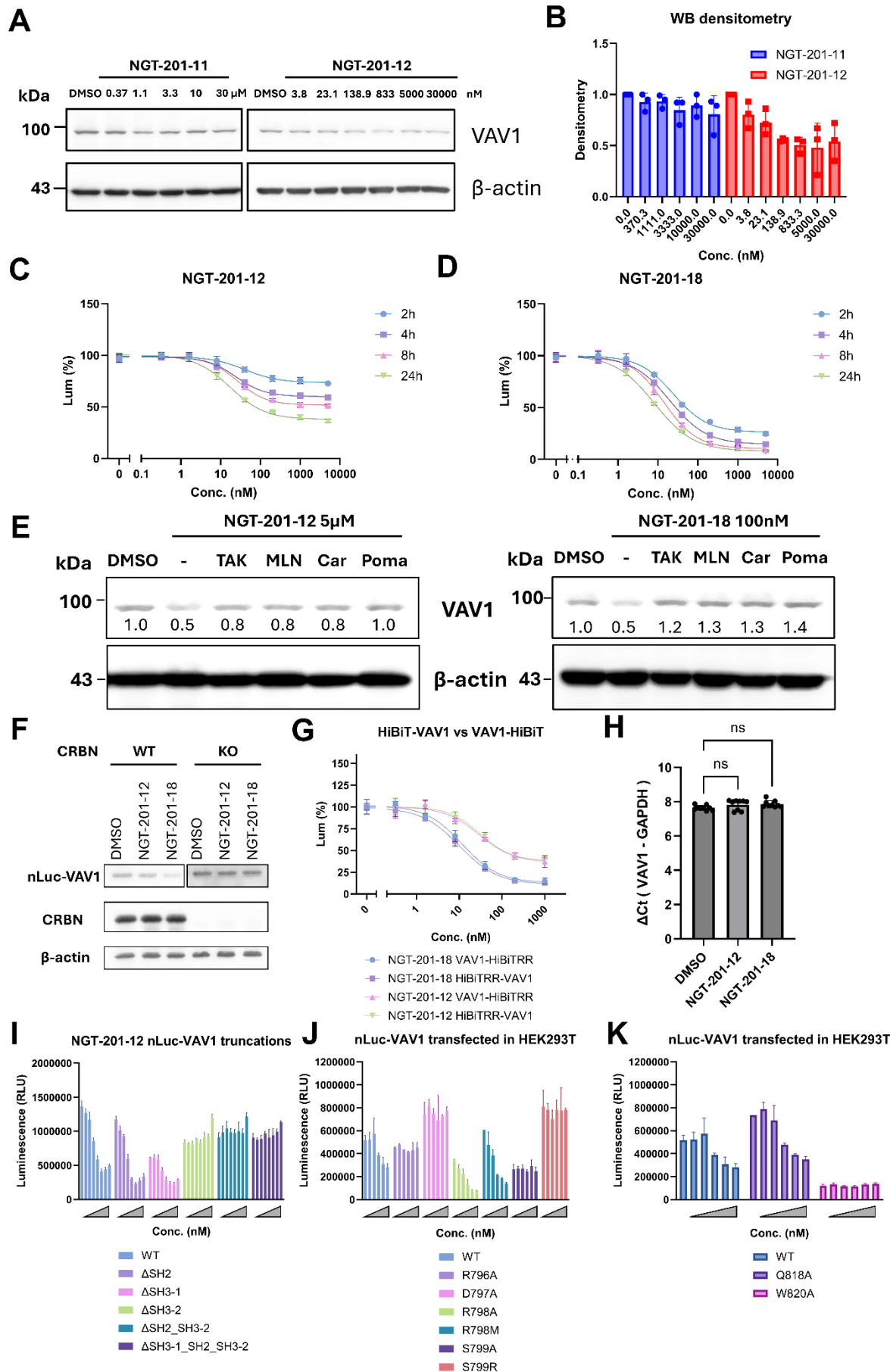
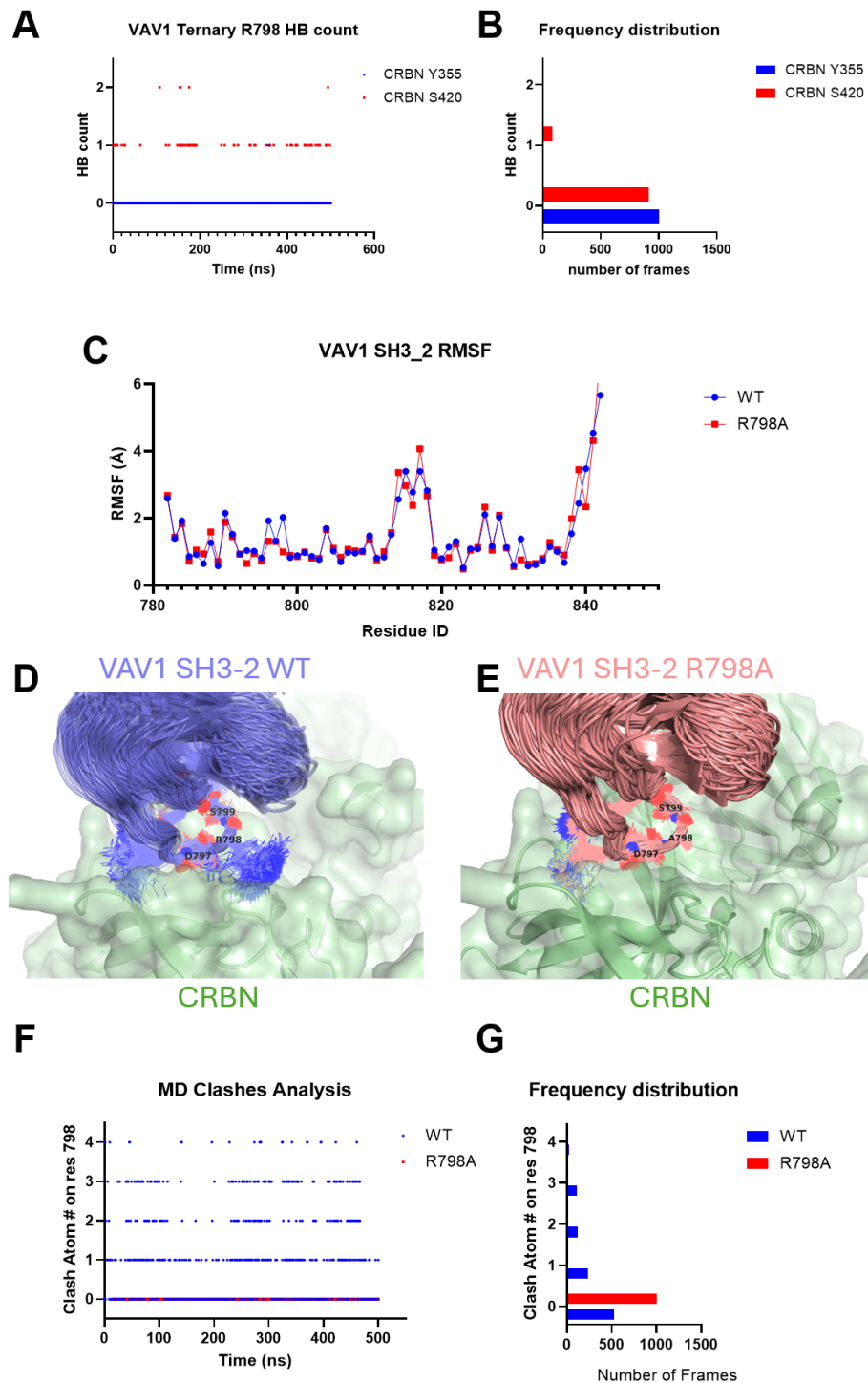


Supplementary Figures



Supplementary Figure 1. NGT-201-12 and -18 are VAV1 degraders.

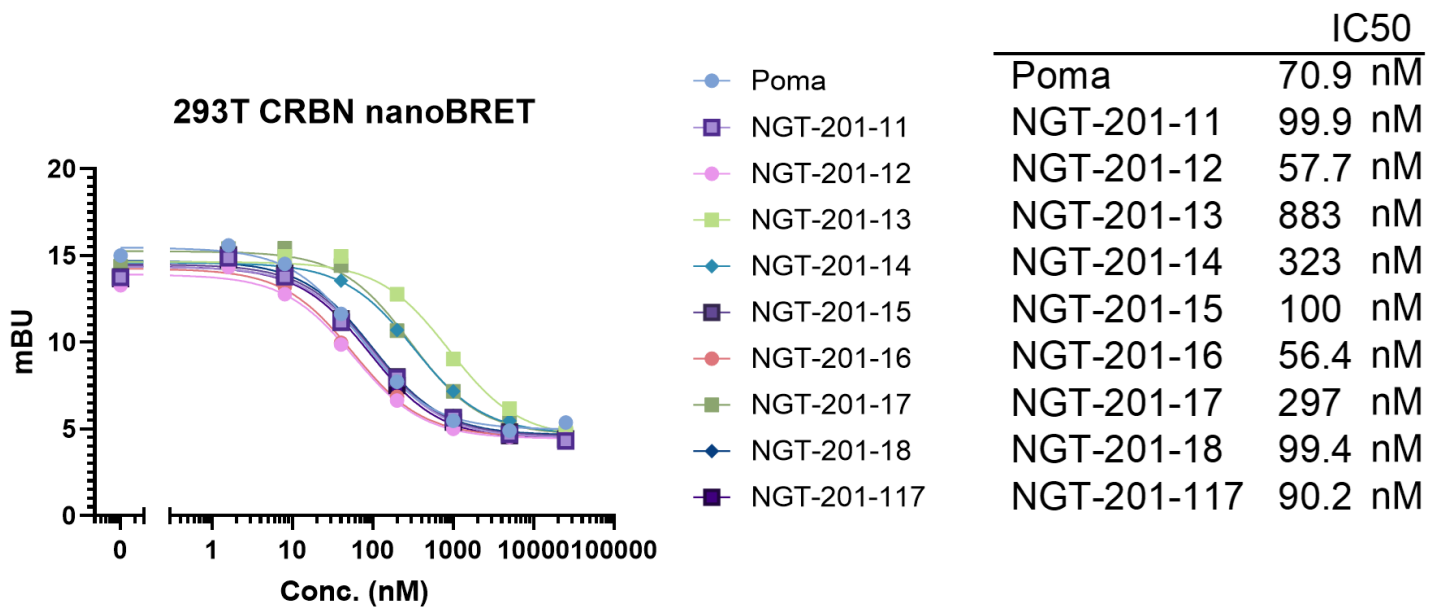
(A) Representative Western blot analysis of endogenous VAV1 by 24 h NGT-201-11 and NGT-201-12 treatment in Jurkat cells. **(B)** Quantitative analysis of panel A western blots with three biological replicates. **(C-D)** Jurkat VAV1-HiBiT KI cell line treated with various concentration of NGT-201-12 (C) or NGT-201-18 (D) for 2, 4, 8, 24 h. **(E)** WB analysis of Jurkat WT cell line treated with DMSO, NGT-201-12 5 μ M or NGT-201-18 100 nM for 4 h, with 0.5 h pretreat and 4 h co-treatment of TAK-243 (TAK) 1 μ M, MLN-4924 (MLN) 1 μ M, Carfilzomib (Car) 1 μ M, or Pomalidomide (Poma) 20 μ M. **(F)** WB analysis of HEK293T cells (WT or CRBN-knockout) transfected with nLuc-VAV1 and treated with 1 μ M NGT-201-12 or 18 for 24 h. **(G)** HeLa cells transfected with HiBiTRR-VAV1 or VAV1-HIBITRR and treated with various concentrations of NGT-201-12 or -18 for 24 h. **(H)** RT-qPCR of VAV1 mRNA transcript after 24 h treatment of DMSO, 1 μ M NGT-201-12 or -18 in Jurkat WT cells. Significance tested by two-sided t-test. ns. not significant ($p > 0.05$). **(I)** Raw luminescence readout for Figure 1E. **(J-K)** Raw luminescence readout for Figure 3E. All data in this figure are presented as mean $\pm$ SD from three independent experiments.



Supplementary Figure 2. VAV1 R798 is a negative contributor to ternary formation with CRBN.

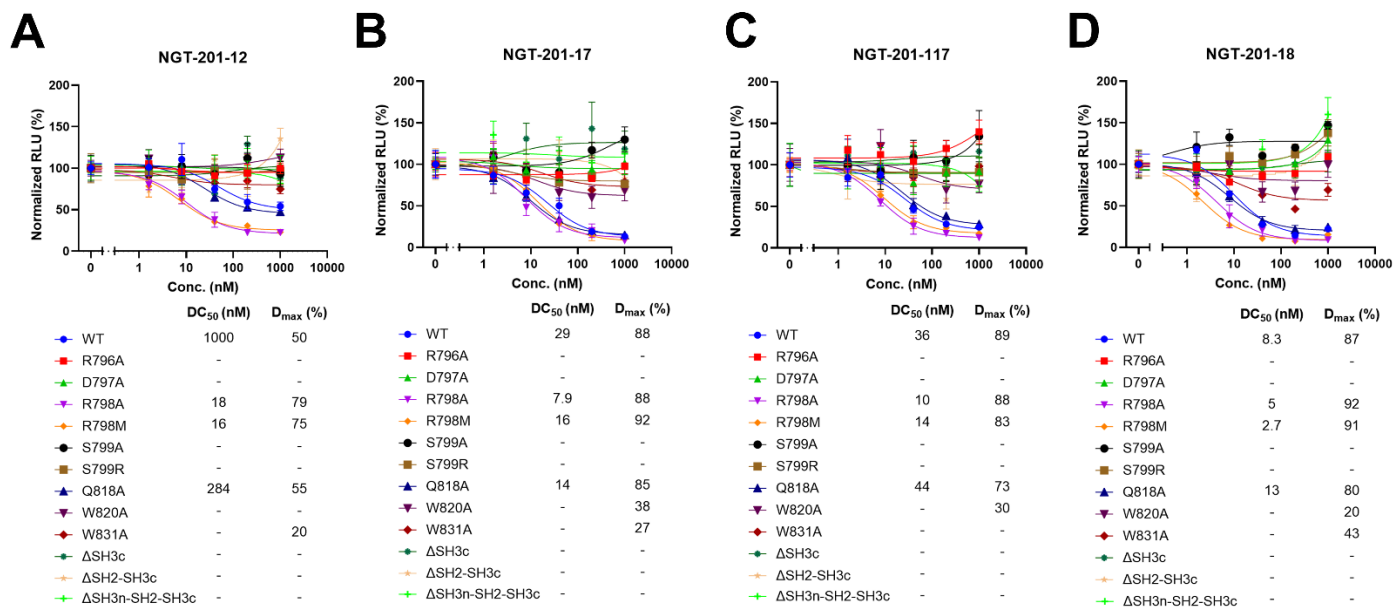
(A) Hydrogen bond analysis of VAV1 R798 with CRBN Y355/S420 in the 500 ns MD simulation of VAV1:NGT-201-12:CRBN ternary complex. **(B)** Frequency distribution of panel A. **(C)** RMSF of VAV1 SH3-2 domain for WT and R798A mutant during 500ns MD simulation. **(D)** The R798 residue side chain in unbound VAV1 SH3-2 domain will sample various conformations, and some of which forms clashes when aligned to the CRBN:NGT-201-12:VAV1 ternary model. **(E)** The R798A residue side chain in unbound VAV1 SH3-2 domain is stable, avoid forming clashes when aligned to the CRBN:NGT-201-12:VAV1 ternary model. **(F)**

Quantification of the clashed atom number on R798 or R798A during the 500 ns MD simulation and (G) shows the frequency distribution.



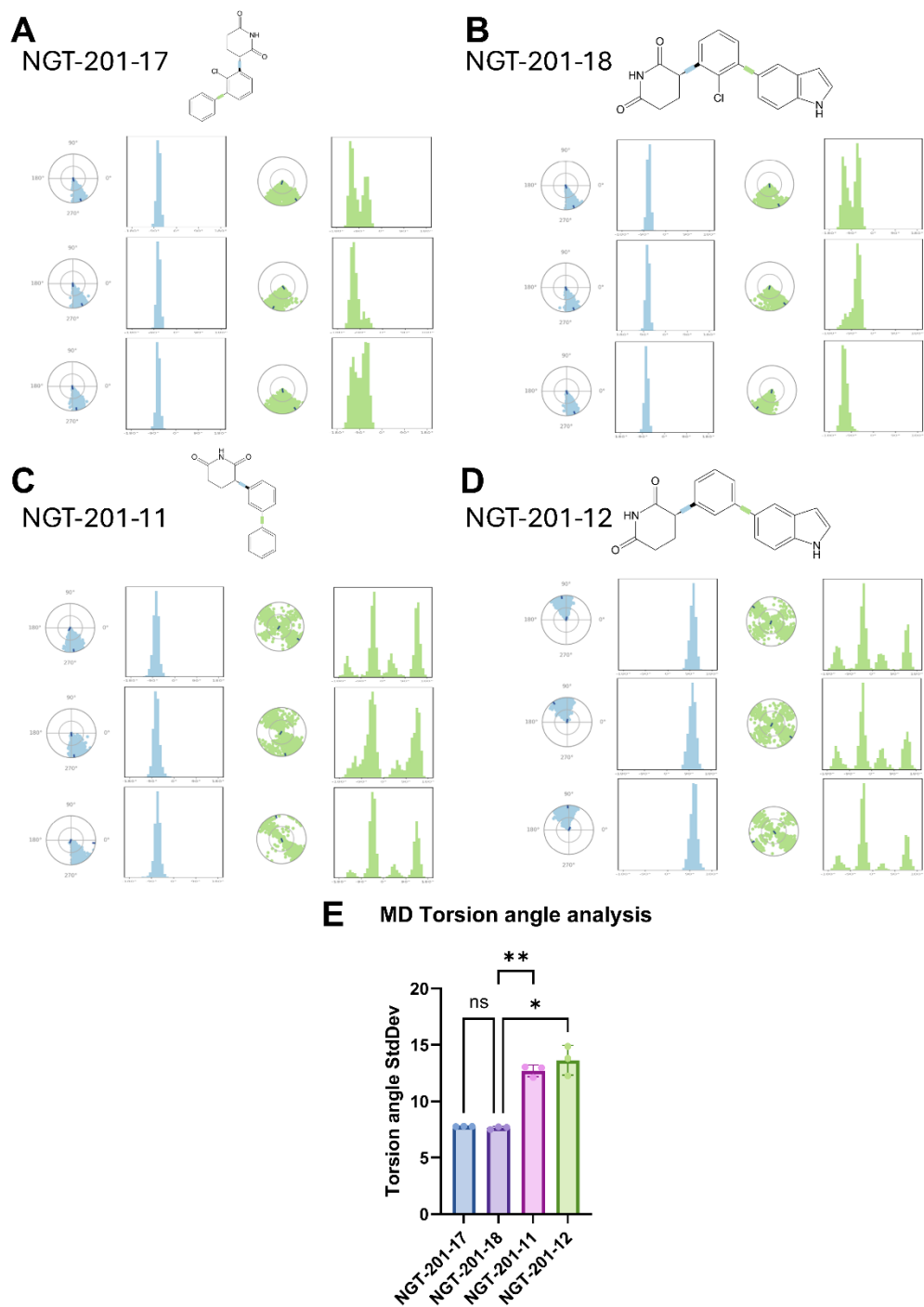
Supplementary Figure 3. CRBN NanoBRET target engagement assay in HEK293T cells using 500 nM CRBN tracer.

Tracer was balanced for 1h before 2h incubation of degraders. Data are presented as mean ± SD from three independent experiments.



Supplementary Figure 4. Dose-response curves showing the effect of NGT-201-12/17/117/18 on the degradation of wild-type (WT) nLuc-VAV1 and various point mutants within the predicted CRBN/NGT-201-12 interaction interface in HEK293T cells.

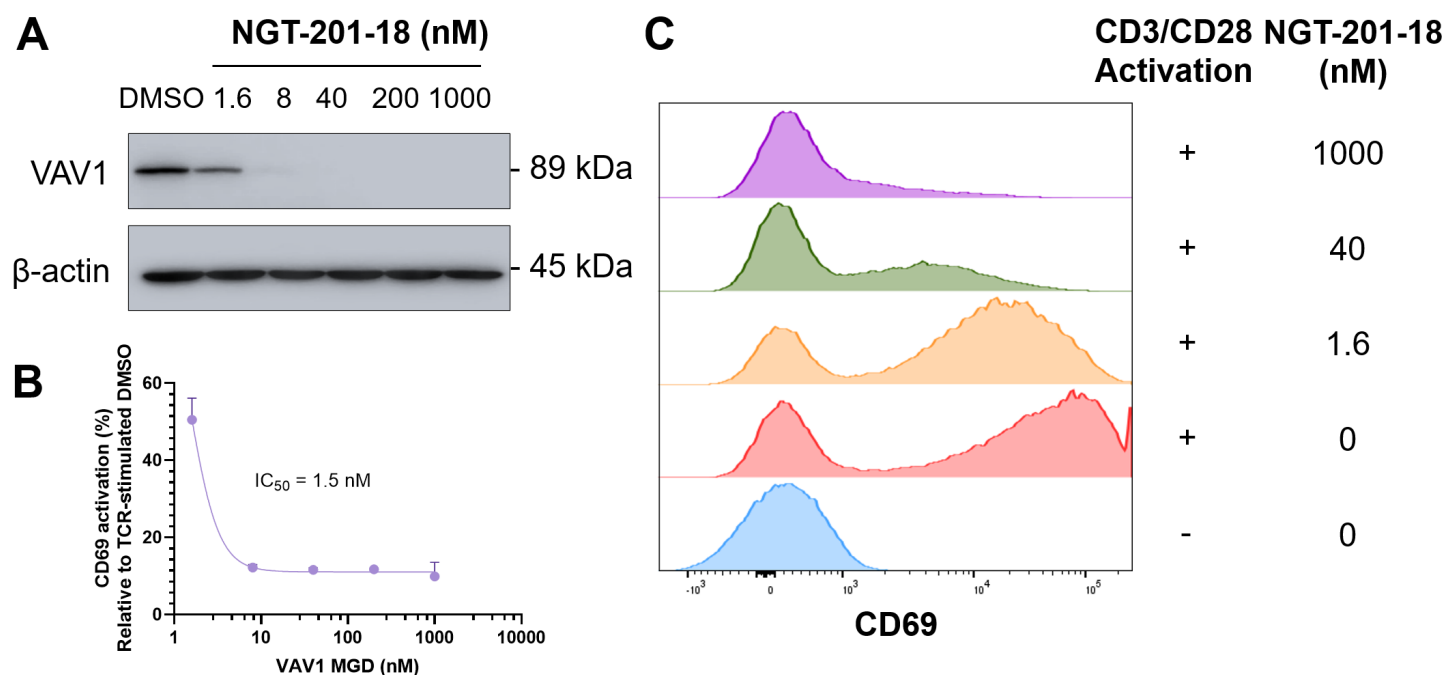
Data are presented as mean $\pm$ SD from two independent experiments. The table inset summarizes the DC₅₀ and D_{max} values for each mutant.



Supplementary Figure 5. Ligand RMSF and torsion angle analysis of the 500ns molecular dynamics simulation trajectories (n=3) of selected compounds in the CRBN-glue binary model.

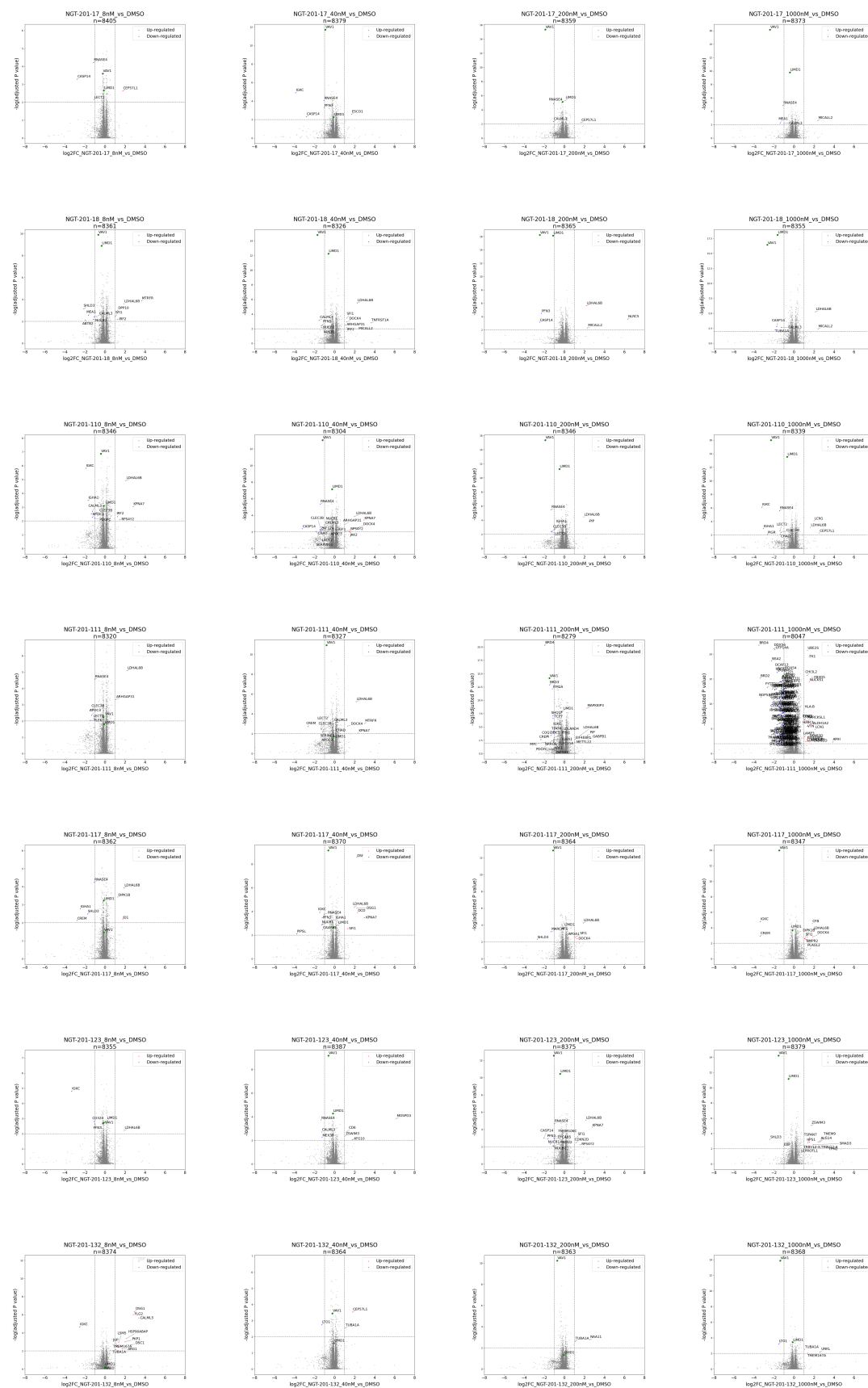
Data are presented as mean $\pm$ SD from three independent experiments. Significance tested by Dunnett T3 multiple comparison test as a follow-up test after ANOVA.

ns. not significant ($p = 0.44$), * $p = 0.033$, ** $p = 0.008$.

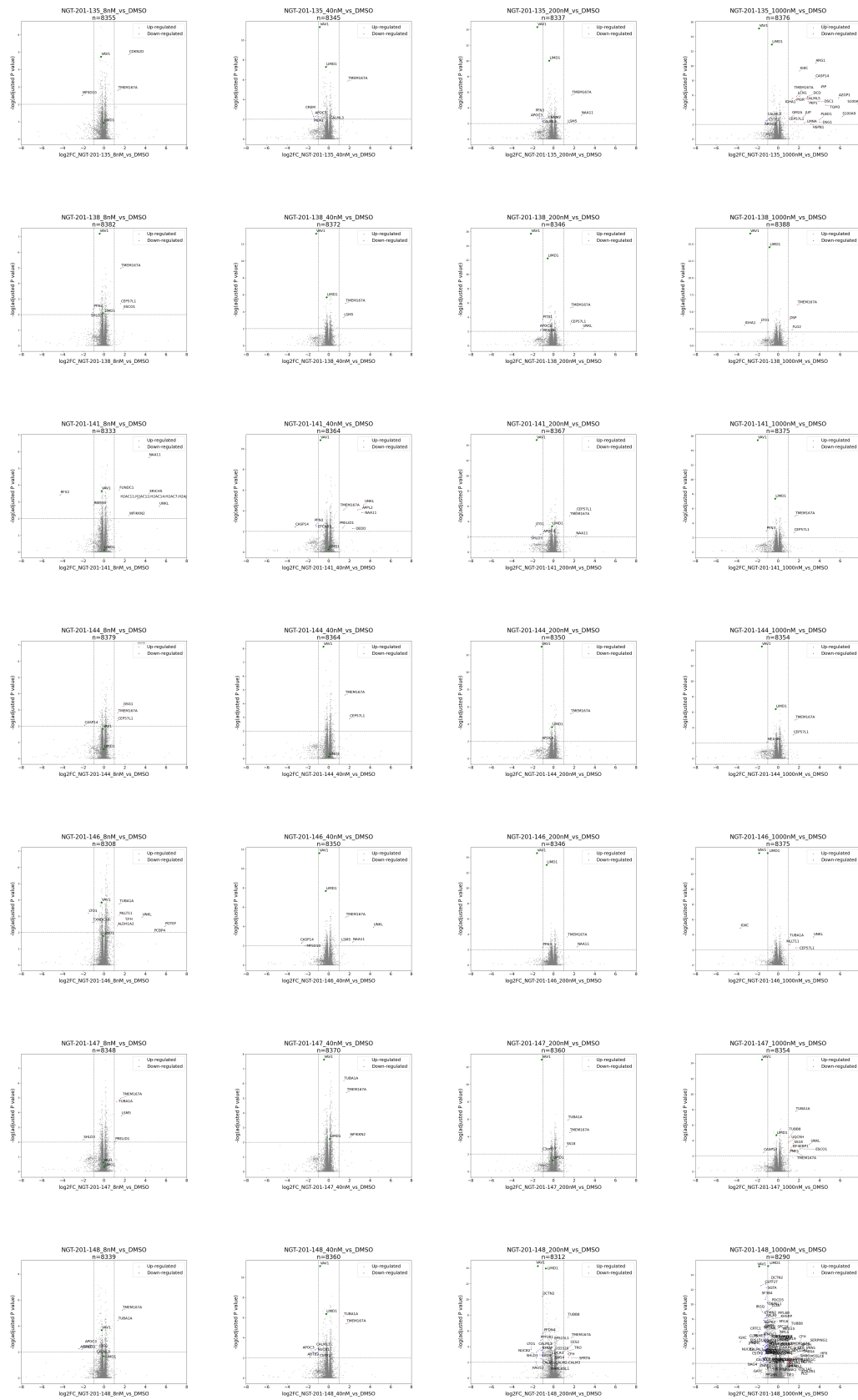


Supplementary Figure 6. NGT-201-18 Induced VAV1 Degradation Inhibits Human T Cell Activation.

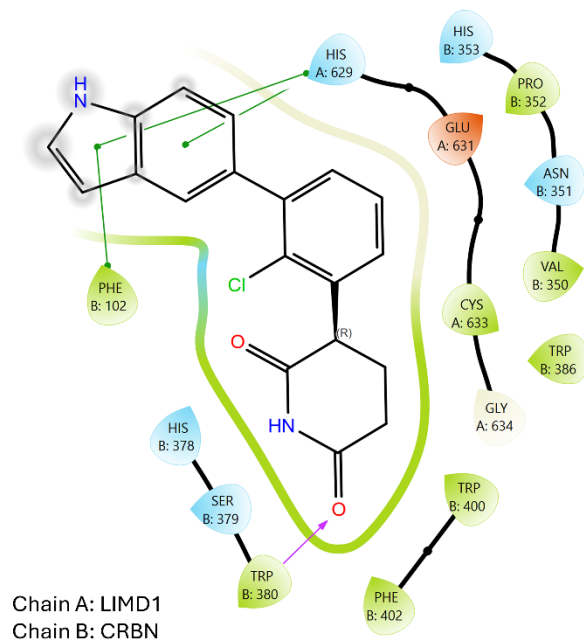
Primary human T cells were treated with a 5-point, 5-fold serial dilution of NGT-201-18 (starting concentration: 1000 nM) or DMSO control for 24 hours, followed by activation with anti-CD3/CD28 magnetic beads for an additional 12 hours. Cellular analyses were subsequently performed by Western blotting for VAV1 and flow cytometry for the activation marker CD69. **(A)** Western blot analysis confirming dose-dependent VAV1 degradation induced by NGT-201-18 in primary human T cells. **(B)** Quantification of T cell activation presented as the percentage of CD69 positive cells relative to the TCR-stimulated DMSO control. CD69 activation was calculated based on the Median Fluorescence Intensity (MFI). Data are presented as the mean±SD for n=3 biological replicates. **(C)** Representative flow cytometry histograms illustrating CD69 surface presentation on human T cells following the indicated treatments.



Supplementary Figure 7. Volcano plots of NGT-201-17 to -132 associated with Figure 7.

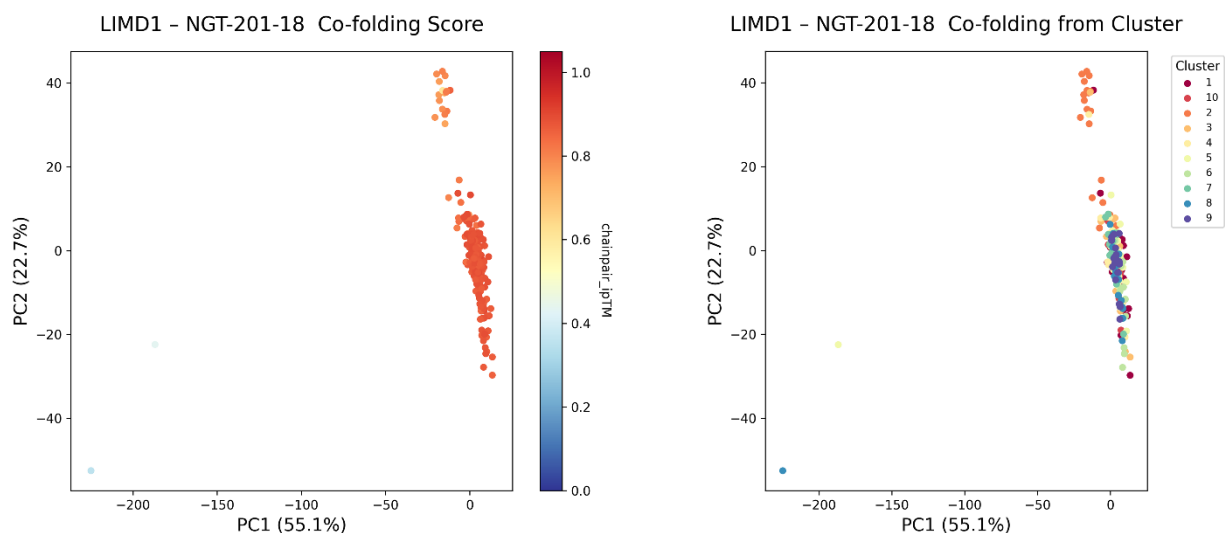


Supplementary Figure 8. Volcano plots of NGT-201-135 to -148 associated with Figure 7.

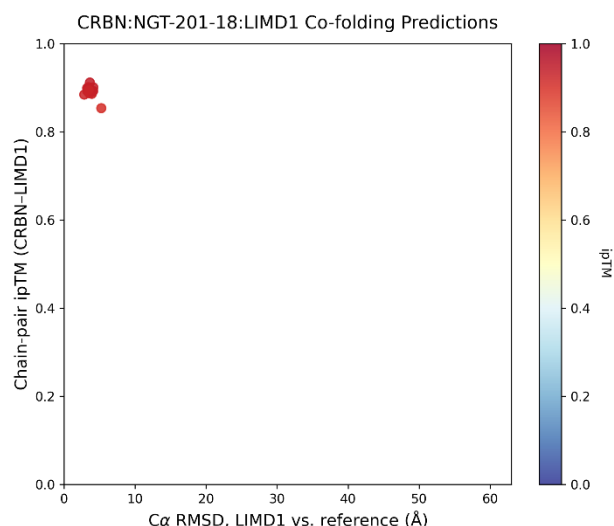


Supplementary Figure 9. Protein ligand interaction diagram of CRBN:NGT-201-18:LIMD1 model

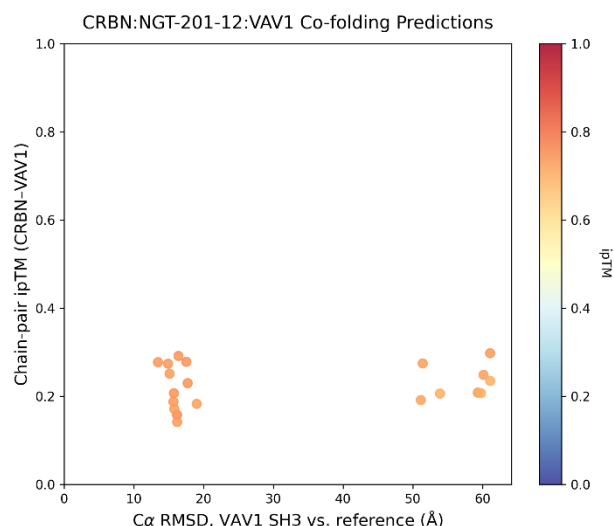
A GluePlex for LIMD1



B Boltz-2 only for LIMD1 (without docked template)



C Boltz-2 only for VAV1 (without docked template)

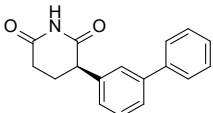
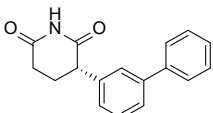
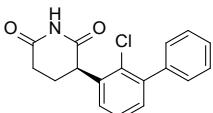
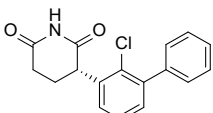


Supplementary Figure 10. Benchmarking Boltz-2 performance with and without docking templates for canonical (LIMD1) versus non-canonical (VAV1) neosubstrates.

(A) Principal Component Analysis (PCA) of the co-folded structures generated by the full GluePlex pipeline for the LIMD1:NGT-201-18:CRBN complex, colored by chainpair_ipTM (left) or the original HADDOCK template cluster number (right). **(B)** Co-folding predictions with 20 diffusion samples for the LIMD1 ternary complex using Boltz-2 in isolation (without HADDOCK docking templates). The plot of chain-pair ipTM against Cα RMSD (relative to the alignment-based reference model) demonstrates that Boltz-2 can successfully predict canonical G-loop interactions *de novo*. **(C)** Co-folding predictions with 20 diffusion samples for the VAV1 ternary complex using Boltz-2 in isolation. The model completely fails to predict the novel RT-loop interface (yielding low ipTM and high RMSD) in the absence of the physics-based docking templates provided by the full GluePlex workflow. All Boltz-2 runs were performed with MSA generation disabled provided with individual protein templates.



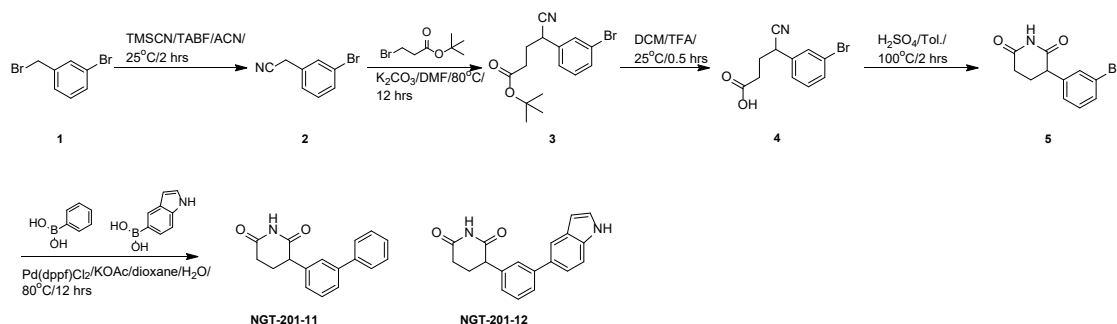
Supplementary Table

Ligand	Ternary		CRBN binary		VAV1 binary		$\Delta\Delta G$ cooperativity
	$\Delta\Delta G$ (MLE)	uncertainty	$\Delta\Delta G$ (MLE)	uncertainty	$\Delta\Delta G$ (MLE)	uncertainty	
	(kcal/mol)	(kcal/mol)	(kcal/mol)	(kcal/mol)	(kcal/mol)	(kcal/mol)	
 NGT-201-11 (R)	0.59	0.03	-0.44	0.03	0.02	0.02	1.01
 NGT-201-11 (S)	0.98	0.03	-0.49	0.03	0.06	0.02	1.41
 NGT-201-17 (R)	-1.14	0.03	0.43	0.03	-0.05	0.04	-1.52
 NGT-201-17 (S)	-0.43	0.04	0.49	0.03	-0.04	0.03	-0.88

Supplementary Table 1. OpenFE calculations for NGT-201-11 or -17 R/S enantiomer.

Supplementary 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, 6.01 mL, 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 (100 mL) portion wise until it was basified to pH > 10 at 0°C, then reaction mixture was partitioned between EtOAc (100 mL) and H₂O (100 mL), the water phase was extracted with EtOAc (10 mL * 3), the combined organic phase was dried over Na₂SO₄, 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-bromopropionate (7.68 g, 36.73 mmol, 6.13 mL, 1.2 eq) in DMF (80 mL) was added K₂CO₃ (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 H₂O (100 mL) and then extracted with EtOAc (100 mL * 3). The combined organic layers were dried over Na₂SO₄, 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. ¹H 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 H₂SO₄ (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.

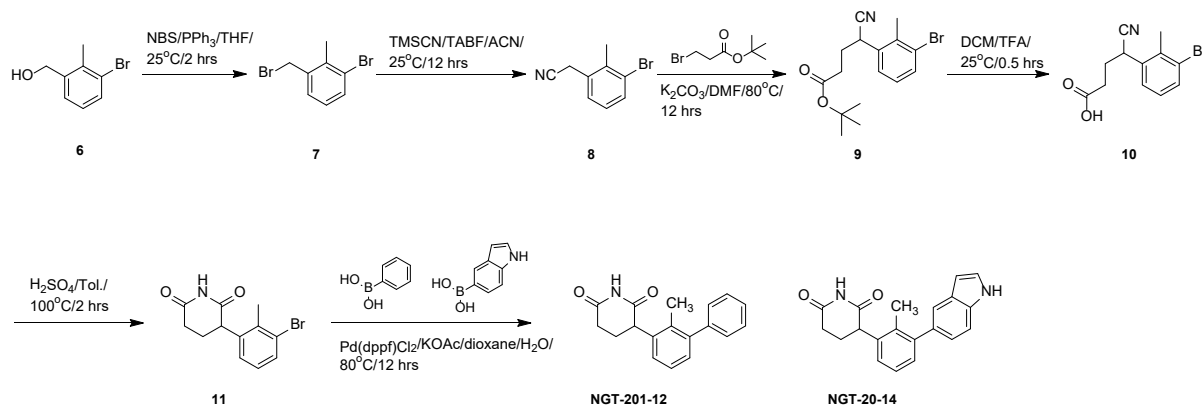
3-(3-phenylphenyl)piperidine-2,6-dione (NGT-201-11)

To a solution of 3-(3-bromophenyl)piperidine-2,6-dione (100 mg, 372.99 μ mol, 1 eq) and phenylboronic acid (54.57 mg, 447.58 μ mol, 1.2 eq) in dioxane (2 mL) and H₂O (0.2 mL) was added Pd(dppf)Cl₂ (27.29 mg, 37.30 μ mol, 0.1eq) and KOAc (73.21 mg, 745.97 μ mol, 2 eq), the mixture was stirred at 80°C for 12 hrs under N₂. 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 μ m; mobile phase: [H₂O (0.2%

FA)-ACN]; gradient: 30%-60% B over 8.0 min). 3-(3-phenylphenyl)piperidine-2,6-dione (54.7 mg, 206.18 μ mol, 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). ¹³C NMR (151 MHz, DMSO) δ 174.40, 173.61, 140.34, 140.15, 139.98, 129.03, 127.79, 127.57, 127.21, 126.80, 125.38, 47.57, 31.56, 26.08. [M+H]⁺ = 266.1176. Observed: 266.1179

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 μ mol, 1 eq) and 1H-indol-5-ylboronic acid (72.05 mg, 447.58 μ mol, 1.2 eq) in dioxane (2 mL) and H₂O (0.2 mL) was added Pd(dppf)Cl₂ (27.29 mg, 37.30 μ mol, 0.1 eq) and KOAc (73.21 mg, 745.97 μ mol, 2 eq), the mixture was stirred at 80°C for 12 hrs under N₂. 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 μ m; 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 μ mol, 23.72% yield, 100% purity, FA) was obtained as white solid which was confirmed by H NMR and QC-LCMS. ¹H 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). ¹³C NMR (151 MHz, DMSO) δ 174.52, 173.65, 142.03, 139.74, 135.60, 131.32, 128.87, 128.34, 127.17, 126.50, 126.16, 125.36, 120.49, 118.26, 111.89, 101.67, 47.62, 31.51, 26.17. [M+H]⁺ = 305.1285. Observed: 305.1287



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 PPh₃ (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 H₂O (200mL), the water phase was extracted with EtOAc (200mL*3), the combined organic phase was dried over Na₂SO₄, 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. ¹H 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 K₂CO₃ (6.58 g, 47.60 mmol, 2 eq) and *tert*-butyl 3-bromopropionate (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 H₂O (100 mL) and then extracted with EtOAc (100 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 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 of 4-(3-bromo-2-methyl-phenyl)-4-cyano-butanoic acid (3 g, 10.63 mmol, 1 eq) in Tol. (50 mL) was added H₂SO₄ (1.25 g, 12.76 mmol, 680.15 μ L, 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.

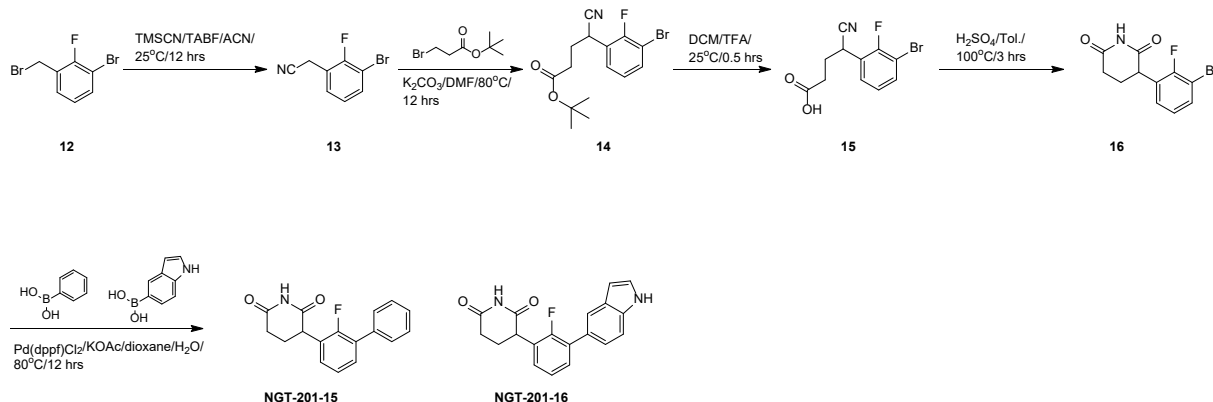
3-(2-methyl-3-phenyl-phenyl)piperidine-2,6-dione (NGT-201-13)

To a solution of 3-(3-bromo-2-methyl-phenyl)piperidine-2,6-dione (100 mg, 354.44 μ mol, 1 eq) and phenylboronic acid (51.86 mg, 425.33 μ mol, 1.2 eq) in dioxane (2 mL) and H₂O (0.2 mL) was added Pd(dppf)Cl₂ (25.93 mg, 35.44 μ mol, 0.1 eq) and KOAc (69.57 mg, 708.89 μ mol, 2 eq), the mixture was stirred at 80°C for 12 hrs under N₂. 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 μ m; mobile phase: [H₂O (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 μ mol, 5.25% yield, 100% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ¹H 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). ¹³C NMR (151 MHz, DMSO) δ 174.43, 173.66, 142.26, 142.04, 138.58, 133.77, 129.20, 128.47, 128.28, 127.37, 126.93, 125.62, 44.84, 31.69, 25.32, 16.69. [M+H]⁺ = 280.1332. Observed: 280.1341

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 μ mol, 1 eq) and 1H-indol-5-ylboronic acid (68.46 mg, 425.33 μ mol, 1.2 eq) in dioxane (2 mL) and H₂O (0.2 mL) was added Pd(dppf)Cl₂ (25.93 mg, 35.44 μ mol, 0.1 eq) and KOAc (69.57 mg, 708.89 μ mol, 2 eq), the mixture was stirred at 80°C for 12 hrs under N₂. 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 μ m; mobile phase: [H₂O (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. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 174.59, 173.75, 143.82, 138.36, 134.94, 134.12, 132.91, 129.04, 127.68, 126.67, 125.91, 125.39, 122.79, 120.47, 111.05, 101.38, 45.01, 31.70, 25.40, 16.92. $[\text{M}+\text{H}]^+ = 319.1441$. Observed: 319.1443



2-(3-bromo-2-fluoro-phenyl)acetonitrile (13): To a solution of 1-bromo-3-(bromomethyl)-2-fluorobenzene (15 g, 55.99 mmol, 1 eq) and TMS-CN (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 H₂O (200mL), the water phase was extracted with EtOAc (300mL*3), the combined organic phase was dried over Na₂SO₄, 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 K₂CO₃ (14.21 g, 102.79 mmol, 2 eq) and *tert*-butyl 3-bromopropionate (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 H₂O (100 mL) and then extracted with EtOAc (100 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 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 of 4-(3-bromo-2-methyl-phenyl)-4-(3-bromo-2-fluoro-phenyl)-4-cyano-butanoic acid (2 g, 6.99 mmol, 1 eq) in Tol. (30 mL) was added H₂SO₄ (822.76 mg, 8.39 mmol, 447.15 μ L, 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 μ mol, 12.50% yield) was obtained as yellow solid which was confirmed by HNMR. ¹H 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).

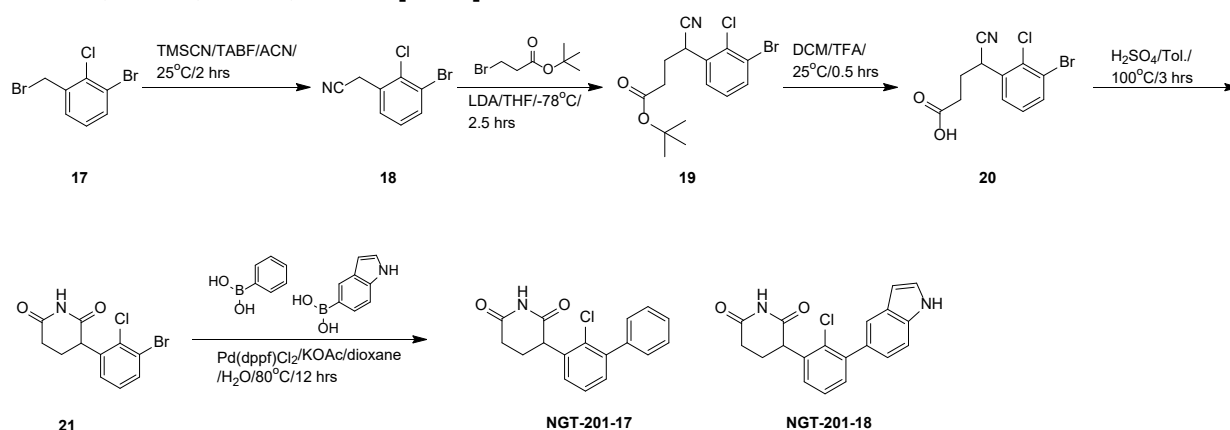
3-(2-fluoro-3-phenyl-phenyl)piperidine-2,6-dione (NGT-201-15)

To a solution of 3-(3-bromo-2-fluoro-phenyl)piperidine-2,6-dione (100 mg, 349.53 μ mol, 1 eq) and phenylboronic acid (51.14 mg, 419.44 μ mol, 1.2 eq) in dioxane (2 mL) and H₂O (0.2 mL) was added Pd(dppf)Cl₂ (25.58 mg, 34.95 μ mol, 0.1 eq) and KOAc (68.61 mg, 699.06 μ mol, 2 eq), the mixture was stirred at 80°C for 12 hrs under N₂. 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 μ m; mobile phase: [H₂O (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 μ mol, 59.17% yield, 96.848% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ¹H 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). ¹³C NMR (151 MHz, DMSO) δ 173.50, 173.37, 157.32 (d, *J* = 247.6 Hz), 135.17, 130.12, 129.82, 128.92, 128.66, 128.51 (d, *J* = 13.6 Hz), 127.29 (d, *J* = 15.1 Hz), 124.72, 42.98, 31.73, 24.81. [M+H]⁺ = 284.1081. Observed: 284.1085

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 μ mol, 1 eq) and 1H-indol-5-ylboronic acid (68.46 mg, 425.33 μ mol, 1.2 eq) in dioxane (2 mL) and H₂O (0.2 mL) was added Pd(dppf)Cl₂ (25.93 mg, 35.44 μ mol, 0.1 eq) and KOAc (69.57 mg, 708.89 μ mol, 2 eq), the mixture was stirred at 80°C for 12 hrs under N₂. 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 μ m; mobile phase: [H₂O (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 μ mol, 47.53% yield, 95.314% purity, FA) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ¹H 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). ¹³C NMR (151 MHz, DMSO) δ 173.59, 173.54, 157.48 (d, *J* = 246.1 Hz), 135.52, 130.19 (m, 2C), 129.03 (d, *J* = 4.5 Hz), 127.96, 127.15 (d, *J* = 15.1 Hz), 126.20, 125.96, 124.54 (d, *J* = 3.1 Hz), 122.31, 120.68, 111.56,

101.65, 43.19, 31.78, 24.94. $[M+H]^+ = 323.1190$. Observed: 323.1191



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 μ L, 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 H₂O (50mL), the water phase was extracted with EtOAc (50mL*3), the combined organic phase was dried over Na₂SO₄, 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. ¹H 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 μ L, 1.1 eq) at -78 °C, the mixture was stirred at -78 °C for 0.5 hrs under N₂, then tert-butyl 3-bromopropionate (435.42 mg, 2.08 mmol, 347.50 μ L, 1.2 eq) was added to the mixture reaction at -78° C, the mixture was stirred at -78°C for 2 hrs under N₂. The reaction mixture was quenched by addition saturated aqueous NH₄Cl solution(10 mL) at 0°C under N₂, 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 μ mol, 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 μ mol, 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 μ mol, 1 eq) in Tol. (30 mL) was added H₂SO₄ (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, CD_3OD) 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)

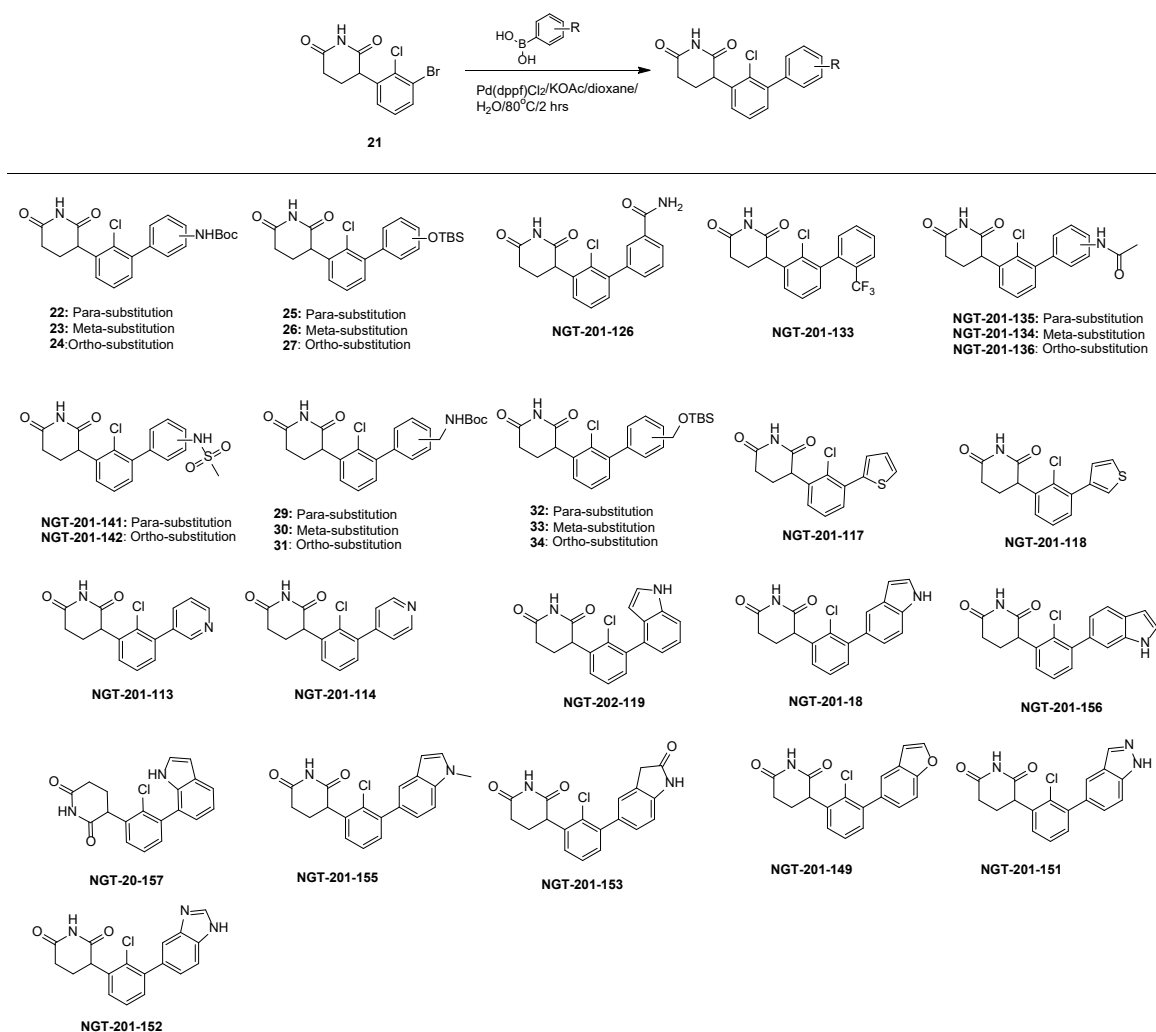
To a solution of 3-(3-bromo-2-chloro-phenyl)piperidine-2,6-dione (30 mg, 99.16 μmol , 1 eq) in dioxane (1 mL) was added H_2O (0.1 mL), phenylboronic acid (18.14 mg, 148.74 μmol , 1.5 eq), $\text{Pd}(\text{dppf})\text{Cl}_2$ (14.51 mg, 19.83 μmol , 0.2 eq) and KOAc (19.46 mg, 198.31 μmol , 2 eq). The 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 $\times$ 30 mm, 5 μm); 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. ^1H NMR (400 MHz, CDCl_3) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.42, 173.33, 140.86, 139.47, 137.92, 131.72, 130.36, 129.86, 129.33, 128.27, 127.76, 127.21, 46.16, 31.59, 24.64. $[\text{M}+\text{H}]^+ = 300.0786$. Observed: 300.0796

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), $\text{Pd}(\text{dppf})\text{Cl}_2$ (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 $\times$ 40 mm, 5 μm); 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. ^1H NMR (400 MHz, CDCl_3) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.45, 173.43, 142.39, 137.74, 135.28, 132.20, 130.82, 130.40, 129.06, 127.49, 126.95, 126.09, 122.71, 120.85, 111.03, 101.53, 46.33, 31.58, 24.69. $[\text{M}+\text{H}]^+ = 339.0895$. Observed: 339.0896

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 $\text{Pd}(\text{dppf})\text{Cl}_2$ (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 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.

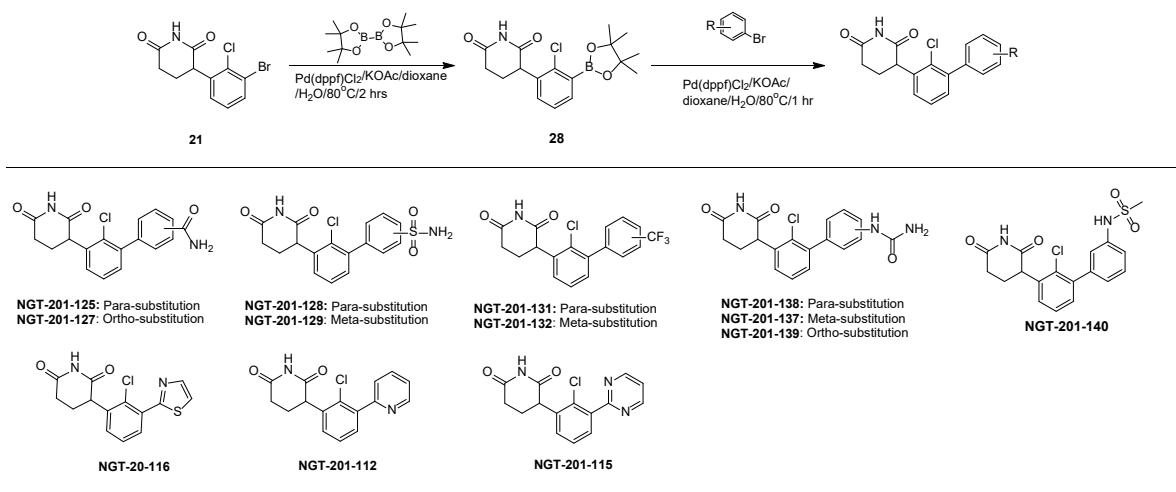


General Pd-Catalyzed Suzuki–Miyaura Cross-Coupling procedure B

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), $\text{Pd}(\text{dppf})\text{Cl}_2$ (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 12 hr 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-

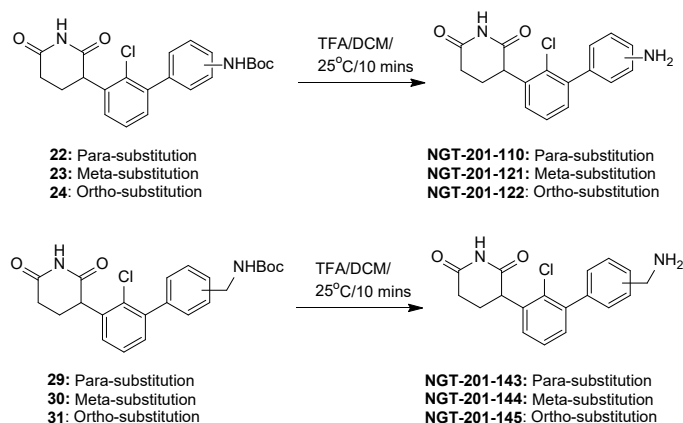
(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl]piperidine-2,6-dione (500 mg, 1.43 mmol, 36.06% yield) was obtained as a brown solid.

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 μ mol, 1 eq) in dioxane (1 mL) was added H₂O (0.1 mL), the corresponding aryl bromide (102.97 μ mol, 1.2 eq), Pd(dppf)Cl₂ (6.28 mg, 8.58 μ mol, 0.1 eq) and KOAc (16.84 mg, 171.62 μ mol, 2 eq). The mixture was stirred at 80 °C for 1 hr under N₂. 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:

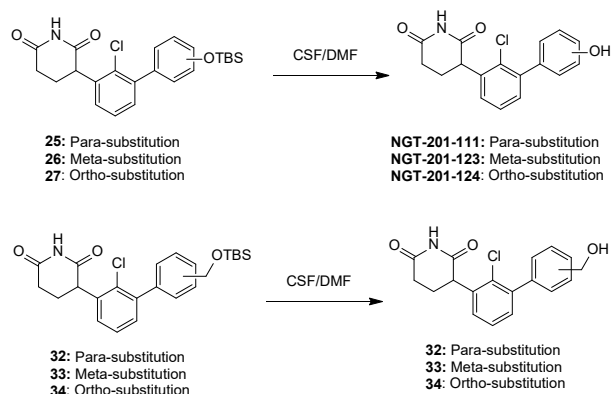
A solution of SM (30 mg, 72.31 μ mol, 1 eq) in DCM (1 mL) and TFA (0.3 mL) was stirred at 25°C for 10 mins. The reaction mixture was concentrated under reduced pressure to give a residue. The residue was purified by *prep*-HPLC (column: Phenomenex Luna C18 100*30mm*5 μ m; mobile phase: [H₂O (0.2% FA)-ACN]; gradient: 1%-35% B over 8.0 min).



General Procedure for TBS Deprotection:

To a solution of SM (25 mg, 58.14 μ mol, 1 eq) in DMF (1 mL) was added CsF (44.16 mg, 290.69 μ mol, 5 eq). The mixture was stirred at 25 °C for 0.5 hr. 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 μm); 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. ¹H 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). ¹³C NMR (151 MHz, DMSO) δ 173.44, 173.41, 145.96, 141.16, 137.82, 131.82, 130.26, 130.19, 128.97, 128.47, 127.06, 114.78, 46.29, 31.57, 24.65. [M+H]⁺ = 315.0895. Observed: 315.0900

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. ¹H 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). ¹³C NMR (151 MHz, DMSO) δ 173.46, 173.35, 142.82, 140.99, 140.46, 137.89, 131.67, 130.16, 129.85, 129.16, 127.16, 121.07, 117.99, 116.47, 46.23, 31.62, 24.63. [M+H]⁺ = 315.0895. Observed: 315.0898

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. ¹H NMR (400 MHz, CD₃OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.45, 173.29, 145.21, 138.81, 137.82, 133.31, 130.75, 129.93, 129.66, 128.75, 127.42, 124.35, 116.30, 115.00, 46.09, 31.54, 24.62. $[\text{M}+\text{H}]^+ = 315.0895$. Observed: 315.0898

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. ^1H NMR (400 MHz, CDCl_3) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.74, 157.48, 141.29, 138.26, 132.32, 130.96, 130.75, 130.50, 129.61, 127.44, 115.40, 46.61, 31.99, 25.08. $[\text{M}+\text{H}]^+ = 316.0735$. Observed: 316.0751

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. ^1H NMR (400 MHz, $\text{DMSO}-d_6$) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.44, 173.36, 157.05, 140.99, 140.74, 137.86, 131.66, 130.18, 129.74, 129.34, 127.13, 120.04, 116.26, 114.72, 46.19, 31.61, 24.64. $[\text{M}+\text{H}]^+ = 316.0735$. Observed: 316.0745

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. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.44, 154.49, 138.74, 137.26, 130.76, 130.75, 129.15, 126.84, 126.58, 118.80, 115.62, 46.06, 31.52, 24.81. $[\text{M}+\text{H}]^+ = 316.0735$. Observed: 316.0737

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. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.42, 173.29, 167.83, 142.23, 140.13, 138.04, 133.54, 131.61, 131.35, 130.28, 129.32, 127.46, 127.33, 46.14, 31.60, 24.62. $[\text{M}+\text{H}]^+ = 343.0844$. Observed: 343.0849

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 μmol , 9.18% yield, 100% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.43, 173.31, 167.80, 140.29, 139.44, 138.02, 134.25, 132.19, 131.76, 130.41, 130.15, 128.44, 128.31, 127.31, 126.92, 46.15, 31.60, 24.65. $[\text{M}+\text{H}]^+ = 343.0844$. Observed: 343.0846

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. ^1H NMR (400 MHz, CDCl_3) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.72, 173.65, 168.06, 142.58, 140.53, 138.47, 134.02, 132.04, 130.65, 129.69, 127.84, 127.68, 46.50, 32.02, 25.05. $[\text{M}+\text{H}]^+ = 343.0844$. Observed: 343.0844

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. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.49, 173.31, 143.35, 142.80, 139.61, 138.14, 131.61, 130.63, 130.35, 130.07, 127.47, 125.71, 46.17, 31.64, 24.63. $[\text{M}+\text{H}]^+ = 379.0514$. Observed: 379.0531

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. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.44, 173.25, 144.12, 140.00, 139.47, 138.17, 132.74, 131.66, 130.55, 130.32, 129.14, 127.49, 126.52, 124.95, 46.16, 31.63,

24.59. $[M+H]^+ = 379.0514$. Observed: 379.0526

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 μ mol, 9.51% yield, 100.0% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.41, 173.25, 143.52, 139.43, 138.12, 131.56, 130.58, 130.35, 130.28, 128.31 (q, J = 31.7 Hz), 127.44, 125.19 (m), 124.3 (q, J = 264.2 Hz), 46.09, 31.61, 24.61. $[M+H]^+ = 368.0660$. Observed: 368.0466

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 μ mol, 22.68% yield, 96.720% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.38, 173.22, 140.30, 139.23, 138.10, 133.58, 131.64, 130.54, 130.40, 129.53, 129.10 (q, J = 31.3 Hz), 127.43, 125.85, 125.83, 124.57, 124.16 (q, J = 273.3 Hz), 46.09, 31.58, 24.60. $[M+H]^+ = 368.0660$. Observed: 368.0680

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 μ mol, 55.45% yield, 100.0%) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO, mixture of rotamers) δ 173.42, 173.40, 173.11, 173.07, 138.40, 138.30, 138.02(m), 137.42, 137.37, 132.78, 132.61, 132.43, 132.40, 131.86, 131.83, 130.62, 130.24, 129.84, 128.79, 127.27 (q, J = 28.7 Hz), 126.45, 126.43, 126.09 (q, J = 4.5 Hz), 123.99 (q, J = 273.3 Hz), 46.15, 45.78, 31.59, 31.51, 24.78, 24.59. $[M+H]^+ = 368.0660$. Observed: 368.0681

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 μ mol, 22.39% yield, 100.0% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.45, 173.36, 168.67, 140.54, 138.83, 137.92, 134.08, 131.83,

130.36, 129.76, 129.64, 127.20, 118.75, 46.21, 31.59, 24.65, 24.07. $[M+H]^+ = 357.1000$. Observed: 357.1007

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. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.42, 173.30, 168.66, 140.81, 139.90, 139.14, 137.91, 131.68, 130.19, 129.91, 128.65, 127.18, 123.97, 119.88, 118.29, 46.19, 31.60, 24.59, 24.07. $[M+H]^+ = 357.1000$. Observed: 357.1002

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. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.45, 173.25, 168.52, 138.29, 137.45, 135.86, 133.93, 132.76, 130.92, 130.41, 129.89, 128.30, 127.02, 125.80, 125.09, 46.23, 31.56, 24.74, 23.22. $[M+H]^+ = 357.1000$. Observed: 357.1002

[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. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.44, 173.33, 156.12, 141.11, 140.38, 139.90, 137.88, 131.70, 130.20, 129.79, 128.55, 127.15, 122.14, 118.66, 117.12, 46.19, 31.60, 24.63. $[M+H]^+ = 358.0953$. Observed: 358.0956

[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. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.43, 173.36, 156.10, 140.73, 140.10, 137.88, 132.20, 131.84, 130.35, 129.71, 127.14, 117.47, 45.13, 31.57, 24.65. $[M+H]^+ = 358.0953$. Observed: 358.0959

[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 μ mol, 16.86% yield, 98.6% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. 1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.43, 173.39, 156.14, 137.86, 137.70, 137.41, 133.46, 132.96, 130.80, 130.07, 129.80, 128.23, 127.30, 121.88, 121.49, 45.57, 31.52, 24.75. $[M+H]^+$ = 358.0953. Observed: 358.0954

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 μ mol, 22.79% yield, 96.025% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. 1H NMR (400 MHz, $CDCl_3$) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.41, 173.30, 140.47, 140.35, 138.25, 138.00, 131.66, 130.24, 130.09, 129.35, 127.28, 124.81, 120.42, 119.03, 46.15, 40.41, 31.61, 24.61. $[M+H]^+$ = 393.0670. Observed: 393.0676

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 μ mol, 43.99% yield, 97.8% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. 1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.37, 173.27, 140.16, 137.89, 134.68, 131.74, 130.33, 130.30, 129.69, 127.16, 120.25, 119.10, 46.11, 39.58, 31.53, 24.58. $[M+H]^+$ = 393.0670. Observed: 393.0683

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 μ mol, 55.62% yield, 97.6% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. 1H NMR (400 MHz, CD_3OD)

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). ^{13}C NMR (151 MHz, DMSO) δ 173.45, 173.28, 138.19, 137.50, 135.70, 134.92, 132.97, 131.12, 129.92, 128.97, 126.79, 126.18, 126.00, 118.17, 45.99, 41.02, 31.54, 24.71. $[\text{M}+\text{H}]^+ = 393.0670$. Observed: 393.0670

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. ^1H NMR (400 MHz, DMSO- d_6) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.47, 173.35, 140.47, 139.00, 138.01, 136.37, 131.72, 130.39, 129.49, 128.33, 127.31, 46.23, 42.83, 31.62, 24.65. $[\text{M}+\text{H}]^+ = 329.1051$. Observed: 329.1054

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. ^1H 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). ^{13}C NMR (151 MHz, DMSO) δ 173.45, 173.32, 140.54, 139.63, 138.01, 136.51, 131.70, 130.38, 130.06, 129.46, 128.94, 128.38, 127.87, 127.26, 46.22, 42.78, 31.61, 24.63. $[\text{M}+\text{H}]^+ = 329.1051$. Observed: 329.1053

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. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.44, 173.20, 139.30, 138.71, 137.65, 135.21, 132.66, 130.25, 129.64, 128.41, 127.64, 127.23, 46.10, 40.41, 31.61, 24.57. $[\text{M}+\text{H}]^+ = 329.1051$. Observed: 329.1052

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. ^1H 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). ¹³C NMR (151 MHz, DMSO) δ 173.44, 173.35, 142.04, 140.83, 137.93, 137.87, 131.79, 130.38, 129.79, 129.12, 127.21, 126.37, 62.77, 46.22, 31.60, 24.65. [M+H]⁺ = 330.0891. Observed: 330.0898

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 K₃PO₄ was used instead, then followed by TBS deprotection under standard conditions. Product (9.2 mg, 23.59 μ mol, 34.91% yield, 96.35% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ¹H 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). ¹³C NMR (151 MHz, DMSO) δ 173.43, 173.33, 142.55, 141.03, 139.29, 137.91, 131.72, 130.32, 129.83, 128.03, 127.65, 127.35, 127.19, 125.82, 62.82, 46.21, 31.60, 24.63. [M+H]⁺ = 330.0891. Observed: 330.0904

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 K₃PO₄ was used instead, then followed by TBS deprotection under standard conditions. Product (4.8 mg, 13.58 μ mol, 30.15% yield, 93.3% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ¹H 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). ¹³C NMR (151 MHz, DMSO) δ 173.38, 173.12, 139.93, 139.70, 137.42, 136.96, 132.52, 129.98, 129.58, 128.92, 127.91, 127.44, 126.96, 126.52, 60.45, 46.18, 31.55, 24.52. [M+H]⁺ = 330.0891. Observed: 330.0903

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 μ mol, 5.28% yield, 98.2% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ¹H 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). ¹³C NMR (151 MHz, DMSO) δ 173.42, 173.29, 156.98, 149.33, 140.08, 137.89, 136.51, 131.55, 130.63, 130.38, 127.13, 124.72, 122.90, 45.99, 31.61, 24.62. [M+H]⁺ = 301.0738. Observed: 301.0744

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. ^1H NMR (400 MHz, CDCl_3) 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, 1.6 Hz, 2H), 4.45 - 4.24 (m, 1H), 2.95 - 2.66 (m, 2H), 2.43 - 2.30 (m, 2H). ^{13}C NMR (151 MHz, DMSO) δ 173.41, 173.25, 149.50, 148.80, 138.14, 137.45, 137.03, 135.19, 131.99, 130.63, 130.52, 127.49, 123.40, 46.08, 31.60, 24.62. $[\text{M}+\text{H}]^+ = 301.0738$. Observed: 301.0742

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 μmol , 11.92% yield, 100% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^1H NMR (400 MHz, CDCl_3) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.39, 173.20, 149.57, 147.03, 138.27, 138.21, 131.30, 130.92, 130.04, 127.55, 124.43, 45.99, 31.60, 24.58. $[\text{M}+\text{H}]^+ = 301.0738$. Observed: 301.0740

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. ^1H NMR (400 MHz, CDCl_3) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.40, 173.24, 165.28, 157.45, 138.99, 138.03, 131.64, 131.27, 130.21, 127.03, 120.23, 45.86, 31.63, 24.56. $[\text{M}+\text{H}]^+ = 302.0691$. Observed: 302.0691

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 μmol , 13.68% yield, 100.0% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^1H NMR (400 MHz, CDCl_3) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.41, 173.16, 163.06, 142.85, 138.65, 132.51, 131.86, 131.41, 130.21, 127.53, 122.45, 46.05, 31.67, 24.43. $[\text{M}+\text{H}]^+ = 307.0303$. Observed: 307.0304

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. ^1H NMR (400 MHz, CDCl_3) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.40, 173.24, 139.69, 138.47, 133.48, 131.70, 130.69, 130.27, 128.34, 127.43, 127.39, 127.34, 46.25, 31.62, 24.50. $[\text{M}+\text{H}]^+ = 306.0350$. Observed: 306.0361

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. ^1H NMR (400 MHz, CDCl_3) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.43, 173.33, 139.37, 138.09, 135.84, 131.73, 130.36, 129.79, 128.99, 127.22, 125.84, 124.89, 46.18, 31.60, 24.60. $[\text{M}+\text{H}]^+ = 306.0350$. Observed: 306.0362

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 μmol , 29.13% yield, 96.9% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^1H NMR (400 MHz, CDCl_3) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.47, 173.38, 140.44, 137.77, 135.90, 132.43, 131.43, 130.64, 129.50, 126.90, 126.70, 125.69, 120.84, 119.76, 111.25, 100.69, 46.33, 31.61, 24.65. $[\text{M}+\text{H}]^+ = 339.0895$. Observed: 339.0896

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 μmol , 35.54% yield, 98.5% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^1H NMR (400 MHz, CD_3OD) 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). ^{13}C NMR (151 MHz, DMSO) δ 173.47, 173.44, 142.17, 137.81, 135.65, 132.36, 132.10, 130.77, 129.24, 127.09, 127.02, 126.29, 120.68, 119.65, 112.31, 101.09, 46.32, 31.60, 24.69. $[\text{M}+\text{H}]^+ = 339.0895$. Observed: 339.0897

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 μmol , 24.44% yield, 95.3% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^1H NMR (400 MHz, DMSO- d_6) 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). ¹³C NMR (151 MHz, DMSO) δ 173.48, 173.44, 138.33, 137.83, 133.69, 130.70, 129.38, 128.17, 127.11, 125.90, 123.57, 122.16, 119.99, 118.78, 107.26, 101.42, 45.67, 31.46, 24.81. [M+H]⁺ = 339.0895. Observed: 339.0903

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. ¹H 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). ¹³C NMR (151 MHz, DMSO) δ 173.44, 173.42, 142.22, 137.76, 135.79, 132.20, 130.80, 130.49, 130.38, 129.16, 127.86, 126.96, 122.76, 121.12, 109.34, 100.76, 46.32, 32.61, 31.58, 24.68. [M+H]⁺ = 353.1051. Observed: 353.1065

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. ¹H 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). ¹³C NMR (151 MHz, DMSO) δ 176.59, 173.40, 173.31, 143.30, 140.96, 137.87, 132.55, 131.88, 130.39, 129.46, 128.74, 127.12, 125.74, 125.49, 108.85, 46.23, 35.87, 31.56, 24.62. [M+H]⁺ = 355.0844. Observed: 355.0850

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. ¹H 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). ¹³C NMR (151 MHz, DMSO) δ 173.42, 173.34, 153.76, 146.71, 141.08, 137.86, 134.42, 132.06, 130.68, 129.69, 127.24, 127.10, 125.90, 122.10, 110.95, 106.99, 46.22, 31.58, 24.65. [M+H]⁺ = 340.0735. Observed: 340.0600

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. ¹H NMR (400 MHz, CD₃OD) δ = 8.10 (s, 1H), 7.78 (s, 1H), 7.60 (d,

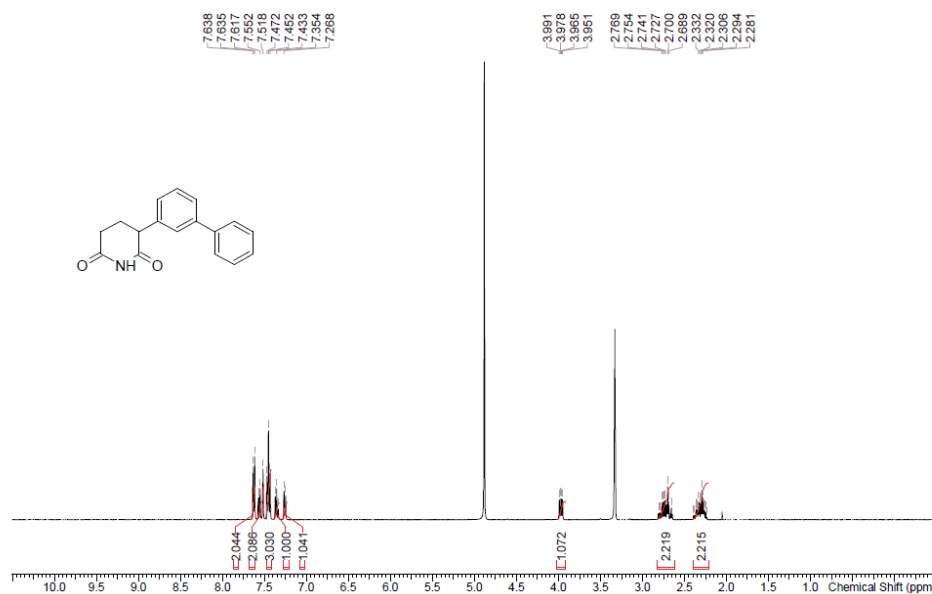
$J = 8.7$ Hz, 1H), 7.45 (br dd, $J = 8.8, 1.2$ Hz, 1H), 7.40 - 7.31 (m, 3H), 4.41 (dd, $J = 11.6, 5.2$ Hz, 1H), 2.84 - 2.67 (m, 2H), 2.45 (br dd, $J = 13.2, 5.2$ Hz, 1H), 2.24 - 2.13 (m, 1H). ^{13}C NMR (151 MHz, DMSO) δ 173.44, 173.37, 141.34, 139.25, 137.88, 134.04, 132.18, 131.78, 130.76, 129.61, 127.93, 127.15, 122.84, 121.12, 109.78, 46.25, 31.59, 24.67. $[\text{M}+\text{H}]^+ = 340.0847$. Observed: 340.0849

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

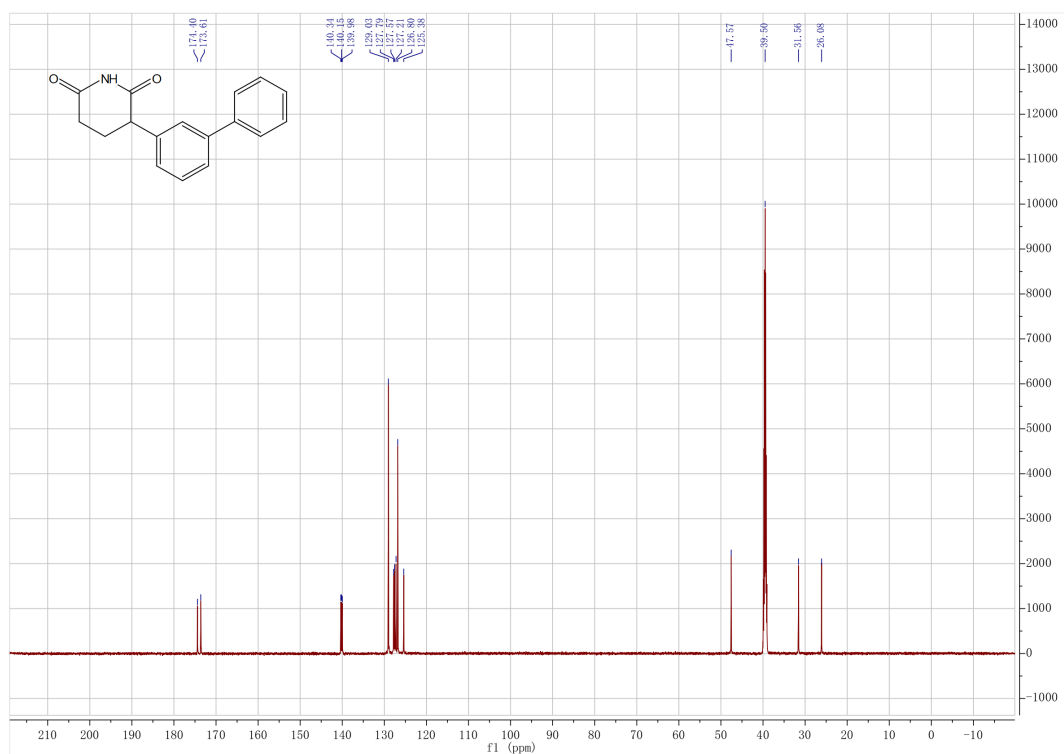
was synthesized through a general palladium-catalyzed Suzuki–Miyaura cross-coupling procedure **A**. Product (5.1 mg, 15.01 μmol , 6.49% yield, 100.0% purity) was obtained as white solid which was confirmed by HNMR and QC-LCMS. ^1H NMR (400 MHz, CD_3OD) δ = 8.25 (s, 1H), 7.78 - 7.57 (m, 2H), 7.48 - 7.27 (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). ^{13}C NMR (151 MHz, DMSO) δ 173.44, 173.39, 142.87, 141.59, 137.85, 135.57, 132.10, 130.78, 129.52, 127.08, 46.27, 31.59, 24.68. $[\text{M}+\text{H}]^+ = 340.0847$. Observed: 340.0848

NMR spectra

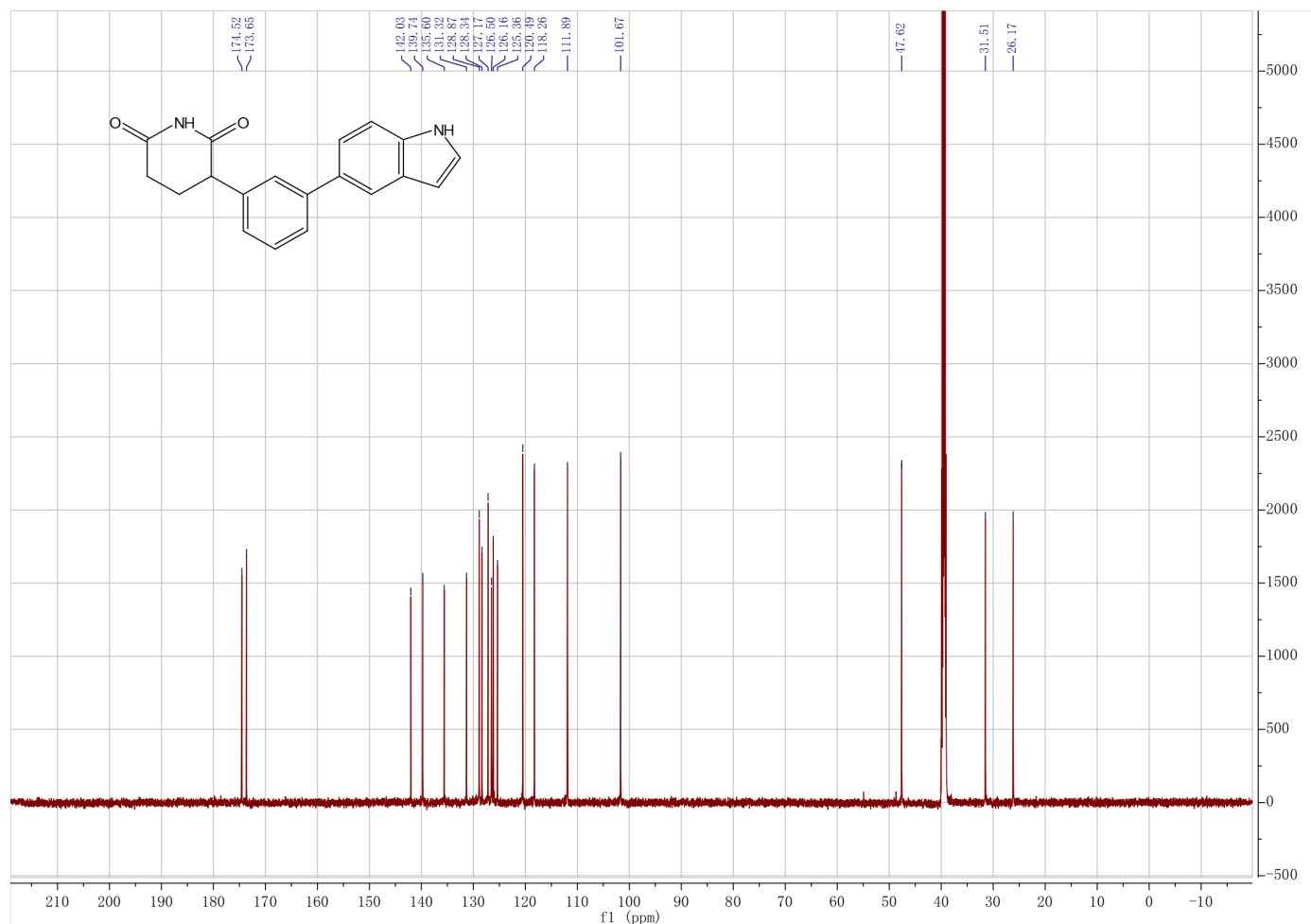
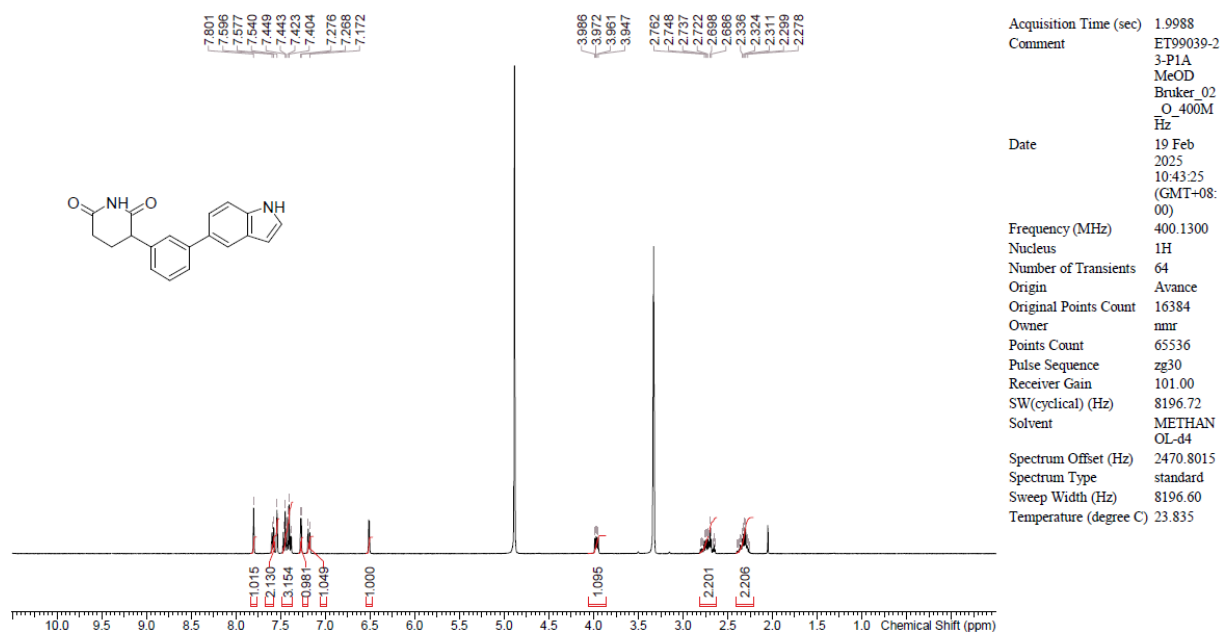
3-(3-phenylphenyl)piperidine-2,6-dione (NGT-201-11)



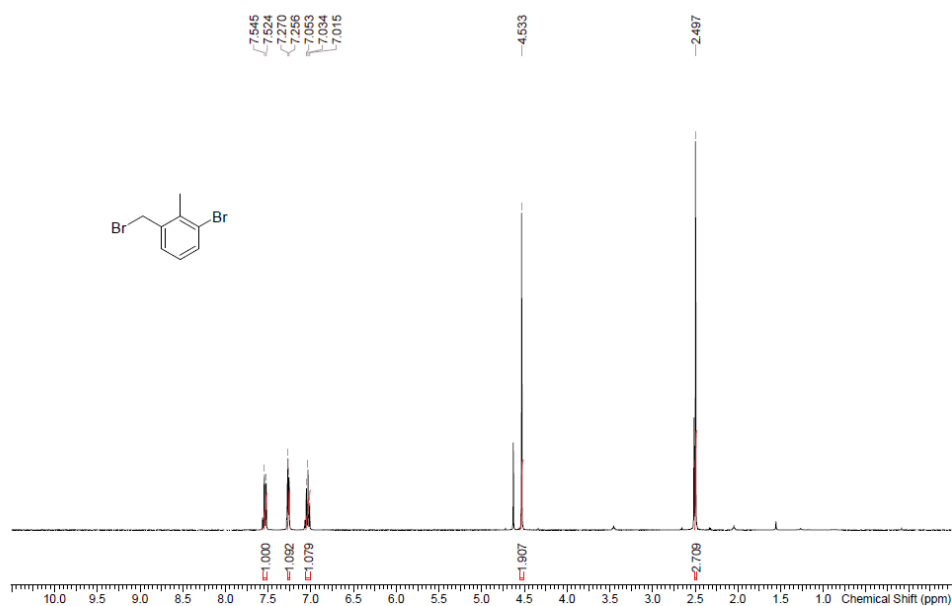
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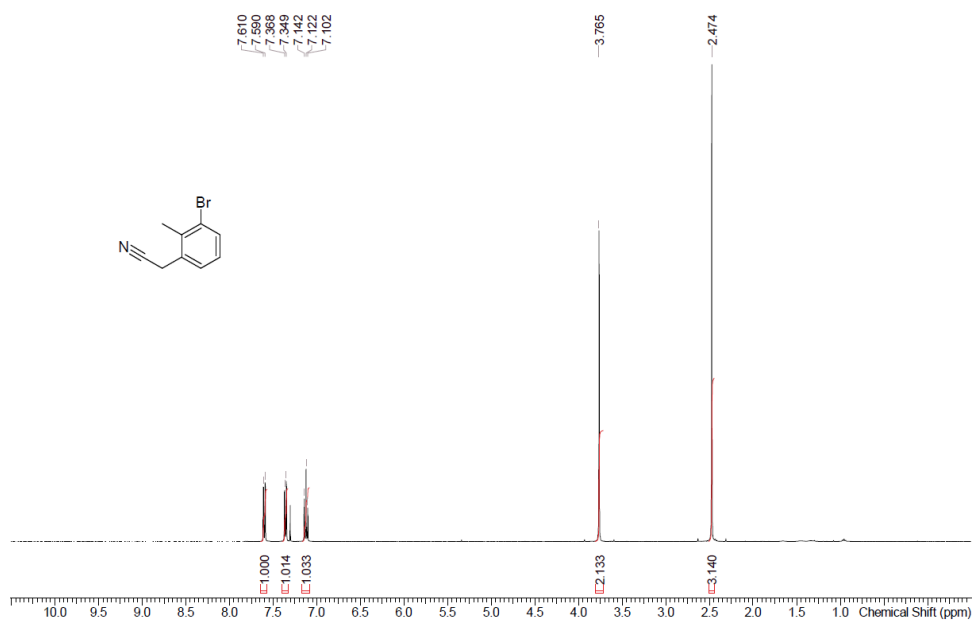


1-bromo-3-(bromomethyl)-2-methyl-benzene (7)



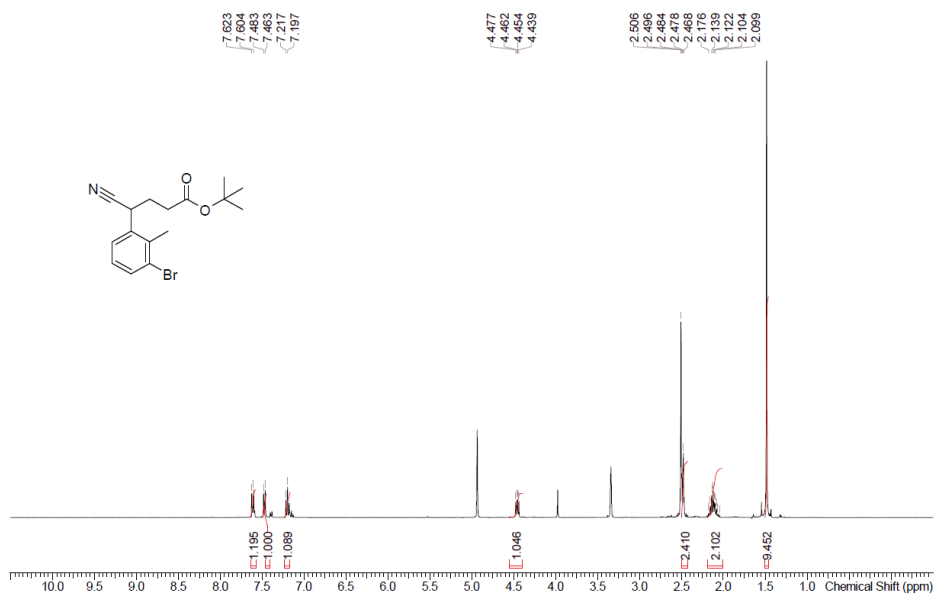
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2-(3-bromo-2-methyl-phenyl) acetonitrile (8)



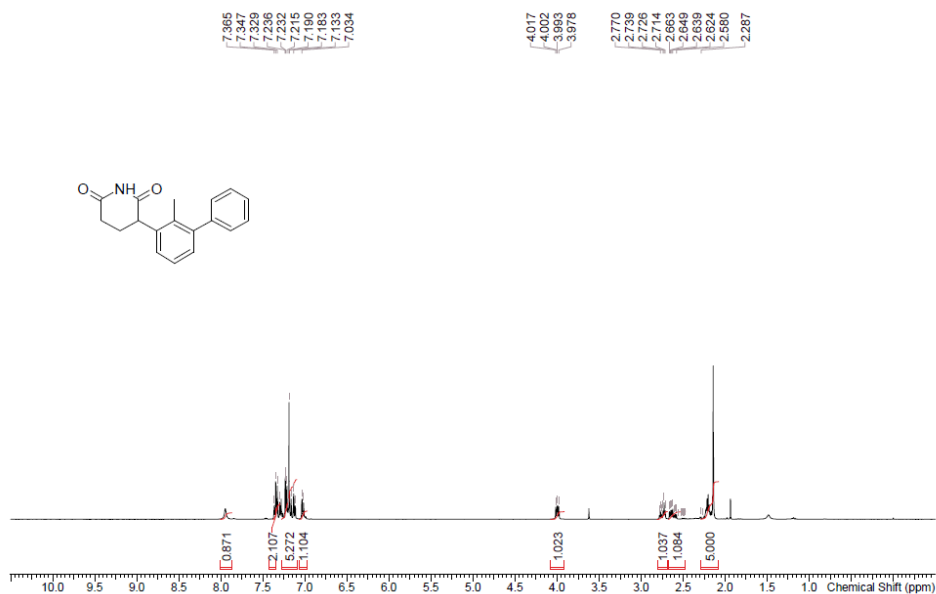
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tert-butyl 4-(3-bromo-2-methyl-phenyl)-4-cyano-butanoate (9)

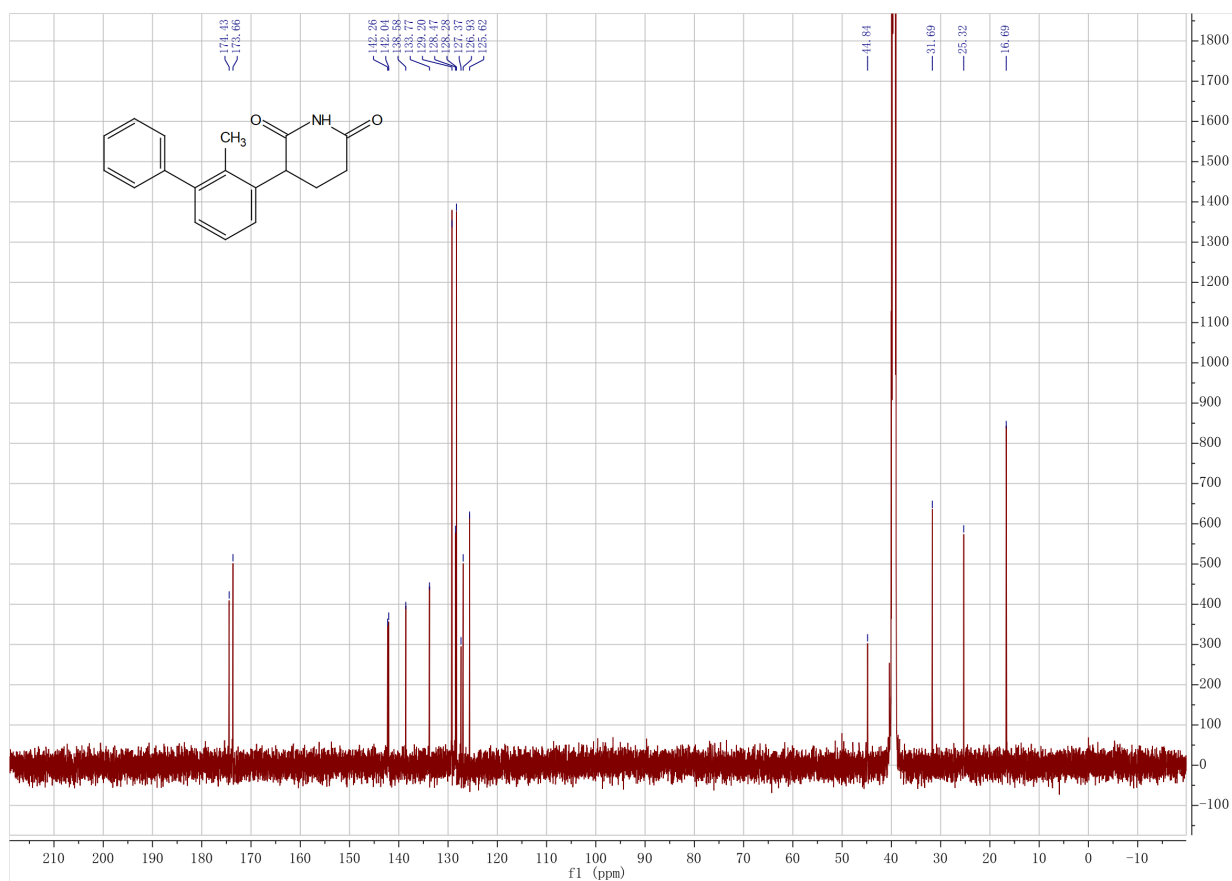


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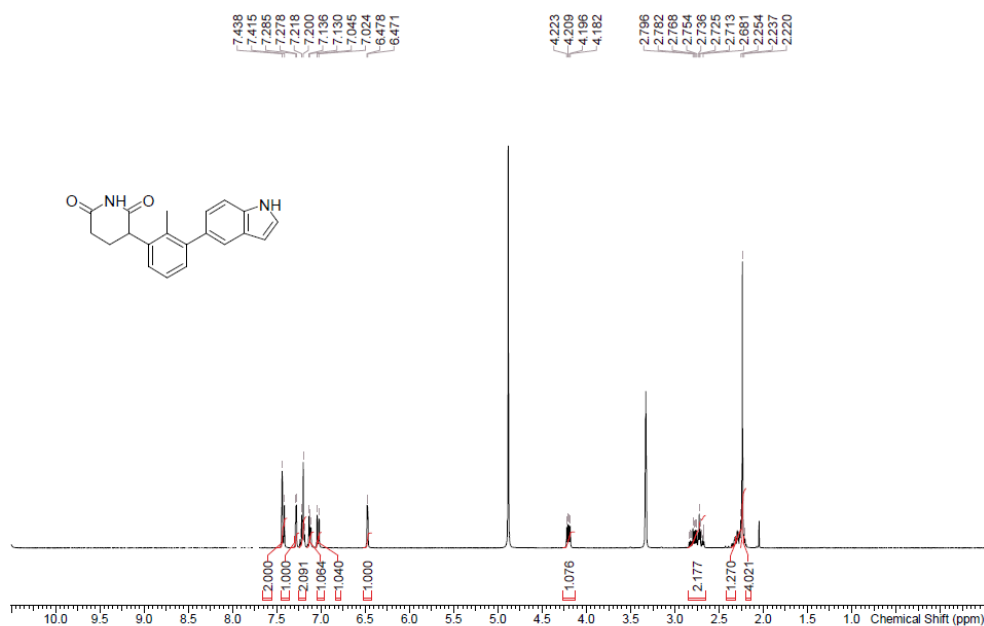
3-(2-methyl-3-phenyl-phenyl)piperidine-2,6-dione (NGT-201-13)



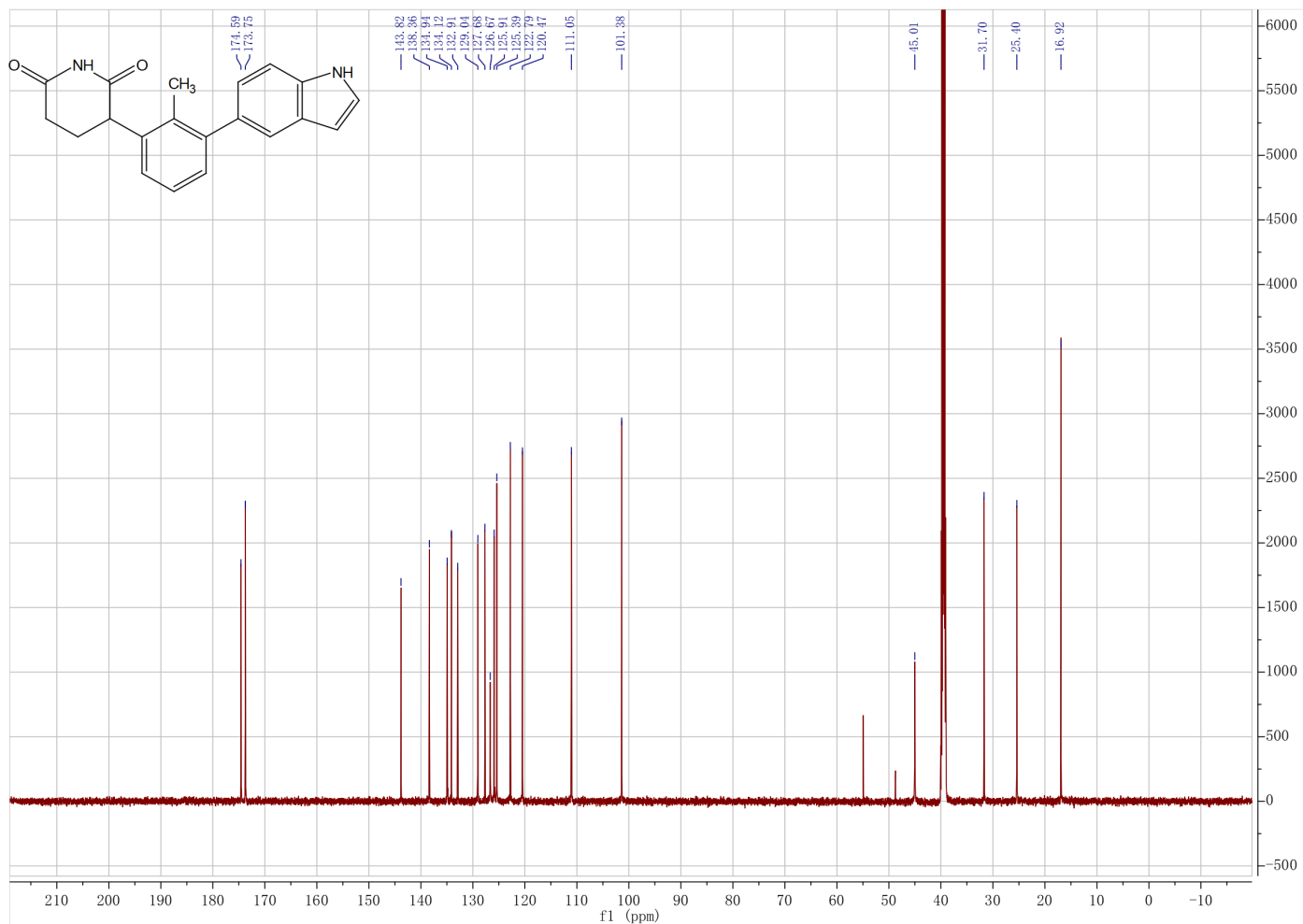
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 2025
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 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus 1H
 Number of Transients 64
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent CHLORO
 FORM-d
 Spectrum Offset (Hz) 2433.0857
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 23.948



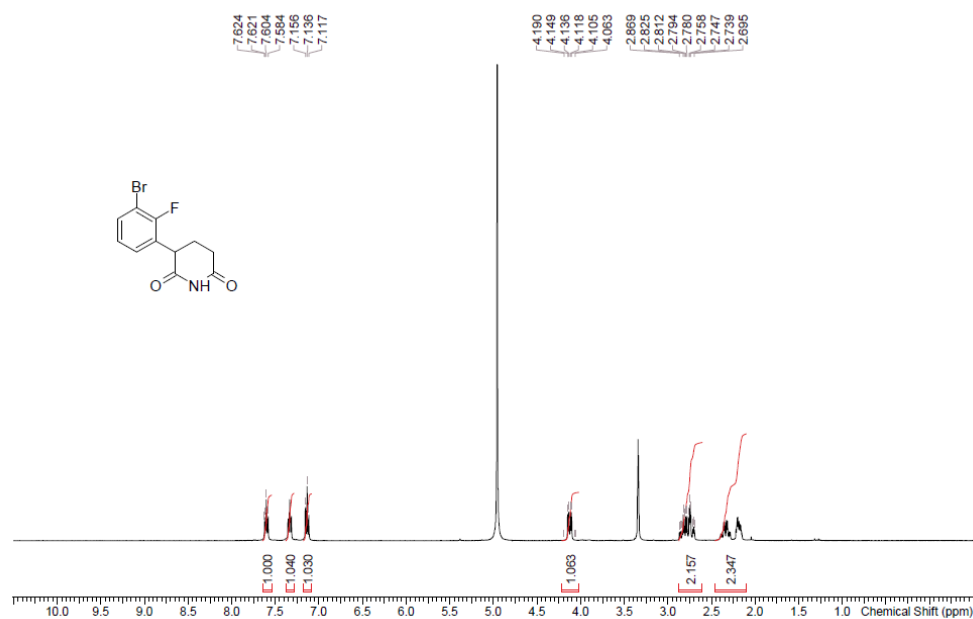
3-[3-(1H-indol-5-yl)-2-methyl-phenyl]piperidine-2,6-dione (NGT-201-14)



Acquisition Time (sec) 1.9988
 Comment ET99039-2
 1-P1A
 MeOD
 Bruker_02
 O_400M
 Hz
 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
 OL-d4
 Spectrum Offset (Hz) 2470.8015
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 23.900

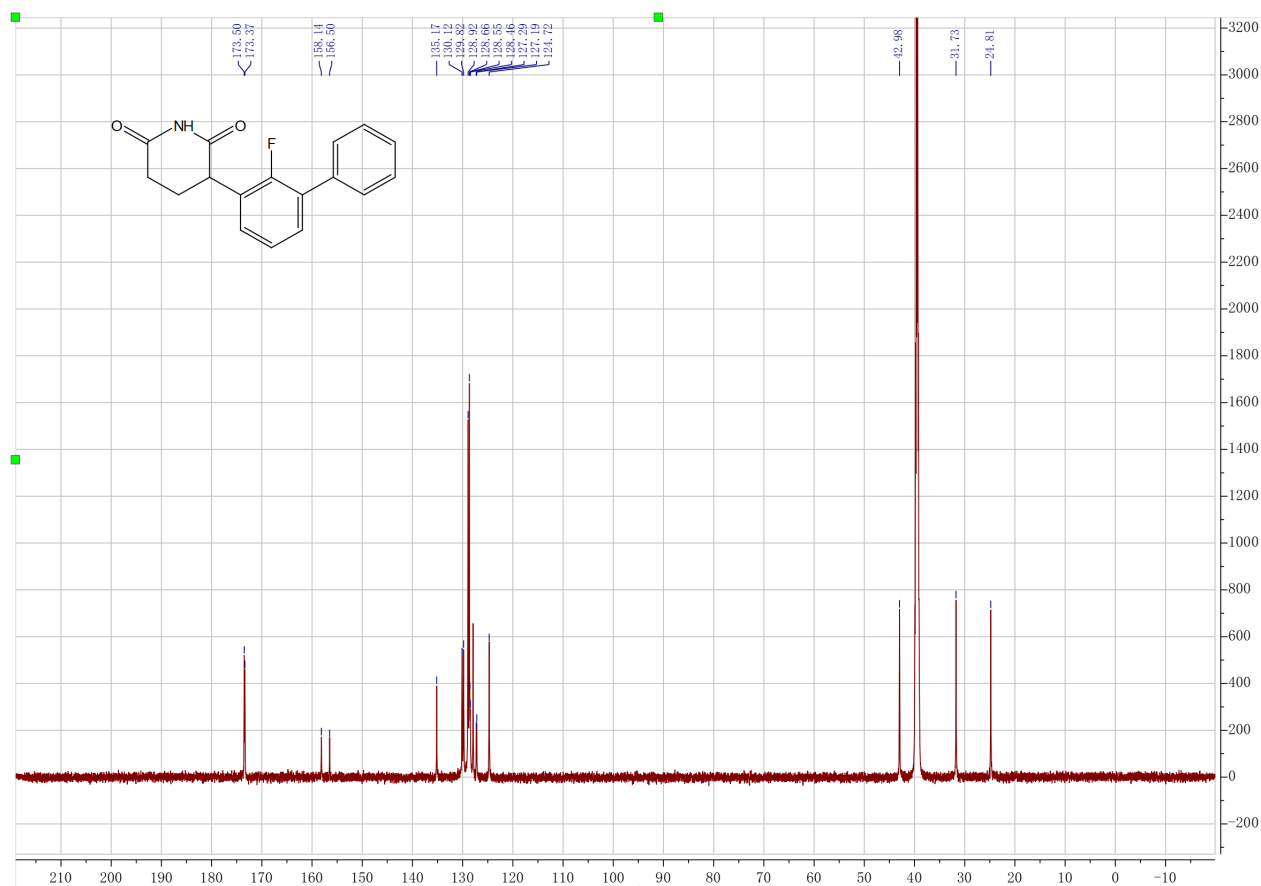
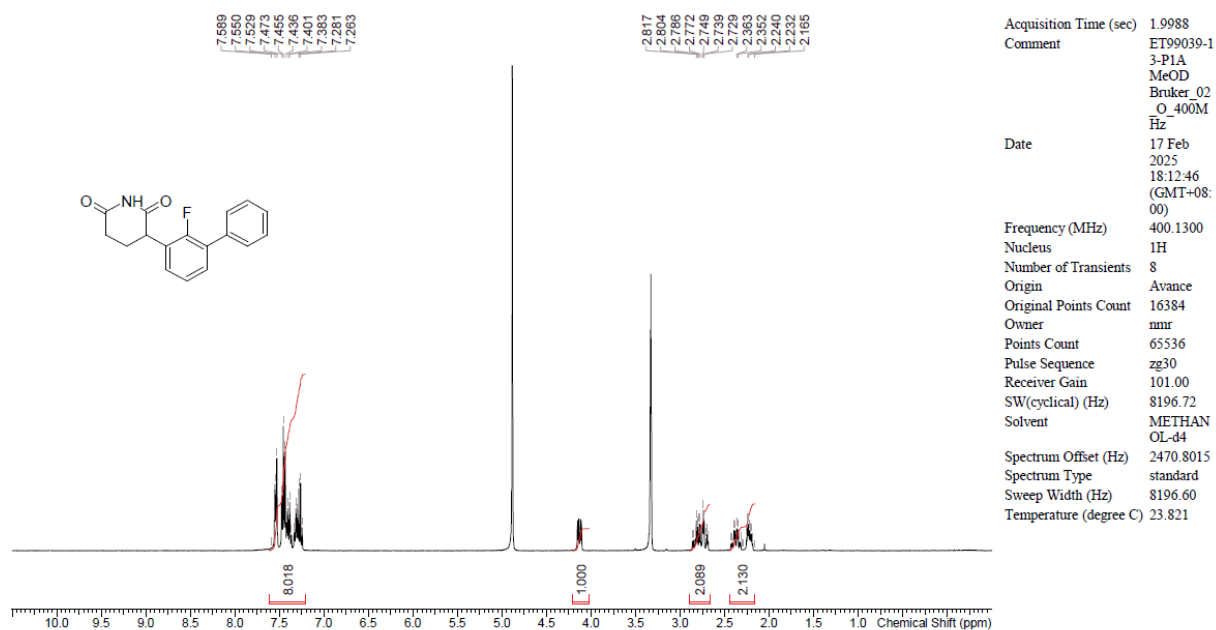


3-(3-bromo-2-fluoro-phenyl)piperidine-2,6-dione (16)

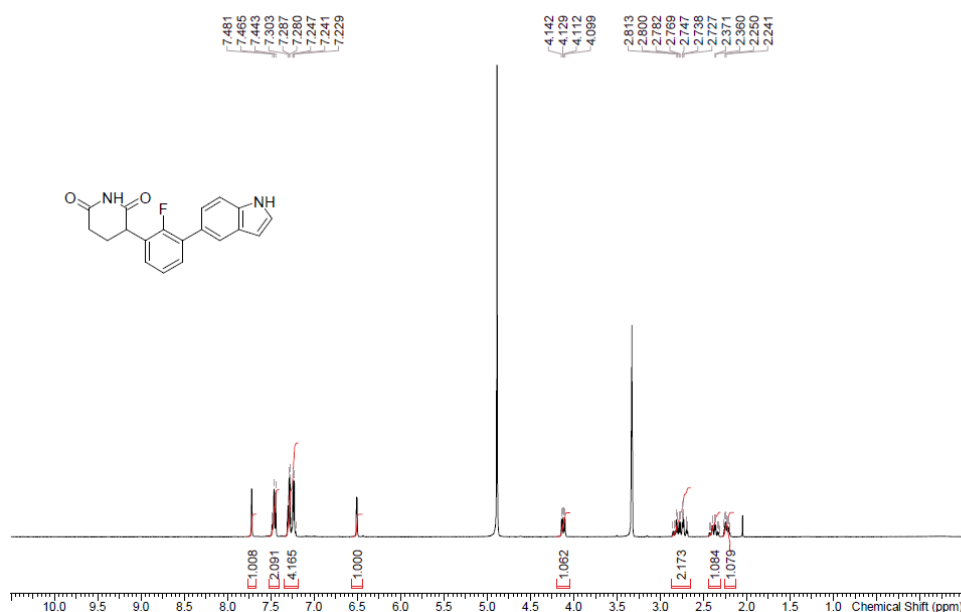


Acquisition Time (sec) 4.0002
 Comment ET99039-9
 -PIA
 MeOD
 ZKNI_02
 N_400MH
 z
 Date 13 Feb
 2025
 05:52:46
 (GMT)
 Frequency (MHz) 399.8213
 Nucleus 1H
 Number of Transients 8
 Origin QUANTU
 M-I
 Original Points Count 32050
 Owner admin
 Points Count 65536
 Pulse Sequence s1pul30
 Receiver Gain 60.14
 SW(cyclical) (Hz) 8012.00
 Solvent METHAN
 OL-d4
 Spectrum Offset (Hz) 2398.9275
 Spectrum Type undefined
 Sweep Width (Hz) 8011.88
 Temperature (degree C) 19.550

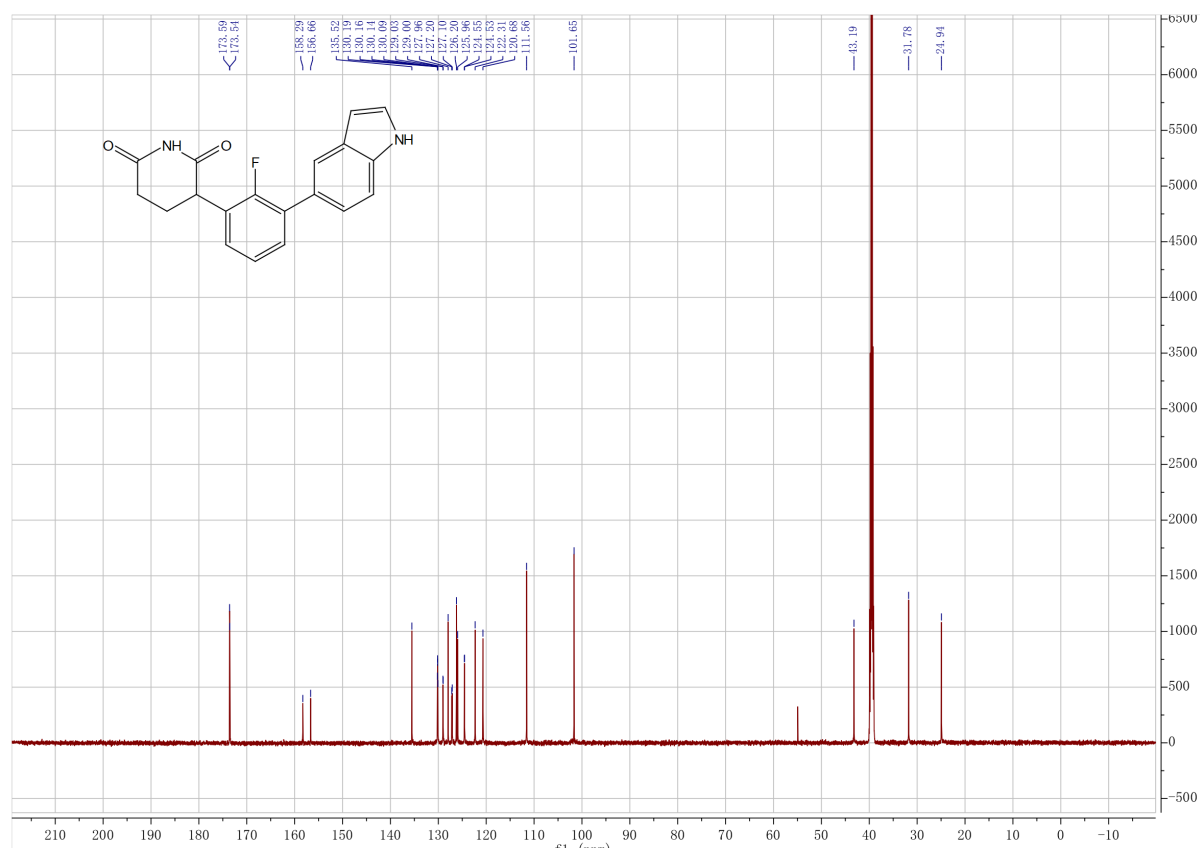
3-(2-fluoro-3-phenyl-phenyl)piperidine-2,6-dione (NGT-201-15)



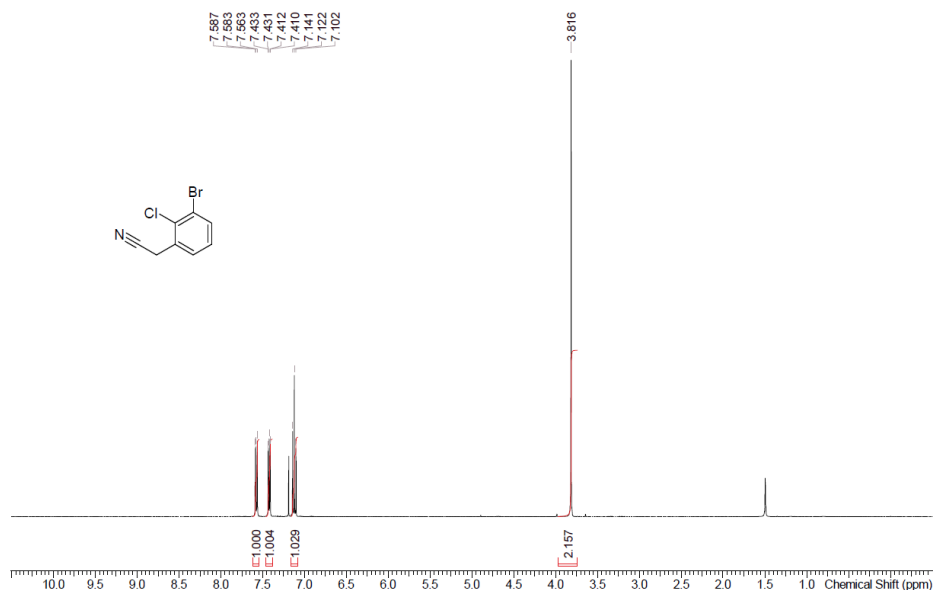
3-[2-fluoro-3-(1H-indol-5-yl)phenyl]piperidine-2,6-dione (NGT-201-16)



Acquisition Time (sec) 1.9988
 Comment ET99039-1
 4-PIA
 MeOD
 Bruker_02
 O_400M
 Hz
 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

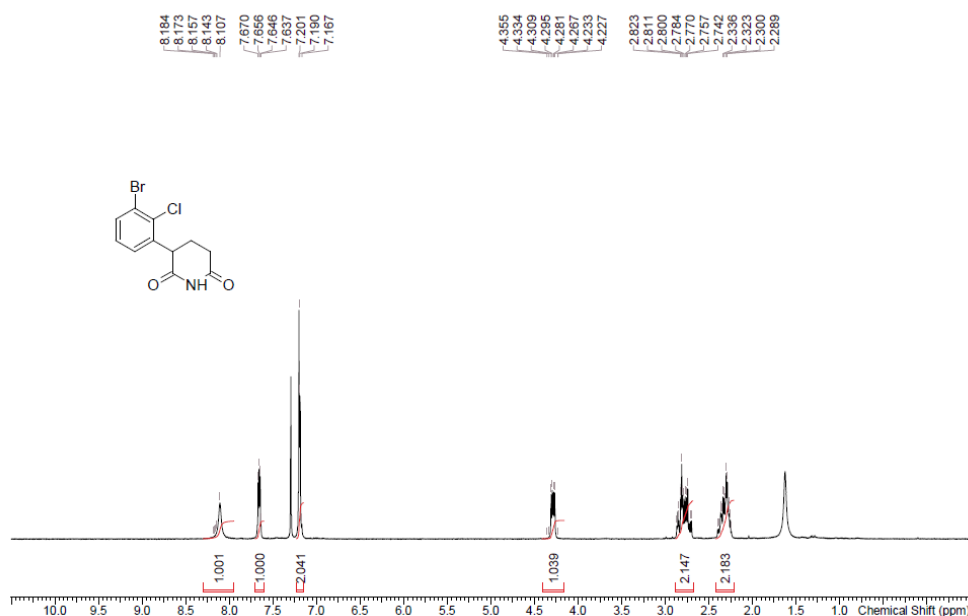


2-(3-bromo-2-chloro-phenyl)acetonitrile (18)



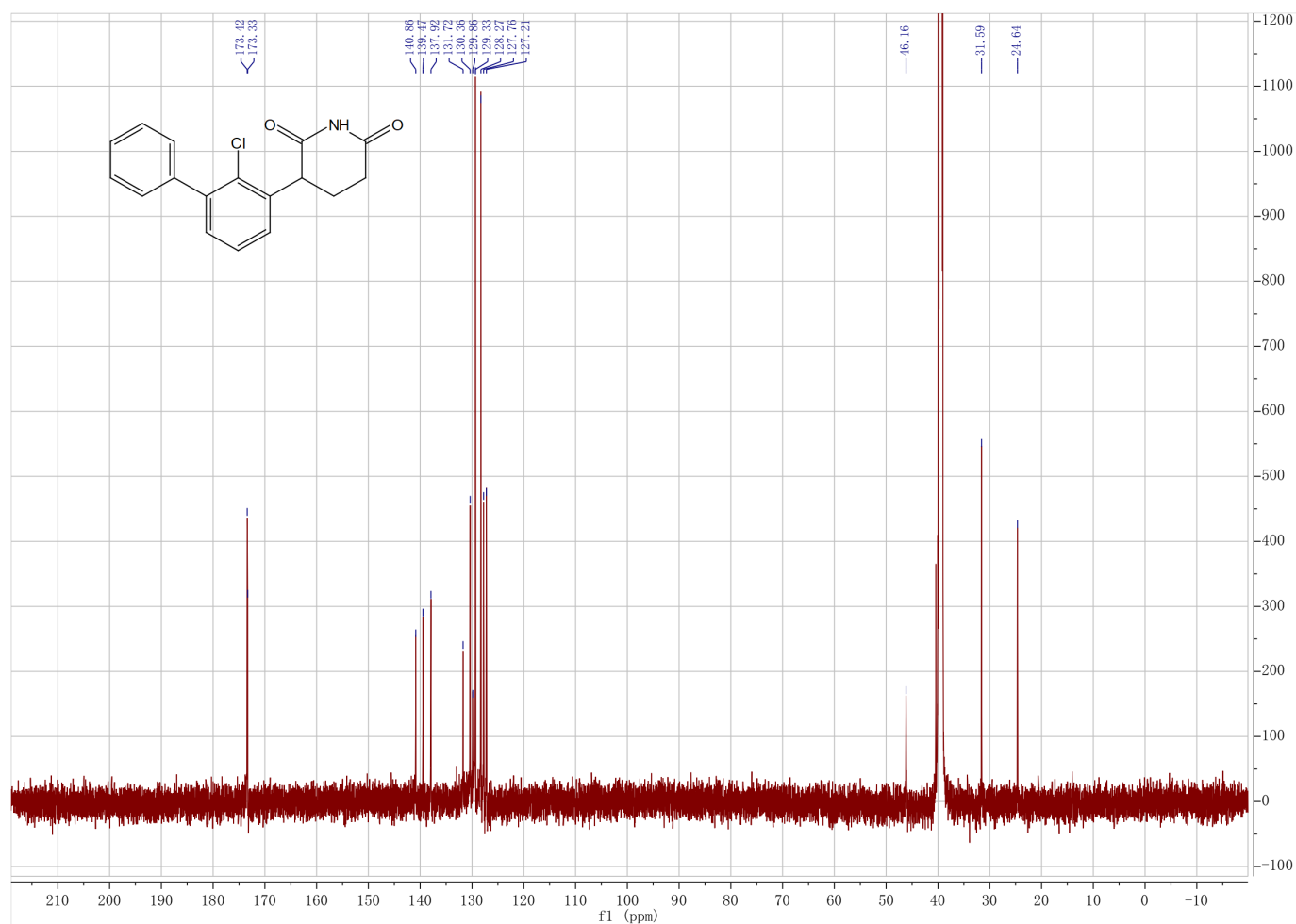
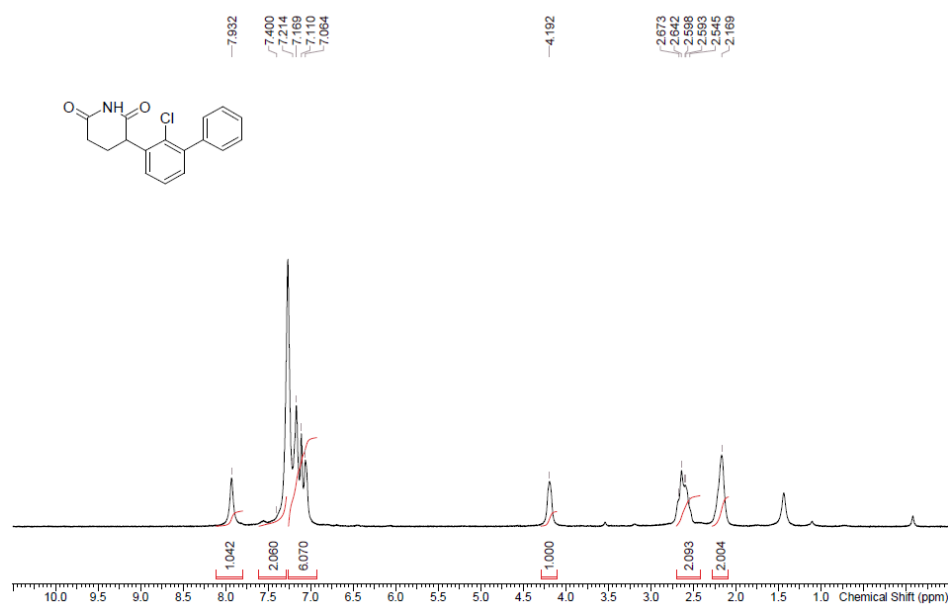
Acquisition Time (sec) 1.9988
 Comment ET86989-6
 11-PIA
 CDCl₃
 Bruker_02
 O_400M
 Hz
 Date 23 Aug
 2024
 17:52:06
 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus ¹H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 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)

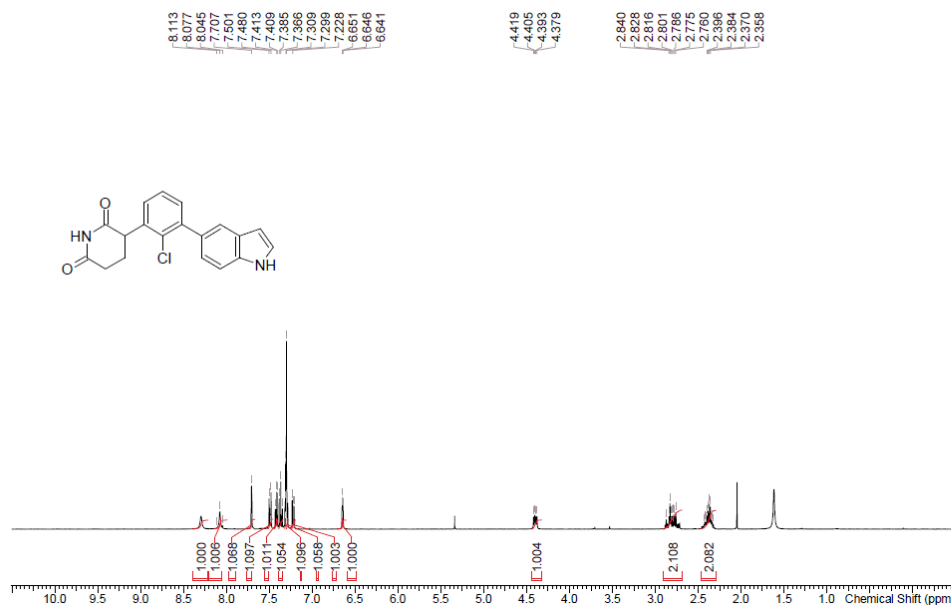
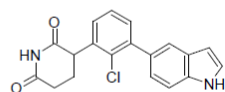


Acquisition Time (sec) 4.0002
 Comment ET86989-6
 24-P1D
 CDCl₃
 ZKNU_02
 N_400MH
 z
 Date 30 Aug
 2024
 03:08:58
 (GMT)
 Frequency (MHz) 399.8359
 Nucleus ¹H
 Number of Transients 8
 Origin QUANTU
 M-I
 Original Points Count 32050
 Owner admin
 Points Count 65536
 Pulse Sequence slpul30
 Receiver Gain 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

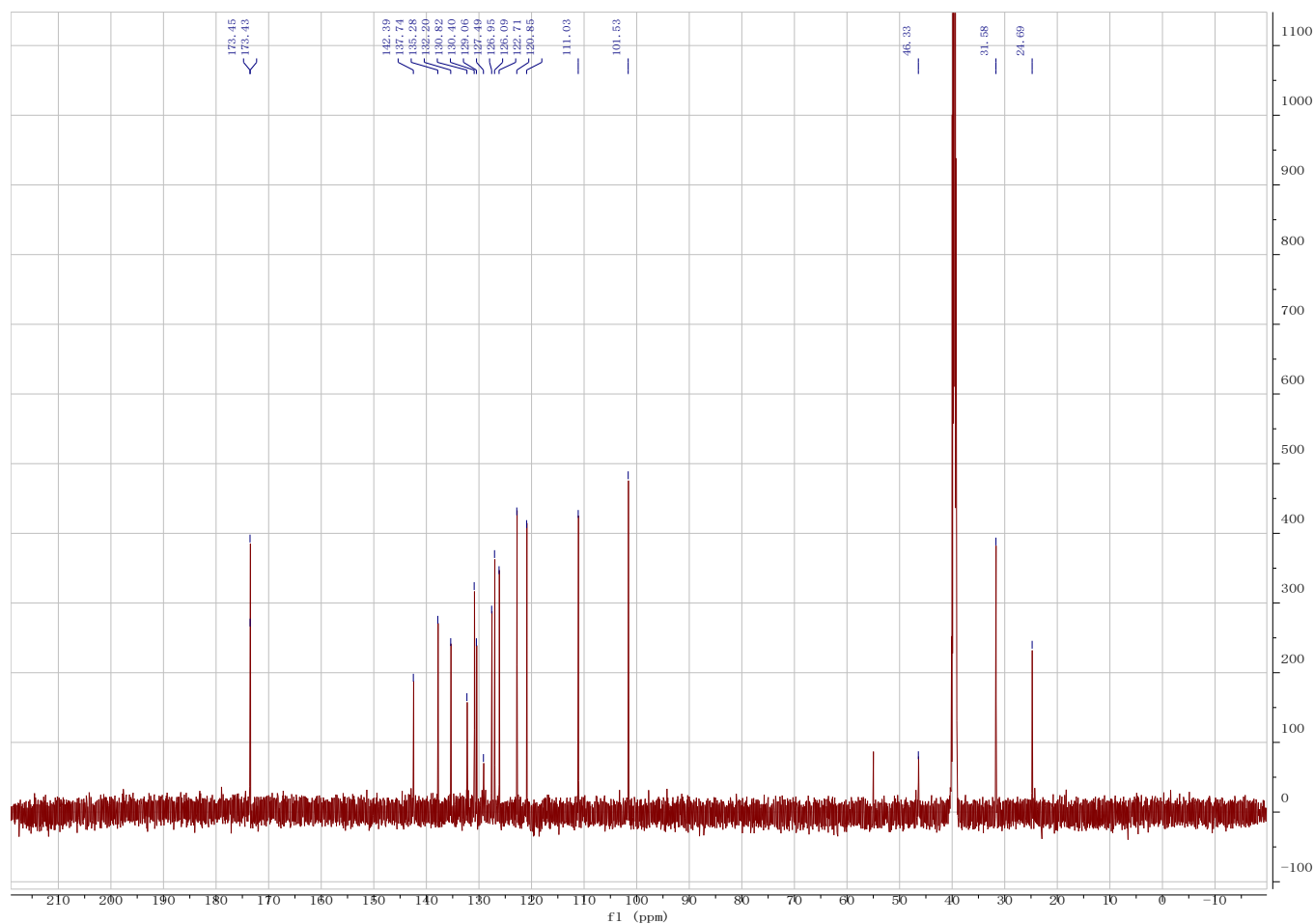
3-(2-chloro-3-phenyl-phenyl)piperidine-2,6-dione (NGT-201-17)



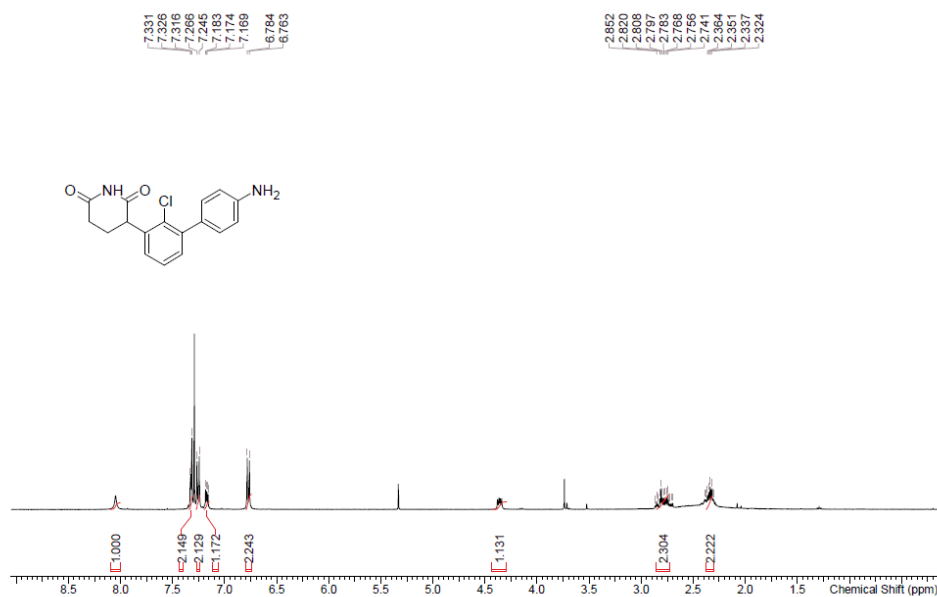
3-[2-chloro-3-(1H-indol-5-yl)phenyl]piperidine-2,6-dione (NGT-201-18)



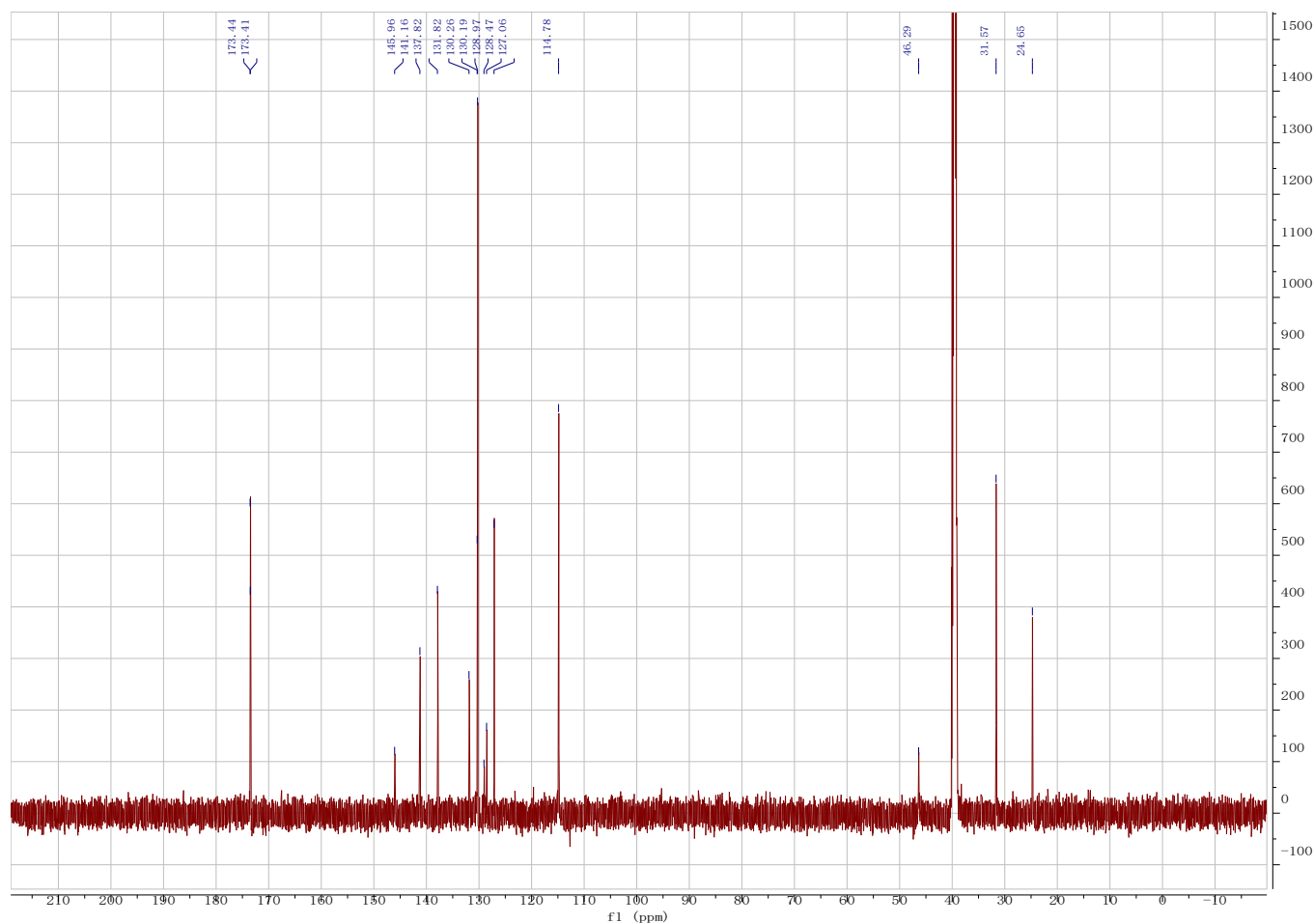
Acquisition Time (sec) 4.0002
 Comment ET86989-7
 74-P1A
 CDC13
 ZKNJ_02
 N_400MH
 z
 Date 07 Nov
 2024
 08:53:27
 (GMT)
 Frequency (MHz) 399.8359
 Nucleus 1H
 Number of Transients 8
 Origin QUANTUM
 M-1
 Original Points Count 32050
 Owner admin
 Points Count 65536
 Pulse Sequence s1pu130
 Receiver Gain 66.63
 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) 21.550



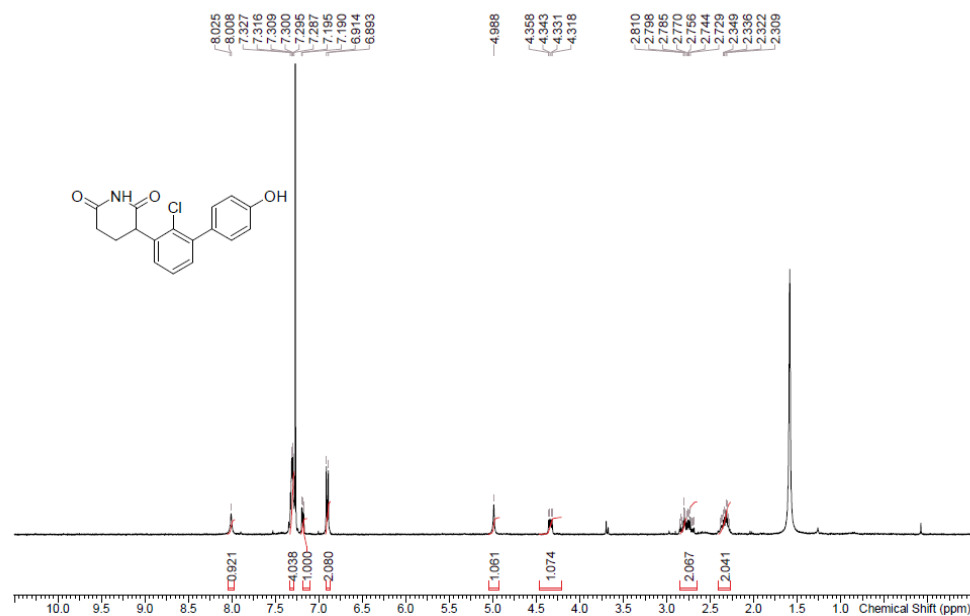
3-[3-(4-aminophenyl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-110)



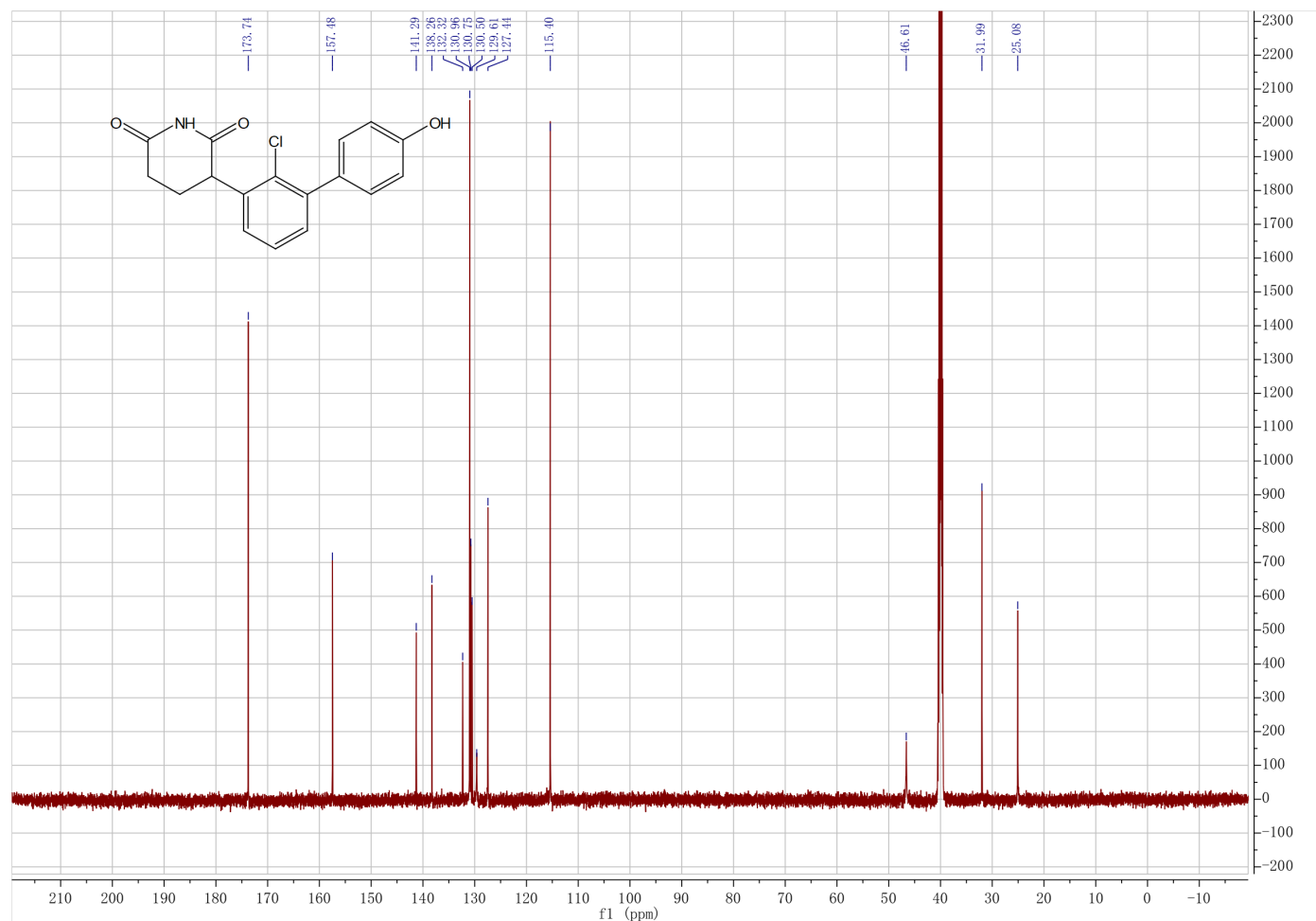
Acquisition Time (sec) 4.0002
 Comment ET86989-7
 79-P1A
 CDC13
 ZKNI_02
 N_400MHZ
 Date 07 Nov 2024
 08:57:12 (GMT)
 Frequency (MHz) 399.8359
 Nucleus 1H
 Number of Transients 8
 Origin QUANTUM M-I
 Original Points Count 32050
 Owner admin
 Points Count 65536
 Pulse Sequence s1p130
 Receiver Gain 66.63
 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) 21.650



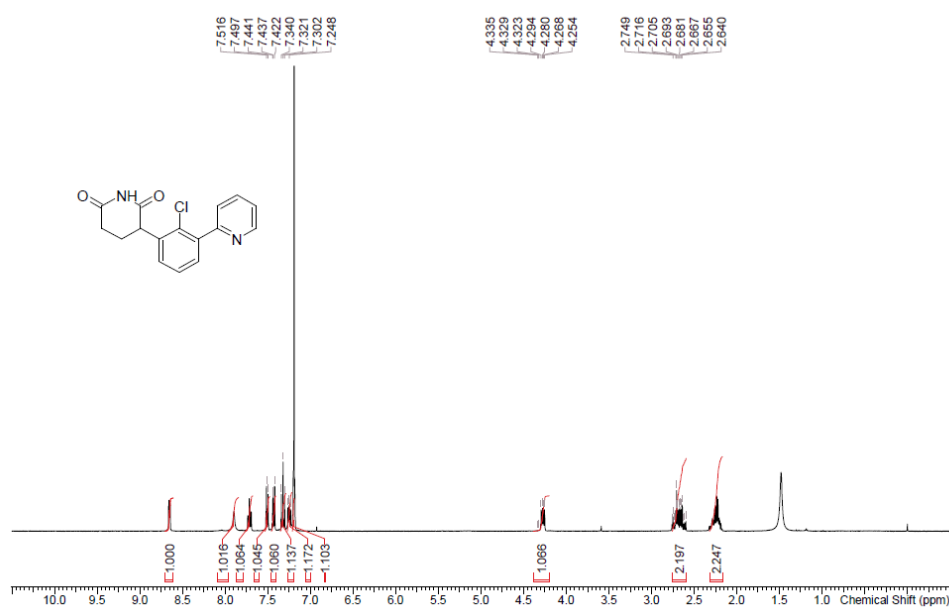
3-[2-chloro-3-(4-hydroxyphenyl)phenyl]piperidine-2,6-dione (NGT-201-111)



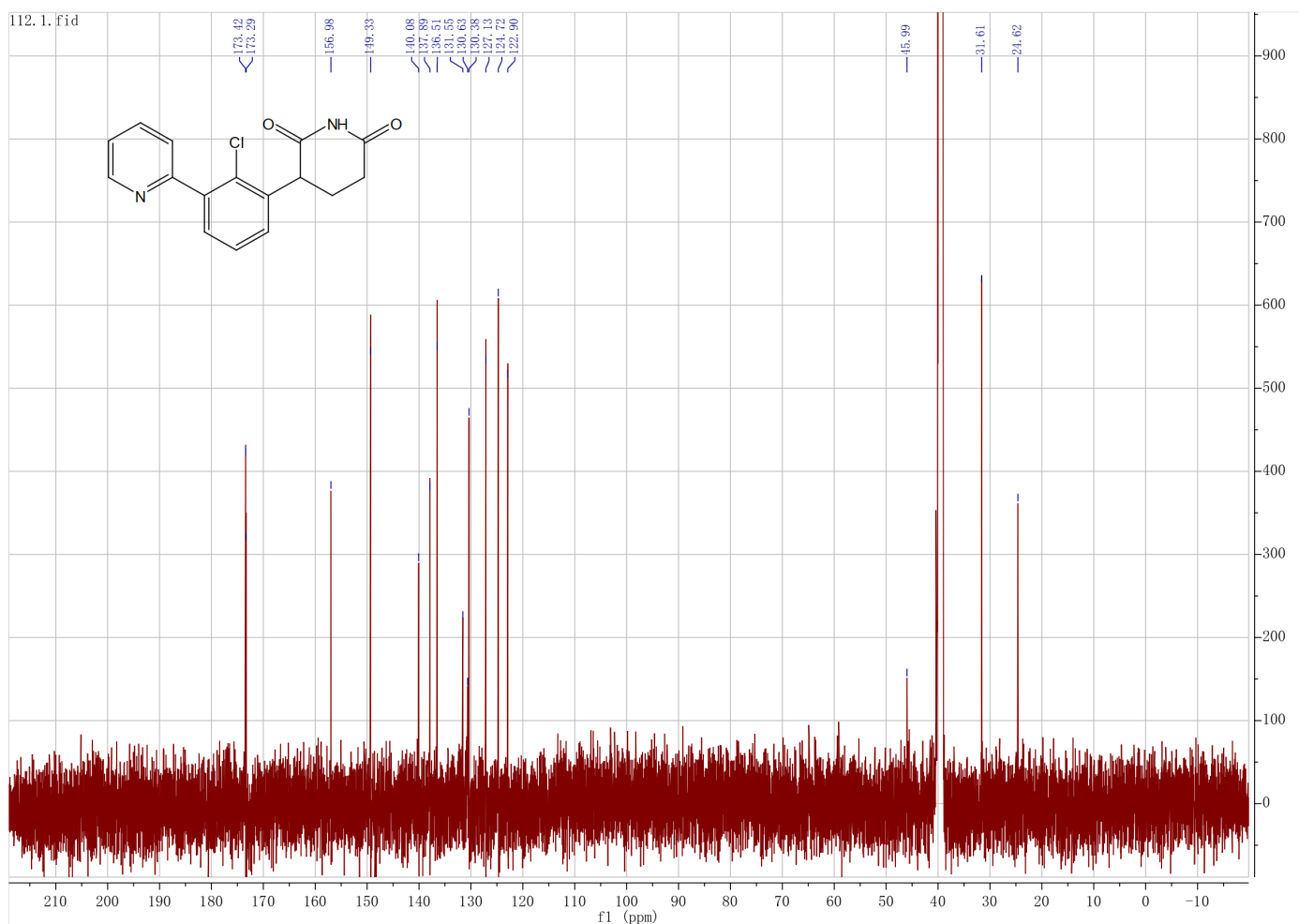
Acquisition Time (sec) 4.0002
 Comment ET86991-7
 70-P1A1
 CDCl3
 ZKNJ_02
 N_400MH
 z
 Date 08 Nov
 2024
 02:45:04
 (GMT)
 Frequency (MHz) 399.8359
 Nucleus 1H
 Number of Transients 8
 Origin QUANTU
 M-1
 Original Points Count 32050
 Owner admin
 Points Count 65536
 Pulse Sequence s1pu130
 Receiver Gain 68.93
 SW(cyclical) (Hz) 8012.00
 Solvent CHLORO
 FORM-d
 Spectrum Offset (Hz) 2387.6604
 Spectrum Type undefined
 Sweep Width (Hz) 8011.88
 Temperature (degree C) 21.150



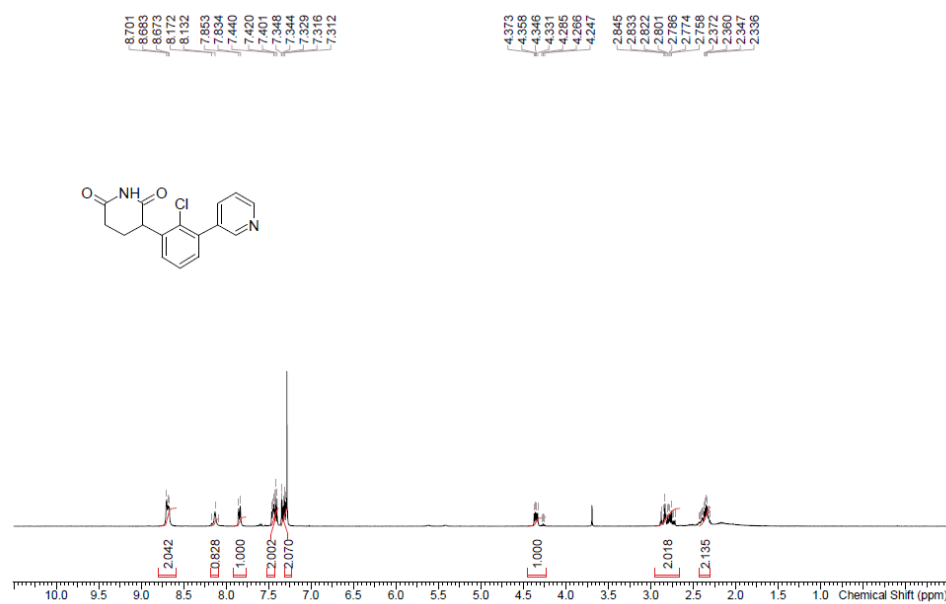
3-[2-chloro-3-(2-pyridyl)phenyl]piperidine-2,6-dione (NGT-201-112)



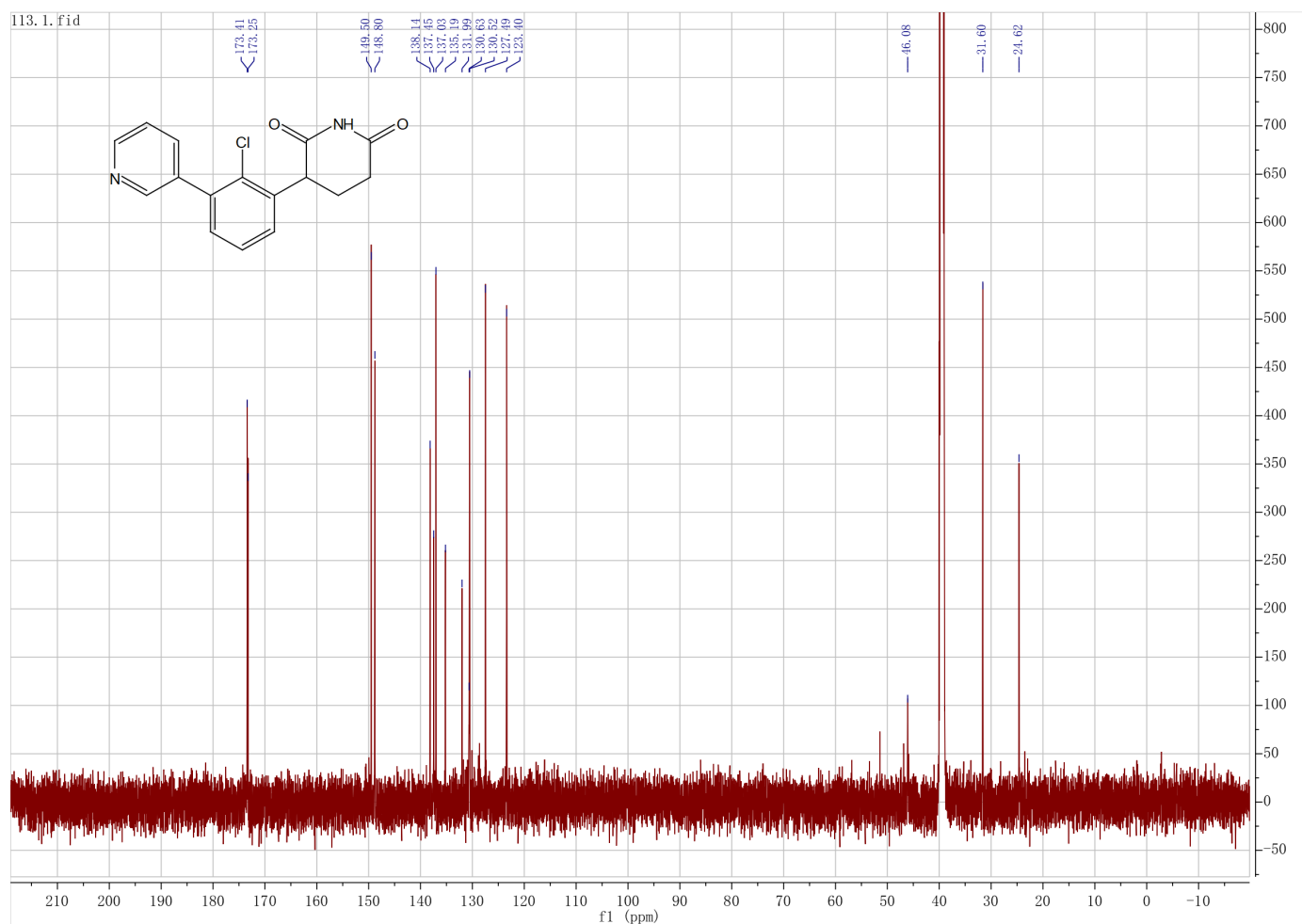
Acquisition Time (sec) 1.9988
 Comment ET86989-7
 98-P1A
 CDC13
 Bruker_02
 O_400M
 Hz
 Date 20 Nov 2024
 08:50:25
 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus 1H
 Number of Transients 64
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 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



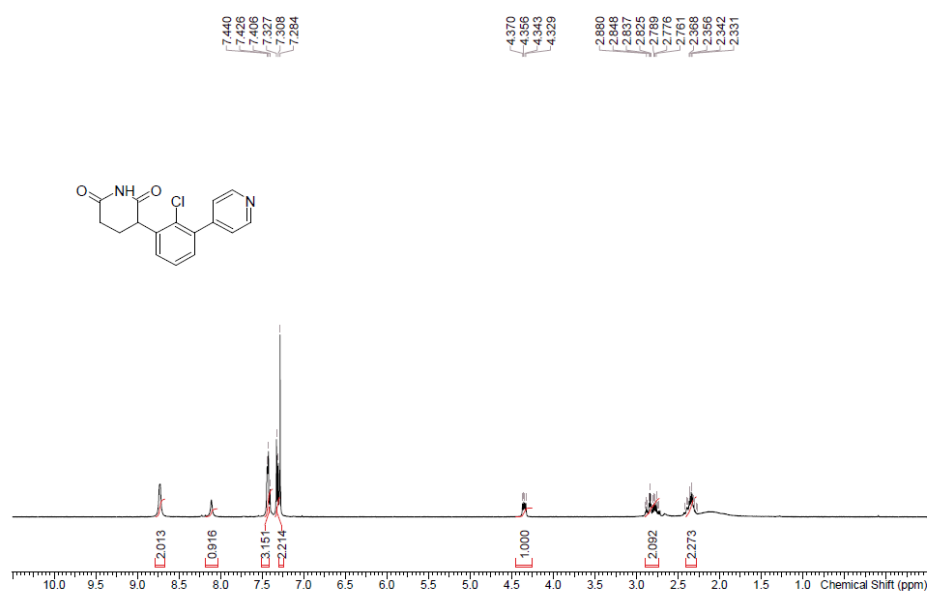
3-[2-chloro-3-(3-pyridyl)phenyl]piperidine-2,6-dione (NGT-201-113)



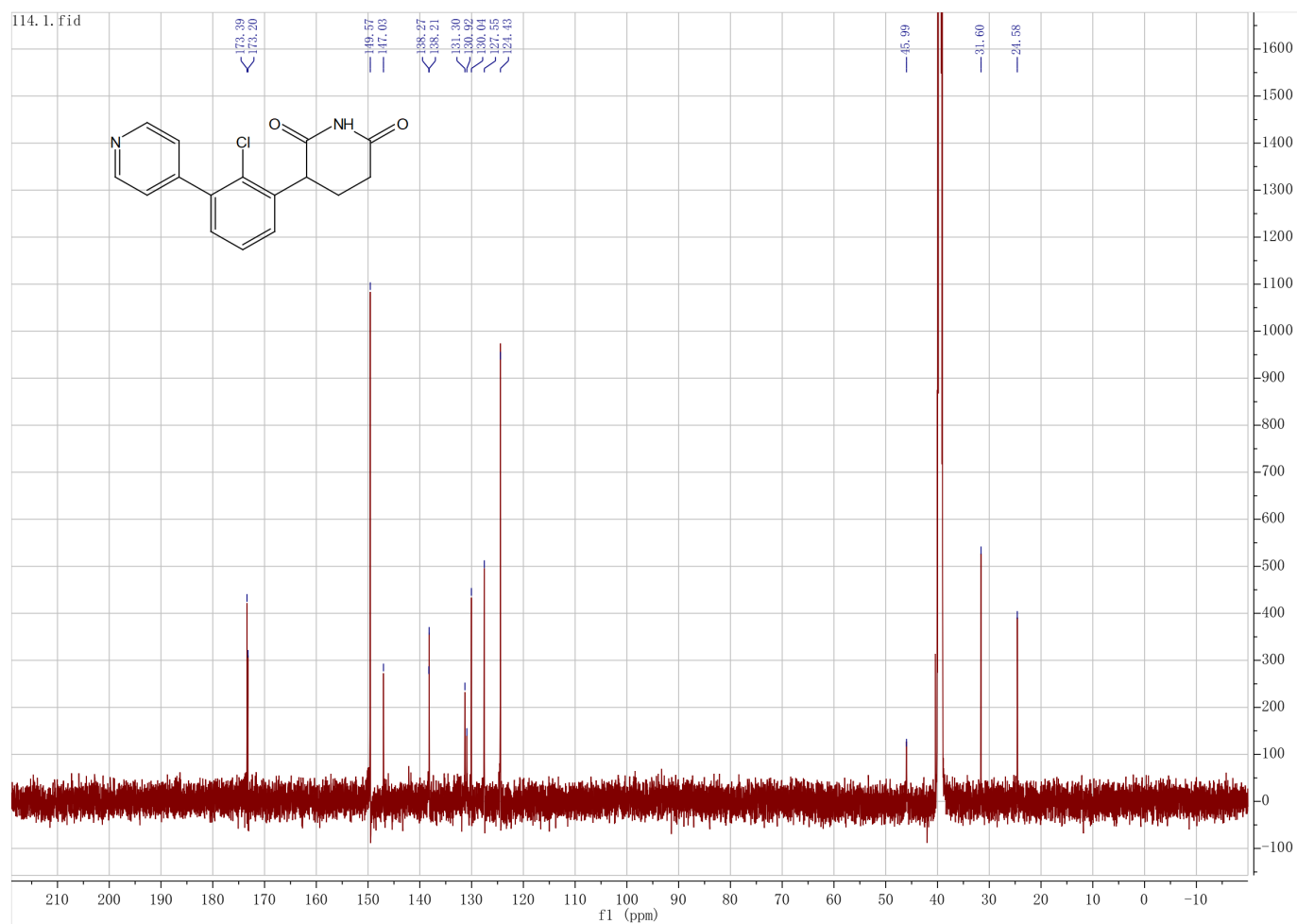
Acquisition Time (sec) 1.9988
 Comment ET86989-7
 68-P1A
 CDC13
 Bruker_02
 V_400M
 Hz
 Date 01 Nov
 2024
 09:04:23
 (GMT+08:00)
 Frequency (MHz) 400.1500
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent CHLORO
 FORM-d
 Spectrum Offset (Hz) 2470.8577
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 25.148



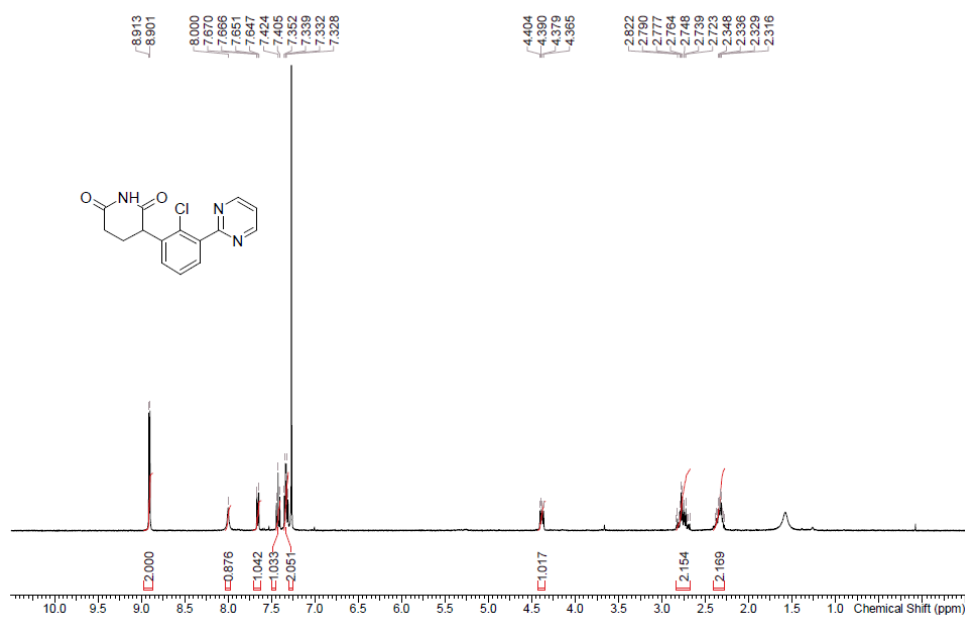
3-[2-chloro-3-(4-pyridyl)phenyl]piperidine-2,6-dione (NGT-201-114)



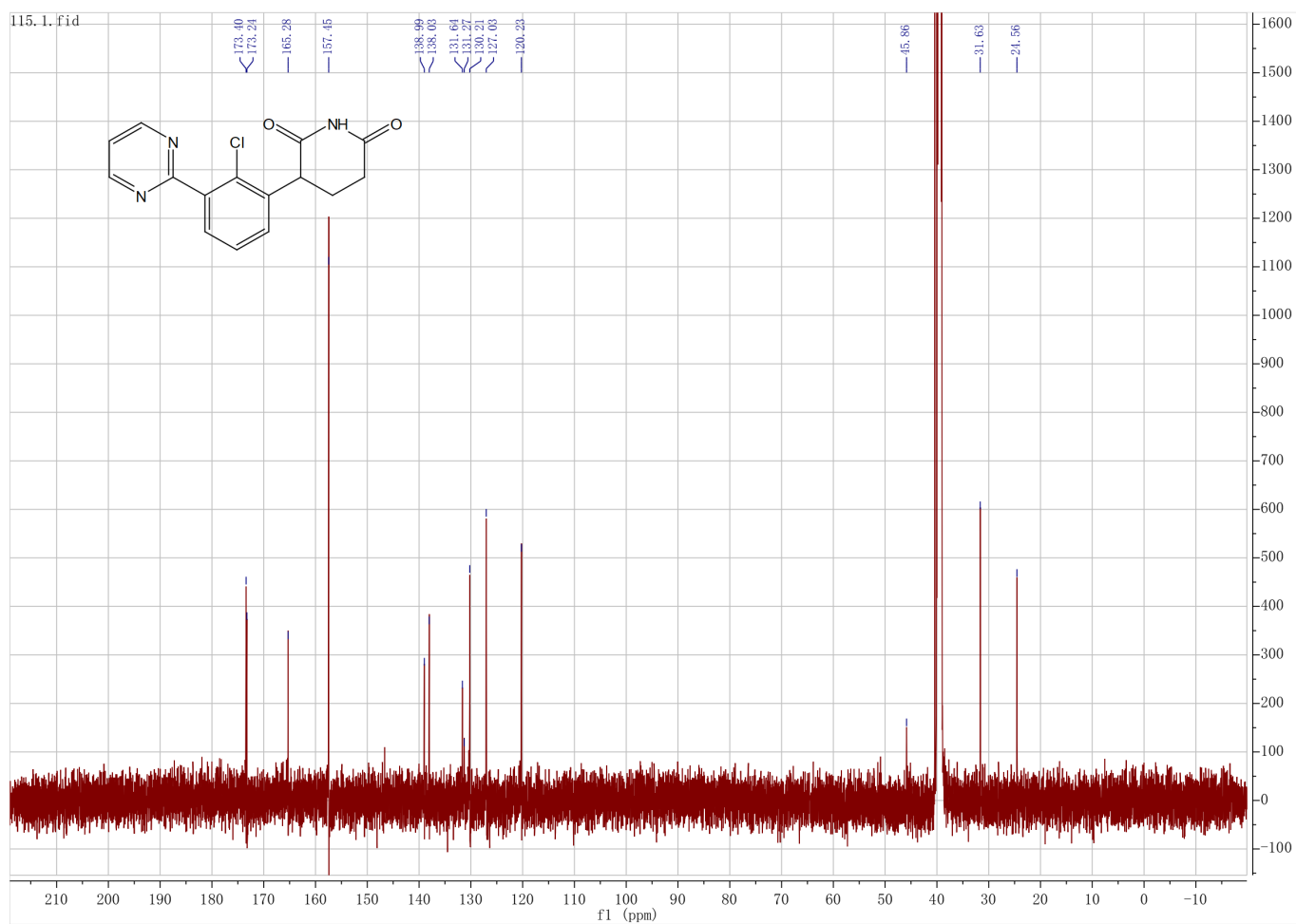
Acquisition Time (sec) 1.9988
 Comment ET86989-7
 69-P1A
 CDC13
 Bruker_02
 V_400M
 Hz
 Date 01 Nov
 2024
 09:07:41
 (GMT+08:00)
 Frequency (MHz) 400.1500
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent CHLORO
 FORM-d
 Spectrum Offset (Hz) 2470.8577
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 25.153



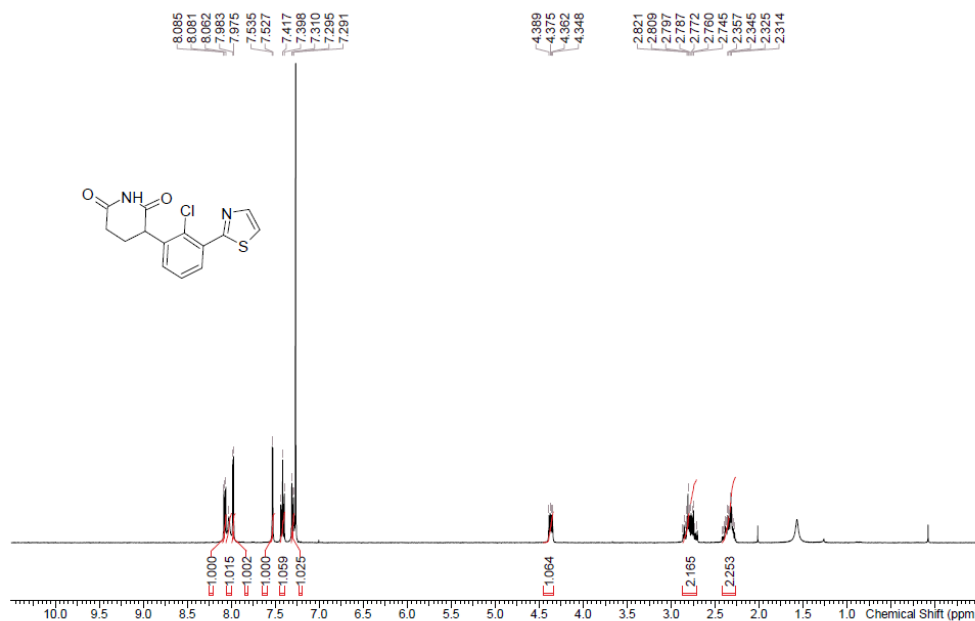
3-(2-chloro-3-pyrimidin-2-yl-phenyl)piperidine-2,6-dione (NGT-201-115)



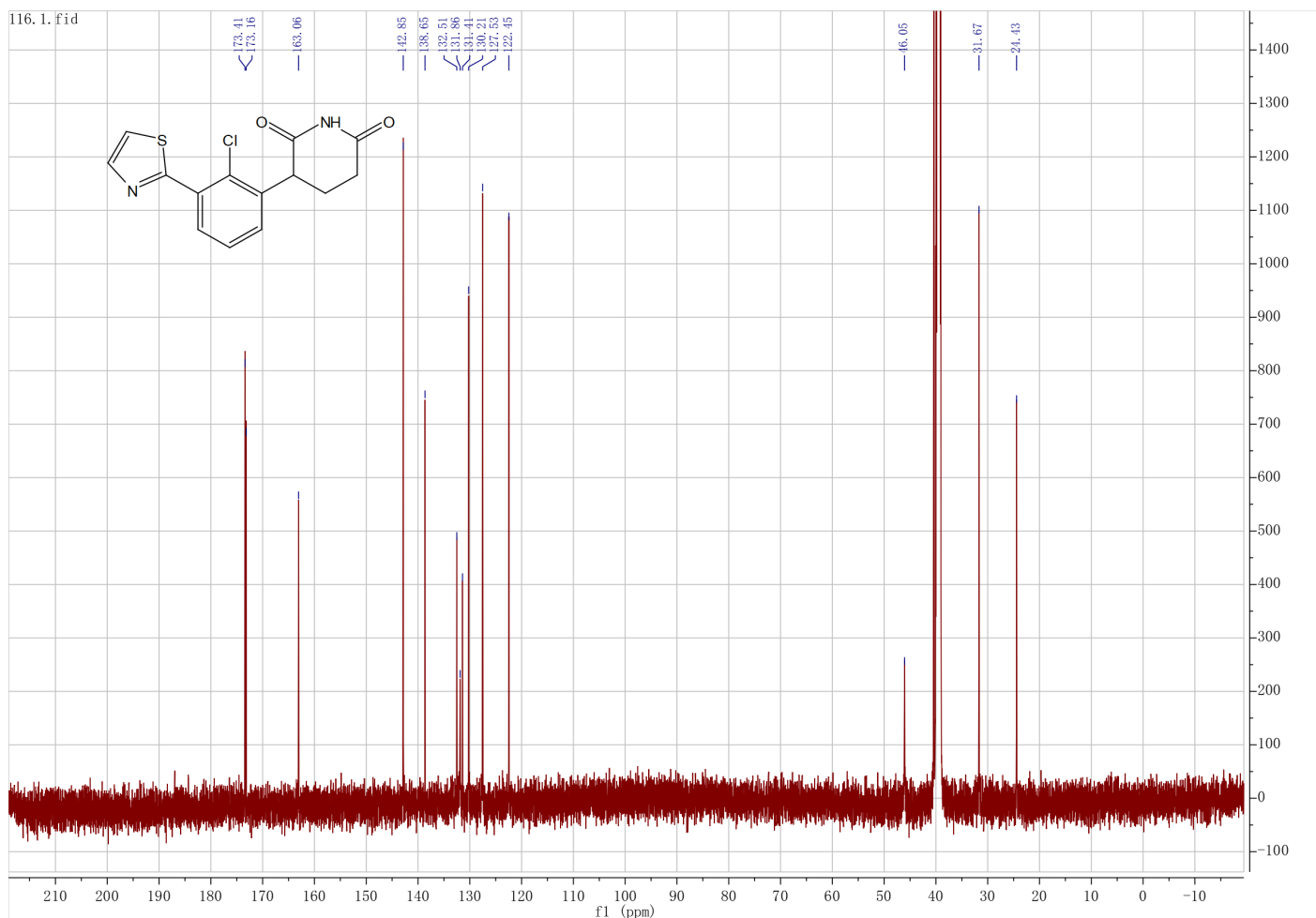
Acquisition Time (sec) 4.0002
 Comment ET86991-7
 93-PIA1
 CDCl3
 ZKNI_02
 N_400MH
 z
 Date 22 Nov
 2024
 03:20:30
 (GMT)
 Frequency (MHz) 399.8359
 Nucleus 1H
 Number of Transients 8
 Origin QUANTU
 M-I
 Original Points Count 32050
 Owner admin
 Points Count 65536
 Pulse Sequence s1pul30
 Receiver Gain 71.74
 SW(cyclical) (Hz) 8012.00
 Solvent CHLORO
 FORM-d
 Spectrum Offset (Hz) 2385.7012
 Spectrum Type undefined
 Sweep Width (Hz) 8011.88
 Temperature (degree C) 22.050



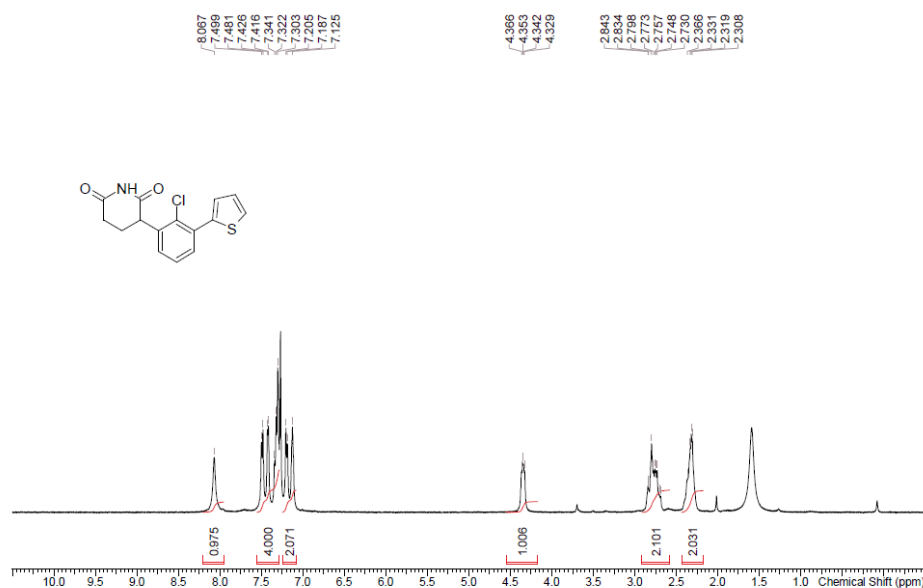
3-(2-chloro-3-thiazol-2-yl-phenyl)piperidine-2,6-dione (NGT-201-116)



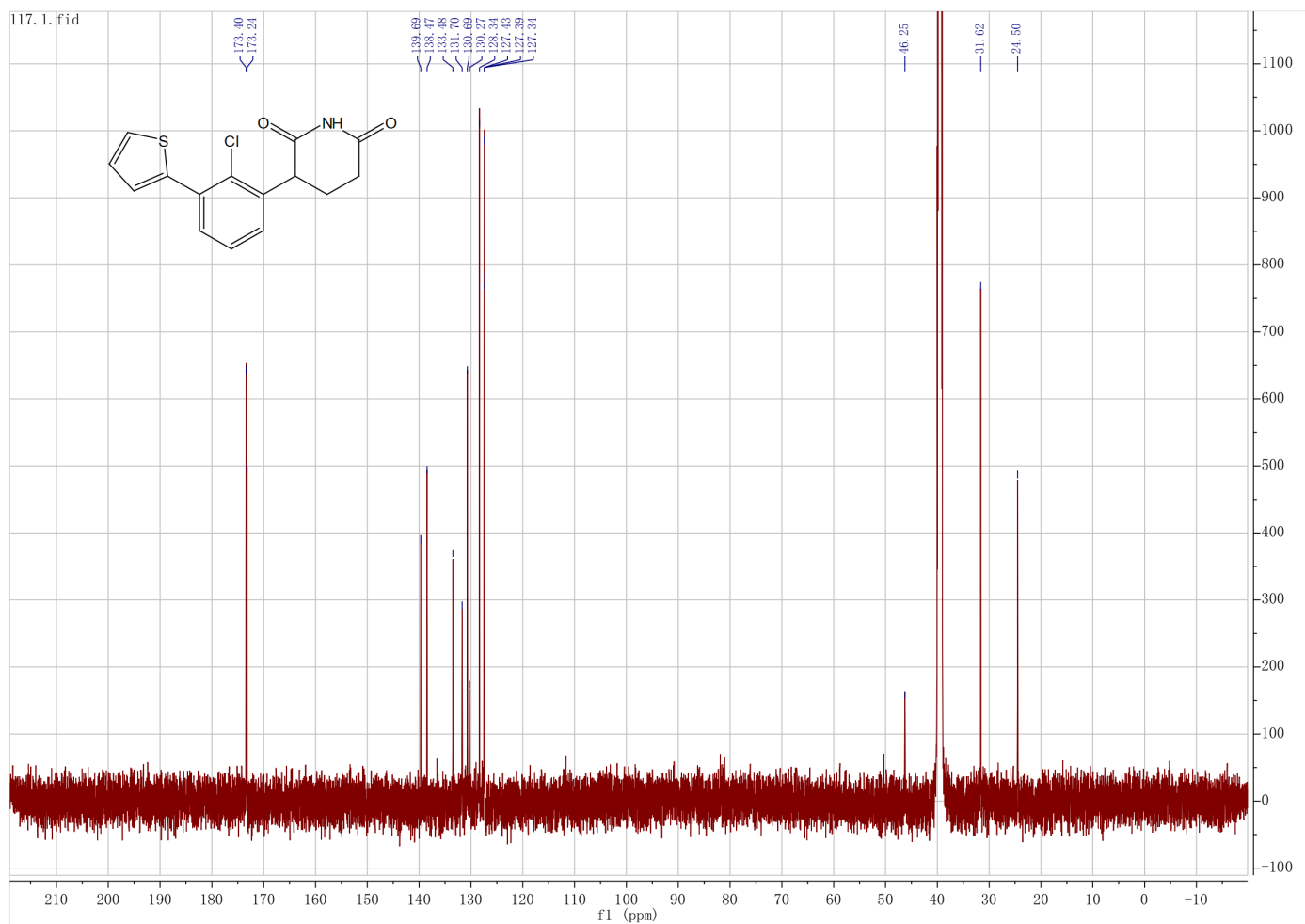
Acquisition Time (sec) 1.9988
 Comment ET86991-8
 23-P1A1
 CDC13
 Bruker_02
 G_400M
 Hz
 Date 05 Dec
 2024
 09:54:23
 (GMT+08:00)
 Frequency (MHz) 400.0300
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent CHLORO
 FORM-d
 Spectrum Offset (Hz) 2464.5198
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 25.149



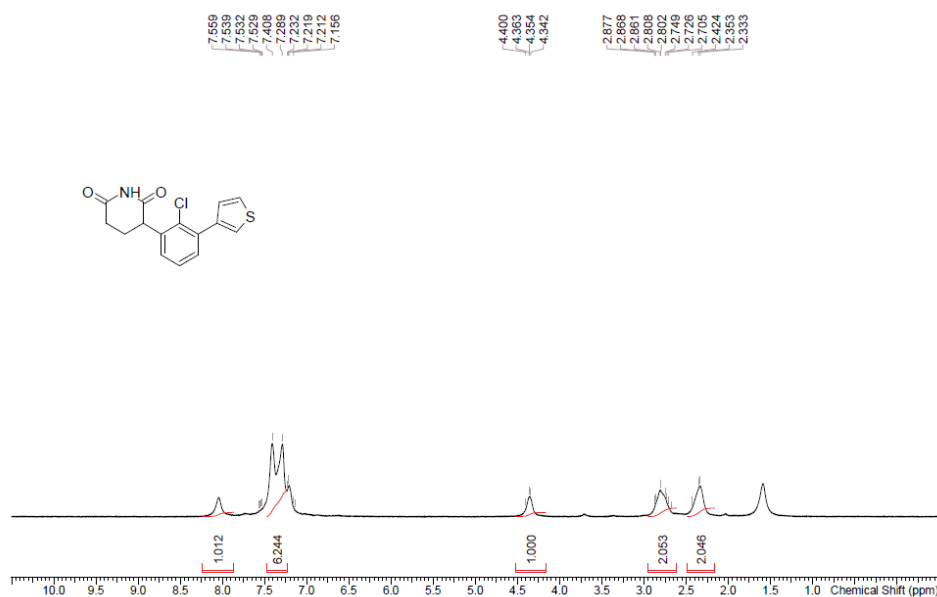
3-[2-chloro-3-(2-thienyl)phenyl]piperidine-2,6-dione (NGT-201-117)



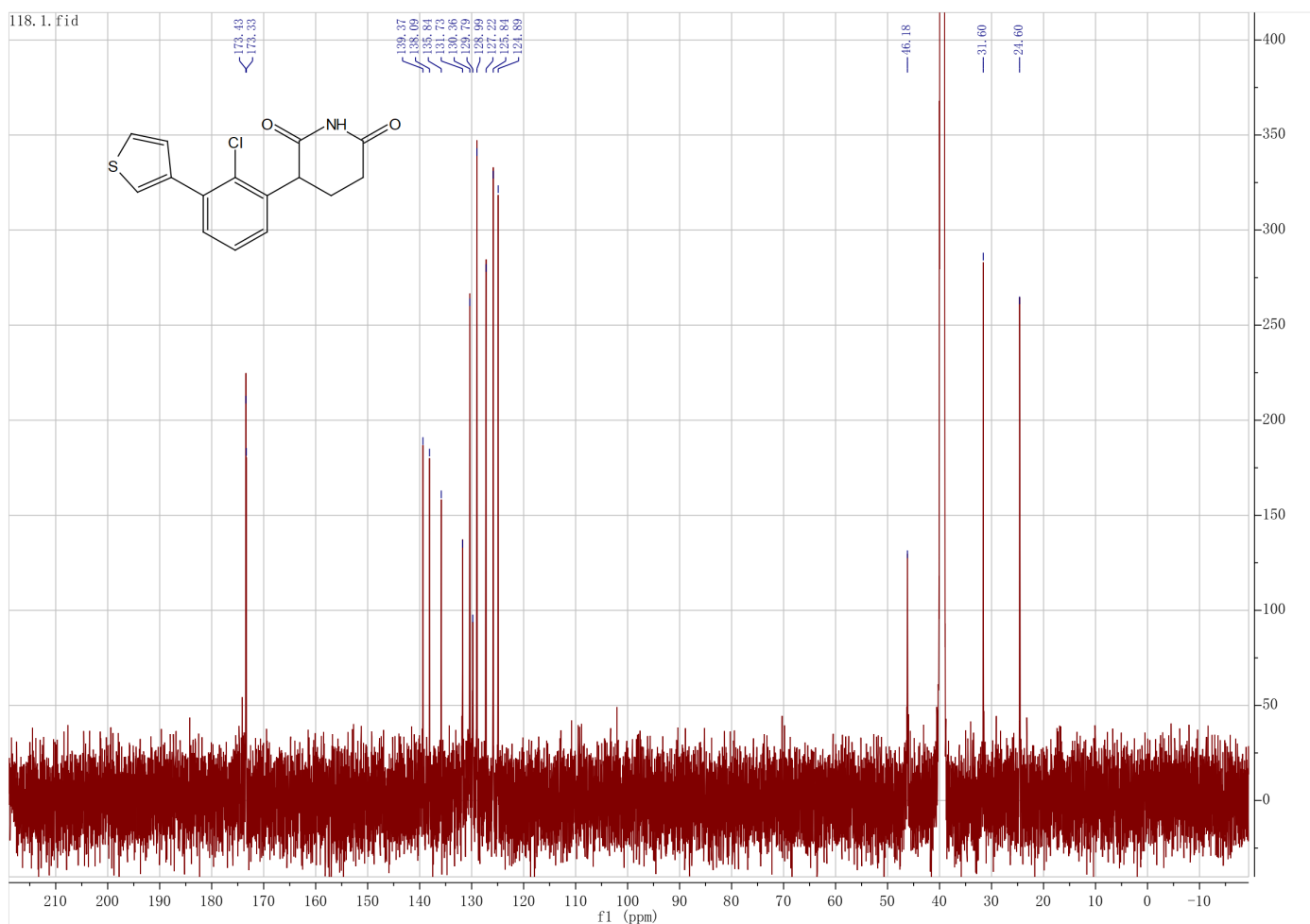
Acquisition Time (sec) 1.9988
 Comment ET86991-7
 62-P1A1
 CDC13
 Bruker_02
 V_400M
 Hz
 Date 01 Nov
 2024
 12:17:24
 (GMT+08:00)
 Frequency (MHz) 400.1500
 Nucleus ¹H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 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



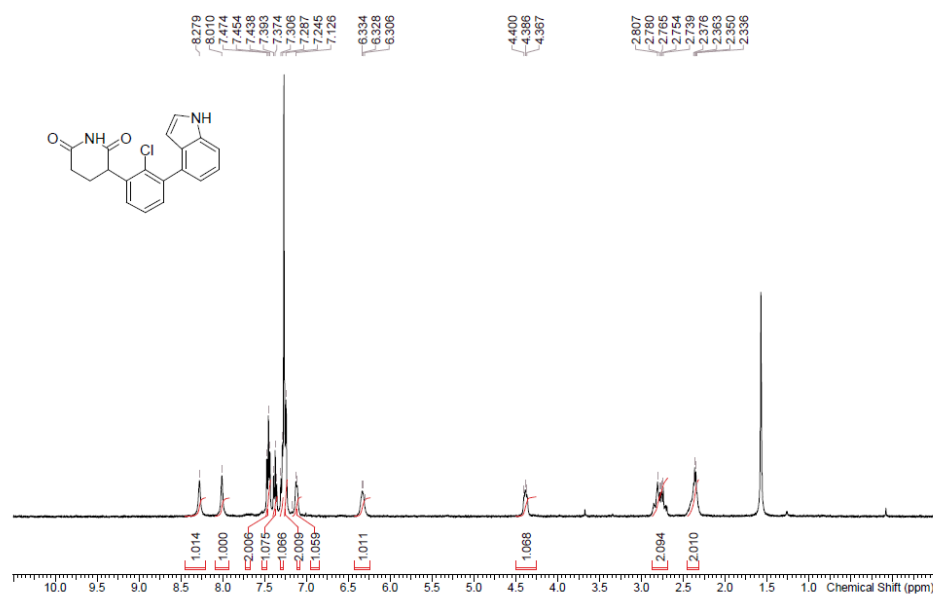
3-[2-chloro-3-(3-thienyl)phenyl]piperidine-2,6-dione (NGT-201-118)



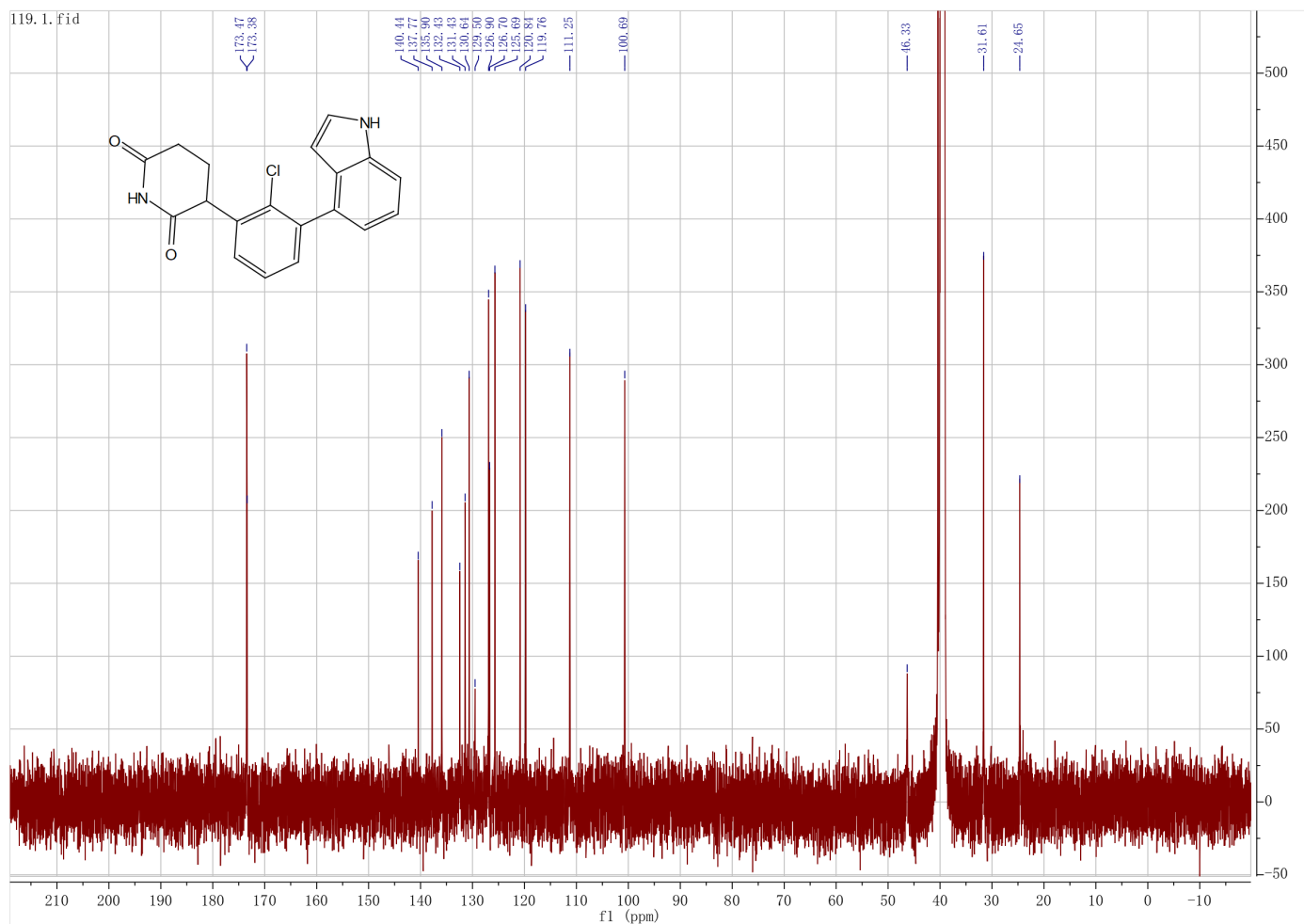
Acquisition Time (sec) 1.9988
 Comment ET86989-7
 70-PIA
 CDC13
 Bruker_02
 V_400M
 Hz
 Date 01 Nov
 2024
 09:10:19
 (GMT+08:00)
 Frequency (MHz) 400.1500
 Nucleus ¹H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 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



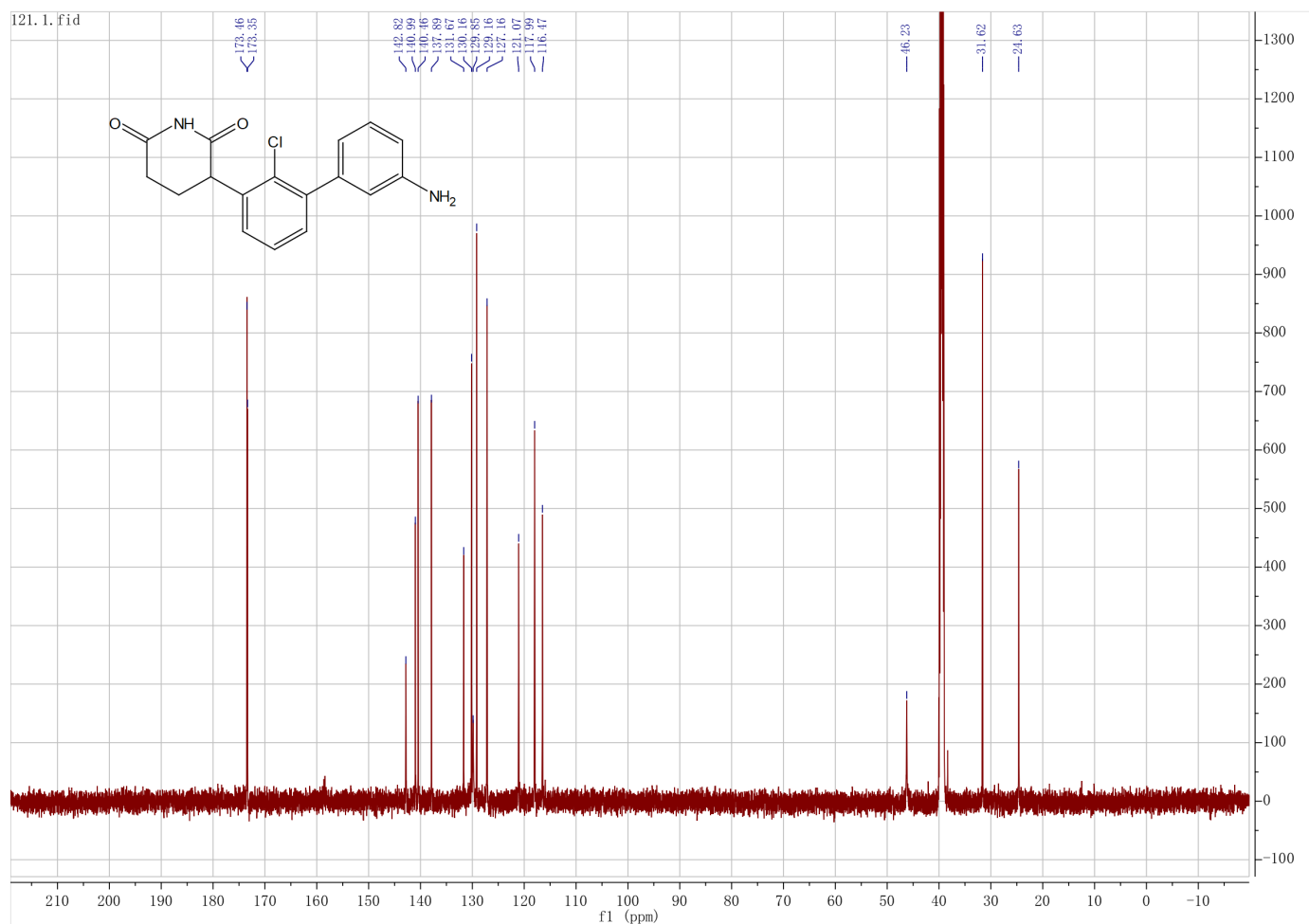
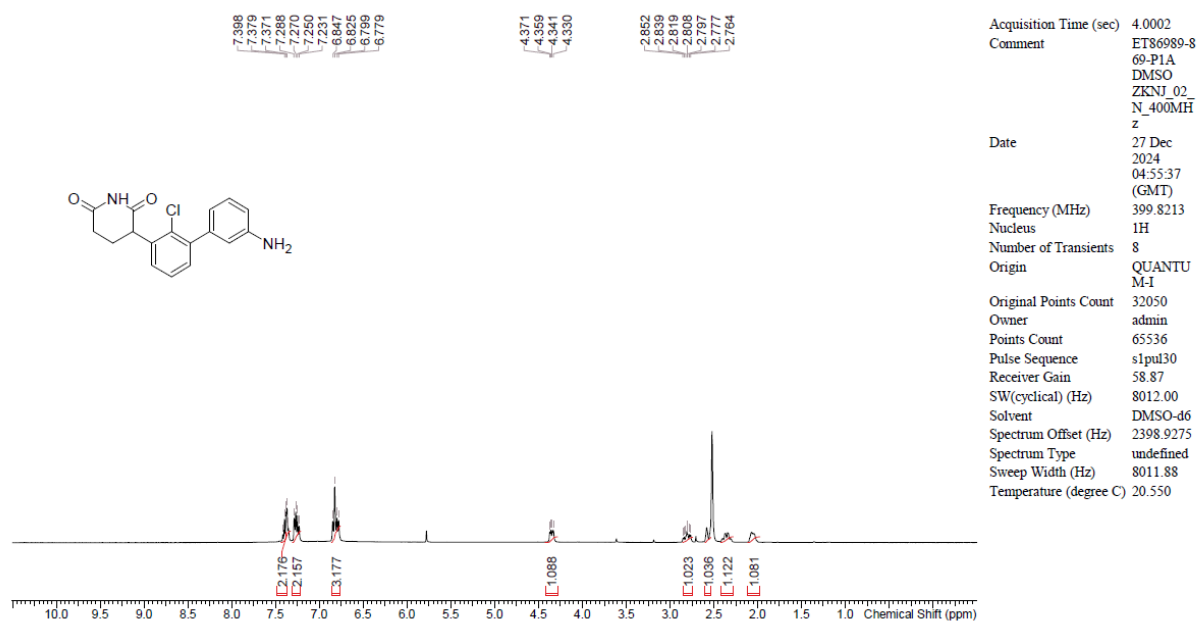
3-[2-chloro-3-(1H-indol-4-yl)phenyl]piperidine-2,6-dione (NGT-201-119)



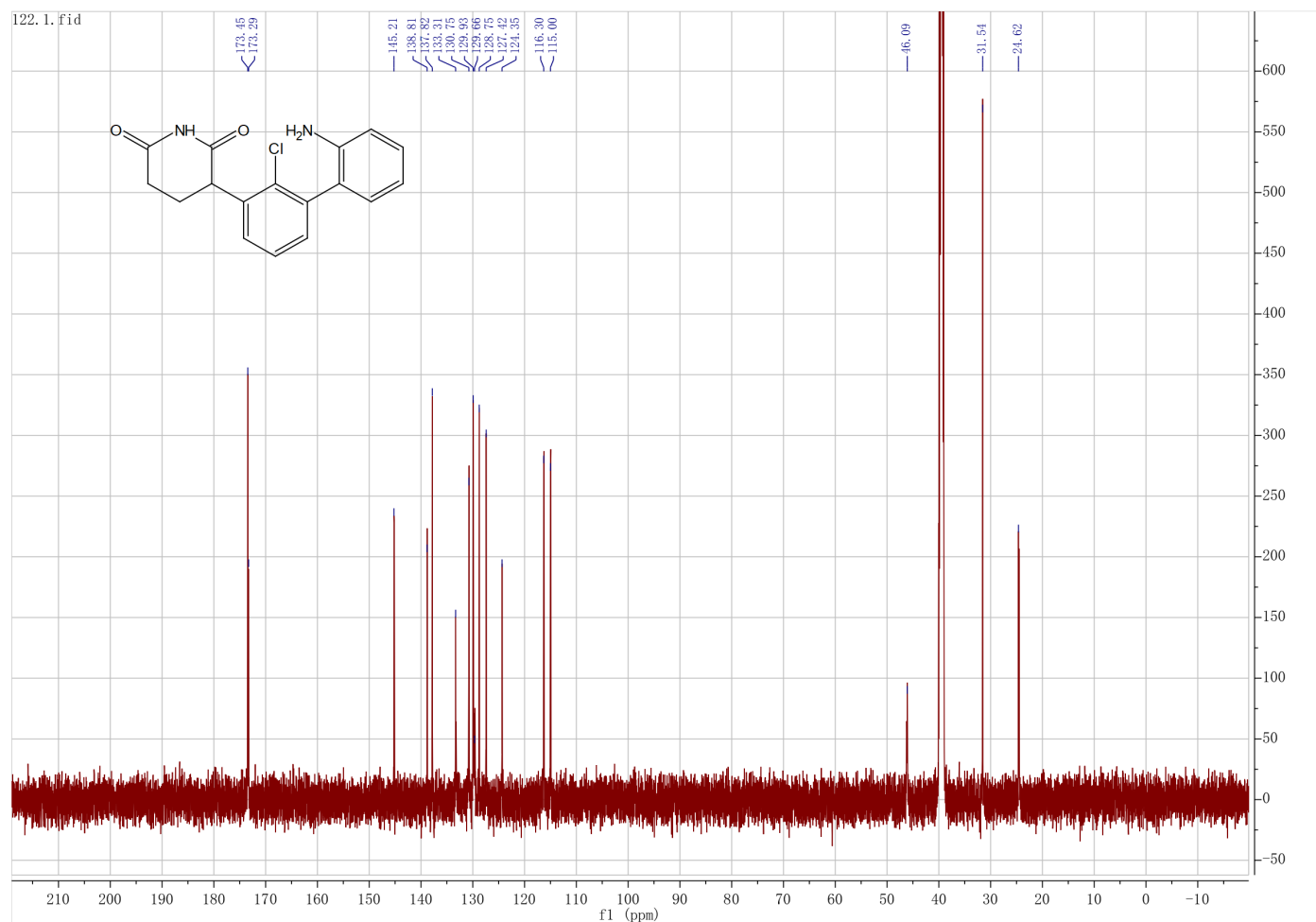
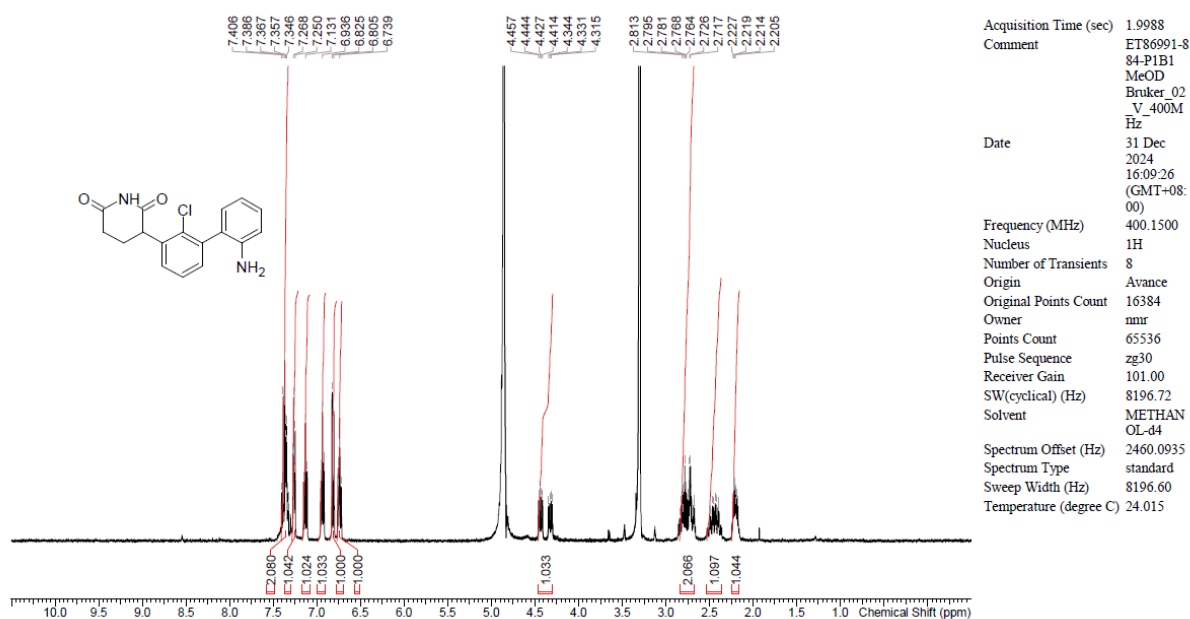
Acquisition Time (sec) 4.0002
 Comment ET86991-7
 07-PIA2
 CDC13
 ZKNI_02
 N_400MHZ
 Date 07 Nov 2024
 04:02:30 (GMT)
 Frequency (MHz) 399.8359
 Nucleus 1H
 Number of Transients 8
 Origin QUANTU
 M-I
 Original Points Count 32050
 Owner admin
 Points Count 65536
 Pulse Sequence s1pul30
 Receiver Gain 70.98
 SW(cyclical) (Hz) 8012.00
 Solvent CHLORO
 FORM-d
 Spectrum Offset (Hz) 2389.2595
 Spectrum Type undefined
 Sweep Width (Hz) 8011.88
 Temperature (degree C) 21.250



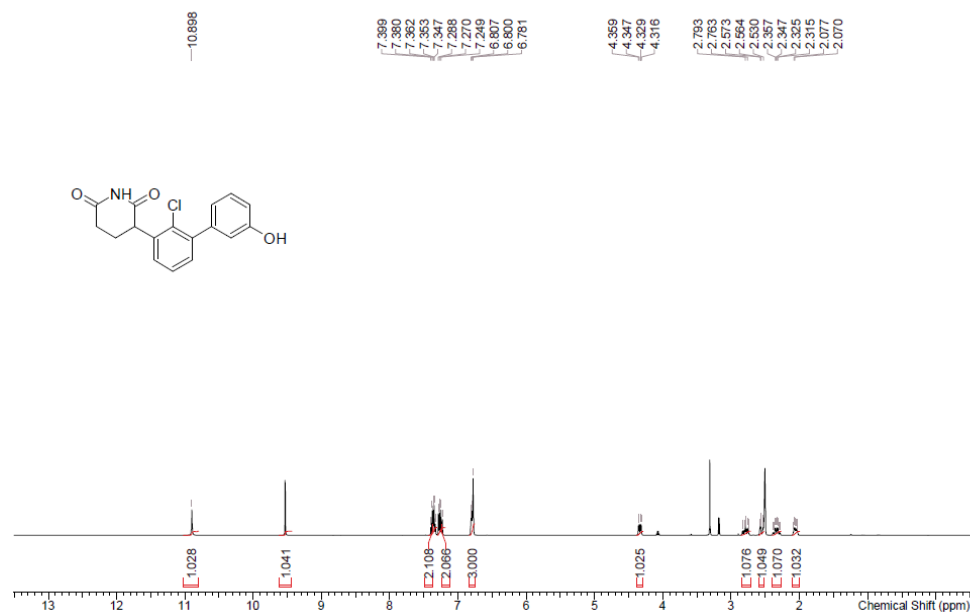
3-[3-(3-aminophenyl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-121)



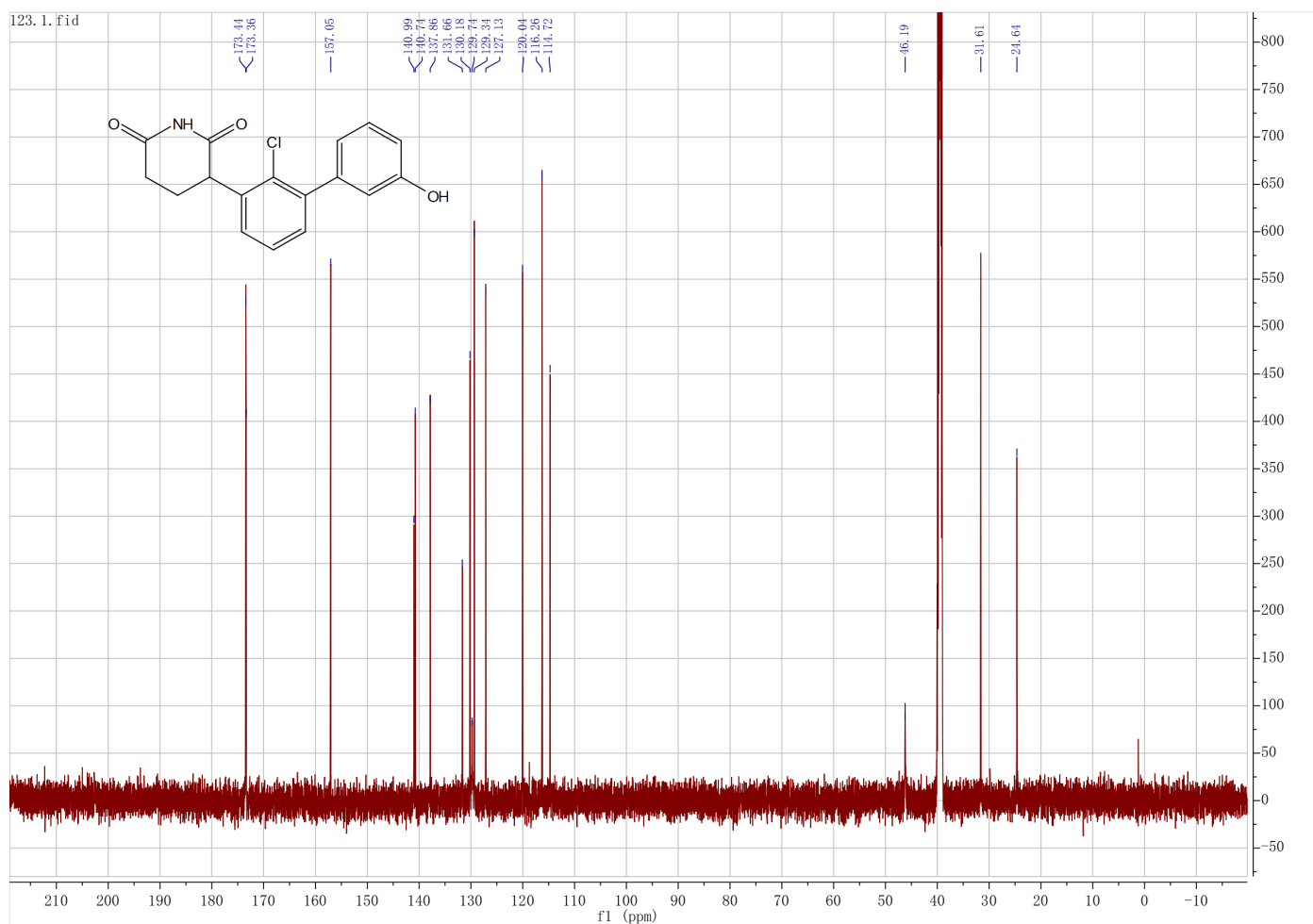
3-[3-(2-aminophenyl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-122)



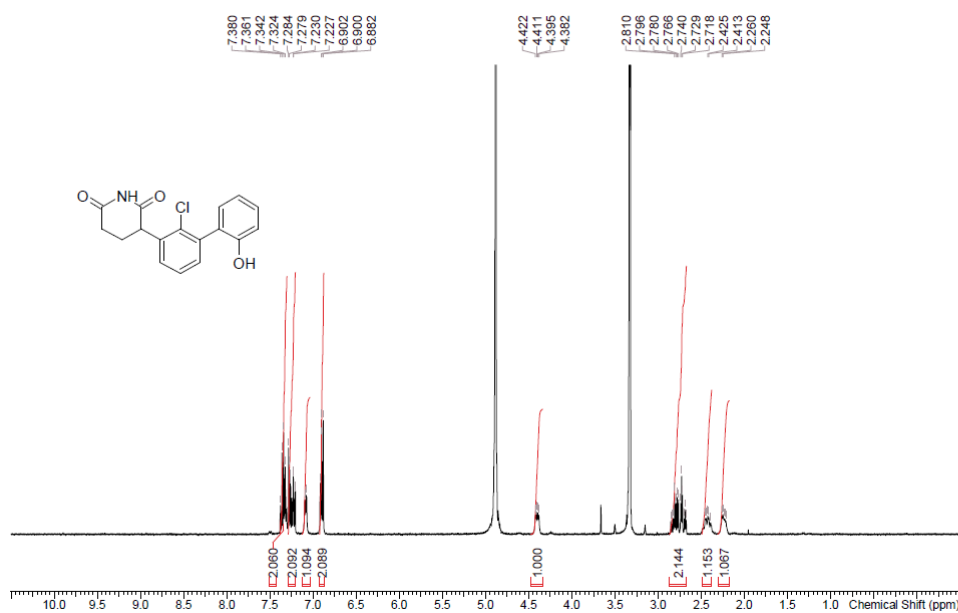
3-[2-chloro-3-(3-hydroxyphenyl)phenyl]piperidine-2,6-dione (NGT-201-123)



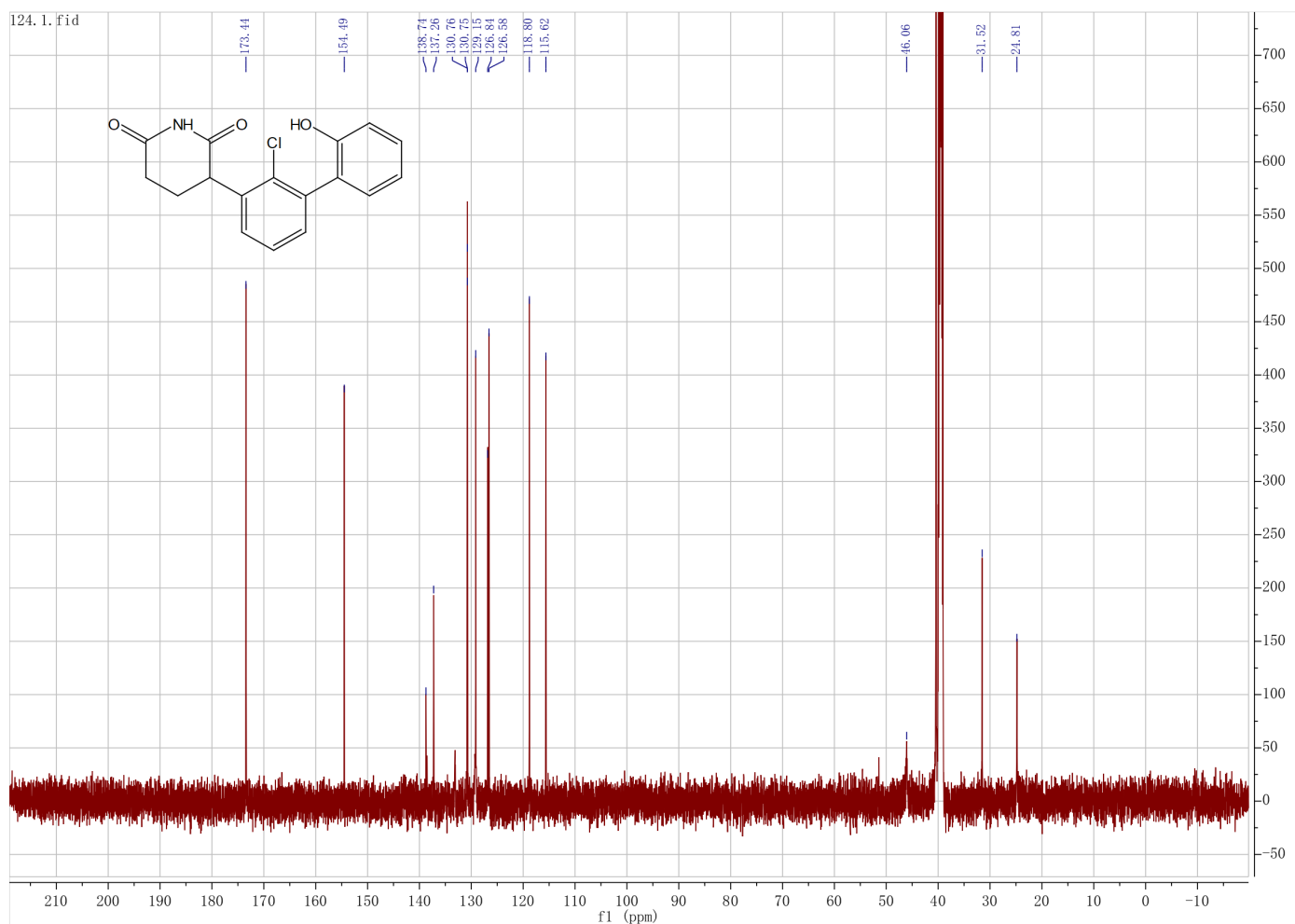
Acquisition Time (sec) 1.9988
 Comment ET86989-8
 70-P1B
 DMSO
 Bruker_02
 G_400M
 Hz
 Date 26 Dec
 2024
 15:51:57
 (GMT+08:00)
 Frequency (MHz) 400.0300
 Nucleus ¹H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 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



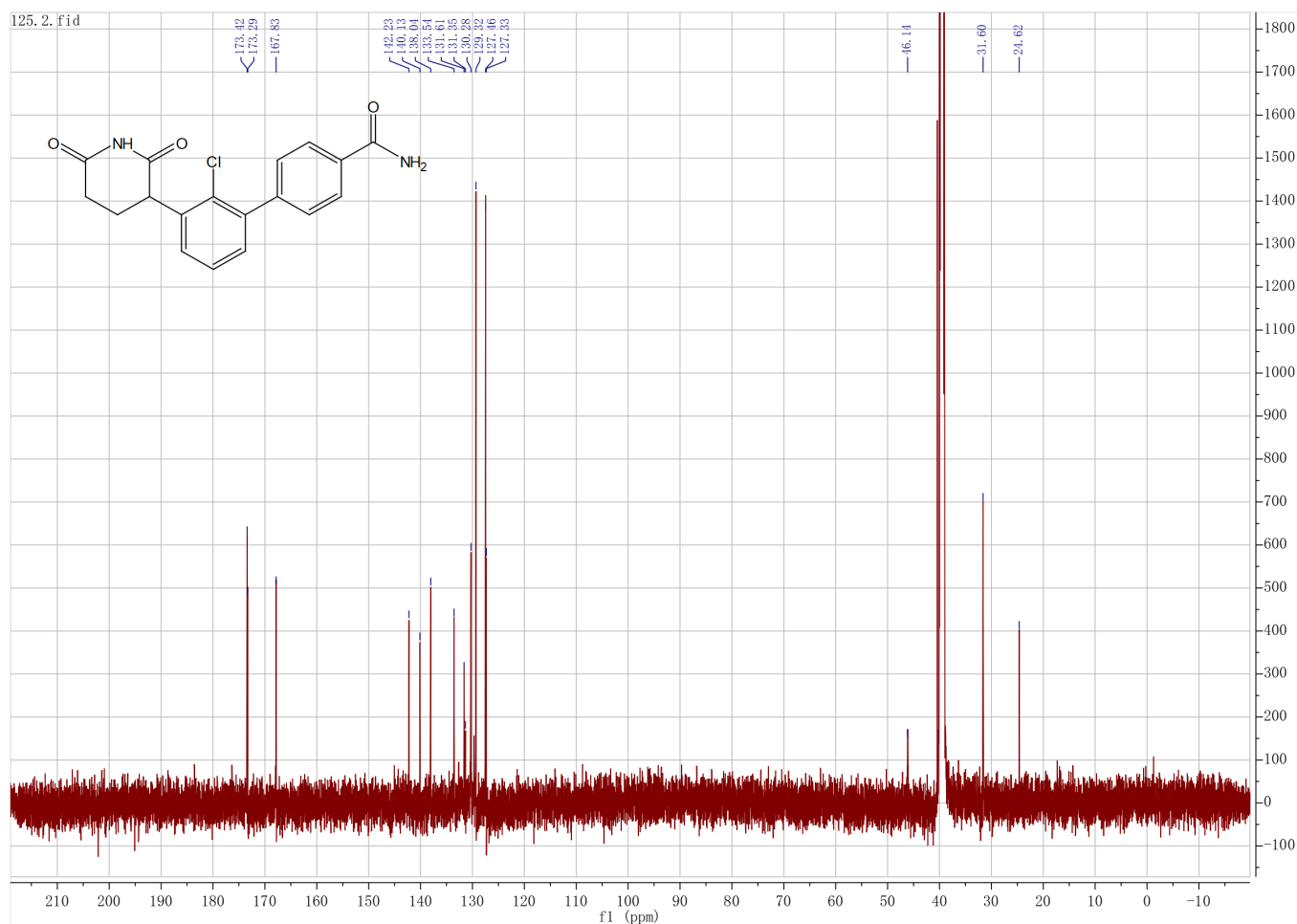
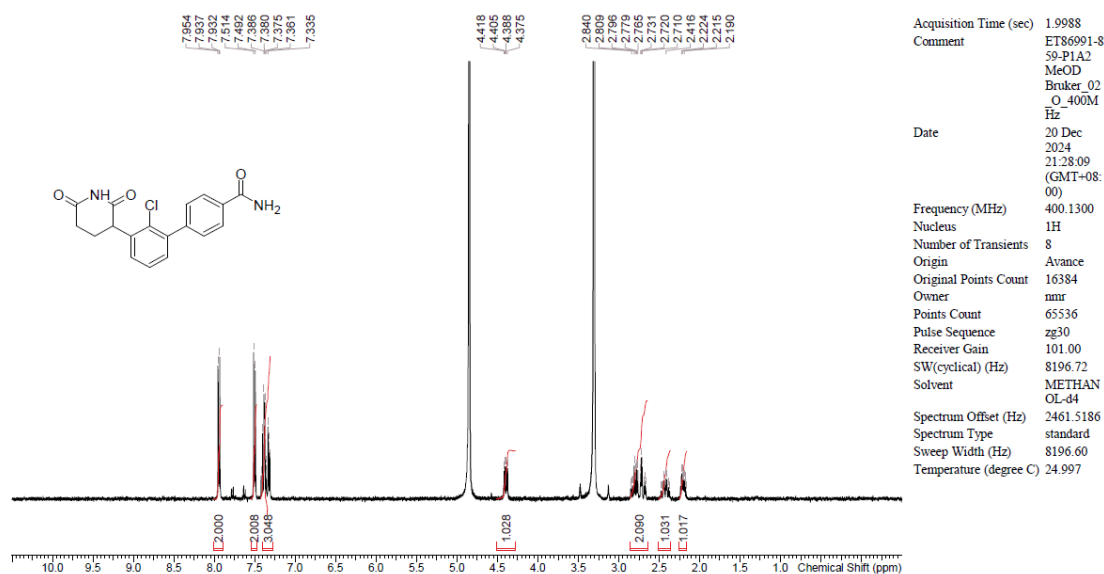
3-[2-chloro-3-(2-hydroxyphenyl)phenyl]piperidine-2,6-dione (NGT-201-124)



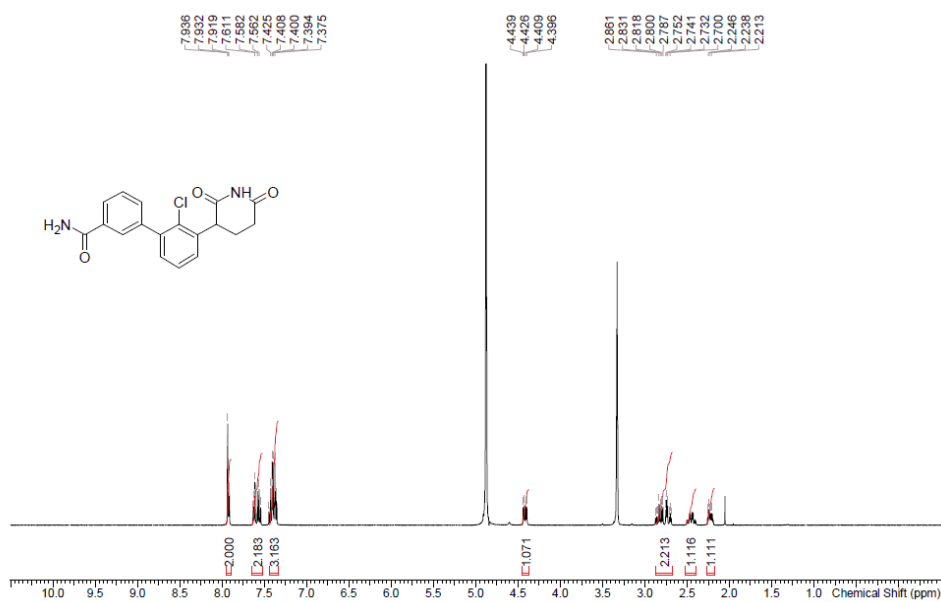
Acquisition Time (sec) 1.9988
 Comment ET86991-8
 73-P1B1
 MeOD
 Bruker_02
 V_400M
 Hz
 Date 31 Dec 2024
 16:07:14
 (GMT+08:00)
 Frequency (MHz) 400.1500
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 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



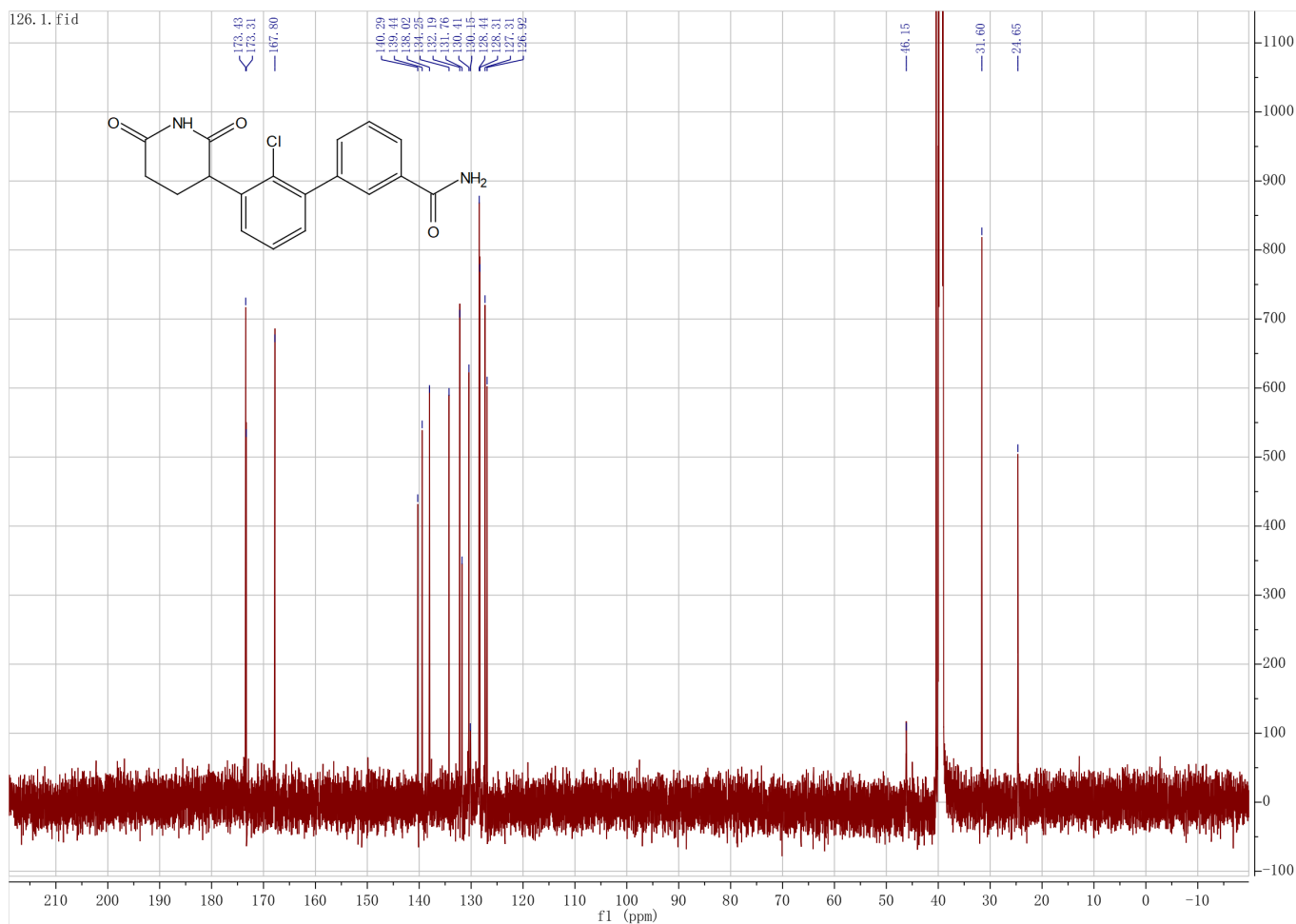
4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzamide (NGT-201-125)



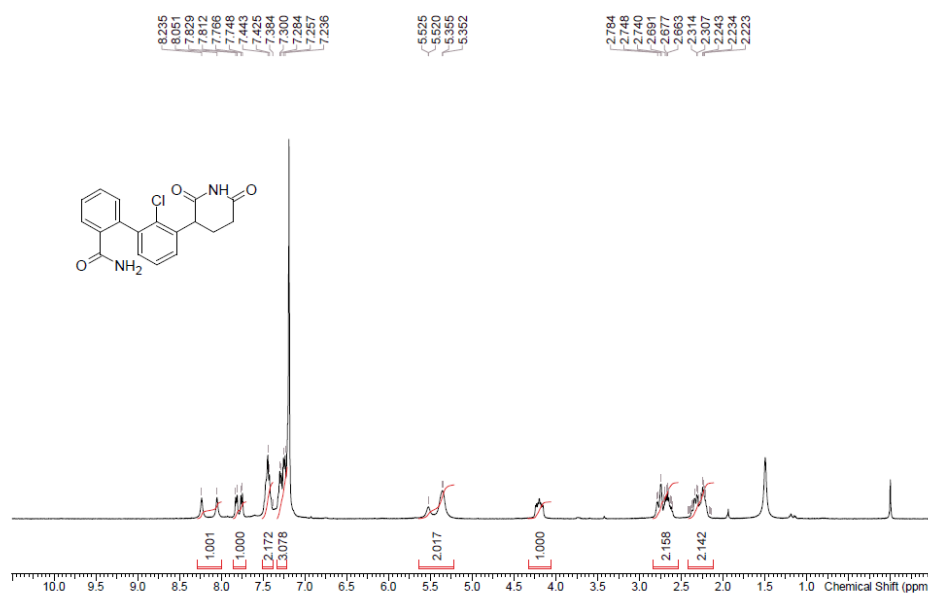
3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzamide (NGT-201-126)



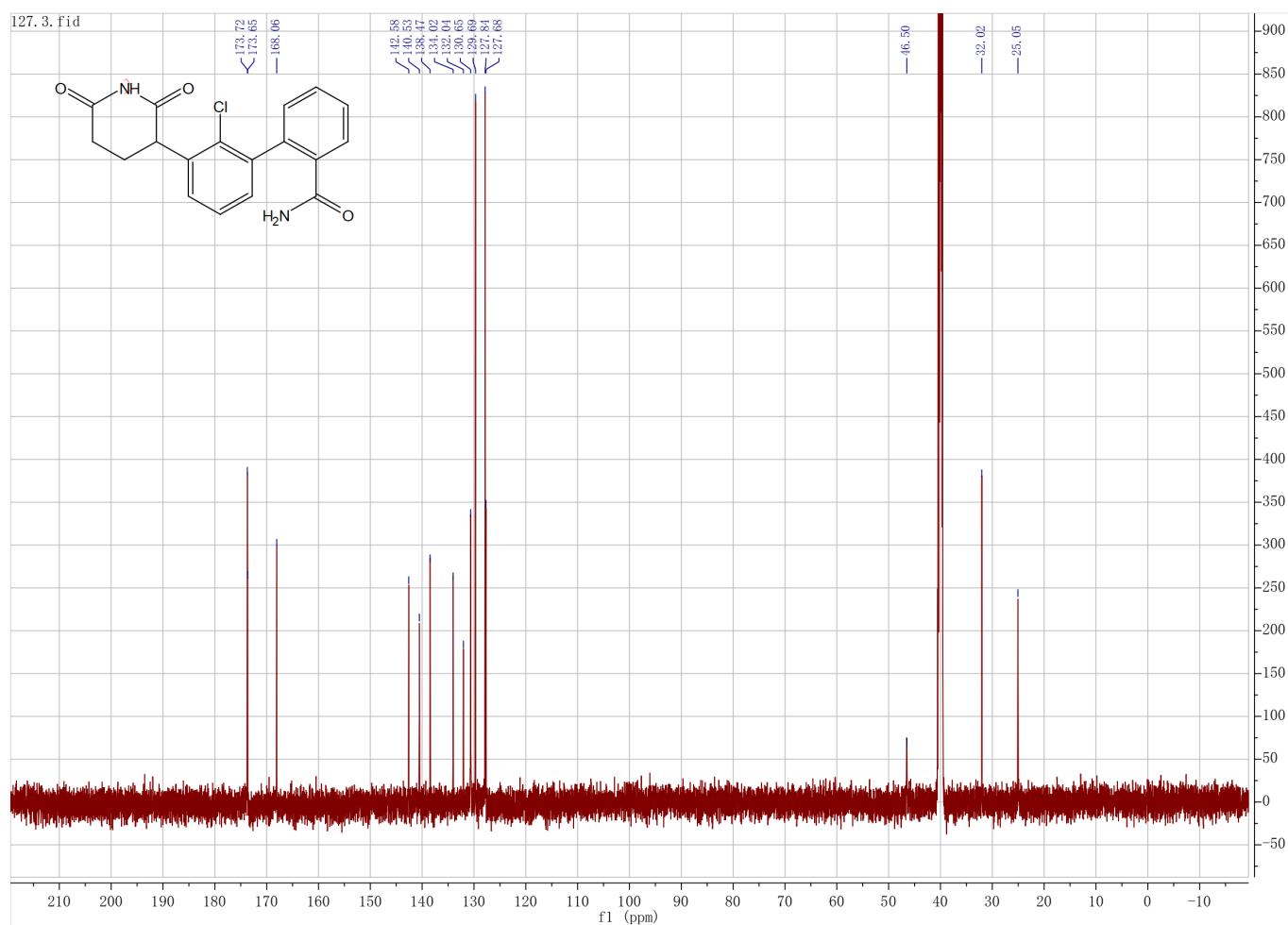
Acquisition Time (sec) 1.9988
 Comment ET86989-8
 62-P1A
 MeOD
 Bruker_02
 O_400M
 Hz
 Date 24 Dec 2024
 15:54:05
 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent METHANOL-d4
 Spectrum Offset (Hz) 2470.8015
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 24.942



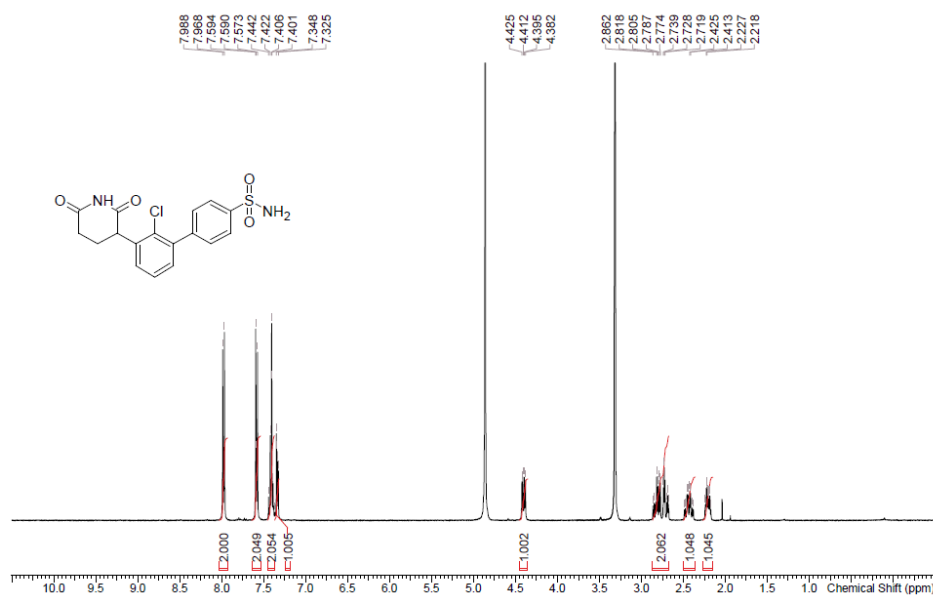
2-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzamide (NGT-201-127)



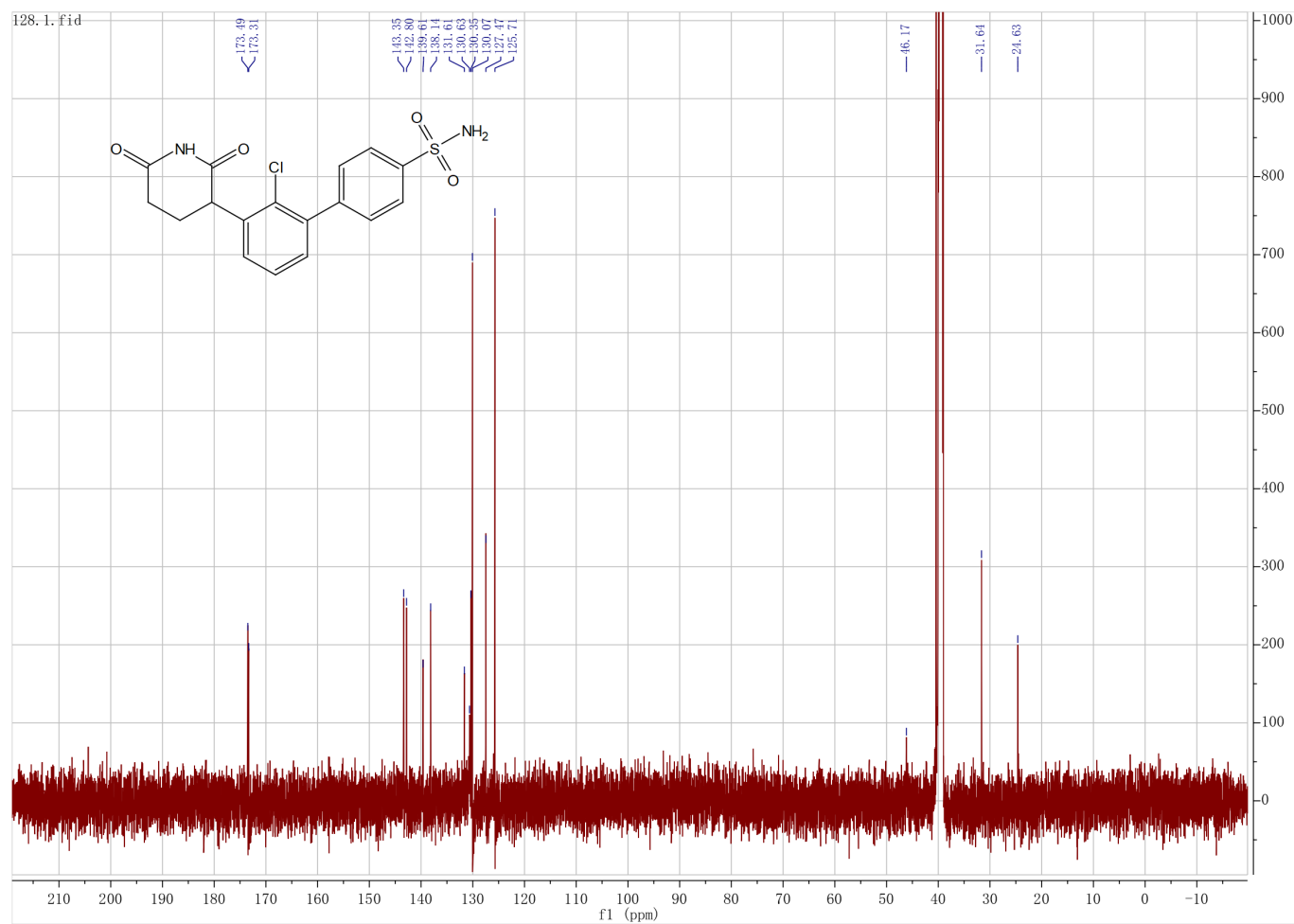
Acquisition Time (sec) 1.9988
 Comment ET86989-8
 56-PIA
 CDCl3
 Bruker_02
 O_400M
 Hz
 Date 17 Dec 2024
 09:12:23
 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus 1H
 Number of Transients 64
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 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



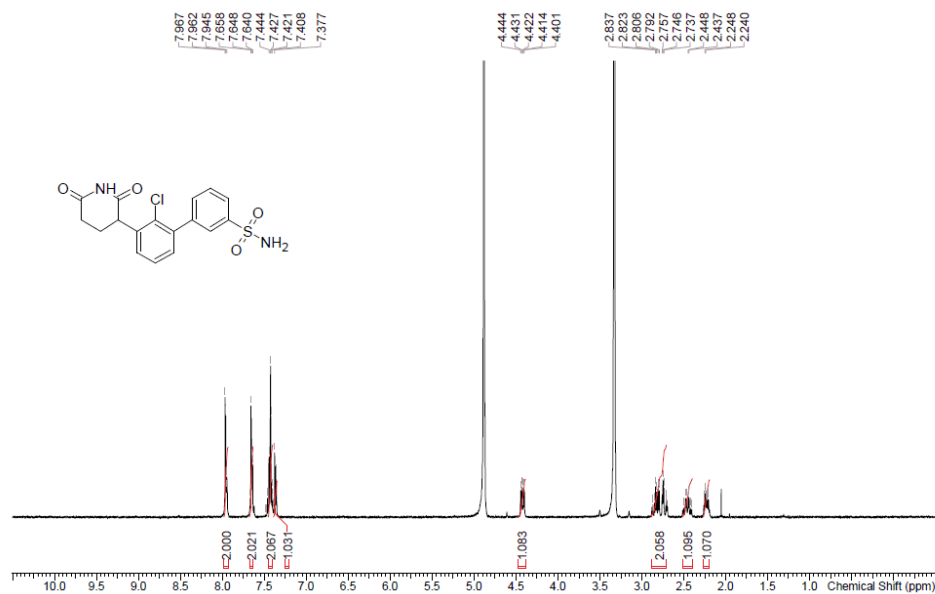
4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzenesulfonamide (NGT-201-128)



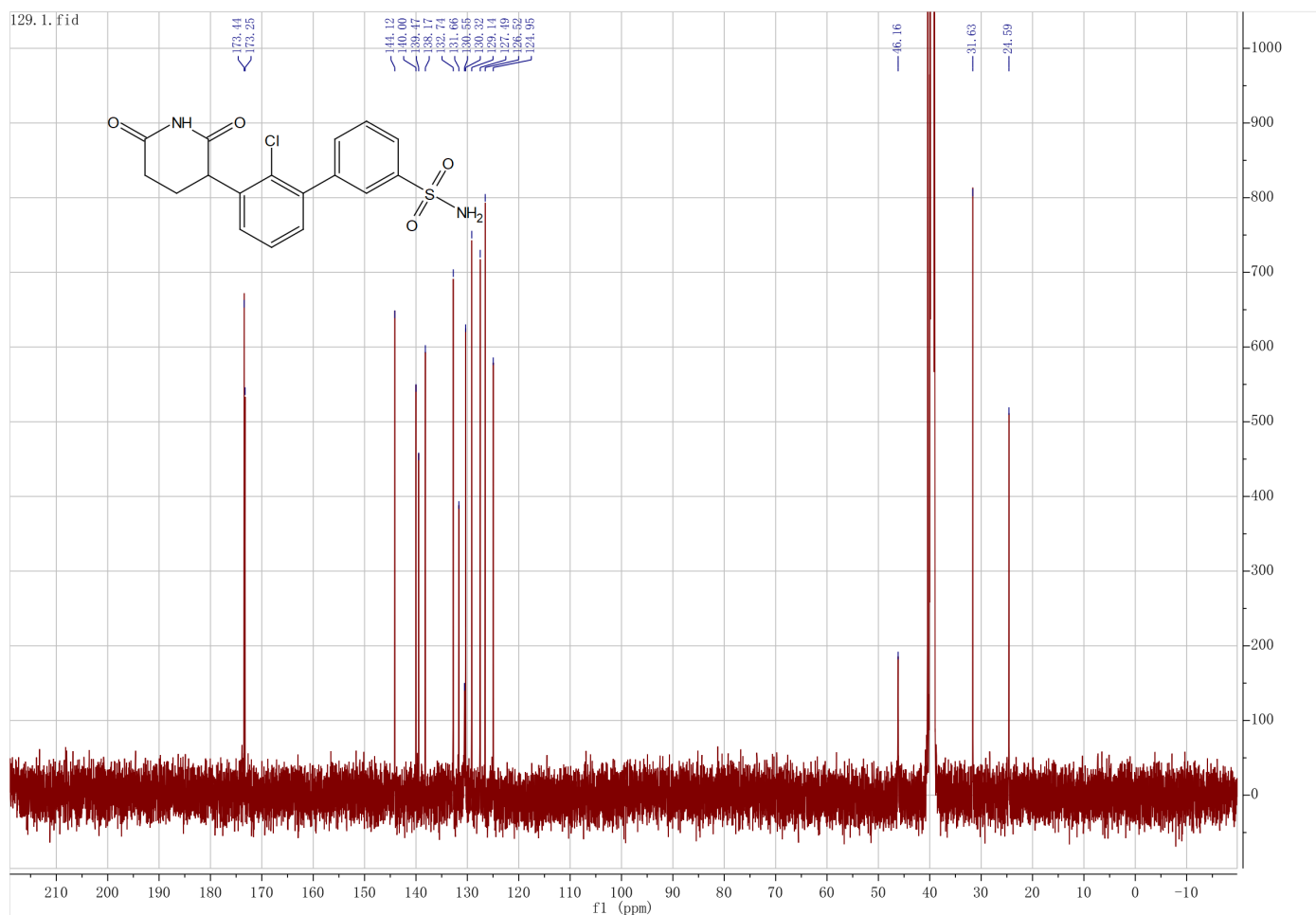
Acquisition Time (sec) 1.9988
 Comment ET86991-8
 MeOD
 Bruker_02
 V_400M
 Hz
 Date 20 Dec 2024
 21:30:42
 (GMT+08:00)
 Frequency (MHz) 400.1500
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent METHANOL-d4
 Spectrum Offset (Hz) 2464.7354
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 24.565



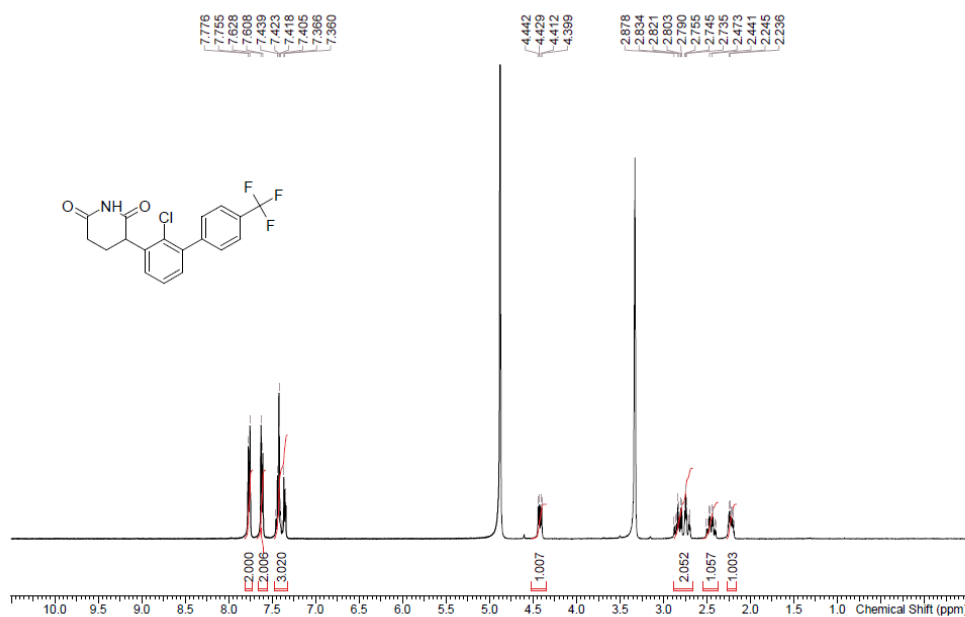
3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]benzenesulfonamide (NGT-201-129)



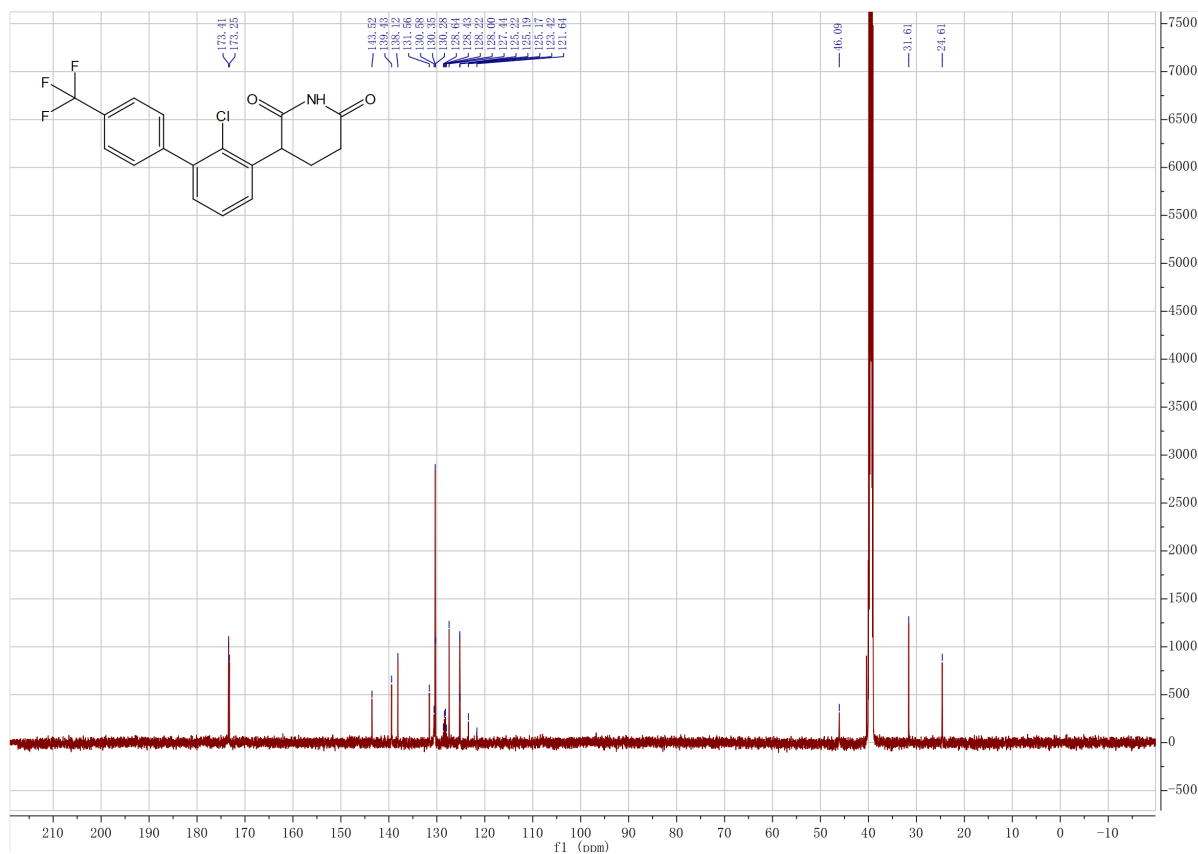
Acquisition Time (sec) 1.9988
 Comment ET86991-8
 53-PIA2
 MeOD
 Bruker_02
 V_400M
 Hz
 Date 18 Dec
 2024
 18:19:44
 (GMT+08:00)
 Frequency (MHz) 400.1500
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent METHAN
 OL-d4
 Spectrum Offset (Hz) 2470.8577
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 24.059



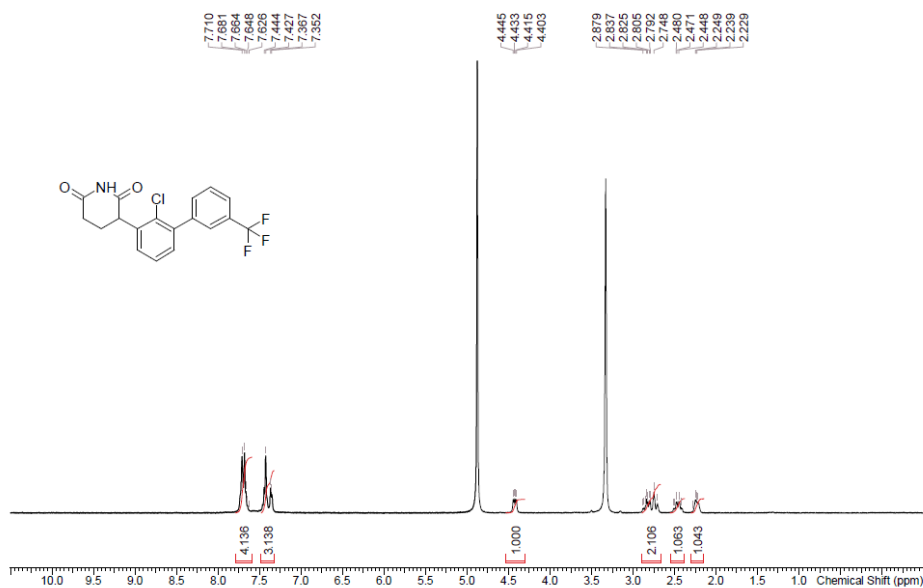
3-[2-chloro-3-[4-(trifluoromethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-131)



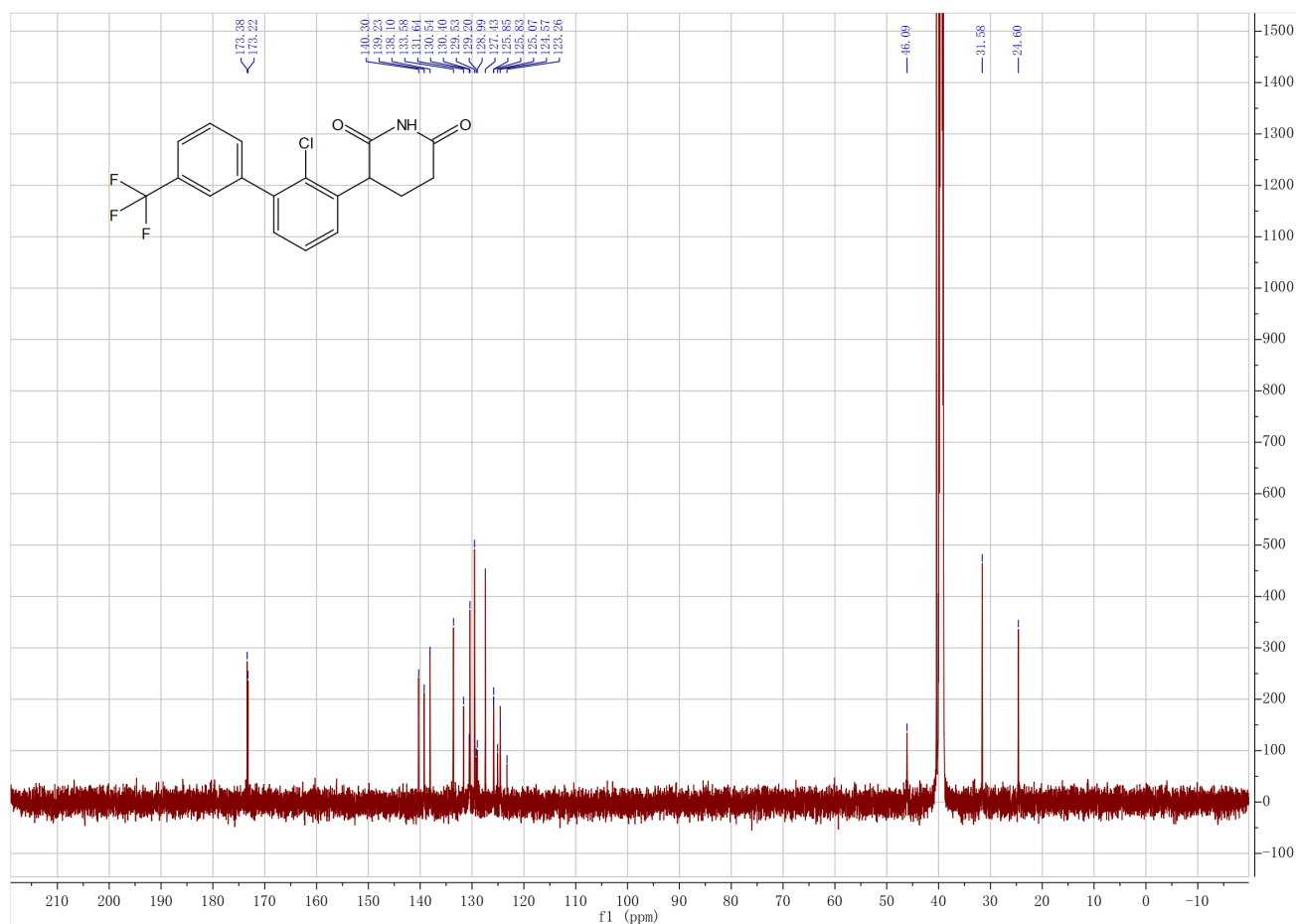
Acquisition Time (sec) 1.9988
 Comment ET86991-8
 50-P1A2
 MeOD
 Bruker 02
 V_400M
 Hz
 Date 20 Dec
 2024
 21:28:16
 (GMT+08:00)
 Frequency (MHz) 400.1500
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent METHANOL-d4
 OL-d4
 Spectrum Offset (Hz) 2470.8577
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 24.572



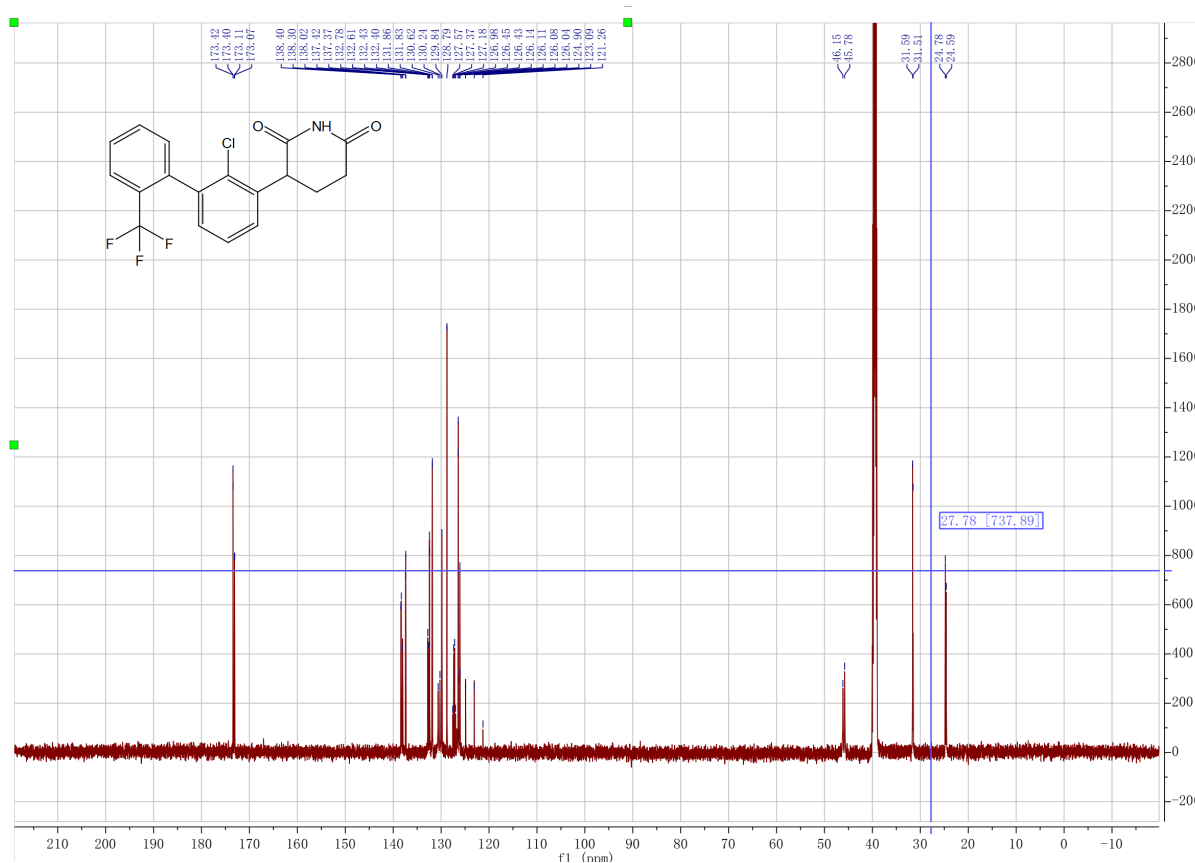
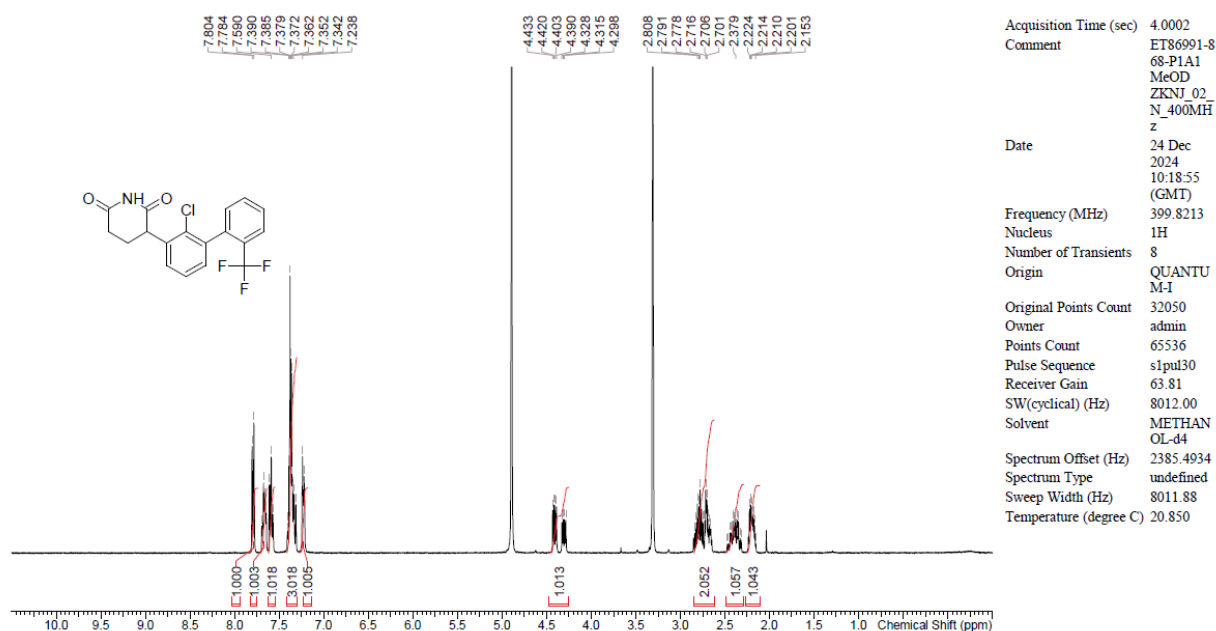
3-[2-chloro-3-[3-(trifluoromethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-132)



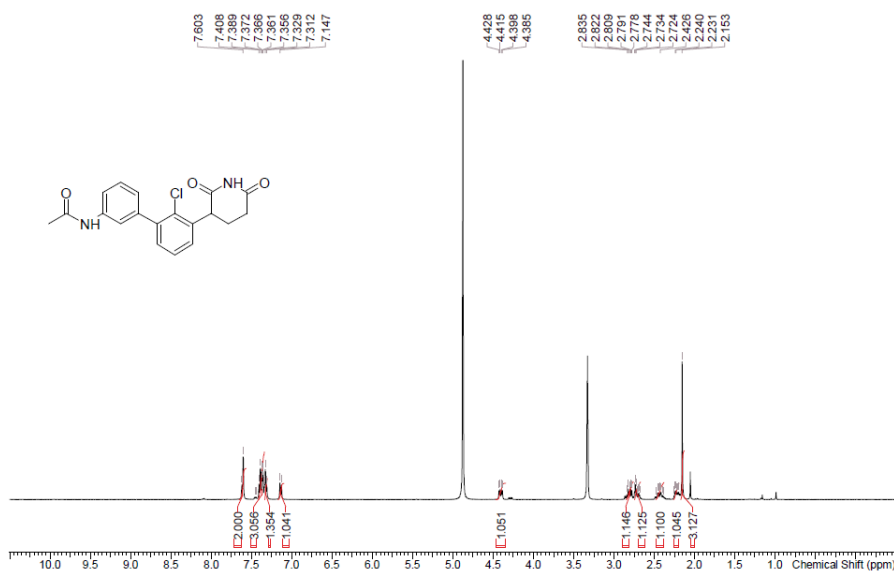
Acquisition Time (sec) 1.9988
 Comment ET86989-8
 60-P1Q
 MeOD
 Bruker_02
 O_400M
 Hz
 Date 23 Dec
 2024
 15:02:51
 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent METHAN
 OL-d4
 Spectrum Offset (Hz) 2470.8015
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 25.039



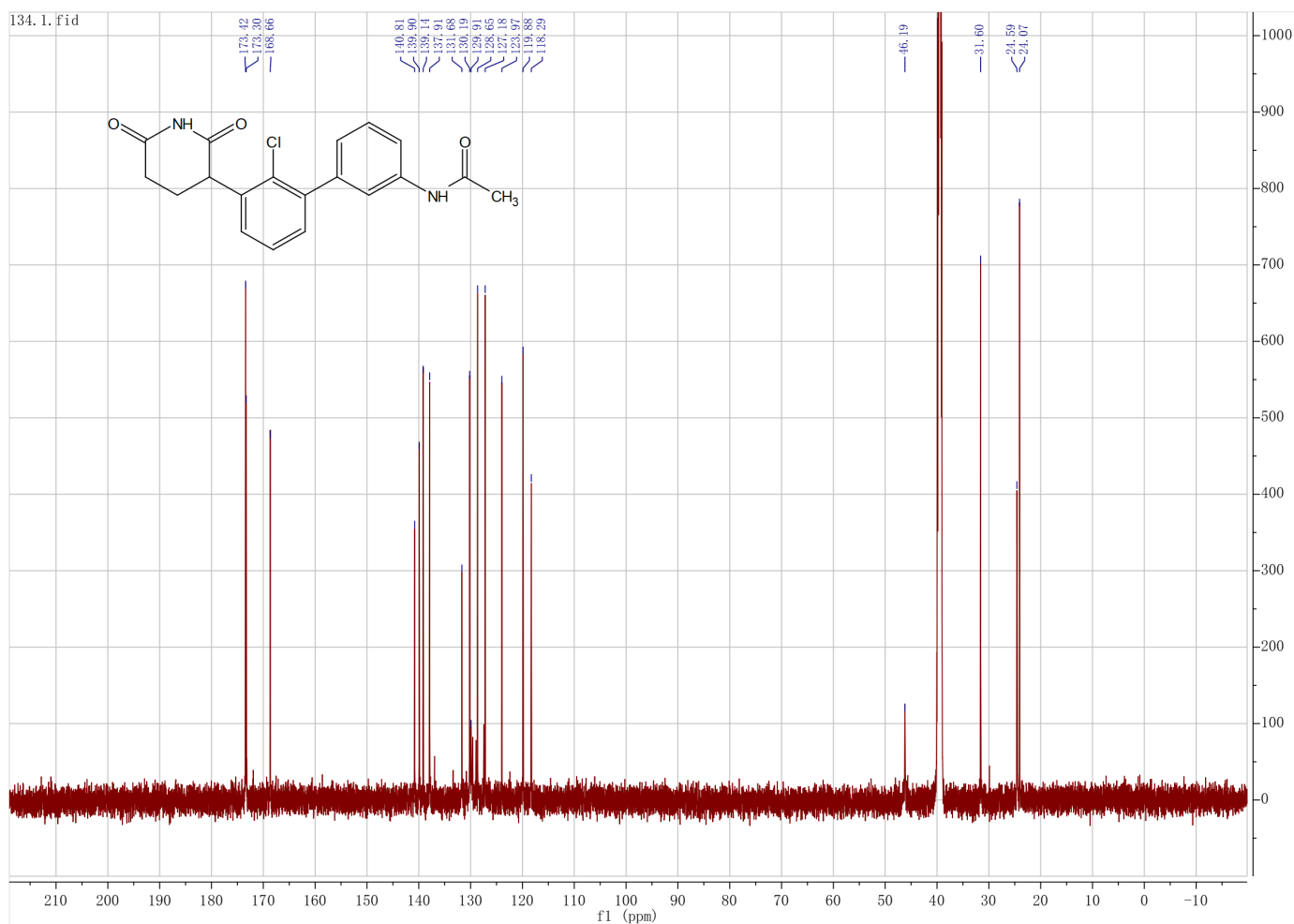
3-[2-chloro-3-[2-(trifluoromethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-133)



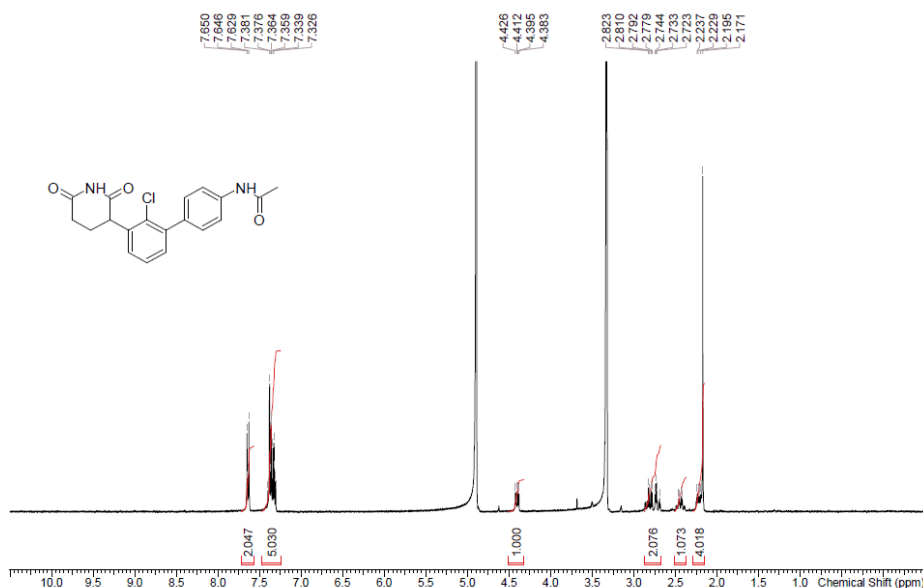
N-[3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]phenyl]acetamide (NGT-201-134)



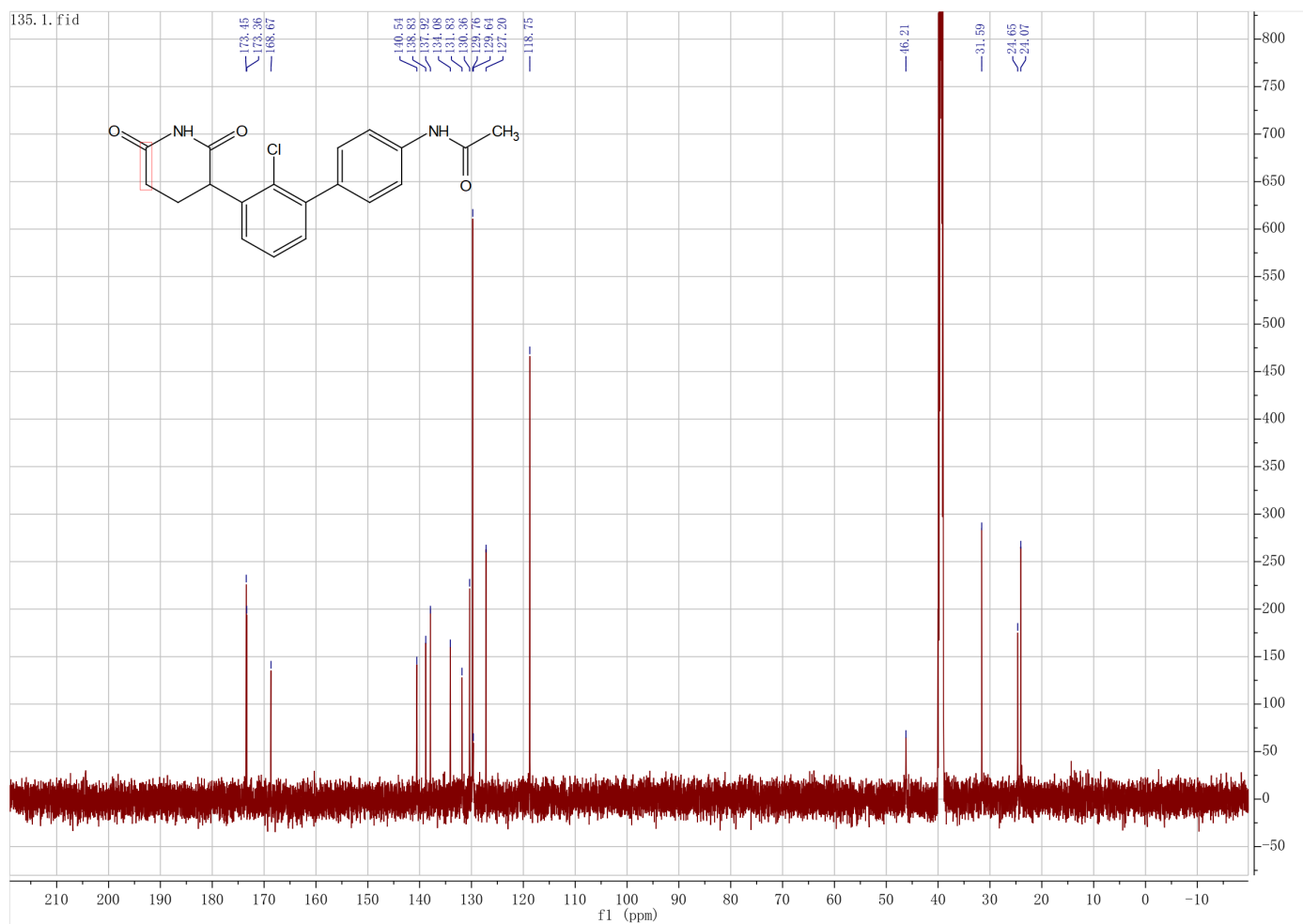
Acquisition Time (sec) 1.9988
 Comment ET86989-8
 68-P1A
 MeOD
 Bruker_02
 O_400M
 Hz
 Date 24 Dec 2024
 15:58:27
 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus ¹H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 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



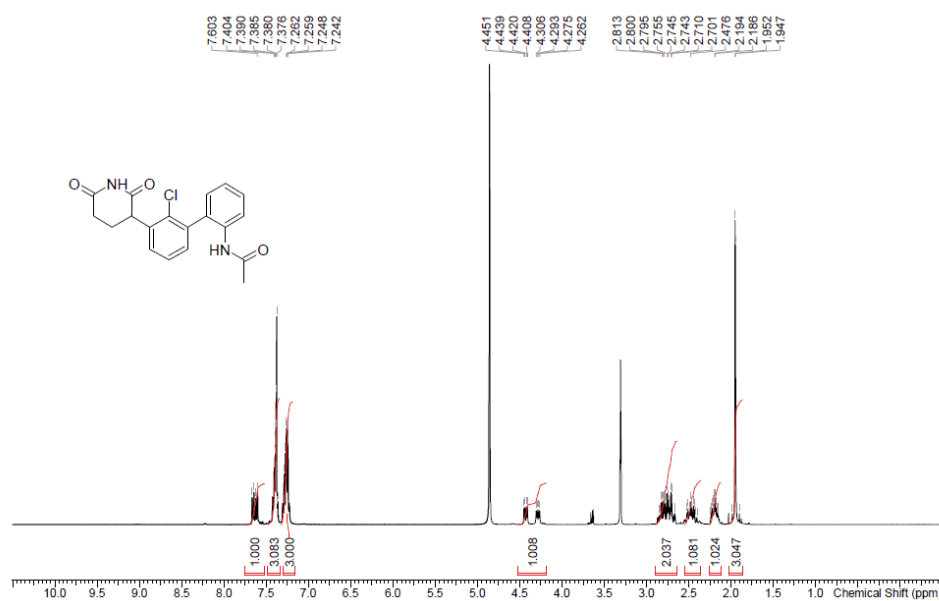
N-[4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]acetamide (NGT-201-135)



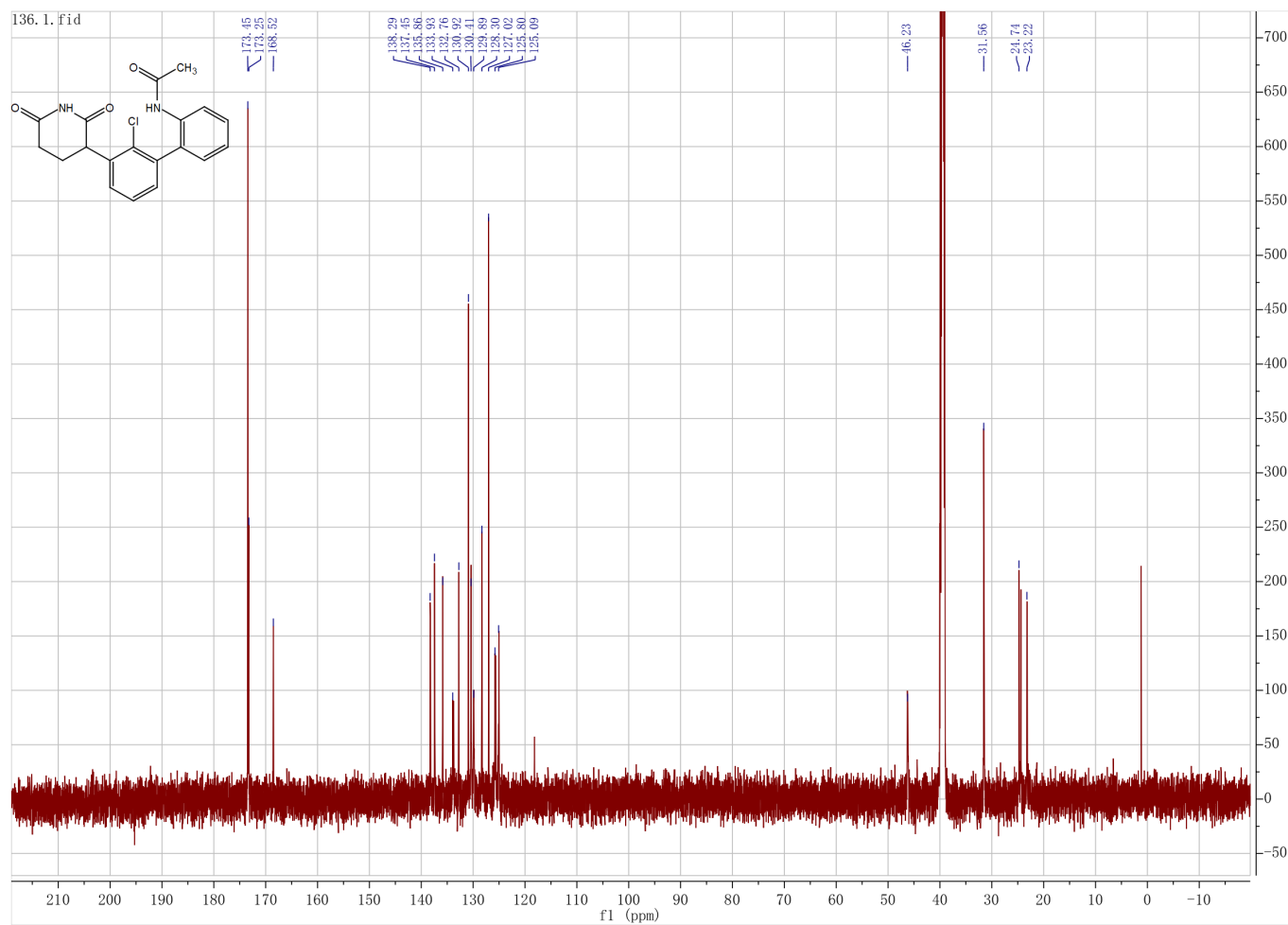
Acquisition Time (sec) 1.9988
 Comment ET86991-8
 72-P1A1
 MeOD
 Bruker_02
 P_400M
 Hz
 Date 26 Dec
 2024
 15:44:03
 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent METHAN
 OL-d4
 Spectrum Offset (Hz) 2470.8015
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 22.523



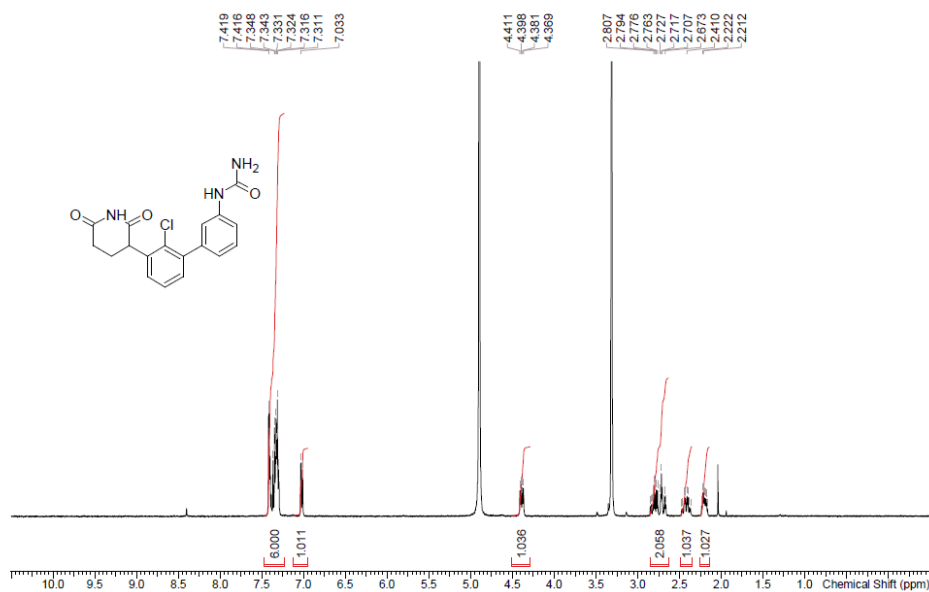
N-[2-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]acetamide (NGT-201-136)



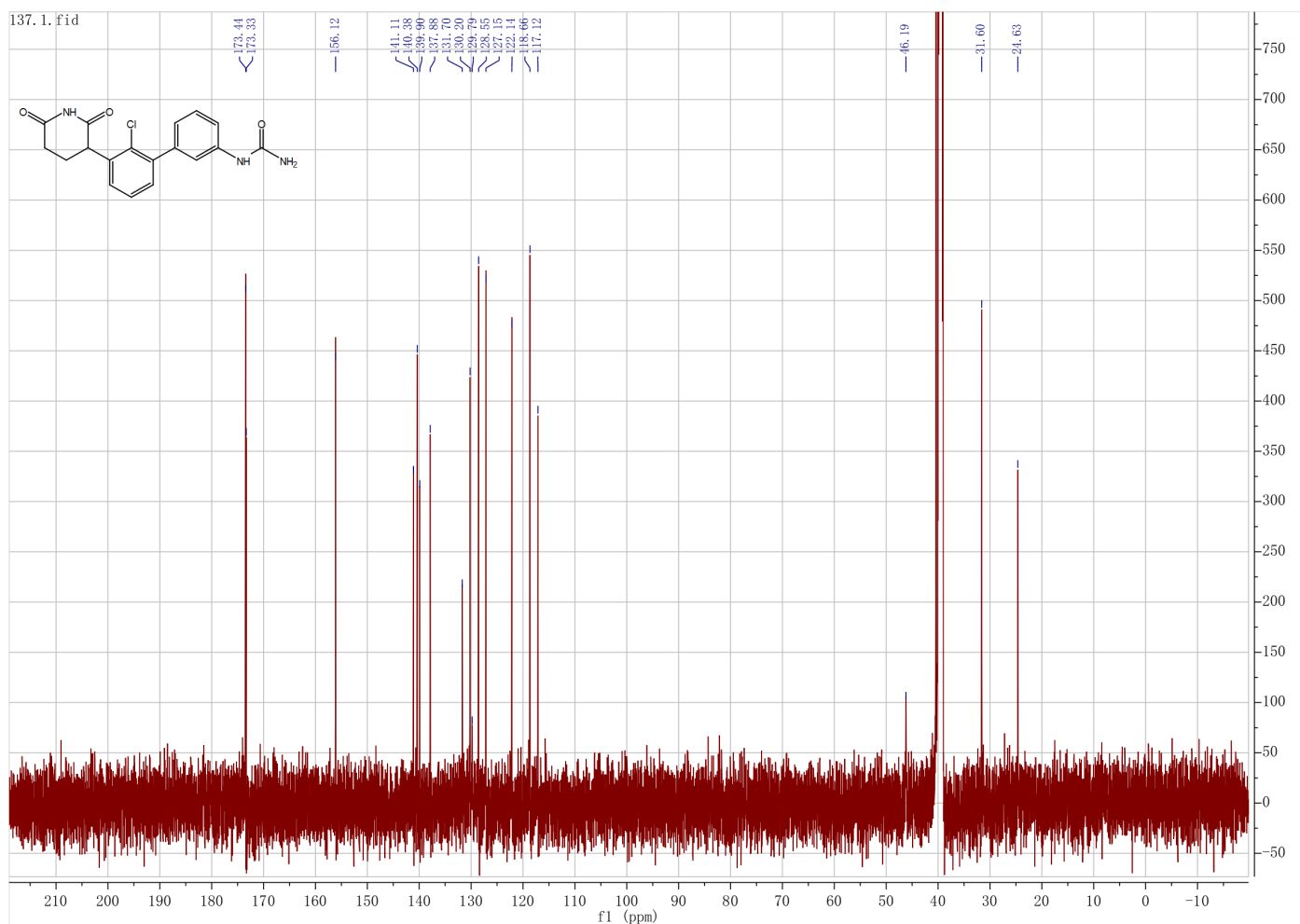
Acquisition Time (sec) 1.9988
 Comment ET86991-8
 76-P1A1
 MeOD
 Bruker_02
 V_400M
 Hz
 Date 25 Dec
 2024
 12:11:58
 (GMT+08:00)
 Frequency (MHz) 400.1500
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent METHAN
 OL-d4
 Spectrum Offset (Hz) 2461.6941
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 24.235



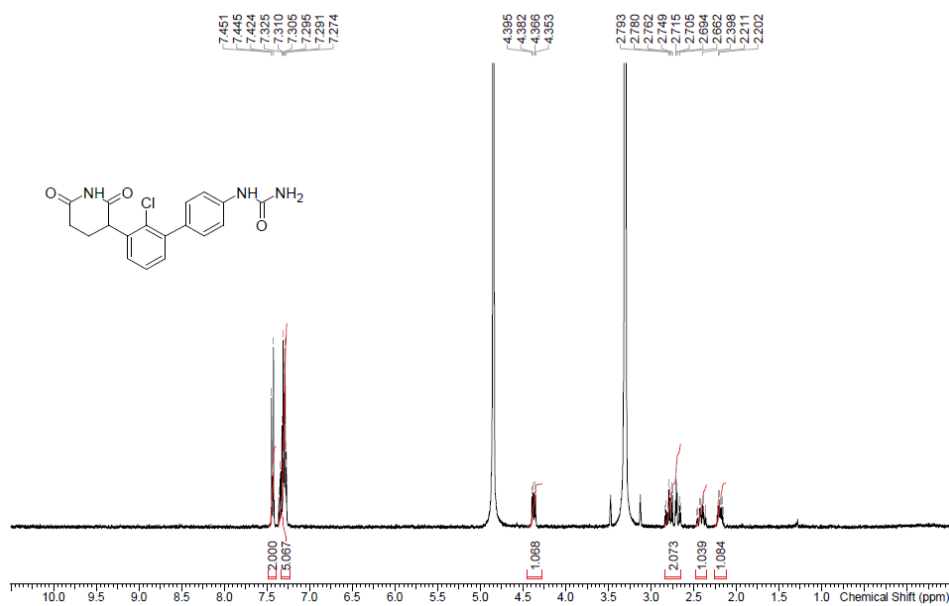
[3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]urea (NGT-201-137)



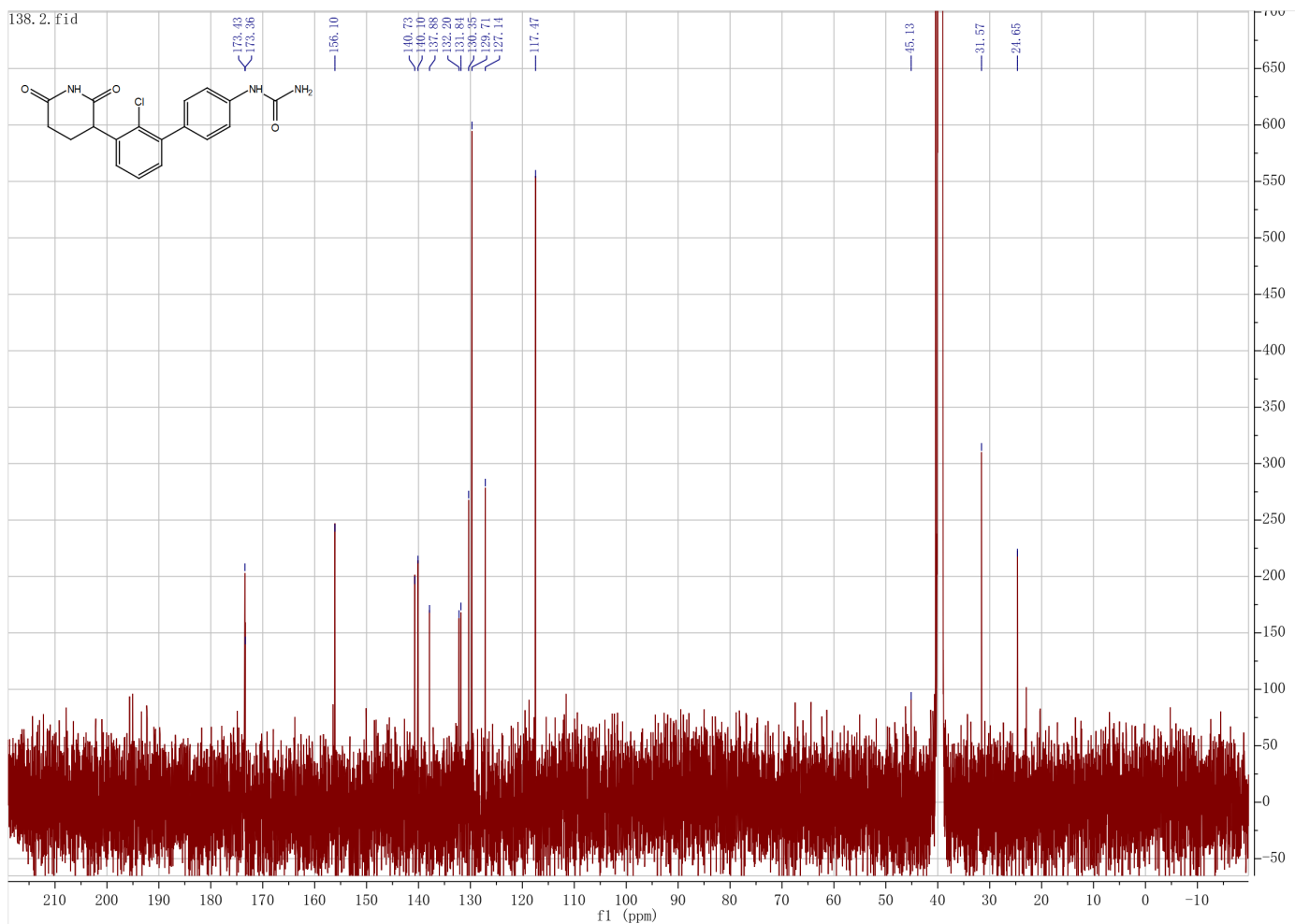
Acquisition Time (sec) 4.0002
 Comment ET86991-8
 87-P1A1
 MeOD
 ZKXJ_02
 N_400MH
 z
 Date 27 Dec
 2024
 01:55:27
 (GMT)
 Frequency (MHz) 399.8213
 Nucleus ¹H
 Number of Transients 8
 Origin QUANTU
 M-I
 Original Points Count 32050
 Owner admin
 Points Count 65536
 Pulse Sequence slpul30
 Receiver Gain 63.62
 SW(cyclical) (Hz) 8012.00
 Solvent METHAN
 OL-44
 Spectrum Offset (Hz) 2387.4526
 Spectrum Type undefined
 Sweep Width (Hz) 8011.88
 Temperature (degree C) 20.950



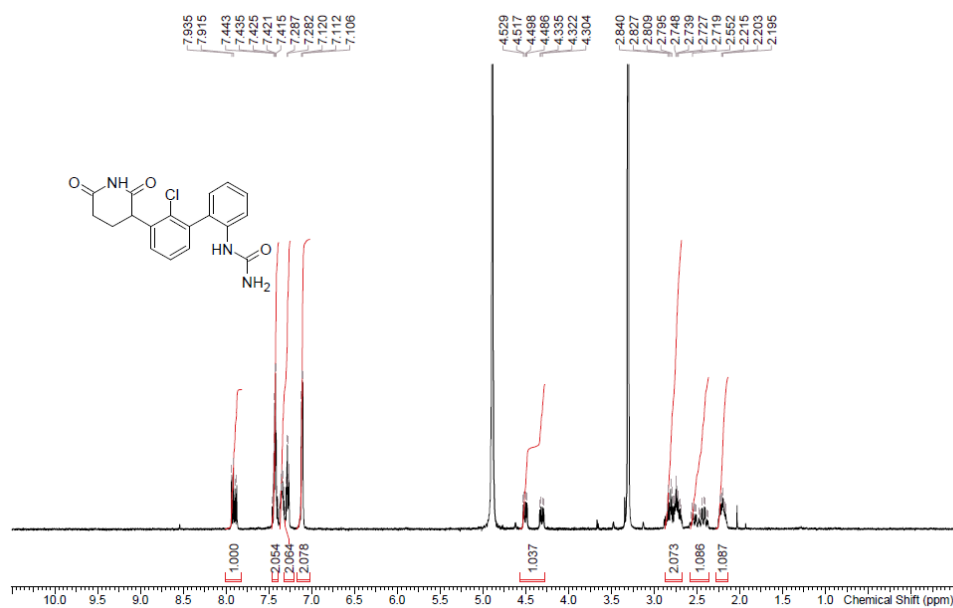
[4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]urea (NGT-201-138)



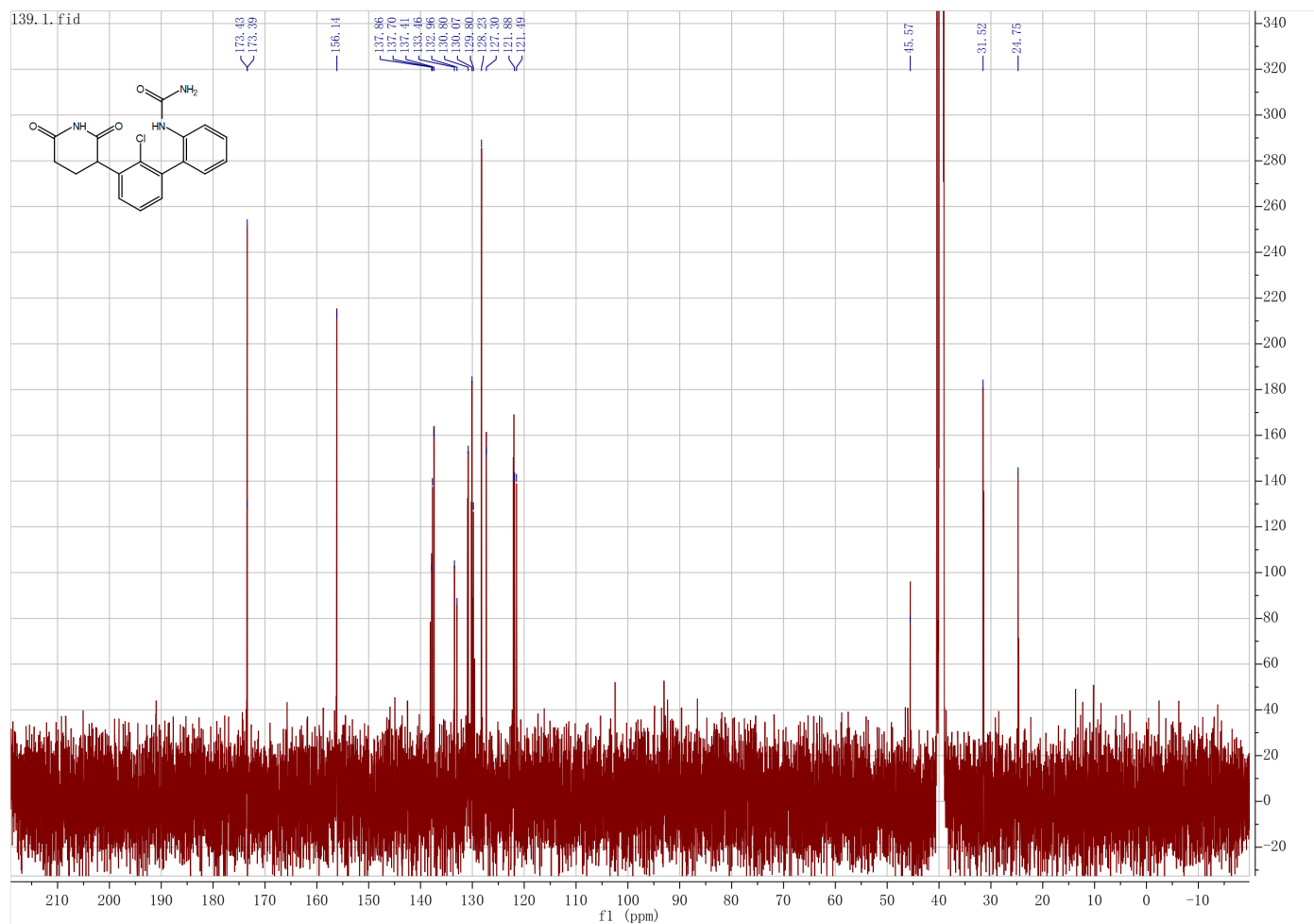
Acquisition Time (sec) 1.9988
 Comment ET86991-8
 52-P1A3
 MeOD
 Bruker_02
 O_400M
 Hz
 Date 19 Dec 2024
 11:00:38
 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus 1H
 Number of Transients 64
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 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



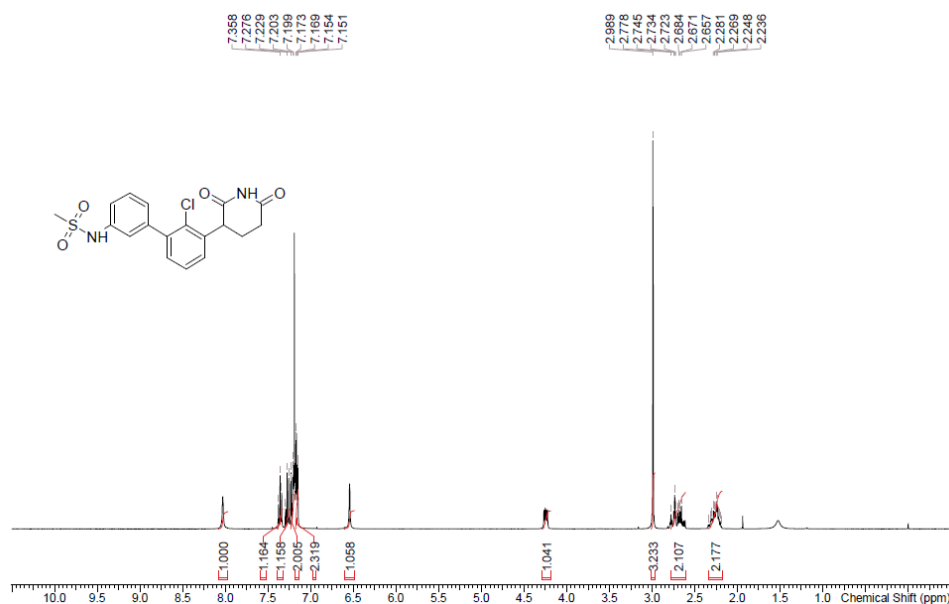
[2-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]phenyl]urea (NGT-201-139)



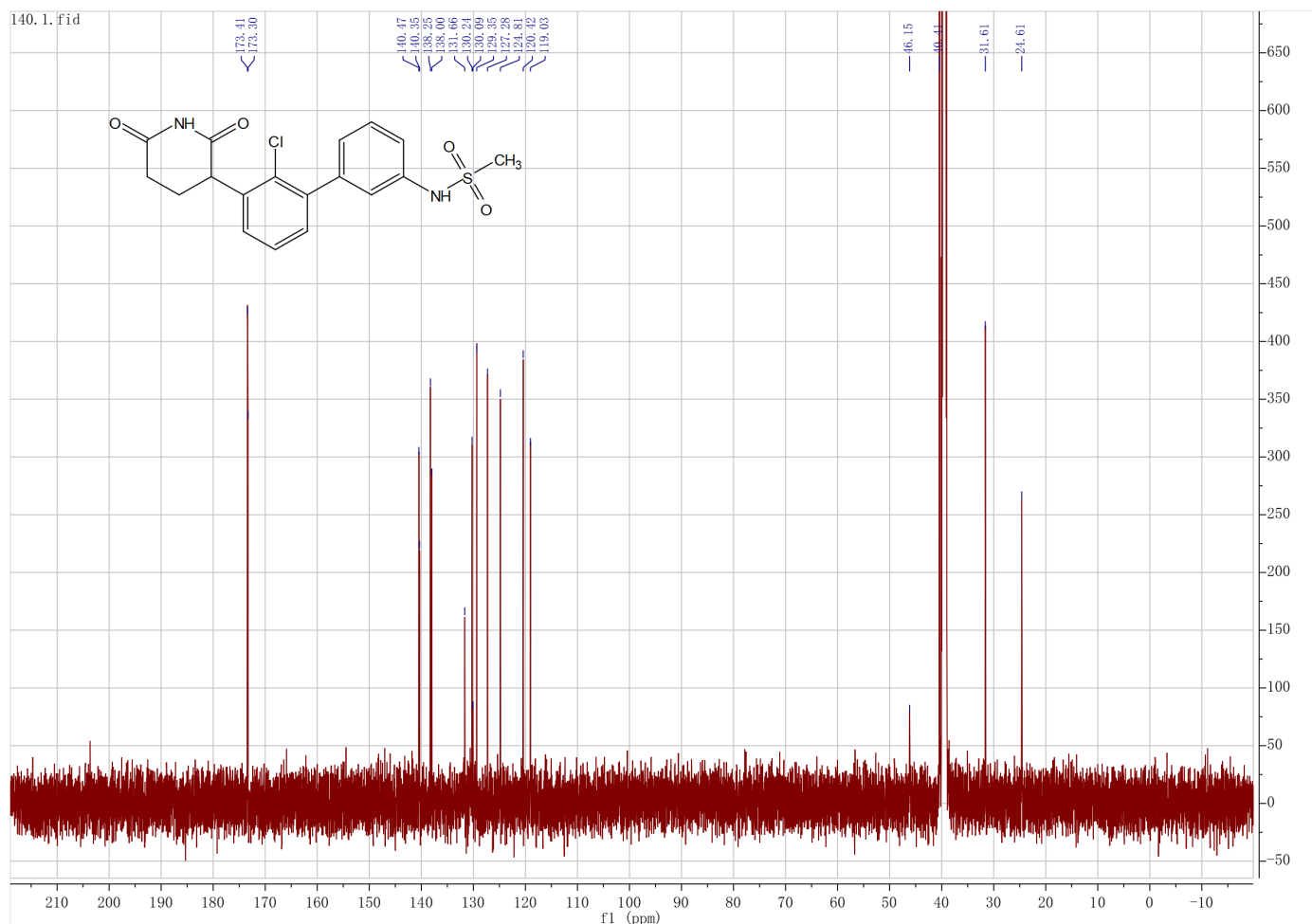
Acquisition Time (sec) 4.0002
 Comment ET86991-8
 86-PIA1
 MeOD
 ZKNJ_02
 N_400MH
 z
 Date 27 Dec
 2024
 01:50:55
 (GMT)
 Frequency (MHz) 399.8213
 Nucleus 1H
 Number of Transients 8
 Origin QUANTU
 M-I
 Original Points Count 32050
 Owner admin
 Points Count 65536
 Pulse Sequence s1pul30
 Receiver Gain 62.79
 SW(cyclical) (Hz) 8012.00
 Solvent METHAN
 OL-d4
 Spectrum Offset (Hz) 2384.6140
 Spectrum Type undefined
 Sweep Width (Hz) 8011.88
 Temperature (degree C) 20.650



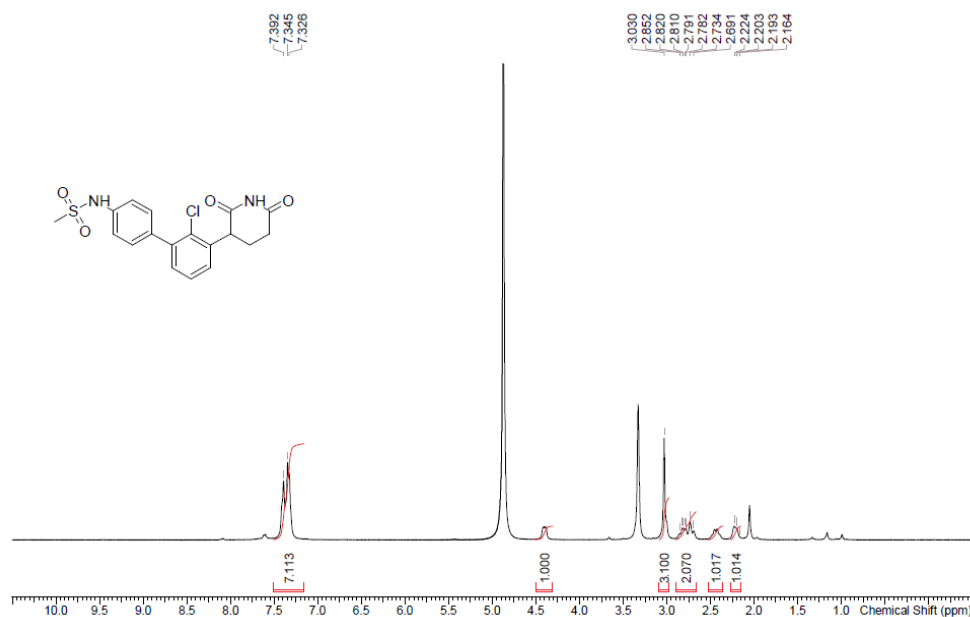
N-[3-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]methanesulfonamide (NGT-201-140)



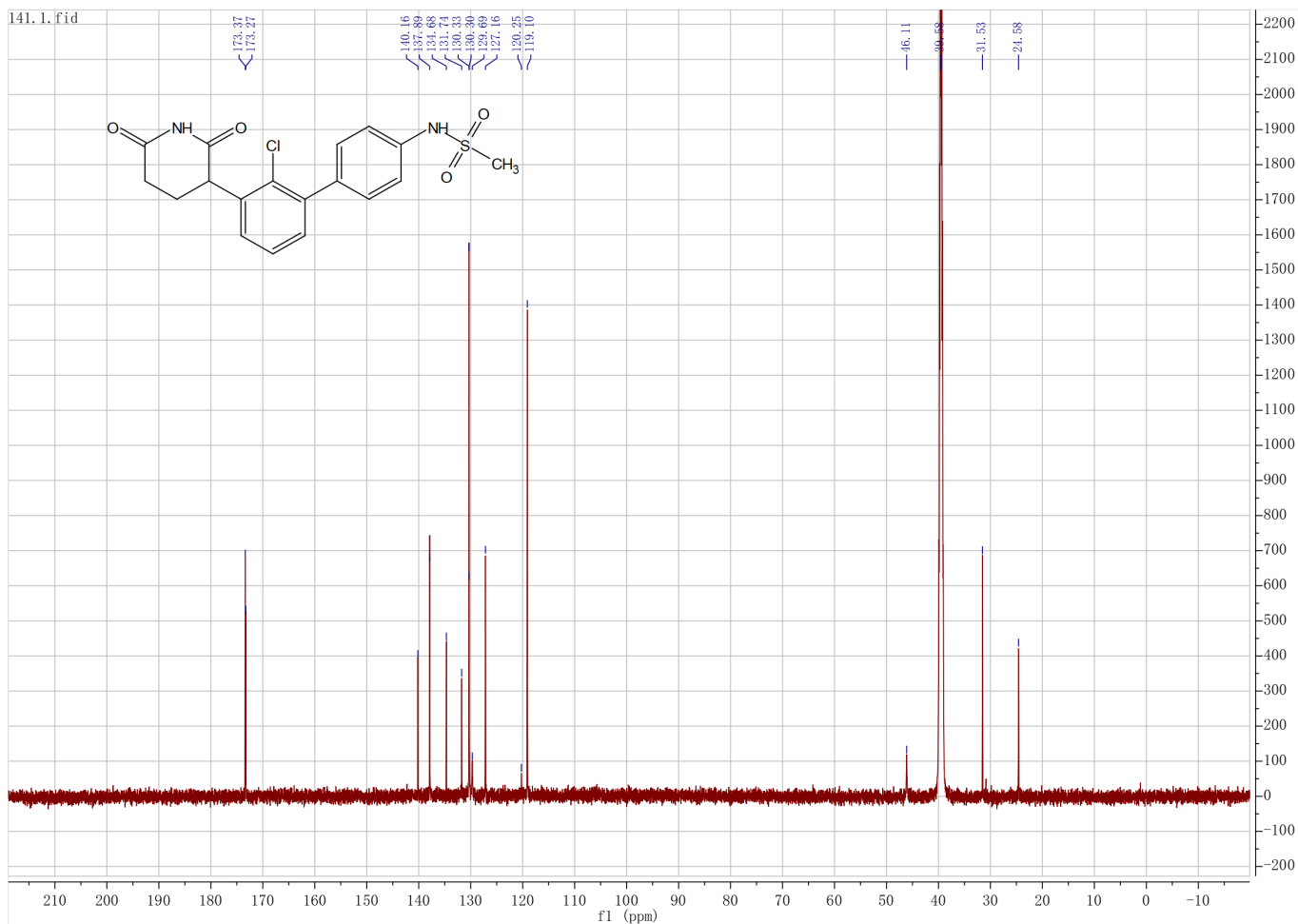
Acquisition Time (sec) 1.9988
 Comment ET86989-8
 55-PIA
 CDCI3
 Bruker_02
 Q_400M
 Hz
 Date 17 Dec 2024
 09:07:32
 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus 1H
 Number of Transients 64
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent CHLORO FORM-d
 Spectrum Offset (Hz) 2433.4580
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 24.941



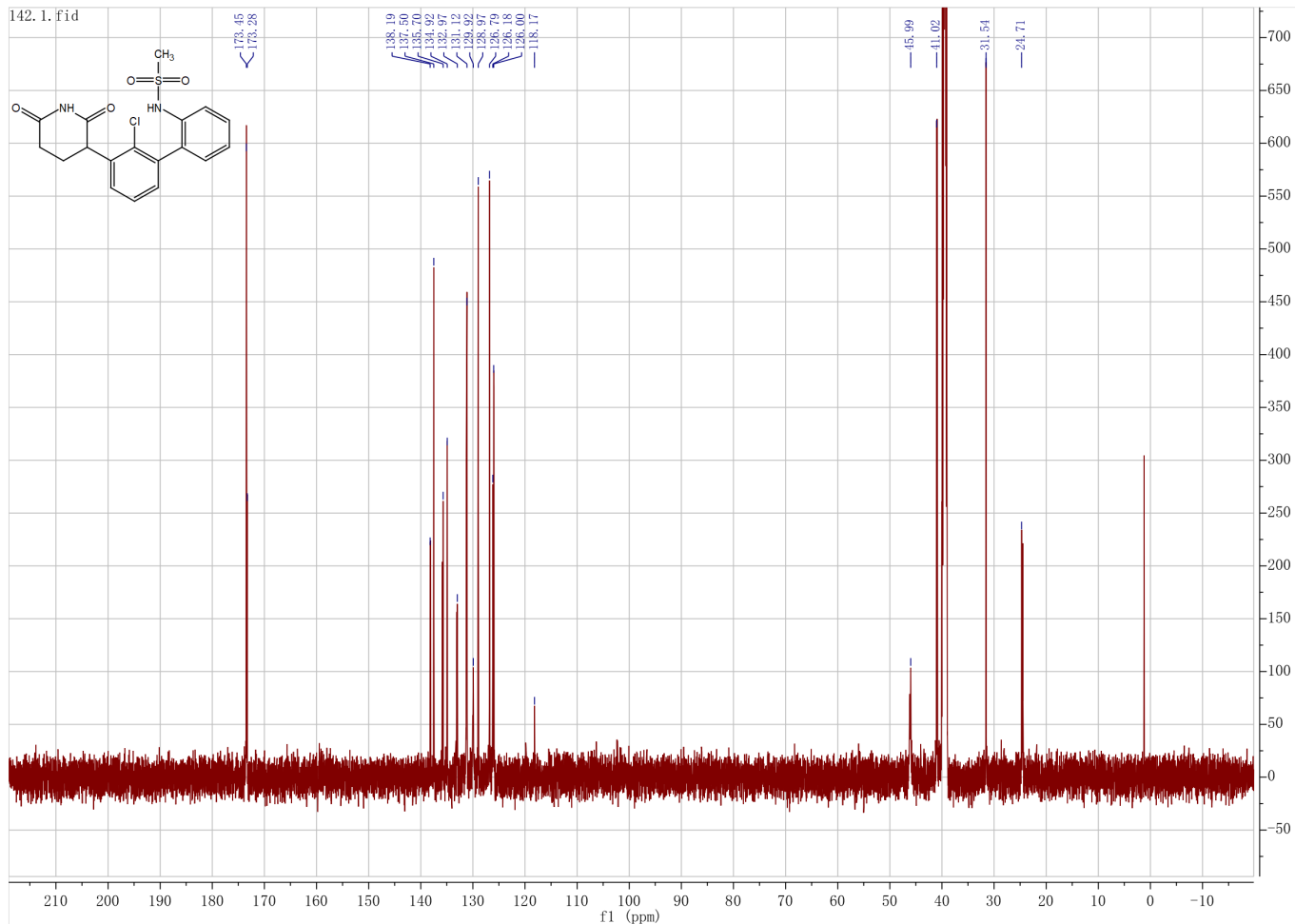
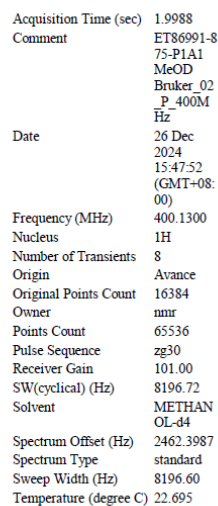
N-[4-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]methanesulfonamide (NGT-201-141)



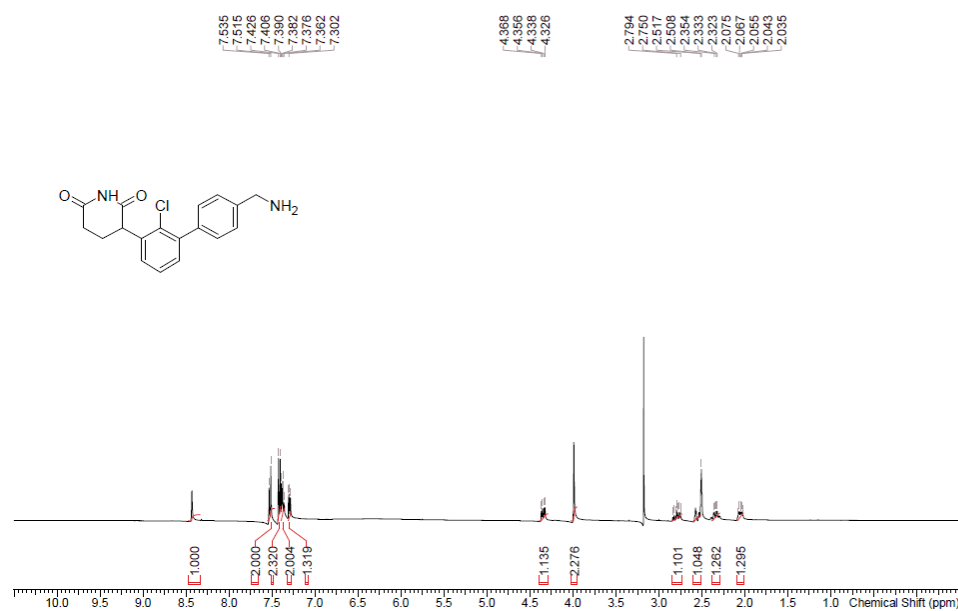
Acquisition Time (sec) 1.9988
 Comment ET86989-8
 64-P1A
 MeOD
 Bruker_02
 O_400M
 Hz
 Date 24 Dec
 2024
 15:56:29
 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 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



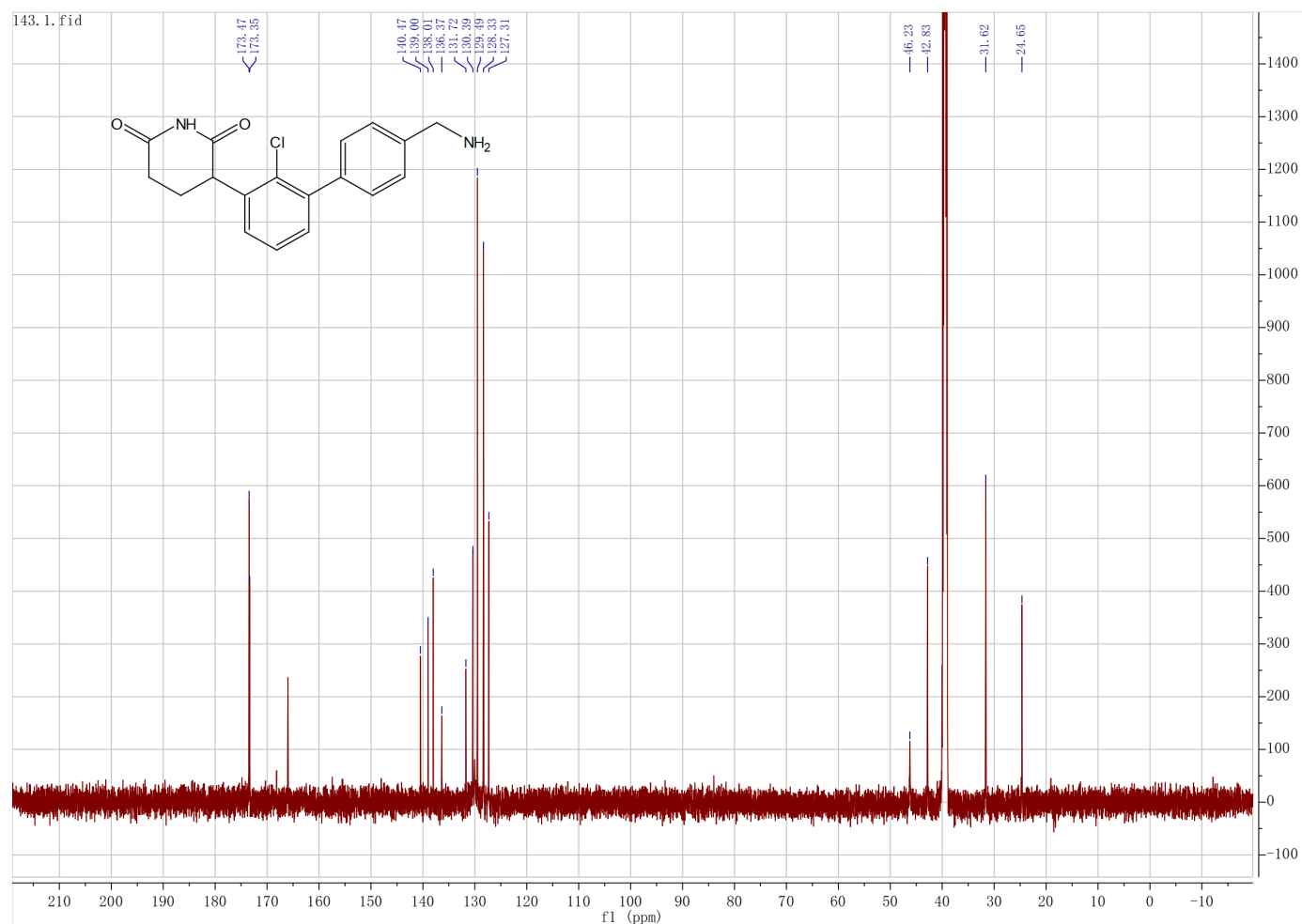
**N-[2-[2-chloro-3-(2,6-dioxo-3-piperidyl)phenyl]phenyl]methanesulfonamide
201-142)**



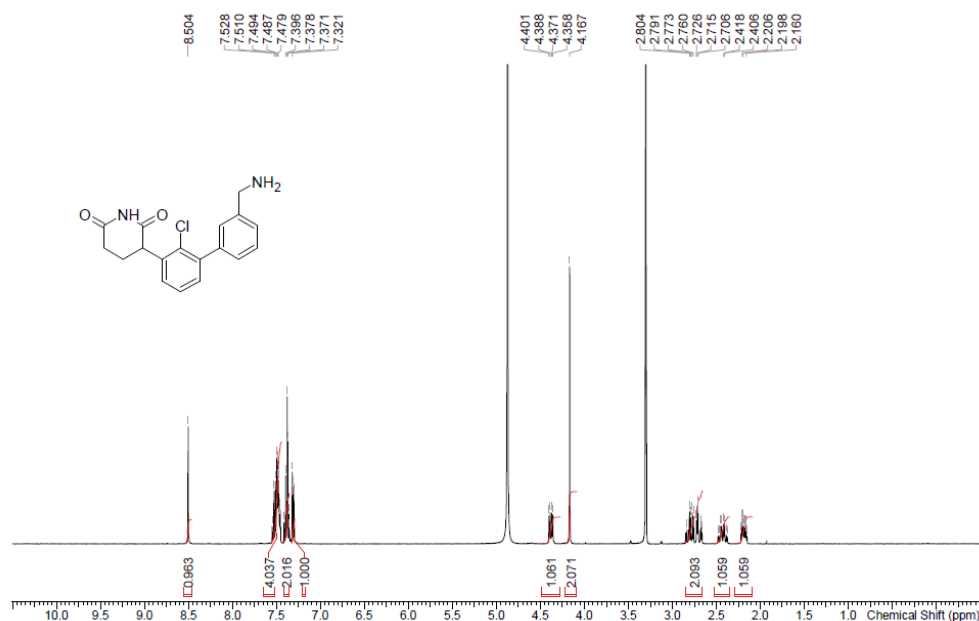
3-[3-[4-(aminomethyl)phenyl]-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-143)



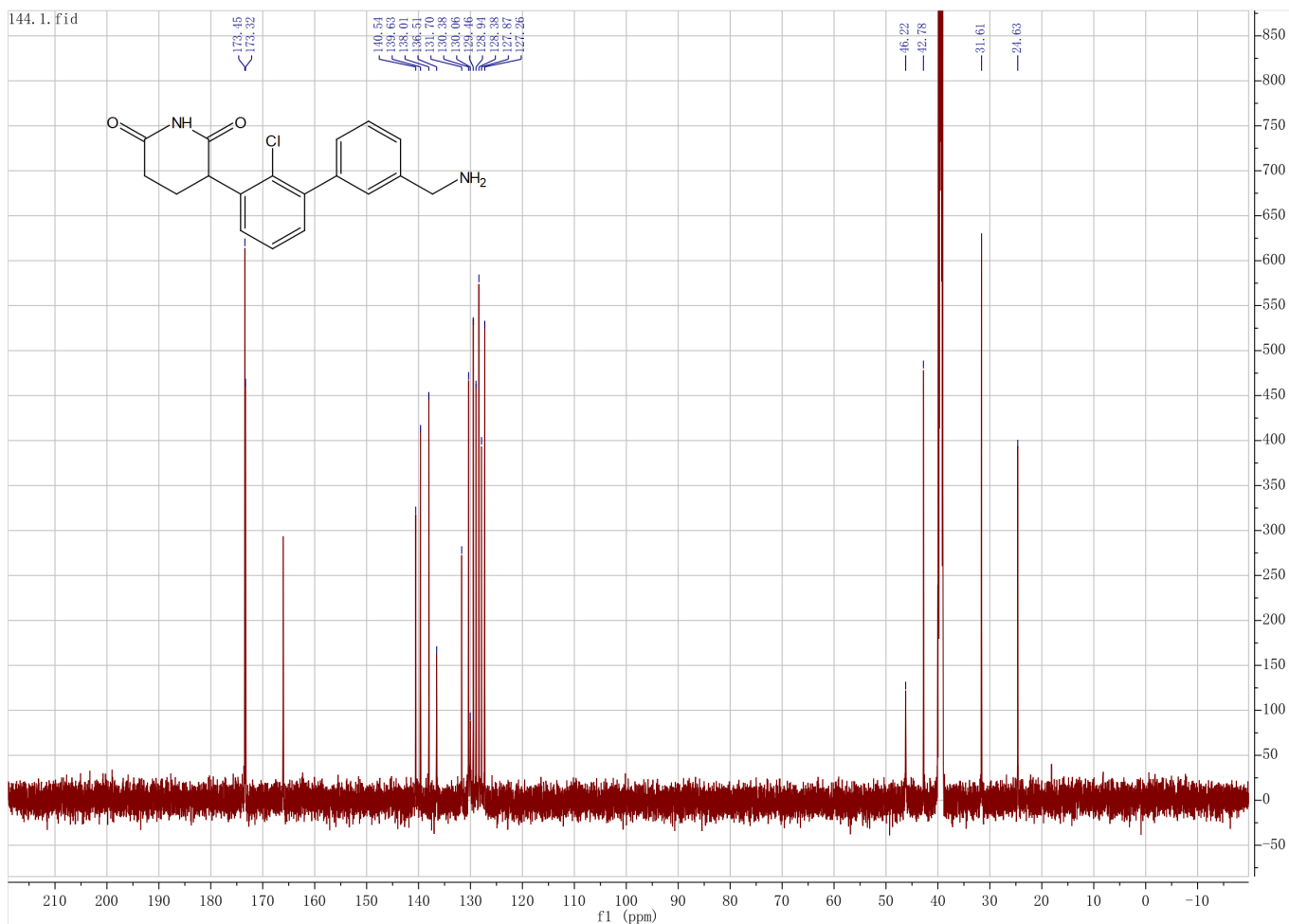
Acquisition Time (sec) 1.9988
 Comment ET86989-8
 71-P1C
 DMSO
 Bruker 02
 O 400M
 Hz
 Date 26 Dec
 2024
 18:15:26
 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 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



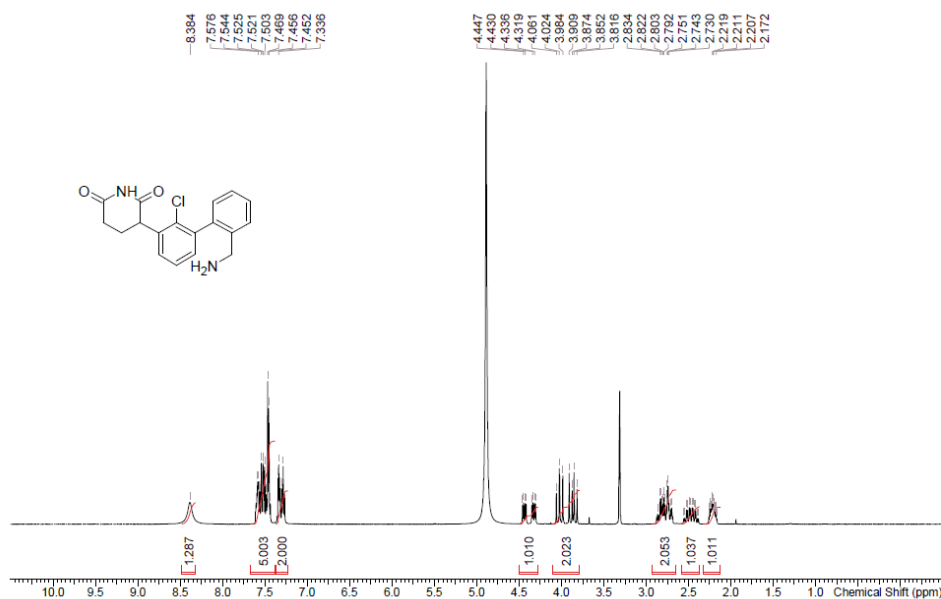
3-[3-(aminomethyl)phenyl]-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-144)



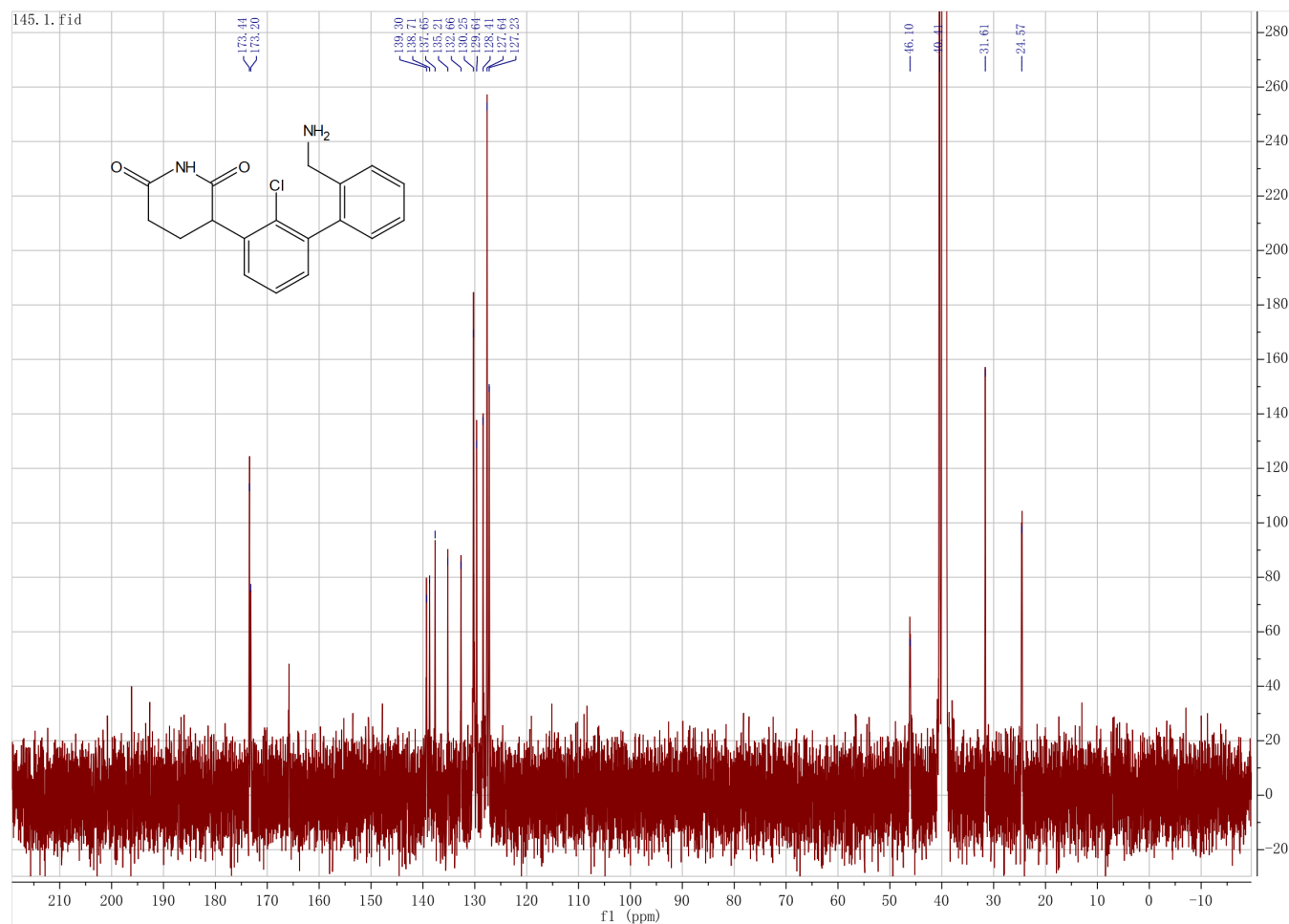
Acquisition Time (sec) 1.9988
 Comment ET86991-8
 80-P1A1
 MeOD
 Bruker_02
 P 400M
 Hz
 Date 26 Dec
 2024
 15:49:36
 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent METHAN
 OL-d4
 Spectrum Offset (Hz) 2459.7578
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 22.738



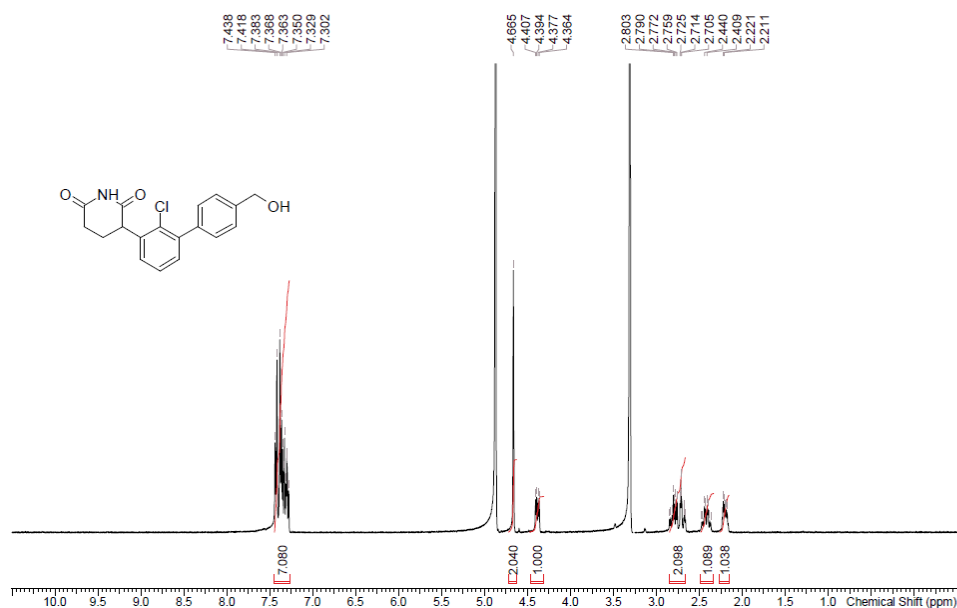
3-[3-[2-(aminomethyl)phenyl]-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-145)



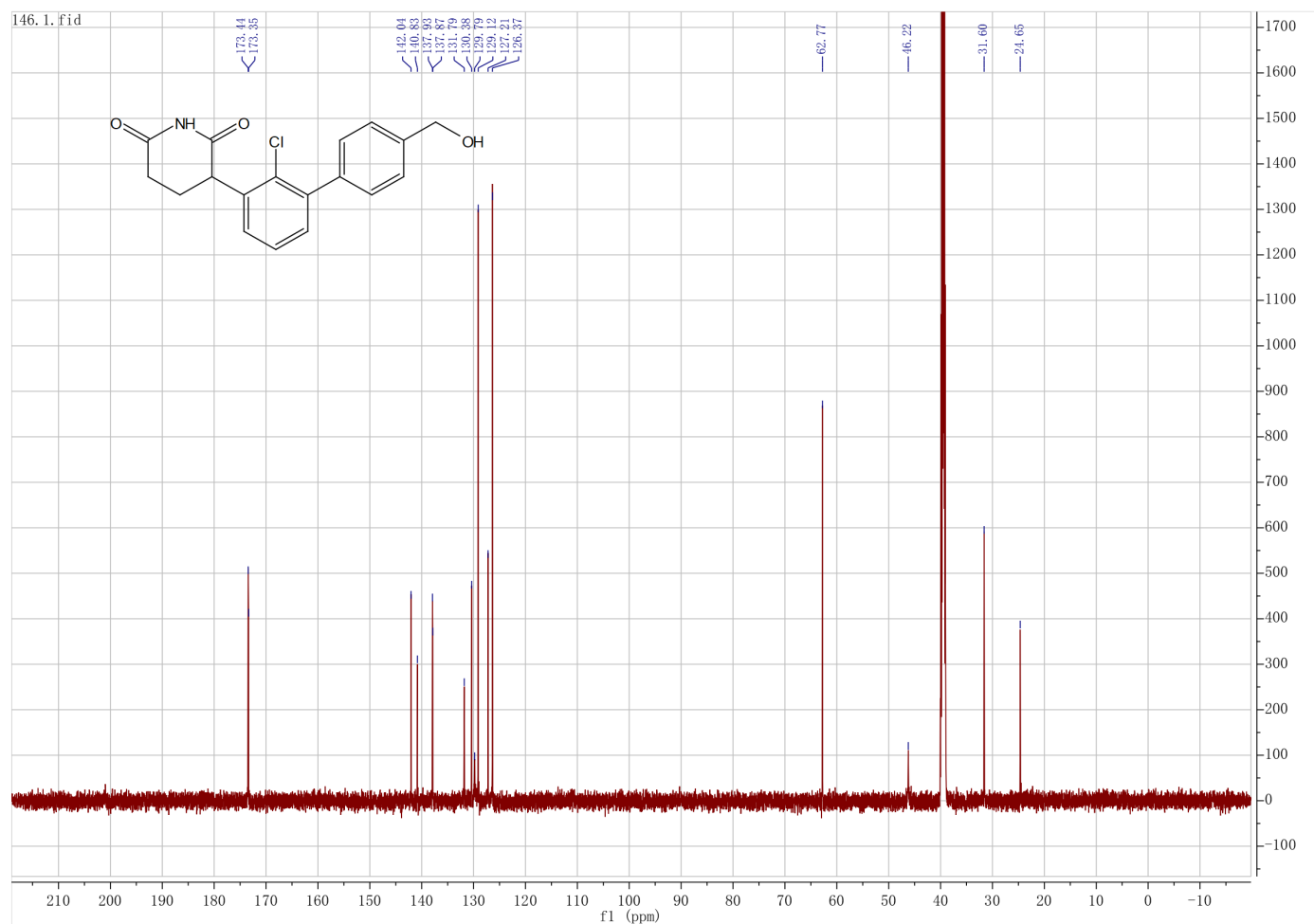
Acquisition Time (sec) 1.9988
 Comment ET86991-8
 81-P1A1
 MeOD
 Bruker_02
 G_400M
 Hz
 Date 25 Dec
 2024
 16:00:00
 (GMT+08:00)
 Frequency (MHz) 400.0300
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 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



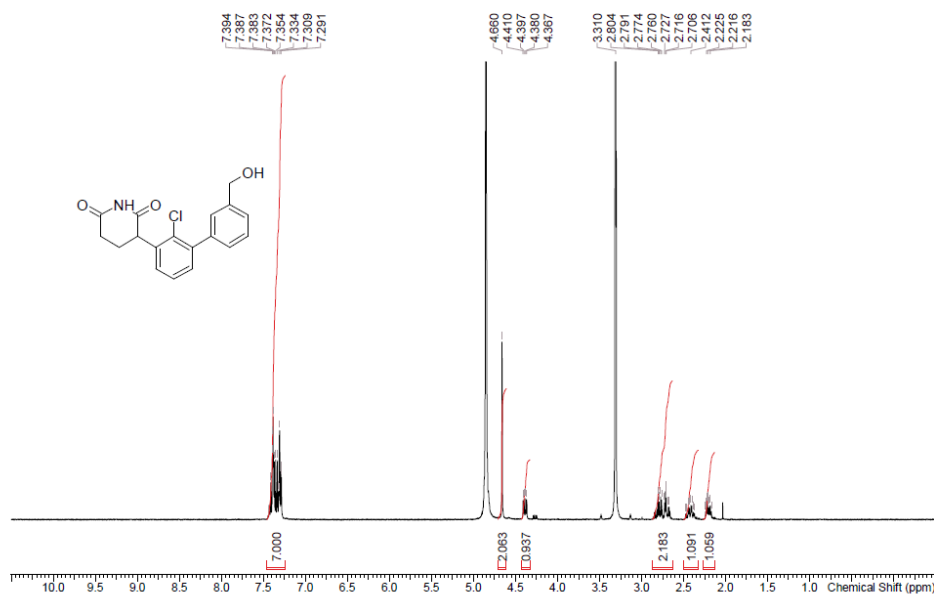
3-[2-chloro-3-[4-(hydroxymethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-146)



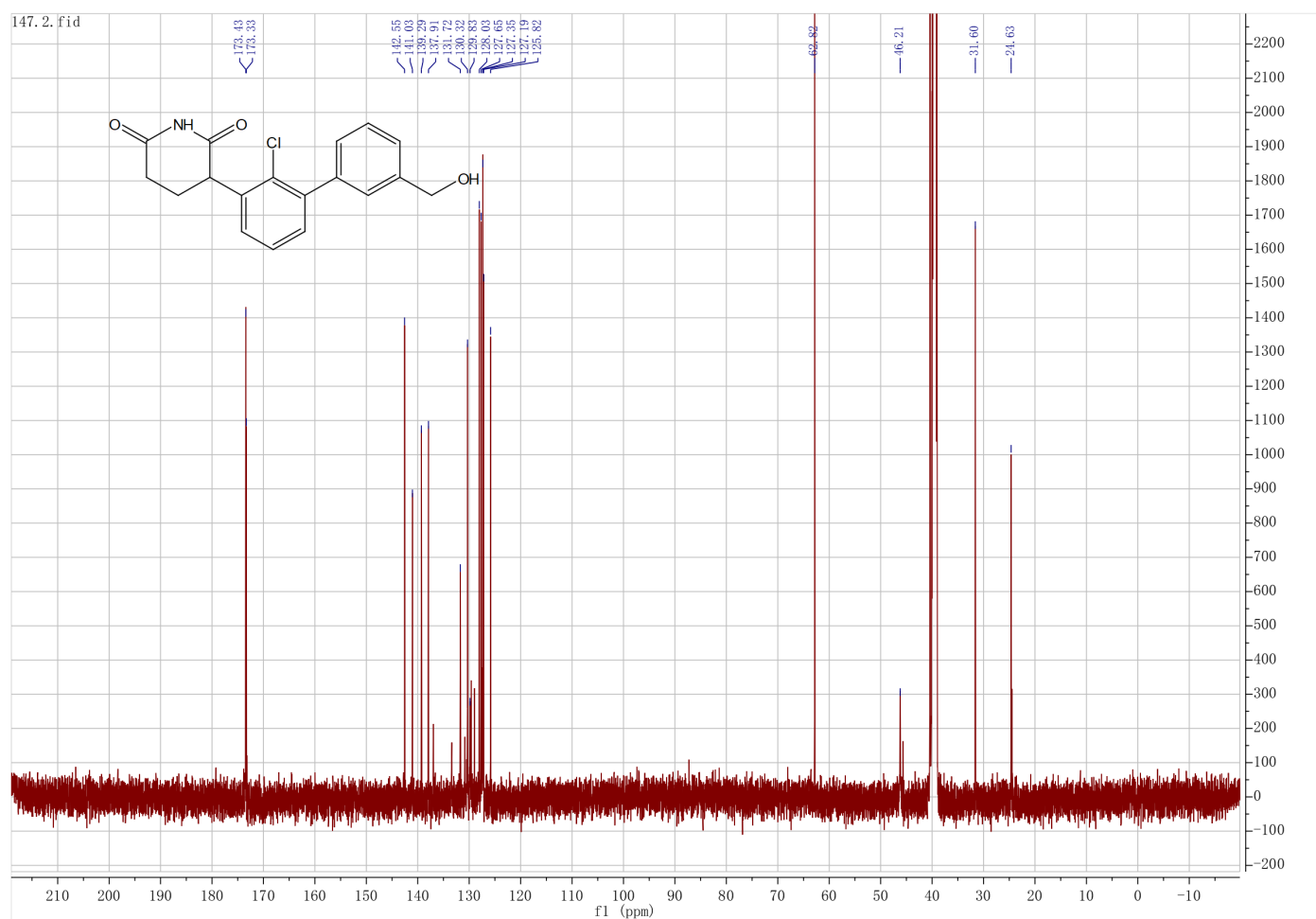
Acquisition Time (sec) 1.9988
 Comment ET86991-8
 82-PIA1
 MeOD
 Bruker_02
 P_400M
 Hz
 Date 26 Dec 2024
 15:51:43
 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent METHAN
 OL-d4
 Spectrum Offset (Hz) 2462.6389
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 22.748



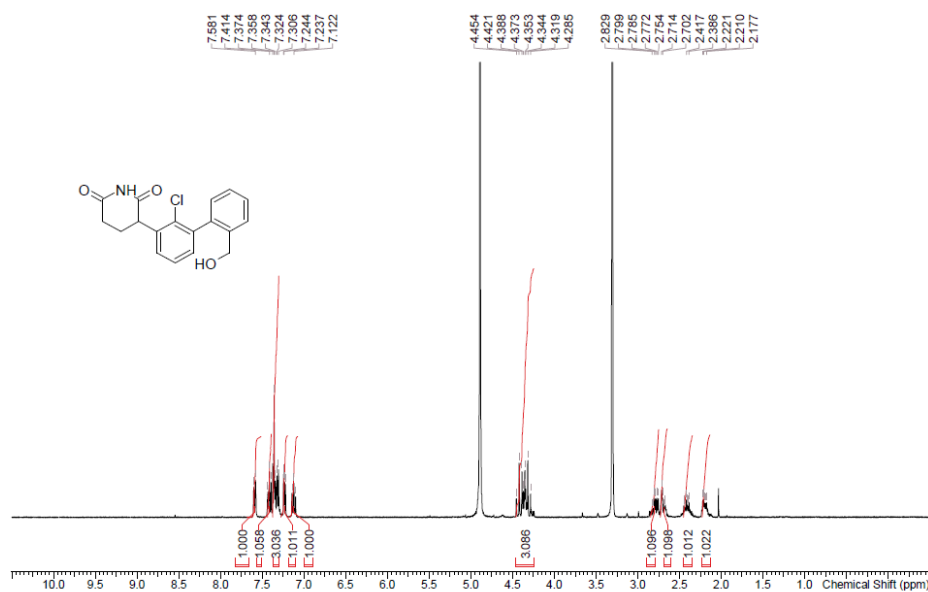
3-[2-chloro-3-[3-(hydroxymethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-147)



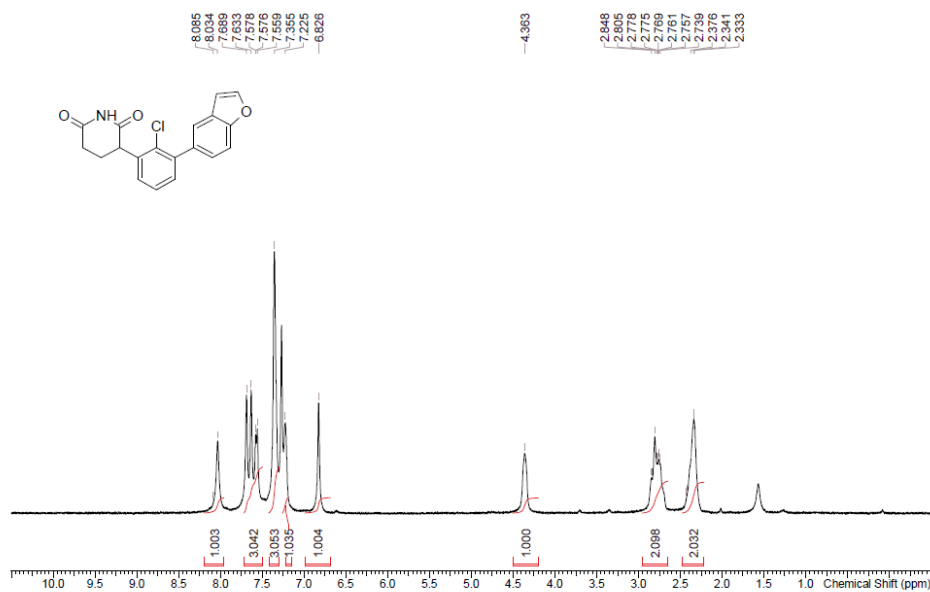
Acquisition Time (sec) 1.9988
 Comment ET95782-1
 37-P1H
 MeOD
 Bruker_02
 G_400M
 Hz
 Date 03 Jan
 2025
 09:53:27
 (GMT+08:00)
 Frequency (MHz) 400.0300
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent METHAN
 OL-d4
 Spectrum Offset (Hz) 2462.5833
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 25.165



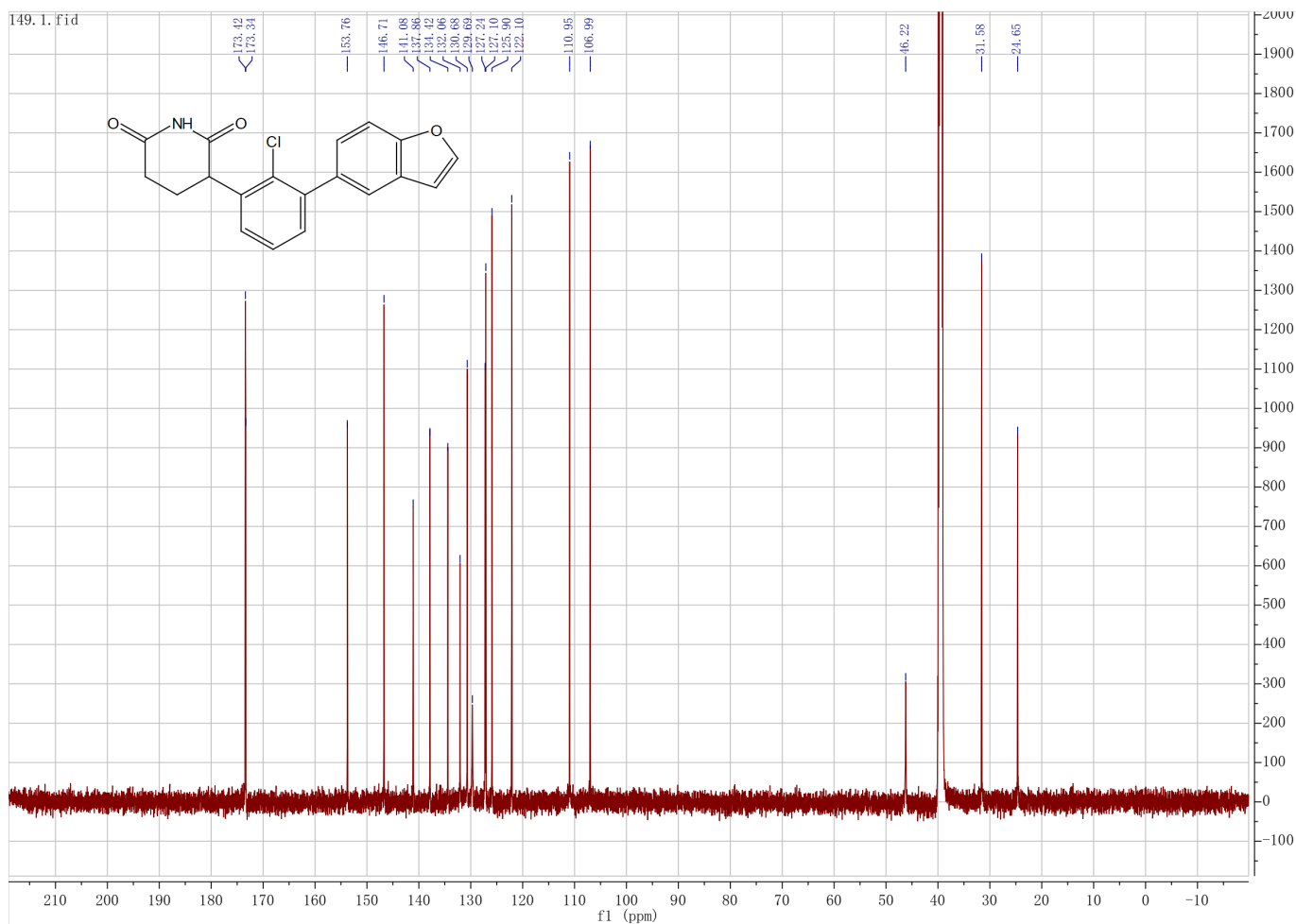
3-[2-chloro-3-[2-(hydroxymethyl)phenyl]phenyl]piperidine-2,6-dione (NGT-201-148)



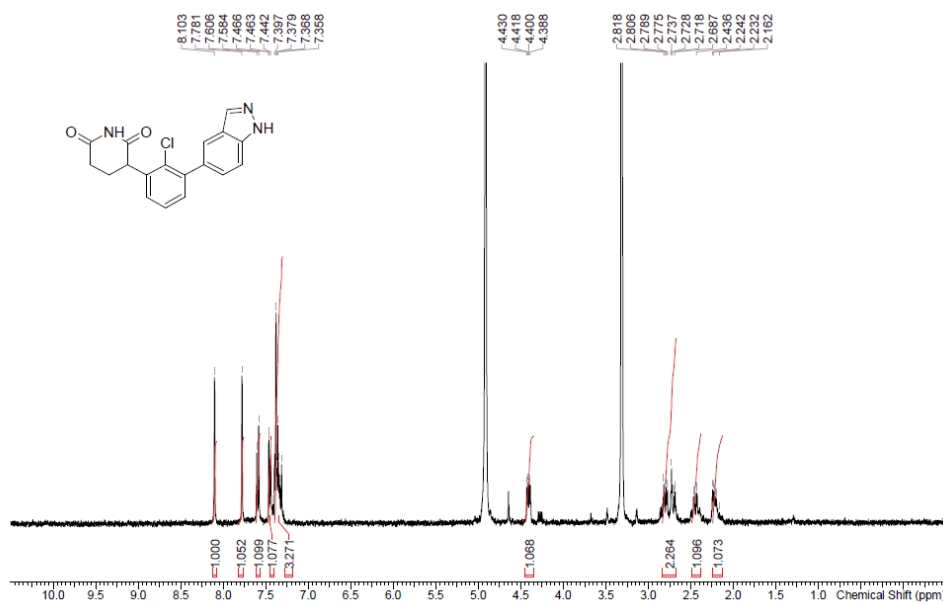
3-[3-(benzofuran-5-yl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-149)



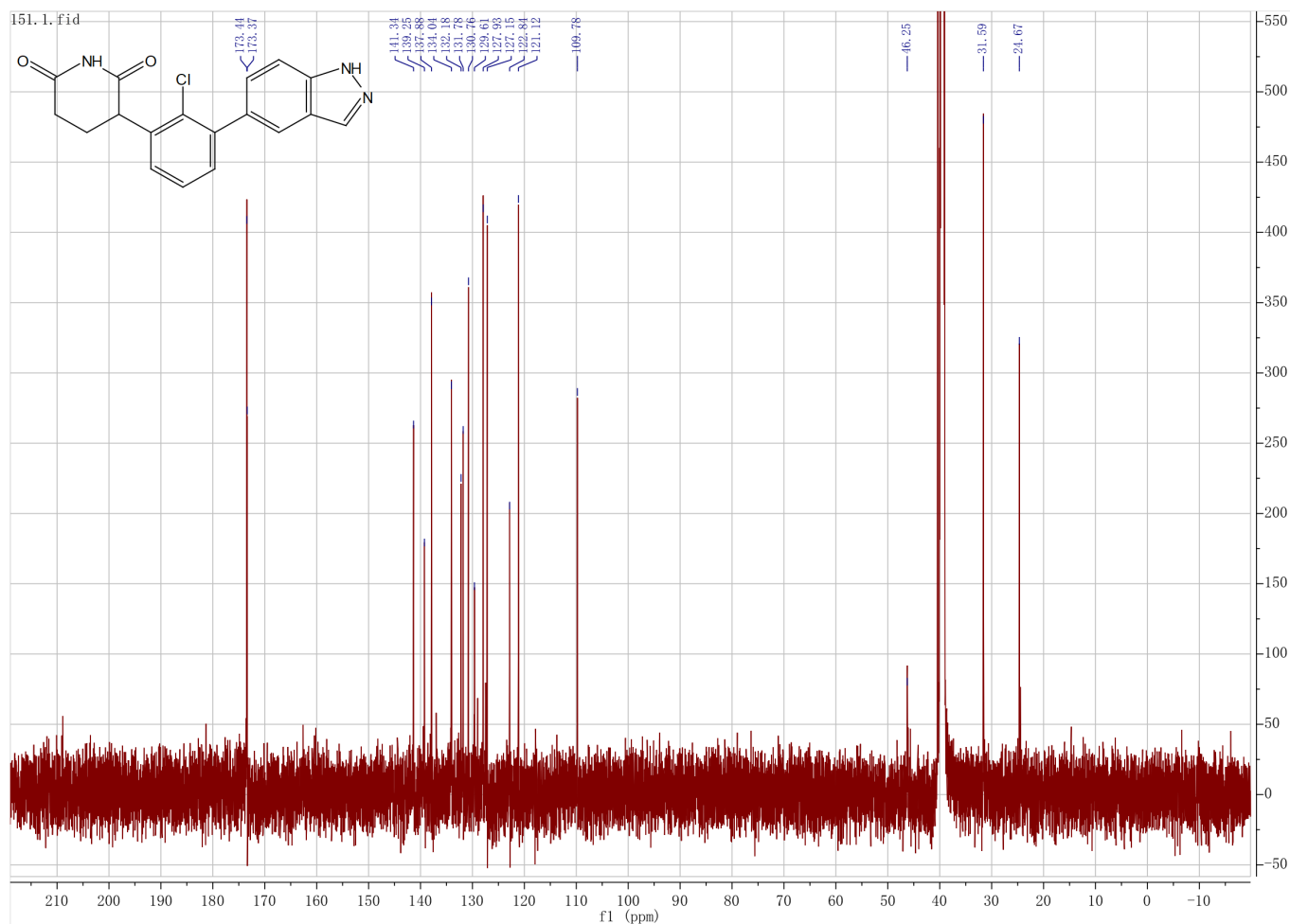
Acquisition Time (sec) 1.9988
 Comment ET99069-1
 4-P1A1
 CDCl3
 Bruker_02
 P-400M
 Hz
 Date 20 Feb 2025
 16:01:00
 (GMT+08:00)
 Frequency (MHz) 400.1300
 Nucleus 1H
 Number of Transients 8
 Origin Avance
 Original Points Count 16384
 Owner nmr
 Points Count 65536
 Pulse Sequence zg30
 Receiver Gain 101.00
 SW(cyclical) (Hz) 8196.72
 Solvent CHLORO FORM-d
 Spectrum Offset (Hz) 2464.1194
 Spectrum Type standard
 Sweep Width (Hz) 8196.60
 Temperature (degree C) 25.009



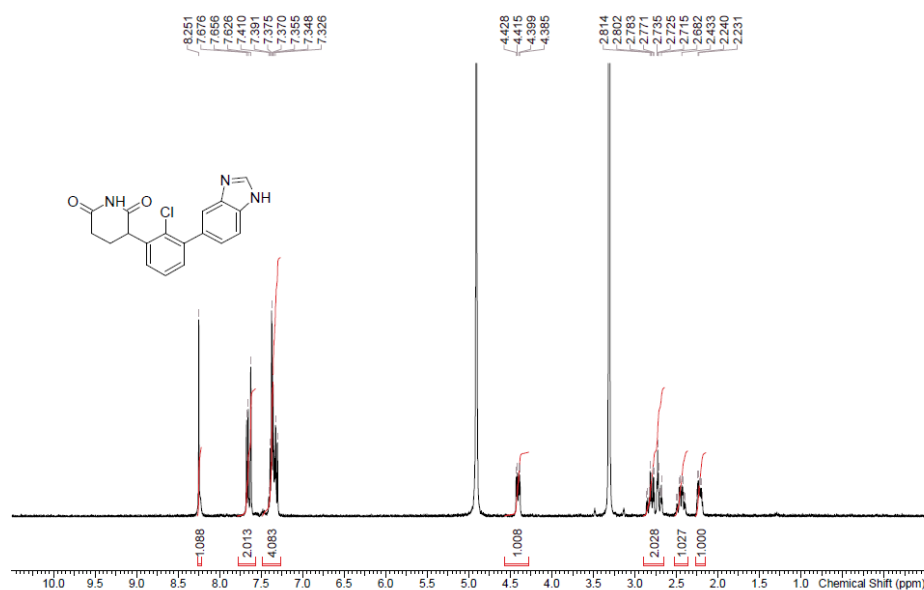
3-[2-chloro-3-(1H-indazol-5-yl)phenyl]piperidine-2,6-dione (NGT-201-151)



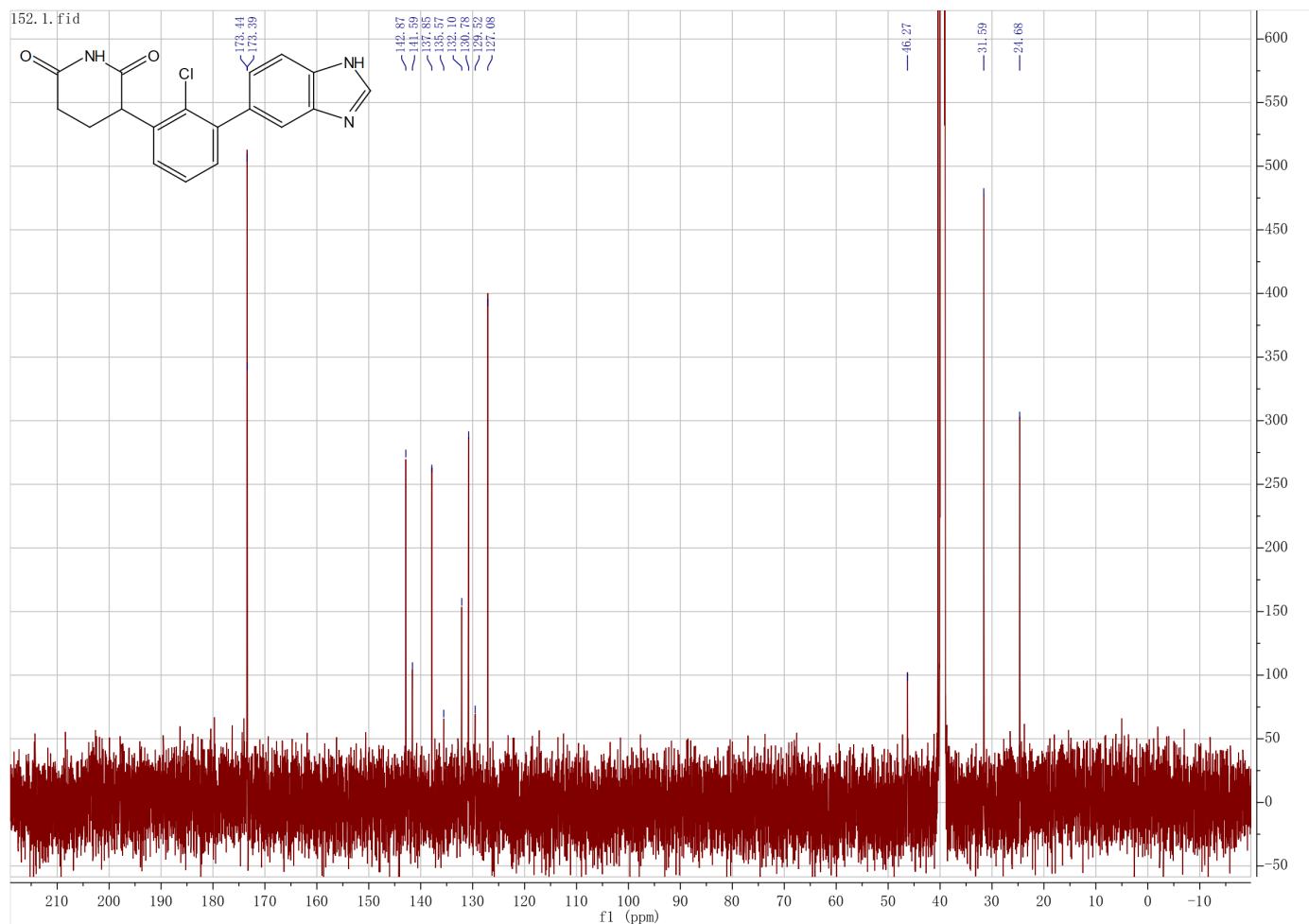
Acquisition Time (sec) 4.0002
 Comment ET99069-1
 2-PIA1
 MeOD
 ZKNJ_02
 N_400MH
 z
 Date 20 Feb
 2025
 08:16:12
 (GMT)
 Frequency (MHz) 399.8213
 Nucleus 1H
 Number of Transients 8
 Origin QUANTU
 M-I
 Original Points Count 32050
 Owner admin
 Points Count 65536
 Pulse Sequence s1pul30
 Receiver Gain 67.27
 SW(cyclical) (Hz) 8012.00
 Solvent METHAN
 OL-d4
 Spectrum Offset (Hz) 2387.6926
 Spectrum Type undefined
 Sweep Width (Hz) 8011.88
 Temperature (degree C) 19.150



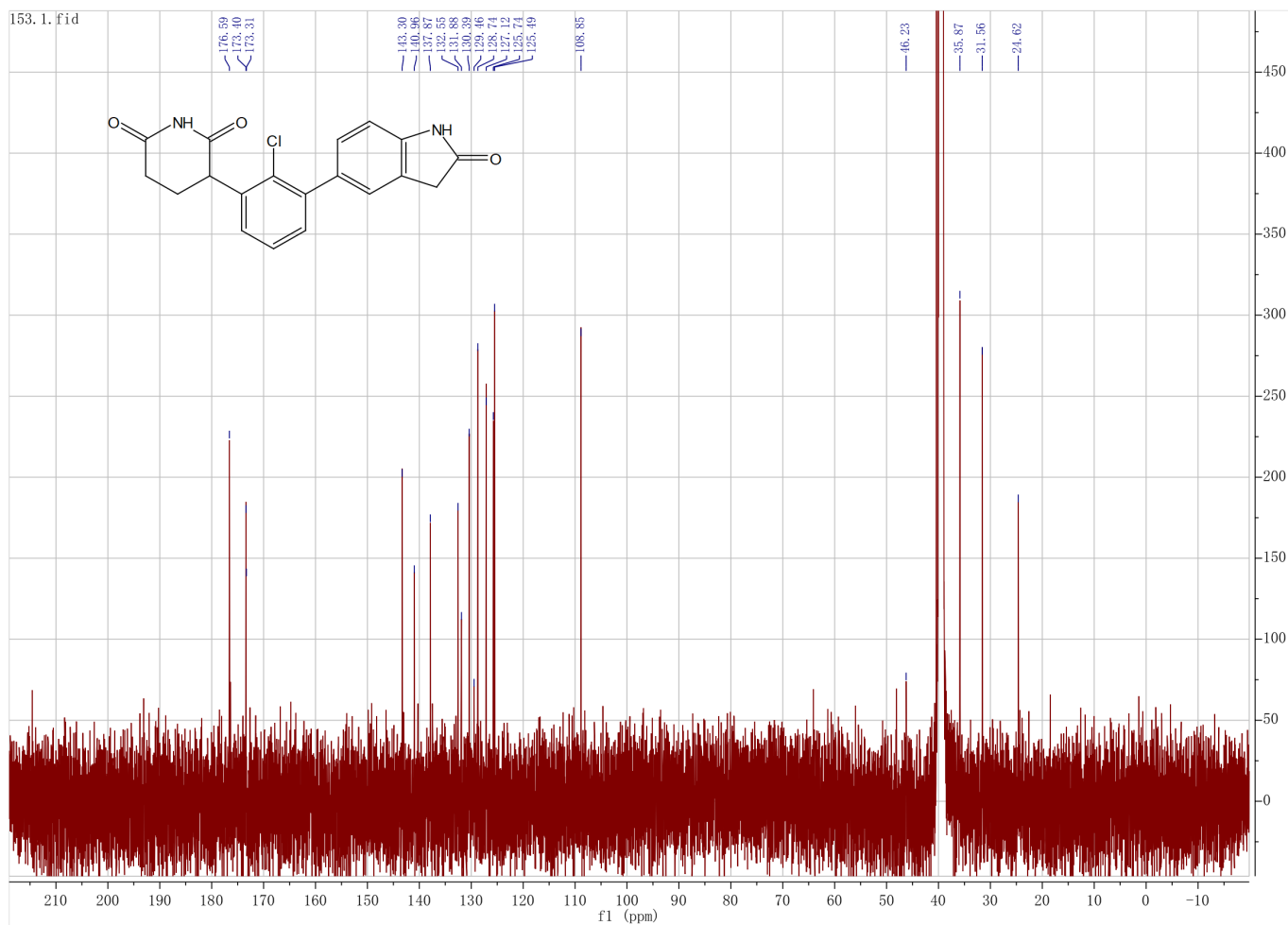
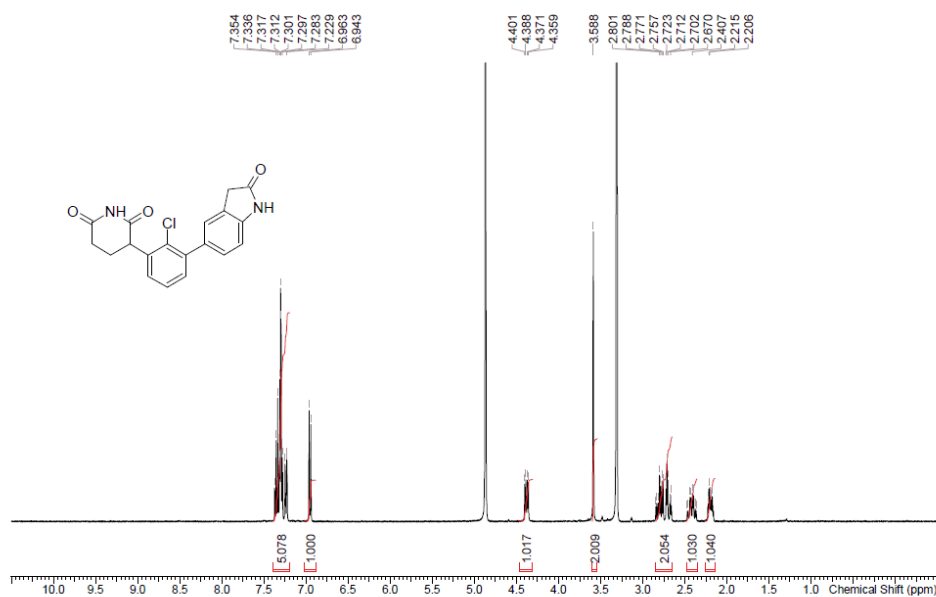
3-[3-(1H-benzimidazol-5-yl)-2-chloro-phenyl]piperidine-2,6-dione (NGT-201-152)



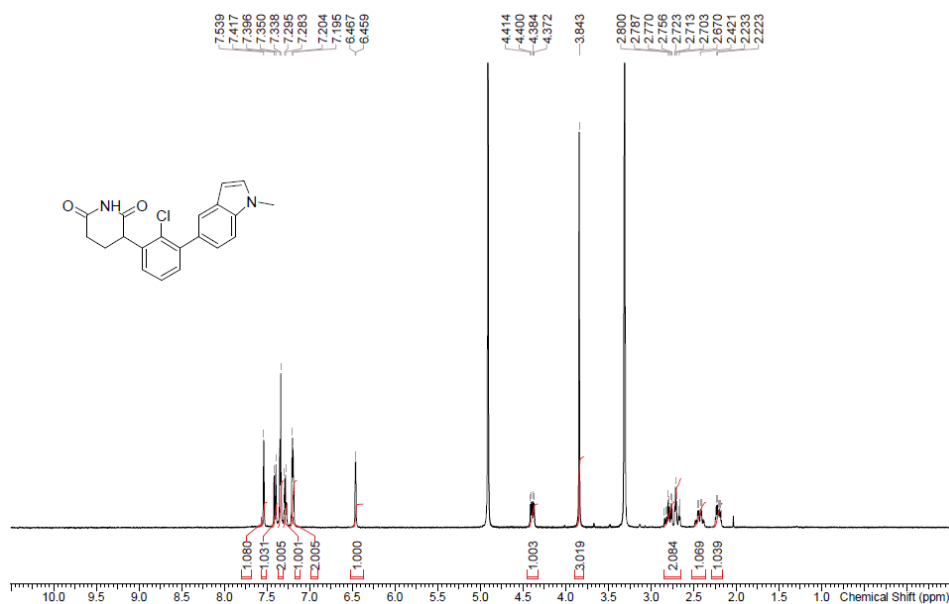
Acquisition Time (sec) 4.0002
 Comment ET99069-1
 6-P1A1
 MeOD
 ZKNJ_02
 N_400MH
 z
 Date 25 Feb
 2025
 02:02:51
 (GMT)
 Frequency (MHz) 399.8213
 Nucleus 1H
 Number of Transients 8
 Origin QUANTU
 M4
 Original Points Count 32050
 Owner admin
 Points Count 65536
 Pulse Sequence s1pul30
 Receiver Gain 66.20
 SW(cyclical) (Hz) 8012.00
 Solvent METHAN
 OL-d4
 Spectrum Offset (Hz) 2419.7183
 Spectrum Type undefined
 Sweep Width (Hz) 8011.88
 Temperature (degree C) 20.050



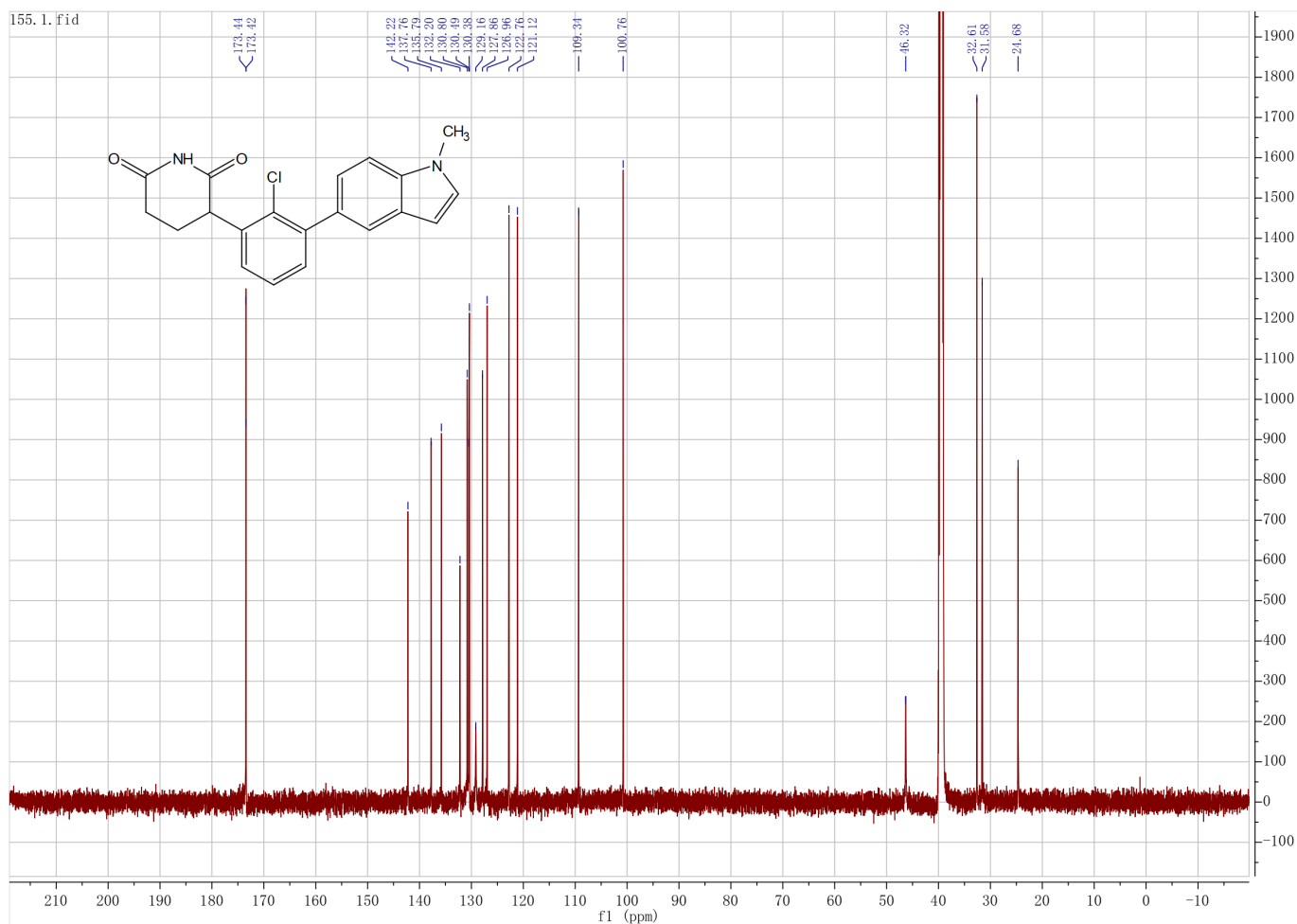
3-[2-chloro-3-(2-oxoindolin-5-yl)phenyl]piperidine-2,6-dione (NGT-201-153)



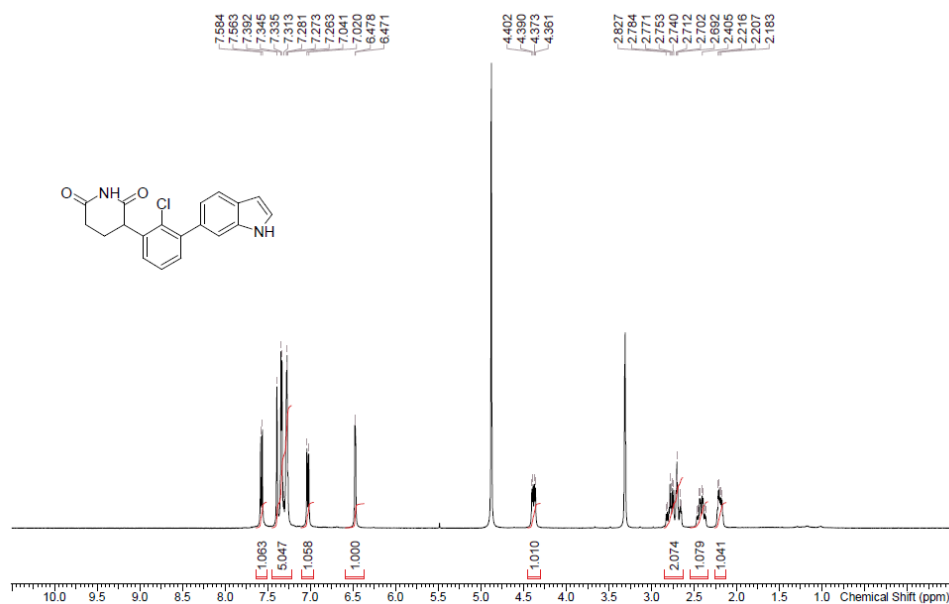
3-[2-chloro-3-(1-methylindol-5-yl)phenyl]piperidine-2,6-dione (NGT-201-155)



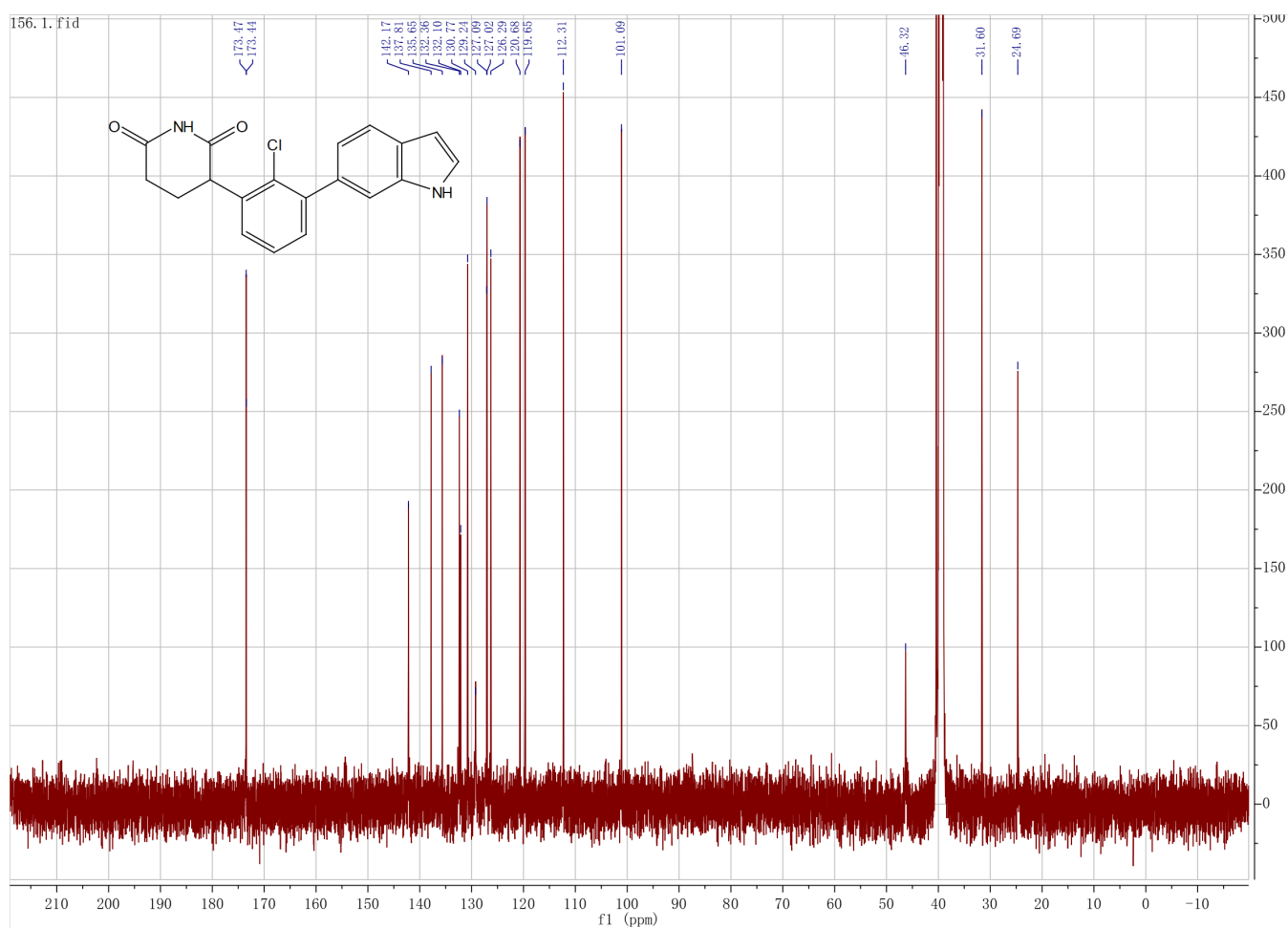
Acquisition Time (sec) 4.0002
 Comment ET99069-1
 8-PIA1
 MeOD
 ZKNU_02
 N_400MH
 z
 Date 25 Feb
 2025
 02:10:08
 (GMT)
 Frequency (MHz) 399.8213
 Nucleus 1H
 Number of Transients 8
 Origin QUANTU
 M-1
 Original Points Count 32050
 Owner admin
 Points Count 65536
 Pulse Sequence s1pul30
 Receiver Gain 64.60
 SW(cyclical) (Hz) 8012.00
 Solvent METHAN
 OL-44
 Spectrum Offset (Hz) 3018.4106
 Spectrum Type undefined
 Sweep Width (Hz) 8011.88
 Temperature (degree C) 19.150



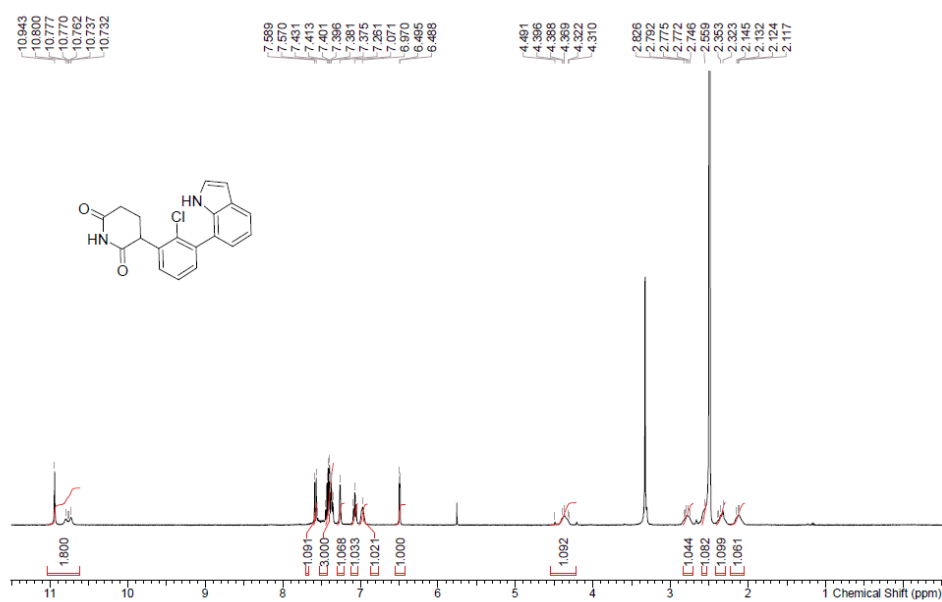
3-[2-chloro-3-(1H-indol-6-yl)phenyl]piperidine-2,6-dione (NGT-201-156)



Acquisition Time (sec) 1.9988
 Comment ET99069-1
 3-PIA3
 MeOD
 Bruker_02
 V_400M
 Hz
 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 ET99069-1
 7-P1Q2
 DMSO
 Bruker_02
 V_400M
 Hz
 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

