28.3, 28.1, 21.4, 21.2. HRMS (ESI) *m/z* calcd for $C_{16}H_{20}O_5N_3$ $(M+H)^+$: 334.13975. Found: 334.13864.

$[N(CH_2CH_2CH_2)_3Sn][DB(C_6F_5)_3]$ (9).



To a solution of 5-(propan-2-yl-1,1,1,3,3,3-d_6)-1-aza-5-stannabicyclo[3.3.3]undecane (30.1 mg, 0.100 mmol) in CD_2Cl_2 (1 ml) in a vial, was added tris(pentafluorophenyl)borane (51.1 mg, 0.100 mmol). After stirring for 2 min, the solution was transferred to a J. Young NMR tube; ^{1}H NMR (CD_2Cl_2, 300 MHz) δ 2.66 (m, 6H, NC*H*2), 2.04 (m, 6H, C*H*2), 1.45 (t, J = 6.6, 6H, SnC*H*2); ^{13}C NMR (CD_2Cl_2, 75 MHz) δ 56.5 (N*C*H2), 25.2 (*C*H2), 15.4 (Sn*C*H2); ^{119}Sn NMR (CD_2Cl_2, 112 MHz) δ 151.4; ^{11}B NMR ($CDCl_3$, 96 MHz) δ –18.1; ^{2}H NMR ($CHCl_3$, 46 MHz) δ 5.05 (d, J = 2.3 Hz), 4.95 (d, J = 1.5 Hz), 1.68 (brd, J = 0.1 Hz). HRMS (–ESI) *m/z* calcd. for $C_{18}{}^2HBF_{15}$ (M^-): 512.99891. Found: 512.99935; (+ESI) *m/z* calcd. for $C_9H_{18}NSn$ (M^+): 260.04557. Found: 260.04538.

$[N(CH_2CH_2CH_2)_3Sn][B(C_6F_5)_4]$ (13).



To a solution of 5-methyl-1-aza-5-stannabicyclo[3.3.3]undecane (27.5 mg, 0.100 mmol) in 1,2-dichloroethane (1 ml) in a vial, was added trityl tetrakis(pentafluorophenyl)borate (92.2 mg, 0.100 mmol). After stirring for 2 min, the solution was transferred to a J. Young NMR tube; ^{1}H NMR ($(CH_2Cl)_2$, 300 MHz) δ 2.70 (t, 6H, NC*H*2), 2.10 (m, 6H, C*H*2), 1.71 (t, 6H, SnC*H*2); ^{119}Sn NMR ($Cl(CH_2)_2Cl$, 112 MHz) δ 251.1.

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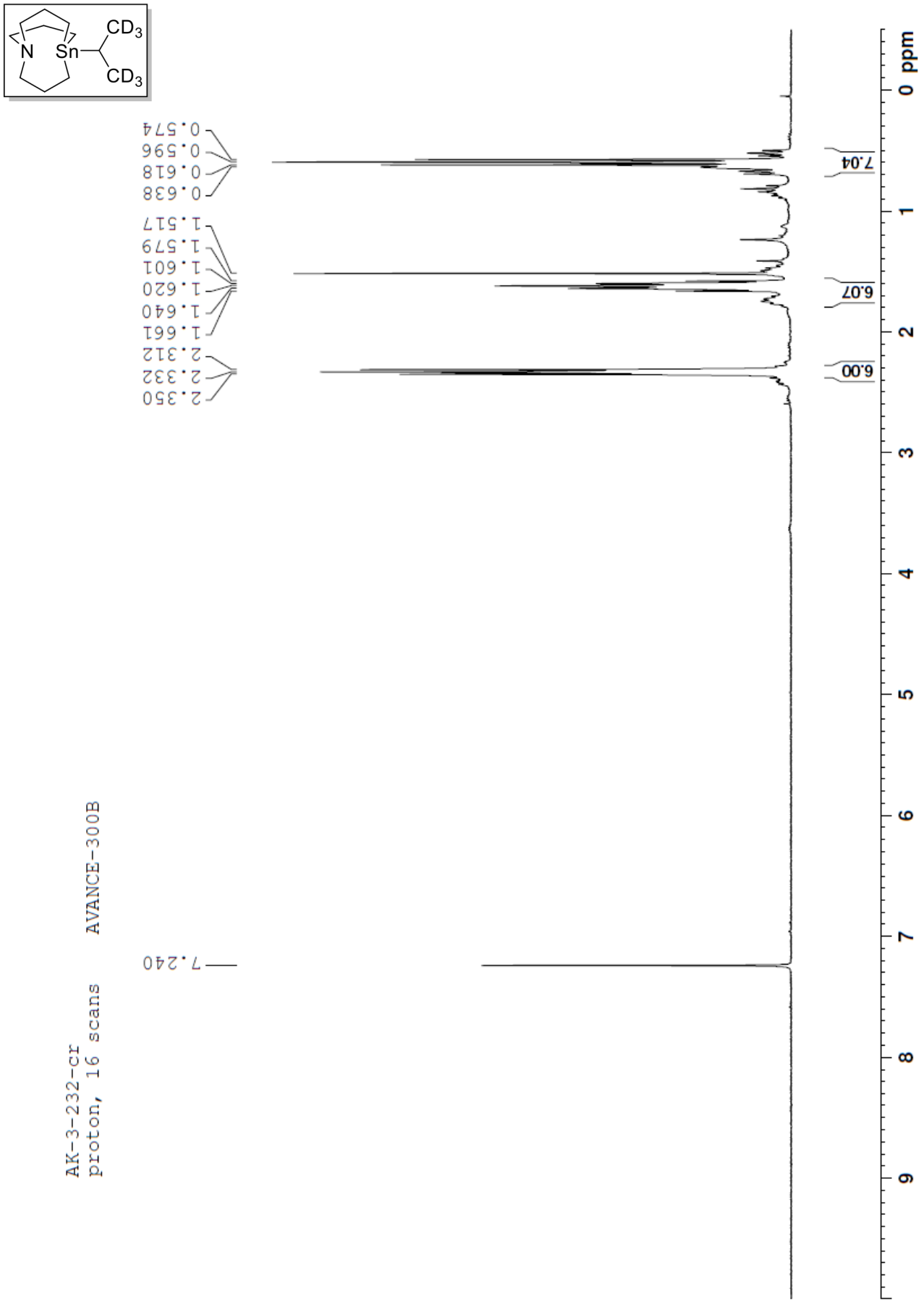
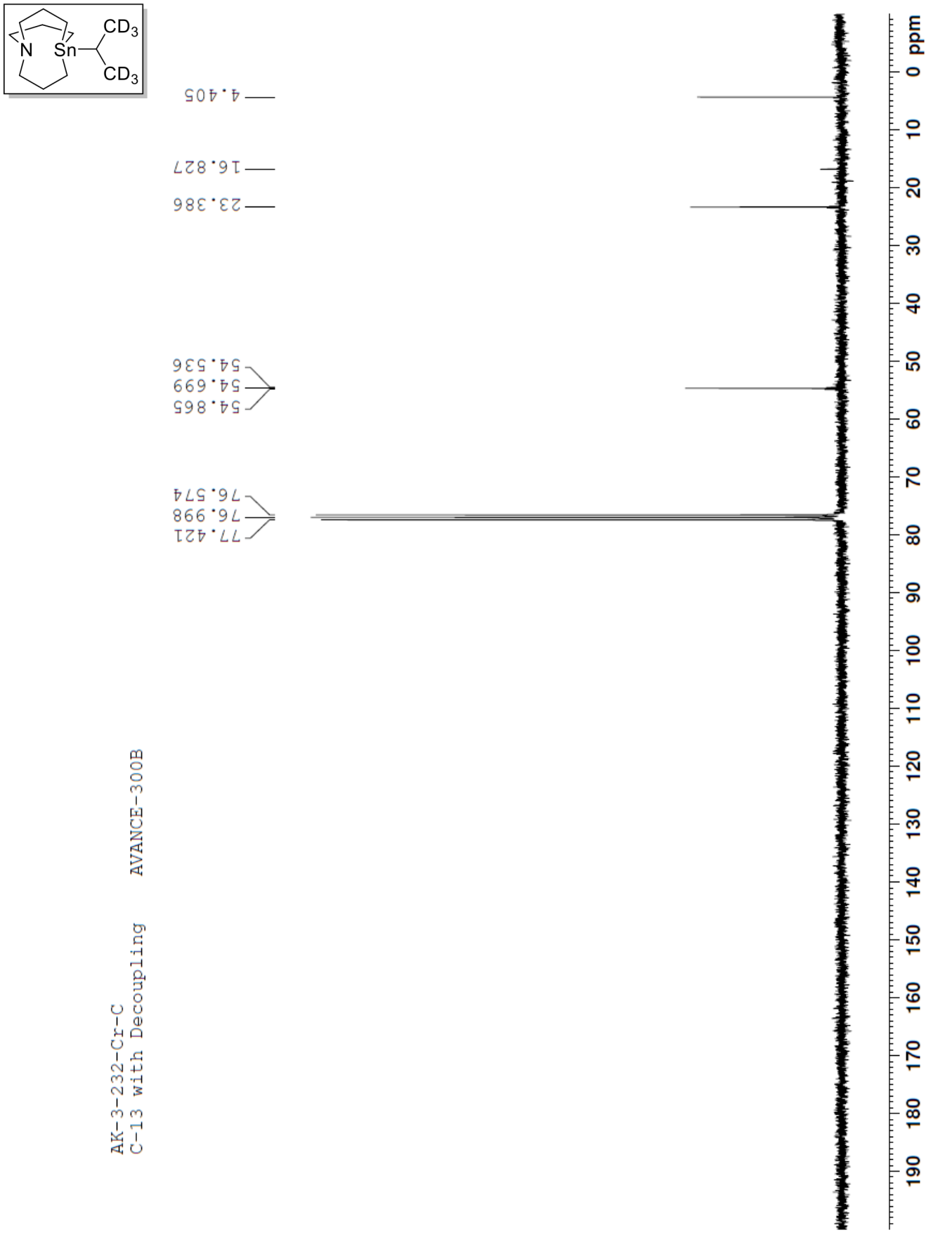
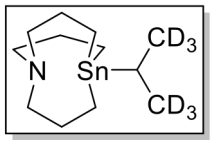
^{1}H NMR Spectra of 5-(propan-2-yl-1,1,1,3,3,3-d_6)-1-aza-5-stannabicyclo[3.3.3]undecane (**2**-d_6)

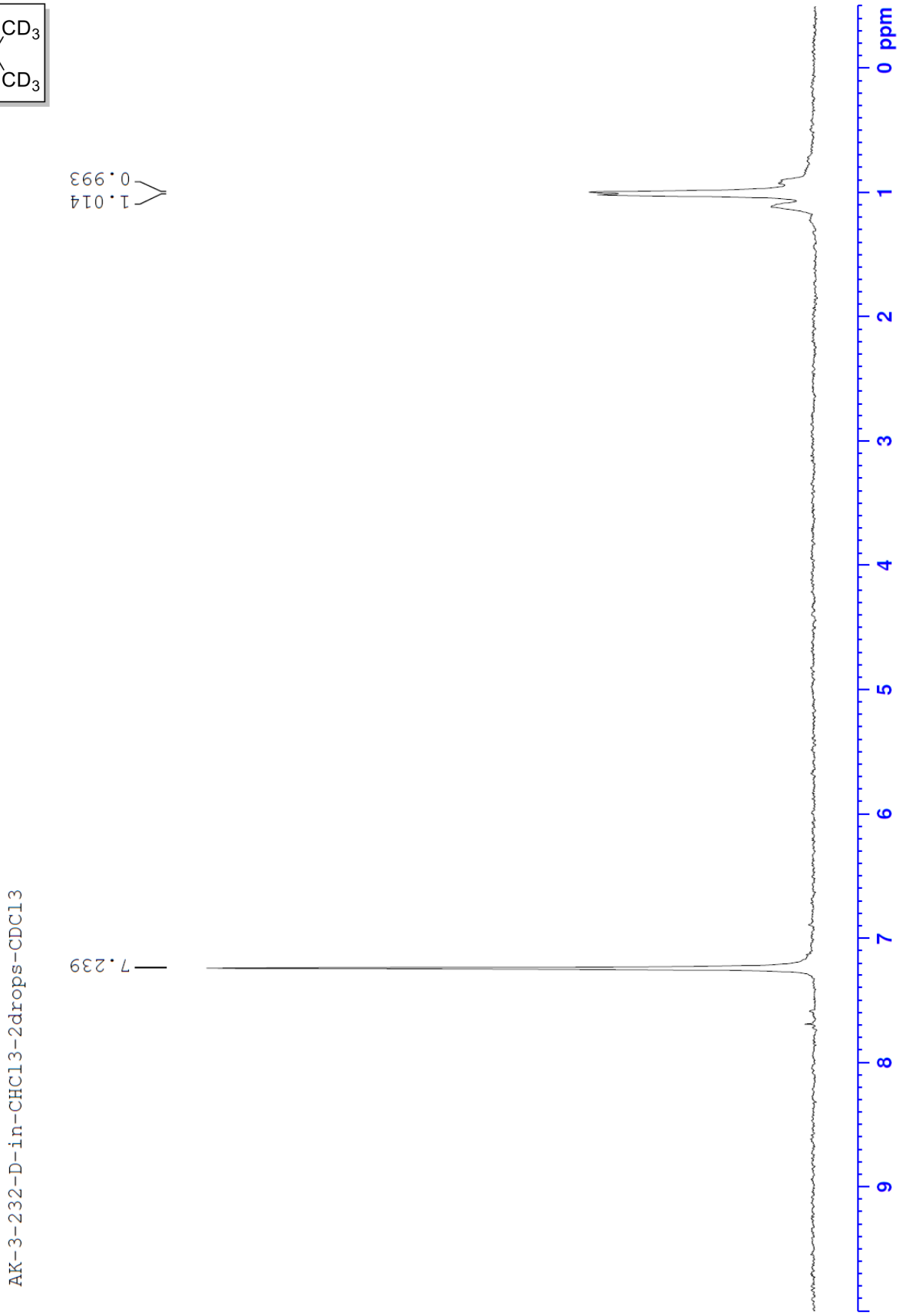


^{13}C NMR Spectra of 5-(propan-2-yl-1,1,1,3,3,3-d_6)-1-aza-5-stannabicyclo[3.3.3]undecane (**2-d_6**)

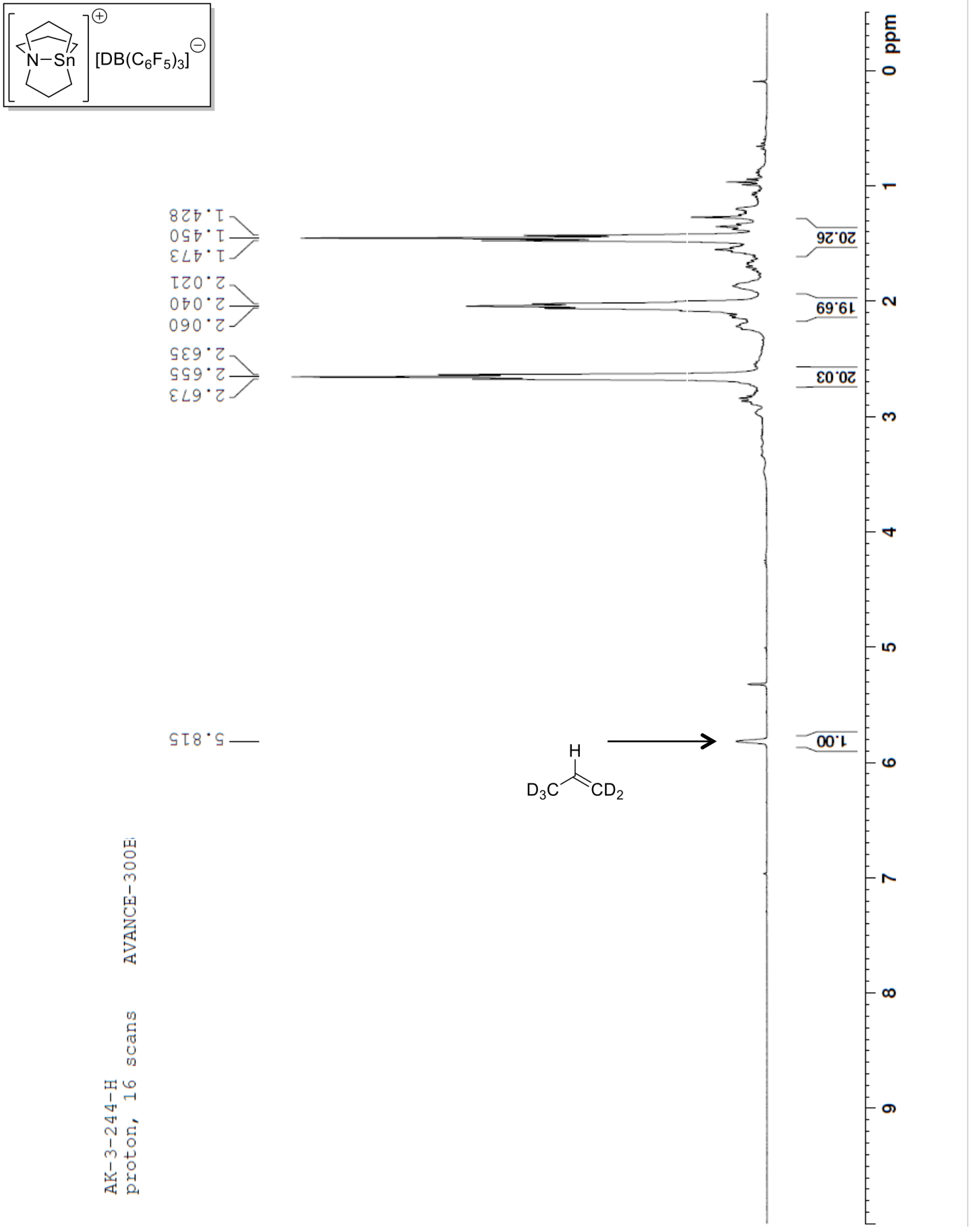


^{2}H NMR Spectra of 5-(propan-2-yl-1,1,1,3,3,3-d_6)-1-aza-5-stannabicyclo[3.3.3]undecane (**2-d_6**)

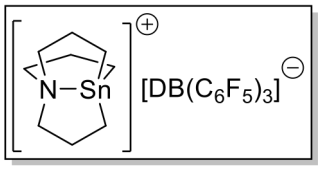




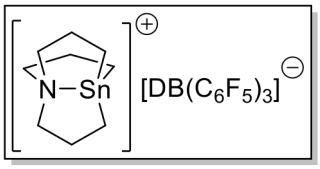
^{1}H NMR spectra of $[N(CH_2CH_2CH_2)_3Sn][DB(C_6F_5)_3]$ (**3**-d_1)



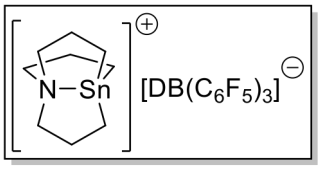
^{13}C NMR spectra of [N(CH$_2$CH$_2$CH$_2$)$_3$Sn][DB(C$_6$F$_5$)$_3$] (**3-*d*$_1$**)

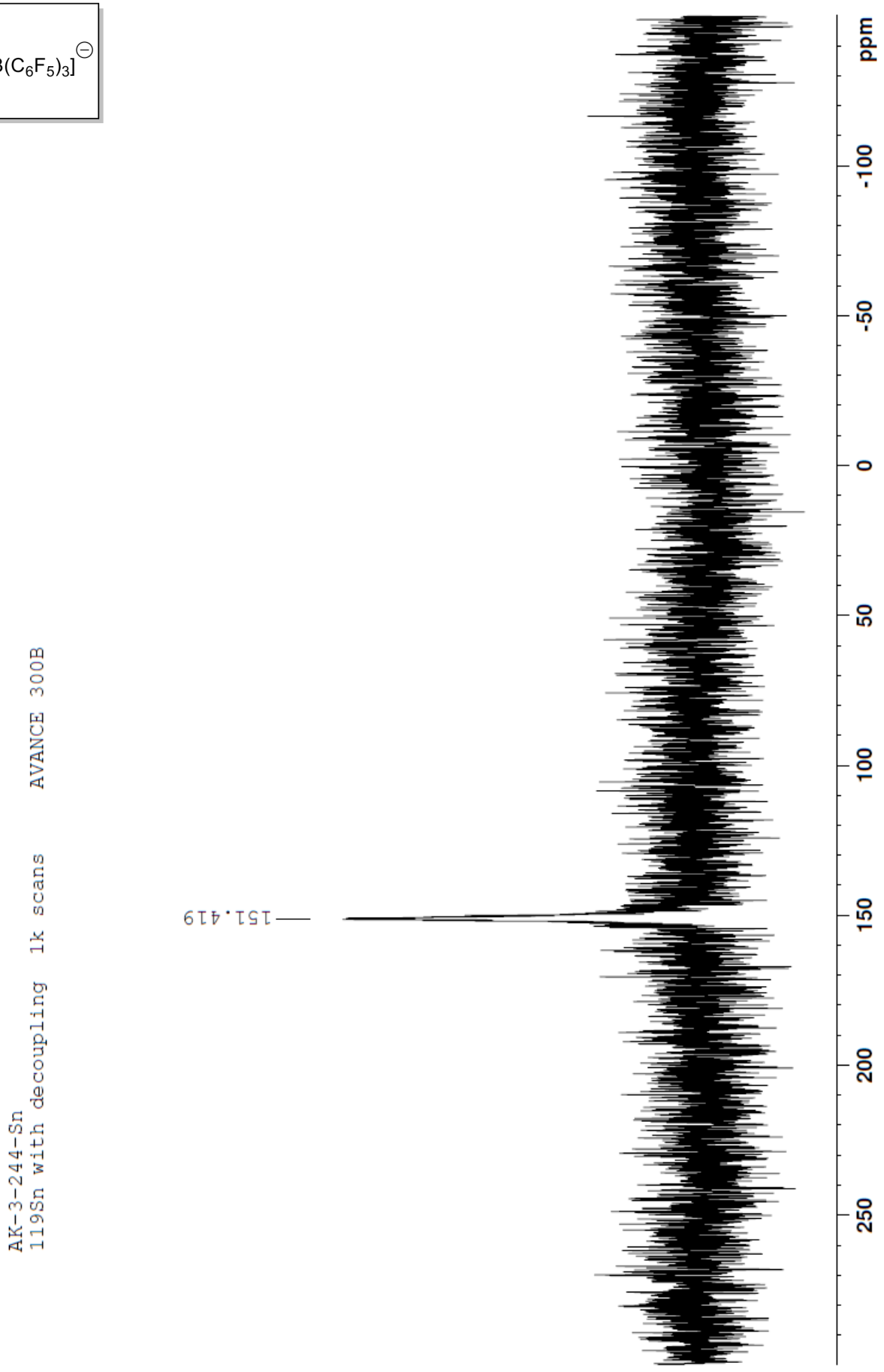


^{2}H NMR spectra of [N($CH_2CH_2CH_2$)$_3$Sn][DB(C_6F_5)$_3$] (**3**-d_1)

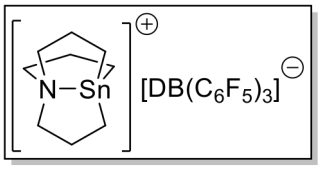


^{119}Sn NMR spectra of [N(CH$_2$CH$_2$CH$_2$)$_3$Sn][DB(C$_6$F$_5$)$_3$] (**3-*d*$_1$**)

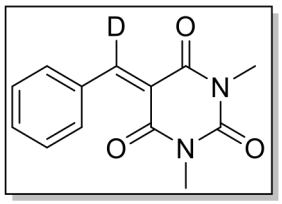




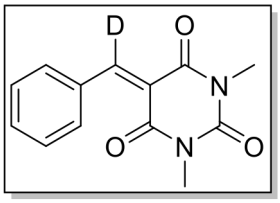
^{11}B NMR spectra of [N($CH_2CH_2CH_2$)$_3$Sn][DB(C_6F_5)$_3$] (**3-*d*$_1$**)

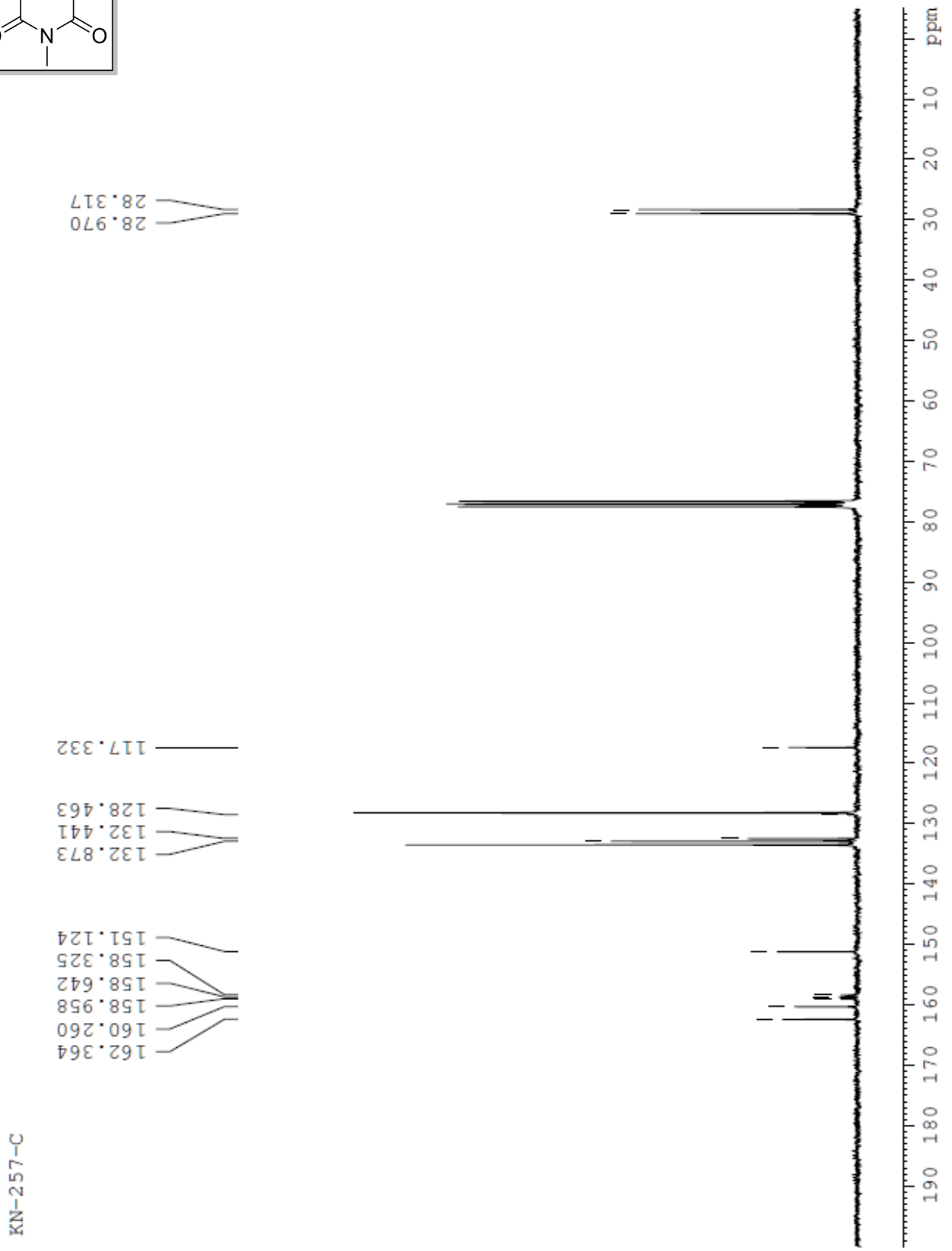


^{1}H NMR Spectra of 1,3-Dimethyl-5-(phenylmethylene-d)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6a-***d*$_1$)

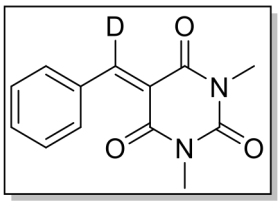


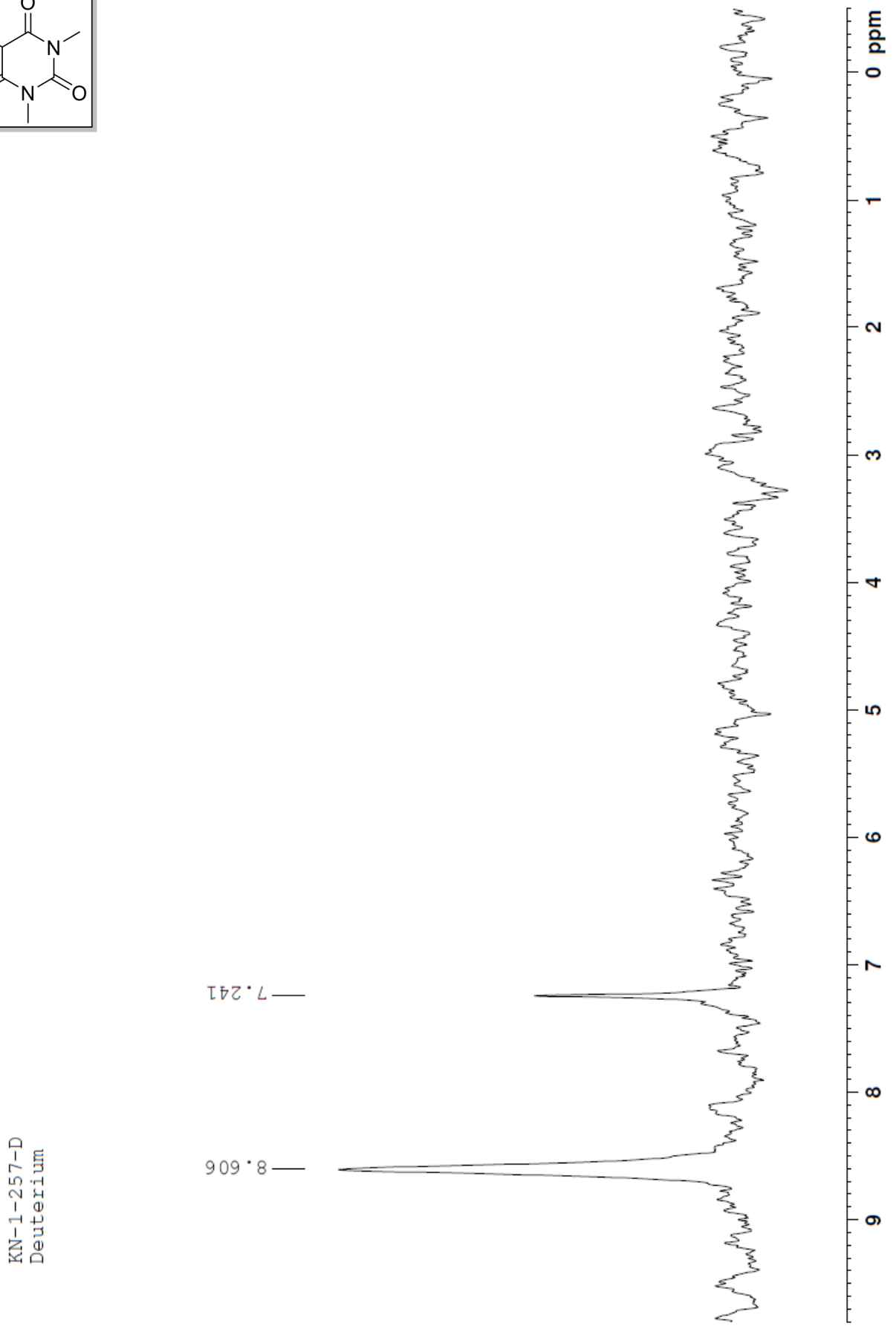
^{13}C NMR Spectra of 1,3-Dimethyl-5-(phenylmethylene-d)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6a-d_1**)



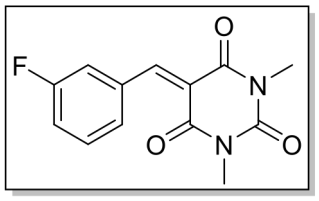


^{2}H NMR Spectra of 1,3-Dimethyl-5-(phenylmethylene-d)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6a-***d*$_1$)

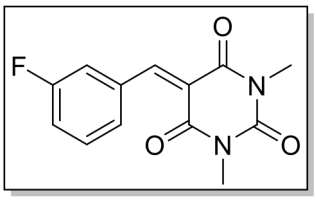


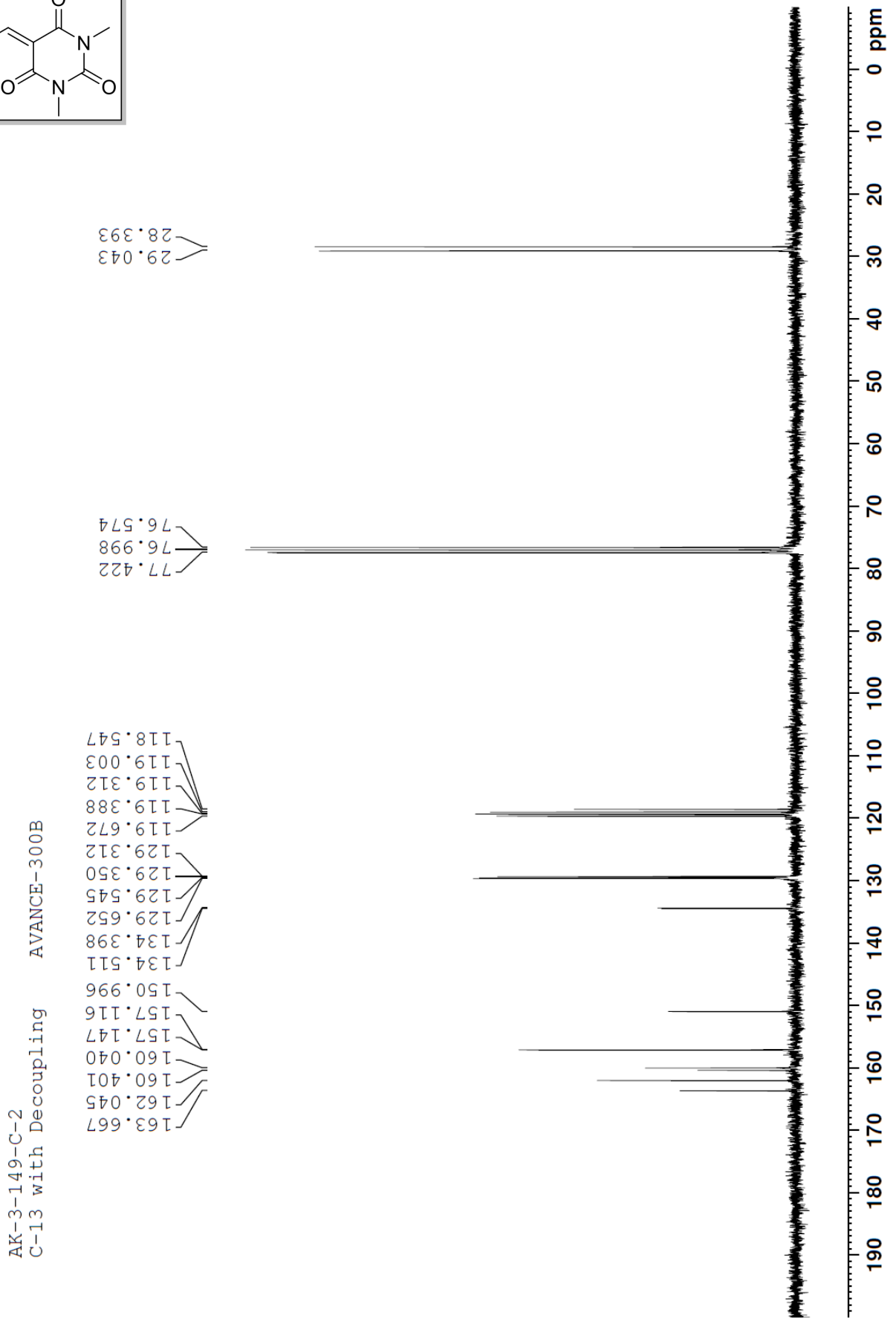


^{1}H NMR Spectra of 5-(3-fluorobenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6d**)

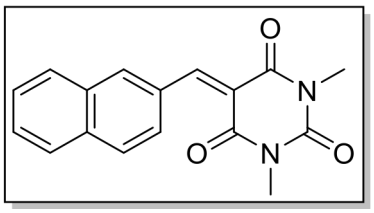


^{13}C NMR Spectra of 5-(3-fluorobenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6d**)

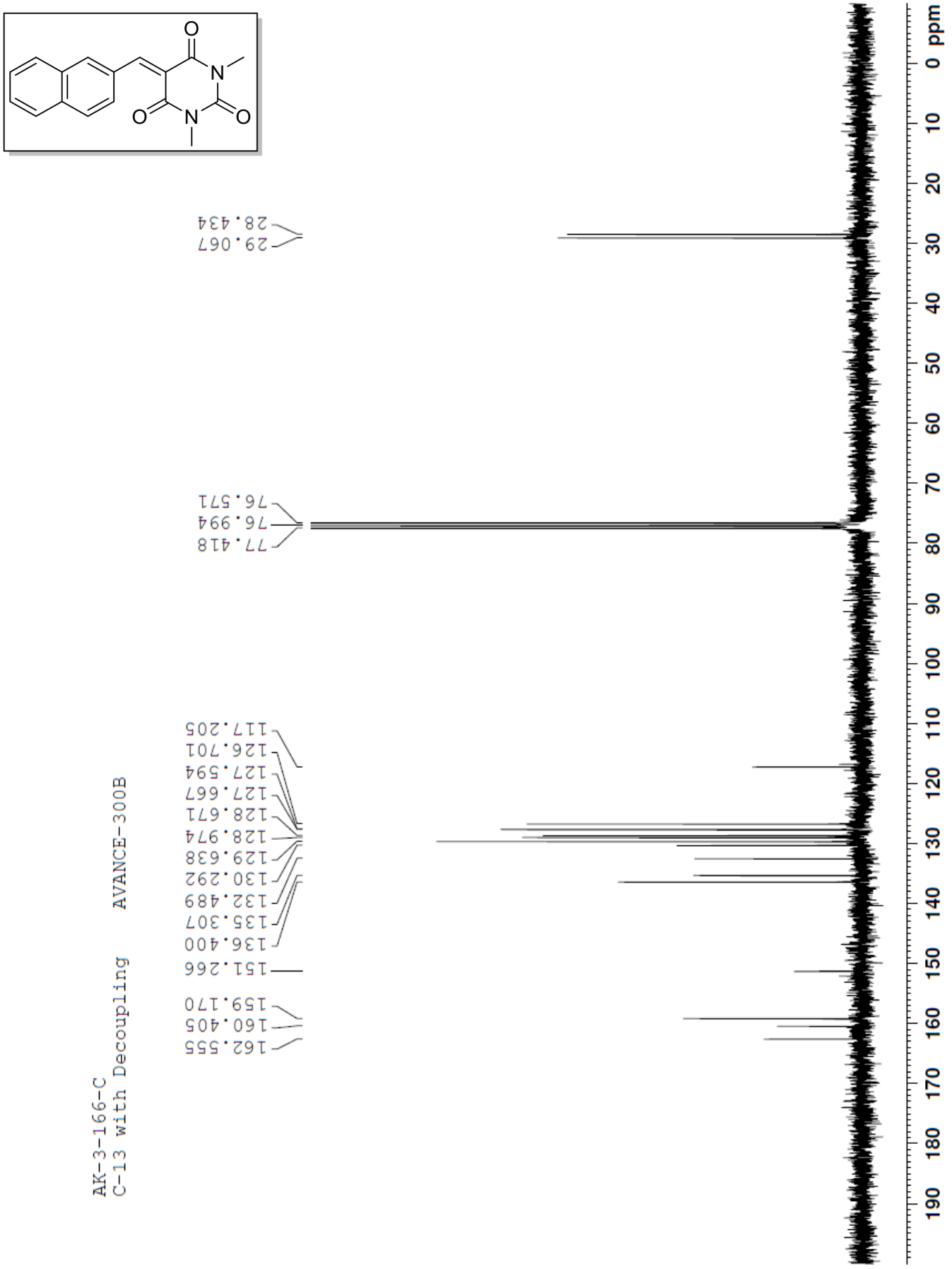




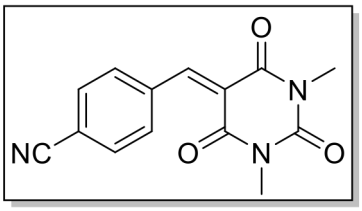
^{1}H NMR Spectra of 1,3-dimethyl-5-(naphthalen-2-ylmethylene)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6e**)



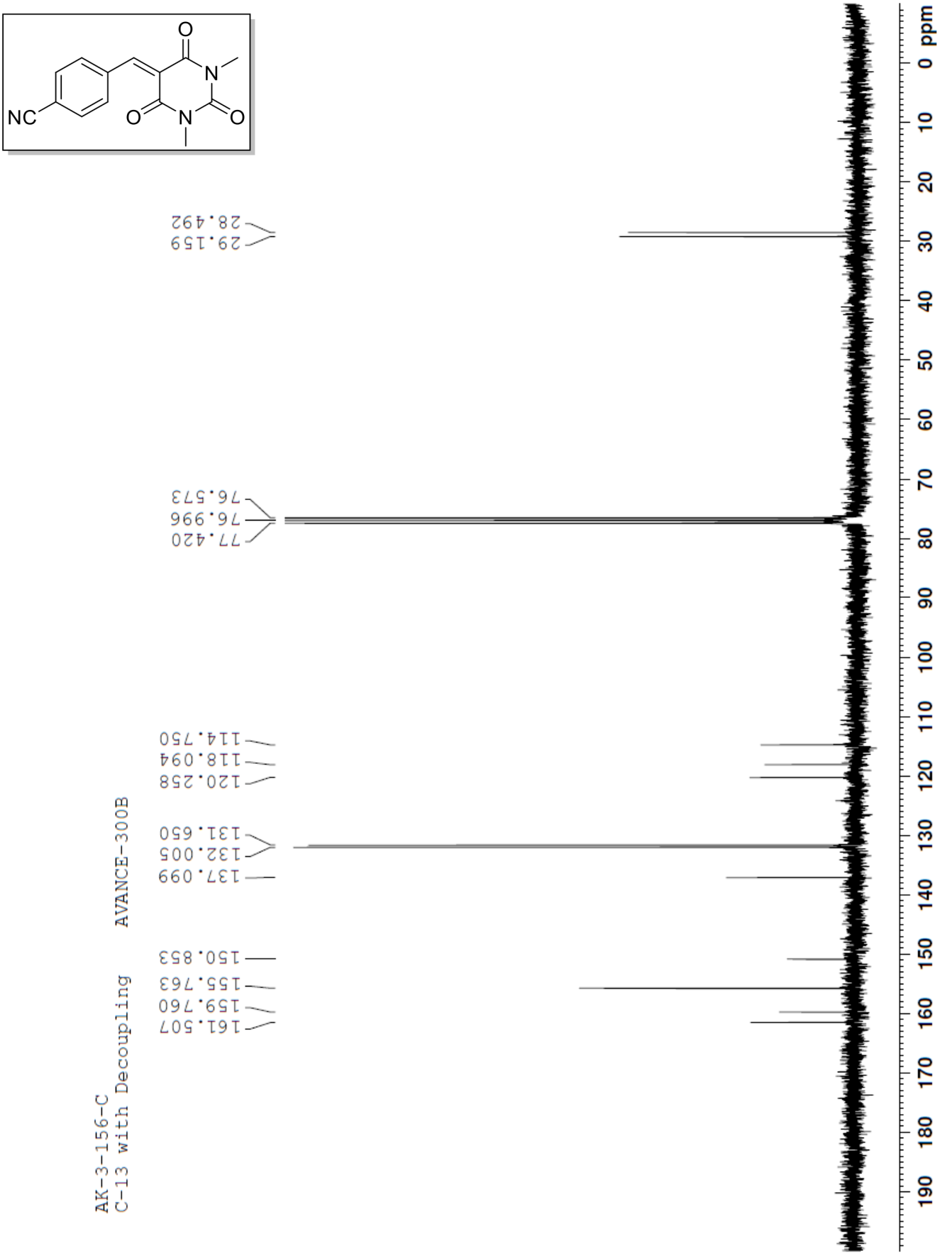
^{13}C NMR Spectra of 1,3-dimethyl-5-(naphthalen-2-ylmethylene)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6e**)



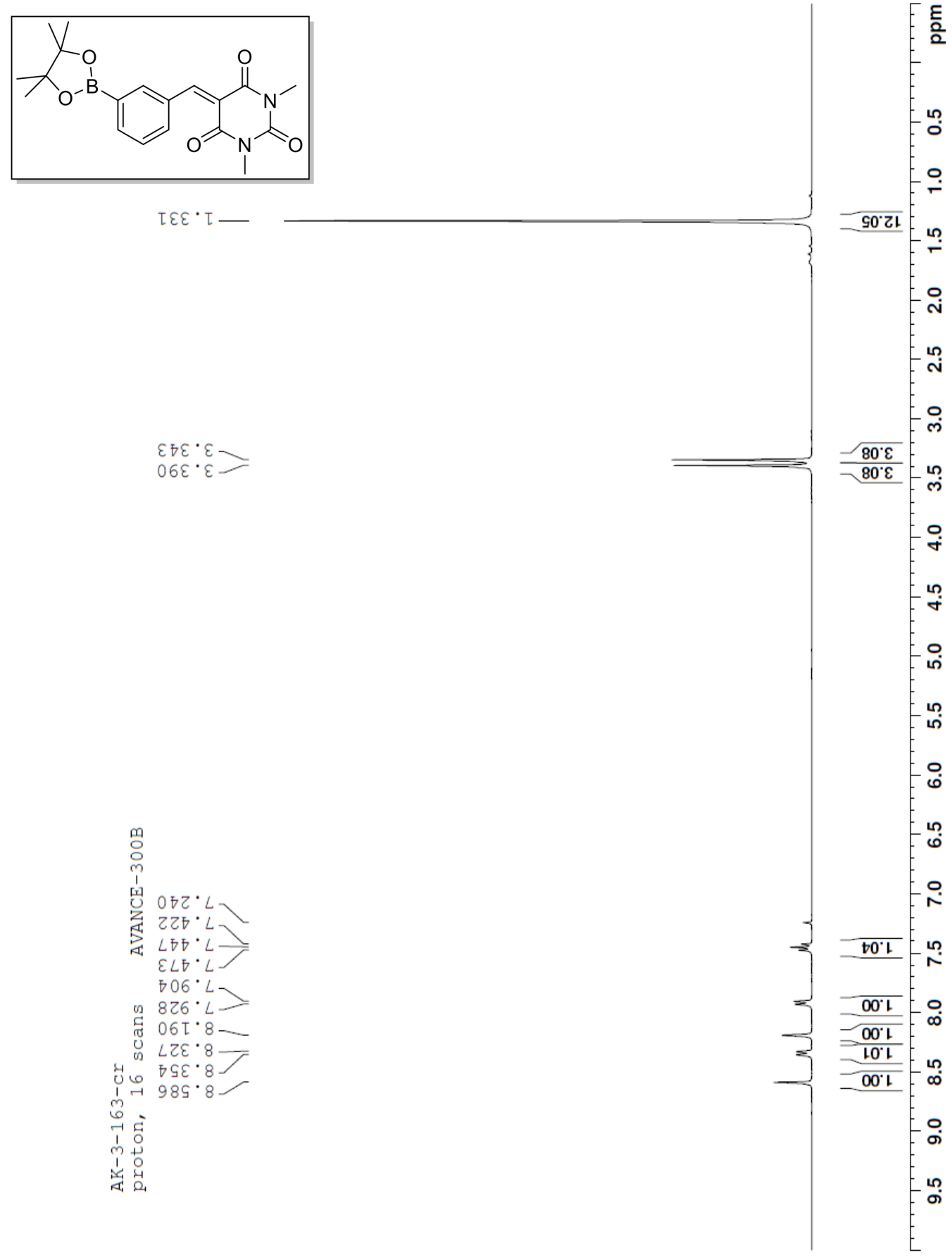
^{1}H NMR spectra of 4-((1,3-dimethyl-2,4,6-trioxotetrahydropyrimidin-5(2H)-ylidene)methyl)benzonitrile (**6f**)



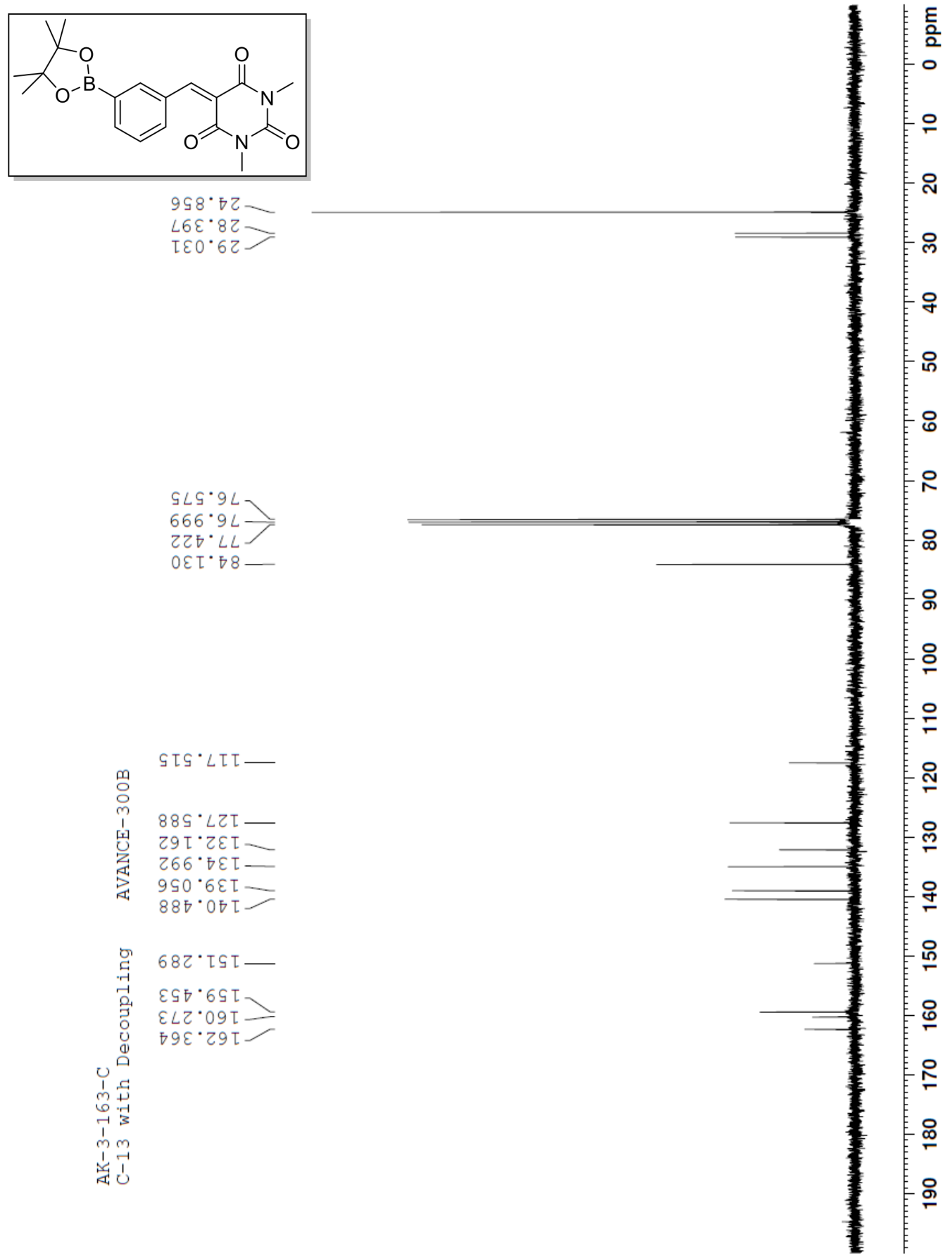
^{13}C NMR spectra of 4-((1,3-dimethyl-2,4,6-trioxotetrahydropyrimidin-5(2H)-ylidene)methyl)benzonitrile (**6f**)



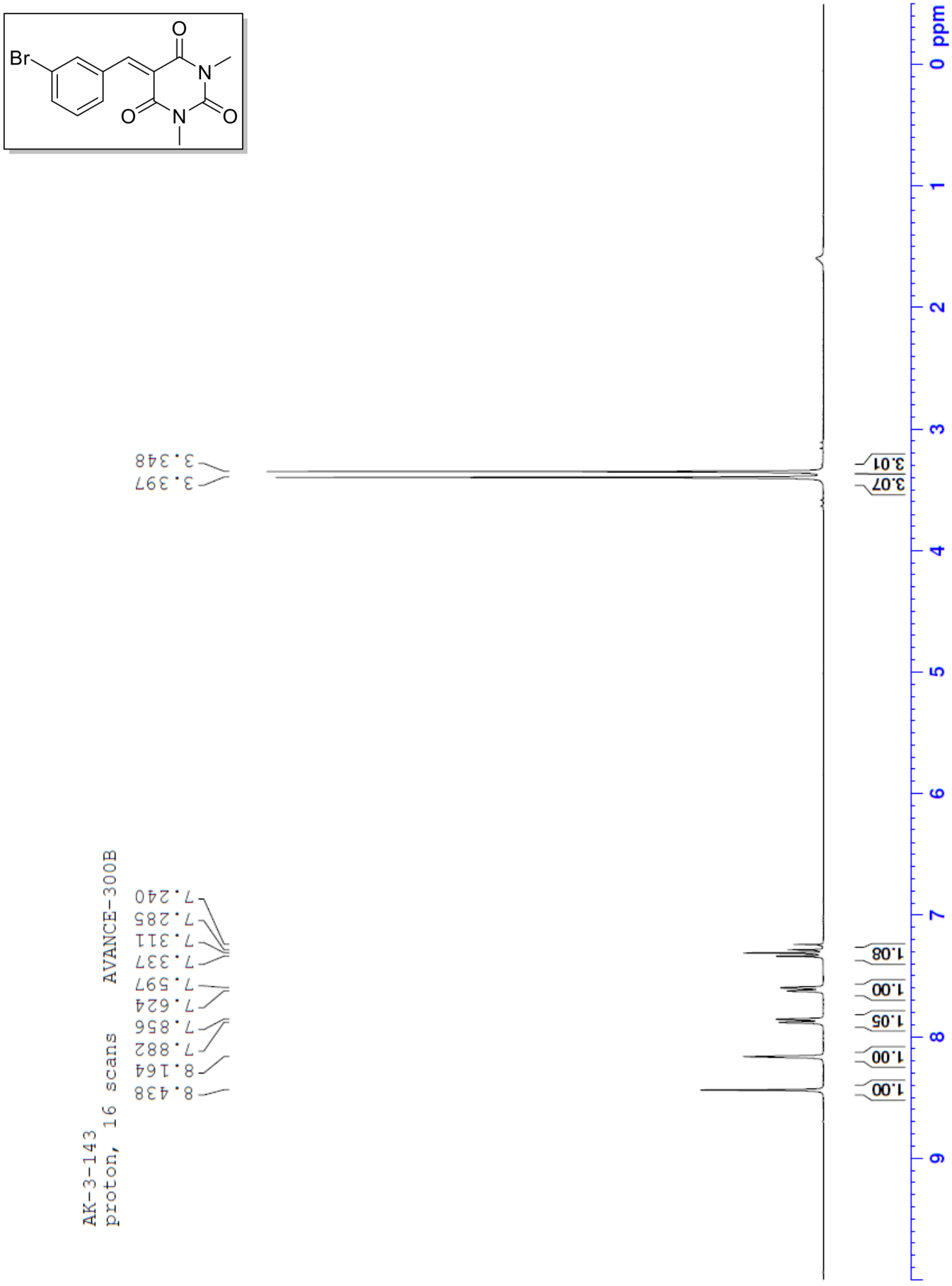
^{1}H NMR Spectra of 1,3-dimethyl-5-(3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzylidene)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6g**)



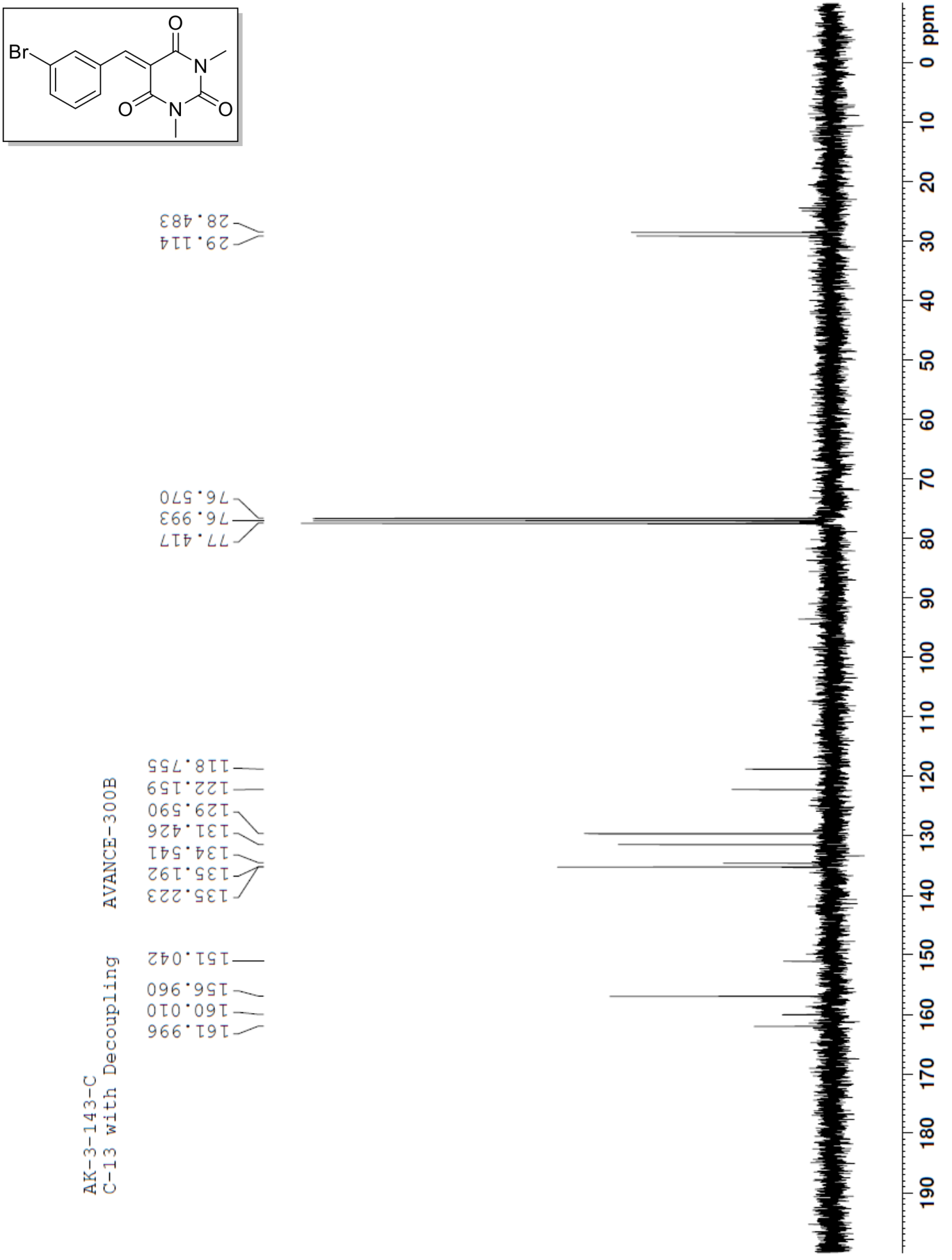
^{13}C NMR Spectra of 1,3-dimethyl-5-(3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzylidene)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6g**)



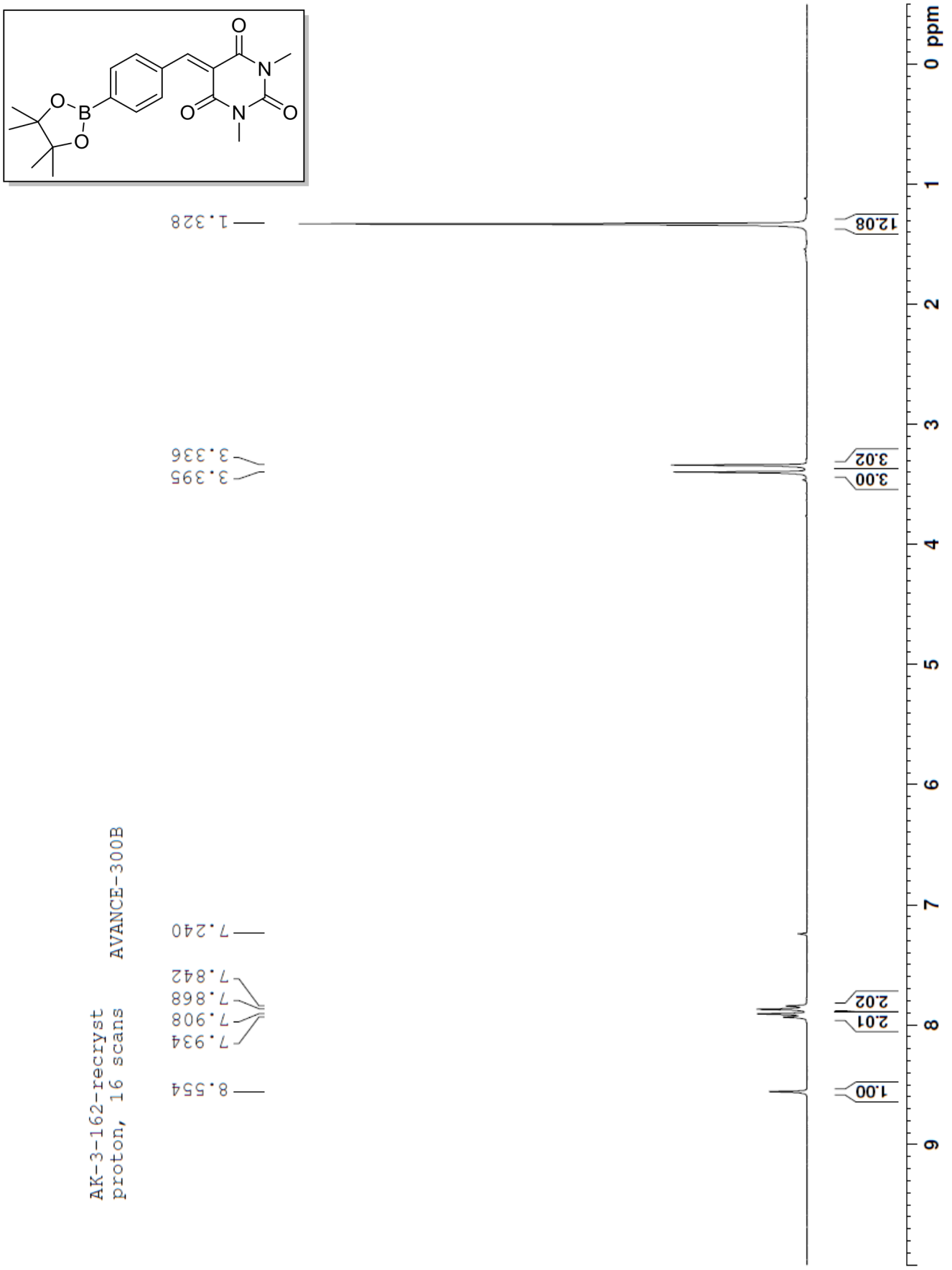
^{1}H NMR Spectra of 5-(3-bromobenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6h**)



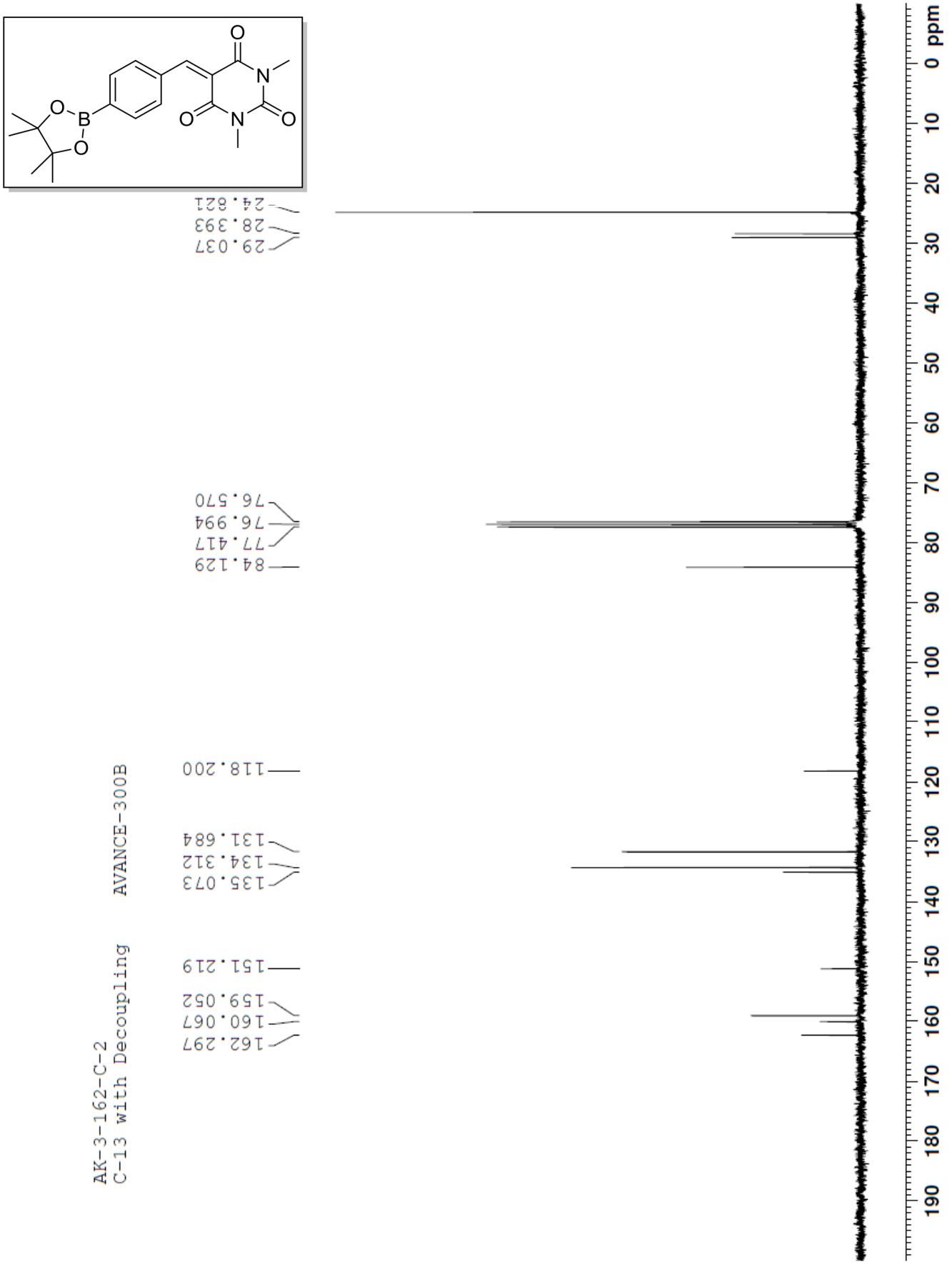
^{13}C NMR Spectra of 5-(3-bromobenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6h**)



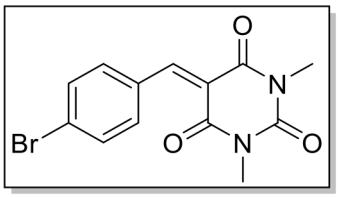
^{1}H NMR spectra of 1,3-dimethyl-5-(4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzylidene)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6i**)



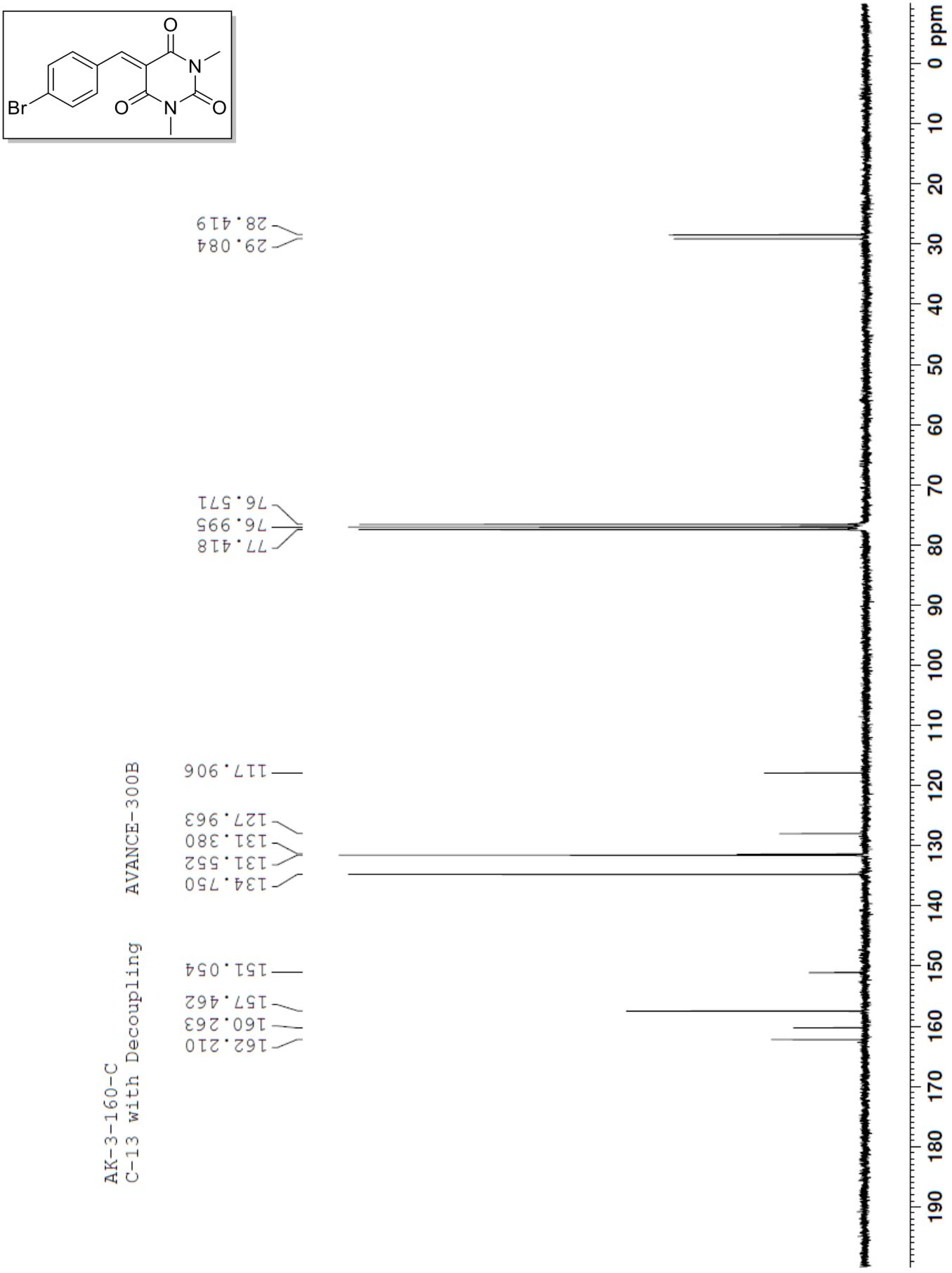
^{13}C NMR spectra of 1,3-dimethyl-5-(4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzylidene)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6i**)



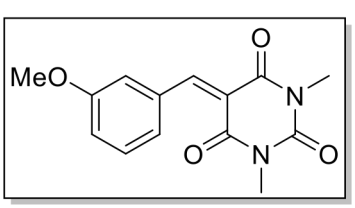
^{1}H NMR spectra of 5-(4-bromobenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6j**)



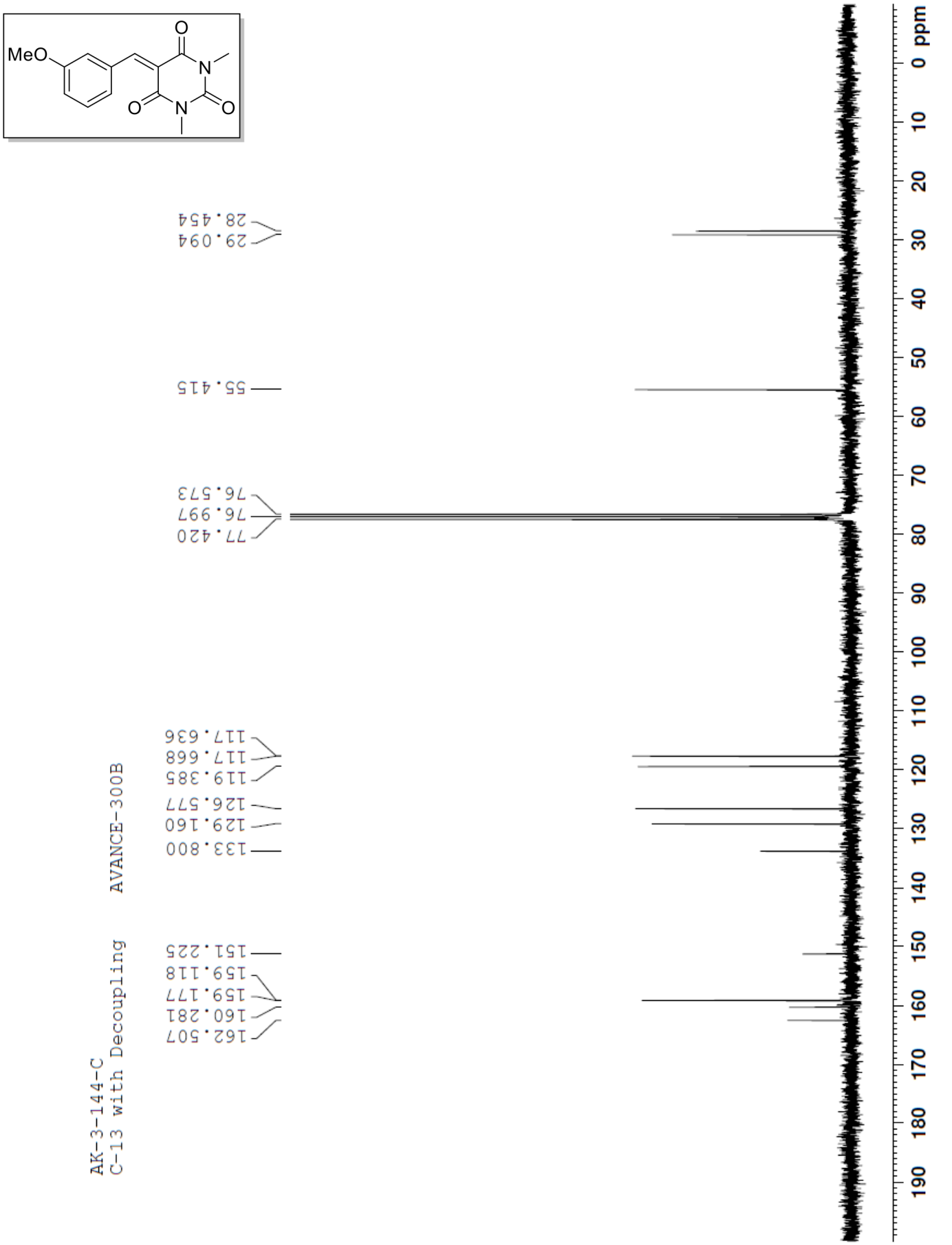
^{13}C NMR spectra of 5-(4-bromobenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6j**)



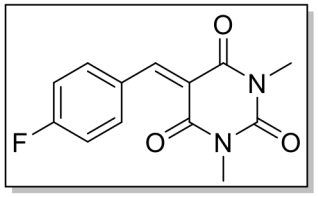
^{1}H NMR spectra of 5-(3-methoxybenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6k**)



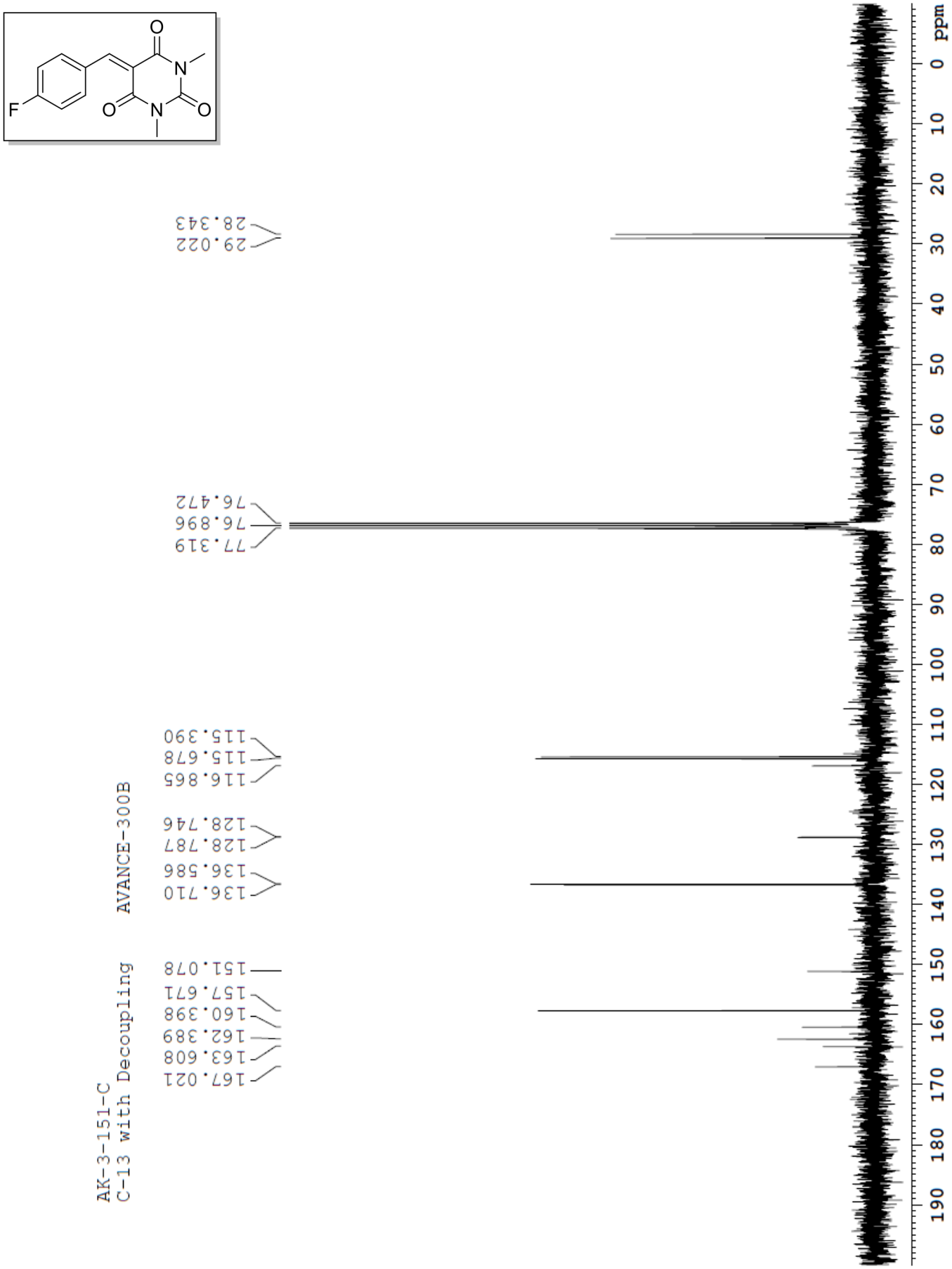
^{13}C NMR spectra of 5-(3-methoxybenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6k**)



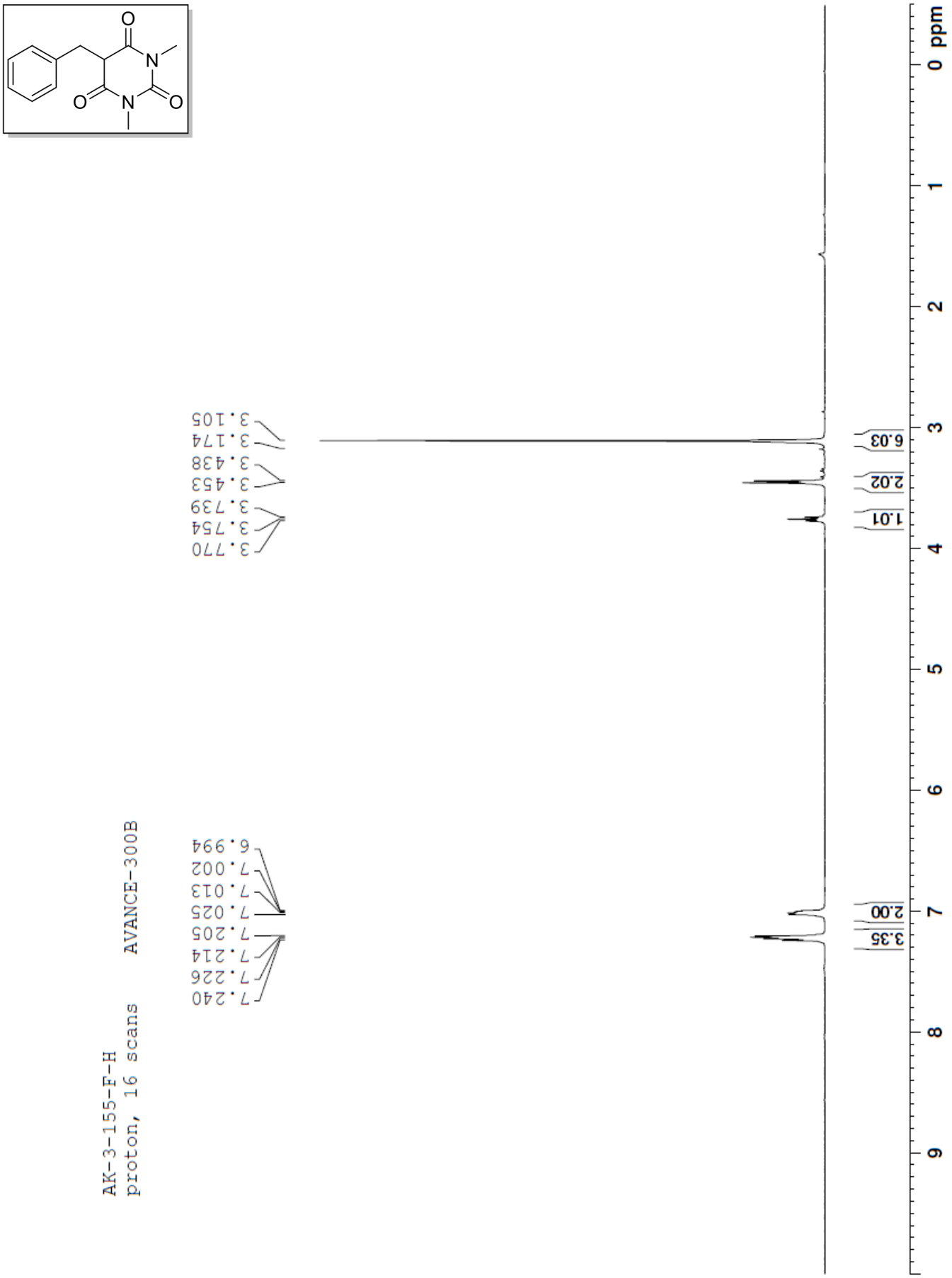
^{1}H NMR spectra of 5-(4-fluorobenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6l**)



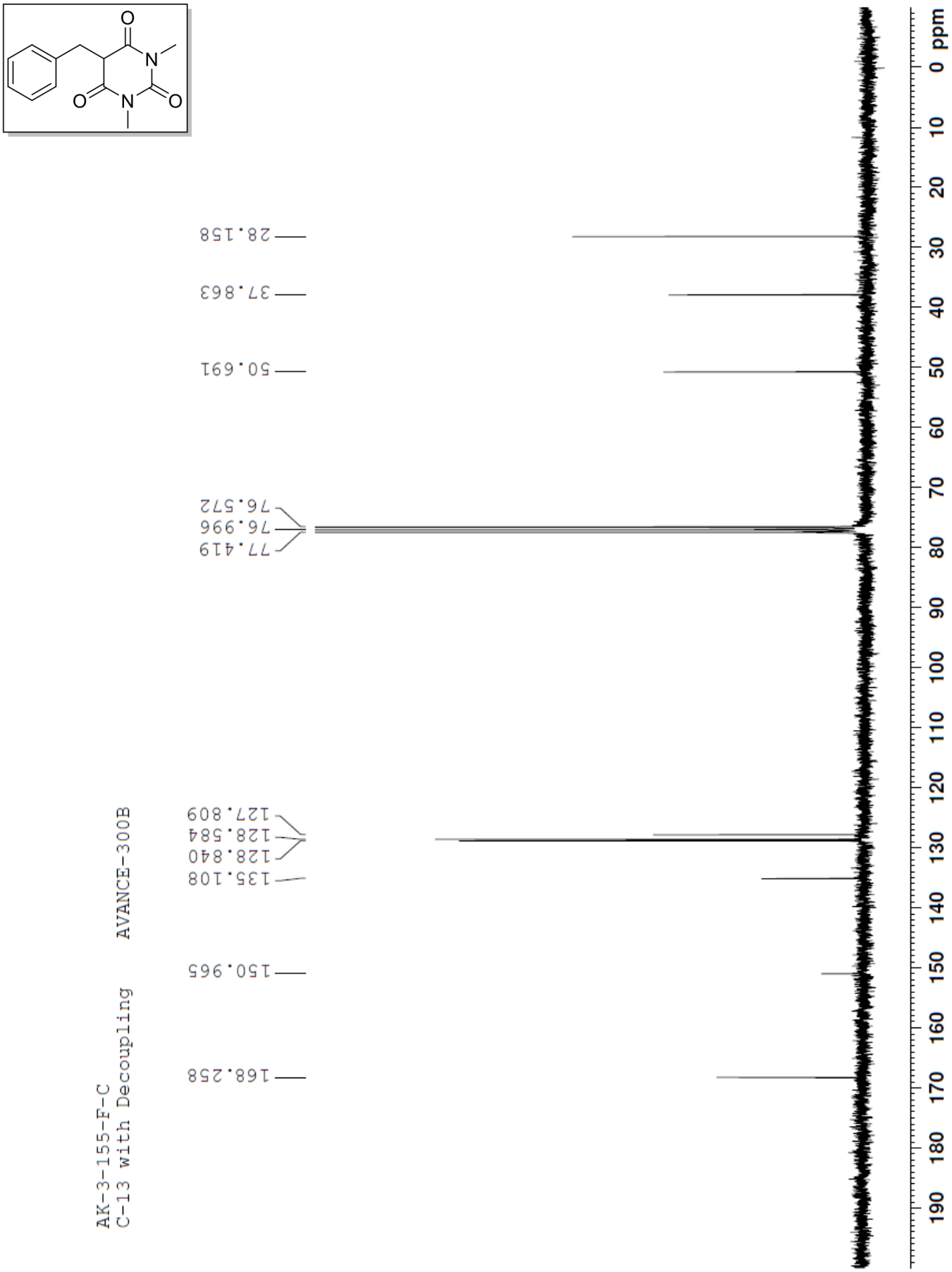
^{13}C NMR spectra of 5-(4-fluorobenzylidene)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**6l**)



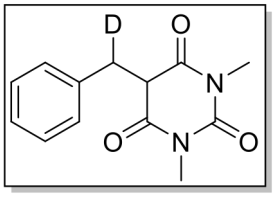
^{1}H NMR spectra of 5-benzylidene-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7a**)

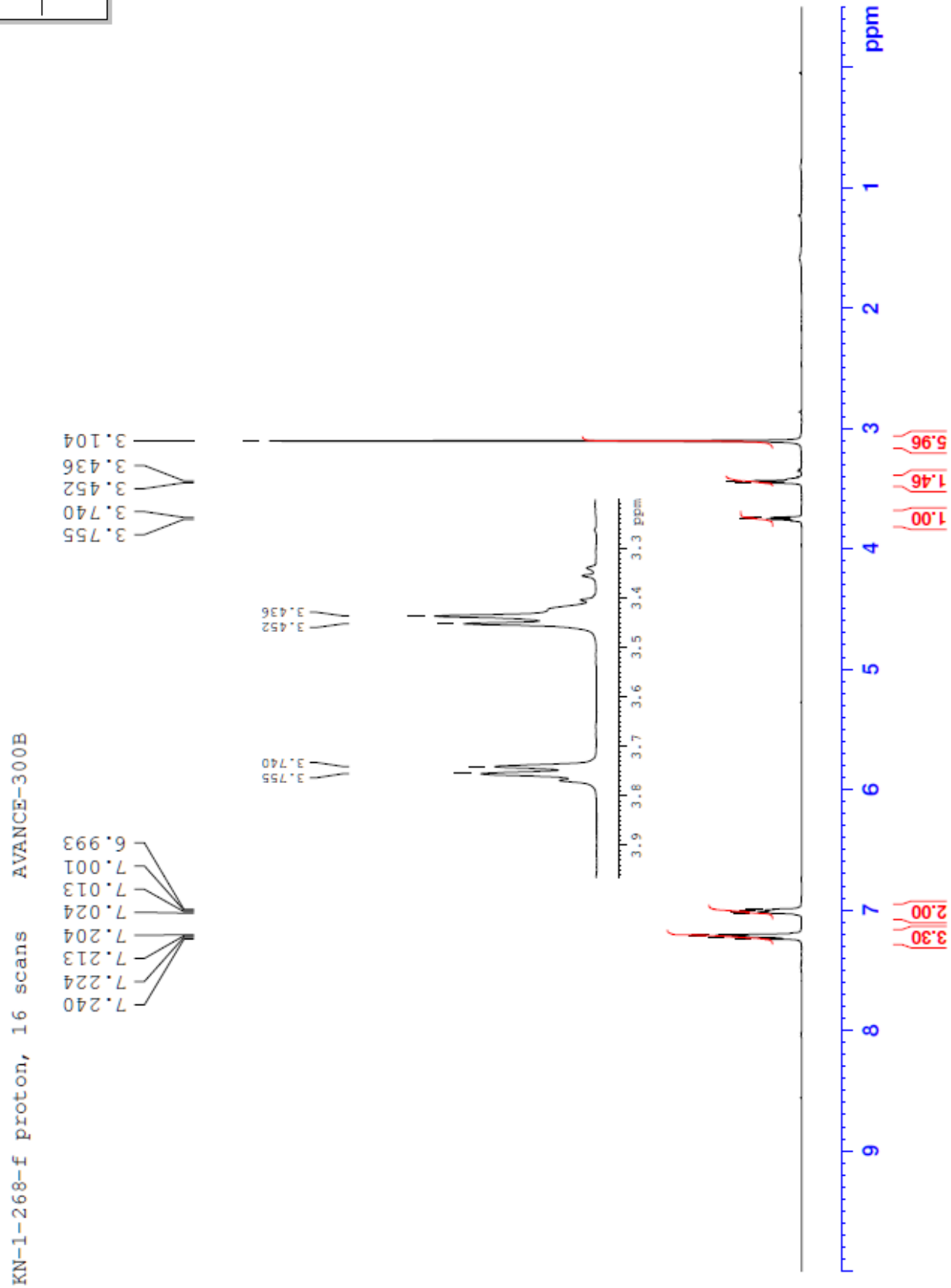


^{13}C NMR spectra of 5-benzylidene-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7a**)

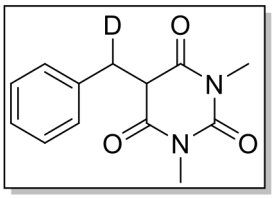


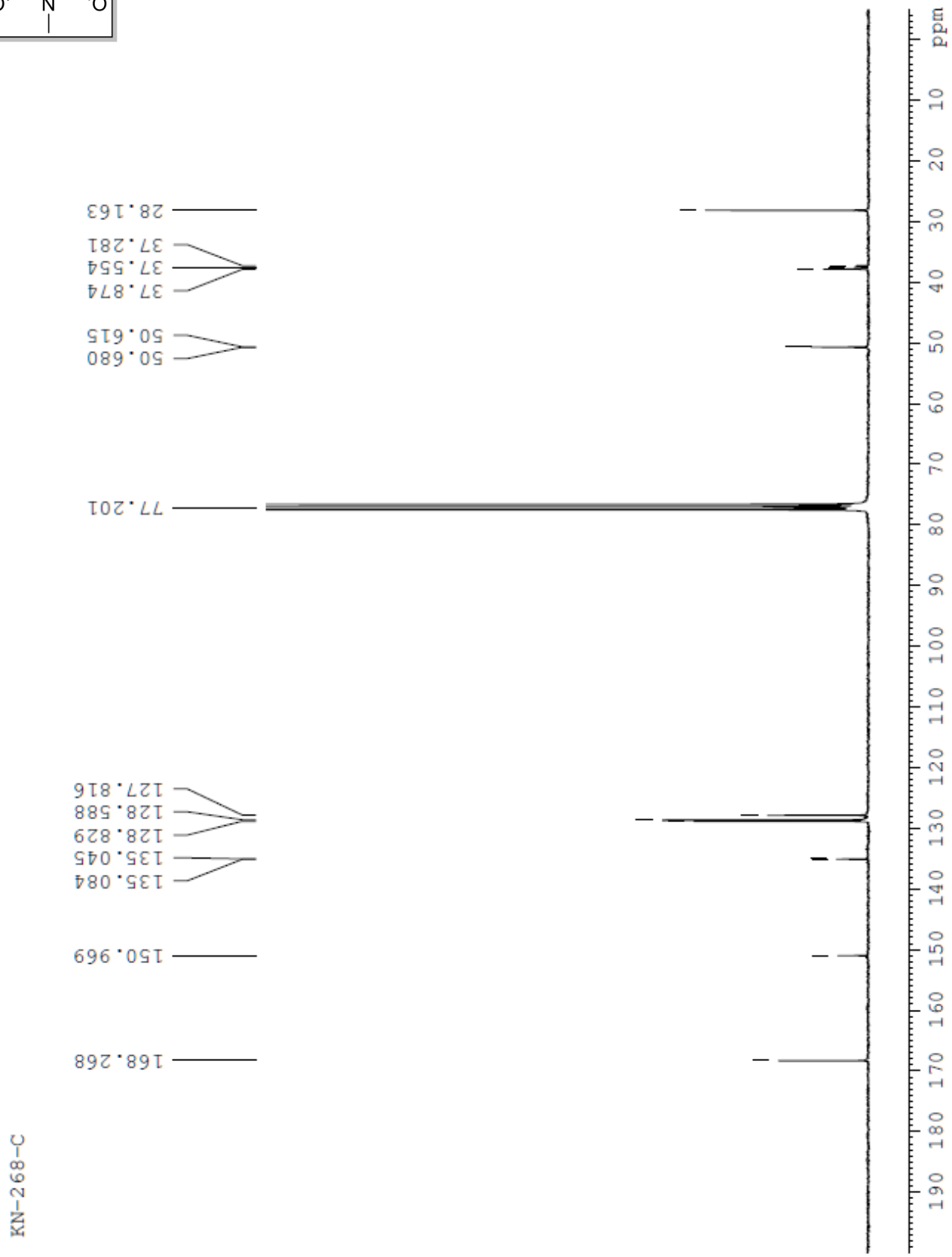
^{1}H NMR spectra of 1,3-dimethyl-5-(phenylmethyl-*d*)pyrimidine--2,4,6(1*H*,3*H*,5*H*)-trione (**7a**-d_1)



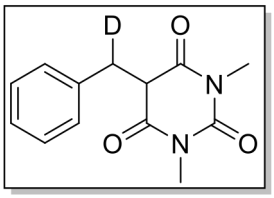


^{13}C NMR spectra of 1,3-dimethyl-5-(phenylmethyl-*d*)pyrimidine--2,4,6(1*H*,3*H*,5*H*)-trione (**7a**-d_1)

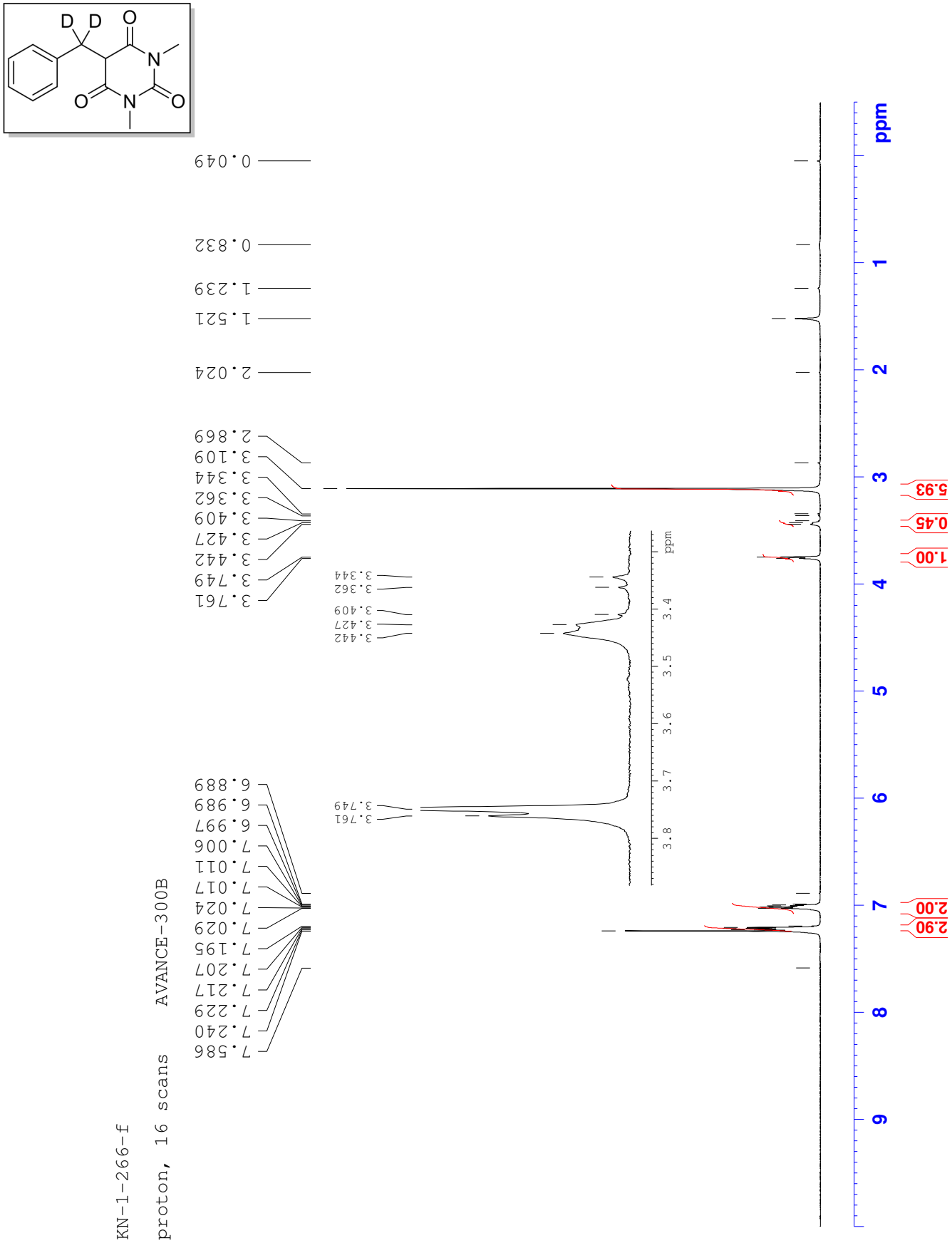




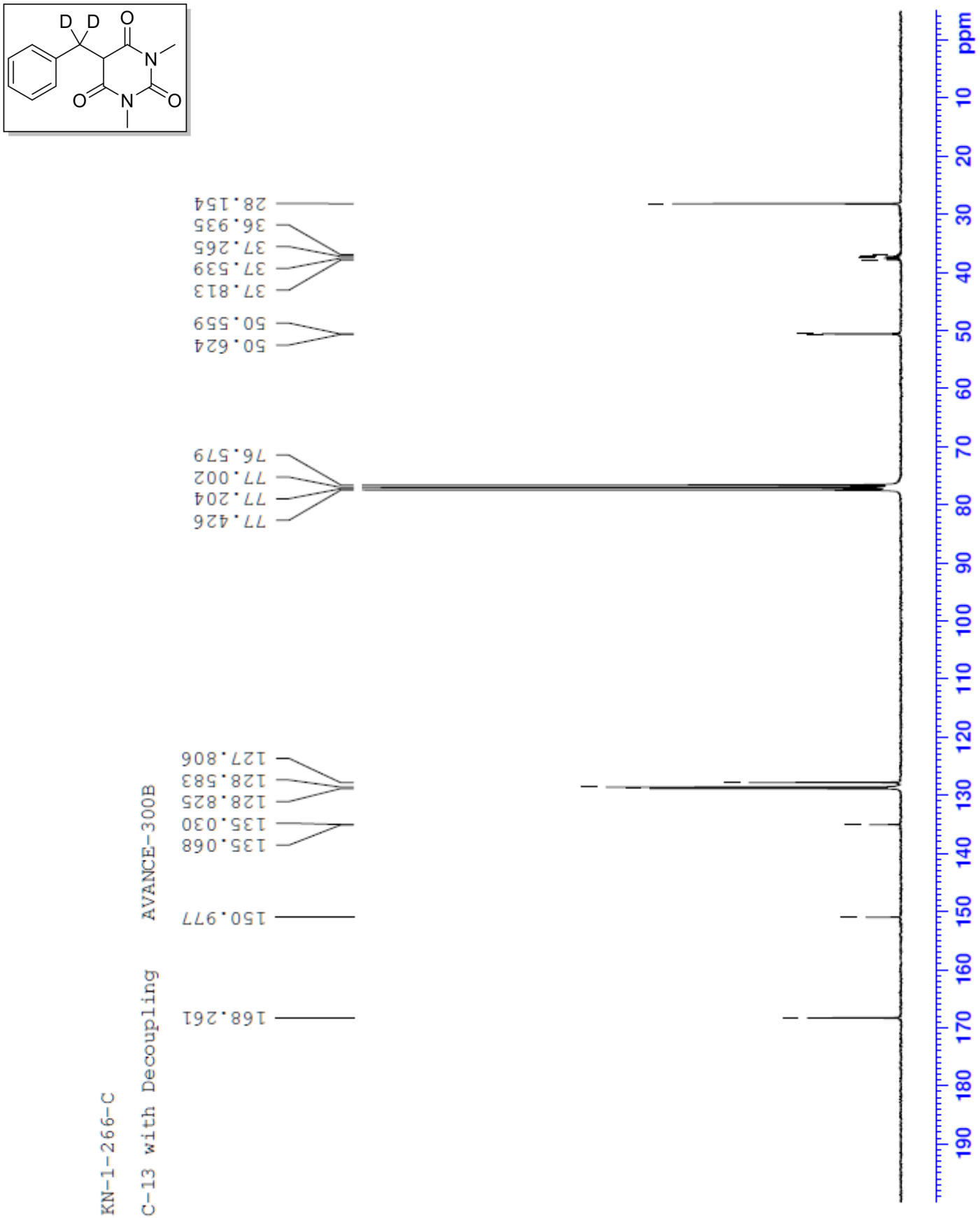
^{2}H NMR spectra of 1,3-dimethyl-5-(phenylmethyl-*d*)pyrimidine--2,4,6(1*H*,3*H*,5*H*)-trione (**7a**-d_1)



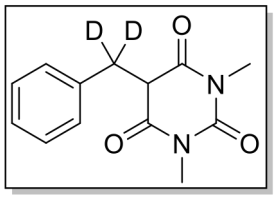
^{1}H NMR spectra of 1,3-Dimethyl-5-(phenylmethyl-d_2)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7a-d_2**)



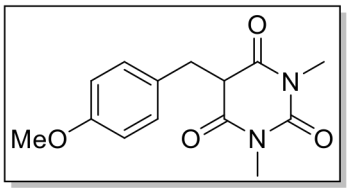
^{13}C NMR spectra of 1,3-Dimethyl-5-(phenylmethyl-d_2)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7a-d_2**)



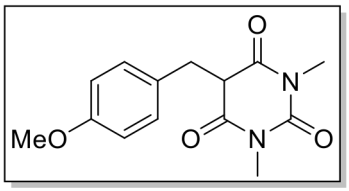
^{2}H NMR spectra of 1,3-Dimethyl-5-(phenylmethyl-d_2)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7a-d_2**)



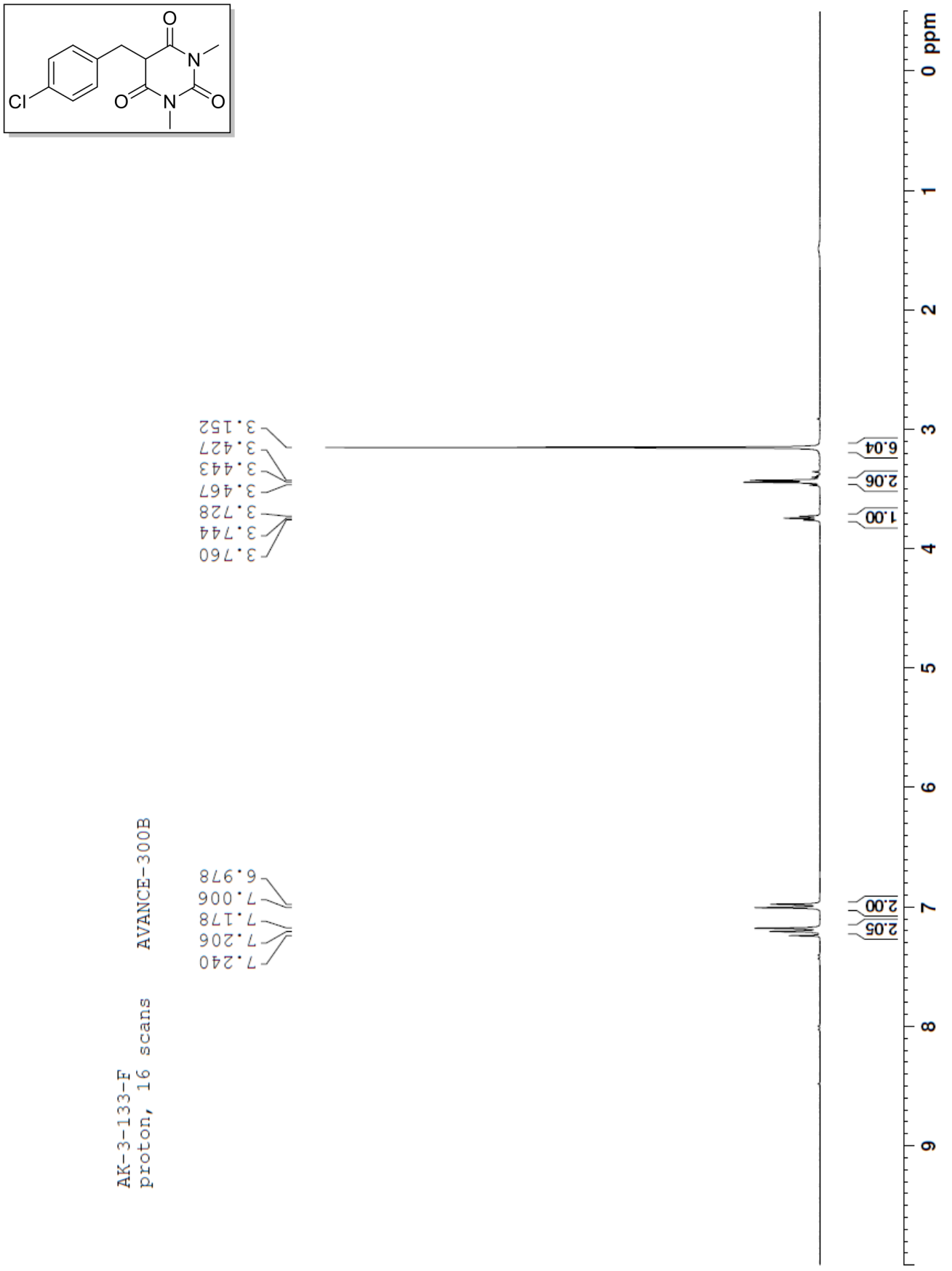
^{1}H NMR spectra of 5-(4-methoxybenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7b**)



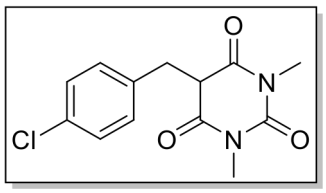
^{13}C NMR spectra of 5-(4-methoxybenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7b**)



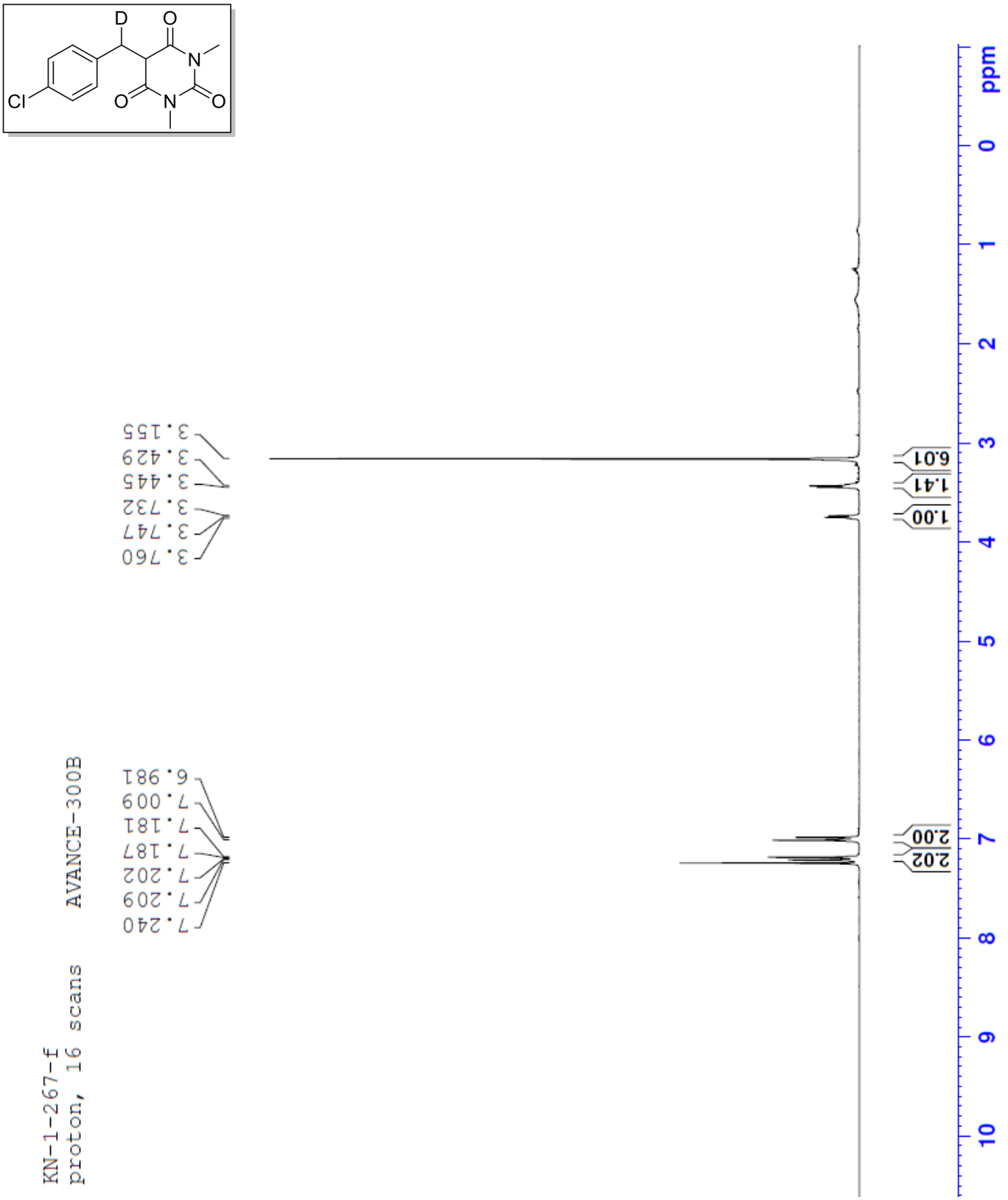
^{1}H NMR spectra of 5-(4-Chlorobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7c**)



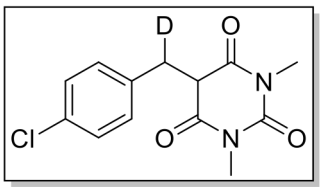
^{13}C NMR spectra of 5-(4-Chlorobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7c**)

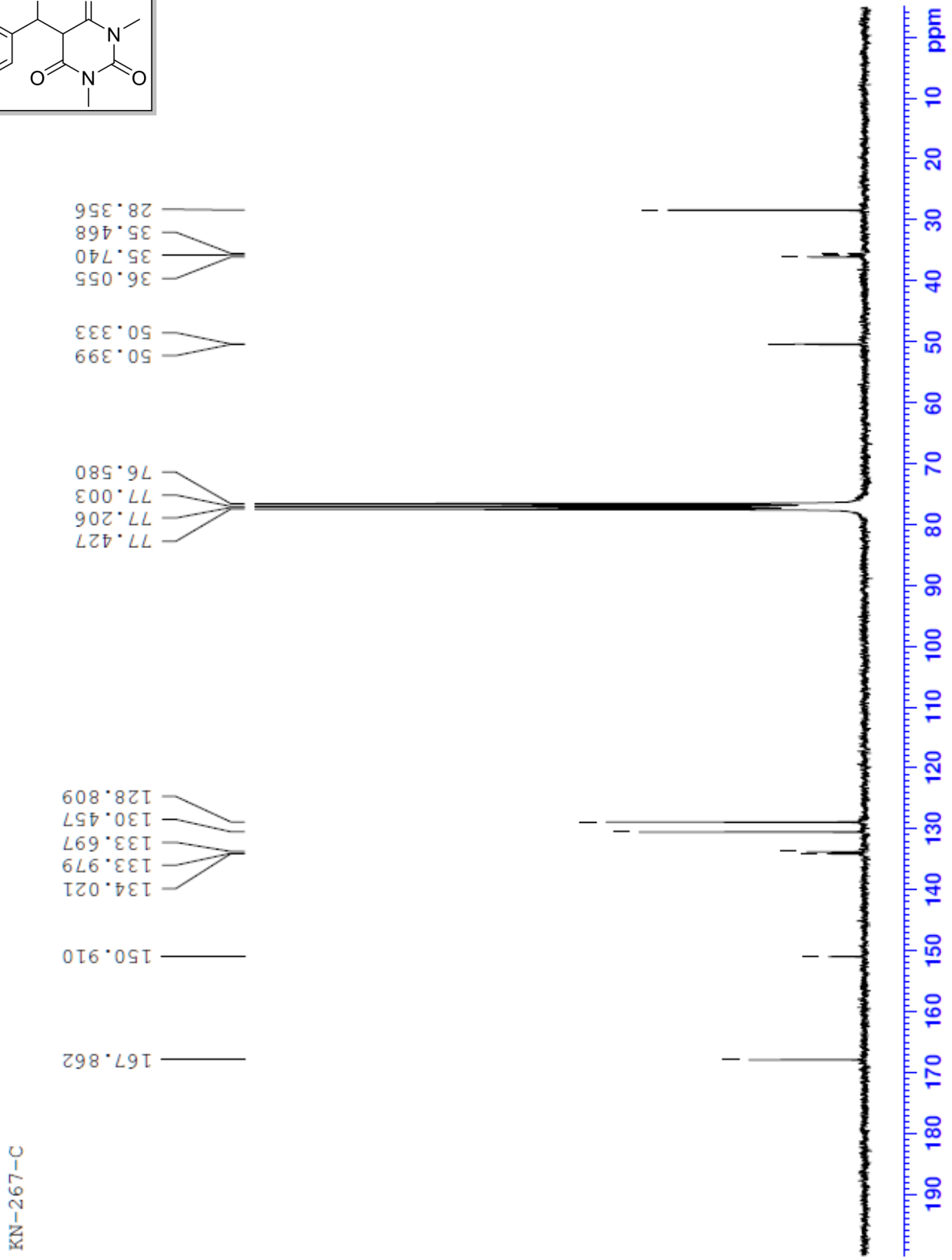


^{1}H NMR spectra of 5-((4-Chlorophenyl)methyl-*d*)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7c-d_1**)

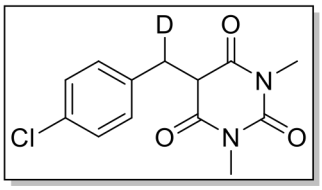


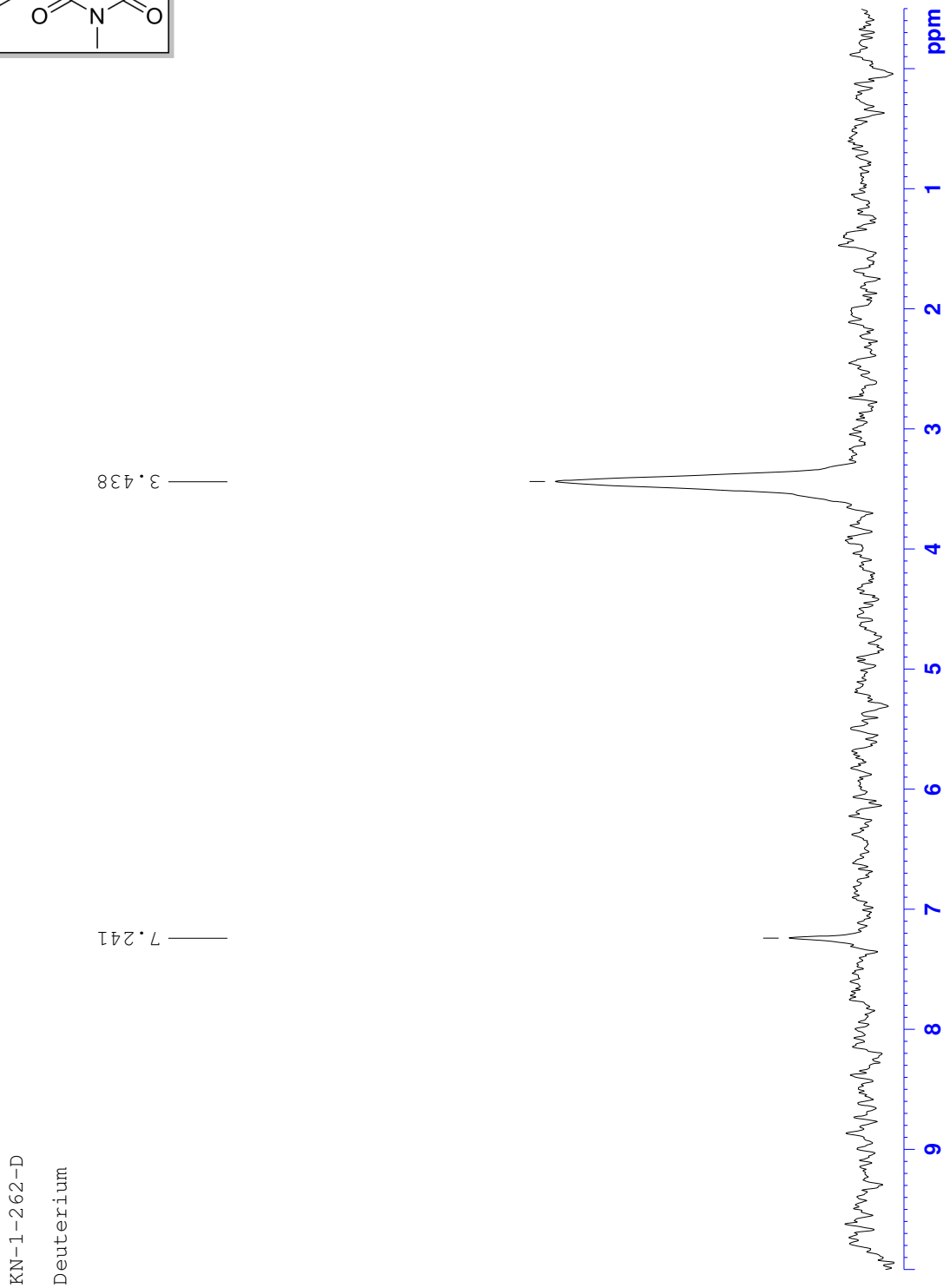
^{13}C NMR spectra of 5-((4-Chlorophenyl)methyl-*d*)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7c-d_1**)



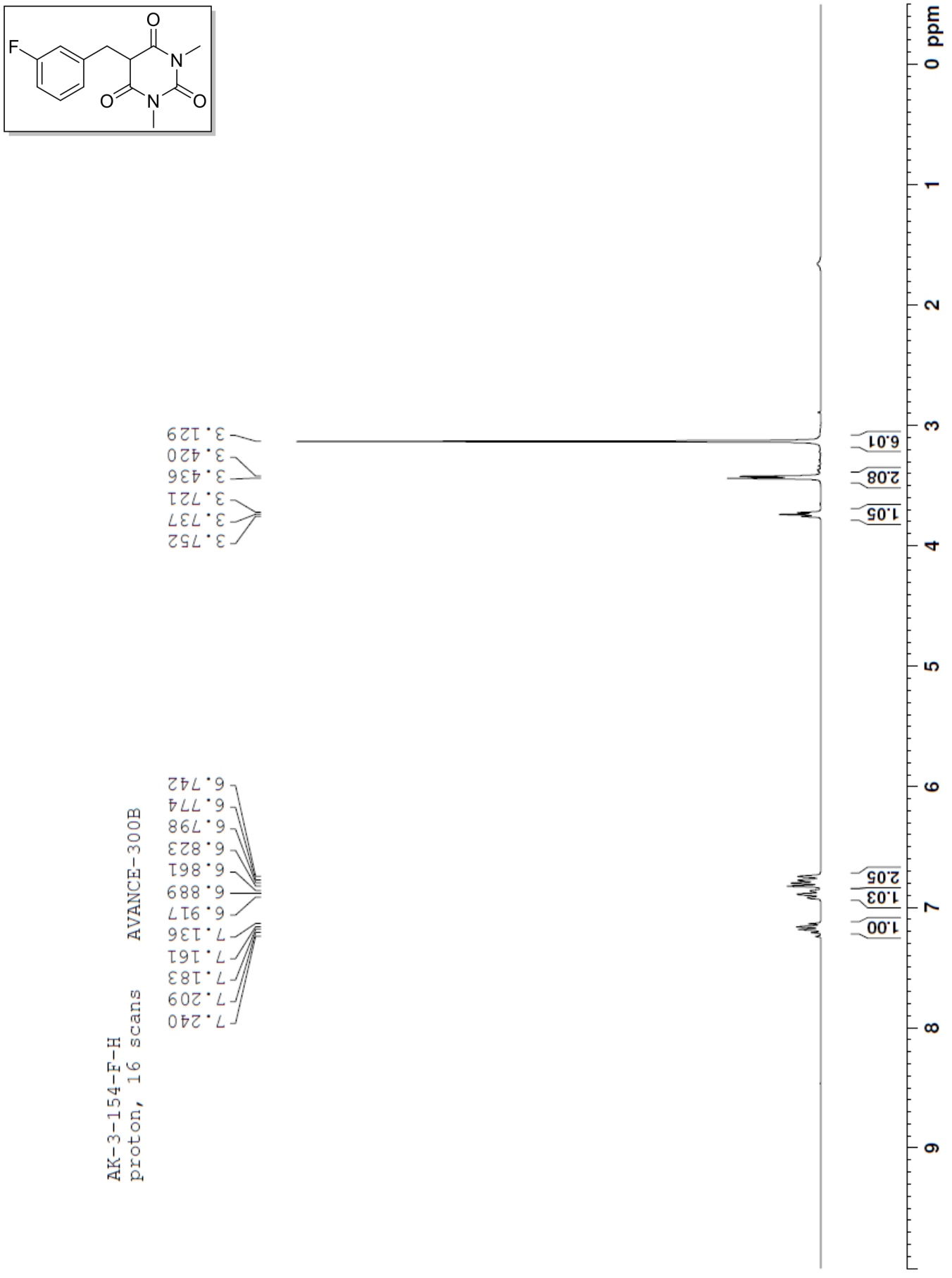


^{2}H NMR spectra of 5-((4-Chlorophenyl)methyl-*d*)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7c-d_1**)

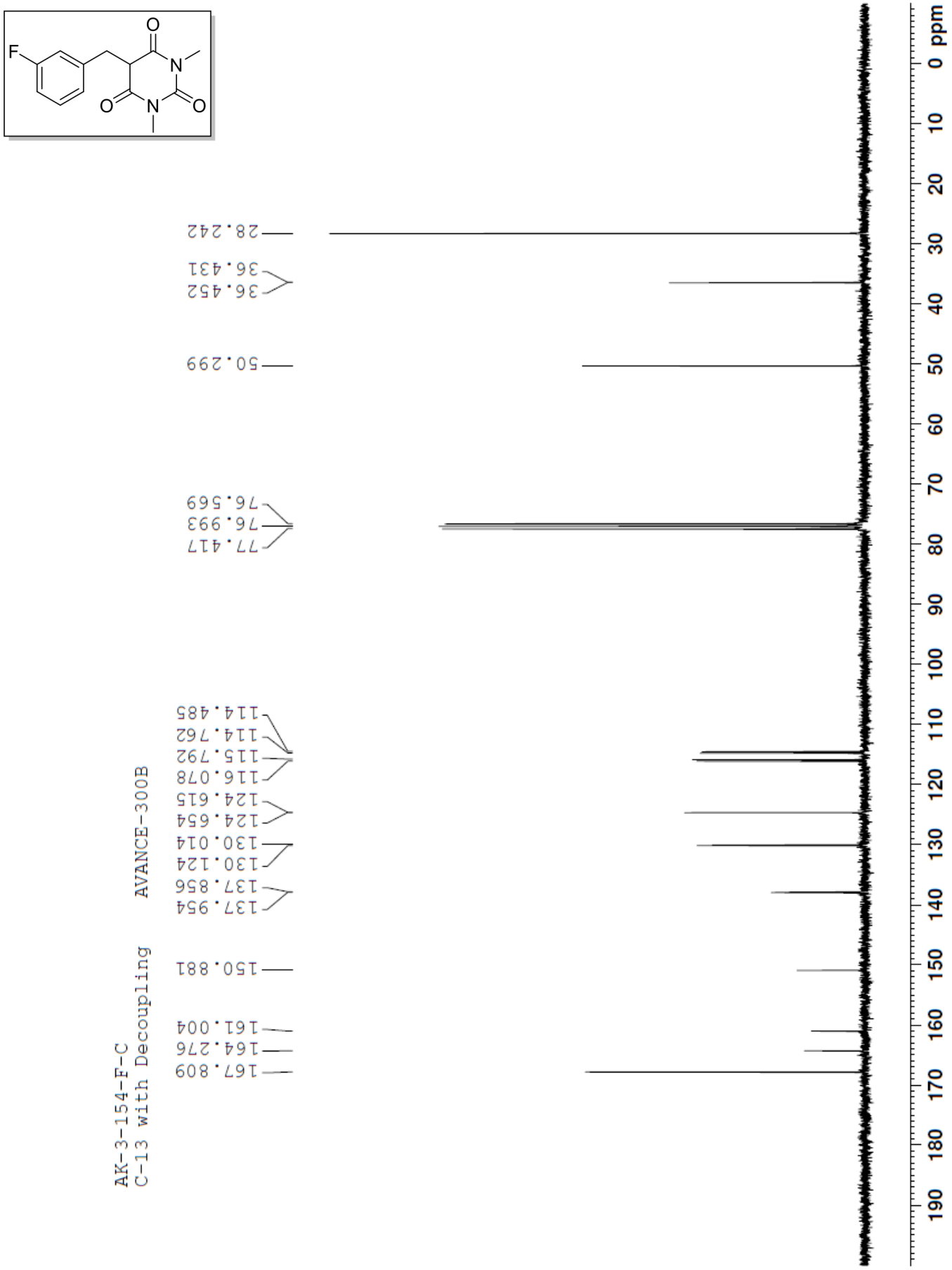




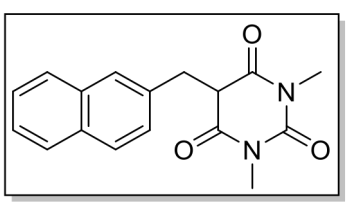
^{1}H NMR spectra of 5-(3-fluorobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7d**)



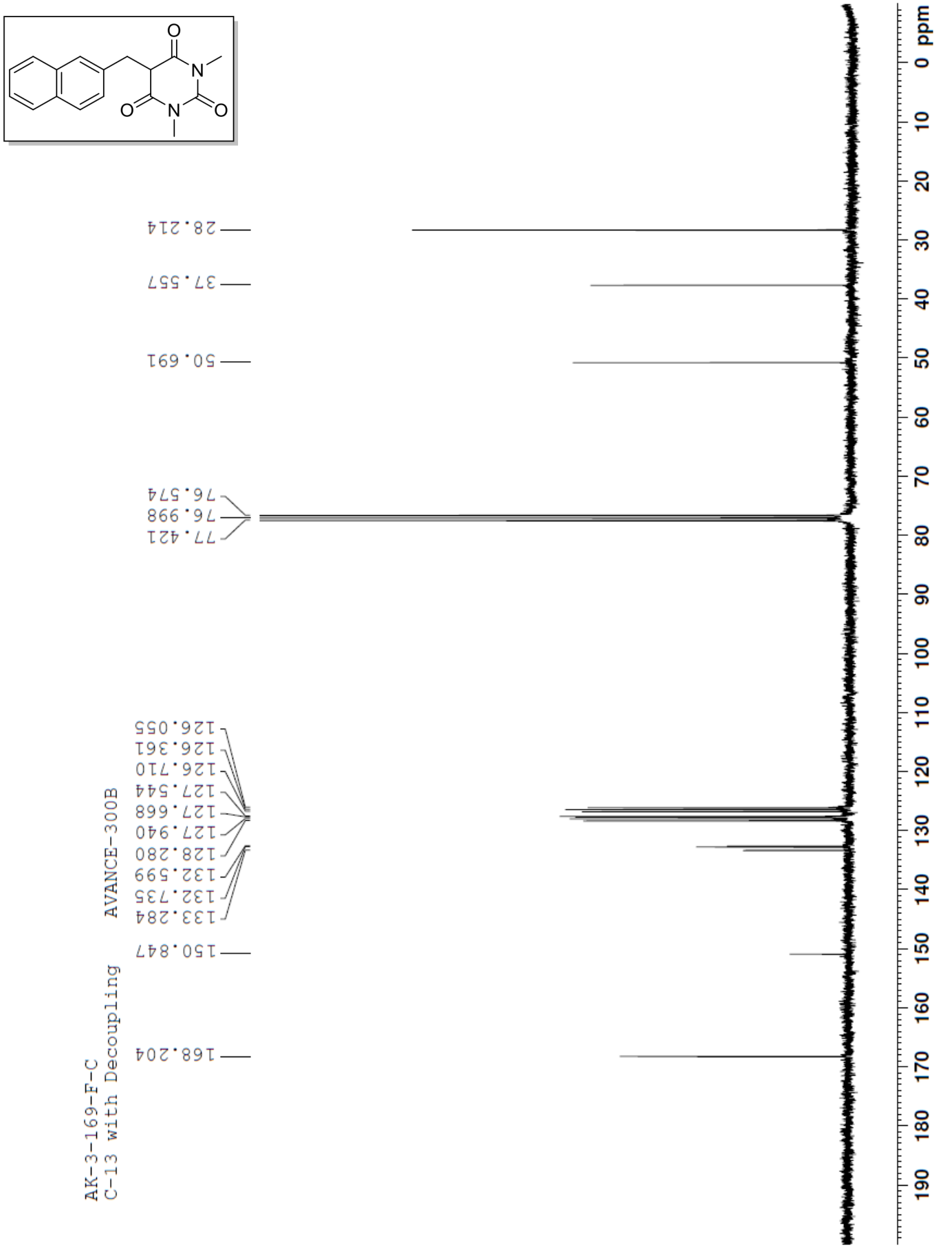
^{13}C NMR spectra of 5-(3-fluorobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7d**)



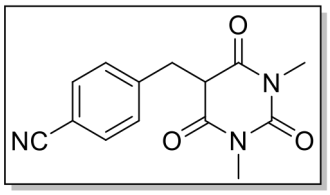
^{1}H NMR spectra of 1,3-Dimethyl-5-(naphthalen-2-ylmethyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7e**)

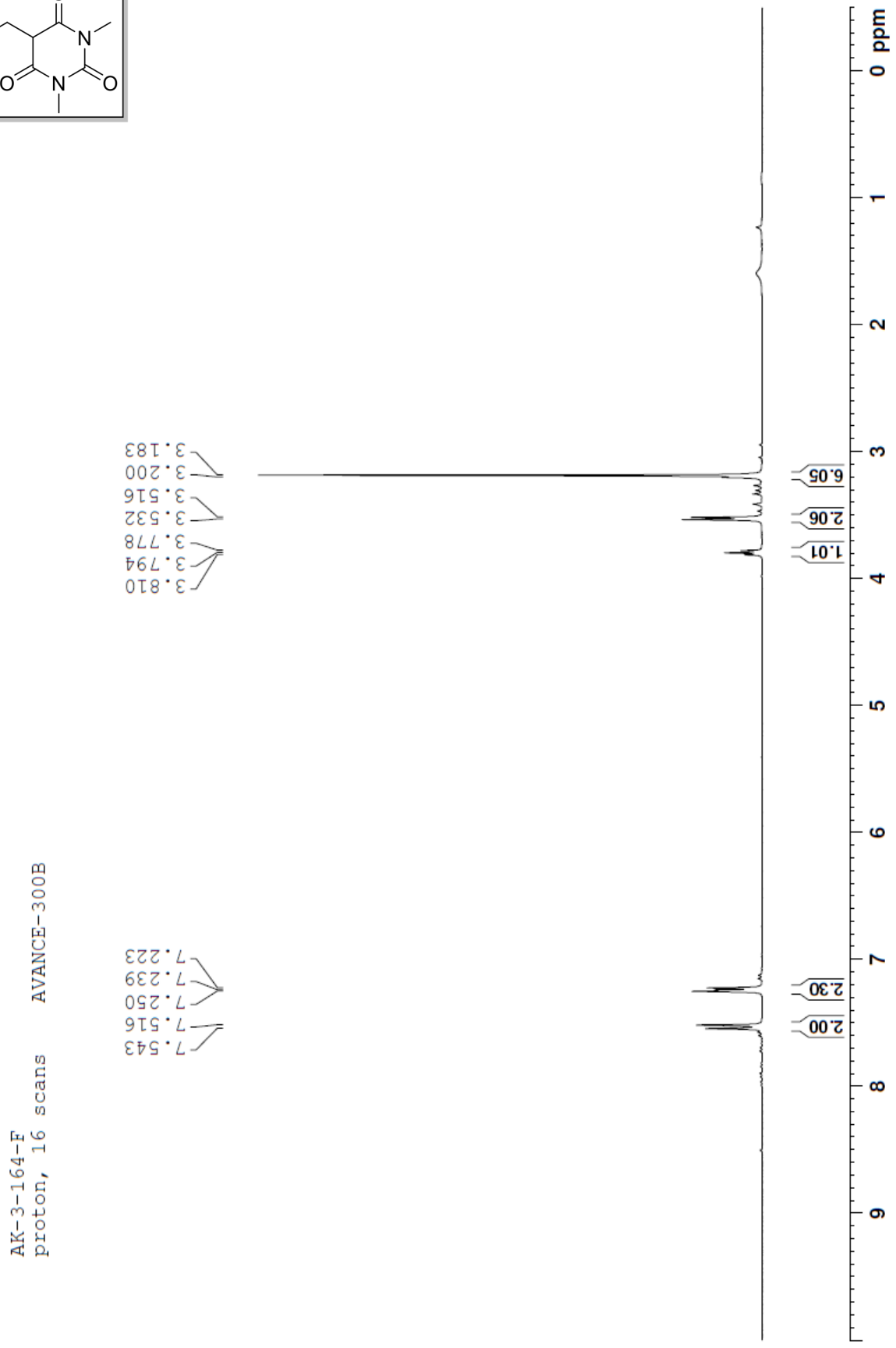


^{13}C NMR spectra of 1,3-Dimethyl-5-(naphthalen-2-ylmethyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7e**)

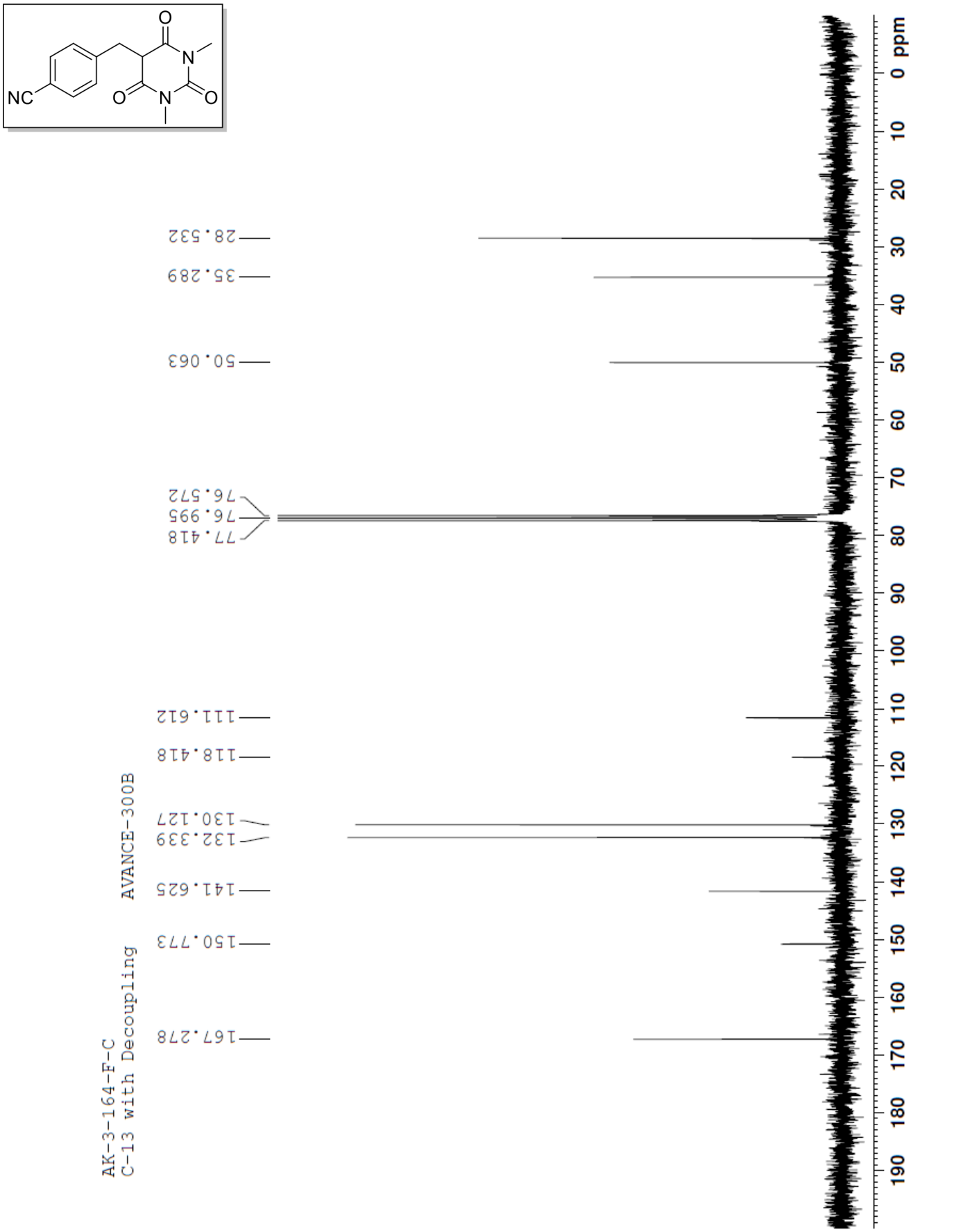


^{1}H NMR spectra of 4-((1,3-Dimethyl-2,4,6-trioxohexahydropyrimidin-5-yl)methyl)benzonitrile (**7f**)

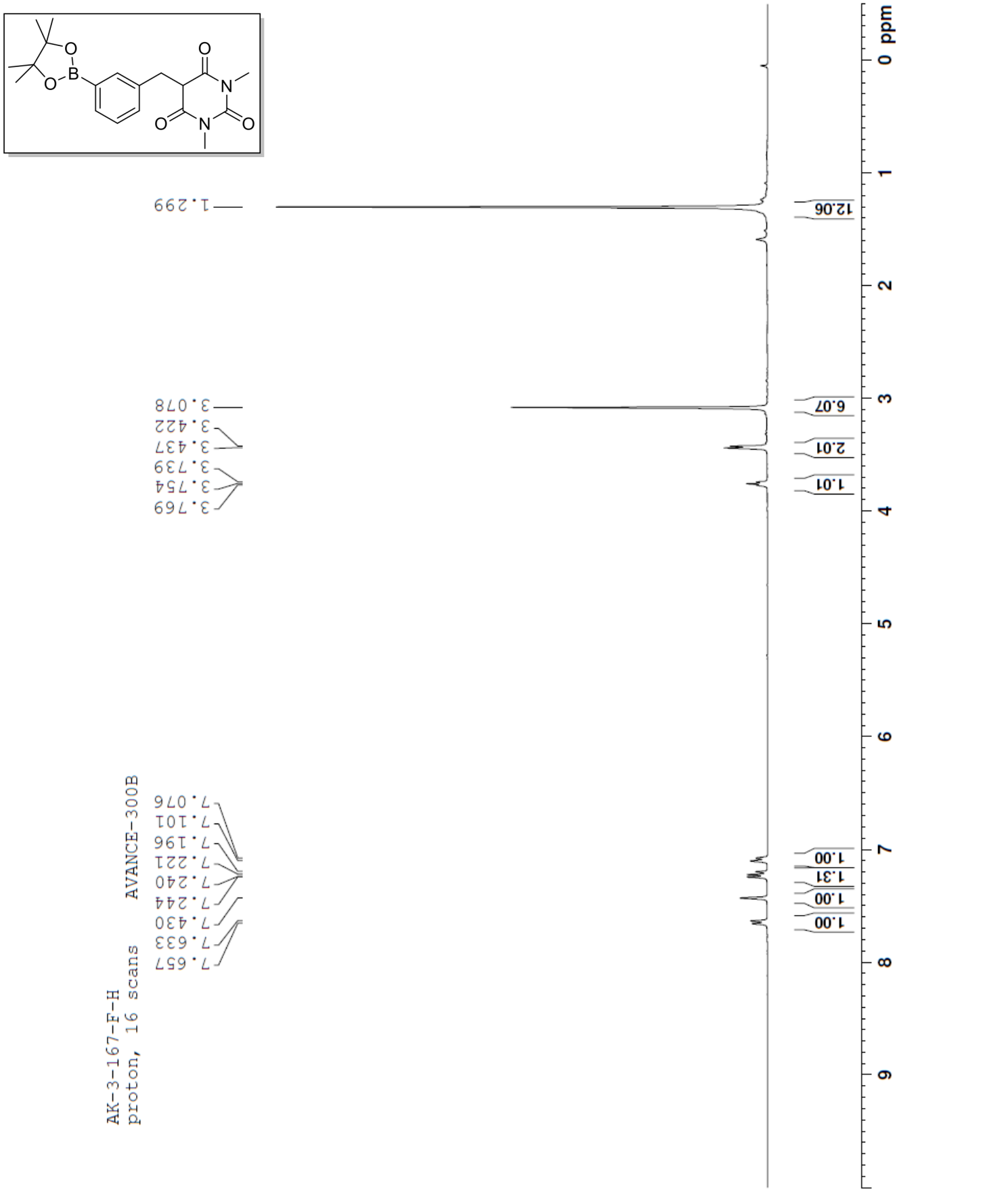




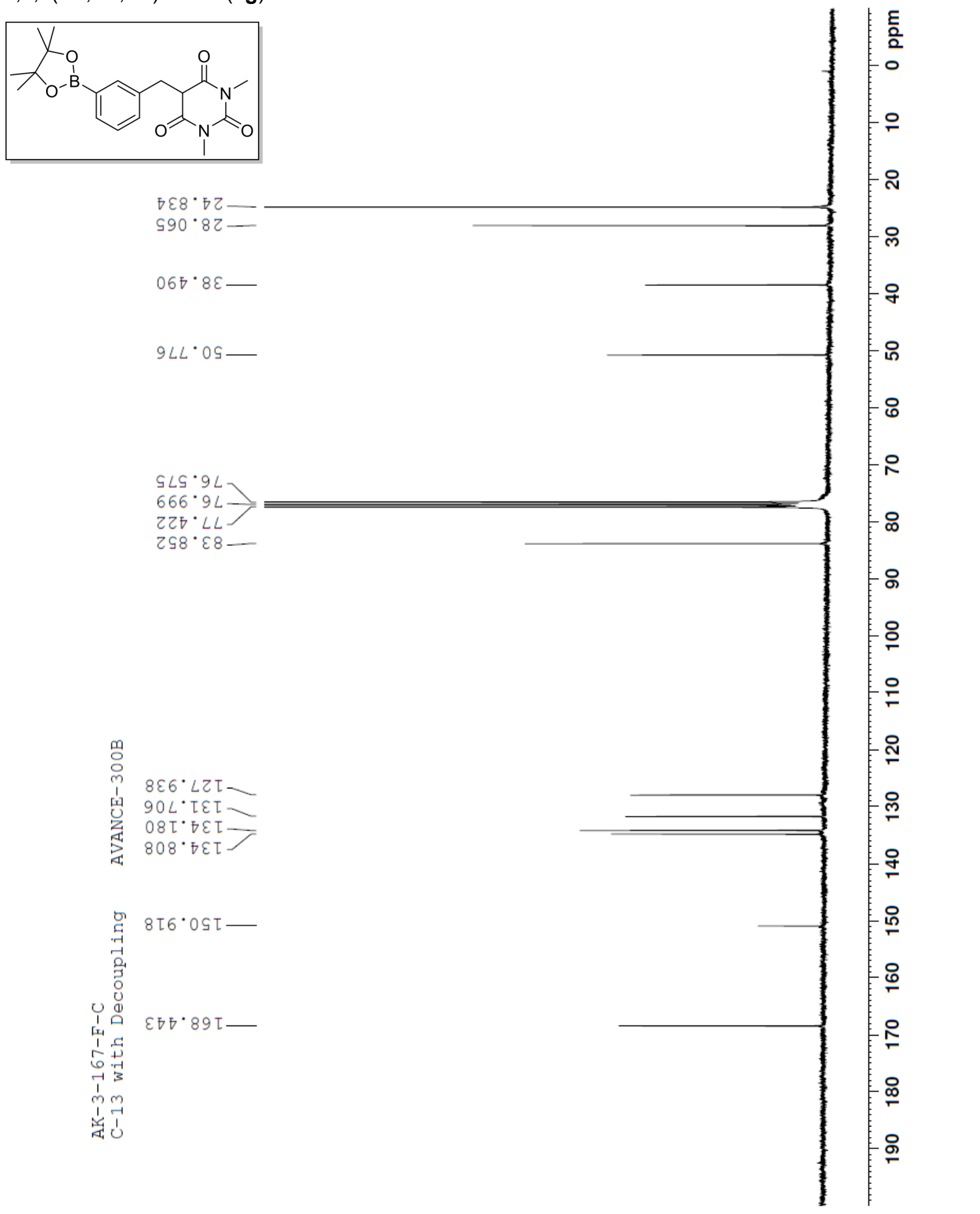
^{13}C NMR spectra of 4-((1,3-Dimethyl-2,4,6-trioxohexahydropyrimidin-5-yl)methyl)benzonitrile (**7f**)



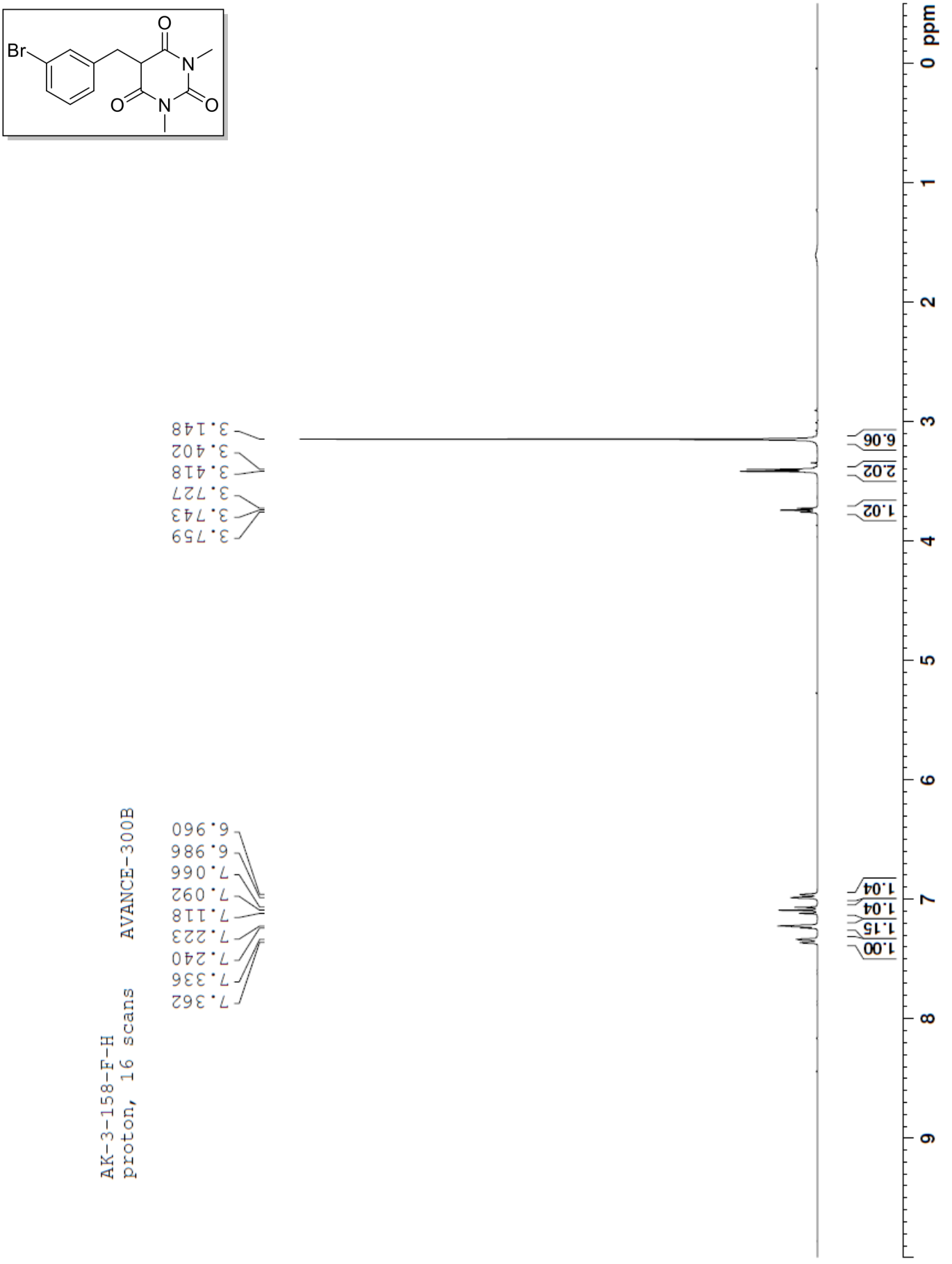
^{1}H NMR spectra of 1,3-dimethyl-5-(3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7g**)



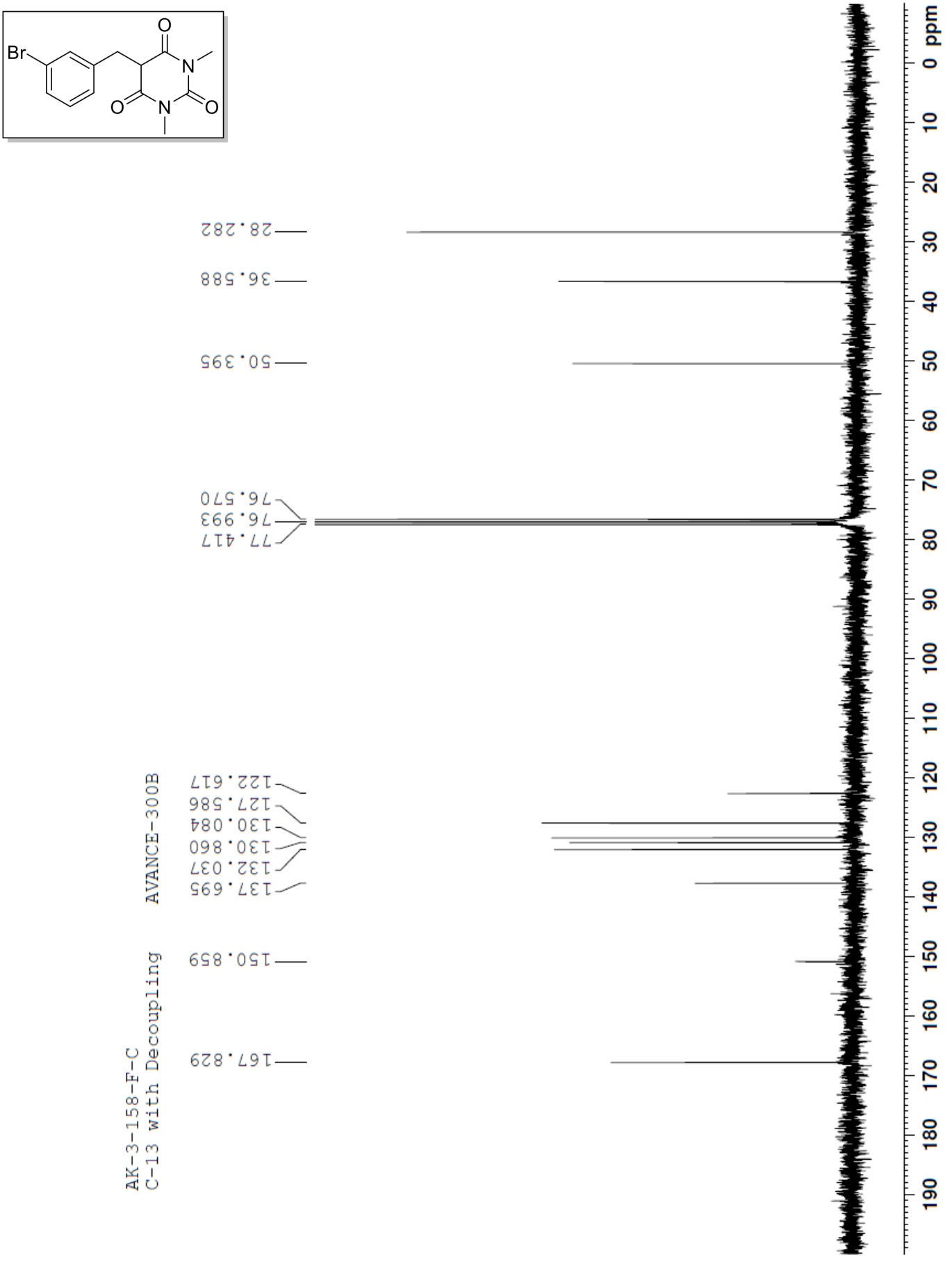
^{13}C NMR spectra of 1,3-dimethyl-5-(3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7g**)



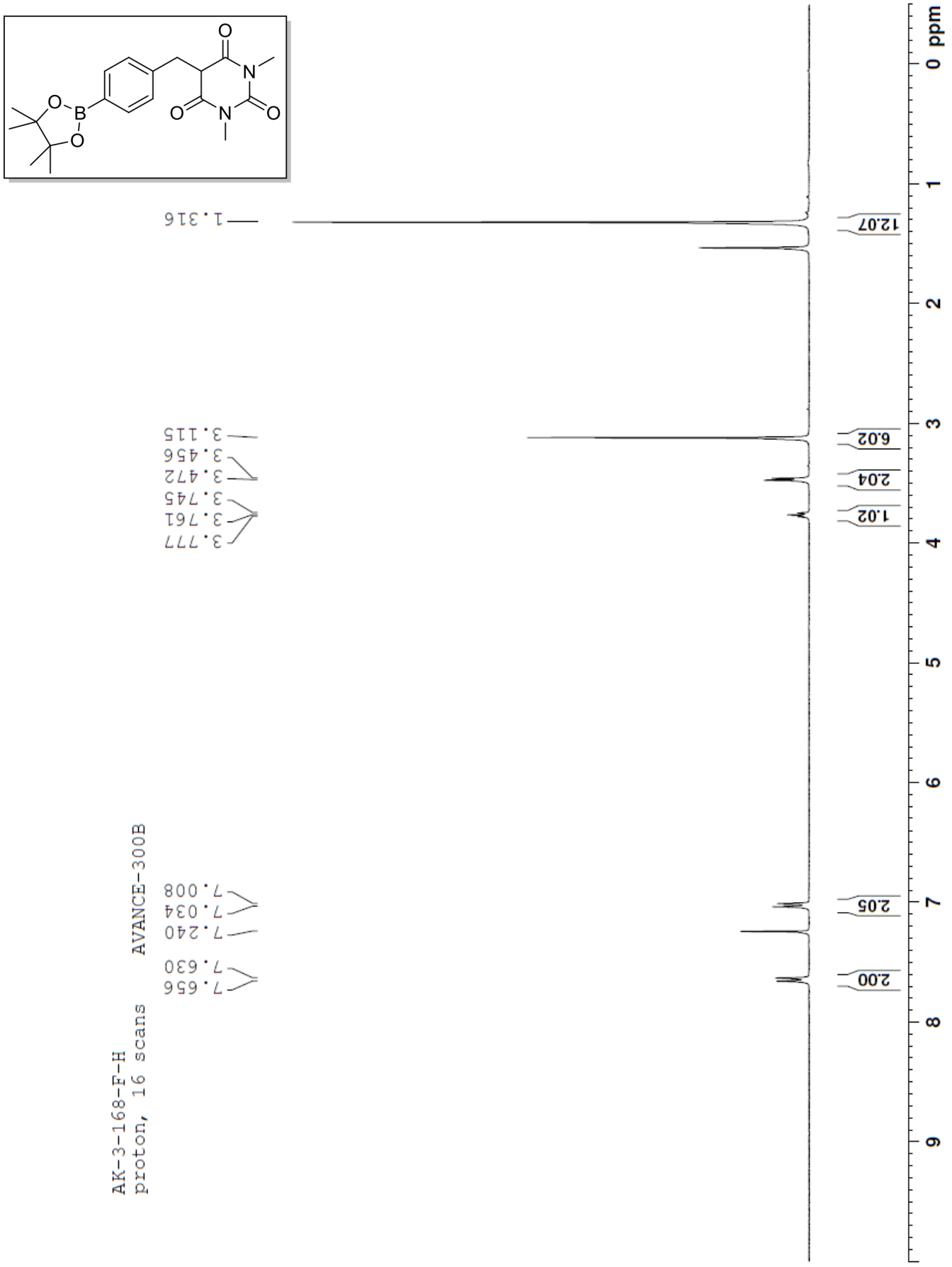
^{1}H NMR spectra of 5-(3-bromobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7h**)



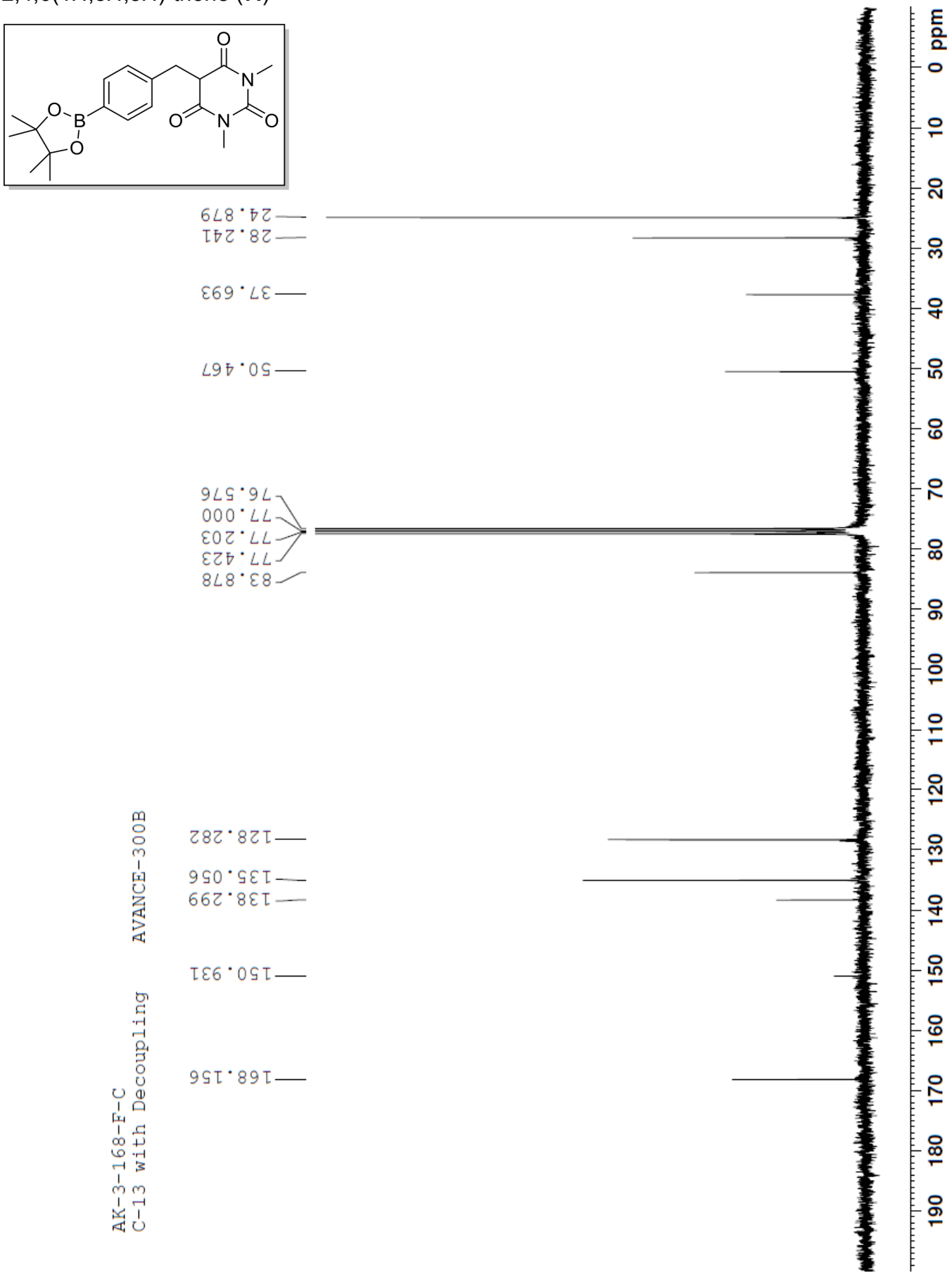
^{13}C NMR spectra of 5-(3-bromobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7h**)



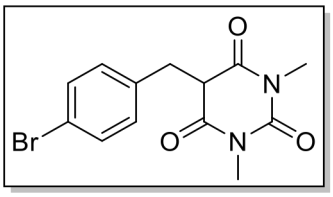
^{1}H NMR spectra of 1,3-dimethyl-5-(4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7i**)



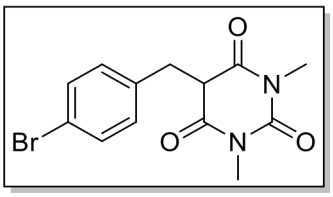
^{13}C NMR spectra of 1,3-dimethyl-5-(4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7i**)



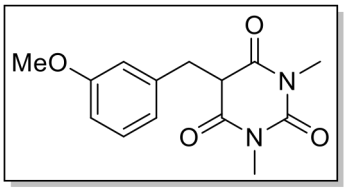
^{1}H NMR spectra of 5-(4-Bromobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7j**)



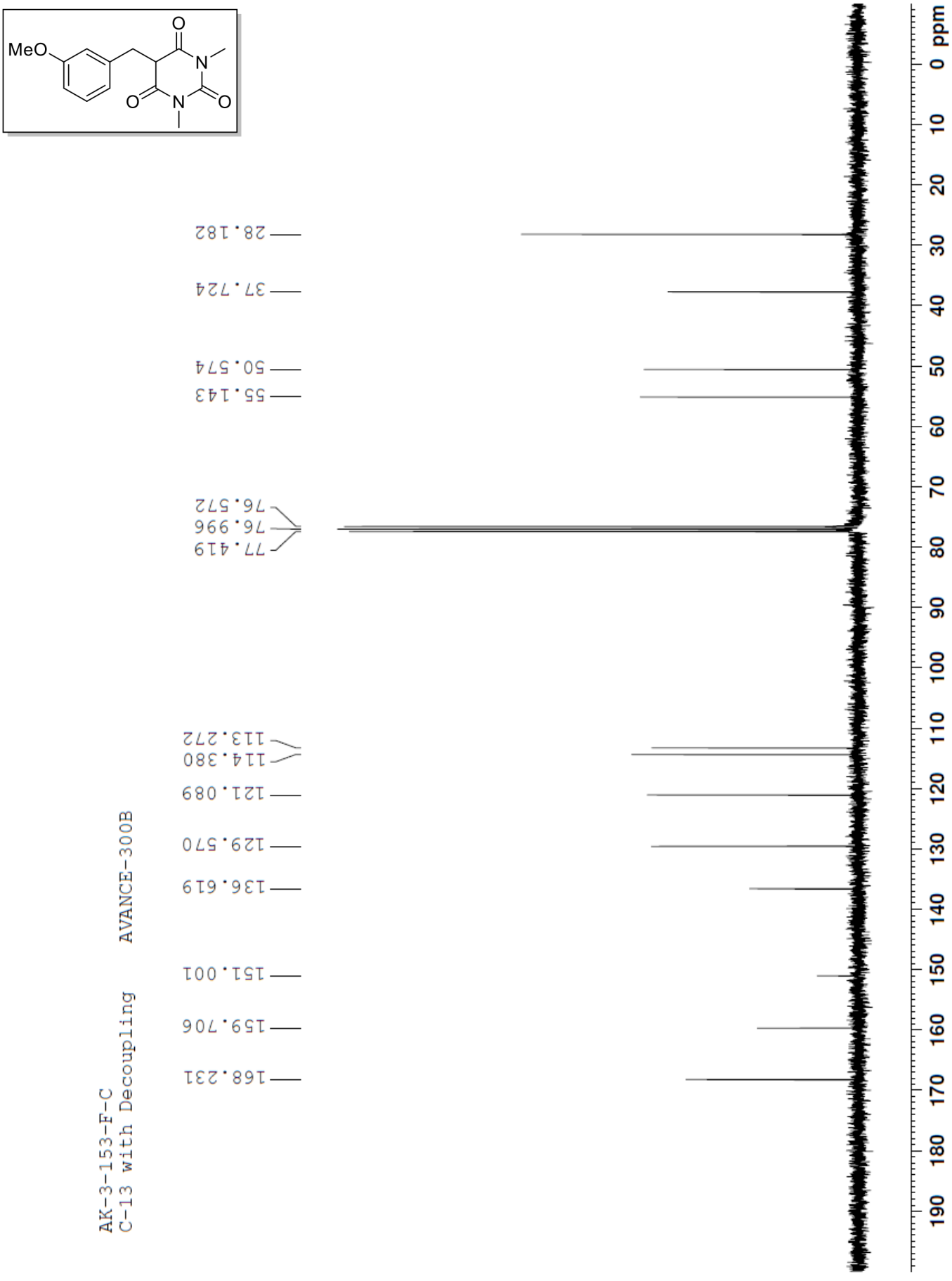
^{13}C NMR spectra of 5-(4-Bromobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7j**)



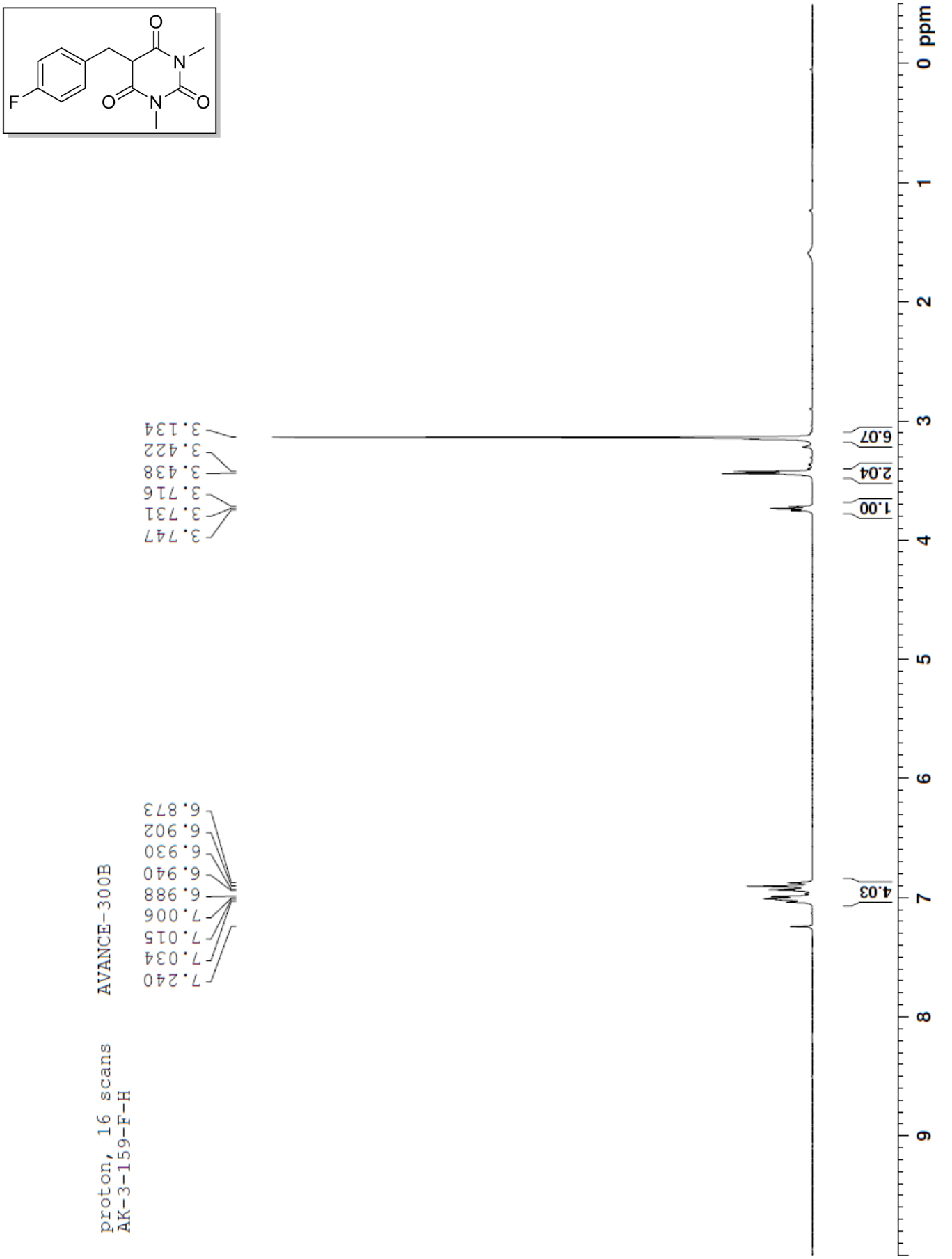
^{1}H NMR spectra of 5-(3-methoxybenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7k**)



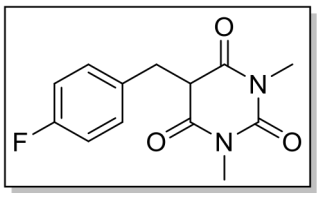
^{13}C NMR spectra of 5-(3-methoxybenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7k**)



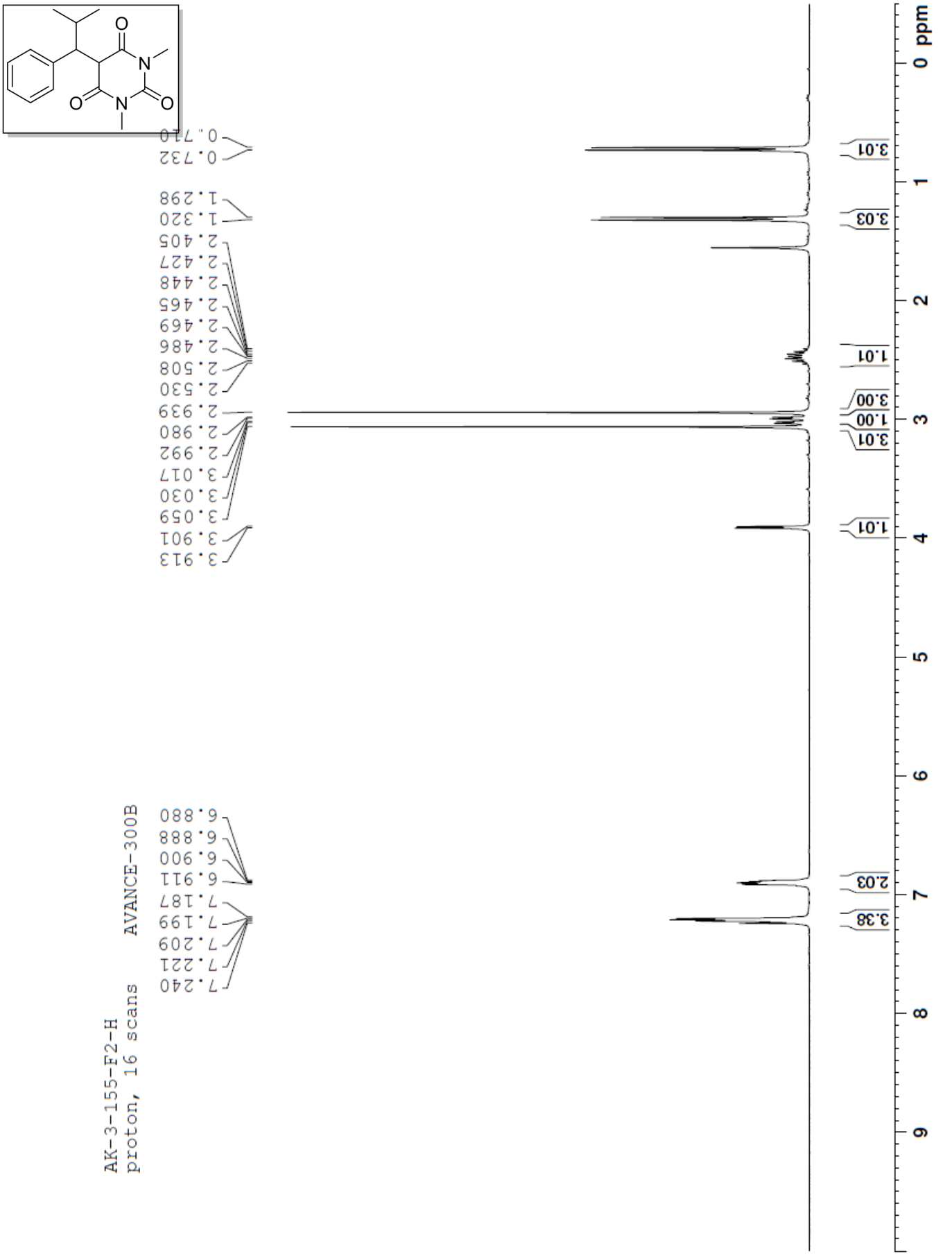
^{1}H NMR spectra of 5-(4-fluorobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7l**)



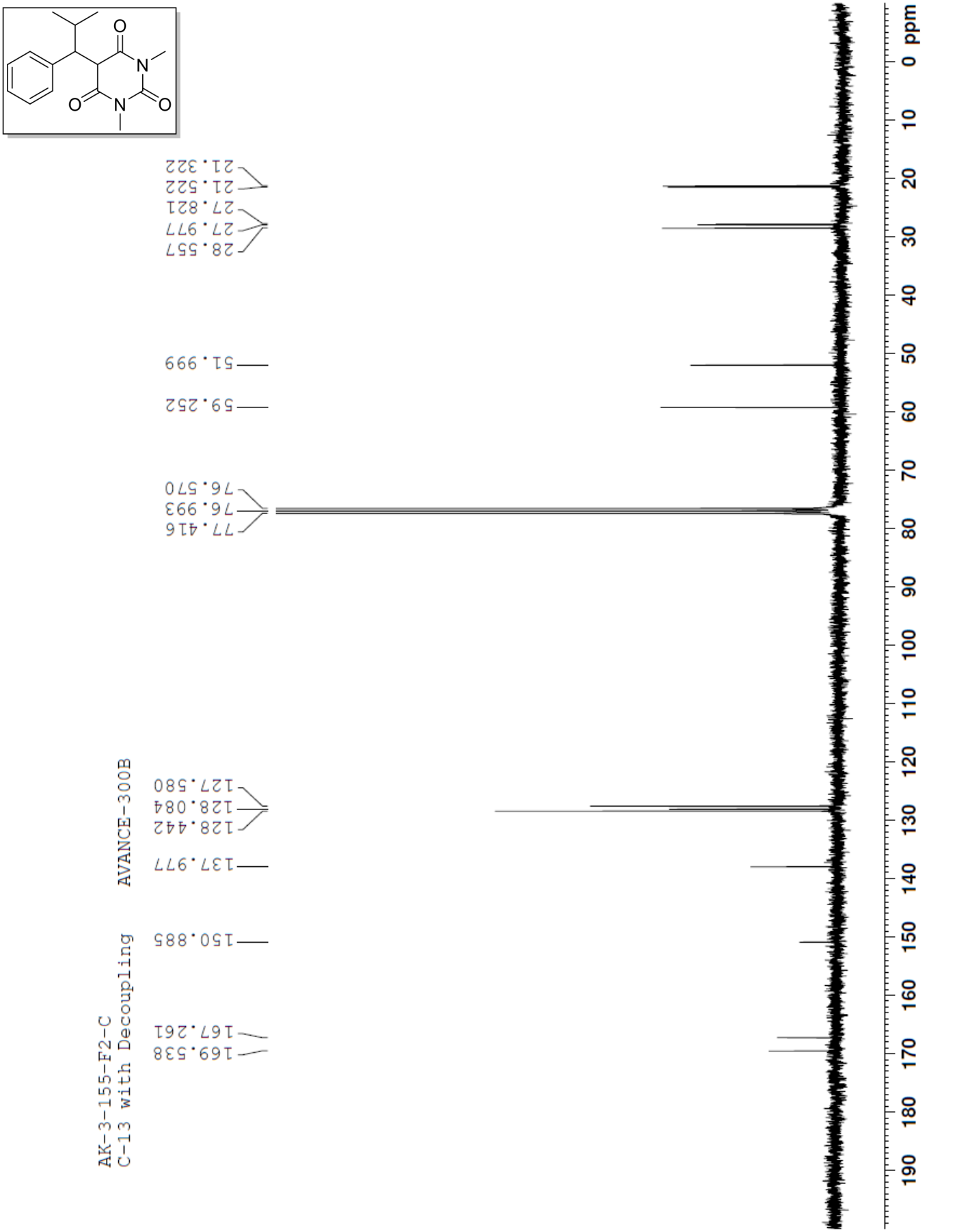
^{13}C NMR spectra of 5-(4-fluorobenzyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**7l**)



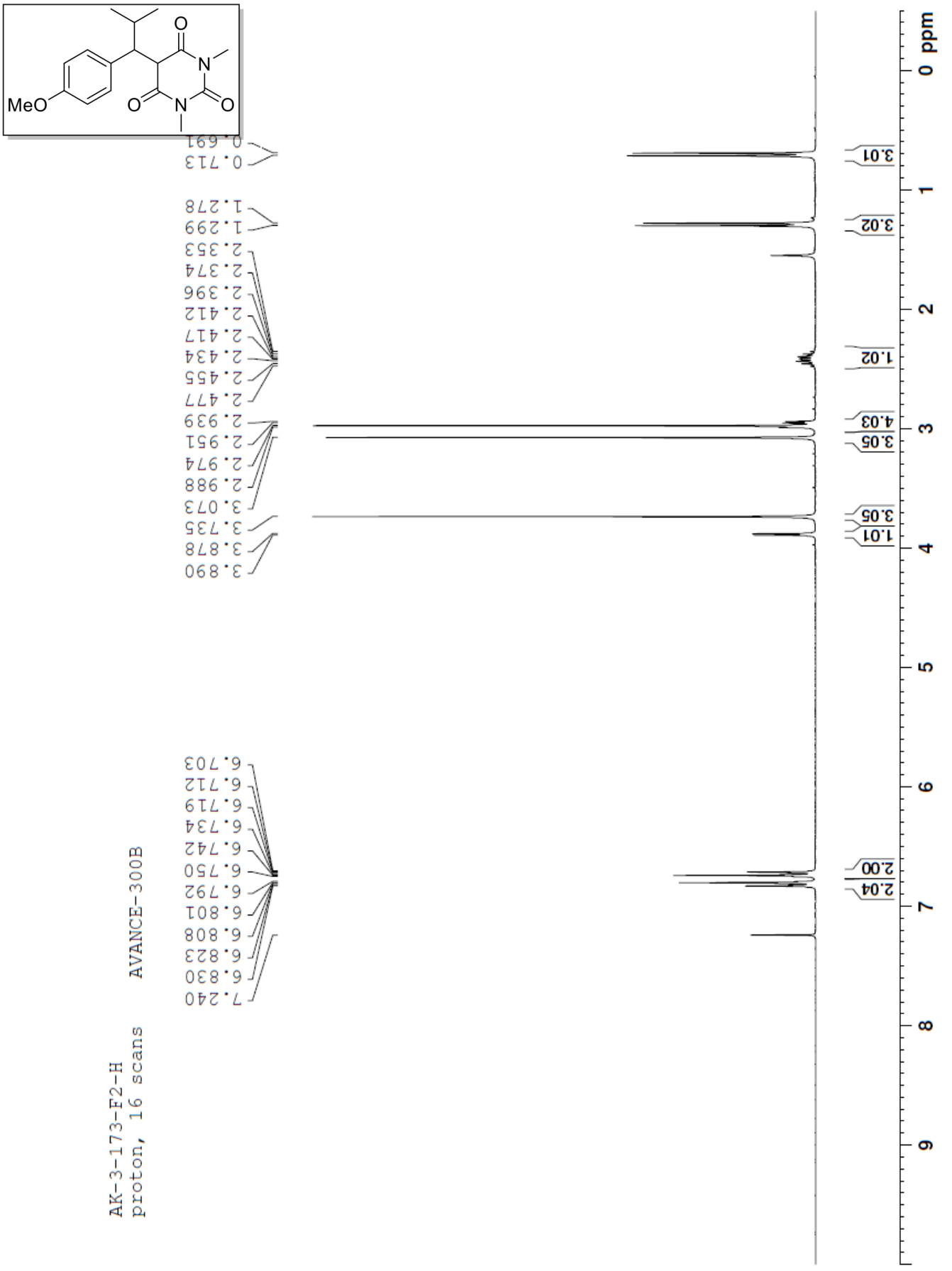
^{1}H NMR spectra of 1,3-dimethyl-5-(2-methyl-1-phenylpropyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8a**)



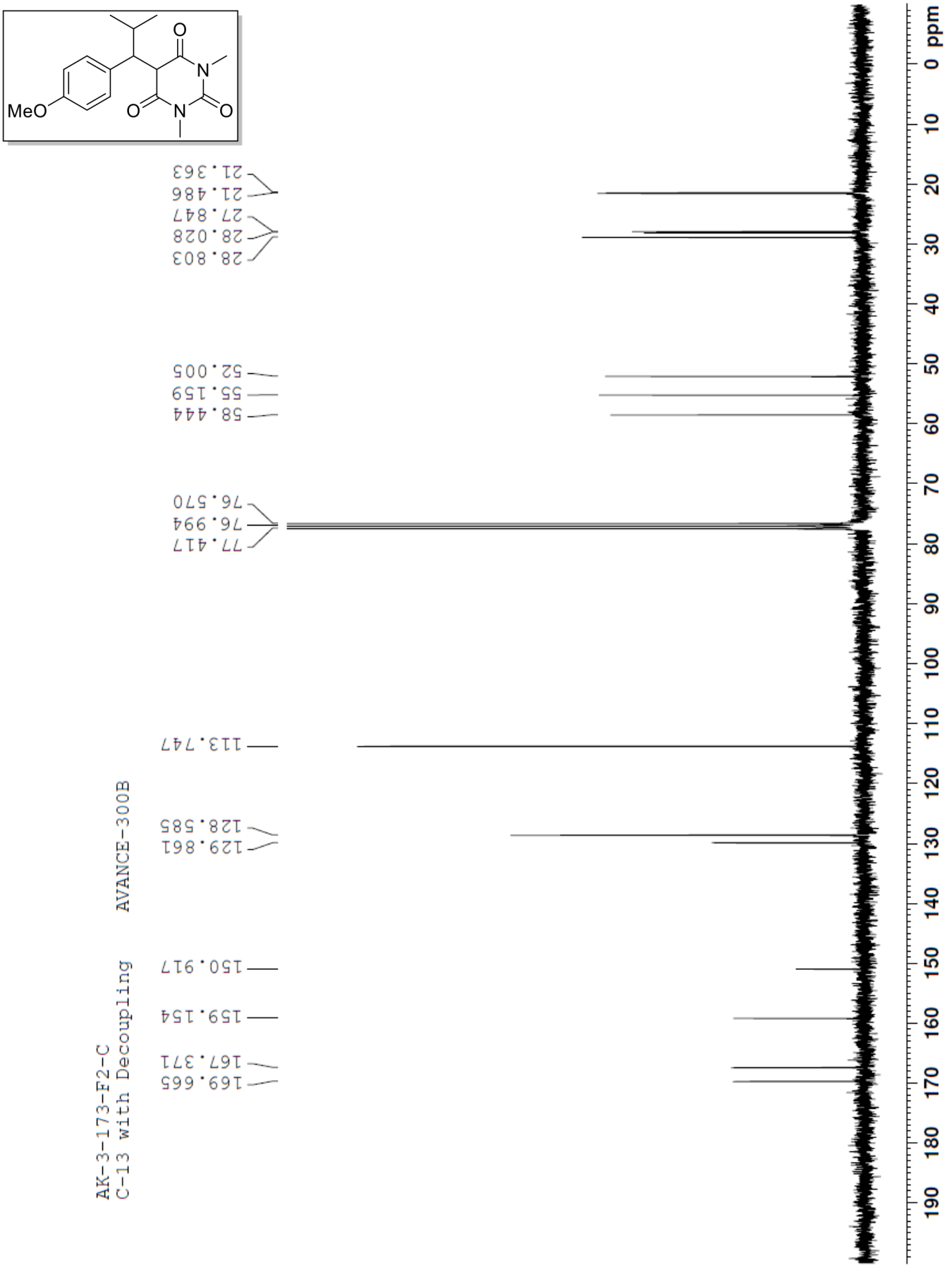
^{13}C NMR spectra of 1,3-dimethyl-5-(2-methyl-1-phenylpropyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8a**)



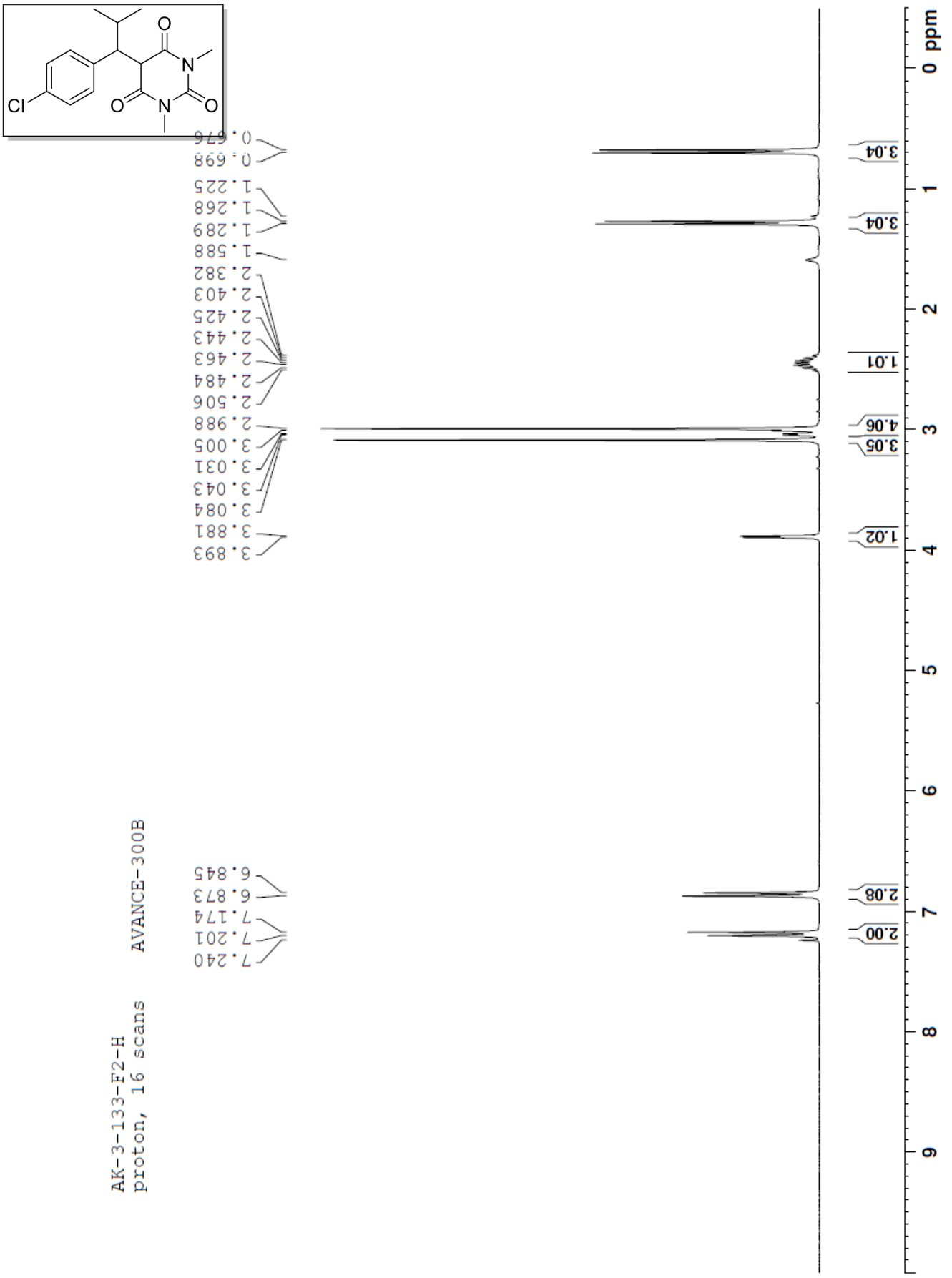
^{1}H NMR spectra of 5-(1-(4-methoxyphenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8b**)



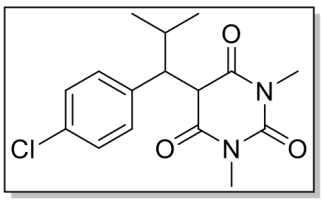
^{13}C NMR spectra of 5-(1-(4-methoxyphenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8b**)



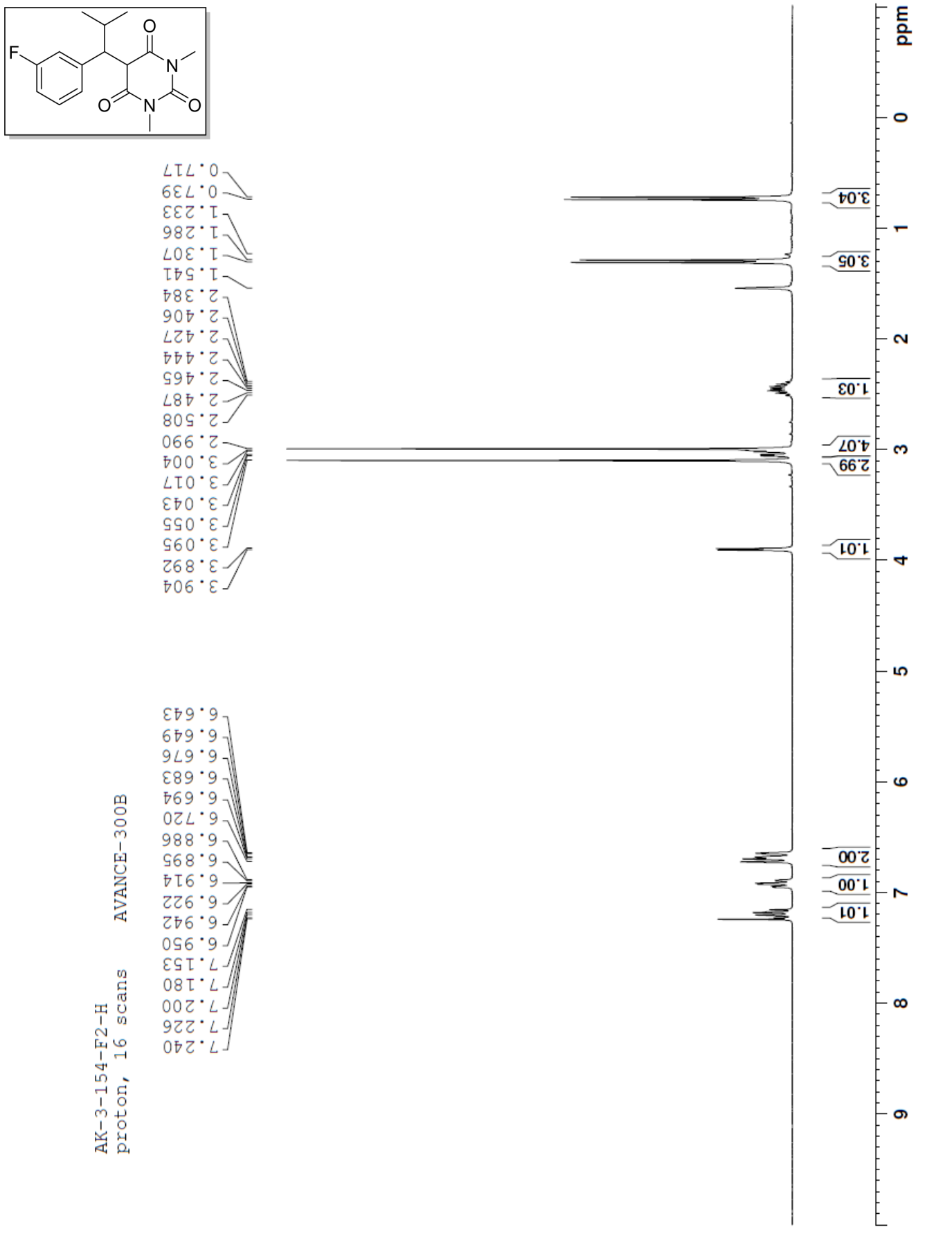
^{1}H NMR spectra of 5-(1-(4-chlorophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8c**)



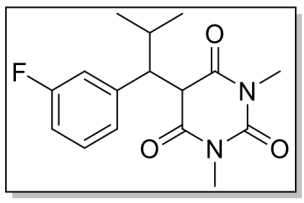
^{13}C NMR spectra of 5-(1-(4-chlorophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8c**)

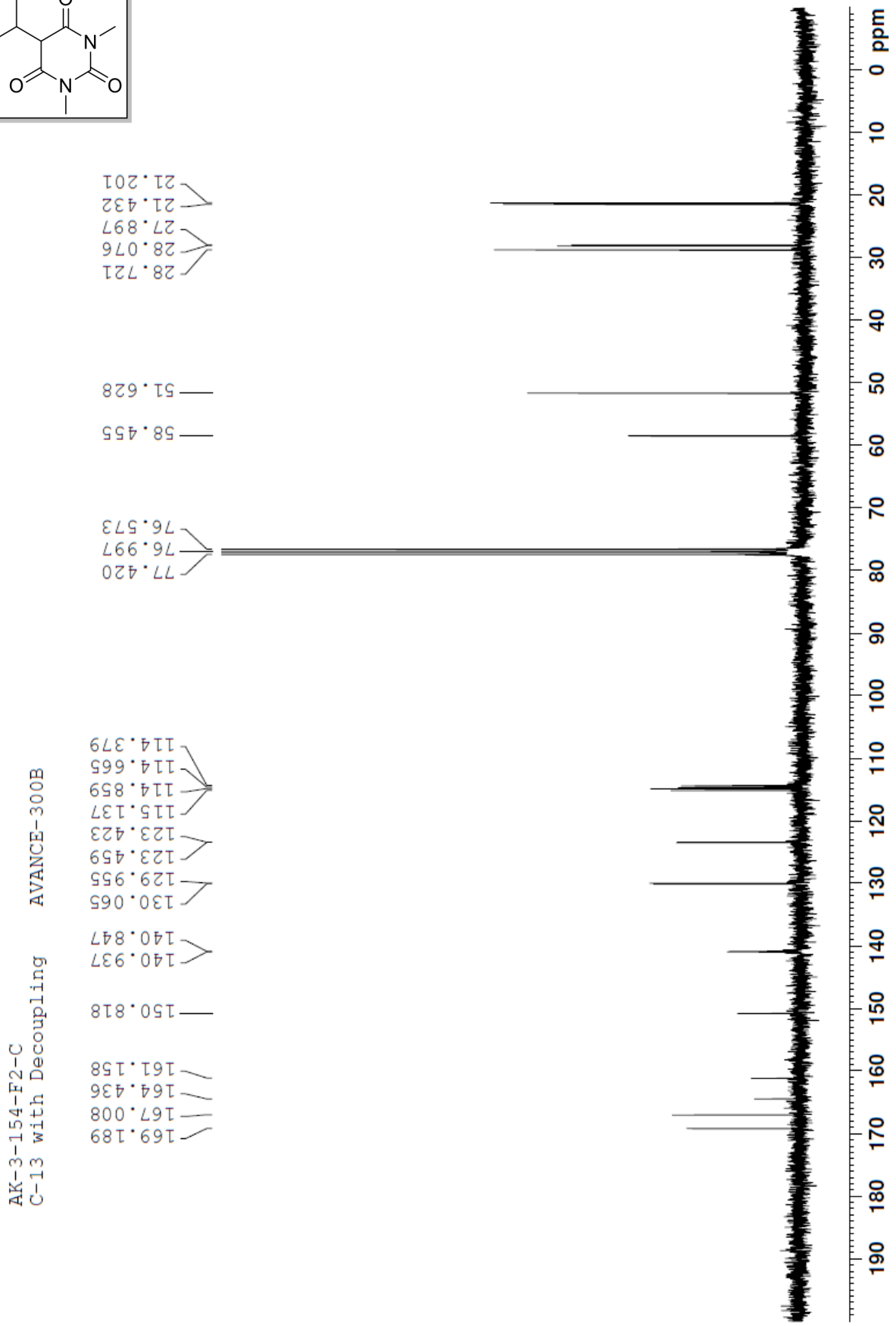


^{1}H NMR spectra of 5-(1-(3-fluorophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8d**)

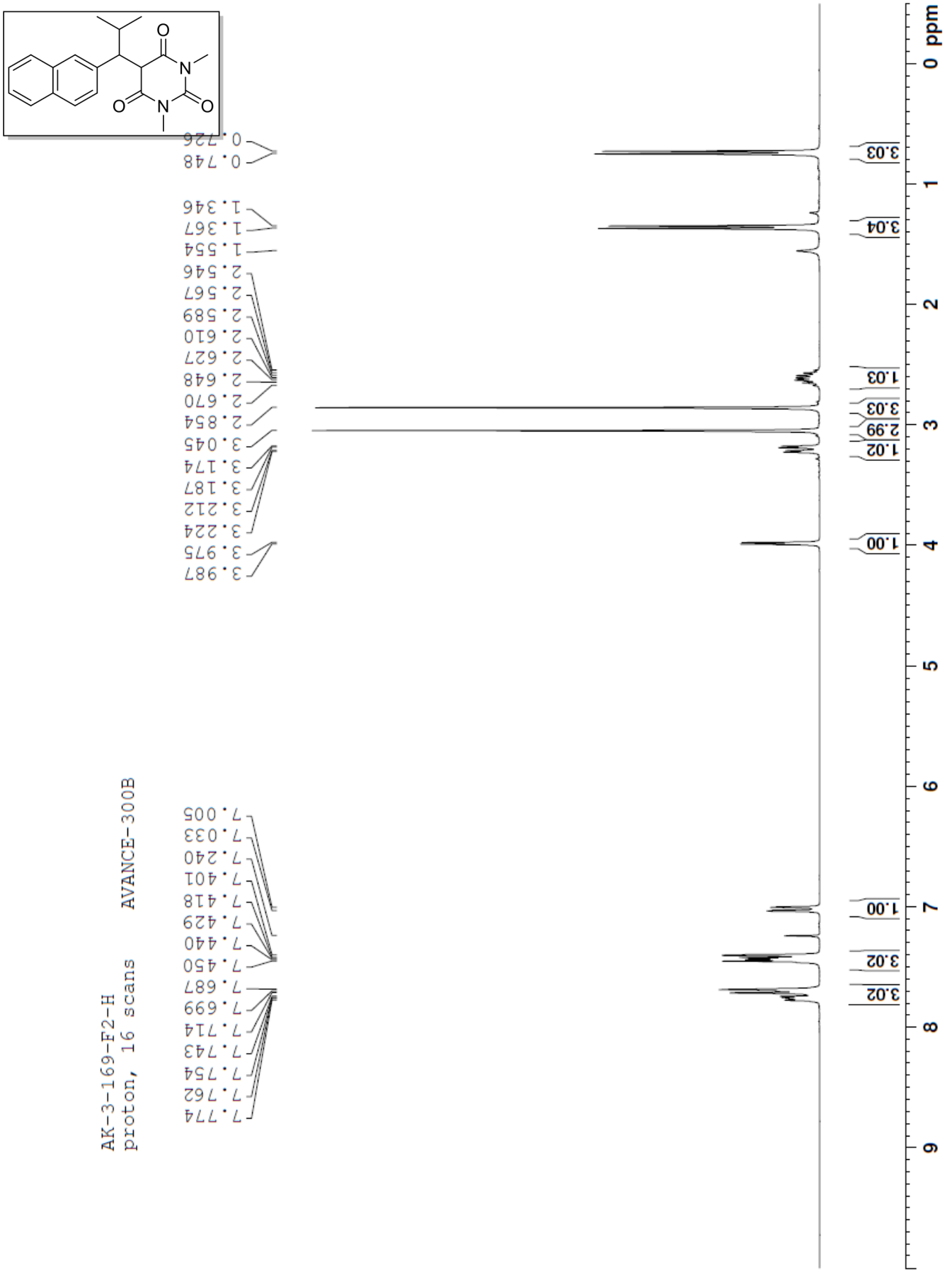


^{13}C NMR spectra of 5-(1-(3-fluorophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8d**)

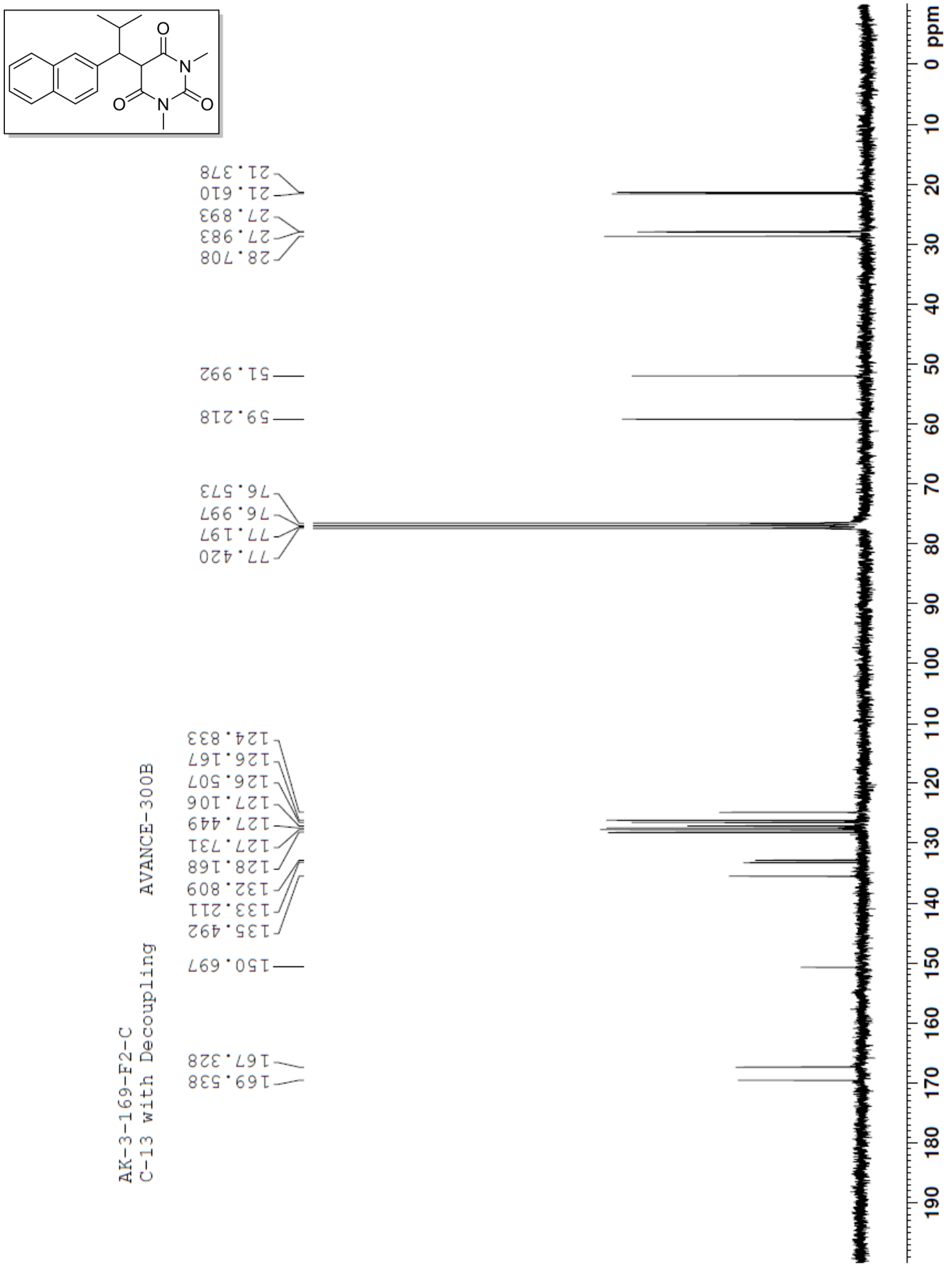




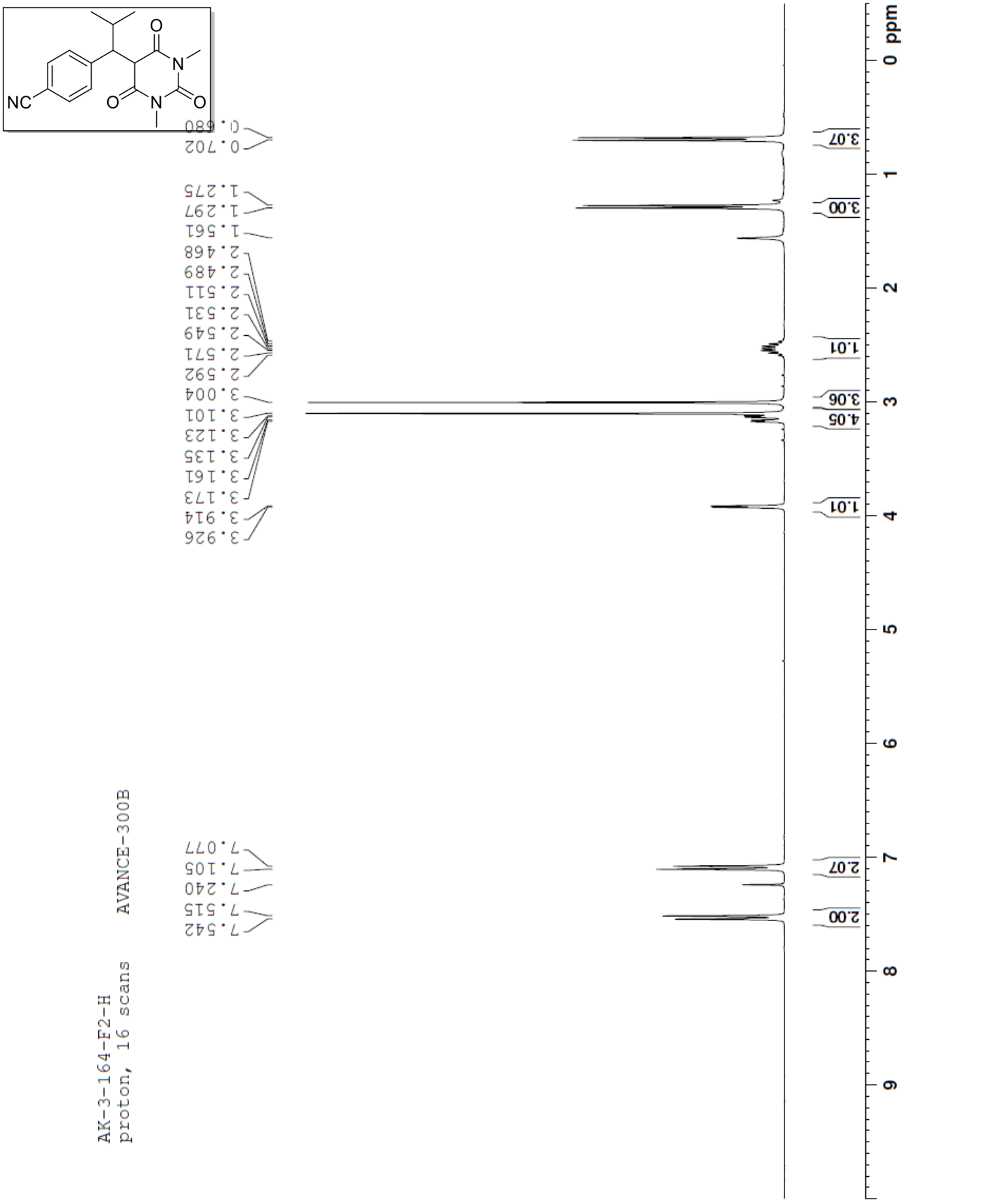
^{1}H NMR spectra of 1,3-dimethyl-5-(2-methyl-1-(naphthalen-2-yl)propyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8e**)



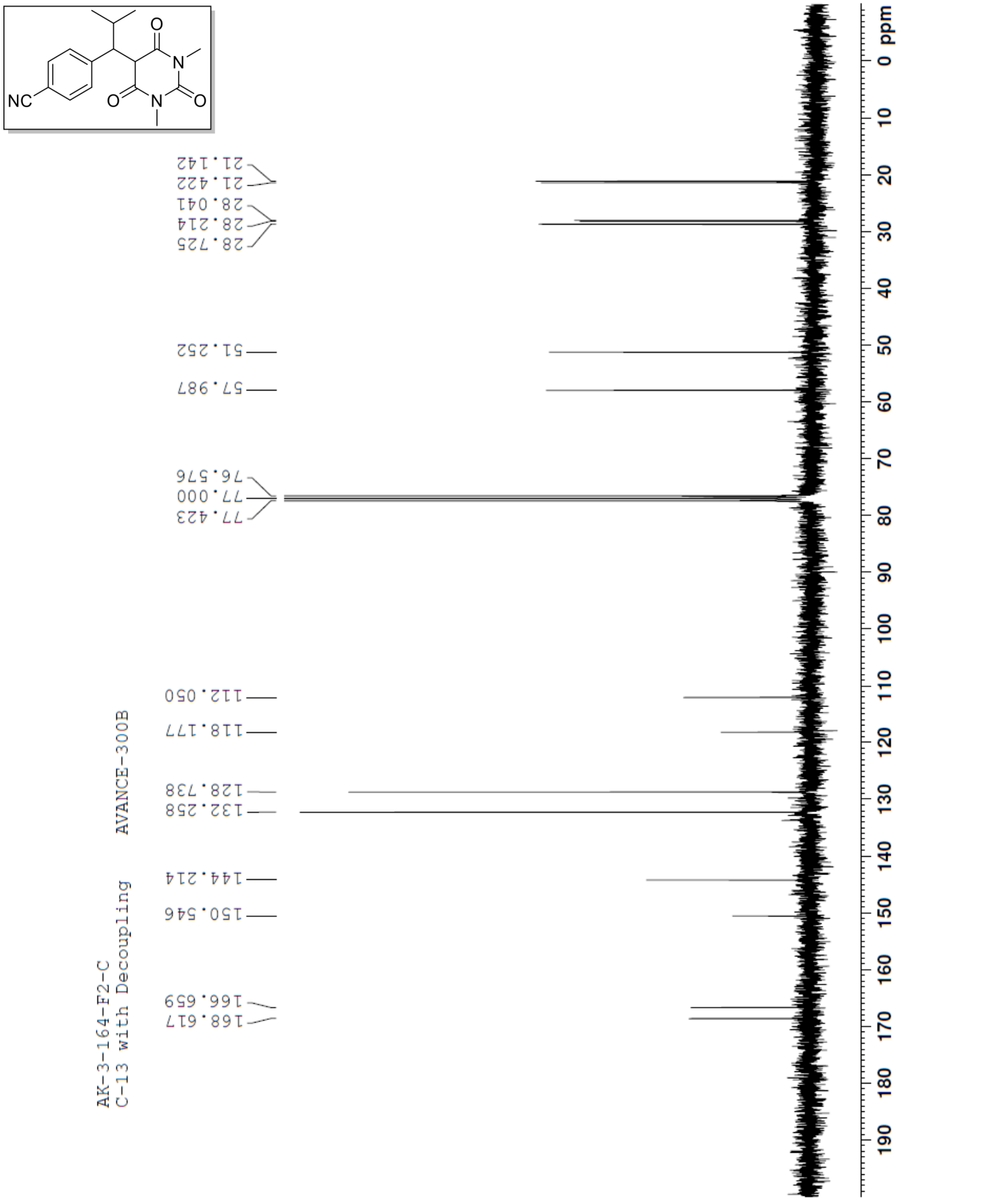
^{13}C NMR spectra of 1,3-dimethyl-5-(2-methyl-1-(naphthalen-2-yl)propyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8e**)



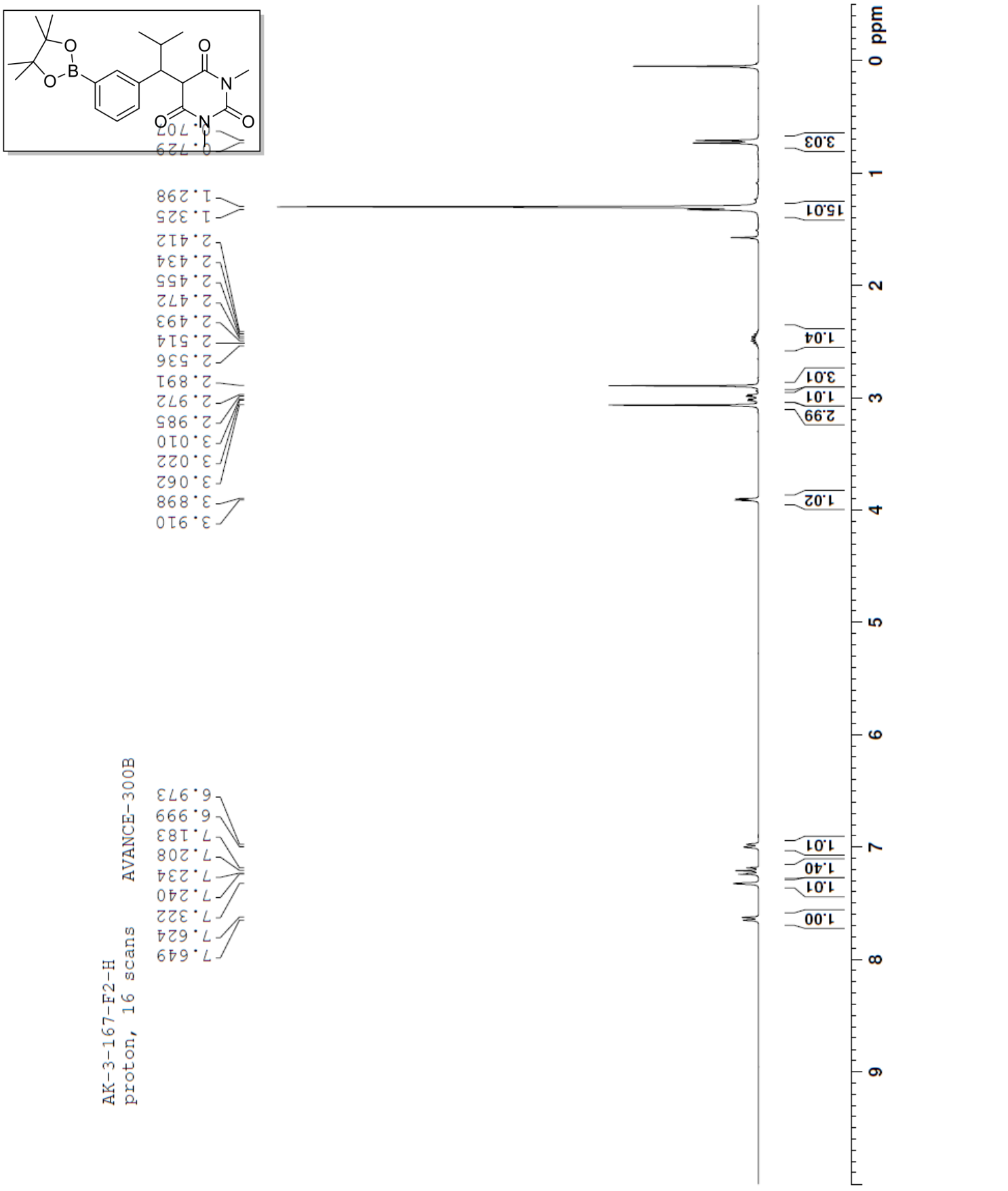
^{1}H NMR spectra of 4-(1-(1,3-dimethyl-2,4,6-trioxohexahydropyrimidin-5-yl)-2-methylpropyl)benzonitrile (**8f**)



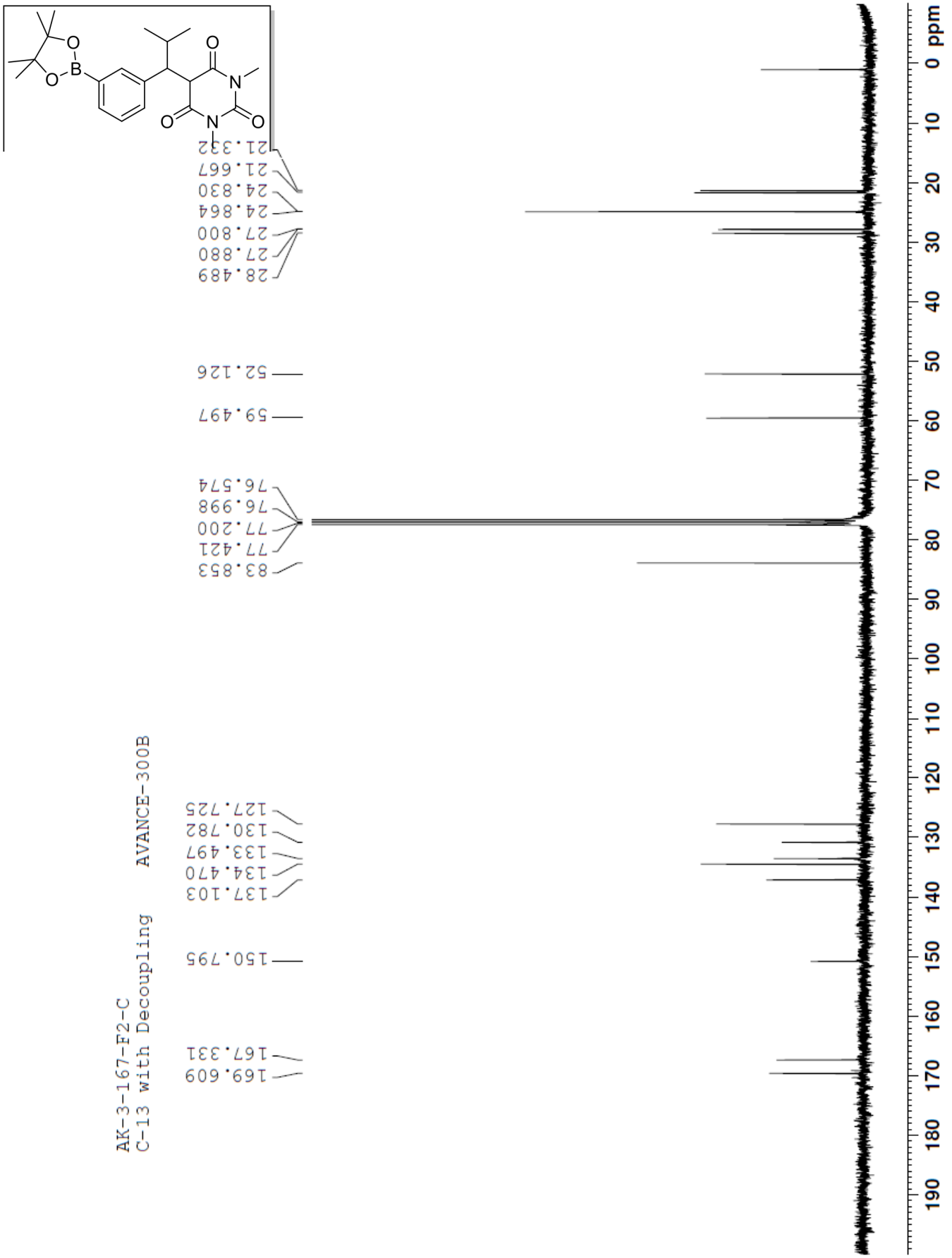
^{13}C NMR spectra of 4-(1-(1,3-dimethyl-2,4,6-trioxohexahydropyrimidin-5-yl)-2-methylpropyl)benzonitrile (**8f**)



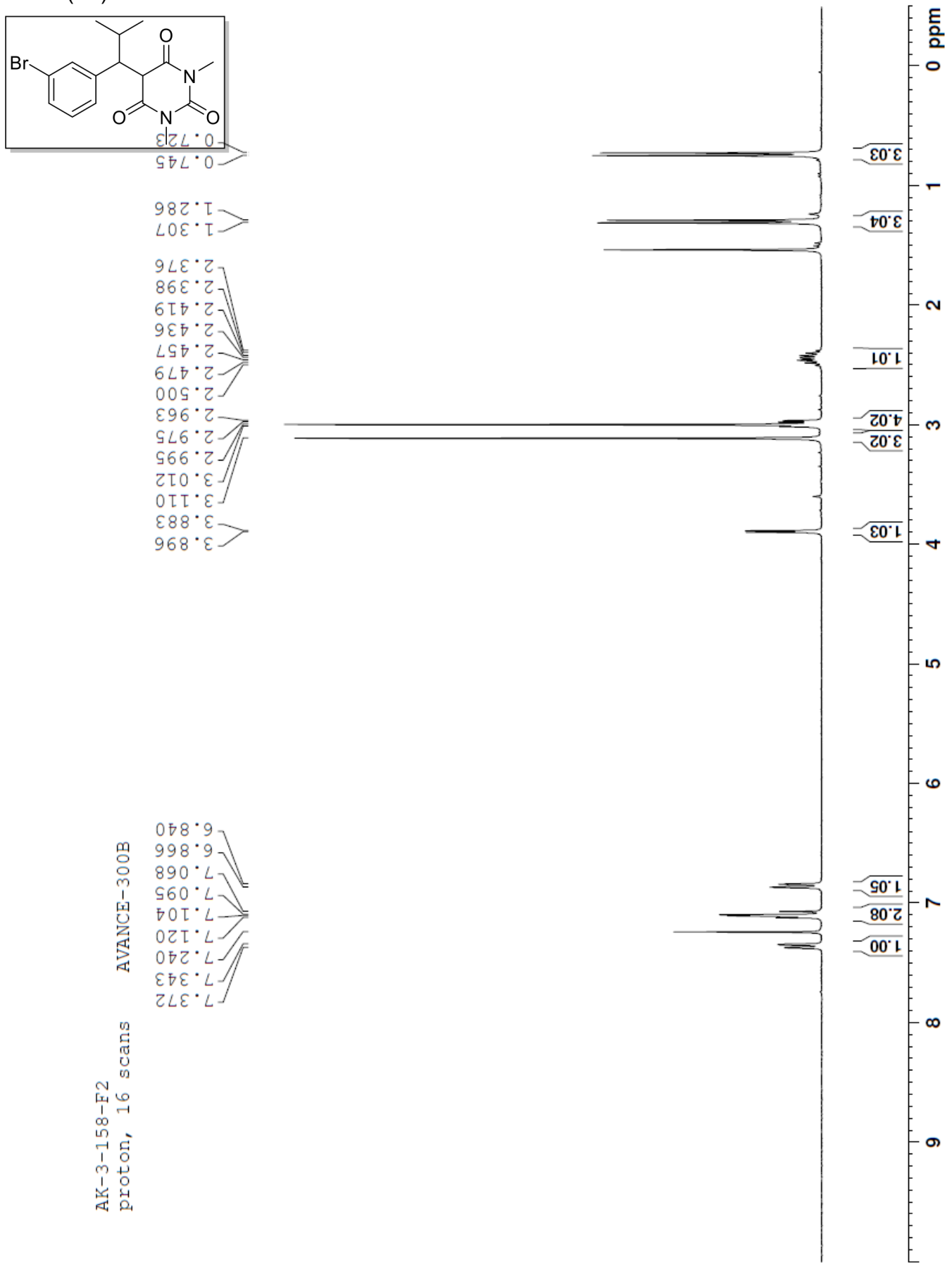
^{1}H NMR spectra of 1,3-dimethyl-5-(3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8g**)



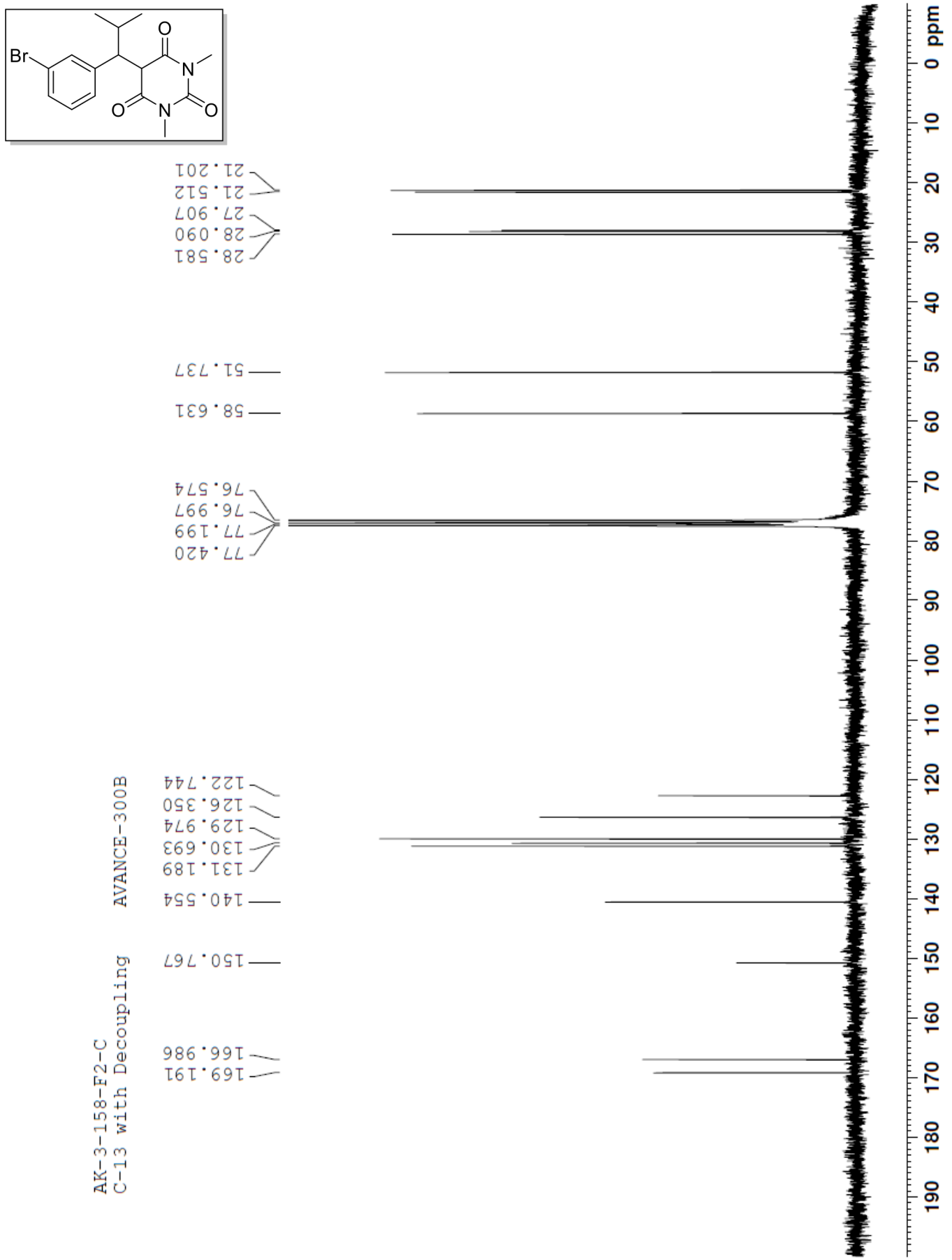
^{13}C NMR spectra of 1,3-dimethyl-5-(3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)benzyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8g**)



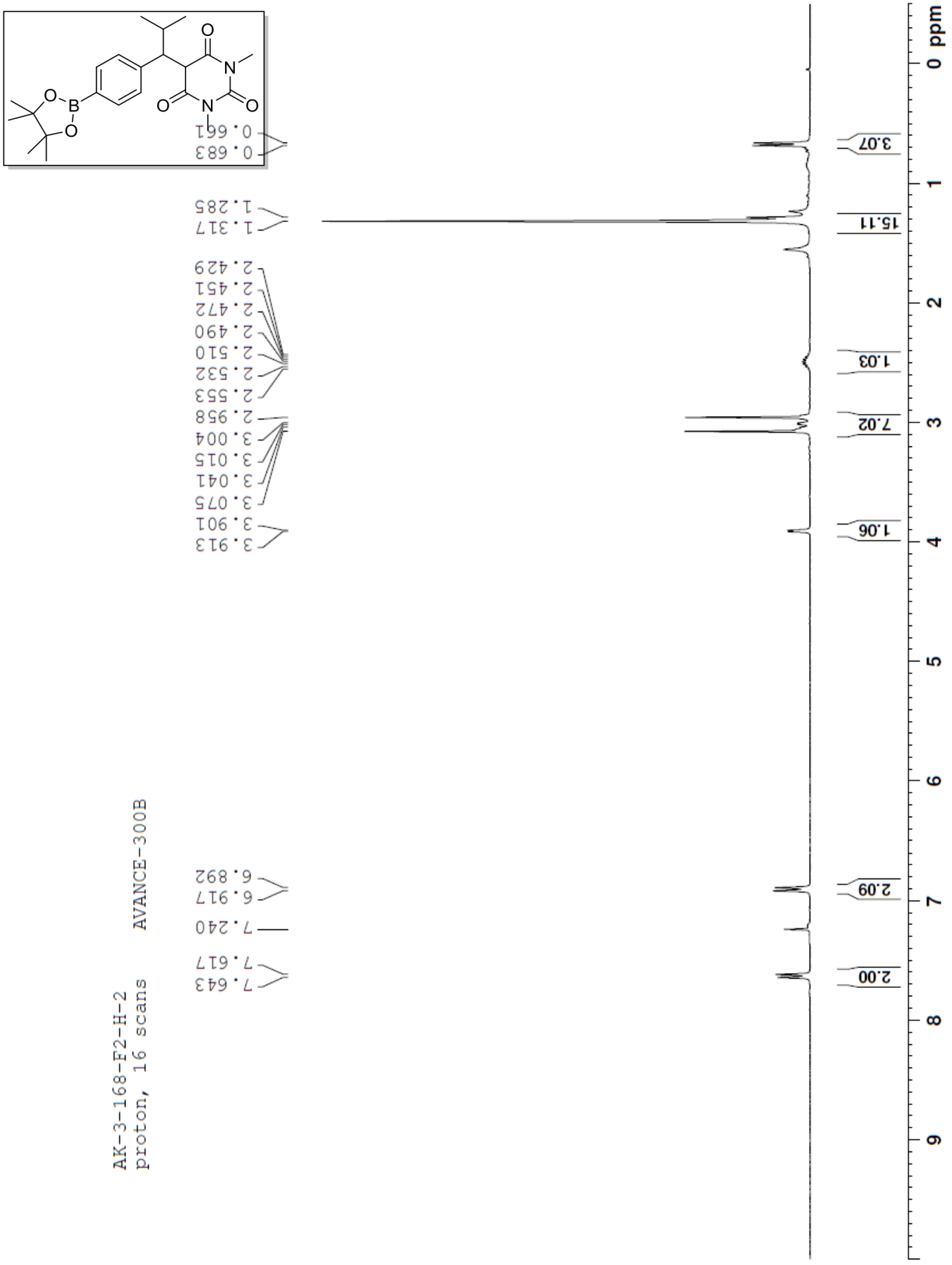
^{1}H NMR spectra of 5-(1-(3-bromophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8h**)



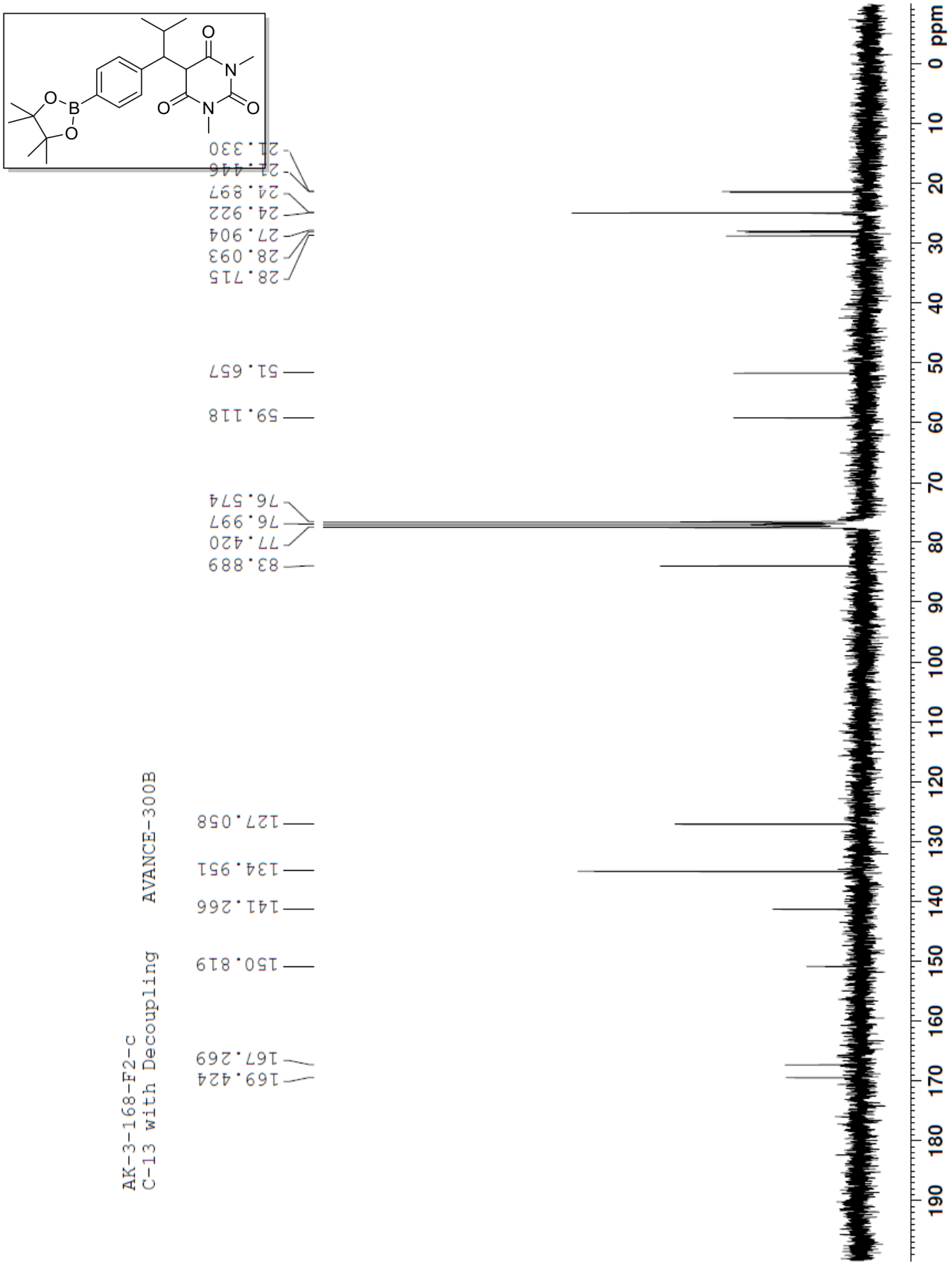
^{13}C NMR spectra of 5-(1-(3-bromophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8h**)



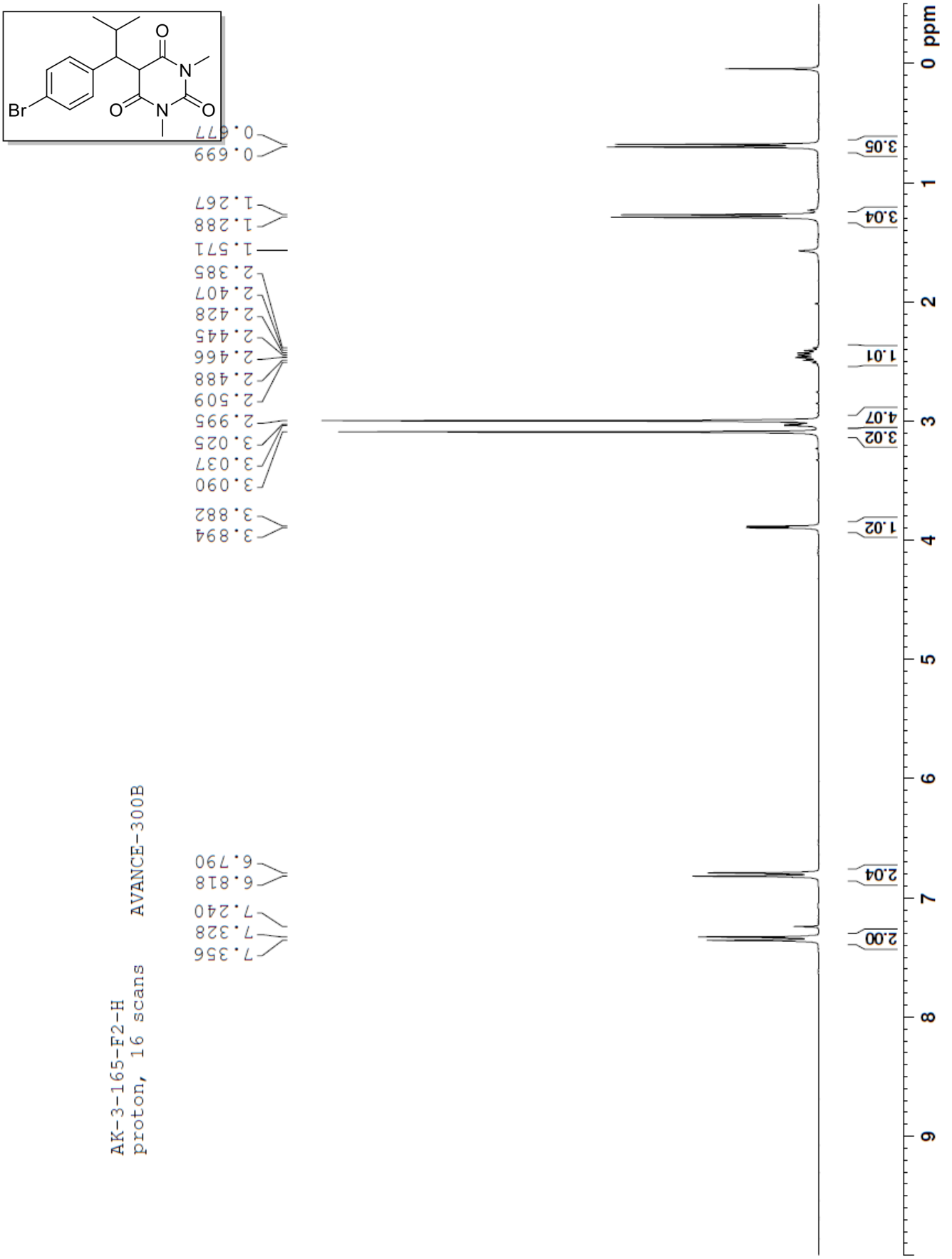
^{1}H NMR spectra of 1,3-dimethyl-5-(2-methyl-1-(4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl)propyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8i**)



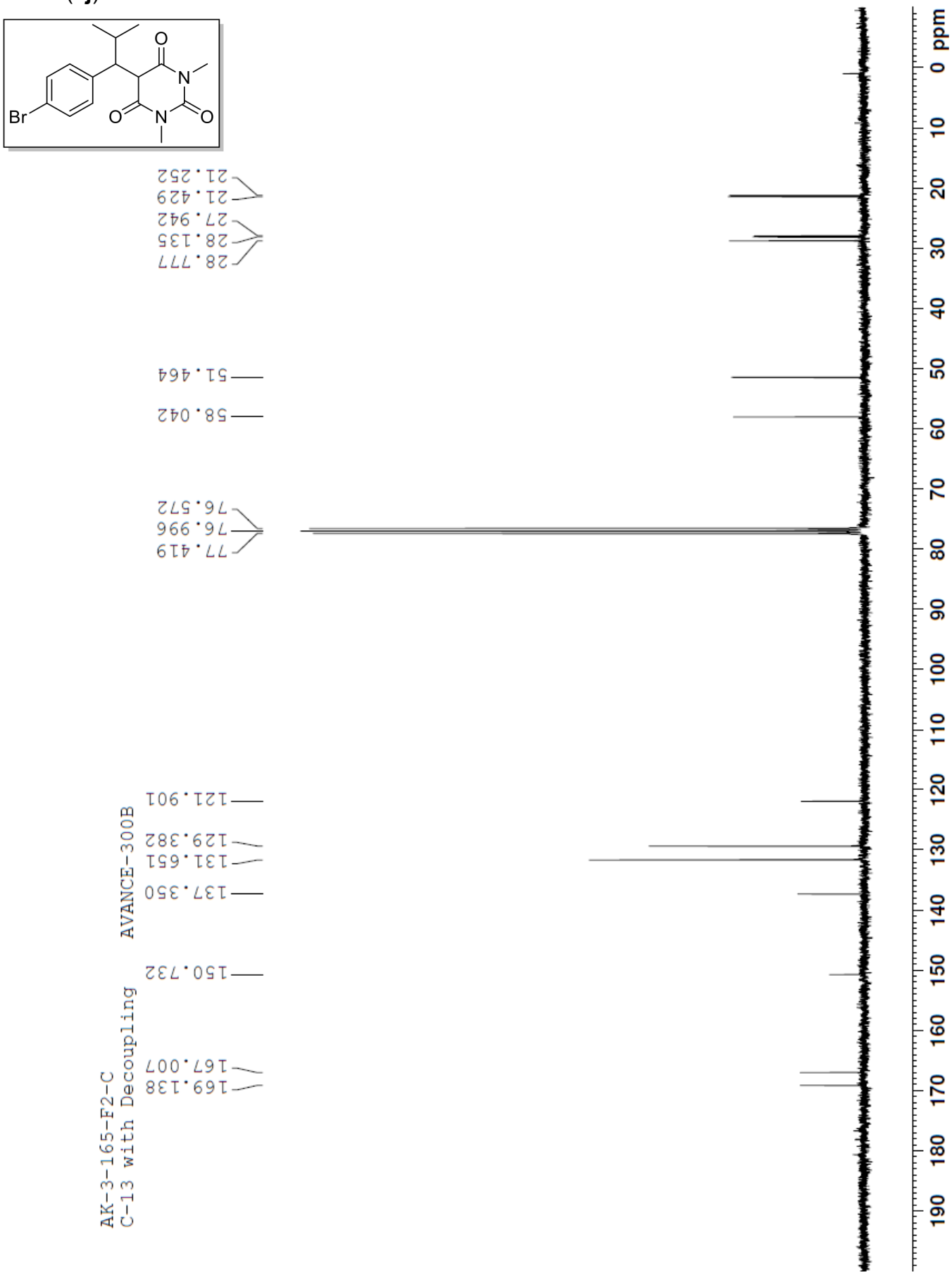
^{13}C NMR spectra of 1,3-dimethyl-5-(2-methyl-1-(4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl)propyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8i**)



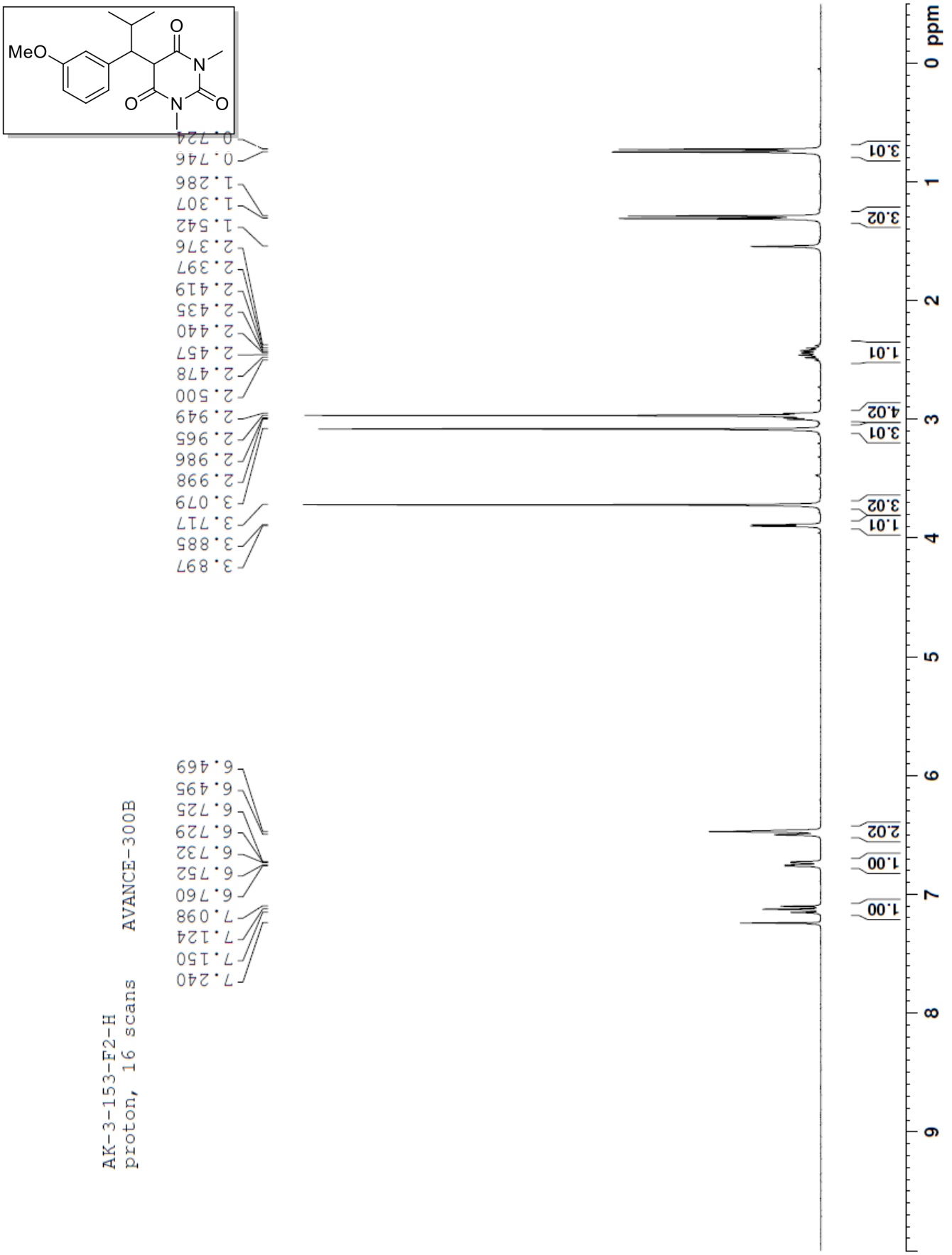
^{1}H NMR spectra of 5-(1-(4-bromophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8j**)



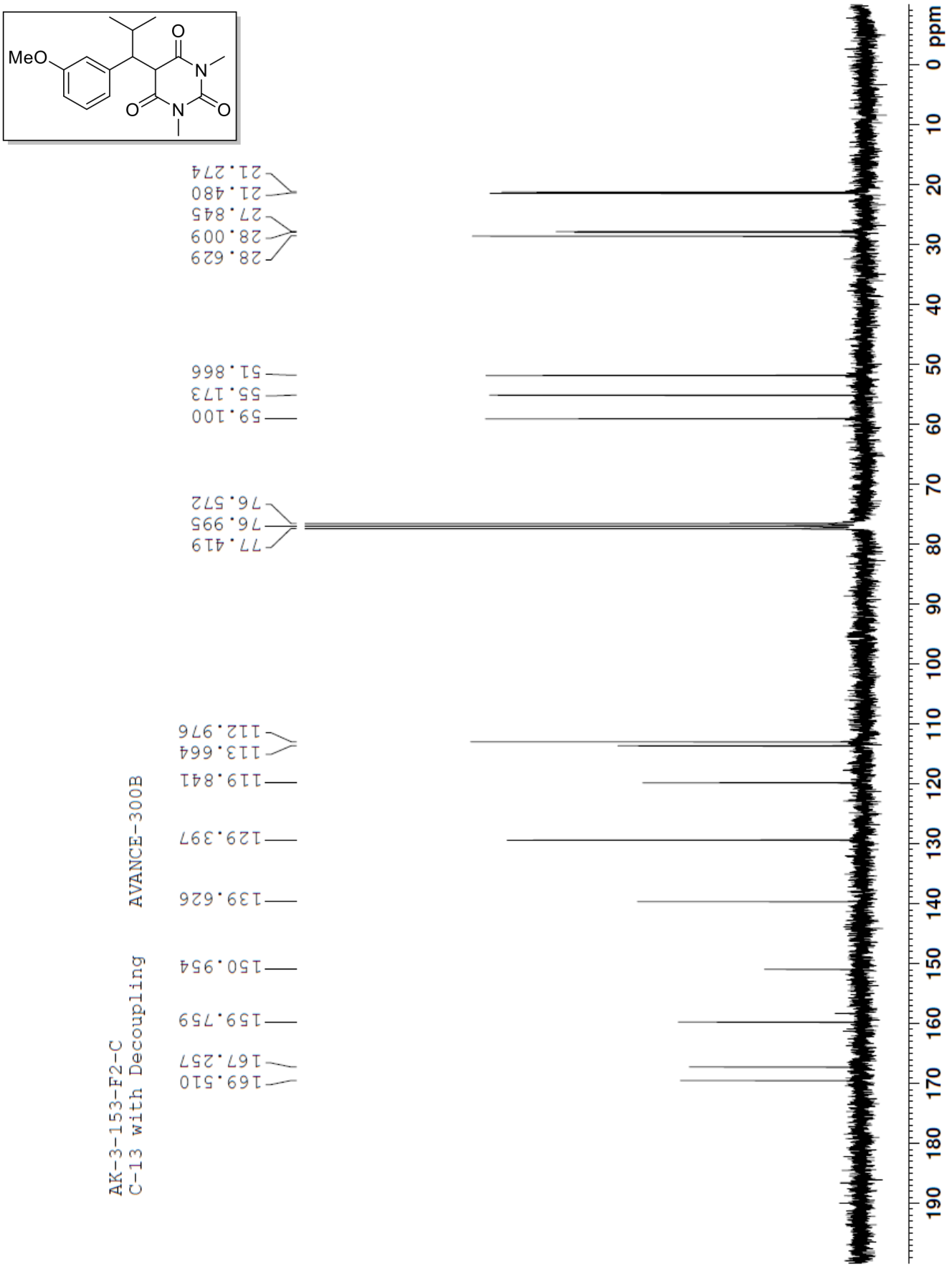
^{13}C NMR spectra of 5-(1-(4-bromophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8j**)



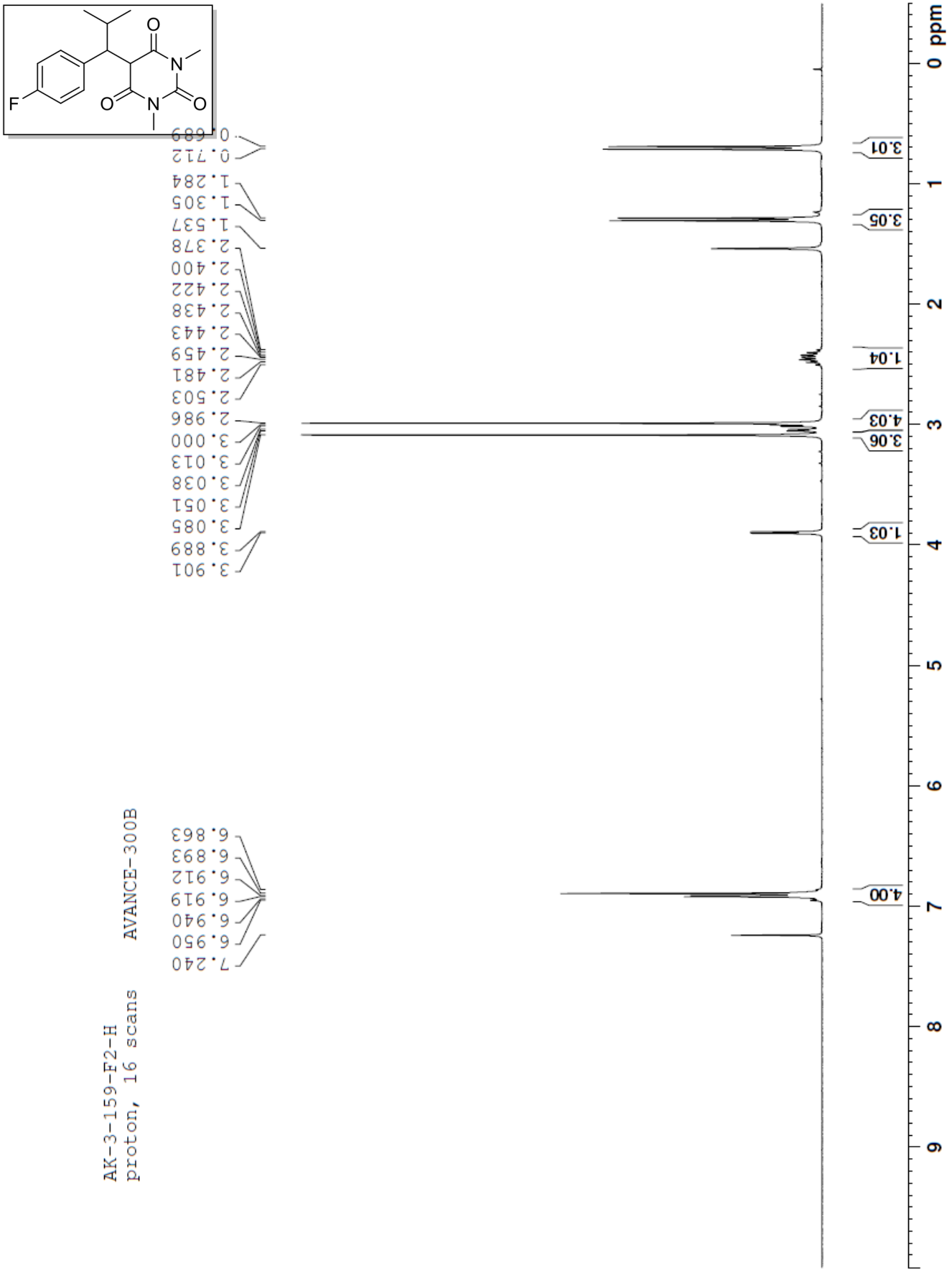
^{1}H NMR spectra of 5-(1-(3-methoxyphenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8k**)



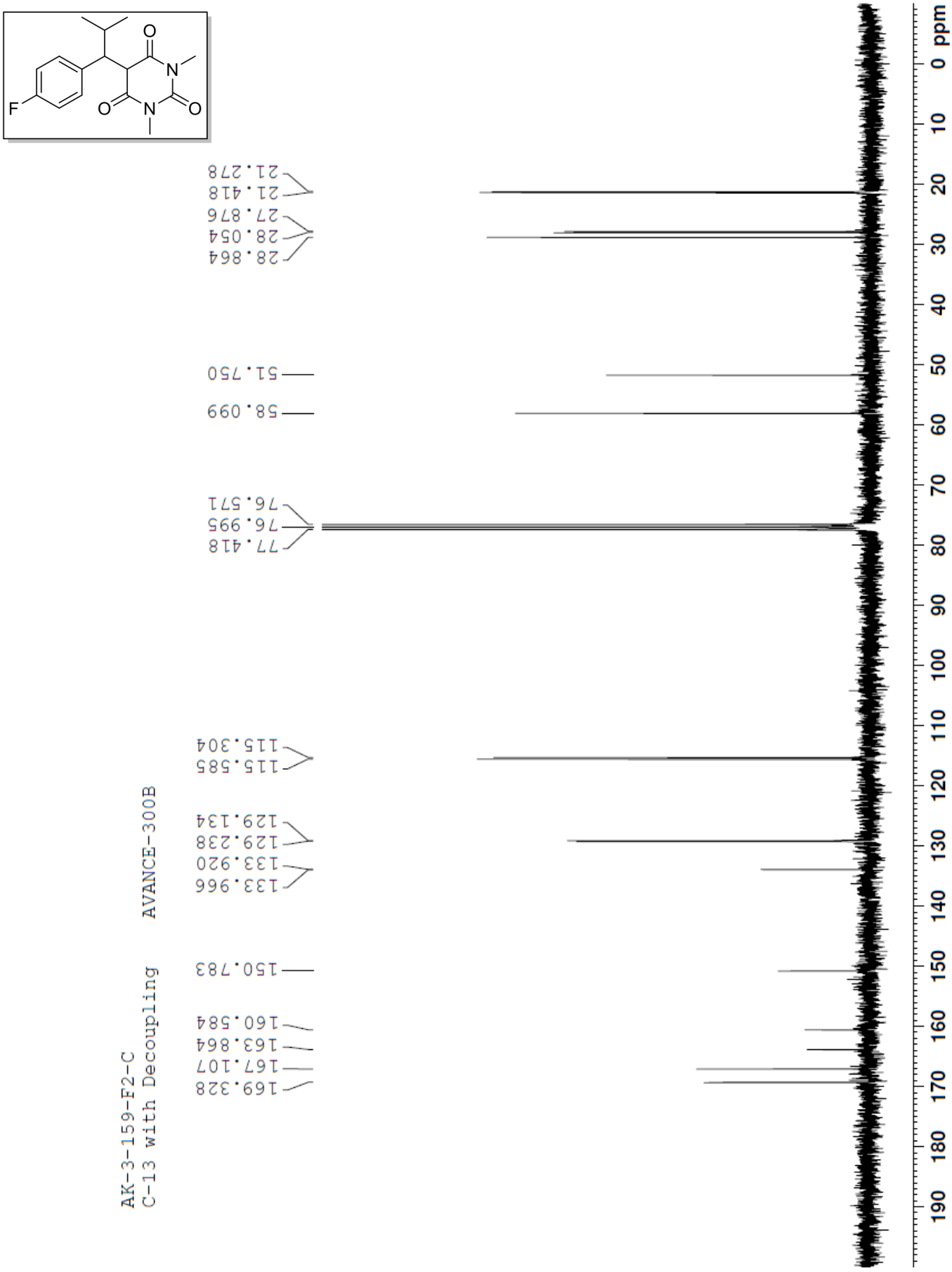
^{13}C NMR spectra of 5-(1-(3-methoxyphenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8k**)



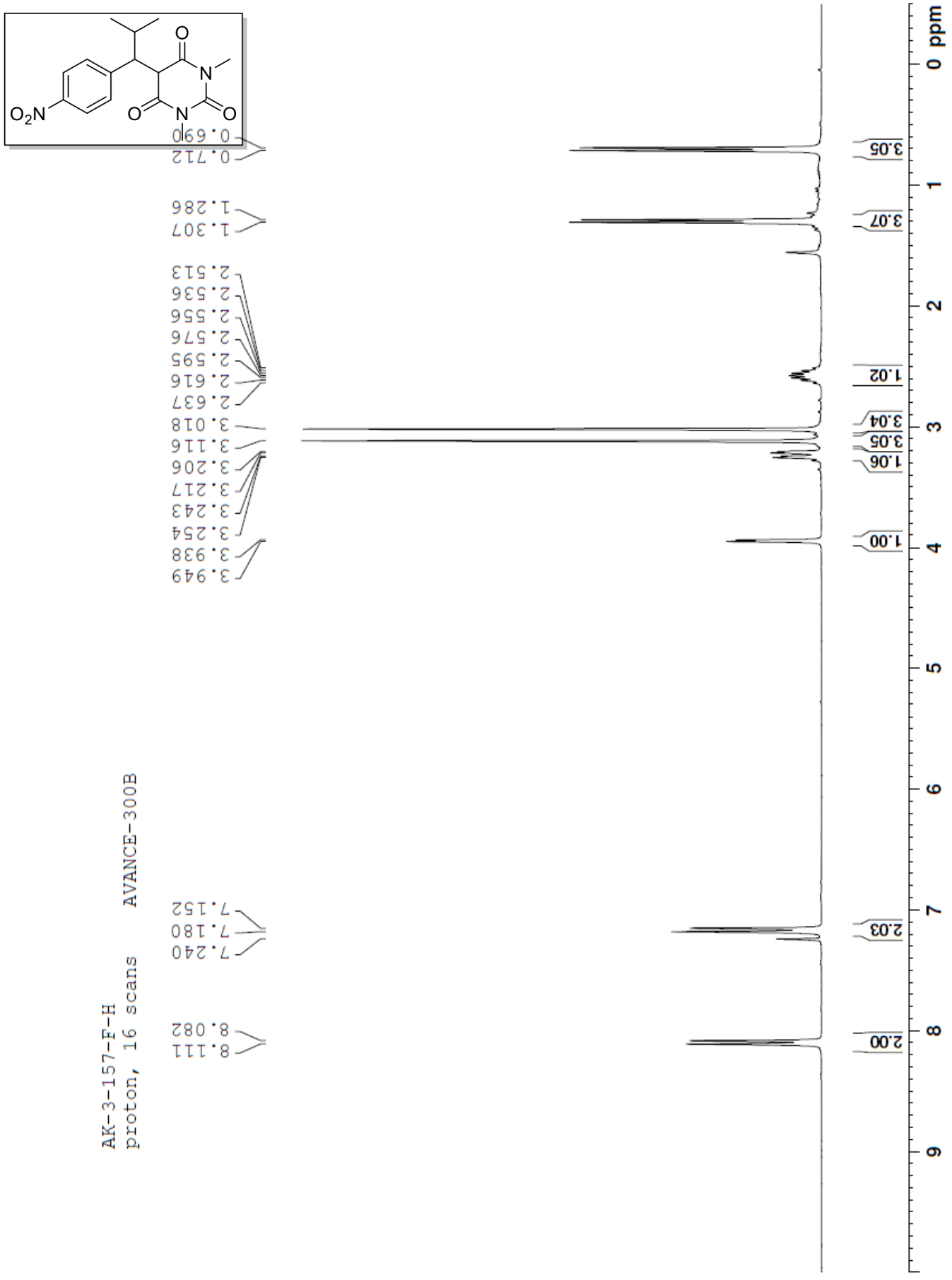
^{1}H NMR spectra of 5-(1-(4-fluorophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8l**)



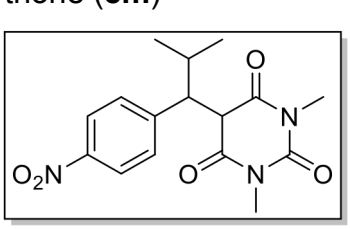
^{13}C NMR spectra of 5-(1-(4-fluorophenyl)-2-methylpropyl)-1,3-dimethylpyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8l**)



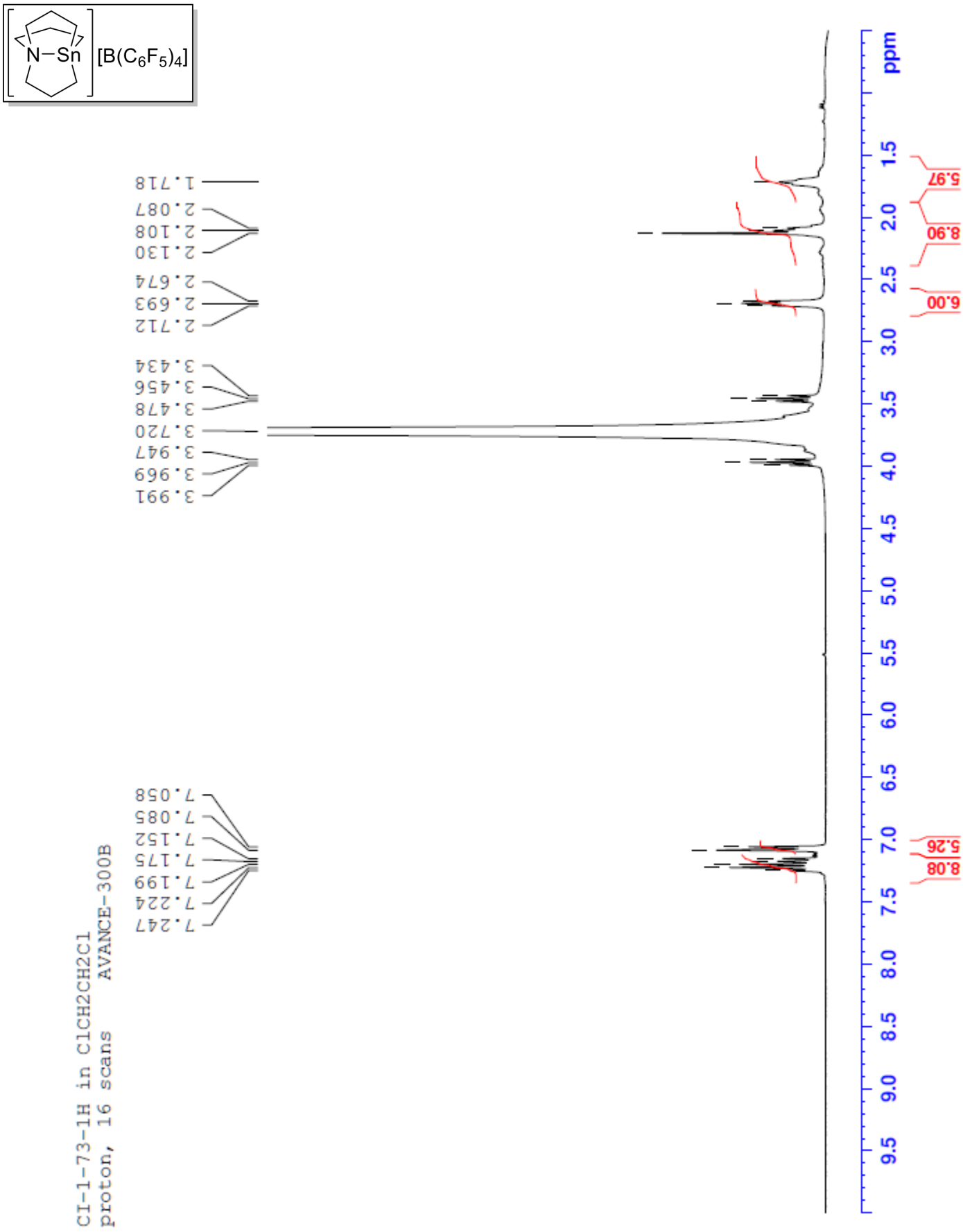
^{1}H NMR spectra of 1,3-dimethyl-5-(2-methyl-1-(4-nitrophenyl)propyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8m**)



^{13}C NMR spectra of 1,3-dimethyl-5-(2-methyl-1-(4-nitrophenyl)propyl)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione (**8m**)



^{1}H NMR spectra of $[N(CH_2CH_2CH_2)_3Sn][B(C_6F_5)_4]$ (**13**)



^{119}Sn NMR spectra of $[N(CH_2CH_2CH_2)_3Sn][B(C_6F_5)_4]$ (**13**)