Supporting information

Chemoselective synthesis of multi-functionalized alkynes and alkenes via transition-metal-free iodination of terminal alkynes

Anjun Lee, Sundaram Suresh, Bo-Xun Du, Xinlun Han and Ching-Fa Yao*

Department of Chemistry, National Taiwan Normal University, 88, Sec. 4, Ting-Zhou Road, Taipei, Taiwan 116, R. O. C. Email: cheyaocf@ntnu.edu.tw

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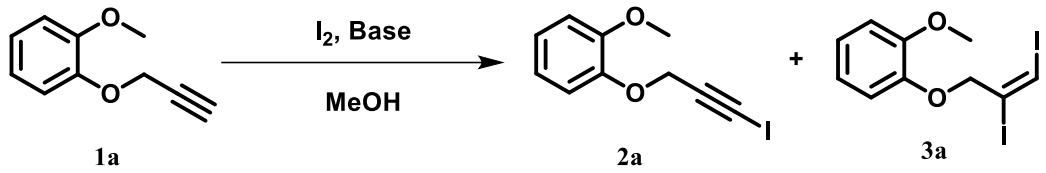
1. General information

All of the reagents and solvents were purchased from commercial suppliers and were used directly without any further purification. Alkynes **1u-w, 1ab,** and **1ac** were obtained from commercial suppliers and used as received. ^{1}H and ^{13}C NMR spectra were recorded on a Bruker Ascend spectrometer at 400 and 100 MHz, respectively. Chemical shifts are reported in parts per million (ppm) on the δ scale by using $CDCl_3$ as an internal standard. Multiplicities were indicated by using abbreviations s=singlet; d=doublet; t=triplet; q=quartet; dd=doublet of doublets; m=multiplet, br=broad signal. Coupling constants are expressed in Hertz (Hz). High-Resolution Mass Spectra (HRMS) were recorded in ESI-TOF mode. The melting points (mp) were obtained on an Electro-Thermal FARGO MP-2D capillary melting point apparatus.

2. Optimization of reaction conditions for 2a and 3a

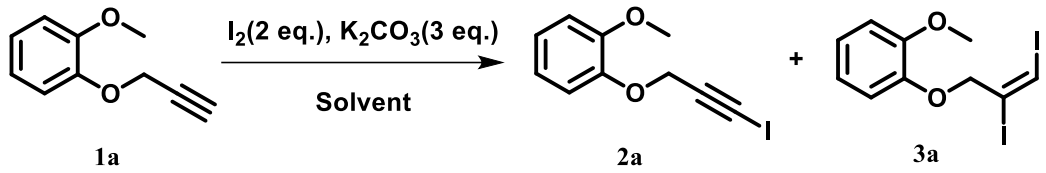


1a 2a 3a

Entry	I_2 and KI	Time (h)	Base	**1a** (%)[b]	**2a** (%)[b]	**3a** (%)[b]
1	I_2 (2 eq.)	3	-	45	-	55
2	I_2 (2 eq.)	3	K_3PO_4 (3 eq.)	59	18	20
3	I_2 (2 eq.)	3	$NaHCO_3$ (3 eq.)	49	6	45
4	I_2 (2 eq.)	3	KOH (3 eq.)	45	22	33
5	I_2 (2 eq.)	3	NaOH (3 eq.)	15	40	40
6	I_2 (2 eq.)	3	TEA (3 eq.)	73	8	13
7	I_2 (2 eq.)	3	DBU (3 eq.)	42	55	-
8	I_2 (2 eq.)	3	Na_2CO_3 (3 eq.)	59	26	13
9	I_2 (2 eq.)	3	Cs_2CO_3 (3 eq.)	30	68	-
10	I_2 (2 eq.)	15 min	K_2CO_3 (3 eq.)	80	18	-
11	I_2 (2 eq.)	30 min	K_2CO_3 (3 eq.)	76	24	-
12	I_2 (2 eq.)	1	K_2CO_3 (3 eq.)	60	36	-
13	I_2 (2 eq.)	2	K_2CO_3 (3 eq.)	50	47	-
14	I_2 (2 eq.)	3	K_2CO_3 (3 eq.)	-	93	-
15	I_2 (2 eq.)+KI (0.1 eq.)	2.5	K_2CO_3 (3 eq.)	15	85	-
16	I_2 (2 eq.)+KI (1 eq.)	2.5	K_2CO_3 (3 eq.)	20	79	-
17	I_2 (2 eq.)+KI (2 eq.)	2	K_2CO_3 (3 eq.)	23	75	-
18	I_2 (2 eq.)+KI (2 eq.)	3	K_2CO_3 (3 eq.)	-	97	-

[a]All the reactions were performed with **1a** (1 mmol) using solvent (10 mL) at room temperature. [b]The yields were determined by ^{1}H NMR analyses of the crude reaction mixtures after work-up and CH_2Br_2 was used as the internal standard.

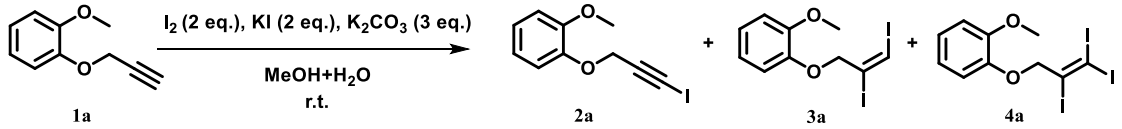
3. Screening of solvents for 2a and 3a[a]



Entry	Solvent	Time (h)	**1a** (%)[b]	**2a** (%)[b]	**3a** (%)[b]
1	MeOH	3	-	93	-
2	EtOH	3	85	-	12
3	PrOH	3	70	-	26
4	*i*-PrOH	3	59	-	40
5	BuOH	3	86	-	13
6	*s*-BuOH	3	68	-	32
7	*t*-BuOH	3	73	-	25
8	DCM	3	70	-	28
9	Acetone	3	99	-	-
10	H_2O	3	42	-	58

[a]All the reactions were performed with **1a** (1 mmol) using solvent (10 mL) at room temperature. [b]The yields were determined by ^{1}H NMR analyses of the crude reaction mixtures after work-up and CH_2Br_2 was used as the internal standard.

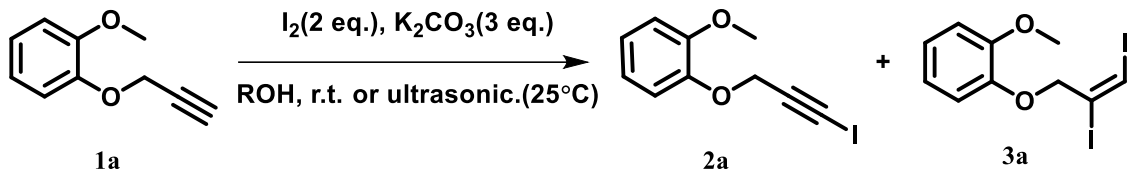
4. Screening of solvent ratios[a]



Entry	Time (h)	MeOH:H_2O(V/V)	**1a**(%)[b]	**2a** (%)[b]	**3a** (%)[b]	**4a** (%)[b]
1	3	10:0	-	97	-	-
2	3	9:1	86	14	-	-
3	3	8:2	89	11	-	-
4	3	7:3	58	32	-	10
5	3	6:4	14	68	-	14
6	3	5:5	19	44	trace	36
7	3	4:6	-	-	80	19
8	3	3:7	-	-	81	19
9	3	2:8	-	-	89	10
10	3	1:9	-	-	95	trace
11	3	0:10	-	-	99	-

[a]All the reactions were performed with **1a** (1 mmol) using solvent (10 mL) at room temperature. [b]The yields were determined by ^{1}H NMR analyses of the crude reaction mixtures after work-up and CH_2Br_2 was used as the internal standard.

5. Optimization of reaction conditions for 3a[a]

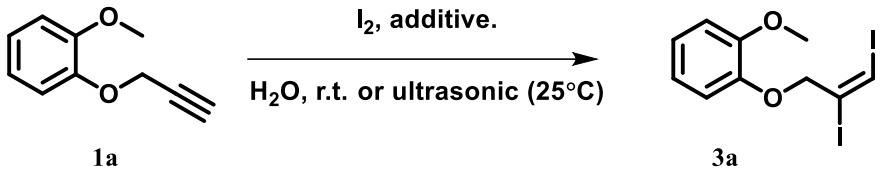


1a **2a** **3a**

Entry	source I_2 and/or KI	Solvent	Time (h)	r.t./ Ultrasonication (25℃)	**1a** (%)[b]	**2a** (%)[b]	**3a** (%)[b]
1	KI (2 eq.)	MeOH	2	r.t.	99	-	-
2	KI (2 eq.)	MeOH	2	Ultrasonication	99	-	-
3	I_2 (2 eq.)	MeOH	2	r.t.	50	47	-
4	I_2 (2 eq.)	MeOH	2	Ultrasonication	45	53	-
5	I_2 (2 eq.)+KI (2 eq.)	MeOH	2	r.t.	23	75	-
6	I_2 (2 eq.)+KI (2 eq.)	MeOH	2	Ultrasonication	20	79	-
7	KI (2 eq.)	EtOH	12	r.t.	99	-	-
8	KI (2 eq.)	EtOH	12	Ultrasonication	99	-	-
9	I_2 (2 eq.)	EtOH	12	r.t.	92	-	6
10	I_2 (2 eq.)	EtOH	12	Ultrasonication	65	-	33
11	I_2 (2 eq.)+KI (2 eq.)	EtOH	12	r.t.	90	-	9
12	I_2 (2 eq.)+KI (2 eq.)	EtOH	12	Ultrasonication	60	-	40
13	I_2 (2 eq.)	PrOH	12	r.t.	82	-	13
14	I_2 (2 eq.)	PrOH	12	Ultrasonication	51	-	43
15	I_2 (2 eq.)	*i*-PrOH	12	r.t.	80	-	17
16	I_2 (2 eq.)	*i*-PrOH	12	Ultrasonication	17	-	76
17	I_2 (2 eq.)	BuOH	12	r.t.	72	-	23
18	I_2 (2 eq.)	BuOH	12	Ultrasonication	27	-	68
19	I_2 (2 eq.)	*s*-BuOH	12	r.t.	75	-	29
20	I_2 (2 eq.)	*s*-BuOH	12	Ultrasonication	23	-	71
21	I_2 (2 eq.)	*t*-BuOH	12	r.t.	70	-	27
22	I_2 (2 eq.)	*t*-BuOH	12	Ultrasonication	6	-	90

[a]All the reactions were performed with **1a** (1 mmol) using solvent (10 mL) at room temperature. [b]The yields were determined by ^{1}H NMR analyses of the crude reaction mixtures after work-up and CH_2Br_2 was used as the internal standard.

6. Optimization of reaction time for 3a[a]



1a **3a**

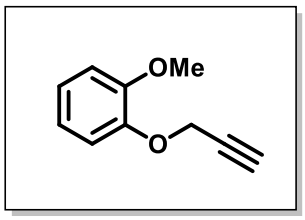
Entry	Soruce	Additive	Ultrasonication	Time (min.)	Base	**1a (%)[b]**	**3a (%)[b]**
1	-	KI (2 eq.)	Ultrasonication	10 min	-	99	-
2	-	KI (2 eq.)	Ultrasonication	10 min	K_2CO_3 (3 eq.)	99	-
3[c]	I_2 (2 eq.)	-	-	10 min	-	99	trace
4	I_2 (2 eq.)	-	Ultrasonication	10 min	-	64	36
5[c]	I_2 (2 eq.)	-	-	10 min	K_2CO_3 (3 eq.)	38	60
6	I_2 (2 eq.)	-	Ultrasonication	10 min	K_2CO_3 (3 eq.)	37	63
7[c]	I_2 (2 eq.)	KI (2 eq.)	-	10 min	-	35	63
8	I_2 (2 eq.)	KI (2 eq.)	Ultrasonication	10 min	-	12	85
9	I_2 (2 eq.)	KI (2 eq.)	Ultrasonication	15 min	-	-	99
10[c]	I_2 (2 eq.)	KI (2 eq.)	-	10 min	K_2CO_3 (3 eq.)	28	70
11	I_2 (2 eq.)	KI (2 eq.)	Ultrasonication	5min	K_2CO_3 (3 eq.)	14	83
12	I_2 (2 eq.)	KI (2 eq.)	Ultrasonication	10 min	K_2CO_3 (3 eq.)	-	99

[a]All the reactions were performed with **1a** (1 mmol) using solvent (10 mL) at room temperature. [b]The yields were determined by ^{1}H NMR analyses of the crude reaction mixtures after work-up and CH_2Br_2 was used as the internal standard. [c]Reactions were performed at room temperature without using sonication.

7. General synthesis of propargyl ethers 1

Phenol (20 mmol, 1 equiv.) was dissolved in acetone (150 mL) in a round-bottom flask containing a magnetic stir bar. K_2CO_3 (40 mmol, 2 equiv., 5.52 g) was then added, and the mixture was reacted for 30 mins. Subsequently, 3-bromoprop-1-yne (30 mmol, 1.5 equiv.) was added and stirred for 24 h at room temperature. The crude reaction mixture was filtered, and the filtrate was evaporated under reduced pressure to get the pure product.

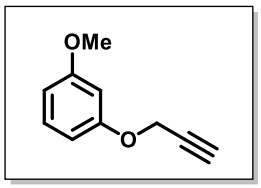
1-methoxy-2-(prop-2-yn-1-yloxy)benzene (1a)



^{1}H NMR (400 MHz, $CDCl_3$) δ 7.07 (d, *J* = 8.0 Hz, 1H), 7.04–6.98 (m, 1H), 6.94 (t, *J* = 7.6 Hz, 2H), 4.79 (d, *J* = 2.4 Hz, 2H), 3.89 (s, 3H), 2.53 (t, *J* = 2.4 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 149.75, 146.79, 122.31, 120.68, 114.58, 111.87, 78.68, 75.74, 56.75, 55.84; HRMS (EI) m/z calcd. For $[M]^+$ $C_{10}H_{10}O_2$ 162.0681, Found 162.0678.

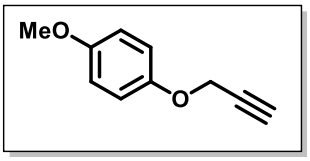
1-methoxy-3-(prop-2-yn-1-yloxy)benzene (1b)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.23–7.16 (m, 1H), 6.60–6.52 (m, 3H), 4.67 (d, *J* = 2.4 Hz, 2H), 3.79 (s, 3H), 2.52 (t, *J* = 2.4 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 160.85, 158.83, 129.91, 107.24, 106.93, 101.53, 78.56, 55.87, 55.31; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{10}H_{11}O_2$ 163.0759, Found 163.0760.

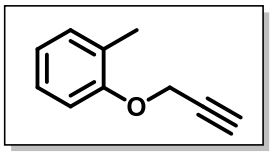


1-methoxy-4-(prop-2-yn-1-yloxy)benzene (1c)

^{1}H NMR (400 MHz, $CDCl_3$) δ 6.96–6.89 (m, 2H), 6.88–6.81 (m, 2H), 4.64 (d, *J* = 2.4 Hz, 2H), 3.77 (s, 3H), 2.50 (t, *J* = 2.4 Hz, 1H); ^{13}C NMR (101 MHz, CDCl3) δ 154.53, 151.72, 116.19, 114.63, 78.91, 75.24, 56.65, 55.68; HRMS (EI) m/z calcd. For $[M]^+$ $C_{10}H_{10}O_2$ 162.0681, Found 162.0674.



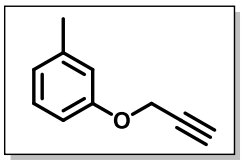
1-methyl-2-(prop-2-yn-1-yloxy)benzene (1d)



^{1}H NMR (400 MHz, $CDCl_3$) δ 7.22–7.10 (m, 2H), 6.98–6.85 (m, 2H), 4.70 (dd, *J* = 2.4, 1.3 Hz, 2H), 2.49 (dd, *J* = 4.0, 2.4 Hz, 1H), 2.25 (d, *J* = 2.4 Hz, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 155.79, 130.87, 127.28, 126.64, 121.28, 111.73, 78.98, 75.13, 55.93, 16.18; HRMS (EI) m/z calcd. For $[M]^+$ $C_{10}H_{10}O$ 146.0732, Found 146.0724.

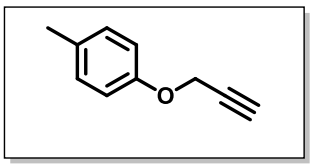
1-methyl-3-(prop-2-yn-1-yloxy)benzene (1e)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.18 (dd, *J* = 12.0, 4.0 Hz, 1H), 6.85–6.73 (m, 3H), 4.67 (d, *J* = 2.4 Hz, 2H), 2.50 (td, *J* = 2.4, 0.8 Hz, 1H), 2.34 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 157.57, 139.56, 129.17, 122.40, 115.76, 111.69, 78.73, 75.29, 55.68, 21.49; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{10}H_{11}O$ 147.0810, Found 147.0816.



1-methyl-4-(prop-2-yn-1-yloxy)benzene (1f)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.10 (d, *J* = 8.8 Hz, 2H), 6.88 (d, *J* = 8.4 Hz, 2H), 4.66 (d, *J* = 2.4 Hz, 2H), 2.50 (t, *J* = 2.4 Hz, 1H), 2.29 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 155.49, 130.92, 129.93, 114.85, 78.84, 75.29, 55.96, 20.50; HRMS (EI) m/z calcd. For $[M]^+$ $C_{10}H_{10}O_2$146.0732, Found 146.0729.



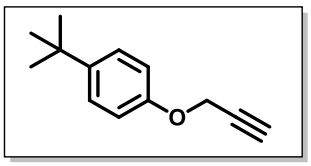
1-(tert-butyl)-2-(prop-2-yn-1-yloxy)benzene (1g)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.30 (dd, *J* = 7.6, 1.2 Hz, 1H), 7.23–7.13 (m, 1H), 6.94 (ddd, *J* = 8.4, 4.2, 3.2 Hz, 2H), 4.73 (d, *J* = 2.4 Hz, 2H), 2.48 (td, *J* = 2.4, 0.8 Hz, 1H), 1.40 (d, *J* = 1.2 Hz, 9H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 156.54, 138.79, 126.9, 126.8, 121.21,

112.74, 78.96, 74.99,55.58, 34.79, 29.86; HRMS (EI) m/z calcd. For $[M]^+$ $C_{13}H_{16}O$ 188.1201, Found 188.1197.

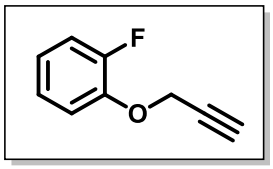
1-(tert-butyl)-4-(prop-2-yn-1-yloxy)benzene (1h)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.31 (d, *J* = 8.8 Hz, 2H), 6.91 (d, *J* = 8.8 Hz, 2H), 4.65 (d, *J* = 2.4 Hz, 2H), 2.49 (t, *J* = 2.4 Hz, 1H), 1.29 (s, 9H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 155.29, 144.20, 126.21, 114.27, 78.83, 75.27, 55.75, 34.06, 31.45; HRMS (EI) m/z calcd. For $[M]^+$ $C_{13}H_{16}O$ 188.1201, Found 188.1205.



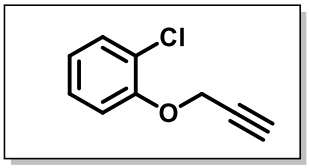
1-fluoro-2-(prop-2-yn-1-yloxy)benzene (1i)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.17–7.03 (m, 3H), 7.02–6.91 (m, 1H), 4.76 (d, *J* = 2.4 Hz, 2H), 2.54 (t, *J* = 2.4 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 151.84-154.18 (d, $^1J_{FC}$ = 245 Hz), 116.35-116.53 (d, $^2J_{FC}$ = 18.2 Hz), 145.4-145.5 (d, $^2J_{FC}$ = 10.7 Hz), 122.34-122.41 (d, $^3J_{FC}$ = 6.8 Hz), 124.24-124.25 (d, $^4J_{FC}$ = 3.8 Hz), 115.95, 78.16, 76.13, 57.25; HRMS (EI) m/z calcd. For $[M]^+$ C_9H_7OF 150.0481, Found 150.0486.



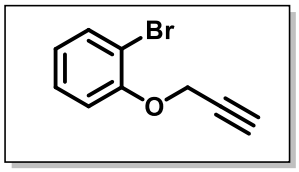
1-chloro-2-(prop-2-yn-1-yloxy)benzene (1j)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.41 (dd, *J* = 7.9, 1.6 Hz, 1H), 7.26 (ddd, *J* = 8.4, 7.5, 1.6 Hz, 1H), 7.11 (dd, *J* = 8.4, 1.4 Hz, 1H), 6.98 (td, *J* = 7.6, 1.2 Hz, 1H), 4.80 (d, *J* = 2.4 Hz, 2H), 2.57 (t, *J* = 2.4 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 153.15, 130.51, 127.63, 123.33, 122.46, 114.47, 78.07, 76.19, 56.83; HRMS (EI) m/z calcd. For $[M]^+$ C_9H_7OCl 166.0185, Found 166.0179.



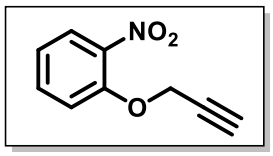
1-bromo-2-(prop-2-yn-1-yloxy)benzene (1k)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.55 (dd, *J* = 7.9, 1.6 Hz, 1H), 7.32–7.23 (m, 1H), 7.06 (d, *J* = 8.0 Hz, 1H), 6.93–6.84 (m, 1H), 4.77 (d, *J* = 2.4 Hz, 2H), 2.54 (t, *J* = 2.4 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 154.03, 133.60, 128.38, 122.90, 114.24, 112.45, 78.04, 76.21, 56.86; HRMS (EI) m/z calcd. For $[M]^+$ C_9H_7OBr 209.9680, Found 209.9677.



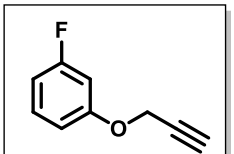
1-nitro-2-(prop-2-yn-1-yloxy)benzene (1l)[1]

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.84 (dd, *J* = 8.0, 1.6 Hz, 1H), 7.57 (ddd, *J* = 8.4, 7.2, 1.6 Hz, 1H), 7.27 (dd, *J* = 8.4, 1.2 Hz, 1H), 7.10 (ddd, *J* = 8.0, 7.6, 1.2 Hz, 1H), 4.85 (d, *J* = 2.4 Hz, 2H), 2.60 (t, *J* = 2.4 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 150.75, 140.42, 133.98, 125.66, 121.46, 115.58, 77.23, 77.06, 57.26



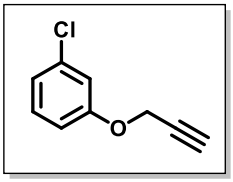
1-fluoro-3-(prop-2-yn-1-yloxy)benzene (1m)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.34–7.24 (m, 1H), 6.77 (dqd, *J* = 8.0, 2.8, 1.6 Hz, 3H), 4.73 (d, *J* = 2.4 Hz, 2H), 2.59 (t, *J* = 2.4 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 162.32-164.76 (d, $^1J_{FC}$ = 244 Hz), 102.73-102.98 (d, $^2J_{FC}$ = 25.0 Hz) 158.81-158.92 (d, $^3J_{FC}$ = 10.9 Hz), 130.21-130.31 (d, $^3J_{FC}$ = 10.0 Hz), 108.33-108.54 (d, $^4J_{FC}$ = 2.0 Hz), 110.64, 78.08, 75.89, 56.05; HRMS (ESI) m/z calcd. For $[M+H]^+$ C_9H_8OF 151.0559, Found 151.0556.



1-chloro-3-(prop-2-yn-1-yloxy)benzene (1n)[2]

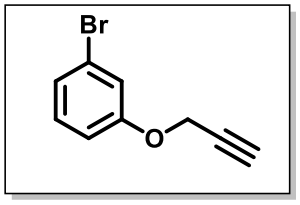
^{1}H NMR (400 MHz, $CDCl_3$) δ 7.28–7.17 (m, 1H), 7.02–6.94 (m, 2H), 6.87 (ddd, *J* = 8.4, 2.4, 1.0 Hz, 1H), 4.68 (d, *J* = 2.4 Hz, 2H),



2.54 (t, J = 2.4 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 158.26, 134.92, 130.24, 121.82, 115.50, 113.39, 78.01, 75.95, 56.03.

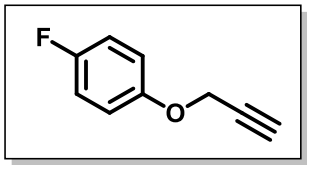
1-bromo-3-(prop-2-yn-1-yloxy)benzene (1o)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.21–7.09 (m, 3H), 6.95–6.87 (m, 1H), 4.67 (d, J = 2.4 Hz, 2H), 2.54 (t, J = 2.4 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 158.29, 130.57, 124.75, 122.79, 118.39, 113.88, 77.99, 75.98, 56.03; HRMS (EI) m/z calcd. For $[M]^+$ C_9H_7OBr 209.9680, Found 209.9681.



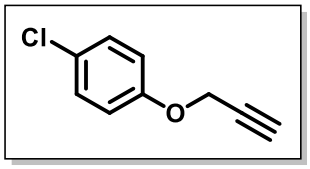
1-fluoro-4-(prop-2-yn-1-yloxy)benzene (1p)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.03–6.96 (m, 2H), 6.95–6.90 (m, 2H), 4.66 (d, J = 2.4 Hz, 2H), 2.52 (t, J = 2.4 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 156.61-158.99 (d, $^1J_{FC}$ = 238 Hz), 115.82 (d, $^2J_{FC}$ = 23.1 Hz), 116.46 (d, $^3J_{FC}$ = 8.0 Hz), 153.66, 78.45, 75.60, 56.53; HRMS (ESI) m/z calcd. For $[M+H]^+$ C_9H_8OF 151.0559, Found 151.0563.



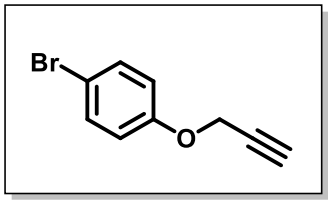
1-chloro-4-(prop-2-yn-1-yloxy)benzene (1q)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.32–7.25 (m, 2H), 6.98–6.90 (m, 2H), 4.70 (d, J = 2.4 Hz, 2H), 2.55 (t, J = 2.4 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 156.14, 129.38, 126.60, 116.32, 78.18, 75.81, 56.11; HRMS (EI) m/z calcd. For $[M]^+$ C_9H_7OCl 166.0185, Found 166.0178.



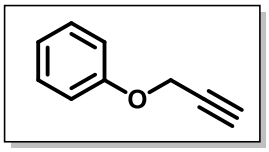
1-bromo-4-(prop-2-yn-1-yloxy)benzene (1r)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.44–7.36 (m, 2H), 6.91–6.83 (m, 2H), 4.67 (d, *J* = 2.4 Hz, 2H), 2.52 (t, *J* = 2.4 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 156.59, 132.29, 116.77, 113.88, 78.08, 75.83, 55.98; HRMS (EI) m/z calcd. For $[M]^+$ C_9H_7OBr 209.9680, Found 209.9677.



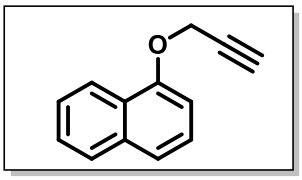
(prop-2-yn-1-yloxy)benzene (1s)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.42–7.33 (m, 2H), 7.11–7.01 (m, 3H), 4.74 (d, *J* = 2.4 Hz, 2H), 2.58 (t, *J* = 2.4 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 157.64, 129.54, 121.64, 114.99, 78.74, 75.53, 55.79; HRMS (ESI) m/z calcd. For $[M+H]^+$ C_9H_9O 133.0653, Found 133.0653.



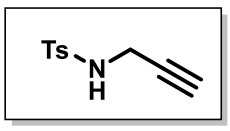
1-(prop-2-yn-1-yloxy)naphthalene (1t)

^{1}H NMR (400 MHz, $CDCl_3$) δ 8.34–8.22 (m, 1H), 7.85–7.76 (m, 1H), 7.58–7.34 (m, 4H), 6.94 (dd, *J* = 7.6, 2.0 Hz, 1H), 4.92–4.86 (m, 2H), 2.55 (dt, *J* = 4.8, 2.4 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 153.34, 134.54, 127.43, 126.47, 125.68, 125.53, 125.37, 122.00, 121.18, 105.51, 78.61, 75.52, 56.13; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{13}H_{11}O$ 183.0810, Found 183.0809.



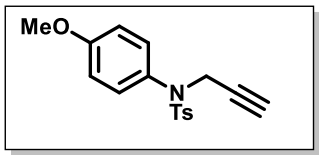
4-methyl-N-(prop-2-yn-1-yl)benzenesulfonamide (1x)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.82–7.74 (m, 2H), 7.32 (dd, *J* = 8.4, 0.4 Hz, 2H), 4.78 (t, *J* = 5.6 Hz, 1H), 3.83 (dd, *J* = 6.0, 2.4 Hz, 2H), 2.43 (s, 3H), 2.11 (t, *J* = 2.4 Hz, 1H); ^{13}C NMR (101 MHz,



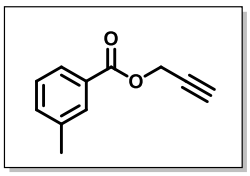
$CDCl_3$) δ 143.87, 136.53, 129.72, 127.42, 77.97, 73.00, 32.88, 21.57; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{10}H_{12}NO_2S$ 210.0589, Found 210.0582.

N-(4-methoxyphenyl)-4-methyl-N-(prop-2-yn-1-yl)benzenesulfonamide (1y)



^{1}H NMR (400 MHz, $CDCl_3$) δ 7.57 (d, *J* = 8.3 Hz, 2H), 7.31–7.21 (m, 2H), 7.17–7.10 (m, 2H), 6.88–6.80 (m, 2H), 4.43 (d, *J* = 2.5 Hz, 2H), 3.82 (s, 3H), 2.45 (s, 3H), 2.18 (t, *J* = 2.5 Hz, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 159.37, 143.61, 135.67, 131.75, 130.13, 129.29, 128.08, 114.20, 78.24, 73.71, 55.42, 41.35, 21.60; HRMS (EI) m/z calcd. For $[M]^+$ $C_{17}H_{17}NO_3S$ 315.0929, Found 315.0926.

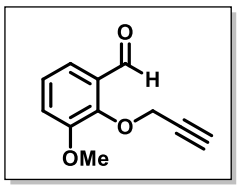
prop-2-yn-1-yl 3-methylbenzoate (1z)



^{1}H NMR (400 MHz, $CDCl_3$) δ 7.90 (dd, *J* = 4.8, 4.1 Hz, 2H), 7.44 – 7.38 (m, 1H), 7.35 (t, *J* = 7.5 Hz, 1H), 4.94 (d, *J* = 2.5 Hz, 2H), 2.55 (t, *J* = 2.5 Hz, 1H), 2.42 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 165.98, 138.27, 134.14, 130.33, 129.31, 128.36, 126.99, 77.82, 75.03, 52.42, 21.26; HRMS (EI) m/z calcd. For $[M]^+$ $C_{11}H_{10}O_2$ 174.0681, Found 174.0675.

3-methoxy-2-(prop-2-yn-1-yloxy)benzaldehyde (1aa)

^{1}H NMR (400 MHz, $CDCl_3$) δ 10.50 (s, 1H), 7.46 (dd, *J* = 7.0, 2.4 Hz, 1H), 7.23–7.12 (m, 2H),



4.89 (d, *J* = 2.4 Hz, 2H), 3.91 (s, 3H), 2.49 (t, *J* = 2.4 Hz, 1H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 190.56, 152.85, 149.50, 131.16, 124.91, 118.90, 117.77, 78.26, 60.85, 56.05; HRMS (EI) m/z calcd. For $[M]^+$ $C_{11}H_{10}O_3$ 190.0630, Found 196.0630.

8. References

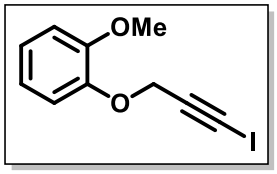
1. M. Macias-Contreras, J. P. Granados, D. S. Hernandez. *Org. Biomol. Chem.* 2024, ***22***, 4748.

2. V. M. Lau, W. C. Pfalzgraff, T. E. Markland, M. W. Kanan. *J. Am. Chem. Soc.* 2017, ***139***, 4035.

9. Representative synthetic procedure for 1-iodoalkynes (2)

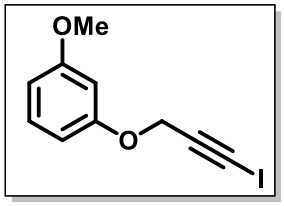
Propargyl ether (**1**, 1 mmol, 1 equiv.) was dissolved in MeOH (10 mL) in a round-bottom flask. Subsequently, K_2CO_3 (3 mmol, 3 equiv., 0.41 g) and I_2 (2 mmol, 2 equiv.) were added, and stirred at room temperature. When the reaction was complete, 1M $Na_2S_2O_3$ was added to quench the excess I_2. The reaction mixture was extracted using ethyl acetate and water. The organic layer was washed with brine solution and dried over $MgSO_4$. After the removal of the solvent, the pure product was obtained.

1-((3-iodoprop-2-yn-1-yl)oxy)-2-methoxybenzene (2a).



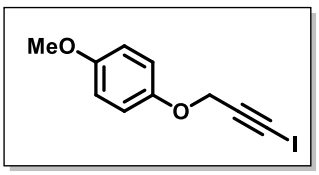
Yield: 93% (268 mg); white solid. m.p.69.0~69.6℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.04–6.96 (m, 2H), 6.92 (dd, *J* = 12.0, 4.7 Hz, 2H), 4.89 (s, 2H), 3.87 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 149.72, 146.83, 122.37, 120.76, 114.58, 111.87, 89.28, 58.36, 55.86, 4.88; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{10}H_{10}IO_2$ 288.9725, Found 288.9719.

1-((3-iodoprop-2-yn-1-yl)oxy)-3-methoxybenzene (2b)



Yield: 83% (239 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.22 (t, *J* = 8.0 Hz, 1H), 6.62–6.52 (m, 3H), 4.84 (s, 2H), 3.82 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 160.85, 158.83, 129.95, 107.32, 106.87, 101.48, 89.13, 57.42, 55.33, 4.58; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{10}H_{10}IO_2$ 288.9725, Found 288.9727.

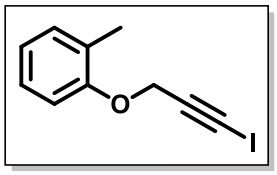
1-((3-iodoprop-2-yn-1-yl)oxy)-4-methoxybenzene (2c)



Yield: 91% (262 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 6.90 (d, *J* = 9.2 Hz, 2H), 6.84 (d, *J* = 9.2 Hz, 2H), 4.77 (s, 2H), 3.77 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 154.51, 151.69, 116.14, 114.64, 89.50, 58.21, 55.68, 4.24; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{10}H_{10}IO_2$ 288.9725, Found 288.9729.

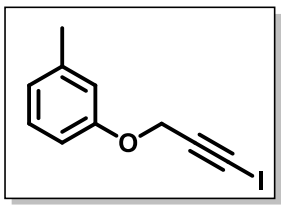
1-((3-iodoprop-2-yn-1-yl)oxy)-2-methylbenzene (2d)

Yield: 97% (264 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.14 (d, *J* = 8.4 Hz, 2H), 6.91 (d, *J* = 8.4 Hz, 2H), 4.83 (s, 2H), 2.23 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 155.78, 130.87, 127.24, 126.71, 121.31, 111.74, 89.57, 57.48, 16.18, 4.12; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{10}H_{10}IO$ 272.9776, Found 272.9781



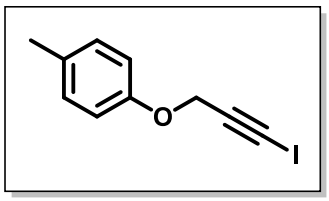
1-((3-iodoprop-2-yn-1-yl)oxy)-3-methylbenzene (2e)

Yield: 91% (248 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.22–7.10 (m, 1H), 6.98–6.85 (m, 3H), 4.80 (s, 2H), 2.33 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 157.58, 139.60, 129.21, 122.44, 115.76, 111.62, 89.32, 57.25, 21.50, 4.33; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{10}H_{10}IO$ 272.9776, Found 272.9778.

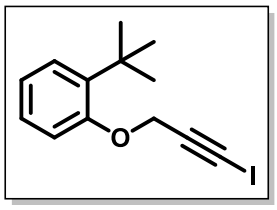


1-((3-iodoprop-2-yn-1-yl)oxy)-4-methylbenzene (2f)

Yield: 96% (261 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.10 (d, *J* = 8.4 Hz, 2H), 6.86 (d, *J* = 8.4 Hz, 2H), 4.79 (s, 2H), 2.30 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 155.46 (s), 130.91, 129.92, 114.75, 89.40, 57.47, 20.48, 4.28; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{10}H_{10}IO$ 272.9776, Found 272.9780.



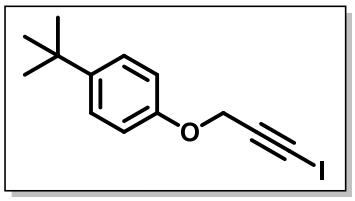
1-(*tert*-butyl)-2-((3-iodoprop-2-yn-1-yl)oxy)benzene (2g)



Yield: 87% (273 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.30 (dd, *J* = 7.6, 1.6 Hz, 1H), 7.18 (ddd, *J* = 8.0, 7.2, 1.6 Hz, 1H), 6.99–6.89 (m, 2H), 4.86 (s, 2H), 1.38 (s, 9H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 156.59, 138.75, 126.97, 126.79, 121.25, 112.83, 89.61, 57.19, 34.78, 29.88, 3.85; HRMS (EI) m/z calcd. For $[M]^+$ $C_{13}H_{15}IO$ 314.0168, Found 314.0154.

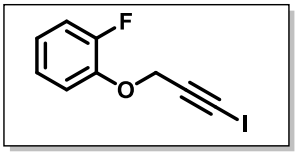
1-(*tert*-butyl)-4-((3-iodoprop-2-yn-1-yl)oxy)benzene (2h)

Yield: 90% (283 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.31 (d, *J* = 8.8 Hz, 2H), 6.89 (d, *J* = 8.8 Hz, 2H), 4.79 (s, 2H), 1.30 (s, 9H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 155.41, 144.36, 126.33, 114.34, 89.49, 57.45, 34.15, 31.53, 4.35; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{13}H_{16}IO$ 315.0246, Found 315.0239.



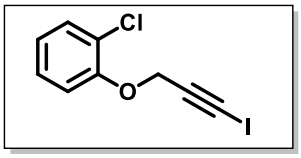
1-fluoro-2-((3-iodoprop-2-yn-1-yl)oxy)benzene (2i)

Yield: 85% (234 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.15–7.03 (m, 3H), 7.02–6.91 (m, 1H), 4.89 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 154.33-151.88 (d, $^{1}J_{FC}$ = 246.1 Hz), 116.67 (d, $^{2}J_{FC}$ = 18.1 Hz), 145.7-145.6 (d, $^{3}J_{FC}$ = 10.6 Hz), 122.65-122.56 (d, $^{3}J_{FC}$ = 6.9 Hz), 124.57-124.53 (d, $^{4}J_{FC}$ = 3.9 Hz),116.29, 88.98, 58.91, 6.06; ^{19}F NMR (376 MHz, $CDCl_3$) δ -133.85; ^{19}F NMR (376 MHz, $CDCl_3$) δ -133.85; HRMS (ESI) m/z calcd. For $[M+H]^+$ C_9H_7FIO 276.9526, Found 276.9530.



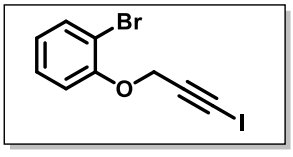
1-chloro-2-((3-iodoprop-2-yn-1-yl)oxy)benzene (2j)

Yield: 78% (227 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.38 (dd, *J* = 8.0, 1.6 Hz, 1H), 7.24 (ddd, *J* = 8.4, 7.6, 1.6 Hz, 1H), 7.06 (dd, *J* = 8.4, 1.3 Hz, 1H), 6.96 (td, *J* = 8.0, 1.4 Hz, 1H), 4.91 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 153.25, 130.71, 127.94, 123.40, 122.70, 114.59, 88.85, 58.49, 6.26; HRMS (EI) m/z calcd. For $[M]^+$ C_9H_6ClIO 291.9152, Found 291.9144.



1-bromo-2-((3-iodoprop-2-yn-1-yl)oxy)benzene (2k)

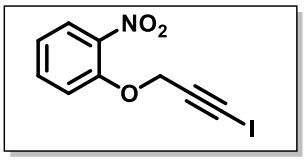
Yield: 98% (329 mg); yellow solid. m.p.: 53.0~54.5°C. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.58 (dd, *J* = 8.0, 1.6 Hz, 1H), 7.31 (ddd, *J* = 8.4, 7.6, 1.6 Hz, 1H), 7.07 (dd, *J* = 8.3, 1.3 Hz, 1H),



6.92 (td, J = 7.6, 1.6 Hz, 1H), 4.93 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 154.05, 133.64, 128.54, 123.03, 114.36, 112.49, 88.72, 58.46, 6.07; HRMS (ESI) m/z calcd. For $[M+H]^+$ C_9H_7BrIO 336.8725, Found 336.8722.

1-((3-iodoprop-2-yn-1-yl)oxy)-2-nitrobenzene (2l)

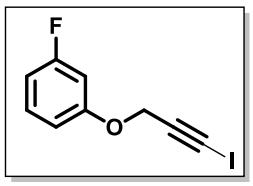
Yield: 98% (297 mg); white solid. m.p.: 100~100.5°C. ^{1}H NMR (400 MHz, $CDCl_3$) δ



7.86 (dd, J = 8.0, 1.6 Hz, 1H), 7.58 (ddd, J = 8.5, 7.4, 1.7 Hz, 1H), 7.31–7.21 (m, 1H), 7.11 (ddd, J = 8.4, 7.6, 1.1 Hz, 1H), 4.99 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 150.66, 140.26, 133.96, 125.62, 121.42, 115.47, 87.69, 58.66, 7.03; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_9H_7INO_3$ 303.9471, Found 303.9466.

1-fluoro-3-((3-iodoprop-2-yn-1-yl)oxy)benzene (2m)

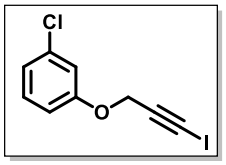
Yield: 70% (193 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.33–7.22 (m, 1H),



6.82–6.68 (m, 3H), 4.84 (s, 2H); ^{13}C NMR (101 MHz, CDCl3) δ 164.77-162.33 (d, $^1J_{FC}$ = 245.7 Hz), 102.98-102.73 (d, $^2J_{FC}$ = 25.1 Hz), 108.62-108.41 (d, $^2J_{FC}$ = 21.3 Hz), 158.91-158-80 (d, $^3J_{FC}$ = 10.8 Hz), 130.40-130.30 (d, $^3J_{FC}$ = 9.9 Hz), 110.63-110.60 (d, $^4J_{FC}$ = 2.7 Hz), 88.71, 57.59, 5.45; ^{19}F NMR (376 MHz, $CDCl_3$) δ -111.29 (s); HRMS (ESI) m/z calcd. For $[M+H]^+$ C_9H_7FIO 276.9526, Found 276.9531.

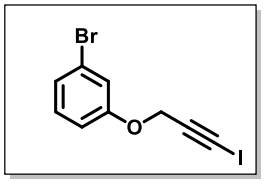
1-chloro-3-((3-iodoprop-2-yn-1-yl)oxy)benzene (2n)

Yield: 72% (210 mg); yellow liquid.^{1}H NMR (400 MHz, $CDCl_3$) δ 7.25 (dd, J = 12.2,



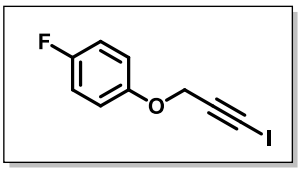
4.1 Hz, 1H), 7.05–6.96 (m, 2H), 6.88 (ddd, J = 8.4, 2.4, 0.8 Hz, 1H), 4.83 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 158.26, 134.96, 130.35, 121.90, 115.55, 113.30, 88.67, 57.58, 5.63; HRMS (ESI) m/z calcd. For $[M+H]^+$ C_9H_7ClIO 292.9230, Found 292.9233.

1-bromo-3-((3-iodoprop-2-yn-1-yl)oxy)benzene (2o)

Yield: 83% (279 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.24–7.11 (m, 3H), 

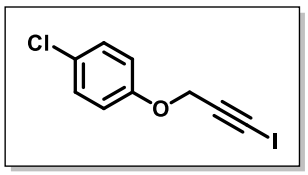
6.96–6.88 (m, 1H), 4.83 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 158.28, 130.65, 124.81, 122.85, 118.42, 113.74, 88.58, 57.56, 5.56; HRMS (ESI) m/z calcd. For $[M+H]^+$ C_9H_7BrIO 336.8725, Found 336.8725.

1-fluoro-4-((3-iodoprop-2-yn-1-yl)oxy)benzene (2p)

Yield: 75% (207 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.02–6.94 (m, 2H), 

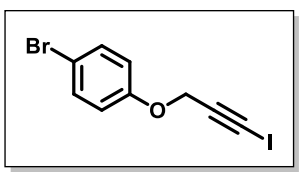
6.93–6.87 (m, 2H), 4.78 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 159.00-156.63 (d, $^{1}J_{FC}$ = 239.4 Hz), 116.05-115.62 (d, $^{2}J_{FC}$ = 23.2 Hz), 116.25-116.17 (d, $^{3}J_{FC}$ = 8.0 Hz), 153.66, 89.10, 58.08, 4.89; ^{19}F NMR (376 MHz, $CDCl_3$) δ -122.74; HRMS (ESI) m/z calcd. For $[M+H]^+$ C_9H_7FIO 276.9526, Found 276.9525.

1-chloro-4-((3-iodoprop-2-yn-1-yl)oxy)benzene (2q)

Yield: 97% (283 mg); Black solid. m.p.: 58.5~60.1℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 

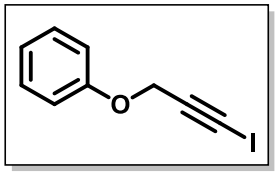
7.33–7.23 (m, 2H), 6.96–6.87 (m, 2H), 4.80 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 156.01, 129.40, 126.50, 116.19, 88.73, 57.53, 5.07; HRMS (ESI) m/z calcd. For $[M+H]^+$ C_9H_7ClIO 292.9230, Found 292.9222.

1-bromo-4-((3-iodoprop-2-yn-1-yl)oxy)benzene (2r)

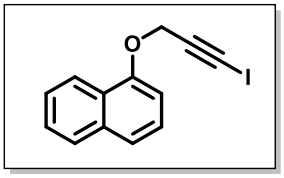
Yield: 93% (313 mg); white solid. m.p.: 73.5~75.0℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 

7.39 (d, *J* = 9.2 Hz, 2H), 6.84 (d, *J* = 9.2 Hz, 2H), 4.79 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 156.54, 132.29, 116.68, 113.87, 88.64, 57.45, 5.32; HRMS (ESI) m/z calcd. For $[M+H]^+$ C_9H_7BrIO 336.8725, Found 336.8726.

((3-iodoprop-2-yn-1-yl)oxy)benzene (2s)

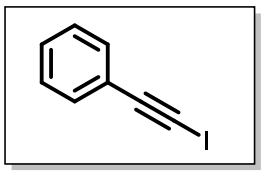
Yield: 70% (181 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.39–7.30 (m, 2H),  7.09–6.96 (m, 3H), 4.86 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 157.59, 129.56, 121.65, 114.91, 89.26, 57.33, 4.68; HRMS (ESI) m/z calcd. For $[M+H]^+$ C_9H_8IO 258.9620, Found 258.9617.

1-((3-iodoprop-2-yn-1-yl)oxy)naphthalene (2t)



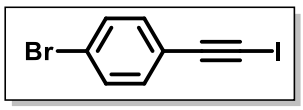
Yield: 80% (247 mg); white solid, m.p.: 64.0~64.5°C. ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.29–8.21 (m, 1H), 7.82–7.74 (m, 1H), 7.47 (ddd, *J* = 13.2, 6.4, 3.2 Hz, 3H), 7.36 (t, *J* = 8.0 Hz, 1H), 6.88 (d, *J* = 7.6 Hz, 1H), 4.98 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 153.27, 134.48, 127.42, 126.48, 125.58, 125.38, 121.96, 121.17, 105.47, 89.15, 57.59, 4.74; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{13}H_{10}IO$ 308.9776, Found 308.9781.

(iodoethynyl)benzene (2u)

Yield: 88% (201 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.51 (dt, *J* = 7.2,  2.8 Hz, 2H), 7.47–7.24 (m, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 132.45, 128.94, 128.38, 123.47, 94.34, 6.82; HRMS (ESI) m/z calcd. For $[M+H]^+$ C_8H_6I 228.9514, Found 228.9517.

1-bromo-4-(iodoethynyl)benzene (2v)

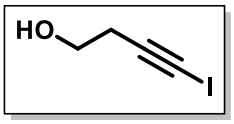
Yield: 73% (223 mg); white solid. m.p : 92~93°C. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.51–



7.43 (m, 2H), 7.35–7.28 (m, 2H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 133.77, 131.56, 123.21, 122.32, 93.09, 8.15. HRMS () m/z calcd. For $[M+H]^+$ C_8H_5BrI 306.8619, Found 306.8612.

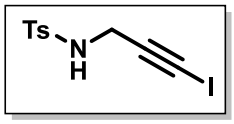
4-iodobut-3-yn-1-ol (2w)

Yield: 70% (137 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 3.73 (t, *J* = 6.4 Hz, 2H), 2.64 (t, *J* = 6.4 Hz, 2H), 2.31 (s, 1H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 91.32 (s), 60.99, 25.09, -4.29. HRMS (ESI) m/z calcd. For $[M+H]^+$ C_4H_6IO 196.9463, Found 196.9468



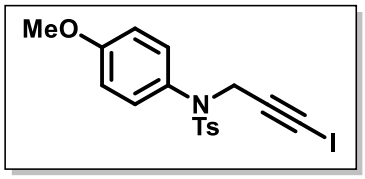
***N*-(3-iodoprop-2-yn-1-yl)-4-methylbenzenesulfonamide (2x)**

Yield: 98% (328 mg); white solid. m.p.: 141.0~143.0°C. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.79 (d, *J* = 8.4 Hz, 2H), 7.35 (d, *J* = 8.0 Hz, 2H), 4.82 (t, *J* = 6.0 Hz, 1H), 4.01 (d, *J* = 6.0 Hz, 2H), 2.46 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 143.90, 136.64, 129.77, 127.46, 88.11, 34.73, 21.61, 1.53; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{10}H_{11}INO_2S$ 335.9555, Found 335.9560.



N-(3-iodoprop-2-yn-1-yl)-N-(4-methoxyphenyl)-4-methylbenzenesulfonamide (2y)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.55 (d, *J* = 8.2 Hz, 2H), 7.28 (d, *J* = 8.0 Hz, 2H), 7.13 (d, *J* = 8.9 Hz, 2H), 6.84 (d, *J* = 8.9 Hz, 2H), 4.55 (s, 2H), 3.81 (s, 3H), 2.45 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 159.38, 143.62, 135.68, 132.16, 129.95, 129.29, 128.18, 114.27, 88.57, 55.45, 43.37, 21.65, 2.53; HRMS (EI) m/z calcd. For $[M+H]^+$ $C_{17}H_{16}INO_3S$ 440.9896, Found 440.9887.

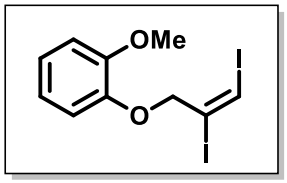


10. Representative synthetic procedure for iodoalkenes 3

Propargyl ether (**1**, 1 mmol, 1 equiv.) was dissolved in H_2O (10 mL) in a round-bottom flask. Subsequently, I_2 (2 mmol, 2 equiv.) and KI (2 mmol, 2 equiv.) were added and reacted under ultrasonication at room temperature. When the reaction was complete, 1M $Na_2S_2O_3$ was added to quench the excess I_2. The crude reaction mixture was extracted using ethyl acetate and water. The organic layer was washed with brine solution and dried over $MgSO_4$. After the removal of solvent, the corresponding iodoalkene was obtained.

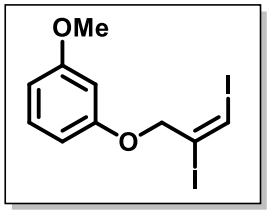
(*E*)-1-((2,3-diiodoallyl)oxy)-2-methoxybenzene (3a)

Yield: 99% (412 mg); yellow solid. m.p.: 75.5~77.3℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.19 (t, *J* = 1.0 Hz, 1H), 7.07–6.97 (m, 1H), 6.93 (ddd, *J* = 8.0, 6.4, 2.4 Hz, 3H), 4.78 (d, *J* = 1.0 Hz, 2H), 3.92 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 150.20, 146.82, 122.83, 120.88, 116.15, 112.55, 99.60, 82.10, 76.04, 56.22; HRMS (EI) m/z calcd. For $[M]^+$ $C_{10}H_{10}I_2O_2$ 415.8770, Found 415.8762.



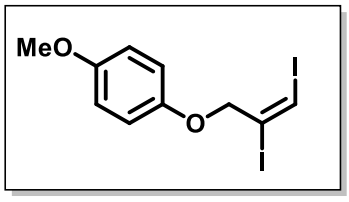
(*E*)-1-((2,3-diiodoallyl)oxy)-3-methoxybenzene (3b)

Yield: 90% (374 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.26-7.21 (m, 2H), 6.62–6.55 (m, 3H), 4.71 (d, *J* = 0.8 Hz, 2H), 3.84 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 160.89, 158.68, 130.07, 107.62, 107.50, 101.85, 99.07, 82.16, 74.80, 55.48; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{10}H_{11}I_2O_2$ 416.8848,, Found 416.8846.



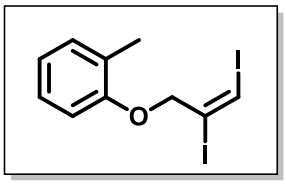
(*E*)-1-((2,3-diiodoallyl)oxy)-4-methoxybenzene (3c)

Yield: 96% (399 mg); yellow solid. m.p.: 78.1~80.1℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.20 (s, 1H), 6.96–6.91 (m, 2H), 6.90–6.85 (m, 2H), 4.68 (d, *J* = 0.4 Hz, 2H), 3.80 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 154.65, 151.50, 116.84, 114.73, 99.66, 82.08, 75.62, 55.76; HRMS (EI) m/z calcd. For $[M+H]^+$ $C_{10}H_{10}I_2O_2$ 415.8770,, Found 415.8763.



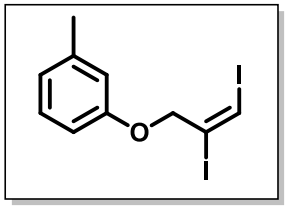
(*E*)-1-((2,3-diiodoallyl)oxy)-2-methylbenzene (3d)

Yield: 98% (392 mg); yellow solid. m.p. : 70.5~71.2℃ ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.22–7.17 (m, 3H), 6.99–6.90 (m, 1H), 6.81 (d, *J* = 8.0 Hz, 1H), 4.71 (d, *J* = 1.2 Hz, 2H), 2.37 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 155.53, 130.99, 127.47, 126.77, 121.40, 111.85, 99.39, 81.58, 74.42, 16.72; HRMS (EI) m/z calcd. For $[M]^+$ $C_{10}H_{10}I_2O$ 399.8821, Found 399.8812.



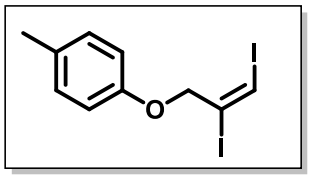
(*E*)-1-((2,3-diiodoallyl)oxy)-3-methylbenzene (3e)

Yield: 78% (312 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.24–7.20 (m, 2H), 6.90–6.74 (m, 3H), 4.71 (d, *J* = 1.2 Hz, 2H), 2.38 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 157.48, 139.70, 129.32, 122.66, 116.33, 112.24, 99.24, 81.91, 74.68, 21.59; HRMS (EI) m/z calcd. For $[M]^+$ $C_{10}H_{10}I_2O$ 399.8821, Found 399.8841.



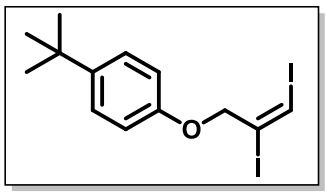
(*E*)-1-((2,3-diiodoallyl)oxy)-4-methylbenzene (3f)

Yield: 94% (376 mg); yellow solid. m.p.: 68.1~70.0°C. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.21 (t, *J* = 1.2 Hz, 1H), 7.14 (d, *J* = 8.0 Hz, 2H), 6.92–6.85 (m, 2H), 4.70 (d, *J* = 1.2 Hz, 2H), 2.33 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 155.35, 131.14, 130.04, 115.41, 99.47, 81.80, 74.91, 20.60; HRMS (EI) m/z calcd. For $[M+H]^+$ $C_{10}H_{10}I_2O$ 399.8821, Found 399.8824.



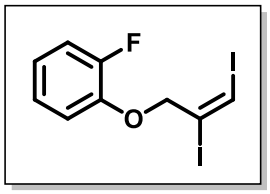
(*E*)-1-(tert-butyl)-4-((2,3-diiodoallyl)oxy)benzene (3h)

Yield: 93% (411 mg); black liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.38 (d, *J* = 8.8 Hz, 2H), 7.24 (s, 1H), 6.94 (d, *J* = 8.8 Hz, 2H), 4.73 (d, *J* = 0.8 Hz, 2H), 1.36 (s, 9H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 155.30, 144.49, 126.42, 114.87, 99.48, 81.90, 74.89, 34.22, 31.61; HRMS (EI) m/z calcd. For $[M]^+$ $C_{13}H_{16}I_2O$ 441.9291, Found 441.9282.



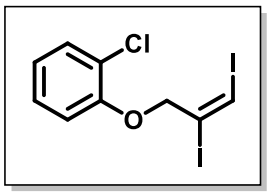
(*E*)-1-((2,3-diiodoallyl)oxy)-2-fluorobenzene (3i)

Yield: 98% (396 mg); yellow solid. m.p,: 72.3~74.1℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.22 (s, 1H), 7.17–6.92 (m, 4H), 4.77 (s, 2H); ^{13}C NMR (101 MHz, CDCl3) δ 153.05 (d, $^1J_{FC}$ = 246.9 Hz), 145.24 (d, $^3J_{FC}$ = 10.6 Hz), 124.24 (d, $^4J_{FC}$ = 3.9 Hz), 122.58 (d, $^3J_{FC}$ = 6.8 Hz), 116.89, 116.54 (d, $^2J_{FC}$ = 18.2 Hz), 98.09, 82.69, 76.13; ^{19}F NMR (376 MHz, $CDCl_3$) δ -132.76; HRMS (EI) m/z calcd. For $[M]^+$ $C_9H_7FI_2O$ 403.8570, Found 403.8551.



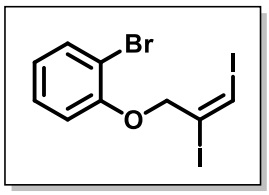
(*E*)-1-chloro-2-((2,3-diiodoallyl)oxy)benzene (3j)

Yield: 96% (403 mg); white solid. m.p, : 78.2~80.1℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.40 (dd, *J* = 8.0, 1.6 Hz, 1H), 7.26–7.17 (m, 1H),7.23 (s, 1H), 7.01–6.86 (m, 2H), 4.76 (d, *J* = 0.8 Hz, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 152.93, 130.62, 127.65, 123.73, 122.62, 114.96, 98.02, 82.44, 75.57; HRMS (EI) m/z calcd. For $[M]^+$ $C_9H_7ClI_2O$ 419.8275, Found 419.8258.



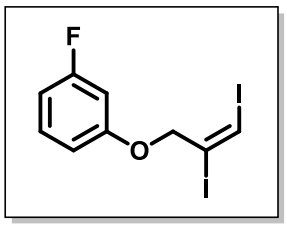
(*E*)-1-bromo-2-((2,3-diiodoallyl)oxy)benzene (3k)

Yield: 97% (450 mg); yellow solid. m.p.: 82.5~84.1℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.60 (dd, *J* = 8.0, 1.6 Hz, 1H), 7.29 (td, *J* = 8.0, 1.6 Hz, 1H), 7.25 (t, *J* = 1.2 Hz, 1H), 6.97–6.85 (m, 2H), 4.78 (d, *J* = 1.2 Hz, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 153.82, 133.77, 128.48, 123.07, 114.66, 112.85, 98.08, 82.60, 75.59; HRMS (EI) m/z calcd. For $[M]^+$ $C_9H_7BrI_2O$ 463.7770, Found 463.7794.



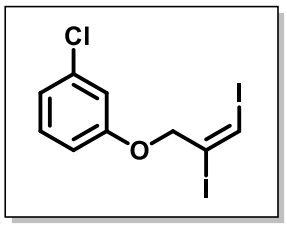
(*E*)-1-((2,3-diiodoallyl)oxy)-3-fluorobenzene (3m)

Yield: 98% (396 mg); yellow solid. m.p.: 71.2~72.3℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.29–7.25 (m, 2H), 6.80–6.66 (m, 3H), 4.71 (d, *J* = 1.2 Hz, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 164.78-162.33 (d, $^1J_{FC}$ = 245.8 Hz), 103.56-103.31 (d, $^2J_{FC}$ = 25.0 Hz), 108.72 (d, $^2J_{FC}$ = 21.3 Hz), 158.74-158.63 (d, $^3J_{FC}$ = 11.0 Hz), 130.44-130.34 (d, $^3J_{FC}$ = 10.0 Hz), 111.04, 98.12, 82.55, 74.96; ^{19}F NMR (376 MHz, $CDCl_3$) δ -111.18; HRMS (EI) m/z calcd. For $[M]^+$ $C_9H_7FI_2O$ 403.8570, Found 403.8549.



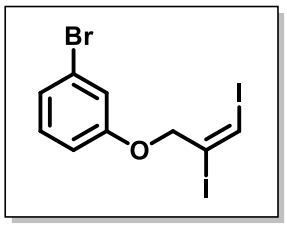
(*E*)-1-chloro-3-((2,3-diiodoallyl)oxy)benzene (3n)

Yield: 98% (412 mg); yellow liquid. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.30–7.21 (m, 2H),7.25 (s, 1H), 7.06–6.96 (m, 1H), 6.86 (ddd, *J* = 8.4, 2.4, 0.8 Hz, 1H), 4.71 (d, *J* = 1.2 Hz, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 158.10, 135.01, 130.40, 122.08, 116.10, 113.80, 98.05, 82.78, 74.95; HRMS (EI) m/z calcd. For $[M]^+$ $C_9H_7ClI_2O$ 419.8275, Found 419.8266.



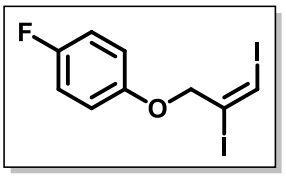
(*E*)-1-bromo-3-((2,3-diiodoallyl)oxy)benzene (3o)

Yield: 97% (450 mg); yellow solid. m.p.: 81.2~82.5℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.26 (s, 1H), 7.22–7.13 (m, 3H), 6.90 (dt, *J* = 7.2, 2.2 Hz, 1H), 4.71 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 158.13, 130.72, 125.00, 122.94, 118.98, 114.32, 98.02, 82.89, 74.96; HRMS (EI) m/z calcd. For $[M+2]^+$ $C_9H_7BrI_2O$ 465.7749, Found 465.7732.



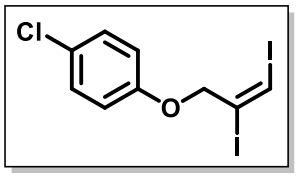
(*E*)-1-((2,3-diiodoallyl)oxy)-4-fluorobenzene (3p)

Yield: 97% (392 mg); yellow solid. m.p, : 73.5~75.1℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.23 (d, *J* = 0.8 Hz, 1H), 7.06–6.97 (m, 2H), 6.93 (ddd, *J* = 6.8, 5.4, 3.2 Hz, 2H), 4.69 (d, *J* = 1.2 Hz, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 157.92 (d, $^1J_{FC}$ = 239.8 Hz), 116.03 (d, $^2J_{FC}$ = 23.2 Hz), 116.87 (d, $^3J_{FC}$ = 8.0 Hz) 153.48, 98.81, 82.36, 75.49; ^{19}F NMR (376 MHz, $CDCl_3$) δ -122.39; HRMS (EI) m/z calcd. For $[M]^+$ $C_9H_7FI_2O$ 403.8570, Found 403.8559.



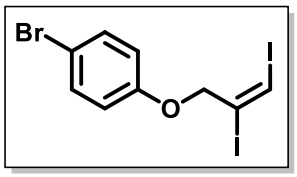
(*E*)-1-chloro-4-((2,3-diiodoallyl)oxy)benzene (3q)

Yield: 93% (391 mg); yellow solid. m.p.: 72.3~74.0℃ ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.31 – 7.25 (m, 2H), 7.24 (t, *J* = 1.2 Hz, 1H), 6.95–6.86 (m, 2H), 4.70 (d, *J* = 1.2 Hz, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 156.00, 129.52, 126.84, 116.90, 98.45, 82.49, 75.04; HRMS (EI) m/z calcd. For $[M]^+$ $C_9H_7ClI_2O$ 419.8275, Found 419.8288.



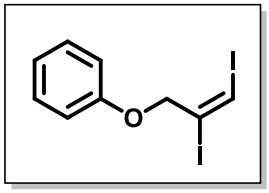
(*E*)-1-bromo-4-((2,3-diiodoallyl)oxy)benzene (3r)

Yield: 95% (441 mg); yellow solid. m.p.: 79.0~80.5℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.47–7.38 (m, 2H), 7.24 (s, 1H), 6.90–6.80 (m, 2H), 4.70 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 156.51, 132.46, 117.38, 114.19, 98.37, 82.50, 74.95; HRMS (EI) m/z calcd. For $[M]^+$ $C_9H_7BrI_2O$ 463.7770, Found 463.7779.



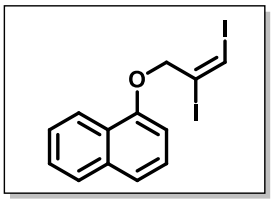
(*E*)-((2,3-diiodoallyl)oxy)benzene (3s)

Yield: 95% (367 mg); black solid. m.p.: 65.8~67.0℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.35 (dd, *J* = 8.8, 7.2 Hz, 2H), 7.23 (t, *J* = 1.2 Hz, 1H), 7.09–6.95 (m, 3H), 4.73 (d, *J* = 1.2 Hz, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 157.47, 129.62, 121.84, 115.49, 99.10, 82.02, 74.75; HRMS (EI) m/z calcd. For $[M]^+$ $C_9H_8I_2O$ 385.8665, Found 385.8648.



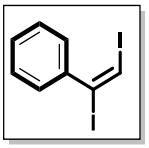
(*E*)-1-((2,3-diiodoallyl)oxy)naphthalene (3t)

Yield: 92% (401 mg); black solid. m.p.: 85.1~87.0℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.53–8.45 (m, 1H), 7.95–7.85 (m, 1H), 7.85–7.51 (m, 4H), 7.43 (t, *J* = 8.0 Hz, 1H), 7.29 (s, 1H), 6.83 (d, *J* = 7.6 Hz, 1H), 4.90 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 153.25, 134.67, 127.56, 126.72, 125.60, 125.60, 122.59, 121.41, 105.80, 98.85, 82.02, 74.64; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{13}H_{11}I_2O$ 436.8899, Found 436.8903.



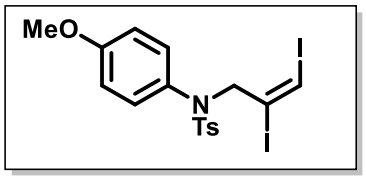
(*E*)-(1,2-diiodovinyl)benzene (3u)

Yield: 98% (349 mg); black soild. m.p.: 71.5~73.2℃. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.39-7.37 (m, 5H), 7.29 (s, 1H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 143.11, 128.99, 128.53, 128.45, 99.23, 80.83.



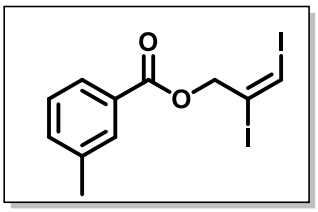
(E)-*N*-(2,3-diiodoallyl)-*N*-(4-methoxyphenyl)-4-methylbenzenesulfonamide (3y)

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.53 (d, *J* = 8.2 Hz, 2H), 7.34–7.25 (m, 2H), 7.07 (d, *J* = 8.9 Hz, 2H), 6.95 (s, 1H), 6.81 (d, *J* = 8.9 Hz, 2H), 4.45 (s, 2H), 3.81 (s, 3H), 2.46 (s, 3H). ^{13}C NMR (101 MHz,



$CDCl_3$) δ 159.44, 143.78, 135.18, 130.69, 130.03, 129.54, 127.91, 113.99, 99.34, 83.40, 60.77, 55.42, 21.66; HRMS (EI) m/z calcd. For $[M]^+$ $C_{17}H_{17}NI_2O_3S$ 568.9019, Found 568.9012.

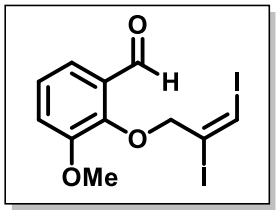
(*E*)-2,3-diiodoallyl 3-methylbenzoate (3z)



Yield: 90% (385 mg); yellow liquid. ^1H NMR (400 MHz, $CDCl_3$) δ 7.94 (d, *J* = 5.4 Hz, 2H), 7.47–7.33 (m, 2H), 7.25 (s, 1H), 5.03 (d, *J* = 0.8 Hz, 2H), 2.44 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 165.76, 138.33, 134.25, 130.49, 129.35, 128.45, 127.15, 96.17, 83.11, 71.40, 21.40; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{11}H_{11}I_2O_2$ 428.8848, Found 428.8856.

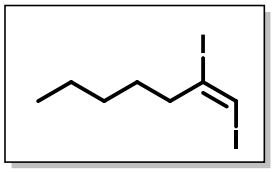
(*E*)-2-((2,3-diiodoallyl)oxy)-3-methoxybenzaldehyde (3aa)

Yield: 97% (415 mg); yellow solid. m.p.: 98.9~100.5℃. ^1H NMR (400 MHz, $CDCl_3$) δ 10.63 (s, 1H), 7.43 (t, *J* = 4.8 Hz, 1H), 7.21 (s, 1H), 7.16 (d, *J* = 4.4 Hz, 2H), 4.99 (s, 2H), 3.94 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 190.66, 152.56, 149.94, 130.00, 124.75, 119.05, 118.03, 96.46, 84.41, 80.17, 56.27; HRMS (ESI) m/z calcd. For $[M+H]^+$ $C_{11}H_{11}I_2O_3$ 444.8798, Found 444.8805.



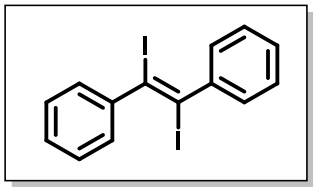
(E)-1,2-diiodohept-1-ene (3ab)

^1H NMR (400 MHz, $CDCl_3$) δ 6.83 (s, 1H), 2.57–2.48 (m, 2H), 1.57 (dt, *J* = 14.6, 7.3 Hz, 2H), 1.46–1.26 (m, 4H), 0.94 (t, *J* = 6.9 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 104.45, 78.87, 44.61, 30.31, 27.83, 22.48, 13.97; HRMS (EI) m/z calcd. For $[M]^+$ $C_7H_{12}I_2$ 349.9029, Found 349.9045.



(E)-1,2-diiodo-1,2-diphenylethene (3ac)

^1H NMR (400 MHz, DMSO) δ 7.57 (dd, *J* = 6.6, 3.0 Hz, 2H), 7.49–7.41 (m, 5H), 7.39–7.32 (m, 3H). ^{13}C NMR (101 MHz, DMSO) δ 148.17, 131.85, 129.28, 129.24, 129.08, 128.82, 128.57, 122.75, 99.64, 89.78; HRMS (EI) m/z calcd. For $[M]^+$ $C_{14}H_{10}I_2$ 431.8872, Found 431.8864.

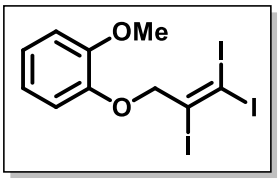


11. Representative synthetic procedure for triiodoalkenes 4

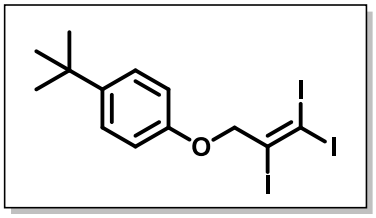
Propargyl ether (**1**, 1 mmol, 1 equiv.) was dissolved in MeOH (10 mL) in a round-bottom flask. K_2CO_3 (3 mmol, 3 equiv., 0.41 g) and I_2 (2 mmol, 2 equiv.) were then added and stirred at room temperature for 3 to 12 h. Next, I_2 (2 mmol, 2 equiv.) and KI (2 mmol, 2 equiv.) were added to the reaction mixture. The reaction mixture was continued stirring at ambient conditions for 24 h. When the reaction was complete, 1M $Na_2S_2O_3$ was added to quench the excess I_2. The crude reaction mixture was extracted using ethyl acetate and water. The organic layer was washed with brine solution and dried over $MgSO_4$. After the removal of the solvent, the product was obtained in pure form.

1-methoxy-2-((2,3,3-triiodoallyl)oxy)benzene (4a)

Yield 80% (433.4 mg); yellow solid. m.p.: 92.8~93.8°C. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.06-6.88 (m, 4H), 4.72 (s, 2H), 3.92 (s, 3H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 150.26, 146.75, 123.05, 120.93, 116.41, 115.28, 112.50, 79.85, 56.17, 22.33; HRMS (EI) m/z calcd. For $[M]^+$ $C_{10}H_9I_3O_2$ 541.7737, Found 541.7777.

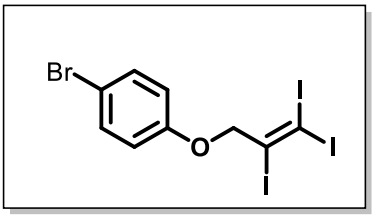


1-(tert-butyl)-4-((2,3,3-triiodoallyl)oxy)benzene (4h)



Yield 95% (539.4 mg); white solid. m.p.: 83.1~84.0°C. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.37 (d, *J* = 8.5 Hz, 2H), 6.90 (d, *J* = 8.6 Hz, 2H), 4.68 (s, 2H), 1.36 (s, 9H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 155.24, 144.61, 126.48, 114.91 (d, *J* = 14.7 Hz), 78.71, 34.23, 31.61, 22.56; HRMS (EI) m/z calcd. For $[M]^+$ $C_{13}H_{15}I_3O$ 567.8257, Found 567.8241.

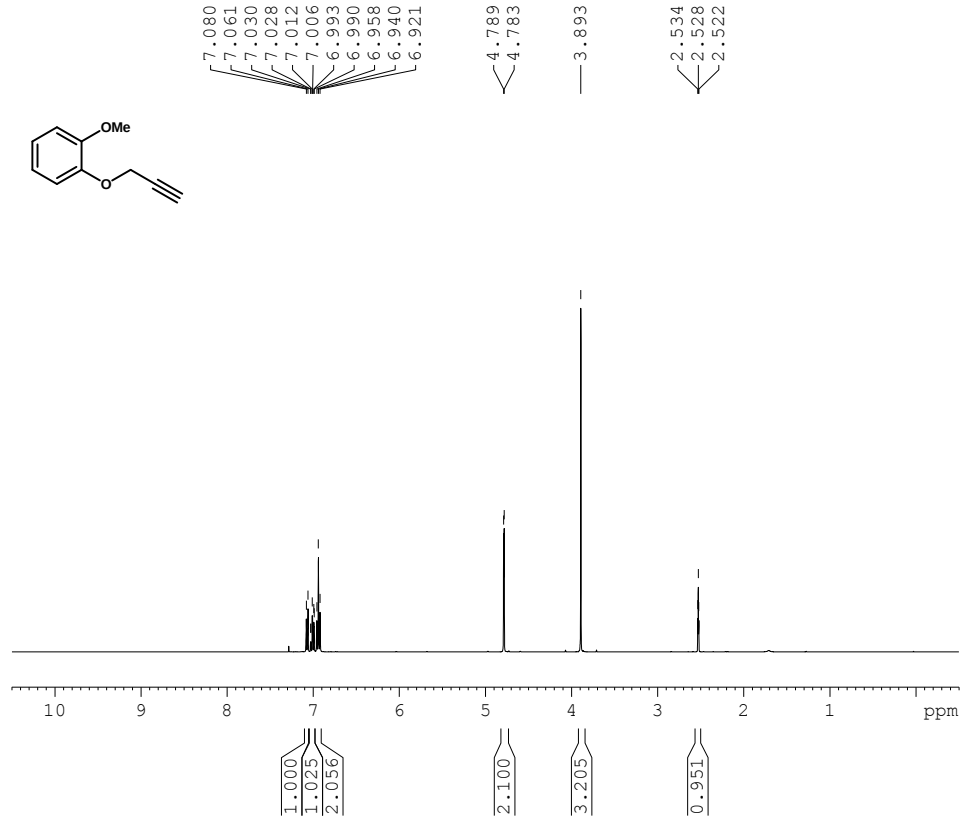
1-bromo-4-((2,3,3-triiodoallyl)oxy)benzene (4r)



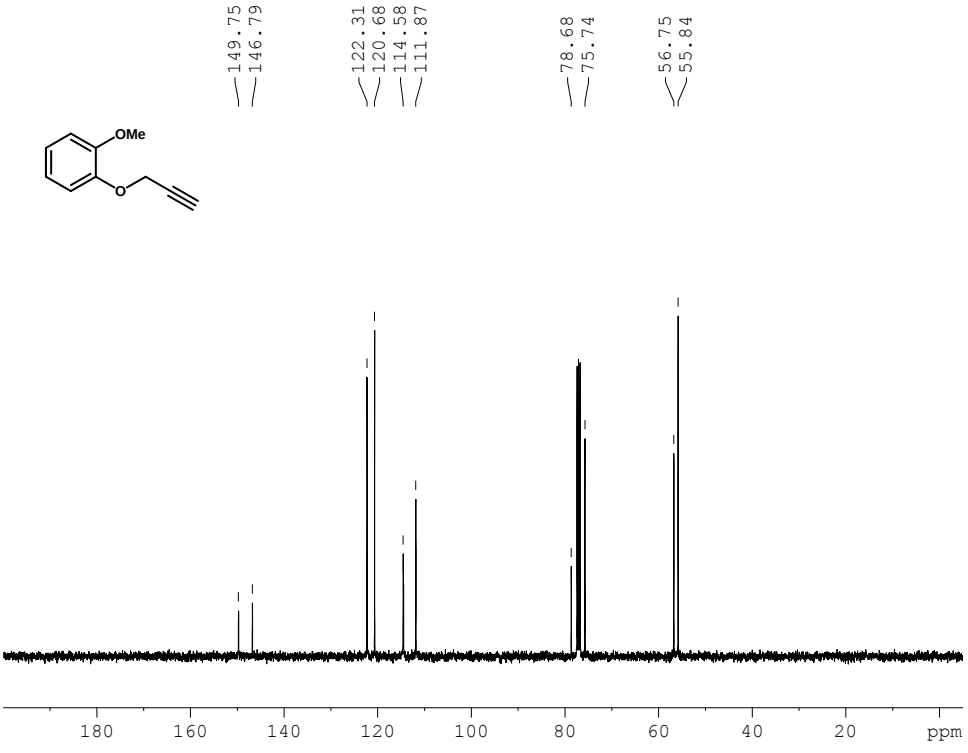
Yield 93% (548.7 mg); white soild. m.p.: 91,3~92.6°C. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.41 (d, *J* = 9.0 Hz, 2H), 6.80 (d, *J* = 9.0 Hz, 2H), 4.63 (s, 2H); ^{13}C NMR (101 MHz, $CDCl_3$) δ 156.46, 132.52, 117.35, 114.31, 113.91, 78.71, 23.08; HRMS (EI) m/z calcd. For $[M]^+$ $C_9H_6BrI_3O1$ 589.6736, Found 589.6724.

12. NMR Spectra copies

1-methoxy-2-(prop-2-yn-1-yloxy)benzene (1a)

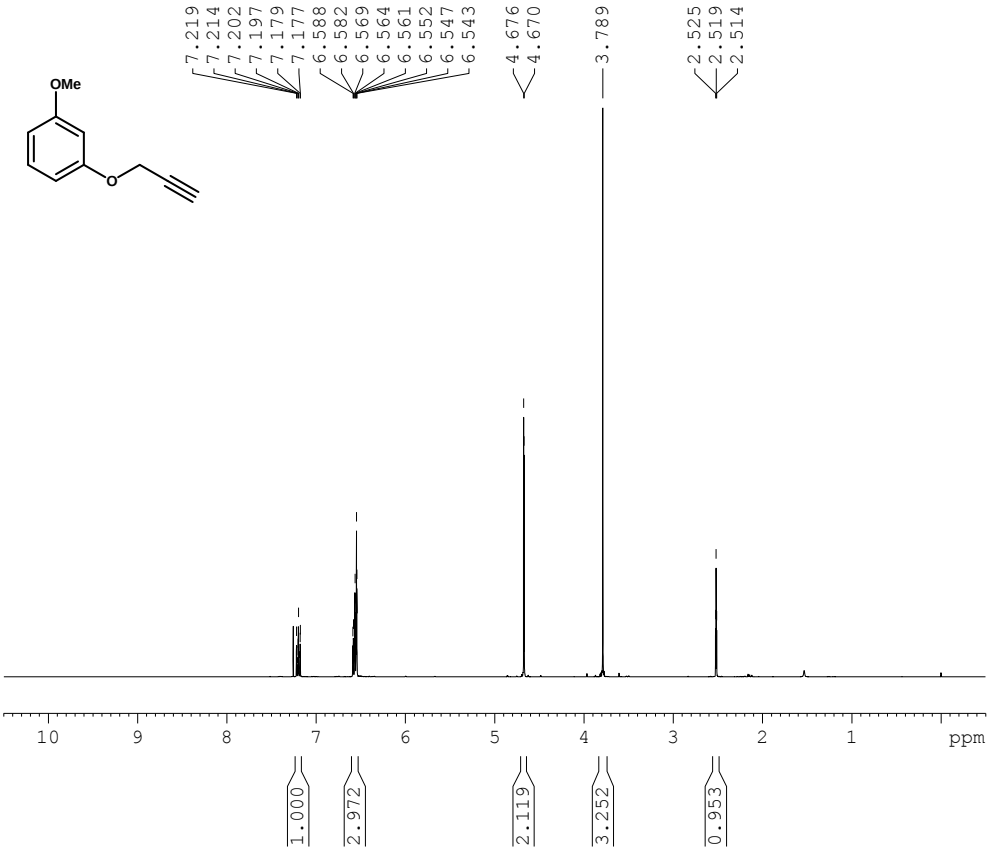



```
NAME            20241231
EXPNO                3
PROCNO               1
Date_           20241231
Time                18.46
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                  51.8
DW                69.333 usec
DE                 10.06 usec
TE                 294.5 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                  15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

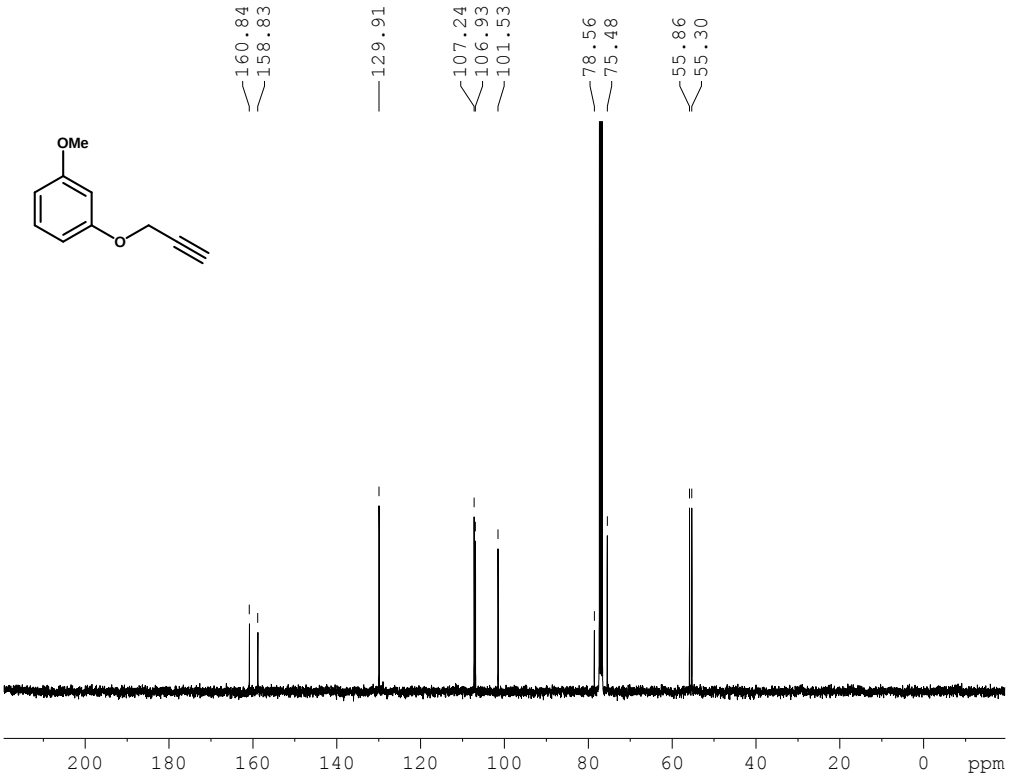



```
NAME            20241231
EXPNO                4
PROCNO               1
Date_           20241231
Time                18.48
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                    66
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                 198.09
DW                20.800 usec
DE                  6.50 usec
TE                 294.8 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                  10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-methoxy-3-(prop-2-yn-1-yloxy)benzene (1b)

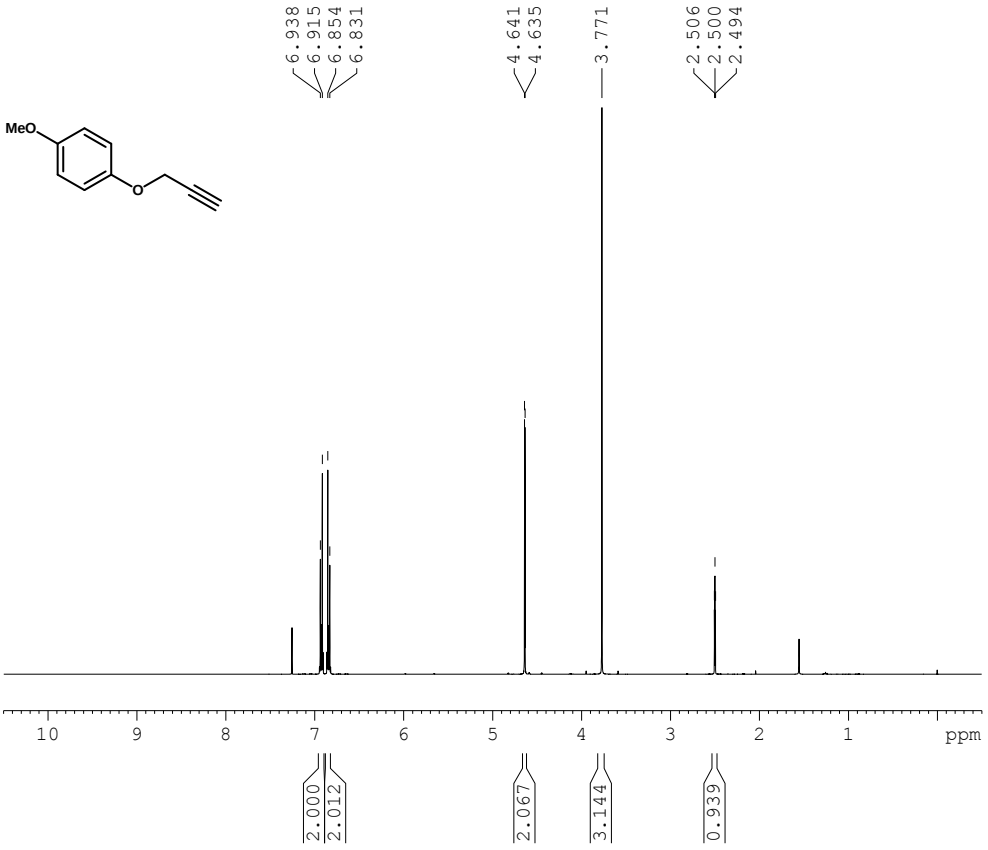



```
NAME            20231226
EXPNO                1
PROCNO               1
Date_           20231226
Time                19.24
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDC13
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                113.31
DW                69.333 usec
DE                10.06 usec
TE                298.7 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                  15.00 usec
SI                  16384
SF           400.1300121 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

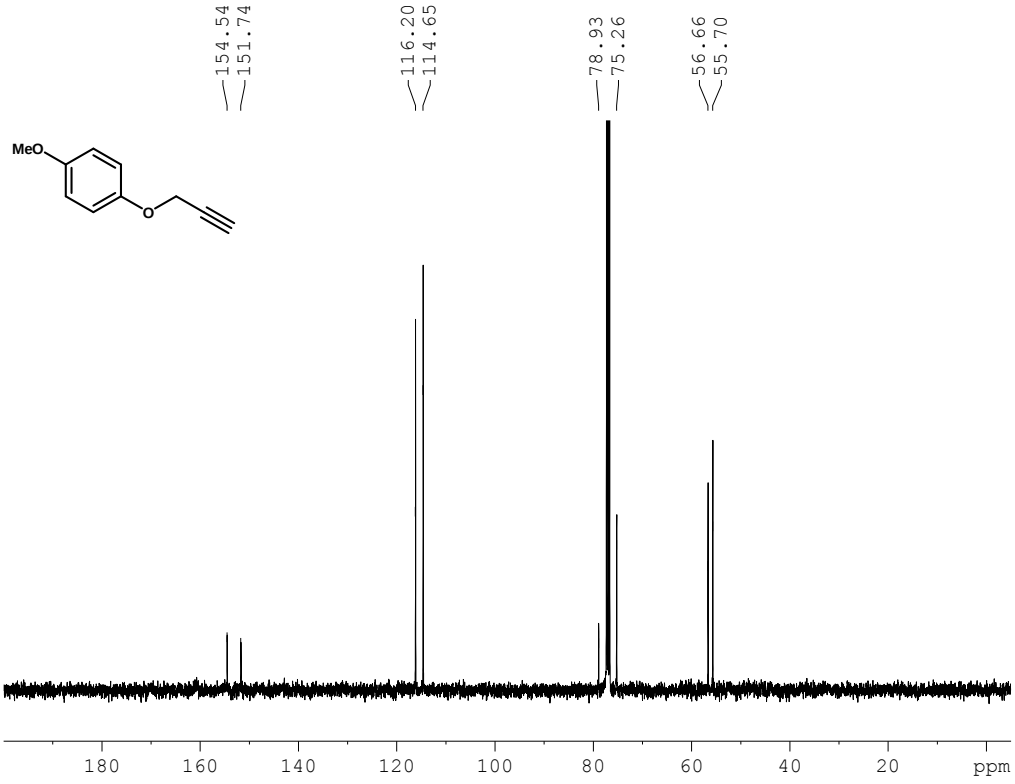



```
NAME            20231226
EXPNO                2
PROCNO               1
Date_           20231226
Time                19.25
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDC13
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.9 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                  13C
P1                  10.00 usec
SI                  32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-methoxy-4-(prop-2-yn-1-yloxy)benzene 1c

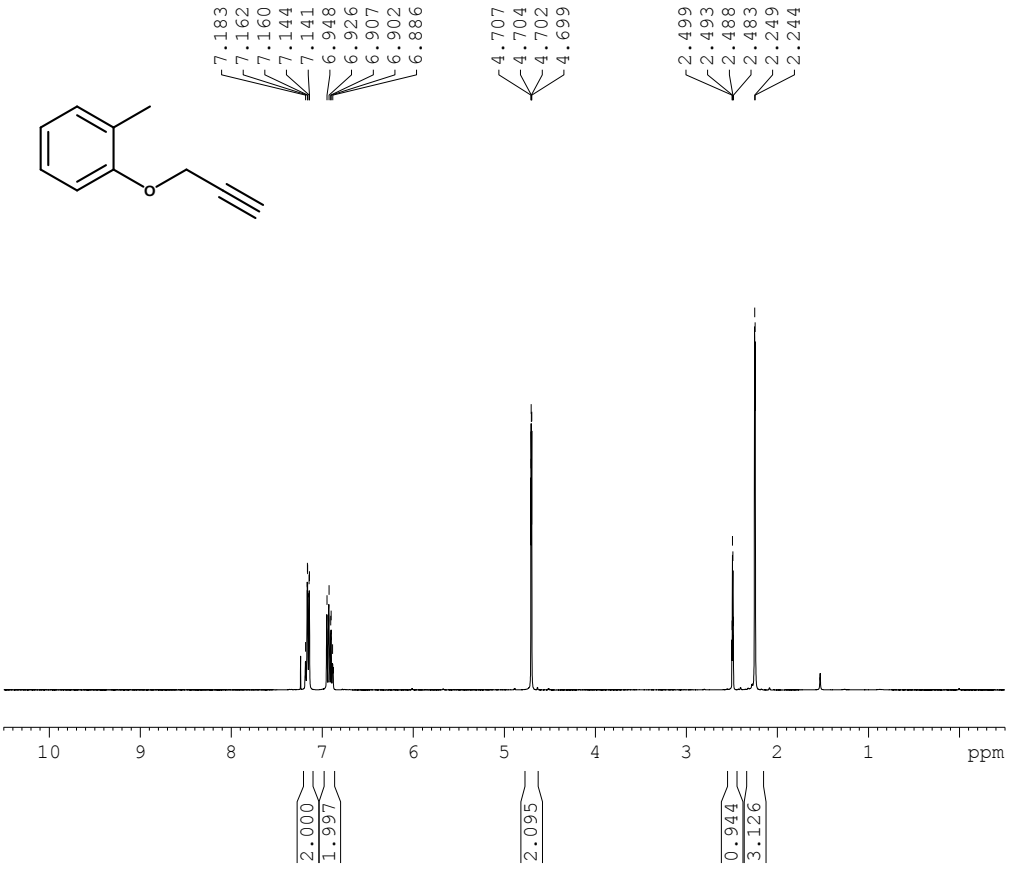



```
NAME            20240104
EXPNO                  1
PROCNO                 1
Date_           20240103
Time               14.23
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                113.31
DW                69.333 usec
DE                10.06 usec
TE                298.4 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300114 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

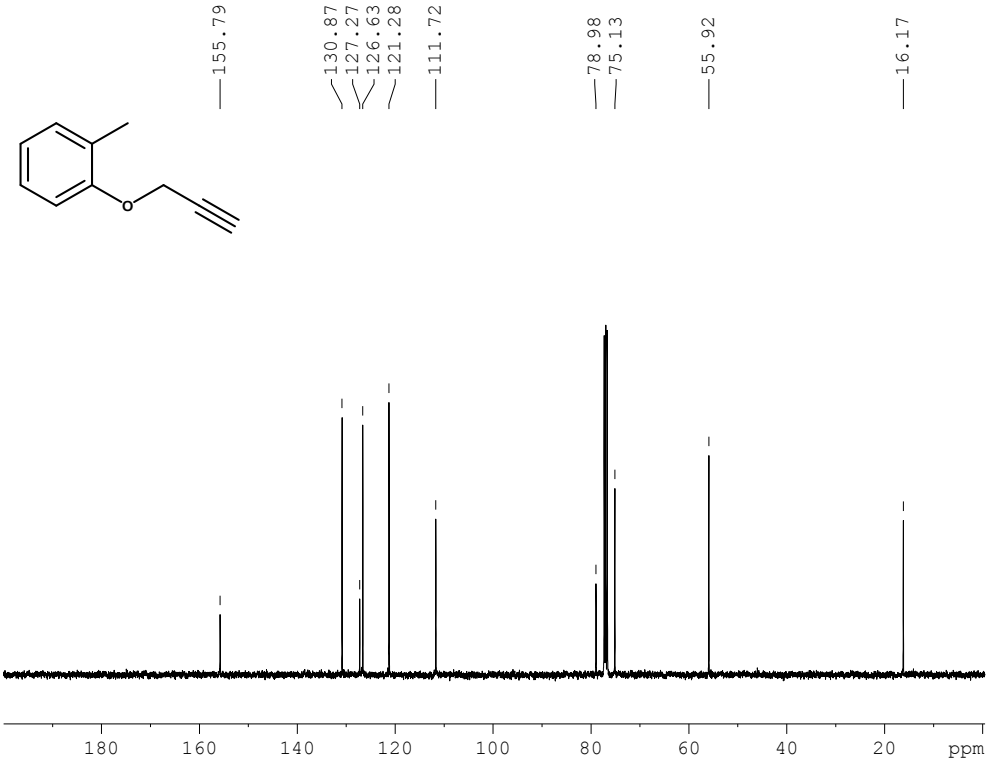



```
NAME            20240104
EXPNO                  2
PROCNO                 1
Date_           20240103
Time               14.24
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.5 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                  13C
P1                 10.00 usec
SI                 32768
SF           100.6127706 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-methyl-2-(prop-2-yn-1-yloxy)benzene 1d

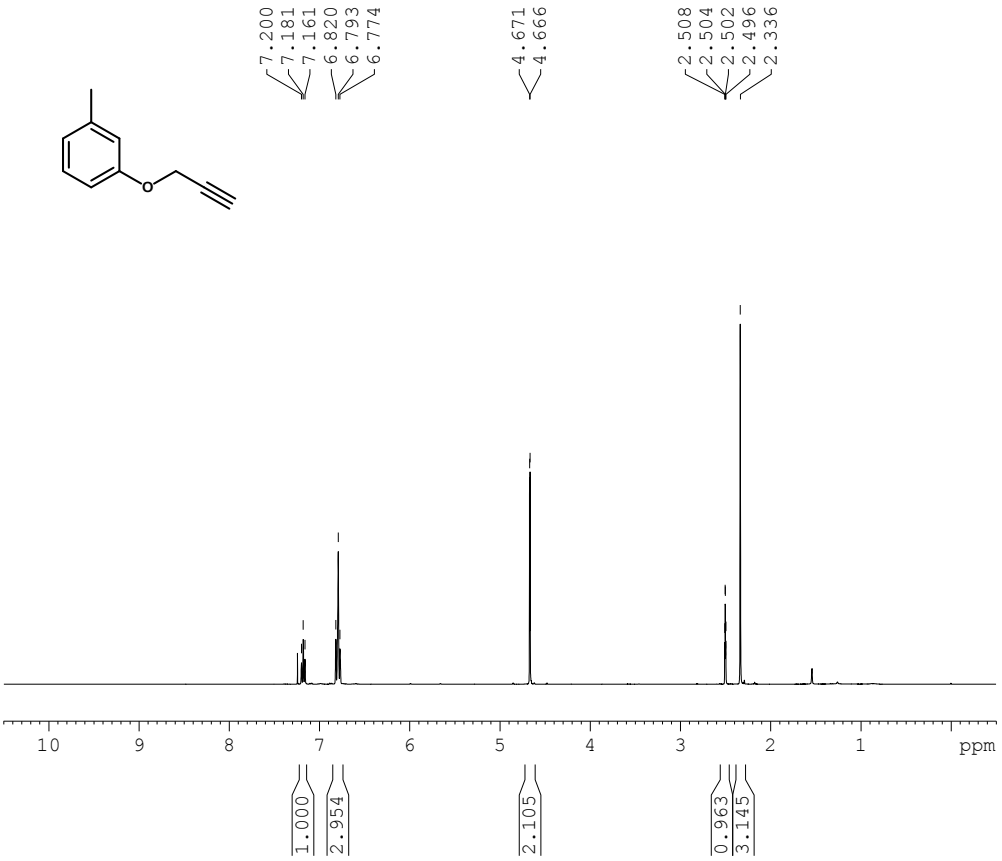



```
NAME            20240108
EXPNO                  1
PROCNO                 1
Date_           20240108
Time               21.24
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 78.51
DW                 69.333 usec
DE                 10.06 usec
TE                 298.2 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                1H
P1                 15.00 usec
SI                 16384
SF           400.1300192 MHz
WDW                  EM
SSB                   0
LB                 0.00 Hz
GB                    0
PC                 1.00
```

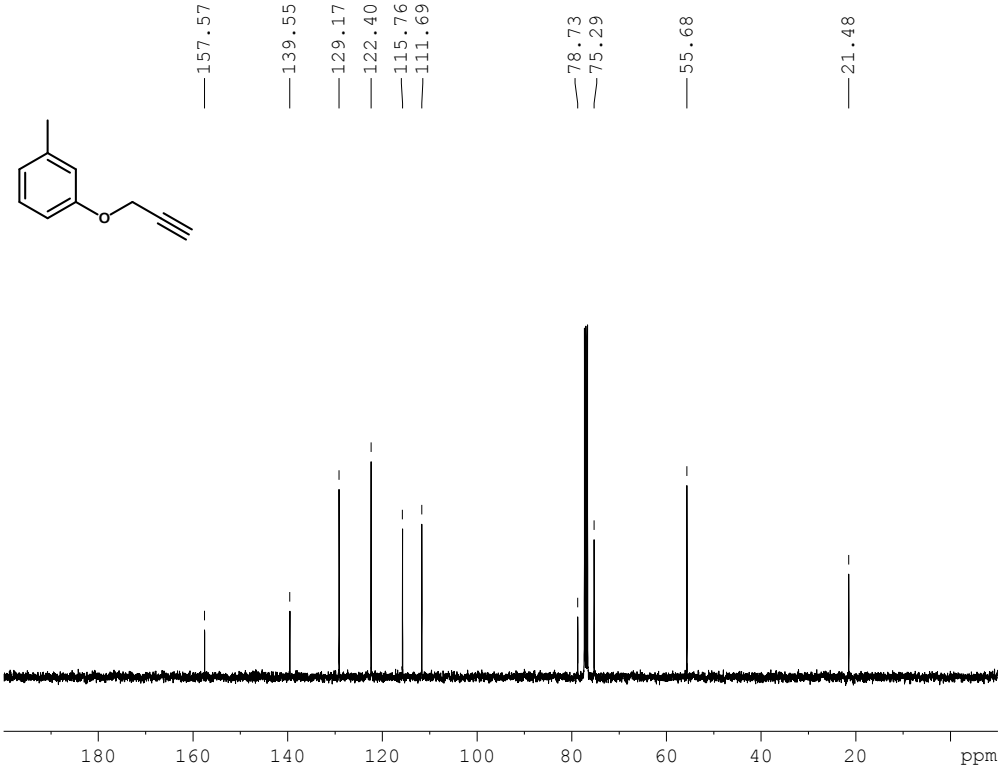



```
NAME            20240108
EXPNO                  2
PROCNO                 1
Date_           20240108
Time               21.27
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                 298.4 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                13C
P1                 10.00 usec
SI                 32768
SF           100.6127737 MHz
WDW                  EM
SSB                   0
LB                 2.00 Hz
GB                    0
PC                 1.00
```

1-methyl-3-(prop-2-yn-1-yloxy)benzene 1e

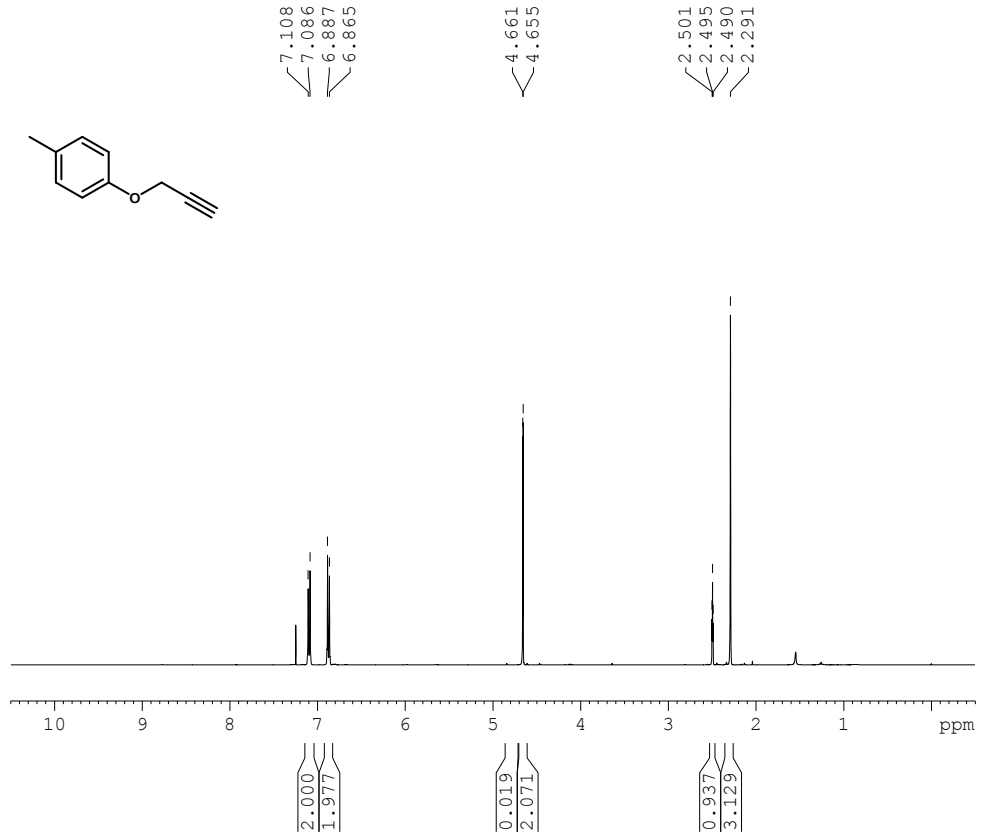



```
NAME            20240119
EXPNO                  1
PROCNO                 1
Date_           20240119
Time                9.29
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT             CDC13
NS                     12
DS                      0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 78.51
DW                69.333 usec
DE                10.06 usec
TE                298.9 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300161 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

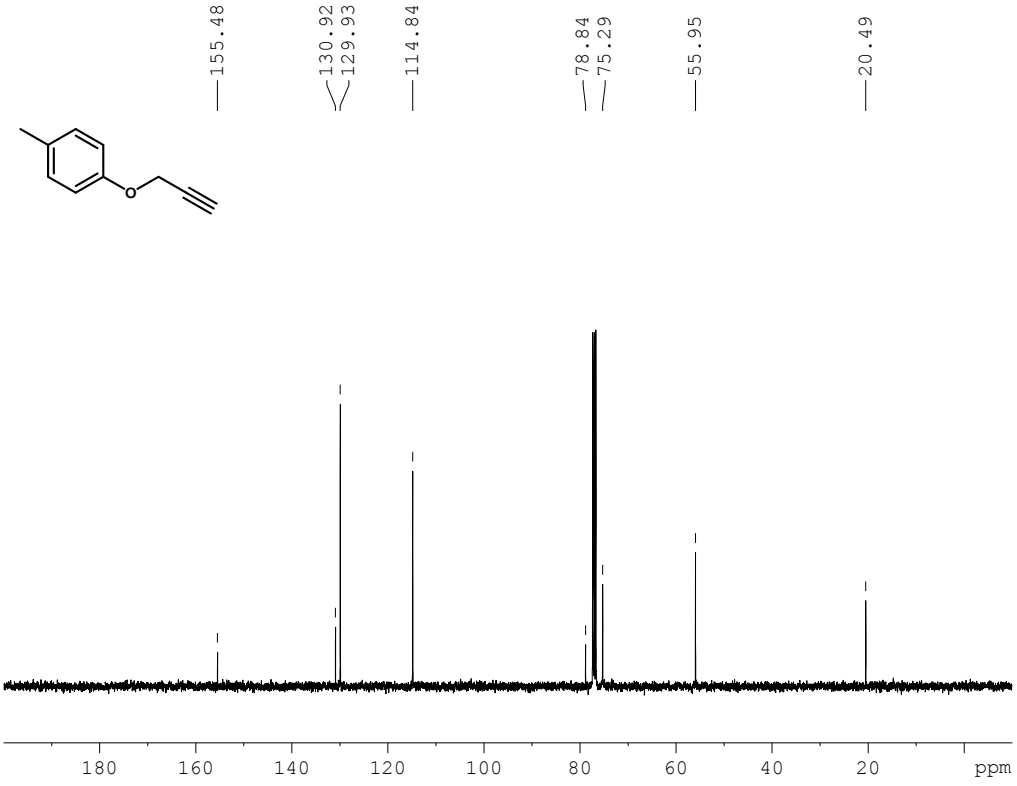



```
NAME            20240119
EXPNO                  2
PROCNO                 1
Date_           20240119
Time                9.30
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT             CDC13
NS                     84
DS                      0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                299.0 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127729 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-methyl-4-(prop-2-yn-1-yloxy)benzene 1f

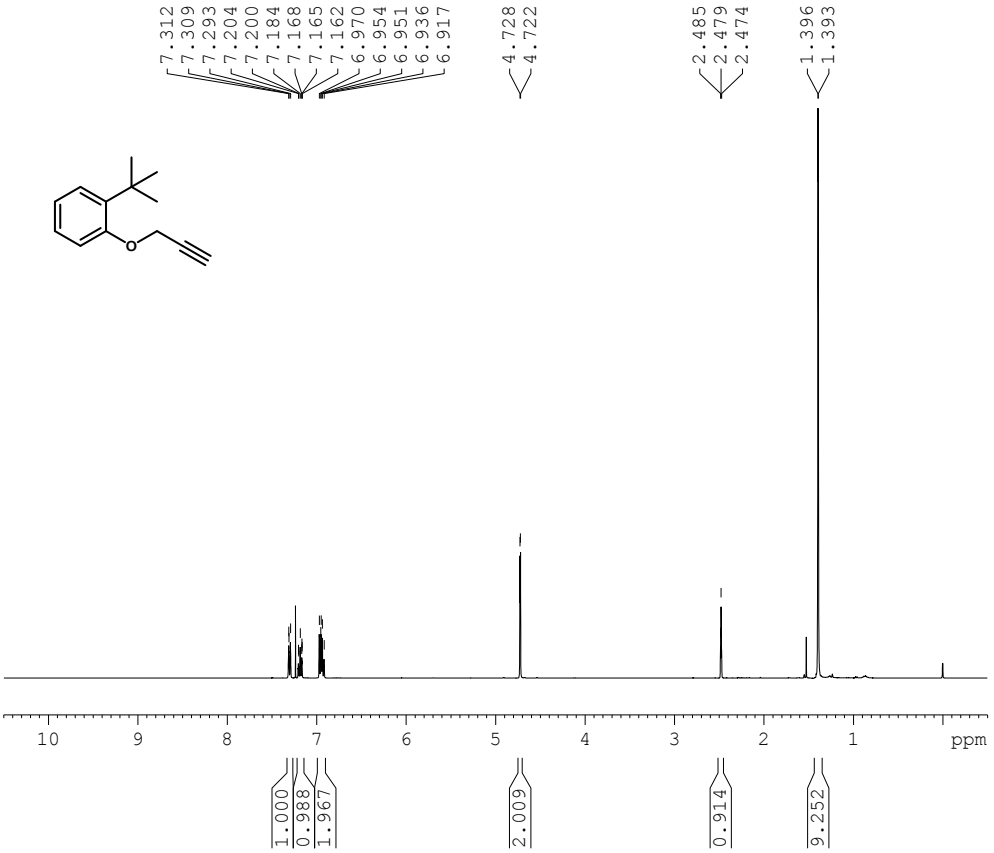



```
NAME            20240119
EXPNO                  3
PROCNO                 1
Date_           20240119
Time                9.38
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 89.08
DW                69.333 usec
DE                 10.06 usec
TE                 298.8 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300141 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

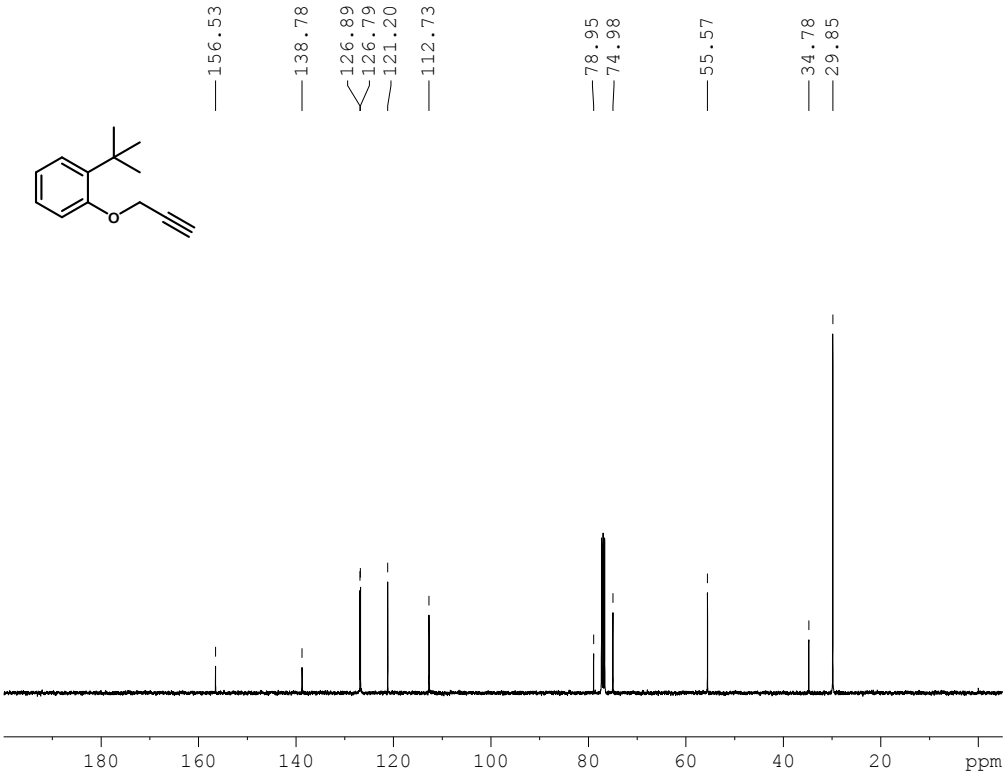



```
NAME            20240119
EXPNO                  4
PROCNO                 1
Date_           20240119
Time                9.39
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   103
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.7 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-(*tert*-butyl)-2-(prop-2-yn-1-yloxy)benzene 1g

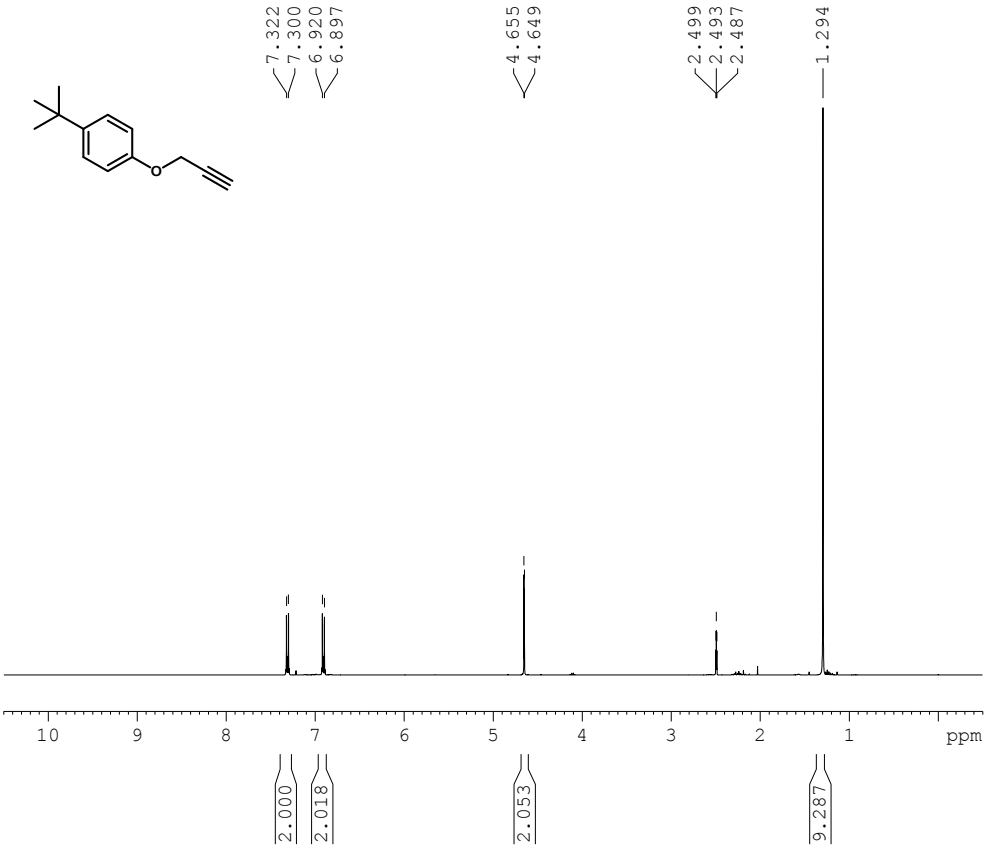



```
NAME            20240129
EXPNO                  1
PROCNO                 1
Date_           20240129
Time               15.23
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 57.42
DW                69.333 usec
DE                10.06 usec
TE                297.7 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300196 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

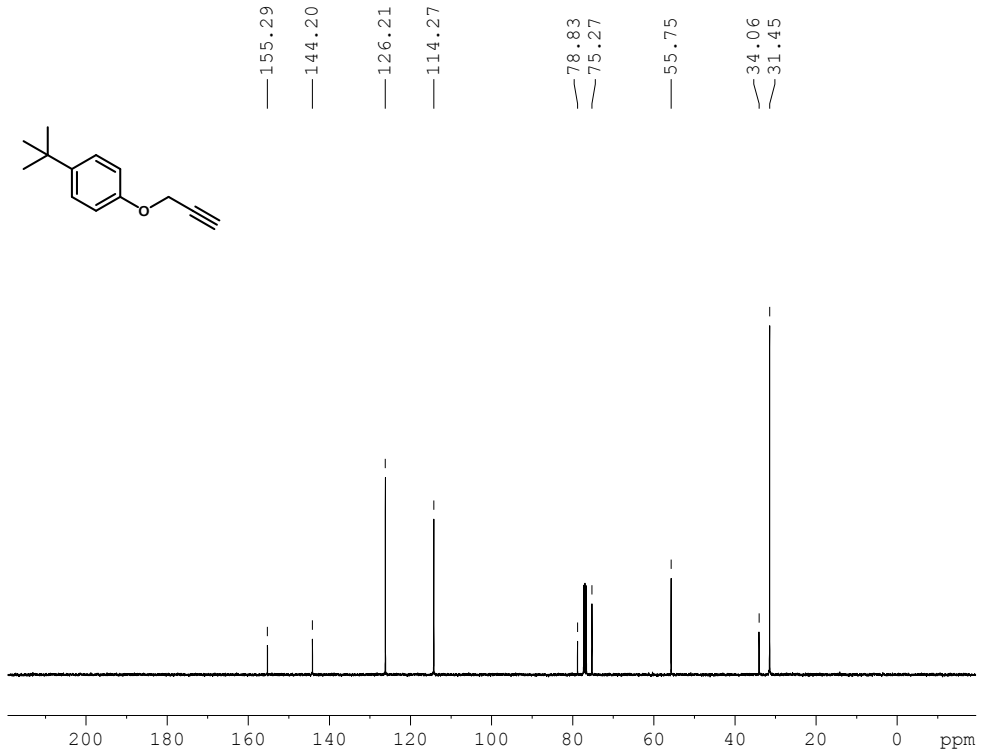



```
NAME            20240129
EXPNO                  2
PROCNO                 1
Date_           20240129
Time               15.25
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   151
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                297.9 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127722 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-(tert-butyl)-4-(prop-2-yn-1-yloxy)benzene 1h

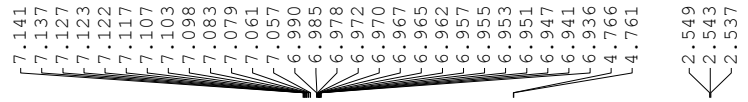


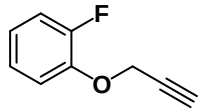

```
NAME            20240913
EXPNO                  1
PROCNO                 1
Date_           20240913
Time               14.46
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 31.16
DW                69.333 usec
DE                10.06 usec
TE                295.9 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300273 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

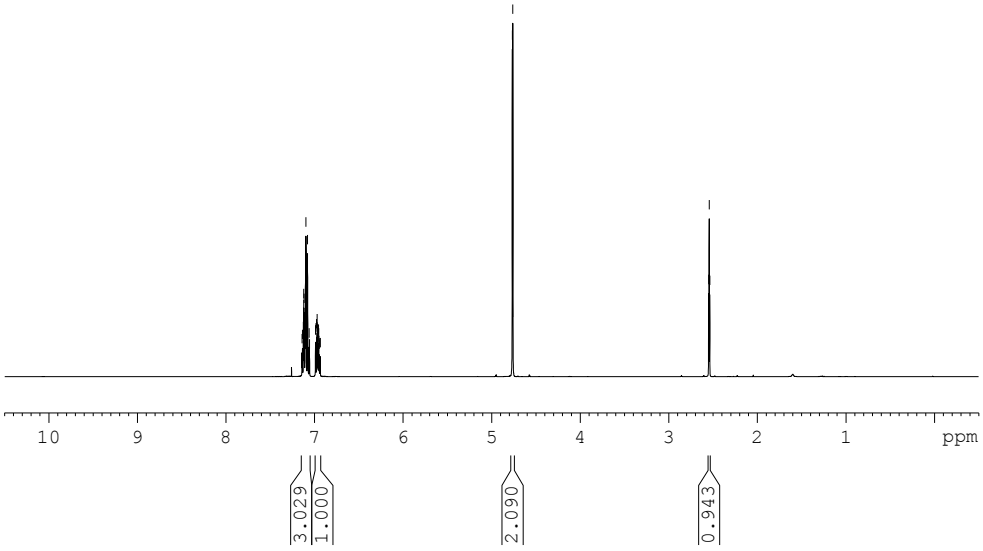



```
NAME            20240913
EXPNO                  2
PROCNO                 1
Date_           20240913
Time               14.47
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                    77
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                295.9 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127785 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

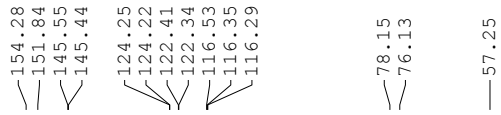
1-fluoro-2-(prop-2-yn-1-yloxy)benzene 1i

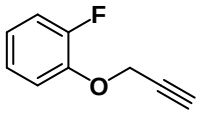


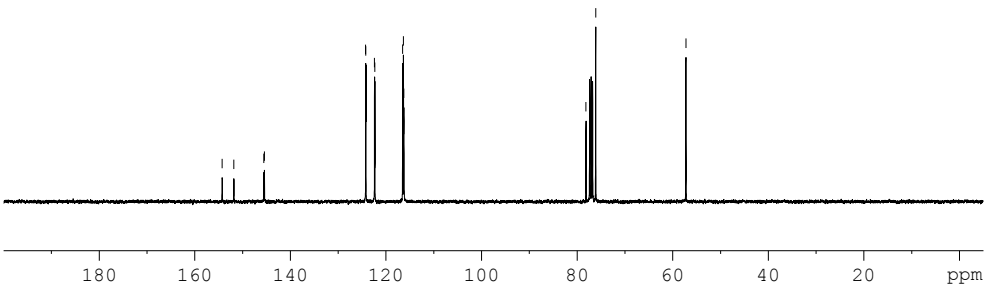





```
NAME            20231114
EXPNO                  1
PROCNO                 1
Date_           20231114
Time               16.19
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 38.89
DW                69.333 usec
DE                10.06 usec
TE                298.3 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300097 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

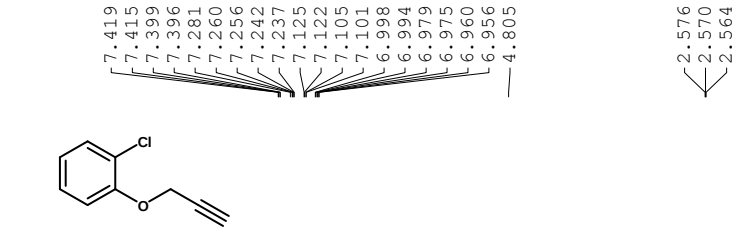




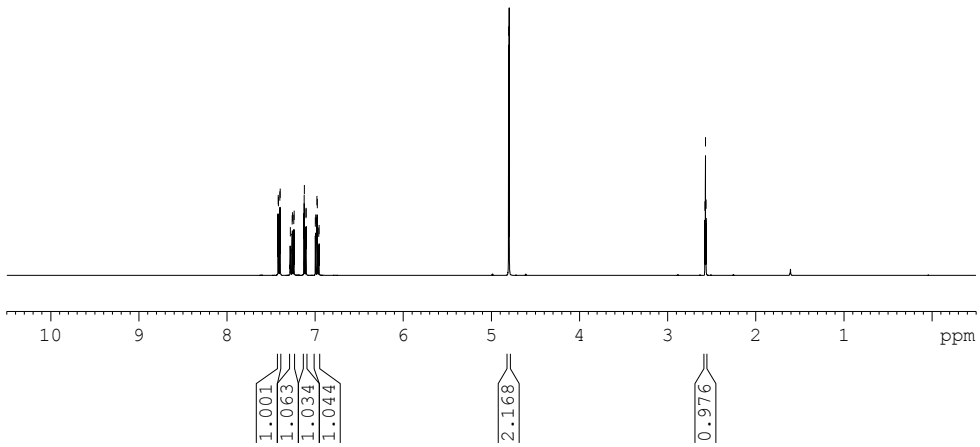


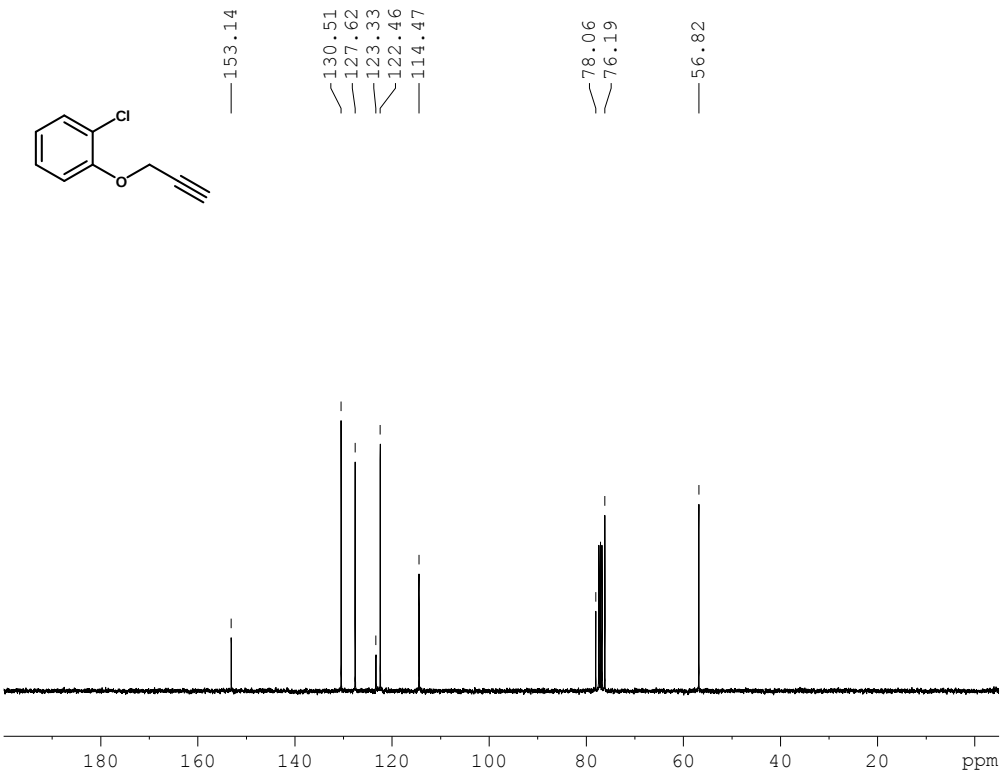

```
NAME            20231114
EXPNO                  2
PROCNO                 1
Date_           20231114
Time               16.21
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG            zgpg30
TD                 32768
SOLVENT            CDCl3
NS                    97
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.5 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                  13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-chloro-2-(prop-2-yn-1-yloxy)benzene 1j



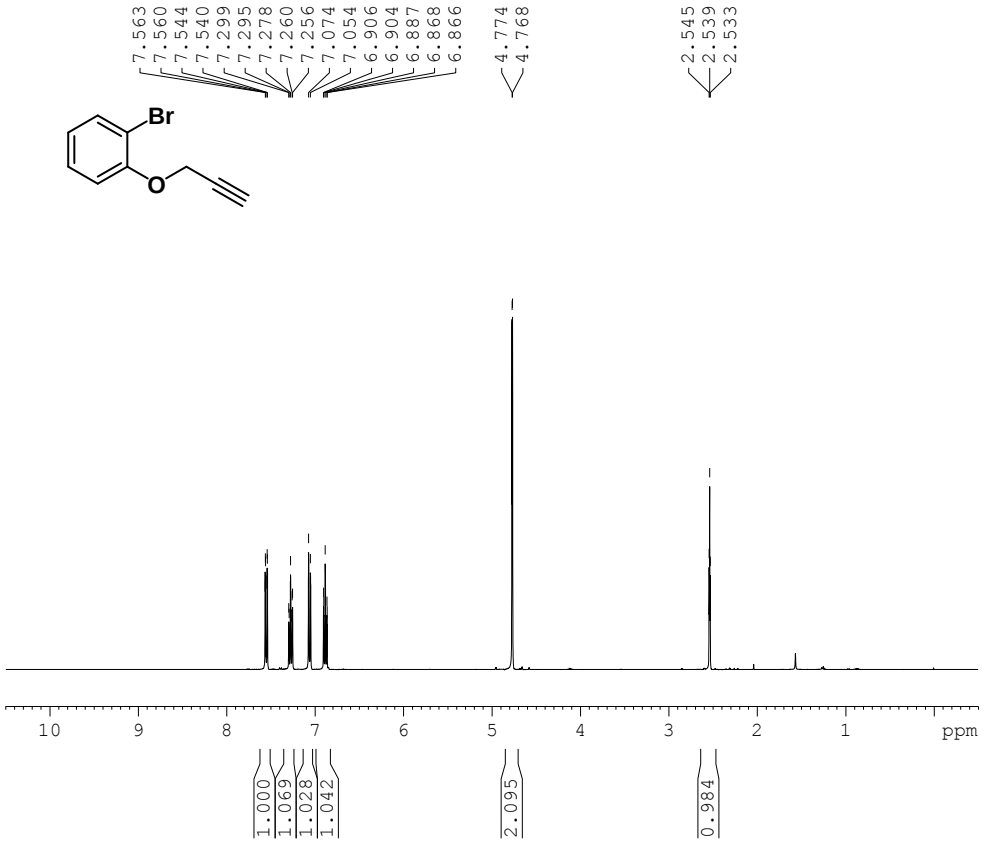

```
NAME            20231114
EXPNO                  3
PROCNO                 1
Date_           20231114
Time                16.29
INSTRUM             spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                  51.8
DW                69.333 usec
DE                 10.06 usec
TE                 298.6 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300003 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```



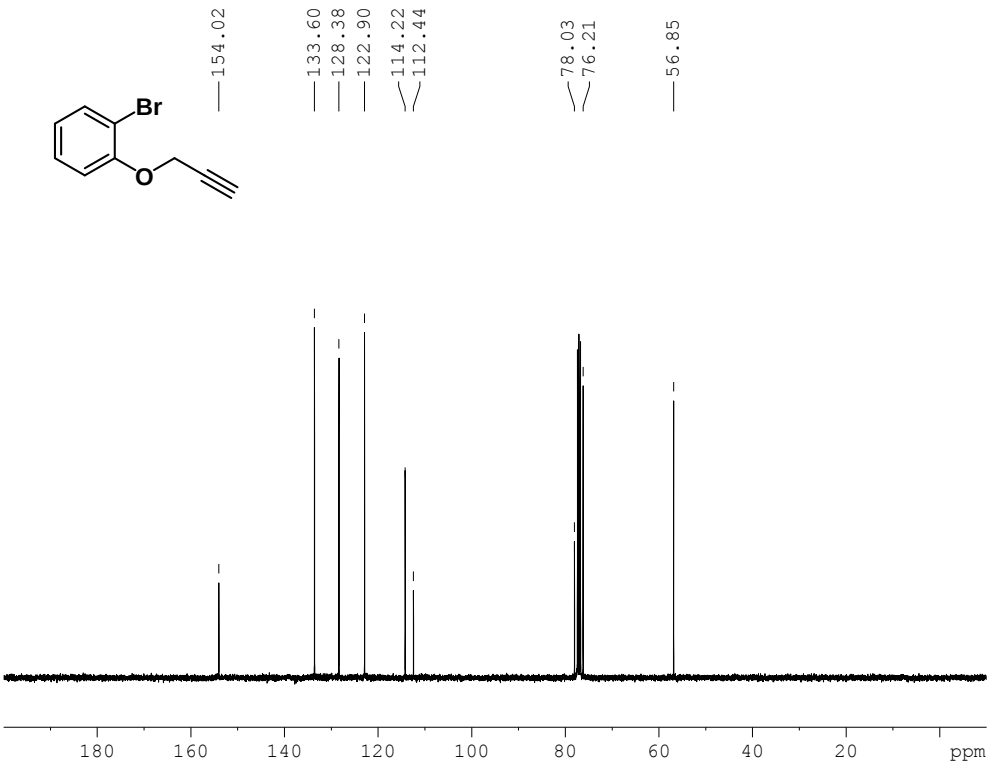



```
NAME            20231114
EXPNO                  4
PROCNO                 1
Date_           20231114
Time                16.31
INSTRUM             spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                    63
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                299.0 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-bromo-2-(prop-2-yn-1-yloxy)benzene 1k

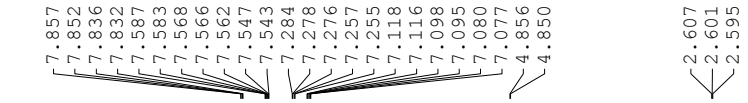


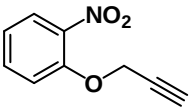

```
NAME            20231118
EXPNO                1
PROCNO               1
Date_           20231118
Time               17.13
INSTRUM            spect
PROBHD   5 mm BBO BB-1H
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7246.377 Hz
FIDRES          0.221142 Hz
AQ              2.2611110 sec
RG                   114
DW                69.000 usec
DE                 6.50 usec
TE                296.4 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
NUC1                  1H
P1                15.00 usec
PL1               11.10 dB
SFO1         400.1324008 MHz
SI                 16384
SF           400.1300118 MHz
WDW                   EM
SSB                    0
LB                0.00 Hz
GB                     0
PC                  1.00
```



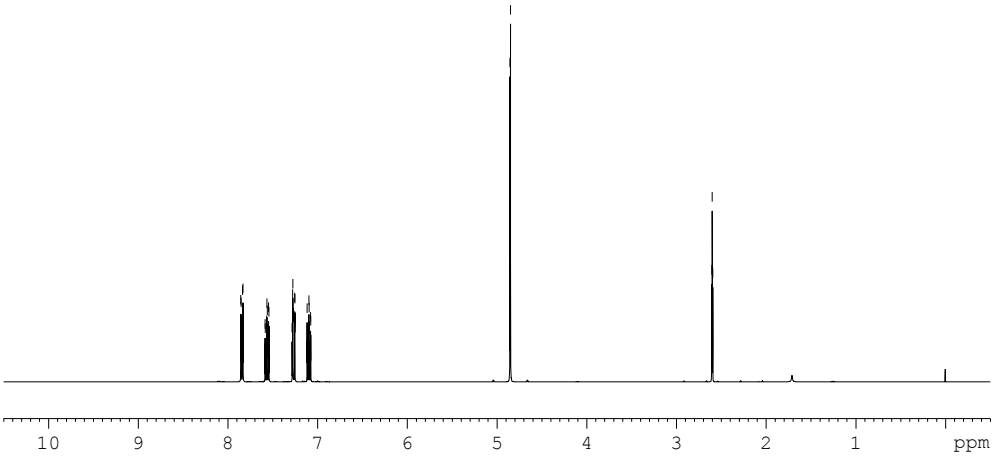

```
NAME            20231118
EXPNO                2
PROCNO               1
Date_           20231118
Time               17.16
INSTRUM            spect
PROBHD   5 mm BBO BB-1H
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816452 sec
RG                 32768
DW                20.800 usec
DE                 6.50 usec
TE                296.7 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
NUC1                 13C
P1                10.00 usec
PL1                4.20 dB
SFO1         100.6233325 MHz

======== CHANNEL f2 ========
CPDPRG2          waltz16
NUC2                  1H
PCPD2             90.00 usec
PL2               10.20 dB
PL12              26.00 dB
PL13              29.00 dB
SFO2         400.1316005 MHz
SI                 32768
SF           100.6127690 MHz
WDW                   EM
SSB                    0
LB                1.00 Hz
GB                     0
PC                  1.00
```

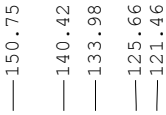
1-nitro-2-(prop-2-yn-1-yloxy)benzene 1l

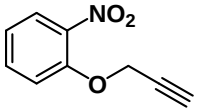




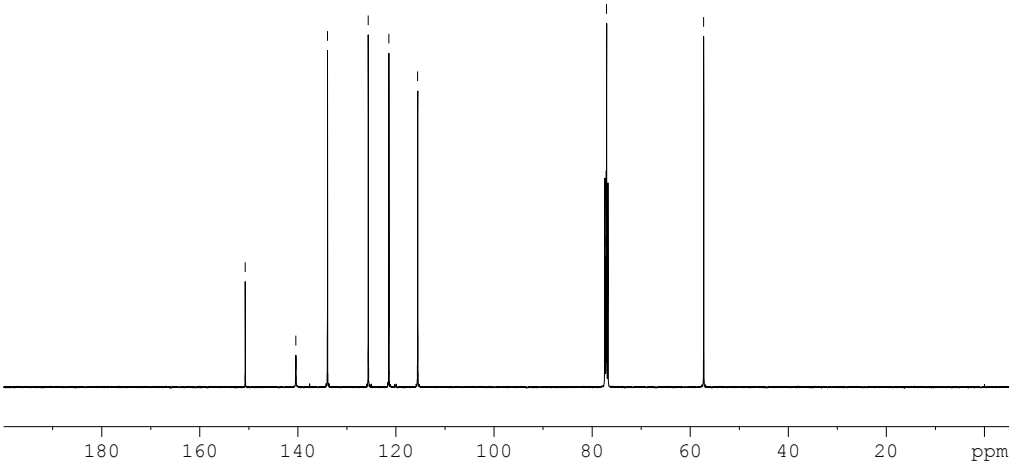

```
NAME            20230909
EXPNO                  1
PROCNO                 1
Date_           20230909
Time               12.51
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    16
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                  51.8
DW                69.333 usec
DE                10.06 usec
TE                297.8 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```



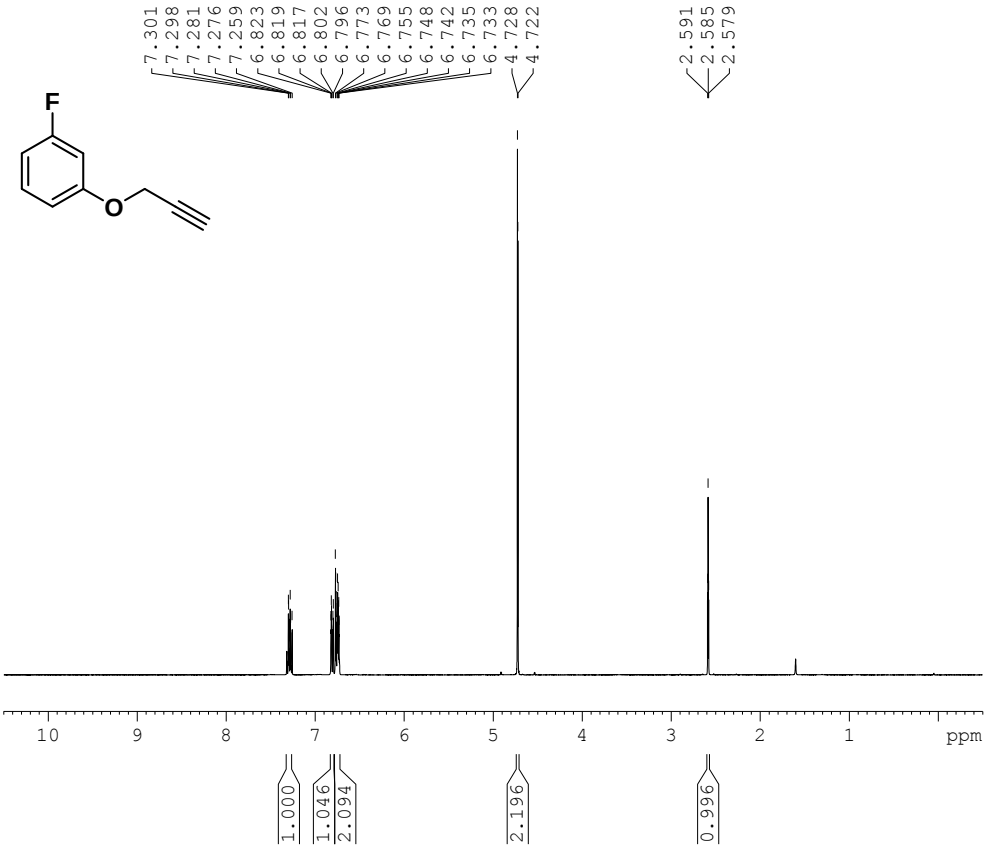




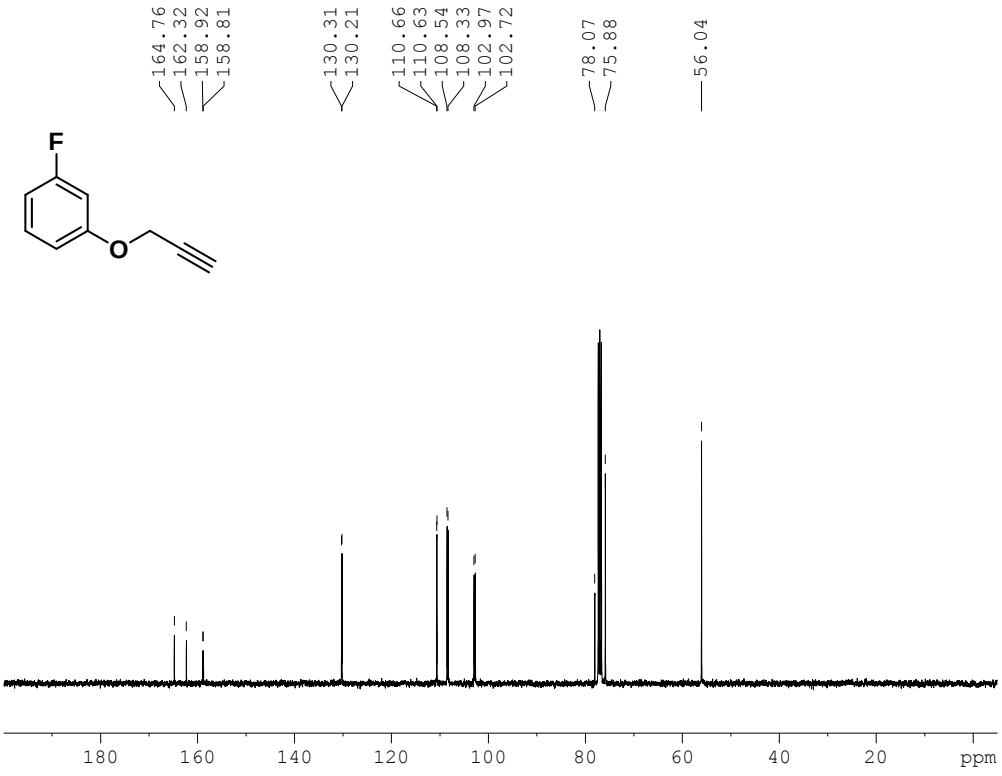

```
NAME            20230909
EXPNO                  2
PROCNO                 1
Date_           20230909
Time               12.53
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                  1559
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.1 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```



1-fluoro-3-(prop-2-yn-1-yloxy)benzene 1m

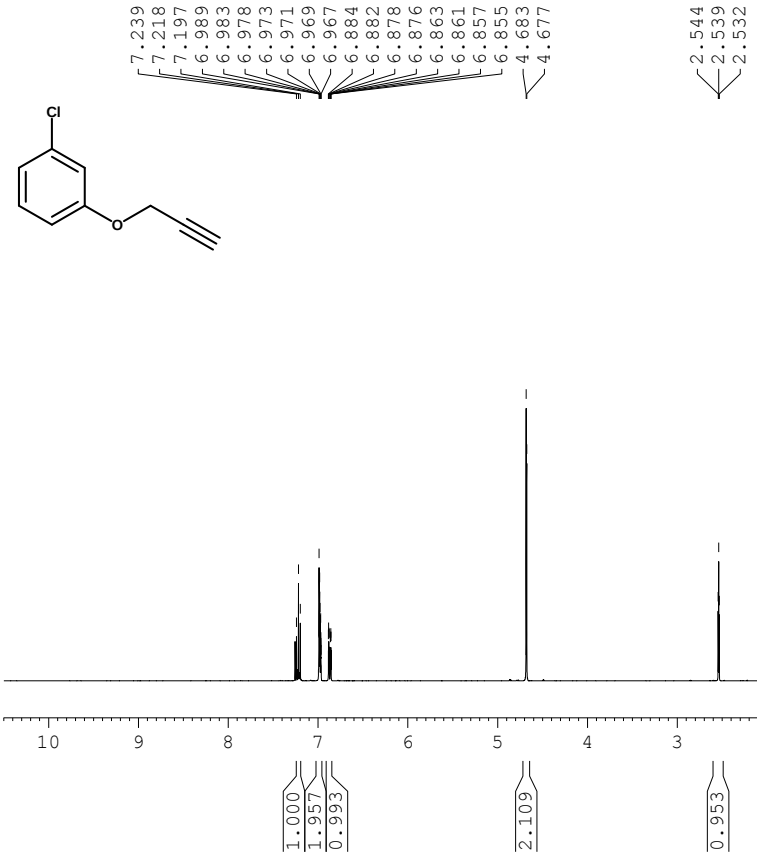



```
NAME            20231120
EXPNO                1
PROCNO               1
Date_           20231120
Time               19.40
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 78.51
DW                69.333 usec
DE                10.06 usec
TE                298.1 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1299934 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

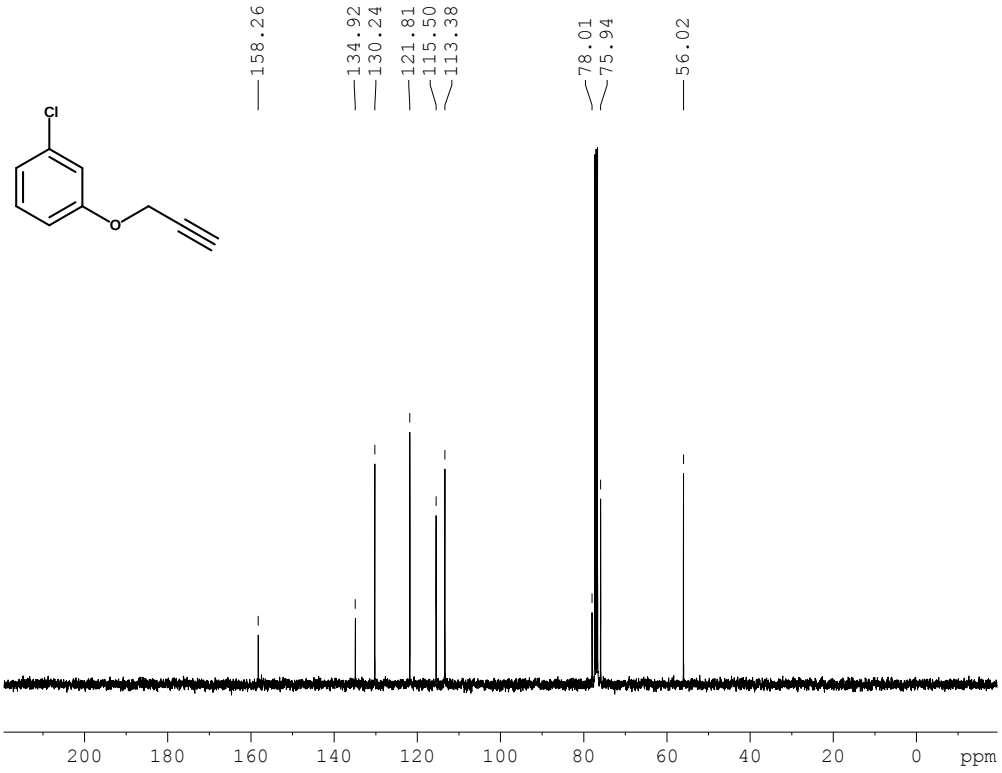



```
NAME            20231120
EXPNO                2
PROCNO               1
Date_           20231120
Time               19.41
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.3 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-chloro-3-(prop-2-yn-1-yloxy)benzene 1n

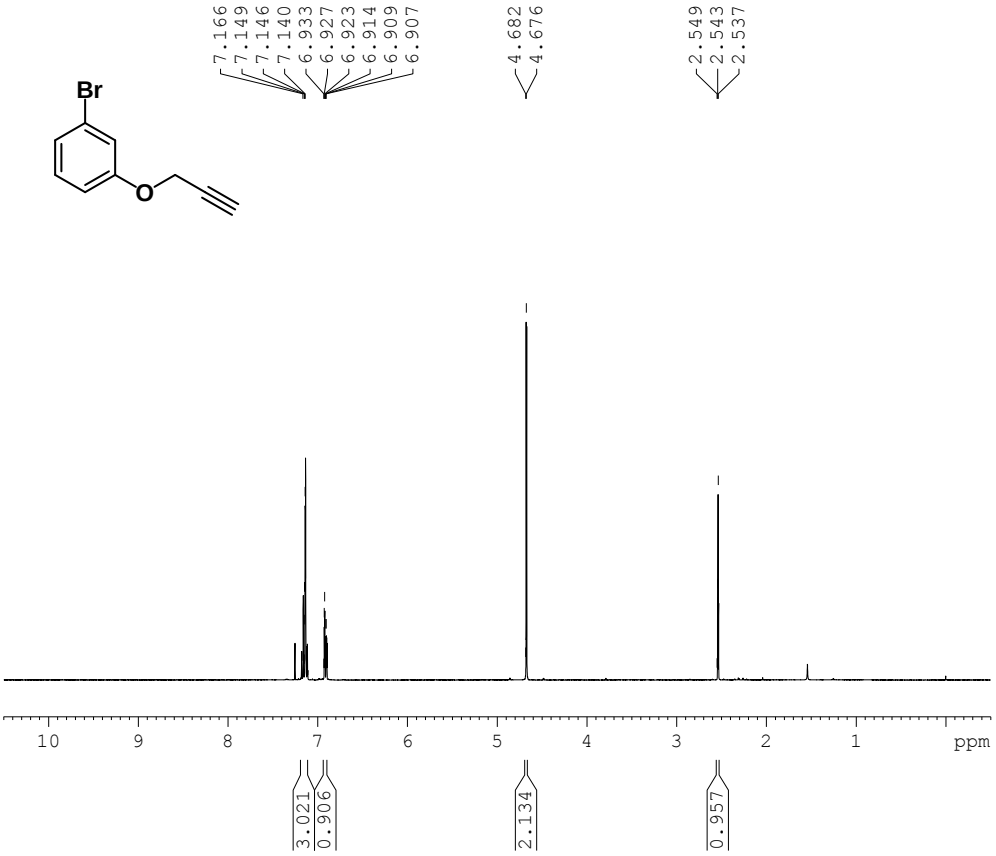



```
NAME            20231122
EXPNO                4
PROCNO               1
Date_           20231122
Time               19.02
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                113.31
DW                69.333 usec
DE                10.06 usec
TE                298.1 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                  15.00 usec
SI                  16384
SF           400.1300114 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

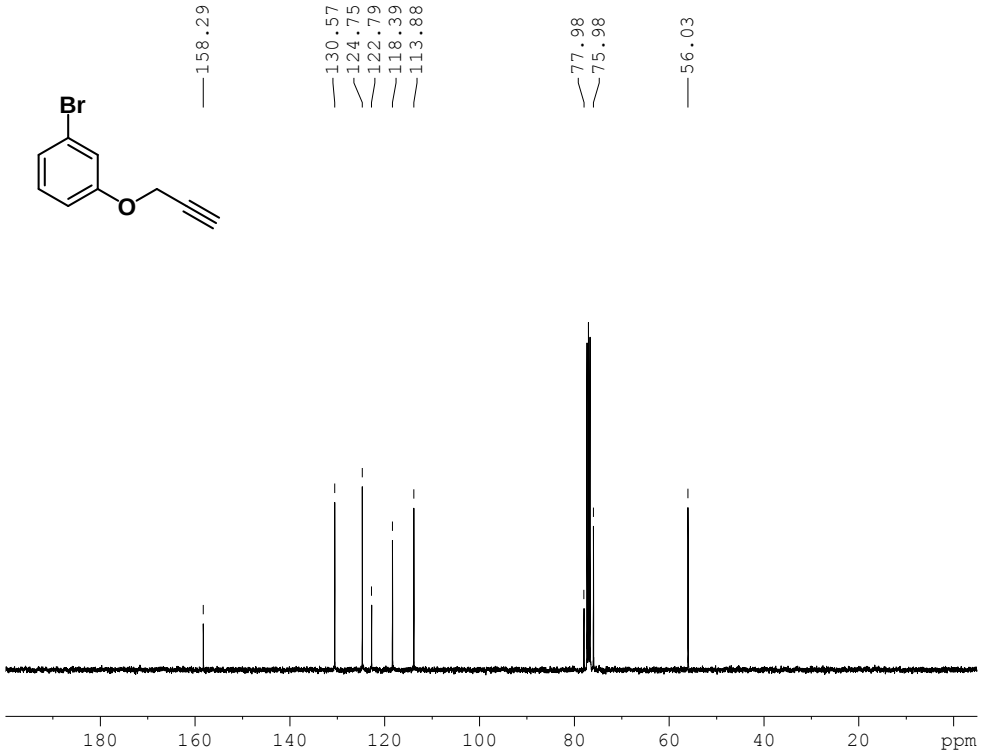



```
NAME            20231122
EXPNO                5
PROCNO               1
Date_           20231122
Time               19.06
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.7 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                  13C
P1                  10.00 usec
SI                  32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-bromo-3-(prop-2-yn-1-yloxy)benzene 1o

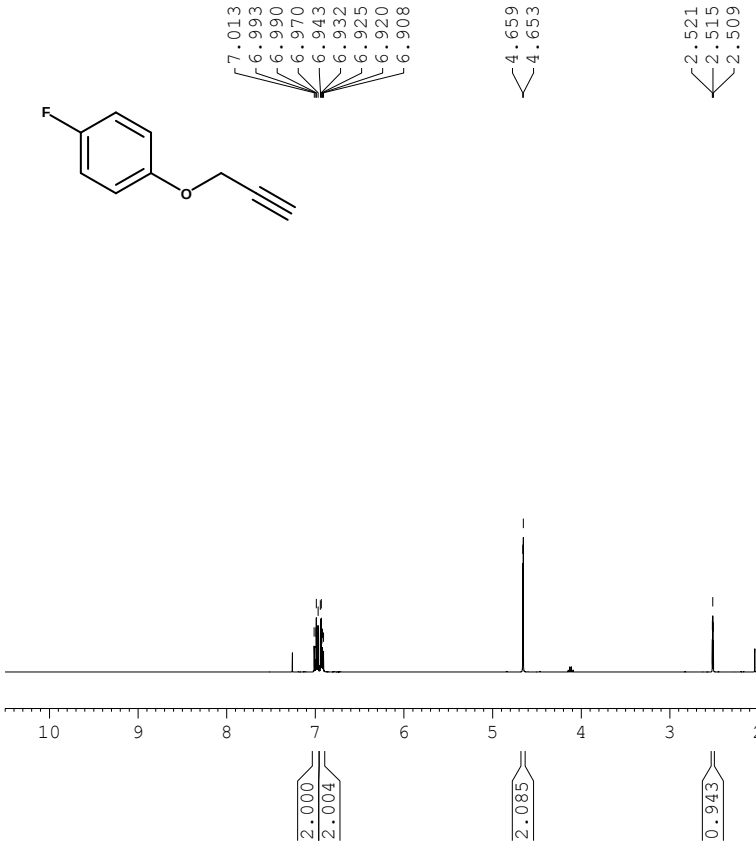



```
NAME            20231122
EXPNO                  6
PROCNO                 1
Date_           20231122
Time               19.17
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 99.72
DW                69.333 usec
DE                 10.06 usec
TE                 298.5 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                  15.00 usec
SI                  16384
SF           400.1300122 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

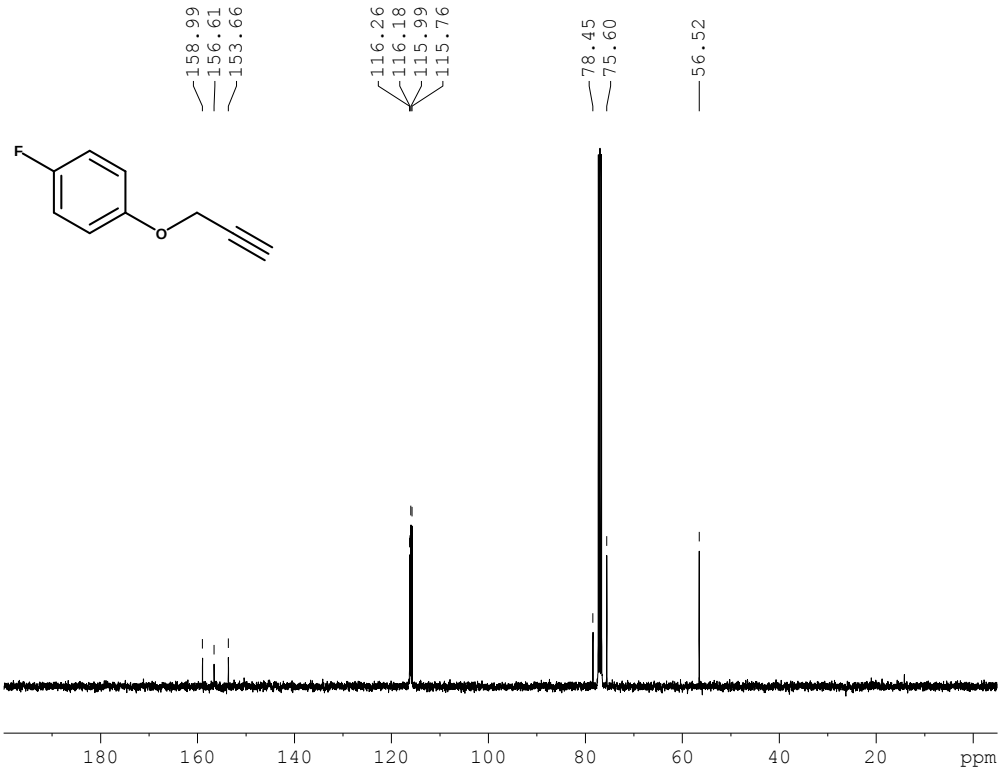



```
NAME            20231122
EXPNO                  7
PROCNO                 1
Date_           20231122
Time               19.18
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                 298.6 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                  10.00 usec
SI                  32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-fluoro-4-(prop-2-yn-1-yloxy)benzene 1p

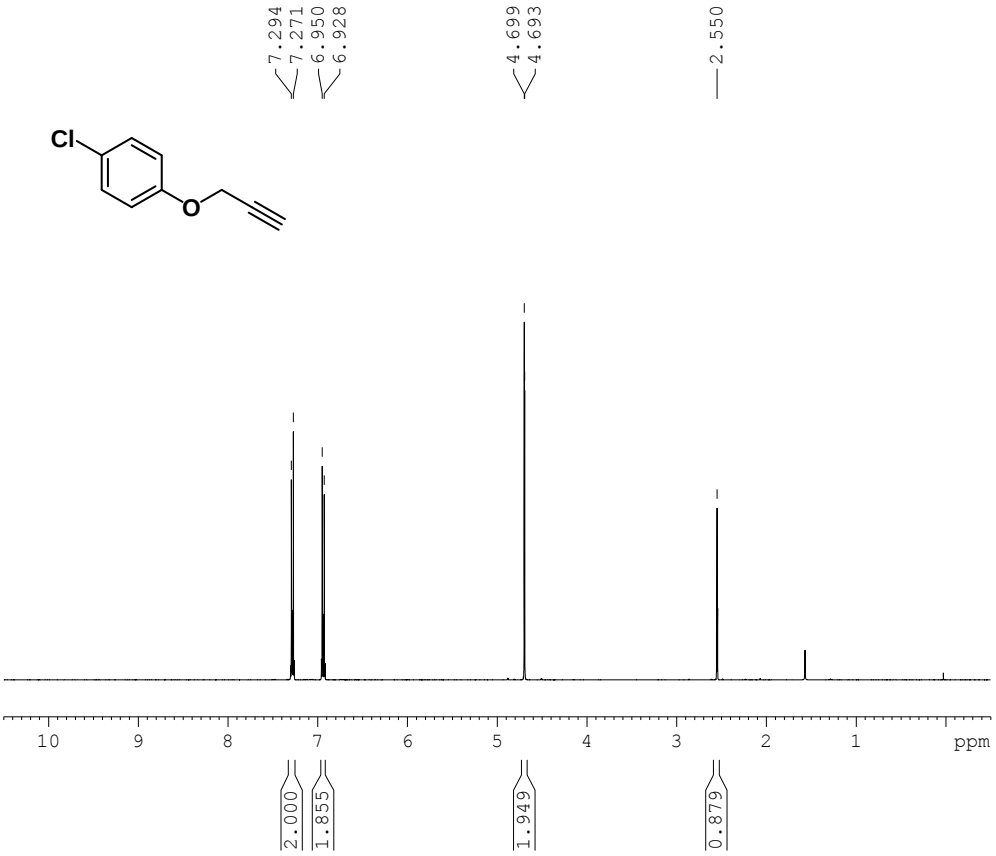



```
NAME            20240119
EXPNO                  5
PROCNO                 1
Date_           20240119
Time                9.47
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                113.31
DW                69.333 usec
DE                10.06 usec
TE                298.7 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300108 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

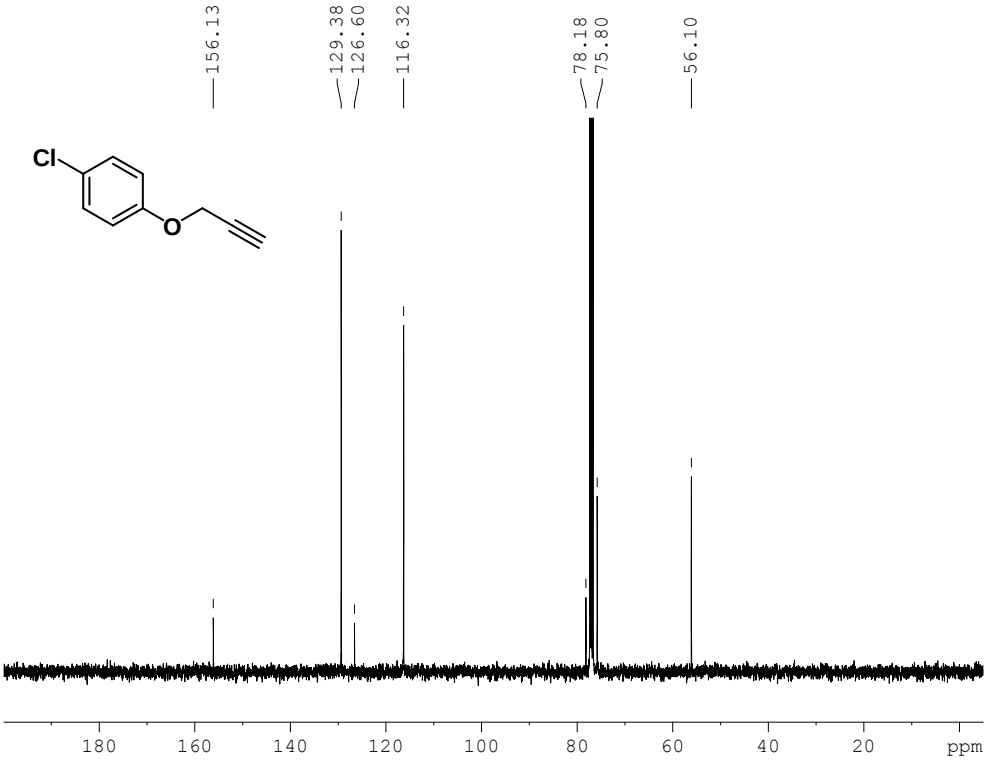



```
NAME            20240119
EXPNO                  6
PROCNO                 1
Date_           20240119
Time                9.48
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   158
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.7 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-chloro-4-(prop-2-yn-1-yloxy)benzene 1q

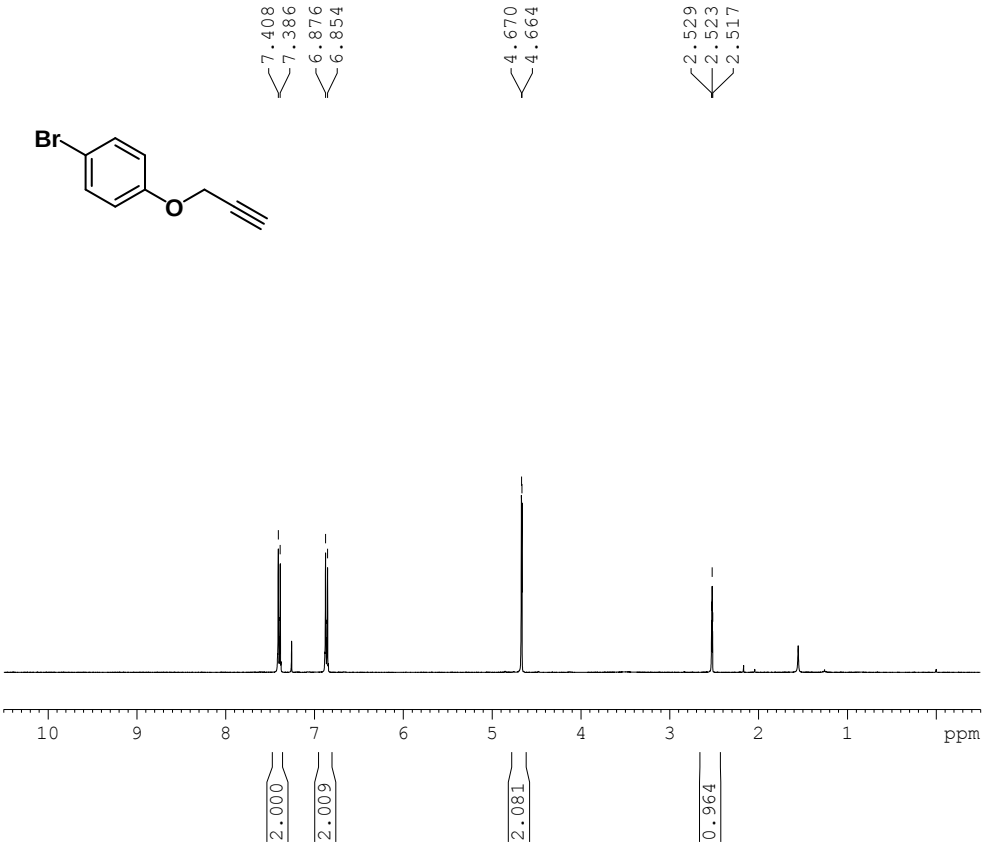



```
NAME            20231129
EXPNO                  1
PROCNO                 1
Date_           20231129
Time               16.50
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 128.9
DW                69.333 usec
DE                 10.06 usec
TE                 298.4 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                  15.00 usec
SI                  16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

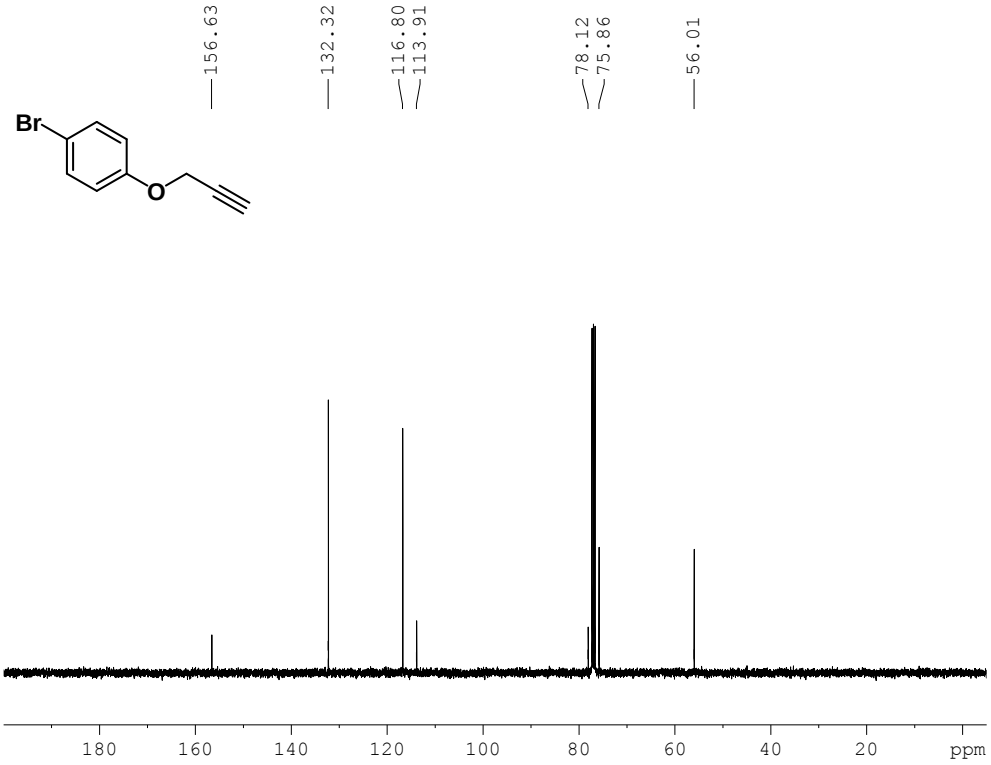



```
NAME            20231129
EXPNO                  2
PROCNO                 1
Date_           20231129
Time               16.52
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   152
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                 198.09
DW                20.800 usec
DE                  6.50 usec
TE                 298.4 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                  10.00 usec
SI                  32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-bromo-4-(prop-2-yn-1-yloxy)benzene 1r

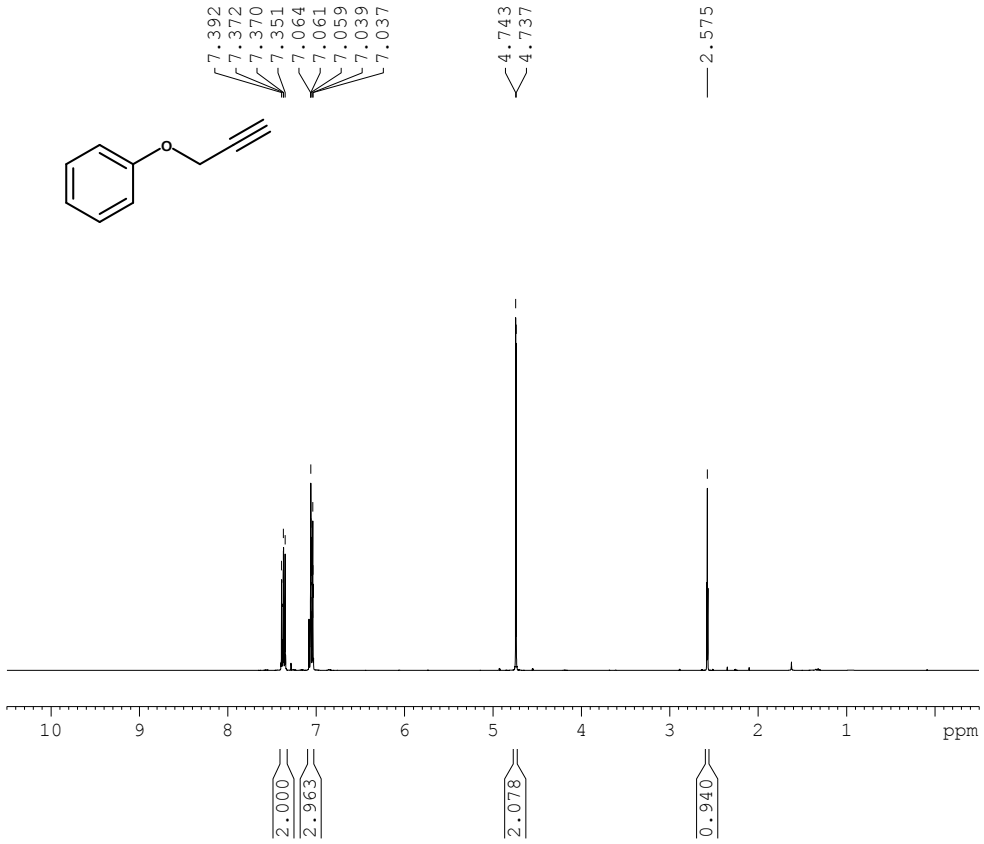



```
NAME          20240117(4F)
EXPNO                    4
PROCNO                   1
Date_             20240117
Time                 12.56
INSTRUM              spect
PROBHD   5 mm BBO BB-1H
PULPROG              zg30
TD                  32768
SOLVENT             CDCl3
NS                     12
DS                      0
SWH             7246.377 Hz
FIDRES          0.221142 Hz
AQ              2.2611110 sec
RG                    256
DW                 69.000 usec
DE                  6.50 usec
TE                 298.5 K
D1              2.00000000 sec
TD0                     1

======== CHANNEL f1 ========
NUC1                   1H
P1                  15.00 usec
PL1                 11.10 dB
SFO1          400.1324008 MHz
SI                  16384
SF            400.1300101 MHz
WDW                    EM
SSB                     0
LB                   0.00 Hz
GB                      0
PC                   1.00
```

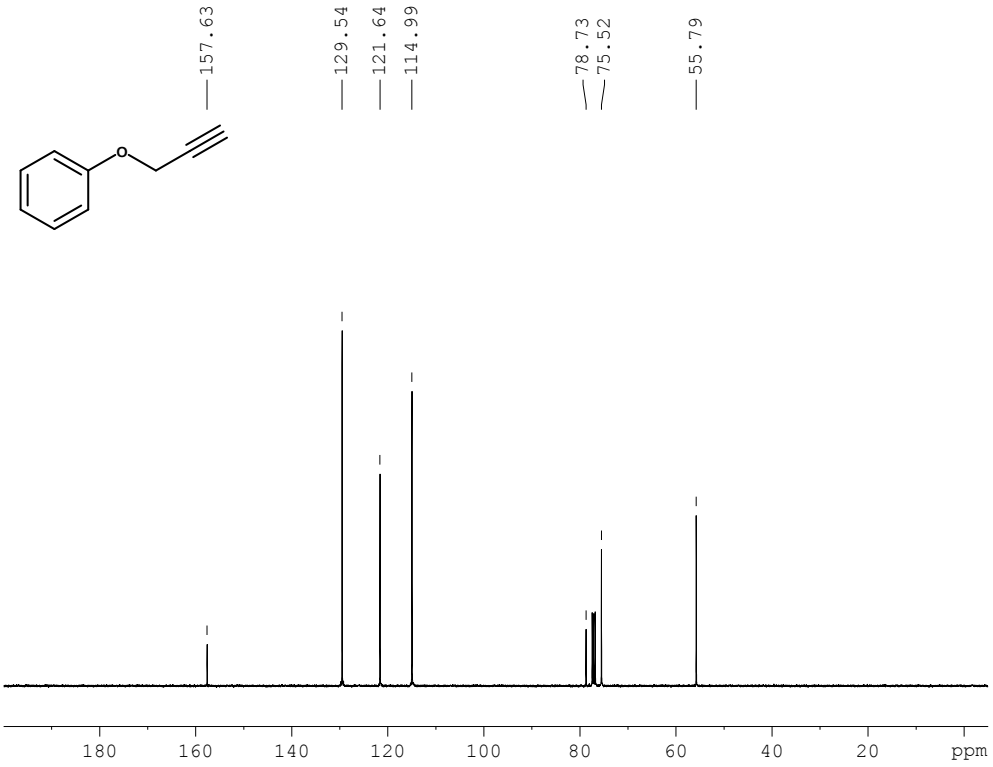



```
NAME          20240117(4F)
EXPNO                    5
PROCNO                   1
Date_             20240117
Time                 12.57
INSTRUM              spect
PROBHD   5 mm BBO BB-1H
PULPROG           zgpg30
TD                  32768
SOLVENT             CDCl3
NS                    200
DS                      0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816452 sec
RG                  32768
DW                 20.800 usec
DE                  6.50 usec
TE                 298.5 K
D1              2.00000000 sec
D11             0.03000000 sec
TD0                     1

======== CHANNEL f1 ========
NUC1                  13C
P1                  10.00 usec
PL1                  4.20 dB
SFO1          100.6233325 MHz

======== CHANNEL f2 ========
CPDPRG2           waltz16
NUC2                   1H
PCPD2               90.00 usec
PL2                 10.20 dB
PL12                26.00 dB
PL13                29.00 dB
SFO2          400.1316005 MHz
SI                  32768
SF            100.6127728 MHz
WDW                    EM
SSB                     0
LB                   1.00 Hz
GB                      0
PC                   1.00
```

(prop-2-yn-1-yloxy)benzene 1s

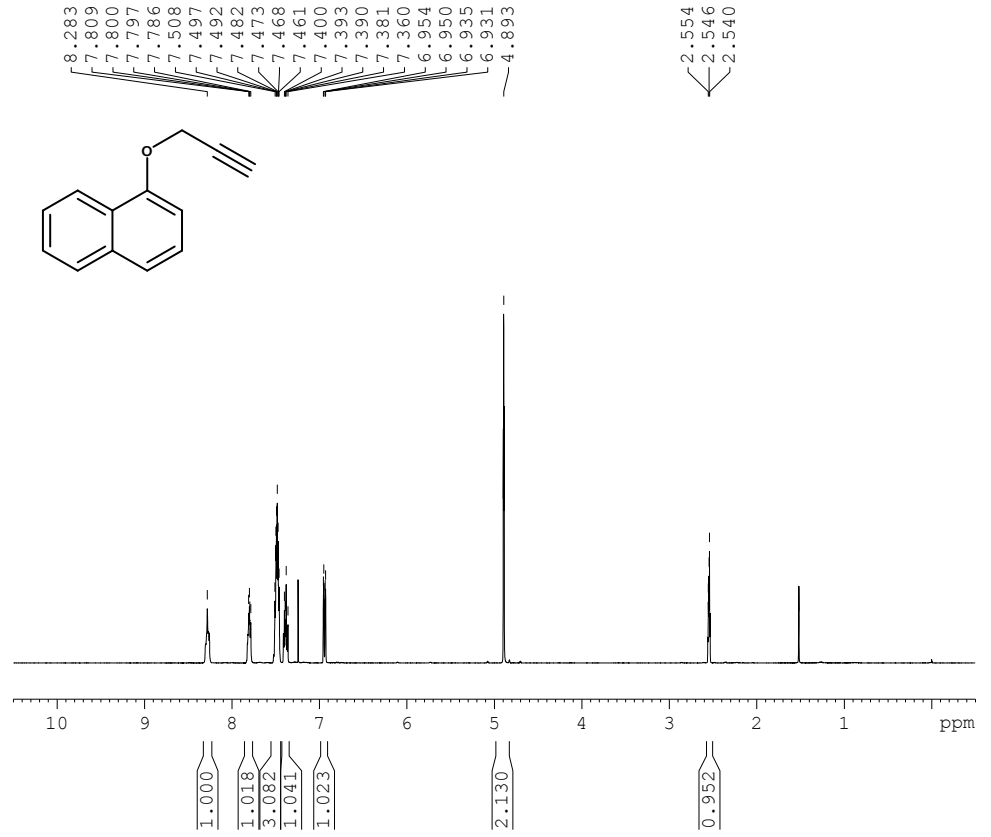



```
NAME            20231020
EXPNO                  5
PROCNO                 1
Date_           20231020
Time               20.23
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ            2.2719646 sec
RG                 36.64
DW               69.333 usec
DE                10.06 usec
TE                298.8 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                 1H
P1                15.00 usec
SI                16384
SF           400.1300000 MHz
WDW                  EM
SSB                   0
LB                 0.00 Hz
GB                    0
PC                 1.00
```

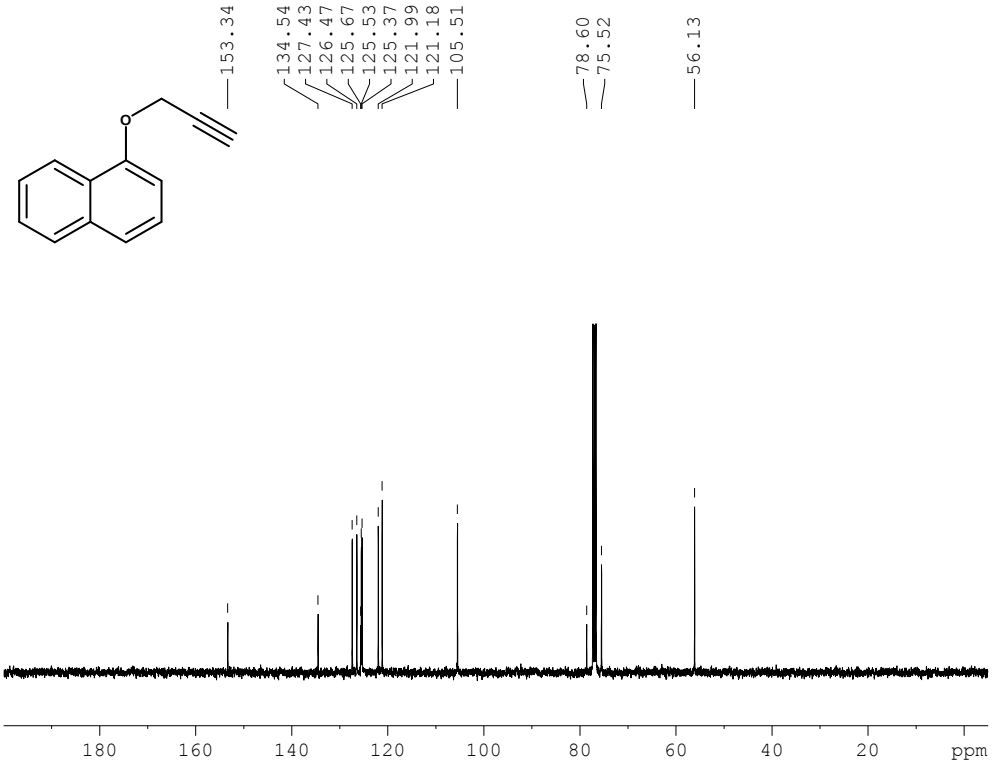



```
NAME            20231020
EXPNO                  6
PROCNO                 1
Date_           20231020
Time               20.24
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   127
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ            0.6816244 sec
RG                198.09
DW               20.800 usec
DE                 6.50 usec
TE                298.9 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                 13C
P1                10.00 usec
SI                32768
SF           100.6127685 MHz
WDW                  EM
SSB                   0
LB                 2.00 Hz
GB                    0
PC                 1.00
```

1-(prop-2-yn-1-yloxy)naphthalene 1t

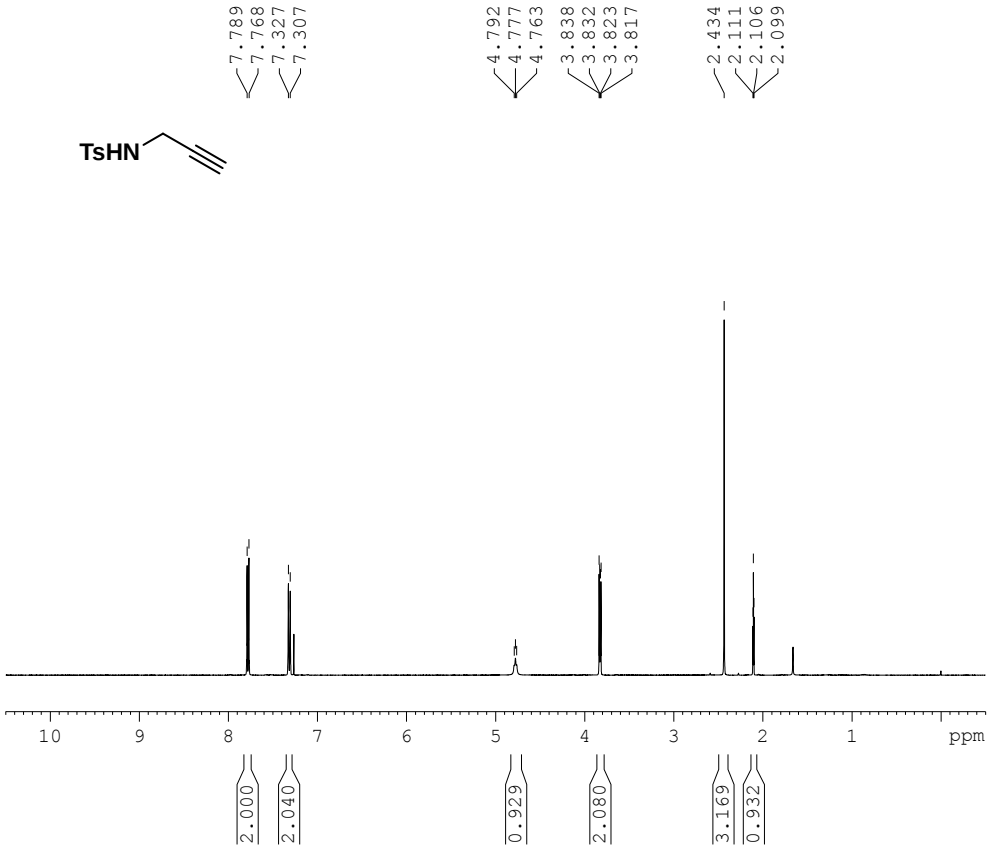



```
NAME            20231229
EXPNO                1
PROCNO               1
Date_           20231229
Time               11.34
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 99.72
DW                69.333 usec
DE                 10.06 usec
TE                 298.2 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                  15.00 usec
SI                  16384
SF           400.1300164 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

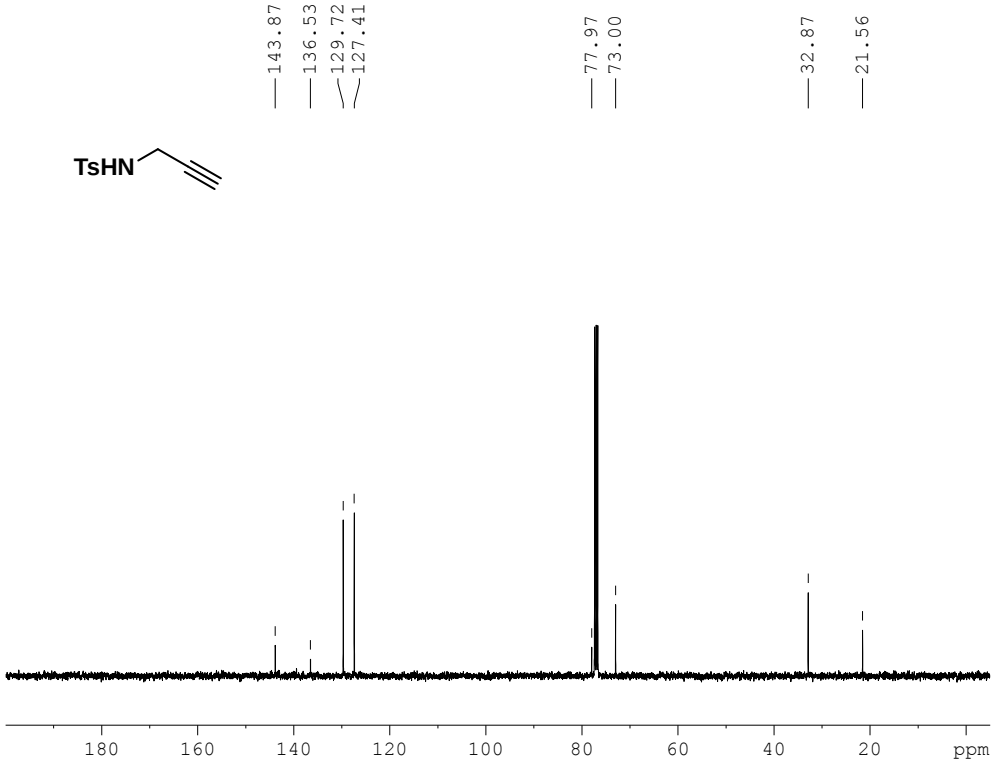



```
NAME            20231229
EXPNO                2
PROCNO               1
Date_           20231229
Time               11.36
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                 298.5 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                  10.00 usec
SI                  32768
SF           100.6127738 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

4-methyl-N-(prop-2-yn-1-yl)benzenesulfonamide 1x

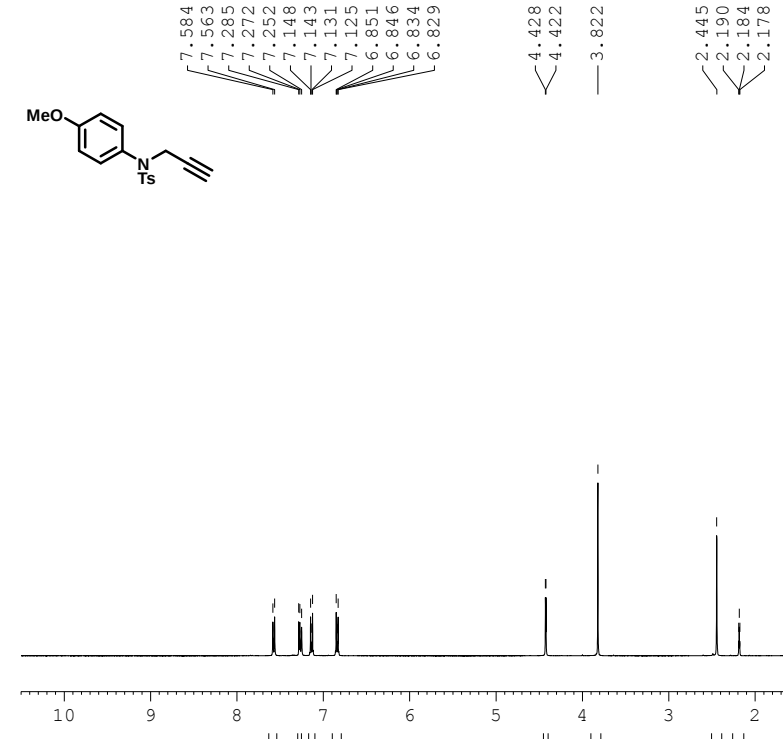



```
NAME            20240318
EXPNO                  1
PROCNO                 1
Date_           20240318
Time                19.25
INSTRUM             spect
PROBHD   5 mm PABBO BB/
PULPROG              zg30
TD                  32768
SOLVENT             CDCl3
NS                     12
DS                      0
SWH              7211.539 Hz
FIDRES           0.220079 Hz
AQ              2.2719646 sec
RG                 113.31
DW                 69.333 usec
DE                 10.06 usec
TE                 298.0 K
D1              2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300073 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

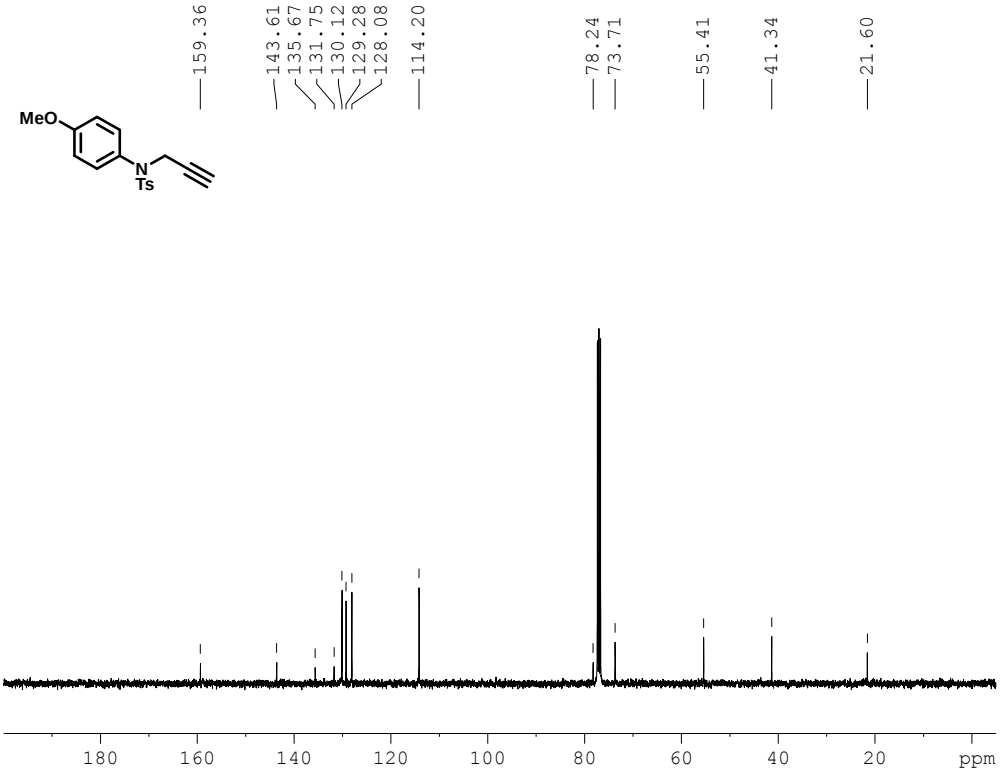



```
NAME            20240318
EXPNO                  2
PROCNO                 1
Date_           20240318
Time                19.26
INSTRUM             spect
PROBHD   5 mm PABBO BB/
PULPROG            zgpg30
TD                  32768
SOLVENT             CDCl3
NS                     66
DS                      0
SWH             24038.461 Hz
FIDRES           0.733596 Hz
AQ              0.6816244 sec
RG                 198.09
DW                 20.800 usec
DE                  6.50 usec
TE                 298.1 K
D1              2.00000000 sec
D11             0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

N-(4-methoxyphenyl)-4-methyl-N-(prop-2-yn-1-yl)benzenesulfonamide (1y)

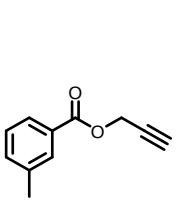


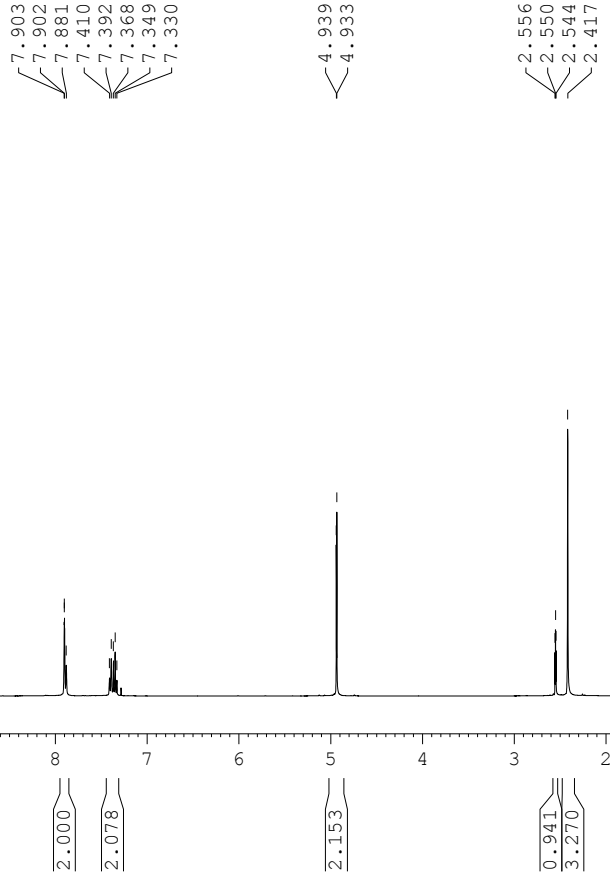

```
NAME            20251212
EXPNO                4
PROCNO               1
Date_           20251212
Time               15.29
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 128.9
DW                69.333 usec
DE                10.06 usec
TE                294.8 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                  15.00 usec
SI                  16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```



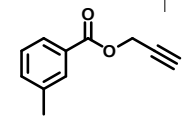

```
NAME            20251212
EXPNO                5
PROCNO               1
Date_           20251212
Time               15.30
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   160
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                 198.09
DW                20.800 usec
DE                 6.50 usec
TE                295.2 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                  10.00 usec
SI                  32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

prop-2-yn-1-yl 3-methylbenzoate (1z)



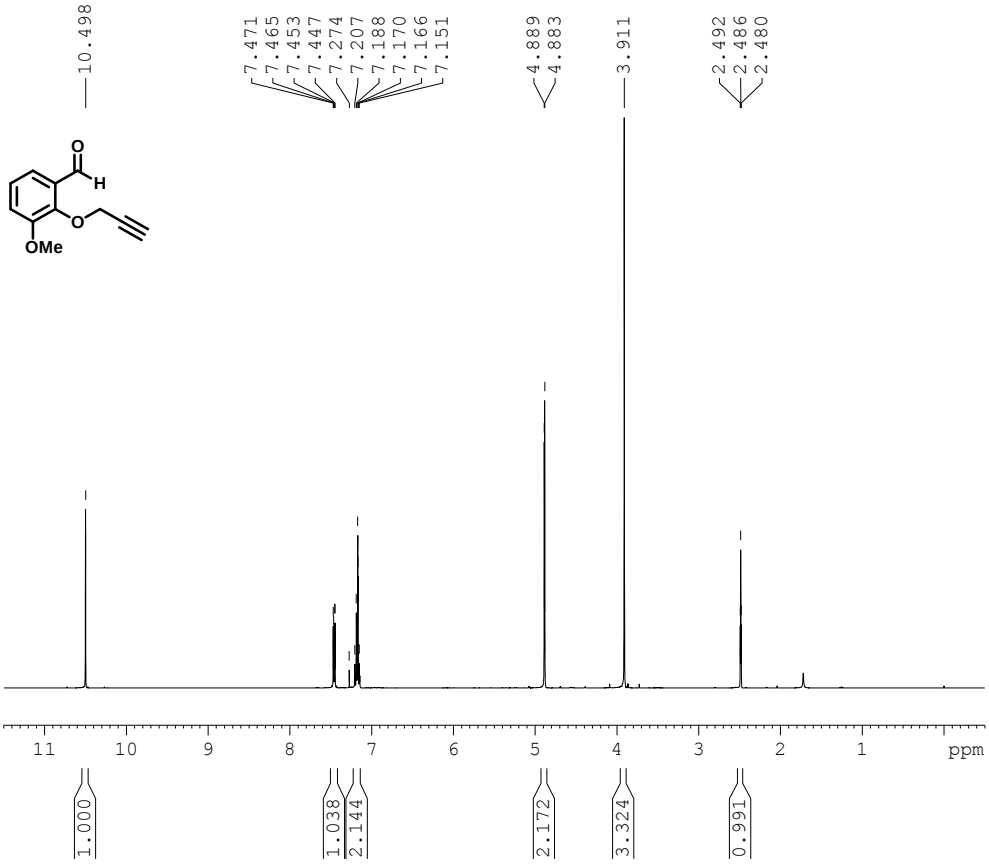



```
NAME            20251214
EXPNO                  1
PROCNO                 1
Date_           20251214
Time               15.29
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 45.15
DW                69.333 usec
DE                10.06 usec
TE                294.8 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

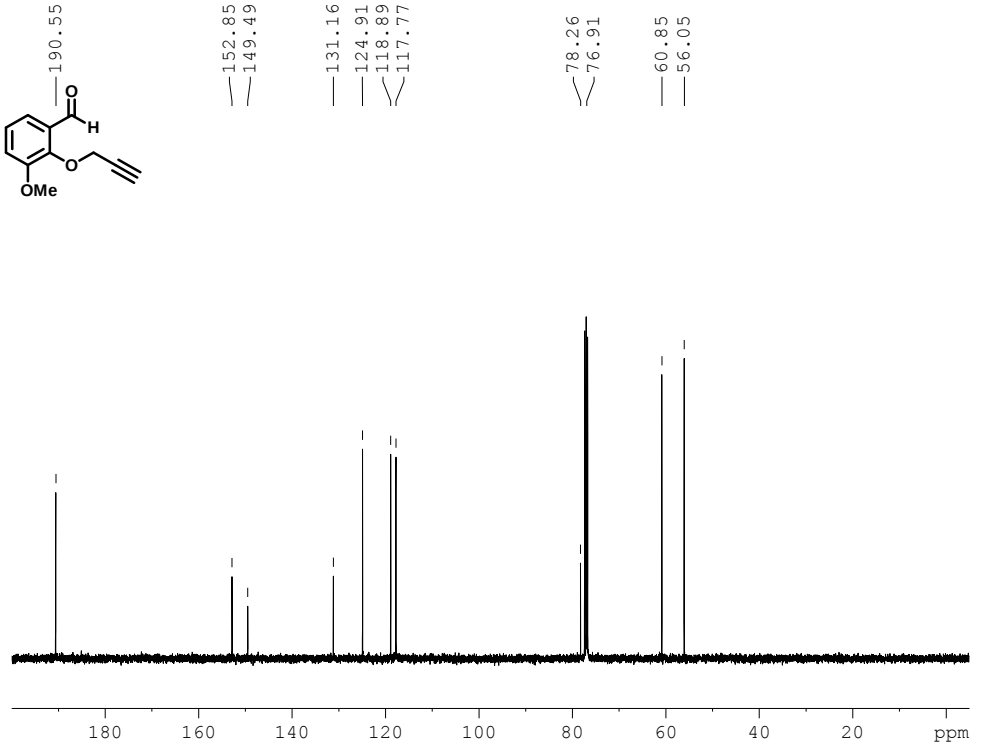



```
NAME            20251214
EXPNO                  2
PROCNO                 1
Date_           20251214
Time               15.30
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                    38
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                295.1 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

3-methoxy-2-(prop-2-yn-1-yloxy)benzaldehyde (1aa)

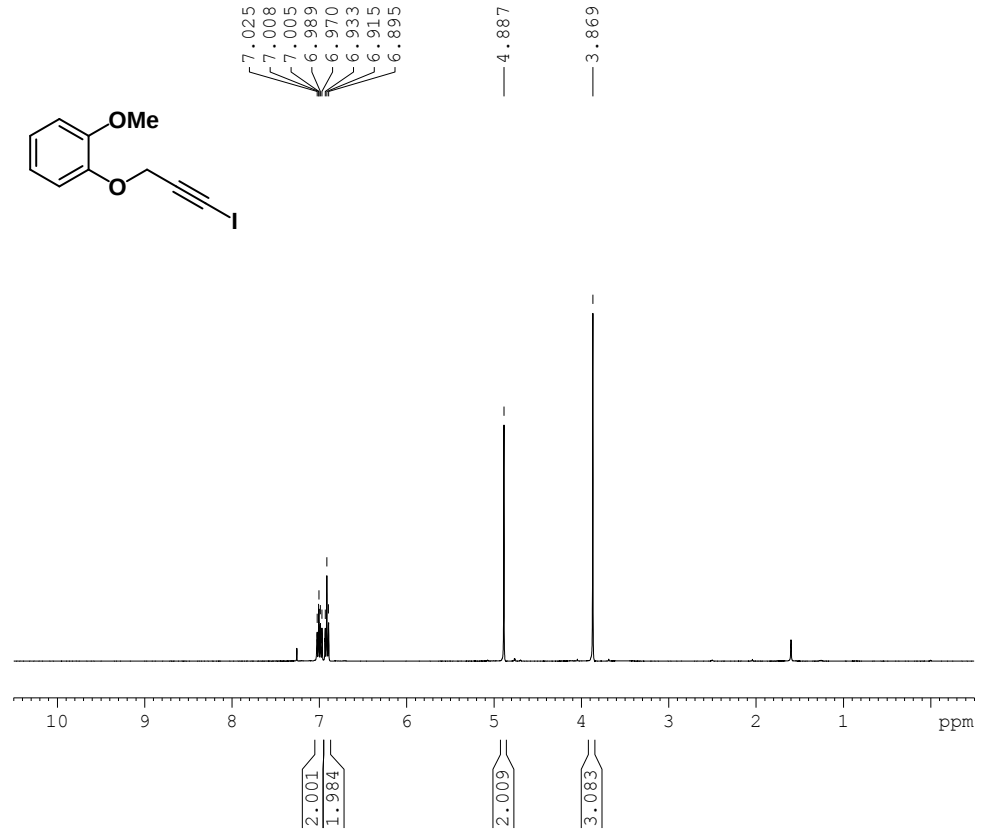



```
NAME              sharon
EXPNO                4
PROCNO               1
Date_         20230926
Time              1.25
INSTRUM          spect
PROBHD   5 mm BBO BB-1H
PULPROG            zg30
TD                32768
SOLVENT           CDCl3
NS                   12
DS                    0
SWH            7246.377 Hz
FIDRES        0.221142 Hz
AQ            2.2611110 sec
RG                  114
DW               69.000 usec
DE                6.50 usec
TE               297.9 K
D1            2.00000000 sec
TD0                  1

======== CHANNEL f1 ========
NUC1                1H
P1               15.00 usec
PL1              11.10 dB
SFO1        400.1324008 MHz
SI                16384
SF          400.1300039 MHz
WDW                EM
SSB                 0
LB               0.00 Hz
GB                  0
PC               1.00
```

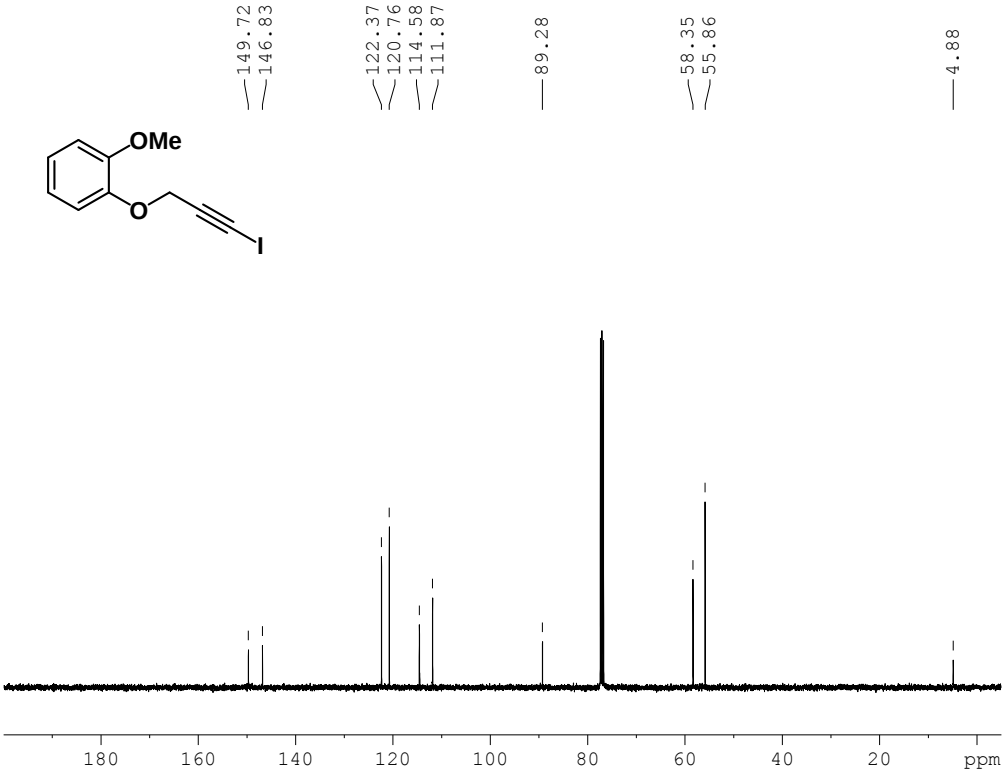



```
NAME              sharon
EXPNO                5
PROCNO               1
Date_         20230926
Time              1.27
INSTRUM          spect
PROBHD   5 mm BBO BB-1H
PULPROG          zgpg30
TD                32768
SOLVENT           CDCl3
NS                  272
DS                    0
SWH           24038.461 Hz
FIDRES         0.733596 Hz
AQ            0.6816452 sec
RG               9195.2
DW               20.800 usec
DE                6.50 usec
TE               297.9 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                  1

======== CHANNEL f1 ========
NUC1               13C
P1               10.00 usec
PL1               4.20 dB
SFO1       100.6233325 MHz

======== CHANNEL f2 ========
CPDPRG2         waltz16
NUC2                1H
PCPD2            90.00 usec
PL2              10.20 dB
PL12             26.00 dB
PL13             29.00 dB
SFO2       400.1316005 MHz
SI                32768
SF         100.6127690 MHz
WDW                EM
SSB                 0
LB               1.00 Hz
GB                  0
PC               1.00
```

1-((3-iodoprop-2-yn-1-yl)oxy)-2-methoxybenzene (2a)

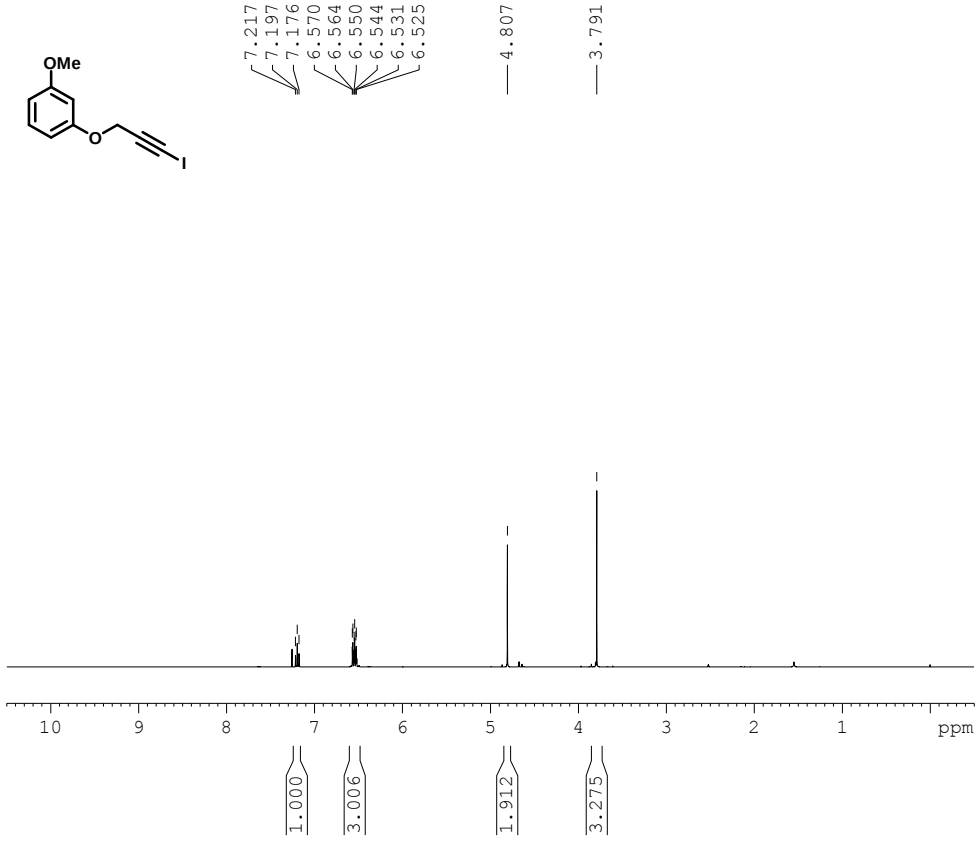



```
NAME            20231029
EXPNO                1
PROCNO               1
Date_           20231029
Time                16.56
INSTRUM            spect
PROBHD   5 mm BBO BB-1H
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7246.377 Hz
FIDRES          0.221142 Hz
AQ             2.2611110 sec
RG                   114
DW                69.000 usec
DE                 6.50 usec
TE                296.2 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
NUC1                  1H
P1                 15.00 usec
PL1                11.10 dB
SFO1         400.1324008 MHz
SI                 16384
SF           400.1300101 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

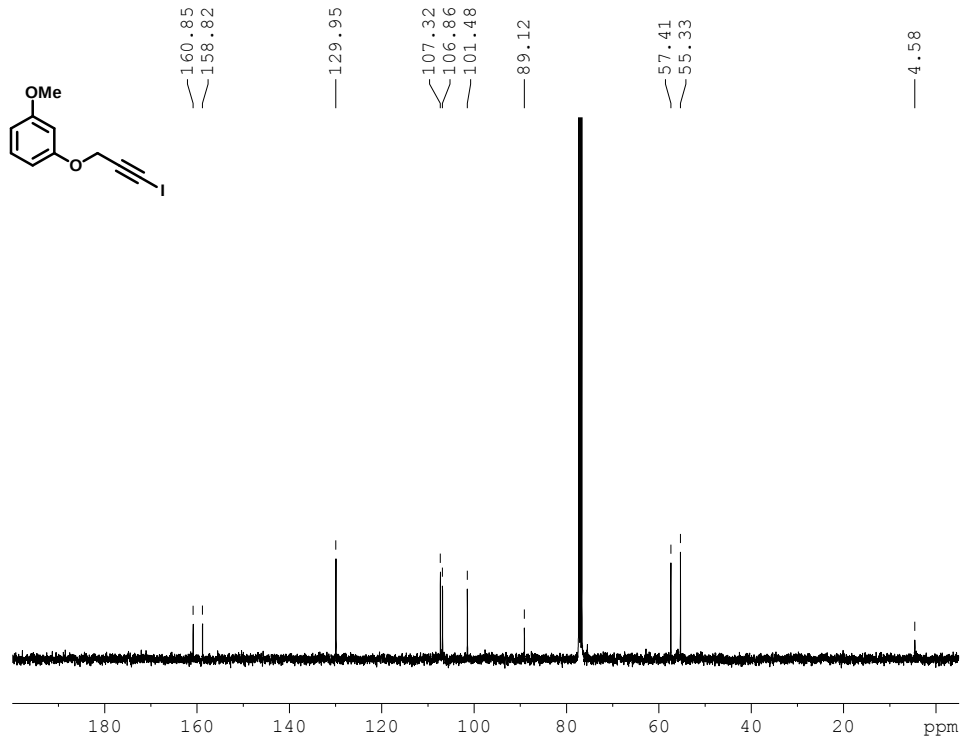



```
NAME            20231029
EXPNO                2
PROCNO               1
Date_           20231029
Time                16.58
INSTRUM            spect
PROBHD   5 mm BBO BB-1H
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   400
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816452 sec
RG                 32768
DW                20.800 usec
DE                 6.50 usec
TE                296.4 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
NUC1                 13C
P1                 10.00 usec
PL1                 4.20 dB
SFO1         100.6233325 MHz

======== CHANNEL f2 ========
CPDPRG2          waltz16
NUC2                  1H
PCPD2              90.00 usec
PL2                10.20 dB
PL12               26.00 dB
PL13               29.00 dB
SFO2         400.1316005 MHz
SI                 32768
SF           100.6127690 MHz
WDW                   EM
SSB                    0
LB                  1.00 Hz
GB                     0
PC                  1.00
```

1-((3-iodoprop-2-yn-1-yl)oxy)-3-methoxybenzene (2b)

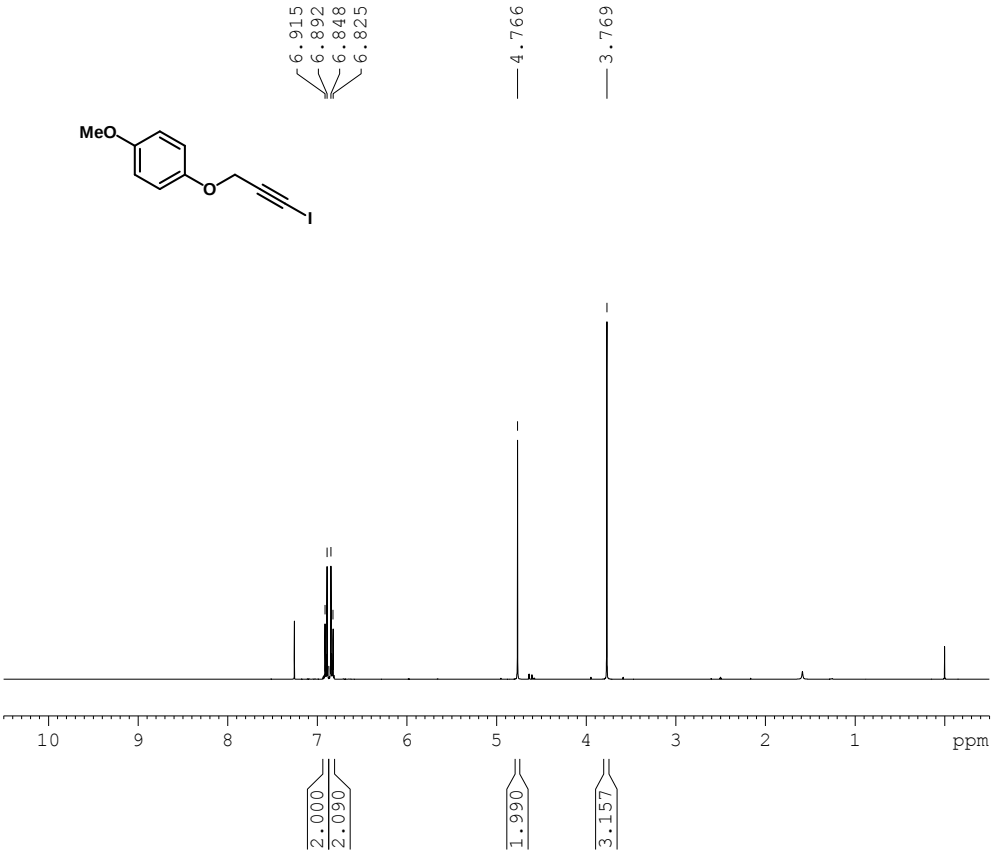



```
NAME            20240104
EXPNO                  3
PROCNO                 1
Date_           20240104
Time               16.33
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                144.49
DW                69.333 usec
DE                 10.06 usec
TE                 298.3 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300109 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

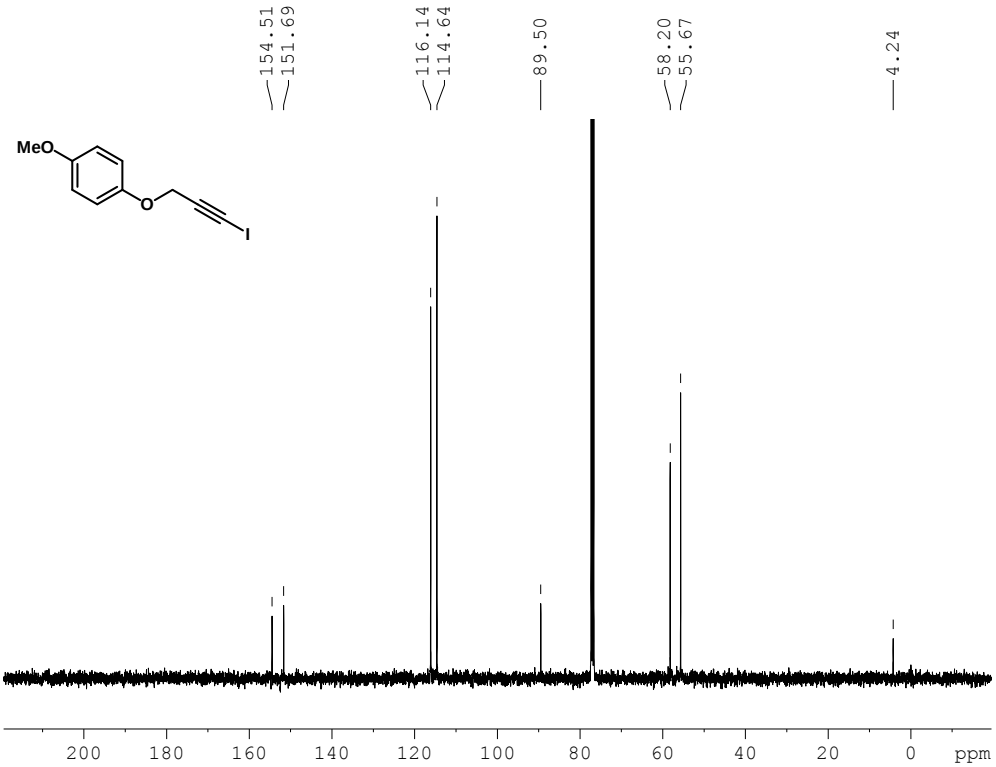



```
NAME            20240104
EXPNO                  5
PROCNO                 1
Date_           20240104
Time               17.36
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.2 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-((3-iodoprop-2-yn-1-yl)oxy)-4-methoxybenzene (2c)

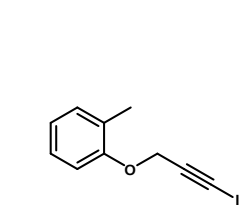



```
NAME            20240203
EXPNO                3
PROCNO               1
Date_           20240203
Time                18.02
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 89.08
DW                69.333 usec
DE                10.06 usec
TE                298.0 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                  15.00 usec
SI                  16384
SF           400.1300122 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

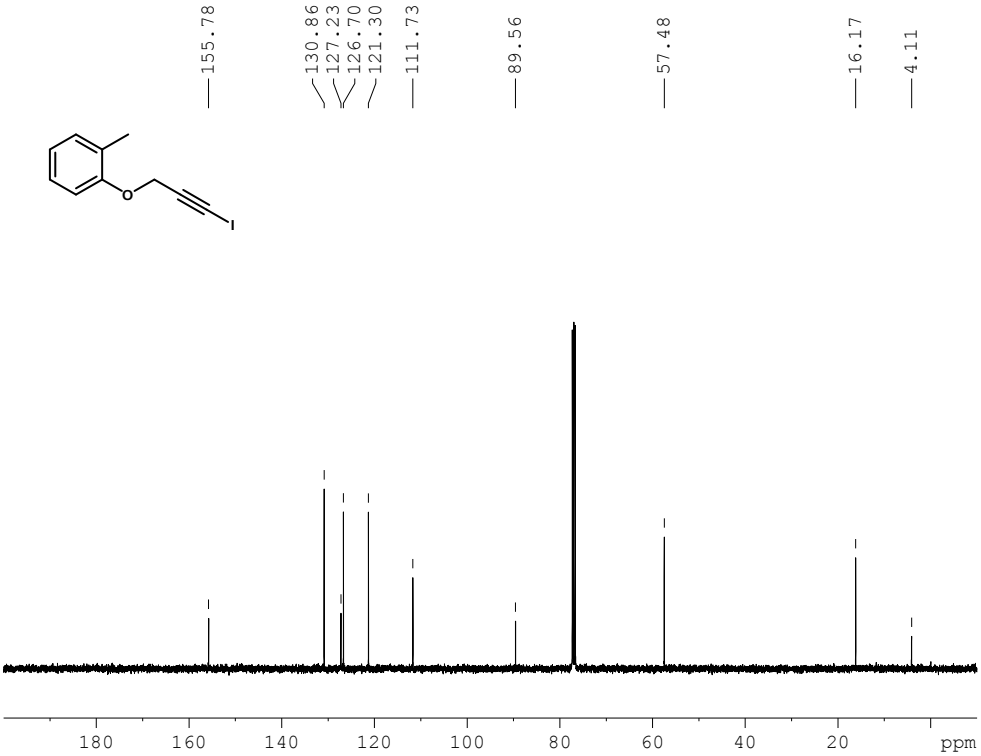



```
NAME            20240203
EXPNO                4
PROCNO               1
Date_           20240203
Time                18.03
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   122
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.1 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                  10.00 usec
SI                  32768
SF           100.6127729 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-((3-iodoprop-2-yn-1-yl)oxy)-2-methylbenzene (2d)

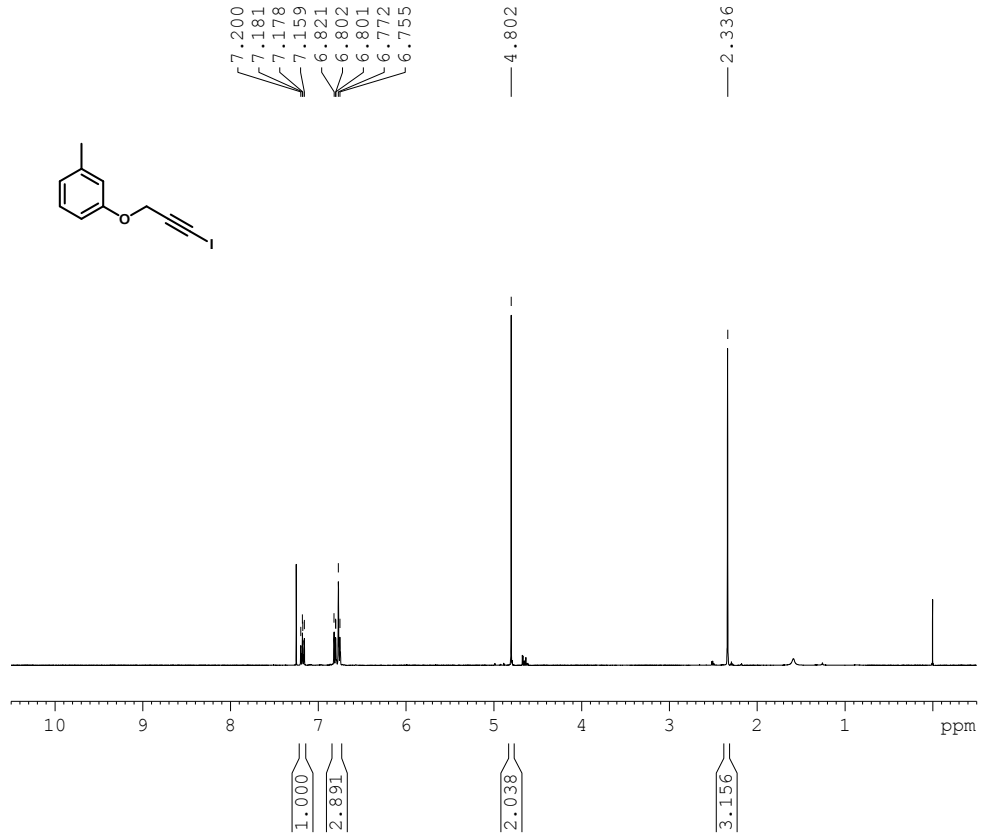



```
NAME          20240202(4F)
EXPNO                    1
PROCNO                   1
Date_             20240202
Time                 0.43
INSTRUM             spect
PROBHD   5 mm BBO BB-1H
PULPROG              zg30
TD                  32768
SOLVENT             CDCl3
NS                     12
DS                      0
SWH             7246.377 Hz
FIDRES          0.221142 Hz
AQ              2.2611110 sec
RG                    114
DW                 69.000 usec
DE                  6.50 usec
TE                 298.5 K
D1              2.00000000 sec
TD0                     1

======== CHANNEL f1 ========
NUC1                   1H
P1                  15.00 usec
PL1                 11.10 dB
SFO1          400.1324008 MHz
SI                  16384
SF            400.1300176 MHz
WDW                    EM
SSB                     0
LB                   0.00 Hz
GB                      0
PC                   1.00
```

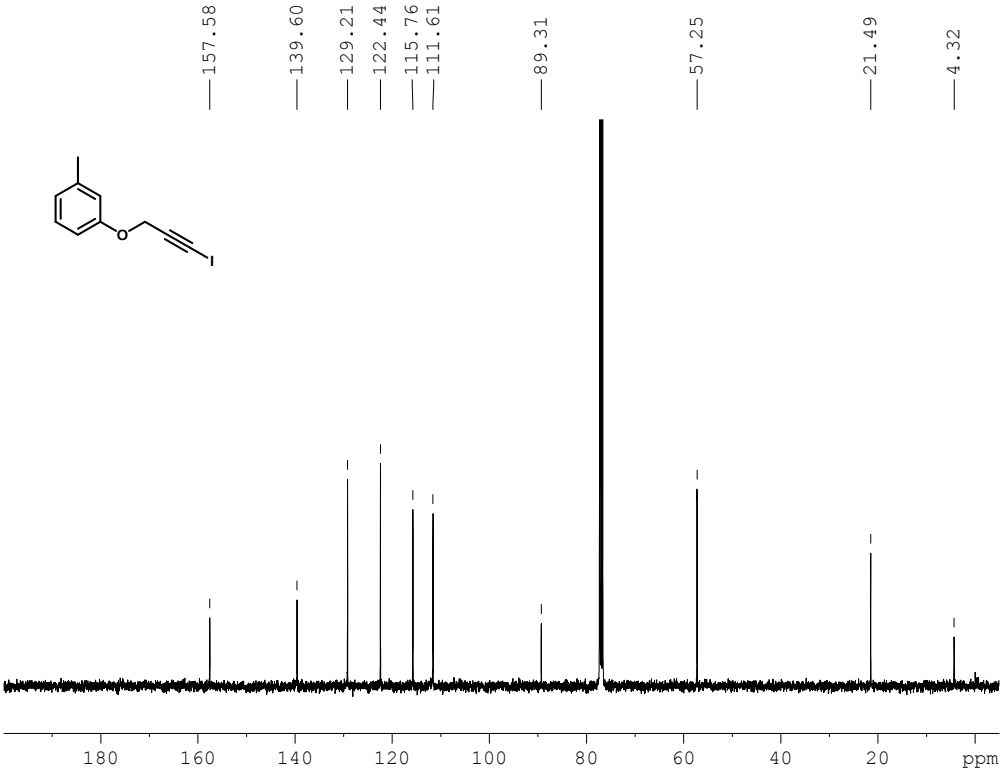



```
NAME          20240202(4F)
EXPNO                    2
PROCNO                   1
Date_             20240202
Time                 0.45
INSTRUM             spect
PROBHD   5 mm BBO BB-1H
PULPROG           zgpg30
TD                  32768
SOLVENT             CDCl3
NS                    200
DS                      0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816452 sec
RG                 9195.2
DW                 20.800 usec
DE                  6.50 usec
TE                 298.8 K
D1              2.00000000 sec
D11             0.03000000 sec
TD0                     1

======== CHANNEL f1 ========
NUC1                  13C
P1                  10.00 usec
PL1                  4.20 dB
SFO1          100.6233325 MHz

======== CHANNEL f2 ========
CPDPRG2           waltz16
NUC2                   1H
PCPD2               90.00 usec
PL2                 10.20 dB
PL12                26.00 dB
PL13                29.00 dB
SFO2          400.1316005 MHz
SI                  32768
SF            100.6127750 MHz
WDW                    EM
SSB                     0
LB                   1.00 Hz
GB                      0
PC                   1.00
```

1-((3-iodoprop-2-yn-1-yl)oxy)-3-methylbenzene (2e)

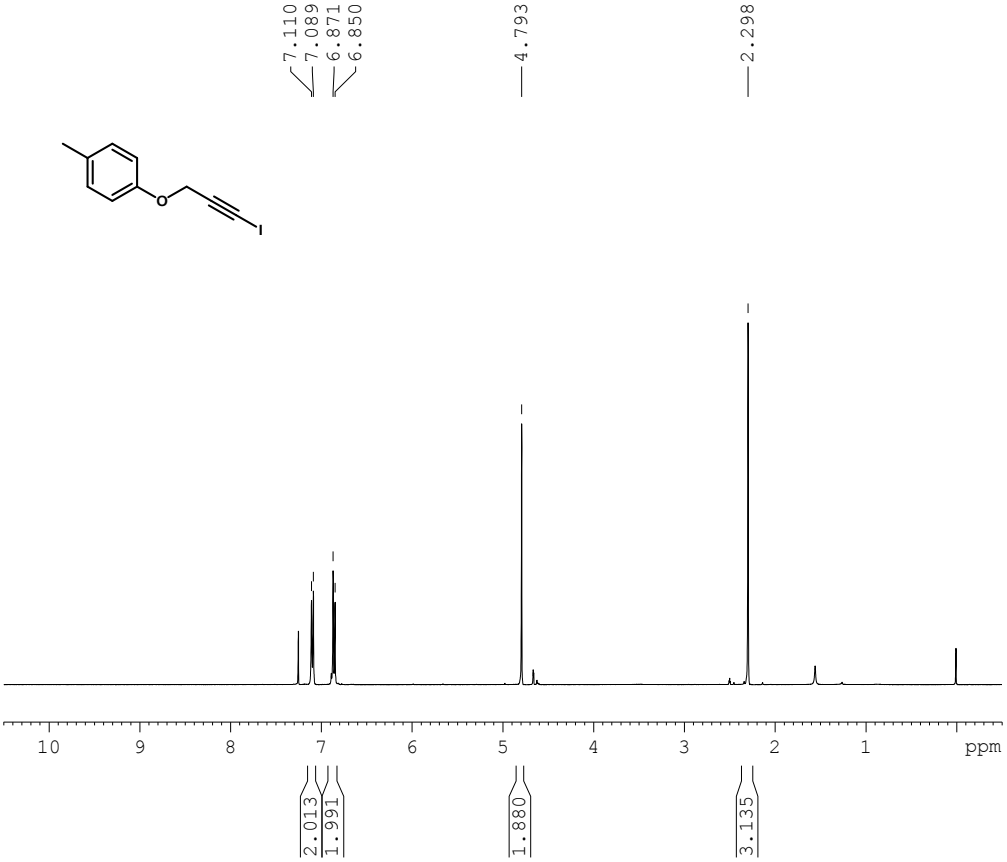



```
NAME            20240205
EXPNO                1
PROCNO               1
Date_           20240205
Time               14.30
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 99.72
DW                69.333 usec
DE                 10.06 usec
TE                 298.5 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300136 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

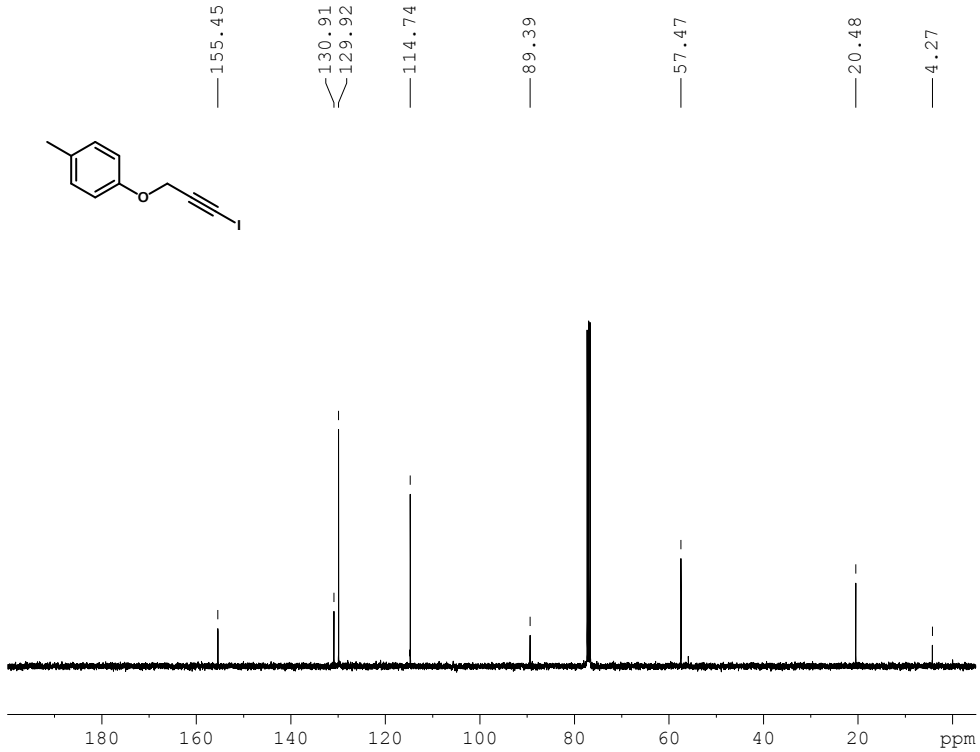



```
NAME            20240205
EXPNO                2
PROCNO               1
Date_           20240205
Time               14.43
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   257
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                 198.09
DW                20.800 usec
DE                  6.50 usec
TE                 299.6 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                  13C
P1                 10.00 usec
SI                 32768
SF           100.6127720 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-((3-iodoprop-2-yn-1-yl)oxy)-4-methylbenzene (2f)



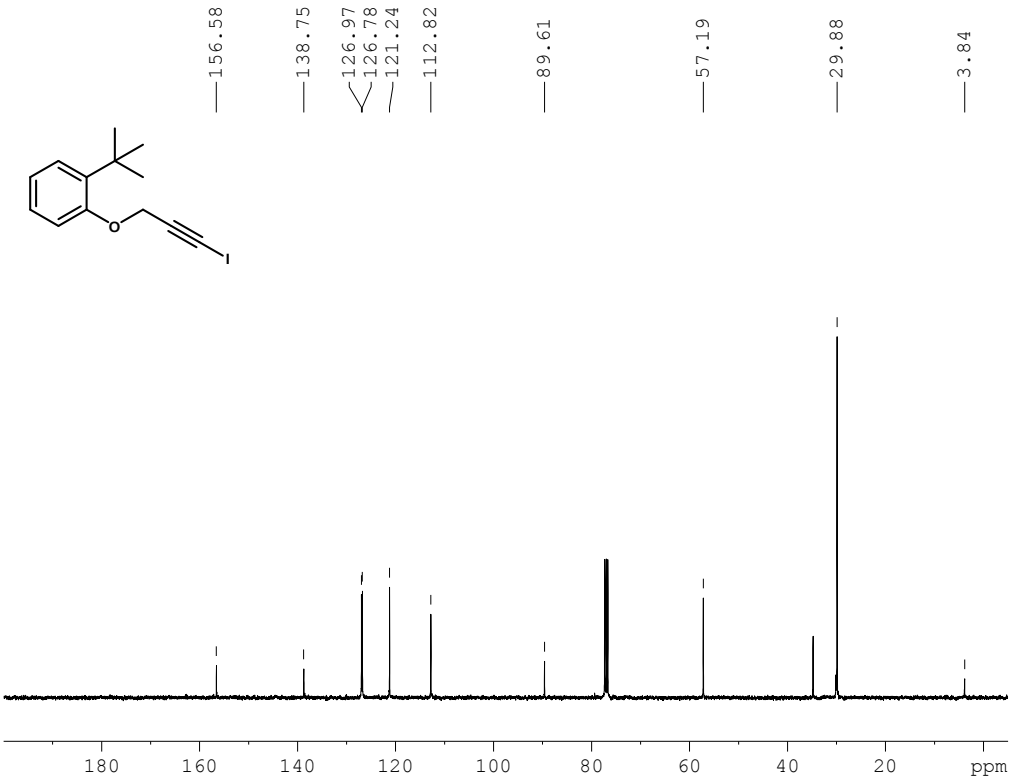

```
NAME          20240202(4F)
EXPNO                    3
PROCNO                   1
Date_             20240202
Time                 0.59
INSTRUM             spect
PROBHD   5 mm BBO BB-1H
PULPROG              zg30
TD                  32768
SOLVENT             CDCl3
NS                     12
DS                      0
SWH             7246.377 Hz
FIDRES          0.221142 Hz
AQ              2.2611110 sec
RG                    114
DW                 69.000 usec
DE                  6.50 usec
TE                 298.7 K
D1              2.00000000 sec
TD0                     1

======== CHANNEL f1 ========
NUC1                   1H
P1                  15.00 usec
PL1                 11.10 dB
SFO1          400.1324008 MHz
SI                  16384
SF            400.1300118 MHz
WDW                    EM
SSB                     0
LB                   0.00 Hz
GB                      0
PC                   1.00
```




```
NAME          20240202(4F)
EXPNO                    4
PROCNO                   1
Date_             20240202
Time                 1.02
INSTRUM             spect
PROBHD   5 mm BBO BB-1H
PULPROG            zgpg30
TD                  32768
SOLVENT             CDCl3
NS                    200
DS                      0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816452 sec
RG                 9195.2
DW                 20.800 usec
DE                  6.50 usec
TE                 299.1 K
D1              2.00000000 sec
D11             0.03000000 sec
TD0                     1

======== CHANNEL f1 ========
NUC1                  13C
P1                  10.00 usec
PL1                  4.20 dB
SFO1          100.6233325 MHz

======== CHANNEL f2 ========
CPDPRG2           waltz16
NUC2                   1H
PCPD2               90.00 usec
PL2                 10.20 dB
PL12                26.00 dB
PL13                29.00 dB
SFO2          400.1316005 MHz
SI                  32768
SF            100.6127730 MHz
WDW                    EM
SSB                     0
LB                   1.00 Hz
GB                      0
PC                   1.00
```

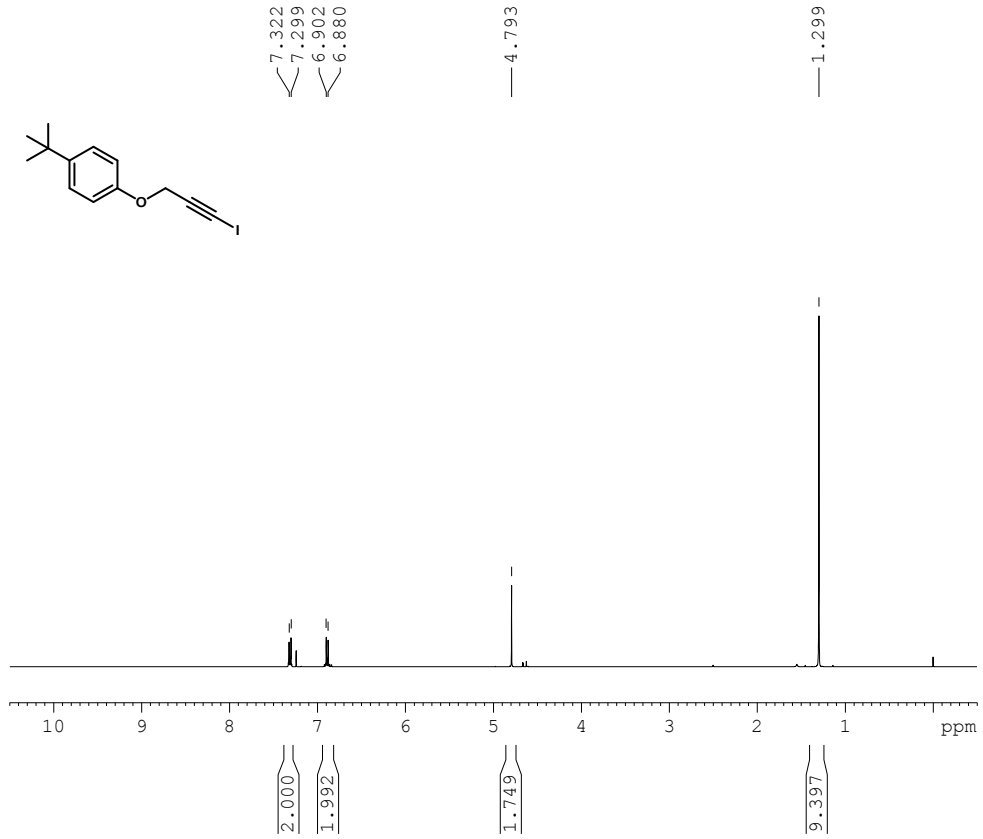
1-(*tert*-butyl)-2-((3-iodoprop-2-yn-1-yl)oxy)benzene (2g)


```
NAME            20240924
EXPNO                1
PROCNO               1
Date_           20240924
Time_              16.34
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 57.42
DW                69.333 usec
DE                 10.06 usec
TE                 296.0 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300211 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

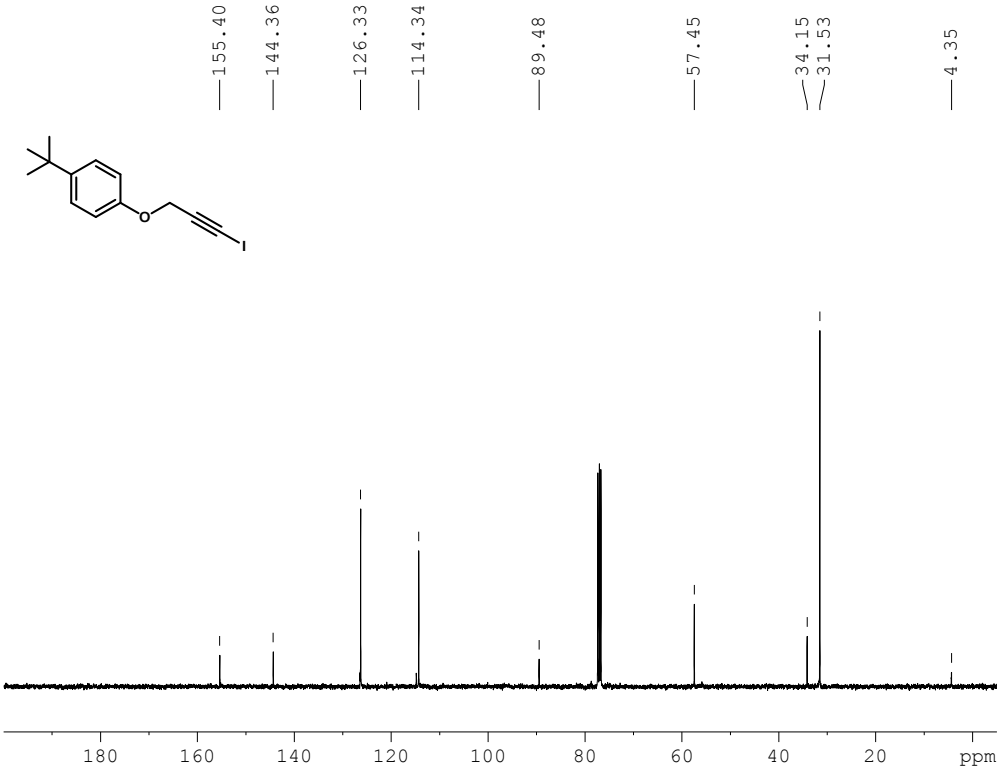



```
NAME            20240924
EXPNO                2
PROCNO               1
Date_           20240924
Time_              16.36
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                296.4 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                  13C
P1                 10.00 usec
SI                 32768
SF           100.6127741 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-(*tert*-butyl)-4-((3-iodoprop-2-yn-1-yl)oxy)benzene (2h)

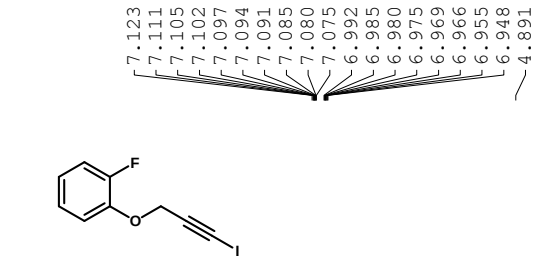



```
NAME            20240223
EXPNO                  1
PROCNO                 1
Date_           20240223
Time               18.13
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 63.58
DW                69.333 usec
DE                 10.06 usec
TE                 298.9 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300174 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

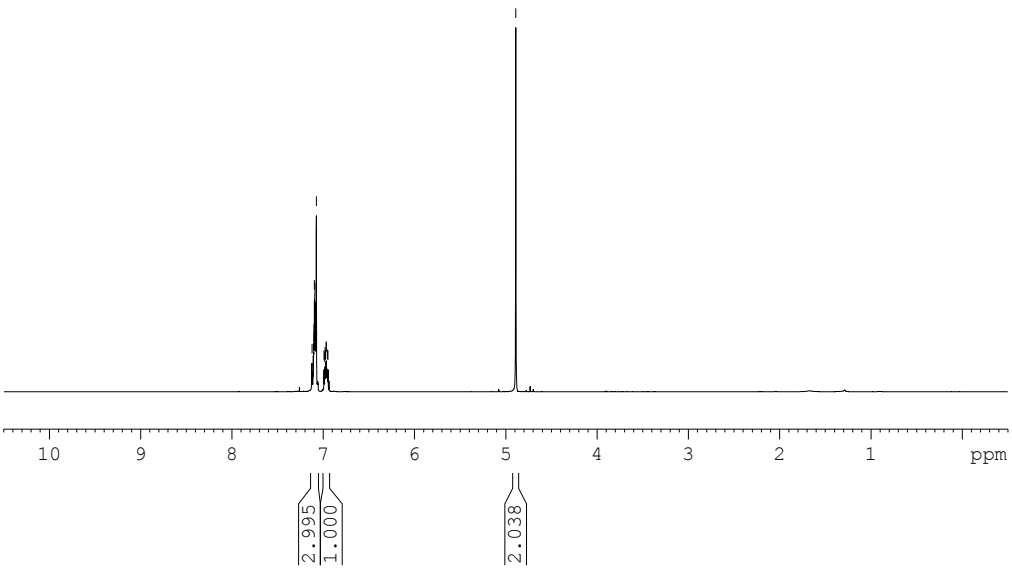


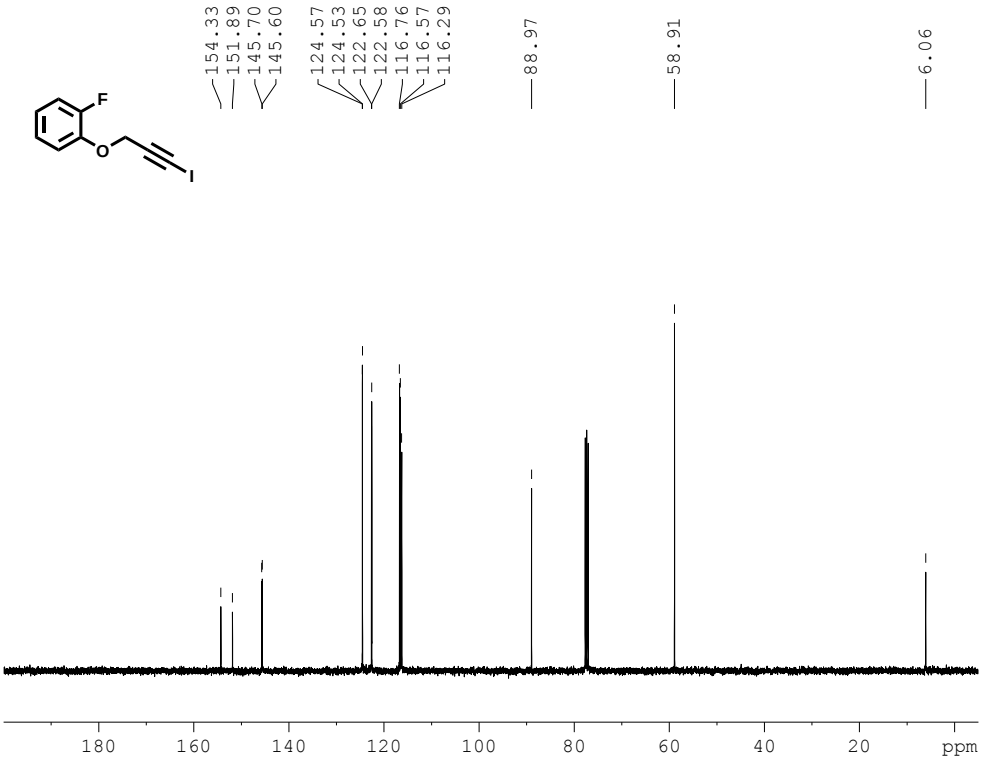

```
NAME            20240223
EXPNO                  2
PROCNO                 1
Date_           20240223
Time               18.14
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   100
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                 298.9 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                  13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-fluoro-2-((3-iodoprop-2-yn-1-yl)oxy)benzene (2i)



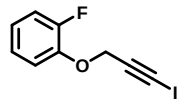

```
NAME            20231116
EXPNO                  1
PROCNO                 1
Date_           20231116
Time               20.31
INSTRUM            spect
PROBHD   5 mm BBO BB-1H
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7246.377 Hz
FIDRES          0.221142 Hz
AQ             2.2611110 sec
RG                  40.3
DW                69.000 usec
DE                 6.50 usec
TE                296.2 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
NUC1                  1H
P1                15.00 usec
PL1               11.10 dB
SFO1         400.1324008 MHz
SI                 16384
SF           400.1300092 MHz
WDW                   EM
SSB                    0
LB                0.00 Hz
GB                     0
PC                 1.00
```





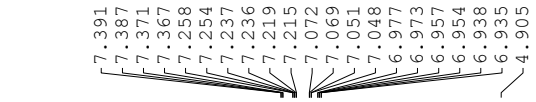

```
NAME            20231116
EXPNO                  2
PROCNO                 1
Date_           20231116
Time               20.35
INSTRUM            spect
PROBHD   5 mm BBO BB-1H
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   102
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816452 sec
RG                  2048
DW                20.800 usec
DE                 6.50 usec
TE                296.2 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
NUC1                 13C
P1                10.00 usec
PL1                4.20 dB
SFO1        100.6233325 MHz

======== CHANNEL f2 ========
CPDPRG2          waltz16
NUC2                  1H
PCPD2             90.00 usec
PL2               10.20 dB
PL12              26.00 dB
PL13              29.00 dB
SFO2        400.1316005 MHz
SI                 32768
SF          100.6127517 MHz
WDW                   EM
SSB                    0
LB                1.00 Hz
GB                     0
PC                 1.00
```

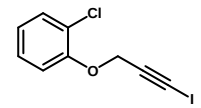
1-fluoro-2-((3-iodoprop-2-yn-1-yl)oxy)benzene (2i)



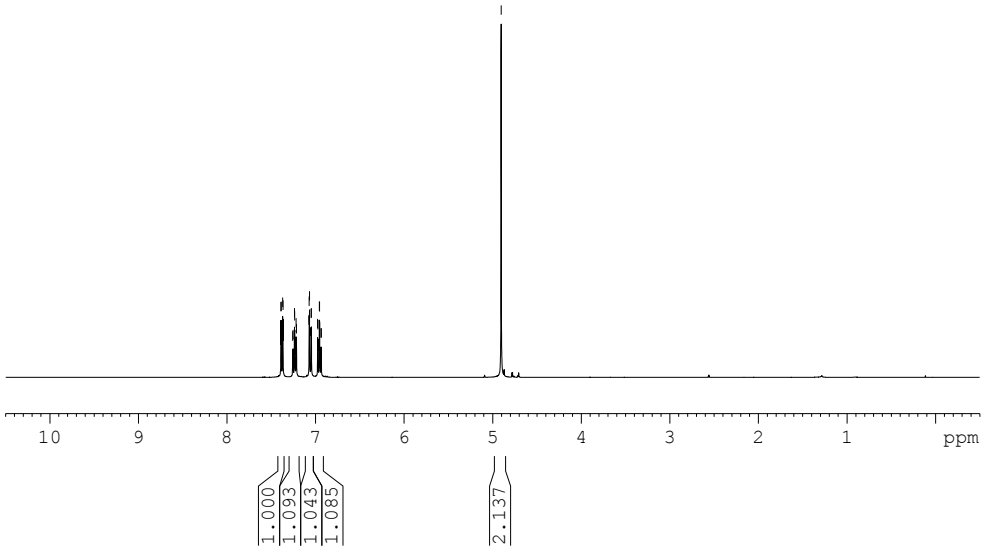
NAME	20251126
EXPNO	3
PROCNO	1
Date_	20251126
Time	15.52
INSTRUM	spect
PROBHD	5 mm PABBO BB/
PULPROG	zgig
TD	131072
SOLVENT	CDCl3
NS	8
DS	0
SWH	89285.711 Hz
FIDRES	0.681196 Hz
AQ	0.7340532 sec
RG	198.09
DW	5.600 usec
DE	6.50 usec
TE	294.9 K
D1	1.00000000 sec
D11	0.03000000 sec
TD0	1
======== CHANNEL f1 ========	
SFO1	376.4607168 MHz
NUC1	19F
P1	15.00 usec
SI	65536
SF	376.4983662 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.00

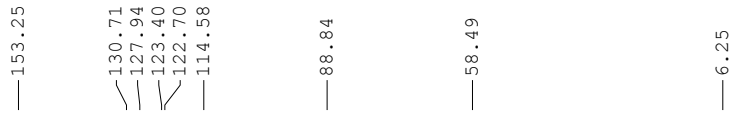
1-chloro-2-((3-iodoprop-2-yn-1-yl)oxy)benzene (2j)

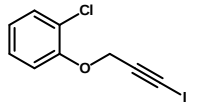




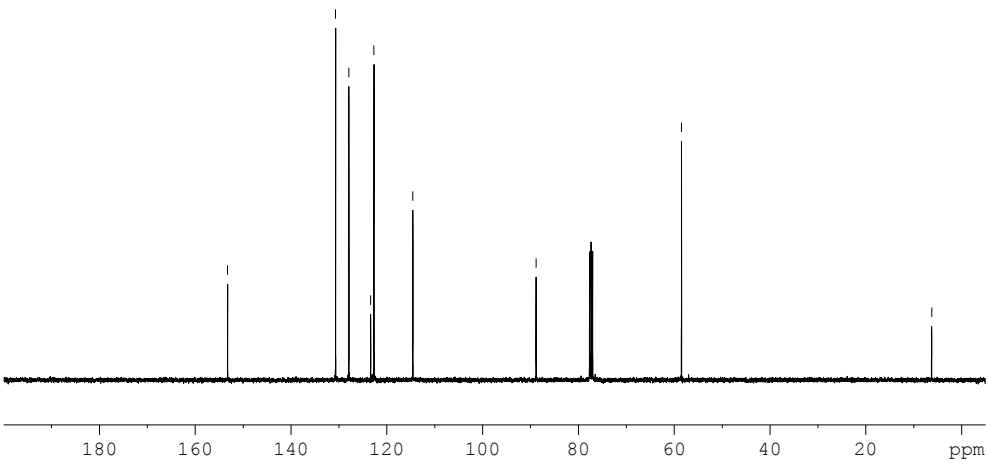

```
NAME            20231117
EXPNO                  1
PROCNO                 1
Date_           20231117
Time               14.34
INSTRUM            spect
PROBHD   5 mm BBO BB-1H
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7246.377 Hz
FIDRES          0.221142 Hz
AQ             2.2611110 sec
RG                  40.3
DW                69.000 usec
DE                 6.50 usec
TE                296.4 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
NUC1                  1H
P1                 15.00 usec
PL1                11.10 dB
SFO1         400.1324008 MHz
SI                 16384
SF           400.1300092 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```



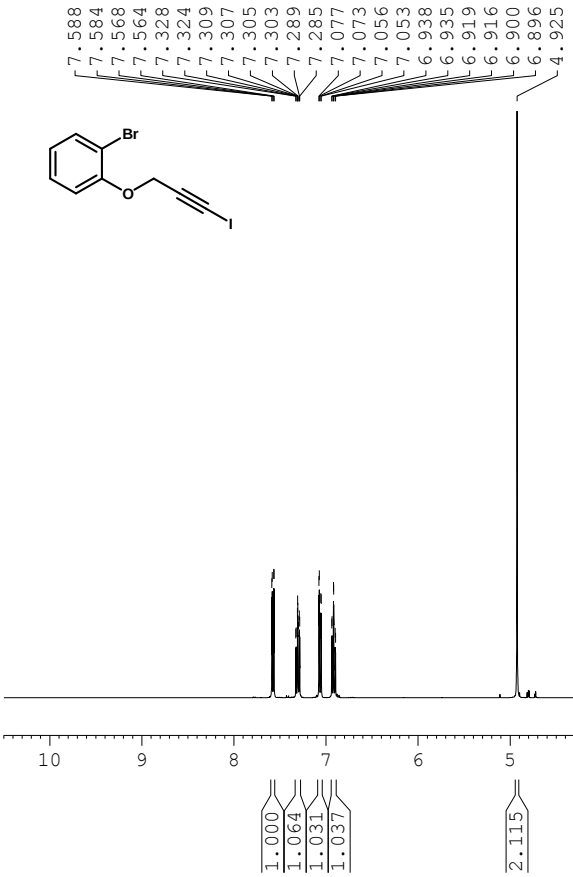




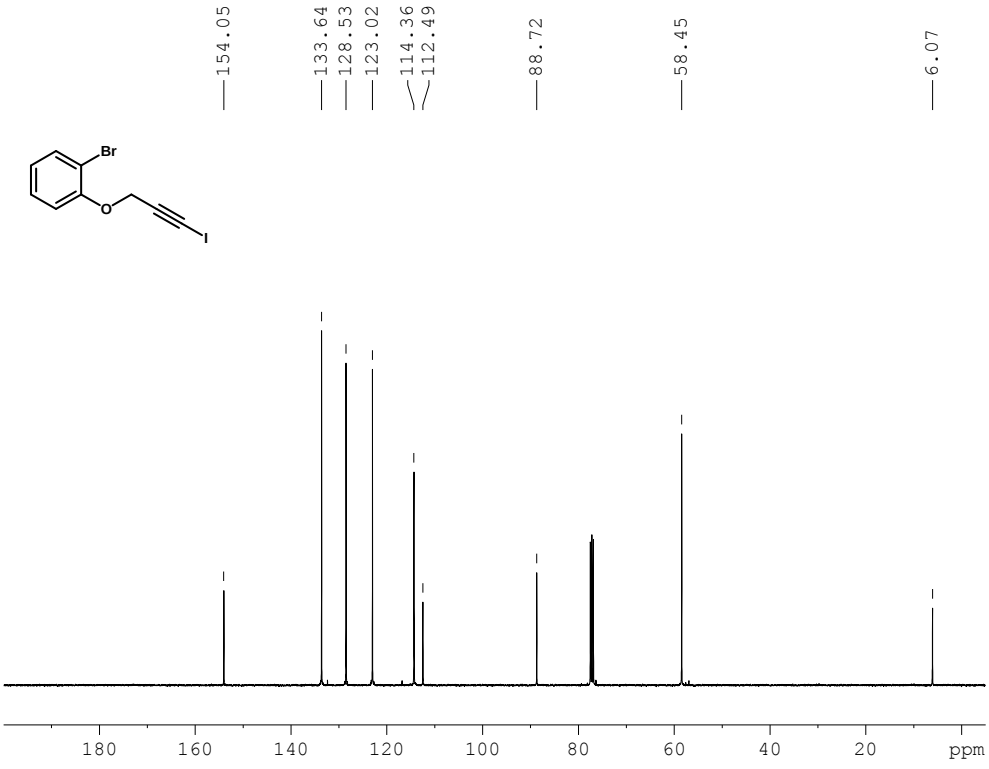

```
NAME            20231117
EXPNO                  2
PROCNO                 1
Date_           20231117
Time               14.35
INSTRUM            spect
PROBHD   5 mm BBO BB-1H
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   109
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816452 sec
RG                 32768
DW                20.800 usec
DE                 6.50 usec
TE                296.4 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
NUC1                 13C
P1                 10.00 usec
PL1                 4.20 dB
SFO1        100.6233325 MHz

======== CHANNEL f2 ========
CPDPRG2          waltz16
NUC2                  1H
PCPD2              90.00 usec
PL2                10.20 dB
PL12               26.00 dB
PL13               29.00 dB
SFO2         400.1316005 MHz
SI                 32768
SF           100.6127542 MHz
WDW                   EM
SSB                    0
LB                  1.00 Hz
GB                     0
PC                  1.00
```



1-bromo-2-((3-iodoprop-2-yn-1-yl)oxy)benzene (2k)

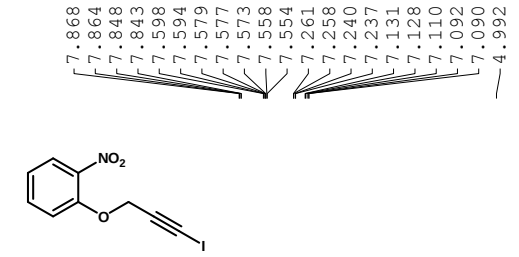



```
NAME            20231121
EXPNO                  3
PROCNO                 1
Date_           20231121
Time               12.19
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 38.89
DW                69.333 usec
DE                10.06 usec
TE                298.5 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                1H
P1                15.00 usec
SI                16384
SF           400.1300000 MHz
WDW                  EM
SSB                   0
LB                 0.00 Hz
GB                    0
PC                 1.00
```

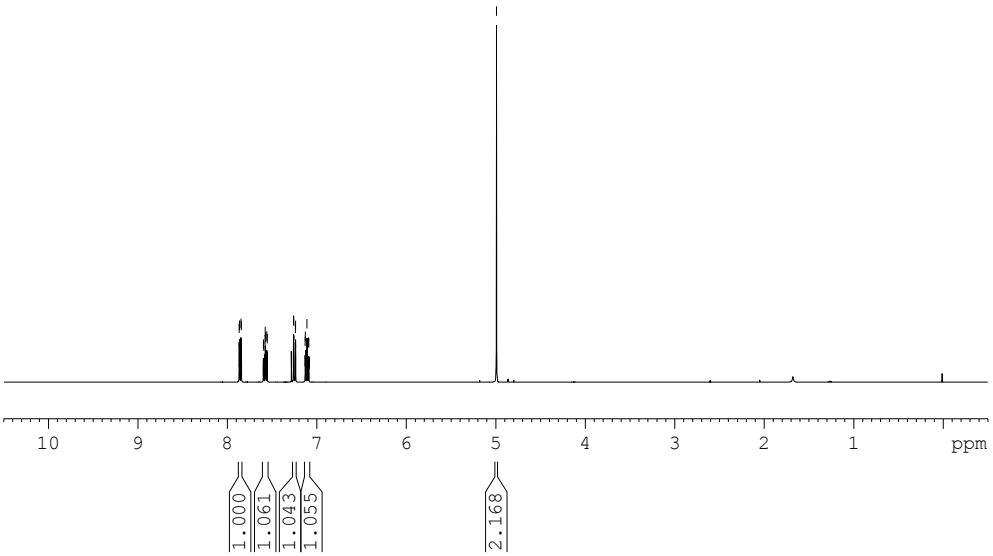


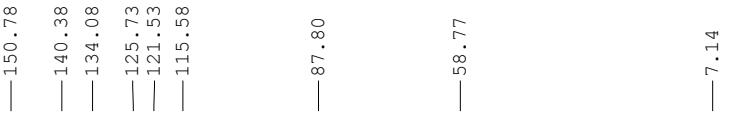

```
NAME            20231121
EXPNO                  4
PROCNO                 1
Date_           20231121
Time               12.30
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   400
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                299.6 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                13C
P1                10.00 usec
SI                32768
SF           100.6127685 MHz
WDW                  EM
SSB                   0
LB                 2.00 Hz
GB                    0
PC                 1.00
```

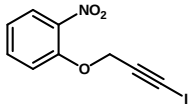
1-((3-iodoprop-2-yn-1-yl)oxy)-2-nitrobenzene (2l)



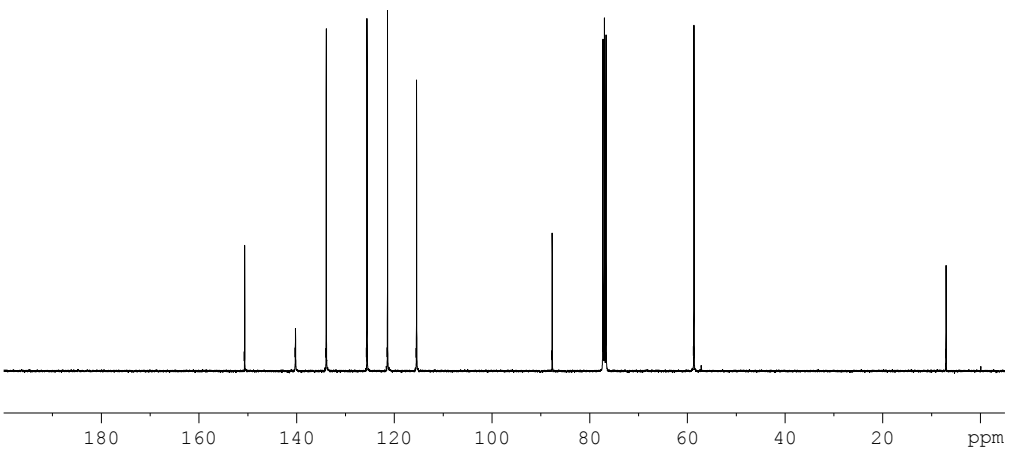

```
NAME            20230901
EXPNO                  3
PROCNO                 1
Date_           20230902
Time               16.17
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDC13
NS                    16
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 71.42
DW                69.333 usec
DE                10.06 usec
TE                298.7 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```



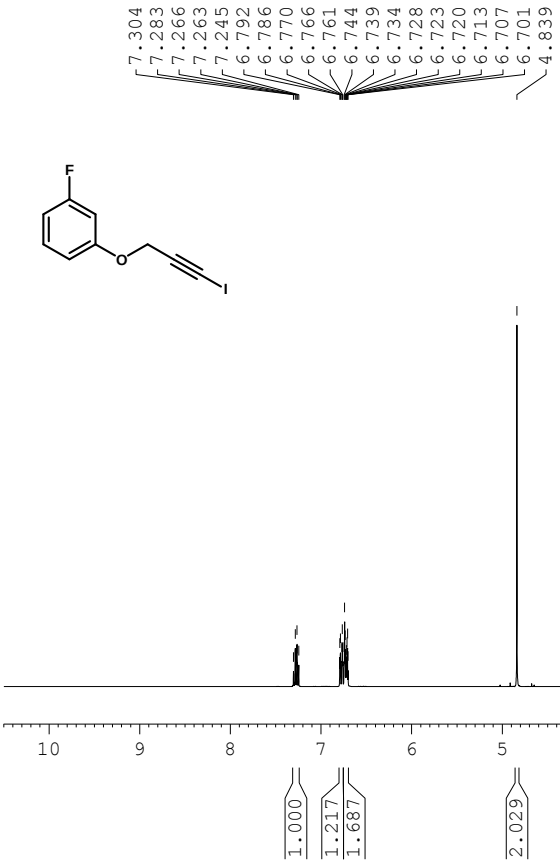




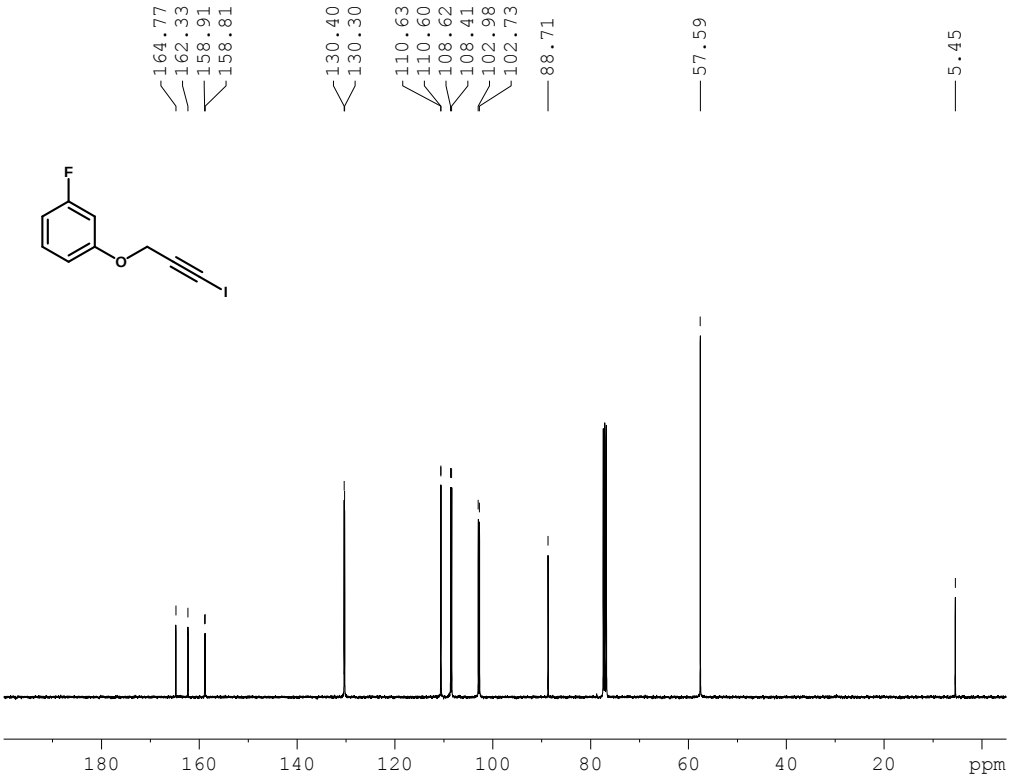

```
NAME            20230901
EXPNO                  4
PROCNO                 1
Date_           20230902
Time               17.19
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDC13
NS                  1330
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                300.3 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127805 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```



1-fluoro-3-((3-iodoprop-2-yn-1-yl)oxy)benzene (2m)

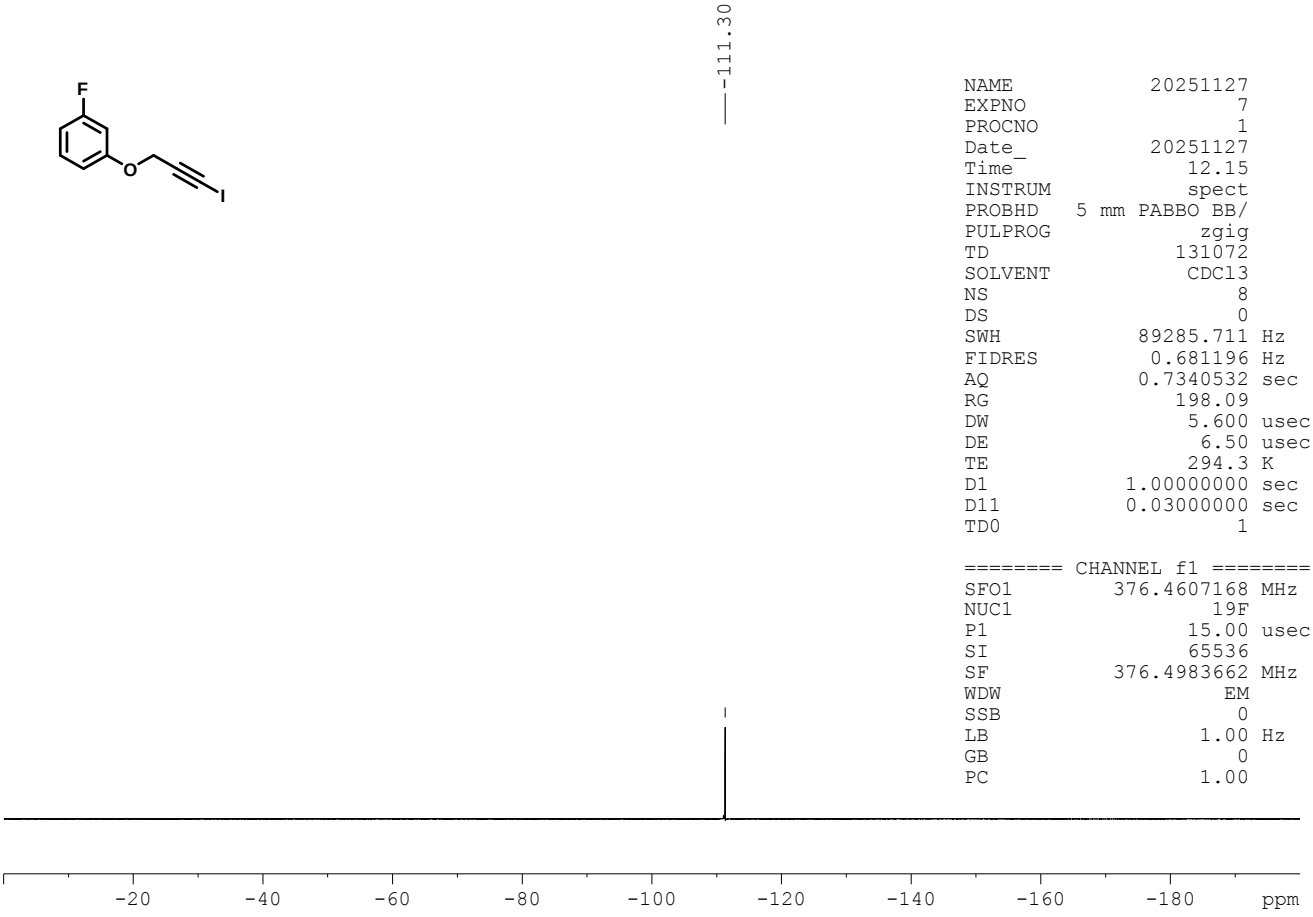



```
NAME            20231121
EXPNO                5
PROCNO               1
Date_           20231121
Time               18.35
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG            zg30
TD                32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                  51.8
DW                69.333 usec
DE                10.06 usec
TE                299.0 K
D1              2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                  15.00 usec
SI                  16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

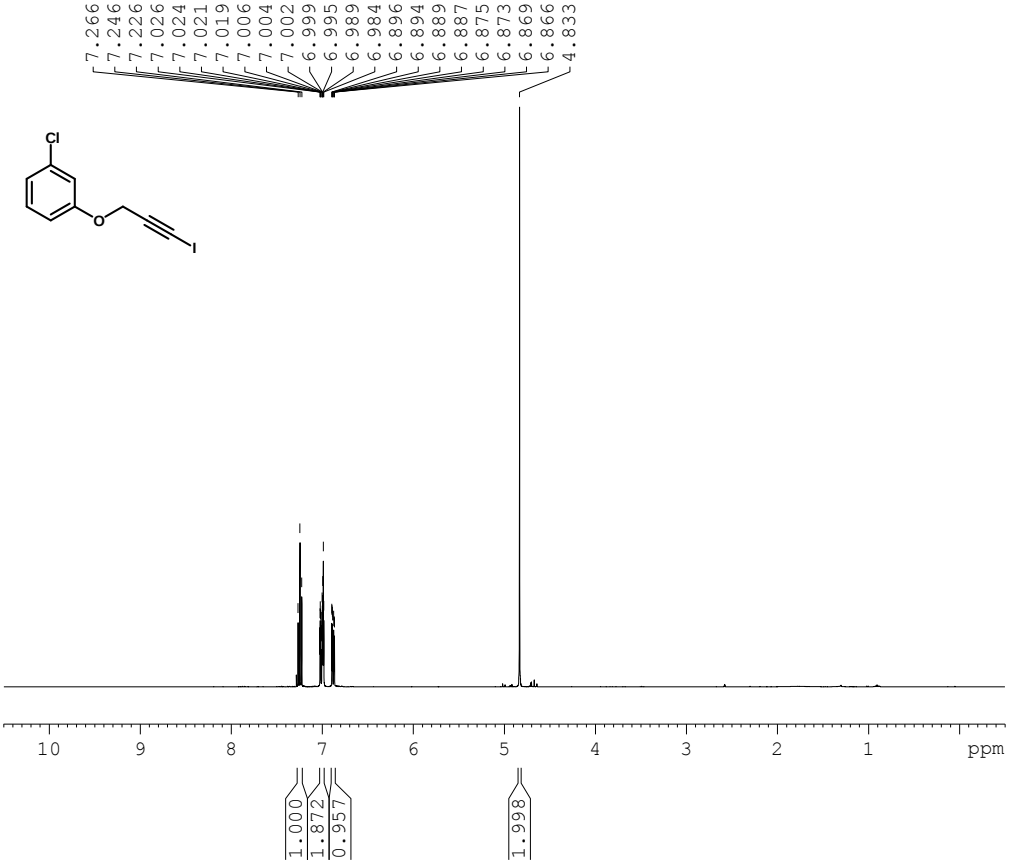



```
NAME            20231121
EXPNO                6
PROCNO               1
Date_           20231121
Time               18.46
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                32768
SOLVENT            CDCl3
NS                   400
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                 198.09
DW                20.800 usec
DE                 6.50 usec
TE                299.8 K
D1              2.00000000 sec
D11             0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                  10.00 usec
SI                  32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

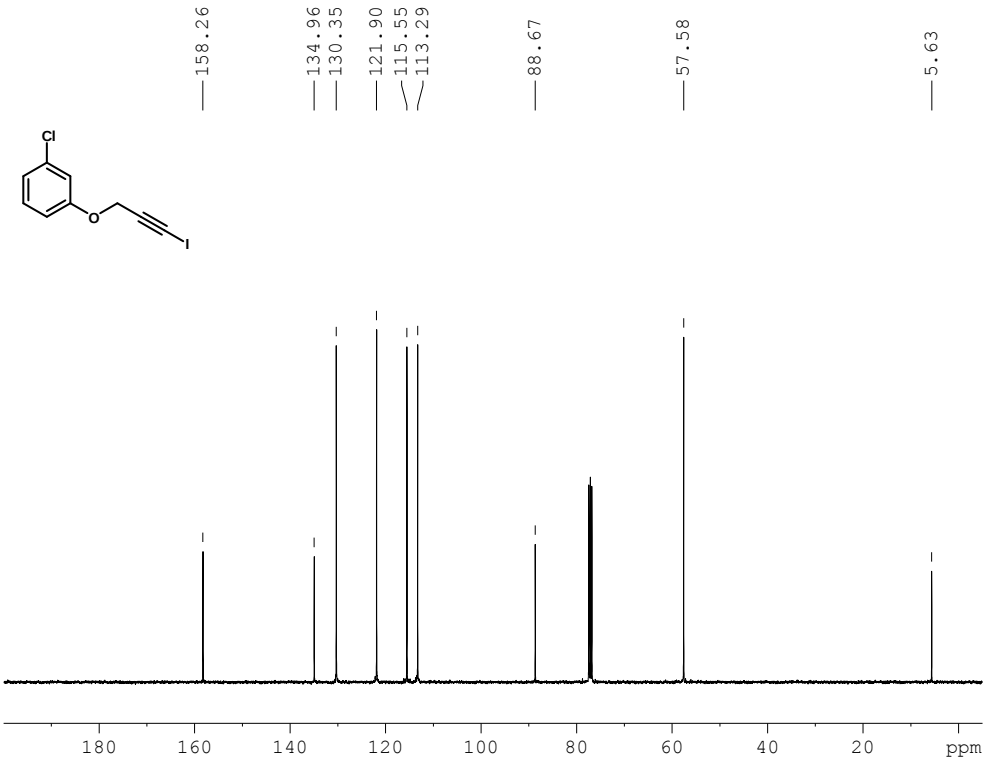
1-fluoro-3-((3-iodoprop-2-yn-1-yl)oxy)benzene (2m)



1-chloro-3-((3-iodoprop-2-yn-1-yl)oxy)benzene (2n)

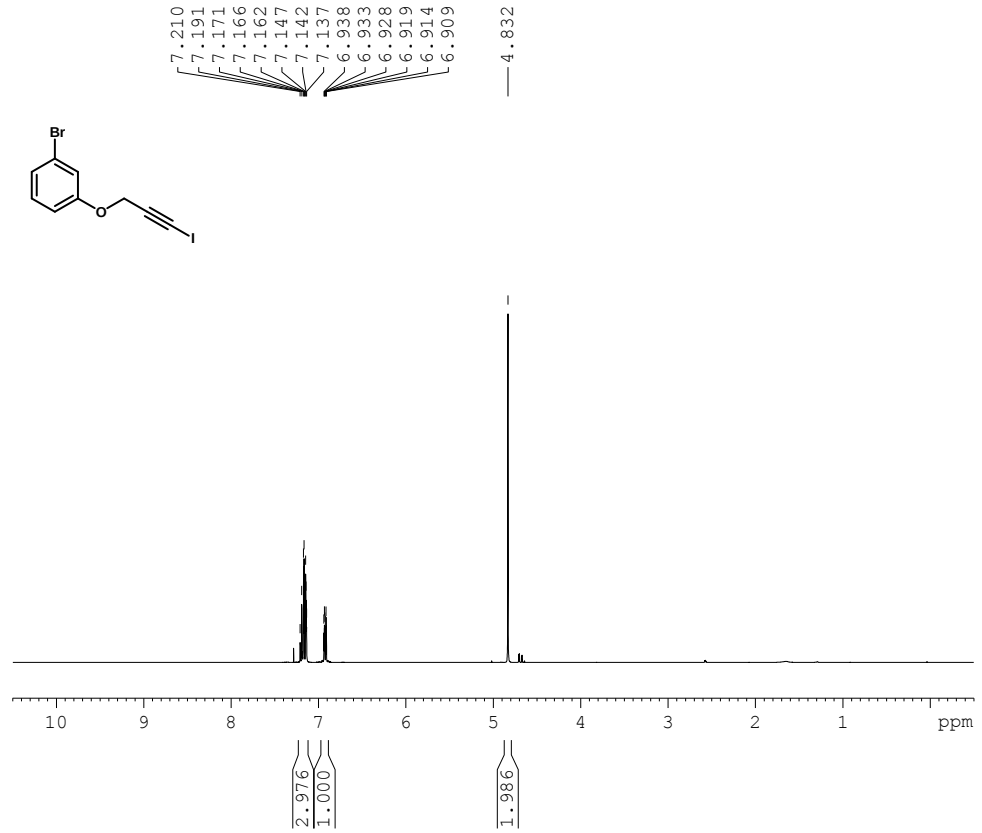



```
NAME            20231211
EXPNO                  1
PROCNO                 1
Date_           20231211
Time               14.09
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                  51.8
DW                69.333 usec
DE                10.06 usec
TE                298.7 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

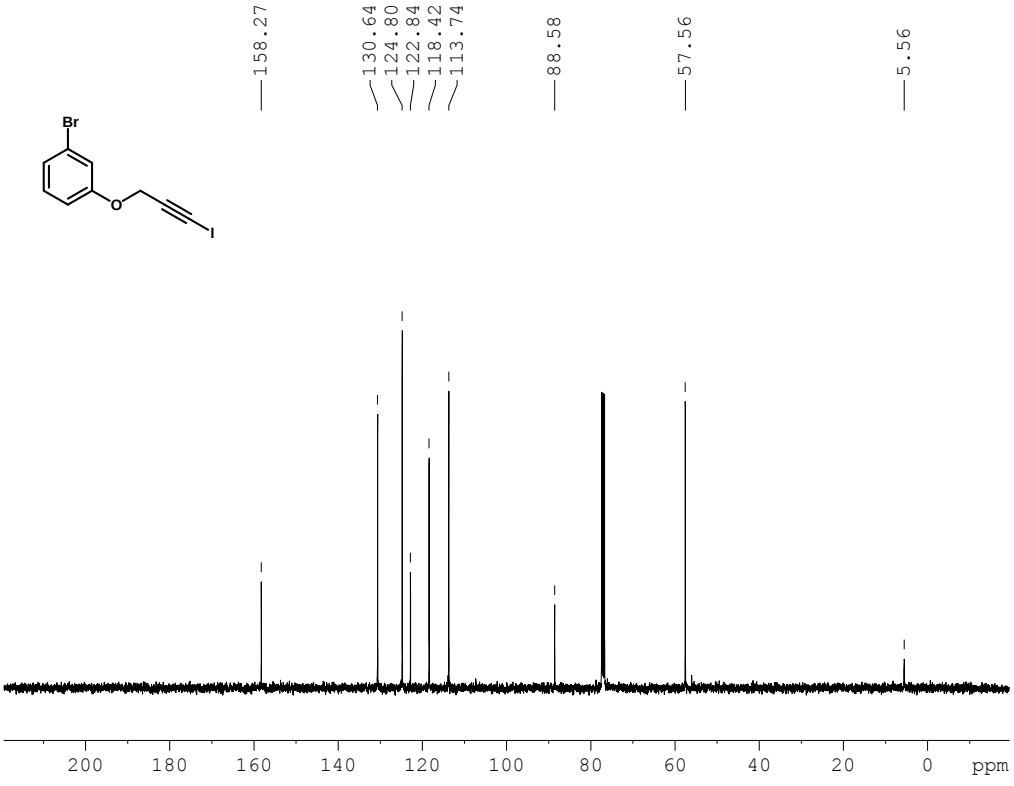



```
NAME            20231211
EXPNO                  2
PROCNO                 1
Date_           20231211
Time               14.31
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   264
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                299.7 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1        100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF          100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-bromo-3-((3-iodoprop-2-yn-1-yl)oxy)benzene (2o)

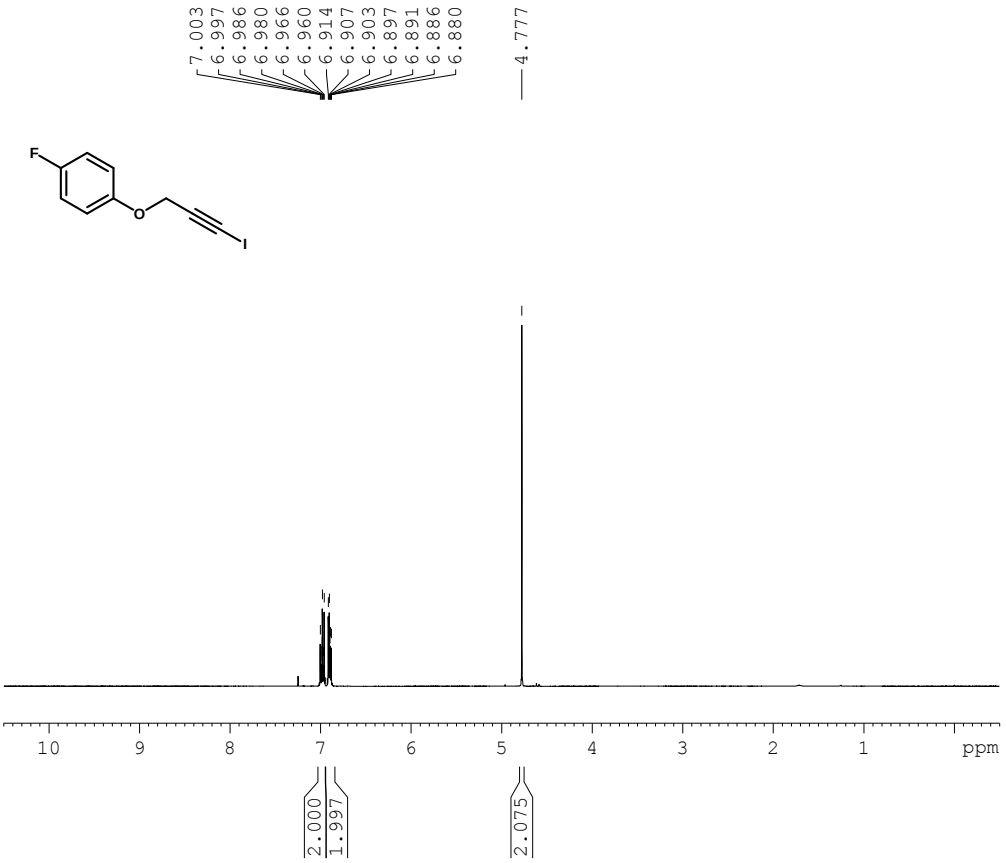



```
NAME          202312121
EXPNO                 2
PROCNO                1
Date_          20231221
Time              16.36
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG            zg30
TD                32768
SOLVENT           CDCl3
NS                   12
DS                    0
SWH            7211.539 Hz
FIDRES        0.220079 Hz
AQ           2.2719646 sec
RG                78.51
DW              69.333 usec
DE               10.06 usec
TE               297.9 K
D1          2.00000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1       400.1324008 MHz
NUC1               1H
P1              15.00 usec
SI                16384
SF         400.1300000 MHz
WDW                EM
SSB                 0
LB               0.00 Hz
GB                  0
PC               1.00
```

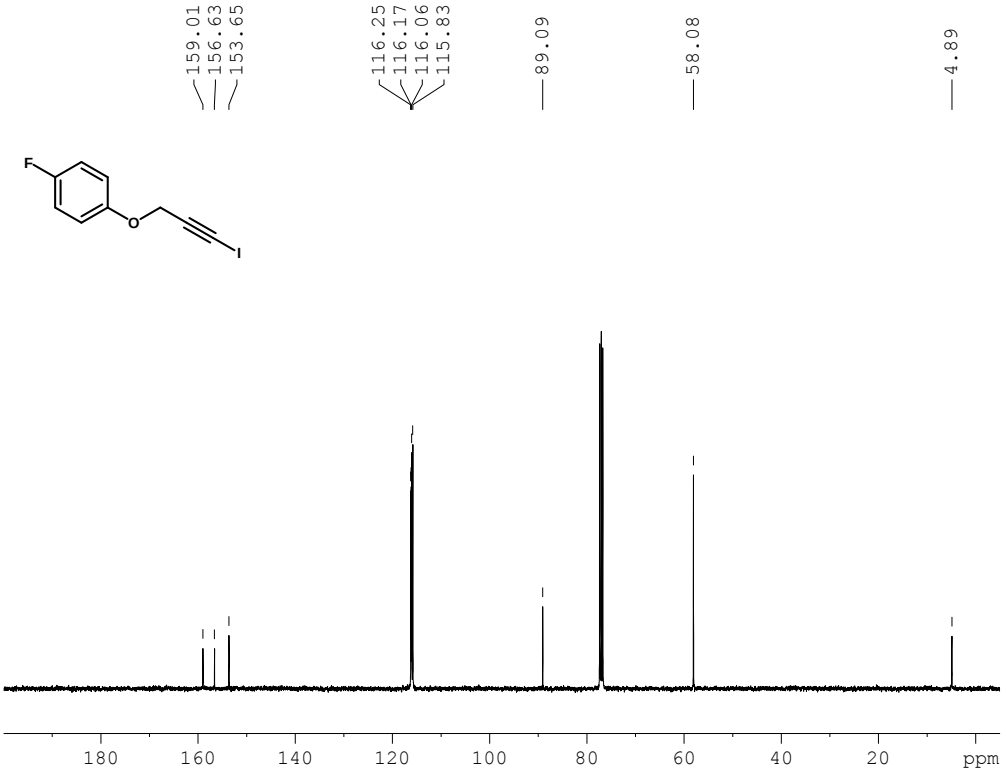



```
NAME          202312121
EXPNO                 3
PROCNO                1
Date_          20231221
Time              16.38
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                32768
SOLVENT           CDCl3
NS                  100
DS                    0
SWH           24038.461 Hz
FIDRES        0.733596 Hz
AQ            0.6816244 sec
RG                198.09
DW               20.800 usec
DE                6.50 usec
TE               298.2 K
D1          2.00000000 sec
D11         0.03000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1       100.6228298 MHz
NUC1               13C
P1              10.00 usec
SI                32768
SF         100.6127685 MHz
WDW                EM
SSB                 0
LB               2.00 Hz
GB                  0
PC               1.00
```

1-fluoro-4-((3-iodoprop-2-yn-1-yl)oxy)benzene (2p)

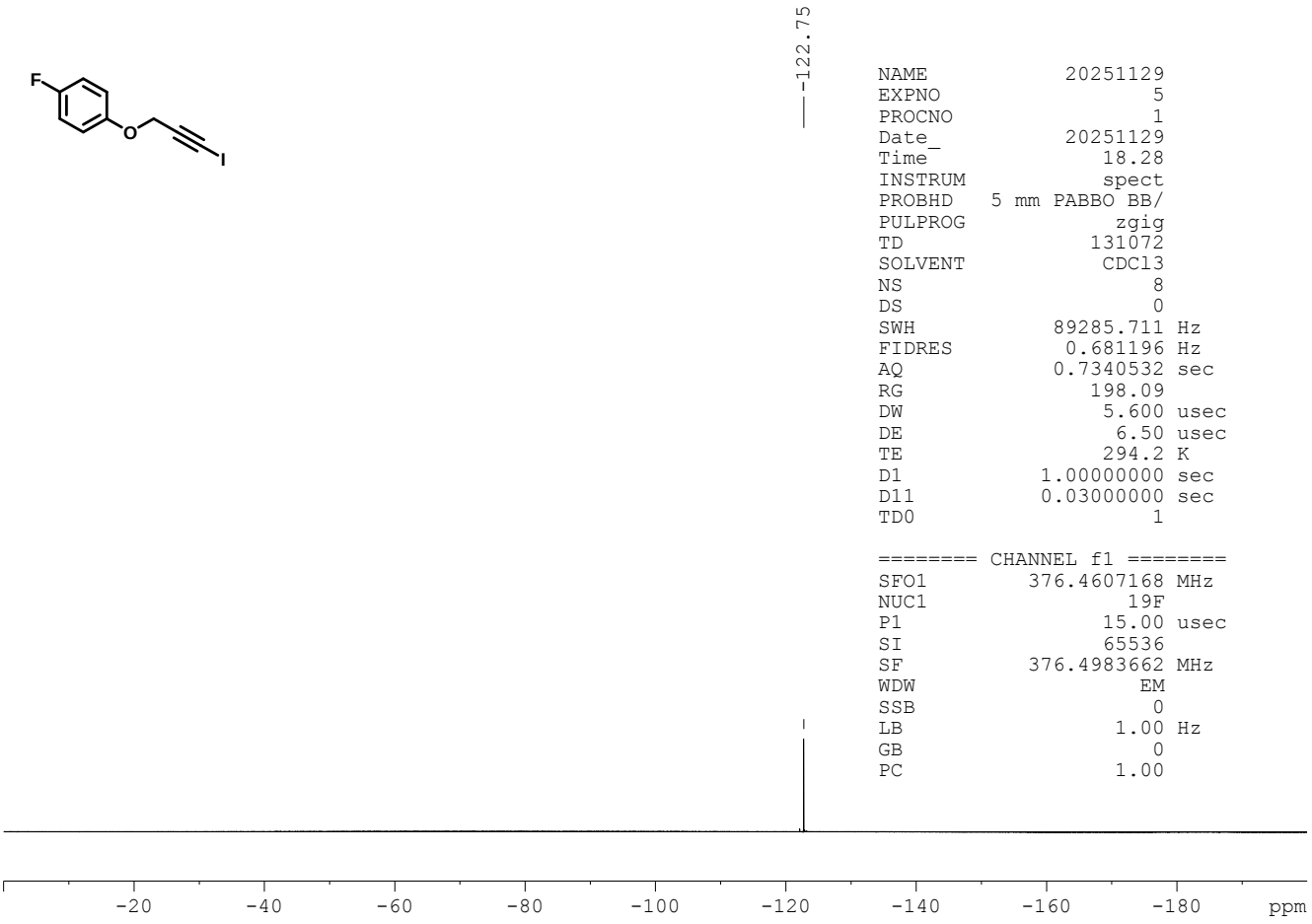



```
NAME            20231129
EXPNO                  6
PROCNO                 1
Date_           20231129
Time               19.51
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT             CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 71.42
DW                69.333 usec
DE                10.06 usec
TE                298.0 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300152 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

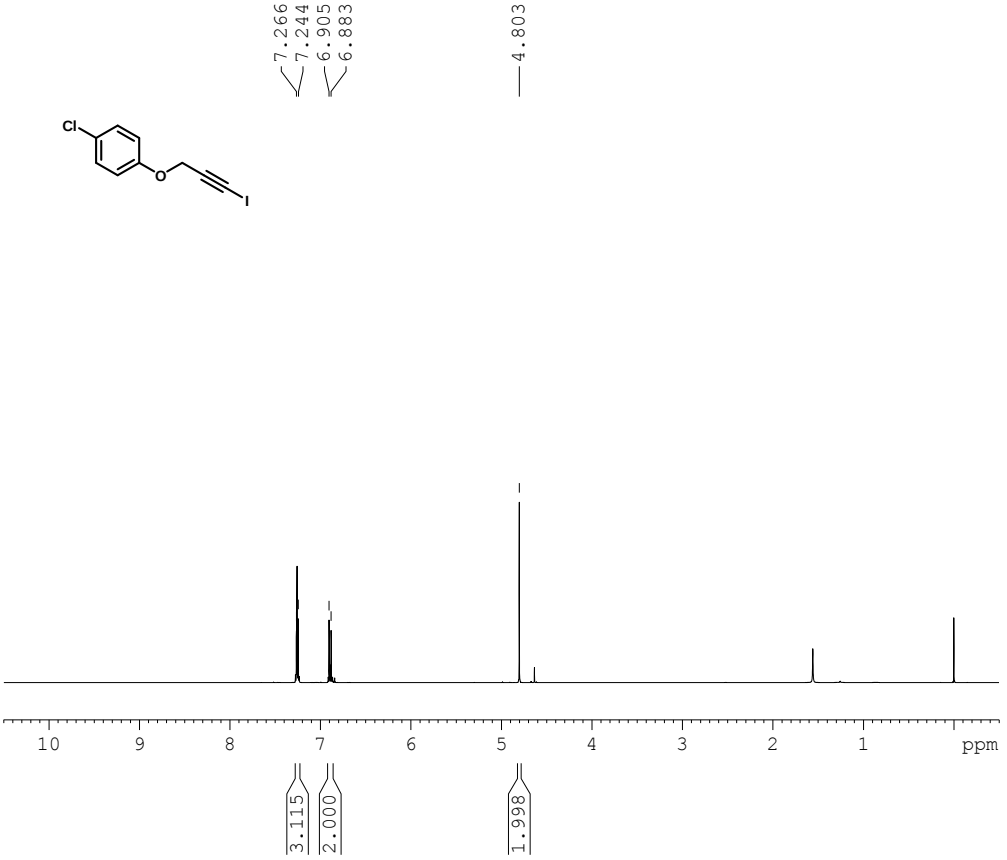



```
NAME            20231129
EXPNO                  7
PROCNO                 1
Date_           20231129
Time               19.52
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT             CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.4 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                  13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

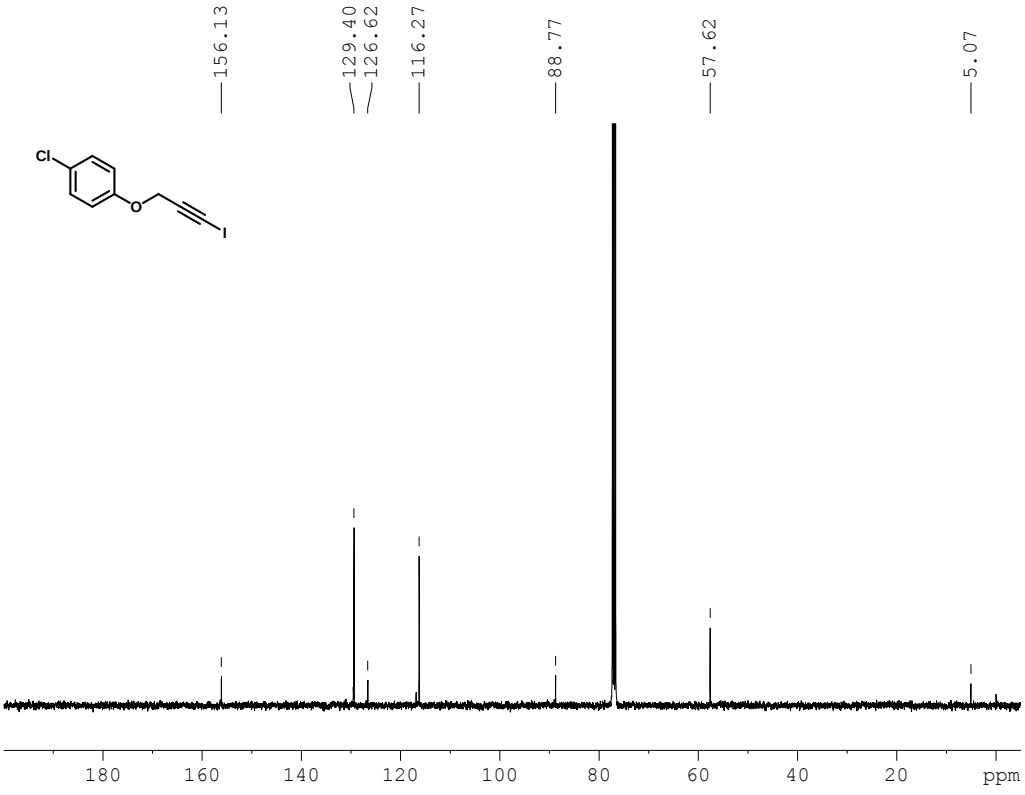
1-fluoro-4-((3-iodoprop-2-yn-1-yl)oxy)benzene (2p)



1-chloro-4-((3-iodoprop-2-yn-1-yl)oxy)benzene (2q)

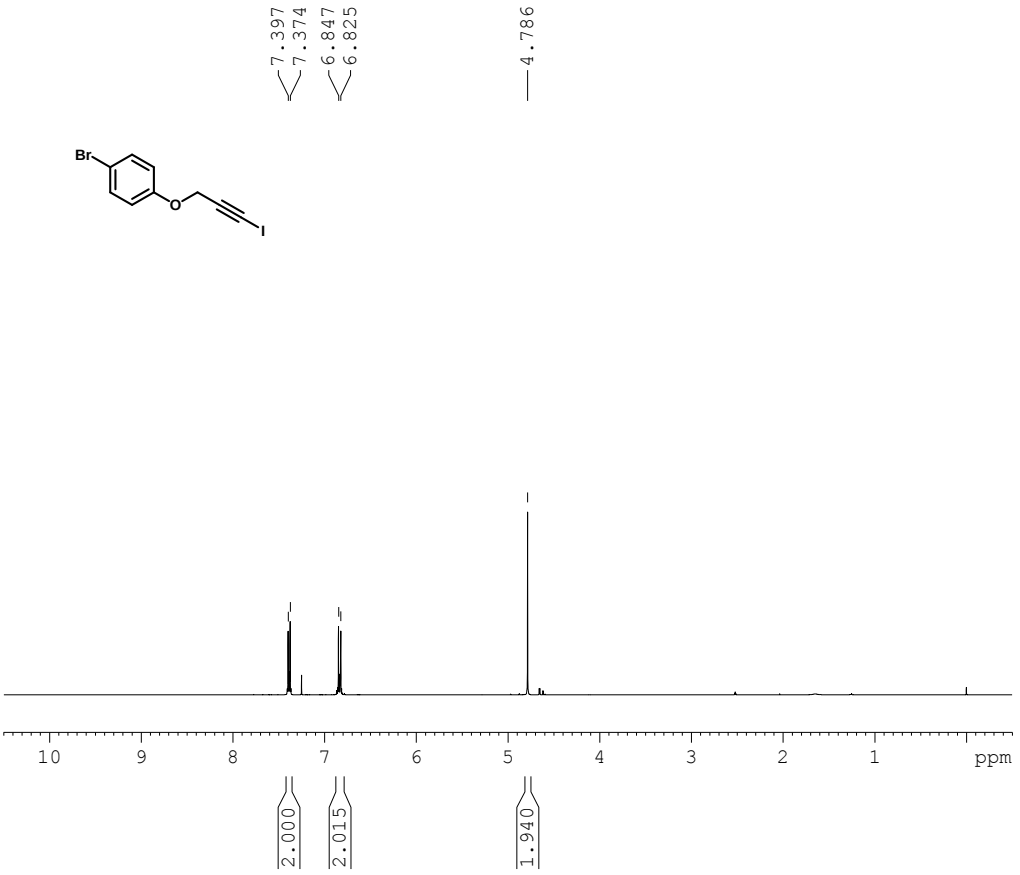



```
NAME            20240131
EXPNO                  6
PROCNO                 1
Date_           20240131
Time               20.41
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                158.74
DW                69.333 usec
DE                10.06 usec
TE                298.2 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300101 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

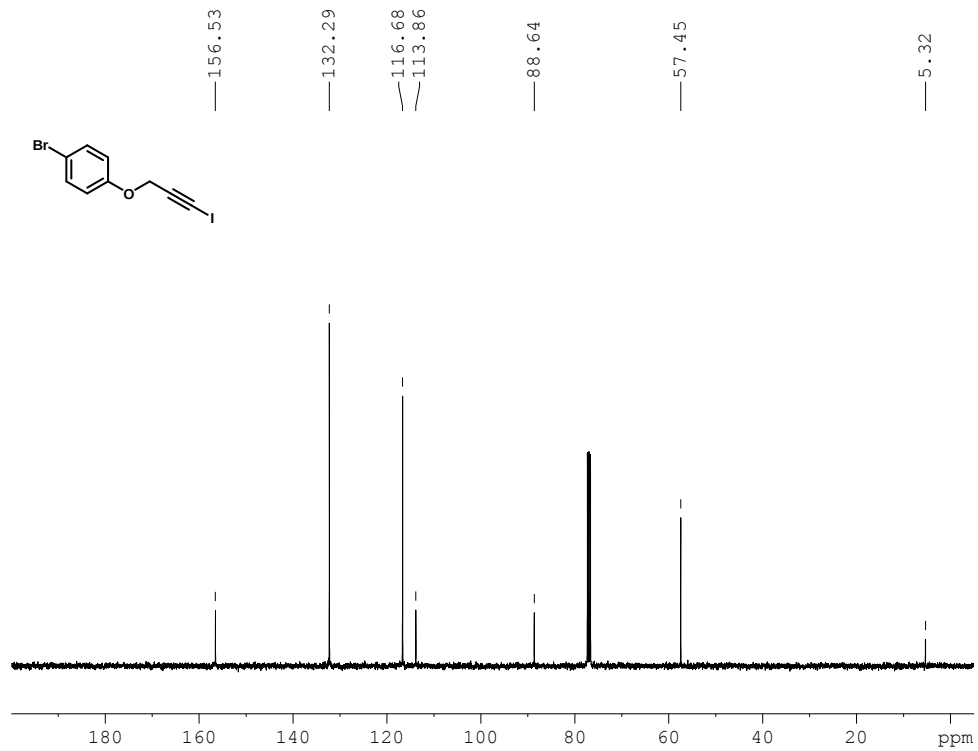



```
NAME            20240131
EXPNO                  7
PROCNO                 1
Date_           20240131
Time               20.52
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   400
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                299.5 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127693 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-bromo-4-((3-iodoprop-2-yn-1-yl)oxy)benzene (2r)

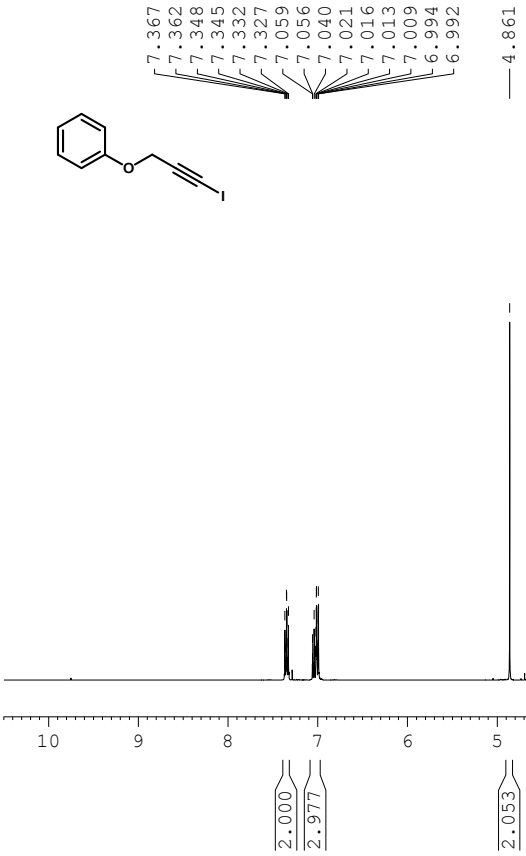



```
NAME            20240203
EXPNO                  1
PROCNO                 1
Date_           20240203
Time                16.00
INSTRUM             spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT             CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 71.42
DW                 69.333 usec
DE                 10.06 usec
TE                 298.1 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300139 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

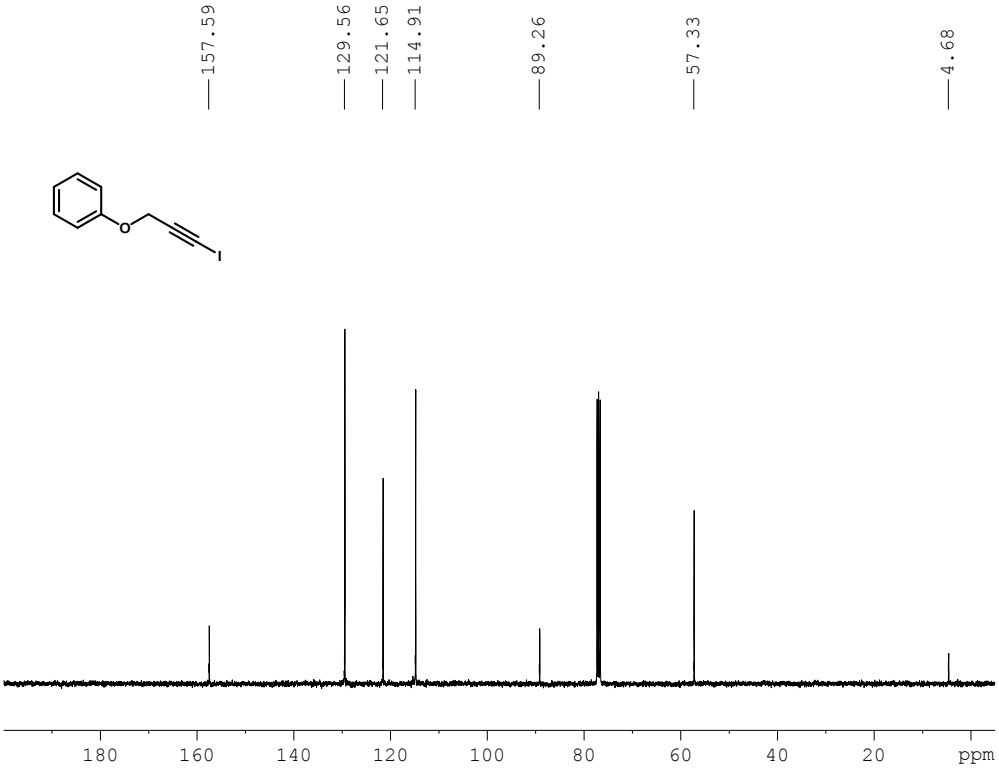



```
NAME            20240203
EXPNO                  2
PROCNO                 1
Date_           20240203
Time                16.02
INSTRUM             spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT             CDCl3
NS                    44
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                 298.3 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                  13C
P1                10.00 usec
SI                 32768
SF           100.6127776 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

((3-iodoprop-2-yn-1-yl)oxy)benzene (2s)

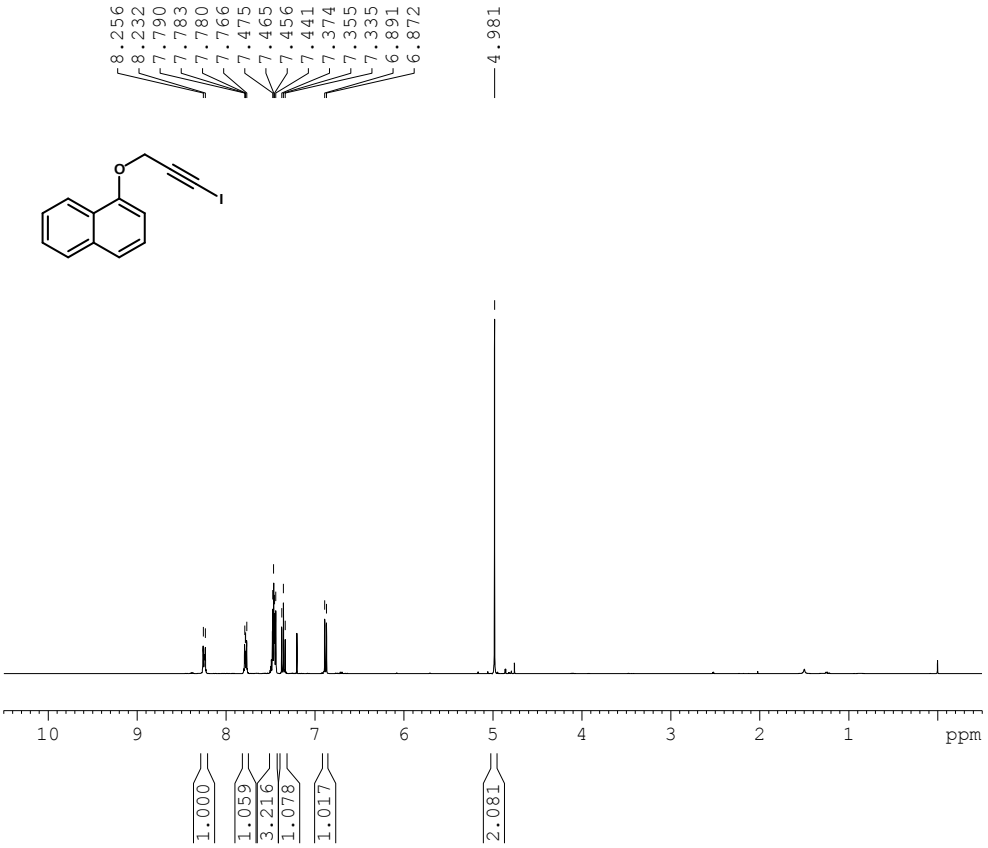



```
NAME            20231124
EXPNO                  7
PROCNO                 1
Date_           20231124
Time               18.07
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 71.42
DW                69.333 usec
DE                 10.06 usec
TE                 298.2 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

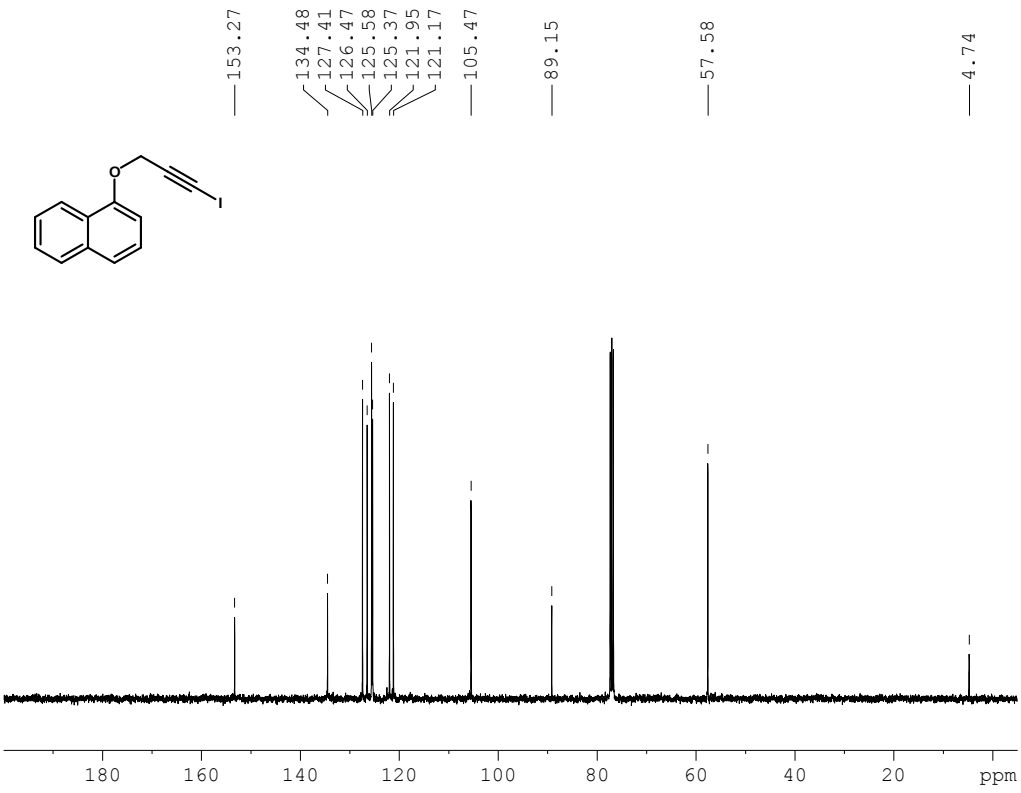



```
NAME            20231124
EXPNO                  8
PROCNO                 1
Date_           20231124
Time               18.08
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   100
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                 298.3 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127786 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-((3-iodoprop-2-yn-1-yl)oxy)naphthalene (2t)

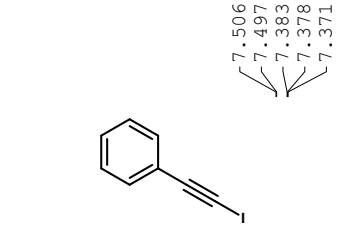


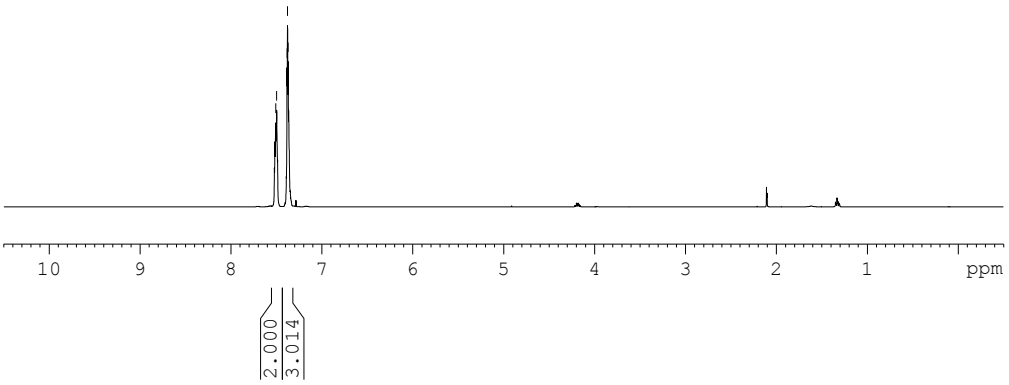

```
NAME            20240131
EXPNO                2
PROCNO               1
Date_           20240131
Time               16.16
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 63.58
DW                69.333 usec
DE                10.06 usec
TE                298.2 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300324 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```




```
NAME            20240131
EXPNO                3
PROCNO               1
Date_           20240131
Time               16.18
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   100
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.6 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                  13C
P1                 10.00 usec
SI                 32768
SF           100.6127799 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

(iodoethynyl)benzene (2u)

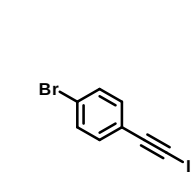


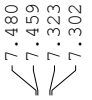



```
NAME            20231024
EXPNO                  1
PROCNO                 1
Date_           20231024
Time               19.14
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 36.64
DW                69.333 usec
DE                10.06 usec
TE                298.1 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

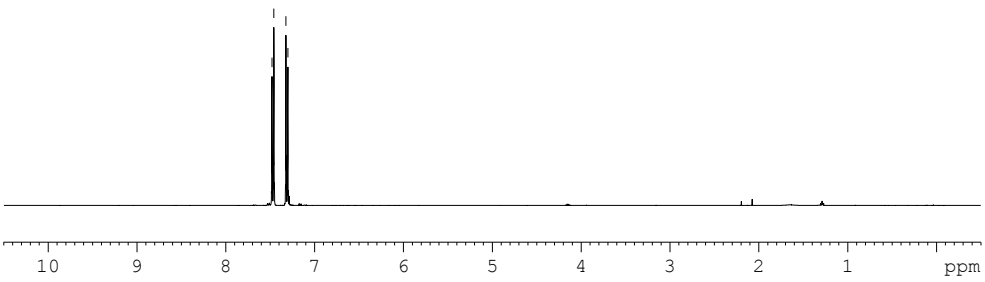

```
NAME            20231024
EXPNO                  2
PROCNO                 1
Date_           20231024
Time               19.16
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   116
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.1 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

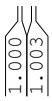
1-omo-4-(iodoethynyl)benzene (2v)

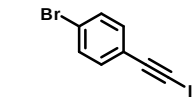




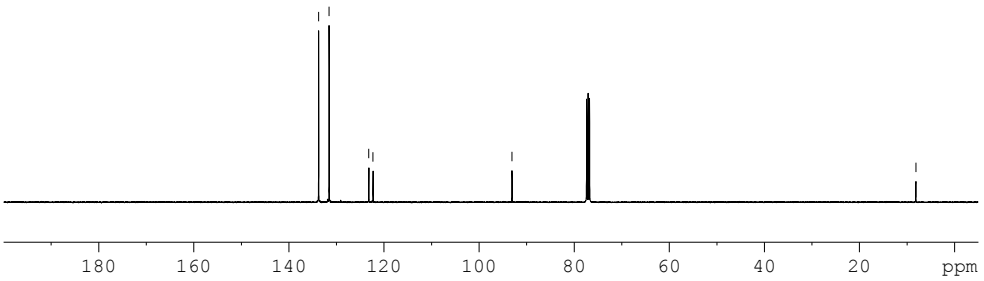

```
NAME            20241226
EXPNO                8
PROCNO               1
Date_           20241226
Time                22.20
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 89.08
DW                69.333 usec
DE                10.06 usec
TE                294.5 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1          400.1324008 MHz
NUC1                  1H
P1                 15.00 usec
SI                 16384
SF            400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```



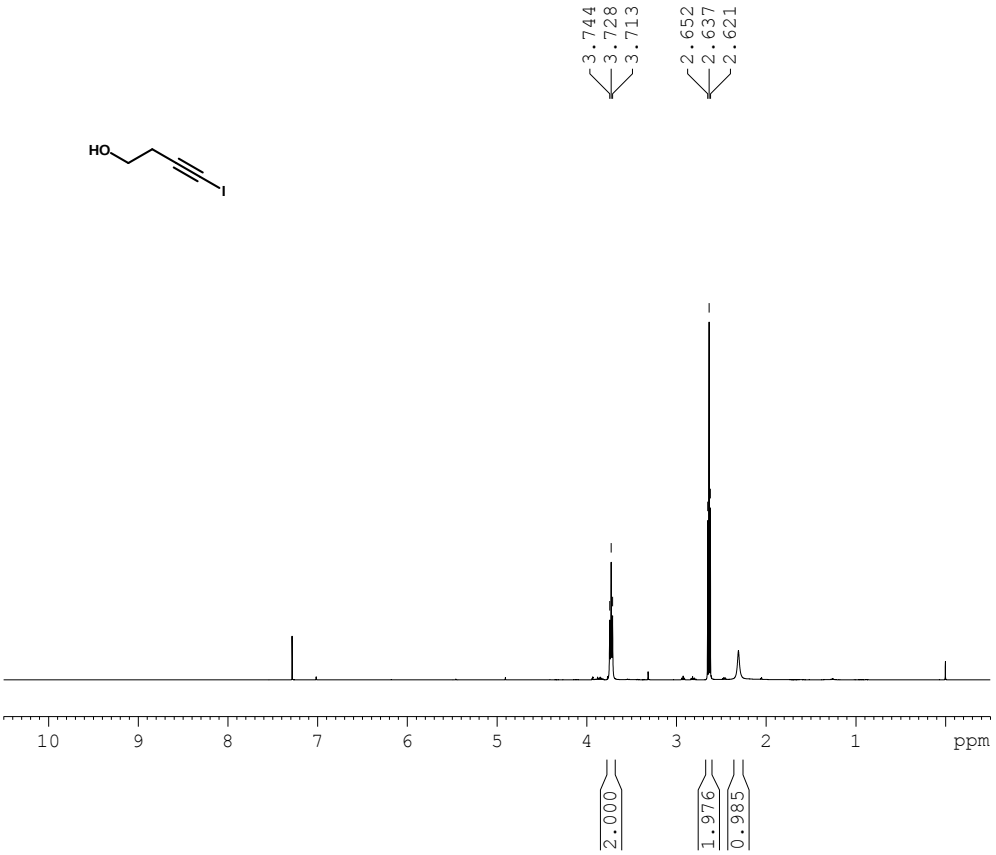




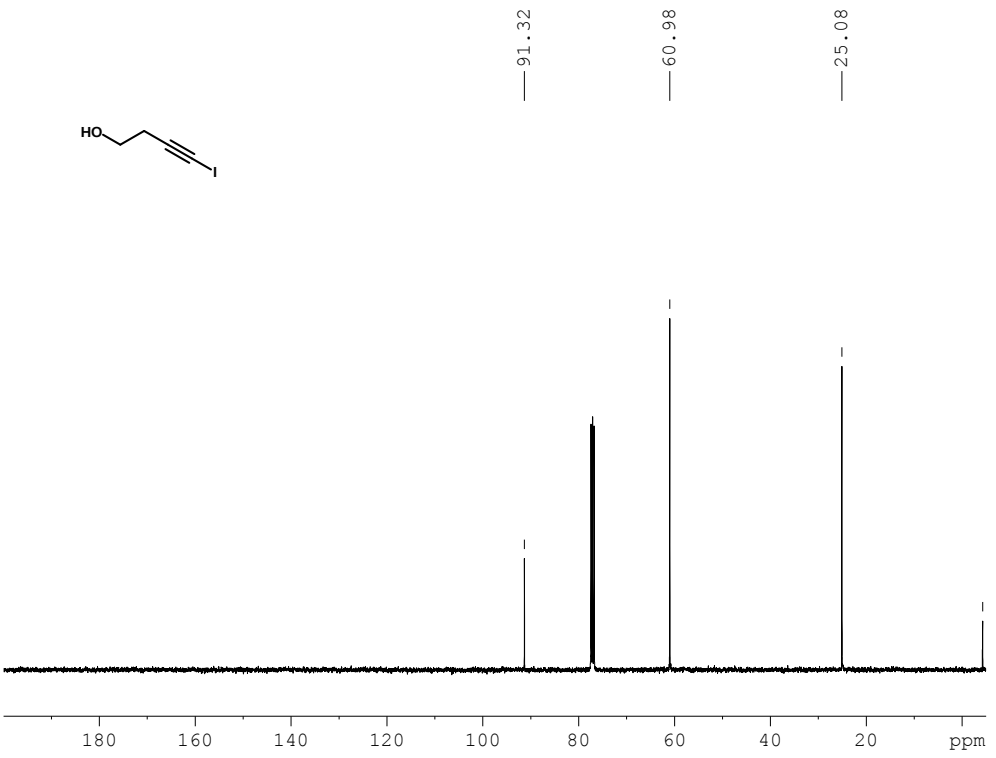

```
NAME            20241226
EXPNO                9
PROCNO               1
Date_           20241226
Time                22.36
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   344
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                295.7 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1          100.6228298 MHz
NUC1                  13C
P1                 10.00 usec
SI                 32768
SF            100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```



4-iodobut-3-yn-1-ol (2w)

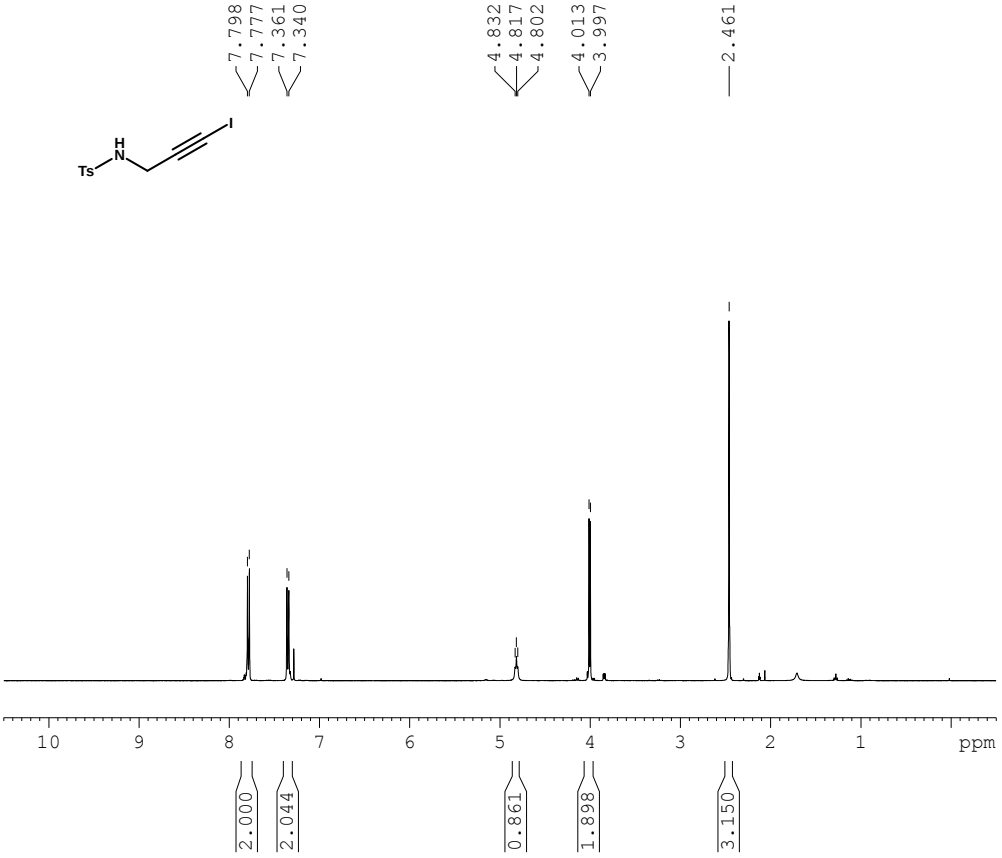



```
NAME            20240304
EXPNO                  3
PROCNO                 1
Date_           20240304
Time               19.42
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 63.58
DW                69.333 usec
DE                10.06 usec
TE                298.1 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

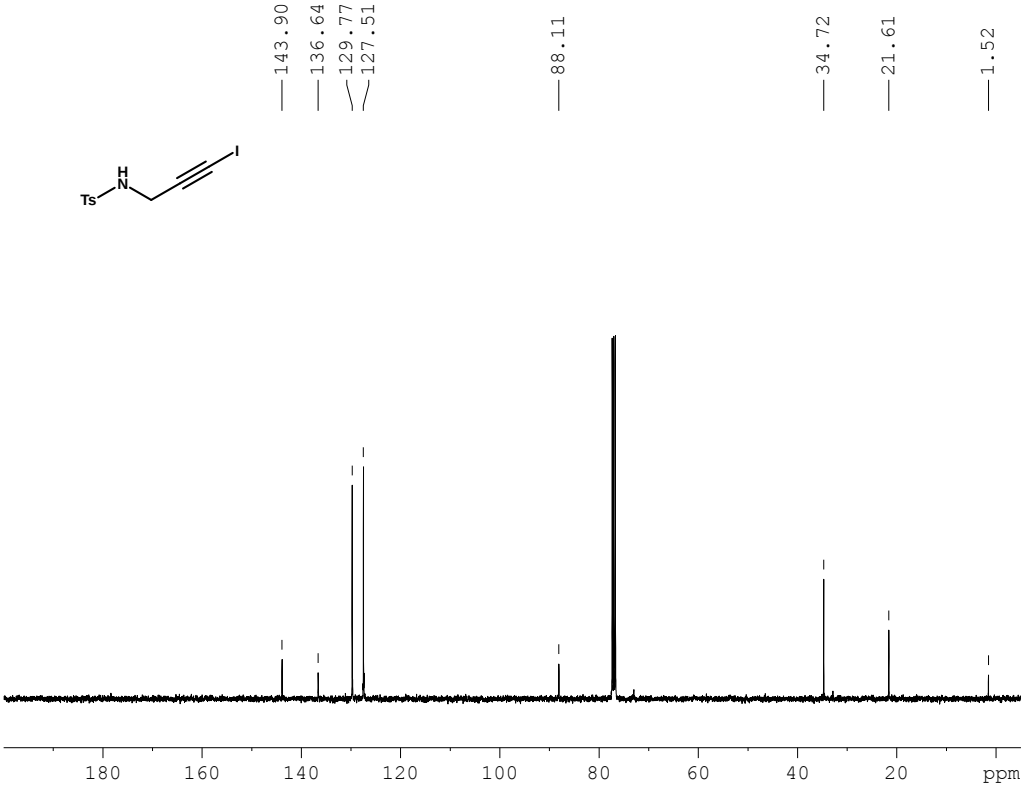



```
NAME            20240304
EXPNO                  4
PROCNO                 1
Date_           20240304
Time               19.44
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   128
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.2 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

N-(3-iodoprop-2-yn-1-yl)-4-methylbenzenesulfonamide (2x)

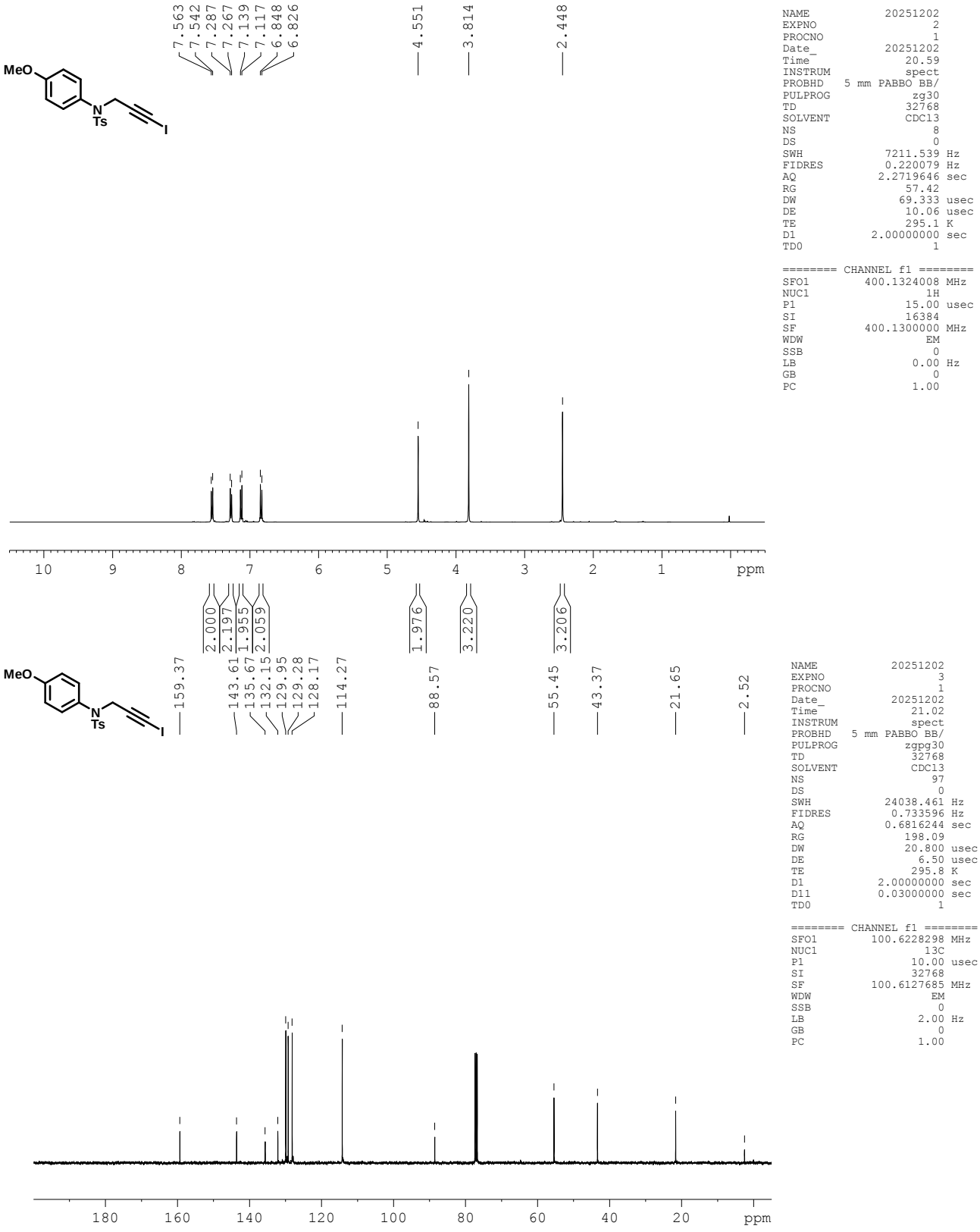



```
NAME            20240326
EXPNO                  1
PROCNO                 1
Date_           20240326
Time               17.09
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ            2.2719646 sec
RG                 99.72
DW                69.333 usec
DE                10.06 usec
TE                298.6 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```




```
NAME            20240326
EXPNO                  2
PROCNO                 1
Date_           20240326
Time               17.10
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.6 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

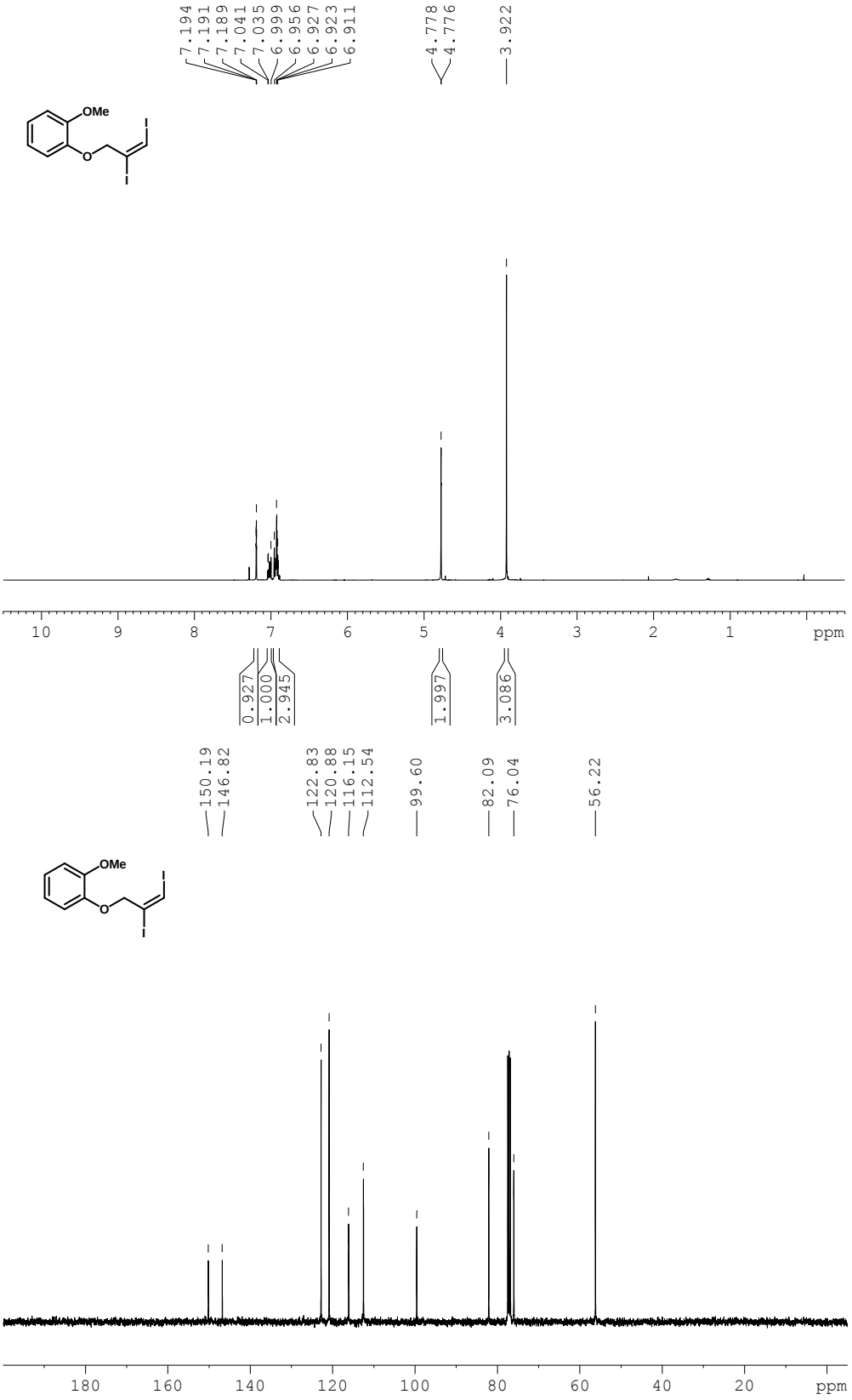
_N_-(3-iodoprop-2-yn-1-yl)-_N_-(4-methoxyphenyl)-4-methylbenzenesulfonamide (2y)




```
NAME            20251202
EXPNO                2
PROCNO               1
Date_           20251202
Time               20.59
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ            2.2719646 sec
RG                 57.42
DW                69.333 usec
DE                 10.06 usec
TE                 295.1 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

```
NAME            20251202
EXPNO                3
PROCNO               1
Date_           20251202
Time               21.02
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                    97
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                 295.8 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

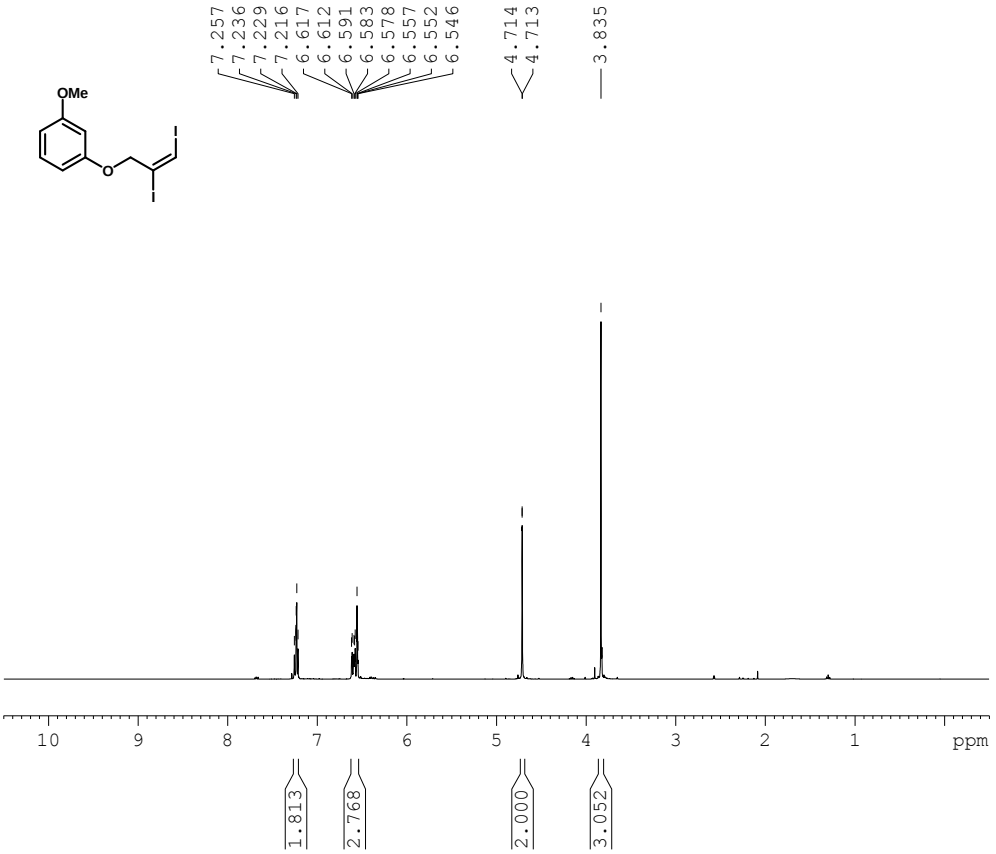
(*E*)-1-((2,3-diiodoallyl)oxy)-2-methoxybenzene (3a)



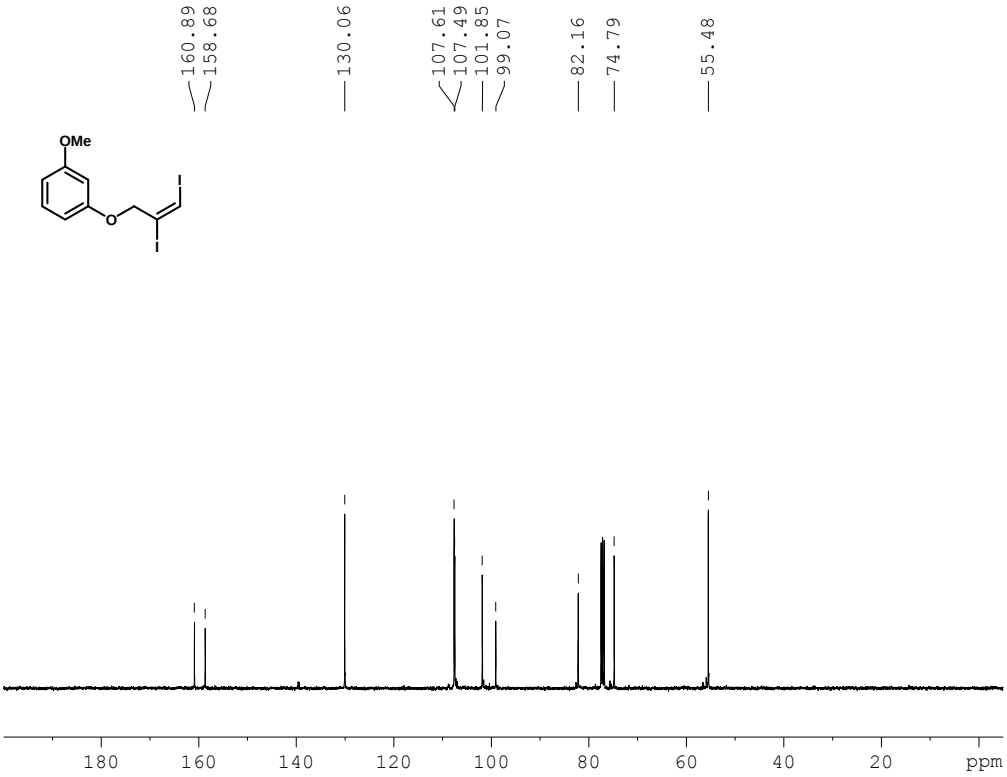

```
NAME            20240219
EXPNO                  3
PROCNO                 1
Date_           20240219
Time               18.32
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 45.15
DW                69.333 usec
DE                10.06 usec
TE                298.0 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

```
NAME            20240219
EXPNO                  4
PROCNO                 1
Date_           20240219
Time               18.33
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                    62
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                298.0 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

(*E*)-1-((2,3-diiodoallyl)oxy)-3-methoxybenzene (3b)

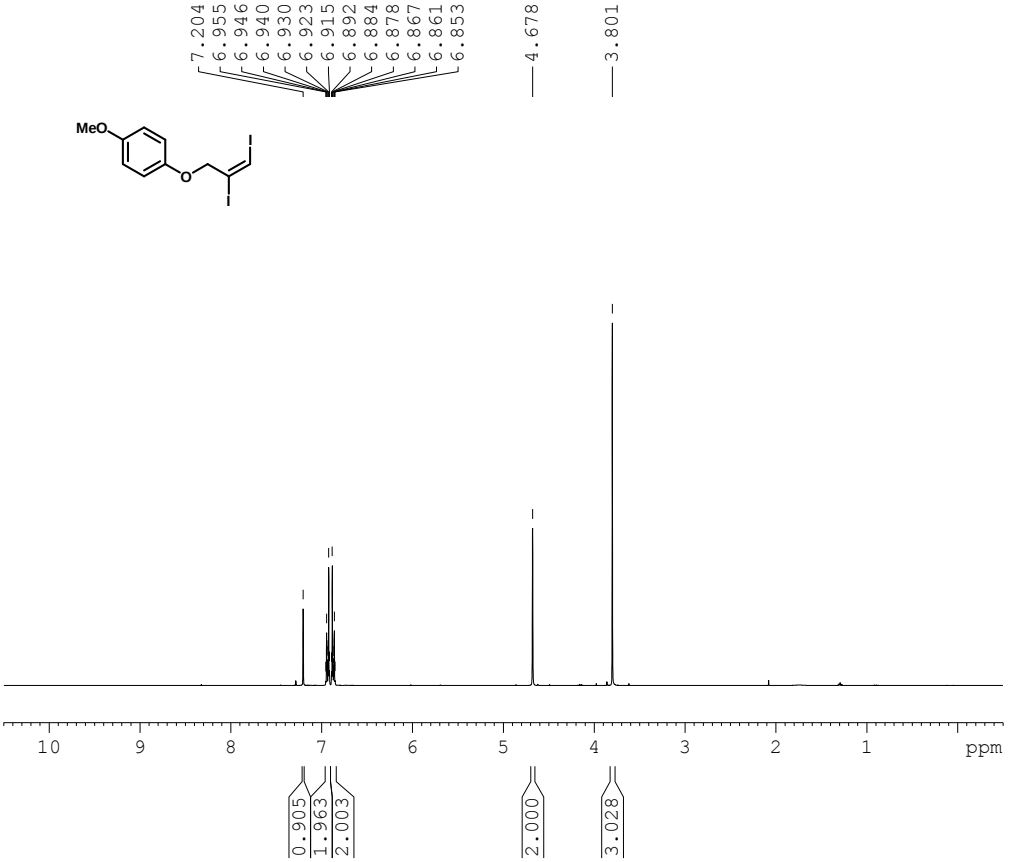



```
NAME            20241223
EXPNO                7
PROCNO               1
Date_           20241223
Time                21.33
INSTRUM             spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 38.89
DW                69.333 usec
DE                10.06 usec
TE                294.3 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                  15.00 usec
SI                  16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

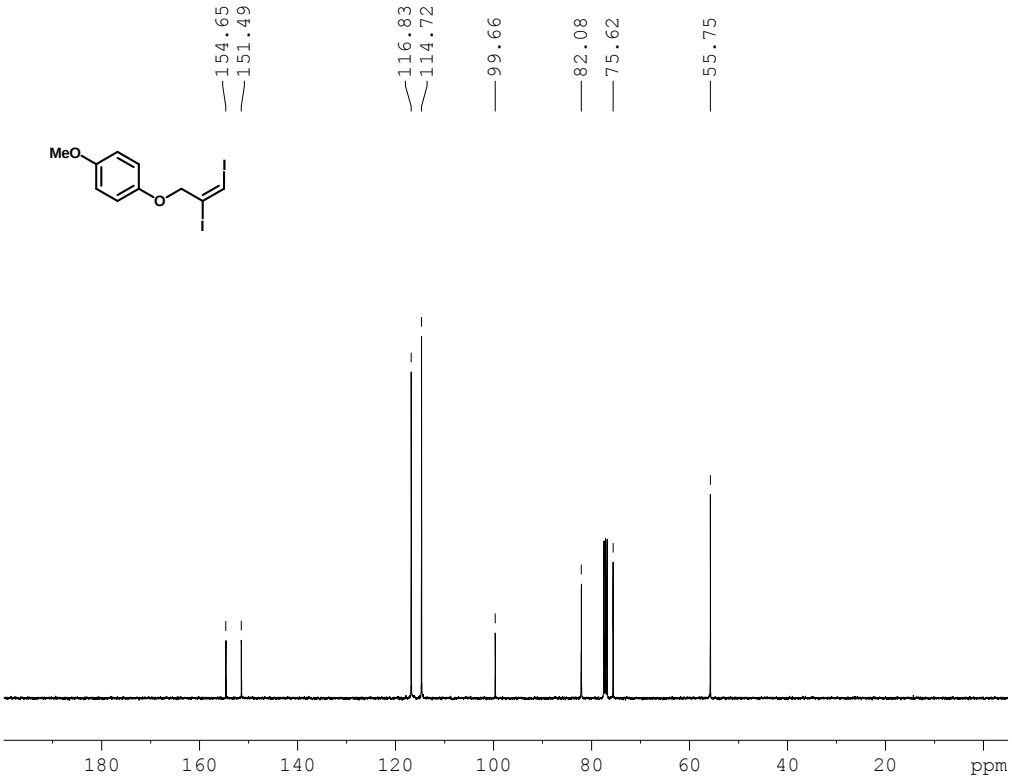



```
NAME            20241223
EXPNO                8
PROCNO               1
Date_           20241223
Time                21.36
INSTRUM             spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   146
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                294.7 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                  10.00 usec
SI                  32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

(*E*)-1-((2,3-diiodoallyl)oxy)-4-methoxybenzene (3c)

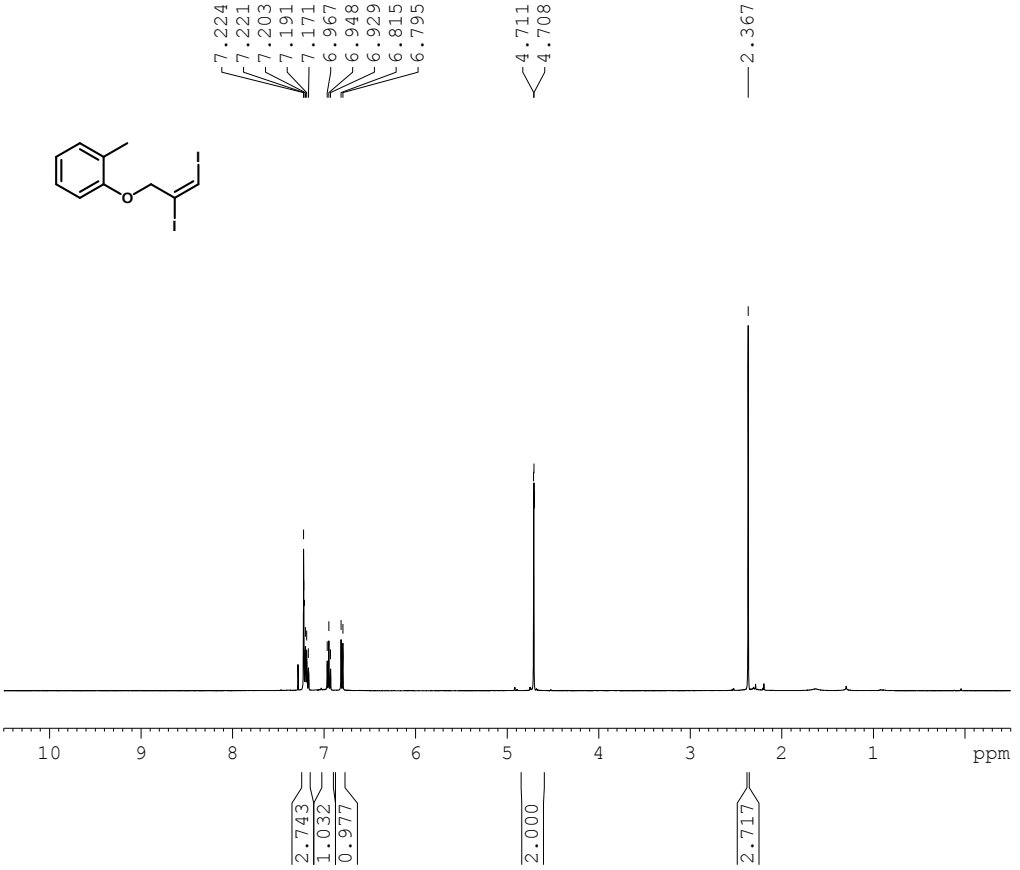



```
NAME            20241223
EXPNO                1
PROCNO               1
Date_           20241223
Time               16.09
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 45.15
DW                69.333 usec
DE                10.06 usec
TE                293.6 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

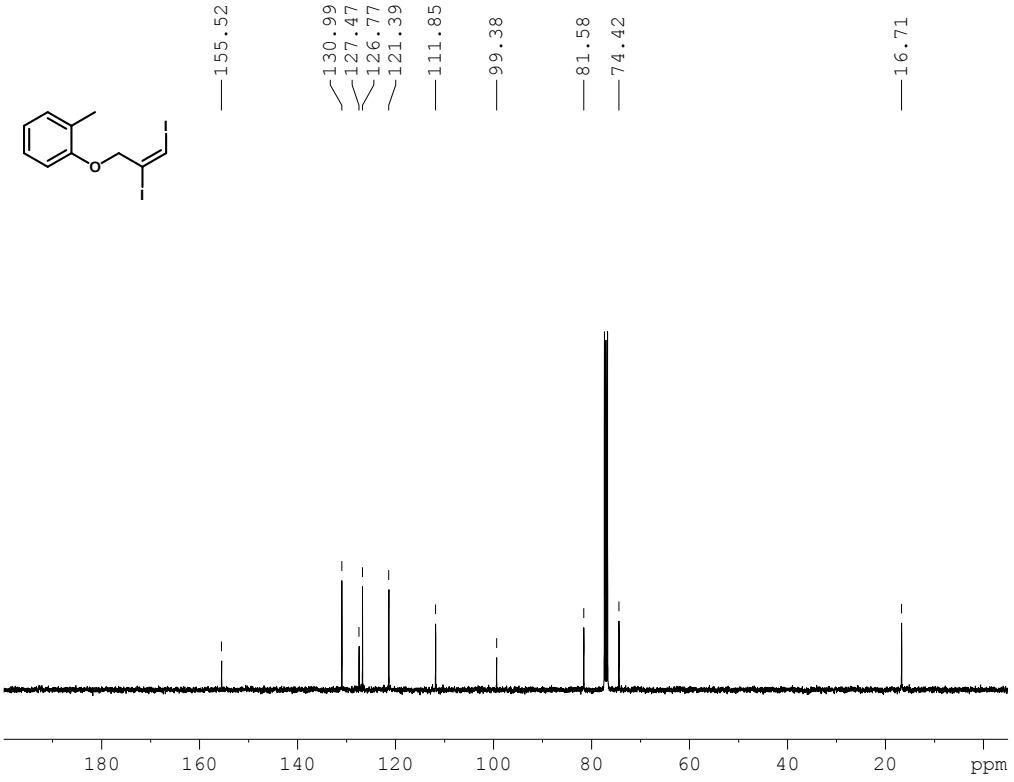



```
NAME            20241223
EXPNO                2
PROCNO               1
Date_           20241223
Time               16.10
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                 198.09
DW                20.800 usec
DE                 6.50 usec
TE                293.7 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

(*E*)-1-((2,3-diiodoallyl)oxy)-2-methylbenzene (3d)

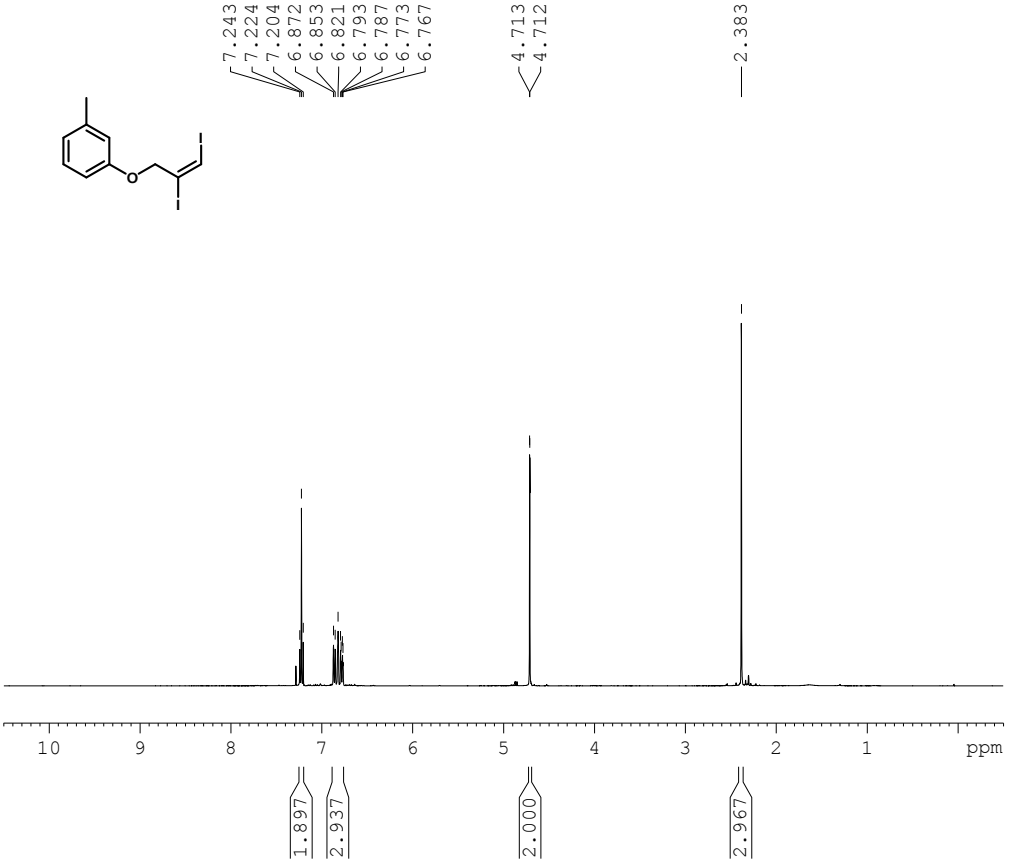



```
NAME            20241218
EXPNO                  1
PROCNO                 1
Date_           20241218
Time               18.28
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 89.08
DW                69.333 usec
DE                10.06 usec
TE                294.4 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                1H
P1                15.00 usec
SI                16384
SF           400.1300000 MHz
WDW                  EM
SSB                   0
LB                 0.00 Hz
GB                    0
PC                 1.00
```

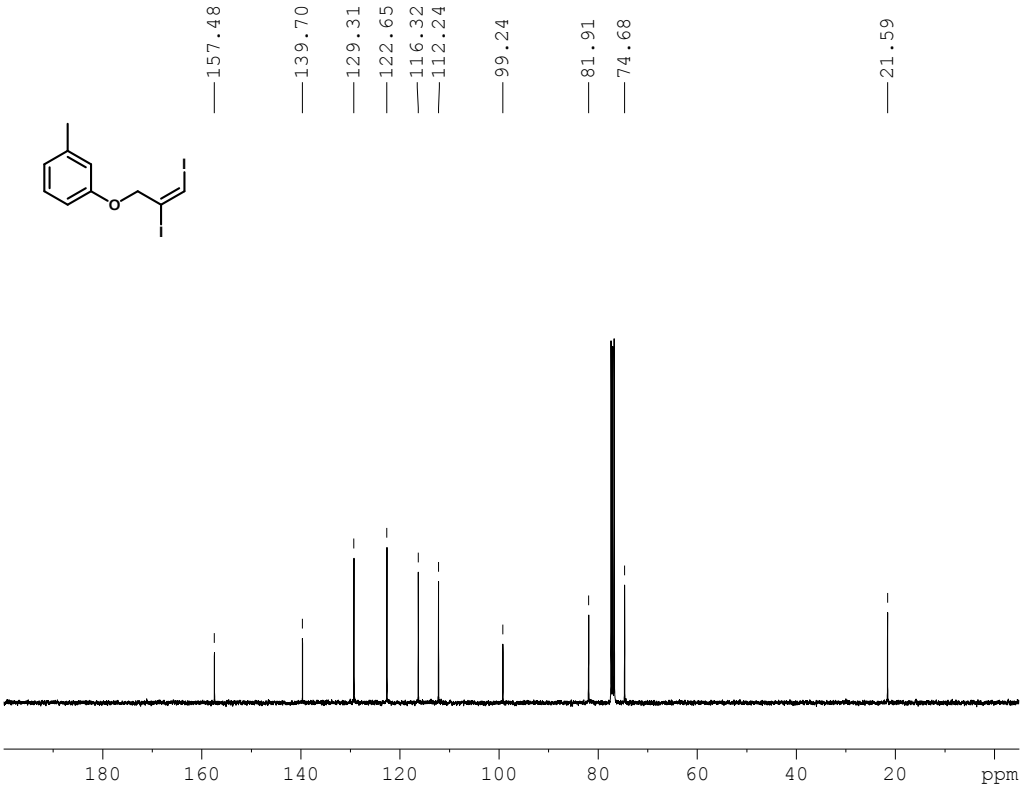



```
NAME            20241218
EXPNO                  2
PROCNO                 1
Date_           20241218
Time               18.29
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   100
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                294.4 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                13C
P1                10.00 usec
SI                32768
SF           100.6127685 MHz
WDW                  EM
SSB                   0
LB                 2.00 Hz
GB                    0
PC                 1.00
```

(*E*)-1-((2,3-diiodoallyl)oxy)-3-methylbenzene (3e)



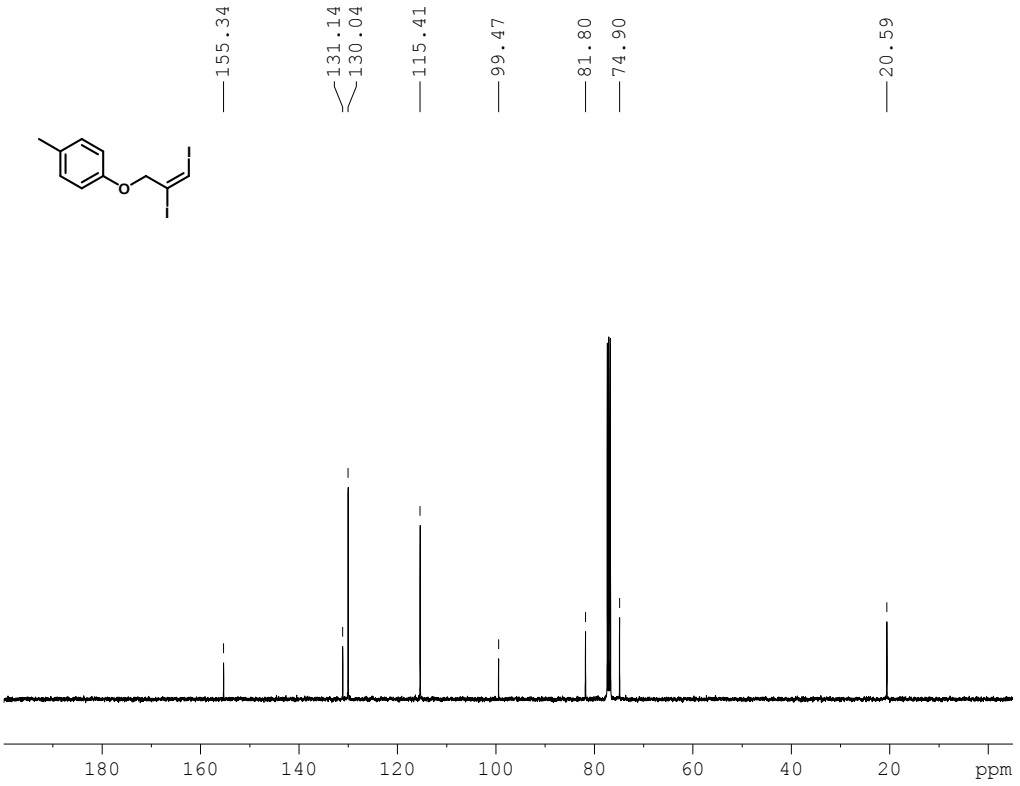

```
NAME            20241218
EXPNO                3
PROCNO               1
Date_           20241218
Time               19.46
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 71.42
DW                69.333 usec
DE                10.06 usec
TE                294.6 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```




```
NAME            20241218
EXPNO                4
PROCNO               1
Date_           20241218
Time               19.47
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                294.9 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

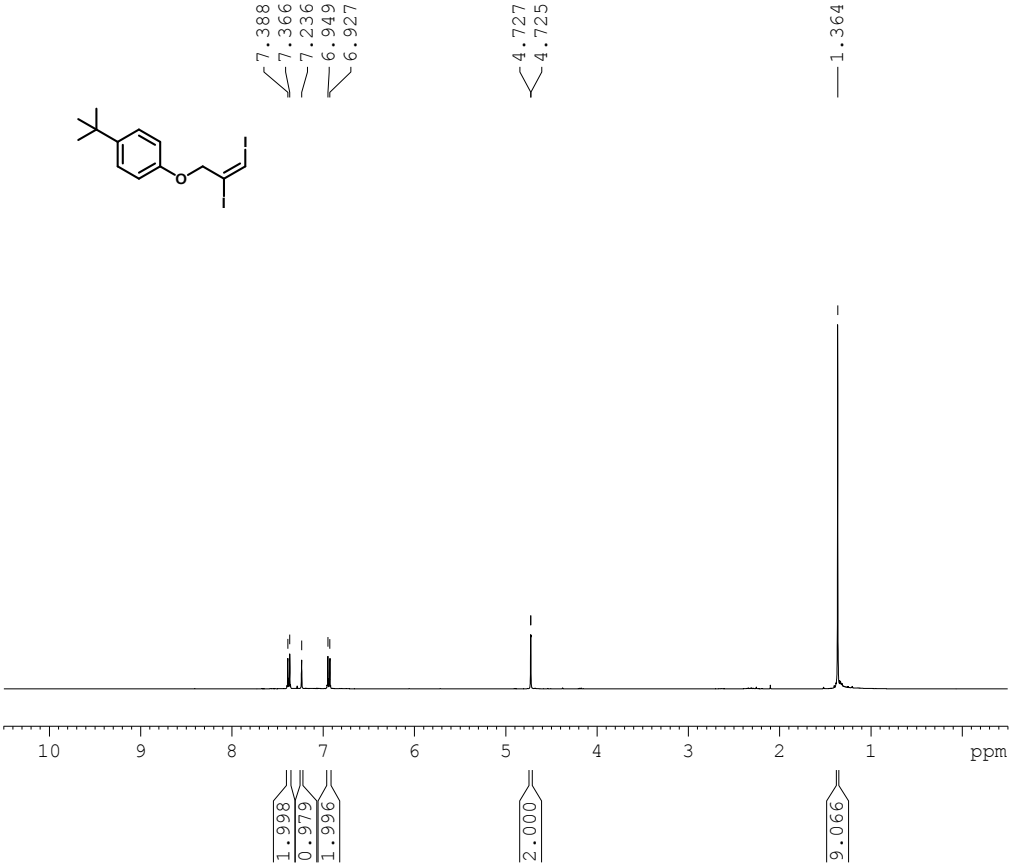
(*E*)-1-((2,3-diiodoallyl)oxy)-4-methylbenzene (3f)


```
NAME            20241218
EXPNO                5
PROCNO               1
Date_           20241218
Time               20.22
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 89.08
DW                69.333 usec
DE                10.06 usec
TE                294.7 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                1H
P1                15.00 usec
SI                16384
SF           400.1300000 MHz
WDW                  EM
SSB                   0
LB                 0.00 Hz
GB                    0
PC                 1.00
```

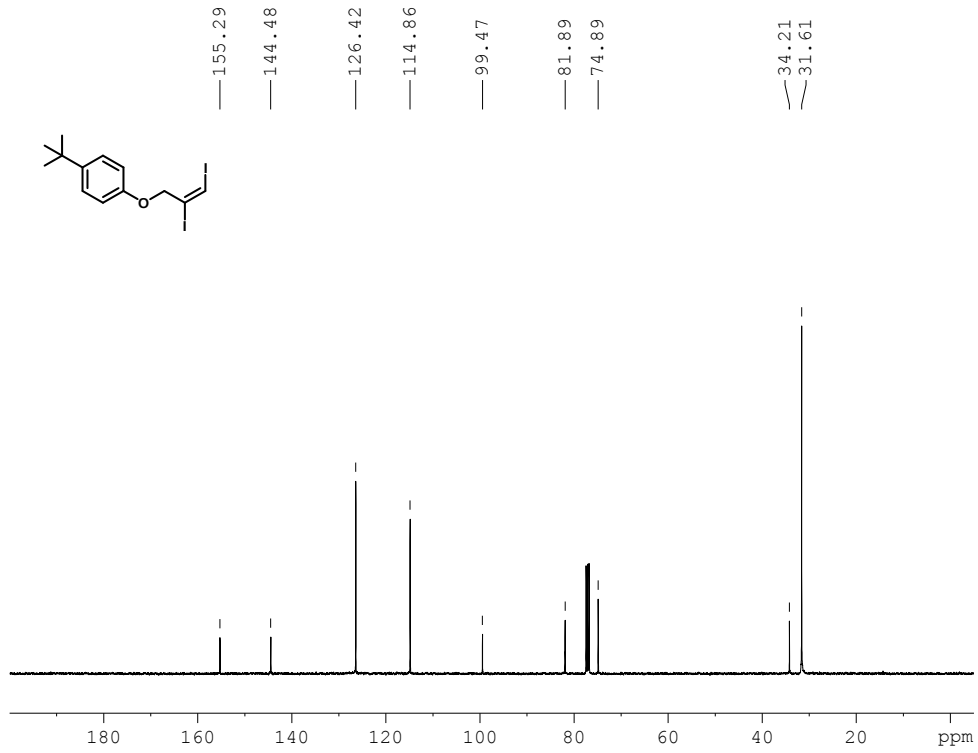



```
NAME            20241218
EXPNO                6
PROCNO               1
Date_           20241218
Time               20.22
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                294.8 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                13C
P1                10.00 usec
SI                32768
SF           100.6127685 MHz
WDW                  EM
SSB                   0
LB                 2.00 Hz
GB                    0
PC                 1.00
```

(*E*)-1-(tert-butyl)-4-((2,3-diiodoallyl)oxy)benzene (3h)

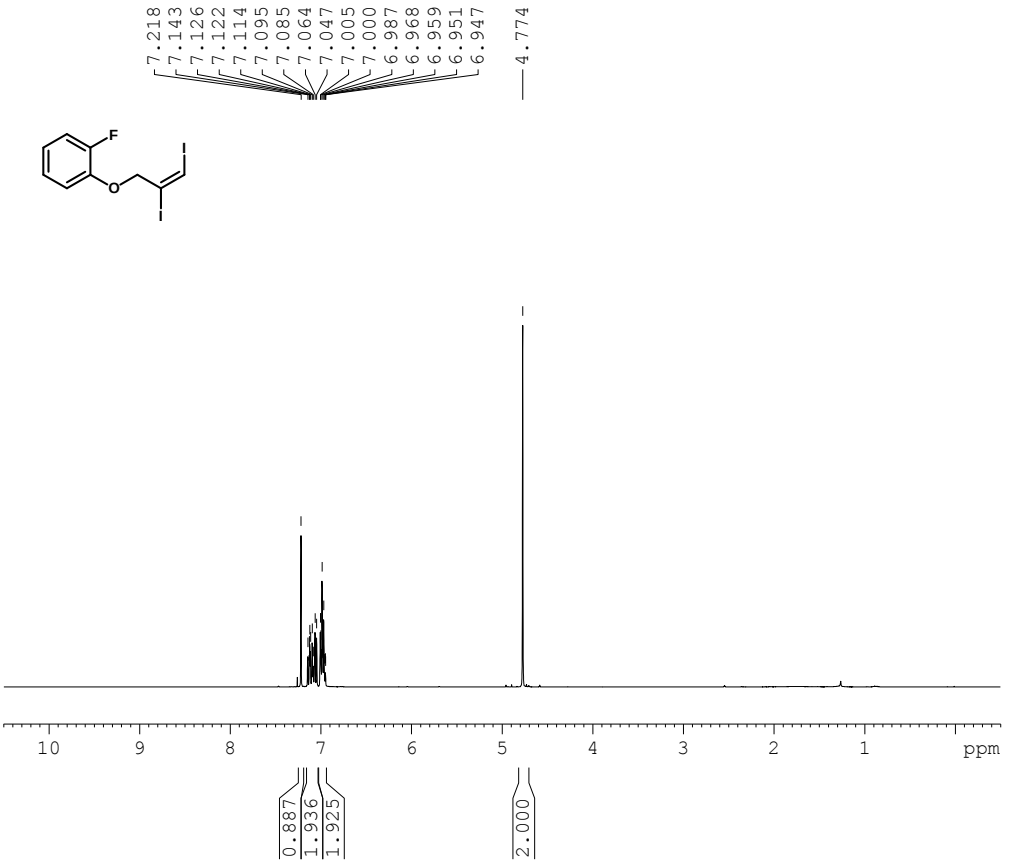



```
NAME            20241226
EXPNO                2
PROCNO               1
Date_           20241226
Time               20.46
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 31.16
DW                69.333 usec
DE                10.06 usec
TE                294.6 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

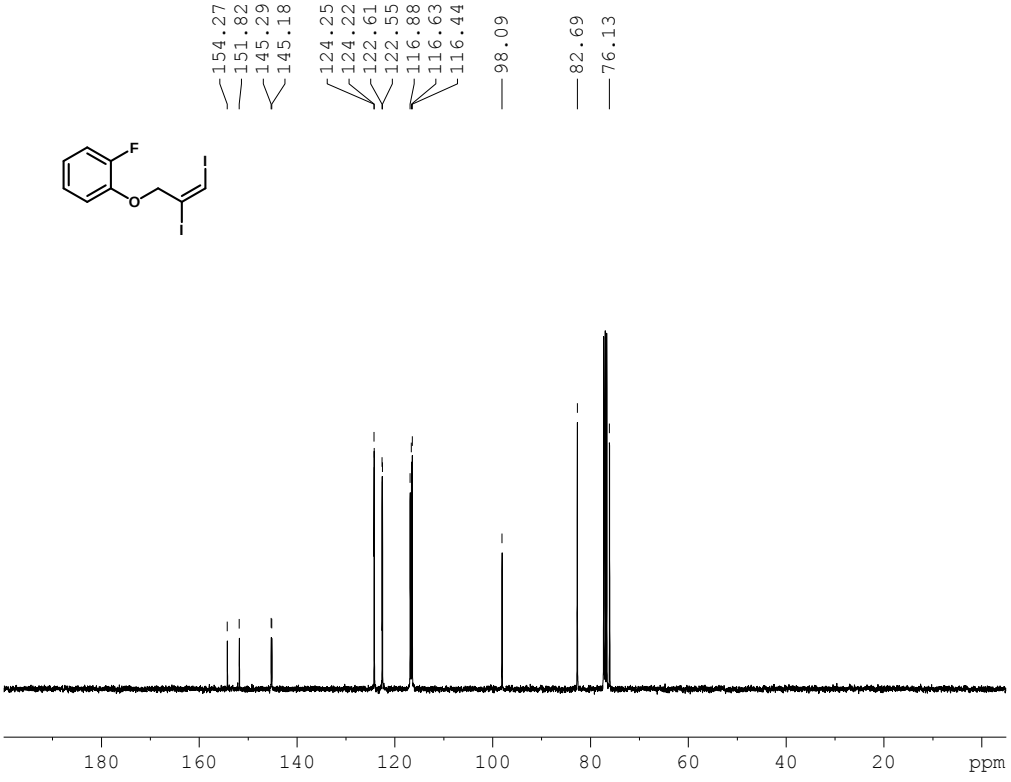



```
NAME            20241226
EXPNO                3
PROCNO               1
Date_           20241226
Time               20.47
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   162
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                294.9 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

(*E*)-1-((2,3-diiodoallyl)oxy)-2-fluorobenzene (3i)

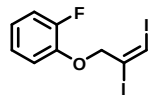



```
NAME            20241104
EXPNO                1
PROCNO               1
Date_           20241104
Time               16.54
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 57.42
DW                69.333 usec
DE                10.06 usec
TE                295.2 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300103 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

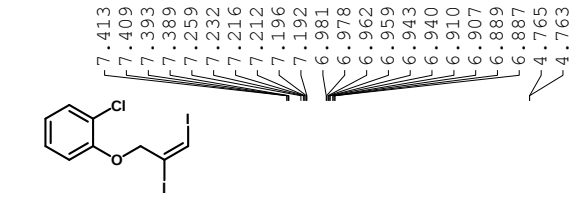



```
NAME            20241104
EXPNO                2
PROCNO               1
Date_           20241104
Time               16.55
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                 198.09
DW                20.800 usec
DE                 6.50 usec
TE                295.3 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127802 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

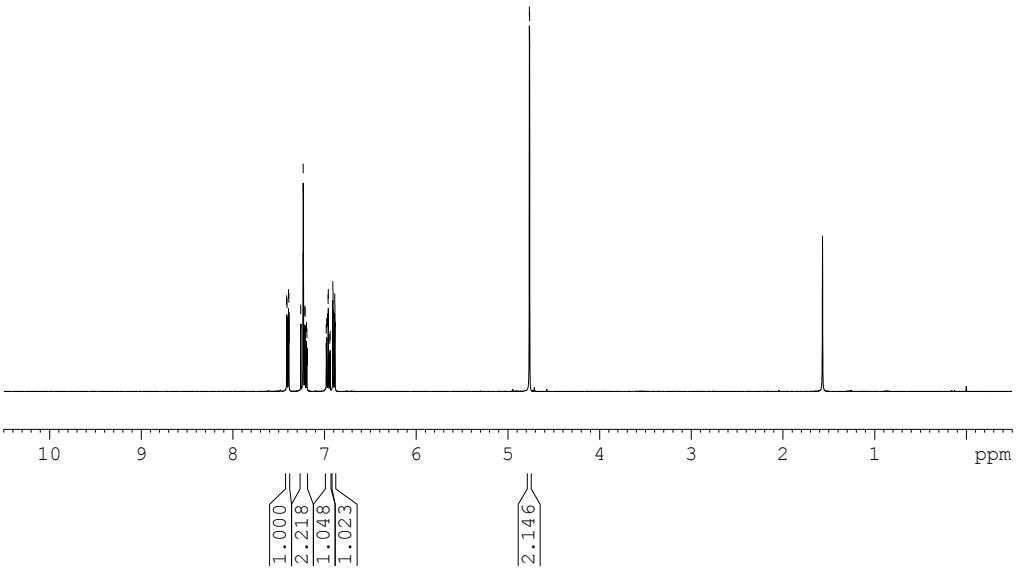
(*E*)-1-((2,3-diiodoallyl)oxy)-2-fluorobenzene (3i)

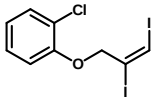


(*E*)-1-chloro-2-((2,3-diiodoallyl)oxy)benzene (3j)

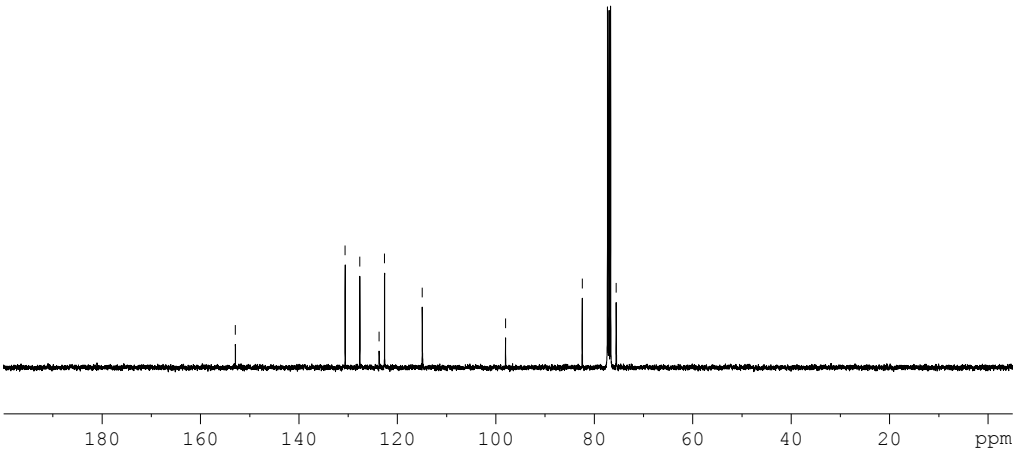



```
NAME            20241112
EXPNO                  1
PROCNO                 1
Date_           20241112
Time               15.50
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                144.49
DW                69.333 usec
DE                10.06 usec
TE                295.1 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300101 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

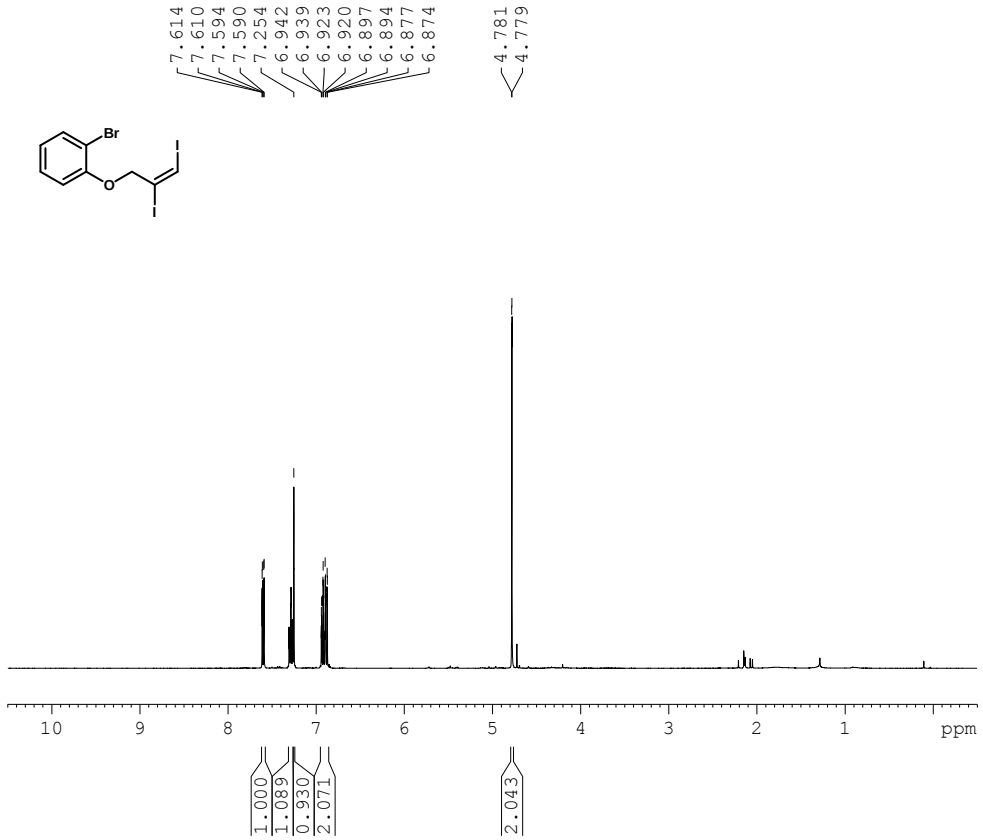




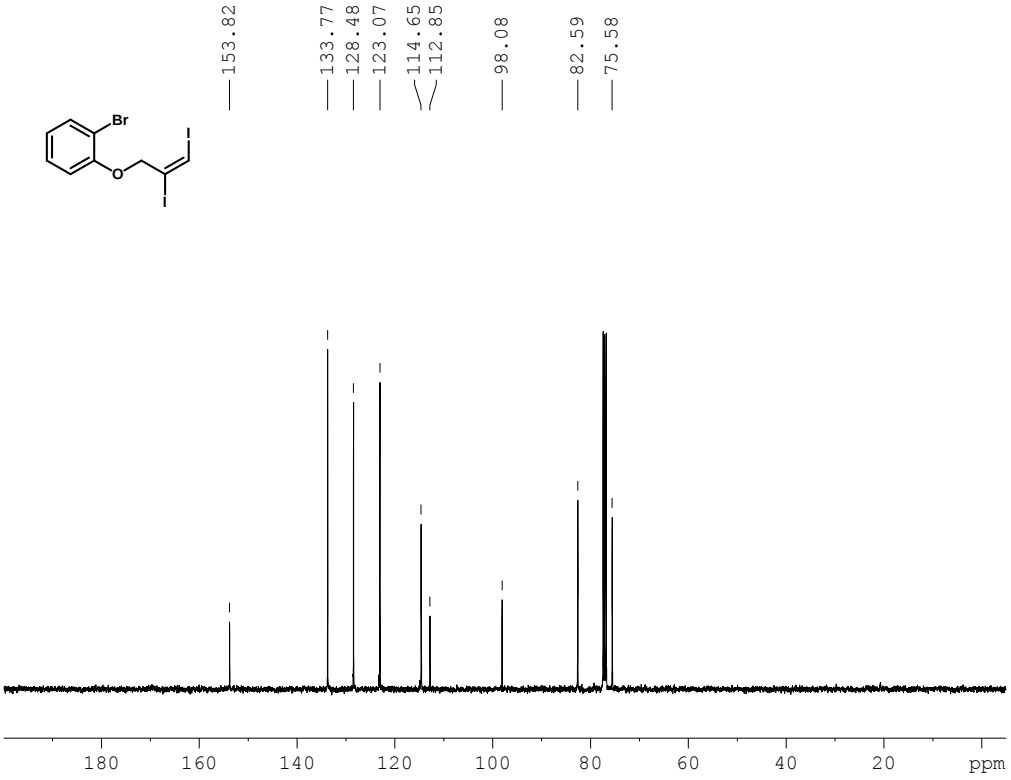

```
NAME            20241112
EXPNO                  2
PROCNO                 1
Date_           20241112
Time               16.01
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   314
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                296.5 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127714 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```



(*E*)-1-bromo-2-((2,3-diiodoallyl)oxy)benzene (3k)

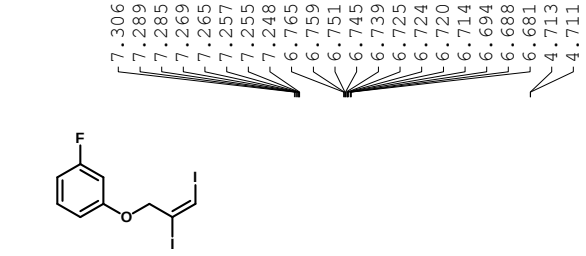



```
NAME            20241211
EXPNO                1
PROCNO               1
Date_           20241211
Time               14.25
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 71.42
DW                69.333 usec
DE                 10.06 usec
TE                 294.3 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

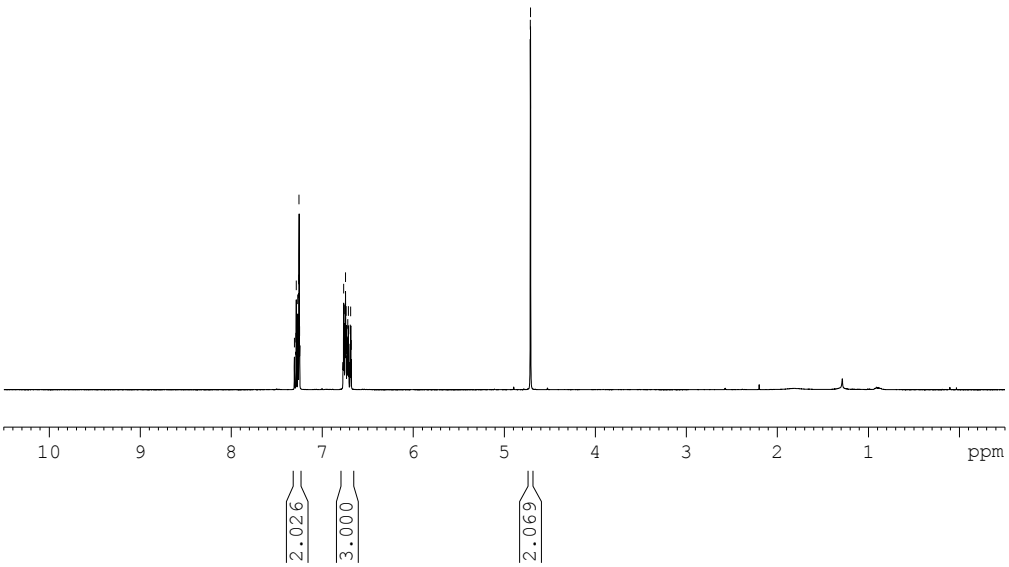


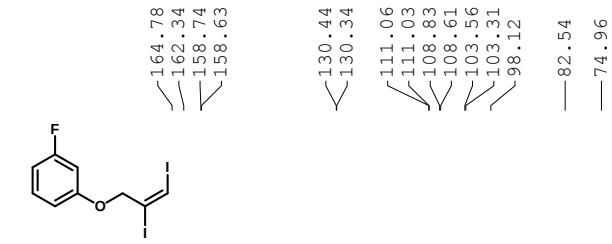

```
NAME            20241211
EXPNO                2
PROCNO               1
Date_           20241211
Time               14.27
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                 198.09
DW                20.800 usec
DE                  6.50 usec
TE                 294.4 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

(*E*)-1-((2,3-diiodoallyl)oxy)-3-fluorobenzene (3m)

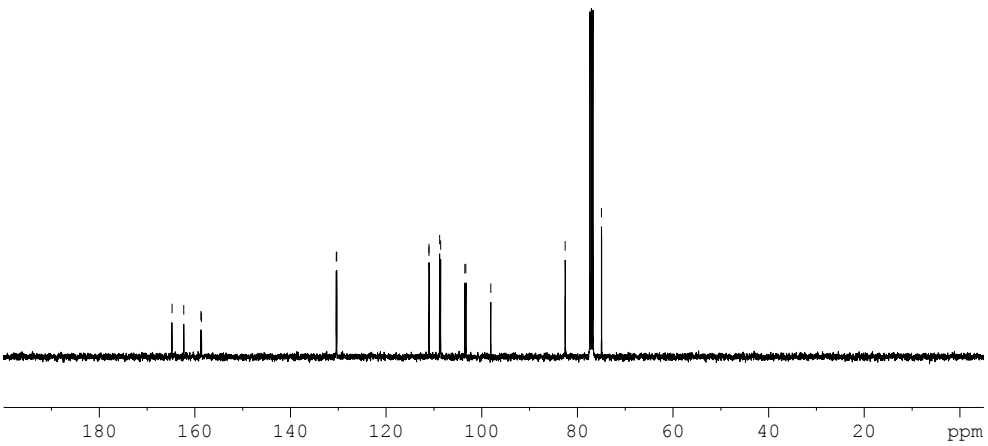



```
NAME            20241211
EXPNO                  3
PROCNO                 1
Date_           20241211
Time               15.49
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 89.08
DW                69.333 usec
DE                10.06 usec
TE                294.5 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

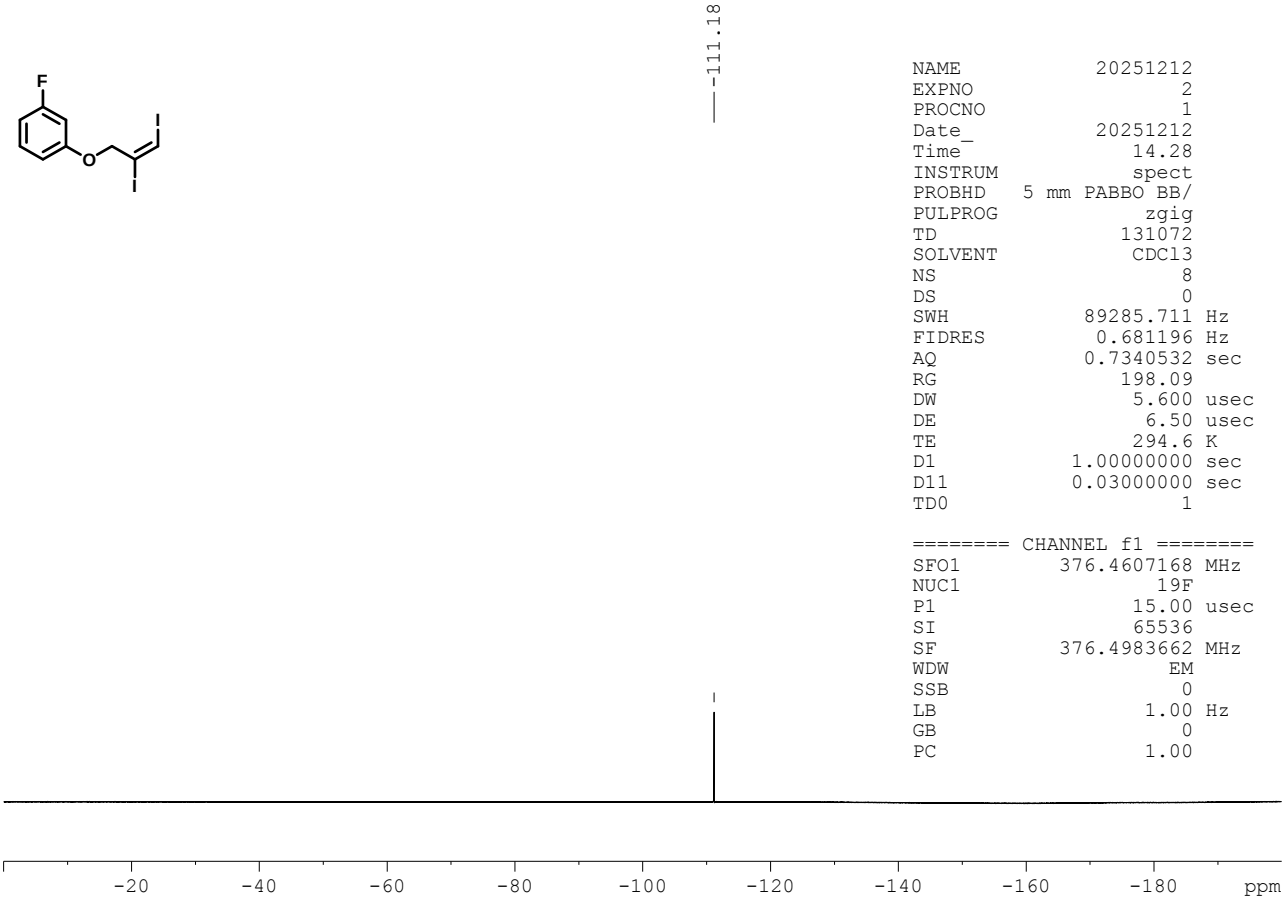




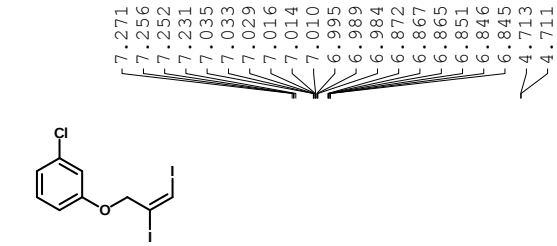

```
NAME            20241211
EXPNO                  4
PROCNO                 1
Date_           20241211
Time               15.50
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   102
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                294.6 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

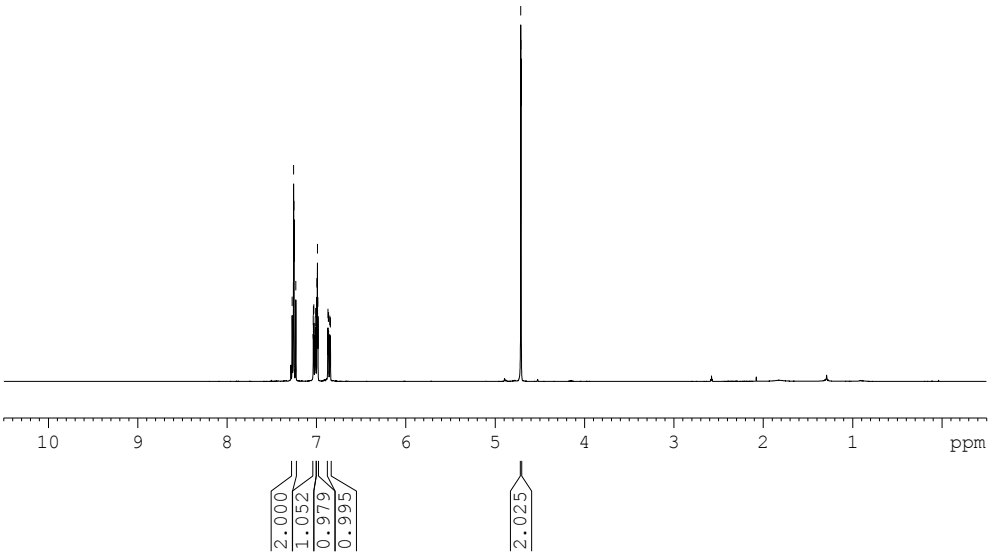


(*E*)-1-((2,3-diiodoallyl)oxy)-3-fluorobenzene (3m)

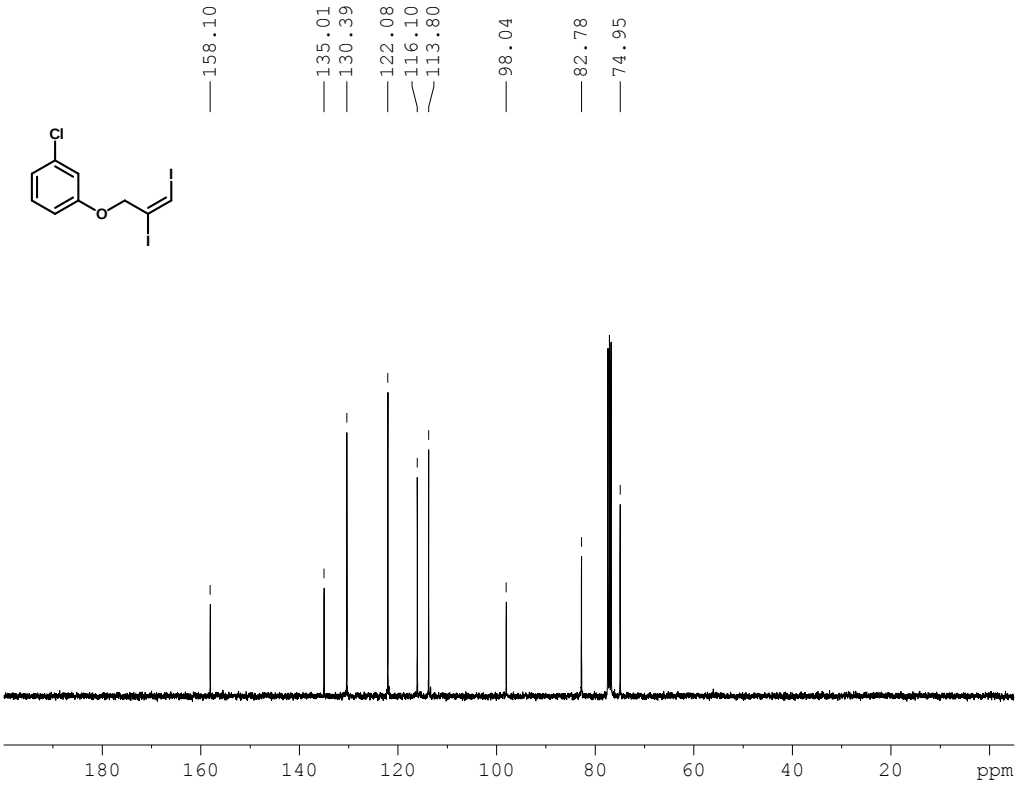


(*E*)-1-chloro-3-((2,3-diiodoallyl)oxy)benzene (3n)



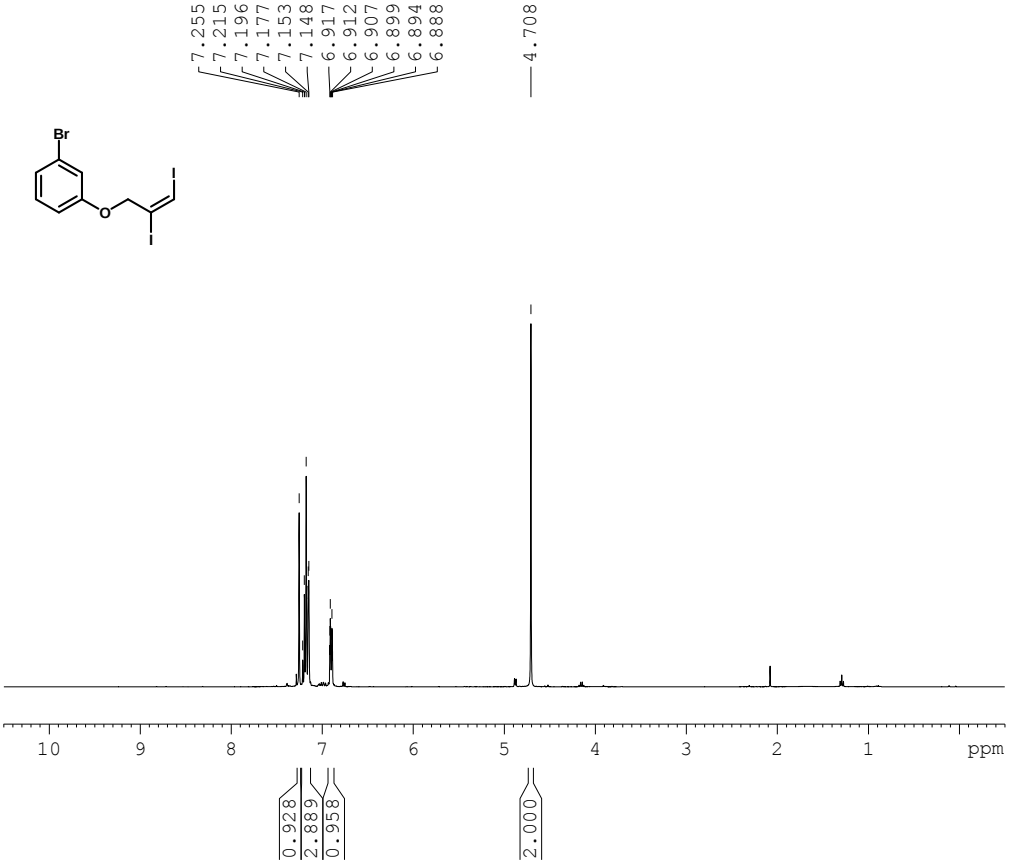



```
NAME            20241211
EXPNO                  6
PROCNO                 1
Date_           20241211
Time               19.30
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 71.42
DW                69.333 usec
DE                 10.06 usec
TE                 294.9 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

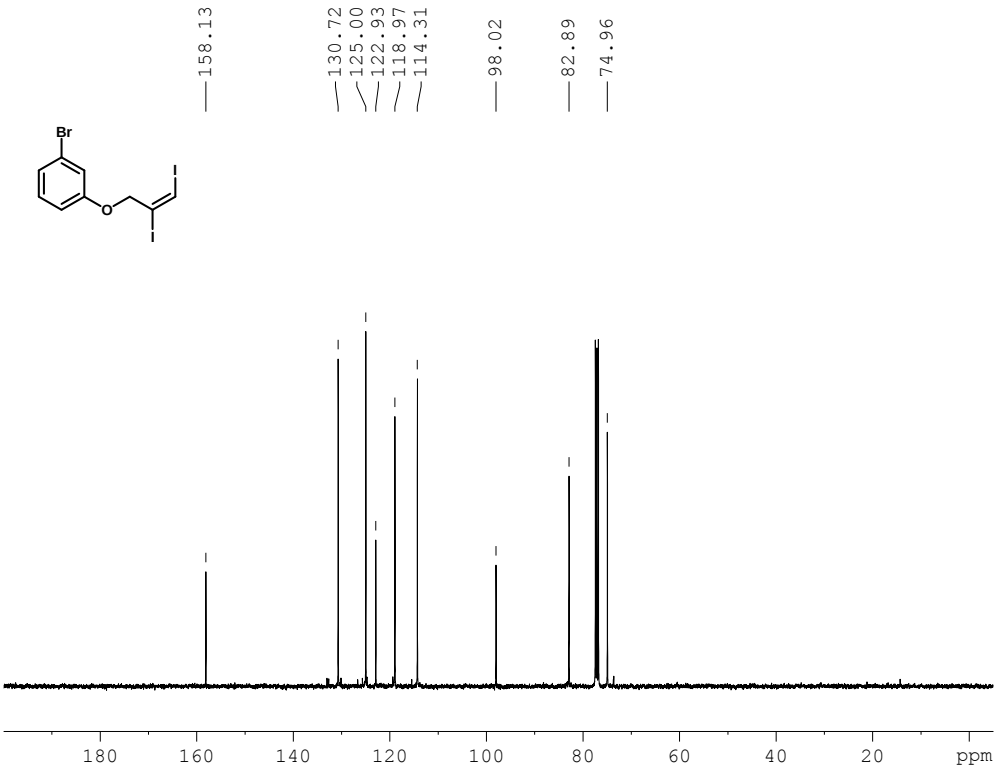



```
NAME            20241211
EXPNO                  7
PROCNO                 1
Date_           20241211
Time               19.31
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   103
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                 294.9 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                  13C
P1                10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

(*E*)-1-bromo-3-((2,3-diiodoallyl)oxy)benzene (3o)

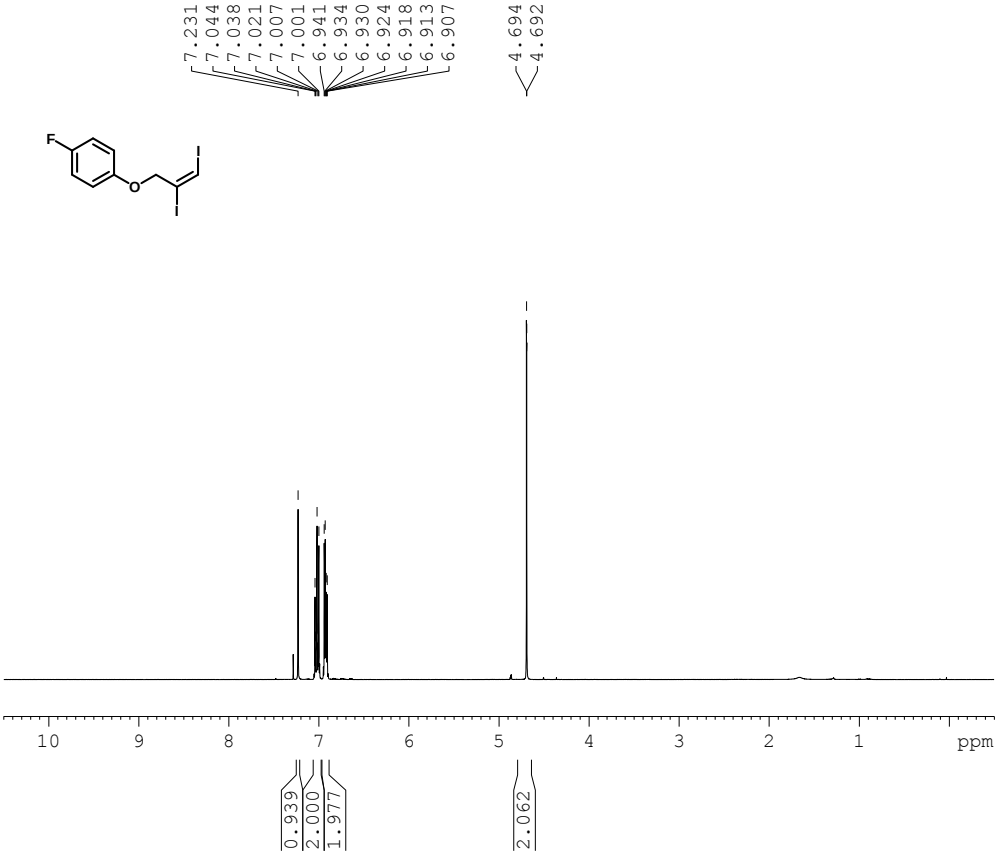



```
NAME            20241218
EXPNO                  7
PROCNO                 1
Date_           20241218
Time               22.03
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 57.42
DW                 69.333 usec
DE                 10.06 usec
TE                 294.2 K
D1              2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1          400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF            400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

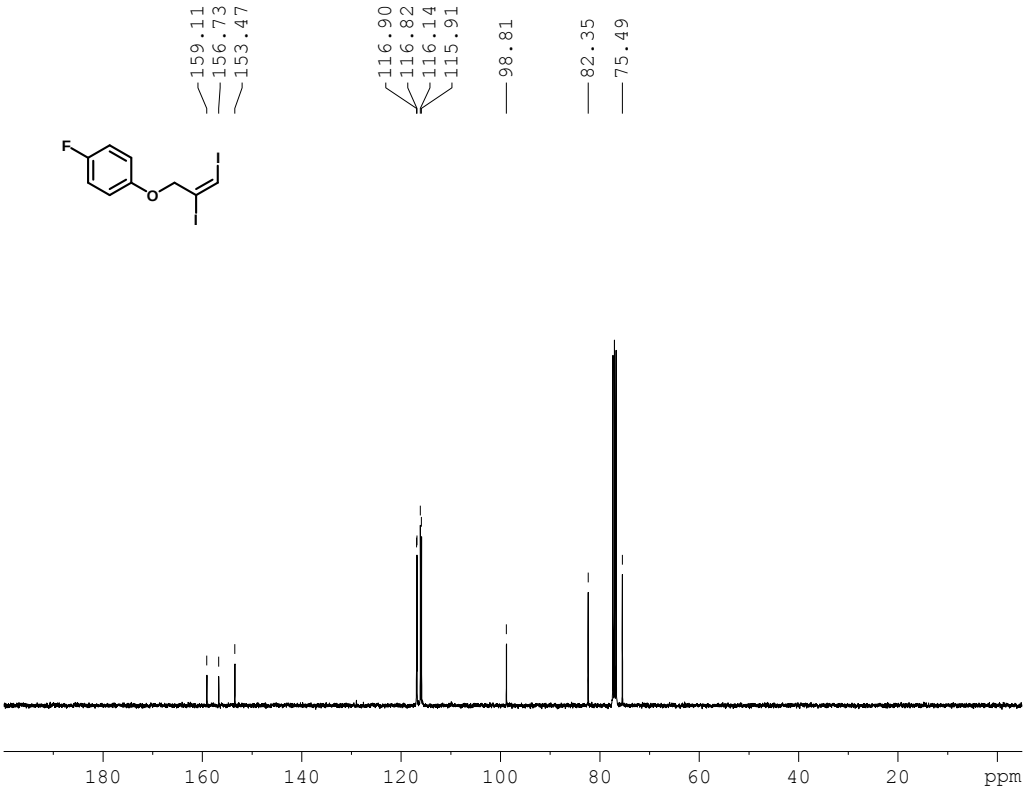



```
NAME            20241218
EXPNO                  8
PROCNO                 1
Date_           20241218
Time               22.15
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   248
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                295.4 K
D1              2.00000000 sec
D11             0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1          100.6228298 MHz
NUC1                  13C
P1                 10.00 usec
SI                 32768
SF            100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

(*E*)-1-((2,3-diiodoallyl)oxy)-4-fluorobenzene (3p)

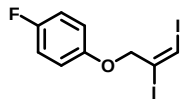



```
NAME            20241217
EXPNO                2
PROCNO               1
Date_           20241217
Time                21.12
INSTRUM             spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 89.08
DW                69.333 usec
DE                10.06 usec
TE                294.5 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```



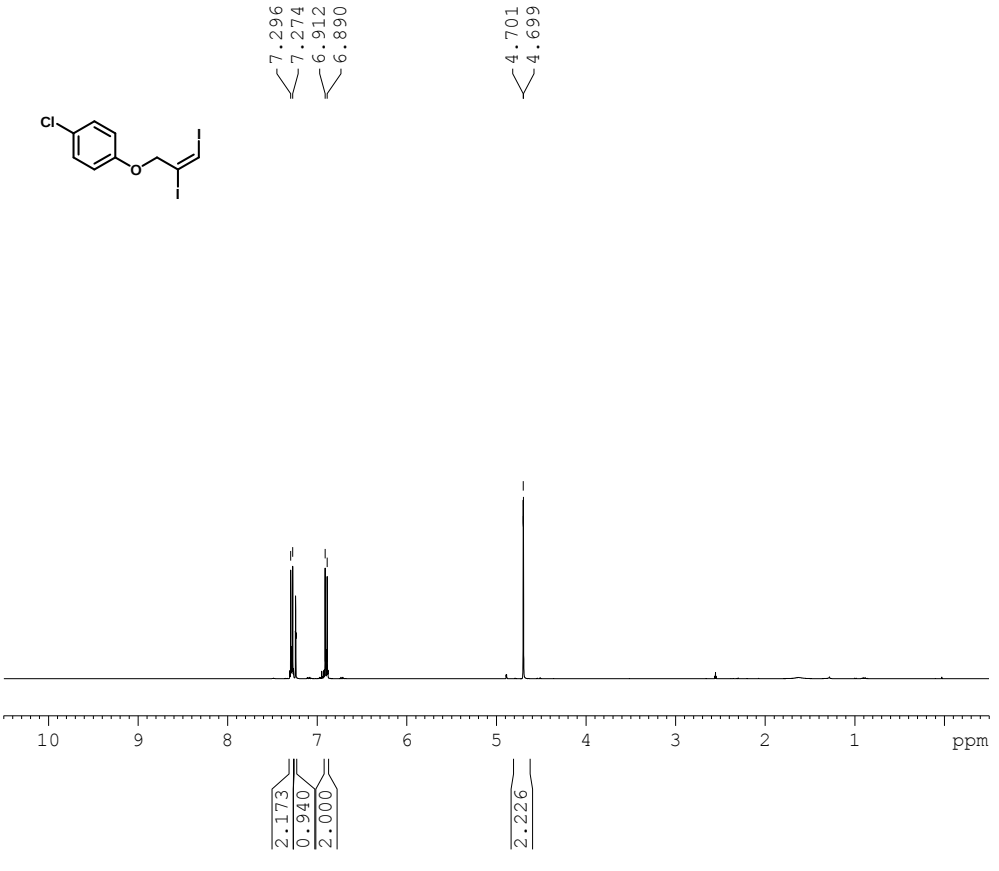

```
NAME            20241217
EXPNO                3
PROCNO               1
Date_           20241217
Time                21.13
INSTRUM             spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                294.6 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

(*E*)-1-((2,3-diiodoallyl)oxy)-4-fluorobenzene (3p)

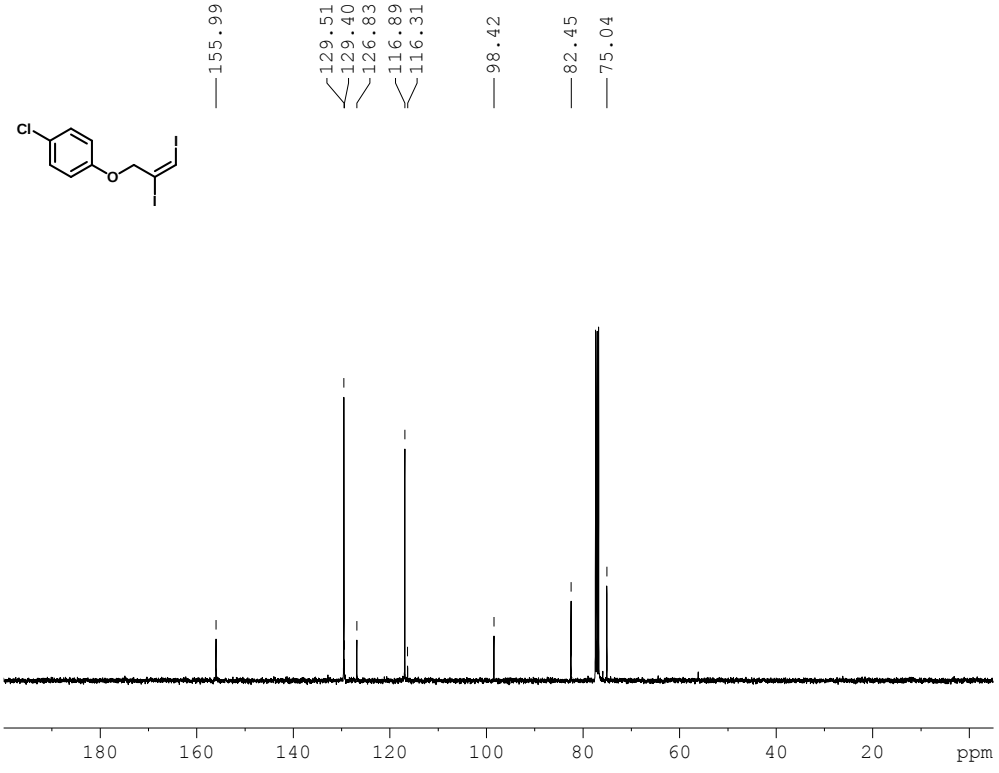


NAME	20251212
EXPNO	3
PROCNO	1
Date_	20251212
Time	14.33
INSTRUM	spect
PROBHD	5 mm PABBO BB/
PULPROG	zgig
TD	131072
SOLVENT	CDCl3
NS	8
DS	0
SWH	89285.711 Hz
FIDRES	0.681196 Hz
AQ	0.7340532 sec
RG	198.09
DW	5.600 usec
DE	6.50 usec
TE	294.7 K
D1	1.00000000 sec
D11	0.03000000 sec
TD0	1
======== CHANNEL f1 ========	
SFO1	376.4607168 MHz
NUC1	19F
P1	15.00 usec
SI	65536
SF	376.4983662 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.00

(*E*)-1-chloro-4-((2,3-diiodoallyl)oxy)benzene (3q)

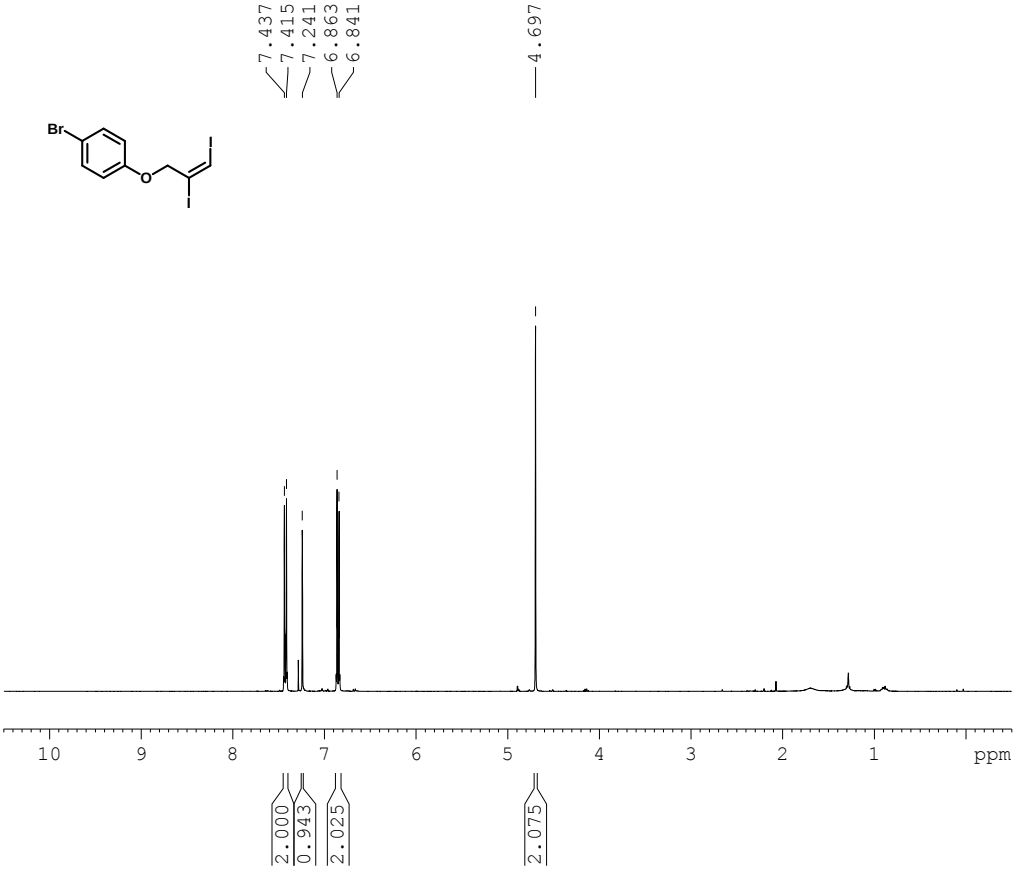



```
NAME            20241217
EXPNO                4
PROCNO               1
Date_           20241217
Time                21.26
INSTRUM             spect
PROBHD   5 mm PABBO BB/
PULPROG              zg30
TD                  32768
SOLVENT             CDCl3
NS                      8
DS                      0
SWH              7211.539 Hz
FIDRES           0.220079 Hz
AQ               2.2719646 sec
RG                  99.72
DW                 69.333 usec
DE                 10.06 usec
TE                 294.9 K
D1              2.00000000 sec
TD0                     1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                  15.00 usec
SI                  16384
SF           400.1300000 MHz
WDW                    EM
SSB                     0
LB                   0.00 Hz
GB                      0
PC                   1.00
```

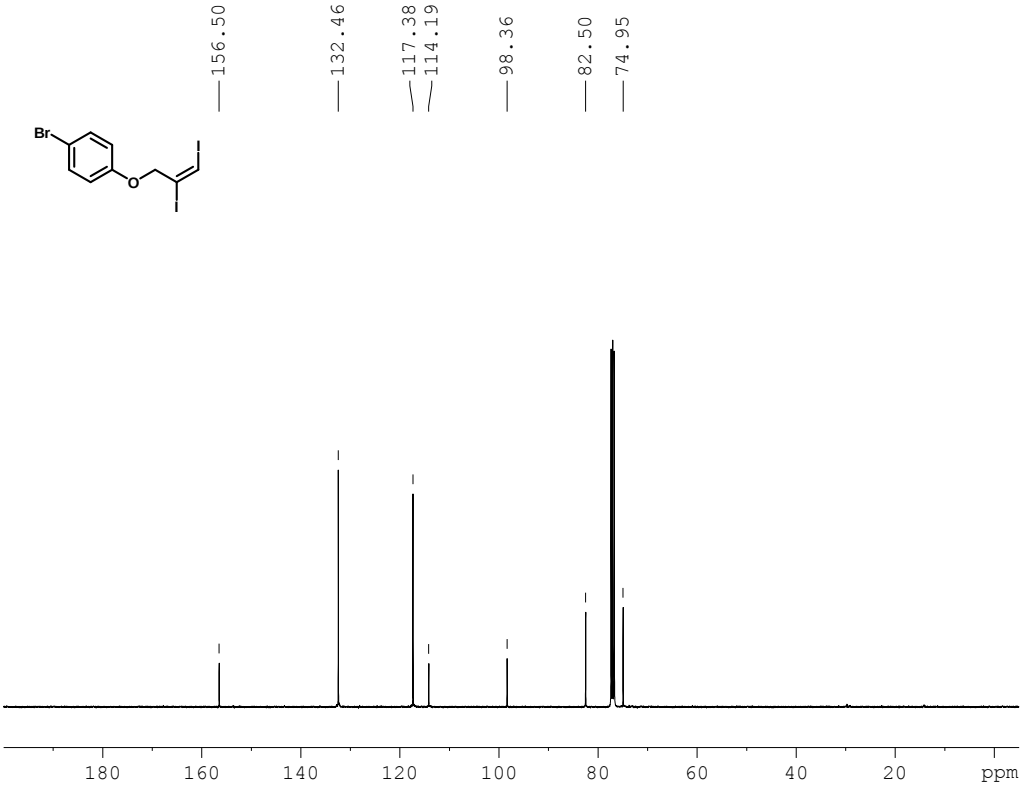



```
NAME            20241217
EXPNO                5
PROCNO               1
Date_           20241217
Time                21.27
INSTRUM             spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                  32768
SOLVENT             CDC13
NS                    200
DS                      0
SWH             24038.461 Hz
FIDRES           0.733596 Hz
AQ               0.6816244 sec
RG                  198.09
DW                 20.800 usec
DE                  6.50 usec
TE                 294.9 K
D1              2.00000000 sec
D11             0.03000000 sec
TD0                     1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                  10.00 usec
SI                  32768
SF           100.6127685 MHz
WDW                    EM
SSB                     0
LB                   2.00 Hz
GB                      0
PC                   1.00
```

(*E*)-1-bromo-4-((2,3-diiodoallyl)oxy)benzene (3r)

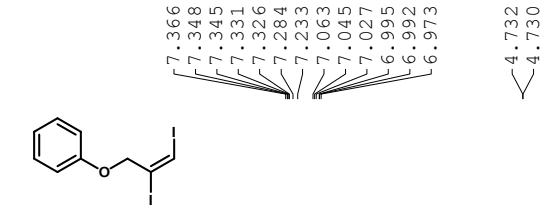


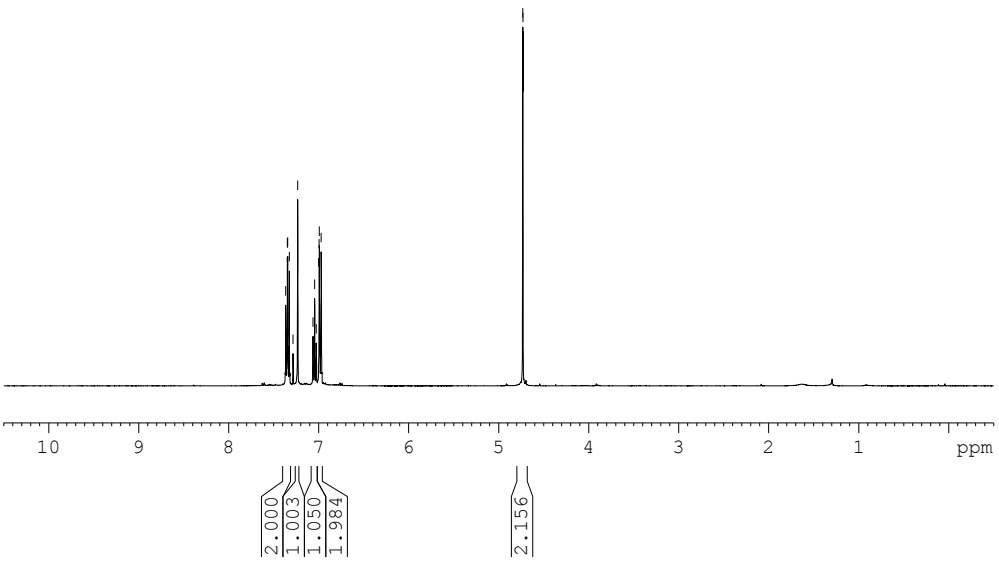

```
NAME            20241217
EXPNO                 16
PROCNO                 1
Date_           20241218
Time                2.52
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT             CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 99.72
DW                69.333 usec
DE                10.06 usec
TE                295.2 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

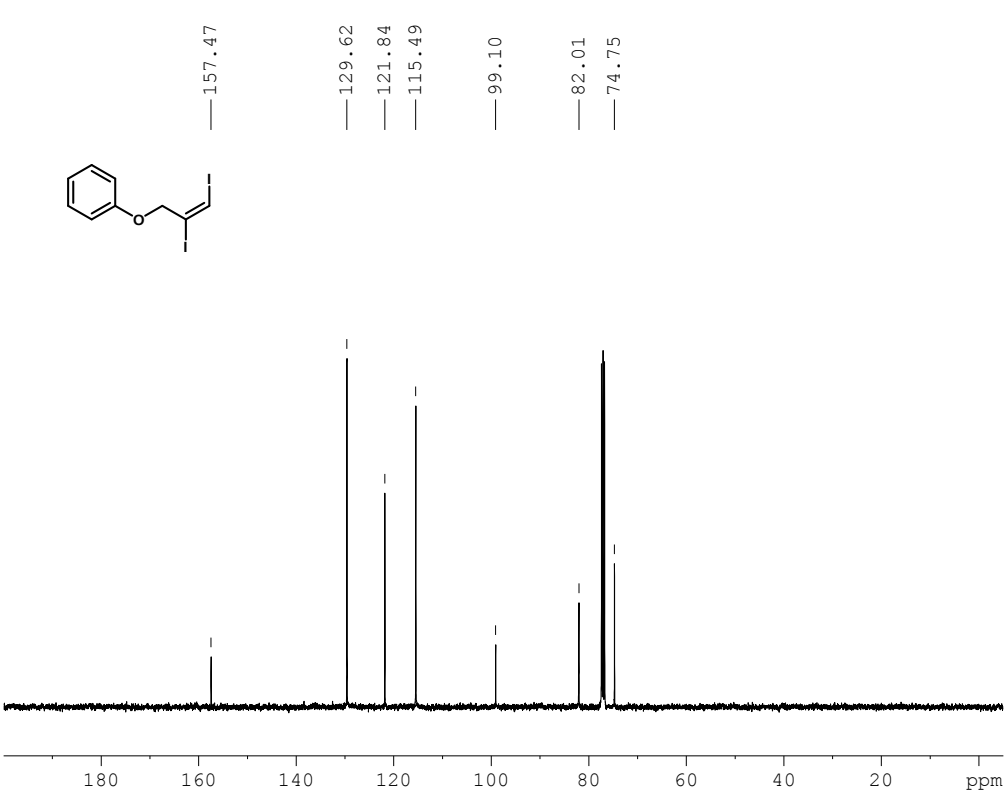



```
NAME            20241217
EXPNO                 17
PROCNO                 1
Date_           20241218
Time                2.52
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT             CDCl3
NS                  1437
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                295.2 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

(*E*)-((2,3-diiodoallyl)oxy)benzene (3s)



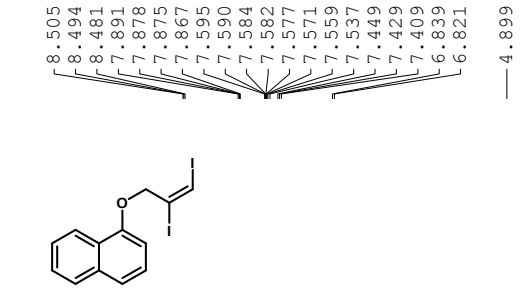




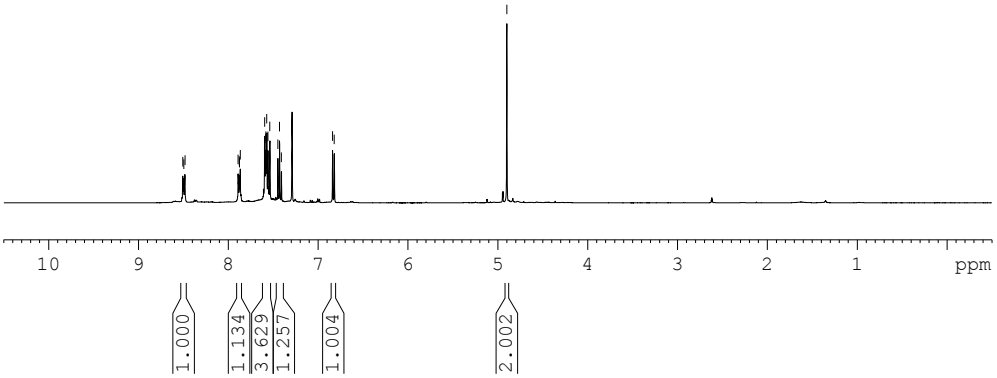
```
NAME            20241216
EXPNO                1
PROCNO               1
Date_           20241216
Time               17.42
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 89.08
DW                69.333 usec
DE                10.06 usec
TE                294.1 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

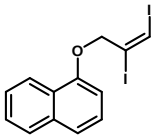
```
NAME            20241216
EXPNO                2
PROCNO               1
Date_           20241216
Time               17.44
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                 198.09
DW                20.800 usec
DE                 6.50 usec
TE                294.3 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

(*E*)-1-((2,3-diiodoallyl)oxy)naphthalene (3t)

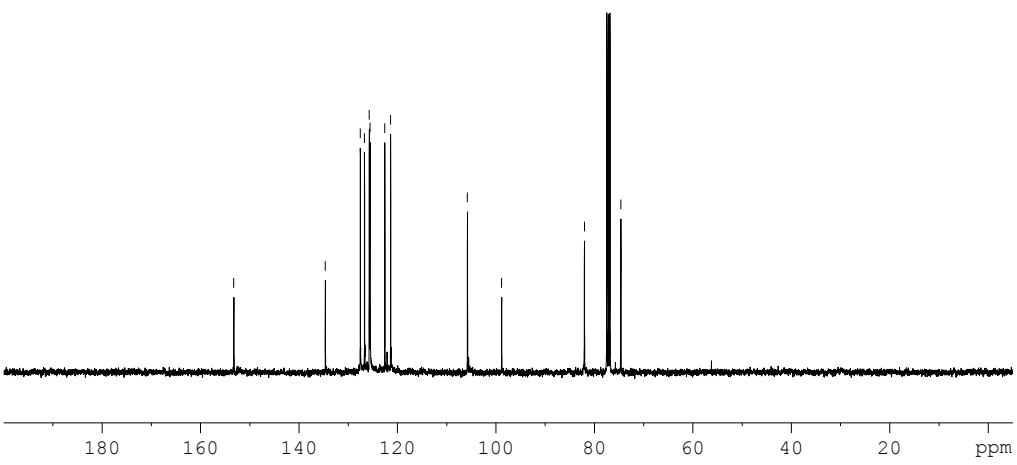



```
NAME            20241225
EXPNO                4
PROCNO               1
Date_           20241225
Time                18.48
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 45.15
DW                69.333 usec
DE                10.06 usec
TE                294.6 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1          400.1324008 MHz
NUC1                 1H
P1                15.00 usec
SI                16384
SF            400.1300000 MHz
WDW                  EM
SSB                   0
LB                 0.00 Hz
GB                    0
PC                 1.00
```

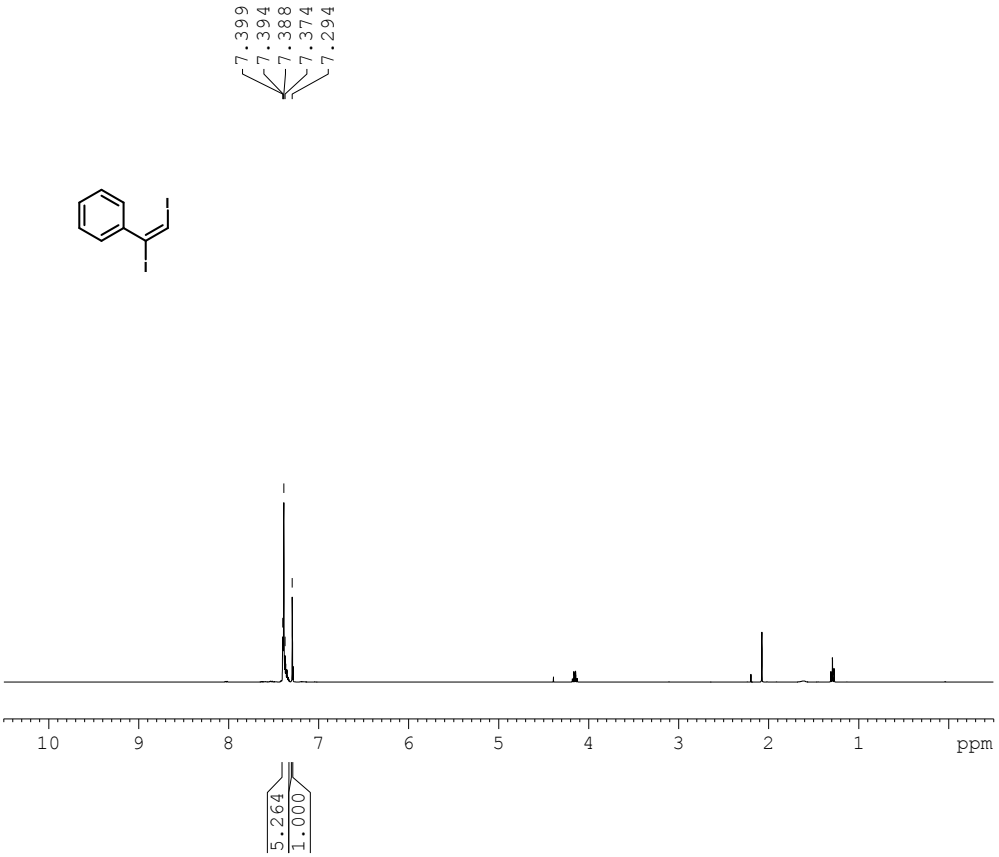




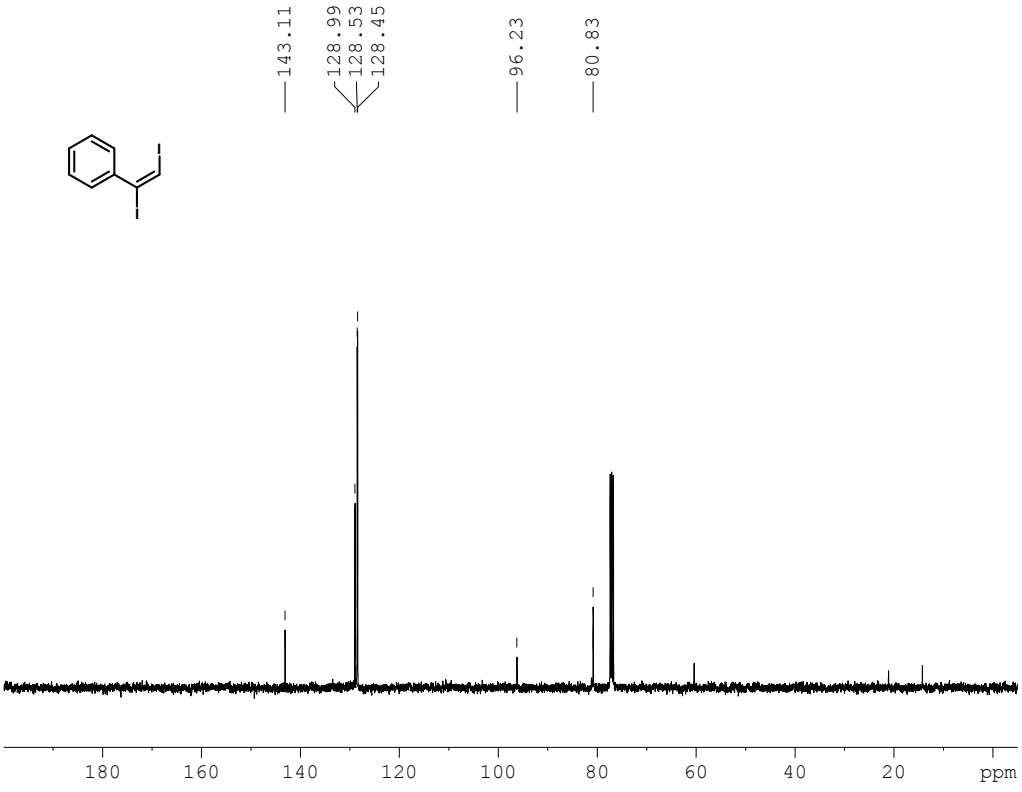
```
NAME            20241225
EXPNO                5
PROCNO               1
Date_           20241225
Time                18.49
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                    93
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                294.7 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1          100.6228298 MHz
NUC1                 13C
P1                10.00 usec
SI                32768
SF            100.6127685 MHz
WDW                  EM
SSB                   0
LB                 2.00 Hz
GB                    0
PC                 1.00
```



(E)-(1,2-diiodovinyl)benzene (3u)

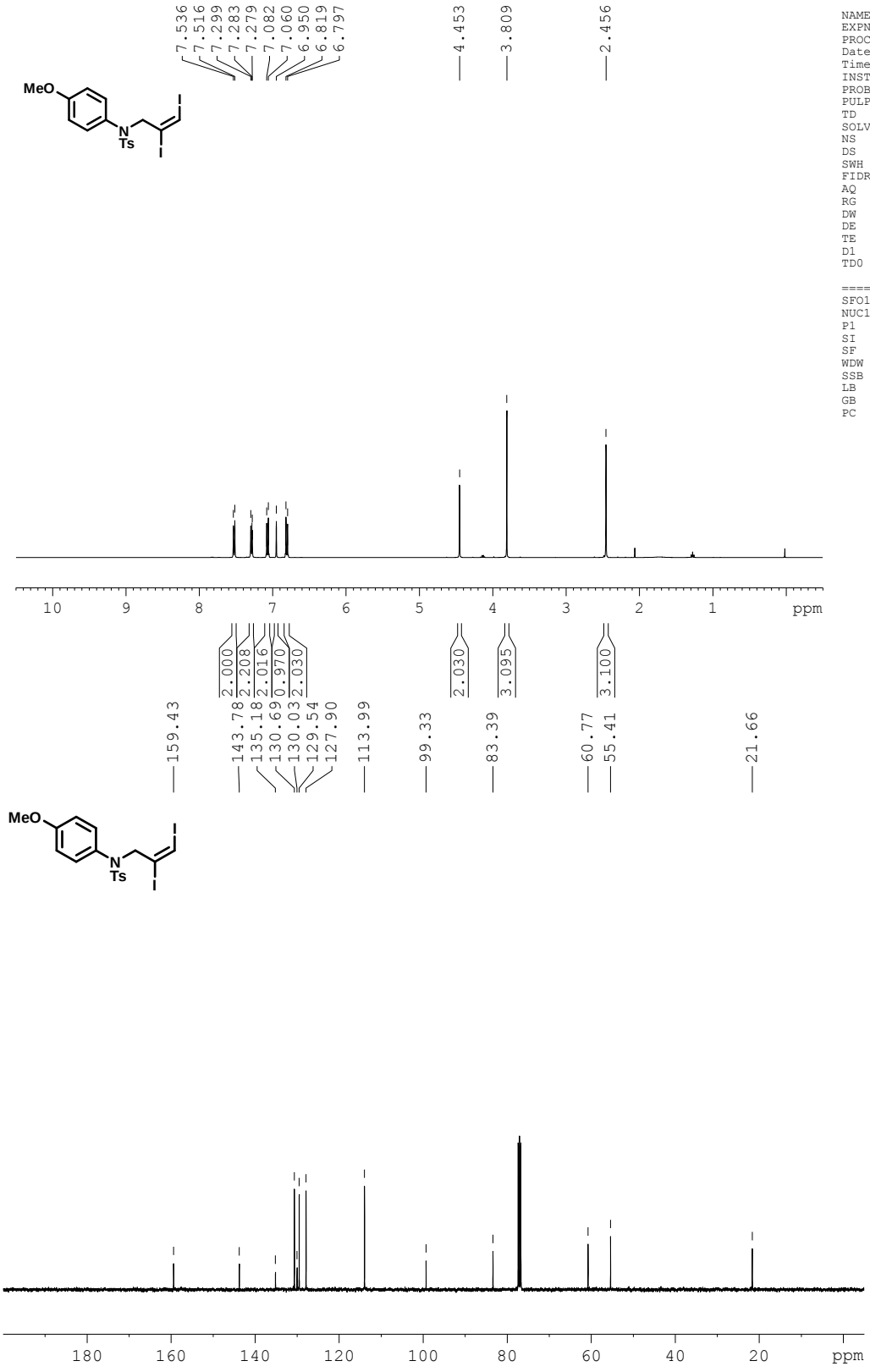



```
NAME            20231205
EXPNO                  1
PROCNO                 1
Date_           20231205
Time               16.30
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    12
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                 89.08
DW                69.333 usec
DE                10.06 usec
TE                298.7 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```




```
NAME            20231205
EXPNO                  2
PROCNO                 1
Date_           20231205
Time               16.32
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                    67
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                299.0 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                  13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

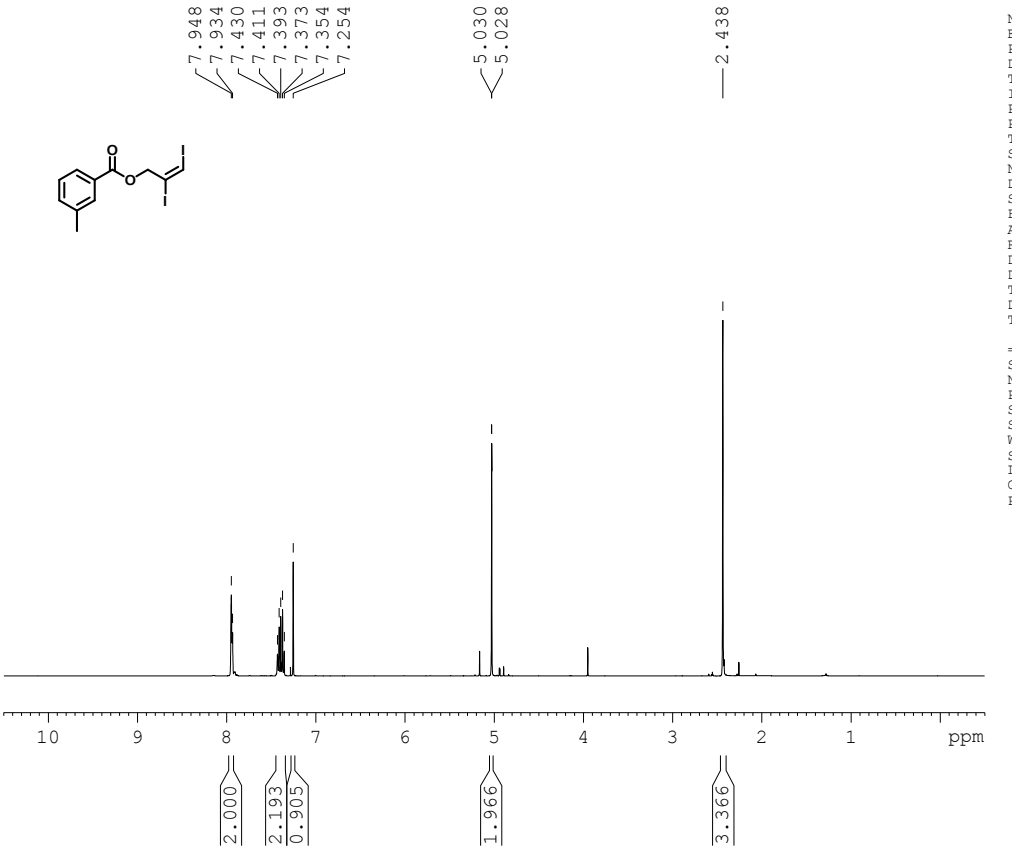
(E)-*N*-(2,3-diiodoallyl)-*N*-(4-methoxyphenyl)-4-methylbenzenesulfonamide (3y)



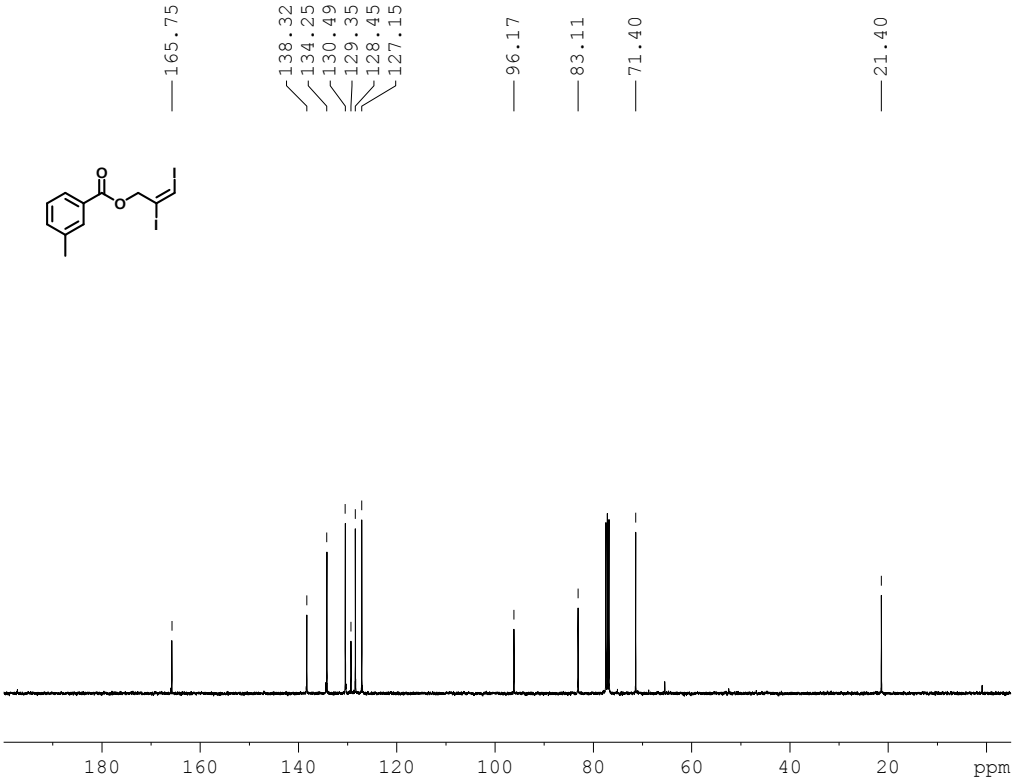
NAME	20251209
EXPNO	1
PROCNO	1
Date_	20251209
Time	16.16
INSTRUM	spect
PROBHD	5 mm PABBO BB/
PULPROG	zg30
TD	32768
SOLVENT	CDCl3
NS	8
DS	0
SWH	7211.539 Hz
FIDRES	0.220079 Hz
AQ	2.2719646 sec
RG	78.51
DW	69.333 usec
DE	10.06 usec
TE	294.5 K
D1	2.00000000 sec
TD0	1
======== CHANNEL f1 ========	
SFO1	400.1324008 MHz
NUC1	1H
P1	15.00 usec
SI	16384
SF	400.1300000 MHz
WDW	EM
SSB	0
LB	0.00 Hz
GB	0
PC	1.00

NAME	20251209
EXPNO	2
PROCNO	1
Date_	20251209
Time	16.18
INSTRUM	spect
PROBHD	5 mm PABBO BB/
PULPROG	zgpg30
TD	32768
SOLVENT	CDCl3
NS	82
DS	0
SWH	24038.461 Hz
FIDRES	0.733596 Hz
AQ	0.6816244 sec
RG	198.09
DW	20.800 usec
DE	6.50 usec
TE	294.7 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	1
======== CHANNEL f1 ========	
SFO1	100.6228298 MHz
NUC1	13C
P1	10.00 usec
SI	32768
SF	100.6127685 MHz
WDW	EM
SSB	0
LB	2.00 Hz
GB	0
PC	1.00

(*E*)-2,3-diiodoallyl 3-methylbenzoate (3z)

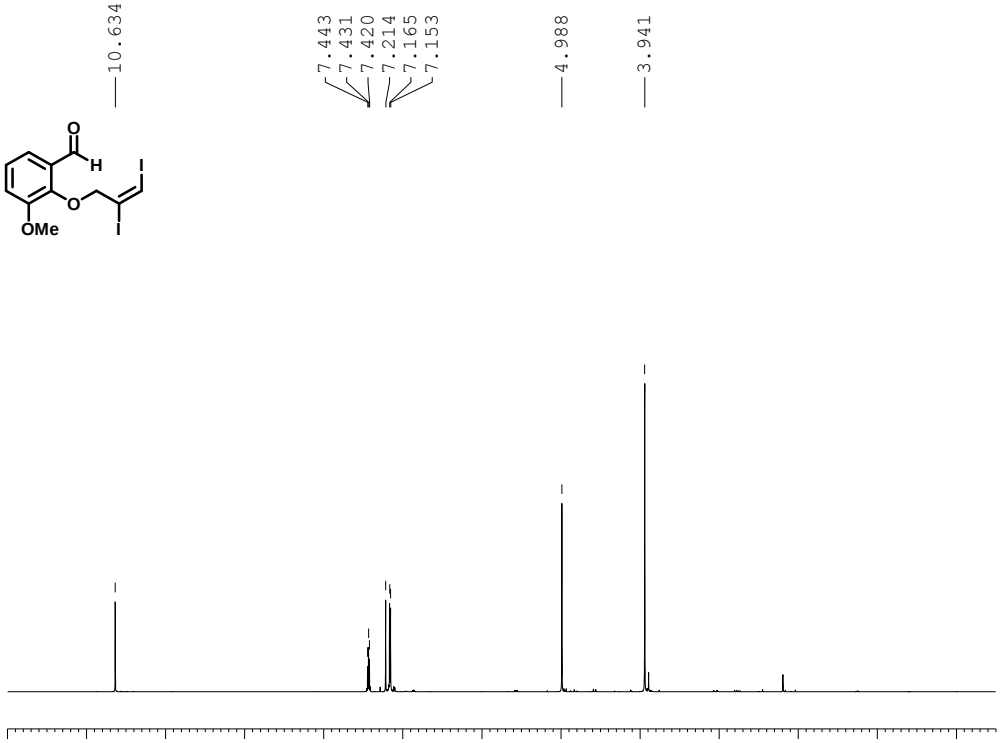



```
NAME            20241225
EXPNO                  6
PROCNO                 1
Date_           20241225
Time                19.51
INSTRUM             spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 45.15
DW                69.333 usec
DE                10.06 usec
TE                294.7 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

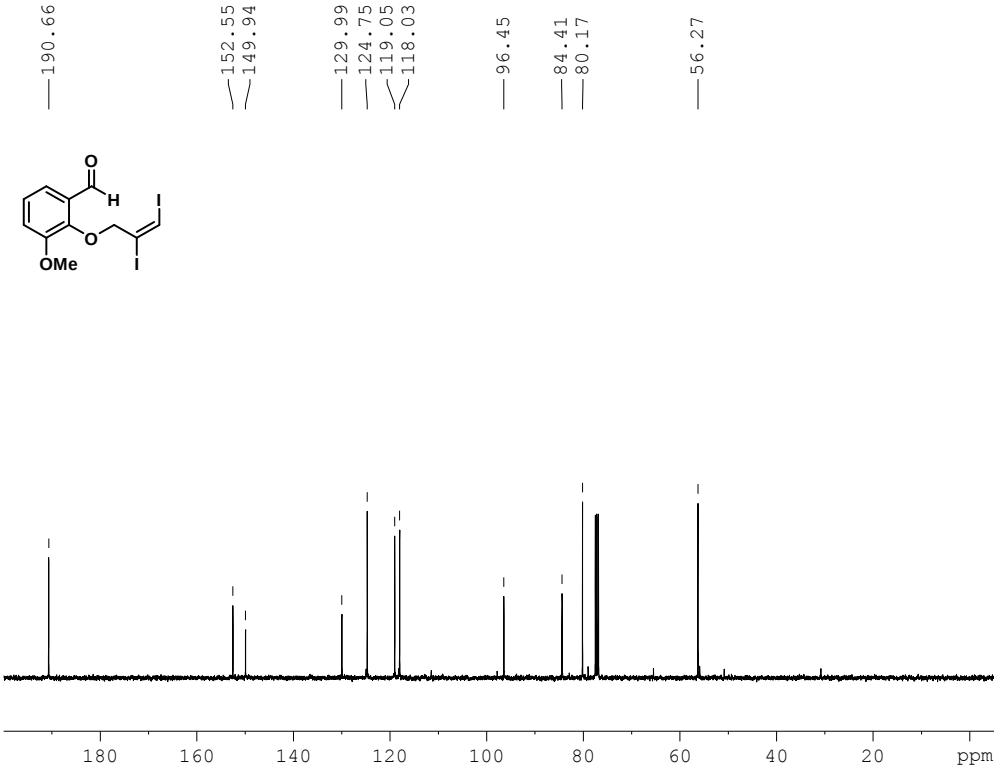



```
NAME            20241225
EXPNO                  7
PROCNO                 1
Date_           20241225
Time                19.53
INSTRUM             spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                    98
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                295.0 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

(*E*)-2-((2,3-diiodoallyl)oxy)-3-methoxybenzaldehyde (3aa)

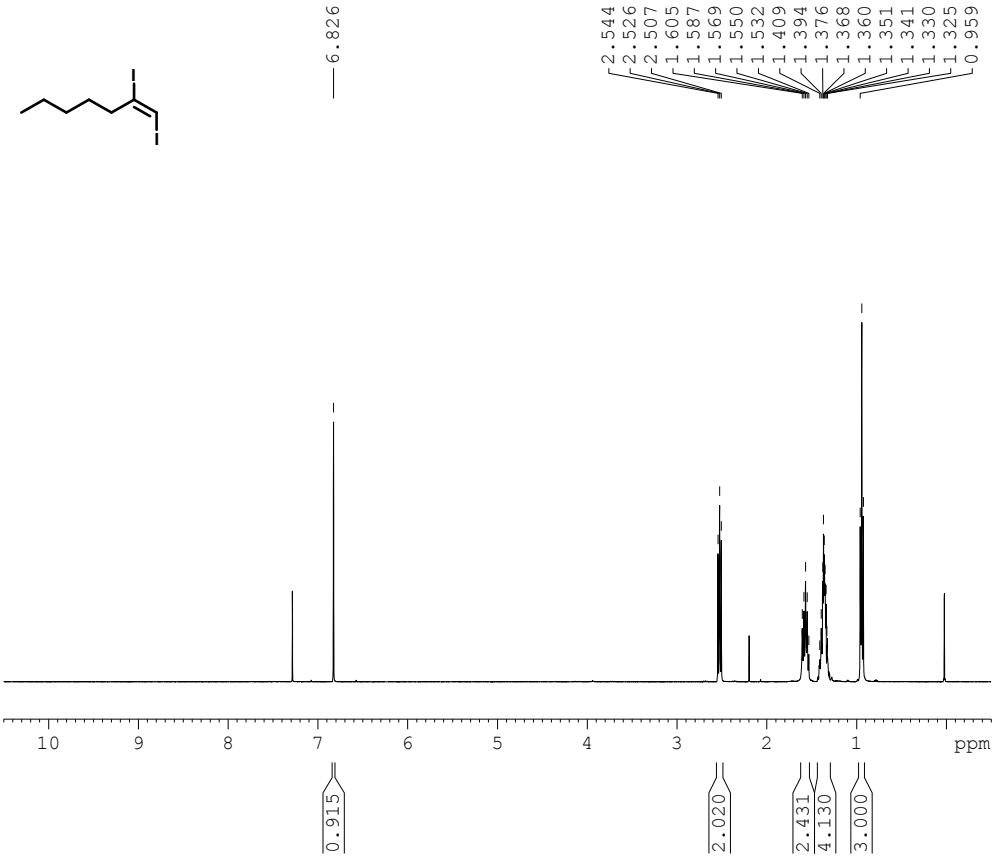



```
NAME            20241228
EXPNO                3
PROCNO               1
Date_           20241228
Time               21.12
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ              2.2719646 sec
RG                  38.89
DW                 69.333 usec
DE                 10.06 usec
TE                 294.5 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                  EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

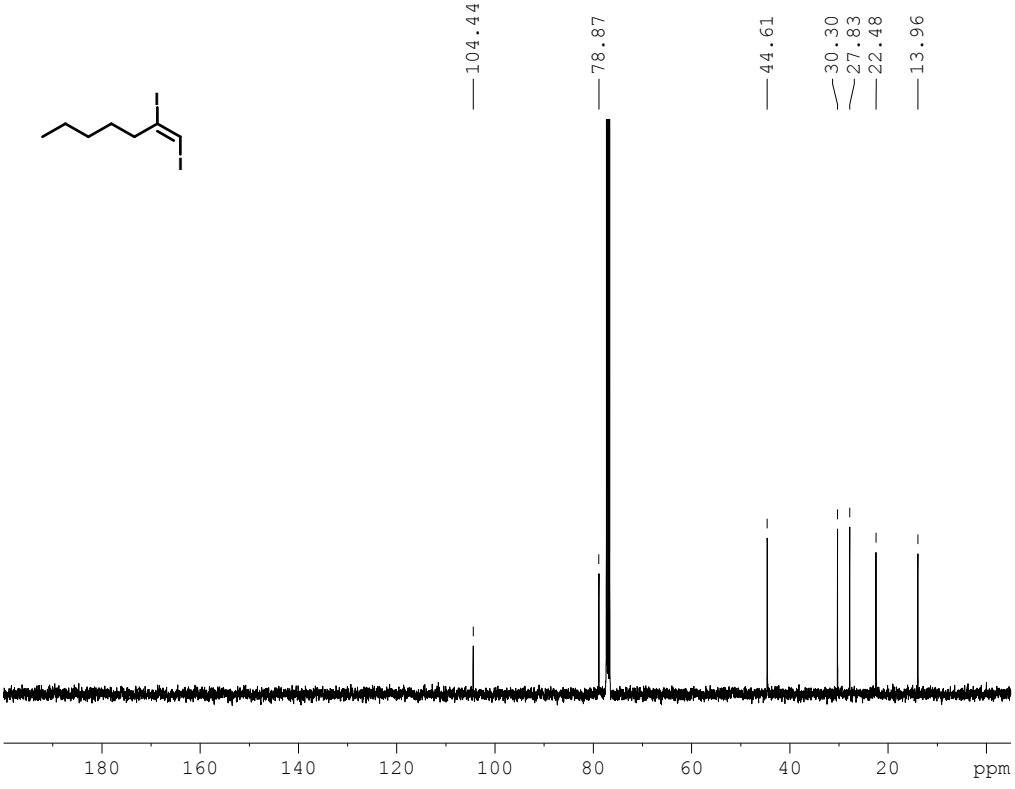



```
NAME            20241228
EXPNO                4
PROCNO               1
Date_           20241228
Time               21.14
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                    40
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ              0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                 294.5 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                  EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

(E)-1,2-diiodohept-1-ene (3ab)

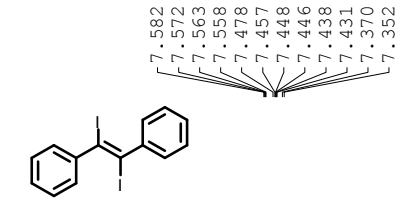



```
NAME            20251129
EXPNO                  1
PROCNO                 1
Date_           20251129
Time               17.19
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                113.31
DW                69.333 usec
DE                10.06 usec
TE                294.4 K
D1             2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

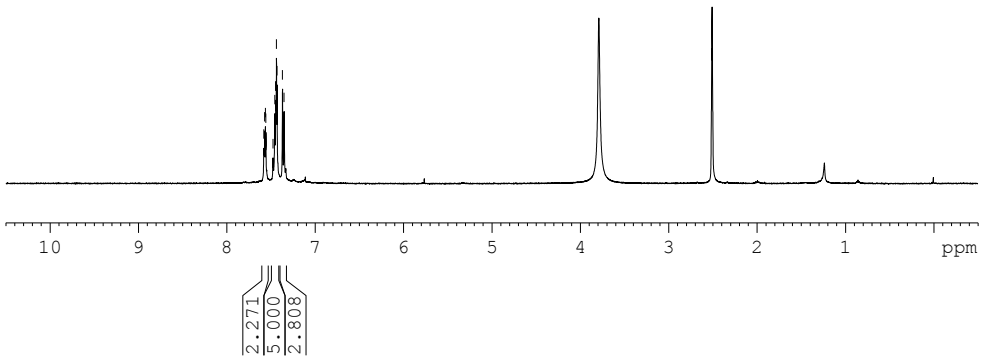


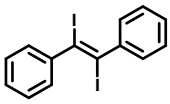

```
NAME            20251129
EXPNO                  2
PROCNO                 1
Date_           20251129
Time               17.23
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   124
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                294.8 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                  13C
P1                 10.00 usec
SI                 32768
SF           100.6127721 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

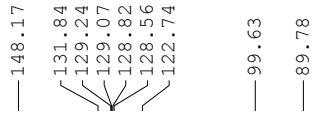
(E)-1,2-diiodo-1,2-diphenylethene (3ac)




```
NAME            20251130
EXPNO                  6
PROCNO                 1
Date_           20251130
Time               17.22
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT              DMSO
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                158.74
DW               69.333 usec
DE                10.06 usec
TE                294.8 K
D1           2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                 15.00 usec
SI                 16384
SF           400.1300000 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

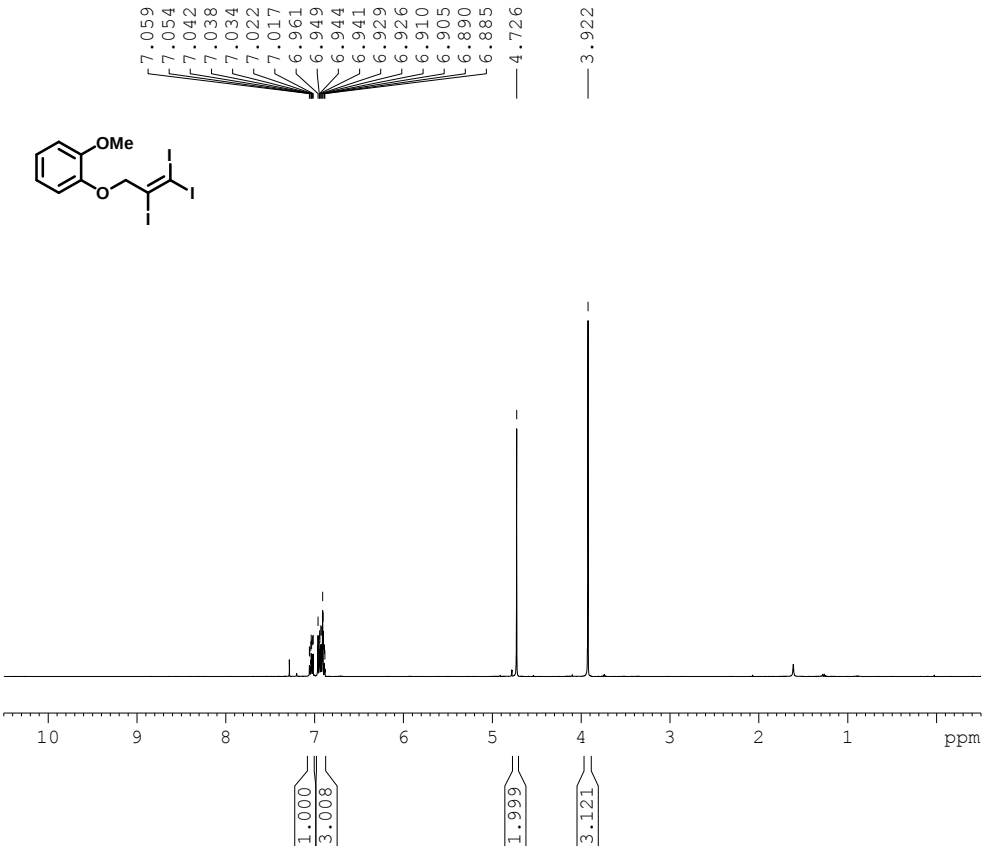




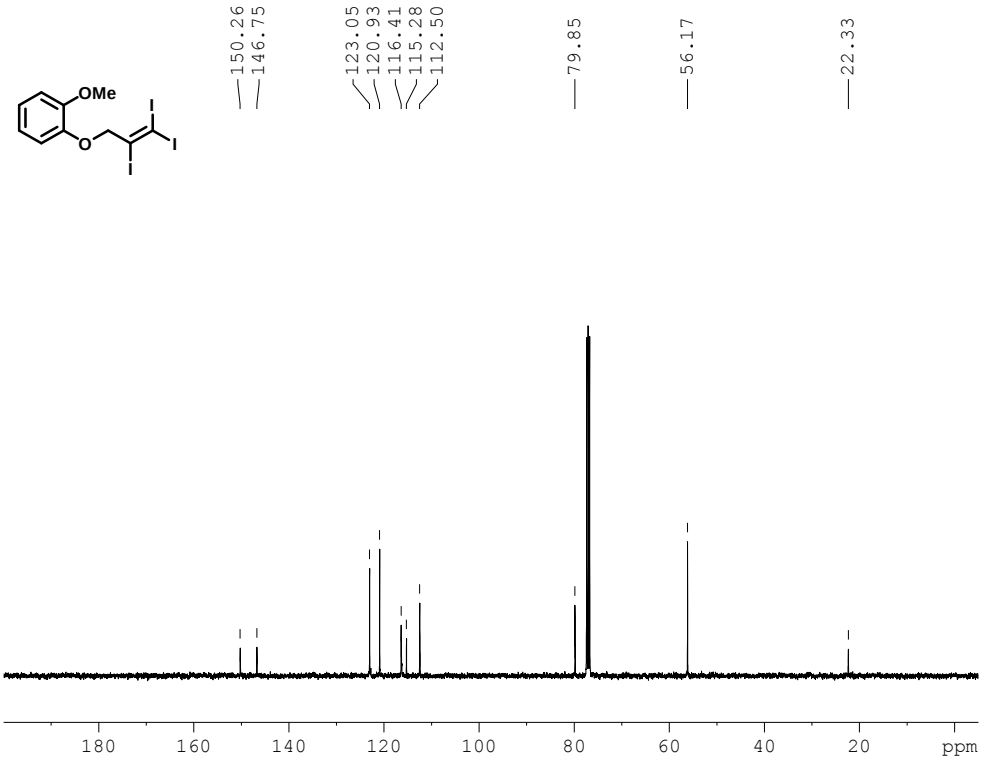



```
NAME            20251130
EXPNO                  7
PROCNO                 1
Date_           20251130
Time               23.13
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT              DMSO
NS                 15456
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW               20.800 usec
DE                 6.50 usec
TE                310.3 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                 10.00 usec
SI                 32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

1-methoxy-2-((2,3,3-triiodoallyl)oxy)benzene (4a)

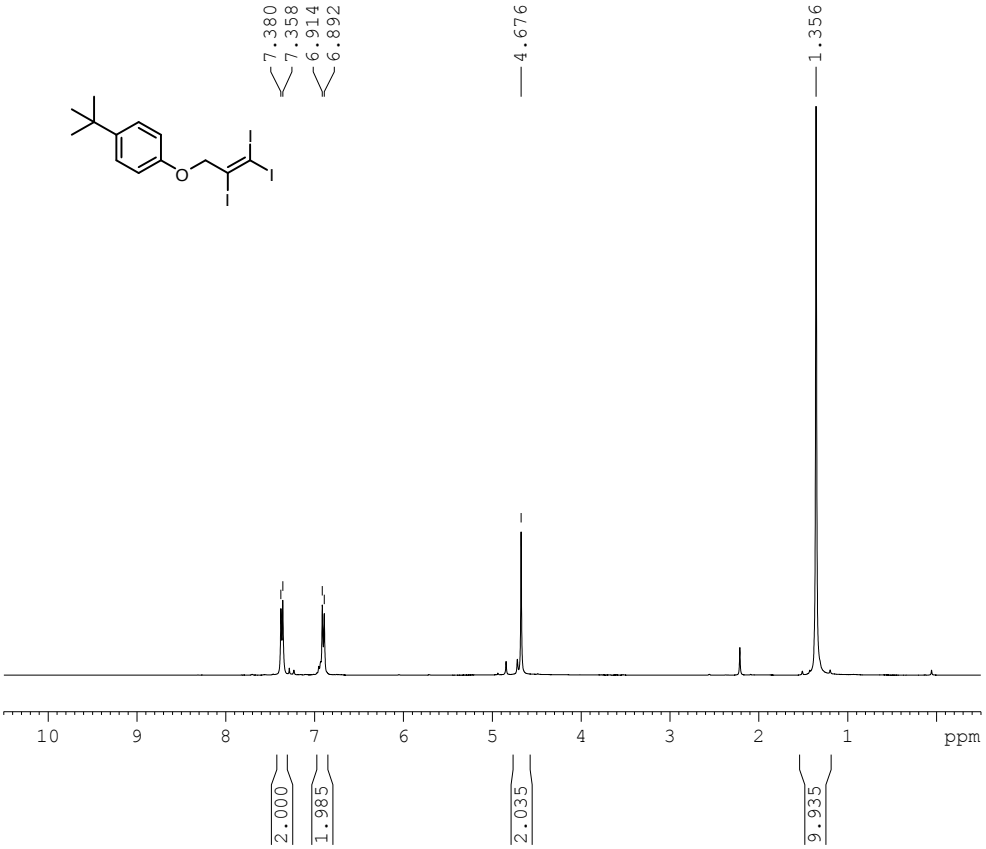



```
NAME            20241201
EXPNO                1
PROCNO               1
Date_           20241201
Time               18.21
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 99.72
DW                69.333 usec
DE                10.06 usec
TE                294.5 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                1H
P1                15.00 usec
SI                16384
SF           400.1300000 MHz
WDW                  EM
SSB                   0
LB                 0.00 Hz
GB                    0
PC                 1.00
```

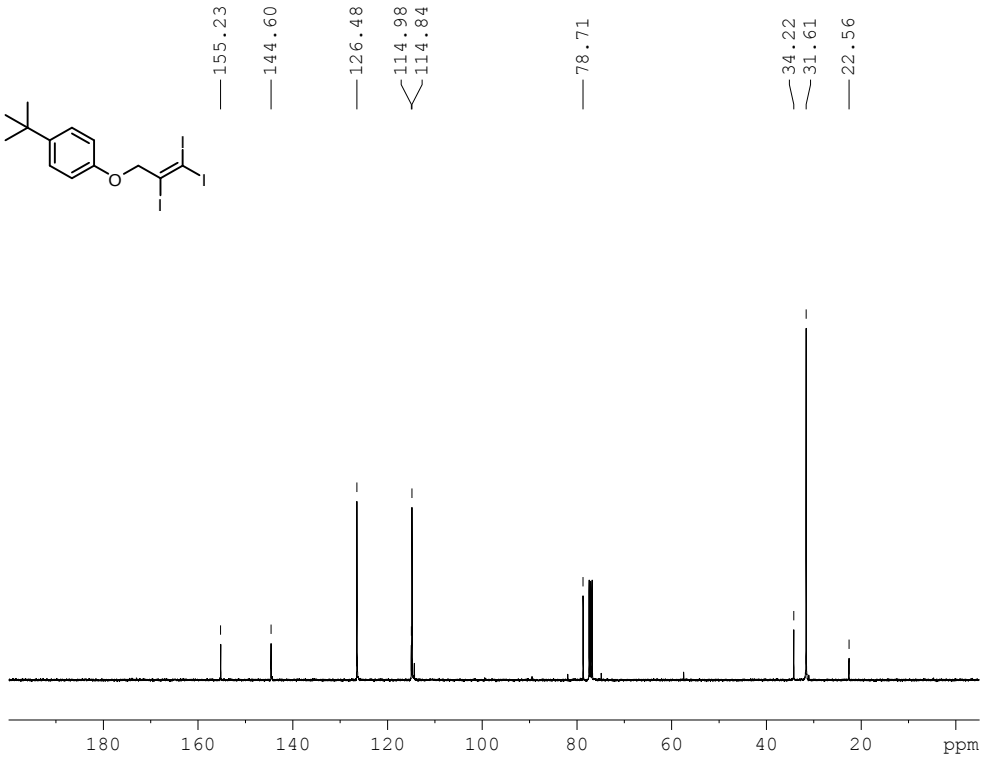



```
NAME            20241201
EXPNO                2
PROCNO               1
Date_           20241201
Time               18.23
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                294.7 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                13C
P1                10.00 usec
SI                32768
SF           100.6127685 MHz
WDW                  EM
SSB                   0
LB                 2.00 Hz
GB                    0
PC                 1.00
```

1-(tert-butyl)-4-((2,3,3-triiodoallyl)oxy)benzene (4h)

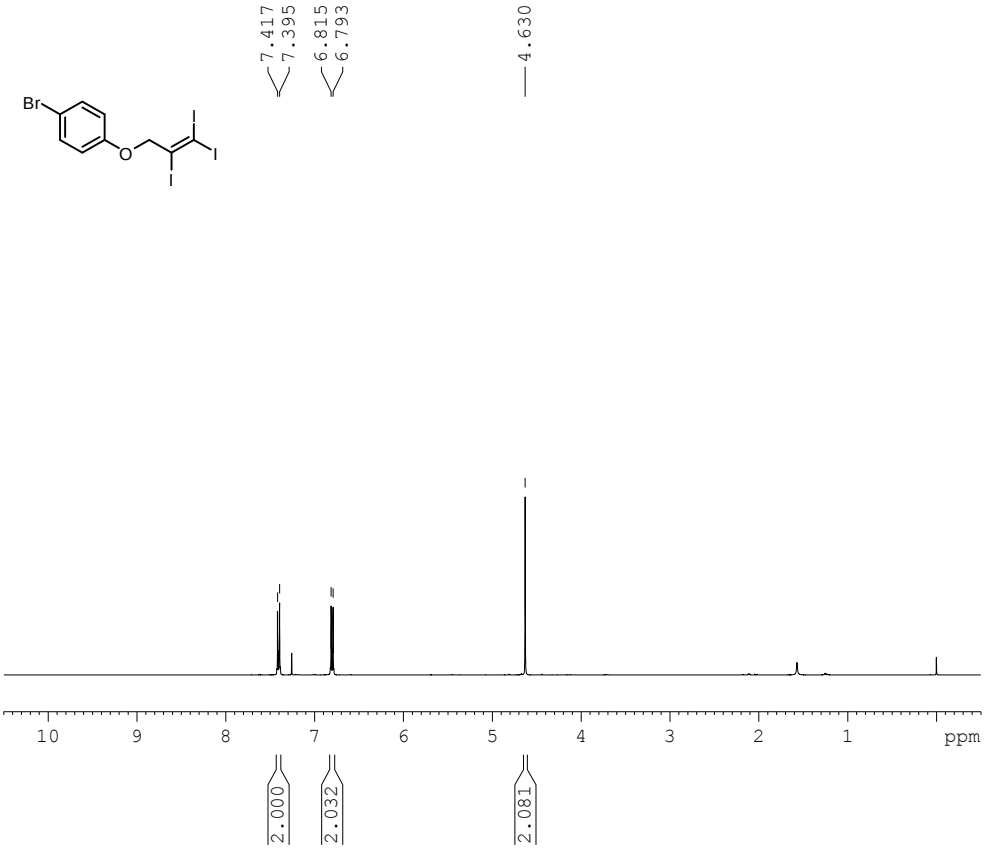



```
NAME            20251009
EXPNO                1
PROCNO               1
Date_           20251009
Time               19.41
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                 38.89
DW                69.333 usec
DE                10.06 usec
TE                295.6 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                1H
P1                15.00 usec
SI                16384
SF           400.1300000 MHz
WDW                  EM
SSB                   0
LB                 0.00 Hz
GB                    0
PC                 1.00
```

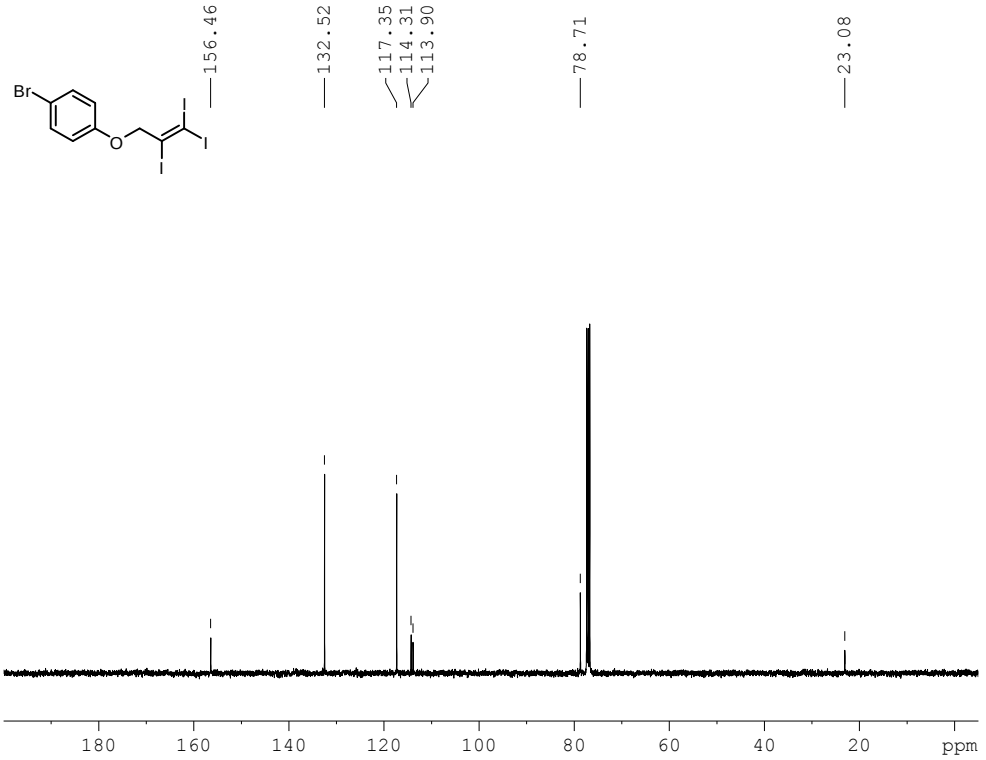



```
NAME            20251009
EXPNO                2
PROCNO               1
Date_           20251009
Time               19.43
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG          zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   200
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                295.7 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                13C
P1                10.00 usec
SI                32768
SF           100.6127685 MHz
WDW                  EM
SSB                   0
LB                 2.00 Hz
GB                    0
PC                 1.00
```

1-bromo-4-((2,3,3-triiodoallyl)oxy)benzene (4r)




```
NAME            20251023
EXPNO                2
PROCNO               1
Date_           20251023
Time               13.42
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             7211.539 Hz
FIDRES          0.220079 Hz
AQ             2.2719646 sec
RG                144.49
DW                69.333 usec
DE                10.06 usec
TE                295.4 K
D1            2.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324008 MHz
NUC1                   1H
P1                  15.00 usec
SI                  16384
SF           400.1300104 MHz
WDW                   EM
SSB                    0
LB                  0.00 Hz
GB                     0
PC                  1.00
```

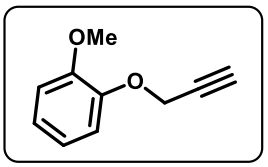


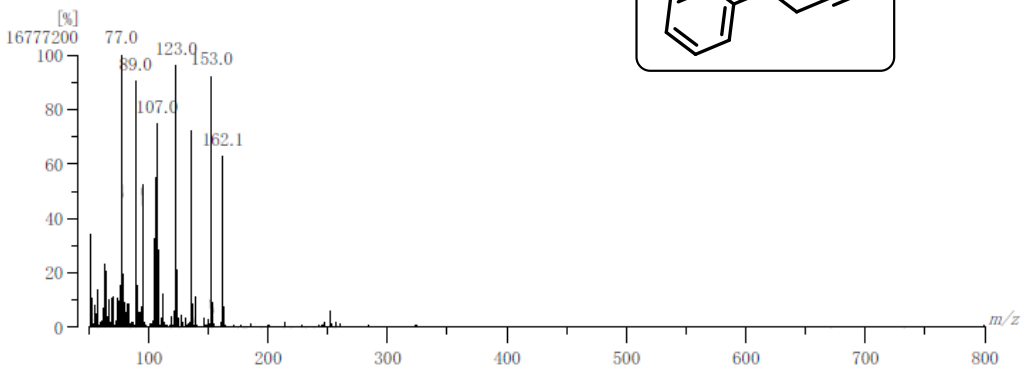

```
NAME            20251023
EXPNO                3
PROCNO               1
Date_           20251023
Time               13.44
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG           zgpg30
TD                 32768
SOLVENT            CDCl3
NS                   135
DS                     0
SWH            24038.461 Hz
FIDRES          0.733596 Hz
AQ             0.6816244 sec
RG                198.09
DW                20.800 usec
DE                 6.50 usec
TE                295.7 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         100.6228298 MHz
NUC1                   13C
P1                  10.00 usec
SI                  32768
SF           100.6127685 MHz
WDW                   EM
SSB                    0
LB                  2.00 Hz
GB                     0
PC                  1.00
```

13. Mass spectrometry data

HRMS of 1a

[Mass Spectrum]
Data : 20251208_HREI_1001 Date : 08-Dec-2025 14:49
RT : 0.15 min Scan# : 2
Elements : C 10/0, H 10/0, O 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0





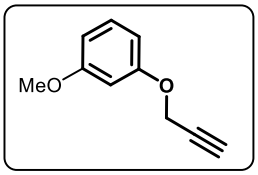
	Observed m/z	Int%					
	162.0678	62.84					
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O	
1	162.0681	-1.7 / -0.3	6.0	10	10	2	

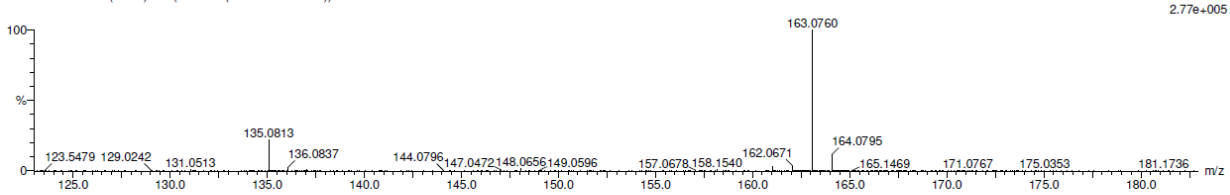
HRMS of 1b

Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
27 formula(e) evaluated with 15 results within limits (up to 25 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10
2
251211YAO01 249 (2.429) Cm (247:253-(224:234+295:305))

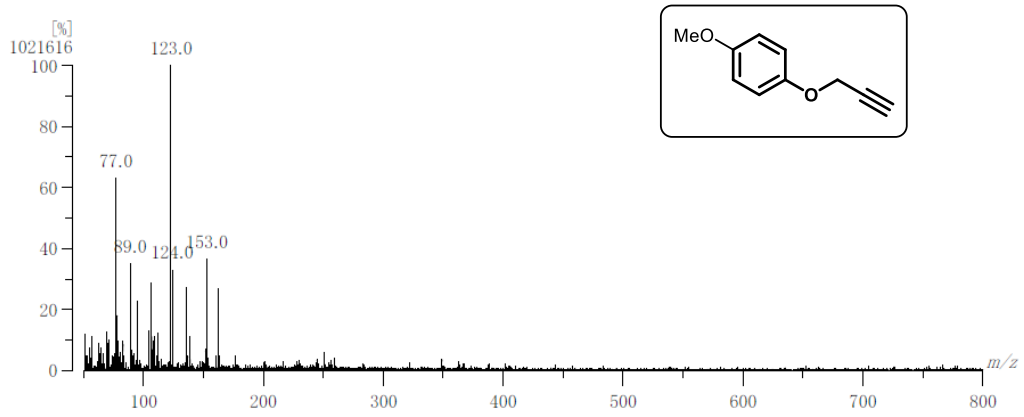




	RA	Calc. Mass	mDa	PPM	DBE	Formula
Minimum:	80.00				-10.0	
Maximum:	100.00		10.0	500.0	100.0	
Mass						
163.0760	100.00	163.0759	0.1	0.6	5.5	C10 H11 O2
		163.0818	-5.8	-35.6	-3.5	C3 H15 O7
		163.0606	15.4	94.4	1.5	C6 H11 O5
		163.0970	-21.0	-128.8	0.5	C7 H15 O4
		163.0454	30.6	187.6	-2.5	C2 H11 O8
		163.1123	-36.3	-222.6	4.5	C11 H15 O
		163.0395	36.5	223.8	6.5	C9 H7 O3
		163.1182	-42.2	-258.8	-4.5	C4 H19 O6
		163.0243	51.7	317.0	2.5	C5 H7 O6
		163.1334	-57.4	-352.0	-0.5	C8 H19 O3
		163.0184	57.6	353.2	11.5	C12 H3 O
		163.1393	-63.3	-388.2	-9.5	C H23 O8
		163.0090	67.0	410.9	-1.5	C H7 O9
		163.0031	72.9	447.0	7.5	C8 H3 O4
		163.1545	-78.5	-481.4	-5.5	C5 H23 O5

HRMS of 1c

[Mass Spectrum]
Data : 20251208_HREI_3001 Date : 08-Dec-2025 15:09
RT : 0.60 min Scan# : 5
Elements : C 10/0, H 10/0, O 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0

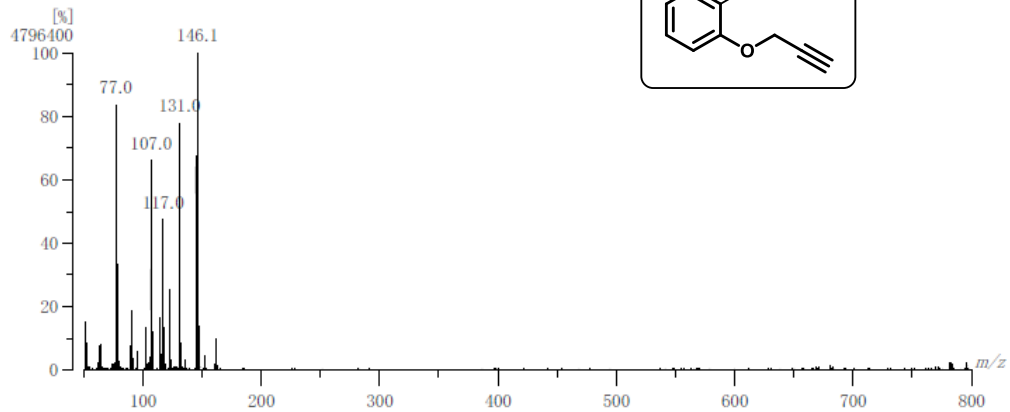


	Observed m/z	Int%
	162.0674	26.96

	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O
1	162.0681	-4.2 / -0.7	6.0	10	10	2

HRMS of 1d

[Mass Spectrum]
Data : 20251208_HREI_4001 Date : 08-Dec-2025 15:17
RT : 0.00 min Scan# : 1
Elements : C 10/0, H 10/0, O 1/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0

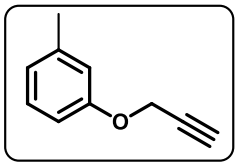


	Observed m/z	Int%
	146.0724	100.00

	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O
1	146.0732	-5.2 / -0.8	6.0	10	10	1

HRMS of 1e

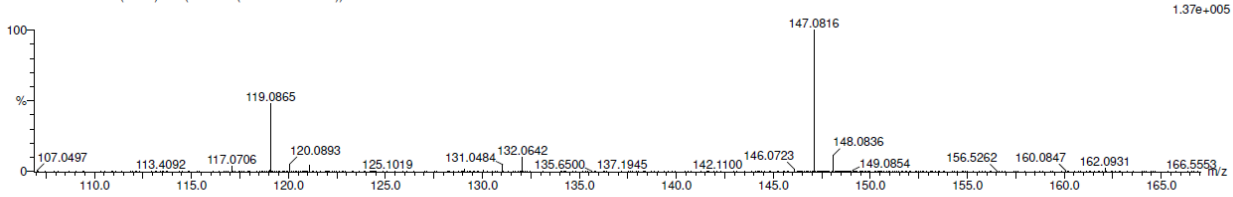
Elemental Composition Report Page 1



Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
23 formula(e) evaluated with 12 results within limits (up to 25 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10
5
251211YAO02-3 280 (2.735) Cm (274:281-(257:265+321:329))

1: TOF MS ES+
1.37e+005

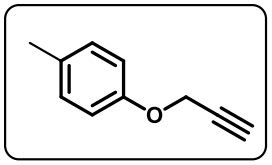


Minimum:	80.00				-10.0
Maximum:	100.00		10.0	500.0	100.0

Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
147.0816	100.00	147.0810	0.6	4.1	5.5	C10 H11 O
		147.0869	-5.3	-36.0	-3.5	C3 H15 O6
		147.0657	15.9	108.1	1.5	C6 H11 O4
		147.1021	-20.5	-139.4	0.5	C7 H15 O3
		147.0505	31.1	211.4	-2.5	C2 H11 O7
		147.0446	37.0	251.6	6.5	C9 H7 O2
		147.1232	-41.6	-282.8	-4.5	C4 H19 O5
		147.0293	52.3	355.6	2.5	C5 H7 O5
		147.1385	-56.9	-386.9	-0.5	C8 H19 O2
		147.1444	-62.8	-427.0	-9.5	C H23 O7
		147.0141	67.5	458.9	-1.5	C H7 O8
		147.0082	73.4	499.0	7.5	C8 H3 O3

HRMS of 1f

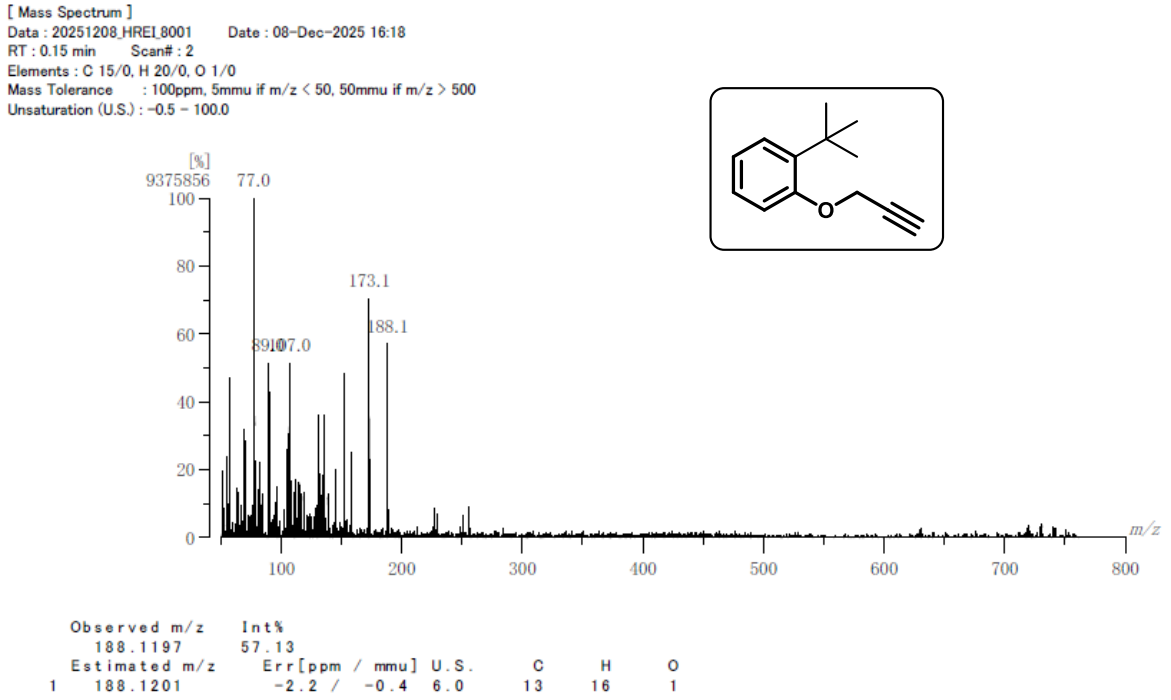
[Mass Spectrum]
Data : 20251208_HREI_6001 Date : 08-Dec-2025 16:03
RT : 0.75 min Scan# : 6
Elements : C 10/0, H 10/0, O 1/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



Observed m/z	Int%
146.0729	100.00

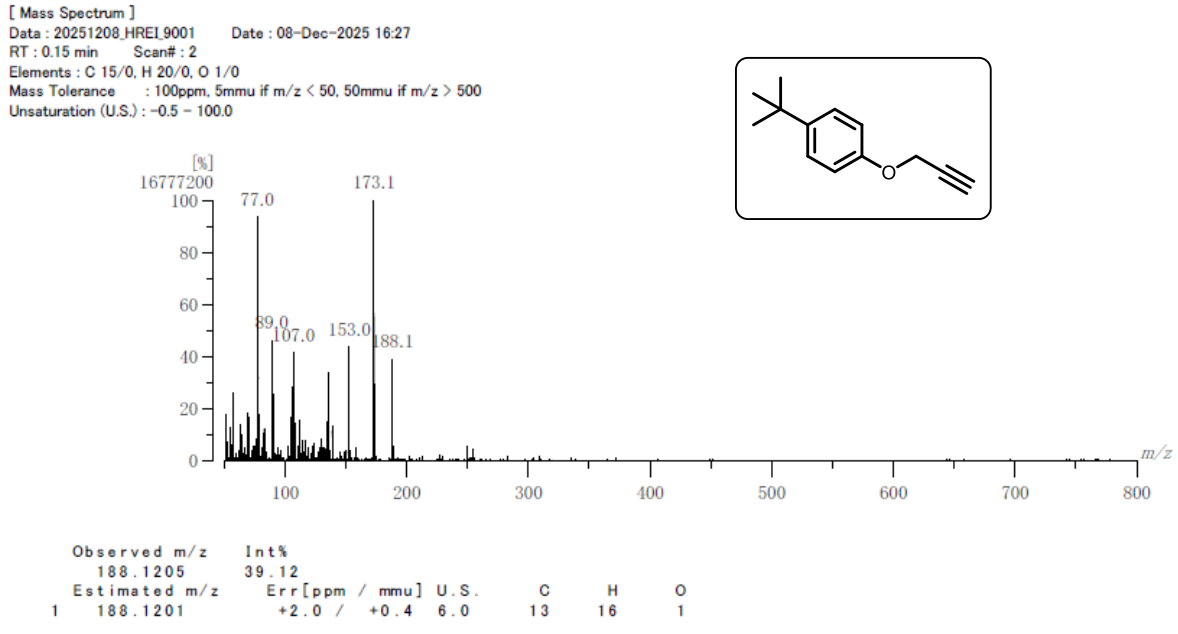
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O
1	146.0732	-1.8 / -0.3	6.0	10	10	1

HRMS of 1g



Observed m/z	Int%					
188.1197	57.13					
Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O	
1 188.1201	-2.2 / -0.4	6.0	13	16	1	

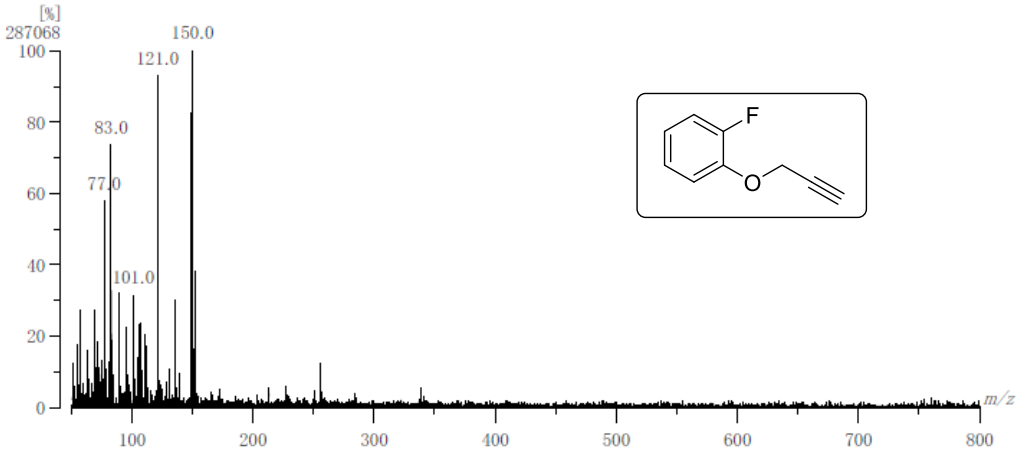
HRMS of 1h



Observed m/z	Int%					
188.1205	39.12					
Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O	
1 188.1201	+2.0 / +0.4	6.0	13	16	1	

HRMS of 1i

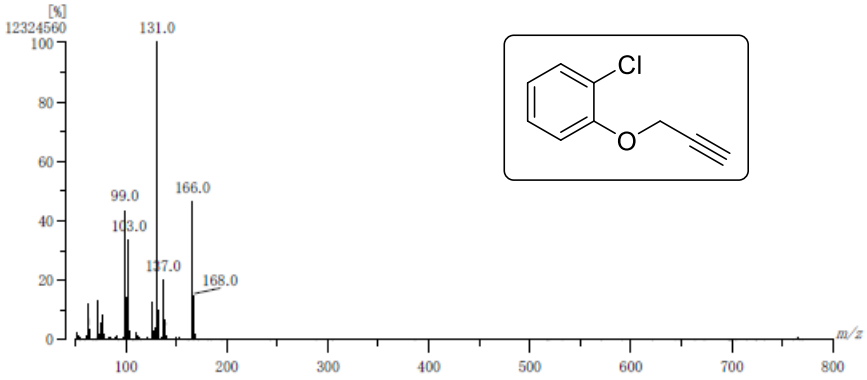
[Mass Spectrum]
Data : 20251209_HREI_13001 Date : 09-Dec-2025 11:34
RT : 1.34 min Scan# : 10
Elements : C 10/0, H 10/0, F 1/0, O 1/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



	Observed m/z	Int%						
	150.0486	100.00						
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	F	O	
1	150.0481	+3.4 / +0.5	6.0	9	7	1	1	

HRMS of 1j

[Mass Spectrum]
Data : 20251209_HREI_16001 Date : 09-Dec-2025 13:19
RT : 0.00 min Scan# : 1
Elements : C 10/0, H 10/0, 35Cl 1/0, 37Cl 1/0, O 1/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0

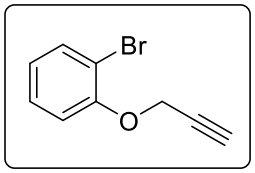


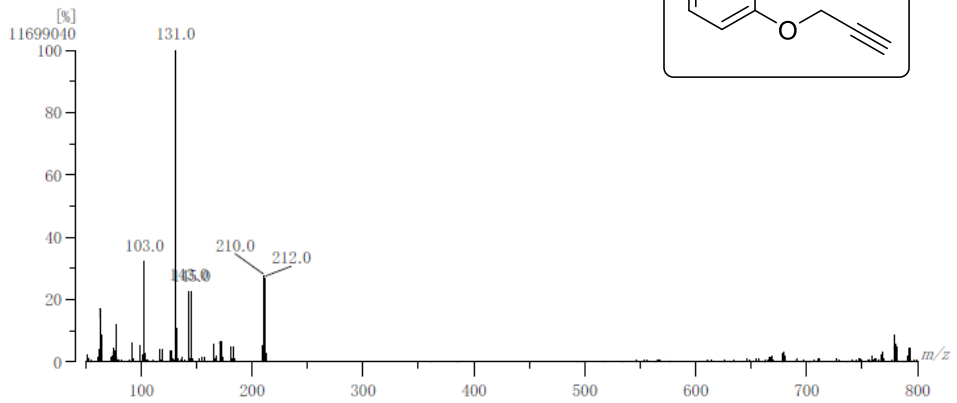
	Observed m/z	Int%							
	166.0179	46.17							
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	35Cl	37Cl	O	
1	166.0130	+29.5 / +4.9	2.0	7	10	1	1	-	
2	166.0185	-3.9 / -0.6	6.0	9	7	1	-	1	

	Observed m/z	Int%							
	168.0167	14.92							
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	35Cl	37Cl	O	
3	168.0156	+6.6 / +1.1	6.0	9	7	-	1	1	

HRMS of 1k

[Mass Spectrum]
Data : 20251209_HREI_19001 Date : 09-Dec-2025 13:49
RT : 0.00 min Scan# : 1
Elements : C 10/0, H 10/0, 79Br 1/0, 81Br 1/0, O 1/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0





	Observed m/z	Int%							
	209.9677	27.69							
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	79Br	81Br	O	
1	209.9867	-90.6 / -19.0	6.0	10	9	-	1	-	
2	209.9680	-1.6 / -0.3	6.0	9	7	1	-	1	
3	209.9503	+82.7 / +17.4	7.0	9	5	-	1	1	

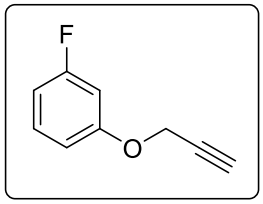
	Observed m/z	Int%							
	211.9669	26.89							
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	79Br	81Br	O	
4	211.9837	-79.1 / -16.8	5.0	9	9	1	-	1	
5	211.9660	+4.3 / +0.9	6.0	9	7	-	1	1	

HRMS of 1m

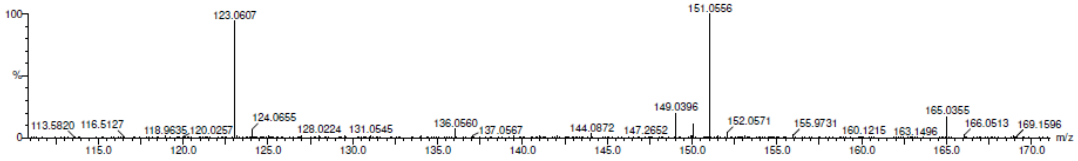
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
47 formula(e) evaluated with 26 results within limits (up to 25 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 F: 1-3



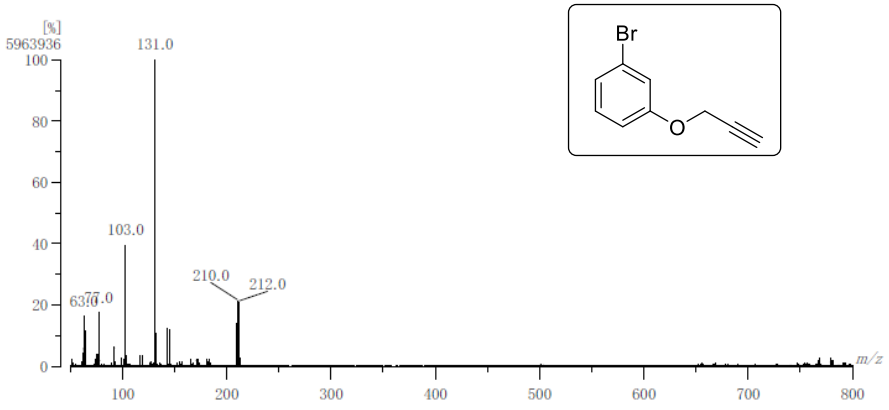
14
251211YAO06-3 263 (2.569) Cm (253:263-(227:236+306:315))
1: TOF MS ES+
1.87e+004



	Minimum:		-10.0		
	Maximum:	10.0	500.0	100.0	
Mass	Calc. Mass	mDa	PPM	DBE	Formula
151.0556	151.0559	-0.3	-2.0	5.5	C9 H8 O F
	151.0571	-1.5	-9.9	1.5	C6 H9 O2 F2
	151.0582	-2.6	-17.2	-2.5	C3 H10 O3 F3
	151.0618	-6.2	-41.0	-3.5	C2 H12 O6 F
	151.0418	13.8	91.4	-2.5	C2 H9 O5 F2
	151.0407	14.9	98.6	1.5	C5 H8 O4 F
	151.0371	18.5	122.5	2.5	C6 H6 O F3
	151.0770	-21.4	-141.7	0.5	C6 H12 O3 F
	151.0782	-22.6	-149.6	-3.5	C3 H13 O4 F2
	151.0254	30.2	199.9	-2.5	C H8 O7 F
	151.0218	33.8	223.8	-1.5	C2 H6 O4 F3
	151.0207	34.9	231.0	2.5	C5 H5 O3 F2
	151.0195	36.1	239.0	6.5	C8 H4 O2 F
	151.0934	-37.8	-250.2	0.5	C7 H13 O F2
	151.0946	-39.0	-258.2	-3.5	C4 H14 O2 F3
	151.0982	-42.6	-282.0	-4.5	C3 H16 O5 F
	151.0054	50.2	332.3	-1.5	C H5 O6 F2
	151.0043	51.3	339.6	2.5	C4 H4 O5 F
	151.0007	54.9	363.4	3.5	C5 H2 O2 F3
	150.9995	56.1	371.4	7.5	C8 H O F2
	151.1134	-57.8	-382.6	-0.5	C7 H16 O2 F
	151.1146	-59.0	-390.6	-4.5	C4 H17 O3 F2
	151.1157	-60.1	-397.9	-8.5	C H18 O4 F3
	150.9854	70.2	464.7	-0.5	C H2 O5 F3
	150.9843	71.3	472.0	3.5	C4 H O4 F2

HRMS of 1o

[Mass Spectrum]
Data : 20251209_HREI_20001 Date : 09-Dec-2025 13:55
RT : 0.00 min Scan# : 1
Elements : C 10/0, H 10/0, 79Br 1/0, 81Br 1/0, O 1/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



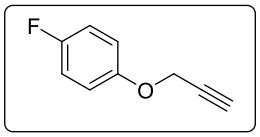
	Observed m/z	Int%							
	209.9681	21.21							
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	79Br	81Br	O	
1	209.9867	-88.7 / -18.6	6.0	10	9	-	1	-	
2	209.9680	+0.4 / +0.1	6.0	9	7	1	-	1	
3	209.9503	+84.6 / +17.8	7.0	9	5	-	1	1	
	Observed m/z	Int%							
	211.9671	20.78							
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	79Br	81Br	O	
4	211.9837	-78.2 / -16.6	5.0	9	9	1	-	1	
5	211.9660	+5.3 / +1.1	6.0	9	7	-	1	1	

HRMS of 1p

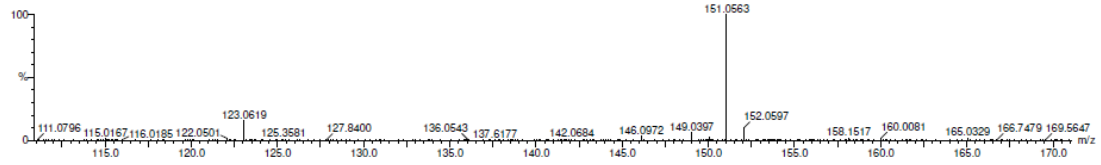
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
47 formula(e) evaluated with 26 results within limits (up to 25 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 F: 1-3



15
251211YAC07 251 (2.446) Cm (250:258-(225:235+305:315))
1: TOF MS ES+
2.96e+004

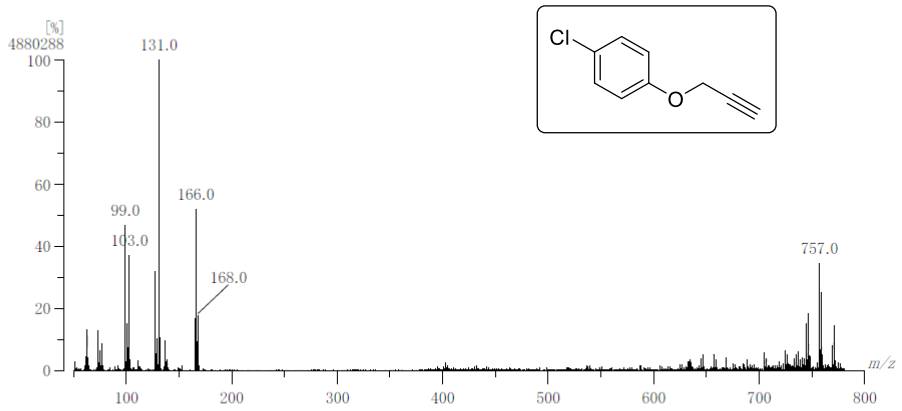


Minimum: 80.00
Maximum: 100.00 10.0 500.0 -10.0 100.0

Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
151.0563	100.00	151.0559	0.4	2.6	5.5	C9 H8 O F
		151.0571	-0.8	-5.3	1.5	C6 H9 O2 F2
		151.0582	-1.9	-12.6	-2.5	C3 H10 O3 F3
		151.0618	-5.5	-36.4	-3.5	C2 H12 O6 F
		151.0418	14.5	96.0	-2.5	C2 H9 O5 F2
		151.0407	15.6	103.3	1.5	C5 H8 O4 F
		151.0371	19.2	127.1	2.5	C6 H6 O F3
		151.0770	-20.7	-137.0	0.5	C6 H12 O3 F
		151.0782	-21.9	-145.0	-3.5	C3 H13 O4 F2
		151.0254	30.9	204.6	-2.5	C H8 O7 F
		151.0218	34.5	228.4	-1.5	C2 H6 O4 F3
		151.0207	35.6	235.7	2.5	C5 H5 O3 F2
		151.0195	36.8	243.6	6.5	C8 H4 O2 F
		151.0934	-37.1	-245.6	0.5	C7 H13 O F2
		151.0946	-38.3	-253.5	-3.5	C4 H14 O2 F3
		151.0982	-41.9	-277.4	-4.5	C3 H16 O5 F
		151.0054	50.9	337.0	-1.5	C H5 O6 F2
		151.0043	52.0	344.2	2.5	C4 H4 O5 F
		151.0007	55.6	368.1	3.5	C5 H2 O2 F3
		150.9995	56.8	376.0	7.5	C8 H O F2
		151.1134	-57.1	-378.0	-0.5	C7 H16 O2 F
		151.1146	-58.3	-385.9	-4.5	C4 H17 O3 F2
		151.1157	-59.4	-393.2	-8.5	C H18 O4 F3
		150.9854	70.9	469.4	-0.5	C H2 O5 F3
		150.9843	72.0	476.6	3.5	C4 H O4 F2

HRMS of 1q

[Mass Spectrum]
Data : 20251209_HREI_18001 Date : 09-Dec-2025 13:41
RT : 0.00 min Scan# : 1
Elements : C 10/0, H 10/0, 35Cl 1/0, 37Cl 1/0, O 1/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0

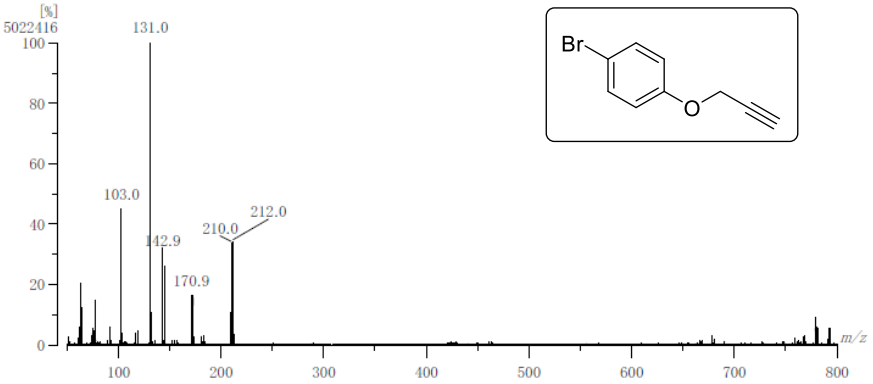


	Observed m/z	Int%							
	166.0178	51.80							
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	35Cl	37Cl	O	
1	166.0130	+28.9 / +4.8	2.0	7	10	1	1	-	
2	166.0185	-4.5 / -0.7	6.0	9	7	1	-	1	

	Observed m/z	Int%							
	168.0165	17.83							
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	35Cl	37Cl	O	
3	168.0156	+5.4 / +0.9	6.0	9	7	-	1	1	

HRMS of 1r

[Mass Spectrum]
Data : 20251209_HREI_21001 Date : 09-Dec-2025 14:22
RT : 0.00 min Scan# : 1
Elements : C 10/0, H 10/0, 79Br 1/0, 81Br 1/0, O 1/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



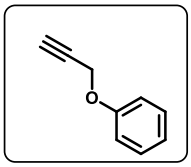
	Observed m/z	Int%						
	209.9677	33.70						
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	79Br	81Br	O
1	209.9867	-90.6 / -19.0	6.0	10	9	-	1	-
2	209.9680	-1.6 / -0.3	6.0	9	7	1	-	1
3	209.9503	+82.7 / +17.4	7.0	9	5	-	1	1

	Observed m/z	Int%						
	211.9668	34.29						
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	79Br	81Br	O
4	211.9837	-79.6 / -16.9	5.0	9	9	1	-	1
5	211.9660	+3.9 / +0.8	6.0	9	7	-	1	1

HRMS of 1s

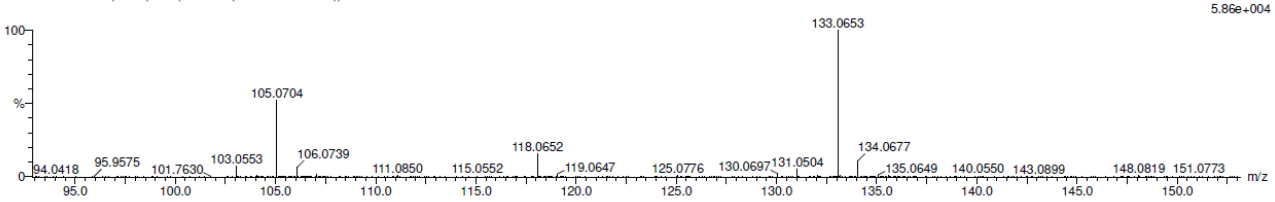
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3



Monoisotopic Mass, Even Electron Ions
21 formula(e) evaluated with 9 results within limits (up to 25 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10
7
251211YAO03 264 (2.578) Cm (260:269-(240:248+309:318))

1: TOF MS ES+
5.86e+004

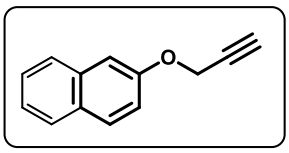


Minimum:	80.00				-10.0	
Maximum:	100.00		10.0	500.0	100.0	
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
133.0653	100.00	133.0653	0.0	0.0	5.5	C9 H9 O
		133.0712	-5.9	-44.3	-3.5	C2 H13 O6
		133.0501	15.2	114.2	1.5	C5 H9 O4
		133.0865	-21.2	-159.3	0.5	C6 H13 O3
		133.0348	30.5	229.2	-2.5	C H9 O7
		133.0290	36.3	272.8	6.5	C8 H5 O2
		133.1076	-42.3	-317.9	-4.5	C3 H17 O5
		133.0137	51.6	387.8	2.5	C4 H5 O5
		133.1229	-57.6	-432.9	-0.5	C7 H17 O2

HRMS of 1t

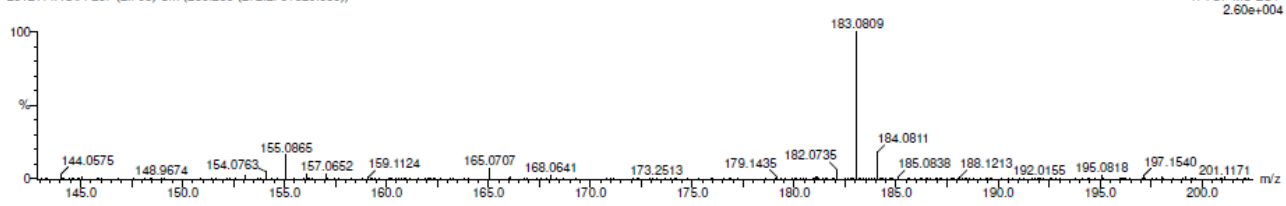
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3



Monoisotopic Mass, Even Electron Ions
31 formula(e) evaluated with 17 results within limits (up to 25 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10
10
251211YAO04 287 (2.795) Cm (285:288-(272:278+329:335))

1: TOF MS ES+
2.60e+004

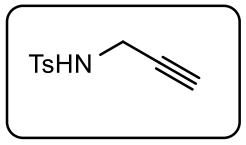


Minimum:	80.00				-10.0	
Maximum:	100.00		10.0	500.0	100.0	
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
183.0809	100.00	183.0810	-0.1	-0.5	8.5	C13 H11 O
		183.0869	-6.0	-32.8	-0.5	C6 H15 O6
		183.0716	9.3	50.8	-4.5	C2 H15 O9
		183.0657	15.2	83.0	4.5	C9 H11 O4
		183.1021	-21.2	-115.8	3.5	C10 H15 O3
		183.1080	-27.1	-148.0	-5.5	C3 H19 O8
		183.0505	30.4	166.0	0.5	C5 H11 O7
		183.0446	36.3	198.3	9.5	C12 H7 O2
		183.1232	-42.3	-231.0	-1.5	C7 H19 O5
		183.0352	45.7	249.6	-3.5	C H11 O10
		183.0293	51.6	281.8	5.5	C8 H7 O5
		183.1385	-57.6	-314.6	2.5	C11 H19 O2
		183.1444	-63.5	-346.8	-6.5	C4 H23 O7
		183.0141	66.8	364.9	1.5	C4 H7 O8
		183.0082	72.7	397.1	10.5	C11 H3 O3
		183.1596	-78.7	-429.9	-2.5	C8 H23 O4
		182.9930	87.9	480.1	6.5	C7 H3 O6

HRMS of 1x

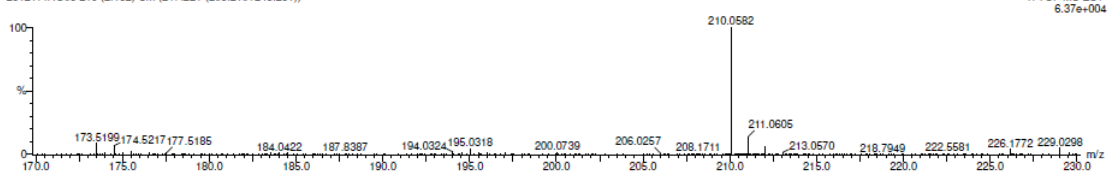
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3



Monoisotopic Mass, Even Electron Ions
264 formula(e) evaluated with 92 results within limits (up to 25 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 N: 1-10 O: 1-10 S: 1-3
11
251211YAO05 219 (2.152) Cm (217:221-(203:210+243:251))

1: TOF MS ES+
6.37e+004

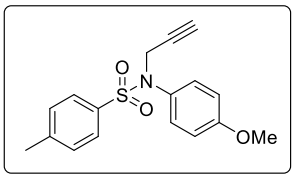


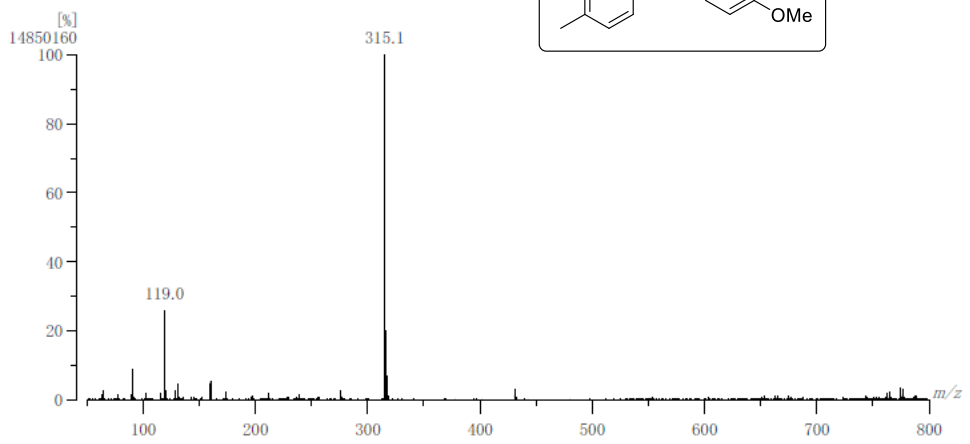
Minimum:	80.00			-10.0	
Maximum:	100.00		10.0	500.0	100.0

Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
210.0582	100.00	210.0589	-0.7	-3.3	5.5	C10 H12 N O2 S
		210.0470	11.2	53.3	-3.5	C3 H16 N O5 S2
		210.0622	-4.0	-19.0	0.5	C7 H16 N O2 S2
		210.0800	-21.8	-103.8	0.5	C7 H16 N O4 S
		210.0436	14.6	69.5	1.5	C6 H12 N O5 S
		210.0647	-6.5	-30.9	-3.5	C3 H16 N O7 S
		210.0656	-7.4	-35.2	-4.5	C4 H20 N O2 S3
		210.0768	-18.6	-88.5	-4.5	C3 H20 N3 O S3
		210.0396	18.6	88.5	-2.5	C H12 N3 O7 S
		210.0549	3.3	15.7	1.5	C5 H12 N3 O4 S
		210.0760	-17.8	-84.7	-3.5	C2 H16 N3 O6 S
		210.0701	-11.9	-56.7	5.5	C9 H12 N3 O S
		210.0405	17.7	84.3	-3.5	C2 H16 N3 O2 S3
		210.0337	24.5	116.6	6.5	C8 H8 N3 O2 S
		210.0371	21.1	100.4	1.5	C5 H12 N3 O2 S2
		210.0735	-15.3	-72.8	0.5	C6 H16 N3 O S2
		210.0582	0.0	0.0	-3.5	C2 H16 N3 O4 S2
		210.0661	-7.9	-37.6	1.5	C4 H12 N5 O3 S
		210.0695	-11.3	-53.8	-3.5	C H16 N5 O3 S2
		210.0450	13.2	62.8	6.5	C7 H8 N5 O S
		210.0517	6.5	30.9	-3.5	C H16 N5 O S3
		210.0483	9.9	47.1	1.5	C4 H12 N5 O S2
		210.0773	-19.1	-90.9	1.5	C3 H12 N7 O2 S
		210.0409	17.3	82.4	2.5	C2 H8 N7 O3 S
		210.0522	6.0	28.6	2.5	C H8 N9 O2 S

HRMS of 1y

[Mass Spectrum]
Data : 20251209_HREI_23001 Date : 09-Dec-2025 14:37
RT : 0.15 min Scan# : 2
Elements : C 20/0, H 20/0, N 1/0, O 3/0, S 1/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



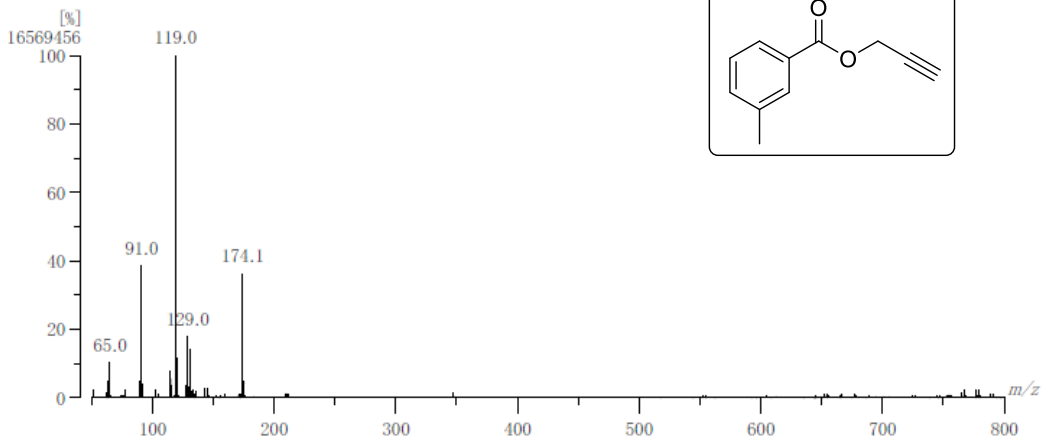


Observed m/z Int%
315.0926 100.00

	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	N	O	S
1	315.0895	+9.7 / +3.1	15.0	20	13	1	3	-
2	315.0718	+66.1 / +20.8	16.0	20	13	1	1	1
3	315.1055	-40.9 / -12.9	10.5	18	19	-	3	1
4	315.0929	-1.0 / -0.3	11.0	17	17	1	3	1

HRMS of 1z

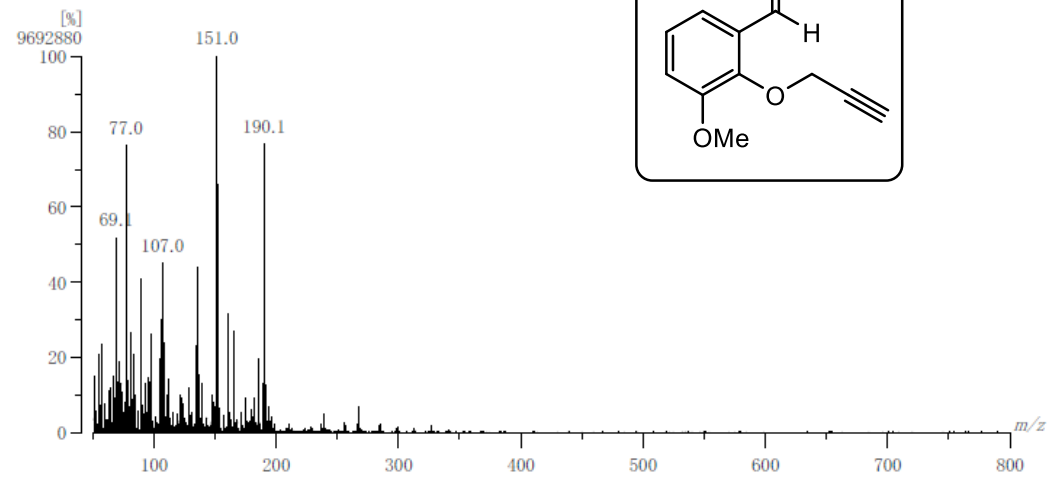
[Mass Spectrum]
Data : 20251209_HREI_22001 Date : 09-Dec-2025 14:30
RT : 0.00 min Scan# : 1
Elements : C 15/0, H 15/0, O 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



	Observed m/z	Int%				
	174.0675	36.29				
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O
1	174.0681	-3.3 / -0.6	7.0	11	10	2

HRMS of 1aa

[Mass Spectrum]
Data : 20251209_HREI_12001 Date : 09-Dec-2025 11:25
RT : 0.30 min Scan# : 3
Elements : C 15/0, H 10/0, O 3/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



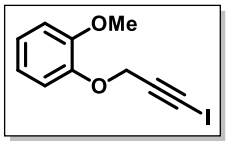
	Observed m/z	Int%				
	190.0630	76.79				
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O
1	190.0783	-80.2 / -15.3	11.0	15	10	-
2	190.0630	+0.0 / +0.0	7.0	11	10	3

HRMS of 2a

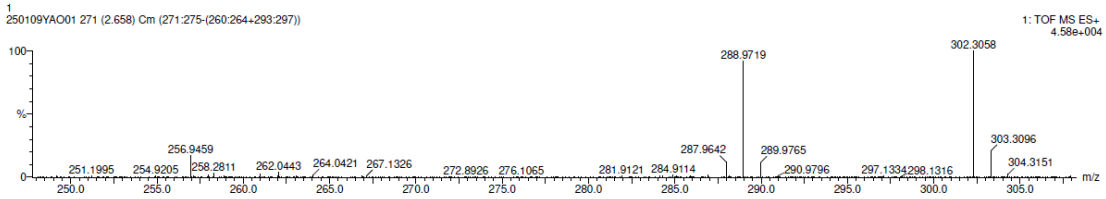
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
29 formula(e) evaluated with 20 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 I: 1-3



1
250109YAO01 271 (2.658) Cm (271:275-(260:264+293:297))



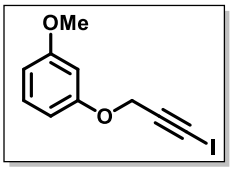
Minimum:			-10.0		
Maximum:		10.0	500.0	100.0	
Mass	Calc. Mass	mDa	PPM	DBE	Formula
288.9719	288.9725	-0.6	-2.1	5.5	C10 H10 O2 I
	288.9784	-6.5	-22.5	-3.5	C3 H14 O7 I
	288.9573	14.6	50.5	1.5	C6 H10 O5 I
	288.9937	-21.8	-75.4	0.5	C7 H14 O4 I
	288.9420	29.9	103.5	-2.5	C2 H10 O8 I
	288.9362	35.7	123.5	6.5	C9 H6 O3 I
	289.0089	-37.0	-128.0	4.5	C11 H14 O I
	289.0148	-42.9	-148.5	-4.5	C4 H18 O6 I
	288.9209	51.0	176.5	2.5	C5 H6 O6 I
	288.9150	56.9	196.9	11.5	C12 H2 O I
	289.0301	-58.2	-201.4	-0.5	C8 H18 O3 I
	289.0359	-64.0	-221.5	-9.5	C H22 O8 I
	288.9056	66.3	229.4	-1.5	C H6 O9 I
	288.8998	72.1	249.5	7.5	C8 H2 O4 I
	289.0512	-79.3	-274.4	-5.5	C5 H22 O5 I
	288.8845	87.4	302.5	3.5	C4 H2 O7 I
	289.0664	-94.5	-327.0	-1.5	C9 H22 O2 I
	288.8586	113.3	392.1	-2.5	C H7 O 12
	289.0876	-115.7	-400.4	-6.5	C6 H26 O4 I
	289.1028	-130.9	-453.0	-2.5	C10 H26 O I

HRMS of 2b

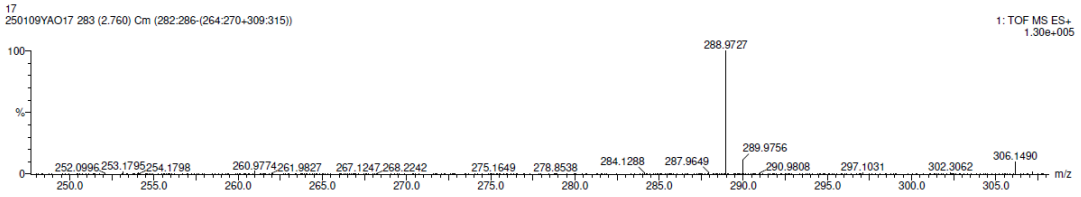
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
29 formula(e) evaluated with 20 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 I: 1-3

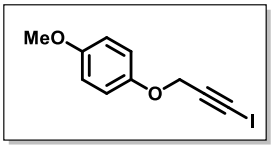


17
250109YAO17 283 (2.760) Cm (282:286-(264:270+309:315))



Minimum:	80.00				-10.0	
Maximum:	100.00		10.0	500.0	100.0	
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
288.9727	100.00	288.9725	0.2	0.7	5.5	C10 H10 O2 I
		288.9784	-5.7	-19.7	-3.5	C3 H14 O7 I
		288.9573	15.4	53.3	1.5	C6 H10 O5 I
		288.9937	-21.0	-72.7	0.5	C7 H14 O4 I
		288.9420	30.7	106.2	-2.5	C2 H10 O8 I
		289.0089	-36.2	-125.3	4.5	C11 H14 O I
		288.9362	36.5	126.3	6.5	C9 H6 O3 I
		289.0148	-42.1	-145.7	-4.5	C4 H18 O6 I
		288.9209	51.8	179.3	2.5	C5 H6 O6 I
		289.0301	-57.4	-198.6	-0.5	C8 H18 O3 I
		288.9150	57.7	199.7	11.5	C12 H2 O I
		289.0359	-63.2	-218.7	-9.5	C H22 O8 I
		288.9056	67.1	232.2	-1.5	C H6 O9 I
		288.8998	72.9	252.3	7.5	C8 H2 O4 I
		289.0512	-78.5	-271.7	-5.5	C5 H22 O5 I
		288.8845	88.2	305.2	3.5	C4 H2 O7 I
		289.0664	-93.7	-324.3	-1.5	C9 H22 O2 I
		288.8586	114.1	394.8	-2.5	C H7 O 12
		289.0876	-114.9	-397.6	-6.5	C6 H26 O4 I
		289.1028	-130.1	-450.2	-2.5	C10 H26 O I

HRMS of 2c

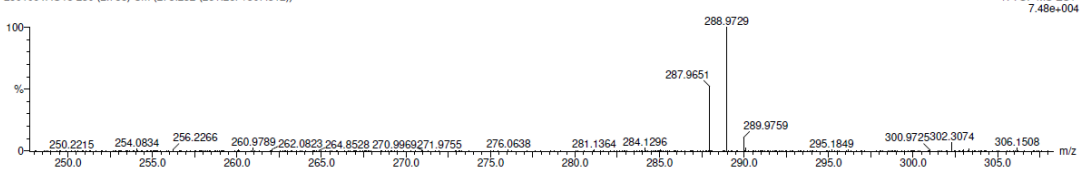


Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

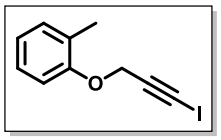
Monoisotopic Mass, Even Electron Ions
29 formula(e) evaluated with 20 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 I: 1-3

18
250109YAO18 280 (2.735) Cm (278:282-(261:267+307:312)) 1: TOF MS ES+ 7.48e+004



Minimum:	80.00				-10.0	
Maximum:	100.00		10.0	500.0	100.0	
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
288.9729	100.00	288.9725	0.4	1.4	5.5	C10 H10 O2 I
		288.9784	-5.5	-19.0	-3.5	C3 H14 O7 I
		288.9573	15.6	54.0	1.5	C6 H10 O5 I
		288.9937	-20.8	-72.0	0.5	C7 H14 O4 I
		288.9420	30.9	106.9	-2.5	C2 H10 O8 I
		289.0089	-36.0	-124.6	4.5	C11 H14 O I
		288.9362	36.7	127.0	6.5	C9 H6 O3 I
		289.0148	-41.9	-145.0	-4.5	C4 H18 O6 I
		288.9209	52.0	179.9	2.5	C5 H6 O6 I
		289.0301	-57.2	-197.9	-0.5	C8 H18 O3 I
		288.9150	57.9	200.4	11.5	C12 H2 O I
		289.0359	-63.0	-218.0	-9.5	C H22 O8 I
		288.9056	67.3	232.9	-1.5	C H6 O9 I
		288.8998	73.1	253.0	7.5	C8 H2 O4 I
		289.0512	-78.3	-271.0	-5.5	C5 H22 O5 I
		288.8845	88.4	305.9	3.5	C4 H2 O7 I
		289.0664	-93.5	-323.6	-1.5	C9 H22 O2 I
		288.8586	114.3	395.5	-2.5	C H7 O 12
		289.0876	-114.7	-396.9	-6.5	C6 H26 O4 I
		289.1028	-129.9	-449.5	-2.5	C10 H26 O I

HRMS of 2d

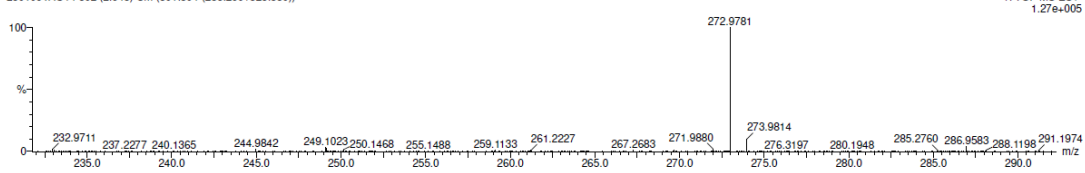


Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

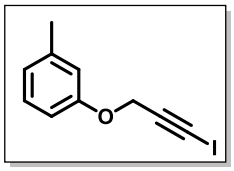
Monoisotopic Mass, Even Electron Ions
24 formula(e) evaluated with 16 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 I: 1-3

14
250109YAO14 302 (2.943) Cm (301:304-(285:290+325:330)) 1: TOF MS ES+ 1.27e+005



Minimum:	80.00				-10.0	
Maximum:	100.00		10.0	500.0	100.0	
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
272.9781	100.00	272.9776	0.5	1.8	5.5	C10 H10 O I
		272.9835	-5.4	-19.8	-3.5	C3 H14 O6 I
		272.9624	15.7	57.5	1.5	C6 H10 O4 I
		272.9988	-20.7	-75.8	0.5	C7 H14 O3 I
		272.9471	31.0	113.6	-2.5	C2 H10 O7 I
		272.9412	36.9	135.2	6.5	C9 H6 O2 I
		273.0199	-41.8	-153.1	-4.5	C4 H18 O5 I
		272.9260	52.1	190.9	2.5	C5 H6 O5 I
		273.0351	-57.0	-208.8	-0.5	C8 H18 O2 I
		273.0410	-62.9	-230.4	-9.5	C H22 O7 I
		272.9107	67.4	246.9	-1.5	C H6 O8 I
		272.9049	73.2	268.2	7.5	C8 H2 O3 I
		273.0563	-78.2	-286.5	-5.5	C5 H22 O4 I
		272.8896	88.5	324.2	3.5	C4 H2 O6 I
		273.0715	-93.4	-342.2	-1.5	C9 H22 O I
		273.0927	-114.6	-419.8	-6.5	C6 H26 O3 I

HRMS of 2e

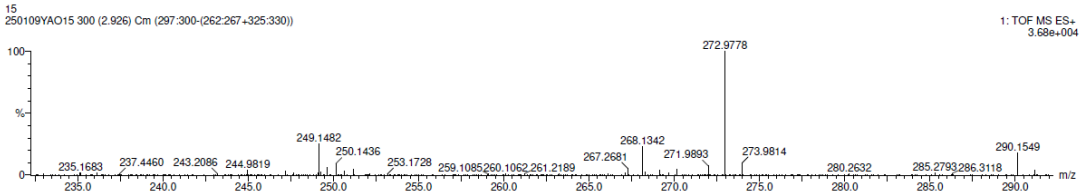


Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

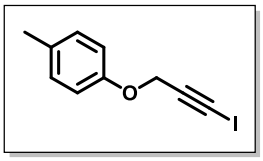
Monoisotopic Mass, Even Electron Ions
24 formula(e) evaluated with 16 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 I: 1-3

15
250109YAO15 300 (2.926) Cm (297:300-(262:267+325:330))



Minimum:	80.00			-10.0		
Maximum:	100.00		10.0	500.0	100.0	
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
272.9778	100.00	272.9776	0.2	0.7	5.5	C10 H10 O I
		272.9835	-5.7	-20.9	-3.5	C3 H14 O6 I
		272.9624	15.4	56.4	1.5	C6 H10 O4 I
		272.9988	-21.0	-76.9	0.5	C7 H14 O3 I
		272.9471	30.7	112.5	-2.5	C2 H10 O7 I
		272.9412	36.6	134.1	6.5	C9 H6 O2 I
		273.0199	-42.1	-154.2	-4.5	C4 H18 O5 I
		272.9260	51.8	189.8	2.5	C5 H6 O5 I
		273.0351	-57.3	-209.9	-0.5	C8 H18 O2 I
		273.0410	-63.2	-231.5	-9.5	C H22 O7 I
		272.9107	67.1	245.8	-1.5	C H6 O8 I
		272.9049	72.9	267.1	7.5	C8 H2 O3 I
		273.0563	-78.5	-287.6	-5.5	C5 H22 O4 I
		272.8896	88.2	323.1	3.5	C4 H2 O6 I
		273.0715	-93.7	-343.3	-1.5	C9 H22 O I
		273.0927	-114.9	-420.9	-6.5	C6 H26 O3 I

HRMS of 2f

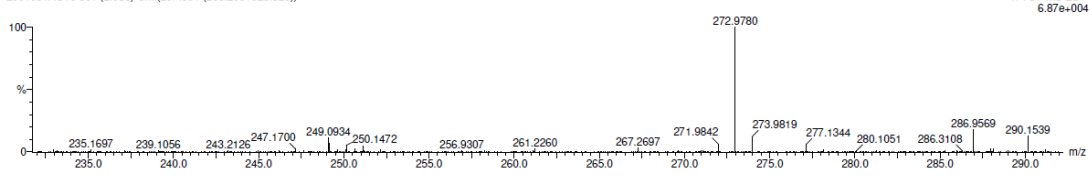


Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

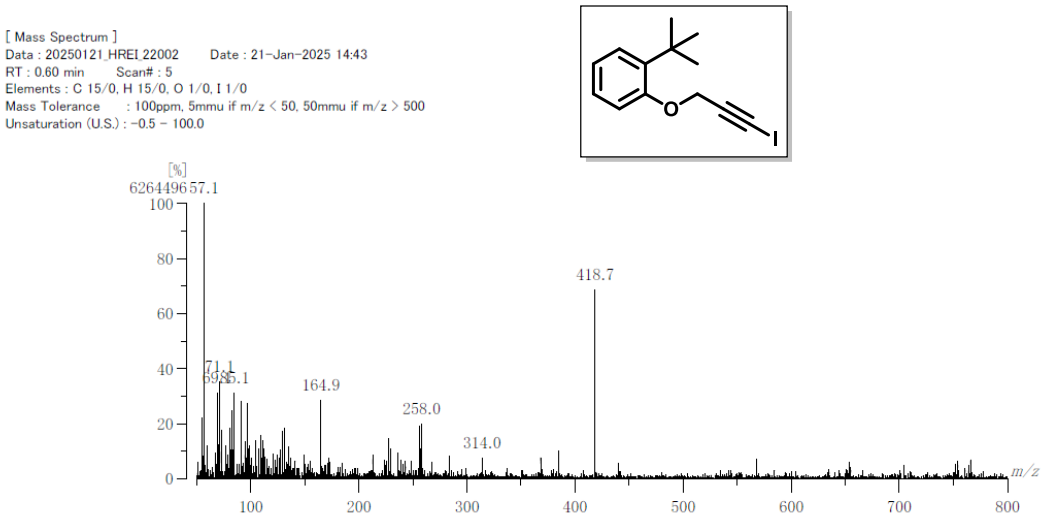
Monoisotopic Mass, Even Electron Ions
24 formula(e) evaluated with 16 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 I: 1-3

16
250109YAO16 301 (2.935) Cm (297:301-(285:290+325:328))



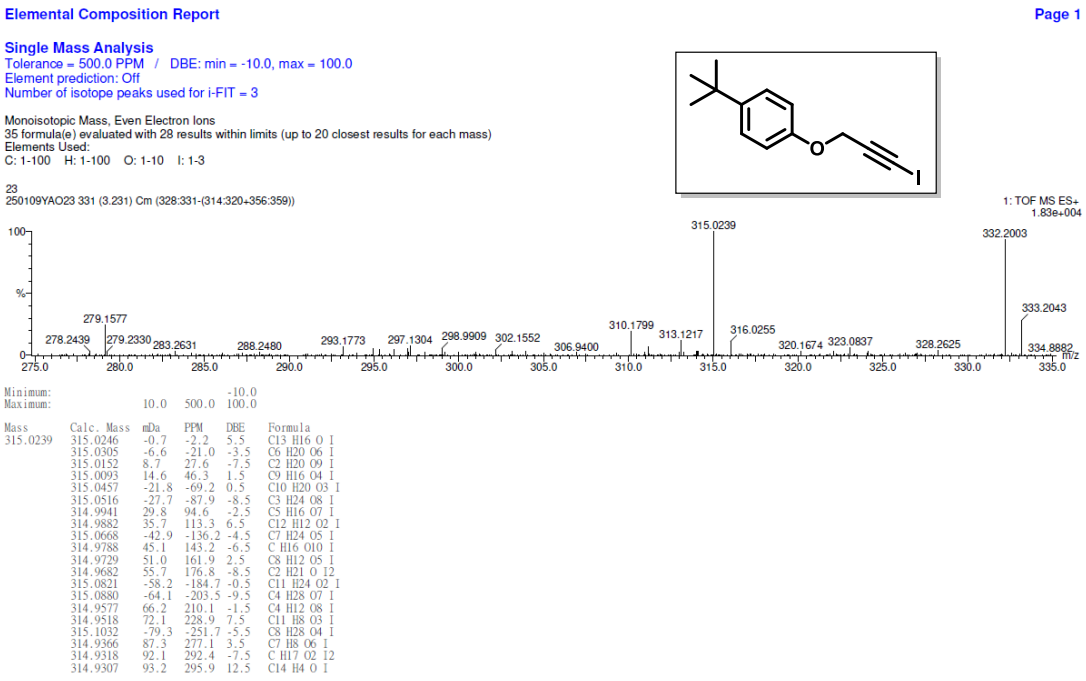
Minimum:	80.00			-10.0		
Maximum:	100.00		10.0	500.0	100.0	
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
272.9780	100.00	272.9776	0.4	1.5	5.5	C10 H10 O I
		272.9835	-5.5	-20.1	-3.5	C3 H14 O6 I
		272.9624	15.6	57.1	1.5	C6 H10 O4 I
		272.9988	-20.8	-76.2	0.5	C7 H14 O3 I
		272.9471	30.9	113.2	-2.5	C2 H10 O7 I
		272.9412	36.8	134.8	6.5	C9 H6 O2 I
		273.0199	-41.9	-153.5	-4.5	C4 H18 O5 I
		272.9260	52.0	190.5	2.5	C5 H6 O5 I
		273.0351	-57.1	-209.2	-0.5	C8 H18 O2 I
		273.0410	-63.0	-230.8	-9.5	C H22 O7 I
		272.9107	67.3	246.5	-1.5	C H6 O8 I
		272.9049	73.1	267.8	7.5	C8 H2 O3 I
		273.0563	-78.3	-286.8	-5.5	C5 H22 O4 I
		272.8896	88.4	323.8	3.5	C4 H2 O6 I
		273.0715	-93.5	-342.5	-1.5	C9 H22 O I
		273.0927	-114.7	-420.2	-6.5	C6 H26 O3 I

HRMS of 2g



	Observed m/z	Int%						
	314.0154	7.51						
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O	I	
1	314.0168	-4.4 / -1.4	6.0	13	15	1	1	

HRMS of 2h



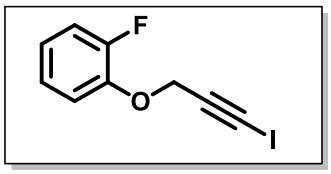
Minimum:			-10.0		
Maximum:		10.0	500.0	100.0	
Mass	Calc. Mass	mDa	PPM	DBE	Formula
315.0239	315.0246	-0.7	-2.2	5.5	C13 H16 O I
	315.0305	-6.6	-21.0	-3.5	C6 H20 O6 I
	315.0152	8.7	27.6	-7.5	C2 H20 O9 I
	315.0093	14.6	46.3	1.5	C9 H16 O4 I
	315.0457	-21.8	-69.2	0.5	C10 H20 O3 I
	315.0516	-27.7	-87.9	-8.5	C3 H24 O8 I
	314.9941	29.8	94.6	-2.5	C5 H16 O7 I
	314.9882	35.7	113.3	6.5	C12 H12 O2 I
	315.0668	-42.9	-136.2	-4.5	C7 H24 O5 I
	314.9788	45.1	143.2	-6.5	C H16 O10 I
	314.9729	51.0	161.9	2.5	C8 H12 O5 I
	314.9682	55.7	176.8	-8.5	C2 H21 O I2
	315.0821	-58.2	-184.7	-0.5	C11 H24 O2 I
	315.0880	-64.1	-203.5	-9.5	C4 H28 O7 I
	314.9577	66.2	210.1	-1.5	C4 H12 O8 I
	314.9518	72.1	228.9	7.5	C11 H8 O3 I
	315.1032	-79.3	-251.7	-5.5	C8 H28 O4 I
	314.9366	87.3	277.1	3.5	C7 H8 O6 I
	314.9318	92.1	292.4	-7.5	C H17 O2 I2
	314.9307	93.2	295.9	12.5	C14 H4 O I

HRMS of 2i

Elemental Composition Report Page 1

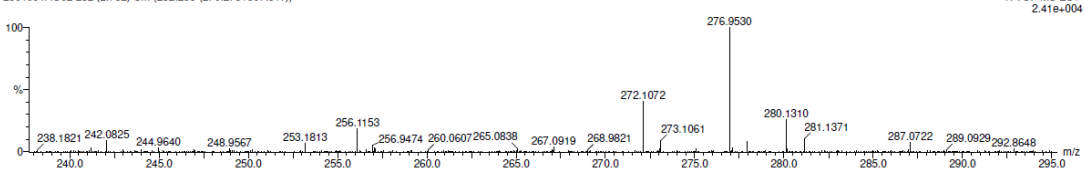
Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
45 formula(e) evaluated with 31 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 F: 1-3 I: 1-3



2
250109YAO02 282 (2.752) Cm (282:285-(270:273+307:311))

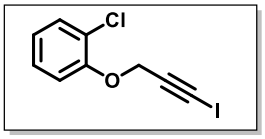
1: TOF MS ES+
2.41e+004

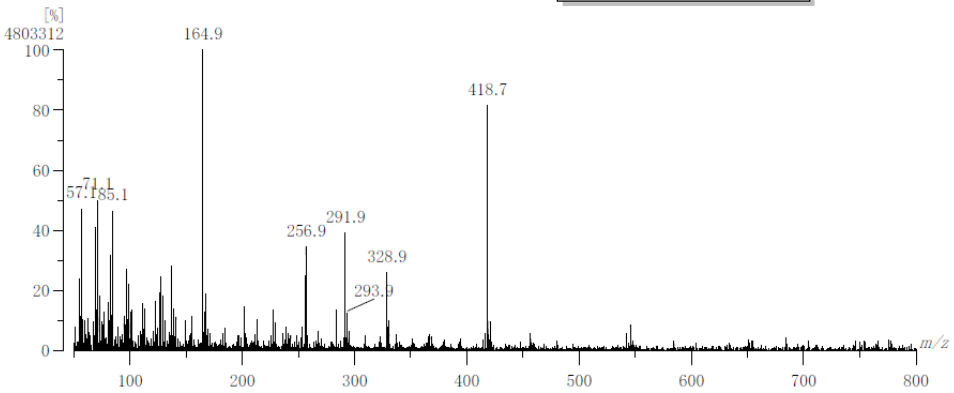


Minimum:	80.00				-10.0	
Maximum:	100.00		10.0	500.0	100.0	
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
276.9530	100.00	276.9526	0.4	1.4	5.5	C9 H7 O F I
		276.9537	-0.7	-2.5	1.5	C6 H8 O2 F2 I
		276.9548	-1.8	-6.5	-2.5	C3 H9 O3 F3 I
		276.9584	-5.4	-19.5	-3.5	C2 H11 O6 F I
		276.9384	14.6	52.7	-2.5	C2 H8 O5 F2 I
		276.9373	15.7	56.7	1.5	C5 H7 O4 F I
		276.9337	19.3	69.7	2.5	C6 H5 O F3 I
		276.9737	-20.7	-74.7	0.5	C6 H11 O3 F I
		276.9748	-21.8	-78.7	-3.5	C3 H12 O4 F2 I
		276.9220	31.0	111.9	-2.5	C H7 O7 F I
		276.9185	34.5	124.6	-1.5	C2 H5 O4 F3 I
		276.9173	35.7	128.9	2.5	C5 H4 O3 F2 I
		276.9162	36.8	132.9	6.5	C8 H3 O2 F I
		276.9901	-37.1	-134.0	0.5	C7 H12 O F2 I
		276.9912	-38.2	-137.9	-3.5	C4 H13 O2 F3 I
		276.9948	-41.8	-150.9	-4.5	C3 H15 O5 F I
		276.9021	50.9	183.8	-1.5	C H4 O6 F2 I
		276.9009	52.1	188.1	2.5	C4 H3 O5 F I
		276.8973	55.7	201.1	3.5	C5 H O2 F3 I
		277.0101	-57.1	-206.2	-0.5	C7 H15 O2 F I

HRMS of 2j

[Mass Spectrum]
Data : 20250121_HREI_3001 Date : 21-Jan-2025 14:29
RT : 0.45 min Scan# : 4
Elements : C 10/0, H 10/0, 35Cl 1/0, 37Cl 1/0, O 1/0, I 1/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0





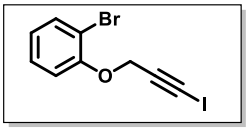
	Observed m/z	Int%							
	291.9144	39.15							
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	35Cl	37Cl	O	I
1	291.9330	-63.6 / -18.6	6.0	10	8	-	1	-	1
2	291.9097	+16.2 / +4.7	2.0	7	9	1	1	-	1
3	291.9152	-2.7 / -0.8	6.0	9	6	1	-	1	1
4	291.8966	+61.0 / +17.8	7.0	9	4	-	1	1	1

	Observed m/z	Int%							
	293.9089	12.50							
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	35Cl	37Cl	O	I
5	293.9308	-74.7 / -21.9	5.0	9	8	1	-	1	1
6	293.9122	-11.4 / -3.3	6.0	9	6	-	1	1	1
7	293.8889	+68.0 / +20.0	2.0	6	7	1	1	1	1

HRMS of 2k

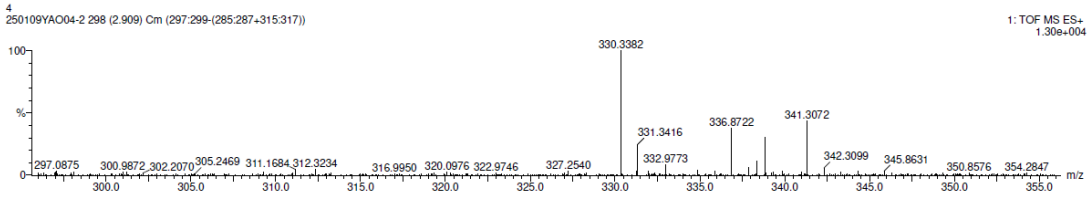
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3



Monoisotopic Mass, Even Electron Ions
23 formula(e) evaluated with 15 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 Br: 1-3 I: 1-3

4
250109YAO04-2 298 (2.909) Cm (297:299-(285:287+315:317))



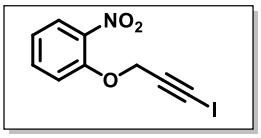
Minimum:			-10.0	
Maximum:		10.0	500.0	100.0

Mass	Calc. Mass	mDa	PPM	DBE	Formula
336.8722	336.8725	-0.3	-0.9	5.5	C9 H7 O Br I
	336.8784	-6.2	-18.4	-3.5	C2 H11 O6 Br I
	336.8572	15.0	44.5	1.5	C5 H7 O4 Br I
	336.8936	-21.4	-63.5	0.5	C6 H11 O3 Br I
	336.8420	30.2	89.6	-2.5	C H7 O7 Br I
	336.8361	36.1	107.2	6.5	C8 H3 O2 Br I
	336.8300	42.2	125.3	-4.5	C2 H12 O Br2 I
	336.9148	-42.6	-126.5	-4.5	C3 H15 O5 Br I
	336.8209	51.3	152.3	2.5	C4 H3 O5 Br I
	336.9300	-57.8	-171.6	-0.5	C7 H15 O2 Br I
	336.7936	78.6	233.3	-3.5	C H8 O2 Br2 I
	336.9511	-78.9	-234.2	-5.5	C4 H19 O4 Br I
	336.9664	-94.2	-279.6	-1.5	C8 H19 O Br I
	336.9875	-115.3	-342.3	-6.5	C5 H23 O3 Br I
	337.0239	-151.7	-450.3	-7.5	C6 H27 O2 Br I

HRMS of 2l

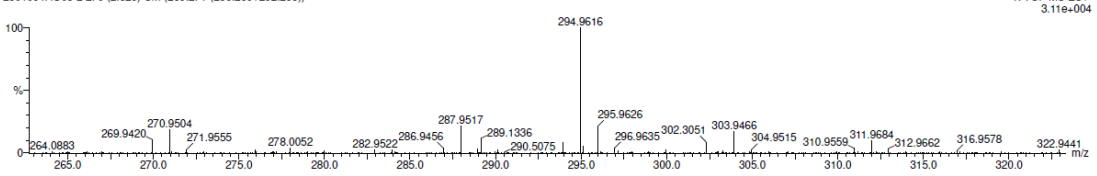
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3



Monoisotopic Mass, Even Electron Ions
144 formula(e) evaluated with 51 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 N: 1-10 O: 1-10 I: 1-3

5
250109YAO05-2 270 (2.629) Cm (269:271-(256:260+292:295))



Minimum:			-10.0	
Maximum:		10.0	500.0	100.0

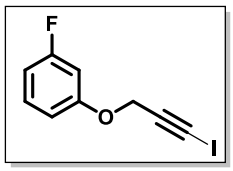
Mass	Calc. Mass	mDa	PPM	DBE	Formula
303.9466	303.9471	-0.5	-1.6	6.5	C9 H7 N O3 I
	303.9444	2.2	7.2	7.5	C5 H3 N7 O I
	303.9430	3.6	11.8	2.5	C4 H7 N3 O5 I
	303.9529	-6.3	-20.7	-2.5	C2 H11 N O8 I
	303.9543	-7.7	-25.3	2.5	C3 H7 N5 O4 I
	303.9583	-11.7	-38.5	6.5	C8 H7 N3 O2 I
	303.9331	13.5	44.4	7.5	C6 H3 N5 O2 I
	303.9318	14.8	48.7	2.5	C5 H7 N O6 I
	303.9291	17.5	57.6	3.5	C H3 N7 O4 I
	303.9642	-17.6	-57.9	-2.5	C H11 N3 O7 I
	303.9655	-18.9	-62.2	2.5	C2 H7 N7 O3 I
	303.9259	20.7	68.1	11.5	C12 H3 N O I
	303.9682	-21.6	-71.1	1.5	C6 H11 N O5 I
	303.9695	-22.9	-75.3	6.5	C7 H7 N5 O I
	303.9219	24.7	81.3	7.5	C7 H3 N3 O3 I
	303.9179	28.7	94.4	3.5	C2 H3 N5 O5 I
	303.9165	30.1	99.0	-1.5	C H7 N O9 I
	303.9767	-30.1	-99.0	2.5	C H7 N9 O2 I
	303.9794	-32.8	-107.9	1.5	C5 H11 N3 O4 I
	303.9107	35.9	118.1	7.5	C8 H3 N O4 I

HRMS of 2m

Elemental Composition Report Page 1

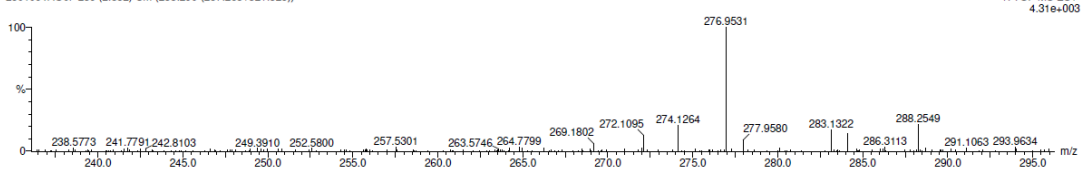
Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
45 formula(e) evaluated with 31 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 F: 1-3 I: 1-3



7
250109YAO07 289 (2.832) Cm (288:290-(257:263+321:325))

1: TOF MS ES+
4.31e+003



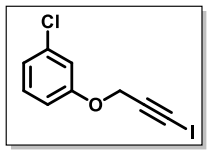
Minimum:	80.00				-10.0	
Maximum:	100.00		10.0	500.0	100.0	
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
276.9531	100.00	276.9526	0.5	1.8	5.5	C9 H7 O F I
		276.9537	-0.6	-2.2	1.5	C6 H8 O2 F2 I
		276.9548	-1.7	-6.1	-2.5	C3 H9 O3 F3 I
		276.9584	-5.3	-19.1	-3.5	C2 H11 O6 F I
		276.9384	14.7	53.1	-2.5	C2 H8 O5 F2 I
		276.9373	15.8	57.0	1.5	C5 H7 O4 F I
		276.9337	19.4	70.0	2.5	C6 H5 O F3 I
		276.9737	-20.6	-74.4	0.5	C6 H11 O3 F I
		276.9748	-21.7	-78.4	-3.5	C3 H12 O4 F2 I
		276.9220	31.1	112.3	-2.5	C H7 O7 F I
		276.9185	34.6	124.9	-1.5	C2 H5 O4 F3 I
		276.9173	35.8	129.3	2.5	C5 H4 O3 F2 I
		276.9162	36.9	133.2	6.5	C8 H3 O2 F I
		276.9901	-37.0	-133.6	0.5	C7 H12 O F2 I
		276.9912	-38.1	-137.6	-3.5	C4 H13 O2 F3 I
		276.9948	-41.7	-150.6	-4.5	C3 H15 O5 F I
		276.9021	51.0	184.1	-1.5	C H4 O6 F2 I
		276.9009	52.2	188.5	2.5	C4 H3 O5 F I
		276.8973	55.8	201.5	3.5	C5 H O2 F3 I
		277.0101	-57.0	-205.8	-0.5	C7 H15 O2 F I

HRMS of 2n

Elemental Composition Report Page 1

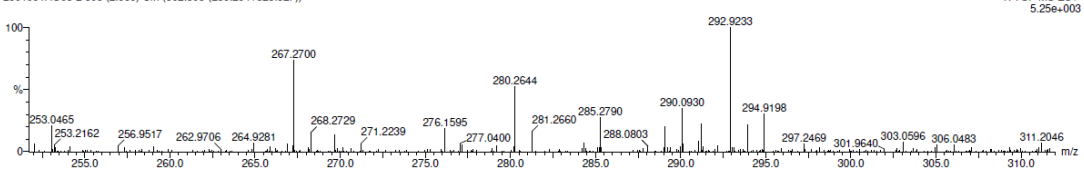
Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
36 formula(e) evaluated with 25 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 Cl: 1-3 I: 1-3



8
250109YAO08-2 305 (2.969) Cm (302:305-(289:294+323:327))

1: TOF MS ES+
5.25e+003



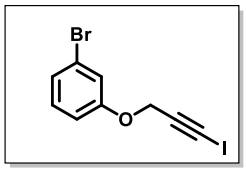
Minimum:	80.00				-10.0	
Maximum:	100.00		10.0	500.0	100.0	
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
292.9233	100.00	292.9230	0.3	1.0	5.5	C9 H7 O Cl I
		292.9208	2.5	8.5	-3.5	C3 H12 O3 Cl2 I
		292.9289	-5.6	-19.1	-3.5	C2 H11 O6 Cl I
		292.9339	-10.6	-36.2	-8.5	C H17 O2 Cl3 I
		292.9078	15.5	52.9	1.5	C5 H7 O4 Cl I
		292.9441	-20.8	-71.0	0.5	C6 H11 O3 Cl I
		292.8997	23.6	80.6	1.5	C6 H8 O Cl2 I
		292.8925	30.8	105.1	-2.5	C H7 O7 Cl I
		292.9572	-33.9	-115.7	-4.5	C4 H16 O2 Cl2 I
		292.8866	36.7	125.3	6.5	C8 H3 O2 Cl I
		292.8844	38.9	132.8	-2.5	C2 H8 O4 Cl2 I
		292.9653	-42.0	-143.4	-4.5	C3 H15 O5 Cl I
		292.8764	46.9	160.1	-2.5	C3 H9 O Cl3 I
		292.9703	-47.0	-160.5	-9.5	C2 H21 O Cl3 I
		292.8714	51.9	177.2	2.5	C4 H3 O5 Cl I
		292.9783	-55.0	-187.8	-9.5	C H20 O4 Cl2 I
		292.9805	-57.2	-195.3	-0.5	C7 H15 O2 Cl I
		292.8633	60.0	204.8	2.5	C5 H4 O2 Cl2 I
		292.9936	-70.3	-240.0	-5.5	C5 H20 O Cl2 I
		292.8480	75.3	257.1	-1.5	C H4 O5 Cl2 I

HRMS of 2o

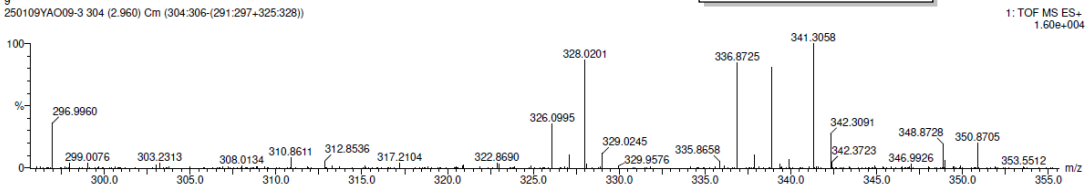
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
23 formula(e) evaluated with 15 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 Br: 1-3 I: 1-3



9
250109YAO09-3 304 (2.960) Cm (304:306-(291:297+325:328))



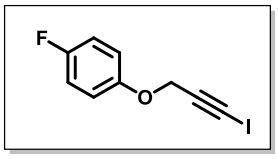
Minimum:				-10.0	
Maximum:		10.0	500.0	100.0	
Mass	Calc. Mass	mDa	PPM	DBE	Formula
336.8725	336.8725	0.0	0.0	5.5	C9 H7 O Br I
	336.8784	-5.9	-17.5	-3.5	C2 H11 O6 Br I
	336.8572	15.3	45.4	1.5	C5 H7 O4 Br I
	336.8936	-21.1	-62.6	0.5	C6 H11 O3 Br I
	336.8420	30.5	90.5	-2.5	C H7 O7 Br I
	336.8361	36.4	108.1	6.5	C8 H3 O2 Br I
	336.9148	-42.3	-125.6	-4.5	C3 H15 O5 Br I
	336.8300	42.5	126.2	-4.5	C2 H12 O Br2 I
	336.8209	51.6	153.2	2.5	C4 H3 O5 Br I
	336.9300	-57.5	-170.7	-0.5	C7 H15 O2 Br I
	336.9511	-78.6	-233.3	-5.5	C4 H19 O4 Br I
	336.7936	78.9	234.2	-3.5	C H8 O2 Br2 I
	336.9664	-93.9	-278.7	-1.5	C8 H19 O Br I
	336.9875	-115.0	-341.4	-6.5	C5 H23 O3 Br I
	337.0239	-151.4	-449.4	-7.5	C6 H27 O2 Br I

HRMS of 2p

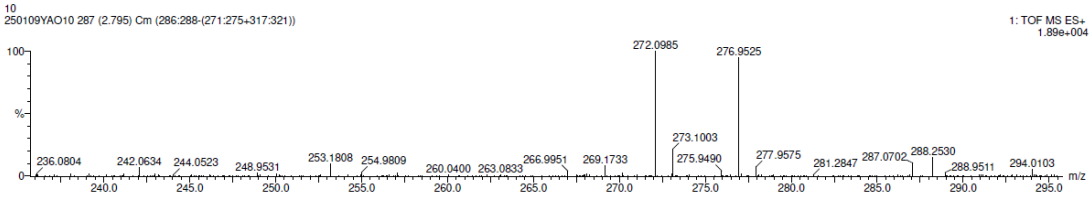
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
45 formula(e) evaluated with 31 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 F: 1-3 I: 1-3



10
250109YAO10 287 (2.795) Cm (286:288-(271:275+317:321))



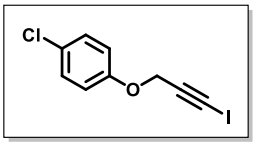
Minimum:				-10.0	
Maximum:		10.0	500.0	100.0	
Mass	Calc. Mass	mDa	PPM	DBE	Formula
276.9525	276.9526	-0.1	-0.4	5.5	C9 H7 O F I
	276.9537	-1.2	-4.3	1.5	C6 H8 O2 F2 I
	276.9548	-2.3	-8.3	-2.5	C3 H9 O3 F3 I
	276.9584	-5.9	-21.3	-3.5	C2 H11 O6 F I
	276.9384	14.1	50.9	-2.5	C2 H8 O5 F2 I
	276.9373	15.2	54.9	1.5	C5 H7 O4 F I
	276.9337	18.8	67.9	2.5	C6 H5 O F3 I
	276.9737	-21.2	-76.5	0.5	C6 H11 O3 F I
	276.9748	-22.3	-80.5	-3.5	C3 H12 O4 F2 I
	276.9220	30.5	110.1	-2.5	C H7 O7 F I
	276.9185	34.0	122.8	-1.5	C2 H5 O4 F3 I
	276.9173	35.2	127.1	2.5	C5 H4 O3 F2 I
	276.9162	36.3	131.1	6.5	C8 H3 O2 F I
	276.9901	-37.6	-135.8	0.5	C7 H12 O F2 I
	276.9912	-38.7	-139.7	-3.5	C4 H13 O2 F3 I
	276.9948	-42.3	-152.7	-4.5	C3 H15 O5 F I
	276.9021	50.4	182.0	-1.5	C H4 O6 F2 I
	276.9009	51.6	186.3	2.5	C4 H3 O5 F I
	276.8973	55.2	199.3	3.5	C5 H O2 F3 I
	277.0101	-57.6	-208.0	-0.5	C7 H15 O2 F I

HRMS of 2q

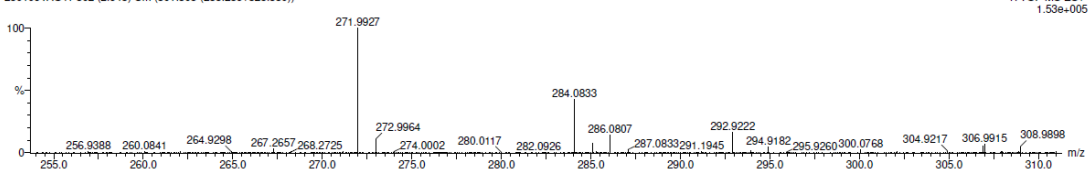
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
36 formula(e) evaluated with 25 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 Cl: 1-3 I: 1-3



11
250109YAO11 302 (2.943) Cm (301:305-(285:289+325:330))



Minimum:			-10.0
Maximum:			10.0
	500.0		100.0

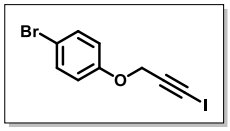
Mass	Calc. Mass	mDa	PPM	DBE	Formula
292.9222	292.9230	-0.8	-2.7	5.5	C9 H7 O Cl I
	292.9208	1.4	4.8	-3.5	C3 H12 O3 Cl2 I
	292.9289	-6.7	-22.9	-3.5	C2 H11 O6 Cl I
	292.9339	-11.7	-39.9	-8.5	C H17 O2 Cl3 I
	292.9078	14.4	49.2	1.5	C5 H7 O4 Cl I
	292.9441	-21.9	-74.8	0.5	C6 H11 O3 Cl I
	292.8997	22.5	76.8	1.5	C6 H8 O Cl2 I
	292.8925	29.7	101.4	-2.5	C H7 O7 Cl I
	292.9572	-35.0	-119.5	-4.5	C4 H16 O2 Cl2 I
	292.8866	35.6	121.5	6.5	C8 H3 O2 Cl I
	292.8844	37.8	129.0	-2.5	C2 H8 O4 Cl2 I
	292.9653	-43.1	-147.1	-4.5	C3 H15 O5 Cl I
	292.8764	45.8	156.4	-2.5	C3 H9 O Cl3 I
	292.9703	-48.1	-164.2	-9.5	C2 H21 O Cl3 I
	292.8714	50.8	173.4	2.5	C4 H3 O5 Cl I
	292.9783	-56.1	-191.5	-9.5	C H20 O4 Cl2 I
	292.9805	-58.3	-199.0	-0.5	C7 H15 O2 Cl I
	292.8633	58.9	201.1	2.5	C5 H4 O2 Cl2 I
	292.9936	-71.4	-243.8	-5.5	C5 H20 O Cl2 I
	292.8480	74.2	253.3	-1.5	C H4 O5 Cl2 I

HRMS of 2r

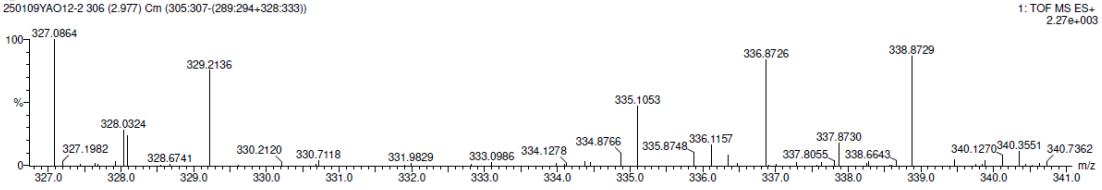
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
23 formula(e) evaluated with 15 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 Br: 1-3 I: 1-3



12
250109YAO12-2 306 (2.977) Cm (305:307-(289:294+328:333))



Minimum:			-10.0
Maximum:			10.0
	500.0		100.0

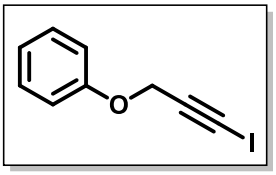
Mass	Calc. Mass	mDa	PPM	DBE	Formula
336.8726	336.8725	0.1	0.3	5.5	C9 H7 O Br I
	336.8784	-5.8	-17.2	-3.5	C2 H11 O6 Br I
	336.8572	15.4	45.7	1.5	C5 H7 O4 Br I
	336.8936	-21.0	-62.3	0.5	C6 H11 O3 Br I
	336.8420	30.6	90.8	-2.5	C H7 O7 Br I
	336.8361	36.5	108.3	6.5	C8 H3 O2 Br I
	336.9148	-42.2	-125.3	-4.5	C3 H15 O5 Br I
	336.8300	42.6	126.5	-4.5	C2 H12 O Br2 I
	336.8209	51.7	153.5	2.5	C4 H3 O5 Br I
	336.9300	-57.4	-170.4	-0.5	C7 H15 O2 Br I
	336.9511	-78.5	-233.0	-5.5	C4 H19 O4 Br I
	336.7936	79.0	234.5	-3.5	C H8 O2 Br2 I
	336.9664	-93.8	-278.4	-1.5	C8 H19 O Br I
	336.9875	-114.9	-341.1	-6.5	C5 H23 O3 Br I
	337.0239	-151.3	-449.1	-7.5	C6 H27 O2 Br I

HRMS of 2s

Elemental Composition Report Page 1

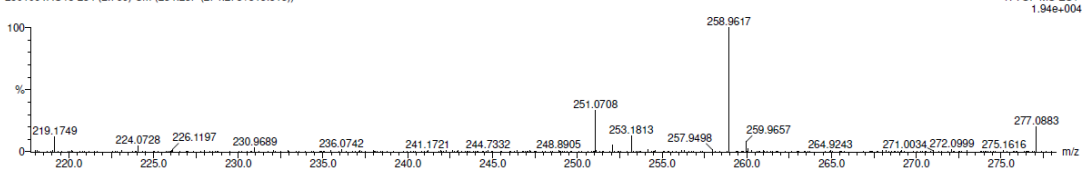
Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
19 formula(e) evaluated with 12 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 I: 1-3



13
250109YAO13 284 (2.769) Cm (284:287-(274:278+313:318))

1: TOF MS ES+
1.94e+004



Minimum:	80.00				-10.0	
Maximum:	100.00		10.0	500.0	100.0	

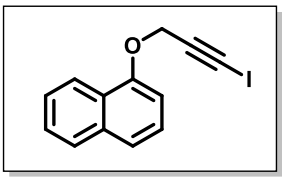
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
258.9617	100.00	258.9620	-0.3	-1.2	5.5	C9 H8 O I
		258.9679	-6.2	-23.9	-3.5	C2 H12 O6 I
		258.9467	15.0	57.9	1.5	C5 H8 O4 I
		258.9831	-21.4	-82.6	0.5	C6 H12 O3 I
		258.9315	30.2	116.6	-2.5	C H8 O7 I
		258.9256	36.1	139.4	6.5	C8 H4 O2 I
		259.0042	-42.5	-164.1	-4.5	C3 H16 O5 I
		258.9103	51.4	198.5	2.5	C4 H4 O5 I
		259.0195	-57.8	-223.2	-0.5	C7 H16 O2 I
		259.0406	-78.9	-304.7	-5.5	C4 H20 O4 I
		259.0559	-94.2	-363.8	-1.5	C8 H20 O I
		259.0770	-115.3	-445.2	-6.5	C5 H24 O3 I

HRMS of 2t

Elemental Composition Report Page 1

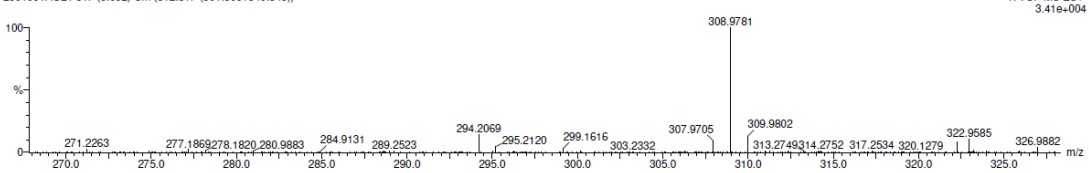
Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
35 formula(e) evaluated with 26 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 I: 1-3



21
250109YAO21 317 (3.092) Cm (312:317-(301:306+340:345))

1: TOF MS ES+
3.41e+004



Minimum:	80.00				-10.0	
Maximum:	100.00		10.0	500.0	100.0	

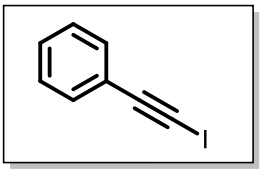
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
308.9781	100.00	308.9776	0.5	1.6	8.5	C13 H10 O I
		308.9835	-5.4	-17.5	-0.5	C6 H14 O6 I
		308.9683	9.8	31.7	-4.5	C2 H14 O9 I
		308.9624	15.7	50.8	4.5	C9 H10 O4 I
		308.9988	-20.7	-67.0	3.5	C10 H14 O3 I
		309.0046	-26.5	-85.8	-5.5	C3 H18 O8 I
		308.9471	31.0	100.3	0.5	C5 H10 O7 I
		308.9412	36.9	119.4	9.5	C12 H6 O2 I
		309.0199	-41.8	-135.3	-1.5	C7 H18 O5 I
		308.9319	46.2	149.5	-3.5	C H10 O10 I
		308.9260	52.1	168.6	5.5	C8 H6 O5 I
		308.9212	56.9	184.2	-5.5	C2 H15 O 12
		309.0351	-57.0	-184.5	2.5	C11 H18 O2 I
		309.0410	-62.9	-203.6	-6.5	C4 H22 O7 I
		308.9107	67.4	218.1	1.5	C4 H6 O8 I
		308.9049	73.2	236.9	10.5	C11 H2 O3 I
		309.0563	-78.2	-253.1	-2.5	C8 H22 O4 I
		308.8896	88.5	286.4	6.5	C7 H2 O6 I
		308.8848	93.3	302.0	-4.5	C H11 O2 12
		309.0715	-93.4	-302.3	1.5	C12 H22 O I

HRMS of 2u

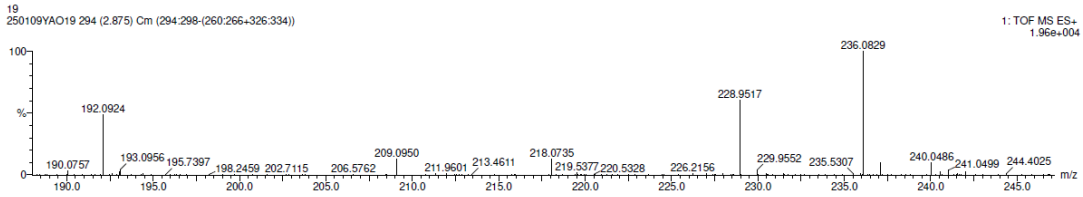
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
3 formula(e) evaluated with 2 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 I: 1-3



19
250109YAO19 294 (2.875) Cm (294:298-(260:266+326:334))



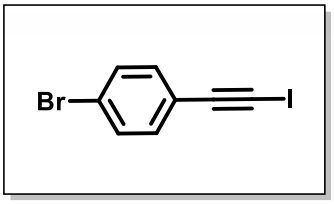
Minimum:			-10.0		
Maximum:		10.0	500.0	100.0	
Mass	Calc. Mass	mDa	PPM	DBE	Formula
228.9517	228.9514	0.3	1.3	5.5	C8 H6 I
	229.0453	-93.6	-408.8	-1.5	C7 H18 I

HRMS of 2v

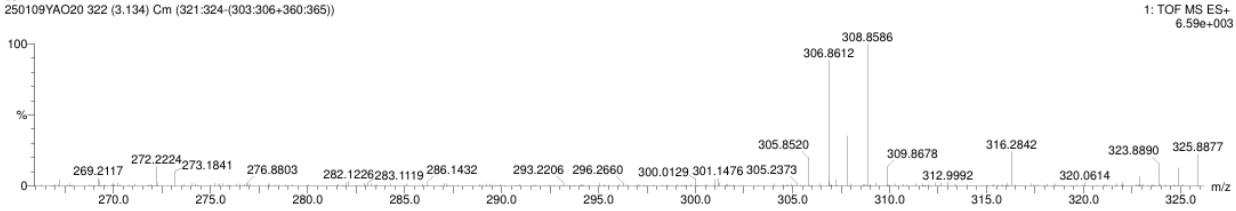
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
4 formula(e) evaluated with 3 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 Br: 1-3 I: 1-3



20
250109YAO20 322 (3.134) Cm (321:324-(303:306+360:365))

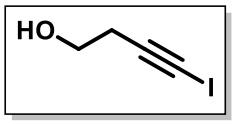


Minimum:			-10.0		
Maximum:		10.0	500.0	100.0	
Mass	Calc. Mass	mDa	PPM	DBE	Formula
306.8612	306.8619	-0.7	-2.3	5.5	C8 H5 Br I
	306.8194	41.8	136.2	-4.5	C H10 Br2 I
	306.9558	-94.6	-308.3	-1.5	C7 H17 Br I

HRMS of 2w

Elemental Composition Report Page 1

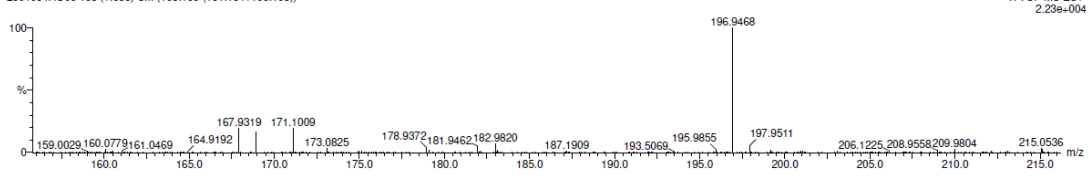
Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3



Monoisotopic Mass, Even Electron Ions
7 formula(e) evaluated with 5 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 I: 1-3

6
250109YAO06 168 (1.656) Cm (165:169-(151:154+196:198))

1: TOF MS ES+
2.23e+004

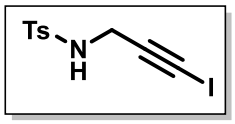


Minimum:	80.00				-10.0	
Maximum:	100.00		10.0	500.0	100.0	
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
196.9468	100.00	196.9463	0.5	2.5	1.5	C4 H6 O I
		196.9675	-20.7	-105.1	-3.5	C H10 O3 I
		196.9099	36.9	187.4	2.5	C3 H2 O2 I
		197.0038	-57.0	-289.4	-4.5	C2 H14 O2 I
		197.0402	-93.4	-474.2	-5.5	C3 H18 O I

HRMS of 2x

Elemental Composition Report Page 1

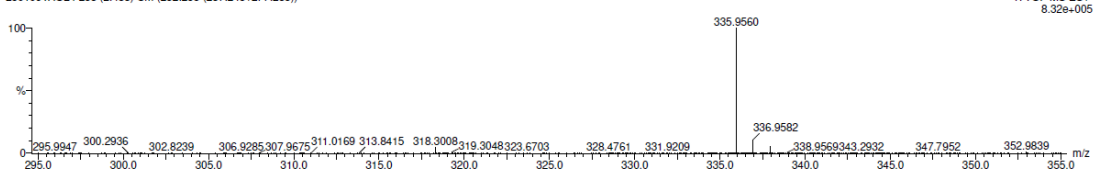
Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3



Monoisotopic Mass, Even Electron Ions
267 formula(e) evaluated with 108 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 N: 1-10 O: 1-10 S: 1-3 I: 1-3

24
250109YAO24 253 (2.483) Cm (252:255-(237:245+277:285))

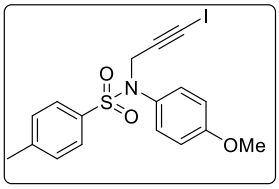
1: TOF MS ES+
8.32e+005



Minimum:	80.00				-10.0	
Maximum:	100.00		10.0	500.0	100.0	
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
335.9560	100.00	335.9555	0.5	1.5	5.5	C10 H11 N O2 S I
		335.9549	1.1	3.3	-3.5	C2 H15 N3 O4 S2 I
		335.9589	-2.9	-8.6	0.5	C7 H15 N O2 S2 I
		335.9515	4.5	13.4	1.5	C5 H11 N3 O4 S I
		335.9614	-5.4	-16.1	-3.5	C3 H15 N O7 S I
		335.9623	-6.3	-18.8	-4.5	C4 H19 N O2 S3 I
		335.9627	-6.7	-19.9	1.5	C4 H11 N5 O3 S I
		335.9488	7.2	21.4	2.5	C H7 N9 O2 S I
		335.9483	7.7	22.9	-3.5	C H15 N5 O S3 I
		335.9661	-10.1	-30.1	-3.5	C H15 N5 O3 S2 I
		335.9668	-10.8	-32.1	5.5	C9 H11 N3 O S I
		335.9450	11.0	32.7	1.5	C4 H11 N5 O S2 I
		335.9436	12.4	36.9	-3.5	C3 H15 N O5 S2 I
		335.9701	-14.1	-42.0	0.5	C6 H15 N3 O S2 I
		335.9416	14.4	42.9	6.5	C7 H7 N5 O S I
		335.9403	15.7	46.7	1.5	C6 H11 N O5 S I
		335.9726	-16.6	-49.4	-3.5	C2 H15 N3 O6 S I
		335.9735	-17.5	-52.1	-4.5	C3 H19 N3 O S3 I
		335.9740	-18.0	-53.6	1.5	C3 H11 N7 O2 S I
		335.9376	18.4	54.8	2.5	C2 H7 N7 O3 S I

HRMS of 2y

[Mass Spectrum]
Data : 20251209_HREI_24001 Date : 09-Dec-2025 14:46
RT : 0.75 min Scan# : 6
Elements : C 20/0, H 20/0, N 1/0, O 3/0, S 1/0, I 1/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0

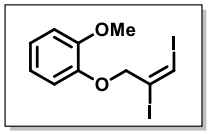


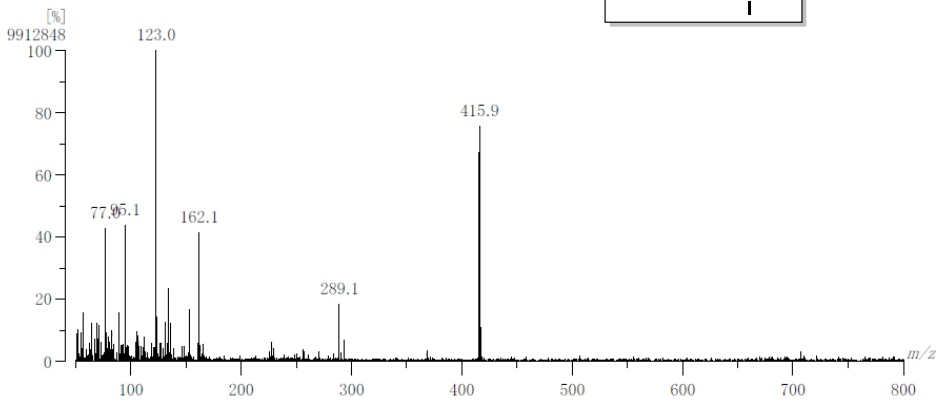
	Observed m/z	Int%
	440.9887	31.44

	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	N	O	S	I
1	440.9862	+5.7 / +2.5	15.0	20	12	1	3	-	1
2	440.9684	+45.9 / +20.3	16.0	20	12	1	1	1	1
3	440.9446	+99.9 / +44.1	16.5	20	10	-	2	1	1
4	441.0260	-84.5 / -37.3	10.0	18	20	1	2	1	1
5	441.0021	-30.5 / -13.4	10.5	18	18	-	3	1	1
6	440.9896	-2.0 / -0.9	11.0	17	16	1	3	1	1

HRMS of 3a

[Mass Spectrum]
Data : 20250120_HREI_25001 Date : 20-Jan-2025 14:31
RT : 0.45 min Scan# : 4
Elements : C 10/0, H 10/0, O 2/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0





	Observed m/z	Int%
	415.8762	75.65

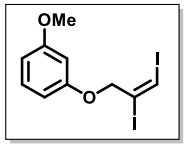
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O	I
1	415.8770	-2.0 / -0.8	5.0	10	10	2	2

HRMS of 3b

Elemental Composition Report Page 1

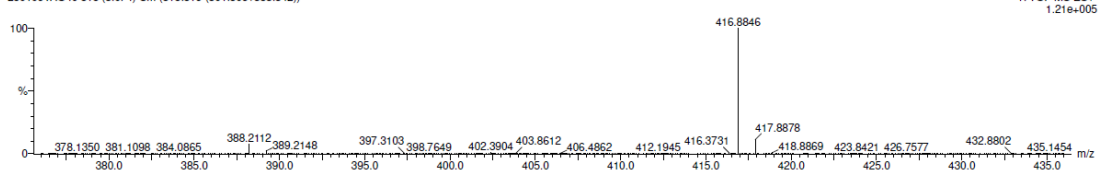
Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
72 formula(e) evaluated with 44 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 I: 1-3



40
250109YAO40 315 (3.074) Cm (315:319-(301:306+338:342))

1: TOF MS ES+
1.21e+005

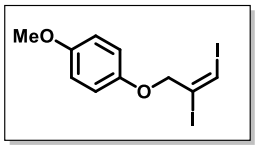


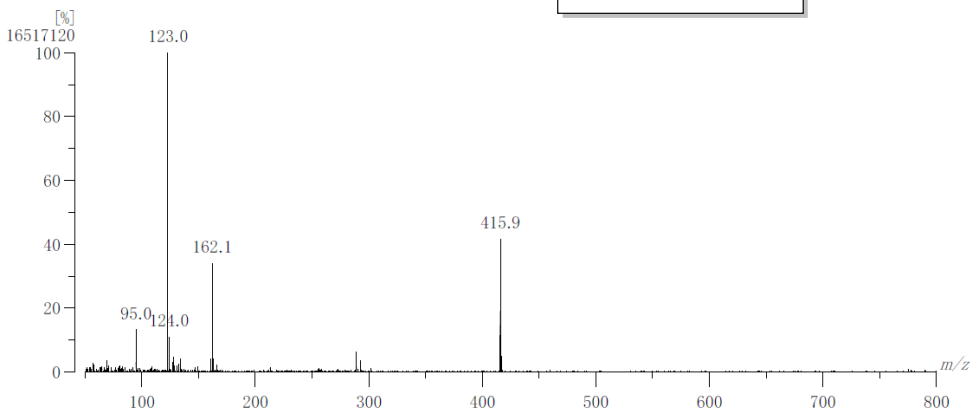
Minimum:	80.00			-10.0	
Maximum:	100.00		10.0	500.0	100.0

Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
416.8846	100.00	416.8848	-0.2	-0.5	4.5	C10 H11 O2 I2
		416.8896	-5.0	-12.0	15.5	C16 H2 O6 I
		416.8907	-6.1	-14.6	-4.5	C3 H15 O7 I2
		416.8743	10.3	24.7	11.5	C12 H2 O9 I
		416.8696	15.0	36.0	0.5	C6 H11 O5 I2
		416.9049	-20.3	-48.7	19.5	C20 H2 O3 I
		416.9060	-21.4	-51.3	-0.5	C7 H15 O4 I2
		416.9107	-26.1	-62.6	10.5	C13 H6 O8 I
		416.8543	30.3	72.7	-3.5	C2 H11 O8 I2
		416.8485	36.1	86.6	5.5	C9 H7 O3 I2
		416.9212	-36.6	-87.8	3.5	C11 H15 O I2
		416.9260	-41.4	-99.3	14.5	C17 H6 O5 I
		416.9271	-42.5	-101.9	-5.5	C4 H19 O6 I2
		416.9319	-47.3	-113.5	5.5	C10 H10 O10 I
		416.8332	51.4	123.3	1.5	C5 H7 O6 I2
		416.9412	-56.6	-135.8	18.5	C21 H6 O2 I
		416.8273	57.3	137.4	10.5	C12 H3 O I2
		416.9424	-57.8	-138.6	-1.5	C8 H19 O3 I2
		416.9471	-62.5	-149.9	9.5	C14 H10 O7 I
		416.8179	66.7	160.0	-2.5	C H7 O9 I2

HRMS of 3c

[Mass Spectrum]
Data : 20250121_HREI_41001 Date : 21-Jan-2025 14:13
RT : 0.60 min Scan# : 5
Elements : C 10/0, H 10/0, O 2/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



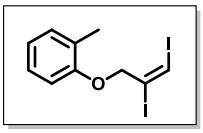


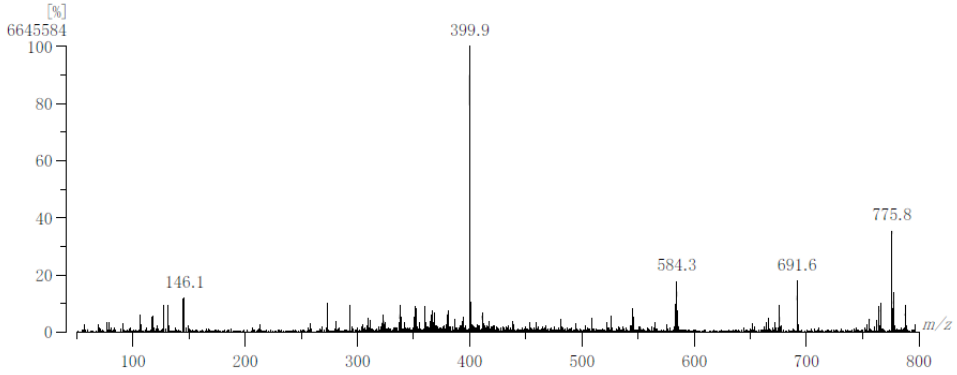
Observed m/z	Int%
415.8763	41.56

	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O	I
1	415.8770	-1.8 / -0.7	5.0	10	10	2	2

HRMS of 3d

[Mass Spectrum]
Data : 20250121_HREI_37005 Date : 21-Jan-2025 12:19
RT : 0.00 min Scan# : 1
Elements : C 10/0, H 10/0, O 1/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



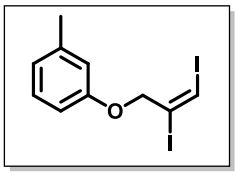


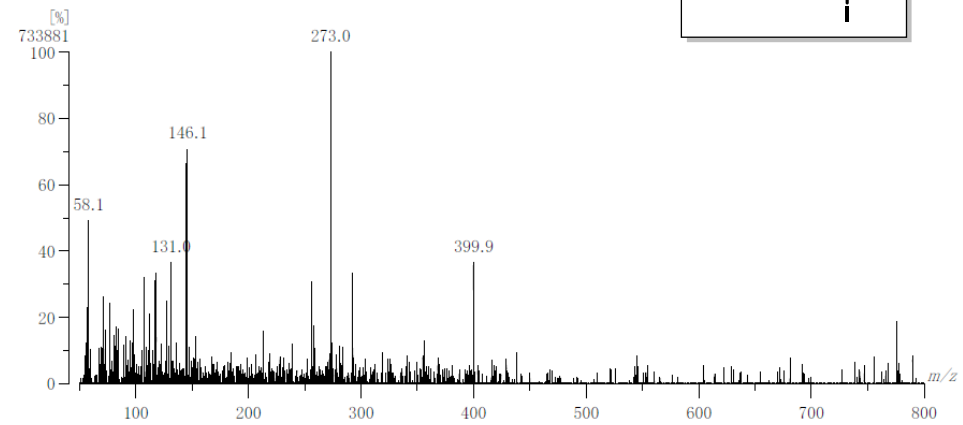
	Observed m/z	Int%
	399.8812	100.00

	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O	I
1	399.8821	-2.3 / -0.9	5.0	10	10	1	2

HRMS of 3e

[Mass Spectrum]
Data : 20250121_HREI_38004 Date : 21-Jan-2025 12:12
RT : 0.15 min Scan# : 2
Elements : C 10/0, H 10/0, O 1/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0

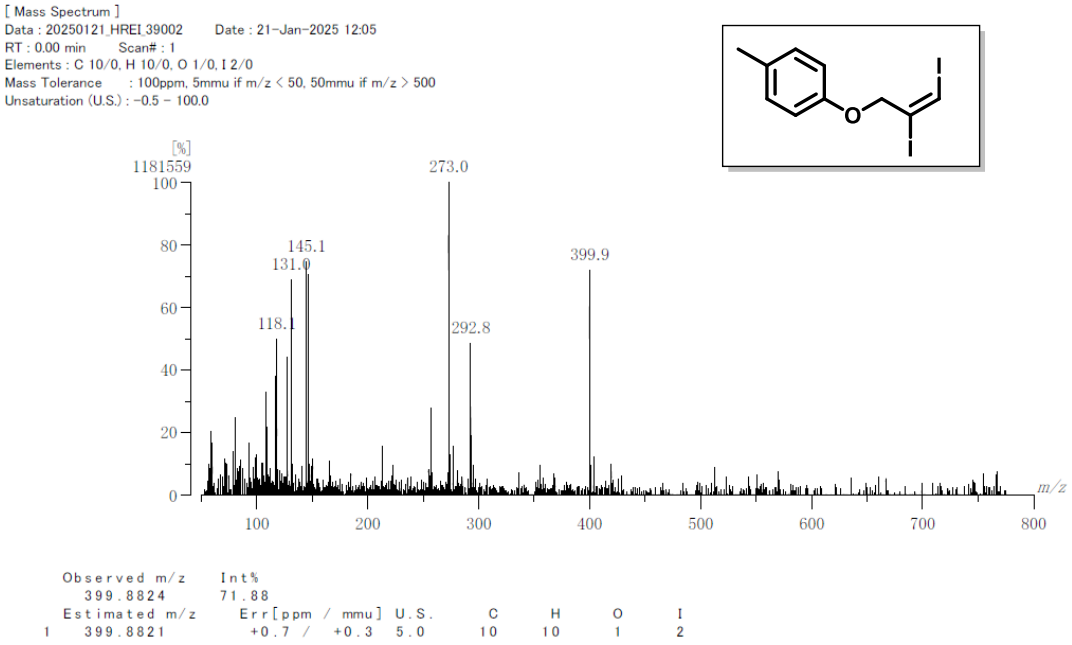




	Observed m/z	Int%
	399.8841	36.57

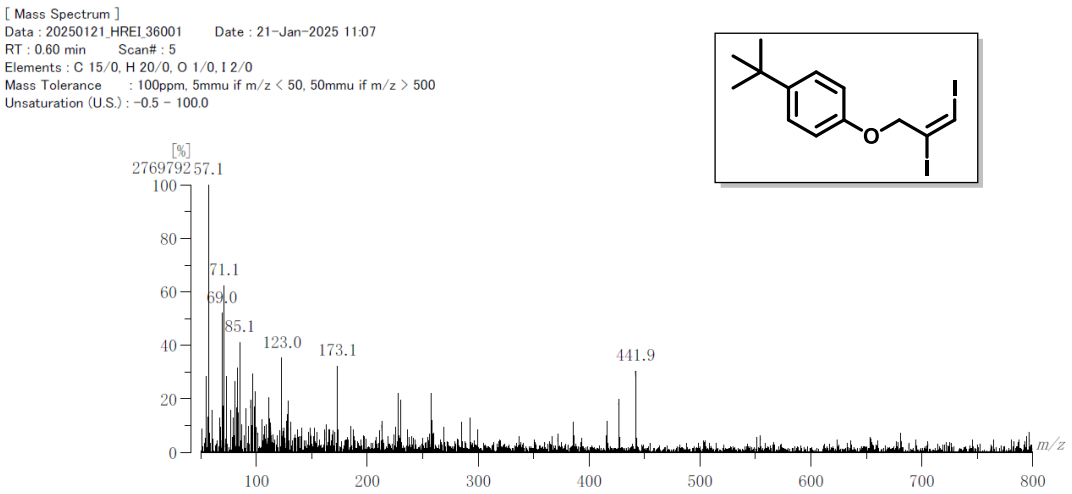
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O	I
1	399.8821	+5.0 / +2.0	5.0	10	10	1	2

HRMS of 3f



	Observed m/z	Int%	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O	I
	399.8824	71.88							
1			399.8821	+0.7 / +0.3	5.0	10	10	1	2

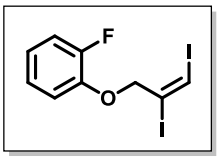
HRMS of 3h

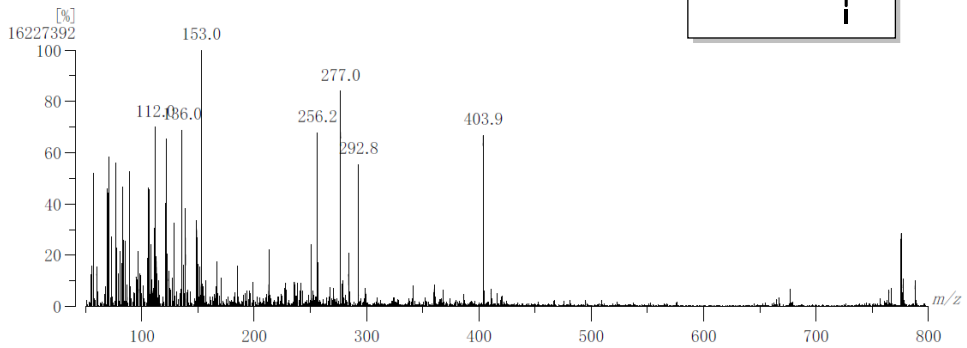


	Observed m/z	Int%	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O	I
	441.9282	30.29							
1			441.9655	-84.3 / -37.3	4.0	14	20	-	2
2			441.9291	-2.0 / -0.9	5.0	13	16	1	2

HRMS of 3i

[Mass Spectrum]
Data : 20250120_HREI_26003 Date : 20-Jan-2025 15:31
RT : 0.15 min Scan# : 2
Elements : C 10/0, H 10/0, F 1/0, O 1/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



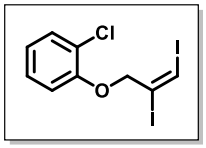


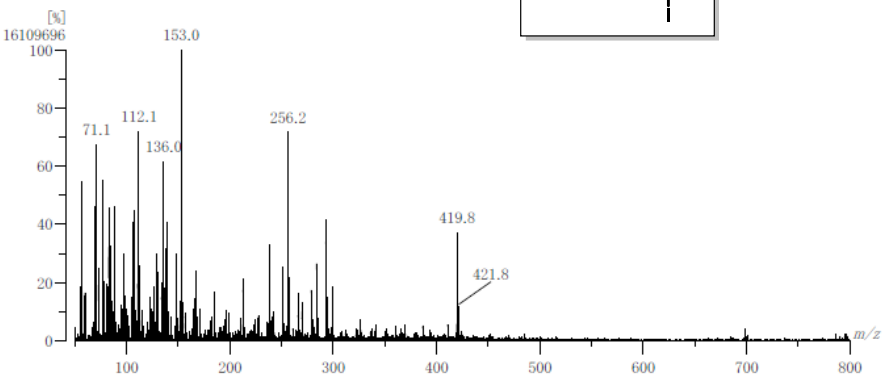
	Observed m/z	Int%
	403.8551	66.73

	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	F	O	I
1	403.8570	-4.8 / -1.9	5.0	9	7	1	1	2

HRMS of 3j

[Mass Spectrum]
Data : 20250120_HREI_27004 Date : 20-Jan-2025 15:23
RT : 0.15 min Scan# : 2
Elements : C 10/0, H 10/0, 35Cl 1/0, 37Cl 1/0, O 1/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0





	Observed m/z	Int%
	419.8258	37.24

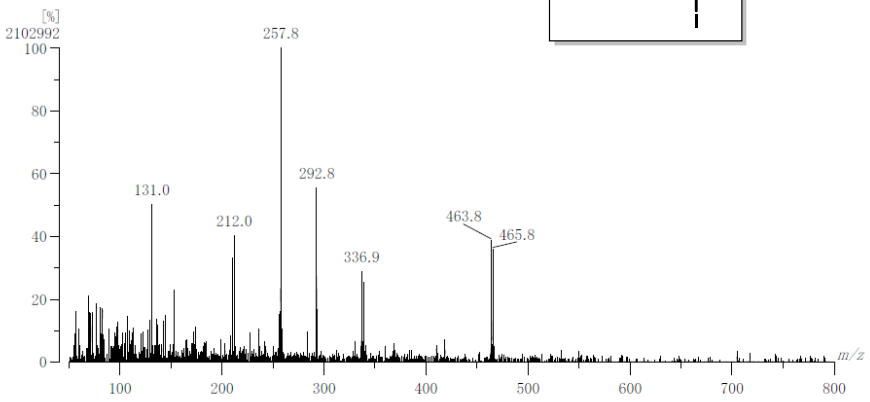
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	35Cl	37Cl	O	I
1	419.8453	-46.4 / -19.5	5.0	10	9	-	1	-	2
2	419.8220	+9.1 / +3.8	1.0	7	10	1	1	-	2
3	419.8275	-4.0 / -1.7	5.0	9	7	1	-	1	2
4	419.8089	+40.3 / +16.9	6.0	9	5	-	1	1	2
5	419.7856	+95.8 / +40.2	2.0	6	6	1	1	1	2

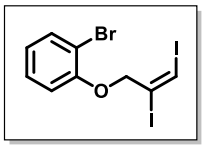
	Observed m/z	Int%
	421.8221	11.87

	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	35Cl	37Cl	O	I
6	421.8431	-49.9 / -21.0	4.0	9	9	1	-	1	2
7	421.8245	-5.8 / -2.4	5.0	9	7	-	1	1	2
8	421.8012	+49.5 / +20.9	1.0	6	8	1	1	1	2

HRMS of 3k

[Mass Spectrum]
Data : 20250120_HREI_28001 Date : 20-Jan-2025 15:15
RT : 0.75 min Scan# : 6
Elements : C 10/0, H 10/0, 79Br 1/0, 81Br 1/0, O 1/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



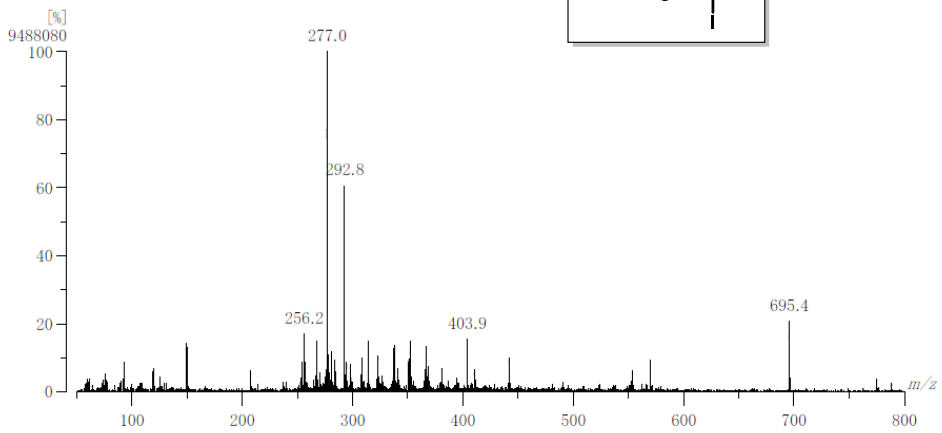


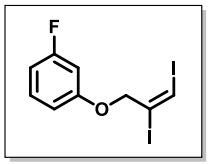
	Observed m/z	Int%								
	463.7794	38.68								
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	79Br	81Br	O	I	
1	463.7957	-35.1 / -16.3	5.0	10	9	-	1	-	2	
2	463.7770	+5.2 / +2.4	5.0	9	7	1	-	1	2	
3	463.7593	+43.4 / +20.1	6.0	9	5	-	1	1	2	

	Observed m/z	Int%								
	465.7722	35.94								
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	79Br	81Br	O	I	
4	465.7926	-43.9 / -20.4	4.0	9	9	1	-	1	2	
5	465.7749									

HRMS of 3m

[Mass Spectrum]
Data : 20250120_HREI_30002 Date : 20-Jan-2025 16:39
RT : 0.00 min Scan# : 1
Elements : C 10/0, H 10/0, F 1/0, O 1/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0

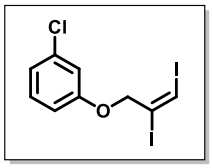


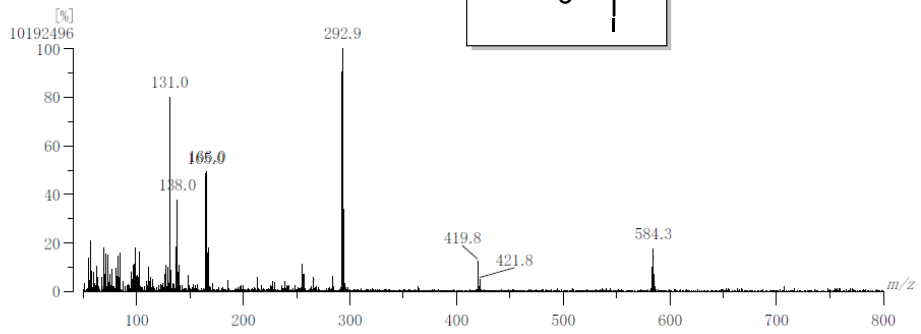


	Observed m/z	Int%							
	403.8549	15.48							
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	F	O	I	
1	403.8570	-5.3 / -2.1	5.0	9	7	1	1	2	

HRMS of 3n

[Mass Spectrum]
Data : 20250121_HREI_31001 Date : 21-Jan-2025 15:02
RT : 0.45 min Scan# : 4
Elements : C 10/0, H 10/0, 35Cl 1/0, 37Cl 1/0, O 1/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



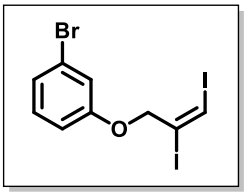


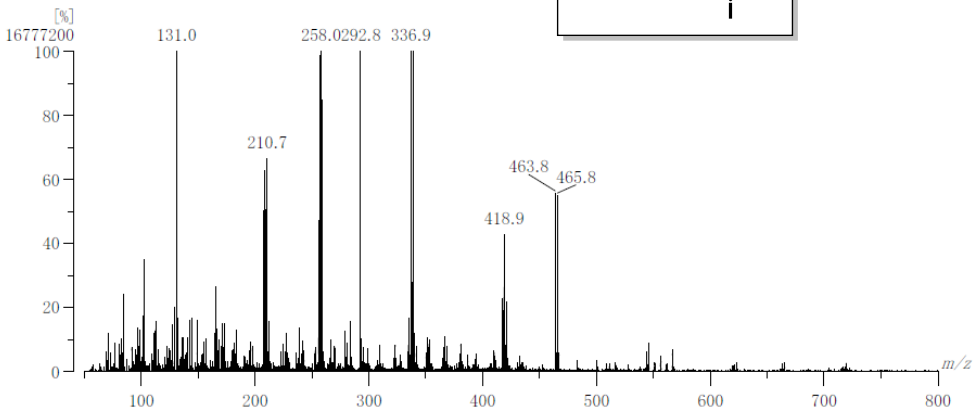
	Observed m/z	Int%								
	419.8266	12.66								
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	35Cl	37Cl	O	I
1	419.8453	-44.5 / -18.7	5.0	10	9	-	1	-	2
2	419.8220	+11.1 / +4.6	1.0	7	10	1	1	-	2
3	419.8275	-2.1 / -0.9	5.0	9	7	1	-	1	2
4	419.8089	+42.2 / +17.7	6.0	9	5	-	1	1	2
5	419.7856	+97.7 / +41.0	2.0	6	6	1	1	1	2

	Observed m/z	Int%								
	421.8182	5.12								
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	35Cl	37Cl	O	I
6	421.8431	-59.1 / -24.9	4.0	9	9	1	-	1	2
7	421.8245	-15.0 / -6.3	5.0	9	7	-	1	1	2
8	421.8012	+40.2 / +17.0	1.0	6	8	1	1	1	2

HRMS of 3o

[Mass Spectrum]
Data : 20250121_HREI_32002 Date : 21-Jan-2025 15:15
RT : 0.15 min Scan# : 2
Elements : C 10/0, H 10/0, 79Br 1/0, 81Br 1/0, O 1/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



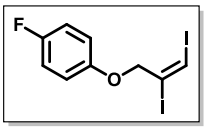


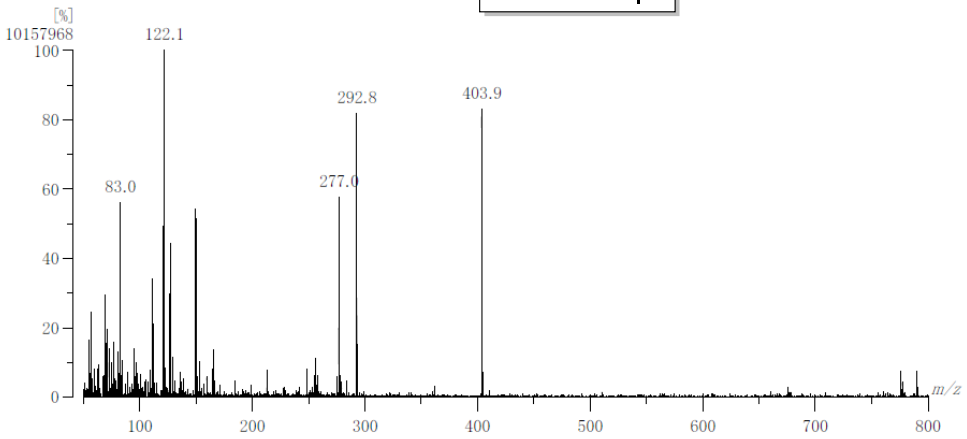
	Observed m/z	Int%								
	463.7749	55.78								
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	79Br	81Br	O	I
1	463.7957	-44.8 / -20.8	5.0	10	9	-	1	-	2
2	463.7770	-4.5 / -2.1	5.0	9	7	1	-	1	2
3	463.7593	+33.7 / +15.6	6.0	9	5	-	1	1	2

	Observed m/z	Int%								
	465.7732	55.08								
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	79Br	81Br	O	I
4	465.7926	-41.7 / -19.4	4.0	9	9	1	-	1	2
5	465.7749	-3.7 / -1.7	5.0	9	7	-	1	1	2

HRMS of 3p

[Mass Spectrum]
Data : 20250121_HREI_33001 Date : 21-Jan-2025 10:38
RT : 0.30 min Scan# : 3
Elements : C 10/0, H 10/0, F 1/0, O 1/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0

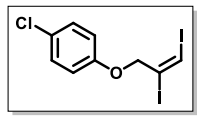


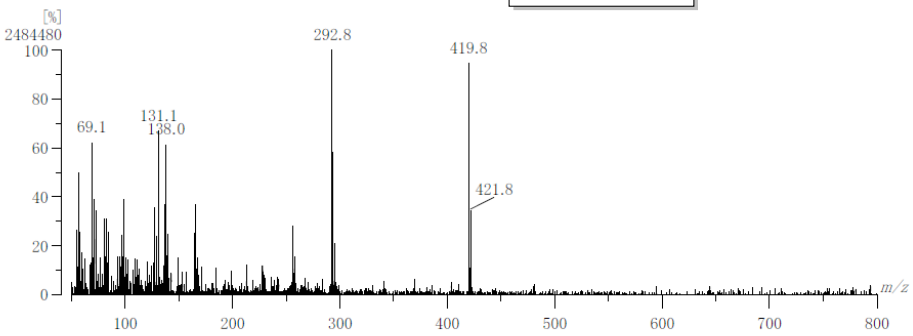


	Observed m/z	Int%							
	403.8559	82.99							
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	F	O	I
1	403.8570	-2.8 / -1.1	5.0	9	7	1	1	2

HRMS of 3q

[Mass Spectrum]
Data : 20250121_HREI_34001 Date : 21-Jan-2025 10:46
RT : 0.45 min Scan# : 4
Elements : C 10/0, H 10/0, 35Cl 1/0, 37Cl 1/0, O 1/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



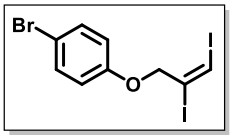


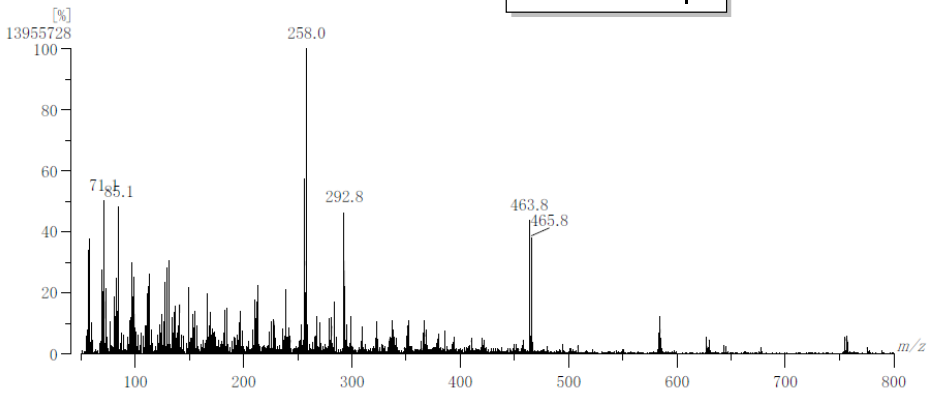
	Observed m/z	Int%								
	419.8288	94.68								
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	35Cl	37Cl	O	I
1	419.8453	-39.3 / -16.5	5.0	10	9	-	1	-	2
2	419.8220	+16.3 / +6.8	1.0	7	10	1	1	-	2
3	419.8275	+3.1 / +1.3	5.0	9	7	1	-	1	2
4	419.8089	+47.4 / +19.9	6.0	9	5	-	1	1	2

	Observed m/z	Int%								
	421.8212	34.26								
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	35Cl	37Cl	O	I
5	421.8431	-52.0 / -21.9	4.0	9	9	1	-	1	2
6	421.8245	-7.9 / -3.3	5.0	9	7	-	1	1	2
7	421.8012	+47.4 / +20.0	1.0	6	8	1	1	1	2

HRMS of 3r

[Mass Spectrum]
Data : 20250121_HREI_35002 Date : 21-Jan-2025 11:00
RT : 0.15 min Scan# : 2
Elements : C 10/0, H 10/0, 79Br 1/0, 81Br 1/0, O 1/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0



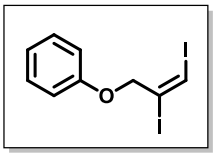


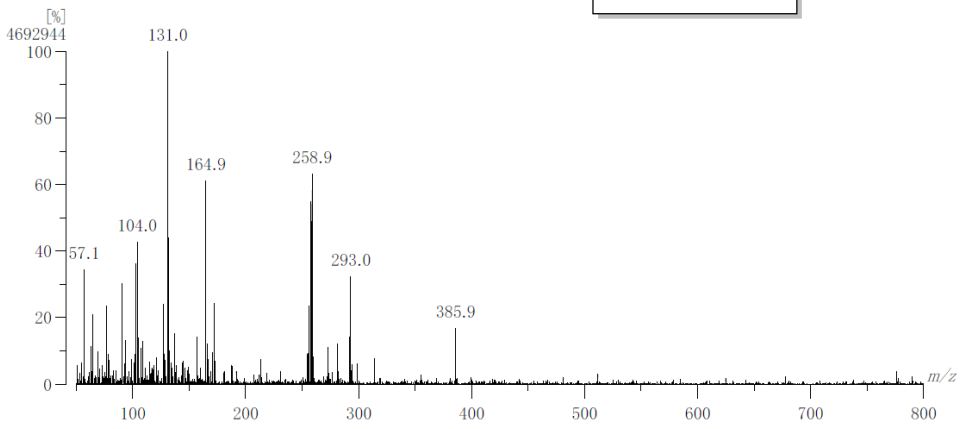
	Observed m/z	Int%								
	463.7776	43.88								
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	79Br	81Br	O	I
1	463.7957	-39.0 / -18.1	5.0	10	9	-	1	-	2
2	463.7770	+1.3 / +0.6	5.0	9	7	1	-	1	2
3	463.7593	+39.5 / +18.3	6.0	9	5	-	1	1	2

	Observed m/z	Int%								
	465.7800	38.04								
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	79Br	81Br	O	I
4	465.7926	-27.1 / -12.6	4.0	9	9	1	-	1	2
5	465.7749	+10.9 / +5.1	5.0	9	7	-	1	1	2

HRMS of 3s

[Mass Spectrum]
Data : 20250121_HREI_29001 Date : 21-Jan-2025 14:50
RT : 0.00 min Scan# : 1
Elements : C 10/0, H 10/0, O 1/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0





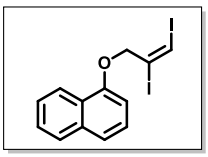
	Observed m/z	Int%						
	385.8648	16.76						
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O	I	
1	385.8665	-4.3 / -1.7	5.0	9	8	1	2	

HRMS of 3t

Elemental Composition Report Page 1

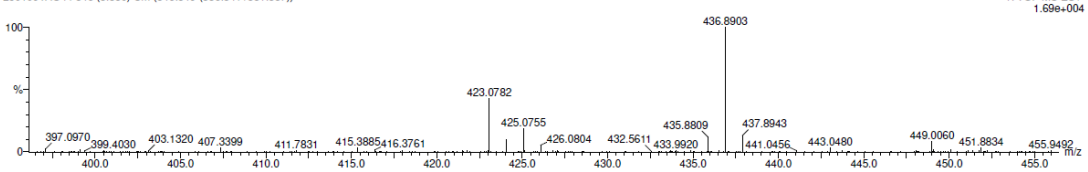
Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
81 formula(e) evaluated with 52 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 I: 1-3



44
250109YAO44 346 (3.380) Cm (346:349-(336:341+381:387))

1: TOF MS ES+
1.69e+004

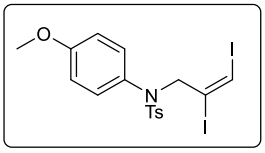


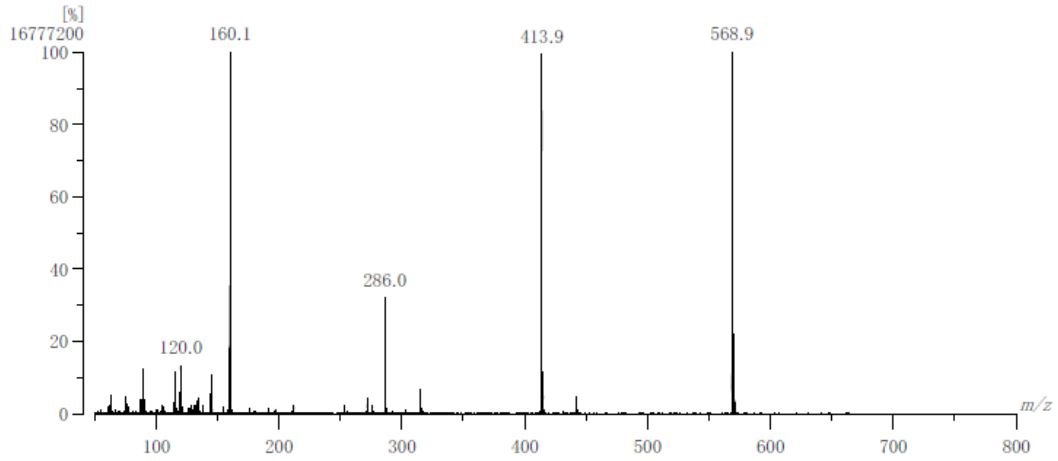
Minimum:	80.00			-10.0		
Maximum:	100.00		10.0	500.0	100.0	

Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
436.8903	100.00	436.8899	0.4	0.9	7.5	C13 H11 O I2
		436.8947	-4.4	-10.1	18.5	C19 H2 O5 I
		436.8958	-5.5	-12.6	-1.5	C6 H15 O6 I2
		436.8805	9.8	22.4	-5.5	C2 H15 O9 I2
		436.9006	-10.3	-23.6	9.5	C12 H6 O10 I
		436.8794	10.9	24.9	14.5	C15 H2 O8 I
		436.8747	15.6	35.7	3.5	C9 H11 O4 I2
		436.9099	-19.6	-44.9	22.5	C23 H2 O2 I
		436.9111	-20.8	-47.6	2.5	C10 H15 O3 I2
		436.9158	-25.5	-58.4	13.5	C16 H6 O7 I
		436.9169	-26.6	-60.9	-6.5	C3 H19 O8 I2
		436.8594	30.9	70.7	-0.5	C5 H11 O7 I2
		436.8535	36.8	84.2	8.5	C12 H7 O2 I2
		436.9311	-40.8	-93.4	17.5	C20 H6 O4 I
		436.9322	-41.9	-95.9	-2.5	C7 H19 O5 I2
		436.8442	46.1	105.5	-4.5	C H11 O10 I2
		436.9369	-46.6	-106.7	8.5	C13 H10 O9 I
		436.8383	52.0	119.0	4.5	C8 H7 O5 I2
		436.9463	-56.0	-128.2	21.5	C24 H6 O I
		436.8335	56.8	130.0	-6.5	C2 H16 O I3

HRMS of 3y

[Mass Spectrum]
Data : 20251209_HREI_27001 Date : 09-Dec-2025 15:13
RT : 0.89 min Scan# : 7
Elements : C 20/0, H 20/0, N 1/0, O 3/0, S 1/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0





Observed m/z Int%
568.9012 100.00

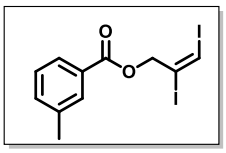
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	N	O	S	I
1	568.8985	+4.8 / +2.7	14.0	20	13	1	3	-	2
2	568.8807	+36.0 / +20.5	15.0	20	13	1	1	1	2
3	568.8569	+77.8 / +44.3	15.5	20	11	-	2	1	2
4	568.9144	-23.3 / -13.2	9.5	18	19	-	3	1	2
5	568.9019	-1.2 / -0.7	10.0	17	17	1	3	1	2

HRMS of 3z

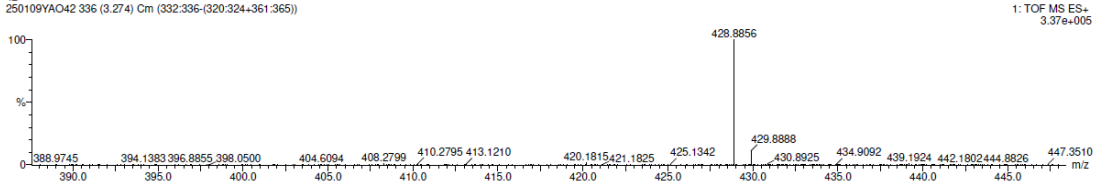
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
77 formula(e) evaluated with 50 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 I: 1-3



42
250109YAO42 336 (3.274) Cm (332:336-(320:324+361:365))



Minimum:	80.00			-10.0	
Maximum:	100.00		10.0	500.0	100.0

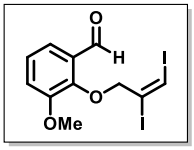
Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
428.8856	100.00	428.8848	0.8	1.9	5.5	C11 H11 O2 I2
		428.8896	-4.0	-9.3	16.5	C17 H2 O6 I
		428.8907	-5.1	-11.9	-3.5	C4 H15 O7 I2
		428.8743	11.3	26.3	12.5	C13 H2 O9 I
		428.8696	16.0	37.3	1.5	C7 H11 O5 I2
		428.9049	-19.3	-45.0	20.5	C21 H2 O3 I
		428.9060	-20.4	-47.6	0.5	C8 H15 O4 I2
		428.8648	20.8	48.5	-9.5	C H20 O I3
		428.9107	-25.1	-58.5	11.5	C14 H6 O8 I
		428.9118	-26.2	-61.1	-8.5	C H19 O9 I2
		428.8543	31.3	73.0	-2.5	C3 H11 O8 I2
		428.9212	-35.6	-83.0	4.5	C12 H15 O I2
		428.8485	37.1	86.5	6.5	C10 H7 O3 I2
		428.9260	-40.4	-94.2	15.5	C18 H6 O5 I
		428.9271	-41.5	-96.8	-4.5	C5 H19 O6 I2
		428.9319	-46.3	-108.0	6.5	C11 H10 O10 I
		428.8332	52.4	122.2	2.5	C6 H7 O6 I2
		428.9412	-55.6	-129.6	19.5	C22 H6 O2 I
		428.9424	-56.8	-132.4	-0.5	C9 H19 O3 I2
		428.8273	58.3	135.9	11.5	C13 H3 O I2

HRMS of 3aa

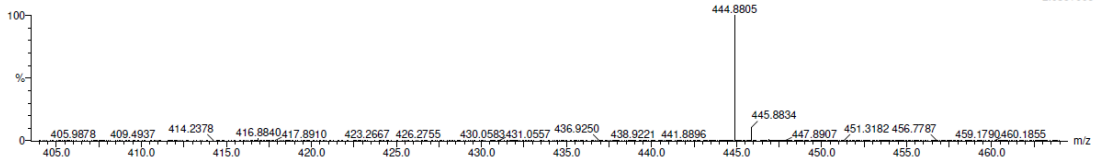
Elemental Composition Report Page 1

Single Mass Analysis
Tolerance = 500.0 PPM / DBE: min = -10.0, max = 100.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions
85 formula(e) evaluated with 54 results within limits (up to 20 closest results for each mass)
Elements Used:
C: 1-100 H: 1-100 O: 1-10 I: 1-3



43
250109YAO43 303 (2.952) Cm (298:303-(285:288+326:331))

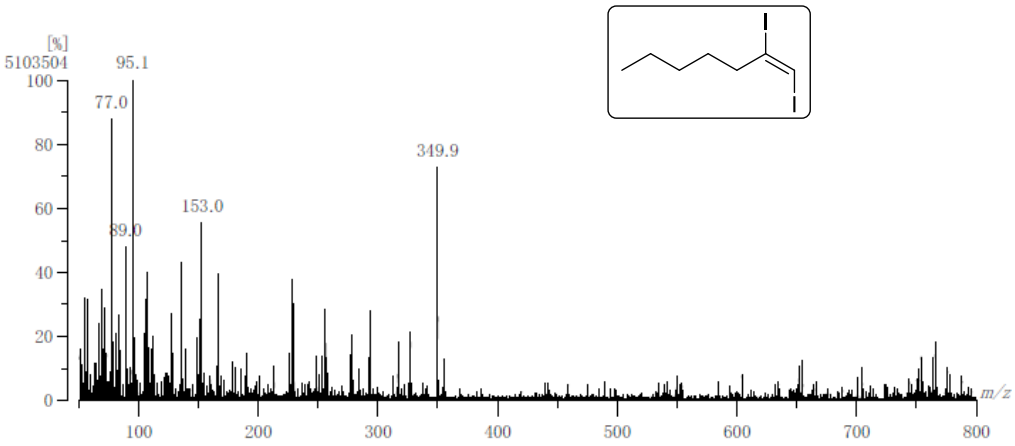


Minimum:	80.00			-10.0	
Maximum:	100.00		10.0	500.0	100.0

Mass	RA	Calc. Mass	mDa	PPM	DBE	Formula
444.8805	100.00	444.8798	0.7	1.6	5.5	C11 H11 O3 I2
		444.8845	-4.0	-9.0	16.5	C17 H2 O7 I
		444.8856	-5.1	-11.5	-3.5	C4 H15 O8 I2
		444.8693	11.2	25.2	12.5	C13 H2 O10 I
		444.8645	16.0	36.0	1.5	C7 H11 O6 I2
		444.8998	-19.3	-43.4	20.5	C21 H2 O4 I
		444.9009	-20.4	-45.9	0.5	C8 H15 O5 I2
		444.8597	20.8	46.8	-9.5	C H20 O2 I3
		444.8586	21.9	49.2	10.5	C14 H7 O I2
		444.9056	-25.1	-56.4	11.5	C14 H6 O9 I
		444.9068	-26.3	-59.1	-8.5	C H19 O10 I2
		444.8492	31.3	70.4	-2.5	C3 H11 O9 I2
		444.9150	-34.5	-77.5	24.5	C25 H2 O I
		444.9161	-35.6	-80.0	4.5	C12 H15 O2 I2
		444.8434	37.1	83.4	6.5	C10 H7 O4 I2
		444.9209	-40.4	-90.8	15.5	C18 H6 O6 I
		444.9220	-41.5	-93.3	-4.5	C5 H19 O7 I2
		444.8281	52.4	117.8	2.5	C6 H7 O7 I2
		444.9362	-55.7	-125.2	19.5	C22 H6 O3 I
		444.9373	-56.8	-127.7	-0.5	C9 H19 O4 I2

HRMS of 3ab

[Mass Spectrum]
Data : 20251209_HREI_25001 Date : 09-Dec-2025 14:53
RT : 0.15 min Scan# : 2
Elements : C 10/0, H 15/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0

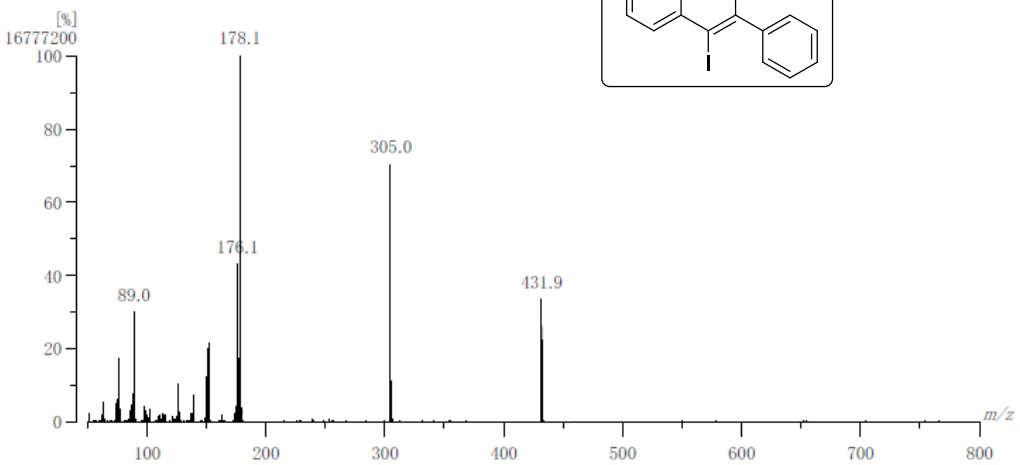


	Observed m/z	Int%
	349.9045	72.80

	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	I
1	349.9029	+4.7 / +1.6	1.0	7	12	2

HRMS of 3ac

[Mass Spectrum]
Data : 20251209_HREI_26001 Date : 09-Dec-2025 15:03
RT : 0.89 min Scan# : 7
Elements : C 15/0, H 10/0, I 2/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0

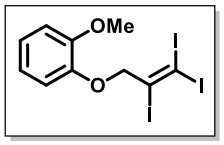


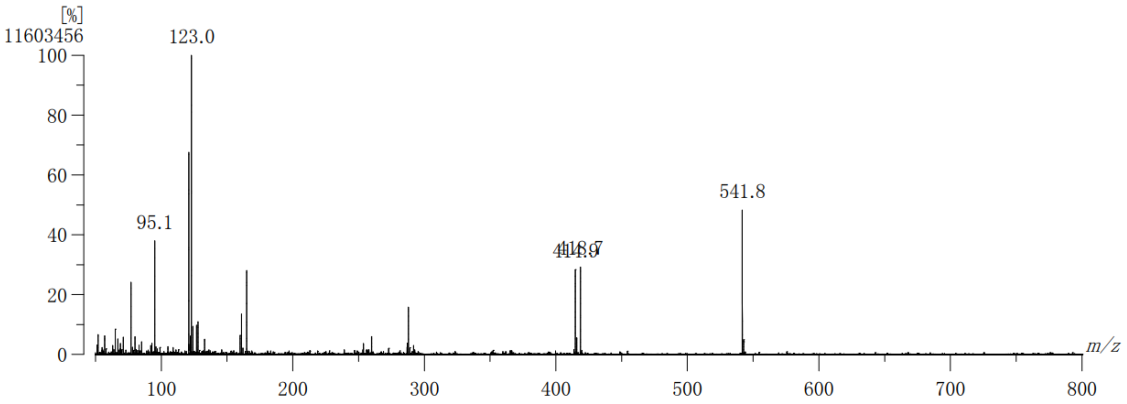
	Observed m/z	Int%
	431.8864	33.50

	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	I
1	431.8872	-1.9 / -0.8	9.0	14	10	2

HRMS of 4a

[Mass Spectrum]
Data : 20250121_HREI_45001 Date : 21-Jan-2025 14:22
RT : 0.89 min Scan# : 7
Elements : C 10/0, H 10/0, O 2/0, I 3/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0

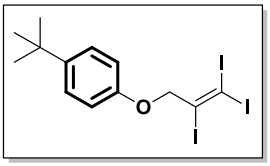


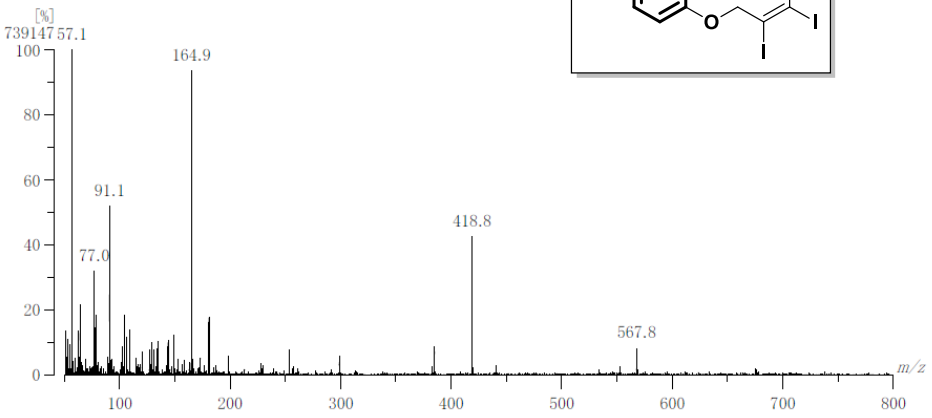


	Observed m/z	Int%						
	541.7777	48.22						
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O	I	
1	541.7737	+7.4 / +4.0	5.0	10	9	2	3	

HRMS of 4h

[Mass Spectrum]
Data : 20251103_HREI_2001 Date : 03-Nov-2025 14:04
RT : 0.15 min Scan# : 2
Elements : C 15/0, H 15/0, O 1/0, I 3/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0

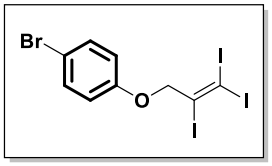




	Observed m/z	Int%						
	567.8241	8.22						
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	O	I	
1	567.8257	-2.9 / -1.6	5.0	13	15	1	3	

HRMS of 4r

[Mass Spectrum]
Data : 20251103_HREI_1001 Date : 03-Nov-2025 13:55
RT : 0.45 min Scan# : 4
Elements : C 10/0, H 10/0, 79Br 1/0, 81Br 1/0, O 1/0, I 3/0
Mass Tolerance : 100ppm, 5mmu if m/z < 50, 50mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 100.0

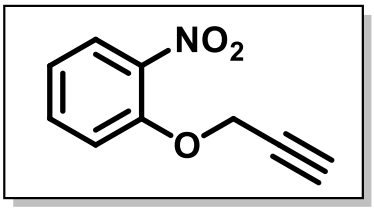


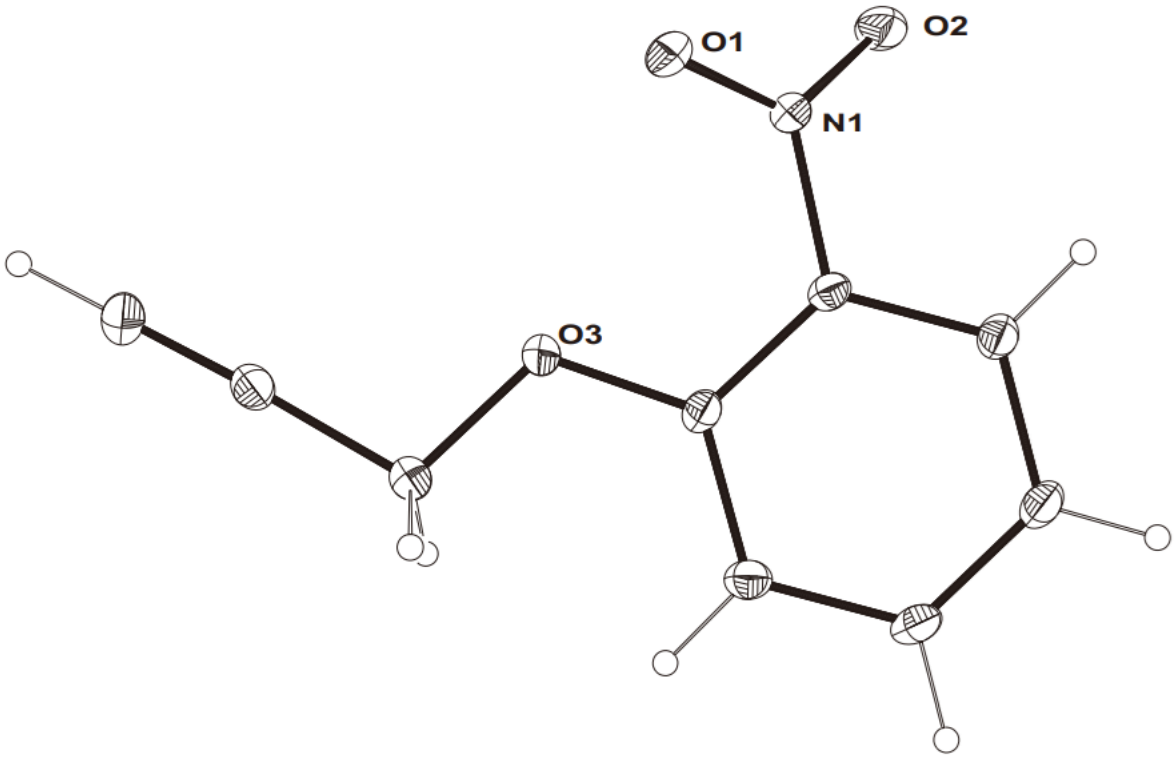
	Observed m/z	Int%							
	589.6724	53.11							
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	79Br	81Br	O	I
1	589.7100	-63.8 / -37.6	4.0	10	10	1	-	-	3
2	589.6923	-33.8 / -19.9	5.0	10	8	-	1	-	3
3	589.6736	-2.1 / -1.2	5.0	9	6	1	-	1	3
4	589.6559	+27.9 / +16.5	6.0	9	4	-	1	1	3

	Observed m/z	Int%							
	591.6701	48.73							
	Estimated m/z	Err[ppm / mmu]	U.S.	C	H	79Br	81Br	O	I
5	591.7080	-64.0 / -37.9	4.0	10	10	-	1	-	3
6	591.6893	-32.4 / -19.2	4.0	9	8	1	-	1	3
7	591.6716	-2.5 / -1.5	5.0	9	6	-	1	1	3

14. Single crystal X-ray analytical data

Ortep (ellipsoid counter 30% probability) **diagram and crystal data of compound (1l): CCDC Number 2499360**

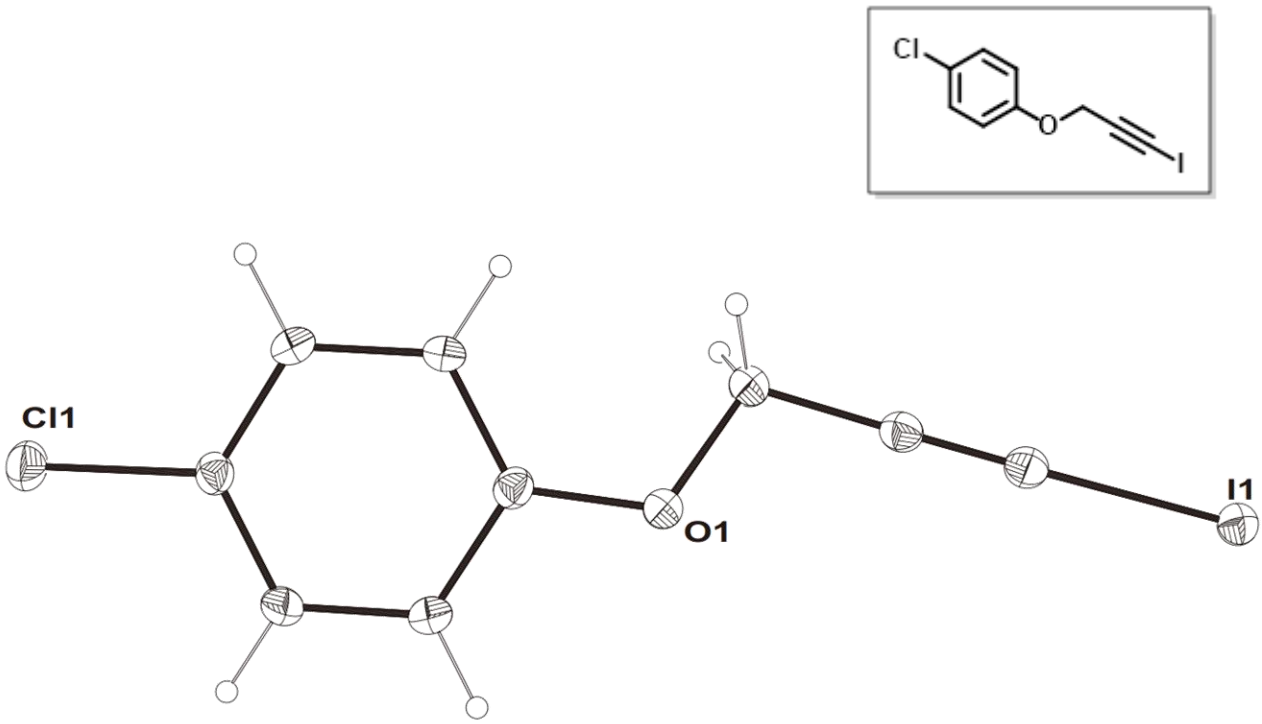




Crystal data and structure refinement for d24734.

Identification code	d24734	
Empirical formula	$C_9H_7NO_3$	
Formula weight	177.16	
Temperature	200(2) K	
Wavelength	1.54178 Å	
Crystal system	Monoclinic	
Space group	P 21/n	
Unit cell dimensions	a = 7.4487(3) Å	α= 90°.
	b = 13.7929(6) Å	β= 94.279(2)°.
	c = 7.9813(3) Å	γ = 90°.
Volume	817.71(6) $Å^3$	
Z	4	
Density (calculated)	1.439 Mg/m^3	
Absorption coefficient	0.929 mm^{-1}	
F(000)	368	
Crystal size	0.60 x 0.54 x 0.04 mm^3	
Theta range for data collection	6.42 to 66.77°.	
Index ranges	-8<=h<=8, -16<=k<=15, -9<=l<=9	
Reflections collected	5160	
Independent reflections	1417 [R(int) = 0.0585]	
Completeness to theta = 66.77°	97.1 %	
Absorption correction	None	
Max. and min. transmission	0.9638 and 0.6057	
Refinement method	Full-matrix least-squares on F^2	
Data / restraints / parameters	1417 / 0 / 118	
Goodness-of-fit on F^2	1.046	
Final R indices [I>2sigma(I)]	R1 = 0.0676, wR2 = 0.1929	
R indices (all data)	R1 = 0.0736, wR2 = 0.2039	
Largest diff. peak and hole	0.310 and -0.342 $e.Å^{-3}$	

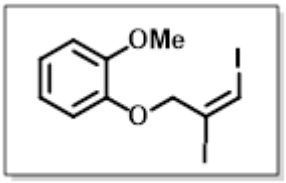
Ortep (ellipsoid counter 30% probability) **diagram and crystal data of compound (2q): CCDC Number 2499361**

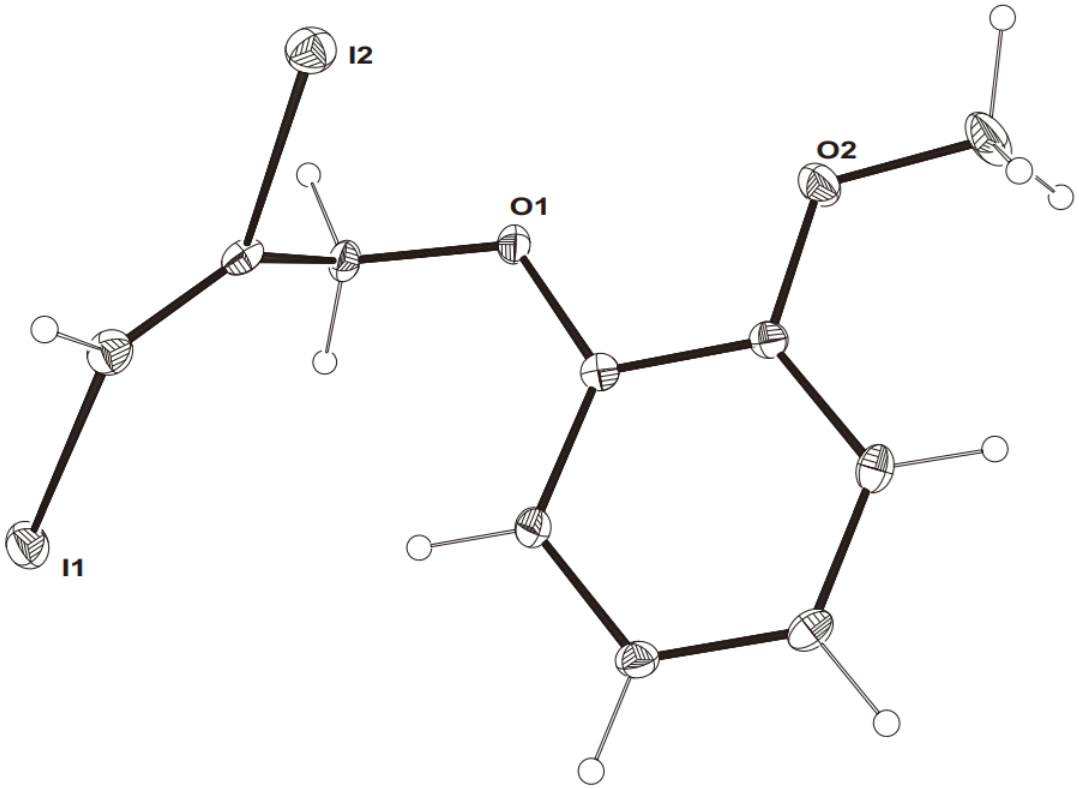


Crystal data and structure refinement for d24934.

Identification code	d24934	
Empirical formula	C_9H_6ClIO	
Formula weight	292.49	
Temperature	200(2) K	
Wavelength	0.71073 Å	
Crystal system	Monoclinic	
Space group	P 21/c	
Unit cell dimensions	a = 4.1996(7) Å	α= 90°.
	b = 10.2622(18) Å	β= 90.362(6)°.
	c = 22.095(4) Å	γ = 90°.
Volume	952.2(3) $Å^3$	
Z	4	
Density (calculated)	2.040 Mg/m^3	
Absorption coefficient	3.591 mm^{-1}	
F(000)	552	
Crystal size	0.29 x 0.08 x 0.03 mm^3	
Theta range for data collection	2.71 to 25.09°.	
Index ranges	-4<=h<=5, -12<=k<=12, -26<=l<=26	
Reflections collected	9896	
Independent reflections	1651 [R(int) = 0.0530]	
Completeness to theta = 25.09°	98.3 %	
Absorption correction	None	
Max. and min. transmission	0.8999 and 0.4224	
Refinement method	Full-matrix least-squares on F^2	
Data / restraints / parameters	1651 / 0 / 109	
Goodness-of-fit on F^2	1.080	
Final R indices [I>2sigma(I)]	R1 = 0.0318, wR2 = 0.0880	
R indices (all data)	R1 = 0.0335, wR2 = 0.0890	
Largest diff. peak and hole	0.808 and -0.606 $e.Å^{-3}$	

Ortep (ellipsoid counter 30% probability) **diagram and crystal data of compound (3a): CCDC Number 2499362**

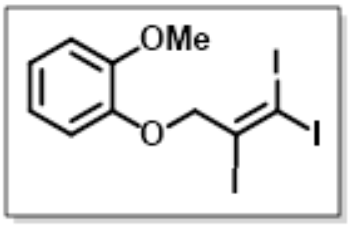


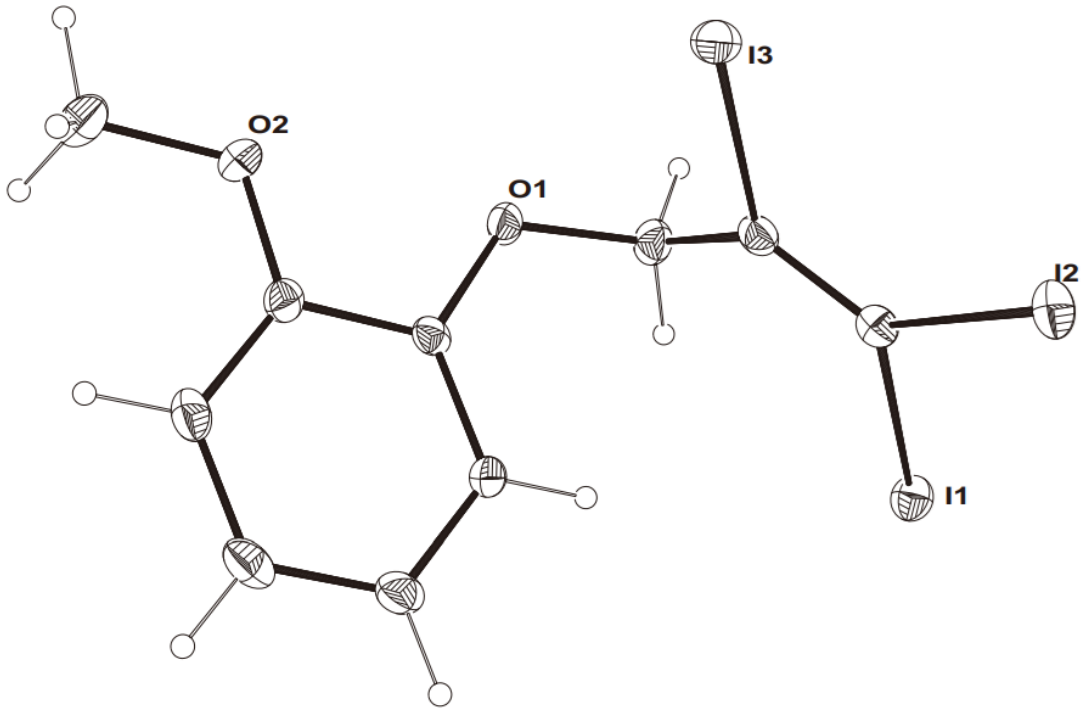


Crystal data and structure refinement for d24946.

Identification code	d24946	
Empirical formula	$C_{10}H_{10}I_2O_2$	
Formula weight	415.98	
Temperature	200(2) K	
Wavelength	0.71073 Å	
Crystal system	Orthorhombic	
Space group	P b c a	
Unit cell dimensions	a = 14.0037(5) Å	α= 90°.
	b = 5.3169(2) Å	β= 90°.
	c = 31.9856(14) Å	γ = 90°.
Volume	2381.53(16) $Å^3$	
Z	8	
Density (calculated)	2.320 Mg/m^3	
Absorption coefficient	5.256 mm^{-1}	
F(000)	1536	
Crystal size	0.07 x 0.07 x 0.02 mm^3	
Theta range for data collection	2.55 to 25.10°.	
Index ranges	-16<=h<=16, -6<=k<=6, -38<=l<=26	
Reflections collected	14790	
Independent reflections	2114 [R(int) = 0.0533]	
Completeness to theta = 25.10°	99.4 %	
Absorption correction	None	
Max. and min. transmission	0.9022 and 0.7099	
Refinement method	Full-matrix least-squares on F^2	
Data / restraints / parameters	2114 / 0 / 128	
Goodness-of-fit on F^2	1.093	
Final R indices [I>2sigma(I)]	R1 = 0.0339, wR2 = 0.0975	
R indices (all data)	R1 = 0.0363, wR2 = 0.0996	
Largest diff. peak and hole	0.815 and -1.136 $e.Å^{-3}$	

Ortep (ellipsoid counter 30% probability) **diagram and crystal data of compound (4a): CCDC Number 2499363**





Crystal data and structure refinement for d25358.

Identification code	shelx	
Empirical formula	$C_{10}H_9I_3O_2$	
Formula weight	541.87	
Temperature	200(2) K	
Wavelength	0.71073 Å	
Crystal system	Monoclinic	
Space group	P 21	
Unit cell dimensions	a = 9.6310(9) Å	α= 90°.
	b = 5.3074(4) Å	β= 94.695(3)°.
	c = 13.5696(11) Å	γ = 90°.
Volume	691.29(10) $Å^3$	
Z	2	
Density (calculated)	2.603 Mg/m^3	
Absorption coefficient	6.763 mm^{-1}	
F(000)	488	
Crystal size	0.620 x 0.040 x 0.010 mm^3	
Theta range for data collection	2.499 to 25.286°.	
Index ranges	-11<=h<=11, -6<=k<=6, -16<=l<=16	
Reflections collected	10770	
Independent reflections	2467 [R(int) = 0.0429]	
Completeness to theta = 25.242°	98.5 %	
Refinement method	Full-matrix least-squares on F^2	
Data / restraints / parameters	2467 / 1 / 137	
Goodness-of-fit on F^2	0.914	
Final R indices [I>2sigma(I)]	R1 = 0.0187, wR2 = 0.0519	
R indices (all data)	R1 = 0.0193, wR2 = 0.0526	
Absolute structure parameter	0.06(2)	
Extinction coefficient	n/a	
Largest diff. peak and hole	0.476 and -0.476 e.$Å^{-3}$	