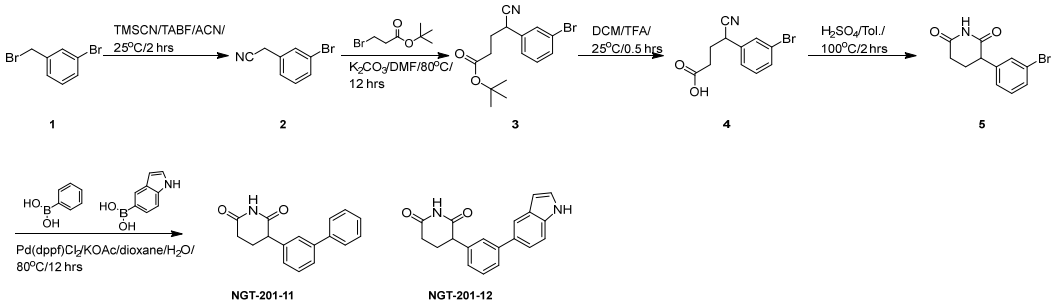
Chemistry Methods:

Compound Synthesis and Characterization Materials: All compound synthesis and characterization were carried out by WuXi AppTec.



2-(3-bromophenyl)acetonitrile (2): To a solution of 1-bromo-3-(bromomethyl)benzene (10 g, 40.01 mmol, 1 *eq*) and TMSCN (4.76 g, 48.01 mmol, 6.01mL, 1.2 eq) in ACN (120 mL) was added TBAF (1 M, 50.01 mL, 1.25 eq), the mixture was stirred at 25°C for 2 hrs. After reaction, the reaction mixture was added sat.aq NaOH (100mL) portion wise until it was basified to pH>10 at 0°C, then reaction mixture was partitioned between EtOAc (100mL) and H_2O (100mL), the water phase was extracted with EtOAc (10mL*3), the combined organic phase was dried over Na_2SO_4, filtered and concentrated. The residue was purified by column chromatography on silica gel (PE:EtOAc = 1:0 to 5:1), compound **2** was (6 g, 30.61 mmol, 76.49% yield) obtained as yellow oil.

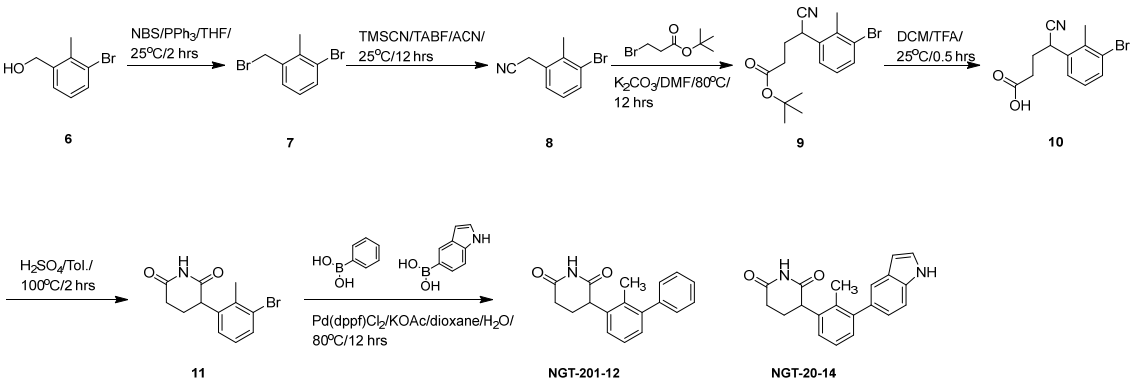
***tert*-butyl 4-(3-bromophenyl)-4-cyanobutanoate (3):** To a solution of tert-butyl 3-bromopropanoate (7.68 g, 36.73 mmol, 6.13 mL, 1.2 eq) in DMF (80 mL) was added K_2CO_3 (8.46 g, 61.21 mmol, 2 eq) and 2-(3-bromophenyl) acetonitrile (6 g, 30.61 mmol, 1 eq). The mixture was stirred at 80°C for 12 hrs. The reaction mixture was added H_2O (100 mL) and then extracted with EtOAc (100 mL * 3). The combined organic layers were dried over Na_2SO_4, filtered and concentrated under reduced pressure. The residue was purified by column chromatography on silica gel (PE:EtOAc = 1:0 to 5:1). tert-butyl 4-(3-bromophenyl)-4-cyanobutanoate (5 g, 15.42 mmol, 50.39% yield) was obtained as yellow oil which was confirmed by H NMR. ^{1}H NMR (400 MHz, CD3OD) δ 7.70 - 7.65 (m, 1H), 7.51 - 7.46 (m, 1H), 7.39 (d, *J* = 7.2 Hz, 1H), 4.22 - 4.11 (m, 1H), 2.23 - 2.09 (m, 2H), 2.07 - 2.01 (m, 2H), 1.50 - 1.47 (m, 9H).

4-(3-bromophenyl)-4-cyano-butanoic acid (4): A solution of tert-butyl 4-(3-bromophenyl)-4-cyano-butanoate (5 g, 15.42 mmol, 1 *eq*) in DCM (60 mL) and TFA (20 mL) was stirred at 25°C for 0.5 hrs. The reaction mixture was concentrated under reduced pressure to give product (3g) which was used in the next step without purification.

3-(3-bromophenyl)piperidine-2,6-dione (5): To a solution of 4-(3-bromophenyl)-4-cyano-butanoic acid (3 g, 11.19 mmol, 1 eq) in toluene (50 mL) was added H_2SO_4 (1.32 g, 13.43 mmol, 715.73 µL, 1.2 eq), the mixture was stirred at 100°C for 2 hrs. The reaction mixture was concentrated under reduced pressure to give the residue. The residue was purified by column chromatography on silica gel (Commercial hexanes: Ethyl acetate= 1:0 to 1:1). 3-(3-bromophenyl)piperidine-2,6-dione (800 mg, 2.98 mmol, 26.67% yield) was obtained as yellow solid.

3-(3-phenylphenyl)piperidine-2,6-dione (NGT-201-11): To a solution of 3-(3-bromophenyl)piperidine-2,6-dione (100 mg, 372.99 µmol, 1 eq) and phenylboronic acid (54.57 mg, 447.58 µmol, 1.2 eq) in dioxane (2 mL) and H_2O (0.2 mL) was added Pd(dppf)Cl_2 (27.29 mg, 37.30 µmol, 0.1eq) and KOAc (73.21 mg, 745.97 µmol, 2 eq), the mixture was stirred at 80°C for 12 hrs under N_2. The reaction mixture was filtered and the filtrate was concentrated under reduced pressure to give a residue. The residue was purified by *prep*-HPLC (column: Phenomenex luna C18 100*40mm*5 um; mobile phase: [H_2O (0.2% FA)-ACN]; gradient: 30%-60% B over 8.0 min). 3-(3-phenylphenyl)piperidine-2,6-dione (54.7 mg, 206.18 µmol, 55.28% yield, 100% purity) was obtained as white solid which was confirmed by H NMR and QC-LCMS(NGT-20-71_LCMS). 1H NMR (400 MHz, CD3OD) δ = 7.66 - 7.61 (m, 2H), 7.59 - 7.50 (m, 2H), 7.48 - 7.42 (m, 3H), 7.39 - 7.32 (m, 1H), 7.26 (d, *J* = 7.6 Hz, 1H), 3.97 (dd, *J* = 10.8, 5.2 Hz, 1H), 2.83 - 2.62 (m, 2H), 2.40 - 2.21 (m, 2H) [M+H] = 266.1.

3-[3-(1H-indol-5-yl)phenyl]piperidine-2,6-dione (NGT-201-12): To a solution of 3-(3-bromophenyl)piperidine-2,6-dione (100 mg, 372.99 µmol, 1 *eq*) and 1H-indol-5-ylboronic acid (72.05 mg, 447.58 µmol, 1.2 *eq*) in dioxane (2 mL) and H_2O (0.2 mL) was added Pd(dppf)Cl_2 (27.29 mg, 37.30 µmol,0.1 *eq*) and KOAc (73.21 mg, 745.97 µmol, 2 *eq*), the mixture was stirred at 80°C for 12 hrs under N_2. The reaction mixture was filtered and the filtrate was concentrated under reduced pressure to give a residue. The residue was purified by *prep*-TLC (Commercial hexanes: Ethyl acetate=1:1). The residue was purified by *prep*-HPLC (column: Phenomenex luna C18 100*40mm*5 um; mobile phase: [H2O(0.2% FA)-ACN]; gradient:25%-55% B over 8.0 min). 3-[3-(1H-indol-5-yl)phenyl]piperidine-2,6-dione (31 mg, 88.48 µmol, 23.72% yield, 100% purity, FA)was obtained as white solid which was confirmed by H NMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.80 (s, 1H), 7.61 - 7.52 (m, 2H), 7.48 - 7.36 (m, 3H), 7.27 (d, *J* = 3.2 Hz, 1H), 7.18 (d, *J* = 7.6 Hz, 1H), 6.55 - 6.47 (m, 1H), 3.97 (dd, *J* = 10.4, 5.6 Hz, 1H), 2.81 - 2.62 (m, 2H), 2.41 - 2.22 (m, 2H). [M+H] = 305.1.



1-bromo-3-(bromomethyl)-2-methyl-benzene (7): To a solution of (3-bromo-2-methyl-phenyl)methanol (10 g, 49.74 mmol, 1 *eq*) in THF (100 mL) was added NBS (10.62 g, 59.68 mmol, 1.2 *eq*) and PPh_3 (19.57 g, 74.60 mmol, 1.5 *eq*) .The mixture was stirred at 25 °C for 2hr. The reaction mixture was concentrated under reduced pressure to give a residue. The residue was purified by column chromatography on silica gel (Commercial hexanes: Ethyl acetate = 1:0 to 20:1). 1-bromo-3-(bromomethyl)-2-methyl-benzene (10 g, 37.88 mmol, 76.17% yield) was obtained as yellow oil which was confirmed by H NMR. 1H NMR (400 MHz, CDCl3) δ = 7.53 (d, *J* = 8.0 Hz, 1H), 7.26 (d, *J* = 5.6 Hz, 1H), 7.06 - 7.00 (m,

1H), 4.53 (s, 2H), 2.50 (s, 3H).

2-(3-bromo-2-methyl-phenyl) acetonitrile (8): To a solution of 1-bromo-3-(bromomethyl)-2-methyl-benzene (10 g, 37.88 mmol, 1 *eq*) in ACN (200 mL) was added TBAF (1 M, 47.36 mL, 1.25 *eq*) and TMSCN (4.51 g, 45.46 mmol, 5.69 mL, 1.2 *eq*) .The mixture was stirred at 25 °C for 12hr. To the reaction mixture was added NaOH until pH>10 at 0°C, then reaction mixture was partitioned between EtOAc (200mL)and H_2O (200mL), the water phase was extracted with EtOAc (200mL*3), the combined organic phase was dried over Na_2SO_4, filtered and concentrated. The aqueous phase was quenched by addition saturated aqueous NaClO solution (100 mL). The residue was purified by column chromatography on silica gel (Commercial hexanes: Ethyl acetate = 1:0 to 5:1). 2-(3-bromo-2-methyl-phenyl) acetonitrile (5 g, 23.80 mmol, 62.83% yield) was obtained as yellow oil which was confirmed by H NMR. ^{1}H NMR (400 MHz, CDCl3) δ = 7.60 (d, *J* = 8.0 Hz, 1H), 7.36 (d, *J* = 7.6 Hz, 1H), 7.12 (t, *J* = 8.0 Hz, 1H), 3.76 (s, 2H), 2.47 (s, 3H).

***tert*-butyl 4-(3-bromo-2-methyl-phenyl)-4-cyano-butanoate (9)**: To a solution of 2-(3-bromo-2-methyl-phenyl) acetonitrile (5 g, 23.80 mmol, 1 *eq*) in DMF (50 mL) was added K_2CO_3 (6.58 g, 47.60 mmol, 2 *eq*) and *tert*-butyl 3-bromopropanoate (5.47 g, 26.18 mmol, 4.37 mL, 1.1 *eq*) .The mixture was stirred at 80 °C for 12hr. The reaction mixture was added H_2O (100 mL) and then extracted with EtOAc (100 mL * 3). The combined organic layers were dried over Na_2SO_4, filtered and concentrated under reduced pressure to give a residue. The residue was purified by column chromatography on silica gel (PE:EtOAc = 1:0 to 5:1). *tert*-butyl 4-(3-bromo-2-methyl-phenyl)-4-cyano-butanoate (3.8 g, 11.23 mmol, 47.20% yield) was obtained as yellow oil which was confirmed by H NMR. 1H NMR (400 MHz,CD3OD) δ = 7.61 (d, *J* = 8.0 Hz, 1H), 7.47 (d, *J* = 7.6 Hz, 1H), 7.24 - 7.17 (m, 1H), 4.46 (dd, *J* = 9.2, 6.0 Hz, 1H), 2.50 - 2.42 (m, 2H), 2.19 - 2.01 (m, 2H), 1.50 - 1.46 (m, 9H).

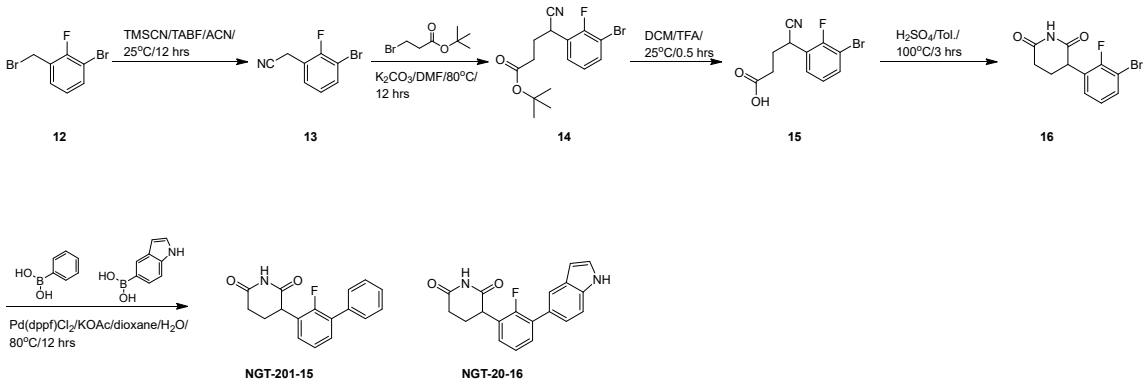
4-(3-bromo-2-methyl-phenyl)-4-cyano-butanoic acid (10): A solution of *tert*-butyl 4-(3-bromo-2-methyl-phenyl)-4-cyano-butanoate (3.8 g, 11.23 mmol, 1 *eq*) in DCM (60mL) and TFA (20 mL) was stirred at 25°C for 0.5 hrs. The reaction mixture was concentrated under reduced pressure to give a residue which was used in the next step without purification. 4-(3-bromo-2-methyl-phenyl)-4-cyano-butanoic acid (3 g, crude) was obtained as yellow oil.

3-(3-bromo-2-methyl-phenyl)piperidine-2,6-dione (11): To a solution of4-(3-bromo-2-methyl-phenyl)-4-cyano-butanoic acid (3 g, 10.63 mmol, 1 *eq*) in Tol. (50 mL) was added H_2SO_4 (1.25 g, 12.76 mmol, 680.15 µL, 1.2 *eq*), the mixture was stirred at 100°C for 2 hrs. The reaction mixture was concentrated under reduced pressure to give a residue. The residue was purified by column chromatography on silica gel (Commercial hexanes: Ethyl acetate= 1:0 to 5:1). 3-(3-bromo-2-methyl-phenyl)piperidine-2,6-dione (1.2 g, 4.25 mmol, 40.00% yield) was obtained as yellow solid.

3-(2-methyl-3-phenyl-phenyl)piperidine-2,6-dione (NGT-201-13): To a solution of 3-(3-bromo-2-methyl-phenyl)piperidine-2,6-dione (100 mg, 354.44 µmol, 1 *eq*) and phenylboronic acid (51.86 mg, 425.33 µmol, 1.2 *eq*) in dioxane (2 mL) and H_2O (0.2 mL) was added $Pd(dppf)Cl_2$ (25.93 mg, 35.44 µmol, 0.1 *eq*) and KOAc (69.57 mg, 708.89 µmol, 2 *eq*), the mixture was stirred at 80°C for 12 hrs under N_2. The reaction mixture was filtered and the filtrate was concentrated under reduced pressure to give a residue. The residue was purified by *prep*-TLC (Commercial hexanes: Ethyl acetate=1:1). The residue

was purified by *prep*-HPLC (column: Phenomenex luna C18 100*40 mm*5 um; mobile phase: [H_2O (0.2% FA)-ACN]; gradient:30%-60% B over 8.0 min). 3-(2-methyl-3-phenyl-phenyl)piperidine-2,6-dione (5.2 mg, 18.62 μmol, 5.25% yield, 100% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.01 - 7.87 (m, 1H), 7.38 - 7.30 (m, 2H), 7.28 - 7.20 (m, 2H), 7.20 - 7.10 (m, 3H), 7.07 - 6.97 (m, 1H), 4.00 (dd, *J* = 9.2, 4.4 Hz, 1H), 2.81 - 2.69 (m, 1H), 2.67 - 2.47 (m, 1H), 2.29 - 2.08 (m, 5H). [M+H] = 280.1.

3-[3-(1H-indol-5-yl)-2-methyl-phenyl]piperidine-2,6-dione (NGT-201-14): To a solution of 3-(3-bromo-2-methyl-phenyl)piperidine-2,6-dione (100 mg, 354.44 μmol, 1 *eq*) and 1H-indol-5-ylboronic acid (68.46 mg, 425.33 μmol, 1.2 *eq*) in dioxane (2 mL) and H_2O (0.2 mL) was added Pd(dppf)Cl_2 (25.93 mg, 35.44 μmol, 0.1 *eq*) and KOAc (69.57 mg, 708.89 μmol, 2 *eq*), the mixture was stirred at 80°C for 12 hrs under N_2. The reaction mixture was filtered and the filtrate was concentrated under reduced pressure to give a residue. The residue was purified by *prep*-TLC (Commercial hexanes: Ethyl acetate=1:1). The residue was purified by *prep*-HPLC (column: Phenomenex luna C18 100*40 mm*5 um; mobile phase: [H_2O (0.2% FA)-ACN]; gradient:30%-60% B over 8.0 min). 3-[3-(1H-indol-5-yl)-2-methyl-phenyl]piperidine-2,6-dione (46.9 mg, 126.26 μmol, 35.62% yield, 98.1% purity, FA) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.49 - 7.39 (m, 2H), 7.28 (d, *J* = 3.2 Hz, 1H), 7.25 - 7.17 (m, 2H), 7.12 (dd, *J* = 6.4, 2.4 Hz, 1H), 7.03 (dd, *J* = 8.4, 1.2 Hz, 1H), 6.47 (d, *J* = 2.8 Hz, 1H), 4.20 (dd, *J* = 10.8, 5.6 Hz, 1H), 2.85 - 2.65 (m, 2H), 2.36 - 2.26 (m, 1H), 2.24 (s, 3H). [M+H] = 319.1.



2-(3-bromo-2-fluoro-phenyl)acetonitrile (13): To a solution of 1-bromo-3-(bromomethyl)-2-fluoro-benzene (15 g, 55.99 mmol, 1 *eq*) and TMSCN (6.67 g, 67.18 mmol, 8.40 mL, 1.2 *eq*) in ACN (200 mL) was added TBAF (1 M, 69.98 mL, 1.25 *eq*), the mixture was stirred at 25°C for 2 hrs. To the reaction mixture was added sat.aq NaOH (300 mL) portion wise until it was basified to pH>10 at 0°C, then reaction mixture was partitioned between EtOAc (300mL) and H_2O (200mL), the water phase was extracted with EtOAc (300mL*3), the combined organic phase was dried over Na_2SO_4, filtered and concentrated. The aqueous phase was quenched by addition saturated aqueous NaClO solution (500 mL). 2-(3-bromo-2-fluoro-phenyl)acetonitrile (11 g, 46.25 mmol, 82.62% yield, 90% purity) was obtained as yellow oil.

***tert*-butyl 4-(3-bromo-2-fluoro-phenyl)-4-cyano-butanoate (14)**: To a solution of 2-(3-bromo-2-fluoro-phenyl)acetonitrile (11 g, 51.39 mmol, 1 *eq*) in DMF (120 mL) was added K_2CO_3 (14.21 g, 102.79 mmol,

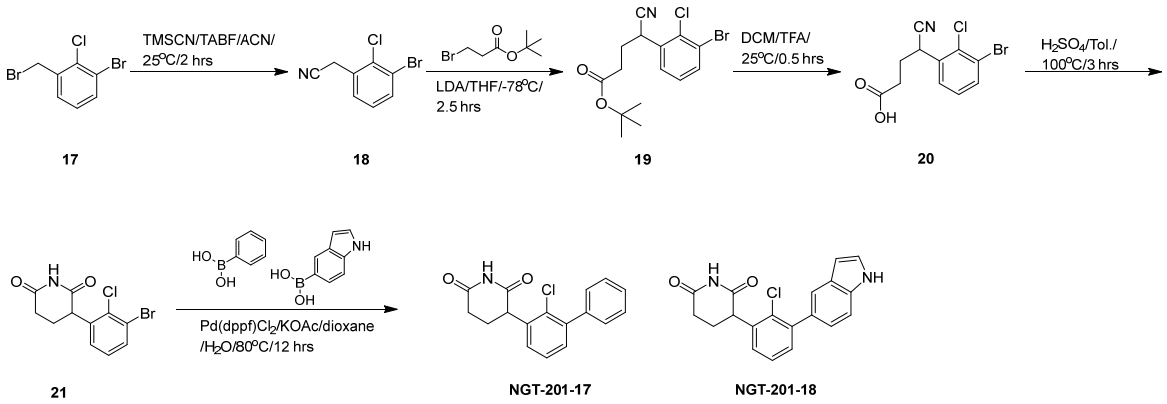
2 eq) and *tert*-butyl 3-bromopropanoate (12.89 g, 61.67 mmol, 10.29 mL, 1.2 *eq*) .The mixture was stirred at 80 °C for 12hr. The reaction mixture was added H_2O (100 mL) and then extracted with EtOAc (100 mL * 3). The combined organic layers were dried over Na_2SO_4, filtered and concentrated under reduced pressure to give a residue. The residue was purified by column chromatography on silica gel (PE:EtOAc = 1:0 to 5:1). *tert*-butyl 4-(3-bromo-2-fluoro-phenyl)-4-cyano-butanoate (14 g, 40.91 mmol, 79.60% yield) was obtained as yellow oil.

4-(3-bromo-2-fluoro-phenyl)-4-cyano-butanoic acid (15): A solution of tert-butyl 4-(3-bromo-2-fluoro-phenyl)-4-cyano-butanoate (4 g, 11.69 mmol, 1 *eq*) in DCM (60 mL) and TFA (20 mL) was stirred at 25°C for 0.5 hrs.. The reaction mixture was concentrated under reduced pressure to give a residue which was used in the next step without purification. 4-(3-bromo-2-fluoro-phenyl)-4-cyano-butanoic acid (2 g, crude) was obtained as yellow oil.

3-(3-bromo-2-fluoro-phenyl)piperidine-2,6-dione (16): To a solution of4-(3-bromo-2-methyl-phenyl)-of4-(3-bromo-2-fluoro-phenyl)-4-cyano-butanoic acid (2 g, 6.99 mmol, 1 *eq*) in Tol. (30 mL) was added H_2SO_4 (822.76 mg, 8.39 mmol, 447.15 μL, 1.2 *eq*), the mixture was stirred at 100°C for 3 hrs. The reaction mixture was concentrated under reduced pressure to give a residue. The residue was purified by column chromatography on silica gel (Commercial hexanes: Ethyl acetate= 1:0 to 5:1). 3-(3-bromo-2-fluoro-phenyl)piperidine-2,6-dione (250 mg, 873.83 μmol, 12.50% yield) was obtained as yellow solid which was confirmed by HNMR. ^{1}H NMR (400 MHz, CD3OD) δ = 7.65 - 7.54 (m, 1H), 7.38 - 7.29 (m, 1H), 7.18 - 7.09 (m, 1H), 4.13 (dd, *J* = 12.4, 5.2 Hz, 1H), 2.88 - 2.61 (m, 2H), 2.46 - 2.10 (m, 2H).

3-(2-fluoro-3-phenyl-phenyl)piperidine-2,6-dione (NGT-201-15): To a solution of 3-(3-bromo-2-fluoro-phenyl)piperidine-2,6-dione (100 mg, 349.53 μmol, 1 eq) and phenylboronic acid (51.14 mg, 419.44 μmol, 1.2 *eq*) in dioxane (2 mL) and H_2O (0.2 mL) was added $Pd(dppf)Cl_2$ (25.58 mg, 34.95 μmol, 0.1 *eq*) and KOAc (68.61 mg, 699.06 μmol, 2 *eq*), the mixture was stirred at 80°C for 12 hrs under N_2. The reaction mixture was filtered and the filtrate was concentrated under reduced pressure to give a residue. The residue was purified by prep-HPLC (column: Phenomenex luna C18 100*40mm*5 um;mobile phase: [H_2O (0.2%FA)-ACN]; gradient: 30%-65% B over 8.0 min). 3-(2-fluoro-3-phenyl-phenyl)piperidine-2,6-dione (60.5 mg, 206.83 μmol, 59.17% yield, 96.848% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.61 - 7.21 (m, 8H), 4.21 - 4.02 (m, 1H), 2.90 - 2.67 (m, 2H), 2.45 - 2.16 (m, 2H). [M+H] = 284.1.

3-[2-fluoro-3-(1H-indol-5-yl)phenyl]piperidine-2,6-dione (NGT-201-16): To a solution of 3-(3-bromo-2-fluoro-phenyl)piperidine-2,6-dione (100 mg, 349.53 μmol, 1 eq) and 1H-indol-5-ylboronic acid (68.46 mg, 425.33 μmol, 1.2 *eq*) in dioxane (2 mL) and H_2O (0.2 mL) was added $Pd(dppf)Cl_2$ (25.93 mg, 35.44 μmol, 0.1 *eq*) and KOAc (69.57 mg, 708.89 μmol, 2 *eq*), the mixture was stirred at 80°C for 12 hrs under N_2. The reaction mixture was filtered and the filtrate was concentrated under reduced pressure to give a residue. The residue was purified by prep-HPLC (column: Phenomenex luna C18 100*40mm*5 um;mobile phase: [H_2O (0.2%FA)-ACN]; gradient: 25%-65% B over 8.0 min). 3-[2-fluoro-3-(1H-indol-5-yl)phenyl]piperidine-2,6-dione (64.2 mg, 166.12 μmol, 47.53% yield, 95.314% purity, FA) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.77 - 7.67 (m, 1H), 7.52 - 7.41 (m, 2H), 7.34 - 7.18 (m, 4H), 6.57 - 6.44 (m, 1H), 4.12 (dd, *J* = 12.0, 5.2 Hz, 1H), 2.87 - 2.65 (m, 2H), 2.44 - 2.31 (m, 1H), 2.29 - 2.15 (m, 1H). [M+H] = 323.1.



2-(3-bromo-2-chloro-phenyl)acetonitrile (18): To a solution of 1-bromo-3-(bromomethyl)-2-chloro-benzene (1 g, 3.52 mmol, 1 *eq*) and TMSCN (418.63 mg, 4.22 mmol, 527.90 μL, 1.2 *eq*) in ACN (30 mL) was added TBAF (1 M, 4.40 mL, 1.25 *eq*), the mixture was stirred at 25°C for 2 hrs. To the reaction mixture was added sat.aq NaOH (300 mL) portion wise until it was basified to pH>10 at 0°C, then reaction mixture was partitioned between EtOAc (50mL) and H_2O (50mL), the water phase was extracted with EtOAc (50mL*3), the combined organic phase was dried over Na_2SO_4, filtered and concentrated. The aqueous phase was quenched by addition saturated aqueous NaClO solution (500 mL). 2-(3-bromo-2-chloro-phenyl)acetonitrile (550 mg, 2.39 mmol, 67.86% yield) was obtained as white solid which was confirmed by HNMR. ^{1}H NMR (400 MHz, CDCl3) δ = 7.62 - 7.54 (m, 1H), 7.42 (td, J = 7.6, 0.8 Hz, 1H), 7.12 (t, *J* = 8.0 Hz, 1H), 3.82 (s, 2H).

***tert*-butyl 4-(3-bromo-2-chloro-phenyl)-4-cyano-butanoate (19)**: To a solution of 2-(3-bromo-2-chloro-phenyl)acetonitrile (400 mg, 1.74 mmol, 1 eq) in THF (20 mL) was added LDA (2 M, 954.49 μL, 1.1 *eq*) at -78 °C, the mixture was stirred at -78 °C for 0.5 hrs under N_2, then tert-butyl 3-bromopropanoate (435.42 mg, 2.08 mmol, 347.50 μL, 1.2 *eq*) was added to the mixture reaction at -78°C, the mixture was stirred at -78°C for 2 hrs under N_2. The reaction mixture was quenched by addition saturated aqueous NH4Cl solution(10 mL) at 0°C under N_2, and then extracted with EtOAc (20 mL * 3). The combined organic layers were dried over Na2SO4, filtered and concentrated under reduced pressure to give a residue. The residue was purified by *prep*-TLC (PE:EtOAc =1:1). tert-butyl 4-(3-bromo-2-chloro-phenyl)-4-cyano-butanoate (120 mg, 334.58 μmol, 19.28% yield) was obtained as yellow solid.

4-(3-bromo-2-chloro-phenyl)-4-cyano-butanoic acid (20): A solution of tert-butyl 4-(3-bromo-2-chloro-phenyl)-4-cyano-butanoate (120 mg, 334.58 μmol, 1 *eq*) in DCM (2 mL) and TFA (0.5 mL) was stirred at 25°C for 0.5 hrs.. The reaction mixture was concentrated under reduced pressure to give a residue which was used in the next step without purification. 4-(3-bromo-2-chloro-phenyl)-4-cyano-butanoic acid (80 mg, crude) was obtained as yellow oil.

3-(3-bromo-2-chloro-phenyl)piperidine-2,6-dione (21): To a solution of 4-(3-bromo-2-chloro-phenyl)-4-cyano-butanoic acid (80 mg, 264.42 μmol, 1 *eq*) in Tol. (30 mL) was added H_2SO_4 (31.12 mg, 317.30 μmol, 16.91 μL, 1.2 *eq*), the mixture was stirred at 100°C for 3 hrs. The reaction mixture was concentrated under reduced pressure to give a residue. The residue was purified by column chromatography on silica gel (Commercial hexanes: Ethyl acetate= 1:0 to 5:1). 3-(3-bromo-2-chloro-

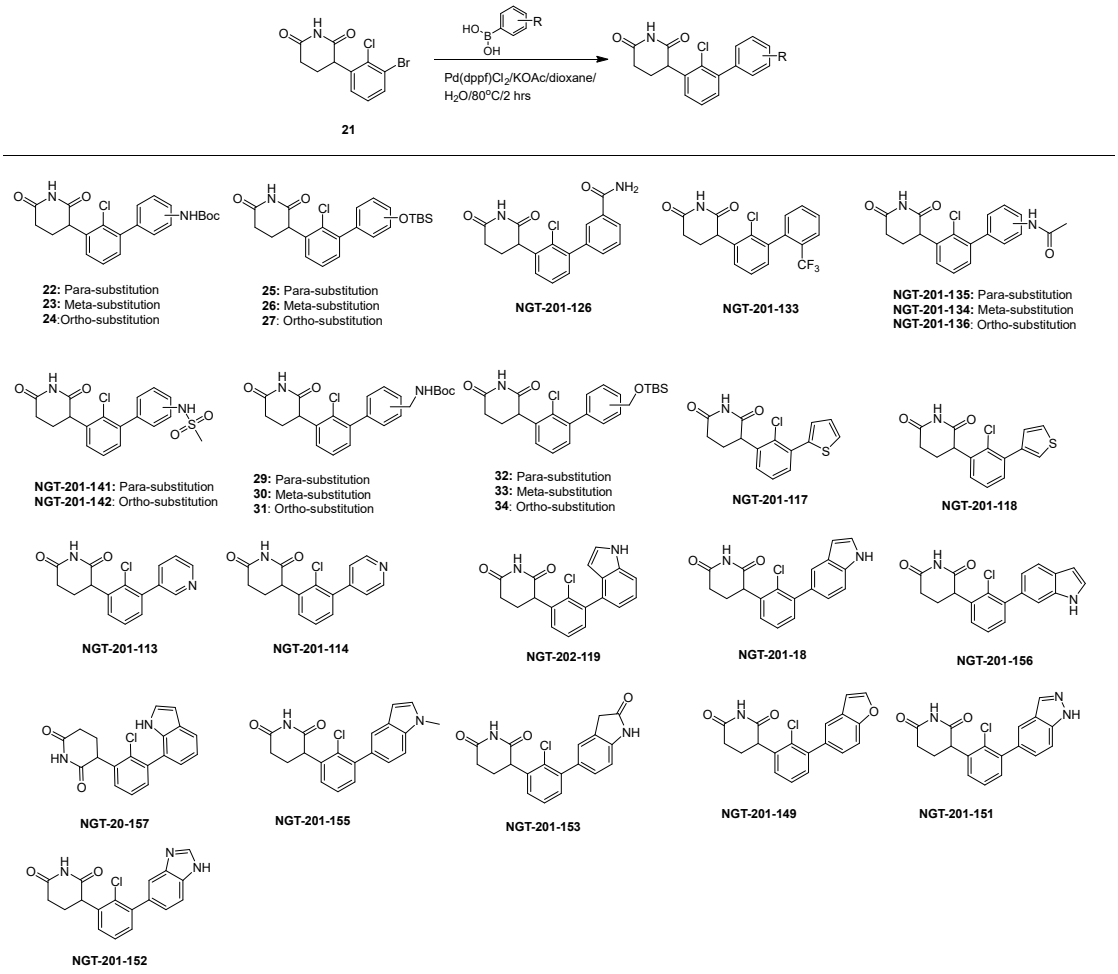
phenyl)piperidine-2,6-dione (9.7 mg, 27.63 μmol, 10.45% yield, 99.3% purity, FA) was obtained as white solid which was confirmed by HNMR. 1H NMR (400 MHz, CD3OD) δ = 7.61 - 7.50 (m, 1H), 7.23 (dd, *J* = 7.6, 1.2 Hz, 1H), 7.18 - 7.07 (m, 1H), 4.26 (dd, *J* = 12.4, 5.6 Hz, 1H), 2.78 - 2.56 (m, 2H), 2.28 (dq, *J* = 12.8, 4.8 Hz, 1H), 2.06 (dtd, *J* = 13.2, 5.3, 3.6 Hz, 1H).

3-(2-chloro-3-phenyl-phenyl)piperidine-2,6-dione (NGT-201-17): To a solution of 3-(3-bromo-2-chloro-phenyl)piperidine-2,6-dione (30 mg, 99.16 μmol, 1 *eq*) in dioxane (1 mL) was added H_2O (0.1 mL) ,phenylboronic acid (18.14 mg, 148.74 μmol, 1.5 *eq*) , $Pd(dppf)Cl_2$ (14.51 mg, 19.83 μmol, 0.2 *eq*) and KOAc (19.46 mg, 198.31 μmol, 2 *eq*) .The mixture was stirred at 80 °C for 12hr under N_2. The reaction mixture was filtered and the filtrate was concentrated under reduced pressure to give a residue. The residue was purified by preparative HPLC ((Phenomenex Luna C18(100 × 30 mm, 5 um); flow rate: 25 mL/min; gradient: 25% – 55% B over 8 min; mobile phase A:0.2% aqueous FA, mobile phase B: acetonitrile). 3-(2-chloro-3-phenyl-phenyl)piperidine-2,6-dione (10.7 mg, 34.02 μmol, 34.31% yield, 95.3% purity) was obtained as white solid which was confirmed by HNMR. ^{1}H NMR (400 MHz, CDCl3) δ = 7.93 (br s, 1H), 7.40 (br s, 2H), 7.26 - 6.93 (m, 6H), 4.19 (br s, 1H), 2.70 - 2.42 (m, 2H), 2.17 (br s, 2H). [M+H] = 300.1.

3-[2-chloro-3-(1H-indol-5-yl)phenyl]piperidine-2,6-dione (NGT-201-18): To a solution of 3-(3-bromo-2-chloro-phenyl)piperidine-2,6-dione (150 mg, 495.78 μmol, 1 *eq*) in dioxane (2 mL) and H_2O (0.2 mL) was added 1H-indol-5-ylboronic acid (103.75 mg, 644.52 μmol, 1.3 *eq*) , $Pd(dppf)Cl_2$. (80.97 mg, 99.16 μmol, 0.2 *eq*) and KOAc (97.31 mg, 991.57 μmol, 2 *eq*) .The mixture was stirred at 80 °C for 12hr under N_2. The reaction mixture was filtered and the filtrate was concentrated under reduced pressure to give a residue. The residue was purified by *prep*-TLC (PE:EtOAc = 1:1). The residue was purified by preparative HPLC (HPLC(ET86991-930-P1B22) (Phenomenex Luna C18(100 × 40 mm, 5 um); flow rate: 50 mL/min; gradient: 30% – 70% B over 8 min; mobile phase A:0.2% aqueous FA, mobile phase B:acetonitrile). 3-[2-chloro-3-(1H-indol-5-yl)phenyl]piperidine-2,6-dione (83.9 mg, 210.40 μmol, 42.44% yield, 96.5% purity, FA) was obtained as a white solid which was confirmed by HNMR. ^{1}H NMR (400 MHz, CDCl3) δ = 8.25 (br s, 1H), 8.02 (br s, 1H), 7.68 (s, 1H), 7.46 (d, *J* = 8.4 Hz, 1H), 7.41 - 7.37 (m, 1H), 7.37 - 7.31 (m, 1H), 7.28 (br s, 1H), 7.26 (br s, 1H), 7.19 (dd, *J* = 7.6, 1.6 Hz, 1H), 6.62 (br s, 1H), 4.37 (dd, *J* = 10.4, 5.6 Hz, 1H), 2.87 - 2.68 (m, 2H), 2.42 - 2.28 (m, 2H). [M+H] = 339.2.

General Pd-Catalyzed Suzuki–Miyaura Cross-Coupling procedure A

To a solution of 3-(3-bromo-2-chloro-phenyl)piperidine-2,6-dione (30 mg, 99.16 μmol, 1 *eq*) and corresponding boronic acid (128.90 μmol, 1.3 *eq*) in dioxane (2 mL) and H_2O (0.2 mL) was added Pd(dppf)Cl2 (14.51 mg, 19.83 μmol, 0.2 *eq*) and KOAc (19.46 mg, 198.31 μmol, 2 *eq*), the mixture was stirred at 80°C for 12 hrs under N_2. The reaction mixture was filtered and the filtrate was concentrated under reduced pressure to give a residue. The residue was purified by *prep*-TLC and *prep*-HPLC.

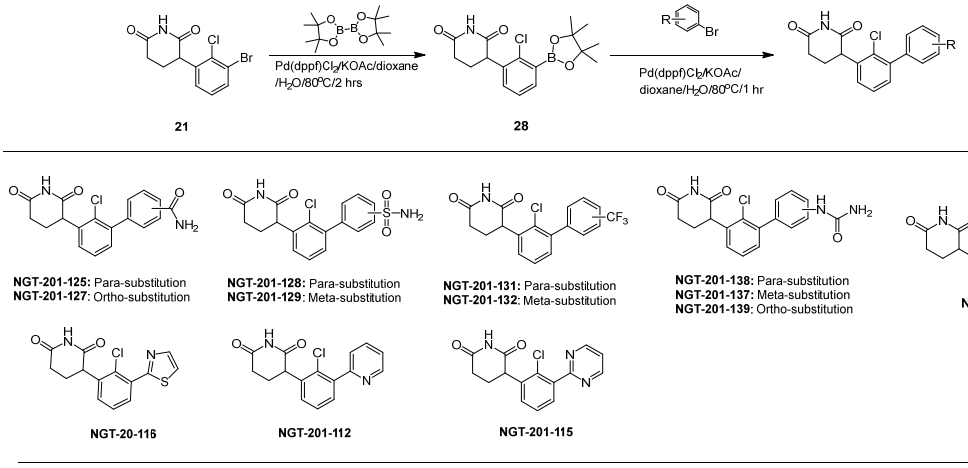


General Pd-Catalyzed Suzuki–Miyaura Cross-Coupling procedure B

3-[2-chloro-3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl]piperidine-2,6-dione (28): To a solution of 3-(3-bromo-2-chloro-phenyl)piperidine-2,6-dione (1.2 g, 3.97 mmol, 1 *eq*) in dioxane (15 mL) was added 4,4,5,5-tetramethyl-2-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1,3,2-dioxaborolane (2.01 g, 7.93 mmol, 2 *eq*), Pd(dppf)Cl_2 (580.43 mg, 793.25 μmol, 0.2 *eq*) and KOAc (778.52 mg, 7.93 mmol, 2 *eq*) .The mixture was stirred at 80 °C for 12hr under N_2. The reaction mixture was filtered and the filtrate was concentrated under reduced pressure to give a residue. The residue was purified by column chromatography on silica gel (Commercial hexanes : Ethyl acetate = 5:1 to 1:1). 3-[2-chloro-3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl]piperidine-2,6-dione (500 mg, 1.43 mmol, 36.06% yield)was obtained as a brown solid.

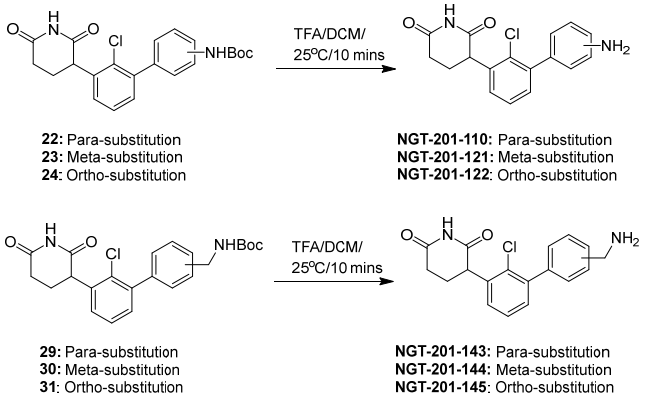
To a solution of 3-[2-chloro-3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl]piperidine-2,6-dione (30 mg, 85.81 μmol, 1 *eq*) in dioxane (1 mL) was added H_2O (0.1 mL), the corresponding aryl bromide (102.97 μmol, 1.2 *eq*), Pd(dppf)Cl_2 (6.28 mg, 8.58 μmol, 0.1 *eq*) and KOAc (16.84 mg, 171.62 μmol, 2 *eq*) .The mixture was stirred at 80 °C for 1hr under N_2. The reaction mixture was filtered and the filtrate was concentrated under reduced pressure to give a residue. The residue was purified by *prep*-

TLC and *prep*-HPLC.



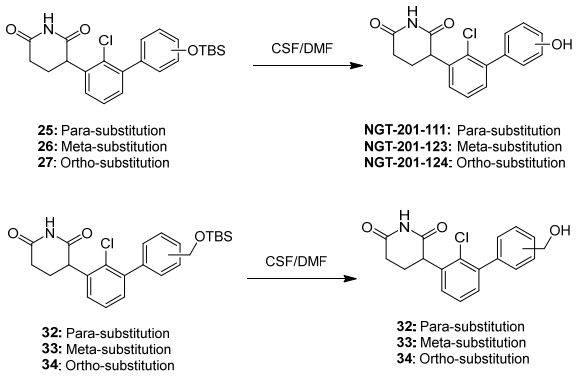
General Procedure for Boc Deprotection:

A solution of SM (30 mg, 72.31 μmol, 1 *eq*) in DCM (1 mL) and TFA (0.3 mL) was stirred at 25°C for 10 mins. The reaction mixture was concentrated under reduced pressure to give a residue. The residue was purified by *prep*-HPLC(column: Phenomenex Luna C18 100*30mm*5um; mobile phase: [H_2O (0.2% FA)-ACN]; gradient:1%-35% B over 8.0 min).



General Procedure for TBS Deprotection:

To a solution of SM (25 mg, 58.14 μmol, 1 *eq*) in DMF (1 mL) was added CsF (44.16 mg, 290.69 μmol, 5 *eq*) .The mixture was stirred at 25 °C for 0.5hr. The reaction mixture was filtered and the filtrate was concentrated under reduced pressure to give a residue. The residue was purified by preparative HPLC ((Phenomenex Luna C18(100 × 30 mm, 5 um); flow rate: 25 mL/min; gradient: 20% – 50% B over 8 min; mobile phase A:0.2% aqueous FA, mobile phase B: acetonitrile).



3-[3-(4-aminophenyl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-110) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A** followed by Boc deprotection under standard conditions. Product (10.2 mg, 26.52 μmol, 36.67% yield, 93.8% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.10 - 8.00 (m, 1H), 7.34 - 7.31 (m, 2H), 7.26 (d, *J* = 8.4 Hz, 2H), 7.17 (dd, *J* = 5.6, 3.6 Hz, 1H), 6.77 (d, *J* = 8.4 Hz, 2H), 4.43 - 4.29 (m, 1H), 2.85 - 2.73 (m, 2H), 2.34 (td, *J* = 10.8, 5.6 Hz, 2H). [M+H] = 315.2.

3-[3-(3-aminophenyl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-121) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A** followed by Boc deprotection under standard conditions. Product (34.6 mg, 89.76 μmol, 74.48% yield, 93.6% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, DMSO-d6) δ = 10.96 (s, 1H), 7.44 - 7.33 (m, 2H), 7.31 - 7.21 (m, 2H), 6.86 - 6.76 (m, 3H), 4.35 (br dd, *J* = 12.0, 4.4 Hz, 1H), 2.86 - 2.74 (m, 1H), 2.60 - 2.53 (m, 1H), 2.42 - 2.28 (m, 1H), 2.11 - 1.97 (m, 1H). [M+H] = 315.2.

3-[3-(2-aminophenyl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-122) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A** followed by Boc deprotection under standard conditions. Product (18.9 mg, 50.29 μmol, 34.77% yield, 96.0% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD_3OD) δ = 7.41 - 7.31 (m, 2H), 7.26 (td, J = 7.2, 2.0 Hz, 1H), 7.17 - 7.08 (m, 1H), 6.99 - 6.90 (m, 1H), 6.81 (d, J = 8.0 Hz, 1H), 6.77 - 6.71 (m, 1H), 4.47 - 4.30 (m, 1H), 2.84 - 2.67 (m, 2H), 2.53 - 2.37 (m, 1H), 2.25 - 2.16 (m, 1H). [M+H] = 315.2.

3-[2-chloro-3-(4-hydroxyphenyl)phenyl]piperidine-2,6-dione (NGT-201-111) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A** followed by TBS deprotection under standard conditions. Product (1.2 mg, 3.44 μmol, 5.92% yield, 90.5% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.05 - 7.97 (m, 1H), 7.33 - 7.28 (m, 4H), 7.18 (dd, *J* = 7.2, 2.0 Hz, 1H), 6.90 (d, *J* =8.4 Hz, 2H), 4.99 (br s, 1H), 4.34 (dd, *J* = 10.4, 5.6 Hz, 1H), 2.85 - 2.65 (m, 2H), 2.40 - 2.27 (m, 2H). [M+H] = 316.0.

3-[2-chloro-3-(3-hydroxyphenyl)phenyl]piperidine-2,6-dione (NGT-201-123) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A** followed by TBS

deprotection under standard conditions. Product (17.2 mg, 54.39 μmol, 29.24% yield, 99.851% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, DMSO-d6) δ = 10.90 (s, 1H), 9.62 - 9.43 (m, 1H), 7.43 - 7.31 (m, 2H), 7.30 - 7.19 (m, 2H), 6.83 - 6.76 (m, 3H), 4.34 (dd, *J* = 12.0, 5.2 Hz, 1H), 2.85 - 2.72 (m, 1H), 2.60 - 2.52 (m, 1H), 2.34 (dq, *J* = 12.8, 4.2 Hz, 1H), 2.11 - 2.00 (m, 1H). [M+H] = 316.1.

3-[2-chloro-3-(2-hydroxyphenyl)phenyl]piperidine-2,6-dione (NGT-201-124) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A** followed by TBS deprotection under standard conditions. Product (15.0 mg, 47.22 μmol, 22.56% yield, 99.4% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.38 - 7.30 (m, 2H), 7.29 - 7.21 (m, 2H), 7.09 (br d, *J* = 7.2 Hz, 1H), 6.92 - 6.88 (m, 2H), 4.40 (br dd, *J* = 11.2, 4.8 Hz, 1H), 2.87 - 2.67 (m, 2H), 2.49 - 2.38 (m, 1H), 2.31 - 2.18 (m, 1H). [M+H] = 316.1.

4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzamide (NGT-201-125) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**. Product (2.4 mg, 6.88 μmol, 8.01% yield, 98.2% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 8.01 - 7.90 (m, 2H), 7.55 - 7.48 (m, 2H), 7.42 - 7.31 (m, 3H), 4.40 (dd, *J* = 12.0, 5.2 Hz, 1H), 2.86 - 2.64 (m, 2H), 2.51 - 2.36 (m, 1H), 2.26 - 2.16 (m, 1H) [M+H] = 343.1.

3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzamide (NGT-201-126) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (5.2 mg, 15.17 μ mol, 9.18% yield, 100% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 8.01 - 7.90 (m, 2H), 7.55 - 7.48 (m, 2H), 7.42 - 7.31 (m, 3H), 4.40 (dd, *J* = 12.0, 5.2 Hz, 1H), 2.86 - 2.64 (m, 2H), 2.51 - 2.36 (m, 1H), 2.26 - 2.16 (m, 1H) [M+H] = 343.1.

2-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzamide (NGT-201-127) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**. Product (2 mg, 5.48 μmol, 6.39% yield, 93.996% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.29 - 8.00 (m, 1H), 7.86 - 7.70 (m, 1H), 7.51 - 7.38 (m, 2H), 7.33 - 7.21 (m, 3H), 5.64 - 5.21 (m, 2H), 4.33 - 4.06 (m, 1H), 2.84 - 2.54 (m, 2H), 2.42 - 2.11 (m, 2H). [M+H] = 343.1.

4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzene sulfonamide (NGT-201-128) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**. Product (3.7 mg, 9.77 μmol, 11.38% yield, 100.0% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz,CD3OD) δ = 7.98 (d, *J* = 8.4 Hz, 2H), 7.64 - 7.54 (m, 2H), 7.45 - 7.37 (m, 2H), 7.37 - 7.32 (m, 1H), 4.40 (dd, *J* = 12.0, 5.4 Hz, 1H), 2.87 - 2.67 (m, 2H), 2.44 (dq, *J* = 12.8, 4.8 Hz, 1H), 2.27 - 2.15 (m, 1H). [M+H] = 379.0.

3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzene sulfonamide (NGT-201-129) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**. Product (3.7 mg, 9.77 μmol, 11.38% yield, 100.0% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz,CD3OD) δ = 7.98 (d, *J* = 8.4 Hz, 2H), 7.64 - 7.54 (m, 2H), 7.45 -

7.37 (m, 2H), 7.37 - 7.32 (m, 1H), 4.40 (dd, *J* = 12.0, 5.4 Hz, 1H), 2.87 - 2.67 (m, 2H), 2.44 (dq, *J* = 12.8, 4.8 Hz, 1H), 2.27 - 2.15 (m, 1H). [M+H] = 379.0.

3-[2-chloro-3-[4-(trifluoromethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-131) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**. Product (3 mg, 8.16 μmol, 9.51% yield, 100.0% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.77 (d, *J* = 8.4 Hz, 2H), 7.62 (d, *J* = 8.0 Hz, 2H), 7.46 - 7.39 (m, 2H), 7.48 - 7.32 (m, 1H), 4.42 (dd, *J* = 12.0, 5.2 Hz, 1H), 2.88 - 2.67 (m, 2H), 2.45 (dq, *J* = 12.8, 4.8 Hz, 1H), 2.27 - 2.16 (m, 1H). [M+H] = 368.0.

3-[2-chloro-3-[3-(trifluoromethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-132) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**. Product (7.4 mg, 19.46 μmol, 22.68% yield, 96.720% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.79 - 7.59 (m, 4H), 7.48 - 7.32 (m, 3H), 4.42 (br dd, *J* = 11.6, 4.8 Hz, 1H), 2.89 - 2.67 (m, 2H), 2.55 - 2.38 (m, 1H), 2.30 - 2.15 (m, 1H). [M+H] = 368.1.

3-[2-chloro-3-[2-(trifluoromethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-133) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (33.7 mg, 91.64 μmol, 55.45% yield, 100.0%) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.79 (d, *J* = 7.6 Hz, 1H), 7.71 - 7.64 (m, 1H), 7.63 - 7.55 (m, 1H), 7.42 - 7.30 (m, 3H), 7.27 - 7.18 (m, 1H), 4.48 - 4.25 (m, 1H), 2.85 - 2.62 (m, 2H), 2.49 - 2.29 (m, 1H), 2.27 - 2.11 (m, 1H). [M+H] = 368.1.

N-[4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]acetamide (NGT-201-135) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (13.2 mg, 37.00 μmol, 22.39% yield, 100.0% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.72 - 7.57 (m, 2H), 7.47 - 7.25 (m, 5H), 4.40 (dd, *J* = 12.0, 5.2 Hz, 1H), 2.87 - 2.68 (m, 2H), 2.44 (br dd, *J* = 12.8, 4.8 Hz, 1H), 2.29 - 2.15 (m, 4H). [M+H] = 357.0.

N-[3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]acetamide (NGT-201-134) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (25.8 mg, 70.94 μmol, 42.92% yield, 98.1% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.65 - 7.57 (m, 2H), 7.41 - 7.34 (m, 3H), 7.33 - 7.30 (m, 1H), 7.14 (br d, *J* = 7.6 Hz, 1H), 4.41 (dd, *J* = 11.6, 5.2 Hz, 1H), 2.85 - 2.76 (m, 1H), 2.74 - 2.67 (m, 1H), 2.48 - 2.38 (m, 1H), 2.26 - 2.19 (m, 1H), 2.15 (s, 3H). [M+H] = 357.1.

N-[2-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]acetamide (NGT-201-136) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (29.6 mg, 73.54 μmol, 55.62% yield, 97.6% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.60 - 7.51 (m, 1H), 7.46 - 7.18 (m, 6H), 4.56 - 4.19 (m, 1H), 2.86 - 2.68 (m, 5H), 2.56 - 2.40 (m, 1H), 2.28 - 2.13 (m, 1H). [M+H] = 357.0.

[3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]urea (NGT-201-137) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**. XPHOS-PD-G2 and K_3PO_4 was used instead. Product (5.1 mg, 14.17 μmol, 12.38% yield, 99.4% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.47 - 7.23 (m, 6H), 7.02 (d, *J* = 7.6 Hz, 1H), 4.39 (dd, *J* = 12.0, 5.2 Hz, 1H), 2.85 - 2.63 (m, 2H), 2.42 (dq, *J* = 12.4, 4.8 Hz, 1H), 2.26 - 2.14 (m, 1H). [M+H] = 358.1.

[4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]urea (NGT-201-138) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**. XPHOS-PD-G2 and K_3PO_4 was used instead. Product (1.5 mg, 4.19 μmol, 4.89% yield, 100.0% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.49 - 7.39 (m, 2H), 7.36 - 7.27 (m, 5H), 4.37 (dd, *J* = 11.6, 5.2 Hz, 1H), 2.84 - 2.65 (m, 2H), 2.47 - 2.35 (m, 1H), 2.26 - 2.12 (m, 1H). [M+H] = 358.0.

[2-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]urea (NGT-201-139) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**. XPHOS-PD-G2 and K_3PO_4 was used instead. Product (7.0 mg, 19.29 μmol, 16.86% yield, 98.6% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.91 (dd, *J* = 15.6, 8.0 Hz, 1H), 7.47 - 7.39 (m, 2H), 7.37 - 7.25 (m, 2H), 7.18 - 7.02 (m, 2H), 4.57 - 4.28 (m, 1H), 2.88 - 2.68 (m, 2H), 2.58 - 2.37 (m, 1H), 2.28 - 2.14 (m, 1H). [M+H] = 358.0.

[2-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]urea (NGT-201-139) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**. XPHOS-PD-G2 and K_3PO_4 was used instead. Product (7.0 mg, 19.29 μmol, 16.86% yield, 98.6% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.91 (dd, *J* = 15.6, 8.0 Hz, 1H), 7.47 - 7.39 (m, 2H), 7.37 - 7.25 (m, 2H), 7.18 - 7.02 (m, 2H), 4.57 - 4.28 (m, 1H), 2.88 - 2.68 (m, 2H), 2.58 - 2.37 (m, 1H), 2.28 - 2.14 (m, 1H). [M+H] = 358.0.

N-[3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]methanesulfonamide (NGT-201-140) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. XPHOS-PD-G2 and K_3PO_4 was used instead. Product (8 mg, 19.55 μmol, 22.79% yield, 96.025% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.08 - 7.97 (m, 1H), 7.39 - 7.32 (m, 1H), 7.30 - 7.24 (m, 1H), 7.23 - 7.20 (m, 2H), 7.16 (dd, *J* = 7.6, 1.6 Hz, 2H), 6.60 - 6.48 (m, 1H), 4.29 - 4.19 (m, 1H), 2.99 (s, 3H), 2.78 - 2.61 (m, 2H), 2.34 - 2.18 (m, 2H).. [M+H] = 393.1.

N-[4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]methanesulfonamide (NGT-201-141) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. XPHOS-PD-G2 and K_3PO_4 was used instead. Product (29.2 mg, 72.69 μmol, 43.99% yield, 97.8% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.50 - 7.16 (m, 7H), 4.50 - 4.31 (m, 1H), 3.03 (br s, 3H), 2.90 - 2.66 (m, 2H), 2.53 - 2.36 (m, 1H), 2.27 - 2.15 (m, 1H). [M+H] = 393.1.

N-[2-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]methanesulfonamide (NGT-201-142) was

synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. XPHOS-PD-G2 and K_3PO_4 was used instead. Product (29.6 mg, 73.54 μmol, 55.62% yield, 97.6% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.60 - 7.51 (m, 1H), 7.46 - 7.18 (m, 6H), 4.56 - 4.19 (m, 1H), 2.86 - 2.68 (m, 5H), 2.56 - 2.40 (m, 1H), 2.28 - 2.13 (m, 1H). [M+H] = 393.0.

3-[3-[4-(aminomethyl)phenyl]-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-143) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A** followed by Boc deprotection under standard conditions. Product (12 mg, 32.02 μmol, 19.62% yield, 100% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, DMSO-d6) δ = 8.47 - 8.34 (m, 1H), 7.55 - 7.47 (m, 2H), 7.42 (d, *J* = 8.0 Hz, 2H), 7.39 - 7.36 (m, 2H), 7.30 (dd, *J* = 7.2, 2.0 Hz, 1H), 4.35 (dd, *J* = 12.0, 5.2 Hz, 1H), 4.02 - 3.95 (m, 2H), 2.84 - 2.73 (m, 1H), 2.52 (br s, 1H), 2.34 (br dd, *J* = 12.4, 4.0 Hz, 1H), 2.09 - 2.02 (m, 1H). [M+H] = 329.1.

3-[3-[3-(aminomethyl)phenyl]-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-144) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A** followed by Boc deprotection under standard conditions. Product (24.2 mg, 64.56 μmol, 27.69% yield, 100.0% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD_3OD) δ = 8.50 (s, 1H), 7.56 - 7.44 (m, 4H), 7.42 - 7.35 (m, 2H), 7.33 - 7.29 (m, 1H), 4.38 (dd, *J* = 12.0, 5.2 Hz, 1H), 4.17 (s, 2H), 2.85 - 2.66 (m, 2H), 2.43 (dq, *J* = 12.8, 4.4 Hz, 1H), 2.19 (dtd, *J* = 13.6, 5.2, 3.6 Hz, 1H). [M+H] = 329.1.

3-[3-[2-(aminomethyl)phenyl]-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-145) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A** followed by Boc deprotection under standard conditions. Product (35.5 mg, 92.91 μmol, 79.70% yield, 98.1% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 8.38 (br s, 1H), 7.67 - 7.38 (m, 5H), 7.37 - 7.23 (m, 2H), 4.50 - 4.28 (m, 1H), 4.10 - 3.79 (m, 2H), 2.93 - 2.65 (m, 2H), 2.58 - 2.37 (m, 1H), 2.32 - 2.13 (m, 1H). [M+H] = 329.0.

3-[2-chloro-3-[4-(hydroxymethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-146) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A** followed by TBS deprotection under standard conditions. Product (17.0 mg, 51.50 μmol, 38.11% yield, 99.9% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.45 - 7.27 (m, 7H), 4.66 (s, 2H), 4.39 (dd, *J* = 11.6, 5.2 Hz, 1H), 2.85 - 2.66 (m, 2H), 2.42 (dq, *J* = 12.8, 4.8 Hz, 1H), 2.20 (td, *J* = 13.6, 4.4 Hz, 1H). [M+H] = 330.0.

3-[2-chloro-3-[3-(hydroxymethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-147) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**, XPHOS-PD-G2 and K_3PO_4 was used instead, then followed by TBS deprotection under standard conditions. Product (9.2 mg, 23.59 μmol, 34.91% yield, 96.35% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.46 - 7.24 (m, 7H), 4.66 (s, 2H), 4.39 (dd, *J* = 12.0, 5.2 Hz, 1H), 2.87 - 2.63 (m, 2H), 2.50 - 2.33 (m, 1H), 2.27 - 2.13 (m, 1H). [M+H] = 330.0.

3-[2-chloro-3-[2-(hydroxymethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-148) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**, XPHOS-PD-G2 and K_3PO_4 was used instead, then followed by TBS deprotection under standard conditions. Product (4.8 mg, 13.58 μmol, 30.15% yield, 93.3% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.59 (d, *J* = 7.6 Hz, 1H), 7.44 - 7.39 (m, 1H), 7.38 - 7.30 (m, 3H), 7.23 (dd, *J* = 6.4, 2.8 Hz, 1H), 7.12 (t, *J* = 8.4 Hz, 1H), 4.46 - 4.25 (m, 3H), 2.85 - 2.75 (m, 1H), 2.73 - 2.65 (m, 1H), 2.45 - 2.35 (m, 1H), 2.20 (td, *J* = 8.8, 4.4 Hz, 1H). [M+H] = 330.0.

3-[2-chloro-3-(2-pyridyl)phenyl]piperidine-2,6-dione (NGT-201-112) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**. Product (1.6 mg, 4.53 μmol, 5.28% yield, 98.2% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.70 - 8.61 (m, 1H), 7.97 - 7.84 (m, 1H), 7.76 - 7.67 (m, 1H), 7.51 (d, *J* = 8.0 Hz, 1H), 7.46 - 7.40 (m, 1H), 7.32 (t, *J* = 7.6 Hz, 1H), 7.25 (ddd, *J* = 7.6, 4.9, 0.8 Hz, 1H), 7.21 - 7.19 (m, 1H), 4.27 (dd, *J* = 10.8, 5.6 Hz, 1H), 2.76 - 2.59 (m, 2H), 2.32 - 2.17 (m, 2H). [M+H] = 301.0.

3-[2-chloro-3-(3-pyridyl)phenyl]piperidine-2,6-dione (NGT-201-113) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (7 mg, 18.21 μmol, 18.36% yield, 90.2% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.79 - 8.59 (m, 2H), 8.18 - 8.09 (m, 1H), 7.84 (br d, *J* = 7.6 Hz, 1H), 7.48 - 7.38 (m, 2H), 7.32 (ddd, *J* = 12.8, 7.8, 1.6Hz, 2H), 4.45 - 4.24 (m, 1H), 2.95 - 2.66 (m, 2H), 2.43 - 2.30 (m, 2H).. [M+H] = 301.0.

3-[2-chloro-3-(4-pyridyl)phenyl]piperidine-2,6-dione (NGT-201-114) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (4.1 mg, 11.82 μ mol, 11.92% yield, 100% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.77 - 8.65 (m, 2H), 8.17 - 8.02 (m, 1H), 7.45 - 7.36 (m, 3H), 7.30 (d, *J* = 7.6 Hz, 2H), 4.34 (dd, *J* = 10.8, 5.6 Hz, 1H), 2.88 - 2.71 (m, 2H), 2.39 - 2.27 (m, 2H).. [M+H] = 301.0.

3-(2-chloro-3-pyrimidin-2-yl-phenyl)piperidine-2,6-dione (NGT-201-115) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**. Product (2 mg, 6.38 μmol, 7.44% yield, 96.3% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.91 (d, *J* = 4.8 Hz, 2H), 8.00 (br s, 1H), 7.66 (dd, *J* = 7.4, 1.6 Hz, 1H), 7.42 (t, *J* = 7.6 Hz, 1H), 7.36 - 7.31 (m, 2H), 4.38 (dd, *J* = 10.0, 5.6 Hz, 1H), 2.83 - 2.67 (m, 2H), 2.41 - 2.28 (m, 2H). [M+H] = 302.0.

3-(2-chloro-3-thiazol-2-yl-phenyl)piperidine-2,6-dione (NGT-201-116) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**. Product (6.0 mg, 19.56 μ mol, 13.68% yield, 100.0% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.07 (dd, *J* = 7.6, 1.6 Hz, 1H), 8.03 (br s, 1H), 7.98 (d, *J* = 3.2 Hz, 1H), 7.53 (d, *J* = 3.2 Hz, 1H), 7.42 (t, *J* = 7.6 Hz, 1H), 7.30 (dd, *J* = 7.6, 1.6 Hz, 1H), 4.37 (dd, *J* = 10.8, 5.6 Hz, 1H), 2.87 - 2.70 (m, 2H), 2.40 - 2.28 (m, 2H). [M+H] = 309.0.

3-[2-chloro-3-(2-thienyl)phenyl]piperidine-2,6-dione (NGT-201-117) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**, XPHOS-PD-G2 and K_3PO_4 was used instead, then followed by TBS deprotection under standard conditions. Product (6.6 mg, 21.09 μmol, 21.27% yield, 97.7% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.07 (br s, 1H), 7.55 - 7.29 (m, 4H), 7.24 - 7.08 (m, 2H), 4.35 (br dd, *J* = 9.6, 5.2 Hz, 1H), 2.91 - 2.58 (m, 2H), 2.44 - 2.18 (m, 2H). [M+H] = 306.0.

3-[2-chloro-3-(3-thienyl)phenyl]piperidine-2,6-dione (NGT-201-118) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **B**, XPHOS-PD-G2 and K_3PO_4 was used instead, then followed by TBS deprotection under standard conditions. Product (8.9 mg, 27.24 μmol, 27.47% yield, 93.6% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.24 - 7.87 (m, 1H), 7.47 - 7.23 (m, 6H), 4.53 - 4.16 (m, 1H), 2.95 - 2.61 (m, 2H), 2.49 - 2.16 (m, 2H). [M+H] = 306.0.

3-[2-chloro-3-(1H-indol-4-yl)phenyl]piperidine-2,6-dione (NGT-201-119) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (10.1 mg, 28.89 μ mol, 29.13% yield, 96.9% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.28 (br s, 1H), 8.01 (br s, 1H), 7.46 (br t, *J* = 7.2 Hz, 2H), 7.37 (br t, *J* = 7.6 Hz, 1H), 7.31 - 7.28 (m, 1H), 7.24 (br s, 2H), 7.17 - 7.06 (m, 1H), 6.42 - 6.24 (m, 1H), 4.50 - 4.26 (m, 1H), 2.87 - 2.68 (m, 2H), 2.45 - 2.32 (m, 2H). [M+H] = 339.1.

3-[2-chloro-3-(1H-indol-5-yl)phenyl]piperidine-2,6-dione (NGT-201-18) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (83.9 mg, 210.40 μ mol, 42.44% yield, 96.5% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.25 (br s, 1H), 8.02 (br s, 1H), 7.68 (s, 1H), 7.46 (d, *J* = 8.4 Hz, 1H), 7.41 - 7.37 (m, 1H), 7.37 - 7.31 (m, 1H), 7.28 (br s, 1H), 7.26 (br s, 1H), 7.19 (dd, *J* = 7.6, 1.6 Hz, 1H), 6.62 (br s, 1H), 4.37 (dd, *J* = 10.4, 5.6 Hz, 1H), 2.87 - 2.68 (m, 2H), 2.42 - 2.28 (m, 2H). [M+H] = 339.1.

3-[2-chloro-3-(1H-indol-6-yl)phenyl]piperidine-2,6-dione (NGT-201-156) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (20.2 mg, 58.73 μ mol, 35.54% yield, 98.5% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.57 (d, *J* = 8.0 Hz, 1H), 7.45 - 7.22 (m, 5H), 7.03 (d, *J* = 8.0 Hz, 1H), 6.47 (d, *J* = 2.8 Hz, 1H), 4.38 (br dd, *J* = 11.6, 5.2 Hz, 1H), 2.85 - 2.63 (m, 2H), 2.42 (dq, *J* = 12.4, 4.4 Hz, 1H), 2.26 - 2.13 (m, 1H). [M+H] = 339.1.

3-[2-chloro-3-(1H-indol-7-yl)phenyl]piperidine-2,6-dione (NGT-201-157) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (20.1 mg, 56.54 μ mol, 24.44% yield, 95.3% purity)) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, DMSO-d6) δ = 10.94 (s, 2H), 7.58 (d, *J* = 7.6 Hz, 1H), 7.45 - 7.35 (m, 3H), 7.26 (br s, 1H), 7.07 (t, *J* = 7.6 Hz, 1H), 6.97 (br s, 1H), 6.49 (d, *J* = 2.8 Hz, 1H), 4.55 - 4.22 (m, 1H), 2.84 - 2.71 (m, 1H), 2.56 (br s, 1H), 2.41 - 2.29 (m, 1H), 2.24 - 2.04 (m, 1H). [M+H] = 339.1.

3-[2-chloro-3-(1-methylindol-5-yl)phenyl]piperidine-2,6-dione (NGT-201-155) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (24.6 mg, 67.77 μmol, 29.29% yield, 97.2% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.54 (s, 1H), 7.41 (d, *J* = 8.4 Hz, 1H), 7.37 - 7.31 (m, 2H), 7.31 - 7.26 (m, 1H), 7.20 (br d, *J* = 3.2 Hz, 2H), 6.46 (d, *J* = 2.8 Hz, 1H), 4.39 (dd, *J* = 11.6, 5.2 Hz, 1H), 3.84 (s, 3H), 2.86 - 2.65 (m, 2H), 2.43 (br dd, *J* = 12.4, 4.0 Hz, 1H), 2.28 - 2.17 (m, 1H). [M+H] = 353.1.

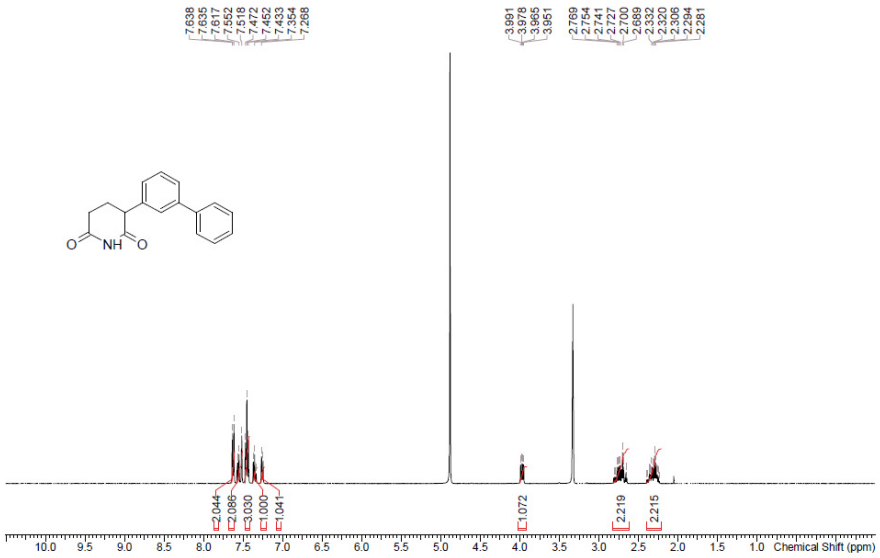
3-[2-chloro-3-(2-oxoindolin-5-yl)phenyl]piperidine-2,6-dione (NGT-201-153) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (7.2 mg, 20.29 μmol, 6.14% yield, 100.0% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 7.39 - 7.19 (m, 5H), 6.95 (d, *J* = 8.0 Hz, 1H), 4.38 (dd, *J* = 11.6, 5.2 Hz, 1H), 3.59 (s, 2H), 2.84 - 2.65 (m, 2H), 2.42 (dq, *J* = 12.4, 4.4 Hz, 1H), 2.25 - 2.14 (m, 1H). [M+H] = 355.1.

3-[3-(benzofuran-5-yl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-149) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (32.7 mg, 90.27 μmol, 39.02% yield, 93.8% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CDCl3) δ = 8.19 - 7.96 (m, 1H), 7.72 - 7.50 (m, 3H), 7.35 (br s, 3H), 7.22 (br s, 1H), 6.83 (br s, 1H), 4.36 (br s, 1H), 2.95 - 2.65 (m, 2H), 2.48 - 2.22 (m, 2H). [M+H] = 340.0.

3-[2-chloro-3-(1H-indazol-5-yl)phenyl]piperidine-2,6-dione (NGT-201-151) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (7.5 mg, 18.58 μmol, 8.03% yield, 95.6% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 8.10 (s, 1H), 7.78 (s, 1H), 7.60 (d, *J* = 8.7 Hz, 1H), 7.45 (br dd, *J* = 8.8, 1.2 Hz, 1H), 7.40 - 7.31 (m, 3H), 4.41 (dd, *J* = 11.6, 5.2 Hz, 1H), 2.84 - 2.67 (m, 2H), 2.45 (br dd, *J* = 13.2, 5.2 Hz, 1H), 2.24 - 2.13 (m, 1H). [M+H] = 340.0.

3-[3-(1H-benzimidazol-5-yl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-152) was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (5.1 mg, 15.01 μmol, 6.49% yield, 100.0% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^{1}H NMR (400 MHz, CD3OD) δ = 8.25 (s, 1H), 7.78 - 7.57 (m, 2H), 7.48 - 7.27 (m, 4H), 4.41 (dd, *J* = 12.0, 5.2 Hz, 1H), 2.90 - 2.64 (m, 2H), 2.52 - 2.36 (m, 1H), 2.27 - 2.15 (m, 1H). [M+H] = 340.0.

3-(3-phenylphenyl)piperidine-2,6-dione (NGT-201-11)



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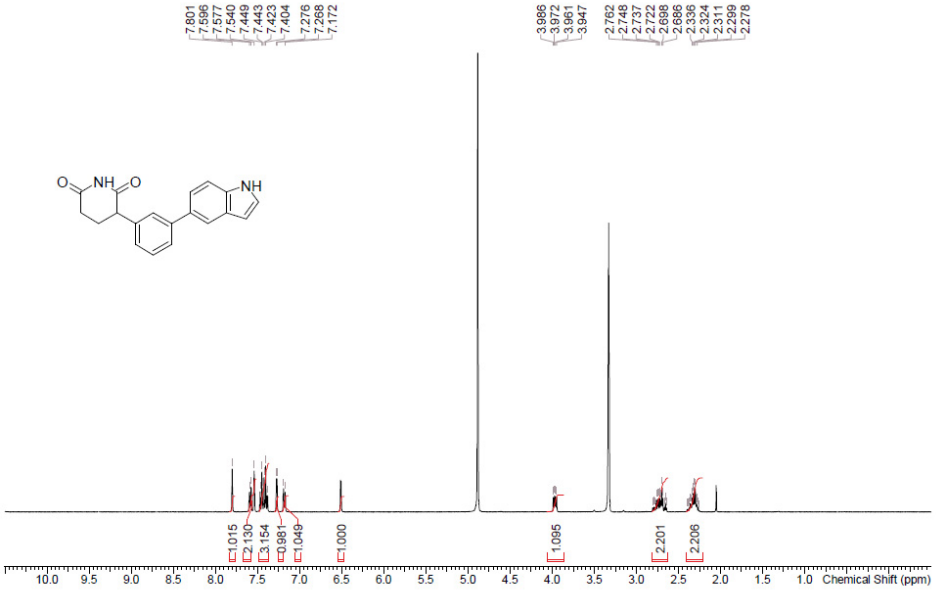

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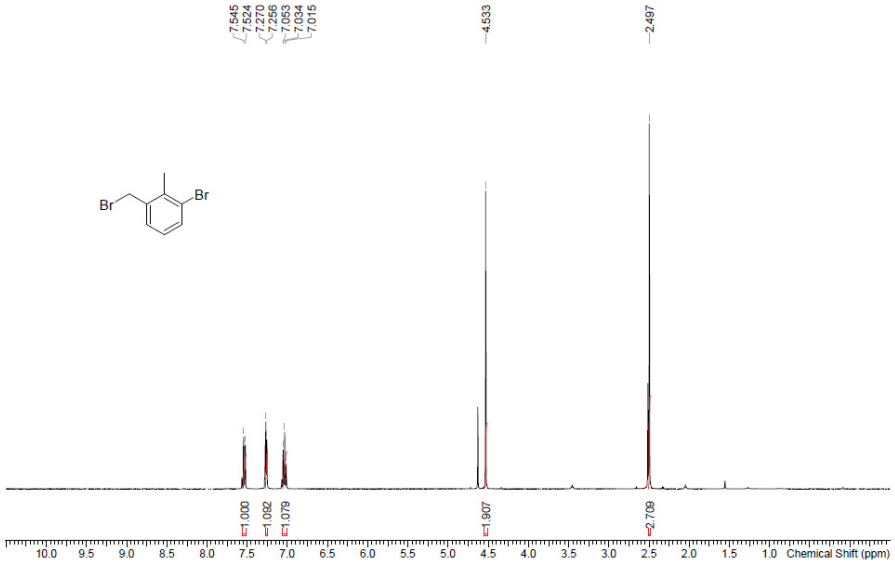
1-bromo-3-(bromomethyl)-2-methyl-benzene (7)



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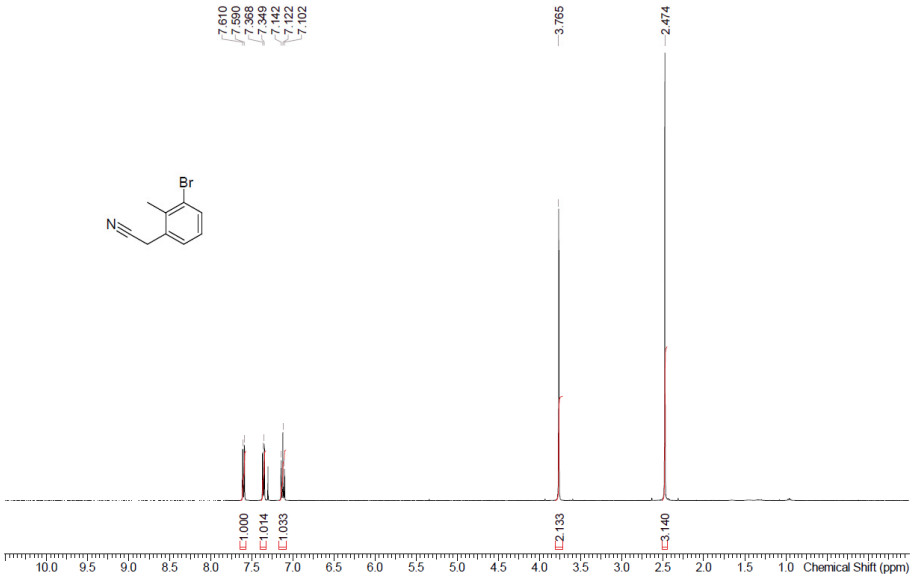
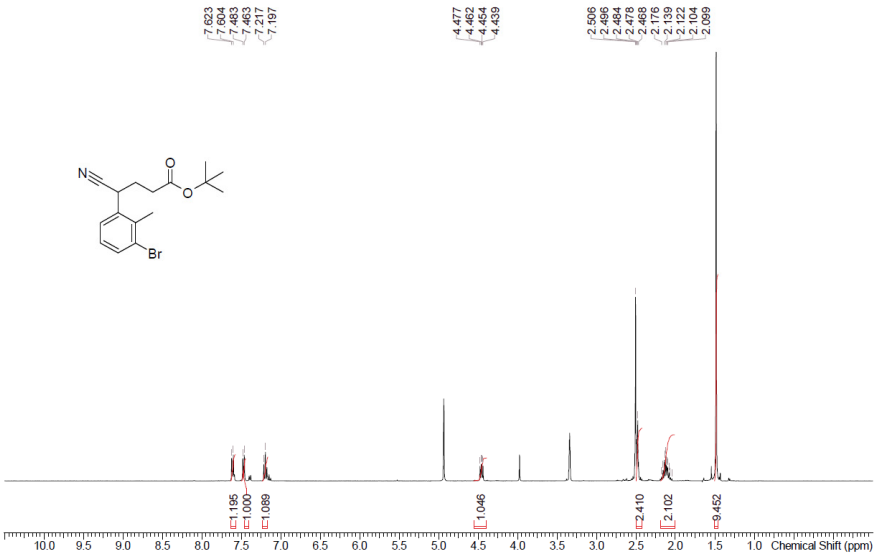
Temperature (degree C)	21.254

2-(3-bromo-2-methyl-phenyl) acetonitrile (8)



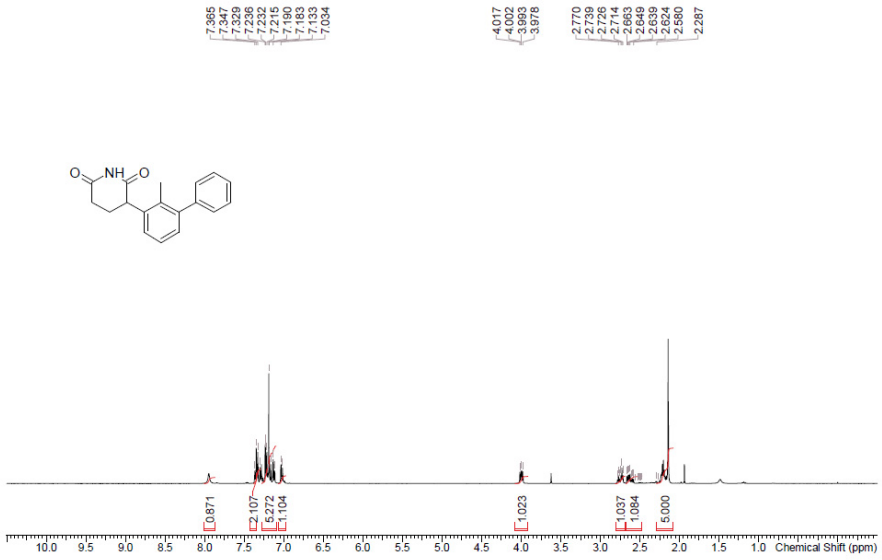
Acquisition Time (sec)	4.0002
Comment	ET86989-890-P1A CDCl3 ZKNJ_02_N_400MHz
Date	08 Feb 2025 05:35:52 (GMT)
Frequency (MHz)	399.8213
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	51.27
SW(cyclical) (Hz)	8012.00
Solvent	CHLOROFORM-d
Spectrum Offset (Hz)	2398.9275
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	18.850

tert-butyl 4-(3-bromo-2-methyl-phenyl)-4-cyano-butanoate (9)



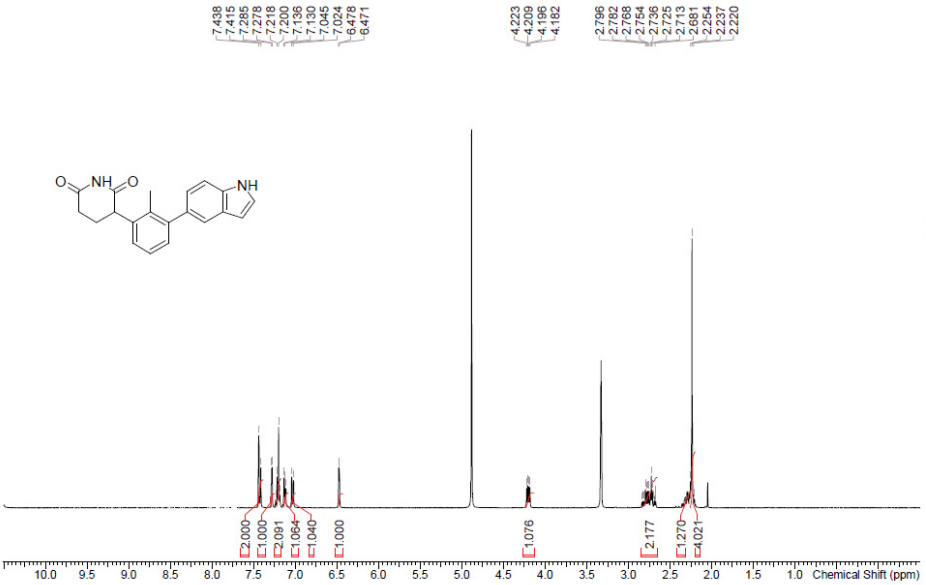
Acquisition Time (sec)	4.0002
Comment	ET86989-895-P1A1 MeOD ZKNJ_02_N_400MHz
Date	13 Feb 2025 05:44:14 (GMT)
Frequency (MHz)	399.8213
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	55.81
SW(cyclical) (Hz)	8012.00
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2398.9275
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	19.650

3-(2-methyl-3-phenyl-phenyl)piperidine-2,6-dione (NGT-201-13)



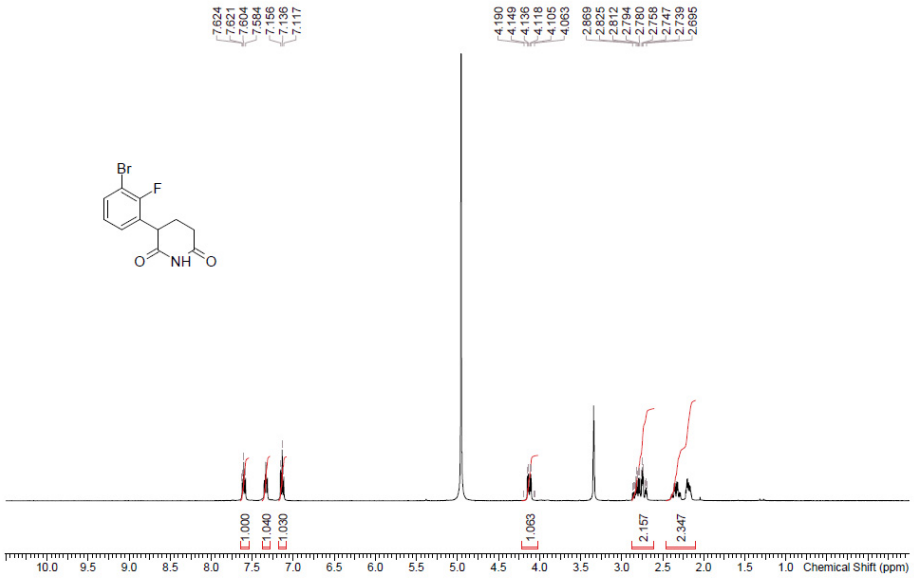
Acquisition Time (sec)	1.9988
Comment	ET99039-20-P1B CDCl3 Bruker_02_O_400MHz
Date	19 Feb 2025 18:43:41 (GMT+08:00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	64
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	CHLOROFORM-d
Spectrum Offset (Hz)	2433.0857
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	23.948

3-[3-(1H-indol-5-yl)-2-methyl-phenyl]piperidine-2,6-dione (NGT-201-14)



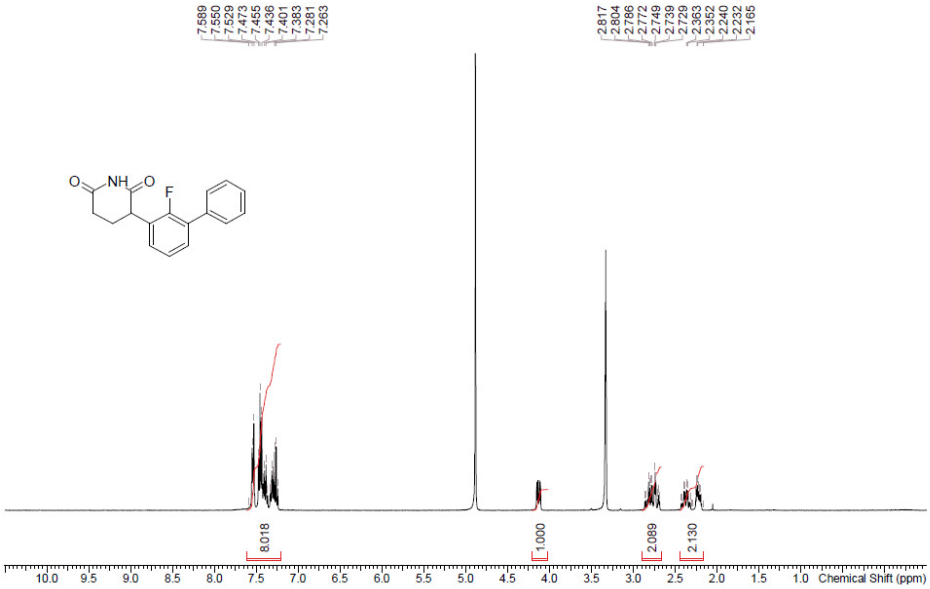
Acquisition Time (sec)	1.9988
Comment	ET99039-21-P1A MeOD Bruker_02_O_400MHz
Date	19 Feb 2025 10:34:20 (GMT+08:00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	64
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2470.8015
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	23.900

3-(3-bromo-2-fluoro-phenyl)piperidine-2,6-dione (16)



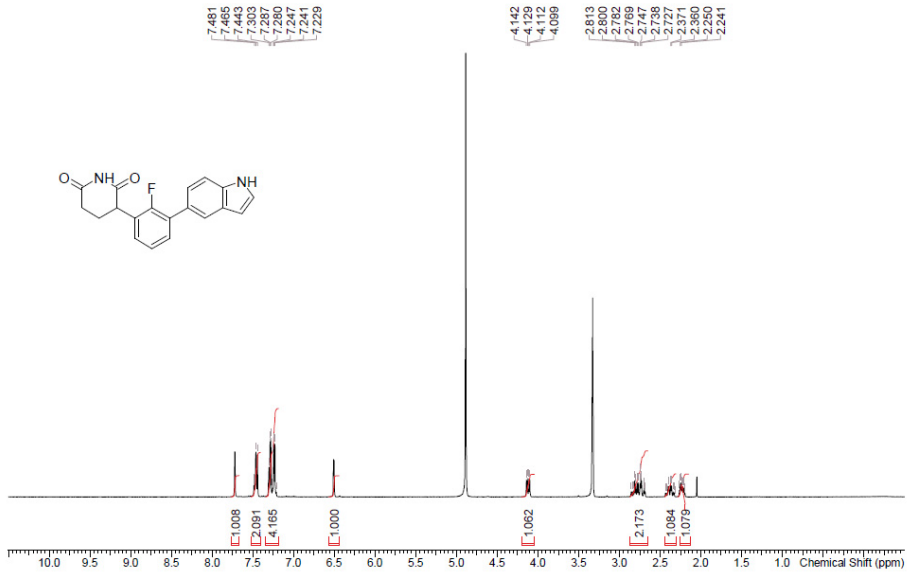
Acquisition Time (sec)	4.0002
Comment	ET99039-9-P1A MeOD ZKNJ_02_N_400MHz
Date	13 Feb 2025 05:52:46 (GMT)
Frequency (MHz)	399.8213
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	60.14
SW(cyclical) (Hz)	8012.00
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2398.9275
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	19.550

3-(2-fluoro-3-phenyl-phenyl)piperidine-2,6-dione (NGT-201-15)



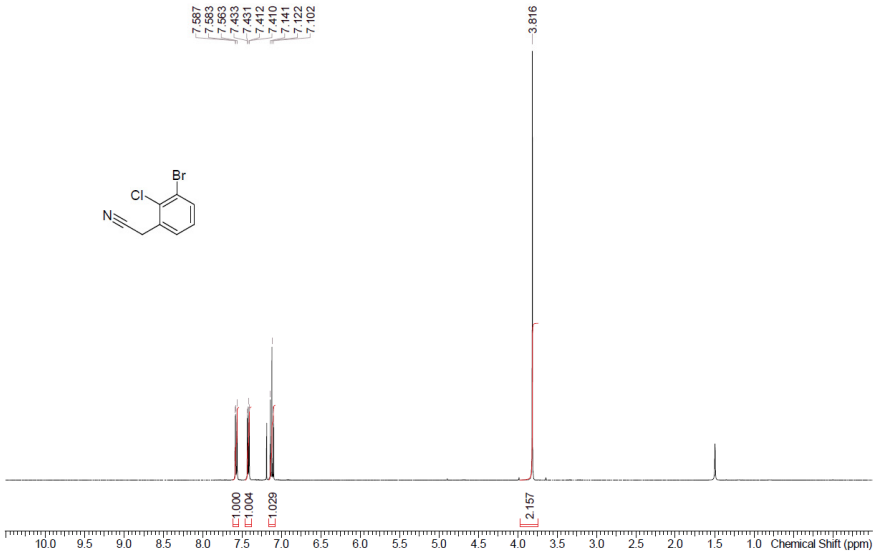
Acquisition Time (sec)	1.9988
Comment	ET99039-13-P1A MeOD Bruker_02_O_400MHz
Date	17 Feb 2025 18:12:46 (GMT+08:00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2470.8015
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	23.821

3-[2-fluoro-3-(1H-indol-5-yl)phenyl]piperidine-2,6-dione (NGT-201-16)



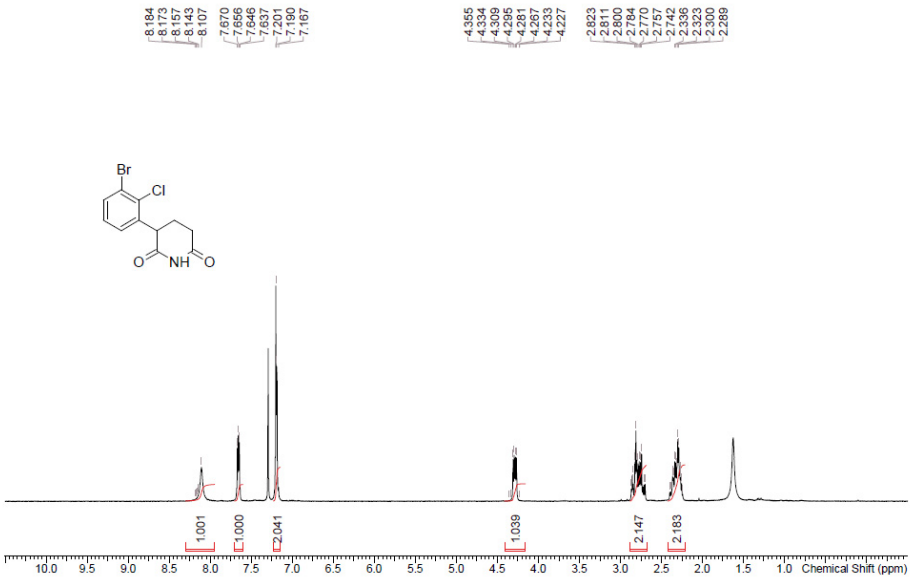
Acquisition Time (sec)	1.9988
Comment	ET99039-14-P1A MeOD Bruker_02_O_400MHz
Date	17 Feb 2025 18:20:54 (GMT+08:00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2470.8015
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	23.816

2-(3-bromo-2-chloro-phenyl)acetonitrile (18)



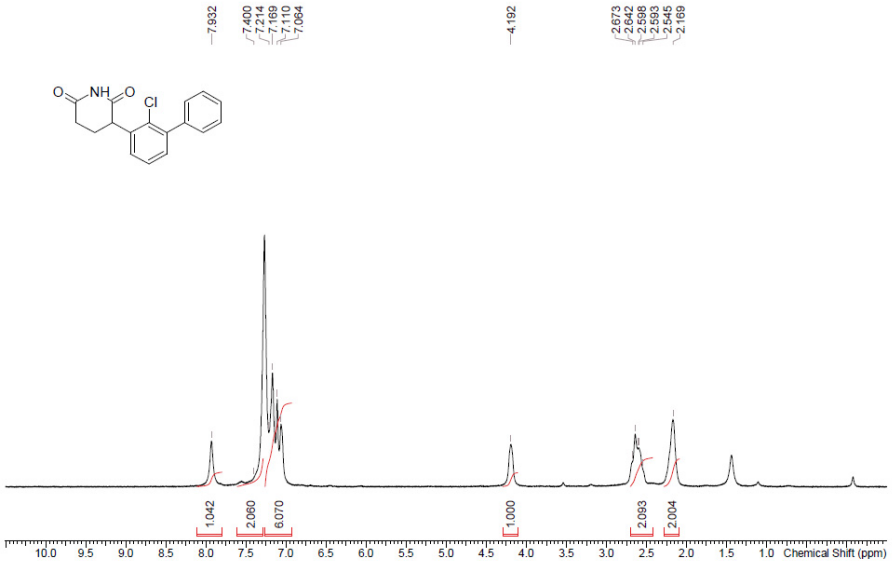
Acquisition Time (sec)	1.9988
Comment	ET86989-6 11-P1A CDCl3 Bruker_02 _O_400M Hz
Date	23 Aug 2024 17:52:06 (GMT+08: 00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	CHLORO FORM-d
Spectrum Offset (Hz)	2432.9016
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	26.814

3-(3-bromo-2-chloro-phenyl)piperidine-2,6-dione (21)



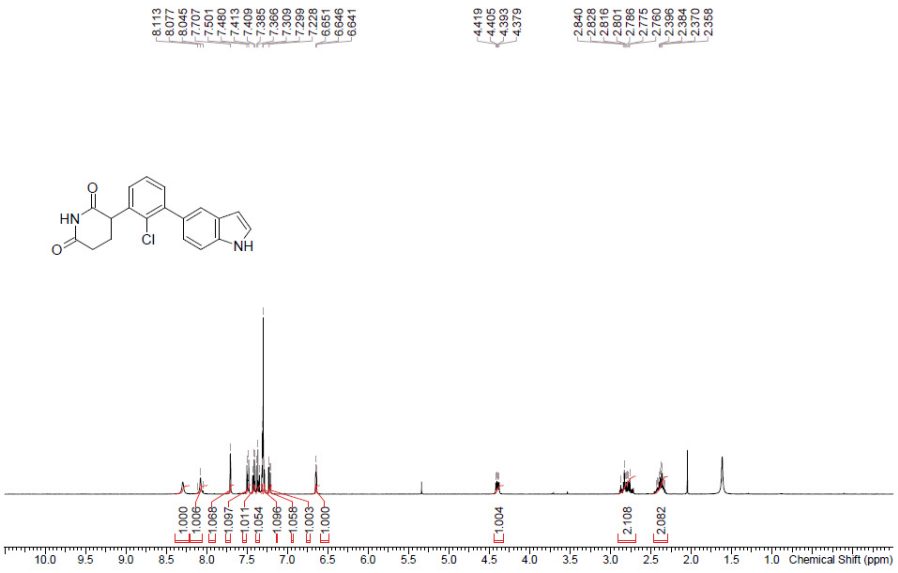
Acquisition Time (sec)	4.0002
Comment	ET86989-6 24-P1D CDCl3 ZKNJ_02_ N_400MH z
Date	30 Aug 2024 03:08:58 (GMT)
Frequency (MHz)	399.8359
Nucleus	1H
Number of Transients	8
Origin	QUANTU M-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	66.46
SW(cyclical) (Hz)	8012.00
Solvent	CHLORO FORM-d
Spectrum Offset (Hz)	2399.0156
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	23.050

3-(2-chloro-3-phenyl-phenyl)piperidine-2,6-dione (NGT-201-17)



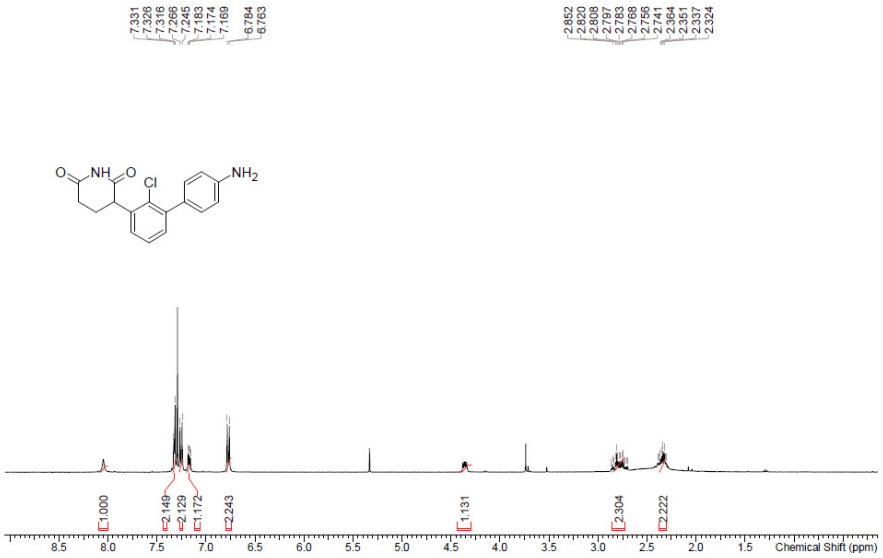
Acquisition Time (sec)	4.0002
Comment	ET86991-760-P1A2 CDCl3 ZKNJ_02_N_400MHz
Date	05 Nov 2024 09:27:24 (GMT)
Frequency (MHz)	399.8359
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	64.20
SW(cyclical) (Hz)	8012.00
Solvent	CHLOROFORM-d
Spectrum Offset (Hz)	2323.7266
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	21.450

3-[2-chloro-3-(1H-indol-5-yl)phenyl]piperidine-2,6-dione (NGT-201-18)



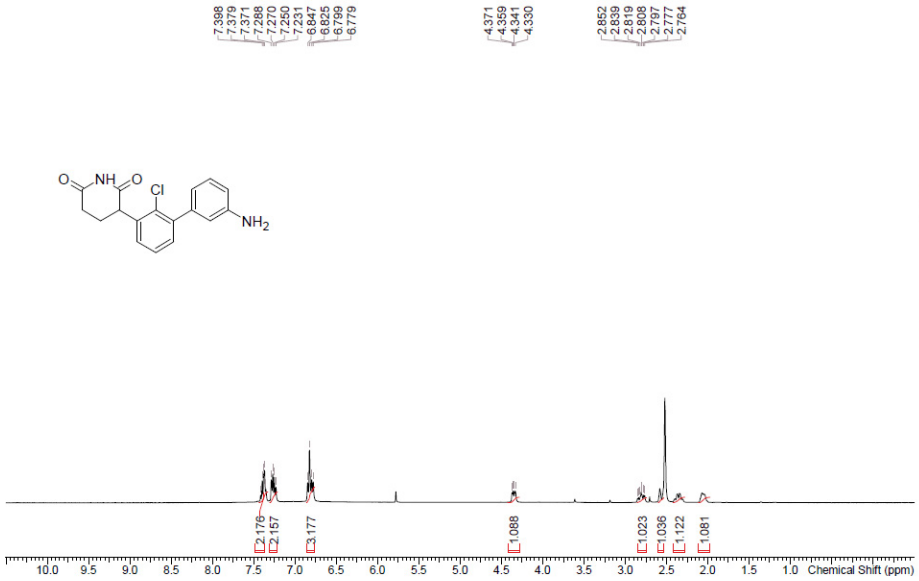
Acquisition Time (sec)	4.0002
Comment	ET86989-774-P1A CDCl3 ZKNJ_02_N_400MHz
Date	07 Nov 2024 08:53:27 (GMT)
Frequency (MHz)	399.8359
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	66.63
SW(cyclical) (Hz)	8012.00
Solvent	CHLOROFORM-d
Spectrum Offset (Hz)	2399.0156
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	21.550

3-[3-(4-aminophenyl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-110)



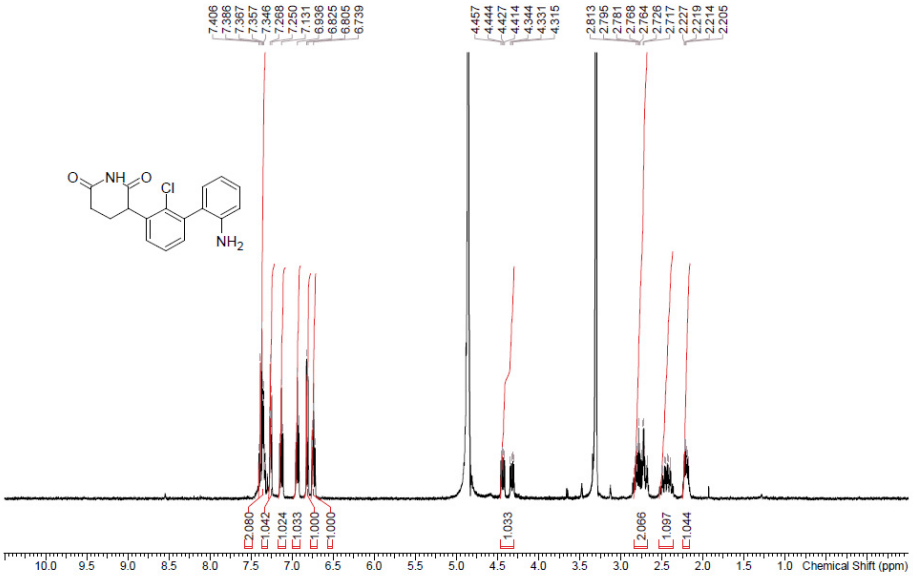
Acquisition Time (sec)	4.0002
Comment	ET86989-779-P1A CDCl3 ZKNJ_02_N_400MHz
Date	07 Nov 2024 08:57:12 (GMT)
Frequency (MHz)	399.8359
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	66.63
SW(cyclical) (Hz)	8012.00
Solvent	CHLOROFORM-d
Spectrum Offset (Hz)	2399.0156
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	21.650

3-[3-(3-aminophenyl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-121)



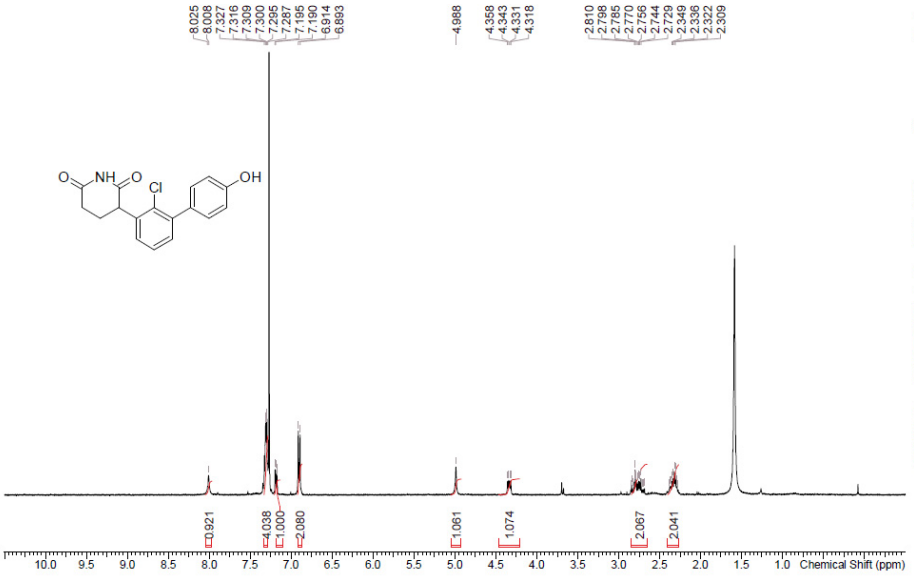
Acquisition Time (sec)	4.0002
Comment	ET86989-869-P1A DMSO ZKNJ_02_N_400MHz
Date	27 Dec 2024 04:55:37 (GMT)
Frequency (MHz)	399.8213
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	58.87
SW(cyclical) (Hz)	8012.00
Solvent	DMSO-d6
Spectrum Offset (Hz)	2398.9275
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	20.550

3-[3-(2-aminophenyl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-122)



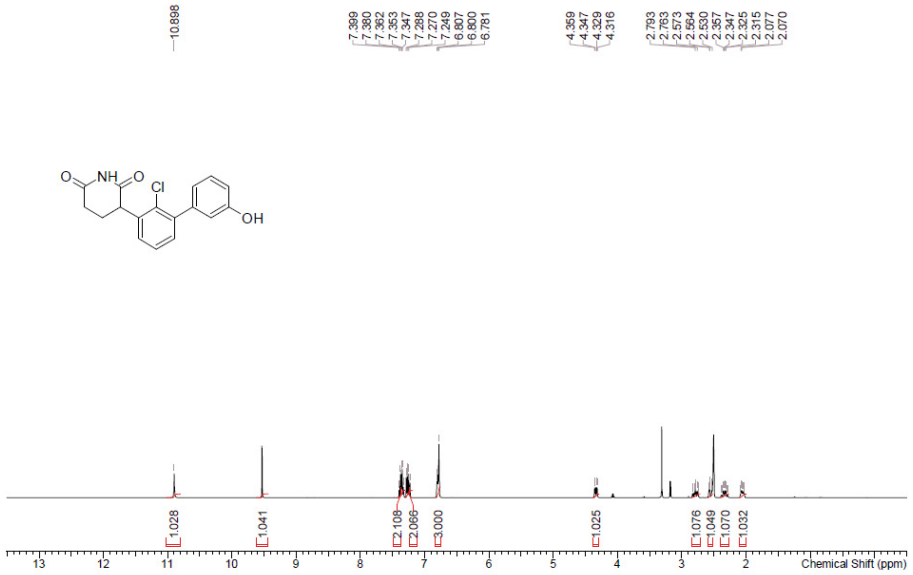
Acquisition Time (sec)	1.9988
Comment	ET86991-884-P1B1 MeOD Bruker_02_V_400MHz
Date	31 Dec 2024 16:09:26 (GMT+08:00)
Frequency (MHz)	400.1500
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2460.0935
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	24.015

3-[2-chloro-3-(4-hydroxyphenyl)phenyl]piperidine-2,6-dione (NGT-201-111)



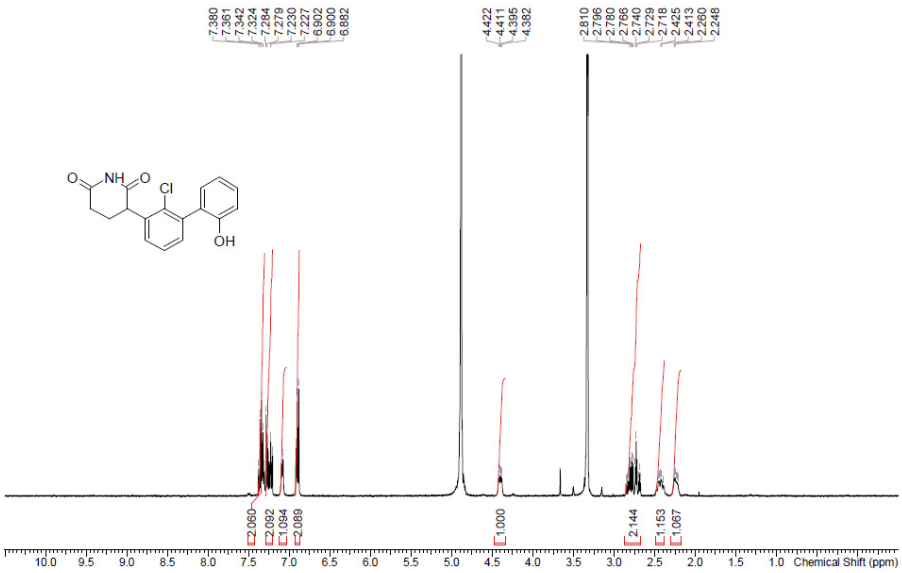
Acquisition Time (sec)	4.0002
Comment	ET86991-770-P1A1 CDCl3 ZKNJ_02_N_400MHz
Date	08 Nov 2024 02:45:04 (GMT)
Frequency (MHz)	399.8359
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	68.93
SW(cyclical) (Hz)	8012.00
Solvent	CHLOROFORM-d
Spectrum Offset (Hz)	2387.6604
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	21.150

3-[2-chloro-3-(3-hydroxyphenyl)phenyl]piperidine-2,6-dione (NGT-201-123)



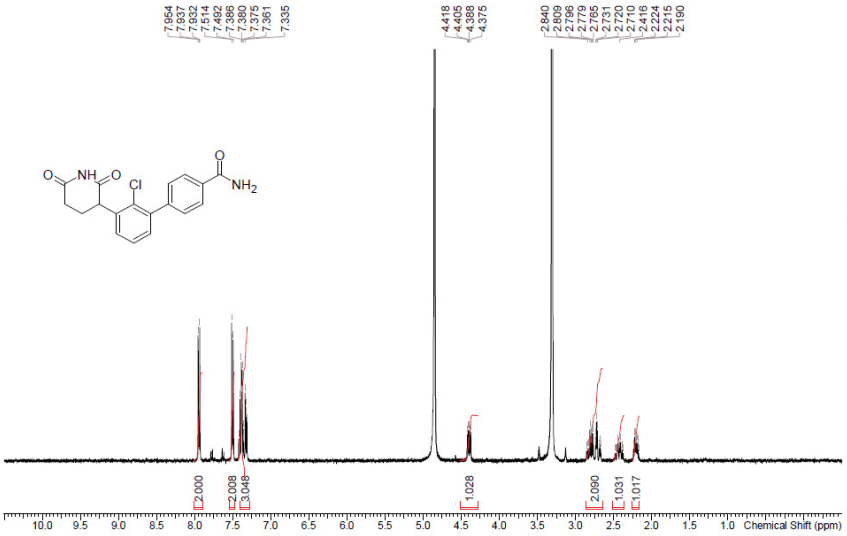
Acquisition Time (sec)	1.9988
Comment	ET86989-8 70-P1B DMSO Bruker_02 _G_400M Hz
Date	26 Dec 2024 15:51:57 (GMT+08: 00)
Frequency (MHz)	400.0300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	DMSO-d6
Spectrum Offset (Hz)	2470.1838
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	30.326

3-[2-chloro-3-(2-hydroxyphenyl)phenyl]piperidine-2,6-dione (NGT-201-124)



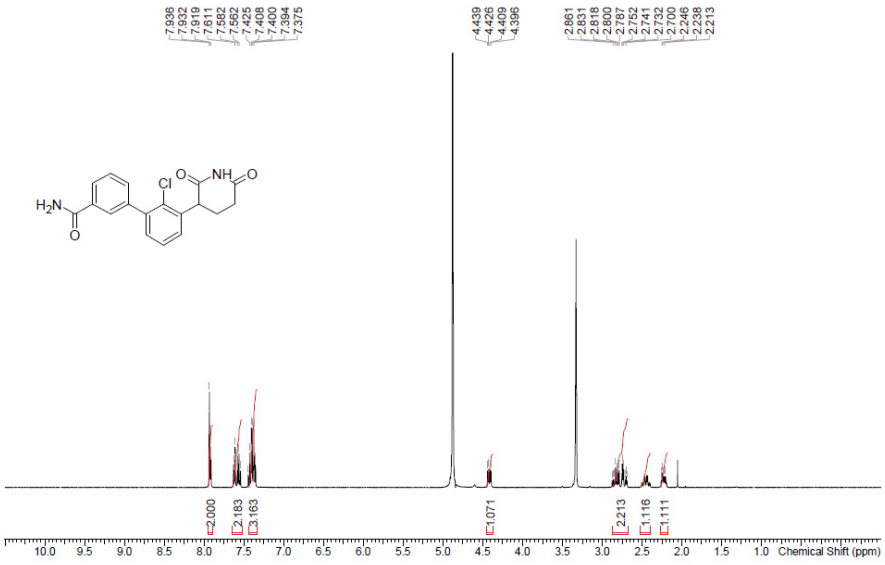
Acquisition Time (sec)	1.9988
Comment	ET86991-8 73-P1B1 MeOD Bruker_02 _V_400M Hz
Date	31 Dec 2024 16:07:14 (GMT+08: 00)
Frequency (MHz)	400.1500
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2470.8577
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	24.061

4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzamide (NGT-201-125)



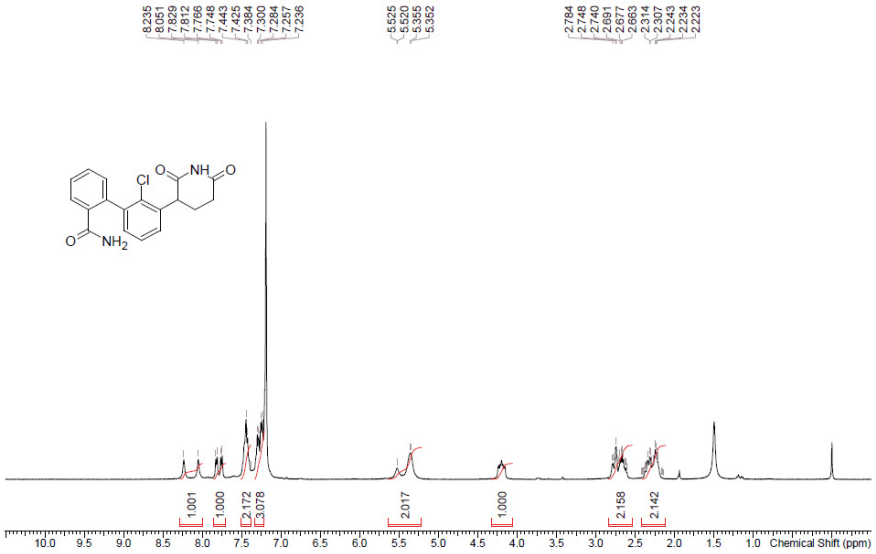
Acquisition Time (sec)	1.9988
Comment	ET86991-8 59-P1A2 MeOD Bruker_02 _O_400M Hz
Date	20 Dec 2024 21:28:09 (GMT+08: 00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHAN OL-d4
Spectrum Offset (Hz)	2461.5186
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	24.997

3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzamide (NGT-201-126)



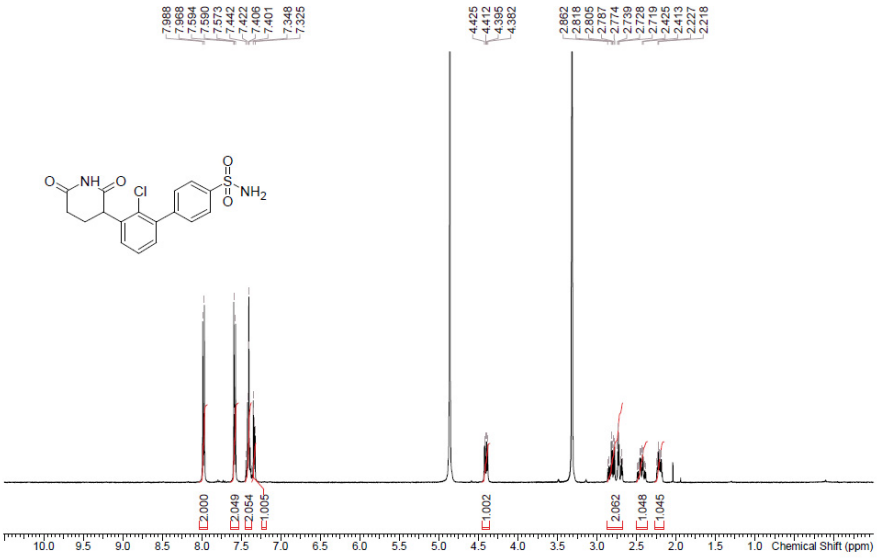
Acquisition Time (sec)	1.9988
Comment	ET86989-8 62-P1A MeOD Bruker_02 _O_400M Hz
Date	24 Dec 2024 15:54:05 (GMT+08: 00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHAN OL-d4
Spectrum Offset (Hz)	2470.8015
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	24.942

2-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzamide (NGT-201-127)



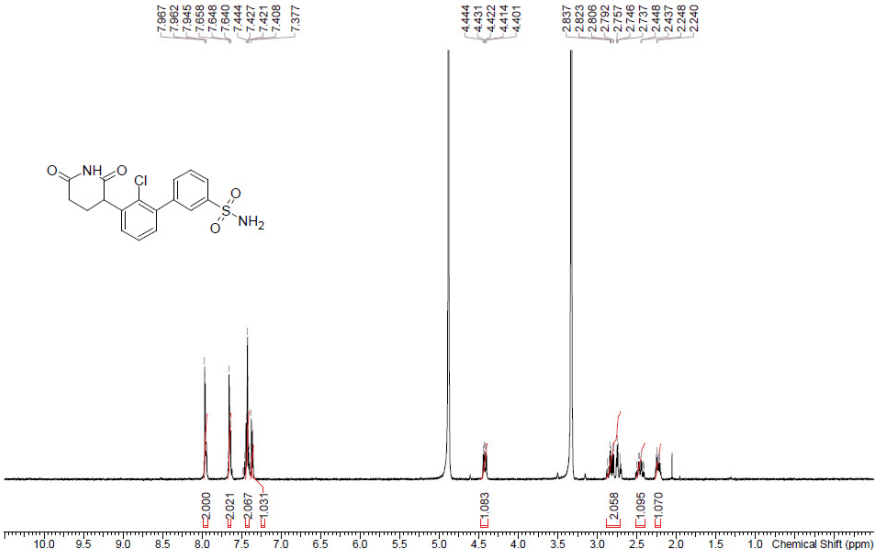
Acquisition Time (sec)	1.9988
Comment	ET86989-856-P1A CDCl3 Bruker_02_O_400MHz
Date	17 Dec 2024 09:12:23 (GMT+08:00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	64
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	CHLOROFORM-d
Spectrum Offset (Hz)	2433.3459
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	24.958

4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzenesulfonamide (NGT-201-128)



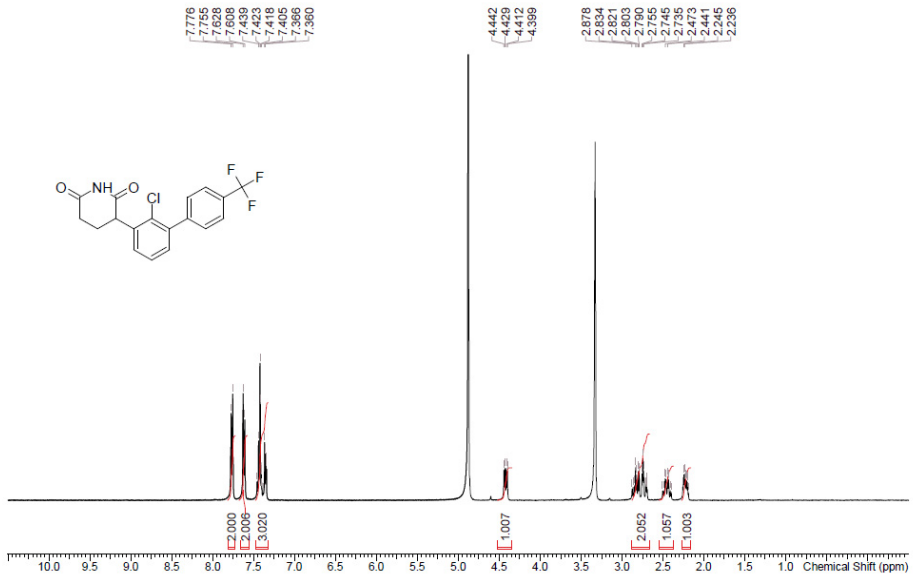
Acquisition Time (sec)	1.9988
Comment	ET86991-858-P1A2 MeOD Bruker_02_V_400MHz
Date	20 Dec 2024 21:30:42 (GMT+08:00)
Frequency (MHz)	400.1500
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2464.7354
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	24.565

3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzenesulfonamide (NGT-201-129)



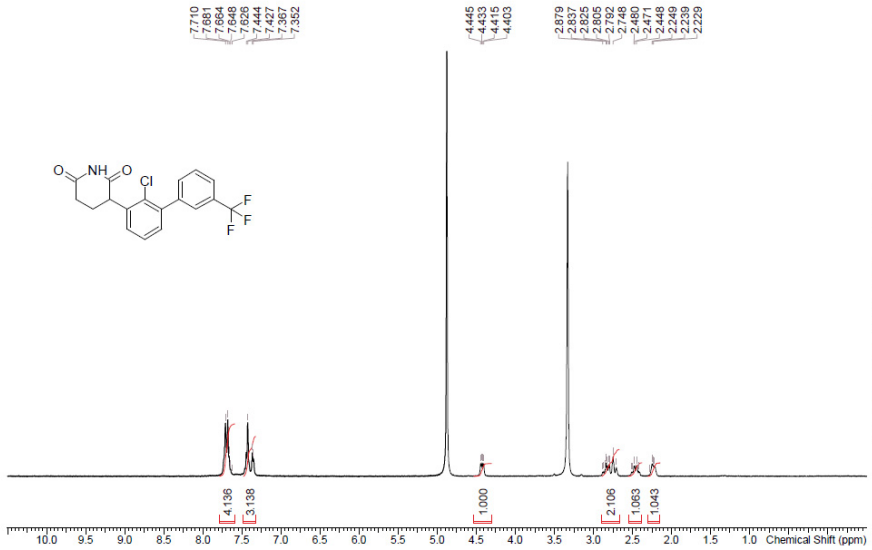
Acquisition Time (sec)	1.9988
Comment	ET86991-853-P1A2 MeOD Bruker_02_V_400MHz
Date	18 Dec 2024 18:19:44 (GMT+08:00)
Frequency (MHz)	400.1500
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2470.8577
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	24.059

3-[2-chloro-3-[4-(trifluoromethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-131)



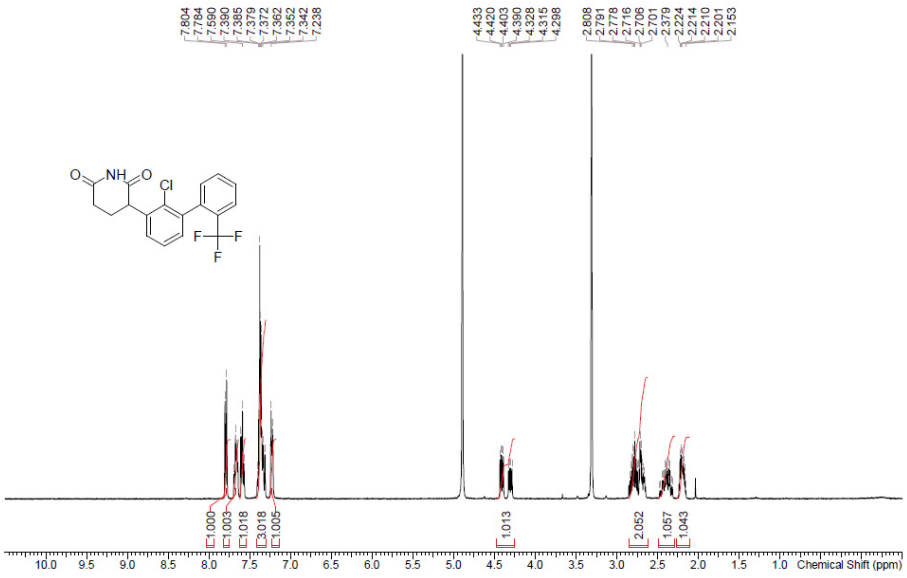
Acquisition Time (sec)	1.9988
Comment	ET86991-850-P1A2 MeOD Bruker_02_V_400MHz
Date	20 Dec 2024 21:28:16 (GMT+08:00)
Frequency (MHz)	400.1500
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2470.8577
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	24.572

3-[2-chloro-3-[3-(trifluoromethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-132)



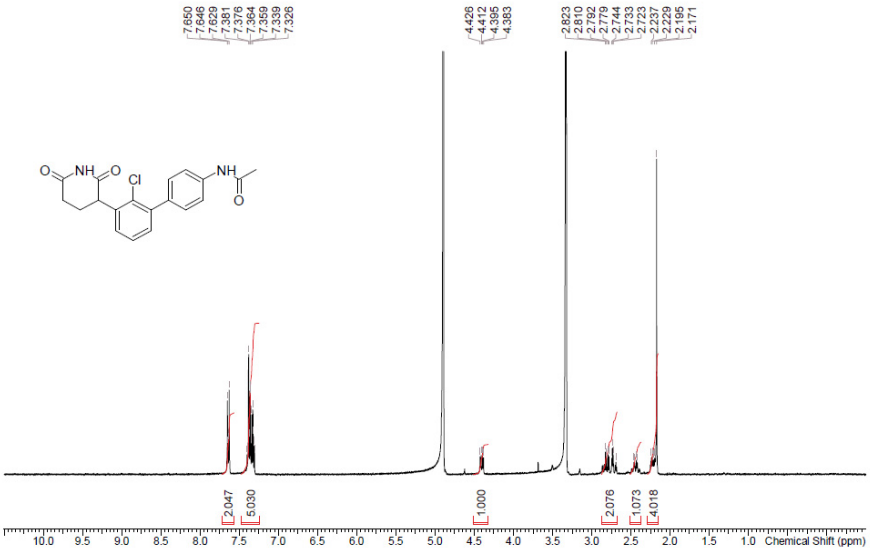
Acquisition Time (sec)	1.9988
Comment	ET86989-8 60-P1Q MeOD Bruker_02 _O_400M Hz
Date	23 Dec 2024 15:02:51 (GMT+08: 00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2470.8015
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	25.039

3-[2-chloro-3-[2-(trifluoromethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-133)



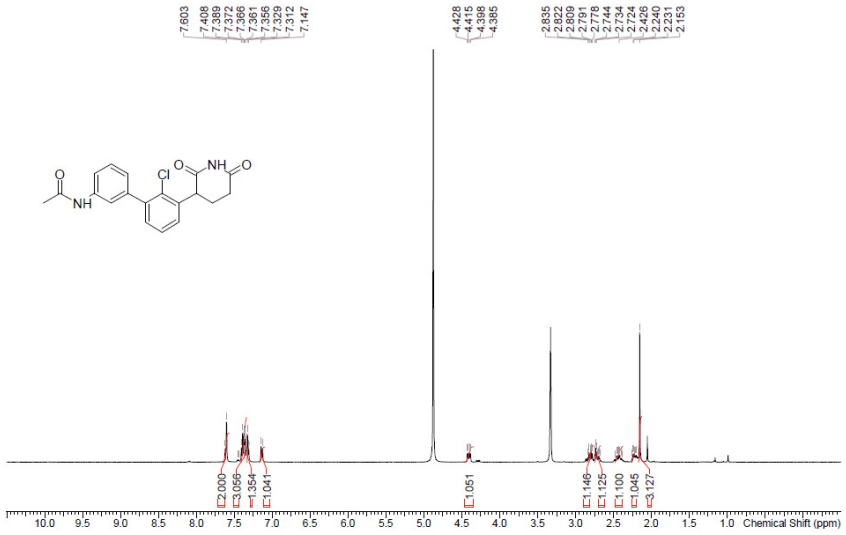
Acquisition Time (sec)	4.0002
Comment	ET86991-8 68-P1A1 MeOD ZKNJ_02_ N_400MH z
Date	24 Dec 2024 10:18:55 (GMT)
Frequency (MHz)	399.8213
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	63.81
SW(cyclical) (Hz)	8012.00
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2385.4934
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	20.850

N-[4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]acetamide (NGT-201-135)



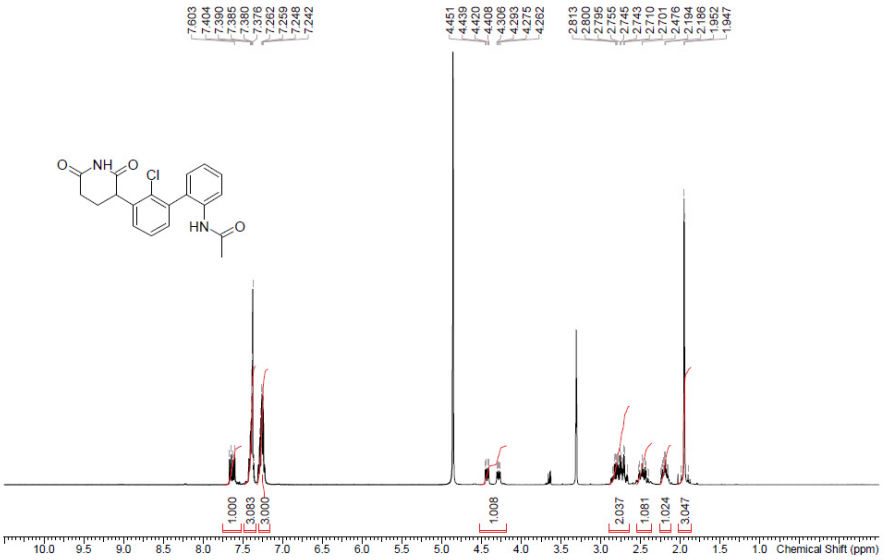
Acquisition Time (sec)	1.9988
Comment	ET86991-872-P1A1 MeOD Bruker_02_P_400MHz
Date	26 Dec 2024 15:44:03 (GMT+08:00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2470.8015
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	22.523

N-[3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]acetamide (NGT-201-134)



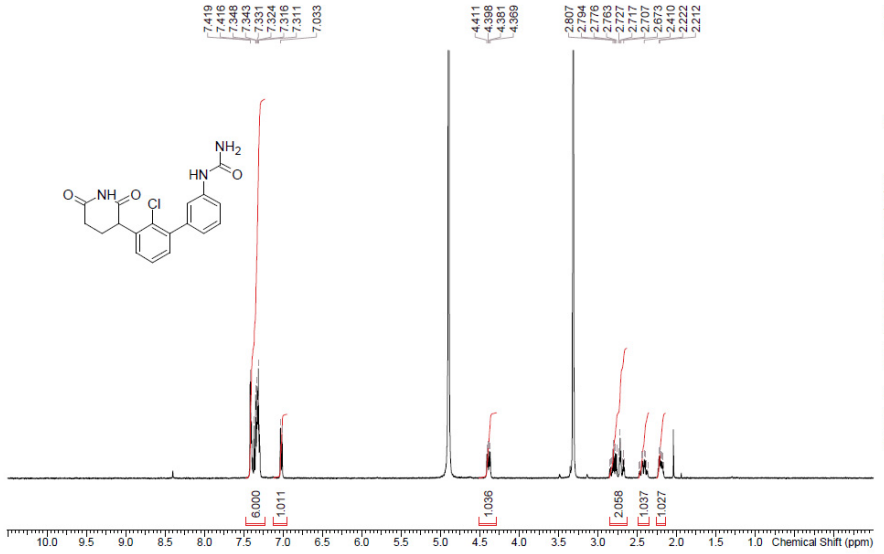
Acquisition Time (sec)	1.9988
Comment	ET86989-868-P1A MeOD Bruker_02_O_400MHz
Date	24 Dec 2024 15:58:27 (GMT+08:00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2470.8015
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	24.975

N-[2-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]acetamide (NGT-201-136)



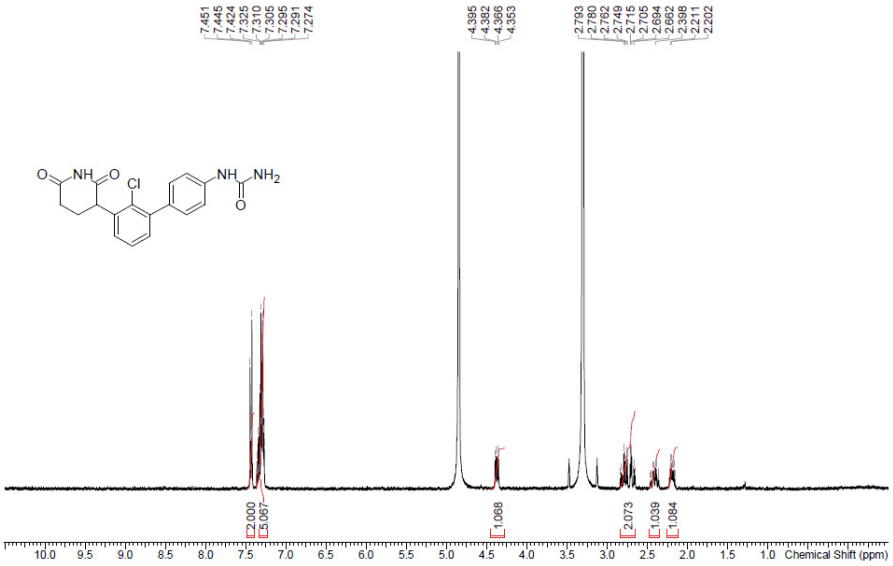
Acquisition Time (sec)	1.9988
Comment	ET86991-876-P1A1 MeOD Bruker_02_V_400MHz
Date	25 Dec 2024 12:11:58 (GMT+08:00)
Frequency (MHz)	400.1500
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2461.6941
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	24.235

[3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]urea (NGT-201-137)



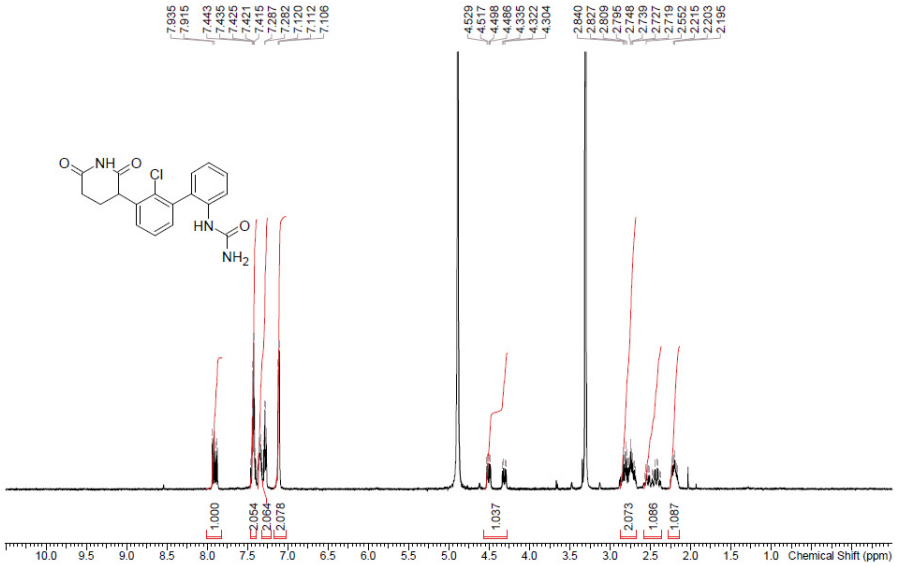
Acquisition Time (sec)	4.0002
Comment	ET86991-887-P1A1 MeOD ZKNJ_02_N_400MHz
Date	27 Dec 2024 01:55:27 (GMT)
Frequency (MHz)	399.8213
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	63.62
SW(cyclical) (Hz)	8012.00
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2387.4526
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	20.950

[4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]urea (NGT-201-138)



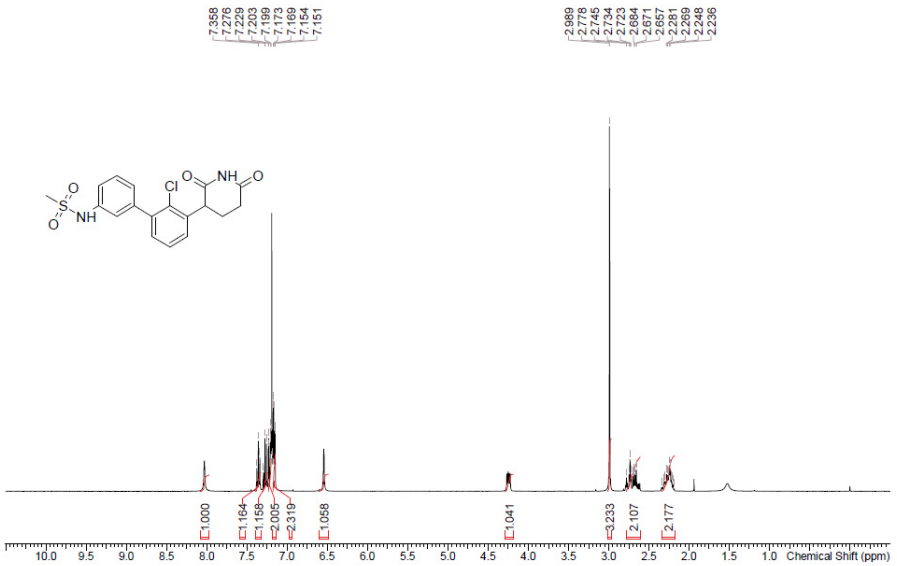
Acquisition Time (sec)	1.9988
Comment	ET86991-852-P1A3 MeOD Bruker_02_O_400MHz
Date	19 Dec 2024 11:00:38 (GMT+08:00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	64
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2460.0381
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	24.967

[2-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]urea (NGT-201-139)



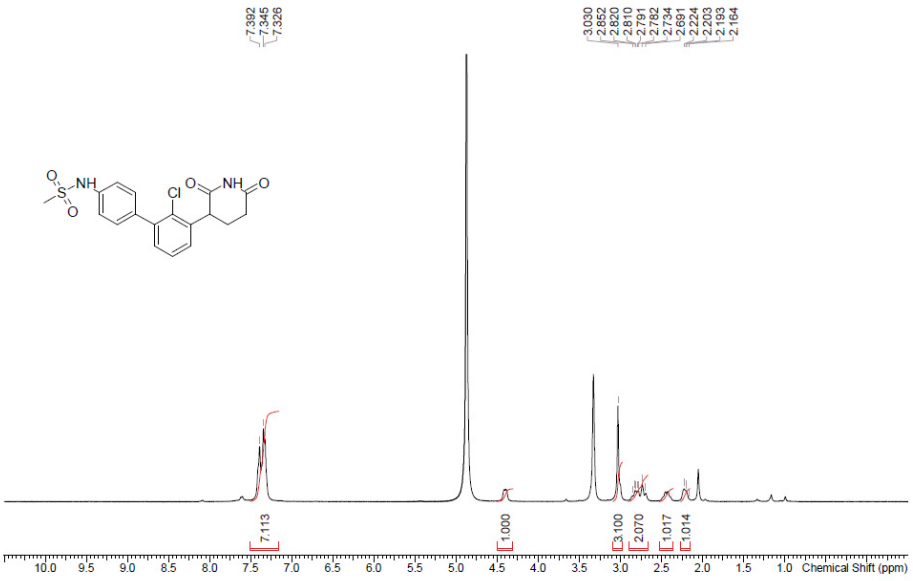
Acquisition Time (sec)	4.0002
Comment	ET86991-886-P1A1 MeOD ZKNJ_02_N_400MHz
Date	27 Dec 2024 01:50:55 (GMT)
Frequency (MHz)	399.8213
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	62.79
SW(cyclical) (Hz)	8012.00
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2384.6140
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	20.650

N-[3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]methanesulfonamide (NGT-201-140)



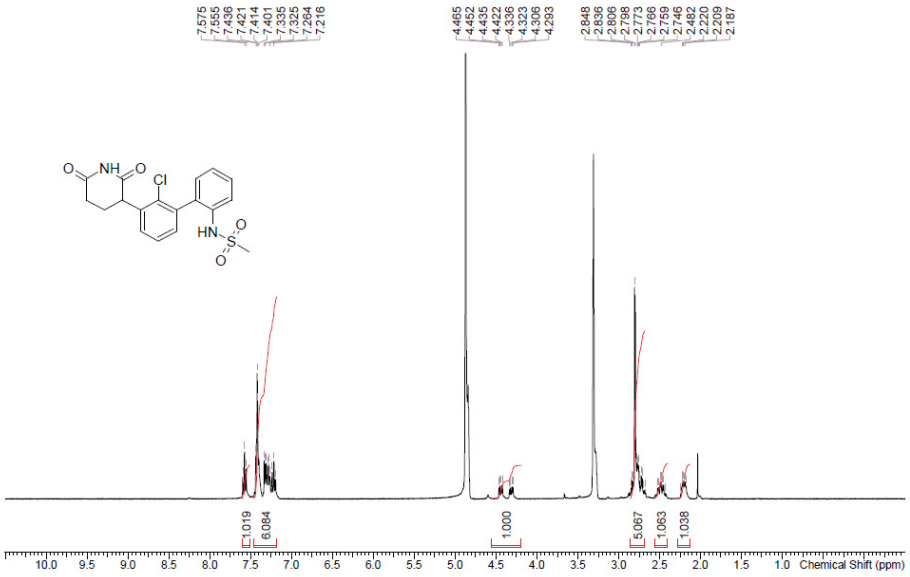
Acquisition Time (sec)	1.9988
Comment	ET86989-855-P1A CDCl3 Bruker_02_O_400MHz
Date	17 Dec 2024 09:07:32 (GMT+08:00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	64
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	CHLOROFORM-d
Spectrum Offset (Hz)	2433.4580
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	24.941

N-[4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]methanesulfonamide (NGT-201-141)



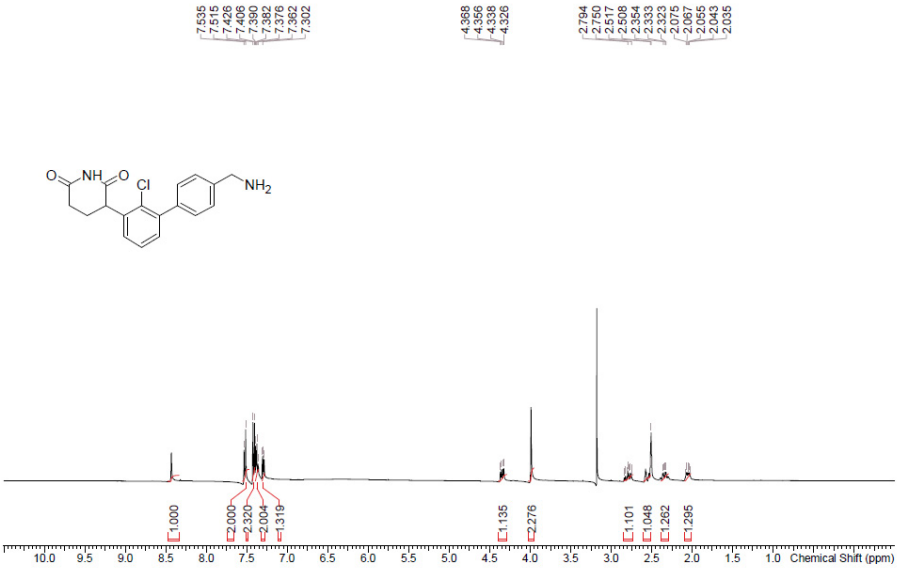
Acquisition Time (sec)	1.9988
Comment	ET86989-864-P1A MeOD Bruker_02_O_400MHz
Date	24 Dec 2024 15:56:29 (GMT+08:00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2470.8015
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	24.955

N-[2-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]methanesulfonamide (NGT-201-142)



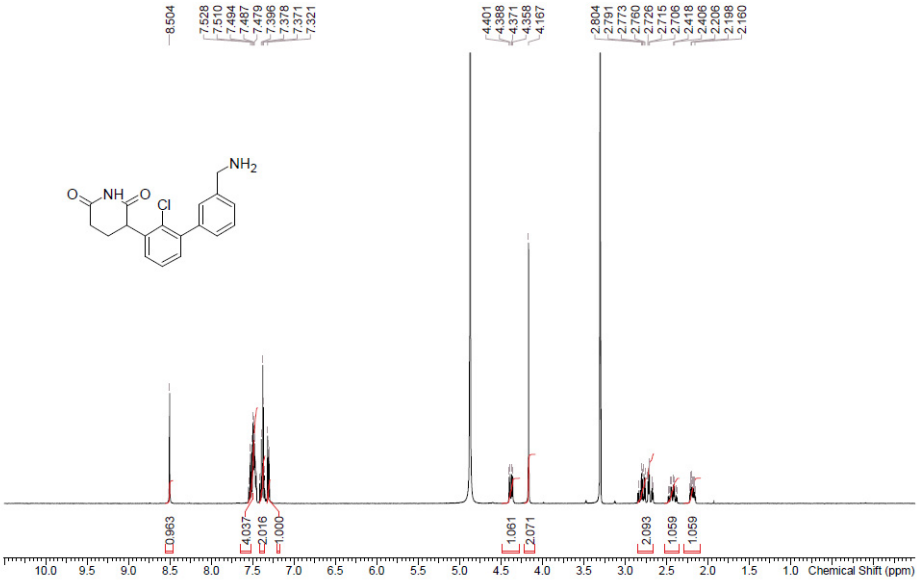
Acquisition Time (sec)	1.9988
Comment	ET86991-8 75-P1A1 MeOD Bruker_02 _P_400M Hz
Date	26 Dec 2024 15:47:52 (GMT+08: 00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2462.3987
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	22.695

3-[3-[4-(aminomethyl)phenyl]-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-143)



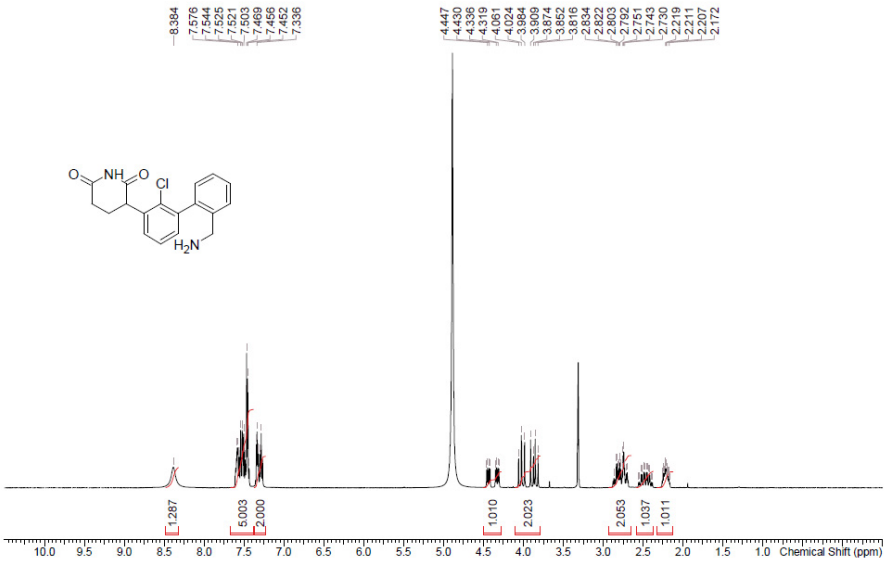
Acquisition Time (sec)	1.9988
Comment	ET86989-8 71-P1C DMSO Bruker_02 _O_400M Hz
Date	26 Dec 2024 18:15:26 (GMT+08: 00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	DMSO-d6
Spectrum Offset (Hz)	2470.8015
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	24.988

3-[3-[3-(aminomethyl)phenyl]-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-144)



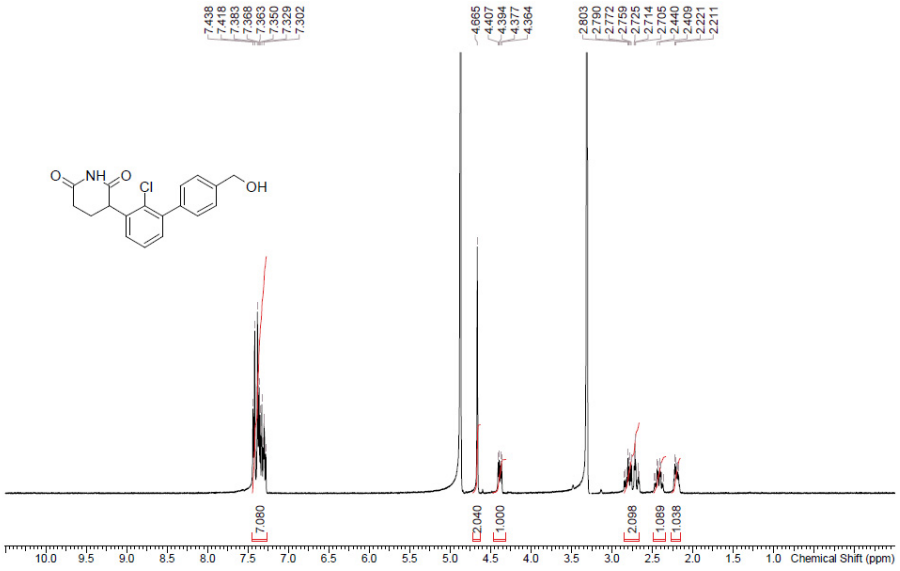
Acquisition Time (sec)	1.9988
Comment	ET86991-880-P1A1 MeOD Bruker_02_P_400MHz
Date	26 Dec 2024 15:49:36 (GMT+08:00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2459.7578
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	22.738

3-[3-[2-(aminomethyl)phenyl]-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-145)



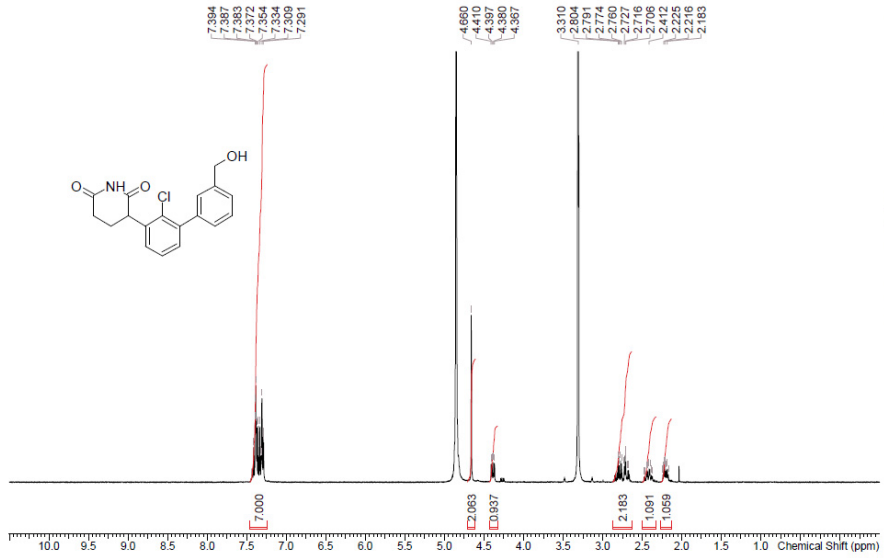
Acquisition Time (sec)	1.9988
Comment	ET86991-881-P1A1 MeOD Bruker_02_G_400MHz
Date	25 Dec 2024 16:00:00 (GMT+08:00)
Frequency (MHz)	400.0300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2464.1833
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	26.455

3-[2-chloro-3-[4-(hydroxymethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-146)



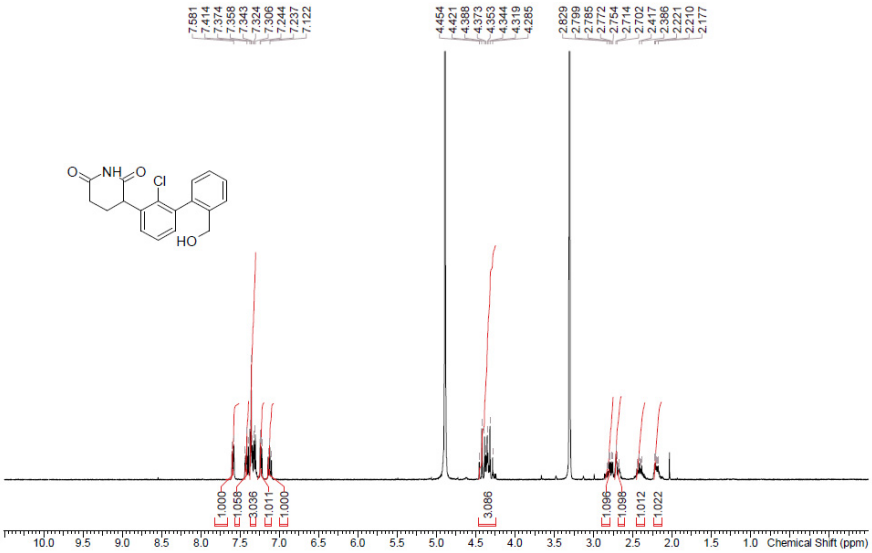
Acquisition Time (sec)	1.9988
Comment	ET86991-882-P1A1 MeOD Bruker_02_P_400MHz
Date	26 Dec 2024 15:51:43 (GMT+08:00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2462.6389
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	22.748

3-[2-chloro-3-[3-(hydroxymethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-147)



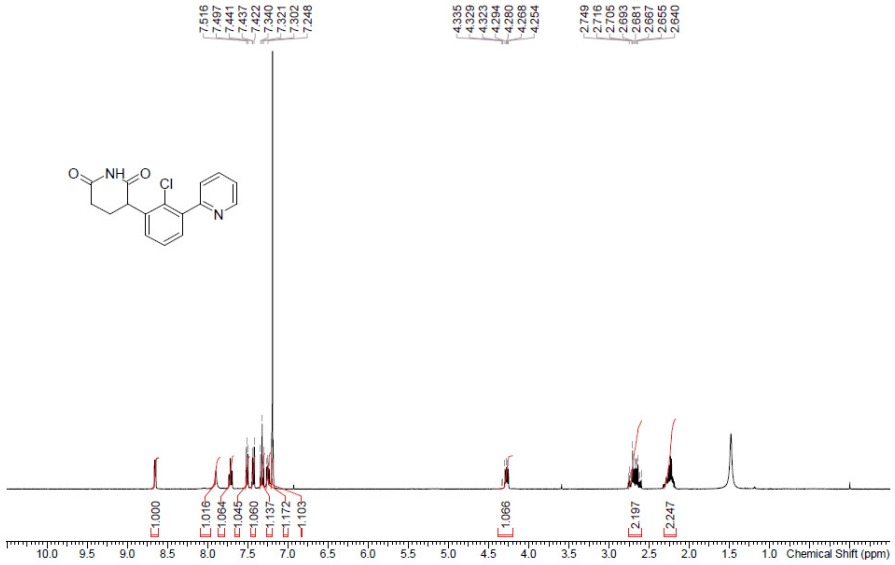
Acquisition Time (sec)	1.9988
Comment	ET95782-137-P1H MeOD Bruker_02_G_400MHz
Date	03 Jan 2025 09:53:27 (GMT+08:00)
Frequency (MHz)	400.0300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2462.5833
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	25.165

3-[2-chloro-3-[2-(hydroxymethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-148)



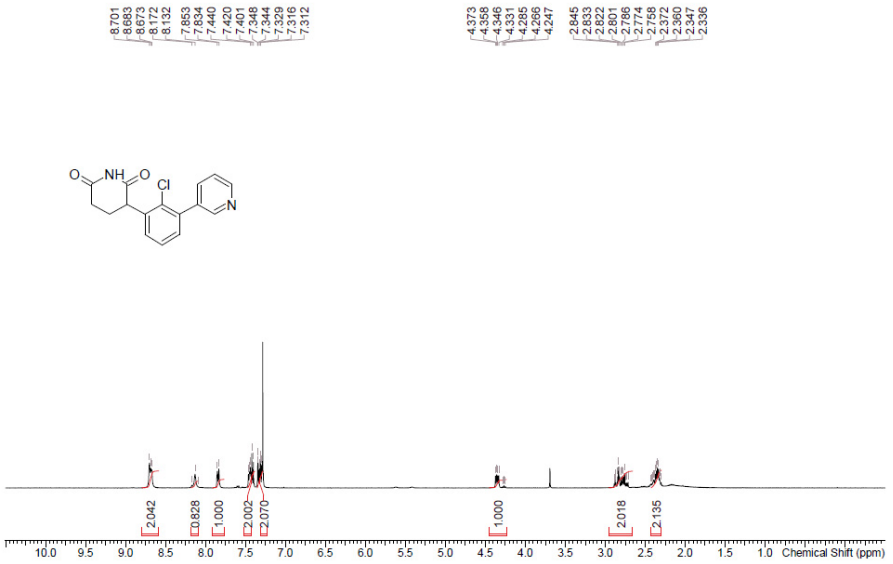
Acquisition Time (sec)	4.0002
Comment	ET86991-8 98-P1A1 MeOD ZKNJ_02_ N_400MH z
Date	03 Jan 2025 01:47:17 (GMT)
Frequency (MHz)	399.8213
Nucleus	1H
Number of Transients	8
Origin	QUANTU M-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	62.41
SW(cyclical) (Hz)	8012.00
Solvent	METHAN OL-d4
Spectrum Offset (Hz)	2402.2458
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	20.650

3-[2-chloro-3-(2-pyridyl)phenyl]piperidine-2,6-dione (NGT-201-112)



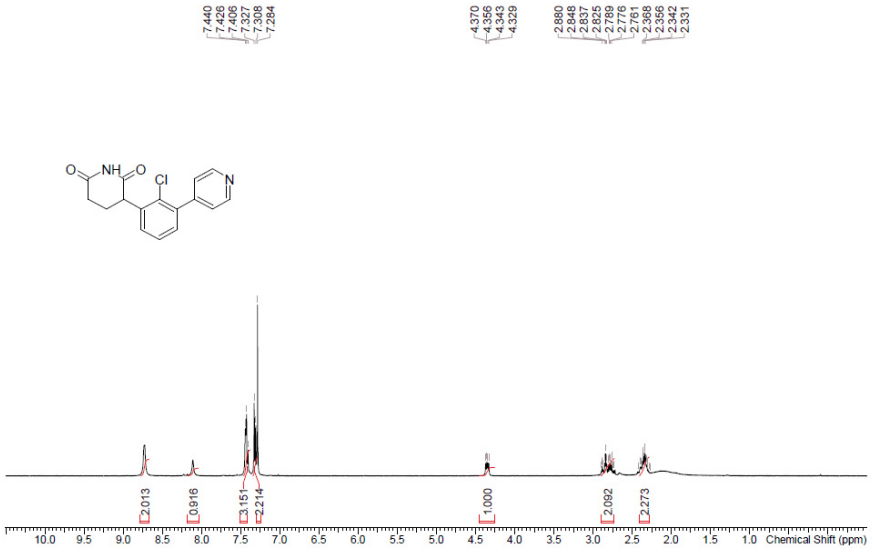
Acquisition Time (sec)	1.9988
Comment	ET86989-7 98-P1A CDCl3 Bruker_02 _O_400M Hz
Date	20 Nov 2024 08:50:25 (GMT+08: 00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	64
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	CHLORO FORM-d
Spectrum Offset (Hz)	2433.3979
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	25.888

3-[2-chloro-3-(3-pyridyl)phenyl]piperidine-2,6-dione (NGT-201-113)



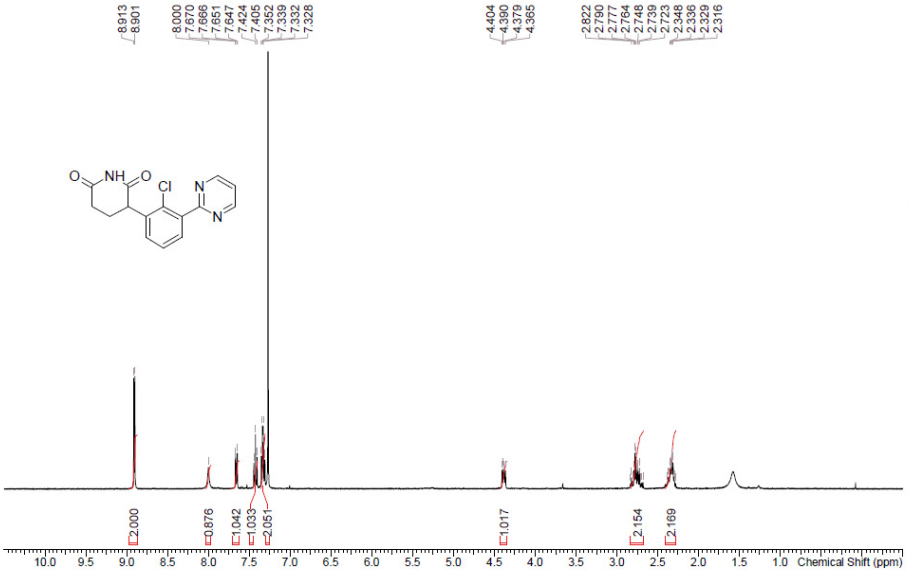
Acquisition Time (sec)	1.9988
Comment	ET86989-768-P1A CDCl3 Bruker_02_V_400MHz
Date	01 Nov 2024 09:04:23 (GMT+08:00)
Frequency (MHz)	400.1500
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	CHLOROFORM-d
Spectrum Offset (Hz)	2470.8577
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	25.148

3-[2-chloro-3-(4-pyridyl)phenyl]piperidine-2,6-dione (NGT-201-114)



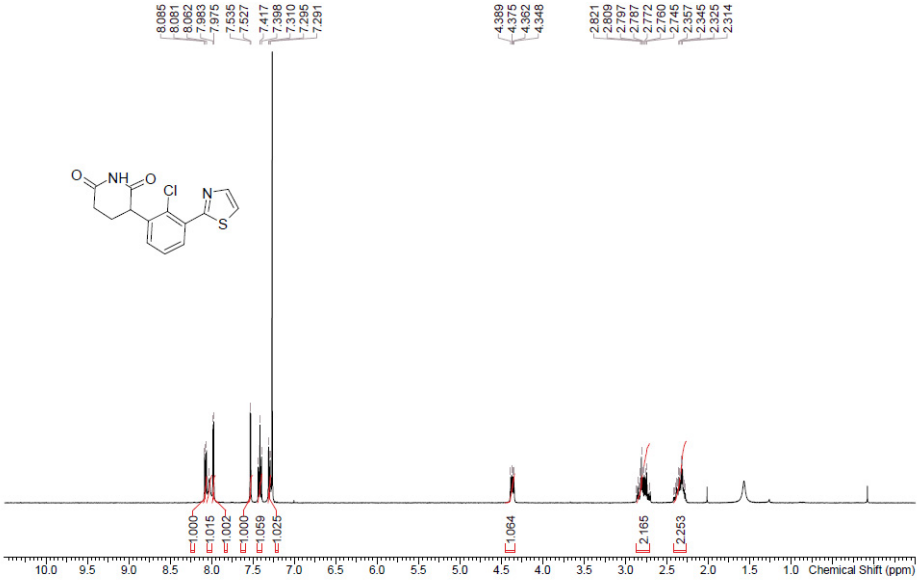
Acquisition Time (sec)	1.9988
Comment	ET86989-769-P1A CDCl3 Bruker_02_V_400MHz
Date	01 Nov 2024 09:07:41 (GMT+08:00)
Frequency (MHz)	400.1500
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	CHLOROFORM-d
Spectrum Offset (Hz)	2470.8577
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	25.153

3-(2-chloro-3-pyrimidin-2-yl-phenyl)piperidine-2,6-dione (NGT-201-115)



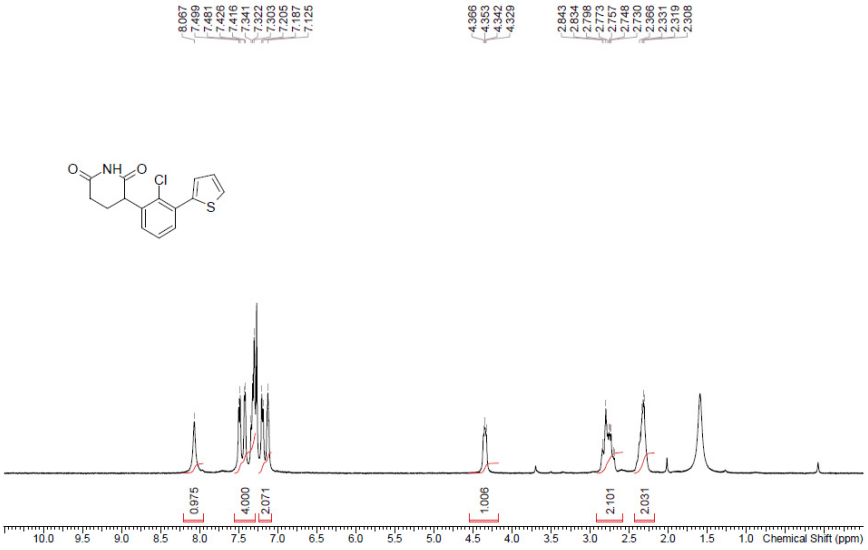
Acquisition Time (sec)	4.0002
Comment	ET86991-793-P1A1 CDCl3 ZKNJ_02_N_400MHz
Date	22 Nov 2024 03:20:30 (GMT)
Frequency (MHz)	399.8359
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	71.74
SW(cyclical) (Hz)	8012.00
Solvent	CHLOROFORM-d
Spectrum Offset (Hz)	2385.7012
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	22.050

3-(2-chloro-3-thiazol-2-yl-phenyl)piperidine-2,6-dione (NGT-201-116)



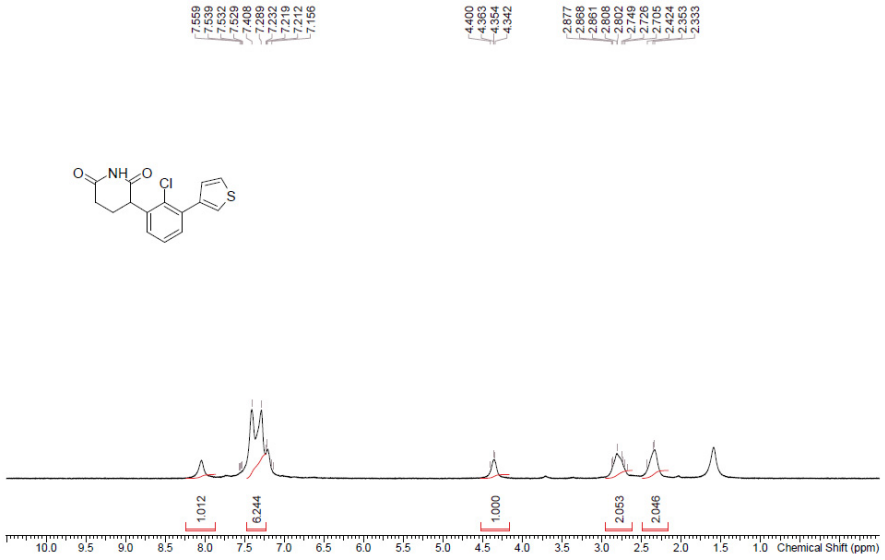
Acquisition Time (sec)	1.9988
Comment	ET86991-823-P1A1 CDCl3 Bruker_02_G_400MHz
Date	05 Dec 2024 09:54:23 (GMT+08:00)
Frequency (MHz)	400.0300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	CHLOROFORM-d
Spectrum Offset (Hz)	2464.5198
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	25.149

3-[2-chloro-3-(2-thienyl)phenyl]piperidine-2,6-dione (NGT-201-117)



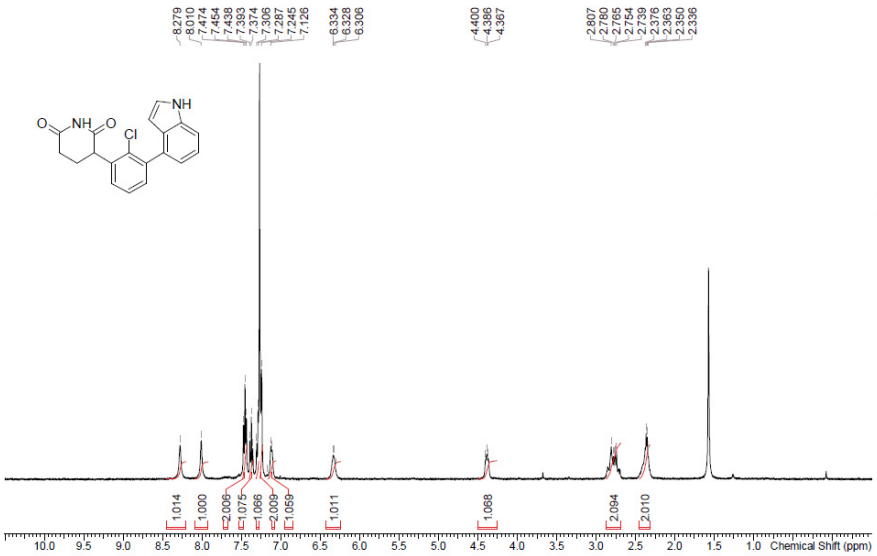
Acquisition Time (sec)	1.9988
Comment	ET86991-7 62-P1A1 CDCl3 Bruker_02 _V_400M Hz
Date	01 Nov 2024 12:17:24 (GMT+08: 00)
Frequency (MHz)	400.1500
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	CHLORO FORM-d
Spectrum Offset (Hz)	2465.0359
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	25.152

3-[2-chloro-3-(3-thienyl)phenyl]piperidine-2,6-dione (NGT-201-118)



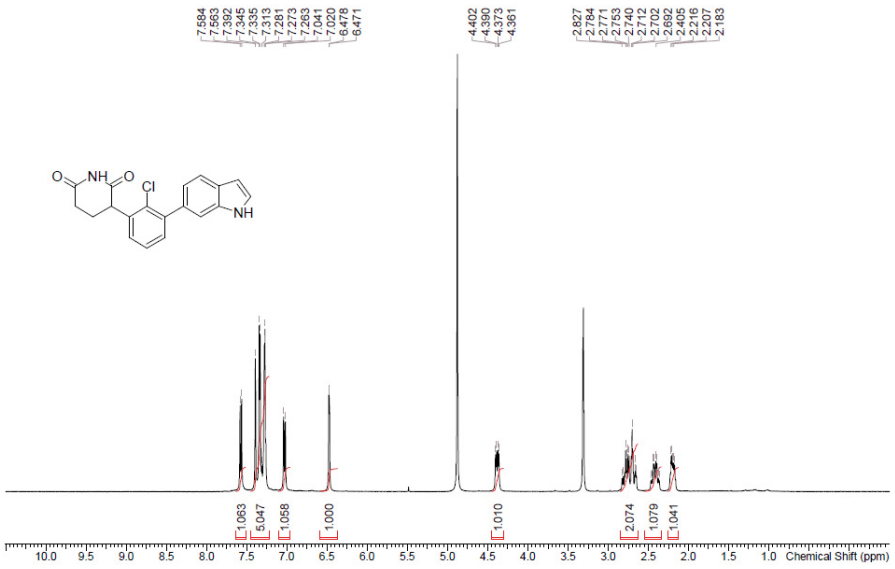
Acquisition Time (sec)	1.9988
Comment	ET86989-7 70-P1A CDCl3 Bruker_02 _V_400M Hz
Date	01 Nov 2024 09:10:19 (GMT+08: 00)
Frequency (MHz)	400.1500
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	CHLORO FORM-d
Spectrum Offset (Hz)	2470.8577
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	25.150

3-[2-chloro-3-(1H-indol-4-yl)phenyl]piperidine-2,6-dione (NGT-201-119)



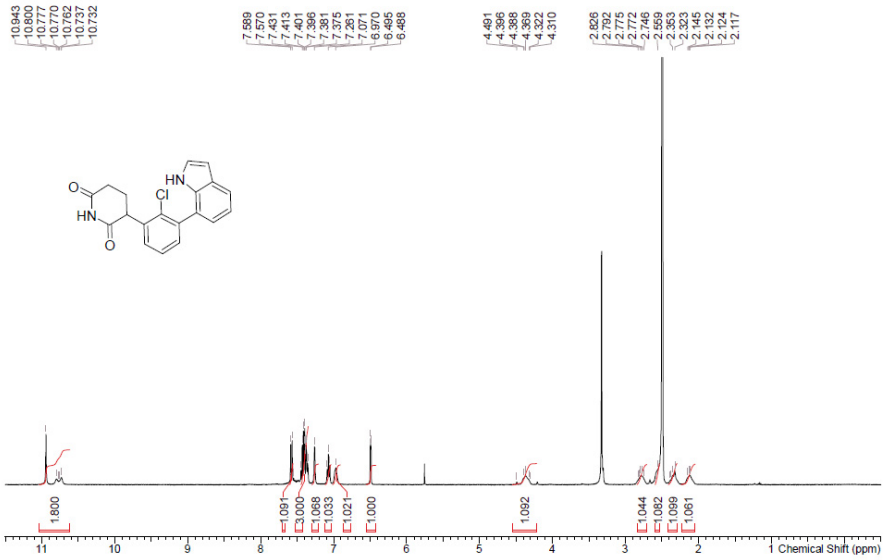
Acquisition Time (sec)	4.0002
Comment	ET86991-767-P1A2 CDCl3 ZKNJ_02_N_400MHz
Date	07 Nov 2024 04:02:30 (GMT)
Frequency (MHz)	399.8359
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	70.98
SW(cyclical) (Hz)	8012.00
Solvent	CHLOROFORM-d
Spectrum Offset (Hz)	2389.2595
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	21.250

3-[2-chloro-3-(1H-indol-6-yl)phenyl]piperidine-2,6-dione (NGT-201-156)



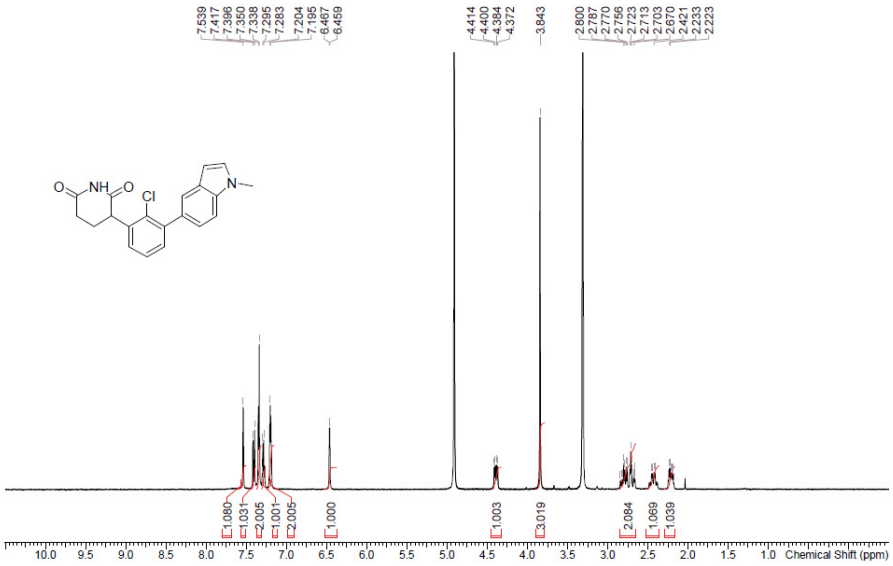
Acquisition Time (sec)	1.9988
Comment	ET99069-13-P1A3 MeOD Bruker_02_V_400MHz
Date	25 Feb 2025 14:27:07 (GMT+08:00)
Frequency (MHz)	400.1500
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2463.2148
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	22.611

3-[2-chloro-3-(1H-indol-7-yl)phenyl]piperidine-2,6-dione (NGT-201-157)



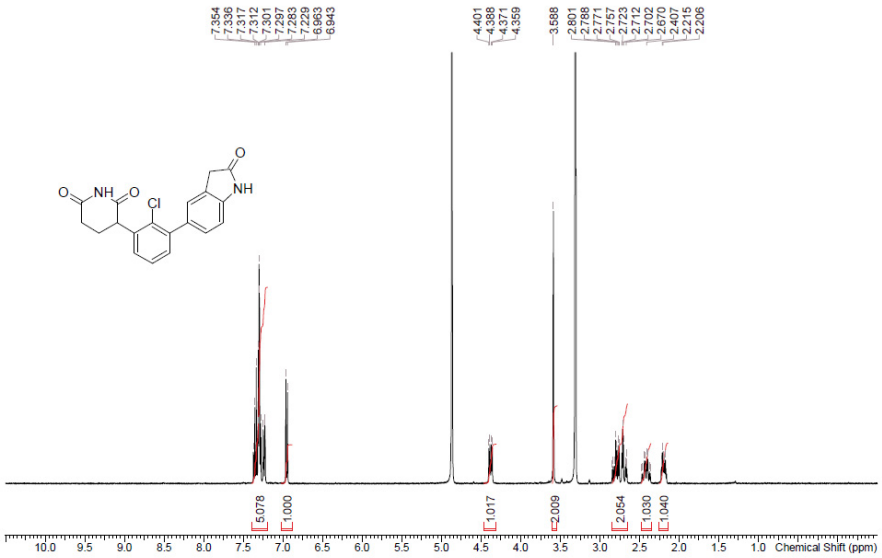
Acquisition Time (sec)	1.9988
Comment	ET99069-17-P1Q2 DMSO Bruker_02_V_400MHz
Date	25 Feb 2025 15:04:10 (GMT+08:00)
Frequency (MHz)	400.1500
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	DMSO-d6
Spectrum Offset (Hz)	2466.1760
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	22.569

3-[2-chloro-3-(1-methylindol-5-yl)phenyl]piperidine-2,6-dione (NGT-201-155)



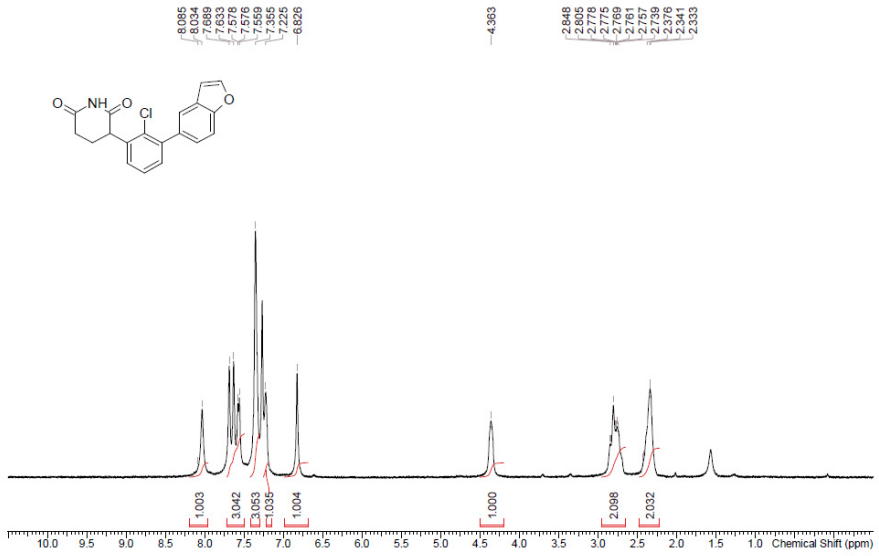
Acquisition Time (sec)	4.0002
Comment	ET99069-18-P1A1 MeOD ZKNJ_02_N_400MHz
Date	25 Feb 2025 02:10:08 (GMT)
Frequency (MHz)	399.8213
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	64.60
SW(cyclical) (Hz)	8012.00
Solvent	METHANOL-d4
Spectrum Offset (Hz)	3018.4106
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	19.150

3-[2-chloro-3-(2-oxoindolin-5-yl)phenyl]piperidine-2,6-dione (NGT-201-153)



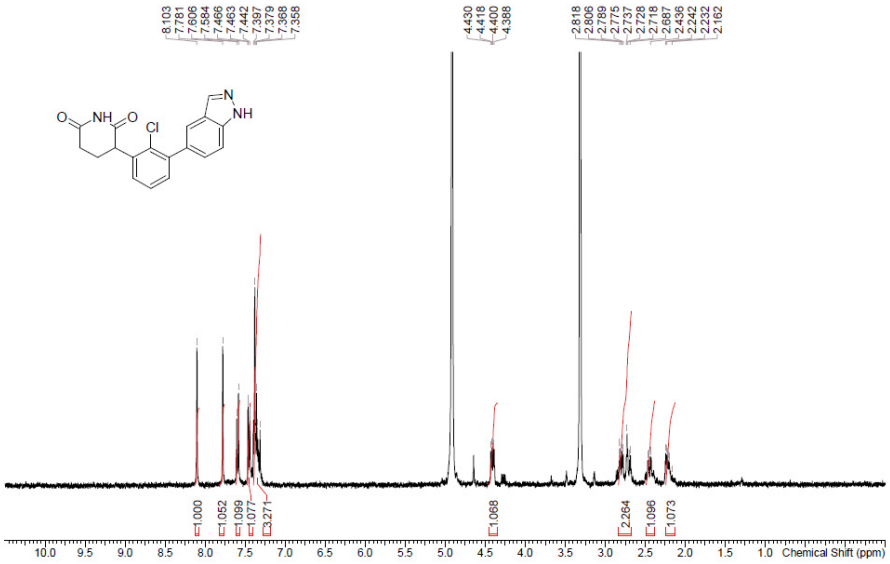
Acquisition Time (sec)	1.9988
Comment	ET99069-29-P1A1 MeOD Bruker_02_P_400MHz
Date	26 Feb 2025 09:47:12 (GMT+08:00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2462.8789
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	25.037

3-[3-(benzofuran-5-yl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-149)



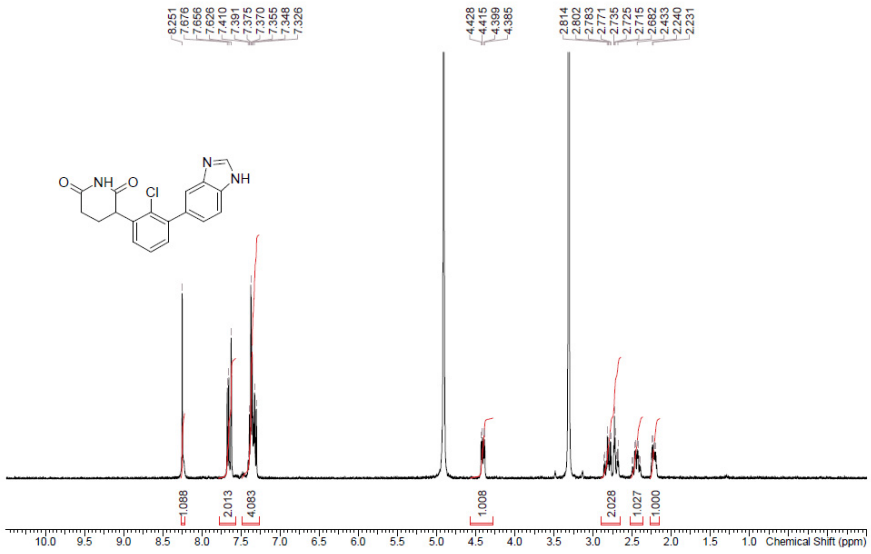
Acquisition Time (sec)	1.9988
Comment	ET99069-14-P1A1 CDCl3 Bruker_02_P_400MHz
Date	20 Feb 2025 16:01:00 (GMT+08:00)
Frequency (MHz)	400.1300
Nucleus	1H
Number of Transients	8
Origin	Avance
Original Points Count	16384
Owner	nmr
Points Count	65536
Pulse Sequence	zg30
Receiver Gain	101.00
SW(cyclical) (Hz)	8196.72
Solvent	CHLOROFORM-d
Spectrum Offset (Hz)	2464.1194
Spectrum Type	standard
Sweep Width (Hz)	8196.60
Temperature (degree C)	25.009

3-[2-chloro-3-(1H-indazol-5-yl)phenyl]piperidine-2,6-dione (NGT-201-151)



Acquisition Time (sec)	4.0002
Comment	ET99069-12-P1A1 MeOD ZKNJ_02_N_400MHz
Date	20 Feb 2025 08:16:12 (GMT)
Frequency (MHz)	399.8213
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	67.27
SW(cyclical) (Hz)	8012.00
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2387.6926
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	19.150

3-[3-(1H-benzimidazol-5-yl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-152)



Acquisition Time (sec)	4.0002
Comment	ET99069-16-P1A1 MeOD ZKNJ_02_N_400MHz
Date	25 Feb 2025 02:02:51 (GMT)
Frequency (MHz)	399.8213
Nucleus	1H
Number of Transients	8
Origin	QUANTUM-I
Original Points Count	32050
Owner	admin
Points Count	65536
Pulse Sequence	s1pul30
Receiver Gain	66.20
SW(cyclical) (Hz)	8012.00
Solvent	METHANOL-d4
Spectrum Offset (Hz)	2419.7183
Spectrum Type	undefined
Sweep Width (Hz)	8011.88
Temperature (degree C)	20.050