



Supporting Information

for

Synthesis of imidazo[1,2-*a*]pyridine-containing peptidomimetics by tandem of Groebke–Blackburn–Bienaymé and Ugi reactions

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Experimental part

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1. General

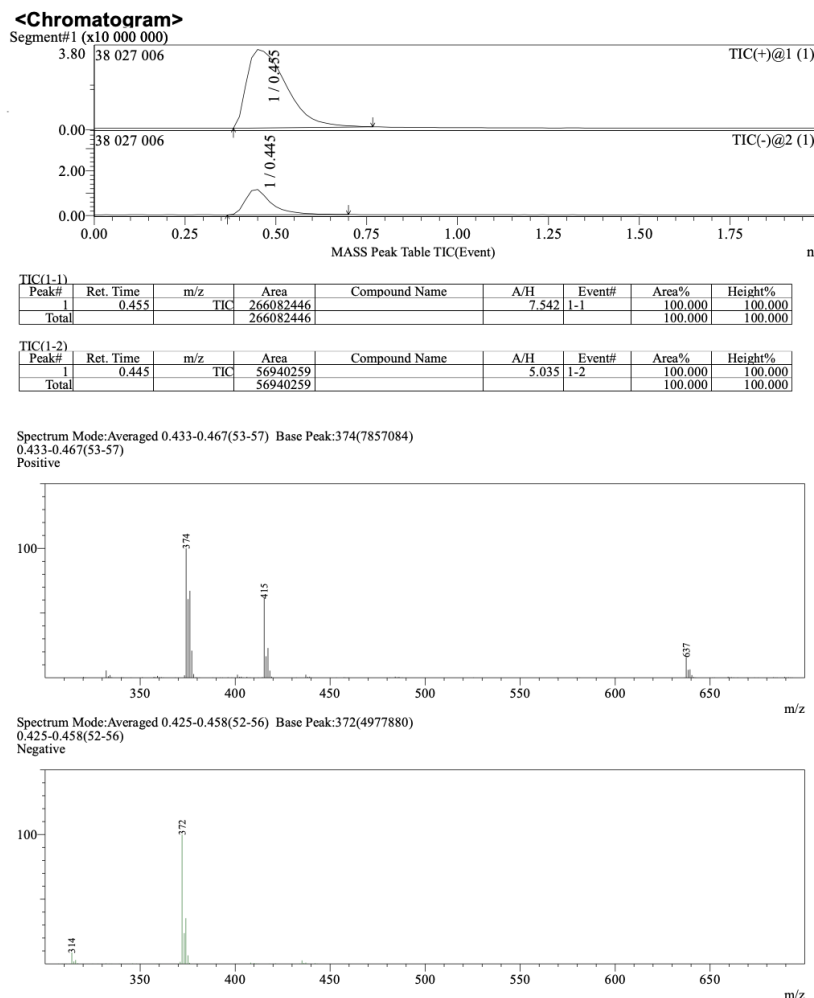
The starting 2-(3-formylphenoxy)acetic acid (**2**) [1], *o*-nitrobenzyl isocyanide (**6d**) [2] were synthesized according to the known literature procedures. *tert*-Butyl-, cyclohexyl-, ethyl aceto-2-yl isocyanides and substituted aldehydes were commercially available. Melting points of all compounds synthesized were determined with a Kofler melting point apparatus and were uncorrected. The NMR spectra were recorded in DMSO-*d*₆ and CDCl₃ at 300 MHz (75 MHz for ¹³C) with a Bruker Avance 300 spectrometer, at 400 MHz (100 MHz for ¹³C) with a Varian MR-400 (Note: Some ¹H NMR spectra contains rotamers) Mass spectra (ESI) were recorded in both positive and negative ion detection modes on Shimadzu LCMS-2020 spectrometer.

2. Synthetic aspects and procedures

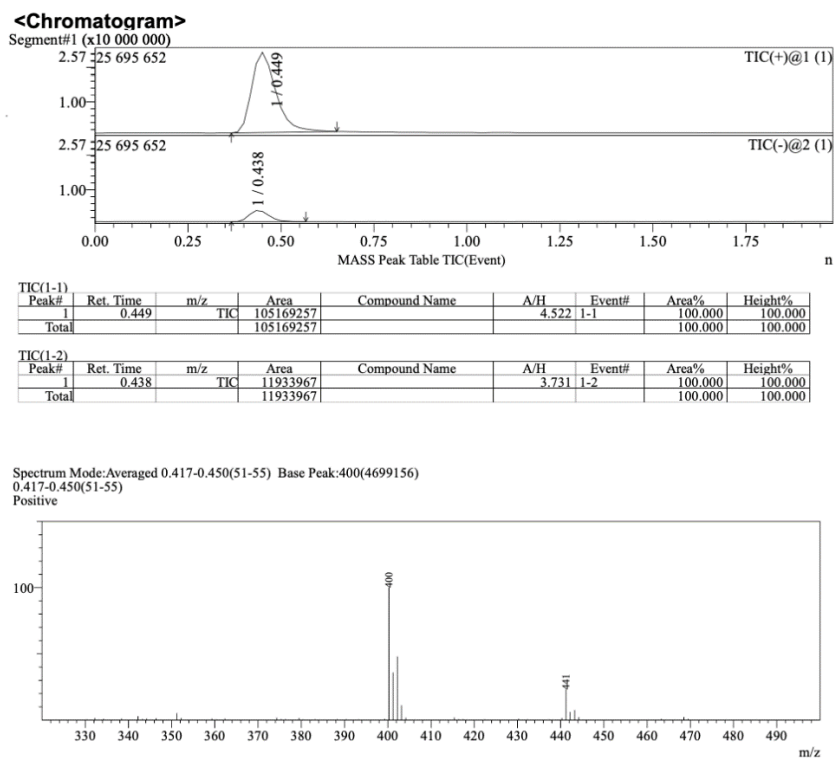
Synthesis of imidazo[1,2-*a*]containing heterocyclic acids 4a–c.

Amidine (2 mmol) and aldehyde (2 mmol) were added to a 10 ml round-bottom heat-resistant flask and dissolved in 4 mL of DMF. In addition, a 70% aqueous solution of HClO₄ in a catalytic amount (20 mol %) was added. Isocyanide was added to the resulting solution and left to stir for 24 hours. After 24 hours, the reaction mixture was poured onto ice, the precipitate obtained was filtered off and washed with cold methyl alcohol, then dried in a vacuum and analyzed.

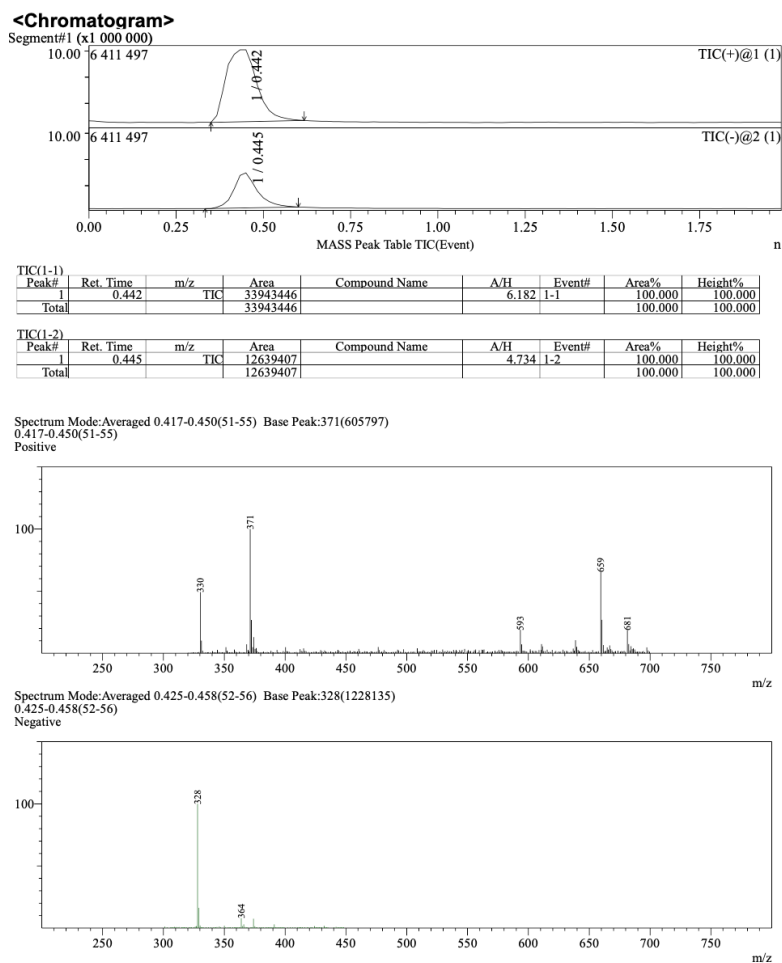
2-(3-(3-(*tert*-Butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)acetic acid (4a**).** Yield 76%, yellowish solid. *T*_m = 252-253 °C. ¹H NMR (400 MHz, DMSO-*d*₆) δ 8.48 (s, 1H), 7.77 – 7.63 (m, 2H), 7.50 (d, *J* = 9.5 Hz, 1H), 7.28 (t, *J* = 8.0 Hz, 1H), 7.18 (dd, *J* = 9.5, 2.0 Hz, 1H), 6.81 (dd, *J* = 8.3, 2.7 Hz, 1H), 4.69 (s, 3H), 0.97 (s, 9H); ¹³C NMR (100 MHz, DMSO-*d*₆) δ 167.5, 158.5, 141.1, 136.5, 135.5, 131.5, 130.6, 128.5, 128.1, 127.7, 124.3, 124.2, 116.6, 111.2, 55.8, 39.9, 39.9, 39.7, 39.6, 39.5, 39.5, 39.4, 39.3, 39.1, 38.9, 30.1, 13.9.



2-(3-(6-Chloro-3-(cyclohexylamino)imidazo[1,2-a]pyridin-2-yl)phenoxy)acetic acid (4b). Yield 78%, yellowish solid. $T_m = 248-249\text{ }^{\circ}\text{C}$. ^1H NMR (400 MHz, DMSO- d_6) δ 8.45 (d, $J = 2.1\text{ Hz}$, 1H), 7.79 (d, $J = 7.8\text{ Hz}$, 1H), 7.72 (s, 1H), 7.49 (d, $J = 9.4\text{ Hz}$, 1H), 7.31 (t, $J = 8.0\text{ Hz}$, 1H), 7.16 (dd, $J = 9.5, 2.0\text{ Hz}$, 1H), 6.81 (dd, $J = 8.1, 2.7\text{ Hz}$, 1H), 4.82 (d, $J = 6.5\text{ Hz}$, 1H), 4.69 (s, 2H), 2.83 (d, $J = 15.6\text{ Hz}$, 1H), 1.73 – 1.54 (m, 4H), 1.46 (s, 1H), 1.24 (d, $J = 11.9\text{ Hz}$, 2H), 1.06 (s, 3H); ^{13}C NMR (100 MHz, DMSO- d_6) δ 170.2, 157.9, 138.6, 135.6, 135.0, 129.3, 126.7, 124.5, 121.0, 119.3, 118.7, 117.7, 113.6, 111.9, 64.4, 56.5, 40.1, 39.9, 39.9, 39.8, 39.7, 39.6, 39.6, 39.5, 39.4, 39.3, 39.1, 38.9, 33.4, 25.3, 24.5.



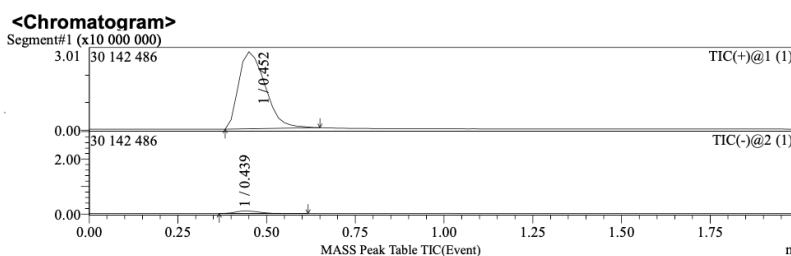
2-(3-(6-(*tert*-Butylamino)-1*H*-imidazo[1,2-*b*][1,2,4]triazol-5-yl)phenoxy)acetic acid (4c**).** Yield 78%, yellowish solid. $T_m = 209-210\text{ }^{\circ}\text{C}$. ^1H NMR (400 MHz, DMSO- d_6) δ 7.78 (s, 1H), 7.56 (d, $J = 6.9\text{ Hz}$, 2H), 7.29 (t, $J = 8.1\text{ Hz}$, 1H), 6.84 – 6.75 (m, 1H), 4.68 (s, 2H), 1.08 (s, 9H); ^{13}C NMR (100 MHz, DMSO- d_6) δ 170.6, 158.3, 153.6, 148.5, 132.4, 129.9, 123.9, 121.3, 119.3, 113.9, 112.3, 64.9, 54.9, 40.6, 40.4, 40.2, 40.2, 39.9, 39.8, 39.6, 39.3, 30.6, 28.7.



General procedure for the synthesis of peptidomimetics 7a–t.

Amine (0.55 mmol), aldehyde (0.55 mmol), and 1 mL of MeOH were added to a 5 mL capped vial. The resulting solution was stirred for 1 hour. After that, imidazo[1,2-*a*]-containing heterocyclic acid (0.5 mmol) and isocyanide (0.55 mmol) were added. The reaction mixture in a screw cap vial was hermetically closed and placed in an oil bath (50 °C) for 24–48 hours. Then the mixture was cooled for 30 minutes at a temperature of –15 °C. The cooled solution was stirred at room temperature until a precipitate formed. The resulting precipitate was filtered, washed with a cold solution of MeOH, and dried in air. The dried precipitate was recrystallized from hexane and filtered again, then dried in a vacuum and analyzed.

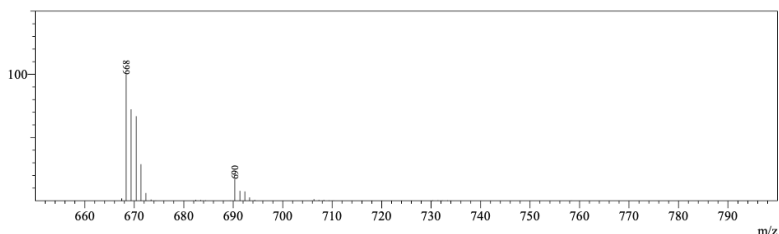
***N*-(*tert*-Butyl)-2-(2-(3-(3-(*tert*-butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(4-methoxyphenyl)acetamido)-2-phenylacetamide (7a).** Yield 63%, white solid. T_m = 131-134 °C. ^1H NMR (400 MHz, CDCl_3) δ 8.25 (d, J = 2.0 Hz, 1H), 7.45 (t, J = 9.6 Hz, 2H), 7.28 (dd, J = 15.8, 7.9 Hz, 3H), 7.22 – 7.03 (m, 6H), 6.96 – 6.47 (m, 3H), 5.99 (s, 1H), 5.53 (s, 1H), 4.40 (d, J = 2.9 Hz, 2H), 3.72 (s, 3H), 1.24 (s, 9H), 1.00 (s, 9H); ^{13}C NMR (100 MHz, CDCl_3) δ 168.6, 168.5, 159.4, 158.2, 134.2, 131.4, 130.6, 130.5, 129.5, 128.4, 128.4, 124.5, 121.7, 121.4, 116.9, 115.3, 114.5, 114.2, 77.3, 76.9, 76.7, 66.9, 65.6, 56.5, 55.3, 51.6, 30.3, 28.5.



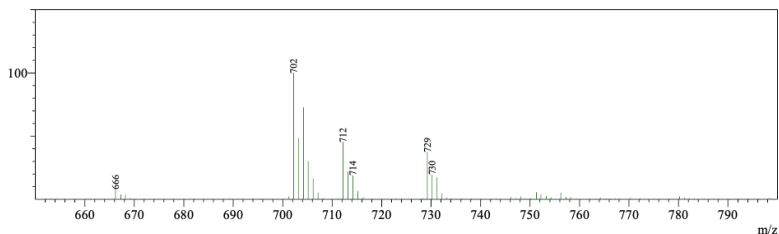
Peak#	Ret. Time	m/z	Area	Compound Name	A/H	Event#	Area%	Height%
1	0.452	TIC	146480252		5.219	1-1	100.000	100.000
Total			146480252				100.000	100.000

Peak#	Ret. Time	m/z	Area	Compound Name	A/H	Event#	Area%	Height%
1	0.439	TIC	4107981		4.386	1-2	100.000	100.000
Total			4107981				100.000	100.000

Spectrum Mode:Averaged 0.433-0.467(53-57) Base Peak:668(8188337)
0.433-0.467(53-57)
Positive

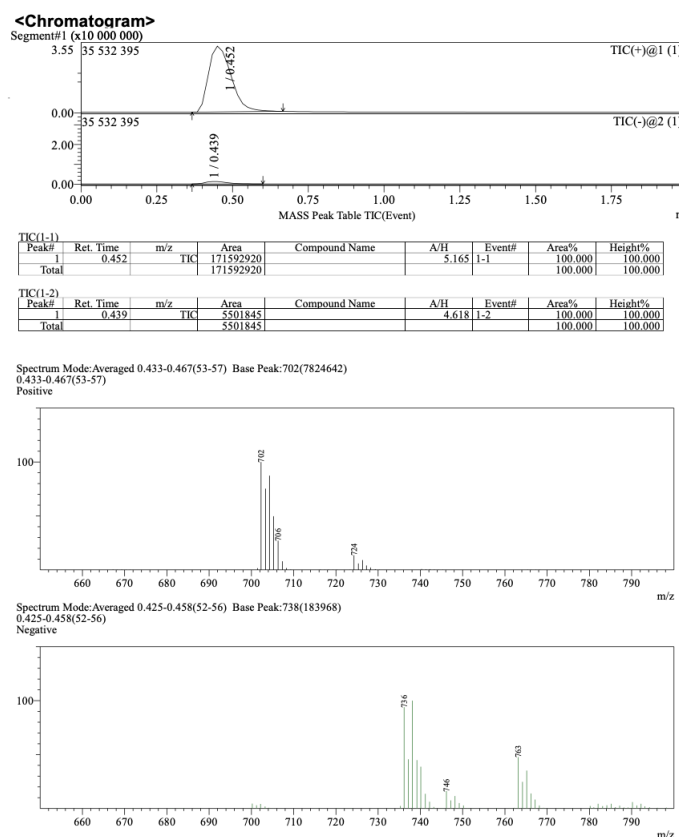


Spectrum Mode:Averaged 0.425-0.458(52-56) Base Peak:702(163661)
0.425-0.458(52-56)
Negative



***N*-(*tert*-butyl)-2-(2-(3-(3-(*tert*-butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(4-methoxyphenyl)acetamido)-2-(4-chlorophenyl)acetamide (7b).** Yield 71%, white solid. T_m = 122-123 °C. ^1H NMR (400 MHz, $\text{DMSO}-d_6$) δ 8.50 (s, 1H),

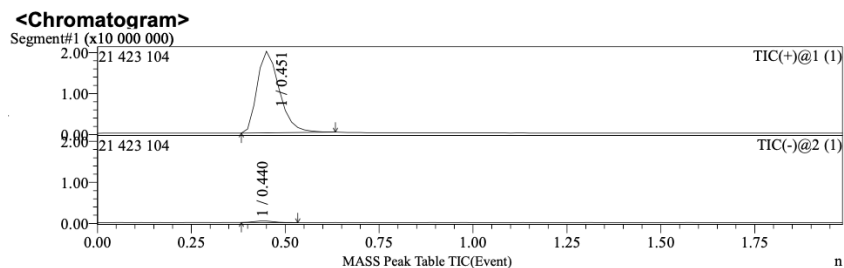
7.86 – 7.62 (m, 3H), 7.57 (s, 1H), 7.47 (d, J = 9.4 Hz, 1H), 7.29 – 7.11 (m, 4H), 7.04 (d, J = 8.2 Hz, 2H), 6.68 (d, J = 8.4 Hz, 4H), 5.98 (s, 1H), 4.61 (s, 1H), 4.38 (d, J = 15.2 Hz, 1H), 4.26 (d, J = 15.3 Hz, 1H), 3.65 (s, 3H), 1.14 (s, 9H), 0.95 (s, 9H); ¹³C NMR (100 MHz, DMSO-d₆) δ 168.9, 167.7, 159.0, 158.1, 139.8, 139.2, 136.6, 134.8, 132.7, 132.2, 130.7, 129.3, 128.2, 125.3, 125.2, 122.2, 120.9, 118.9, 118.1, 114.2, 113.9, 66.4, 63.6, 56.4, 55.6, 50.8, 40.6, 40.4, 40.2, 40.2, 40.0, 39.9, 39.8, 39.5, 39.3, 30.5, 28.7.



***N*-(*tert*-Butyl)-2-(2-(3-(3-(*tert*-butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(4-methoxyphenyl)acetamido)-2-(4-methoxyphenyl)acetamide**

(7c). Yield 61%, white solid. *T*_m = 114-115 °C. ¹H NMR (400 MHz, CDCl₃) δ 8.26 (s, 1H), 7.45 (dd, J = 13.1, 8.4 Hz, 2H), 7.38 – 7.21 (m, 3H), 7.04 (dd, J = 29.6, 8.9 Hz, 3H), 6.73 (dd, J = 43.9, 8.7 Hz, 6H), 5.97 (s, 1H), 5.52 (s, 1H), 4.38 (d, J = 2.7 Hz, 2H), 3.73 (d, J = 5.3 Hz, 6H), 1.24 (s, 9H), 1.00 (s, 9H); ¹³C NMR (100 MHz, DMSO-d₆) δ

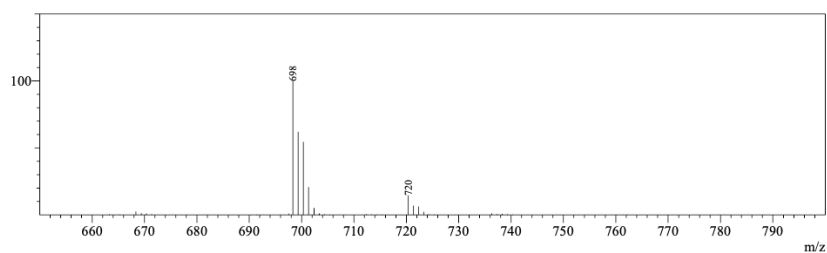
169.8, 158.9, 158.2, 139.8, 139.3, 136.7, 131.8, 129.4, 127.6, 125.3, 125.2, 122.3, 120.9, 118.9, 118.2, 114.3, 113.9, 113.7, 66.4, 63.8, 56.5, 55.6, 55.4, 50.7, 49.1, 40.6, 40.4, 40.2, 40.0, 40.0, 39.8, 39.6, 39.4, 30.5, 28.8.



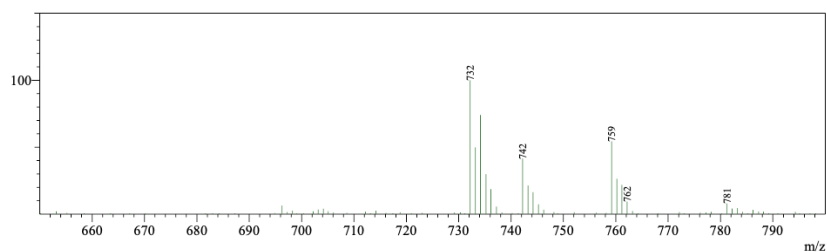
TIC(1-1)								
Peak#	Ret. Time	m/z	Area	Compound Name	A/H	Event#	Area%	Height%
1	0.451	TIC	81917581		4.118	1-1	100.000	100.000
Total			81917581				100.000	100.000

TIC(1-2)								
Peak#	Ret. Time	m/z	Area	Compound Name	A/H	Event#	Area%	Height%
1	0.440	TIC	1456110		3.643	1-2	100.000	100.000
Total			1456110				100.000	100.000

Spectrum Mode:Averaged 0.433-0.467(53-57) Base Peak:698(6094932)
0.433-0.467(53-57)
Positive

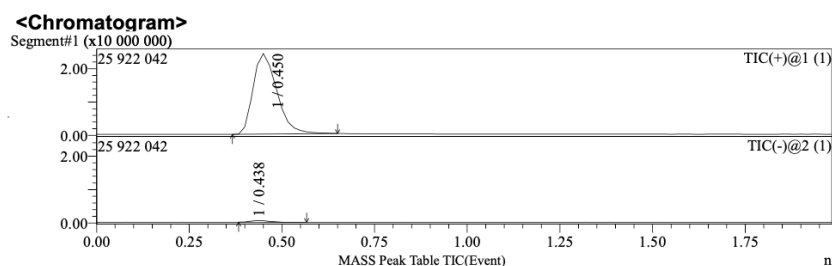


Spectrum Mode:Averaged 0.425-0.458(52-56) Base Peak:732(65536)
0.425-0.458(52-56)
Negative



2-(Benzo[*d*][1,3]dioxol-5-yl)-*N*-(*tert*-butyl)-2-(2-(3-(3-(*tert*-butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(4-methoxyphenyl)acetamido)acetamide (7d). Yield 72%, white solid. T_m = 125-126 °C. ^1H NMR (400 MHz, CDCl_3) δ 8.27 (s, 1H), 7.46 (t, J = 10.5 Hz, 2H), 7.26 (d, J = 13.9 Hz, 3H), 7.09 (d, J = 9.5 Hz, 1H), 6.99 – 6.56 (m, 6H), 5.88 (dd, J = 4.0, 1.7 Hz, 3H), 5.56 (s, 1H), 4.38 (s, 2H), 3.75 (s, 3H), 1.25 (s, 9H), 1.01 (s, 9H); ^{13}C NMR (100 MHz, CDCl_3) δ 168.6, 168.5, 159.5, 158.2, 147.6, 147.5, 131.4, 130.5, 129.5, 127.8,

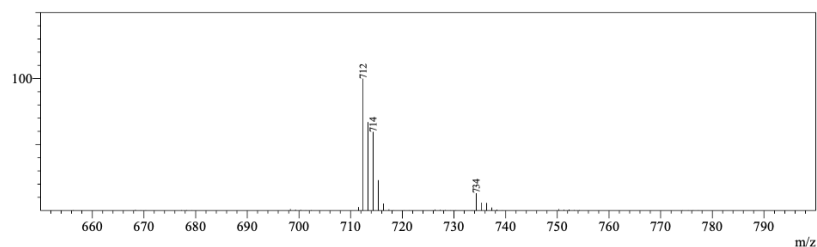
124.4, 124.3, 121.7, 121.4, 117.1, 115.2, 114.4, 114.3, 110.6, 108.0, 101.1, 77.3, 76.9, 76.7, 66.9, 65.2, 56.5, 55.4, 51.6, 30.3, 28.5.



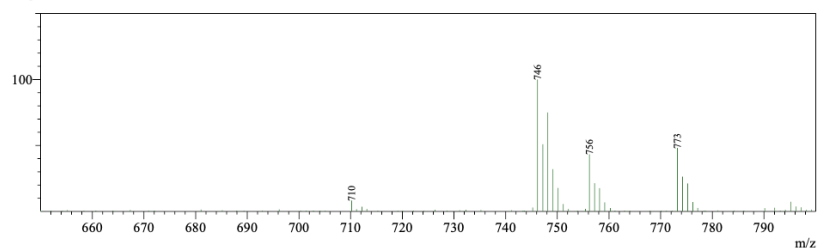
Peak#	Ret. Time	m/z	Area	Compound Name	A/H	Event#	Area%	Height%
1	0.450	TIC	107397688		4.444	1-1	100.000	100.000
Total			107397688				100.000	100.000

Peak#	Ret. Time	m/z	Area	Compound Name	A/H	Event#	Area%	Height%
1	0.438	TIC	1909912		3.812	1-2	100.000	100.000
Total			1909912				100.000	100.000

Spectrum Mode:Averaged 0.417-0.450(51-55) Base Peak:712(6190591)
0.417-0.450(51-55)
Positive



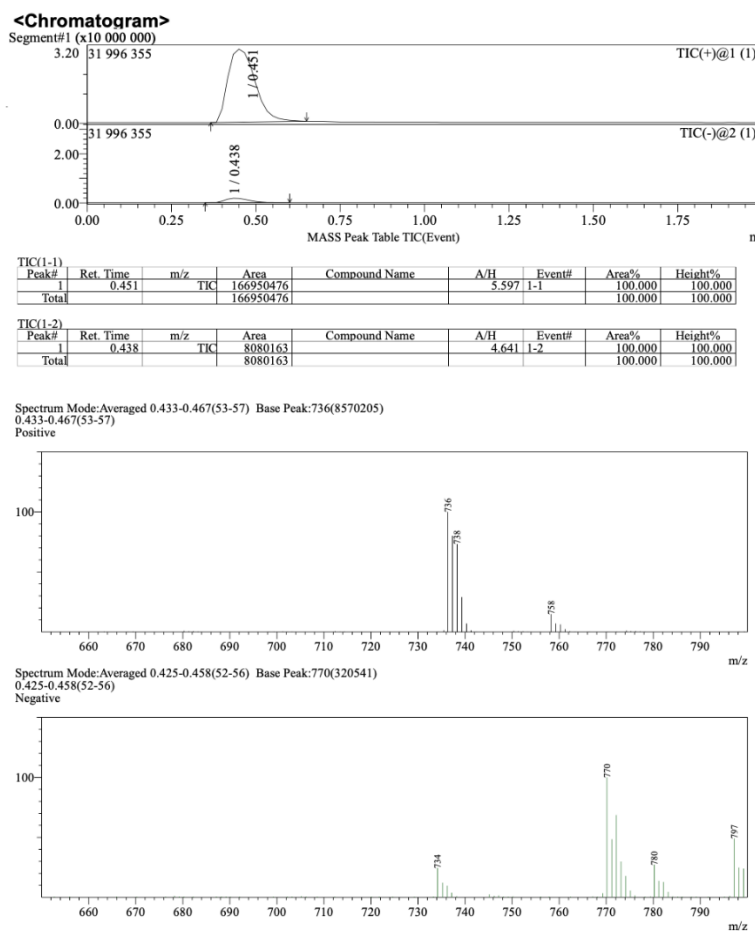
Spectrum Mode:Averaged 0.425-0.458(52-56) Base Peak:746(84482)
0.425-0.458(52-56)
Negative



***N*-(*tert*-butyl)-2-(2-(3-(3-(*tert*-butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(4-methoxyphenyl)acetamido)-2-(4-**

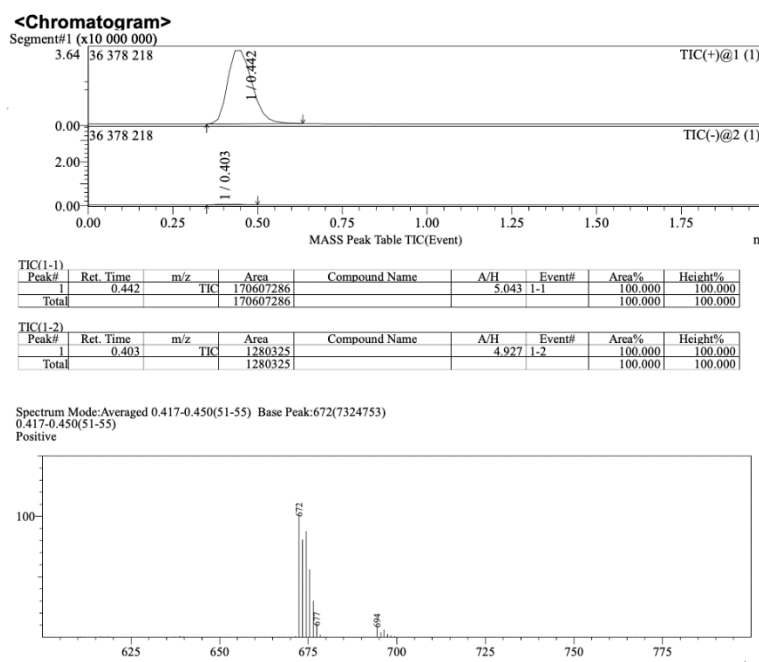
(trifluoromethyl)phenyl)acetamide (7e). Yield 45%, white solid. T_m = 155-156 °C. ^1H NMR (400 MHz, CDCl_3) δ 8.27 (s, 1H), 7.56 – 7.38 (m, 5H), 7.29 (dd, J = 23.4, 15.7 Hz, 5H), 7.11 (d, J = 9.5 Hz, 1H), 6.89 – 6.57 (m, 3H), 6.03 (s, 1H), 5.78 (s, 1H), 4.42 (s, 2H), 3.74 (s, 3H), 1.26 (s, 9H), 1.01 (s, 9H); ^{13}C NMR (100 MHz, $\text{DMSO}-d_6$) δ 167.9, 167.4, 158.6, 158.5, 157.6, 140.3, 139.3, 138.7, 136.1, 131.7, 130.6, 130.2, 128.8, 124.8, 124.7, 124.6, 121.7, 120.4, 118.4, 117.7, 113.8, 113.3, 65.8, 63.5, 55.9, 55.1,

50.4, 40.1, 39.9, 39.9, 39.8, 39.8, 39.7, 39.6, 39.5, 39.4, 39.3, 39.2, 38.9, 30.9, 29.9, 28.2, 22.0, 13.9.

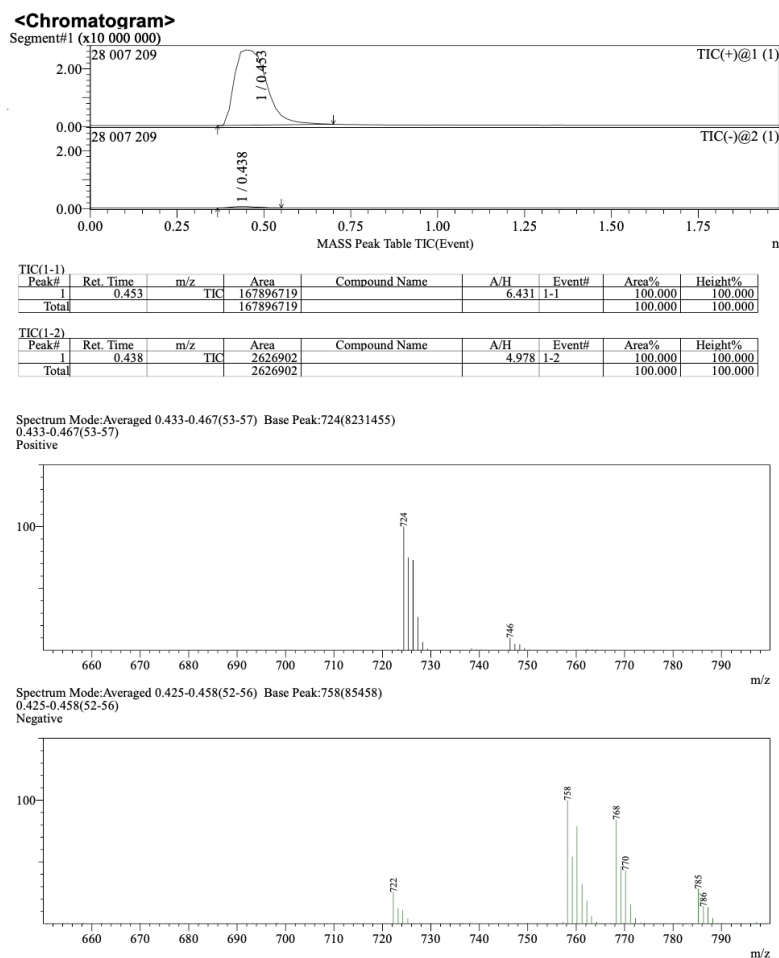


2-(3-(3-(*tert*-Butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(1-(4-chlorophenyl)-2-(cyclohexylamino)-2-oxoethyl)-*N*-(4-methoxyphenyl)acetamide (7f**).** Yield 51%, white solid. T_m = 154-155 °C. ^1H NMR (400 MHz, CDCl_3) δ 8.23 (s, 1H), 7.42 (t, J = 7.7 Hz, 3H), 7.33 – 7.22 (m, 3H), 7.11 (q, J = 7.5 Hz, 6H), 6.95 – 6.47 (m, 5H), 6.21 (s, 1H), 4.40 (s, 2H), 4.13 (dd, J = 7.0, 2.7 Hz, 2H), 4.01 (d, J = 5.5 Hz, 3H), 3.74 (d, J = 3.0 Hz, 4H), 1.30 – 1.15 (m, 6H), 0.98 (d, J = 3.0 Hz, 13H), 0.85 (dd, J = 10.5, 6.6 Hz, 5H); ^{13}C NMR (100 MHz, DMSO-d_6) δ 167.9, 167.4, 158.6 158.5, 157.6, 139.3, 138.7, 136.1, 134.2, 132.3, 131.8, 130.2, 128.8, 127.8, 124.8, 124.7, 121.8, 120.5, 118.4, 117.7, 113.8, 113.6, 113.4, 65.8, 62.8, 55.9, 55.1, 48.6, 47.9,

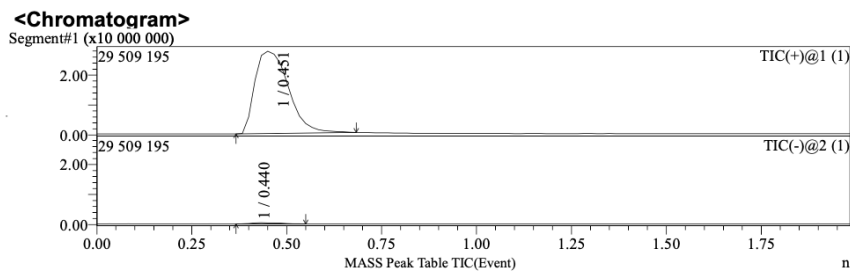
40.1, 39.9, 39.9, 39.8, 39.7, 39.7, 39.6, 39.5, 39.4, 39.3, 39.2, 38.9, 32.1, 32.0, 29.9, 25.1, 24.5, 24.4.



2-(3-(3-(*tert*-Butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(2-(cyclohexylamino)-1-(4-methoxyphenyl)-2-oxoethyl)-*N*-(4-methoxyphenyl)acetamide (7g**). Yield 56%, white solid. T_m = 116-117 °C. ^1H NMR (400 MHz, CDCl_3) δ 8.26 (s, 1H), 7.43 (t, J = 8.9 Hz, 3H), 7.26 (d, J = 10.8 Hz, 3H), 7.07 (d, J = 9.5 Hz, 1H), 6.99 (d, J = 8.2 Hz, 2H), 6.73 (dd, J = 42.9, 8.3 Hz, 6H), 6.09 (s, 1H), 5.53 (d, J = 8.1 Hz, 1H), 4.37 (s, 2H), 3.73 (s, 9H), 1.95 – 1.72 (m, 4H), 1.27 (s, 3H), 0.99 (d, J = 2.0 Hz, 16H); ^{13}C NMR (100 MHz, $\text{DMSO}-d_6$) δ 168.7, 167.2, 158.5, 158.4, 157.7, 139.3, 138.7, 136.1, 131.8, 131.3, 130.4, 128.9, 126.9, 124.8, 124.7, 121.8, 120.4, 118.4, 117.7, 113.6, 113.5, 113.2, 65.9, 62.9, 55.9, 55.1, 54.9, 48.6, 47.9, 40.1, 39.9, 39.9, 39.8, 39.7, 39.7, 39.6, 39.5, 39.4, 39.3, 39.2, 38.9, 32.2, 32.1, 29.9, 25.1, 24.6, 24.4.**



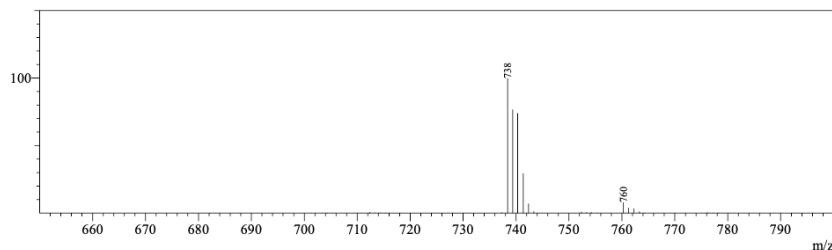
2-(Benzo[d][1,3]dioxol-5-yl)-2-(2-(3-(3-(*tert*-butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(4-methoxyphenyl)acetamido)-*N*-cyclohexylacetamide (7h**). Yield 58%, white solid. T_m = 147-118 °C. ^1H NMR (400 MHz, CDCl_3) δ 8.27 (s, 1H), 7.45 (dd, J = 14.5, 8.8 Hz, 2H), 7.37 – 7.20 (m, 3H), 7.15 – 7.01 (m, 1H), 6.69 (d, J = 77.8 Hz, 6H), 6.00 (d, J = 3.2 Hz, 1H), 5.88 (d, J = 3.9 Hz, 2H), 5.56 (d, J = 8.1 Hz, 1H), 4.37 (s, 2H), 3.74 (d, J = 3.4 Hz, 4H), 1.97 – 1.72 (m, 1H), 1.70 – 1.47 (m, 3H), 1.25 (s, 3H), 1.15 – 0.70 (m, 18H); ^{13}C NMR (100 MHz, CDCl_3) δ 168.7, 168.4, 159.5, 158.2, 147.7, 147.6, 139.9, 135.7, 131.4, 130.5, 129.4, 127.7, 125.6, 124.5, 124.3, 121.5, 119.9, 117.5, 114.9, 114.5, 114.3, 110.7, 108.1, 101.2, 77.3, 77.2, 76.9, 76.7, 67.0, 64.7, 56.4, 55.6, 48.9, 32.8, 30.2, 25.4, 24.8, 24.7.**



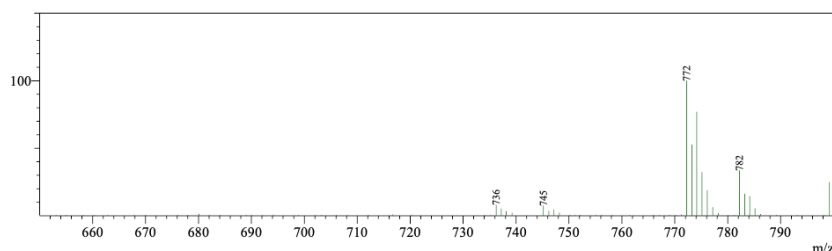
Peak#	Ret. Time	m/z	Area	Compound Name	A/H	Event#	Area%	Height%
1	0.451	TIC	169053432		6.147	1-1	100.000	100.000
Total			169053432				100.000	100.000

Peak#	Ret. Time	m/z	Area	Compound Name	A/H	Event#	Area%	Height%
1	0.440	TIC	1937320		5.341	1-2	100.000	100.000
Total			1937320				100.000	100.000

Spectrum Mode:Averaged 0.433-0.467(53-57) Base Peak:738(8466708)
0.433-0.467(53-57)
Positive



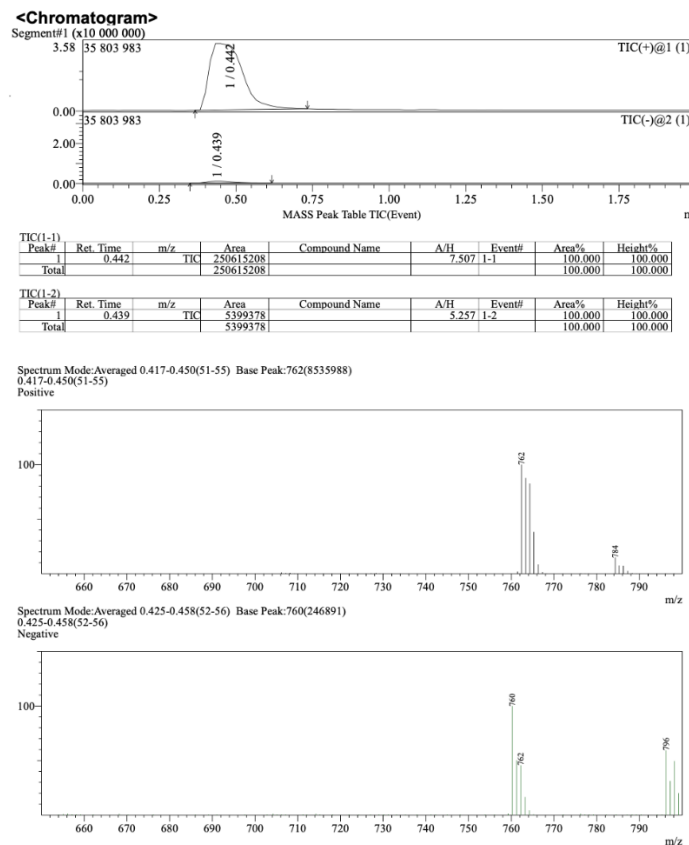
Spectrum Mode:Averaged 0.425-0.458(52-56) Base Peak:772(85420)
0.425-0.458(52-56)
Negative



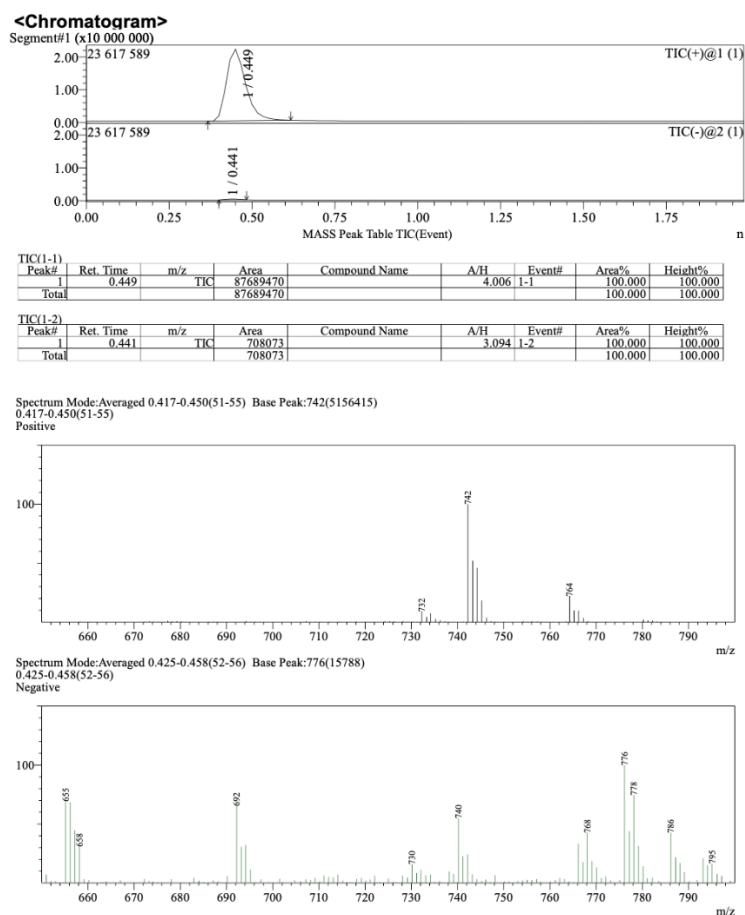
2-(3-(3-(*tert*-Butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(2-(cyclohexylamino)-2-oxo-1-(4-(trifluoromethyl)phenyl)ethyl)-*N*-(4-

methoxyphenyl)acetamide (7i). Yield 62%, white solid. T_m = 193-194 °C. ^1H NMR (400 MHz, $\text{DMSO}-d_6$) δ 8.53 (s, 1H), 8.04 (d, J = 7.6 Hz, 1H), 7.75 (d, J = 7.7 Hz, 1H), 7.63 (s, 1H), 7.50 (t, J = 8.2 Hz, 3H), 7.32 (s, 1H), 7.28 (dd, J = 13.5, 5.2 Hz, 2H), 7.22 (dd, J = 9.4, 2.0 Hz, 1H), 6.78 (s, 2H), 6.73 (dd, J = 8.0, 2.6 Hz, 1H), 6.14 (s, 1H), 4.64 (s, 1H), 4.45 (d, J = 15.2 Hz, 1H), 4.34 (d, J = 15.2 Hz, 1H), 3.68 (s, 3H), 3.55 (s, 1H), 2.50 (d, J = 4.6 Hz, 3H), 1.64 (dt, J = 32.1, 14.7 Hz, 5H), 1.50 (d, J = 12.2 Hz, 1H), 1.24 – 1.13 (m, 3H), 0.99 (s, 10H); ^{13}C NMR (100 MHz, $\text{DMSO}-d_6$) δ 167.5, 158.7, 158.5, 157.6, 140.0, 139.3, 138.6, 136.1, 131.7, 130.7, 130.1, 128.9, 125.1, 124.8,

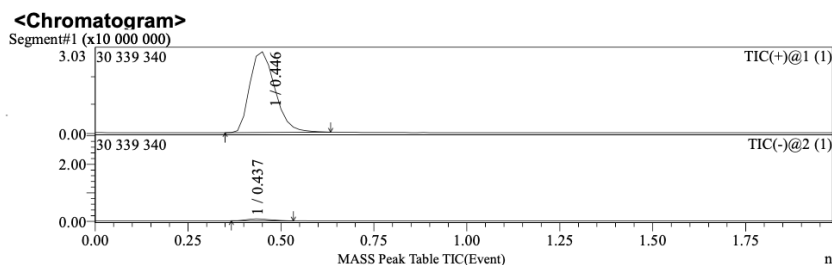
124.7, 124.6, 121.8, 120.5, 118.5, 117.7, 113.8, 113.7, 113.3, 65.8, 63.1, 55.9, 55.2, 47.9, 40.1, 39.9, 39.9, 39.8, 39.7, 39.7, 39.6, 39.5, 39.4, 39.3, 39.2, 38.9, 32.1, 31.9, 29.9, 25.1, 24.5, 24.4.



Ethyl (2-(2-(3-(3-(*tert*-butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(4-methoxyphenyl)acetamido)-2-(4-chlorophenyl)acetyl)glycinate (7j). Yield 61%, yellowish solid. $T_m = 98-99\text{ }^{\circ}\text{C}$. ^1H NMR (400 MHz, CDCl_3) δ 8.23 (s, 1H), 7.34 (dt, $J = 66.6, 6.8\text{ Hz}$, 6H), 7.10 (p, $J = 7.8\text{ Hz}$, 5H), 6.97 – 6.47 (m, 4H), 6.21 (s, 1H), 4.40 (s, 2H), 4.19 – 4.08 (m, 2H), 4.01 (d, $J = 5.5\text{ Hz}$, 2H), 3.74 (d, $J = 3.0\text{ Hz}$, 3H), 1.33 – 1.16 (m, 5H), 0.98 (d, $J = 3.0\text{ Hz}$, 9H), 0.85 (dd, $J = 10.5, 6.6\text{ Hz}$, 3H); ^{13}C NMR (100 MHz, $\text{DMSO}-d_6$) δ 169.5, 169.5, 167.5, 158.7, 158.5, 157.6, 139.3, 138.6, 136.1, 133.5, 132.5, 132.3, 131.7, 129.9, 128.9, 127.8, 124.8, 124.7, 121.8, 120.5, 118.4, 117.7, 113.9, 113.6, 113.5, 65.8, 62.6, 60.4, 55.9, 55.2, 40.9, 40.1, 39.9, 39.9, 39.8, 39.7, 39.6, 39.6, 39.5, 39.4, 39.3, 39.2, 38.9, 29.9, 13.9.



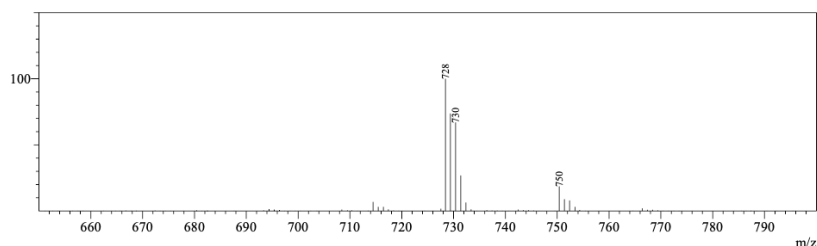
Ethyl (2-(2-(3-(3-(*tert*-butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(4-methoxyphenyl)acetamido)-2-(4-methoxyphenyl)acetyl)glycinate (7k). Yield 40%, yellowish solid. $T_m = 123-124\text{ }^{\circ}\text{C}$. ^1H NMR (400 MHz, CDCl_3) δ 8.26 (s, 1H), 7.44 (dd, $J = 18.1, 8.5\text{ Hz}$, 3H), 7.34 – 7.19 (m, 3H), 7.13 – 6.99 (m, 3H), 6.85 – 6.60 (m, 5H), 6.39 (s, 1H), 6.21 (s, 1H), 4.48 – 4.30 (m, 2H), 4.13 (d, $J = 7.3\text{ Hz}$, 2H), 4.03 (d, $J = 4.9\text{ Hz}$, 2H), 3.72 (s, 4H), 3.71 (s, 3H), 1.29 – 1.12 (m, 3H), 0.98 (d, $J = 1.7\text{ Hz}$, 11H); ^{13}C NMR (100 MHz, $\text{DMSO}-d_6$) δ 170.6, 170.1, 167.9, 159.2, 159.0, 158.2, 139.8, 139.1, 136.7, 132.2, 130.7, 129.4, 126.8, 125.4, 125.2, 122.3, 120.9, 120.9, 118.9, 118.2, 114.3, 114.1, 114.0, 113.7, 66.3, 63.3, 60.9, 56.5, 55.6, 55.5, 41.5, 40.6, 40.4, 40.2, 40.0, 39.8, 39.6, 39.4, 30.5, 14.5.



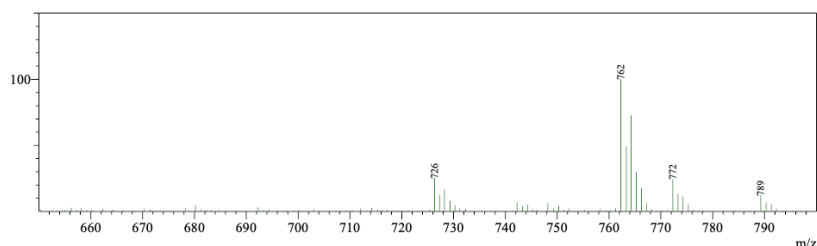
Peak#	Ret. Time	m/z	Area	Compound Name	A/H	Event#	Area%	Height%
1	0.446		TIC		4.729	1-1	100.000	100.000
Total			134204318				100.000	100.000

Peak#	Ret. Time	m/z	Area	Compound Name	A/H	Event#	Area%	Height%
1	0.437		TIC		4.299	1-2	100.000	100.000
Total			2825455				100.000	100.000

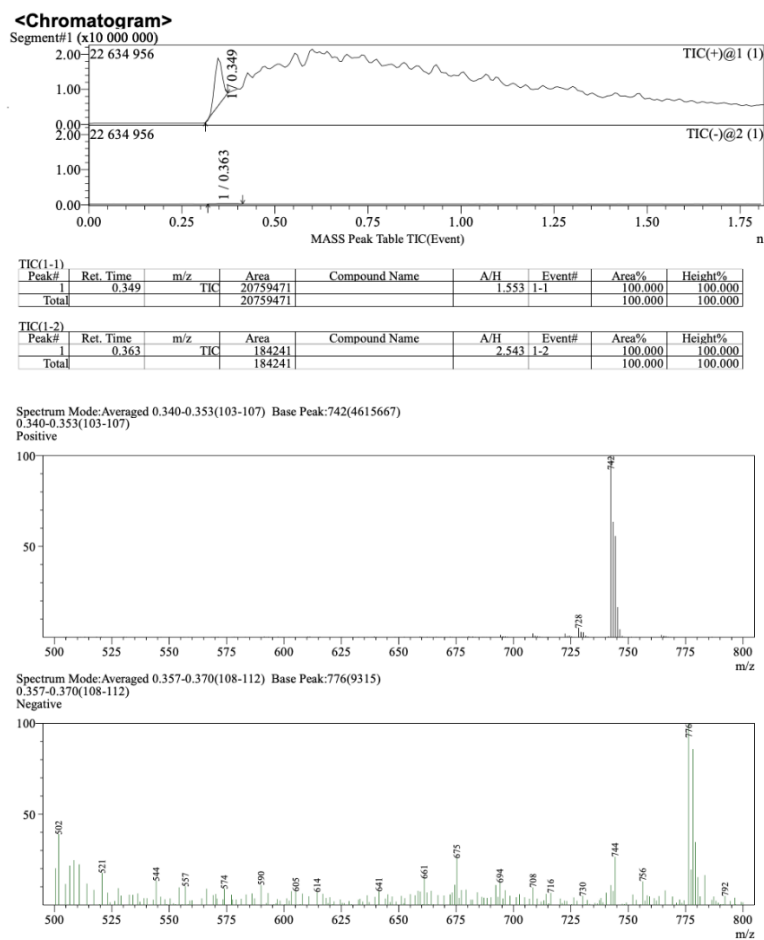
Spectrum Mode:Averaged 0.417-0.450(51-55) Base Peak:728(6698157)
0.417-0.450(51-55)
Positive



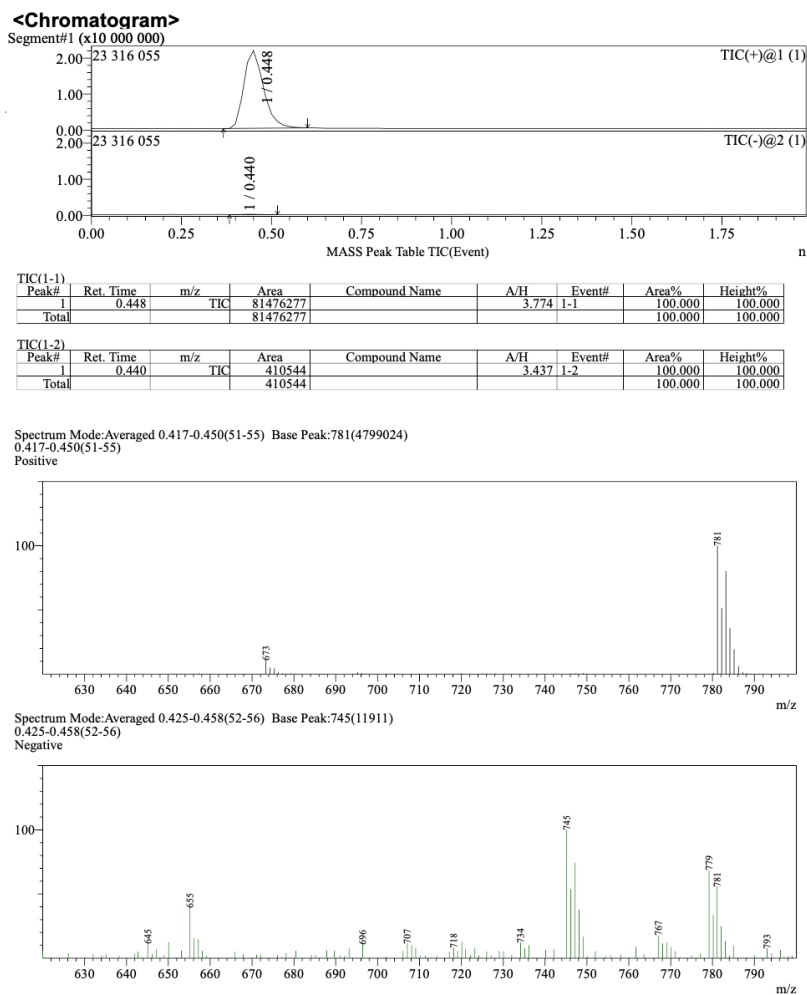
Spectrum Mode:Averaged 0.425-0.458(52-56) Base Peak:762(104083)
0.425-0.458(52-56)
Negative



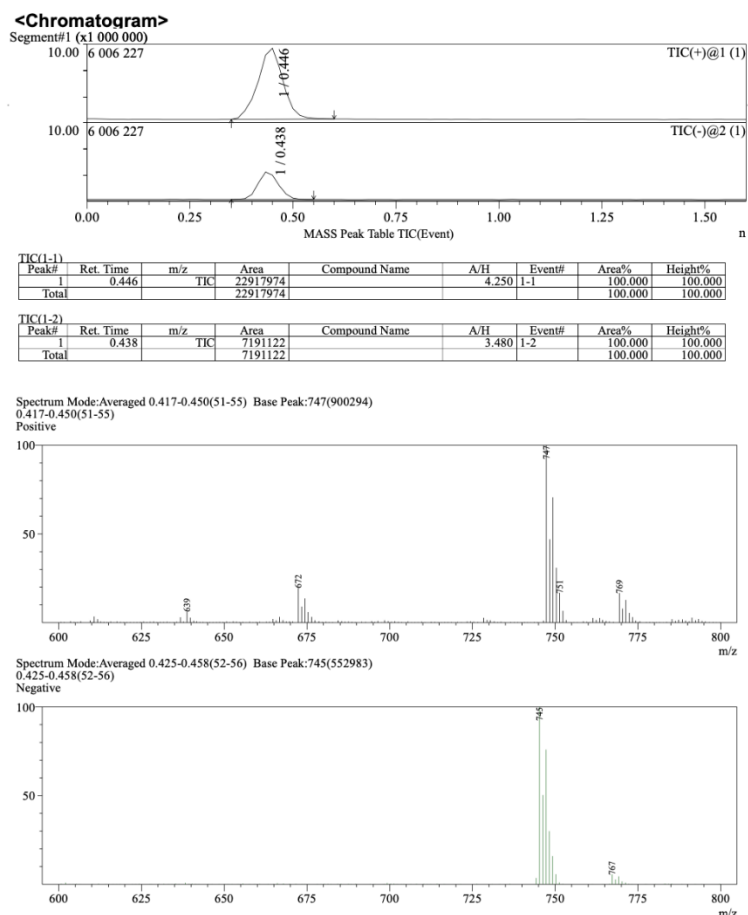
Ethyl (2-(benzo[d][1,3]dioxol-5-yl)-2-(2-(3-(3-(tert-butylamino)-6-chloroimidazo[1,2-a]pyridin-2-yl)phenoxy)-N-(4-methoxyphenyl)acetamido)acetyl)glycinate (7I). Yield 28%, yellowish solid. T_m = 108-110°C. ^1H NMR (400 MHz, DMSO- d_6) δ 8.47 (d, J = 15.7 Hz, 3H), 7.71 (d, J = 7.8 Hz, 1H), 7.58 (s, 1H), 7.50 – 7.41 (m, 1H), 7.36 (d, J = 7.8 Hz, 1H), 7.22 (q, J = 9.4 Hz, 3H), 6.97 (dd, J = 30.7, 8.3 Hz, 2H), 6.87 – 6.52 (m, 6H), 5.87 (s, 2H), 4.59 (s, 1H), 4.44 – 4.18 (m, 2H), 4.03 (q, J = 7.3 Hz, 2H), 3.70 (d, J = 28.6 Hz, 5H), 1.13 (t, J = 7.1 Hz, 3H), 0.95 (s, 9H); ^{13}C NMR (100 MHz, DMSO- d_6) δ 169.9, 169.5, 158.5, 157.7, 146.6, 139.3, 138.6, 136.1, 131.7, 128.9, 127.9, 124.8, 124.7, 124.4, 121.8, 120.4, 118.4, 117.7, 113.8, 113.6, 113.5, 110.7, 107.6, 100.9, 65.8, 63.0, 60.4, 55.9, 55.1, 41.0, 39.8, 39.6, 39.5, 39.3, 39.1, 38.9, 30.9, 29.9, 22.0, 13.9, 13.9.



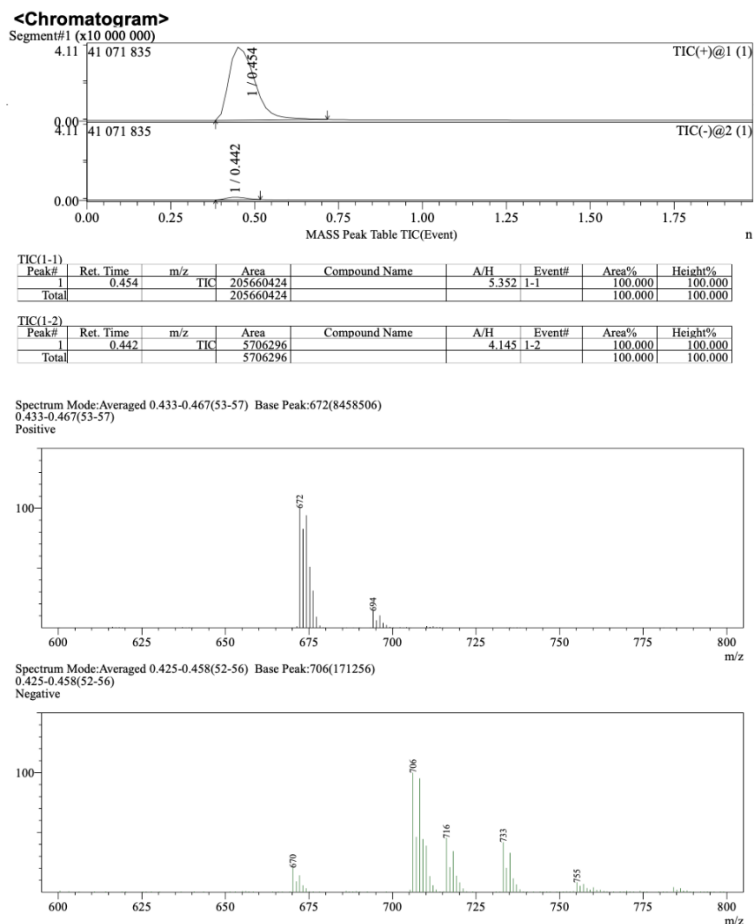
2-(3-(3-(*tert*-Butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(1-(4-chlorophenyl)-2-((2-nitrobenzyl)amino)-2-oxoethyl)-*N*-(4-methoxyphenyl)acetamide (7m). Yield 53%, yellowish solid. T_m = 207-208 °C. ^1H NMR (400 MHz, DMSO- d_6) δ 8.75 (d, J = 6.4 Hz, 1H), 8.48 (s, 1H), 7.96 (d, J = 8.0 Hz, 1H), 7.72 (d, J = 7.7 Hz, 1H), 7.60 (s, 1H), 7.47 (tq, J = 14.1, 7.3 Hz, 5H), 7.22 (dd, J = 21.7, 8.3 Hz, 4H), 7.08 (d, J = 8.1 Hz, 2H), 6.89 – 6.64 (m, 3H), 6.10 (s, 1H), 4.58 (dd, J = 12.2, 5.6 Hz, 3H), 4.47 – 4.27 (m, 2H), 3.66 (s, 3H), 0.96 (s, 9H); ^{13}C NMR (100 MHz, DMSO- d_6) δ 170.42, 168.21, 159.24, 158.16, 148.14, 139.82, 139.13, 136.66, 134.51, 134.08, 133.89, 133.19, 132.56, 132.18, 130.62, 130.45, 129.70, 129.44, 128.6, 128.5, 125.3, 124.9, 122.3, 121.0, 118.9, 118.2, 114.9, 114.5, 114.2, 114.1, 66.4, 63.9, 56.5, 55.7, 40.6, 40.4, 40.2, 40.0, 39.8, 39.6, 39.4, 30.5.



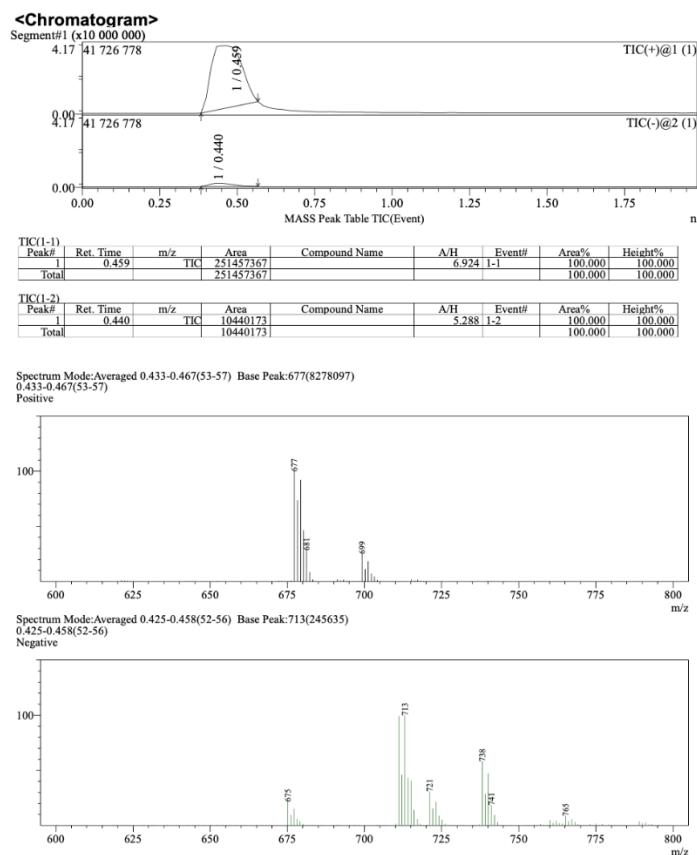
2-(3-(3-(*tert*-Butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(4-methoxyphenyl)-*N*-(1-(4-methoxyphenyl)-2-((2-nitrobenzyl)amino)-2-oxoethyl)acetamide (7n**). Yield 43%, yellowish solid. $T_m = 234-235\text{ }^{\circ}\text{C}$. ^1H NMR (400 MHz, CDCl_3) δ 8.19 (s, 1H), 7.85 (d, $J = 8.1\text{ Hz}$, 1H), 7.53 (d, $J = 7.7\text{ Hz}$, 1H), 7.39 (dt, $J = 13.8, 7.8\text{ Hz}$, 3H), 7.29 (s, 1H), 7.27 – 7.19 (m, 2H), 7.02 (dd, $J = 24.1, 8.8\text{ Hz}$, 3H), 6.82 – 6.58 (m, 7H), 6.02 (s, 1H), 4.66 (qd, $J = 16.0, 6.3\text{ Hz}$, 2H), 4.37 (d, $J = 3.0\text{ Hz}$, 2H), 3.71 (s, 4H), 3.70 (s, 3H), 0.99 (s, 9H); ^{13}C NMR (100 MHz, CDCl_3) δ 170.4, 168.9, 159.7, 159.4, 158.2, 147.9, 140.2, 139.9, 135.8, 133.9, 133.5, 131.7, 131.3, 130.6, 129.3, 128.1, 125.5, 124.6, 124.2, 121.5, 121.4, 119.9, 117.4, 115.0, 114.3, 114.3, 113.9, 77.3, 77.0, 76.7, 67.1, 65.2, 56.4, 55.3, 55.2, 41.4, 30.3.**



***N*-(*tert*-Butyl)-2-(2-(3-(3-(*tert*-butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-phenylacetamido)-2-(4-chlorophenyl)acetamide (7o).** Yield 63%, yellowish solid. $T_m = 134$ - 135 °C. ^1H NMR (400 MHz, CDCl_3) δ 8.25 (d, $J = 2.0$ Hz, 1H), 7.47 – 7.40 (m, 3H), 7.34 – 7.22 (m, 7H), 7.15 – 7.04 (m, 6H), 6.76 (d, $J = 8.4$ Hz, 1H), 5.93 (s, 1H), 5.65 (s, 1H), 4.40 (s, 2H), 3.45 (s, 3H), 3.27 (s, 1H), 1.24 (s, 9H), 1.00 (s, 9H); ^{13}C NMR (100 MHz, $\text{DMSO}-d_6$) δ 168.9, 167.4, 158.1, 139.8, 139.2, 138.3, 136.7, 134.7, 132.8, 132.3, 131.3, 129.4, 129.2, 128.3, 125.3, 125.2, 122.3, 120.9, 118.9, 118.2, 113.9, 66.4, 63.7, 56.5, 50.9, 40.6, 40.4, 40.2, 40.0, 39.8, 39.6, 39.4, 30.5, 28.8.

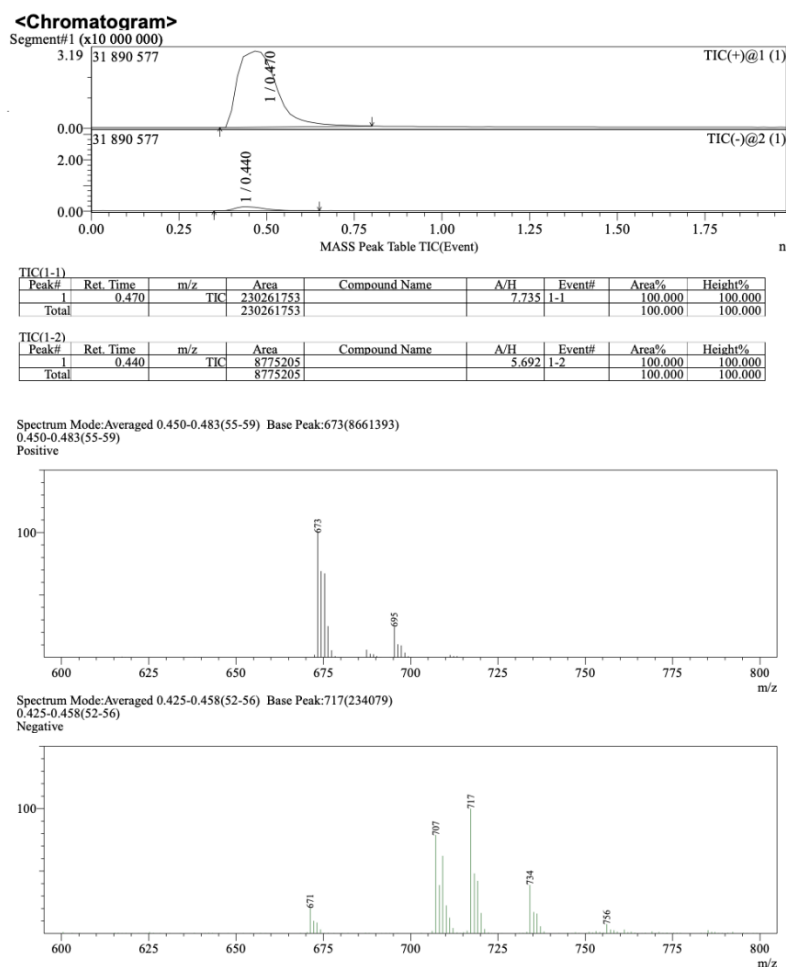


***N*-(*tert*-Butyl)-2-(2-(3-(3-(*tert*-butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(5-methylisoxazol-3-yl)acetamido)-2-(4-chlorophenyl)acetamide (7p).** Yield 30%, yellowish solid. $T_m = 218-220\text{ }^{\circ}\text{C}$. ^1H NMR (400 MHz, CDCl_3) δ 8.25 (s, 1H), 7.53 – 7.41 (m, 3H), 7.37 – 7.22 (m, 4H), 7.22 – 7.12 (m, 5H), 7.08 (d, $J = 9.2$ Hz, 1H), 6.81 (d, $J = 8.0$ Hz, 1H), 6.05 (dd, $J = 18.3, 5.6$ Hz, 2H), 5.90 (s, 1H), 4.82 (d, $J = 15.3$ Hz, 1H), 4.59 (d, $J = 15.5$ Hz, 1H), 3.30 (s, 1H), 2.36 – 2.23 (m, 4H), 1.25 (d, $J = 2.5$ Hz, 9H), 1.04 – 0.92 (m, 9H); ^{13}C NMR (100 MHz, $\text{DMSO}-d_6$) δ 171.2, 167.4, 167.1, 159.6, 157.4, 139.3, 138.7, 136.2, 133.7, 132.7, 131.2, 128.9, 128.1, 124.8, 124.7, 121.8, 120.7, 118.4, 117.7, 113.6, 113.5, 102.5, 65.8, 61.5, 55.9, 50.5, 40.1, 39.9, 39.9, 39.8, 39.7, 39.7, 39.6, 39.5, 39.4, 39.3, 39.2, 38.9, 29.9, 28.2, 12.2.



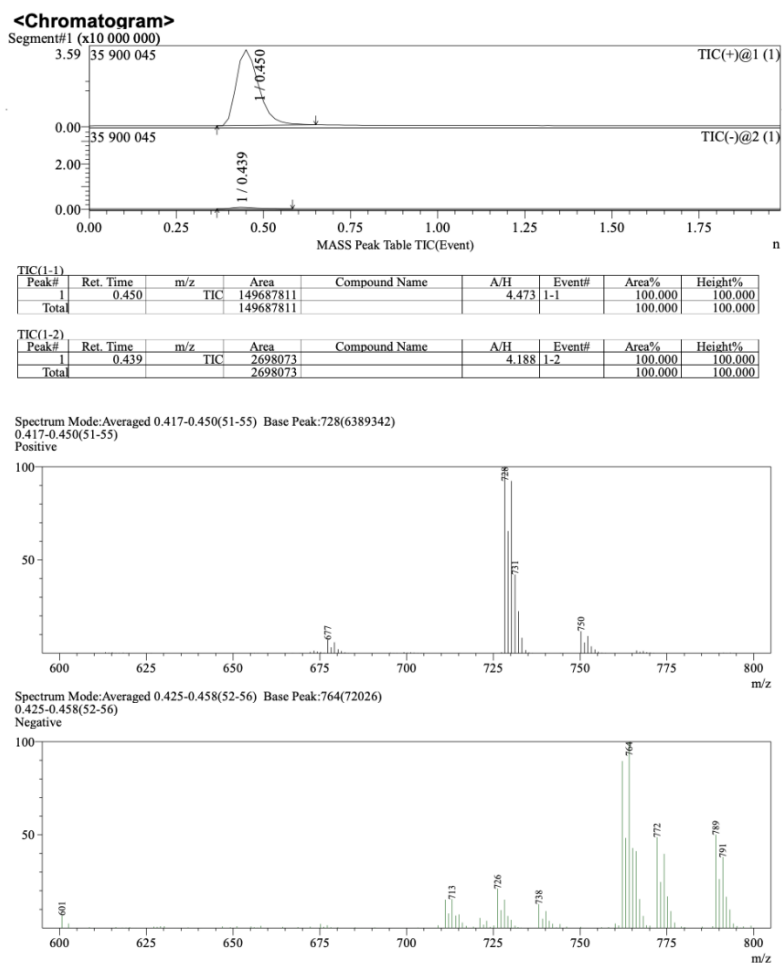
***N*-(*tert*-Butyl)-2-(2-(3-(3-(*tert*-butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(5-methylisoxazol-3-yl)acetamido)-2-(4-**

methoxyphenyl)acetamide (7q). Yield 37%, yellowish solid. T_m = 141-147 °C. ^1H NMR (400 MHz, DMSO- d_6) δ 8.49 (s, 1H), 7.82 (s, 1H), 7.69 (d, J = 7.3 Hz, 1H), 7.59 (s, 1H), 7.49 (d, J = 9.5 Hz, 1H), 7.33 – 7.14 (m, 2H), 7.05 (d, J = 8.3 Hz, 2H), 6.73 (dd, J = 19.3, 8.8 Hz, 3H), 6.25 (s, 1H), 6.03 (s, 1H), 4.73 (d, J = 16.1 Hz, 1H), 4.60 (s, 1H), 4.48 (d, J = 15.6 Hz, 1H), 3.65 (s, 3H), 2.25 (s, 3H), 1.16 (s, 9H), 0.96 (s, 9H); ^{13}C NMR (100 MHz, DMSO- d_6) δ 170.8, 167.9, 167.3, 159.8, 158.8, 158.5, 157.4, 139.3, 138.8, 136.2, 130.8, 128.9, 126.2, 124.8, 124.7, 121.8, 120.7, 118.4, 117.7, 113.6, 113.5, 113.5, 102.5, 65.8, 61.8, 55.9, 54.9, 50.4, 40.1, 39.9, 39.9, 39.8, 39.7, 39.7, 39.6, 39.5, 39.4, 39.3, 39.2, 38.9, 29.9, 28.2, 12.2.

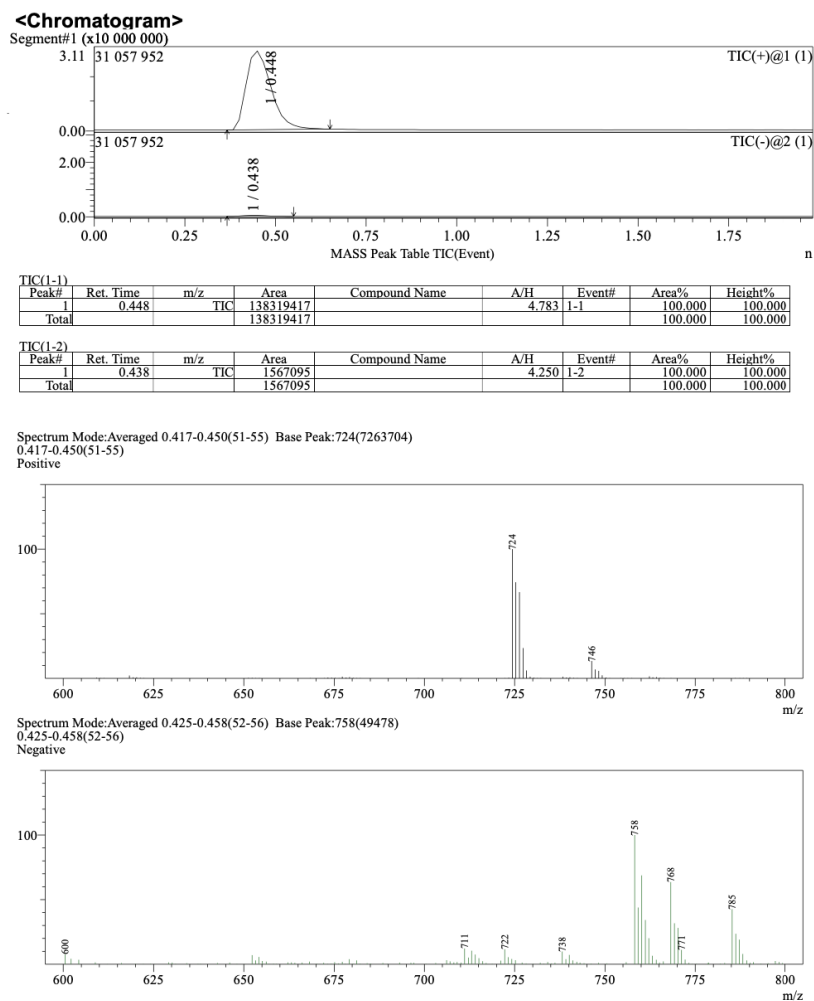


***N*-(*tert*-Butyl)-2-(2-(3-(6-chloro-3-(cyclohexylamino)imidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(4-methoxyphenyl)acetamido)-2-(4-chlorophenyl)acetamide (7r).**

Yield 54%, white solid. $T_m = 187-188\text{ }^{\circ}\text{C}$. ^1H NMR (400 MHz, CDCl_3) δ 8.16 (s, 1H), 7.66 – 7.41 (m, 4H), 7.29 (t, $J = 8.0\text{ Hz}$, 2H), 7.11 (q, $J = 8.1\text{ Hz}$, 6H), 6.79 (d, $J = 8.7\text{ Hz}$, 4H), 5.94 (s, 1H), 5.67 (s, 1H), 4.43 (s, 2H), 3.75 (s, 4H), 1.65 (d, $J = 73.9\text{ Hz}$, 6H), 1.26 (s, 18H); ^{13}C NMR (100 MHz, $\text{DMSO}-d_6$) δ 168.5, 167.2, 158.6, 157.9, 138.6, 135.5, 135.1, 134.4, 132.2, 131.8, 130.2, 129.2, 127.8, 126.7, 124.5, 120.9, 119.1, 118.6, 117.7, 113.8, 113.4, 112.2, 65.7, 63.1, 56.5, 55.1, 50.3, 39.9, 39.9, 39.8, 39.8, 39.7, 39.6, 39.5, 39.4, 39.3, 39.2, 38.9, 33.5, 33.4, 28.3, 25.3, 24.5.

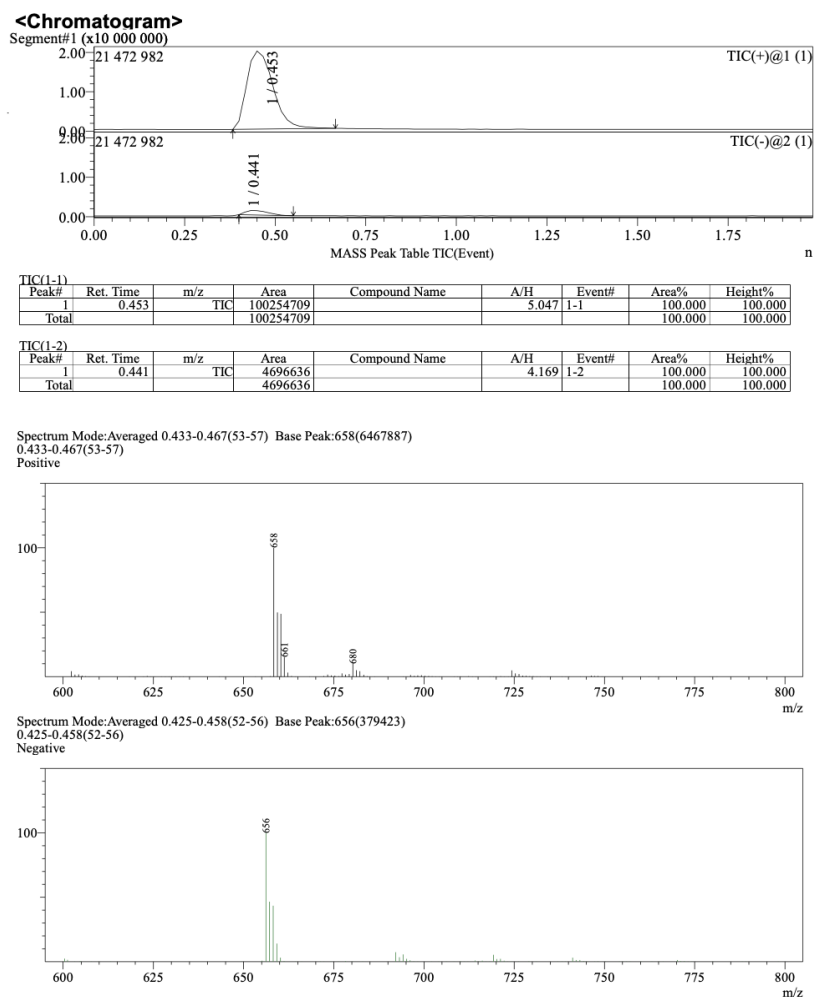


***N*-(*tert*-Butyl)-2-(2-(3-(6-chloro-3-(cyclohexylamino)imidazo[1,2-*a*]pyridin-2-yl)phenoxy)-*N*-(4-methoxyphenyl)acetamido)-2-(4-methoxyphenyl)acetamide (7s).** Yield 46%, white solid. $T_m = 146$ - 147 °C. ^1H NMR (400 MHz, CDCl_3) δ 8.11 (d, $J = 6.9$ Hz, 1H), 7.51 (t, $J = 8.7$ Hz, 2H), 7.44 (d, $J = 3.3$ Hz, 3H), 7.27 (dd, $J = 16.8, 8.9$ Hz, 2H), 7.03 (dd, $J = 13.2, 9.2$ Hz, 4H), 6.86 – 6.56 (m, 6H), 5.95 (s, 1H), 5.56 (s, 1H), 4.40 (d, $J = 4.0$ Hz, 2H), 3.73 (d, $J = 7.0$ Hz, 8H), 1.64 (d, $J = 78.6$ Hz, 7H), 1.28 – 1.03 (m, 20H); ^{13}C NMR (100 MHz, DMSO-d_6) δ 169.7, 167.6, 158.9, 158.5, 139.1, 135.9, 135.6, 132.3, 131.7, 130.9, 129.7, 127.6, 127.2, 124.9, 121.5, 119.6, 119.1, 118.2, 114.1, 113.9, 113.6, 112.8, 66.3, 63.7, 56.9, 55.4, 55.4, 50.7, 40.5, 40.4, 40.3, 40.1, 40.0, 39.9, 39.7, 39.6, 34.0, 33.9, 28.8, 25.8, 24.9.



***N*-(*tert*-Butyl)-2-(2-(3-(6-(*tert*-butylamino)-1*H*-imidazo[1,2-*b*][1,2,4]triazol-5-yl)phenoxy)-*N*-(4-methoxyphenyl)acetamido)-2-(4-methoxyphenyl)acetamide**

(7t). Yield 30%, yellowish solid. T_m = 200-201 °C. ^1H NMR (400 MHz, $\text{DMSO}-d_6$) δ 11.80 (s, 1H), 7.76 (d, J = 15.5 Hz, 2H), 7.54 – 7.35 (m, 2H), 7.23 (dd, J = 28.9, 8.1 Hz, 3H), 7.05 (d, J = 8.1 Hz, 2H), 6.67 (d, J = 8.5 Hz, 4H), 5.98 (s, 1H), 4.44 – 4.16 (m, 3H), 3.64 (s, 3H), 1.17 (s, 9H), 1.05 (s, 9H); ^{13}C NMR (100 MHz, $\text{DMSO}-d_6$) δ 168.6, 167.1, 158.5, 157.8, 153.1, 148.0, 134.2, 132.2, 131.9, 131.8, 130.1, 129.2, 127.8, 123.4, 120.7, 118.7, 113.8, 113.3, 112.3, 65.8, 63.2, 55.1, 54.4, 50.4, 48.6, 39.9, 39.9, 39.8, 39.7, 39.7, 39.6, 39.5, 39.4, 39.3, 39.1, 38.9, 30.1, 28.3.

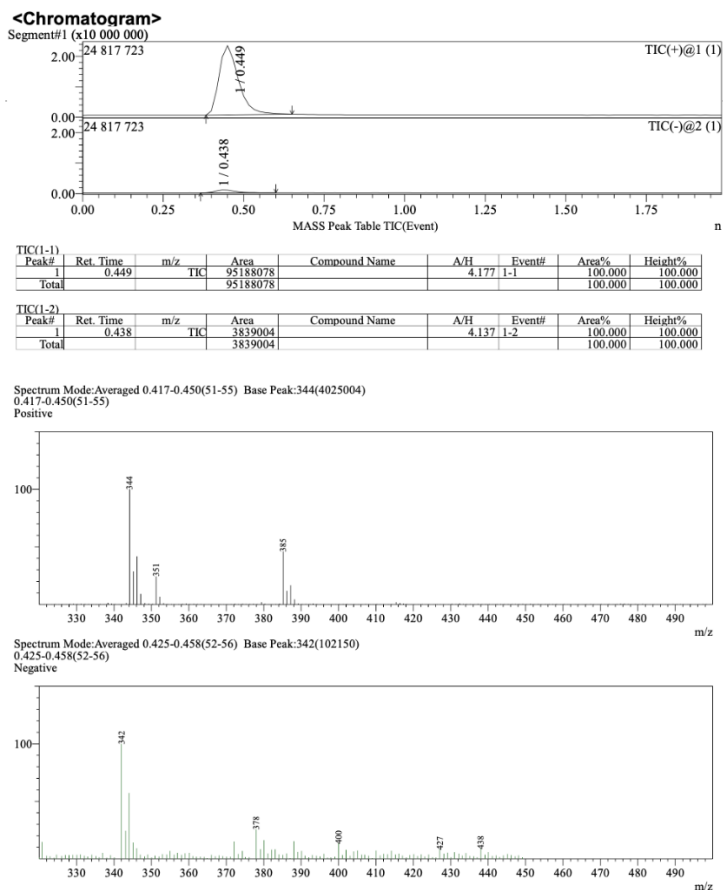


Synthesis of imidazo[1,2-a]containing heterocyclic acids **8a** and **8b**.

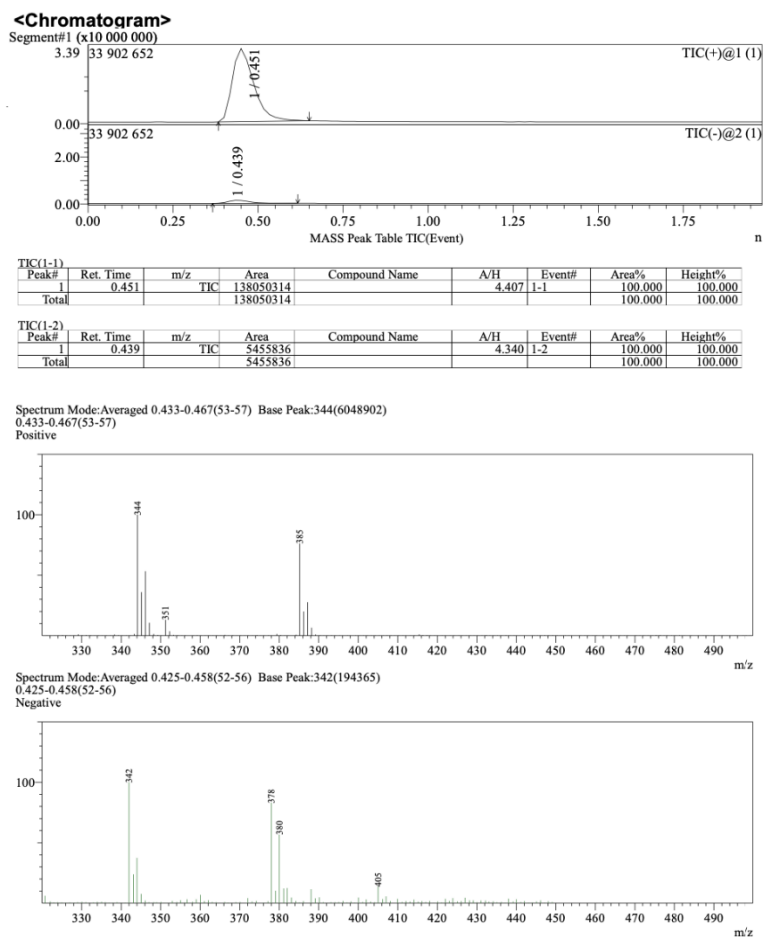
Amidine (2 mmol) and aldehyde (2 mmol) were added to a 10 mL round-bottom heat-resistant flask and dissolved in 4 mL of DMF. Then a 70% solution of HClO₄ in a catalytic amount (20 mol %) was added. Isocyanide was added to the resulting solution and left to stir for 24 hours. After 24 hours, the reaction mixture was poured onto ice, the precipitate obtained was filtered off and washed with cold methyl alcohol then dried in a vacuum and analyzed.

4-(3-(*tert*-Butylamino)-6-chloroimidazo[1,2-a]pyridin-2-yl)benzoic acid (8a**).** Yield 81%, yellowish solid. T_m = 275-276 °C. ¹H NMR (400 MHz, DMSO-d₆) δ 12.91 (s, 1H), 8.55 (d, J = 2.1 Hz, 1H), 8.31 (d, J = 8.1 Hz, 2H), 8.01 – 7.93 (m, 3H), 7.55 (d, J = 9.5 Hz, 1H), 7.24 (dd, J = 9.5, 2.1 Hz, 1H), 4.79 (s, 1H), 1.00 (s, 9H); ¹³C NMR (100 MHz,

DMSO-d₆) δ 167.7, 162.7, 140.1, 139.7, 138.2, 129.6, 129.5, 127.9, 126.3, 125.7, 122.4, 119.2, 118.4, 56.7, 40.5, 40.4, 40.3, 40.1, 39.9, 39.8, 39.7, 39.6, 36.2, 31.2, 30.4.

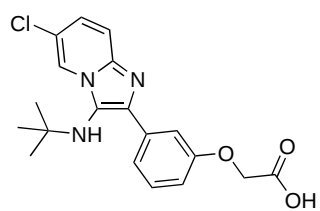


3-(3-(*tert*-Butylamino)-6-chloroimidazo[1,2-*a*]pyridin-2-yl)benzoic acid (8b). Yield 78%, yellowish solid. T_m = 279-280 °C. ¹H NMR (400 MHz, DMSO-d₆) δ 12.99 (s, 1H), 8.89 (s, 1H), 8.54 (s, 1H), 8.45 (d, J = 7.8 Hz, 1H), 7.86 (d, J = 7.7 Hz, 1H), 7.53 (q, J = 8.4 Hz, 2H), 7.23 (dd, J = 9.6, 2.1 Hz, 1H), 4.75 (s, 1H), 1.02 (s, 9H); ¹³C NMR (100 MHz, DMSO-d₆) δ 167.41, 158.54, 139.52, 137.7, 135.1, 131.5, 130.6, 128.5, 128.2, 127.9, 125.2, 124.9, 121.9, 118.6, 117.78, 56.1, 39.9, 39.9, 39.8, 39.7, 39.6, 39.6, 39.5, 39.3, 39.1, 38.9, 29.9.

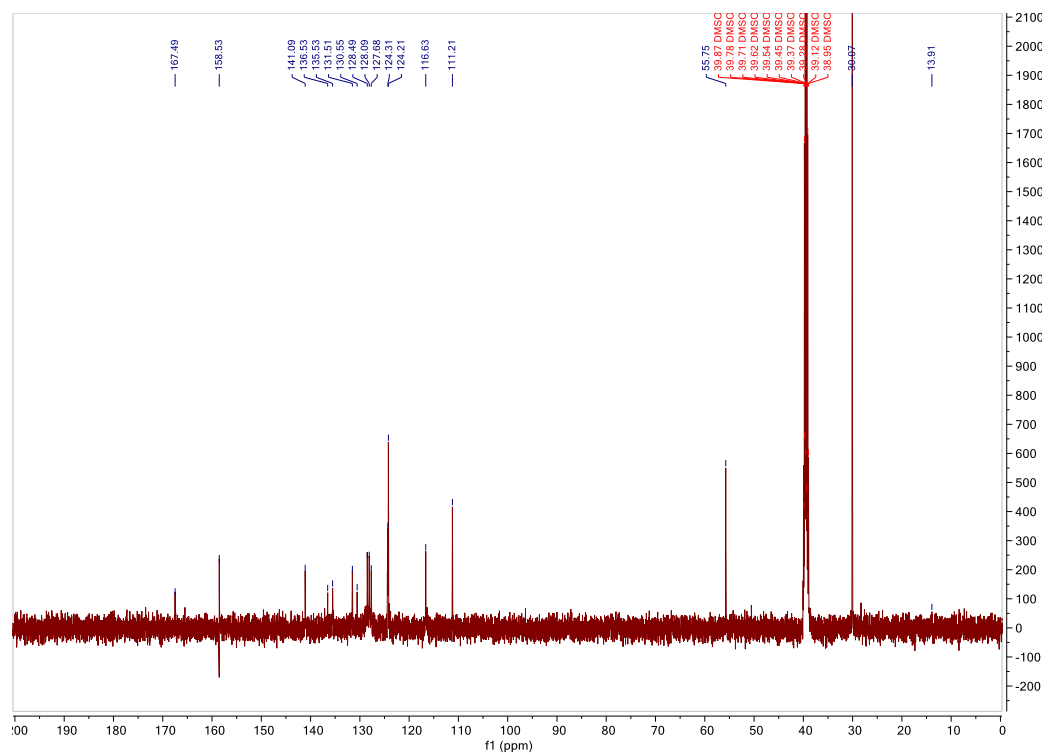
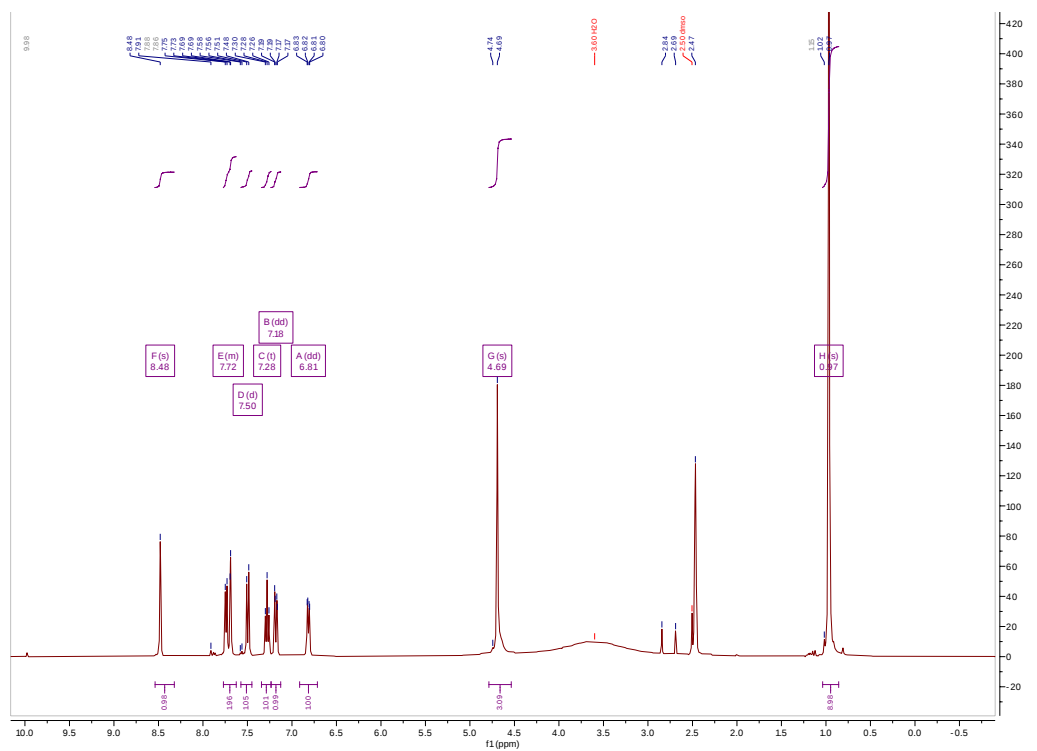


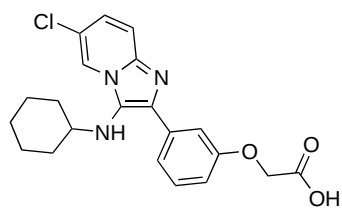
Procedure for the synthesis of peptidomimetics 9a and 9b.

A mixture of aminopyridine (1.0 mmol) in MeOH/DCM (2:3, 5.0 mL) and aldehyde (1.0 mmol) containing $\text{Sc}(\text{OTf})_3$ (5 mol %) in a screw cap vial was stirred for 45 min at room temperature followed by the addition of the desired isocyanide (1.05 mmol), and the mixture was stirred for another 8 h. Without workup, to the resulting iminopyridine product was added the desired aldehyde (1.0 mmol), amine (1.0 mmol), and isocyanide (1.0 mmol), and the mixture was then stirred at room temperature for 12 h. The resulting reaction mixture was concentrated under reduced pressure and analyze with ^1H NMR.

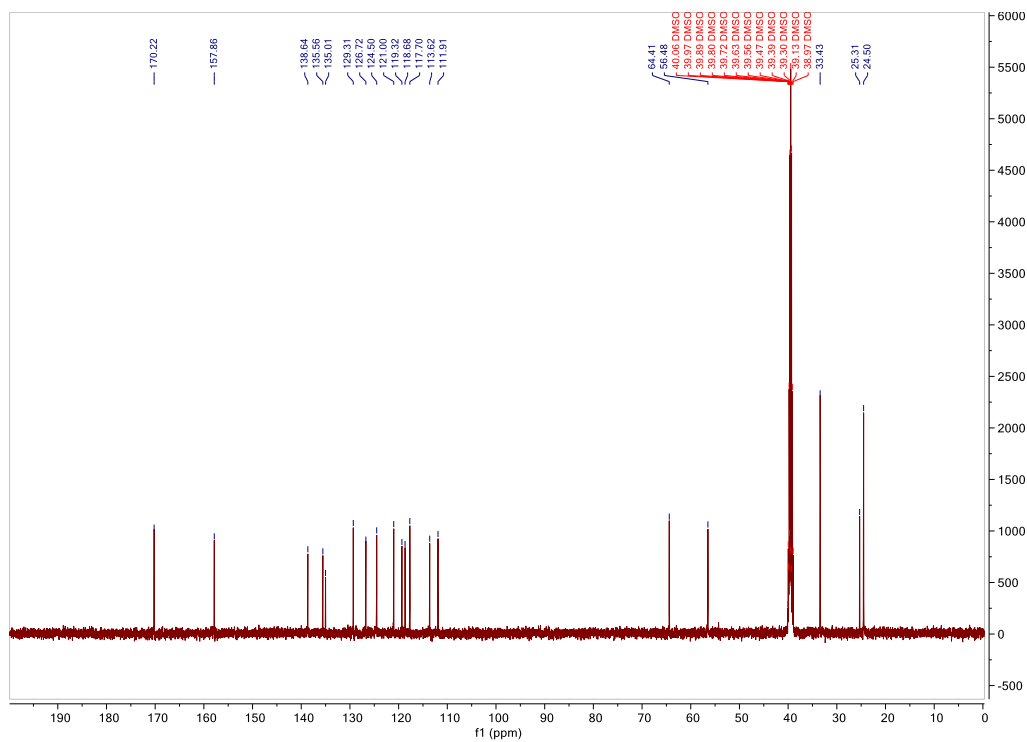
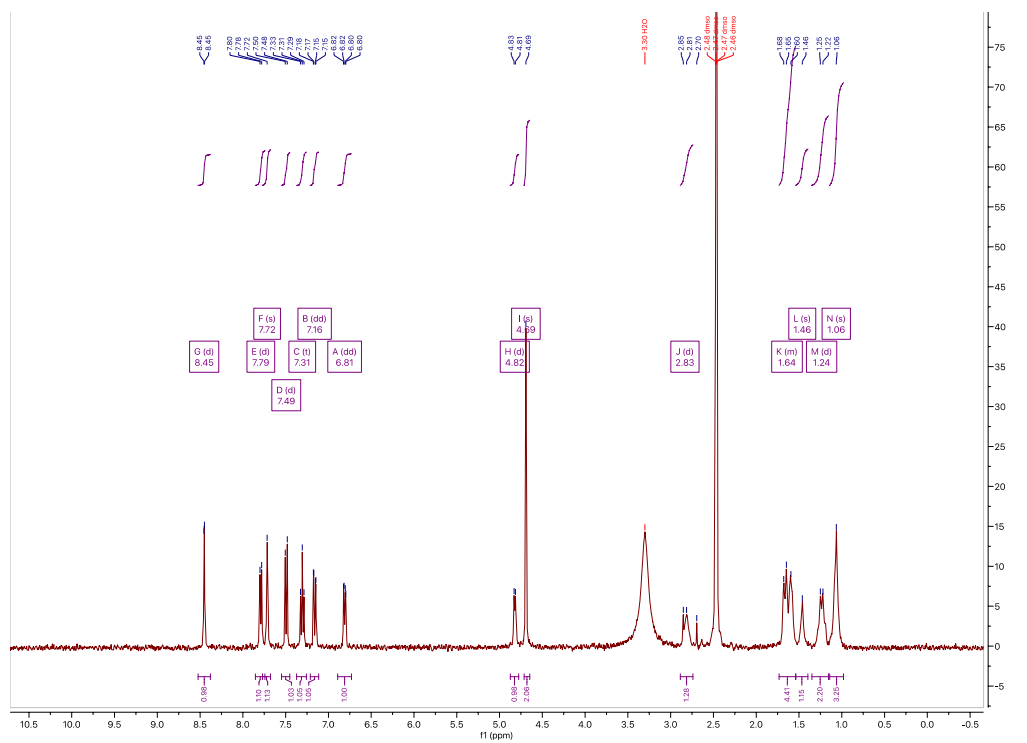


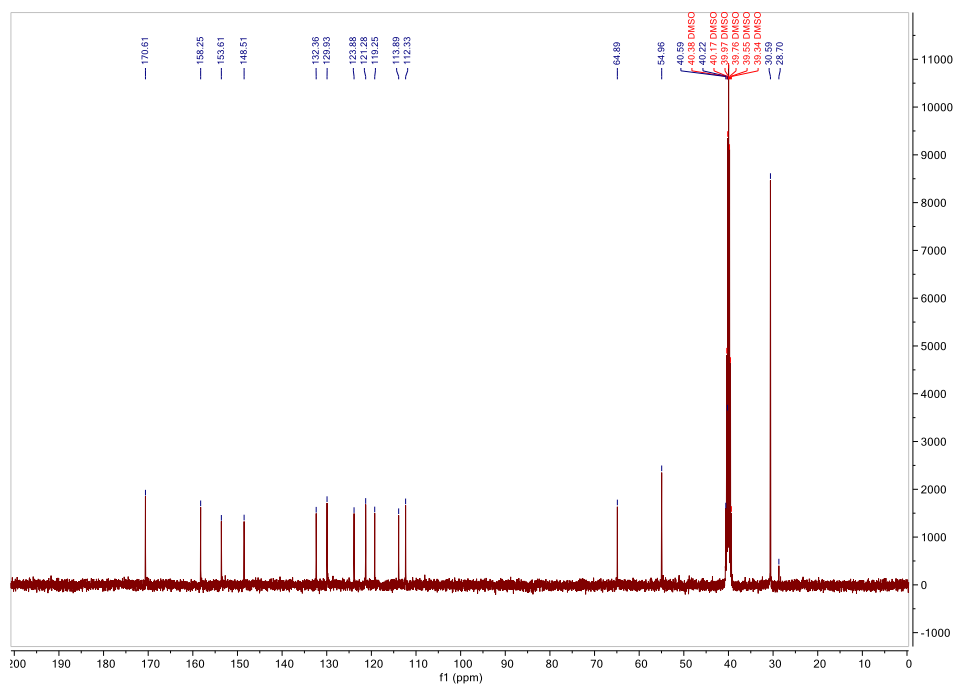
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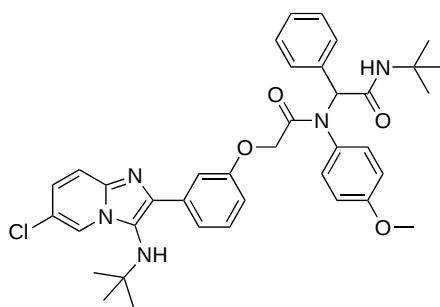




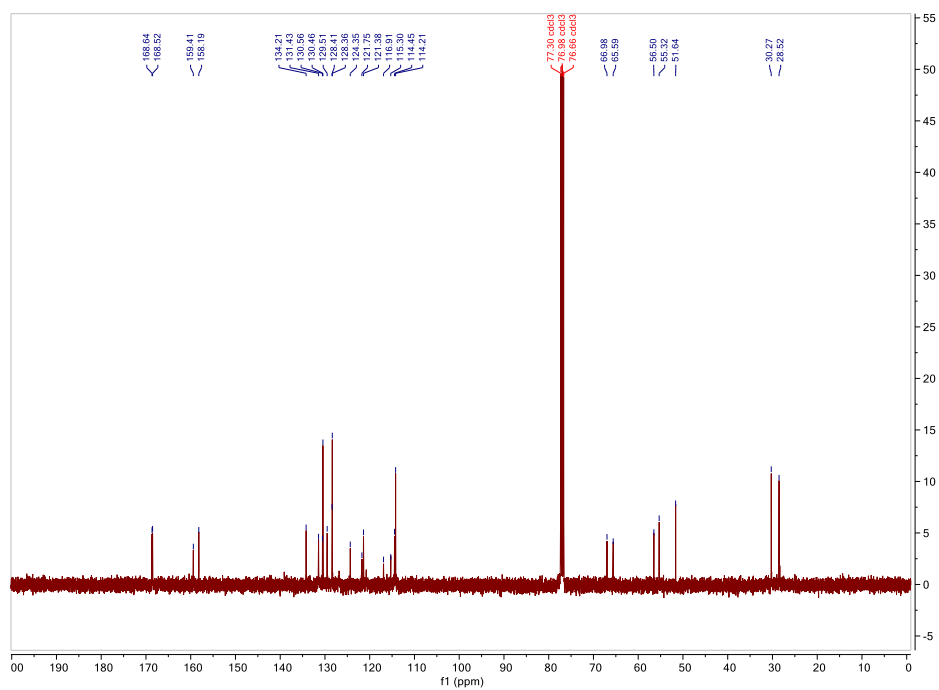
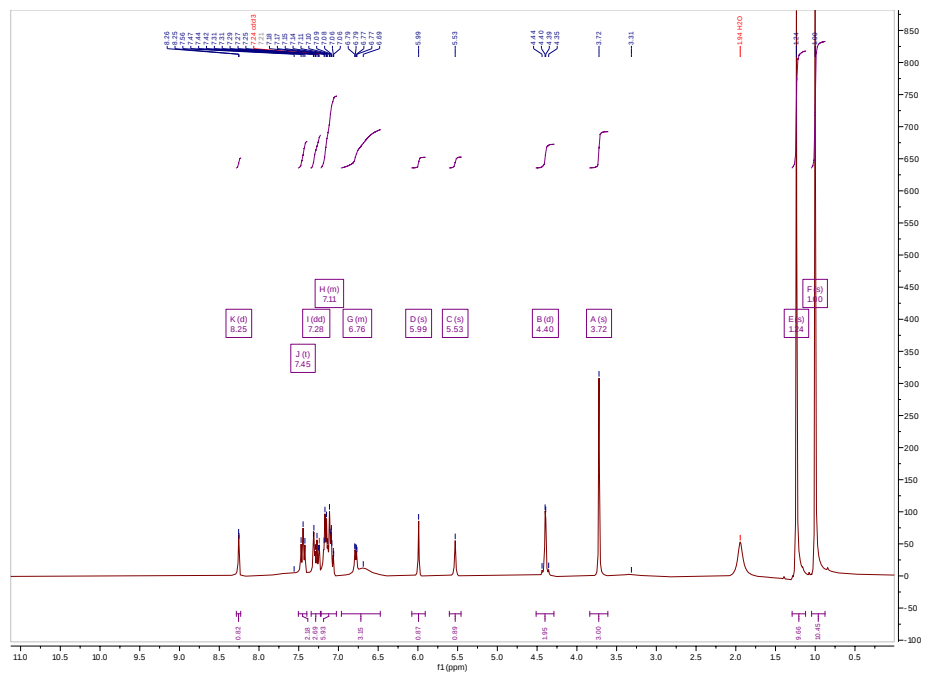
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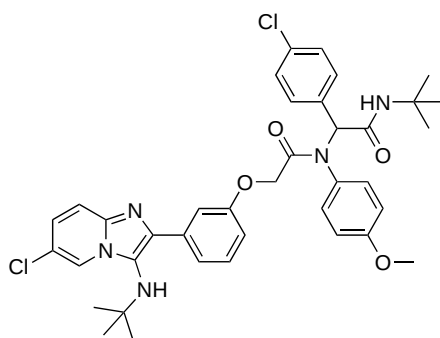




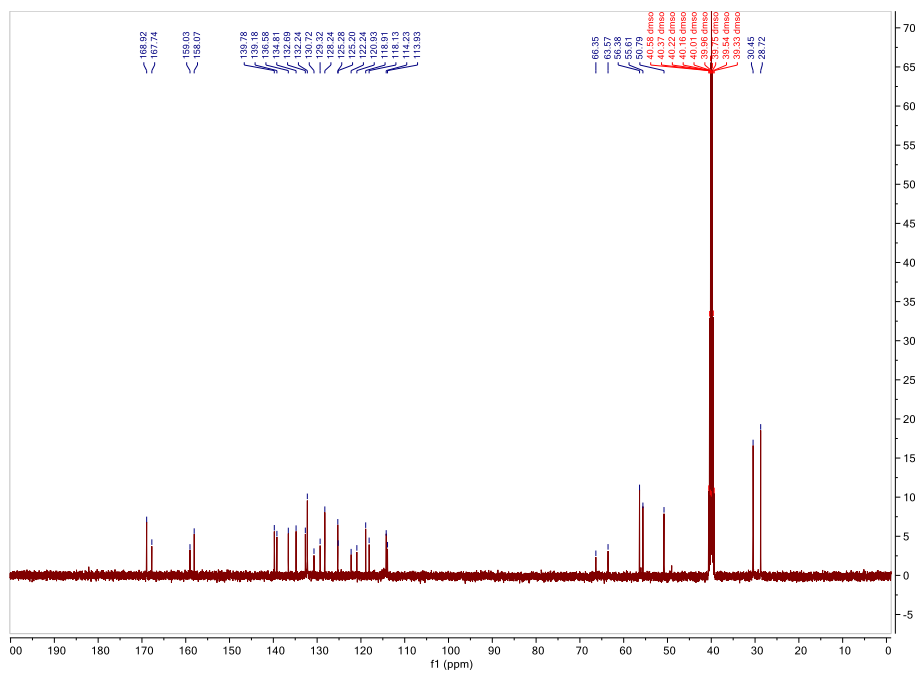
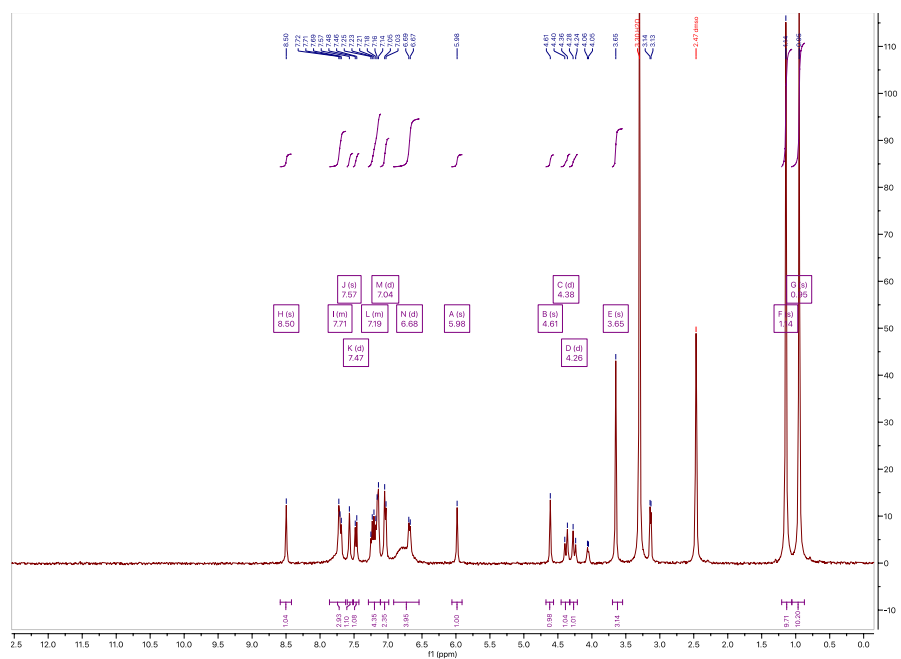


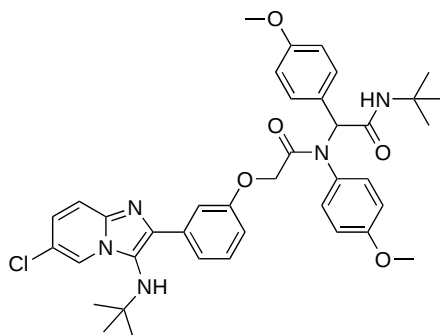
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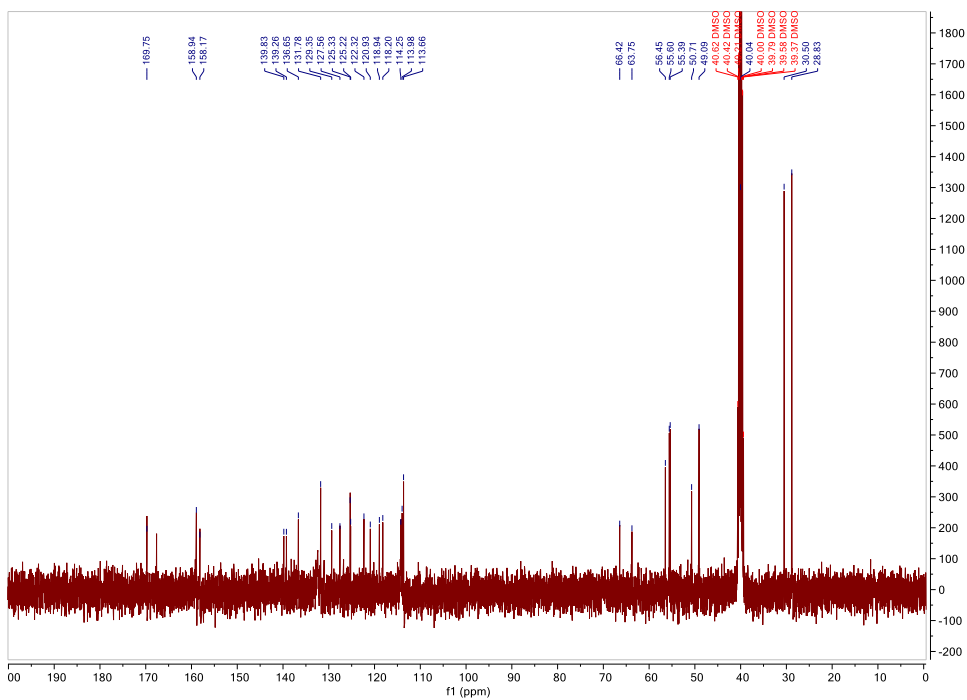
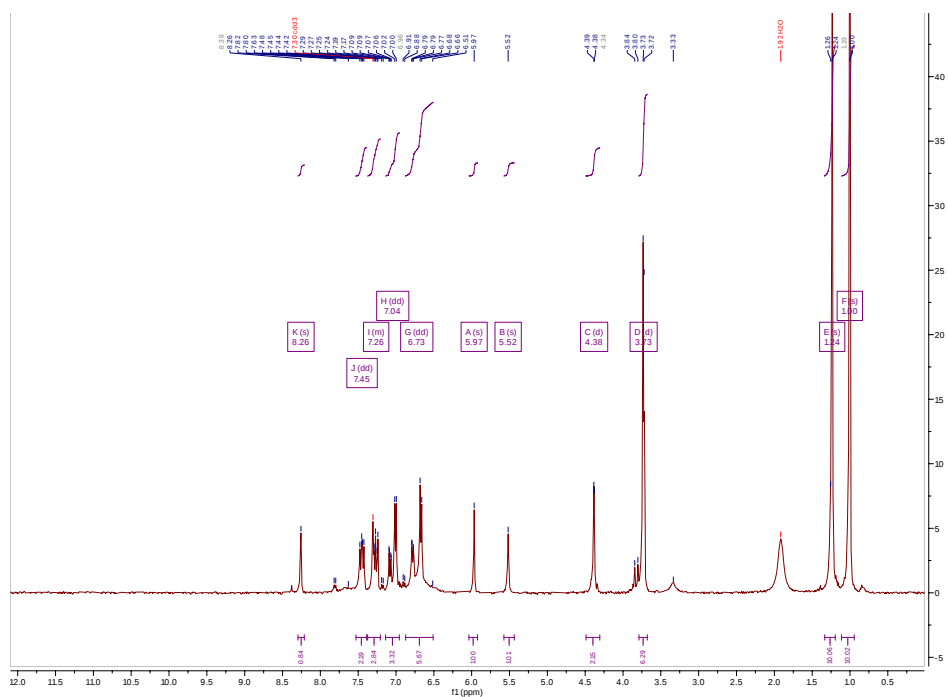


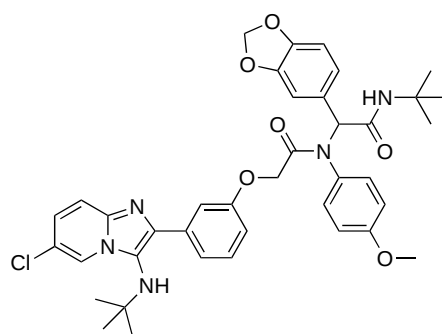
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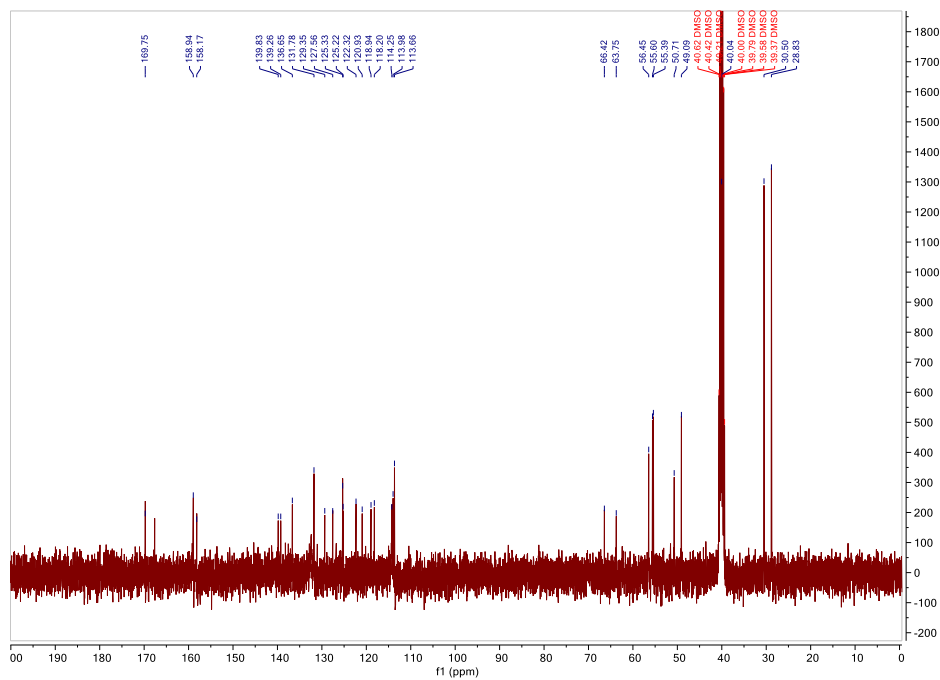
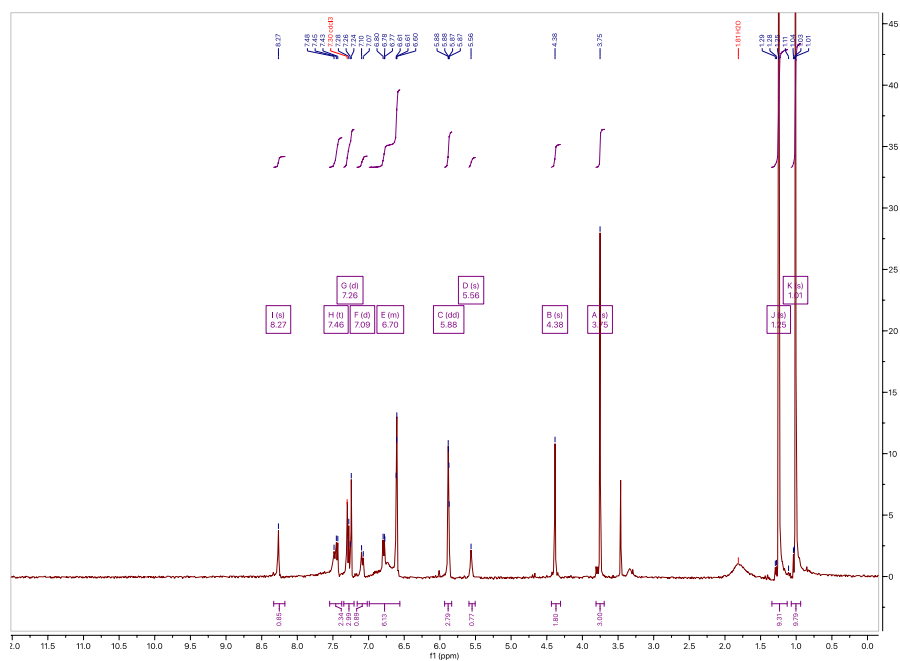


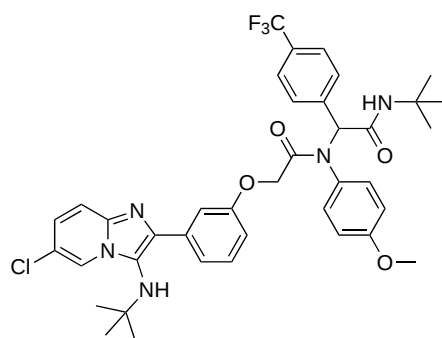
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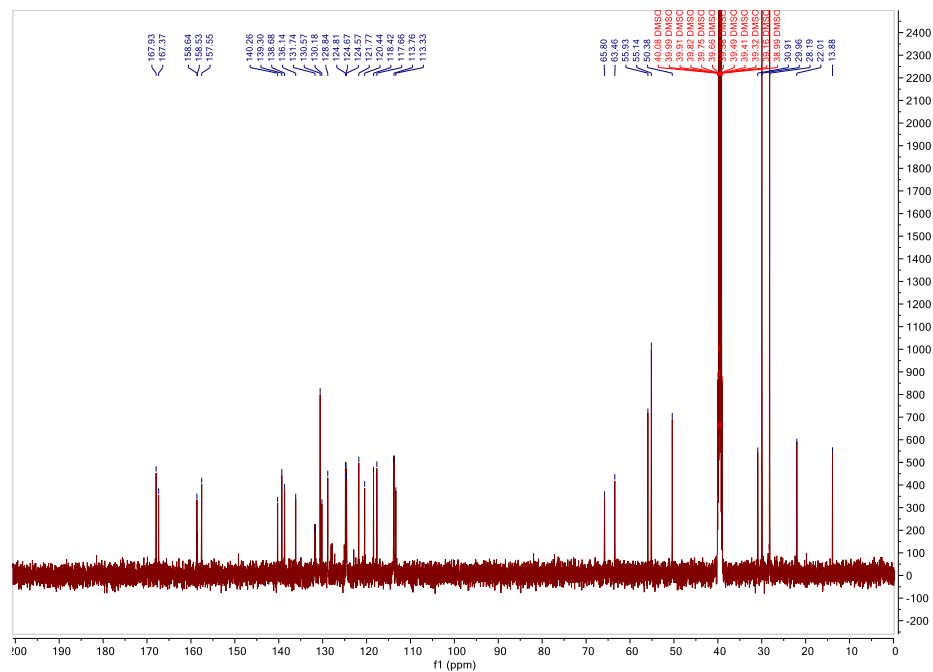
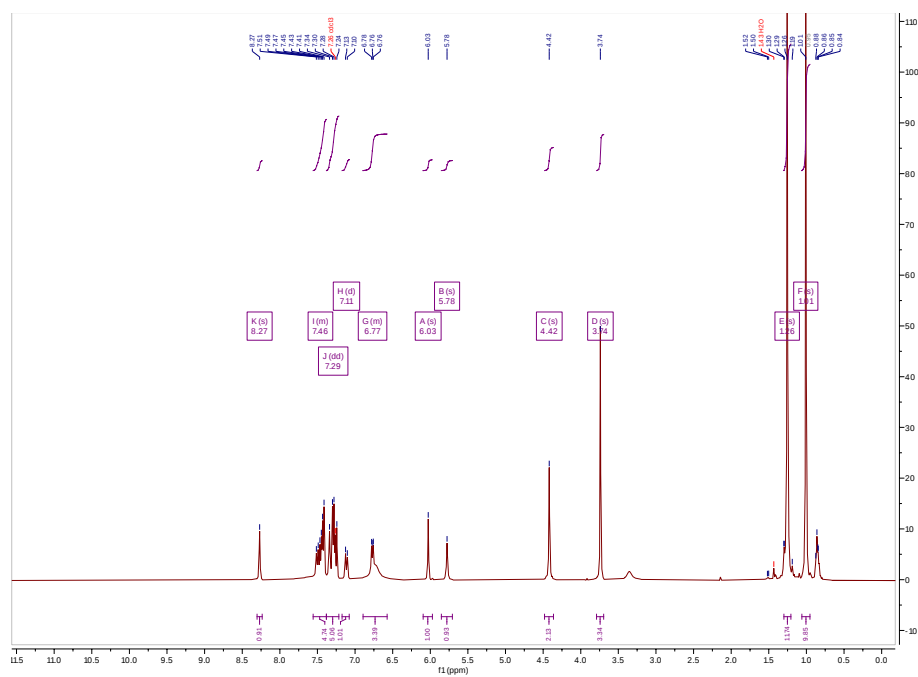


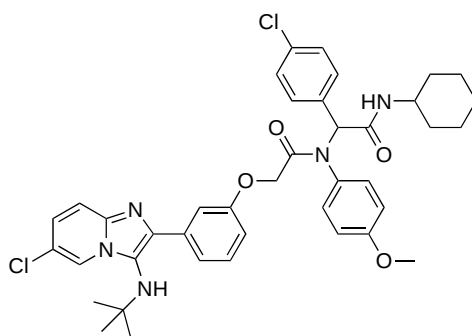
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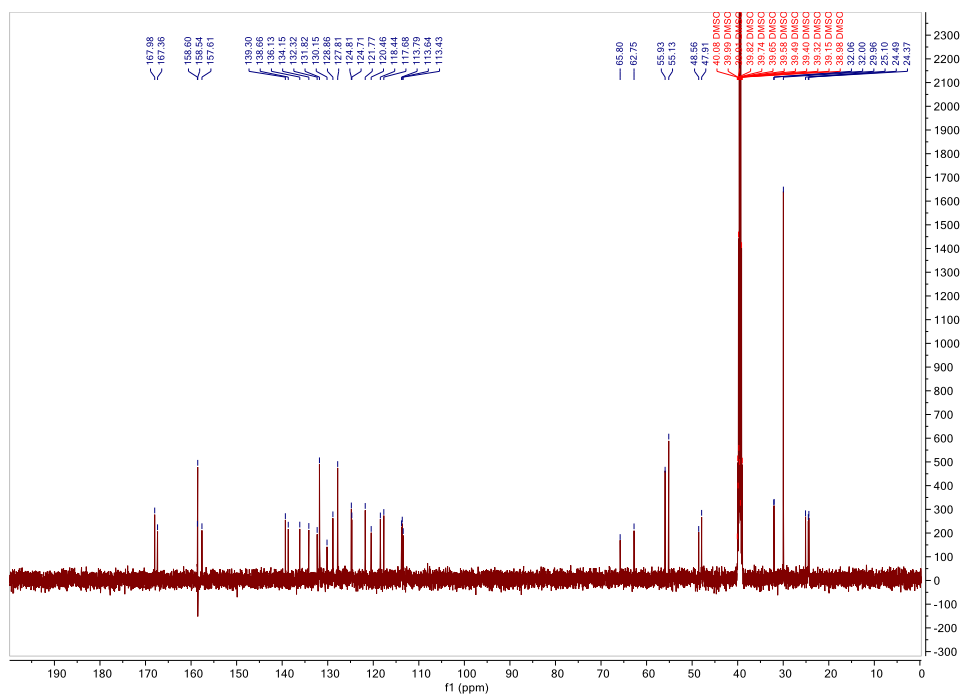
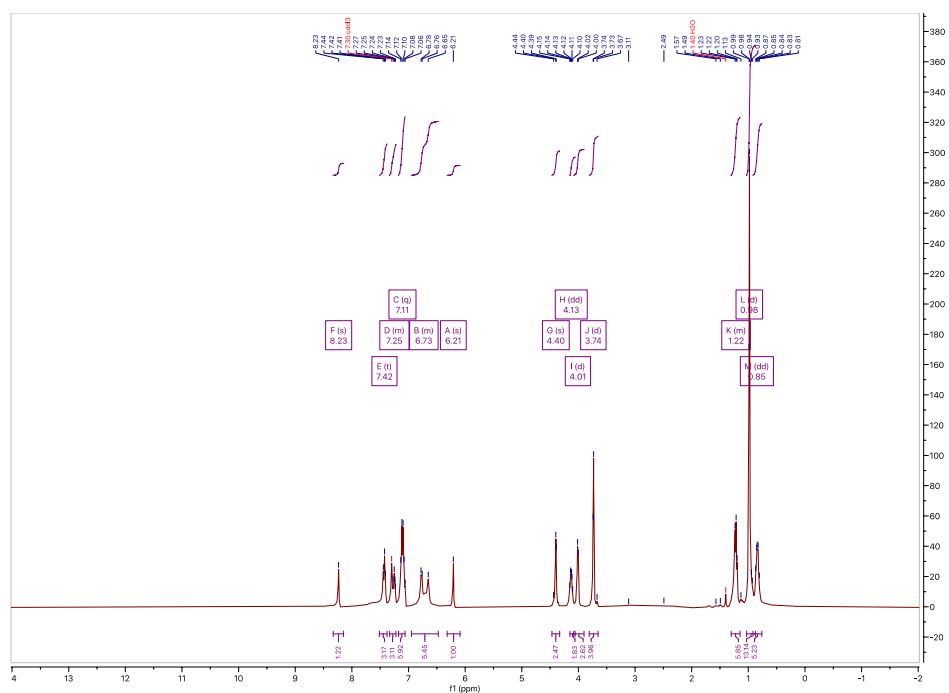


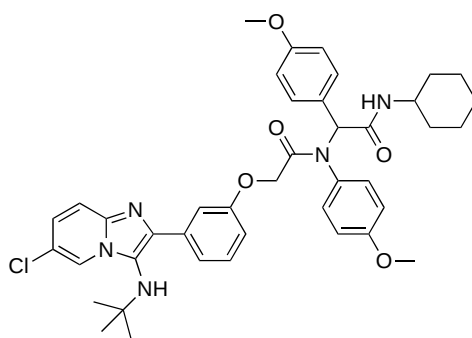
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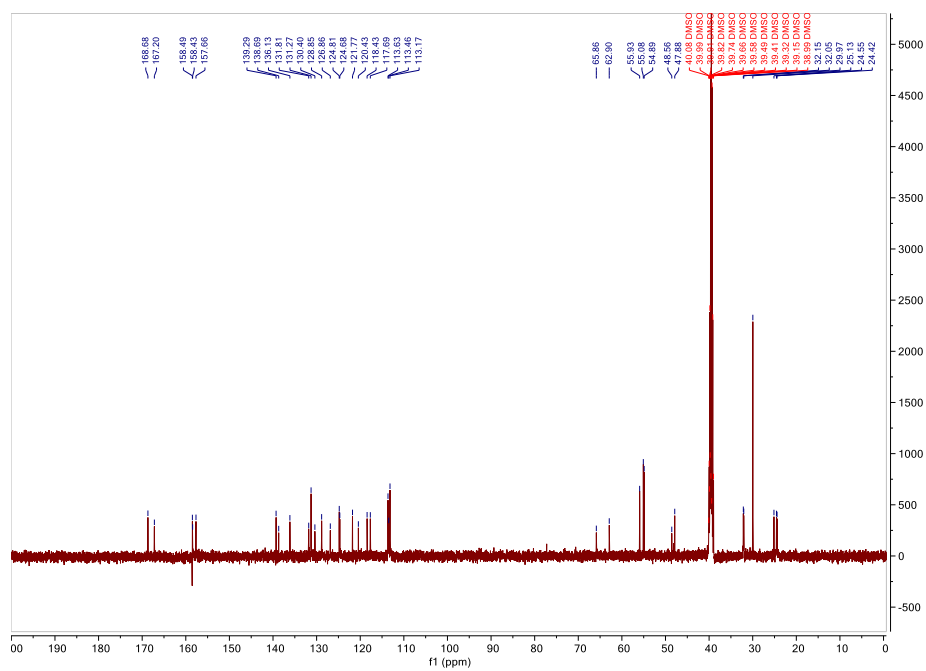
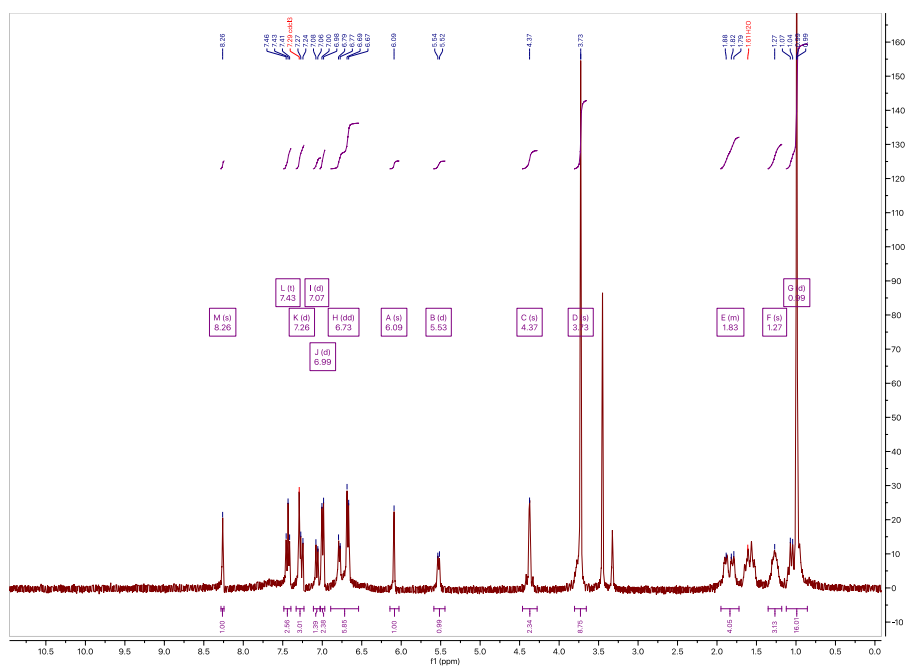


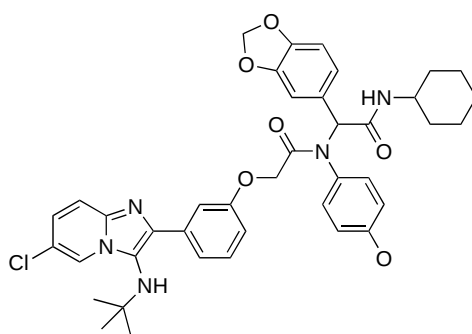
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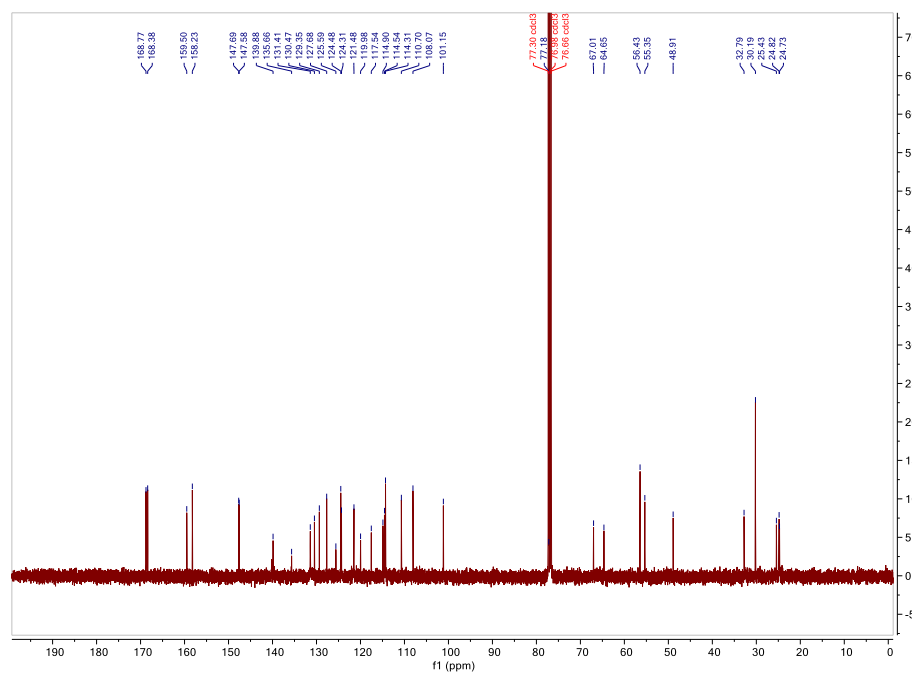
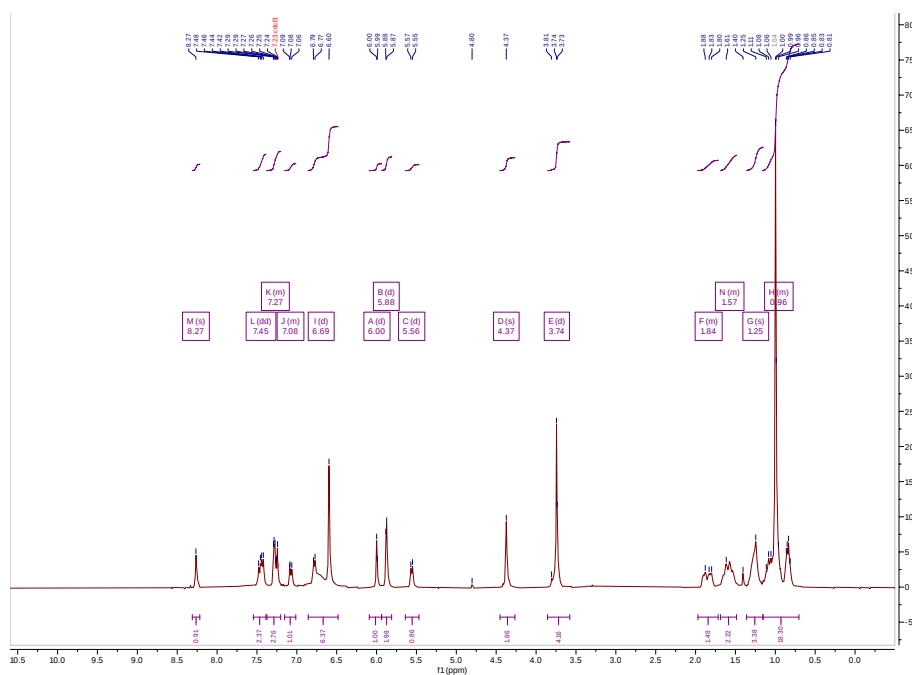


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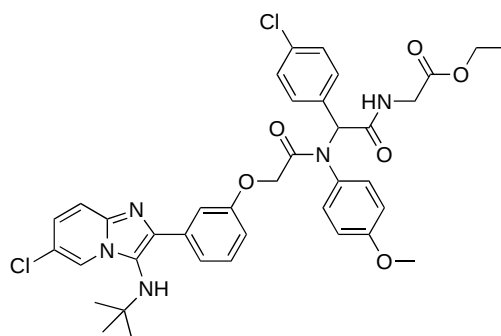




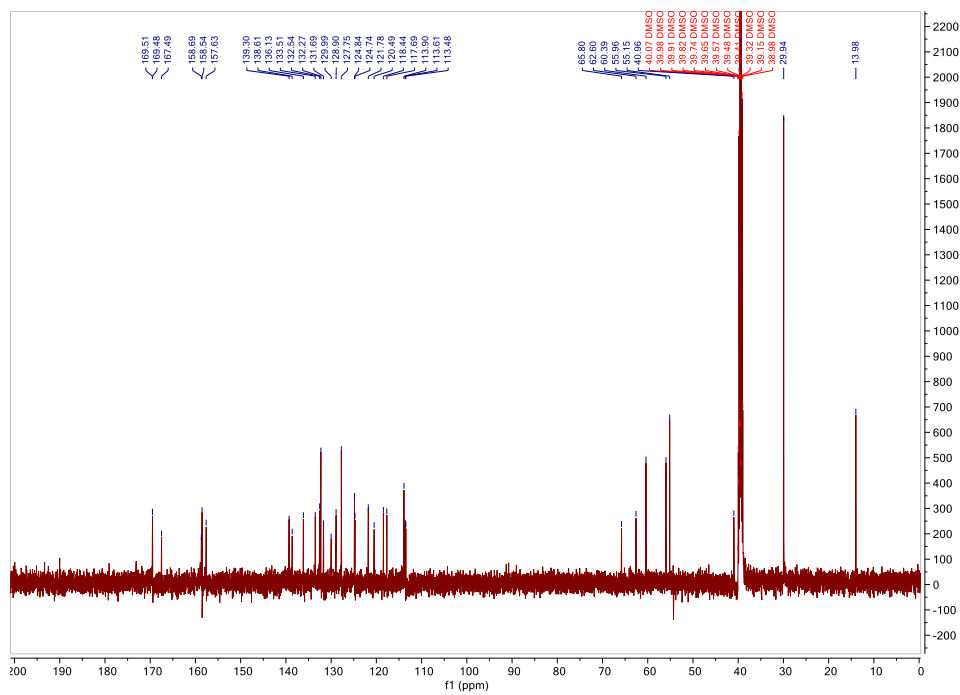
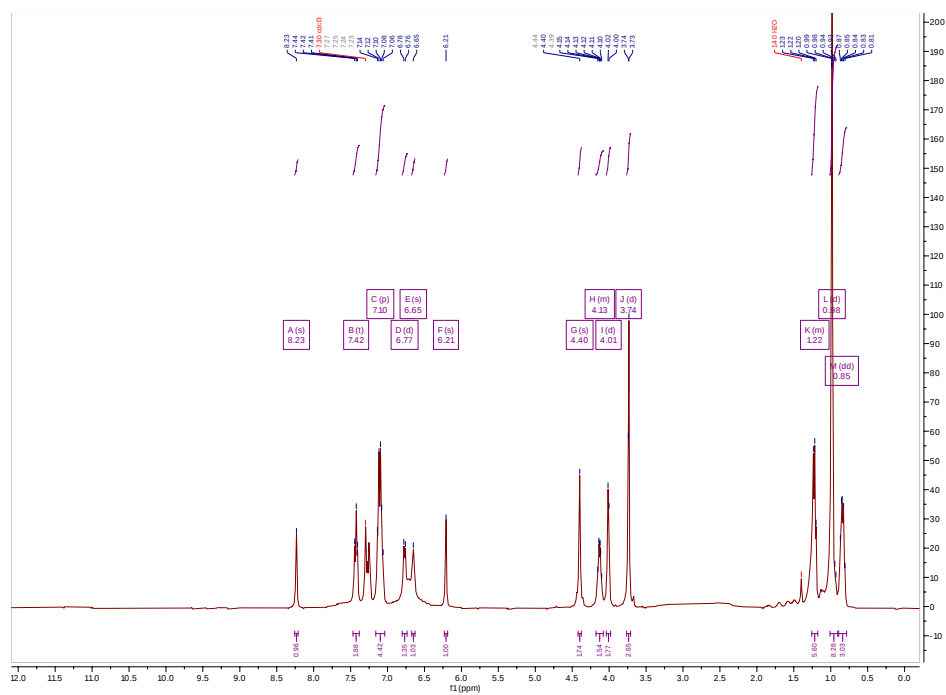
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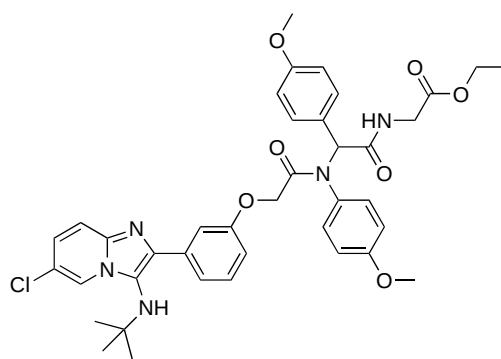




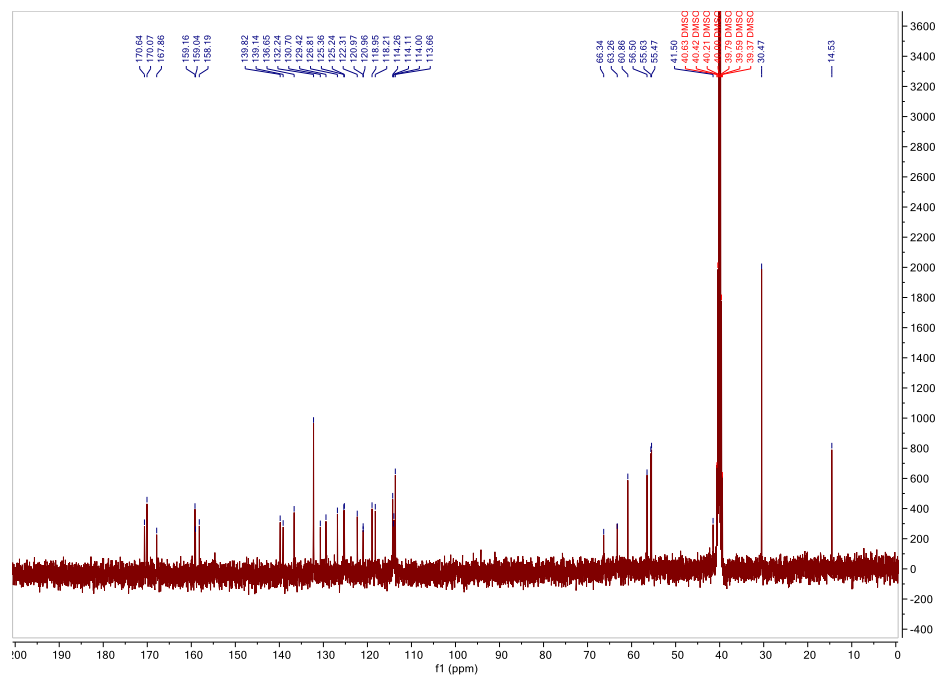
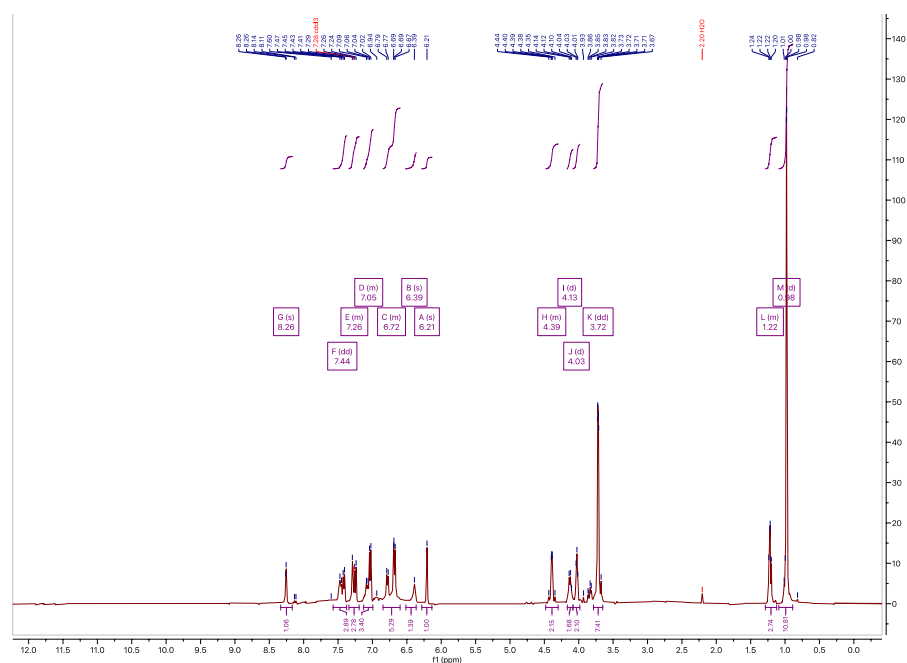


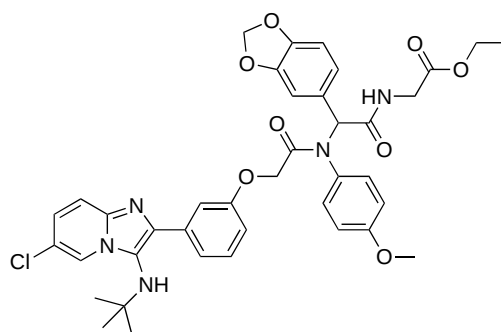
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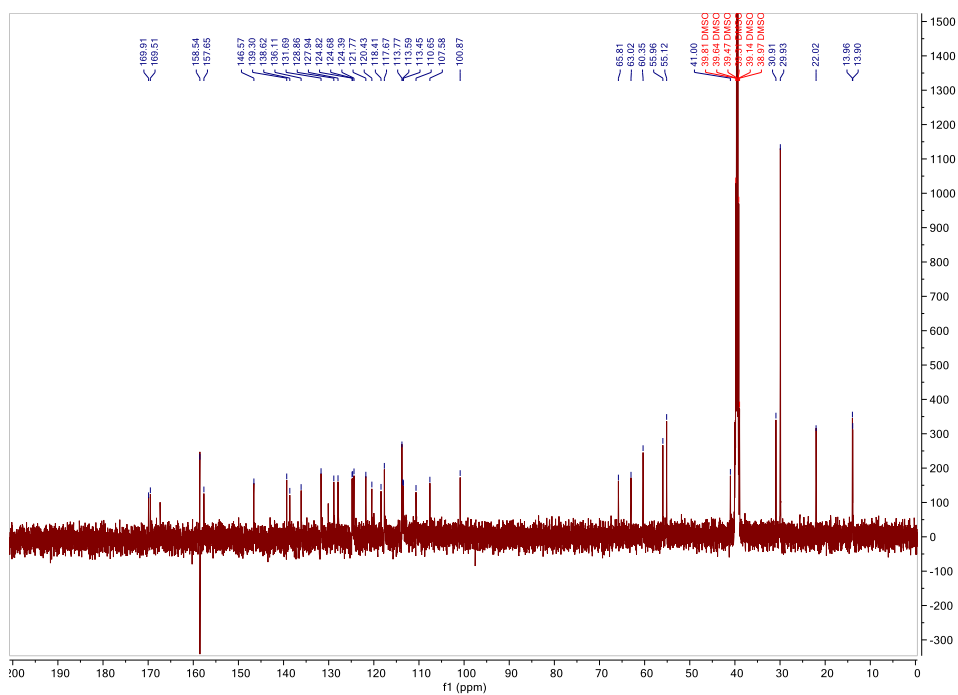
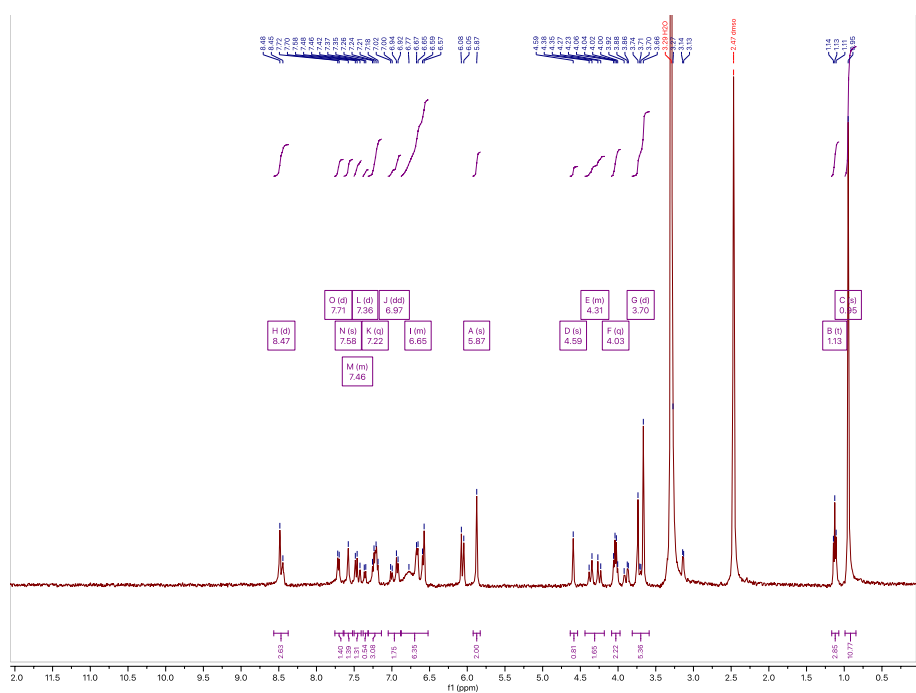


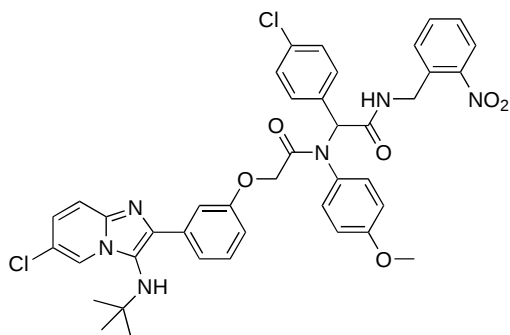
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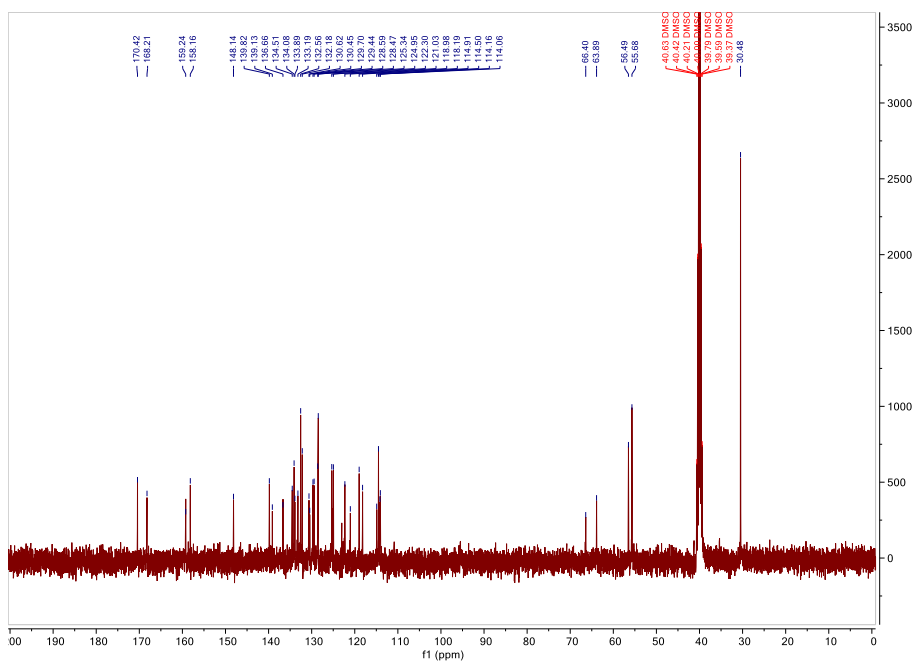
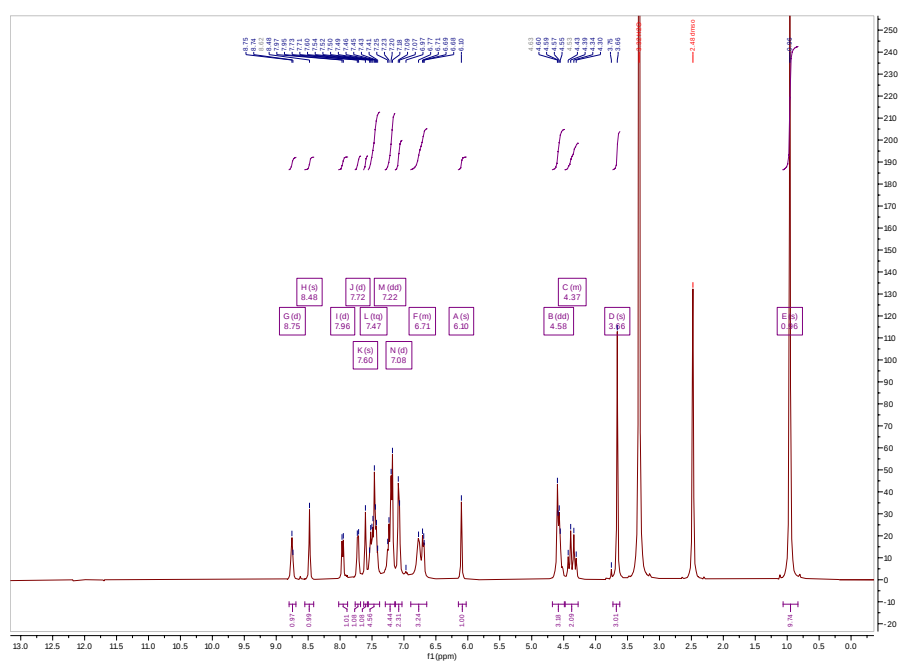


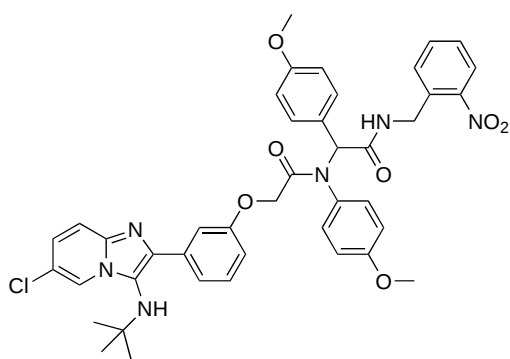
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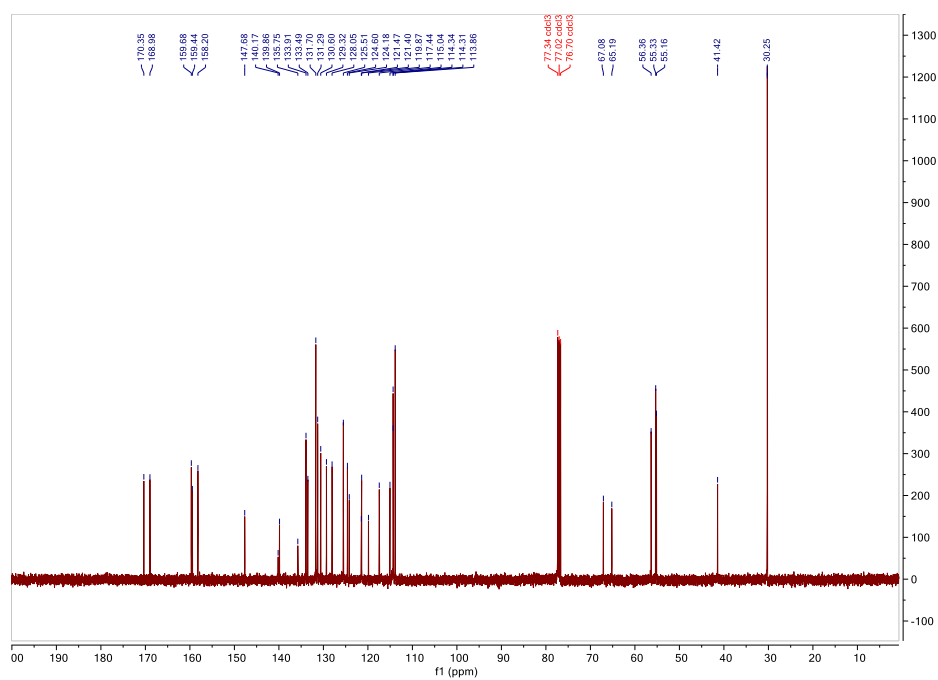
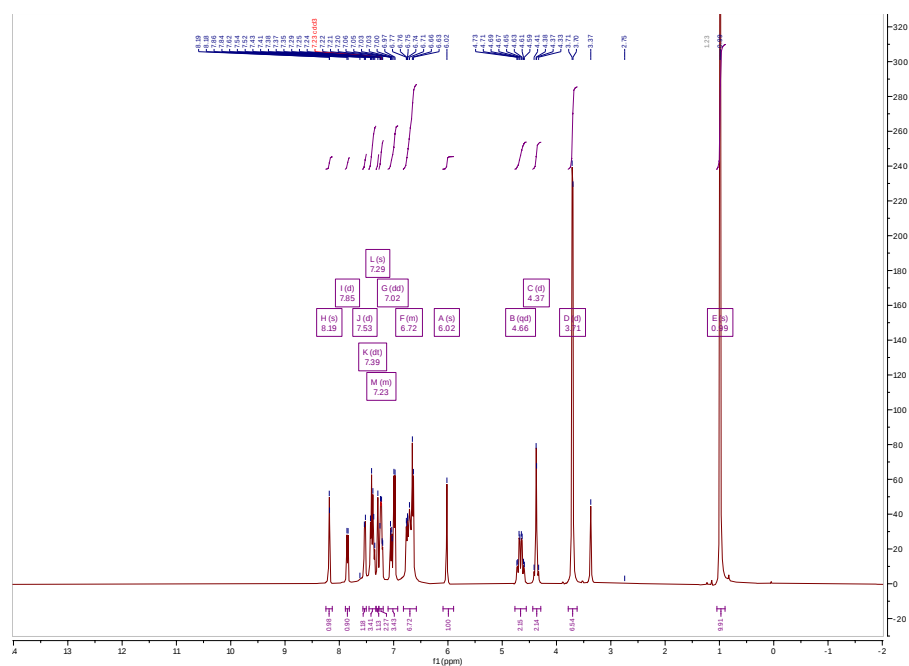


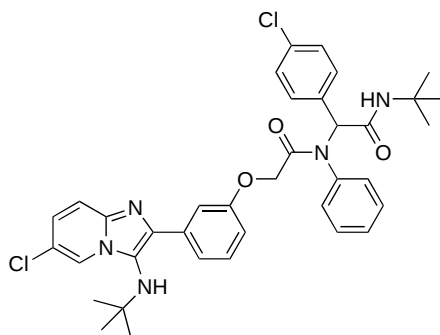
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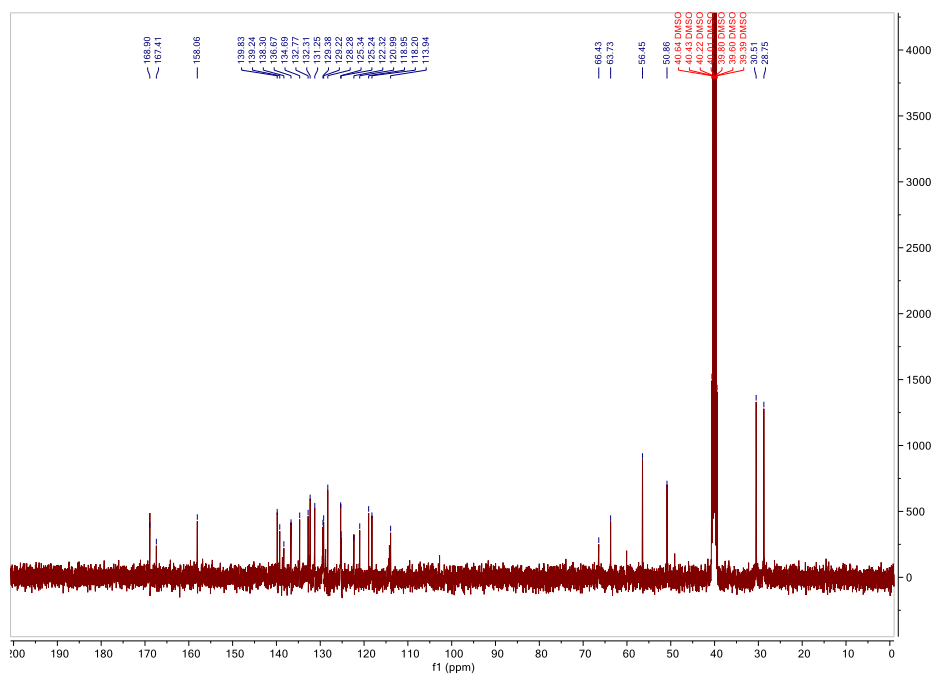
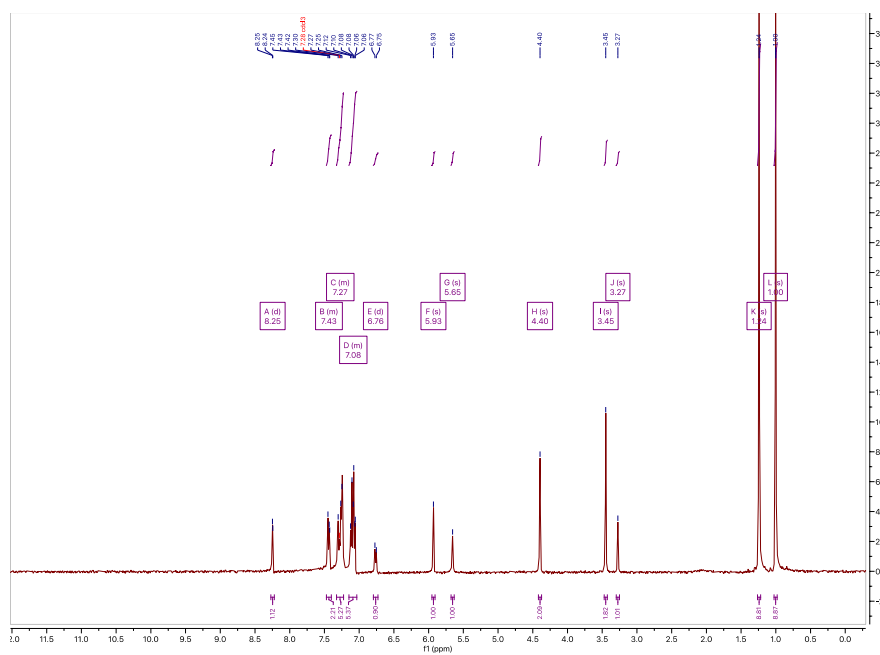


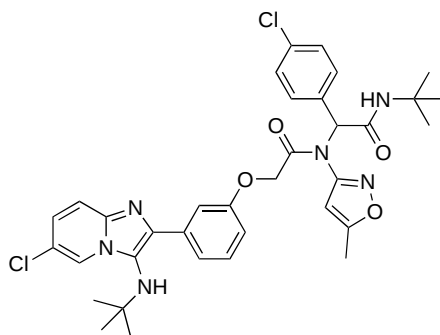
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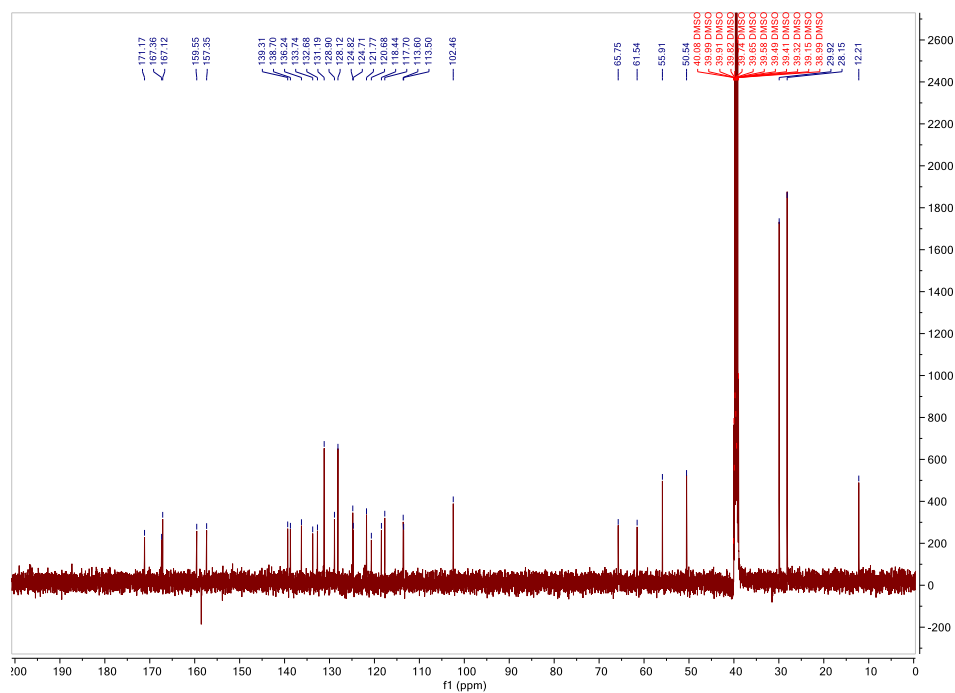
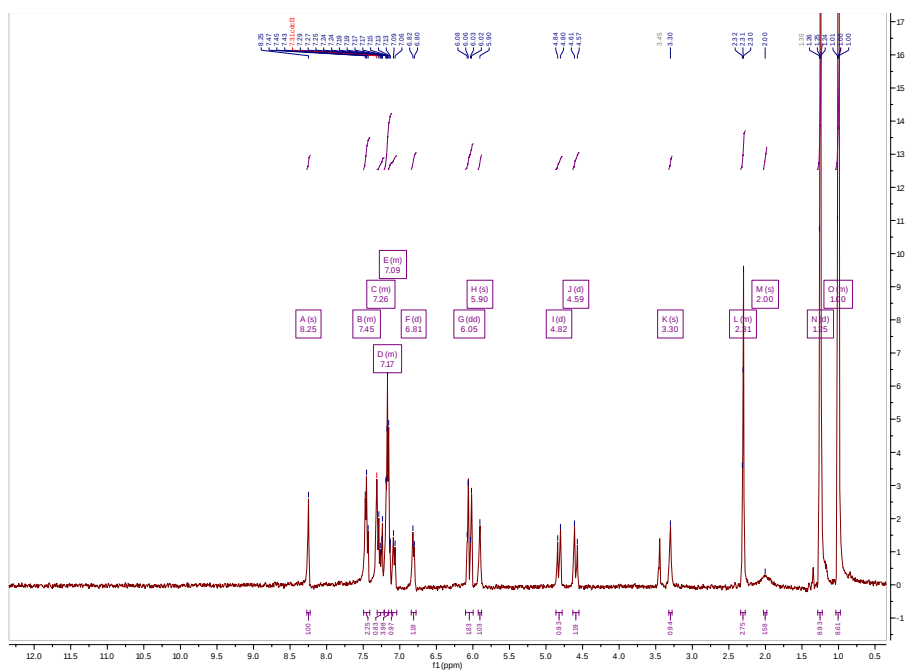


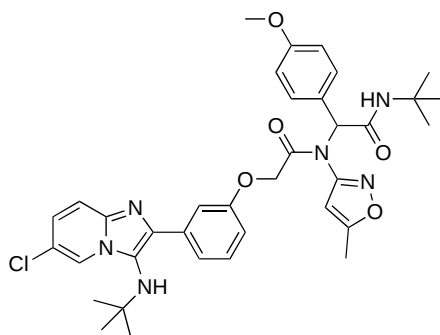
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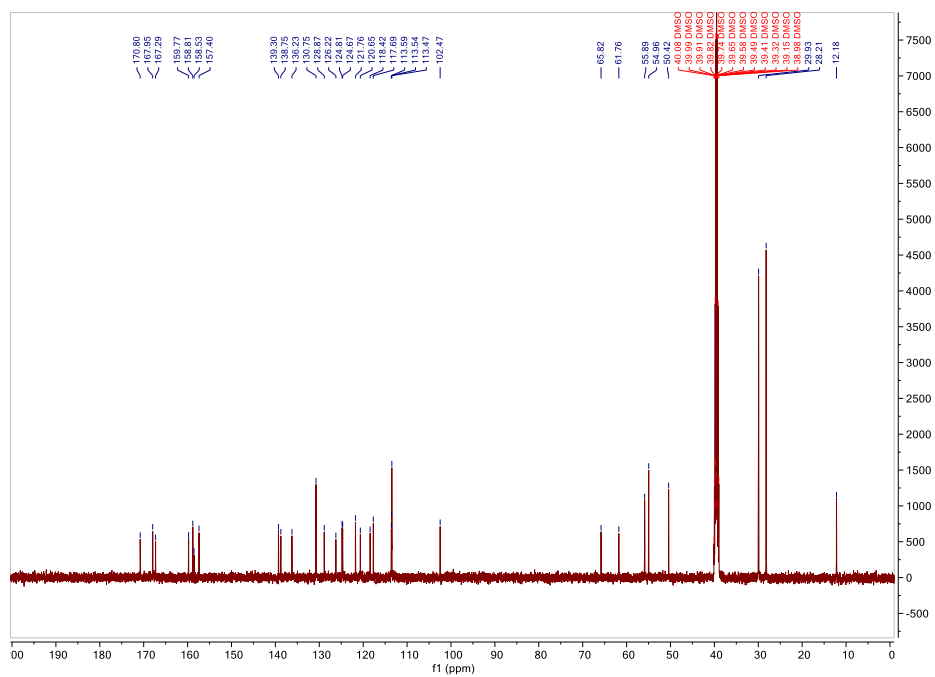
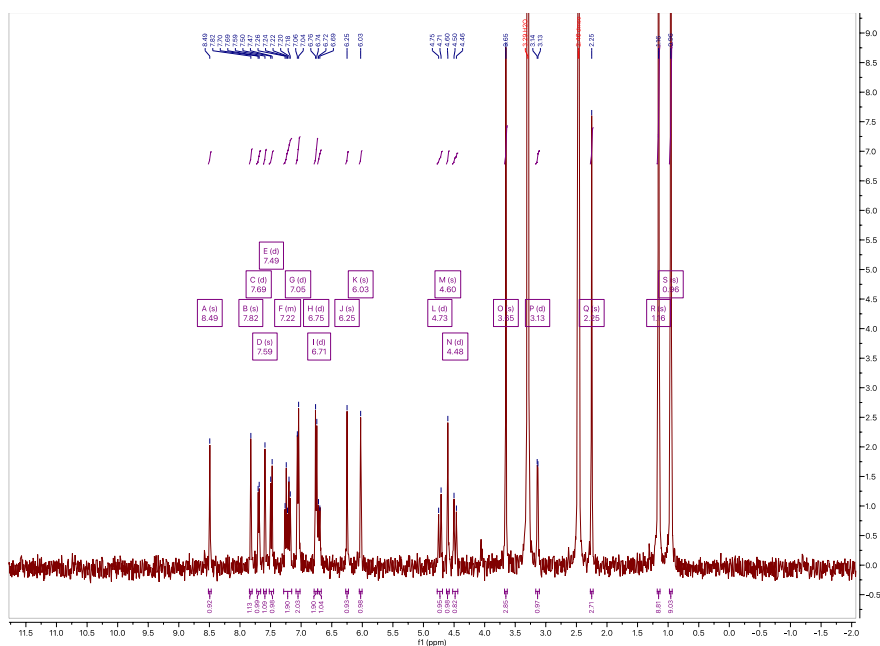


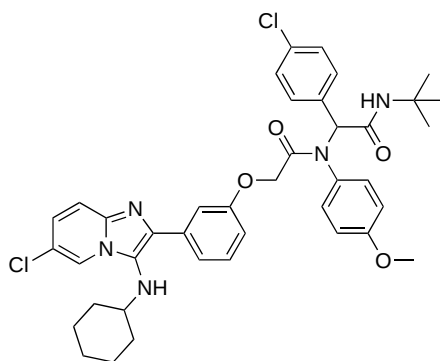
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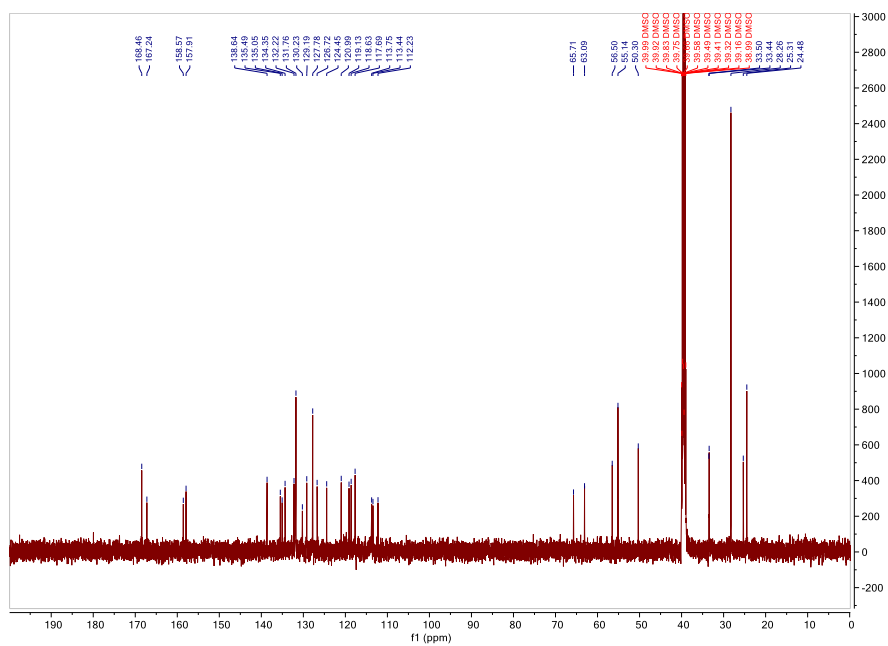
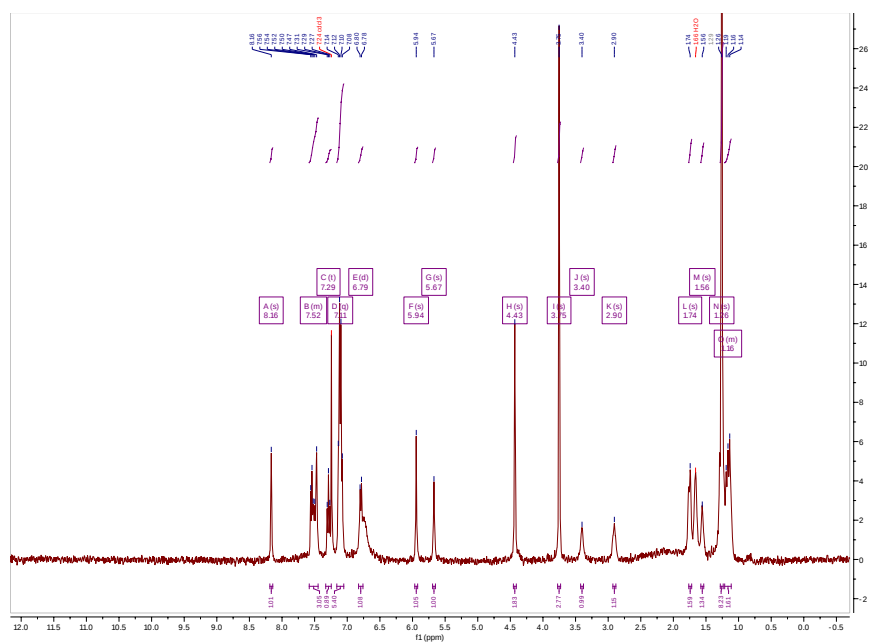


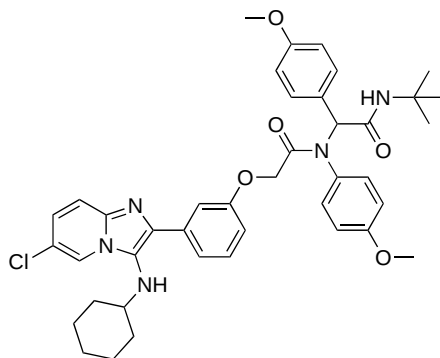
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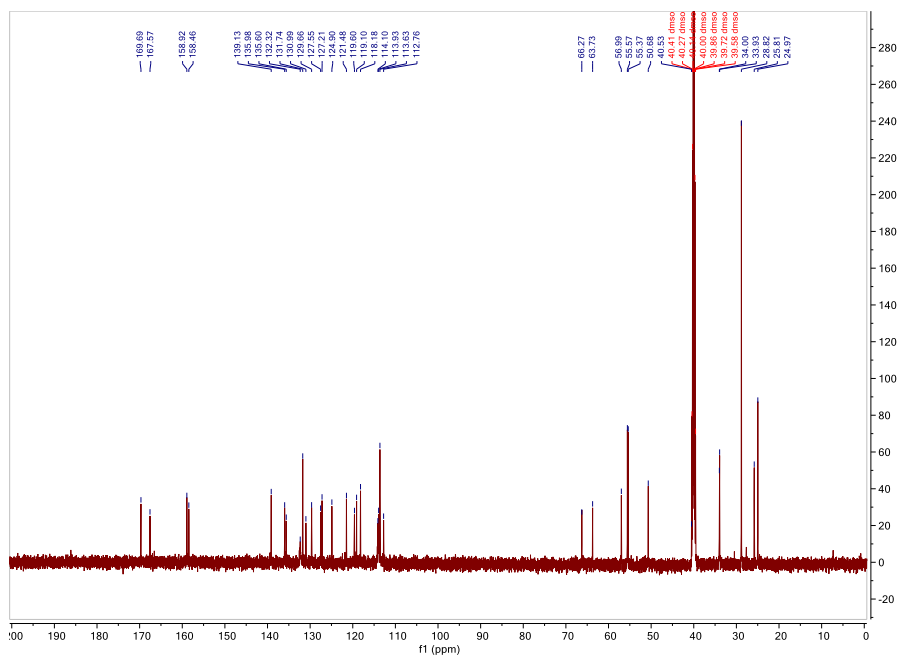
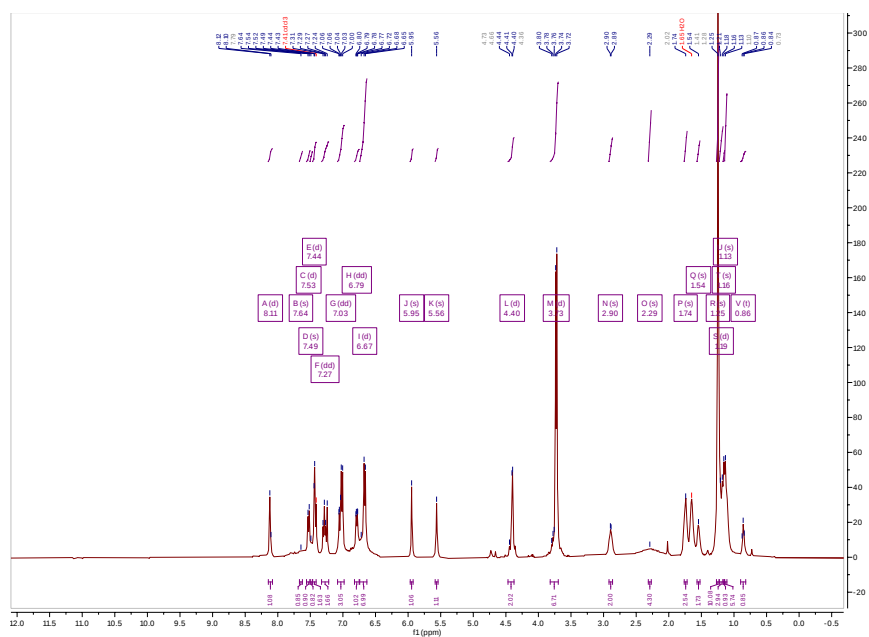


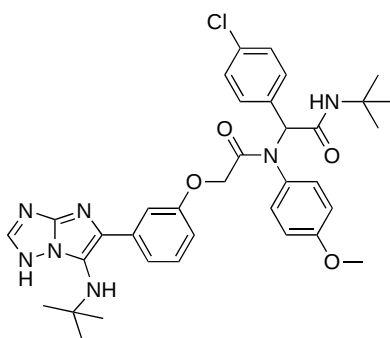
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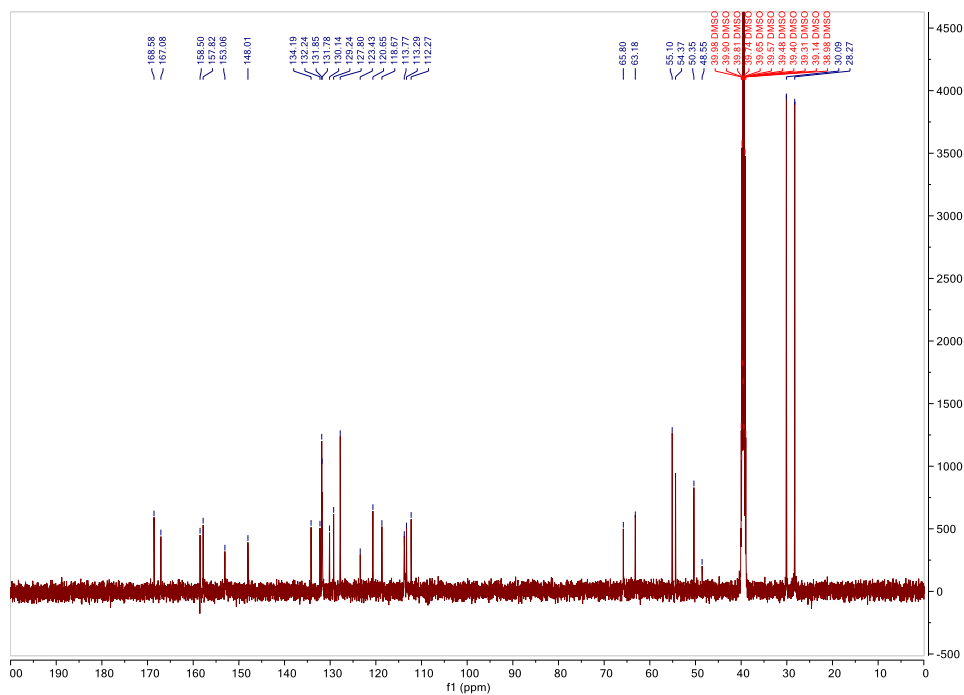
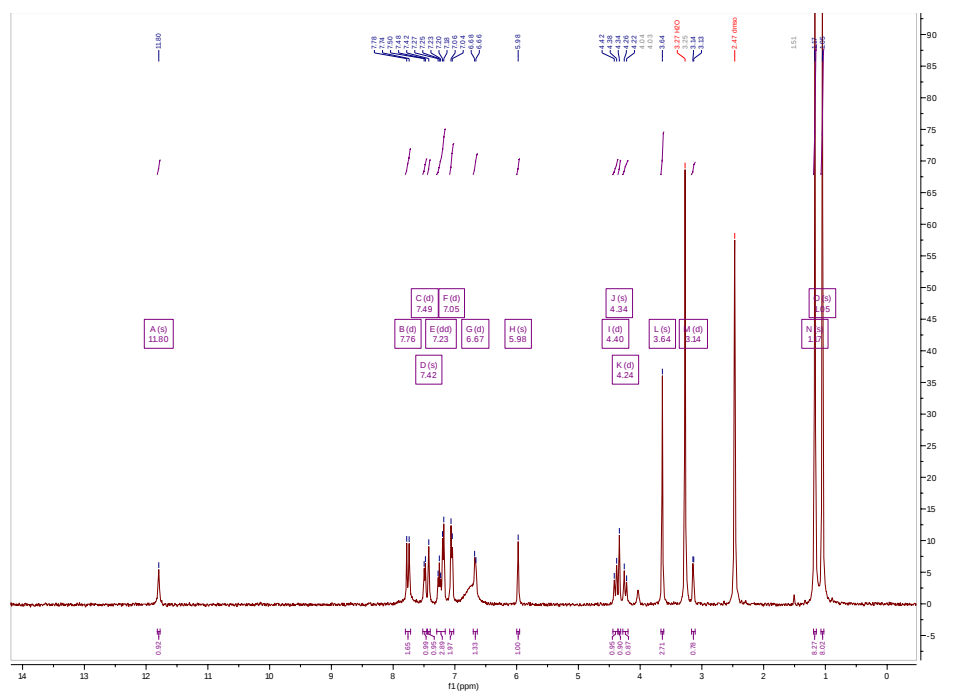


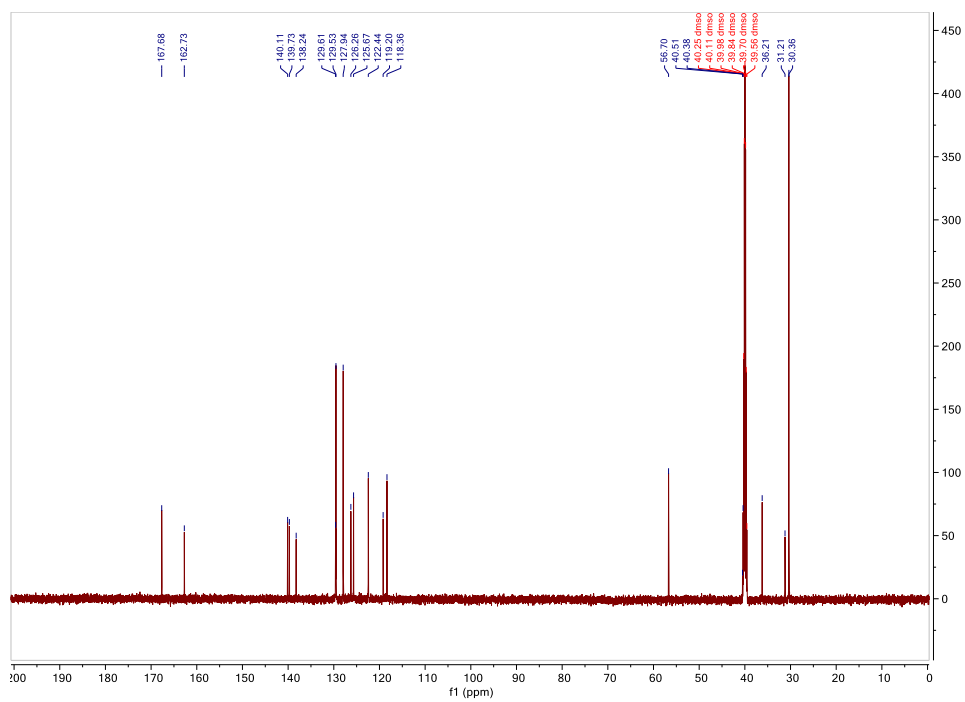
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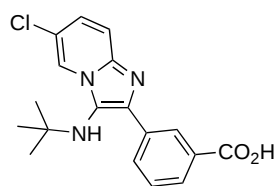




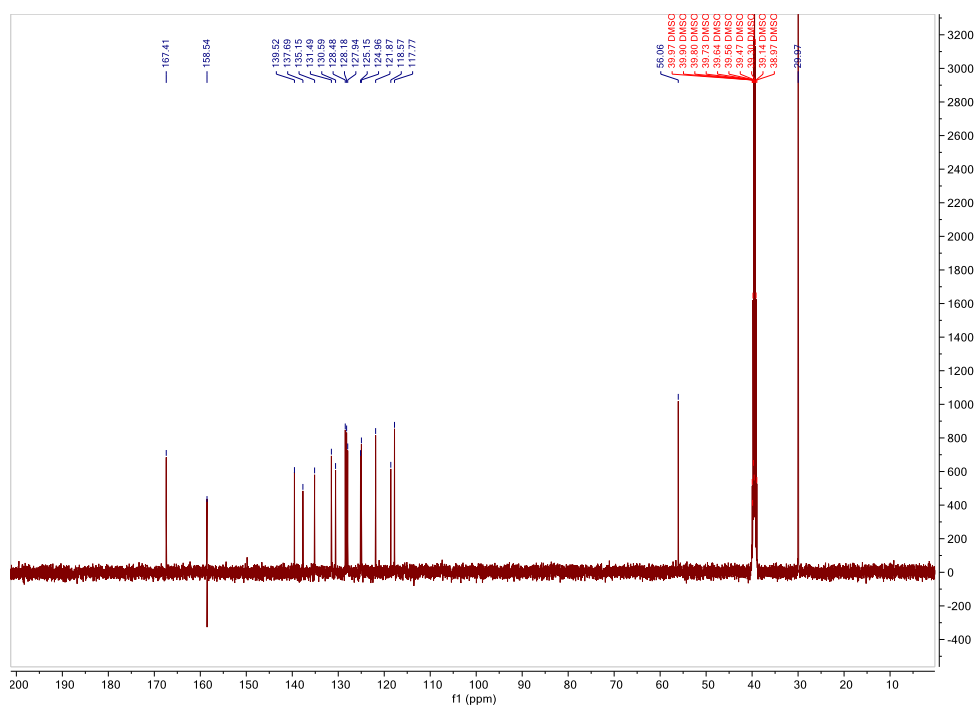
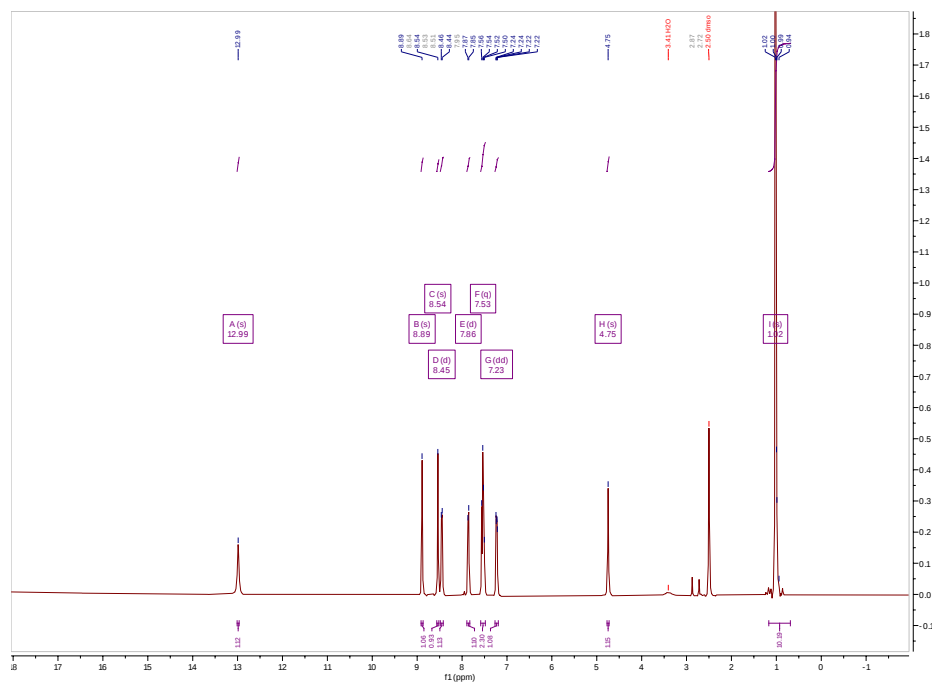
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8b



4. Measurement of antibacterial activity

To evaluate the spectrum of antibacterial action of compounds, the value of the minimum concentration that inhibited the growth of microorganisms (MIC) was determined by the micro method of serial two-fold dilutions in Mueller–Hinton Broth (Biolife Italiana Srl, Italy). Disposable polystyrene 96-well tablets for immunological studies (Biosigma, Italy) and mechanical 8-channel Proline Plus dispensers were used in the experiment. Analyzes were performed by CLSI (Clinical and Laboratory Standards Institute, USA) recommendations [3-6].

In the beginning, the studied compounds were introduced into the wells of the tablet, the concentration of which, in a total medium volume of 200 µl, was 500; 250; 125; 62.5; 31.25 and 15.6 µg/mL. Collection reference strains of bacteria were used as a culture test: *Escherichia coli* (strain ATCC 25922), *Pseudomonas aeruginosa* (strain ATCC 27853) – gram-negative cultures, *Bacillus subtilis* (strain ATCC 6633), *Staphylococcus aureus* (strain ATCC 25923) – gram-positive cultures. To prepare the inoculum from isolated colonies of microorganisms that were in the exponential phase of growth, a suspension was prepared according to the McFarland standard (McFarland) 0.5 in physiological solution. The suspension was diluted in Muller–Hinton broth to a concentration of 10⁵ CFU/mL and 100.0 µL was added to wells of the tablet containing 100.0 µL of the appropriate dilutions of the compounds under study, and to one well with 100.0 µL of nutrient broth without drugs as "negative control". The sterility of the medium was monitored by the wells of the microtiter plate specially selected for this purpose, in which solutions of compounds and microbial suspension are not introduced, the inoculated plates were incubated for 18–24 hours at 37 °C. Each experiment was carried out in triplicate.

The results were recorded visually and spectrophotometrically, comparing the growth of the microorganism in the presence of the studied compound with the growth of the culture in the well without it. The minimum bacteriostatic concentration (MPC) was taken to be the smallest amount of substance, expressed in $\mu\text{g/ml}$, in the presence of which suppression (inhibition) of culture growth occurred (no visible growth of microorganisms). The minimum bactericidal concentration was determined by sowing the contents of test tubes with no signs of growth on meat-peptone agar in Petri dishes. The optical density of the medium during the growth of cultures was measured using a Sunrise RS microplate photometer (Tecan Austria GmbH, Switzerland) at a wavelength of 620 nm.

As a standard of comparison, a drug of quinoline structure - nitroxoline was used.

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