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间位基团激发态取代基常数的扩展及应用

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Extension and Application of Excited-State Constants of *meta*-Substituents

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1　225 个化合物的 λ_{max}、ν_{max}

表 S1　化合物 *m*/*p*-XSBY-*m*/*p* 和 XArY 的 λ_{max}(nm)、ν_{max}(cm^{-1})的计算值与实验值及取代基 X 和 Y 的 σ 和 σ_{CC}^{ex}

Table S1　Calculated and experimental λ_{max} (nm) and ν_{max} (cm^{-1}) of compounds *m*/*p*-XSBY-*m*/*p* and XArY and substituent constant values of σ and σ_{CC}^{ex} for groups X and Y

No	X	Y	$\lambda_{max,cal.}$ [a]	$\nu_{max,cal.}$ [a]	$\lambda_{max,expt.}$ [b]	$\nu_{max,expt.}$ [b]	$\nu_{max,parent}$ [c]	σ(XY) [d]	$\Sigma\sigma_{CC}^{ex}$
1	*m*-MeO	*p*-Me_2N	352.4	28377	351.3	28469	32485	-0.10	-1.71
2	*m*-MeO	*p*-MeO	318.2	31430	321.2	31132	32485	-0.03	-0.40
3	*m*-MeO	*p*-Me	310.6	32192	309.9	32273	32485	-0.02	-0.07
4	*m*-MeO	H	306.7	32605	305.8	32704	32485	0.00	0.10
5	*m*-MeO	*p*-Cl	311.0	32149	310.5	32211	32485	0.03	-0.12
6	*m*-MeO	*p*-CF_3	308.4	32430	306.9	32586	32485	0.06	-0.02
7	*m*-MeO	*p*-CN	321.1	31143	319.8	31274	32485	0.08	-0.60
8	*m*-Me	*p*-Me_2N	353.2	28316	348.7	28678	32485	0.06	-1.84
9	*m*-Me	*p*-MeO	320.4	31212	319.3	31314	32485	0.02	-0.53
10	*m*-Me	*p*-Me	313.0	31946	312.7	31977	32485	0.01	-0.20
11	*m*-Me	H	309.5	32312	308.3	32434	32485	0.00	-0.03
12	*m*-Me	*p*-F	308.3	32441	308.8	32380	32485	0.00	0.03
13	*m*-Me	*p*-Cl	314.5	31792	313.9	31861	32485	-0.02	-0.25
14	*m*-Me	*p*-CF_3	312.6	31986	311.7	32084	32485	-0.04	-0.15
15	*m*-Me	*p*-CN	326.1	30666	322.8	30978	32485	-0.05	-0.73
16	*m*-F	*p*-Me_2N	358.1	27929	350.1	28562	32485	-0.28	-1.79
17	*m*-F	*p*-MeO	320.9	31162	320.1	31245	32485	-0.09	-0.48
18	*m*-F	*p*-Me	312.9	31956	312.1	32037	32485	-0.06	-0.15
19	*m*-F	H	308.4	32425	307.3	32546	32485	0.00	0.02
20	*m*-F	*p*-F	306.8	32590	308.0	32470	32485	0.02	0.08
21	*m*-F	*p*-Cl	312.1	32043	312.9	31964	32485	0.08	-0.20
22	*m*-F	*p*-CF_3	308.4	32424	309.1	32352	32485	0.18	-0.10
23	*m*-F	*p*-CN	320.8	31176	319.0	31351	32485	0.22	-0.68
24	*m*-F	*p*-Et	311.9	32057	312.2	32035	32485	-0.05	-0.11
25	*m*-Cl	*p*-Me_2N	358.5	27892	356.2	28076	32485	-0.31	-1.79
26	*m*-Cl	*p*-MeO	321.0	31150	321.1	31139	32485	-0.10	-0.48
27	*m*-Cl	*p*-Me	313.0	31949	312.7	31975	32485	-0.06	-0.15
28	*m*-Cl	H	308.4	32425	306.5	32622	32485	0.00	0.02
29	*m*-Cl	*p*-F	306.8	32592	307.0	32574	32485	0.02	0.08
30	*m*-Cl	*p*-Cl	312.0	32053	313.0	31948	32485	0.09	-0.20
31	*m*-Cl	*p*-CF_3	308.2	32447	308.2	32451	32485	0.20	-0.10
32	*m*-Cl	*p*-CN	320.5	31205	319.5	31297	32485	0.24	-0.68
33	*m*-Br	*p*-MeO	322.3	31030	322.3	31028	32485	-0.11	-0.53
34	*m*-Br	*p*-Me	314.2	31831	313.7	31878	32485	-0.07	-0.20

35	*m*-Br	H	309.5	32312	307.6	32511	32485	0.00	-0.03
36	*m*-Br	*p*-F	307.9	32481	309.8	32277	32485	0.02	0.03
37	*m*-Br	*p*-Cl	313.0	31947	313.7	31875	32485	0.09	-0.25
38	*m*-Br	*p*-CF_3	309.1	32350	309.1	32349	32485	0.21	-0.15
39	*m*-Br	*p*-CN	321.4	31111	320.4	31213	32485	0.26	-0.73
40	*m*-CF_3	*p*-Me_2N	357.4	27977	359.9	27782	32485	-0.36	-1.72
41	*m*-CF_3	*p*-MeO	319.6	31284	320.9	31163	32485	-0.12	-0.41
42	*m*-CF_3	*p*-Me	311.6	32092	312.1	32042	32485	-0.07	-0.08
43	*m*-CF_3	H	306.9	32582	306.0	32677	32485	0.00	0.09
44	*m*-CF_3	*p*-F	305.3	32756	302.7	33031	32485	0.03	0.15
45	*m*-CF_3	*p*-Cl	310.3	32232	312.3	32018	32485	0.10	-0.13
46	*m*-CF_3	*p*-CF_3	306.3	32653	306.7	32601	32485	0.23	-0.03
47	*m*-CF_3	*p*-CN	318.3	31421	317.2	31524	32485	0.28	-0.61
48	*m*-CN	*p*-MeO	309.7	32293	318.1	31434	32485	-0.15	0.06
49	*m*-CN	*p*-Me	301.9	33119	301.8	33132	32485	-0.10	0.39
50	*m*-CN	H	297.2	33642	295.8	33805	32485	0.00	0.56
51	*m*-CN	*p*-F	295.6	33827	294.2	33986	32485	0.03	0.62
52	*m*-CN	*p*-Cl	300.0	33335	299.9	33349	32485	0.13	0.34
53	*m*-CN	*p*-CF_3	295.7	33816	296.8	33692	32485	0.30	0.44
54	*m*-CN	*p*-CN	306.7	32607	317.9	31460	32485	0.37	-0.14
55	*m*-PhO	*p*-MeO	321.0	31153	322.4	31015	32485	-0.07	-0.50
56	*m*-PhO	*p*-Me	313.1	31934	313.7	31881	32485	-0.04	-0.17
57	*m*-PhO	H	308.8	32379	306.6	32614	32485	0.00	0.00
58	*m*-PhO	*p*-F	307.3	32537	306.0	32679	32485	0.02	0.06
59	*m*-PhO	*p*-Cl	312.8	31968	313.9	31857	32485	0.06	-0.22
60	*m*-PhO	*p*-CF_3	309.5	32307	309.7	32289	32485	0.14	-0.12
61	*m*-PhO	*p*-CN	322.1	31043	321.8	31072	32485	0.17	-0.70
62	*m*-MeO	*m*-MeO	304.4	32852	302.6	33046	32485	0.01	0.20
63	*m*-MeO	*m*-Me	305.7	32710	305.3	32755	32485	0.04	0.12
64	*m*-Me	*m*-Me	310.1	32251	309.9	32274	32485	0.00	-0.06
65	*m*-Me	*m*-F	309.4	32322	308.2	32443	32485	-0.02	-0.01
66	*m*-Me	*m*-Cl	309.4	32319	309.9	32273	32485	-0.03	-0.01
67	*m*-Me	*m*-CF_3	308.0	32471	309.7	32285	32485	-0.03	0.06
68	*m*-Me	*m*-CN	298.4	33517	297.9	33564	32485	-0.04	0.53
69	*m*-Me	*m*-Br	310.5	32204	309.8	32277	32485	-0.03	-0.06
70	*m*-F	*m*-F	306.4	32639	307.0	32579	32485	0.12	0.04
71	*m*-F	*m*-Cl	306.2	32654	305.9	32694	32485	0.13	0.04
72	*m*-F	*m*-CF_3	304.5	32842	305.9	32693	32485	0.15	0.11
73	*m*-F	*m*-CN	294.4	33967	295.0	33895	32485	0.19	0.58
74	*m*-Cl	*m*-Cl	306.1	32671	306.9	32582	32485	0.14	0.04
75	*m*-Cl	*m*-CF_3	304.3	32861	305.9	32696	32485	0.16	0.11
76	*m*-Cl	*m*-CN	294.2	33992	294.8	33921	32485	0.21	0.58
77	*m*-Cl	*m*-Br	307.0	32569	309.8	32278	32485	0.14	-0.01

78	*m*-CF_3	*m*-CF_3	302.5	33057	304.8	32805	32485	0.18	0.18
79	*m*-CF_3	*m*-CN	292.4	34199	292.5	34187	32485	0.24	0.65
80	*m*-NO_2	*p*-Me_2N	345.8	28921	359.8	27793	32485	-0.59	-1.15
81	*m*-NO_2	*p*-MeO	308.1	32459	318.6	31387	32485	-0.19	0.16
82	*m*-NO_2	*p*-Me	300.2	33307	302.3	33076	32485	-0.12	0.49
83	*m*-NO_2	H	295.3	33868	294.8	33921	32485	0.00	0.66
84	*m*-NO_2	*p*-F	293.6	34066	294.3	33975	32485	0.04	0.72
85	*m*-NO_2	*p*-Cl	297.5	33611	296.8	33693	32485	0.16	0.44
86	*m*-NO_2	*p*-CF_3	292.7	34160	294.2	33990	32485	0.38	0.54
87	*m*-NO_2	*p*-CN	303.2	32977	313.3	31915	32485	0.47	-0.04
88	*m*-I	*p*-MeO	320.2	31226	322.3	31032	32485	-0.09	-0.45
89	*m*-I	*p*-Me	312.3	32022	312.2	32036	32485	-0.06	-0.12
90	*m*-I	H	307.8	32492	304.5	32839	32485	0.00	0.05
91	*m*-I	*p*-Cl	311.4	32114	313.6	31888	32485	0.08	-0.17
92	*m*-I	*p*-CF_3	307.7	32499	308.3	32439	32485	0.19	-0.07
93	*m*-I	*p*-CN	320.0	31253	320.5	31198	32485	0.23	-0.65
94	*m*-$CHCH_2$	*p*-MeO	318.4	31409	318.2	31428	32485	-0.02	-0.42
95	*m*-$CHCH_2$	*p*-Me	310.9	32162	310.5	32209	32485	-0.01	-0.09
96	*m*-$CHCH_2$	H	307.1	32560	306.2	32658	32485	0.00	0.08
97	*m*-$CHCH_2$	*p*-Cl	311.7	32084	311.3	32120	32485	0.01	-0.14
98	*m*-$CHCH_2$	*p*-CF_3	309.2	32337	309.3	32328	32485	0.03	-0.04
99	*m*-$CHCH_2$	*p*-CN	322.2	31040	321.5	31101	32485	0.04	-0.62
100	*m*-Ph	*p*-MeO	320.0	31251	319.3	31321	32485	-0.02	-0.49
101	*m*-Ph	*p*-Me	312.5	32004	311.8	32072	32485	-0.01	-0.16
102	*m*-Ph	H	308.6	32402	307.3	32545	32485	0.00	0.01
103	*m*-Ph	*p*-Cl	313.2	31926	313.3	31918	32485	0.01	-0.21
104	*m*-Ph	*p*-CF_3	310.8	32179	310.5	32209	32485	0.03	-0.11
105	*m*-Ph	*p*-CN	323.8	30882	322.4	31017	32485	0.04	-0.69
106	*m*-Et	*p*-MeO	321.1	31144	319.6	31289	32485	0.02	-0.56
107	*m*-Et	*p*-Me	313.7	31878	312.8	31969	32485	0.01	-0.23
108	*m*-Et	H	310.1	32244	309.0	32362	32485	0.00	-0.06
109	*m*-Et	*p*-Cl	315.2	31724	314.0	31847	32485	-0.02	-0.28
110	*m*-Et	*p*-CF_3	313.3	31918	312.0	32051	32485	-0.04	-0.18
111	*m*-Et	*p*-CN	326.8	30598	323.2	30941	32485	-0.05	-0.76
112	*m*-Me_2N	*p*-MeO	315.5	31699	314.8	31766	32485	0.04	-0.33
113	*m*-Me_2N	*p*-Me	308.5	32419	308.0	32468	32485	0.03	0.00
114	*m*-Me_2N	H	305.2	32763	305.0	32787	32485	0.00	0.17
115	*m*-Me_2N	*p*-Cl	310.4	32213	310.0	32258	32485	-0.04	-0.05
116	*m*-Me_2N	*p*-CF_3	309.0	32365	309.0	32362	32485	-0.09	0.05
117	*m*-Me_2N	*p*-CN	322.3	31029	319.8	31270	32485	-0.11	-0.53
118	*m*-CCH	*p*-MeO	316.7	31575	315.4	31706	32485	-0.06	-0.32
119	*m*-CCH	*p*-Me	309.1	32350	309.0	32362	32485	-0.04	0.01
120	*m*-CCH	H	305.0	32785	304.6	32830	32485	0.00	0.18

121	*m*-CCH	*p*-Cl	309.0	32360	310.2	32237	32485	0.05	-0.04
122	*m*-CCH	*p*-CF_3	306.0	32681	307.0	32573	32485	0.11	0.06
123	*m*-CCH	*p*-CN	318.4	31410	320.4	31211	32485	0.14	-0.52
124	H	*p*-Me	312.5	31996	311.2	32133	32485	0.00	-0.17
125	*p*-F	*p*-F	306.2	32655	307.7	32501	32485	0.00	0.12
126	*p*-F	*p*-Me	311.4	32116	311.3	32121	32485	-0.01	-0.11
127	*p*-Cl	*p*-Me	318.0	31443	316.4	31611	32485	-0.04	-0.39
128	*p*-MeO	*p*-MeO	330.8	30232	325.6	30716	32485	0.07	-1.00
129	*p*-MeO	*p*-CN	340.0	29412	338.3	29562	32485	-0.18	-1.20
130	*p*-CN	*p*-CN	334.9	29862	342.9	29163	32485	0.44	-1.40
131	*p*-MeO	*p*-$MeSO_2$	333.4	29997	332.0	30120	32485	-0.19	-0.93
132	*p*-Me	*p*-$MeSO_3$	324.2	30847	323.1	30950	32485	-0.12	-0.60
133	H	*p*-$MeSO_4$	318.4	31410	316.0	31646	32485	0.00	-0.43
134	*p*-Cl	*p*-$MeSO_5$	321.0	31157	320.3	31221	32485	0.17	-0.65
135	*p*-Br	*p*-$MeSO_6$	323.5	30909	321.3	31124	32485	0.17	-0.76
136	*p*-CF_3	*p*-NO_2	332.3	30089	340.0	29412	32485	0.42	-1.29
137	*p*-CF_3	*p*-NH_2	337.8	29601	349.1	28645	32485	-0.36	-1.00
138	*p*-NH_2	*p*-NH_2	344.2	29051	344.0	29070	32485	0.44	-1.76
139	*p*-Cl	*p*-NH_2	337.0	29676	341.2	29308	32485	-0.15	-1.10
140	*p*-CN	*p*-NH_2	354.9	28177	367.8	27189	32485	-0.44	-1.58
141	*p*-Me_2N	*p*-CN	385.9	25915	386.9	25846	32485	-0.55	-2.51
142	*p*-Me_2N	*p*-CF_3	365.4	27369	365.9	27328	32485	-0.45	-1.93
143	*p*-NH_2	*p*-CF_3	337.8	29601	349.1	28645	32485	-0.36	-1.00
144	*p*-Me_2N	H	353.4	28298	348.0	28736	32485	0.00	-1.81
145	*p*-Me_2N	*p*-MeO	363.6	27500	347.4	28788	32485	0.22	-2.31
146	*p*-NH_2	*p*-NH_2	344.2	29051	344.0	29070	32485	0.44	-1.76
147	*p*-CN	*p*-CN	334.9	29862	342.9	29163	32485	0.44	-1.40
148	*p*-NO_2	*p*-CF_3	332.3	30089	340.0	29409	32485	0.42	-1.29
149	*p*-CN	*p*-MeO	340.0	29412	338.3	29562	32485	-0.18	-1.20
150	*p*-MeO	*p*-MeO	330.8	30232	325.6	30716	32485	0.07	-1.00
151	*p*-F	*p*-F	306.2	32655	307.7	32501	32485	0.00	0.12
152	*p*-Me_2N	*p*-Me	355.6	28122	347.9	28741	32485	0.14	-1.91
153	*p*-MeO	*p*-Me	323.2	30936	321.2	31129	32485	0.05	-0.67
154	*p*-Me	*p*-Me	315.9	31655	314.9	31755	32485	0.03	-0.34
155	*p*-Me	*p*-Et	315.1	31740	315.2	31724	32485	0.03	-0.30
156	*p*-Me	H	312.5	31996	311.2	32133	32485	0.00	-0.17
157	*p*-Me	*p*-F	311.4	32116	311.3	32121	32485	-0.01	-0.11
158	*p*-Me	*p*-Cl	318.0	31443	316.3	31611	32485	-0.04	-0.39
159	*p*-Me	*p*-CN	330.5	30253	326.6	30621	32485	-0.11	-0.87
160	*p*-Me_2N	H	353.4	28298	350.1	28563	32485	0.00	-1.81
161	*p*-MeO	H	320.0	31252	318.2	31427	32485	0.00	-0.50
162	*p*-Et	H	311.7	32086	312.0	32055	32485	0.00	-0.13
163	H	H	308.8	32379	307.8	32485	32485	0.00	0.00

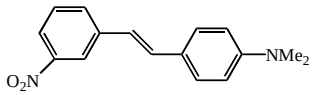
164	H	*p*-F	307.6	32515	307.4	32536	32485	0.00	0.06
165	H	*p*-Cl	313.6	31883	312.1	32044	32485	0.00	-0.22
166	H	*p*-CN	324.7	30801	320.5	31204	32485	0.00	-0.70
167	*p*-Me_2N	*p*-F	352.6	28360	349.3	28627	32485	-0.05	-1.75
168	*p*-MeO	*p*-F	318.8	31364	318.4	31403	32485	-0.02	-0.44
169	*p*-Et	*p*-F	310.5	32208	311.5	32102	32485	-0.01	-0.07
170	*p*-F	*p*-Cl	312.1	32039	312.3	32018	32485	0.01	-0.16
171	*p*-F	*p*-CN	322.6	30994	320.8	31175	32485	0.04	-0.64
172	*p*-Me_2N	*p*-Cl	363.3	27522	354.3	28225	32485	-0.19	-2.03
173	*p*-MeO	*p*-Cl	326.1	30665	323.8	30883	32485	-0.06	-0.72
174	*p*-Et	*p*-Cl	317.1	31540	316.7	31580	32485	-0.03	-0.35
175	*p*-Cl	*p*-Cl	317.8	31465	316.7	31576	32485	0.05	-0.44
176	*p*-Cl	*p*-CN	327.6	30528	324.1	30855	32485	0.15	-0.92
177	*p*-F	*p*-$CHCH_2$	246.5	40576	246.0	40650	49140	0.00	-1.07
178	H	*p*-$CHCH_2$	247.7	40375	247.2	40453	49140	0.00	-1.13
179	*p*-Me(CO)O	*p*-$CHCH_2$	249.5	40084	249.0	40161	49140	-0.01	-1.21
180	*p*-Me_3Si	*p*-$CHCH_2$	250.4	39935	250.0	40000	49140	0.00	-1.26
181	*p*-Me	*p*-$CHCH_2$	251.2	39805	251.0	39841	49140	0.01	-1.30
182	*t*-Bu	*p*-$CHCH_2$	251.2	39807	251.0	39841	49140	0.01	-1.30
183	*p*-Cl	*p*-$CHCH_2$	252.5	39611	252.0	39683	49140	-0.01	-1.35
184	*p*-Br	*p*-$CHCH_2$	254.9	39236	254.6	39277	49140	-0.01	-1.46
185	*p*-$MeSO_2$	*p*-$CHCH_2$	257.3	38866	257.0	38911	49140	-0.03	-1.56
186	*p*-MeO	*p*-$CHCH_2$	258.5	38685	258.5	38685	49140	0.01	-1.63
187	*p*-I	*p*-$CHCH_2$	260.1	38454	260.0	38462	49140	-0.01	-1.69
188	*p*-MeSO	*p*-$CHCH_2$	261.1	38299	261.0	38314	49140	-0.02	-1.73
189	*p*-$MeCO_2$	*p*-$CHCH_2$	263.2	37995	263.1	38008	49140	-0.02	-1.82
190	*p*-CN	*p*-$CHCH_2$	263.5	37948	263.5	37951	49140	-0.03	-1.83
191	*p*-MeCO	*p*-$CHCH_2$	274.0	36491	274.5	36430	49140	-0.02	-2.26
192	*p*-MeS	*p*-$CHCH_2$	280.9	35599	282.0	35461	49140	0.00	-2.53
193	*p*-Me_2N	*p*-$CHCH_2$	292.0	34250	294.0	34014	49140	0.03	-2.94
194	*p*-F	*p*-MeCO	246.2	40624	239.3	41789	49140	0.03	-1.07
195	*p*-Cl	*p*-MeCO	251.3	39793	249.7	40048	49140	0.12	-1.35
196	*p*-Br	*p*-MeCO	253.7	39418	251.4	39777	49140	0.12	-1.46
197	*p*-Me	*p*-MeCO	252.1	39670	244.4	40917	49140	-0.09	-1.30
198	H	*p*-MeCO	247.7	40375	242.0	41322	49140	0.00	-1.13
199	*p*-MeO	*p*-MeCO	259.9	38471	262.2	38139	49140	-0.14	-1.63
200	*t*-Bu	*p*-MeCO	252.2	39648	251.8	39714	49140	-0.10	-1.30
201	*p*-Me_2N	*p*-MeCO	297.7	33592	307.1	32563	49140	-0.42	-2.94
202	*p*-F	*p*-$C(Me)=CH_2$	243.3	41095	242.2	41288	49140	0.00	-0.92
203	H	*p*-$C(Me)=CH_2$	244.6	40886	242.5	41237	49140	0.00	-0.98
204	*p*-Me	*p*-$C(Me)=CH_2$	248.2	40294	248.1	40306	49140	-0.01	-1.15
205	*p*-Cl	*p*-$C(Me)=CH_2$	249.0	40153	249.7	40048	49140	0.01	-1.20
206	*p*-$MeCO_2$	*p*-$C(Me)=CH_2$	259.3	38566	267.9	37327	49140	0.02	-1.67

207	*p*-MeCO	*p*-C(Me)=CH_2	269.8	37069	277.7	36010	49140	0.03	-2.11
208	*p*-MeS	*p*-C(Me)=CH_2	276.9	36111	276.7	36140	49140	0.00	-2.38
209	*p*-CF_3	*p*-C(Me)=CH_2	246.8	40517	247.4	40420	49140	0.03	-1.10
210	*p*-F	*p*-CCH	244.7	40873	243.8	41017	49140	0.01	-0.99
211	*p*-Cl	*p*-CCH	250.2	39975	252.4	39620	49140	0.05	-1.27
212	*p*-Br	*p*-CCH	252.5	39600	254.6	39277	49140	0.05	-1.38
213	*p*-Me	*p*-CCH	249.9	40010	249.6	40064	49140	-0.04	-1.22
214	*p*-MeCO	*p*-CCH	270.5	36962	269.2	37147	49140	0.12	-2.18
215	*p*-CN	*p*-CCH	259.9	38483	262.6	38081	49140	0.15	-1.75
216	*p*-MeSO	*p*-CCH	258.0	38767	262.0	38168	49140	0.11	-1.65
217	H	*p*-CCH	246.0	40648	245.0	40816	49140	0.00	-1.05
218	*p*-CF_3	*p*-CCH	247.4	40421	248.8	40193	49140	0.12	-1.17
219	*p*-$MeCO_2$	*p*-CCH	260.1	38446	258.2	38730	49140	0.10	-1.74
220	*p*-MeO	*p*-CCH	257.4	38851	254.4	39308	49140	-0.06	-1.55
221	*t*-Bu	*p*-CCH	250.0	40000	250.2	39968	49140	-0.05	-1.22
222	*p*-NO_2	*p*-CCH	270.9	36920	272.8	36657	49140	0.18	-2.22
223	*p*-Me_3Si	*p*-CCH	248.9	40181	253.4	39463	49140	-0.02	-1.18
224	*p*-Me	*p*-CCH	278.8	35872	279.6	35765	49140	0.00	-2.45
225	*p*-Me_2N	*p*-CCH	292.5	34194	285.4	35039	49140	-0.19	-2.86

[a] $\lambda_{max,cal.}=1/\nu_{max,cal.}$, $\nu_{max,cal.}$ values were predicted by Eq.(4); [b] $\lambda_{max,expt.}$ of No.s 1-79 were taken from Ref.12, $\lambda_{max,expt.}$ of Nos. 80-123 were obtained by this work, $\lambda_{max,expt.}$ of Nos. 124-140 were taken from Ref.31, $\lambda_{max,expt.}$ of Nos. 141-151 were taken from Ref.32, $\lambda_{max,expt.}$ of No.s 152-176 were taken from Ref.3, $\lambda_{max,expt.}$ of No.s 177-225 were taken from Ref.11; [c] Nos. 1-176 of compounds of parent molecule are stilbene, Nos. 177-225 of compounds of parent molecule are benzenes; [b] Hammett constant of substituent were taken from Ref.4.

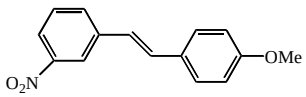
2. 所有合成化合物的 ^{1}H NMR、^{13}C NMR 数据

2.1 *m*-NO_2SBNMe_2-*p*

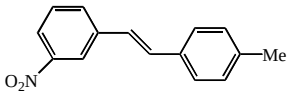


^{1}H NMR (500 MHz, $CDCl_3$) δ 8.31 (s, 1H), 8.01 (d, J = 7.2 Hz, 1H), 7.74 (d, J = 7.7 Hz, 1H), 7.45 (dd, J = 19.5, 8.3 Hz, 3H), 7.16 (d, J = 16.2 Hz, 1H), 6.92 (d, J = 16.2 Hz, 1H), 6.72 (d, J = 8.7 Hz, 2H), 3.01 (s, 6H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 150.63, 148.70, 140.13, 131.81,131.66, 129.39, 128.06, 124.44, 121.46, 120.97, 120.29, 112.28 , 40.36 .

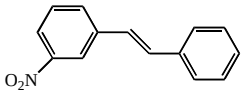
2.2 *m*-NO_2SBOMe-*p*



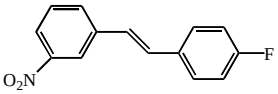
^{1}H NMR (500 MHz, $CDCl_3$) δ 8.32 (s, 1H), 8.05 (d, J = 8.0 Hz, 1H), 7.75 (d, J = 7.7 Hz, 1H), 7.48 (t, J = 9.0 Hz, 3H), 7.17 (d, J = 16.3 Hz, 1H), 6.98 (d, J = 16.3 Hz, 1H), 6.92 (d, J = 8.6 Hz, 2H), 3.84 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 159.90, 148.63, 139.44, 131.94, 131.17, 129.42, 128.96, 128.10, 123.82, 121.50 , 120.50 , 114.22 , 55.29 .

2.3 *m*-NO_2SBMe-*p* 

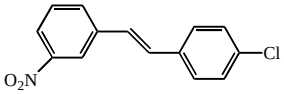
^{1}H NMR (500 MHz, $CDCl_3$) δ 8.34 (s, 1H), 8.07 (d, J = 8.0 Hz, 1H), 7.77 (d, J = 7.7 Hz, 1H), 7.50 (t, J = 7.9 Hz, 1H), 7.44 (d, J = 7.9 Hz, 2H), 7.24 – 7.17 (m, 3H), 7.07 (d, J = 16.3 Hz, 1H), 2.38 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 148.63, 139.28, 138.55, 133.42, 132.08, 131.59, 129.52, 129.45, 126.71, 124.99, 121.73, 120.68, 21.28.

2.4 *m*-NO_2SBH 

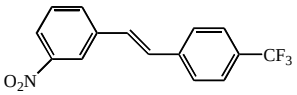
^{1}H NMR (500 MHz, $CDCl_3$) δ 8.23 (s, 1H), 7.97 (dd, J = 7.9, 1.7 Hz, 1H), 7.67 (d, J = 7.7 Hz, 1H), 7.40 (dd, J = 18.1, 7.7 Hz, 3H), 7.28 (d, J = 7.3 Hz, 1H), 7.20 (t, J = 7.3 Hz, 1H), 7.15 – 7.08 (m, 1H), 7.00 (d, J = 16.3 Hz, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 148.69, 139.12, 136.23, 132.24, 131.72, 129.54, 128.84, 128.51, 126.81, 126.06, 122.00, 120.86.

2.5 *m*-NO_2SBF-*p* 

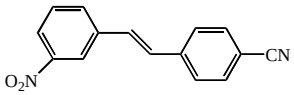
^{1}H NMR (500 MHz, $CDCl_3$) δ 8.35 (s, 1H), 8.10 (d, J = 8.9 Hz, 1H), 7.79 (d, J = 7.6 Hz, 1H), 7.53 (td, J = 8.2, 5.2 Hz, 3H), 7.20 (d, J = 16.3 Hz, 1H), 7.08 (dt, J = 16.3, 11.3 Hz, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 163.74, 161.77, 148.65, 138.92, 132.43 (d, J = 3.4 Hz), 132.13, 130.43, 129.53, 128.37 (d, J = 8.1 Hz), 125.81 (d, J = 2.4 Hz), 121.98, 120.72, 115.89, 115.71.

2.6 *m*-NO_2SBCl-*p* 

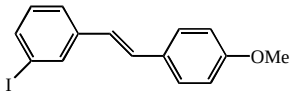
^{1}H NMR (500 MHz, $CDCl_3$) δ 8.34 (s, 1H), 8.10 (d, J = 8.1 Hz, 1H), 7.77 (d, J = 7.6 Hz, 1H), 7.52 (t, J = 7.9 Hz, 1H), 7.46 (d, J = 8.0 Hz, 2H), 7.35 (d, J = 8.2 Hz, 2H), 7.17 (d, J = 16.3 Hz, 1H), 7.08 (d, J = 16.3 Hz, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 148.65, 138.73, 134.71, 134.13, 132.25, 130.33, 129.59, 129.00, 127.93, 126.61, 122.19, 120.84.

2.7 *m*-NO_2SBCF_3-*p* 

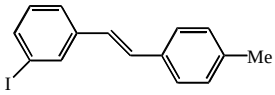
^{1}H NMR (500 MHz, $CDCl_3$) δ 8.38 (s, 1H), 8.12 (d, J = 8.1 Hz, 1H), 7.81 (d, J = 7.7 Hz, 1H), 7.63 (s, 4H), 7.54 (t, J = 7.9 Hz, 1H), 7.24 (d, J = 11.4 Hz, 1H), 7.20 (d, J = 16.4 Hz, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 148.69, 139.66, 138.38, 132.49, 130.02 (d, J = 19.8 Hz), 129.70, 128.52, 126.91, 126.19 – 125.50 (m), 122.61, 121.09.

2.8 *m*-NO_2SBCN-*p* 

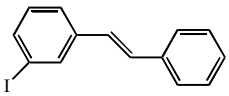
^{1}H NMR (500 MHz, $CDCl_3$) δ 8.39 (s, 1H), 8.15 (d, J = 8.1 Hz, 1H), 7.82 (d, J = 7.6 Hz, 1H), 7.67 (d, J = 8.2 Hz, 2H), 7.62 (d, J = 8.2 Hz, 2H), 7.56 (t, J = 7.9 Hz, 1H), 7.21 (d, J = 18.3 Hz, 2H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 148.65, 140.62, 138.01, 132.58, 132.55, 129.75, 129.65, 129.62, 127.15, 122.85, 121.16, 118.68, 111.46.

2.9 *m*-ISBOMe-*p* 

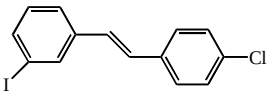
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.83 (s, 1H), 7.54 (d, J = 7.8 Hz, 1H), 7.42 (t, J = 8.9 Hz, 3H), 7.04 (dd, J = 19.3, 11.9 Hz, 2H), 6.89 (d, J = 8.6 Hz, 2H), 6.83 (d, J = 16.3 Hz, 1H), 3.82 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 159.57, 139.93, 135.88, 134.97, 130.24, 129.57, 129.53, 127.87, 125.46, 124.80, 114.17, 94.77, 55.30.

2.10 *m*-ISBMe-*p* 

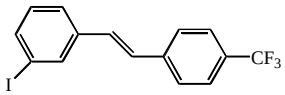
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.87 (s, 1H), 7.57 (d, J = 7.8 Hz, 1H), 7.43 (dd, J = 17.6, 7.9 Hz, 3H), 7.19 (d, J = 7.9 Hz, 2H), 7.07 (dd, J = 15.4, 7.4 Hz, 2H), 6.94 (d, J = 16.3 Hz, 1H), 2.38 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 139.77, 137.96, 136.09, 135.11, 133.99, 130.24, 129.93, 129.43, 126.54, 125.92, 125.60, 94.77, 21.26.

2.11 *m*-ISBH 

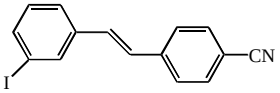
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.89 (s, 1H), 7.60 (d, J = 7.8 Hz, 1H), 7.52 (d, J = 7.5 Hz, 2H), 7.46 (d, J = 7.7 Hz, 1H), 7.39 (t, J = 7.6 Hz, 2H), 7.30 (t, J = 7.3 Hz, 1H), 7.14 – 7.06 (m, 2H), 6.99 (d, J = 16.3 Hz, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 139.53, 136.73, 136.29, 135.20, 130.26, 129.96, 128.70, 127.97, 126.90, 126.60, 125.71, 94.77.

2.12 *m*-ISBCl-*p* 

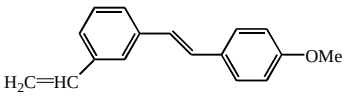
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.85 (s, 1H), 7.59 (d, J = 7.8 Hz, 1H), 7.42 (t, J = 8.1 Hz, 3H), 7.33 (d, J = 8.4 Hz, 2H), 7.09 (t, J = 7.8 Hz, 1H), 7.02 (d, J = 16.3 Hz, 1H), 6.94 (d, J = 16.3 Hz, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 139.19, 136.55, 135.25, 133.58, 130.32, 128.89, 128.65, 127.75, 127.53, 125.77, 94.79.

2.13 *m*-ISBCF$_3$-*p* 

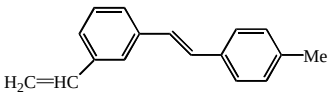
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.89 (s, 1H), 7.62 (d, J = 8.9 Hz, 3H), 7.58 (d, J = 8.3 Hz, 2H), 7.46 (d, J = 7.7 Hz, 1H), 7.11 (t, J = 7.8 Hz, 1H), 7.06 (t, J = 11.1 Hz, 2H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 140.22, 138.84, 136.99, 135.48, 130.38, 129.74, 129.43, 128.40, 126.69, 126.02, 126.02 – 125.30 (m), 123.04, 94.80.

2.14 *m*-ISBCN-*p* 

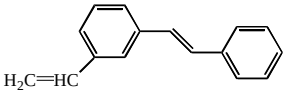
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.87 (s, 1H), 7.63 (d, J = 8.1 Hz, 3H), 7.55 (d, J = 8.1 Hz, 2H), 7.46 (d, J = 7.7 Hz, 1H), 7.11 (t, J = 7.7 Hz, 1H), 7.05 (t, J = 9.6 Hz, 2H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 141.18, 138.43, 137.27, 135.54, 132.47, 130.55, 130.40, 127.94, 126.94, 126.11, 118.84, 110.92, 94.80.

2.15 *m*-CH=CH$_2$SBOMe-*p* 

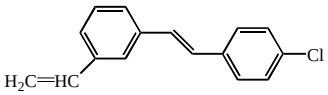
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.54 (s, 1H), 7.43 (t, J = 8.2 Hz, 3H), 7.33 (d, J = 4.6 Hz, 2H), 7.19 (d, J = 7.8 Hz, 2H), 7.13 (d, J = 16.4 Hz, 1H), 7.08 (d, J = 16.3 Hz, 1H), 6.76 (dd, J = 17.6, 10.9 Hz, 1H), 5.82 (d, J = 17.6 Hz, 1H), 5.30 (d, J = 10.9 Hz, 1H), 2.38 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 159.37, 137.91, 136.84, 130.10, 129.48, 128.83, 128.48, 127.77, 126.43, 125.70, 125.05, 124.30, 114.17, 114.07, 55.34.

2.16 *m*-CH=CH$_2$SBMe-*p* 

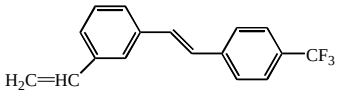
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.56 (s, 1H), 7.44 (t, J = 7.8 Hz, 3H), 7.35 (t, J = 6.4 Hz, 2H), 7.14 (dt, J = 25.7, 12.1 Hz, 4H), 6.77 (dd, J = 17.6, 10.8 Hz, 1H), 5.83 (d, J = 17.6 Hz, 1H), 5.31 (d, J = 10.9 Hz, 1H), 2.39 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 137.84, 137.70, 137.52, 136.74, 134.43, 129.37, 128.80, 128.76, 127.45, 126.41, 125.76, 125.16, 124.38, 114.04, 21.35.

2.17 *m*-CH=CH$_2$SBH 

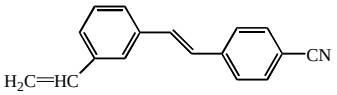
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.61 – 7.53 (m, 3H), 7.46 (d, J = 3.2 Hz, 1H), 7.41 (t, J = 7.6 Hz, 2H), 7.38 – 7.34 (m, 2H), 7.31 (t, J = 7.3 Hz, 1H), 7.21 – 7.12 (m, 2H), 6.79 (dd, J = 17.6, 10.9 Hz, 1H), 5.85 (d, J = 17.6 Hz, 1H), 5.33 (d, J = 10.9 Hz, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 137.94, 137.52, 137.22, 136.70, 128.89, 128.80, 128.65, 128.46, 127.64, 126.50, 125.88, 125.38, 124.50, 114.12.

2.18 *m*-CH=CH$_2$SBCl-*p* 

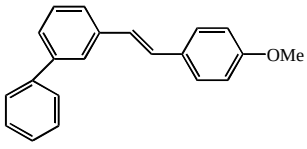
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.54 (s, 1H), 7.43 (dd, J = 16.4, 7.4 Hz, 3H), 7.38 – 7.30 (m, 4H), 7.08 (s, 2H), 6.76 (dd, J = 17.6, 10.9 Hz, 1H), 5.82 (d, J = 17.6 Hz, 1H), 5.31 (d, J = 10.9 Hz, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 137.95, 137.18, 136.61, 135.73, 133.18, 129.07, 128.86, 128.81, 127.64, 127.55, 125.90, 125.61, 124.52, 114.24.

2.19 *m*-CH=CH$_2$SBCF$_3$-*p* 

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.59 (s, 4H), 7.54 (s, 1H), 7.42 (d, J = 6.8 Hz, 1H), 7.38 – 7.31 (m, 2H), 7.18 (d, J = 16.4 Hz, 1H), 7.11 (d, J = 16.3 Hz, 1H), 6.74 (dd, J = 17.6, 10.9 Hz, 1H), 5.80 (d, J = 17.6 Hz, 1H), 5.30 (d, J = 10.9 Hz, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 140.63, 137.98, 136.77, 136.46, 130.91, 129.32, 128.87, 127.25, 126.49, 125.99 (d, J = 9.1 Hz), 125.54 (d, J = 3.9 Hz), 124.66, 123.05, 114.32.

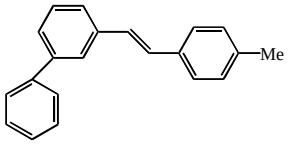
2.20 *m*-CH=CH$_2$SBCN-*p* 

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.63 (d, J = 8.3 Hz, 2H), 7.60 – 7.52 (m, 3H), 7.43 (d, J = 7.2 Hz, 1H), 7.36 (dt, J = 14.8, 7.5 Hz, 2H), 7.20 (d, J = 16.3 Hz, 1H), 7.09 (d, J = 16.3 Hz, 1H), 6.75 (dd, J = 17.6, 10.9 Hz, 1H), 5.81 (d, J = 17.6 Hz, 1H), 5.32 (d, J = 10.9 Hz, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 141.68, 138.06, 136.46, 136.38, 132.42, 132.13, 128.96, 126.88, 126.81, 126.32, 126.19, 124.82, 119.01, 114.50, 110.60.

2.21 *m*-PhSBOMe-*p* 

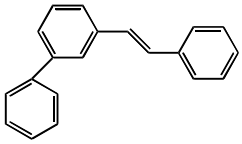
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.72 (s, 1H), 7.68 – 7.62 (m, 2H), 7.48 (dd, J = 11.3, 8.2 Hz, 6H), 7.46 – 7.41 (m, 1H), 7.39 (t, J = 7.4 Hz, 1H), 7.15 (d, J = 16.3 Hz, 1H), 7.06 (d, J = 16.3 Hz, 1H), 6.93 (d, J = 8.7 Hz, 2H), 3.85 (s, 3H).

^{13}C NMR (125 MHz, $CDCl_3$) δ 159.23 (s), 141.59 (s), 141.12 (s), 138.04 (s), 129.97 (s), 129.02 (s), 128.73 (s), 128.49 (s), 127.73 (s), 127.24 (d, *J* = 19.5 Hz), 126.39 (s), 126.09 (s), 125.10 (d, *J* = 3.9 Hz), 114.08 (s), 55.28 (s).



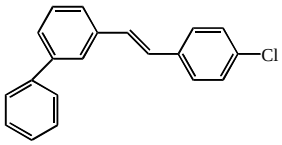
2.22 *m*-PhSBMe-*p*

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.76 (s, 1H), 7.70 – 7.65 (m, 2H), 7.51 (ddd, *J* = 13.7, 9.4, 7.9 Hz, 5H), 7.46 (dd, *J* = 9.8, 5.1 Hz, 2H), 7.41 (t, *J* = 7.4 Hz, 1H), 7.23 (s, 1H), 7.21 (s, 1H), 7.19 (s, 1H), 7.16 (d, *J* = 16.4 Hz, 1H), 2.45 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 141.60, 141.09, 137.90, 137.59, 134.39, 129.39, 129.03, 128.89, 128.73, 127.50, 127.34, 127.17, 126.43, 126.28, 125.26, 125.22, 21.26.



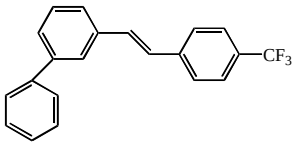
2.23 *m*-PhSBH

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.75 (s, 1H), 7.66 (d, *J* = 7.1 Hz, 2H), 7.56 (d, *J* = 7.5 Hz, 2H), 7.54 – 7.43 (m, 5H), 7.39 (t, *J* = 6.9 Hz, 3H), 7.30 (t, *J* = 7.1 Hz, 1H), 7.20 (d, *J* = 1.7 Hz, 2H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 141.69, 141.08, 137.72, 137.24, 129.07, 129.03, 128.76, 128.68, 128.56, 127.68, 127.38, 127.18, 126.53, 126.50, 125.40, 125.35.



2.24 *m*-PhSBCl-*p*

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.73 (s, 1H), 7.65 (d, *J* = 7.5 Hz, 2H), 7.54 – 7.47 (m, 5H), 7.46 (t, *J* = 3.6 Hz, 2H), 7.41 (dd, *J* = 16.7, 9.4 Hz, 1H), 7.35 (d, *J* = 8.4 Hz, 2H), 7.17 (d, *J* = 16.3 Hz, 1H), 7.12 (d, *J* = 16.4 Hz, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 141.73, 140.97, 137.42, 135.74, 133.22, 129.17, 129.12, 128.83, 128.77, 127.67, 127.43, 127.16, 126.72, 125.42, 125.38.

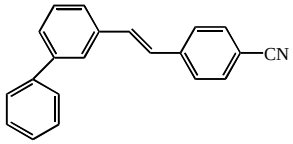


2.25 *m*-PhSBCF$_3$-*p*

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.74 (s, 1H), 7.64 (d, *J* = 1.2 Hz, 2H), 7.60 (s, 4H), 7.52 (t, *J* = 8.1 Hz, 2H), 7.46 (dt, *J* = 13.0, 7.5 Hz, 3H), 7.38 (t, *J* = 7.4 Hz, 1H), 7.23 (s, 1H), 7.17 (d, *J* = 16.3 Hz, 1H).

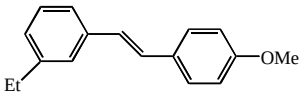
^{13}C NMR (125 MHz, $CDCl_3$) δ 141.77, 140.83, 140.64, 137.02, 131.00, 129.35, 129.14 (d, J = 11.9 Hz), 128.80, 127.44 (d, J = 15.0 Hz), 127.14 (d, J = 3.2 Hz), 126.57, 125.62, 125.59, 125.58, 125.26, 123.10.

2.26 *m*-PhSBCN-*p*



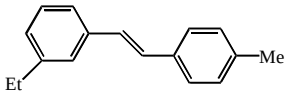
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.71 (s, 1H), 7.63 – 7.59 (m, 4H), 7.54 (dd, J = 14.6, 7.9 Hz, 3H), 7.46 (tt, J = 10.6, 7.0 Hz, 4H), 7.37 (t, J = 7.3 Hz, 1H), 7.23 (s, 1H), 7.12 (d, J = 16.3 Hz, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 141.84, 141.76, 140.78, 136.79, 132.56, 132.30, 129.35, 128.94, 127.61, 127.23, 127.08, 126.95, 125.84, 125.82, 119.15, 110.62.

2.27 *m*-EtSBOMe-*p*



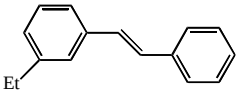
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.48 (d, J = 8.6 Hz, 2H), 7.38 – 7.27 (m, 3H), 7.14 – 7.06 (m, 2H), 7.00 (d, J = 16.3 Hz, 1H), 6.93 (d, J = 8.6 Hz, 2H), 3.84 (s, 3H), 2.70 (q, J = 7.6 Hz, 2H), 1.29 (d, J = 7.4 Hz, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 159.19, 144.51, 137.59, 130.22, 128.58, 127.92, 127.63, 126.86, 126.78, 125.79, 123.63, 114.07, 55.26, 28.86, 15.60.

2.28 *m*-EtSBMe-*p*



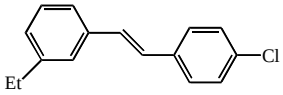
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.46 (d, J = 8.0 Hz, 2H), 7.38 (d, J = 10.3 Hz, 2H), 7.32 (d, J = 7.5 Hz, 1H), 7.21 (d, J = 7.9 Hz, 2H), 7.16 – 7.13 (m, 1H), 7.12 (s, 1H), 7.09 (d, J = 16.4 Hz, 1H), 2.71 (q, J = 7.6 Hz, 2H), 2.40 (s, 3H), 1.31 (d, J = 7.5 Hz, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 144.54, 137.47, 137.37, 134.63, 129.35, 128.60, 128.34, 127.88, 127.06, 126.37, 125.95, 123.79, 28.86, 21.22, 15.61.

2.29 *m*-EtSBH



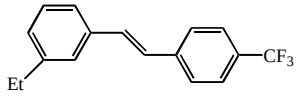
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.56 (d, J = 7.7 Hz, 2H), 7.40 (t, J = 7.8 Hz, 4H), 7.36 – 7.27 (m, 2H), 7.15 (s, 3H), 2.72 (q, J = 7.6 Hz, 2H), 1.31 (d, J = 7.5 Hz, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 144.67, 137.42 (d, J = 16.0 Hz), 128.95, 128.73, 128.49, 127.59, 127.37, 126.54, 126.15, 123.99, 28.95, 15.71.

2.30 *m*-EtSBCl-*p*



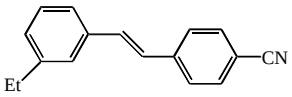
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.47 (d, J = 8.4 Hz, 2H), 7.47 (d, J = 8.4 Hz, 2H), 7.35 (dt, J = 20.7, 7.3 Hz, 5H), 7.42 – 7.27 (m, 5H), 7.17 (d, J = 7.3 Hz, 1H), 7.21 – 7.04 (m, 3H), 7.12 (d, J = 16.5 Hz, 1H), 7.08 (d, J = 16.5 Hz, 1H), 2.72 (q, J = 7.6 Hz, 2H), 2.72 (q, J = 7.6 Hz, 2H), 1.32 (t, J = 7.5 Hz, 4H), 1.31 (d, J = 7.4 Hz, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 144.65, 136.94, 135.92, 133.02, 129.49, 128.79, 128.68, 127.59, 127.53, 127.07, 126.09, 123.94, 28.84, 15.59.

2.31 *m*-EtSBCF$_3$-*p*



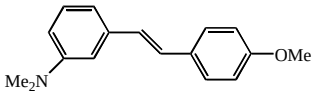
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.66 – 7.58 (m, 4H), 7.38 (d, J = 10.0 Hz, 2H), 7.32 (t, J = 7.5 Hz, 1H), 7.19 (t, J = 13.4 Hz, 2H), 7.13 (d, J = 16.3 Hz, 1H), 2.71 (q, J = 7.6 Hz, 2H), 1.30 (t, J = 7.6 Hz, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 144.75, 140.90, 136.60, 131.39, 128.76, 127.97, 126.84, 126.50, 126.32, 125.58 (d, J = 3.8 Hz), 124.17, 28.84, 15.58.

2.32 *m*-EtSBCN-*p*



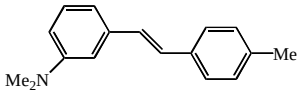
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.65 (d, J = 8.4 Hz, 2H), 7.60 (d, J = 8.4 Hz, 2H), 7.39 (d, J = 9.0 Hz, 2H), 7.34 (t, J = 7.5 Hz, 1H), 7.22 (dd, J = 15.4, 11.9 Hz, 2H), 7.11 (d, J = 16.3 Hz, 1H), 2.72 (q, J = 7.6 Hz, 2H), 1.31 (d, J = 7.6 Hz, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 144.76, 141.88, 136.20, 132.55, 132.39, 128.76, 128.28, 126.74, 126.41, 126.38, 124.27, 119.00, 110.35, 28.77, 15.53.

2.33 *m*-NMe$_2$SBOMe-*p*

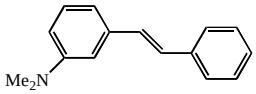


^{1}H NMR (500 MHz, $CDCl_3$) δ 7.51 (d, J = 8.7 Hz, 2H), 7.30 (d, J = 7.9 Hz, 1H), 7.12 (d, J = 16.3 Hz, 1H), 7.03 (d, J = 16.3 Hz, 1H), 6.98 (d, J = 7.7 Hz, 1H), 6.96 (s, 1H), 6.94 (s, 1H), 6.92 (s, 1H), 6.73 (dd, J = 8.2, 2.4 Hz, 1H), 3.87 (s, 3H), 3.04 (s, 6H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 159.12, 150.76, 138.33, 130.30, 129.23, 127.75, 127.61, 127.47, 115.02, 114.04, 111.99, 110.76, 55.23, 40.72.

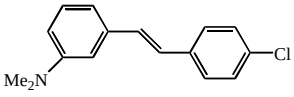
2.34 *m*-NMe$_2$SBMe-*p*



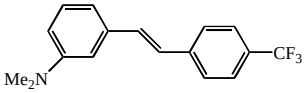
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.48 (d, J = 8.0 Hz, 2H), 7.29 (t, J = 7.9 Hz, 1H), 7.22 (d, J = 7.9 Hz, 2H), 7.15 (d, J = 16.4 Hz, 1H), 7.11 (d, J = 16.4 Hz, 1H), 6.99 (d, J = 7.6 Hz, 1H), 6.93 (s, 1H), 6.73 (dd, J = 8.2, 2.4 Hz, 1H), 3.04 (s, 6H), 2.42 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 150.76, 138.19, 137.21, 134.70, 129.30, 129.24, 128.55, 128.14, 126.34, 115.11, 112.15, 110.86, 40.70, 21.18.

2.35 *m*-NMe$_2$SBH 

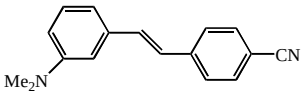
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.57 (d, J = 7.4 Hz, 2H), 7.40 (t, J = 7.7 Hz, 2H), 7.29 (td, J = 7.7, 2.6 Hz, 2H), 7.15 (s, 2H), 6.99 (d, J = 7.6 Hz, 1H), 6.92 (s, 1H), 6.74 (dd, J = 8.2, 2.4 Hz, 1H), 3.03 (s, 6H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 150.77, 138.02, 137.50, 129.57, 129.28, 128.59, 128.23, 127.38, 126.43, 115.20, 112.33, 110.96, 40.70.

2.36 *m*-NMe$_2$SBCl-*p* 

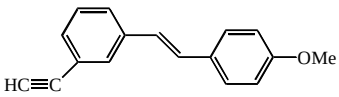
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.46 (d, J = 8.5 Hz, 2H), 7.34 (d, J = 8.5 Hz, 2H), 7.28 (t, J = 5.7 Hz, 1H), 7.10 (d, J = 16.3 Hz, 1H), 7.06 (d, J = 16.3 Hz, 1H), 6.95 (d, J = 7.6 Hz, 1H), 6.88 (s, 1H), 6.73 (dd, J = 8.2, 2.4 Hz, 1H), 3.02 (s, 6H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 150.78, 137.66, 136.02, 132.88, 130.21, 129.33, 128.73, 127.57, 126.87, 115.13, 112.49, 110.91, 40.66.

2.37 *m*-NMe$_2$SBCF$_3$-*p* 

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.61 (s, 4H), 7.28 (t, J = 7.9 Hz, 1H), 7.20 (d, J = 16.3 Hz, 1H), 7.12 (d, J = 16.3 Hz, 1H), 6.97 (d, J = 7.5 Hz, 1H), 6.89 (s, 1H), 6.74 (d, J = 8.2 Hz, 1H), 3.02 (s, 6H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 150.87, 141.03, 137.32, 132.17, 129.40, 126.54 (d, J = 15.7 Hz), 125.53 (d, J = 3.8 Hz), 115.20, 112.81, 111.01, 40.59.

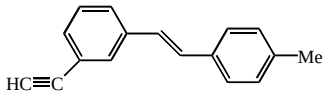
2.38 *m*-NMe$_2$SBCN-*p* 

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.63 (d, J = 8.4 Hz, 2H), 7.58 (d, J = 8.4 Hz, 2H), 7.28 (t, J = 5.5 Hz, 1H), 7.21 (d, J = 16.3 Hz, 1H), 7.07 (d, J = 16.3 Hz, 1H), 6.95 (d, J = 7.6 Hz, 1H), 6.87 (s, 1H), 6.74 (dd, J = 8.2, 2.4 Hz, 1H), 3.01 (s, 6H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 150.77, 142.01, 136.93, 133.34, 132.35, 129.41, 126.73, 126.18, 119.04, 115.28, 113.08, 111.05, 110.21, 40.57.

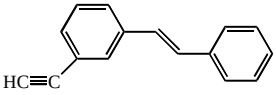
2.39 *m*-CCHSBOMe-*p* 

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.58 (s, 1H), 7.45 – 7.37 (m, 2H), 7.31 (d, J = 7.6 Hz, 1H), 7.25 – 7.20 (m, 1H), 7.17 (d, J = 11.0 Hz, 1H), 7.02 (d, J = 16.3 Hz, 1H), 6.86 (dd, J = 12.7, 6.6 Hz, 2H), 6.80 (d, J = 8.4 Hz, 1H), 3.78 (s, 3H), 3.04 (t, J = 10.5 Hz, 1H).

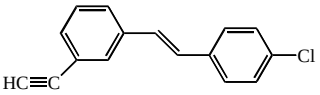
^{13}C NMR (125 MHz, $CDCl_3$) δ 159.49, 137.85, 130.70 (d, J = 9.6 Hz), 129.78, 129.18, 128.60, 127.81, 126.68, 125.44, 122.40, 114.15, 113.97 (d, J = 2.9 Hz), 83.61, 77.08, 55.25.

2.40 *m*-CCHSBMe-*p* 

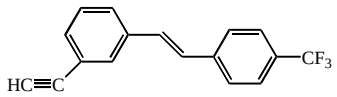
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.65 (s, 1H), 7.48 (d, J = 7.8 Hz, 1H), 7.40 (dd, J = 18.1, 7.9 Hz, 3H), 7.31 (t, J = 7.7 Hz, 1H), 7.19 (s, 1H), 7.18 (s, 1H), 7.10 (d, J = 16.3 Hz, 1H), 7.01 (d, J = 16.3 Hz, 1H), 3.10 (s, 1H), 2.37 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 137.77 (d, J = 13.9 Hz), 134.18 (s), 130.86 (s), 129.93 (s), 129.60 (s), 129.42 (s), 128.61 (s), 126.82 (s), 126.53 (d, J = 6.4 Hz), 122.43 (s), 83.58 (s), 77.13 (s), 21.24 (s).

2.41 *m*-CCHSBH 

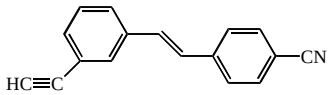
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.67 (s, 1H), 7.51 (dd, J = 13.3, 7.6 Hz, 3H), 7.39 (dd, J = 15.0, 7.7 Hz, 3H), 7.34 (d, J = 7.7 Hz, 1H), 7.32 – 7.27 (m, 1H), 7.17 – 7.11 (m, 1H), 7.07 (d, J = 16.3 Hz, 1H), 3.12 (s, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 137.51, 136.94, 131.07, 130.03, 129.66, 128.70, 128.64, 127.87, 127.54, 126.93, 126.58, 122.47, 83.52, 77.23.

2.42 *m*-CCHSBCl-*p* 

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.64 (s, 1H), 7.47 (d, J = 7.8 Hz, 1H), 7.41 (dd, J = 12.4, 8.1 Hz, 3H), 7.35 – 7.29 (m, 3H), 7.06 (d, J = 16.3 Hz, 1H), 7.01 (d, J = 16.3 Hz, 1H), 3.11 (s, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 137.22, 135.50, 133.52, 131.36, 130.11, 128.92, 128.75, 128.37, 128.21, 127.77, 127.01, 122.61, 83.46, 77.31.

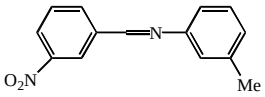
2.43 *m*-CCHSBCF$_3$-*p* 

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.67 (s, 1H), 7.62 (d, J = 8.5 Hz, 2H), 7.59 (d, J = 8.5 Hz, 2H), 7.50 (d, J = 7.8 Hz, 1H), 7.43 (d, J = 7.7 Hz, 1H), 7.34 (t, J = 7.7 Hz, 1H), 7.12 (s, 2H), 3.12 (s, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 140.44, 136.87, 131.75, 130.31, 130.09, 129.68, 129.42, 128.82, 128.12, 127.20, 126.70, 125.69 (q, J = 3.8 Hz), 125.28, 122.72, 83.34, 77.30.

2.44 *m*-CCHSBCN-*p* 

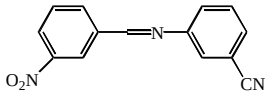
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.68 – 7.61 (m, 3H), 7.57 (d, J = 8.3 Hz, 2H), 7.50 (d, J = 7.8 Hz, 1H), 7.43 (d, J = 7.7 Hz, 1H), 7.34 (t, J = 7.7 Hz, 1H), 7.15 (d, J = 16.3 Hz, 1H), 7.09 (d, J = 16.3 Hz, 1H), 3.12 (s, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 141.41, 136.48, 132.49, 132.02, 131.22, 130.36, 128.83, 127.67, 127.27, 126.93, 122.75, 118.89, 110.88, 83.15, 77.25.

2.45 *m*-NO_2BAMe-*m*



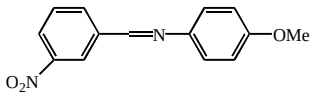
^{1}H NMR (500 MHz, $CDCl_3$) δ 8.71 (s, 1H), 8.52 (s, 1H), 8.26 (dd, J = 36.0, 7.5 Hz, 2H), 7.64 (t, J = 7.9 Hz, 1H), 7.29 (t, J = 7.6 Hz, 1H), 7.07 (dd, J = 22.1, 8.9 Hz, 3H), 2.39 (s, 3H).
^{13}C NMR (126 MHz, $CDCl_3$) δ 156.90, 150.83, 148.63, 139.15, 137.90, 133.99, 129.73, 129.08, 127.60, 125.44, 123.40, 121.63, 117.86, 21.35.

2.46 *m*-NO_2BACN-*m*



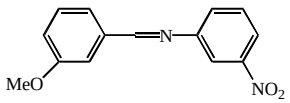
^{1}H NMR (500 MHz, $CDCl_3$) δ 8.71 (d, J = 26.2 Hz, 1H), 8.55 – 8.44 (m, 1H), 8.33 (d, J = 9.6 Hz, 1H), 8.22 (t, J = 8.3 Hz, 1H), 7.71 (dt, J = 34.9, 7.9 Hz, 1H), 7.56 – 7.49 (m, 2H), 7.49 – 7.42 (m, 2H).
^{13}C NMR (126 MHz, $CDCl_3$) δ 159.39, 151.62, 148.71, 137.12, 134.48, 130.32，130.06, 130.06, 126.28, 125.58, 124.31, 123.70, 118.39, 113.37.

2.47 *m*-NO_2BAOMe-*p*



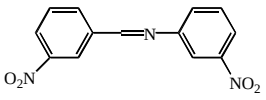
^{1}H NMR (500 MHz, $CDCl_3$) δ 8.70 (s, 1H), 8.54 (s, 1H), 8.27 (d, J = 8.1 Hz, 1H), 8.21 (d, J = 7.7 Hz, 1H), 7.62 (t, J = 7.9 Hz, 1H), 7.31 – 7.26 (m, 2H), 6.97 – 6.91 (m, 2H), 3.83 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 158.94, 154.65, 148.58, 143.44, 138.10, 133.79, 129.65, 125.07, 123.10, 122.44, 114.43, 55.44.

2.48 *m*-OMeBANO_2-*m*



^{1}H NMR (500 MHz, $CDCl_3$) δ 8.46 (s, 1H), 8.14 – 8.00 (m, 2H), 7.61 – 7.50 (m, 3H), 7.42 (dq, J = 15.3, 7.6 Hz, 2H), 7.09 (d, J = 8.4 Hz, 1H), 3.90 (s, 3H).

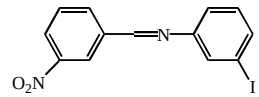
2.49 *m*-NO_2BANO_2-*m*



^{1}H NMR (500 MHz, DMSO) δ 8.89 (s, 1H), 8.71 (s, 1H), 8.36 (dd, J = 9.8, 4.3 Hz, 2H), 8.10 (d, J = 8.0 Hz, 2H), 7.81 (t, J = 7.9 Hz, 1H), 7.77 – 7.67 (m, 2H).

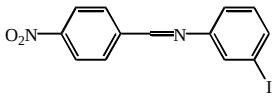
^{13}C NMR (125 MHz, DMSO) δ 162.19, 152.04, 148.96, 148.57, 137.44, 135.31, 131.10, 130.99,128.91, 126.60, 123.60, 121.48, 115.84.

2.50 *m*- NO_2BAI-*m*



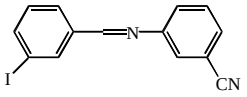
^{1}H NMR (500 MHz, $CDCl_3$) δ 8.73 (s, 1H), 8.49 (s, 1H), 8.33 (d, J = 7.2 Hz, 1H), 8.22 (d, J = 7.0 Hz, 1H), 7.67 (t, J = 7.5 Hz, 1H), 7.59 (d, J = 13.0 Hz, 2H), 7.21 (d, J = 6.9 Hz, 1H), 7.14 (t, J = 7.5 Hz, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 158.14, 152.05, 148.57, 137.32, 135.52, 134.21, 130.73, 129.86, 129.46, 125.88, 123.53, 120.67, 94.51.

2.51 *p*- NO_2BAI-*m*



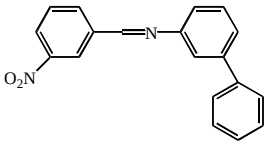
^{1}H NMR (500 MHz, $CDCl_3$) δ 8.50 (s, 1H), 8.32 (d, J = 8.7 Hz, 2H), 8.06 (d, J = 8.7 Hz, 2H), 7.60 (dd, J = 10.3, 4.8 Hz, 2H), 7.22 (d, J = 8.0 Hz, 1H), 7.15 (t, J = 7.8 Hz, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 158.32, 152.14, 149.38, 141.03, 135.75, 130.79, 129.53，129.46, 124.08, 94.52.

2.52 *m*- IBACN-*m*



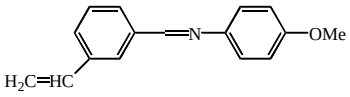
^{1}H NMR (500 MHz, $CDCl_3$) δ 8.35 (d, J = 18.8 Hz, 2H), 7.88 (t, J = 7.2 Hz, 2H), 7.55 (q, J = 7.7 Hz, 2H), 7.51 – 7.43 (m, 2H), 7.36 – 7.27 (m, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 160.33, 152.10, 140.73, 137.43，137.35, 130.46, 130.09, 129.52, 128.47, 125.49, 124.15, 118.41, 113.17, 94.63.

2.53 *m*- NO_2BAPh-*m*

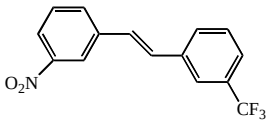


^{1}H NMR (500 MHz, $CDCl_3$) δ 8.74 (s, 1H), 8.58 (s, 1H), 8.35 – 8.28 (m, 1H), 8.24 (d, J = 7.7 Hz, 1H), 7.70 – 7.59 (m, 3H), 7.51 (dt, J = 7.7, 1.5 Hz, 1H), 7.46 (ddd, J = 11.9, 10.8, 7.7 Hz, 4H), 7.37 (dd, J = 11.6, 4.2 Hz, 1H), 7.23 – 7.20 (m, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 157.44, 151.26, 148.55, 142.34, 140.44, 137.69, 134.08, 129.76，129.65, 128.79, 127.57, 127.08, 125.57, 125.53, 123.43, 119.77, 119.53.

2.54 *m*-CH=CH_2BAOMe-*p*

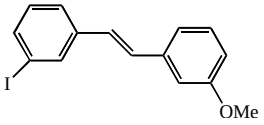


^{1}H NMR (500 MHz, $CDCl_3$) δ 8.48 (s, 1H), 7.95 (s, 1H), 7.76 (d, J = 7.5 Hz, 1H), 7.51 (d, J = 7.6 Hz, 1H), 7.42 (t, J = 7.6 Hz, 1H), 7.25 (d, J = 8.3 Hz, 2H), 6.95 (s, 1H), 6.93 (s, 1H), 6.78 (dd, J = 17.4, 11.1 Hz, 1H), 5.85 (d, J = 17.6 Hz, 1H), 5.32 (d, J = 10.9 Hz, 1H), 3.83 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 158.30, 158.22, 144.72, 138.08, 136.62, 136.21, 128.87, 128.70, 128.16, 126.14, 122.18, 114.79, 114.35, 55.45.



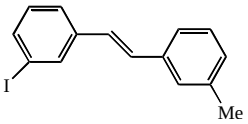
2.55 *m*-NO_2SBCF_3-*m*

^{1}H NMR (500 MHz, $CDCl_3$) δ 8.37 (s, 1H), 8.12 (d, J = 8.2 Hz, 1H), 7.84 – 7.76 (m, 2H), 7.70 (d, J = 7.6 Hz, 1H), 7.62 – 7.48 (m, 3H), 7.25 – 7.16 (m, 2H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 148.73, 138.45, 137.04, 132.40, 131.42, 131.17, 130.12, 129.90, 129.69, 129.38 (d, J = 16.3 Hz), 127.92, 125.42 – 124.49 (m), 123.69, 123.34 (d, J = 3.8 Hz), 122.90, 122.52, 121.02, 120.28.



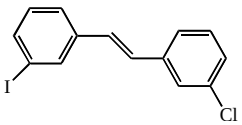
2.56 *m*-ISBOMe-*m*

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.87 (s, 1H), 7.58 (d, J = 9.0 Hz, 1H), 7.45 (d, J = 7.8 Hz, 1H), 7.29 (t, J = 7.9 Hz, 1H), 7.13 – 7.02 (m, 4H), 6.97 (d, J = 16.3 Hz, 1H), 6.85 (dd, J = 8.1, 2.4 Hz, 1H), 3.85 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 159.94, 139.53, 138.27, 136.43, 135.32, 130.33, 129.97, 129.73, 127.30, 125.81, 119.38, 113.75, 111.90, 94.81, 55.29.



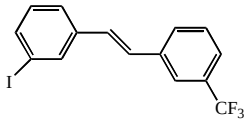
2.57 *m*-ISBMe-*m*

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.91 (s, 1H), 7.61 (d, J = 7.8 Hz, 1H), 7.48 (d, J = 7.8 Hz, 1H), 7.33 (dd, J = 20.3, 9.4 Hz, 3H), 7.17 – 7.07 (m, 3H), 7.01 (d, J = 16.3 Hz, 1H), 2.43 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 139.65, 138.22, 136.68, 136.20, 135.19, 130.23, 130.09, 128.81, 128.58, 127.30, 126.69, 125.65, 123.80, 94.76, 21.40.



2.58 *m*-ISBCl-*m*

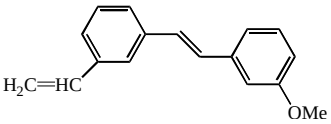
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.87 (s, 1H), 7.62 (d, J = 7.8 Hz, 1H), 7.50 (s, 1H), 7.45 (d, J = 7.7 Hz, 1H), 7.36 (d, J = 7.5 Hz, 1H), 7.30 (dd, J = 15.1, 7.6 Hz, 2H), 7.11 (t, J = 7.8 Hz, 1H), 7.04 – 6.95 (m, 2H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 138.97, 138.61, 136.70, 135.33, 134.65, 130.30, 129.88, 128.44, 128.31, 127.83, 126.36, 125.85, 124.83, 94.79.



2.59 *m*-ISBCF$_3$-*m*

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.89 (s, 1H), 7.74 (s, 1H), 7.63 (dd, J = 15.7, 7.8 Hz, 2H), 7.53 (d, J = 7.8 Hz, 1H), 7.47 (dd, J = 12.1, 7.7 Hz, 2H), 7.07 (dt, J = 28.3, 11.7 Hz, 3H).

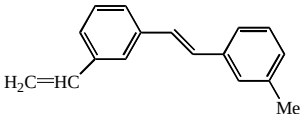
^{13}C NMR (125 MHz, $CDCl_3$) δ 138.87, 137.56, 136.88, 135.42, 131.55, 131.29, 131.03, 130.36, 129.65, 129.17, 128.77, 128.38, 125.92, 125.14, 124.40 (q, J = 3.7 Hz), 123.31 – 122.87 (m), 94.80.



2.60 *m*-CH=CH$_2$SBOMe-*m*

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.57 (s, 1H), 7.45 (s, 1H), 7.33 (dd, J = 19.3, 11.3 Hz, 3H), 7.14 (dd, J = 19.8, 12.6 Hz, 4H), 6.87 (d, J = 8.1 Hz, 1H), 6.79 (dd, J = 17.6, 10.9 Hz, 1H), 5.84 (d, J = 17.6 Hz, 1H), 5.33 (d, J = 10.9 Hz, 1H), 3.88 (s, 3H).

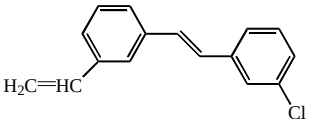
^{13}C NMR (125 MHz, $CDCl_3$) δ 159.86, 138.67, 137.89, 137.42, 136.68, 129.59, 128.79,128.76, 125.89, 125.42, 124.52, 119.22, 114.11, 113.32, 111.73, 55.17.



2.61 *m*-CH=CH$_2$SBMe-*m*

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.58 (s, 1H), 7.46 (d, J = 2.7 Hz, 1H), 7.38 (d, J = 14.8 Hz, 4H), 7.31 (d, J = 7.4 Hz, 1H), 7.14 (t, J = 4.8 Hz, 3H), 6.80 (dd, J = 17.4, 11.0 Hz, 1H), 5.85 (d, J = 17.6 Hz, 1H), 5.34 (d, J = 10.9 Hz, 1H), 2.43 (s, 3H).

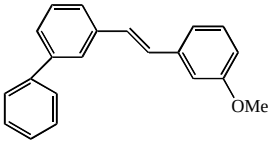
^{13}C NMR (125 MHz, $CDCl_3$) δ 138.17, 137.89, 137.63, 137.17, 136.74, 129.01, 128.79, 128.55, 128.48, 128.25, 127.21, 125.85, 125.31, 124.48, 123.71, 114.08, 21.41.



2.62 *m*-CH=CH$_2$SBCl-*m*

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.53 (d, J = 9.2 Hz, 2H), 7.37 (tt, J = 14.1, 7.0 Hz, 4H), 7.29 (t, J = 7.7 Hz, 1H), 7.25 (d, J = 7.9 Hz, 1H), 7.12 (d, J = 16.3 Hz, 1H), 7.05 (d, J = 16.3 Hz, 1H), 6.76 (dd, J = 17.6, 10.9 Hz, 1H), 5.82 (d, J = 17.6 Hz, 1H), 5.31 (d, J = 10.9 Hz, 1H).

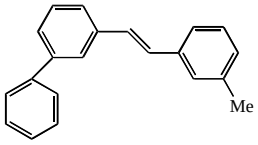
^{13}C NMR (125 MHz, $CDCl_3$) δ 139.15, 138.00, 137.03, 136.60, 134.64, 129.91, 129.85, 128.89, 127.52, 127.42, 126.30, 126.00, 125.80, 124.74, 124.63, 114.30.



2.63 *m*-PhSBOMe-*m*

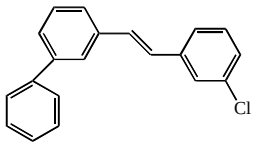
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.76 (s, 1H), 7.67 (d, J = 6.4 Hz, 2H), 7.47 (ddd, J = 29.0, 17.8, 6.3 Hz, 6H), 7.32 (t, J = 7.7 Hz, 1H), 7.18 (d, J = 14.6 Hz, 3H), 7.11 (s, 1H), 6.87 (d, J = 7.9 Hz, 1H), 3.88 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 159.90, 141.69, 141.06, 138.70, 137.68, 129.64, 128.93, 128.88, 128.75, 127.38, 127.17, 126.55, 125.43, 125.39, 119.26, 113.39, 111.76, 55.22.

2.64 *m*-PhSBMe-*m*



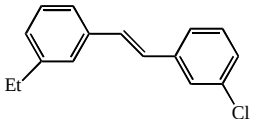
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.77 (s, 1H), 7.68 (d, J = 6.9 Hz, 2H), 7.56 – 7.44 (m, 5H), 7.40 (t, J = 11.5 Hz, 3H), 7.31 (d, J = 7.4 Hz, 1H), 7.20 (s, 2H), 7.14 (d, J = 6.1 Hz, 1H), 2.43 (s, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 141.67, 141.11, 138.21, 137.88, 137.19, 129.14, 129.05, 128.75, 128.58, 128.52, 128.36, 127.36, 127.24, 127.18, 126.41, 125.38, 125.32, 123.74, 21.42.

2.65 *m*-PhSBCl-*m*



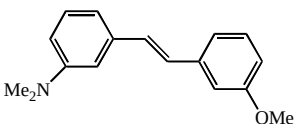
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.56 (s, 1H), 7.48 (d, J = 7.3 Hz, 2H), 7.38 – 7.27 (m, 6H), 7.23 (t, J = 7.5 Hz, 2H), 7.10 (dt, J = 20.3, 5.6 Hz, 2H), 7.01 (d, J = 16.3 Hz, 1H), 6.93 (d, J = 16.3 Hz, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 141.72, 140.91, 139.12, 137.23, 134.62, 129.97, 129.85, 129.12, 128.77, 127.52, 127.50, 127.44, 127.14, 126.86, 126.30, 125.51, 125.46, 124.75.

2.66 *m*-EtSBCl-*m*



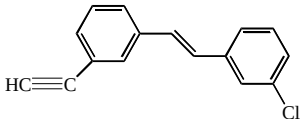
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.55 (s, 1H), 7.40 (t, J = 10.9 Hz, 3H), 7.33 (dd, J = 15.7, 7.7 Hz, 2H), 7.28 (d, J = 5.5 Hz, 1H), 7.20 – 7.15 (m, 1H), 7.13 (s, 1H), 7.07 (d, J = 16.3 Hz, 1H), 2.73 (q, J = 7.6 Hz, 2H), 1.32 (d, J = 7.6 Hz, 3H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 144.66, 139.30, 136.75, 134.57, 130.27, 129.82, 128.69, 127.70, 127.35, 126.90, 126.22, 126.1 (d, J = 2.8 Hz), 124.67, 124.03, 28.83, 15.59.

2.67 *m*-NMe_2SBOMe-*m*



^{1}H NMR (500 MHz, $CDCl_3$) δ 7.34 – 7.27 (m, 2H), 7.15 (d, J = 7.6 Hz, 1H), 7.13 – 7.07 (m, 3H), 6.97 (d, J = 7.5 Hz, 1H), 6.90 (s, 1H), 6.85 (d, J = 8.1 Hz, 1H), 6.73 (d, J = 8.0 Hz, 1H), 3.88 (s, 3H), 3.02 (s, 6H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 159.77, 150.70, 138.90, 137.87, 129.81, 129.54, 129.29, 128.09, 119.15, 115.11, 113.14, 112.35, 111.51, 110.93, 55.18, 40.73.

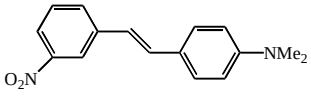
2.68 *m*-C≡CHSBCl-*m*

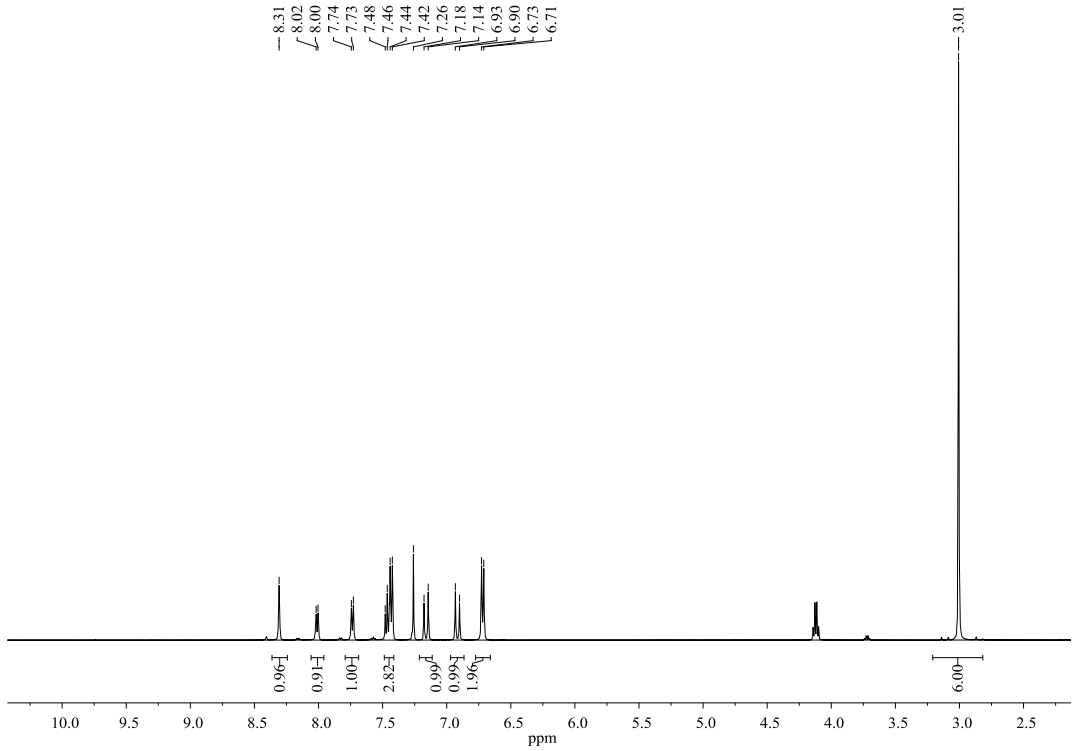


^{1}H NMR (500 MHz, $CDCl_3$) δ 7.67 (s, 1H), 7.55 – 7.47 (m, 2H), 7.43 (d, J = 7.5 Hz, 1H), 7.38 (d, J = 7.5 Hz, 1H), 7.36 (d, J = 7.7 Hz, 1H), 7.32 (d, J = 9.2 Hz, 1H), 7.30 – 7.27 (m, 1H), 7.06 (s, 2H), 3.13 (s, 1H).
^{13}C NMR (125 MHz, $CDCl_3$) δ 138.82, 136.98, 134.65, 131.45, 130.14, 129.88, 128.95, 128.71, 128.14, 127.73, 127.05, 126.35, 124.81, 122.56, 83.37, 77.40.

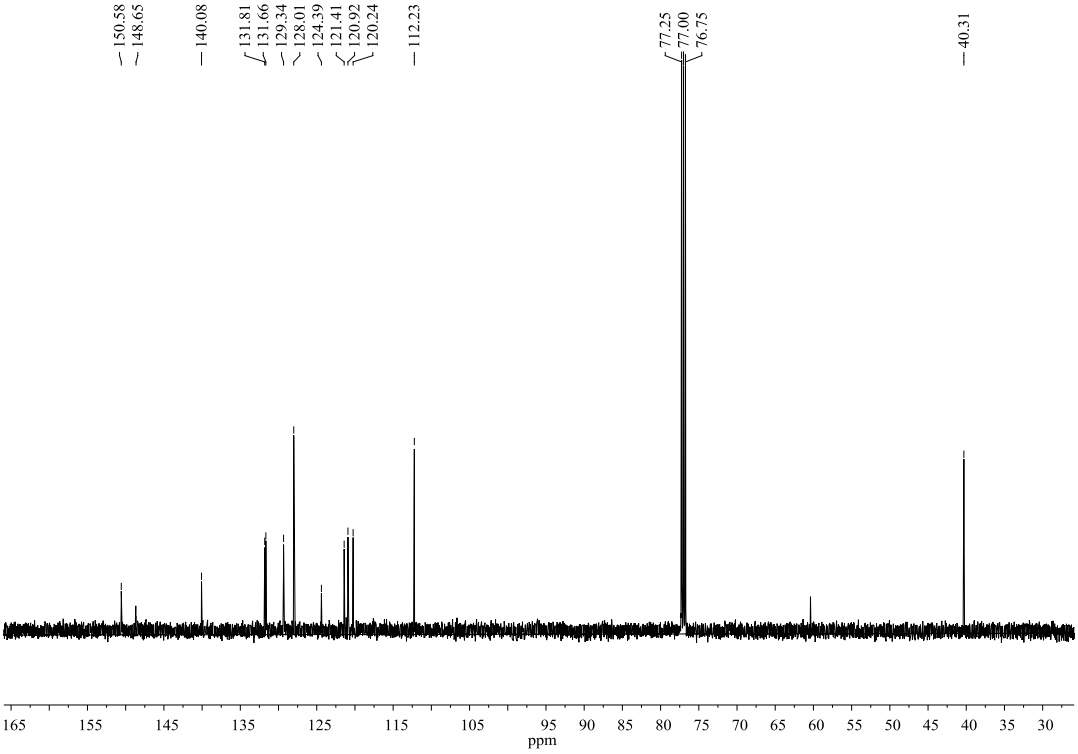
3 所有合成化合物的 ^{1}H NMR、^{13}C NMR 谱图

3.1 *m*-NO_2SBNMe_2-*p*



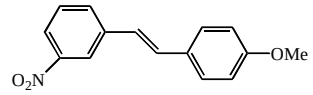


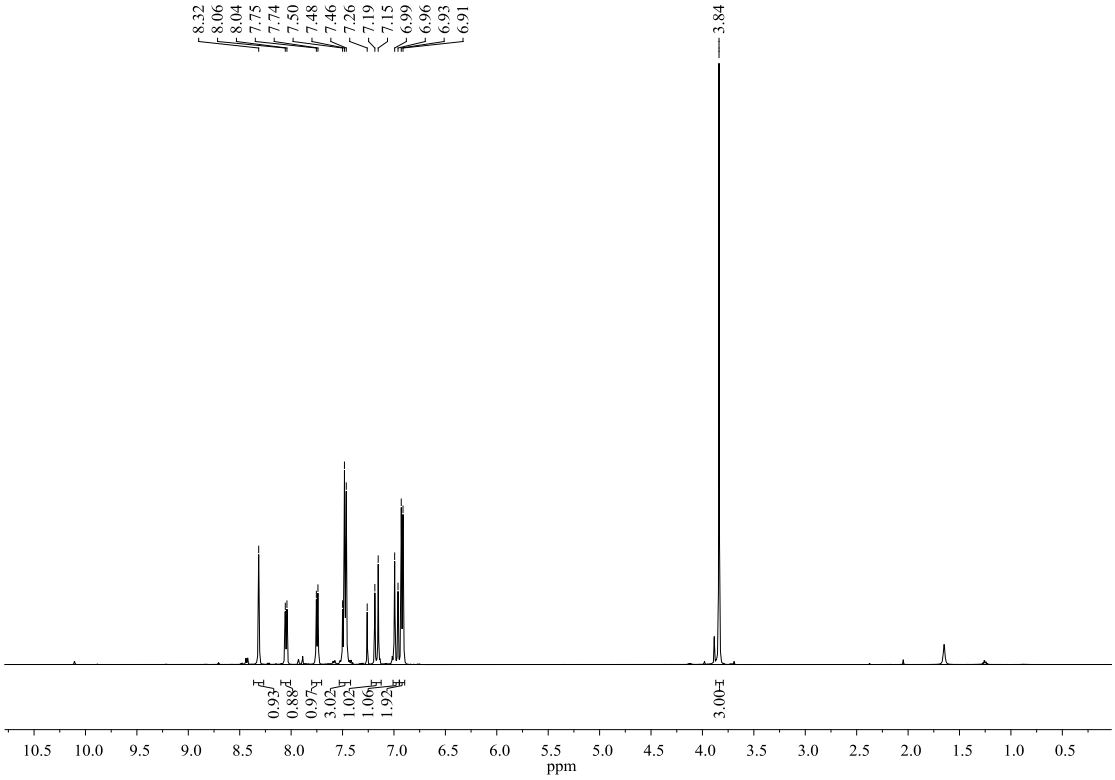
^{1}H NMR spectrum of *m*-NO_2SBNMe_2-*p*



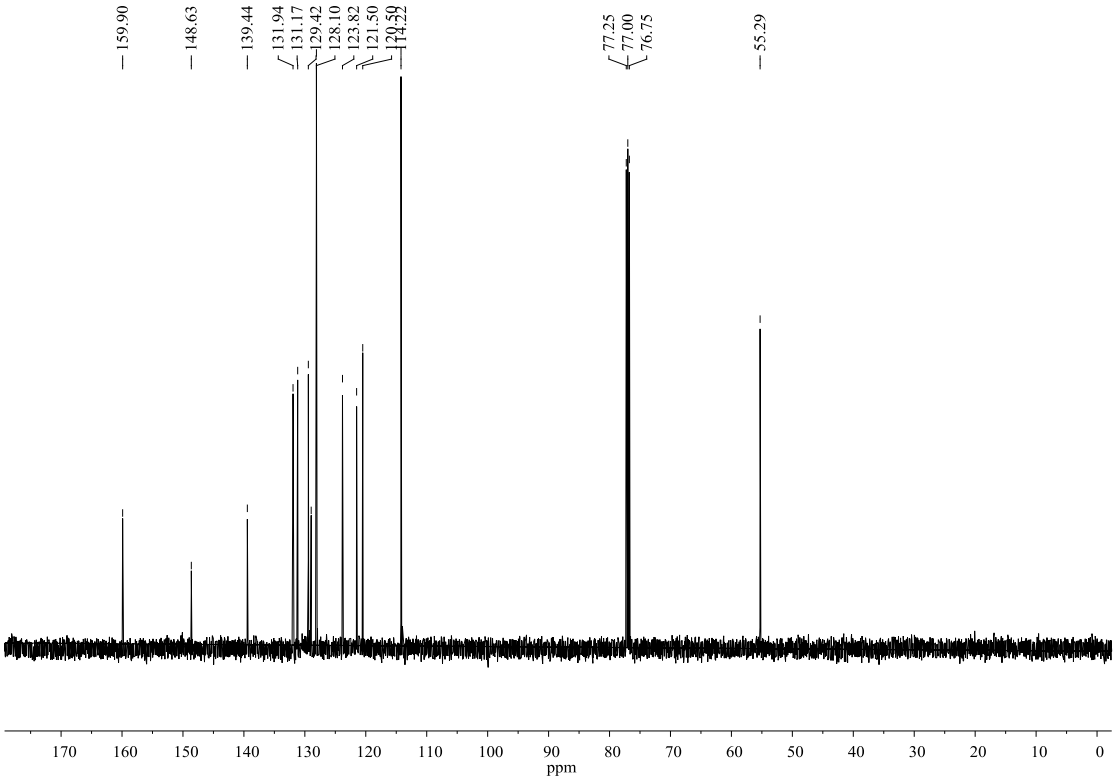
^{13}C NMR spectrum of *m*-NO_2SBNMe_2-*p*

3.2 *m*-NO_2SBOMe-*p*



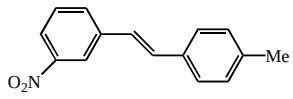


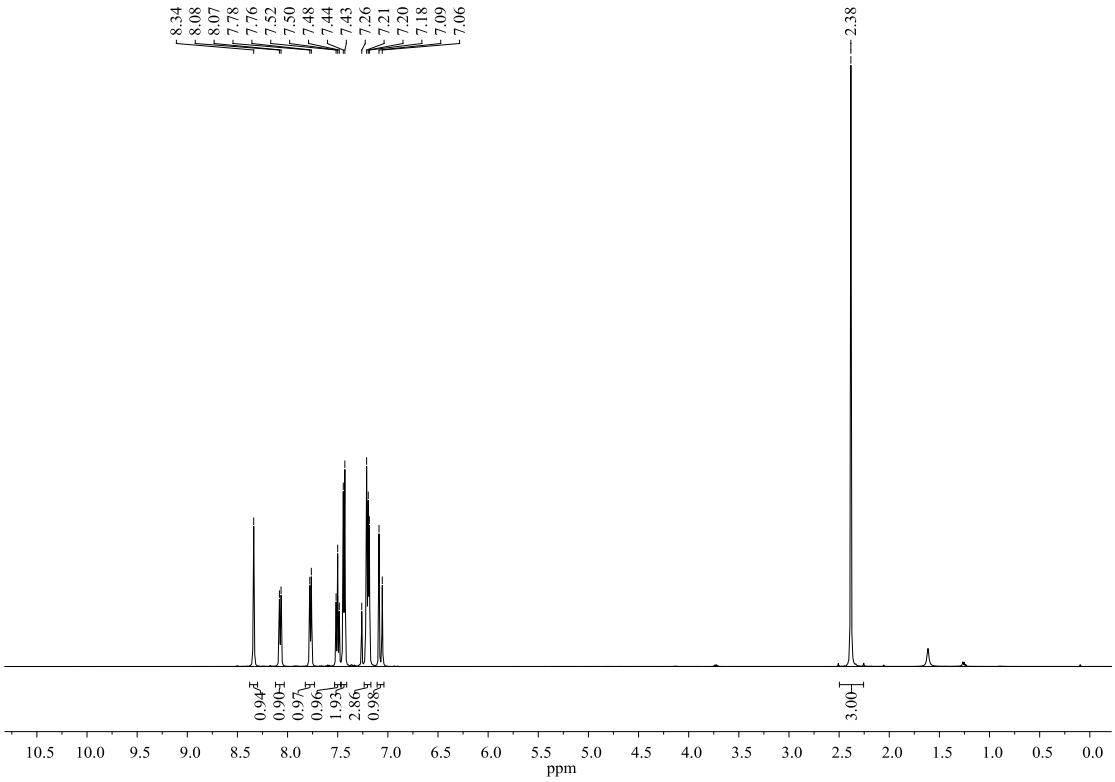
^{1}H NMR spectrum of *m*-NO_2SBOMe-*p*



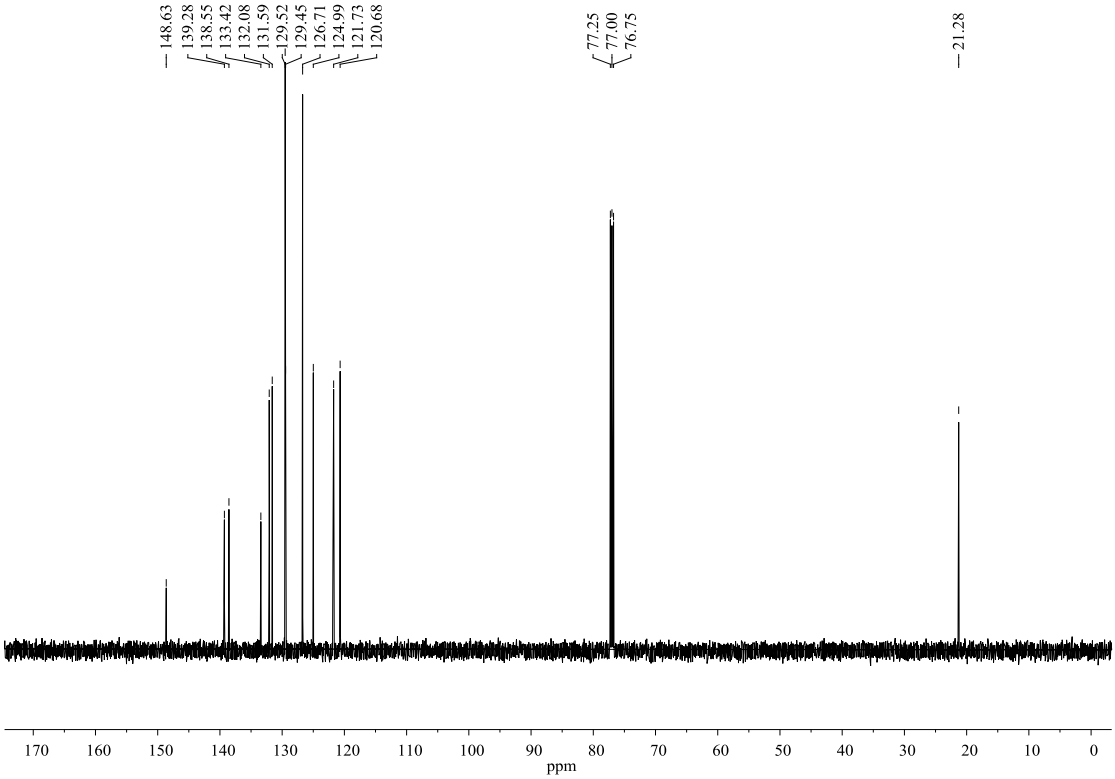
^{13}C NMR spectrum of *m*-NO_2SBOMe-*p*

3.3 *m*-NO_2SBMe-*p*



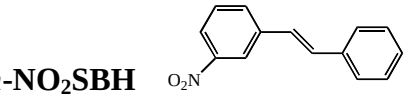


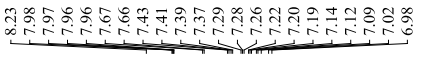
^{1}H NMR spectrum of *m*-NO_2SBMe-*p*

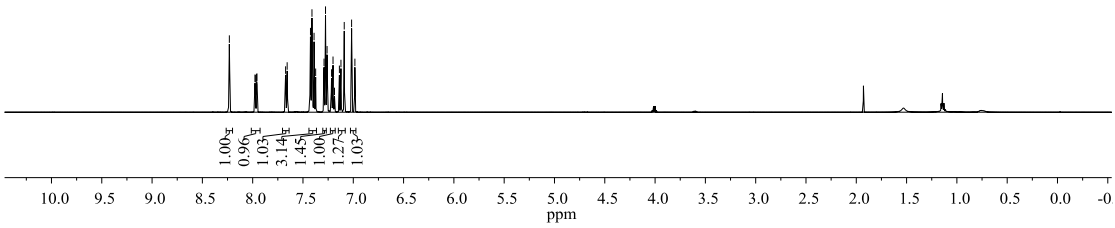


^{13}C NMR spectrum of *m*-NO_2SBMe-*p*

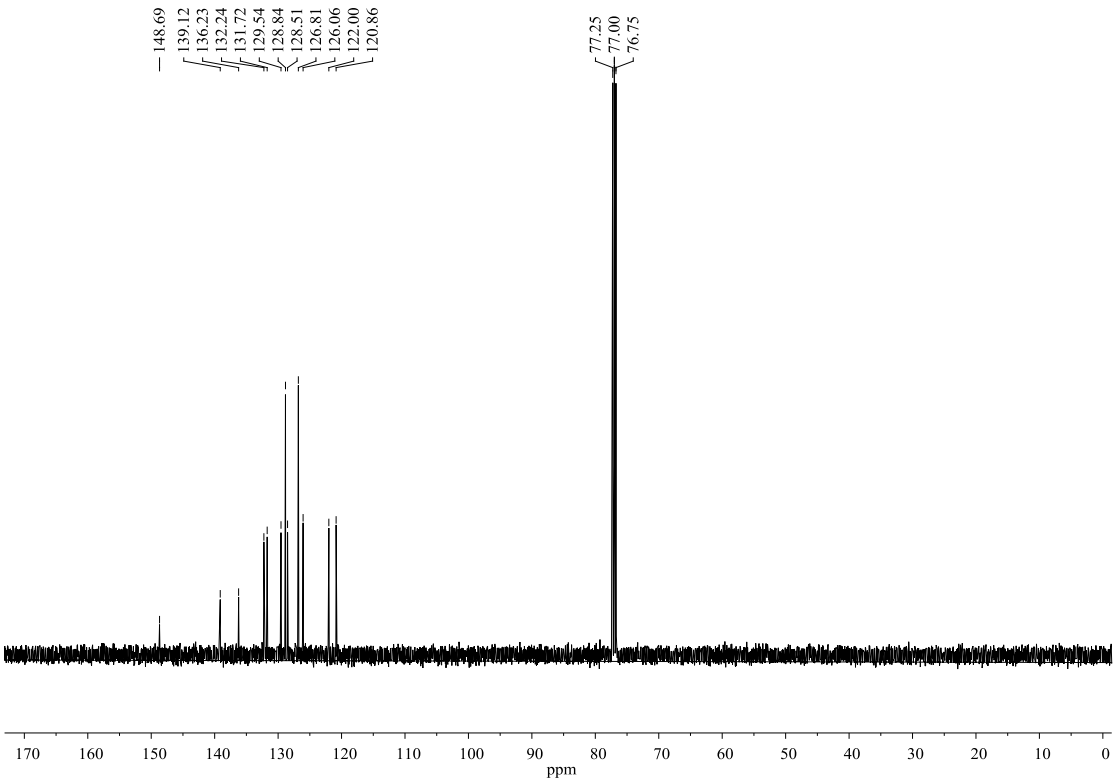
3.4 *m*-NO_2SBH





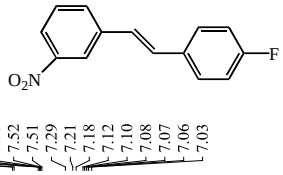


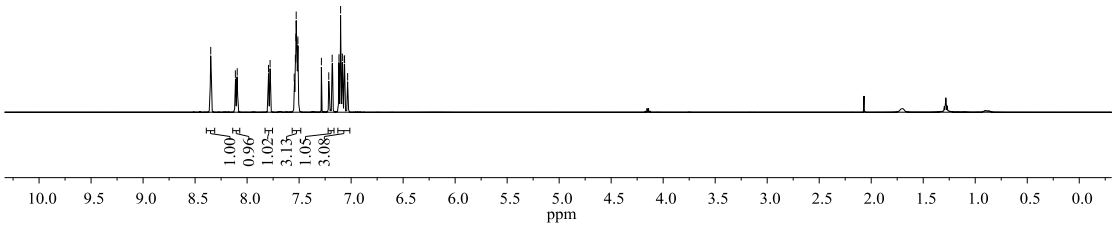
^{1}H NMR spectrum of *m*-NO_2SBH



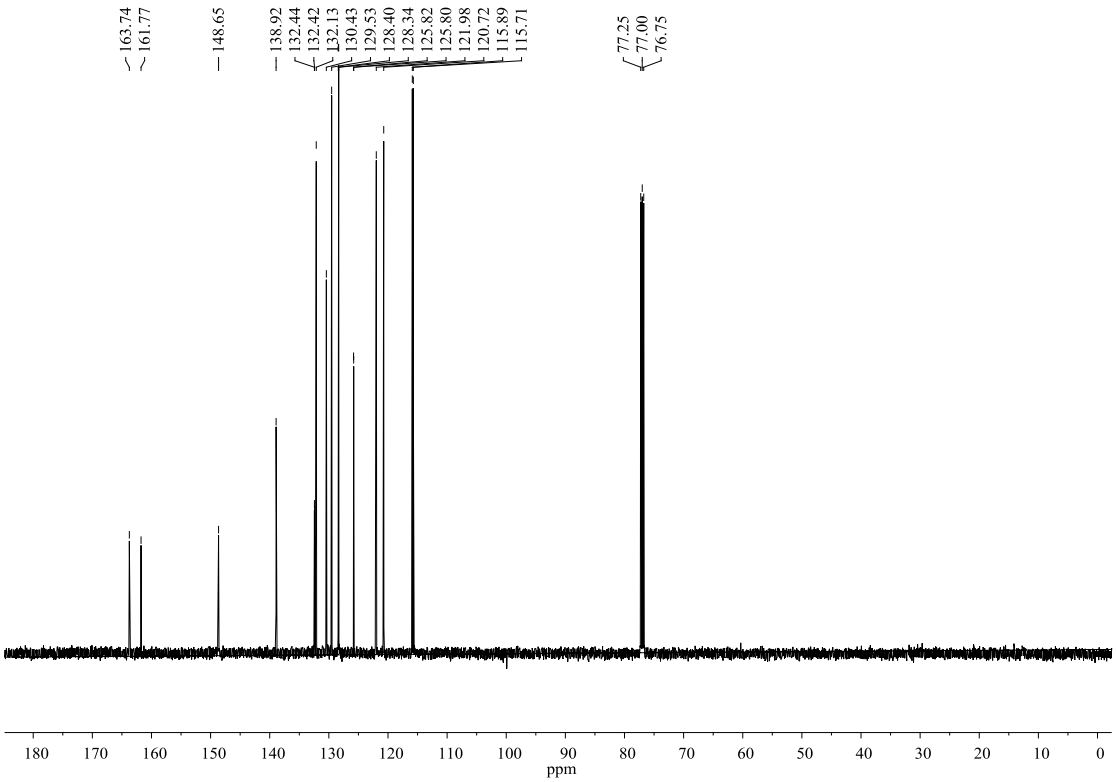
^{13}C NMR spectrum of *m*-NO_2SBH

3.5 *m*-NO_2SBF-*p*



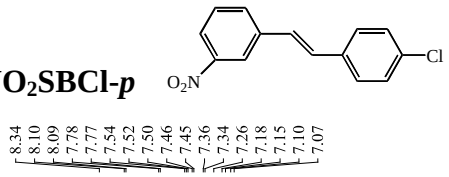


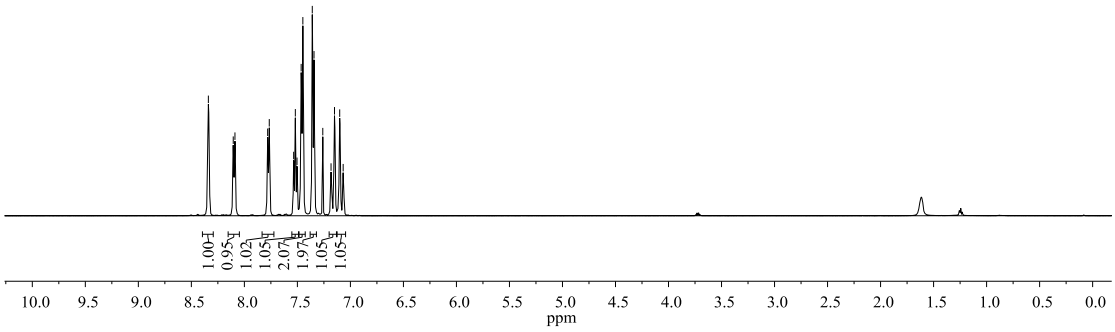
^{1}H NMR spectrum of *m*-NO_2SBF-*p*



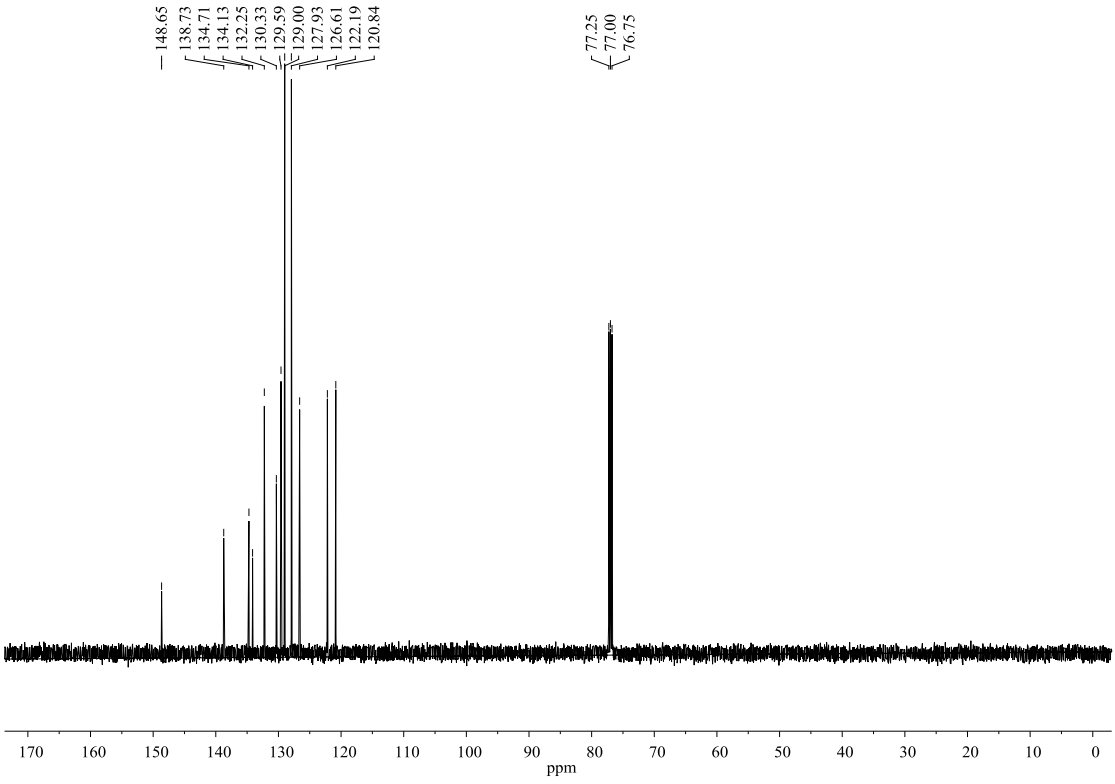
^{13}C NMR spectrum of *m*-NO_2SBF-*p*

3.6 *m*-NO_2SBCl-*p*



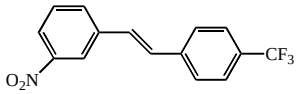


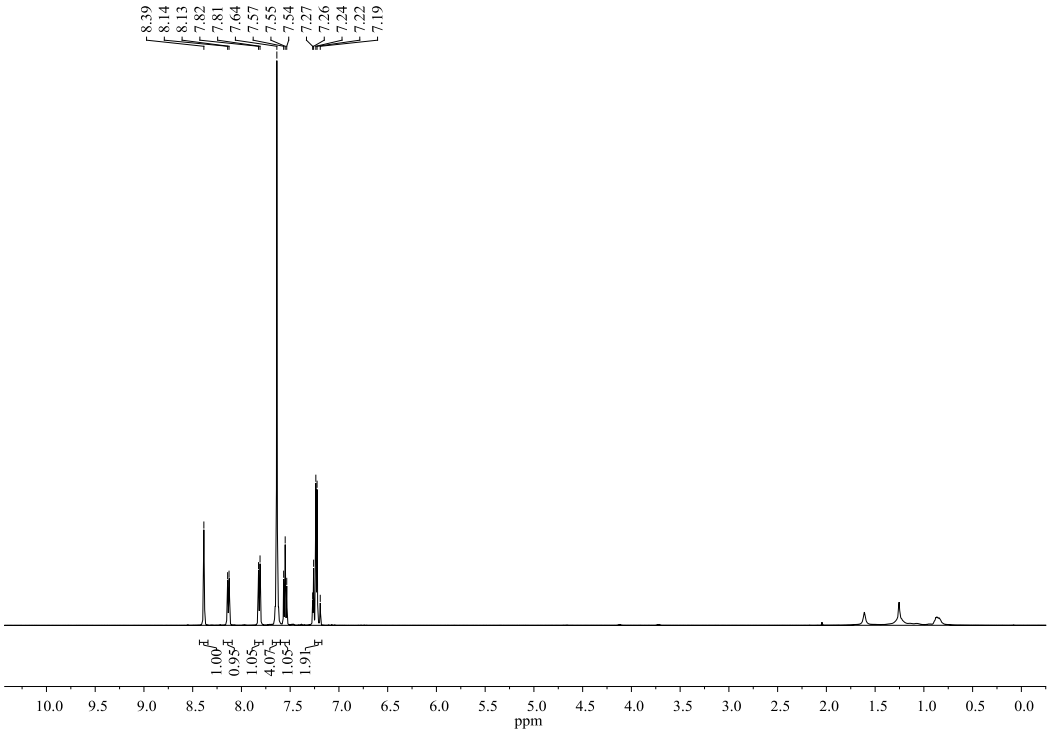
^{1}H NMR spectrum of *m*-NO_2SBCl-*p*



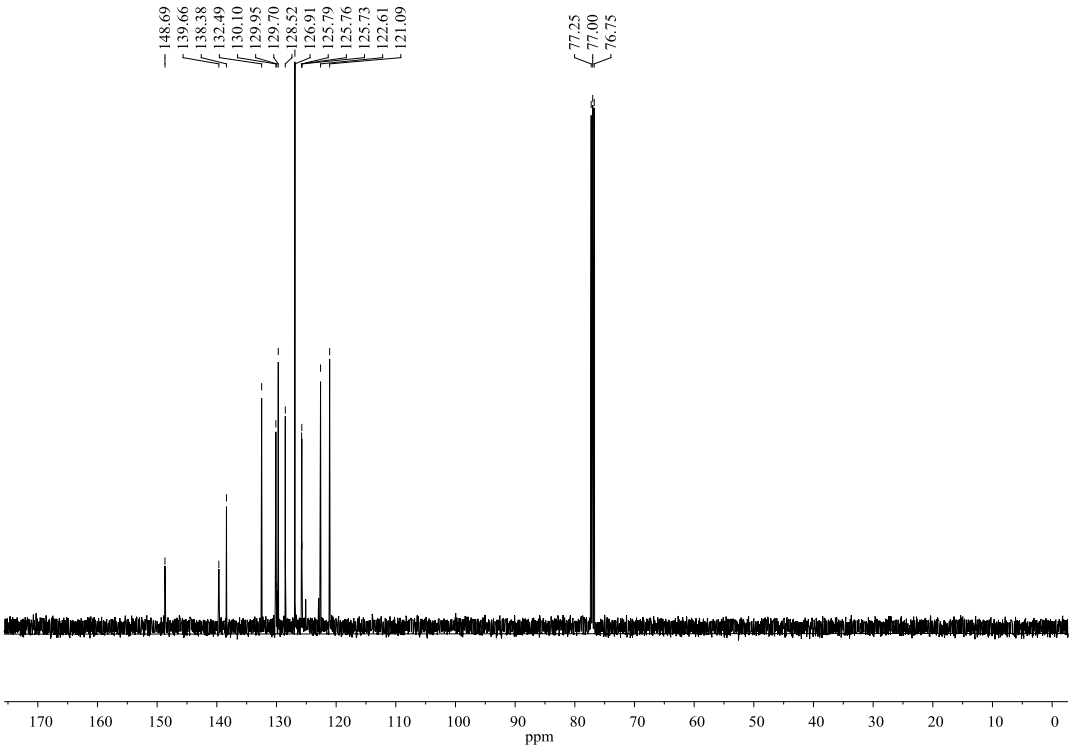
^{13}C NMR spectrum of *m*-NO_2SBCl-*p*

3.7 *m*-NO_2SBCF_3-*p*



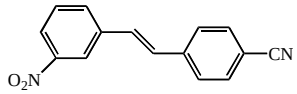


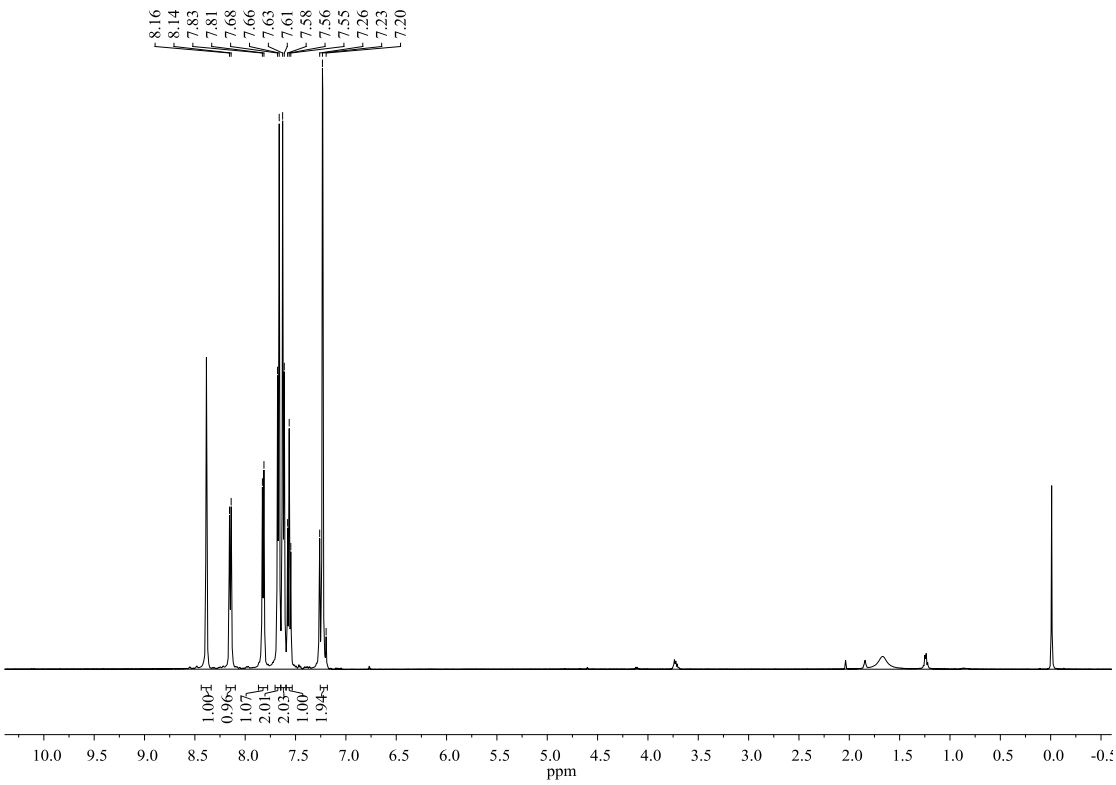
^{1}H NMR spectrum of *m*-NO_2SBCF_3-*p*



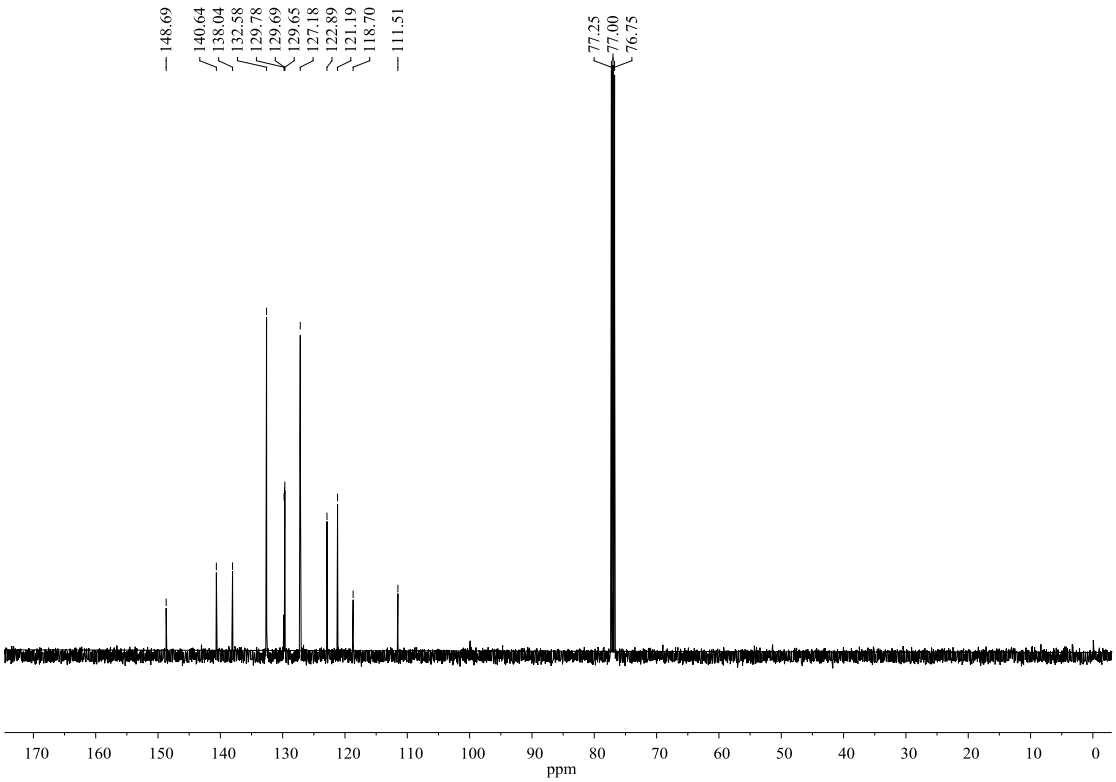
^{13}C NMR spectrum of *m*-NO_2SBCF_3-*p*

3.8 *m*-NO_2SBCN-*p*



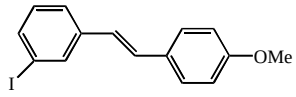


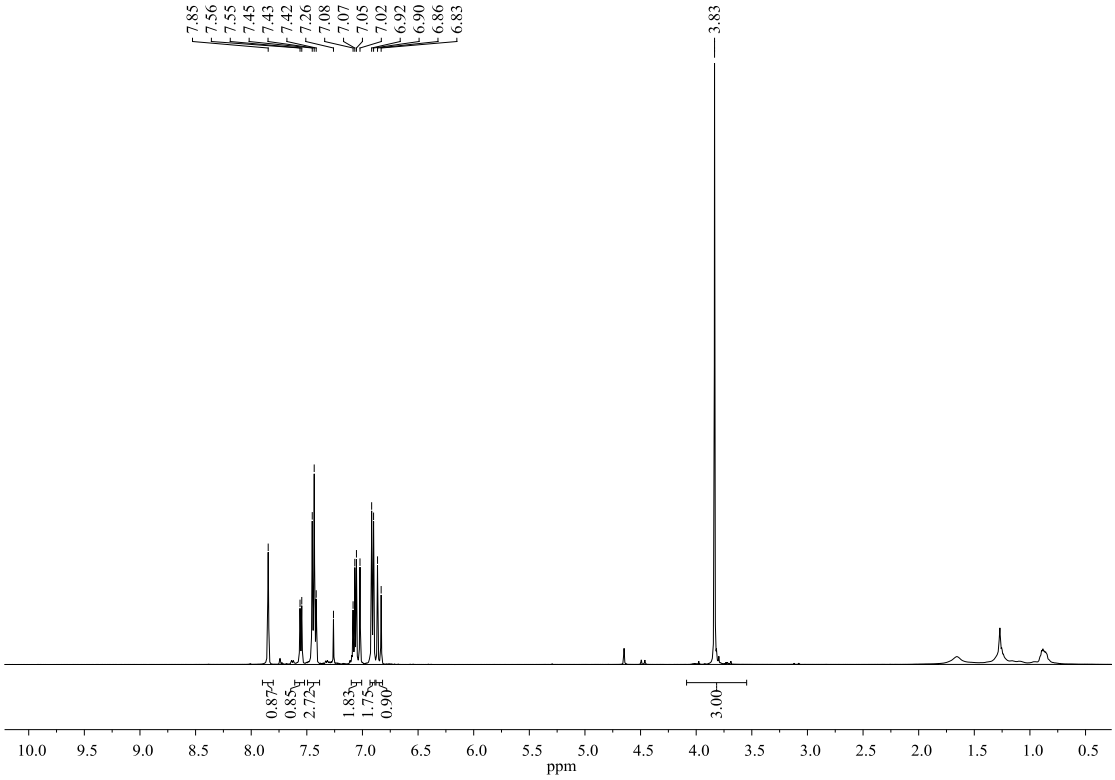
^{1}H NMR spectrum of *m*-NO_2SBCN-*p*



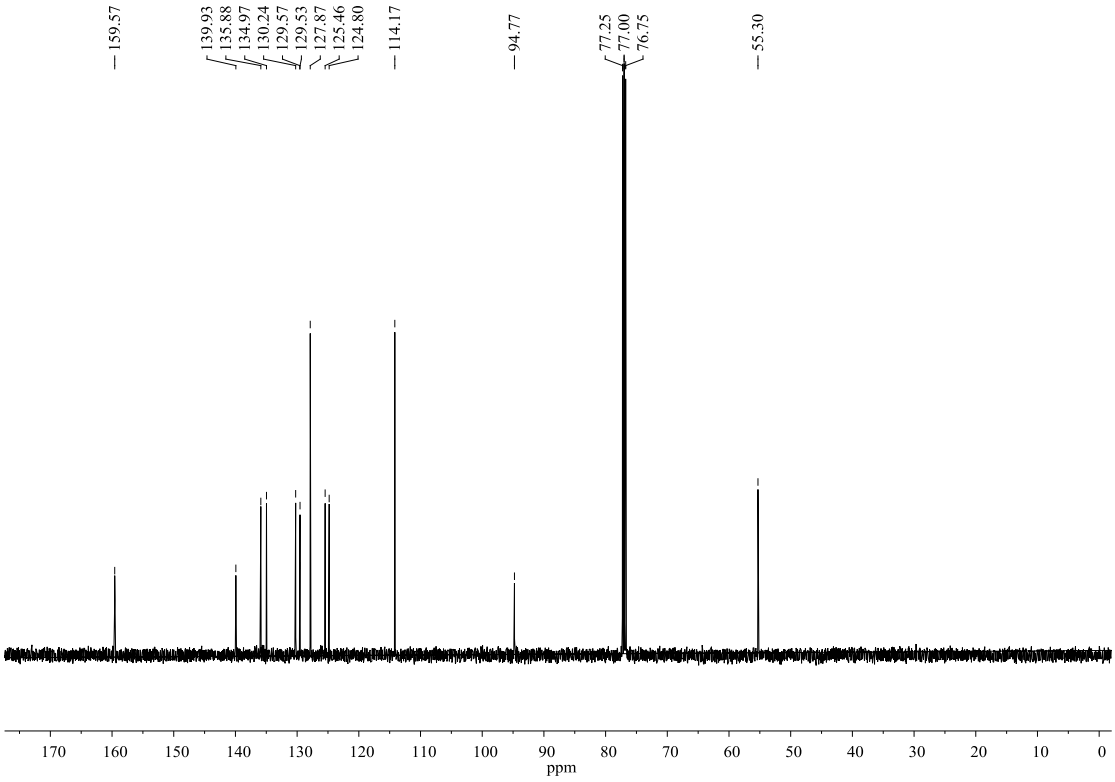
^{13}C NMR spectrum of *m*-NO_2SBCN-*p*

3.9 *m*-ISBOMe-*p*



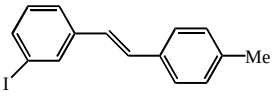


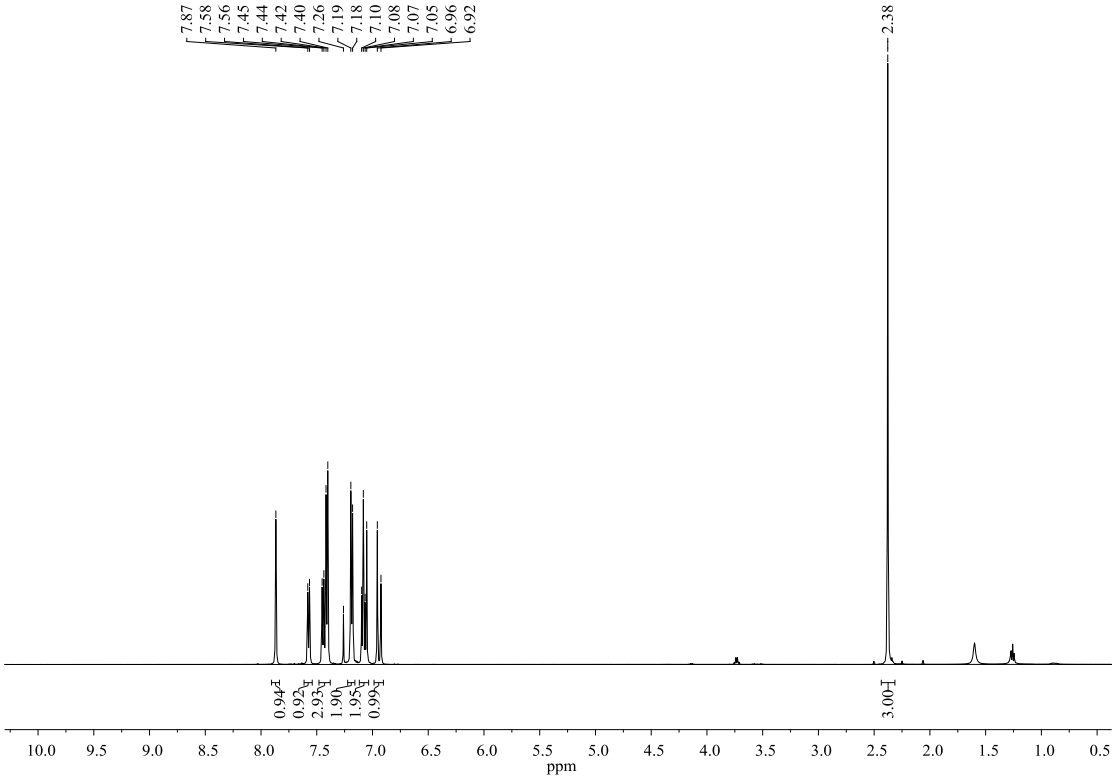
^{1}H NMR spectrum of *m*-ISBOMe-*p*



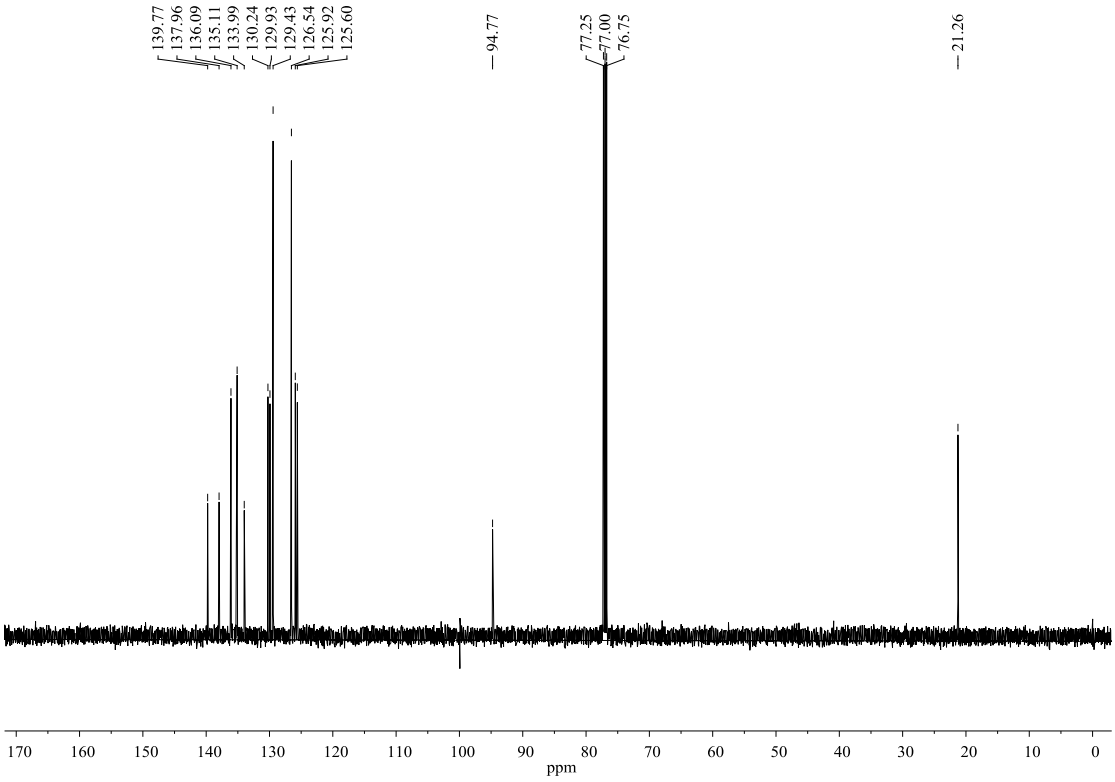
^{13}C NMR spectrum of *m*-ISBOMe-*p*

3.10 *m*-ISBMe-*p*



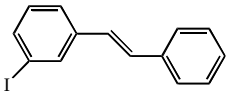


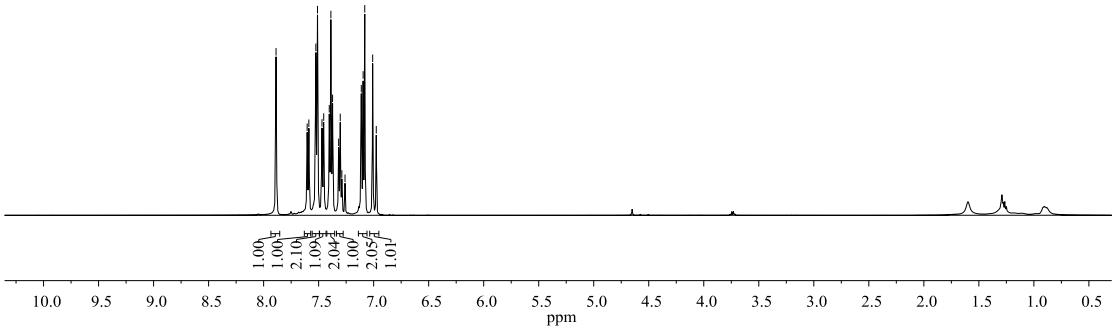
^{1}H NMR spectrum of *m*-ISBMe-*p*



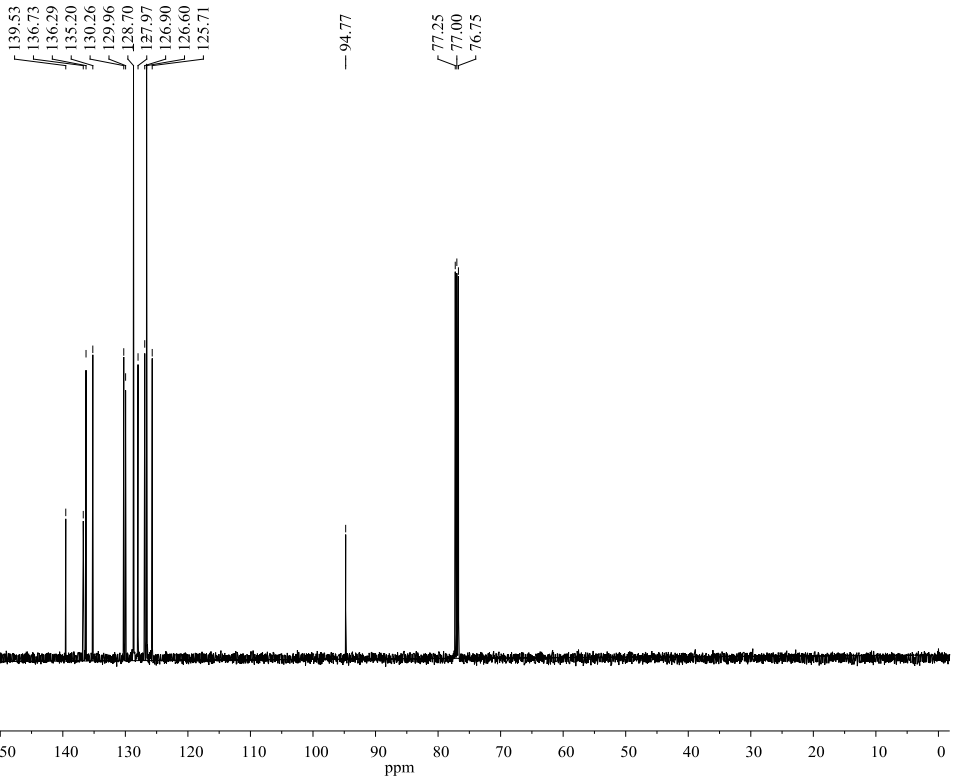
^{13}C NMR spectrum of *m*-ISBMe-*p*

3.11 *m*-ISBH



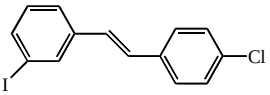


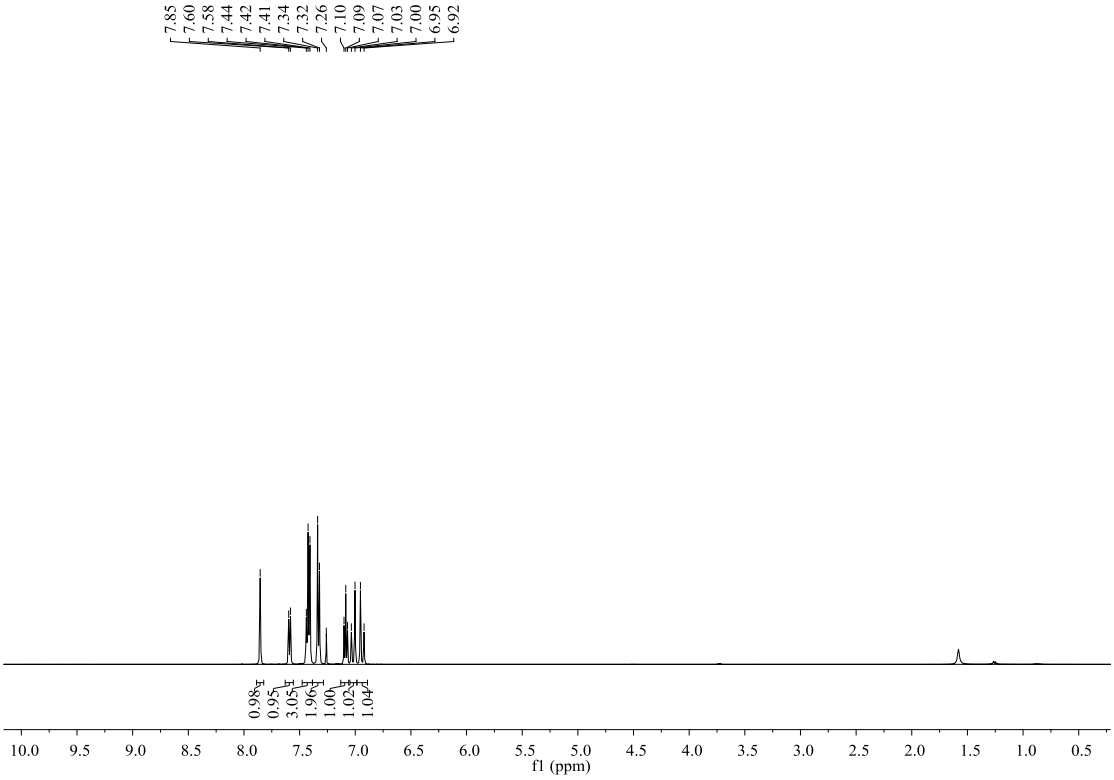
^{1}H NMR spectrum of *m*-ISBH



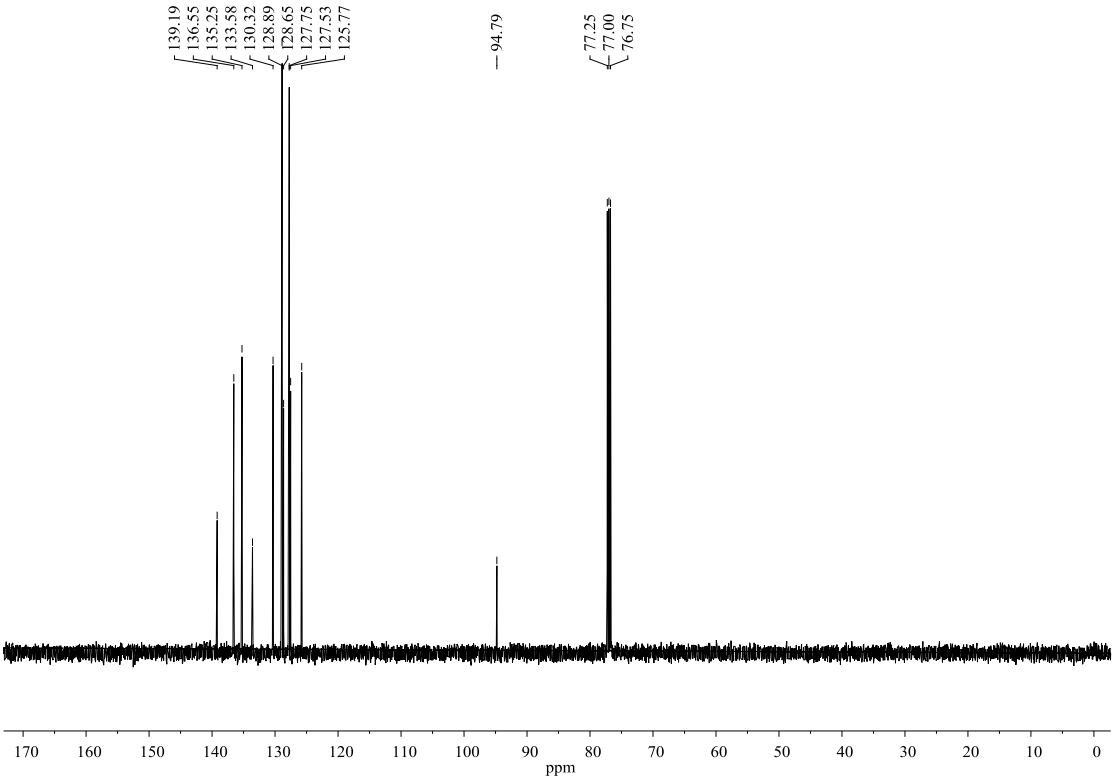
^{13}C NMR spectrum of *m*-ISBH

3.12 *m*-ISBCl-*p*



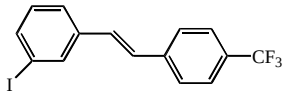


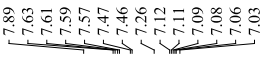
^{1}H NMR spectrum of *m*-ISBCl-*p*

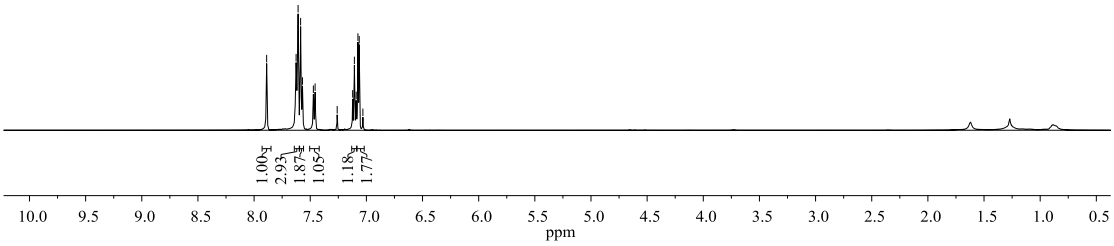


^{13}C NMR spectrum of *m*-ISBCl-*p*

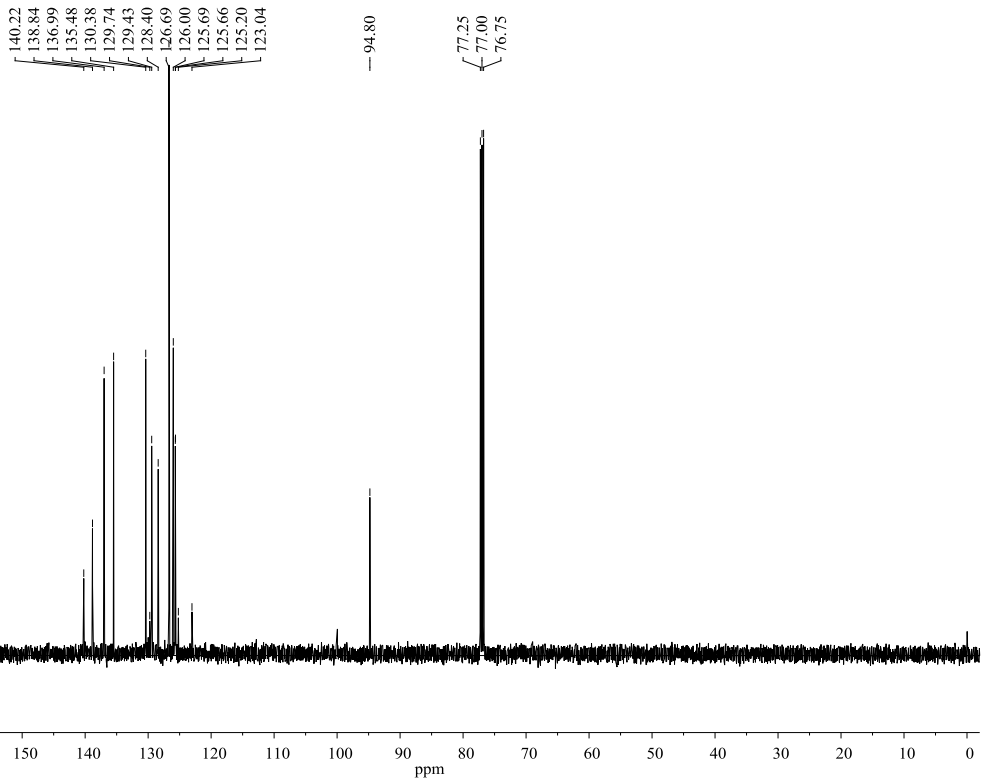
3.13 *m*-ISBCF$_3$-*p*





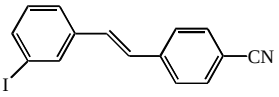


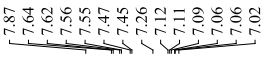
^{1}H NMR spectrum of *m*-ISBCF$_3$-*p*

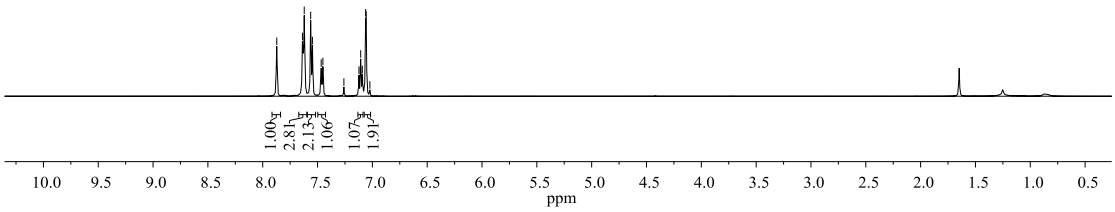


^{13}C NMR spectrum of *m*-ISBCF$_3$-*p*

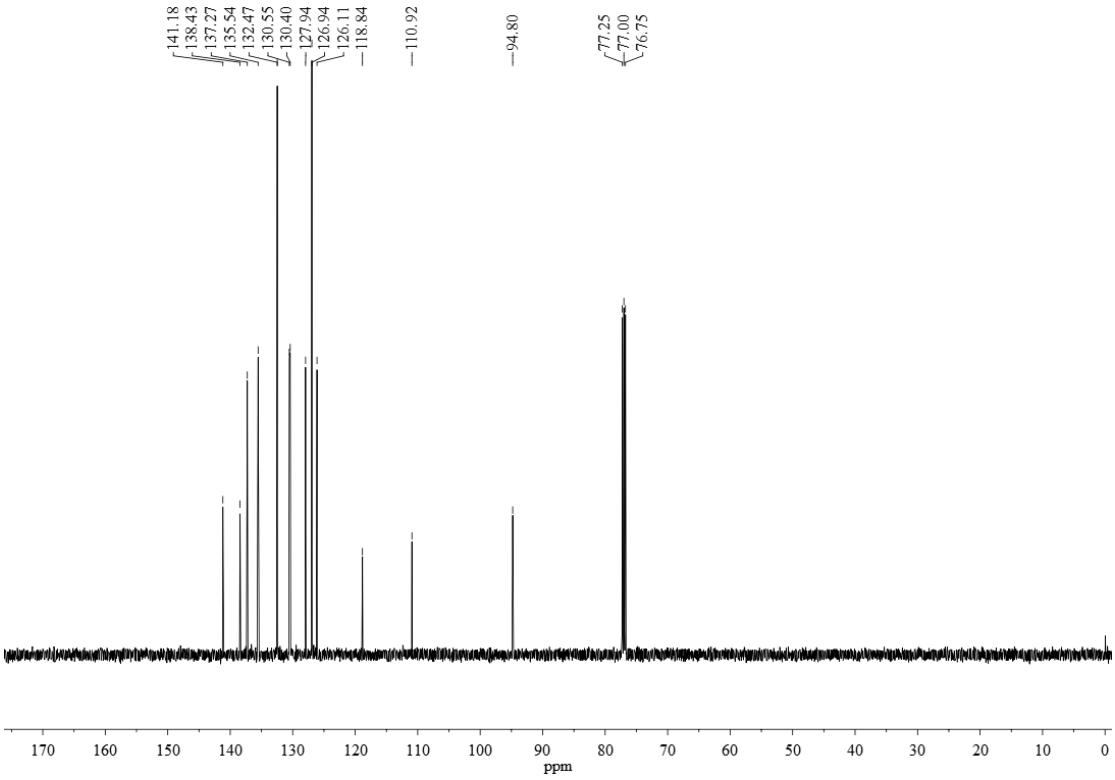
3.14 *m*-ISBCN-*p*





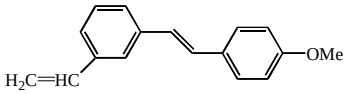


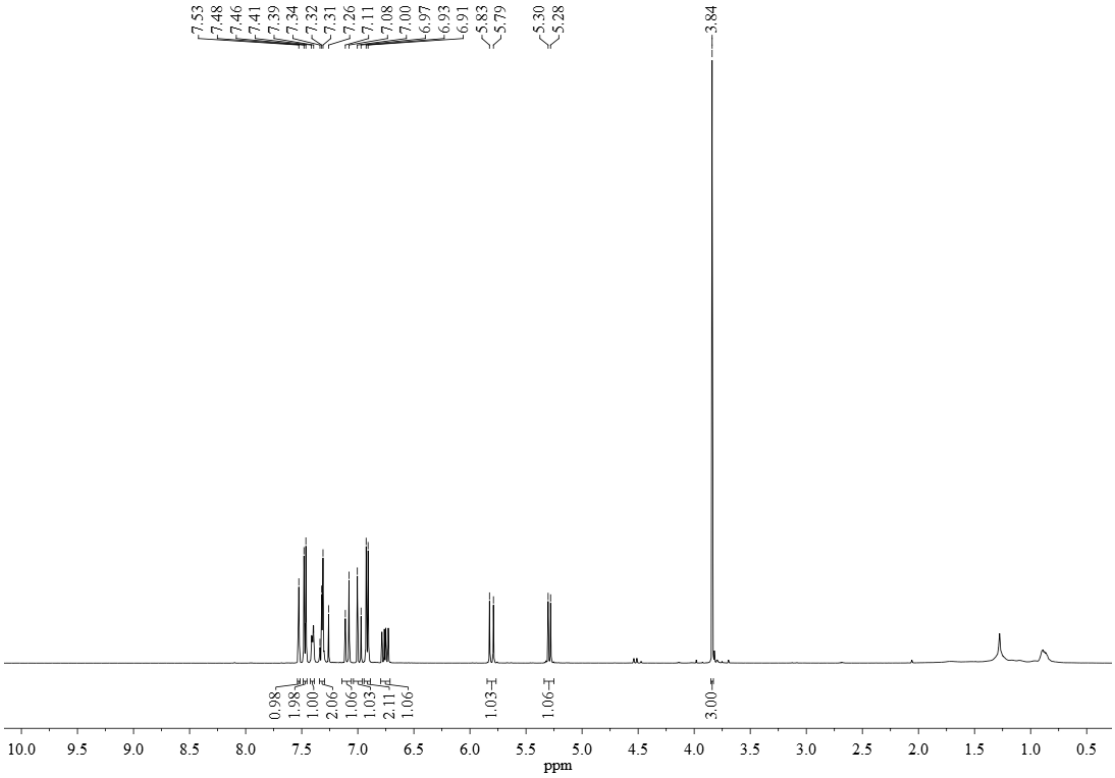
^{1}H NMR spectrum of *m*-ISBCN-*p*



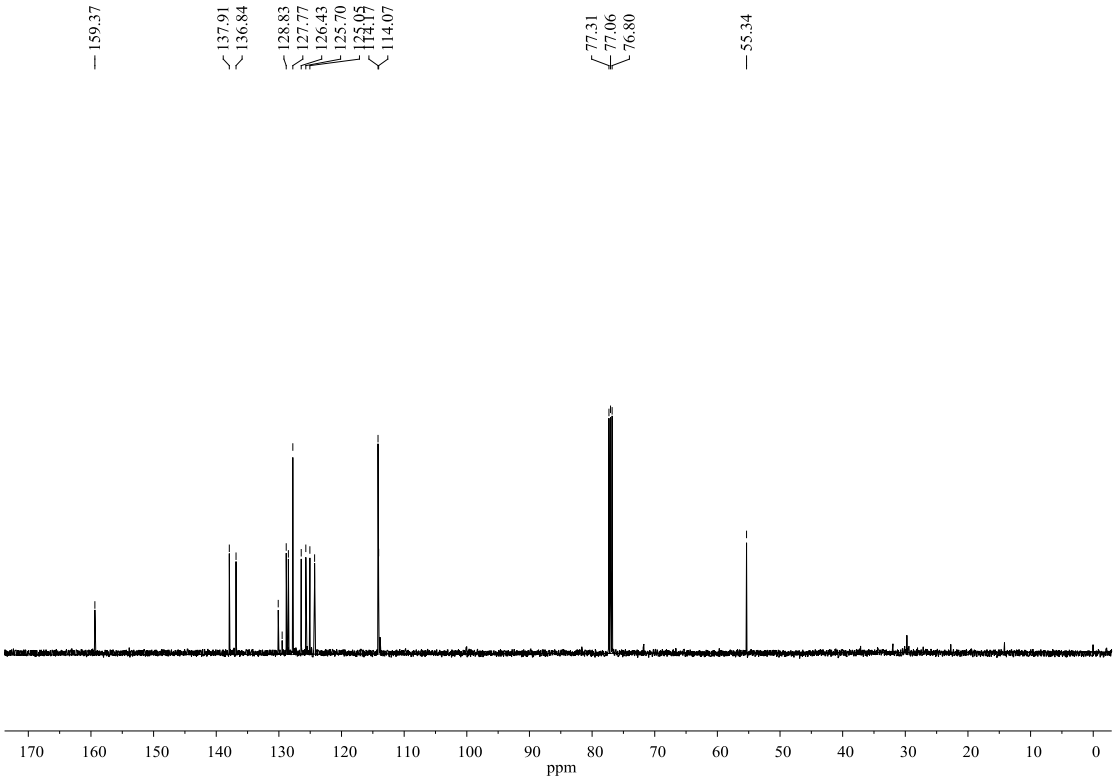
^{13}C NMR spectrum of *m*-ISBCN-*p*

3.15 *m*-CH=CH$_2$SBOMe-*p*



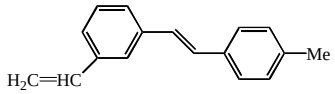


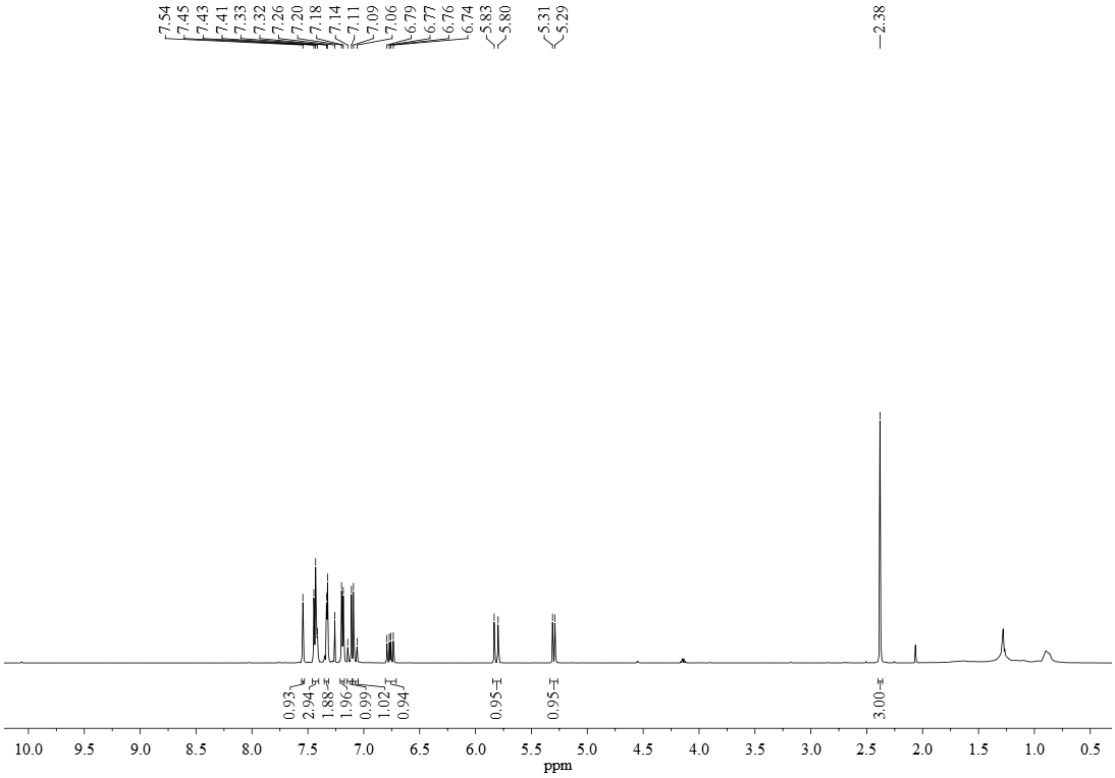
^{1}H NMR spectrum of *m*-CH=CH$_2$SBOMe-*p*



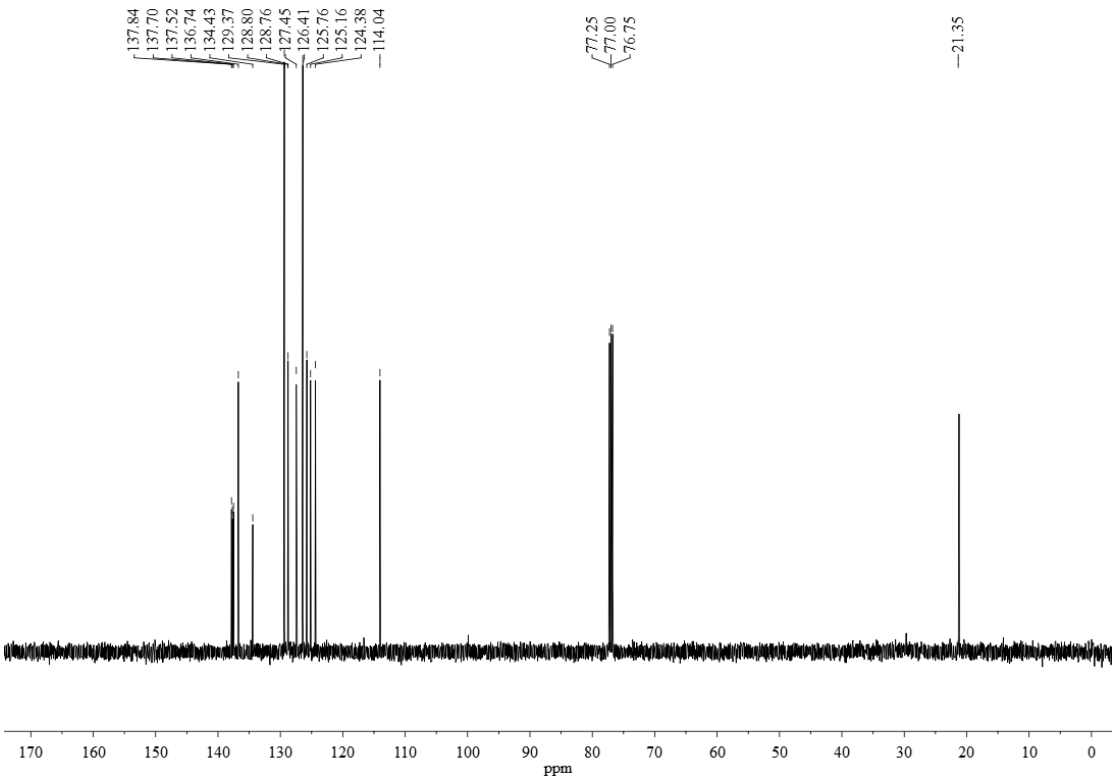
^{13}C NMR spectrum of *m*-CH=CH$_2$SBOMe-*p*

3.16 *m*-CH=CH$_2$SBMe-*p*



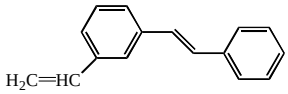


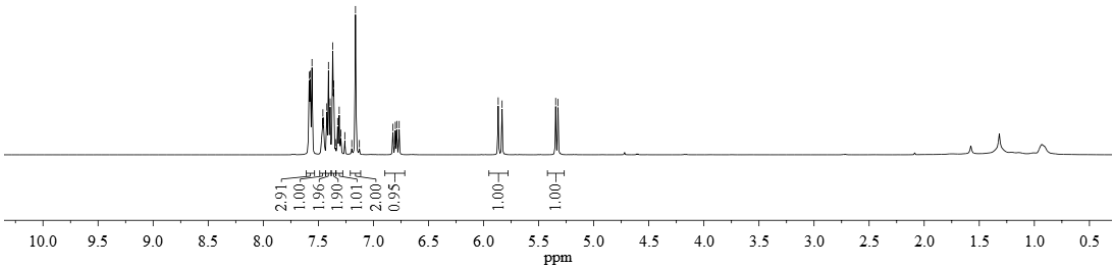
^{1}H NMR spectrum of *m*-CH=CH$_2$SBMe-*p*



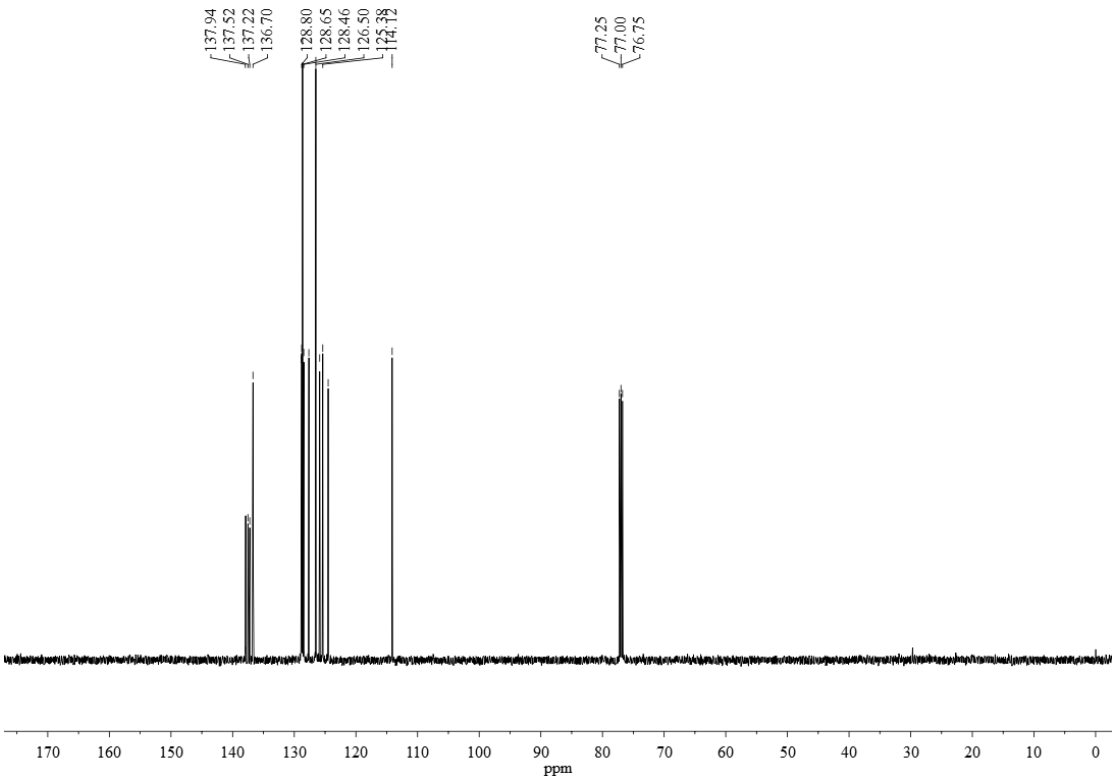
^{13}C NMR spectrum of *m*-CH=CH$_2$SBOMe-*p*

3.17 *m*-CH=CH$_2$SBH



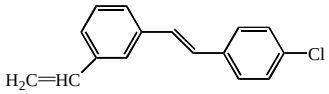


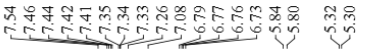
^{1}H NMR spectrum of *m*-CH=CH$_2$SBH

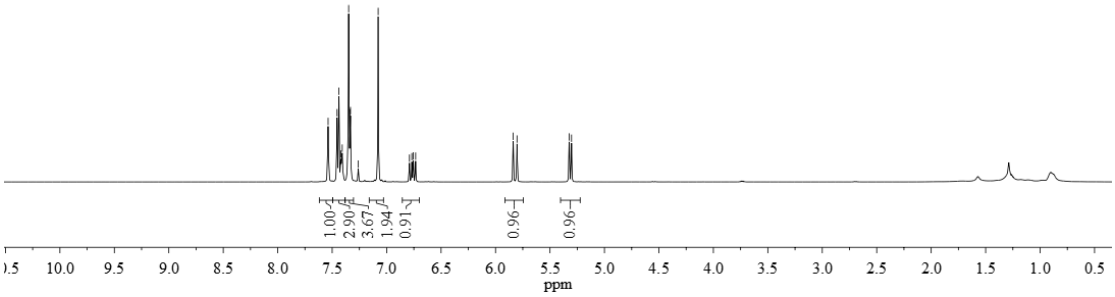


^{13}C NMR spectrum of *m*-CH=CH$_2$SBMe-*p*

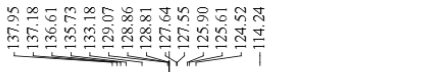
3.18 *m*-CH=CH$_2$SBCl-*p*

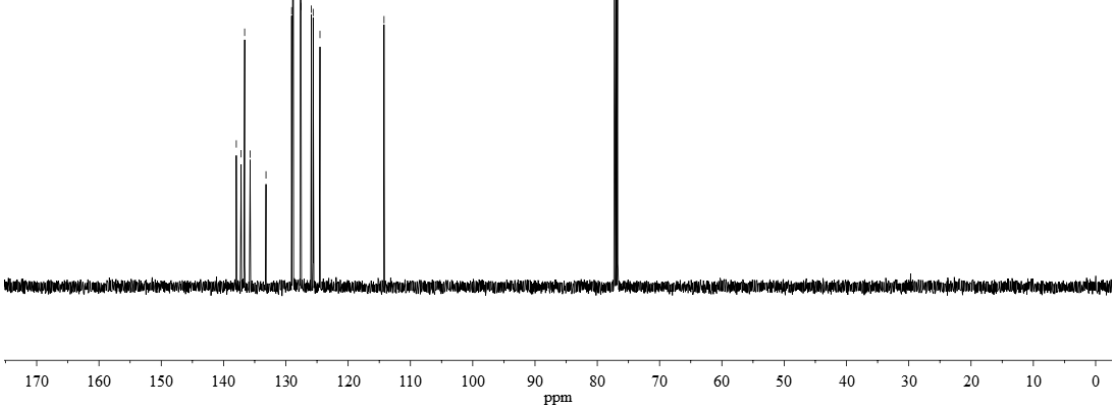






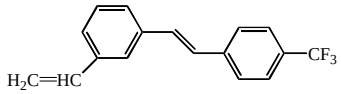
^{1}H NMR spectrum of *m*-CH=CH$_2$SBCl-*p*

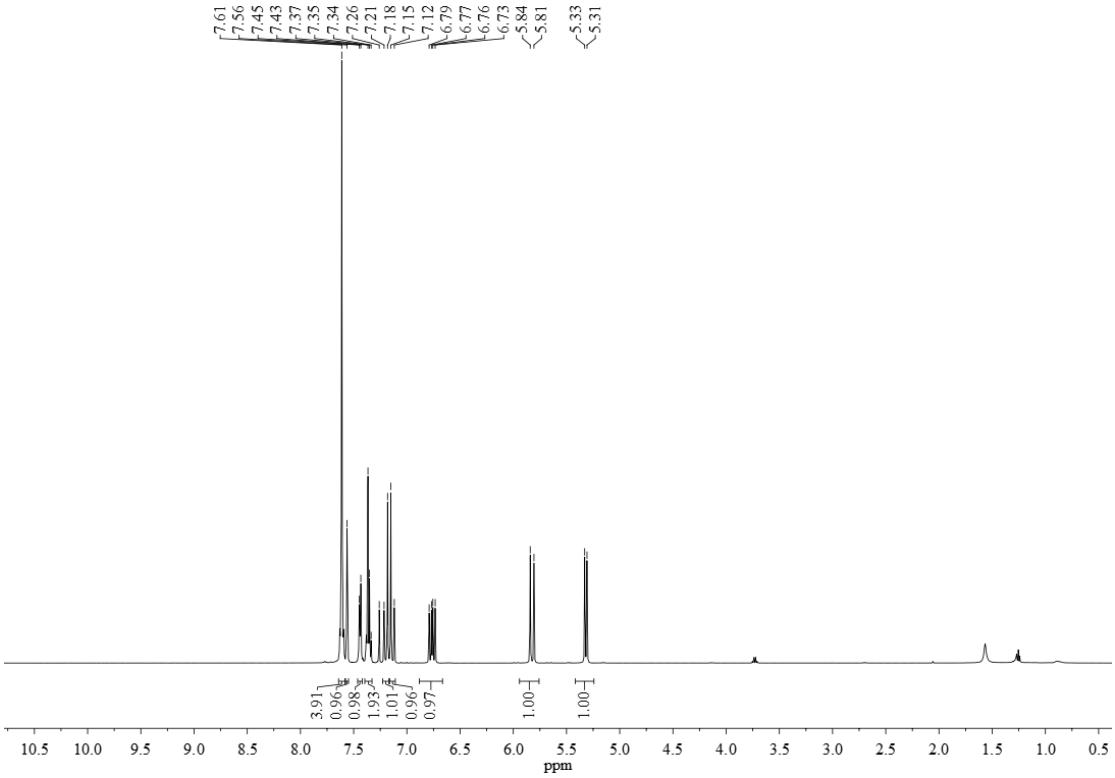




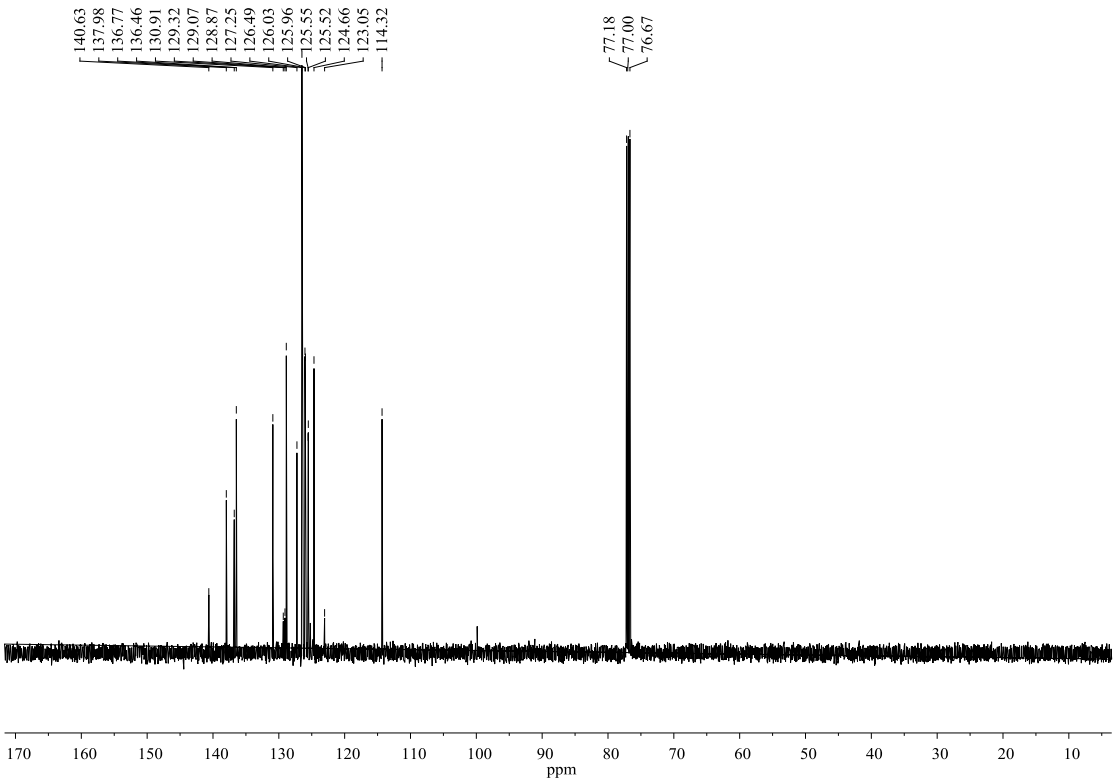
^{13}C NMR spectrum of *m*-CH=CH$_2$SBCl-*p*

3.19 *m*-CH=CH$_2$SBCF$_3$-*p*

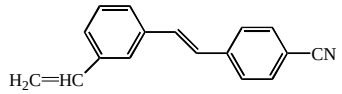


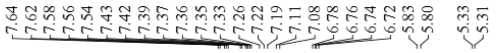


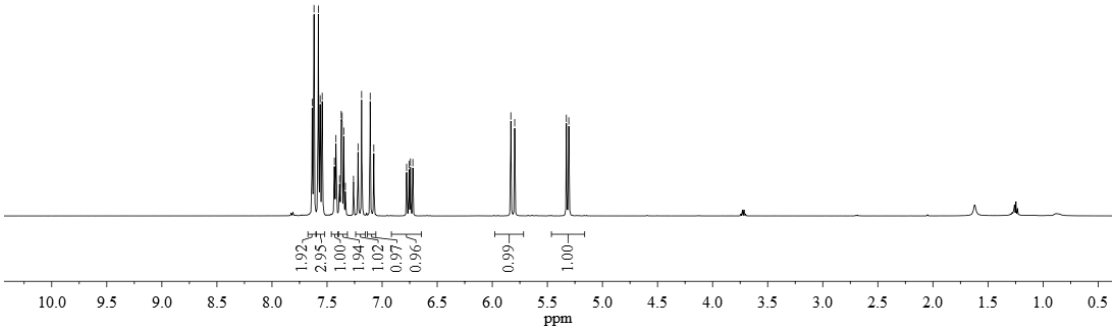
^{1}H NMR spectrum of *m*-CH=CH$_2$SBCF$_3$-*p*



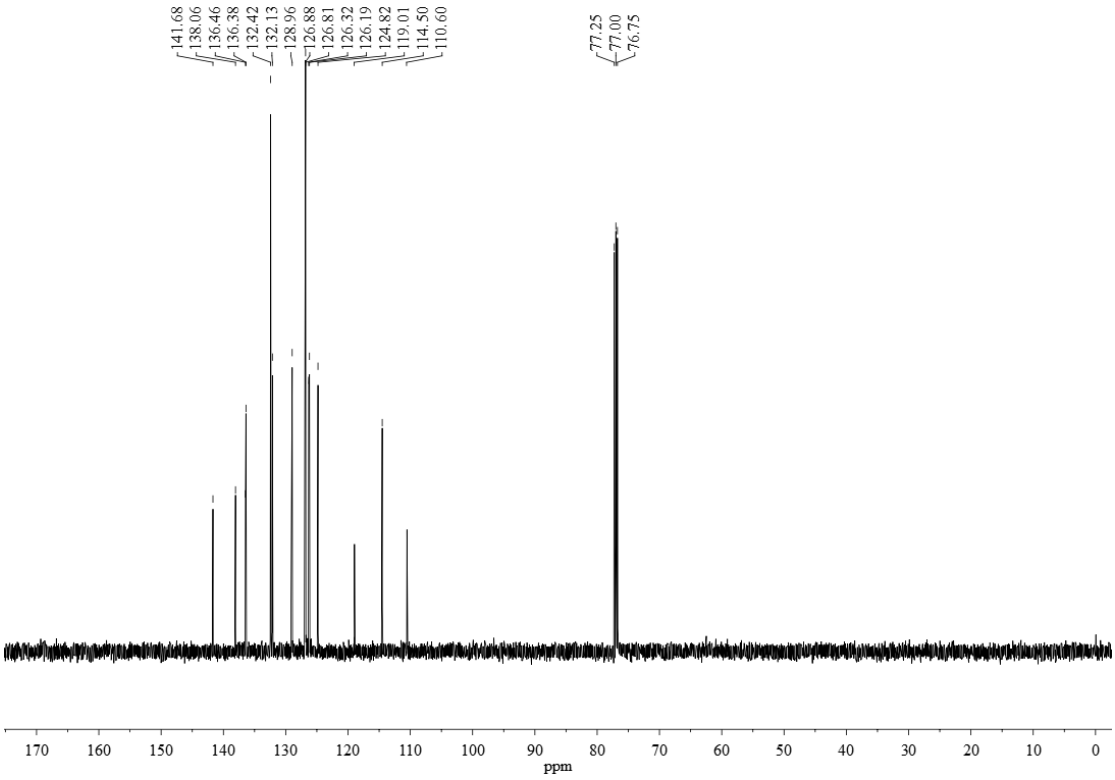
^{13}C NMR spectrum of *m*-CH=CH$_2$SBCF$_3$-*p*

3.20 *m*-CH=CH$_2$SBCN-*p* 

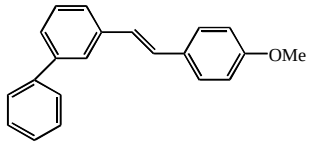




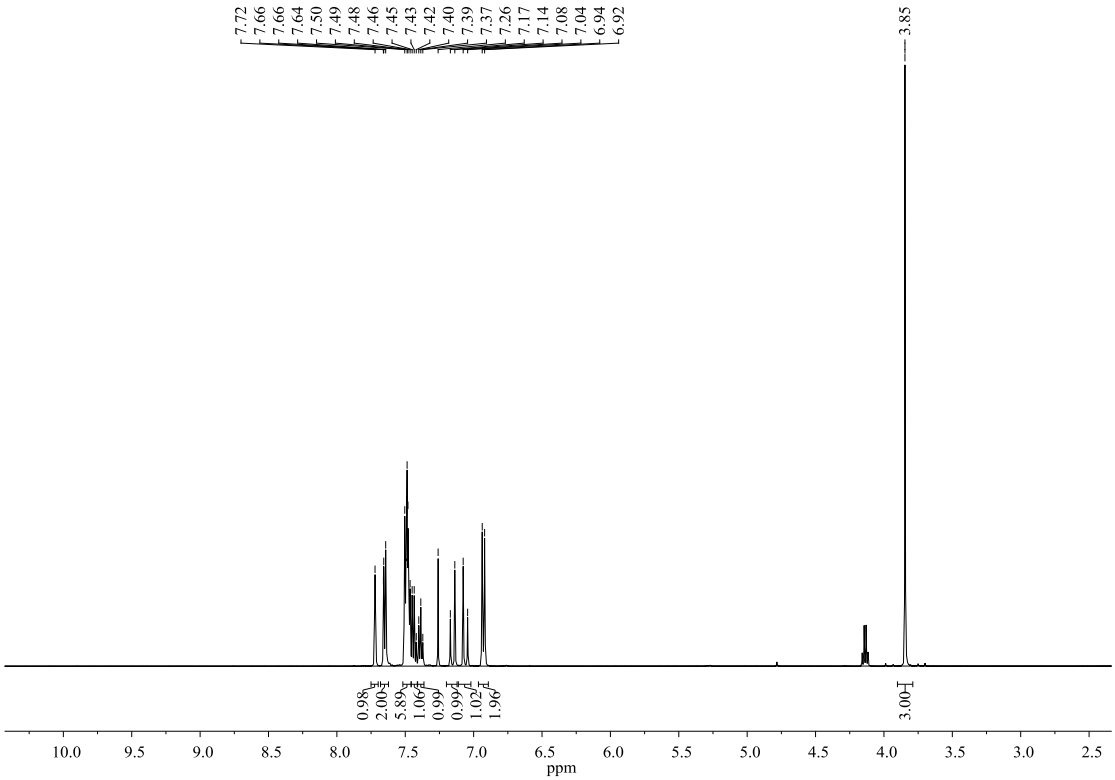
^{1}H NMR spectrum of *m*-CH=CH$_2$SBCN-*p*



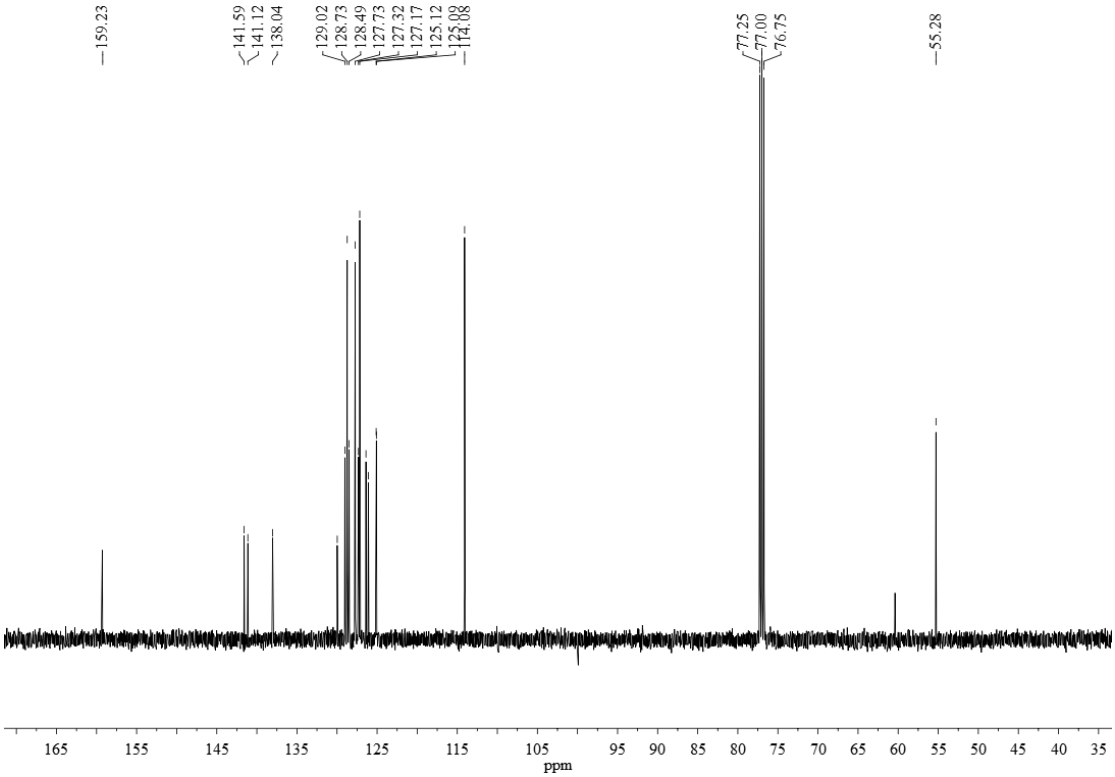
^{13}C NMR spectrum of *m*-CH=CH$_2$SBCN-*p*



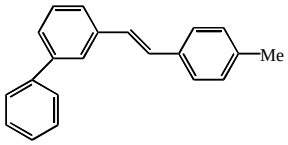
3.21 *m*-PhSBOMe-*p*



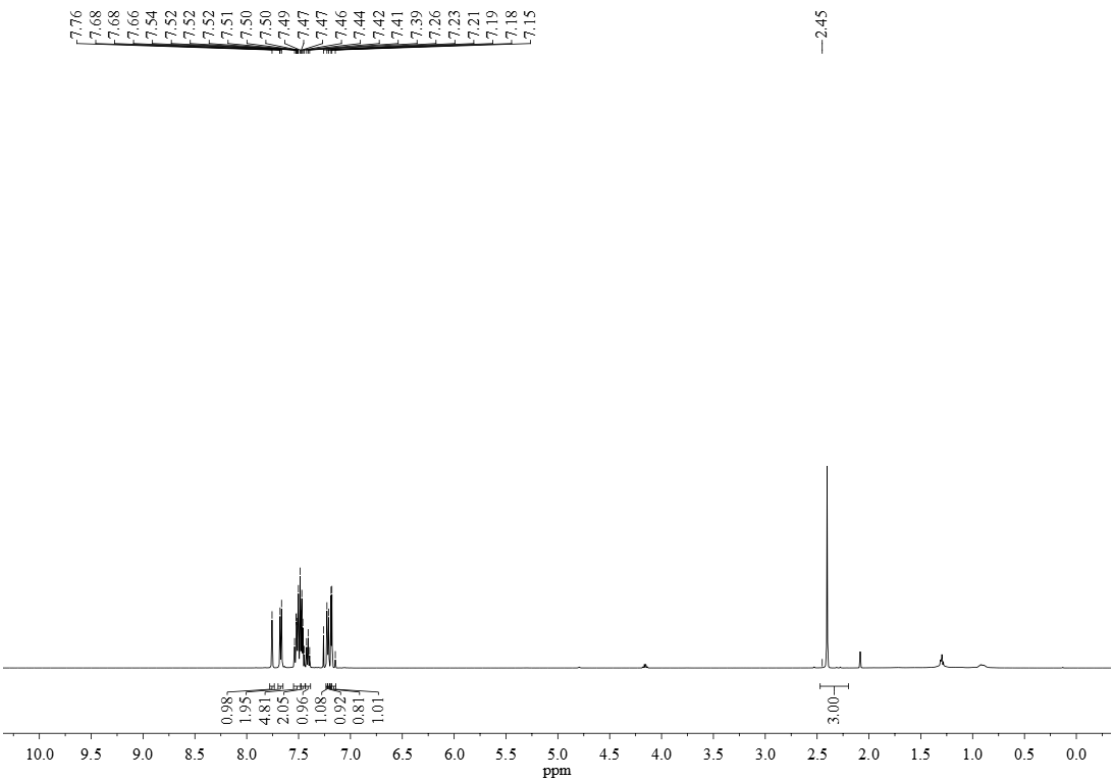
^{1}H NMR spectrum of *m*-PhSBOMe-*p*



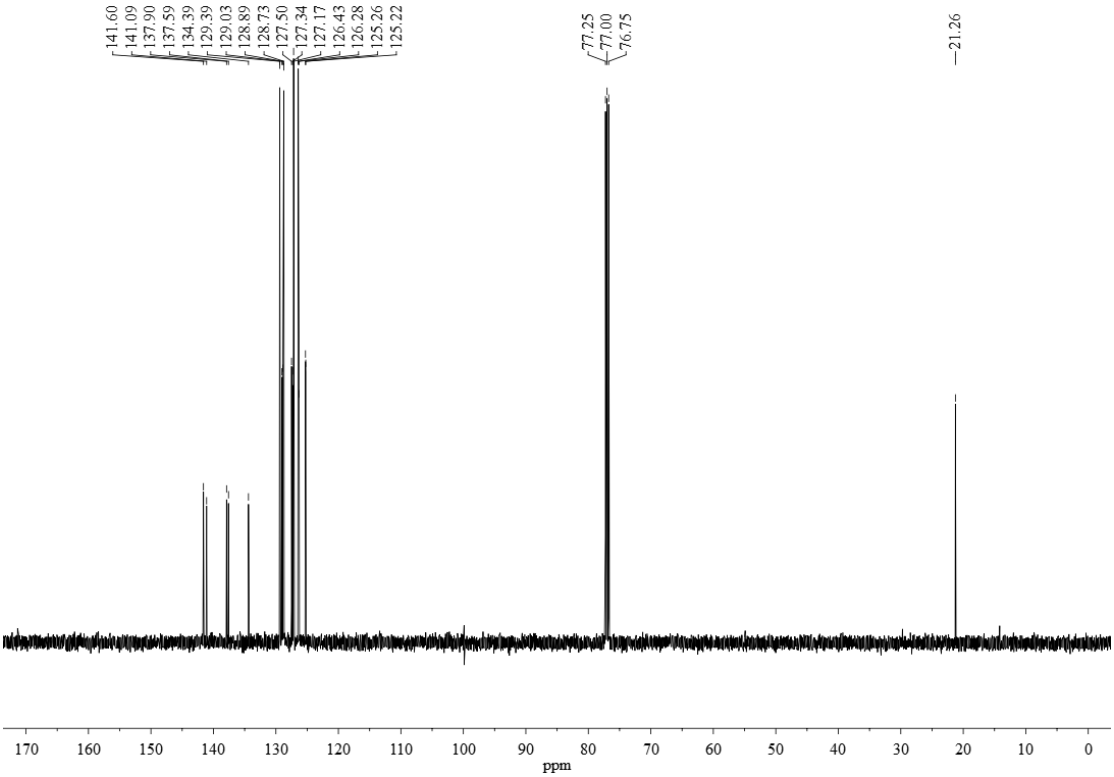
^{13}C NMR spectrum of *m*-PhSBOMe-*p*



3.22 *m*-PhSBMe-*p*

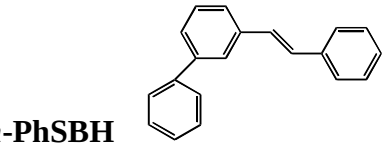


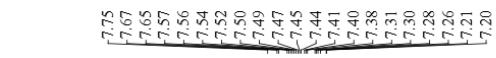
^{1}H NMR spectrum of *m*-PhSBMe-*p*

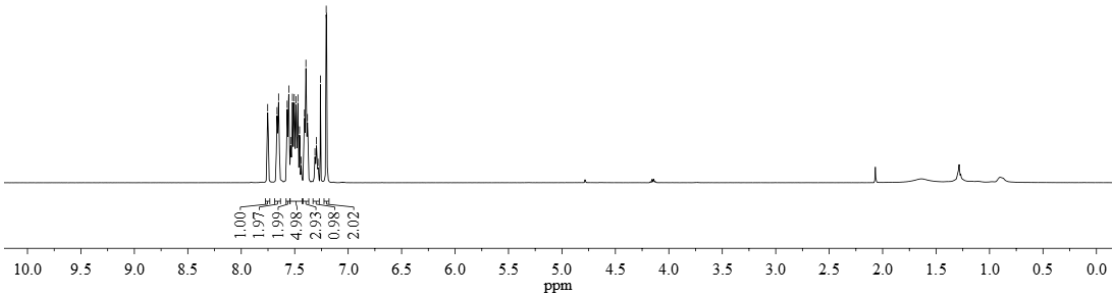


^{13}C NMR spectrum of *m*-PhSBMe-*p*

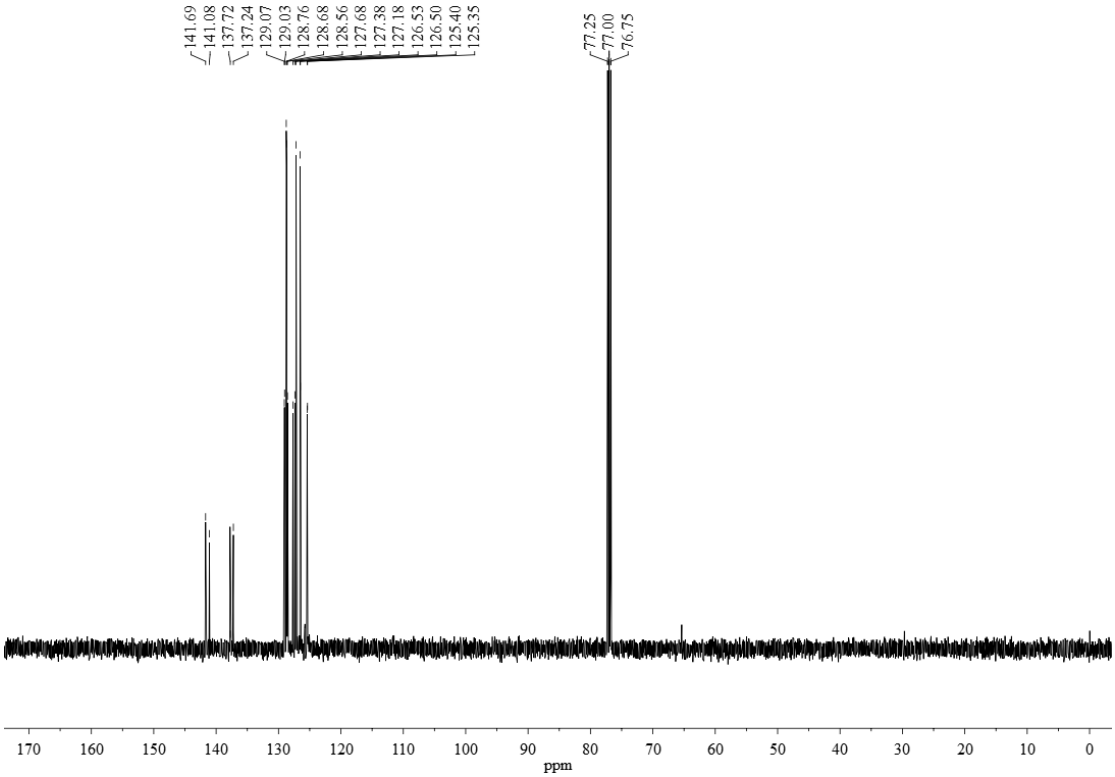
3.23 *m*-PhSBH



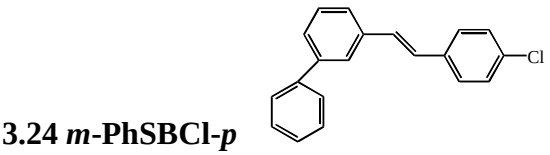




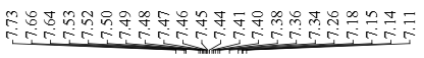
^{1}H NMR spectrum of *m*-PhSBH

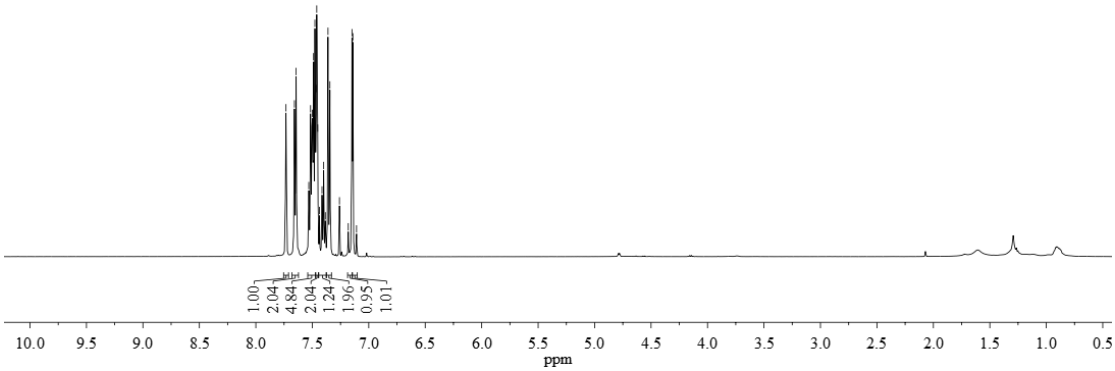


^{13}C NMR spectrum of *m*-PhSBH

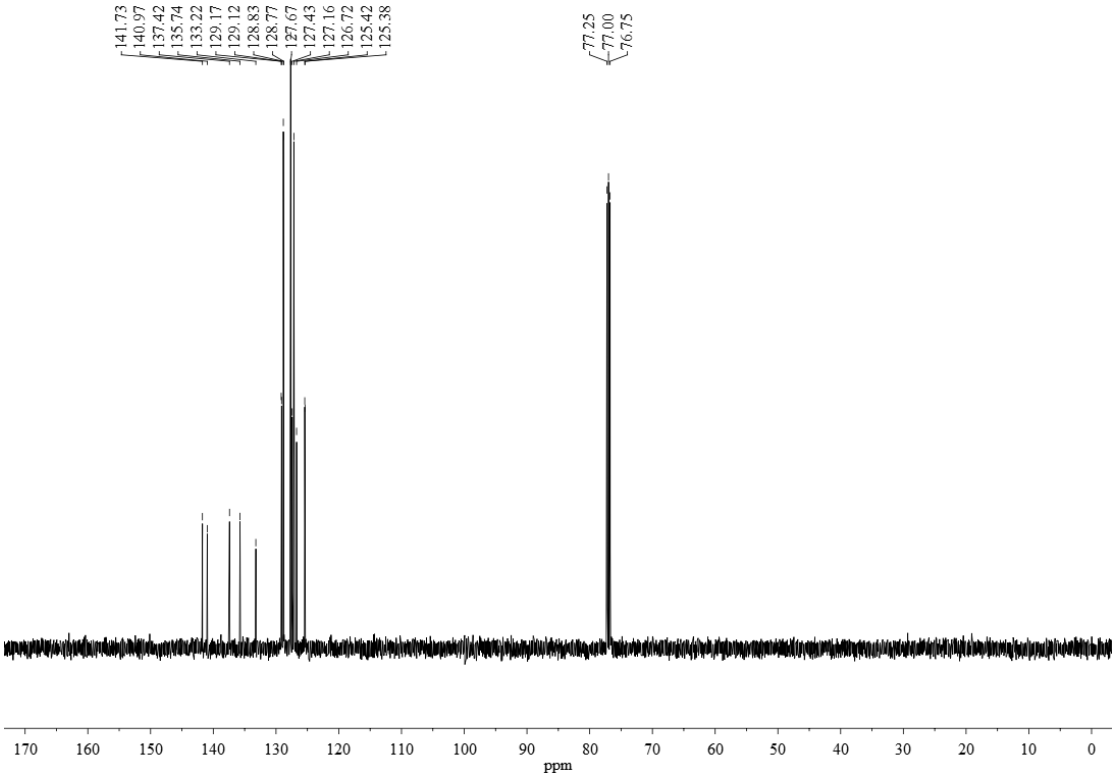


3.24 *m*-PhSBCl-*p*



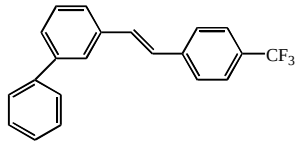


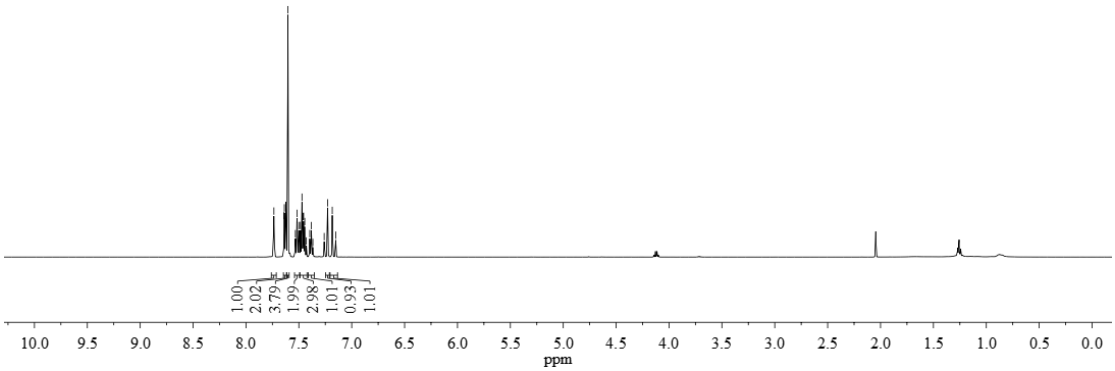
^{1}H NMR spectrum of *m*-PhSBCl-*p*



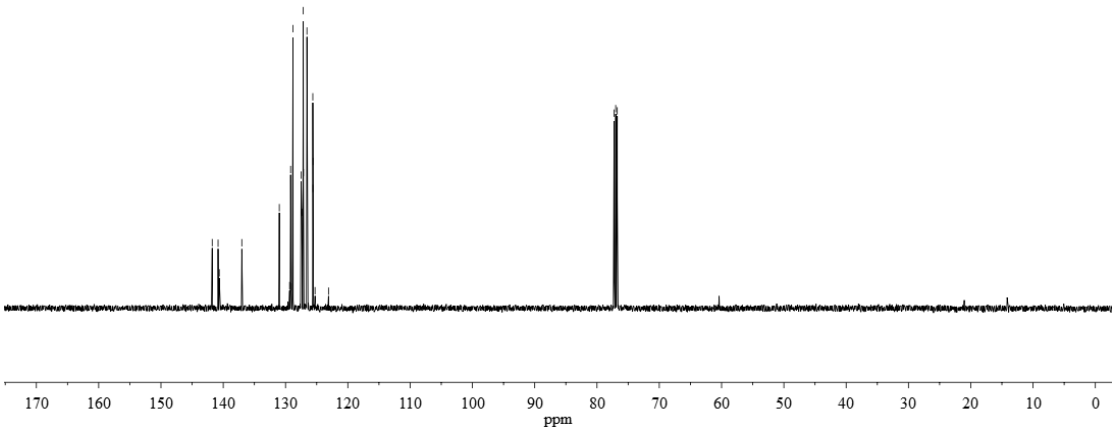
^{13}C NMR spectrum of *m*-PhSBCl-*p*

3.25 *m*-PhSBCF$_3$-*p*



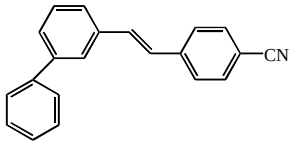


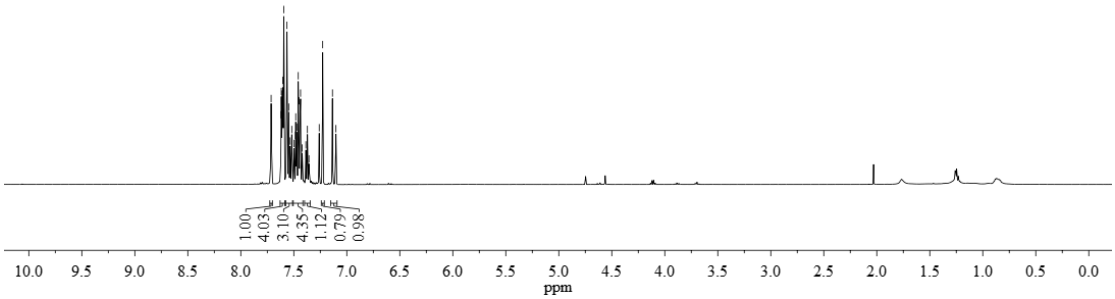
^{1}H NMR spectrum of *m*-PhSBCF$_3$-*p*



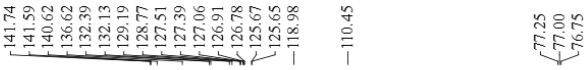
^{13}C NMR spectrum of *m*-PhSBCF$_3$-*p*

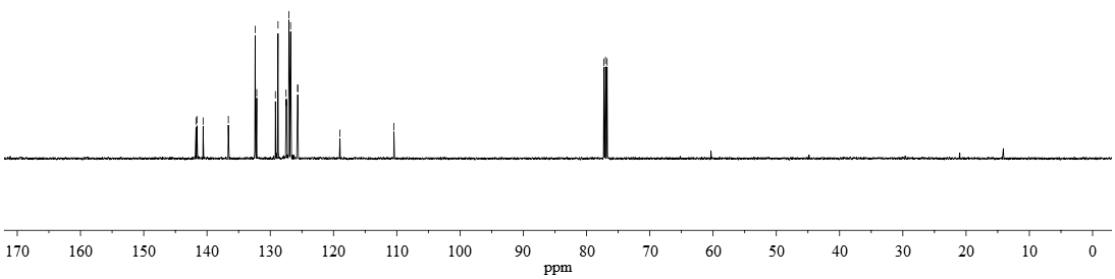
3.26 *m*-PhSBCN-*p*



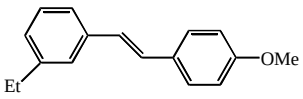


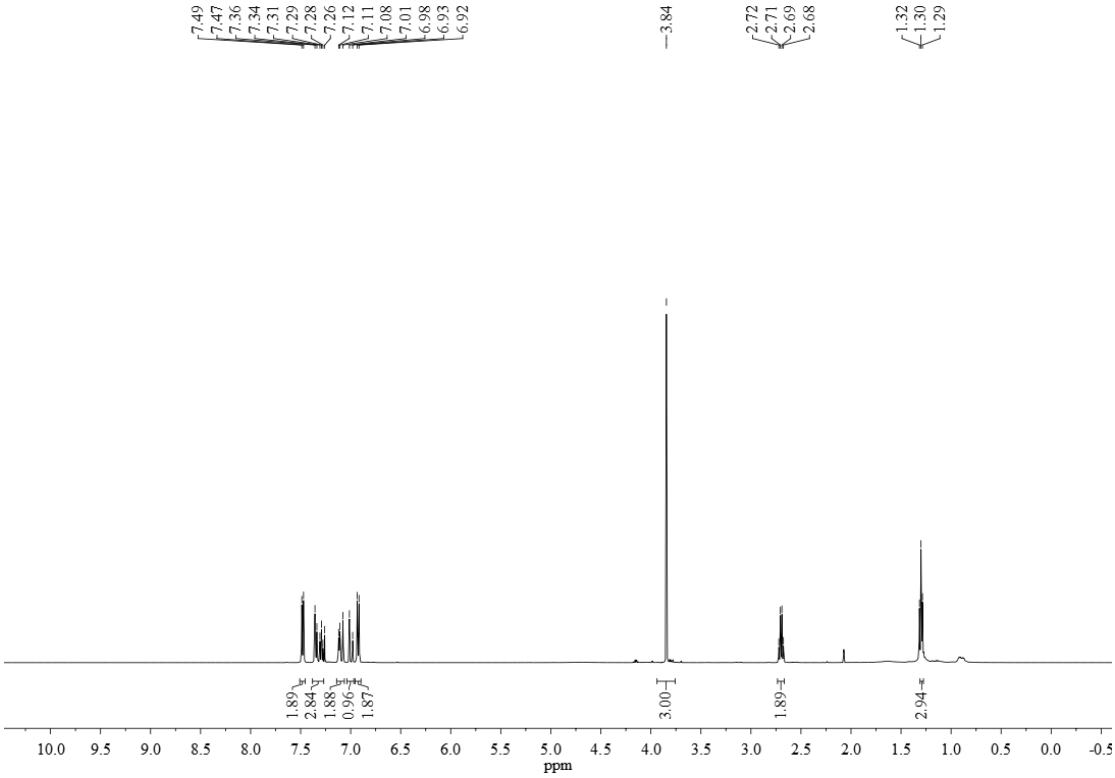
^{1}H NMR spectrum of *m*-PhSBCN-*p*



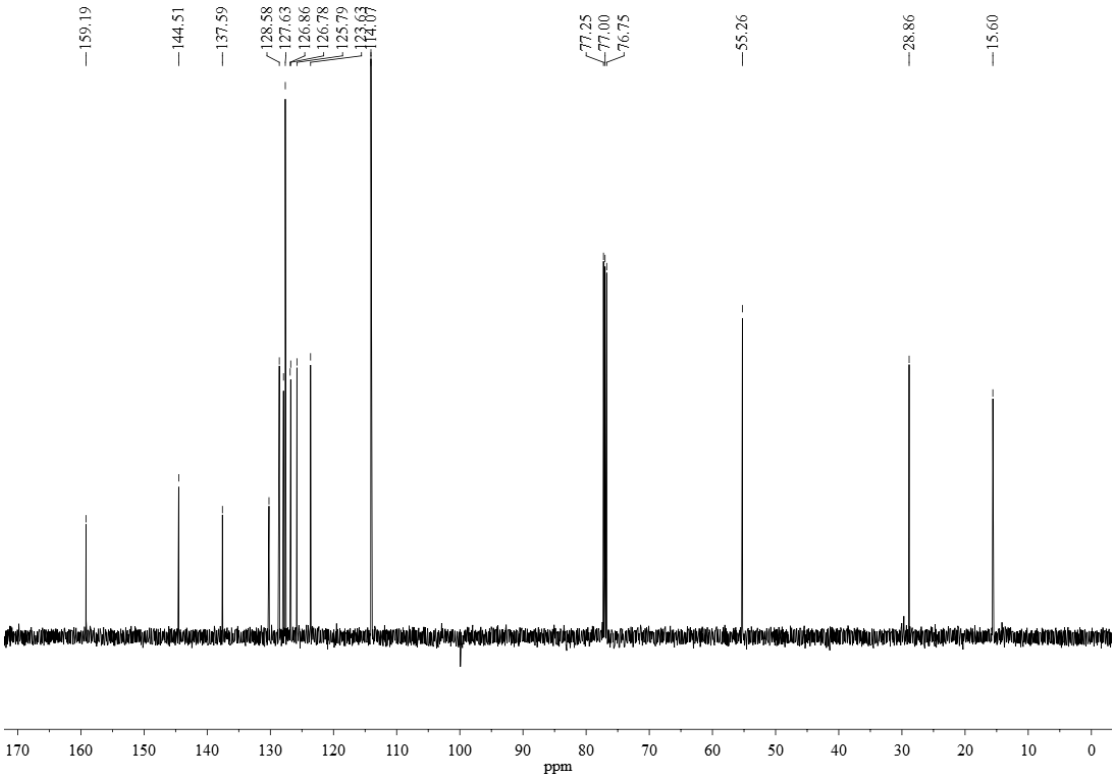


^{13}C NMR spectrum of *m*-PhSBCN-*p*

3.27 *m*-EtSBOMe-*p* 

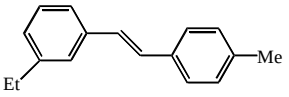


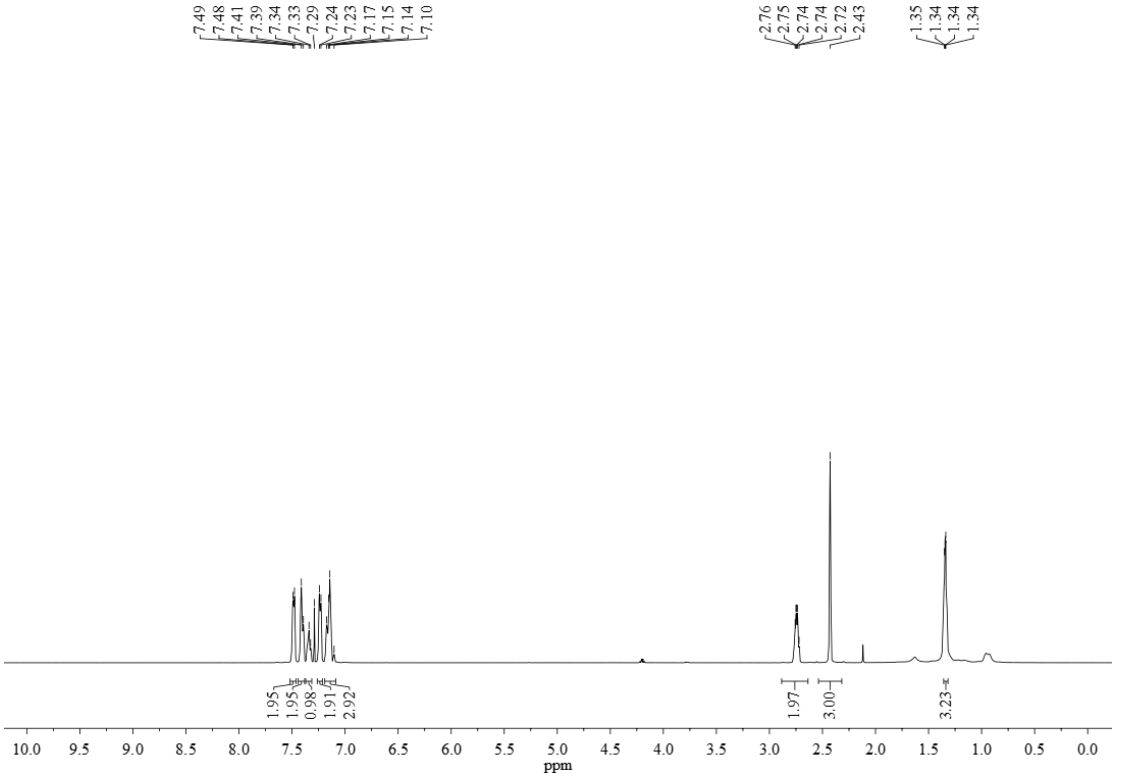
^{1}H NMR spectrum of *m*-EtSBOMe-*p*



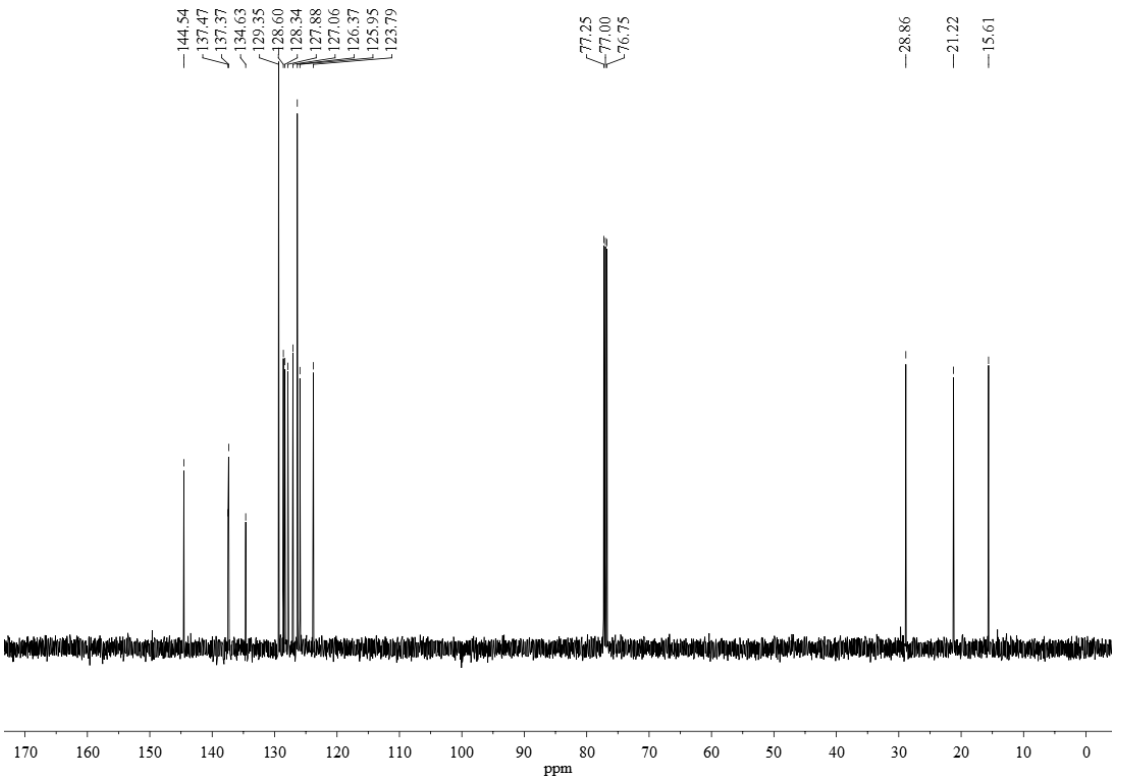
^{13}C NMR spectrum of *m*-EtSBOMe-*p*

3.28 *m*-EtSBMe-*p*



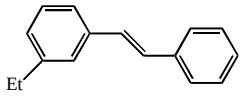


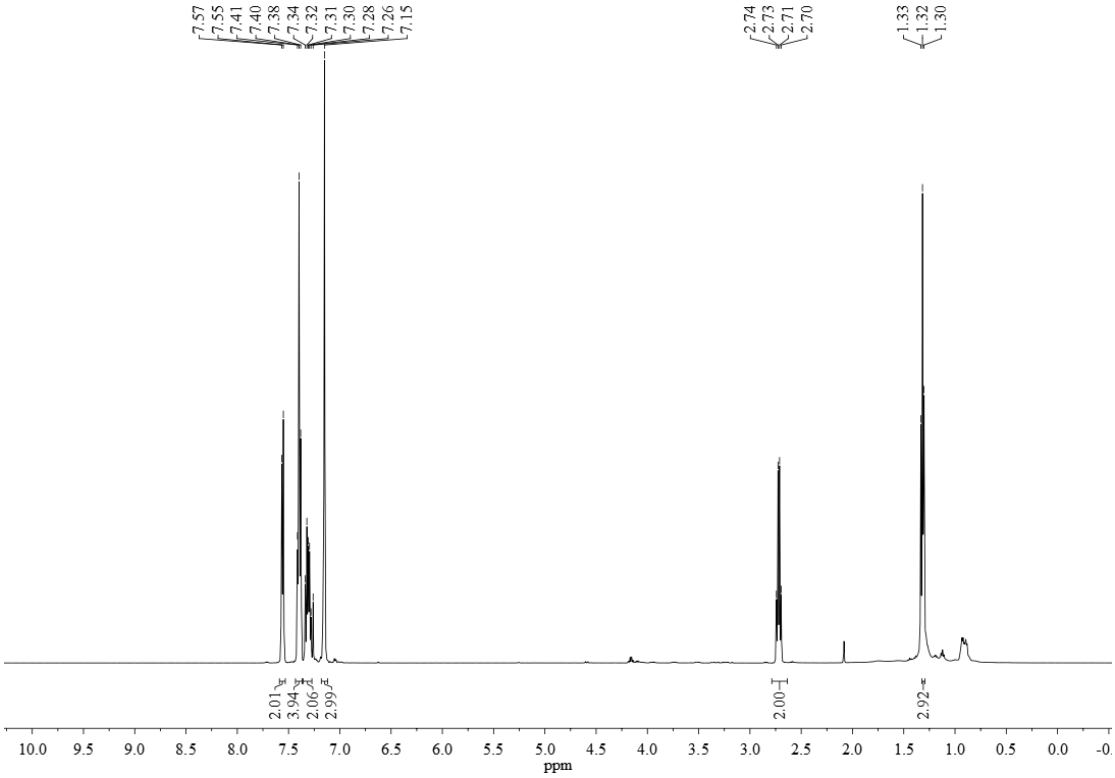
^{1}H NMR spectrum of *m*-EtSBMe-*p*



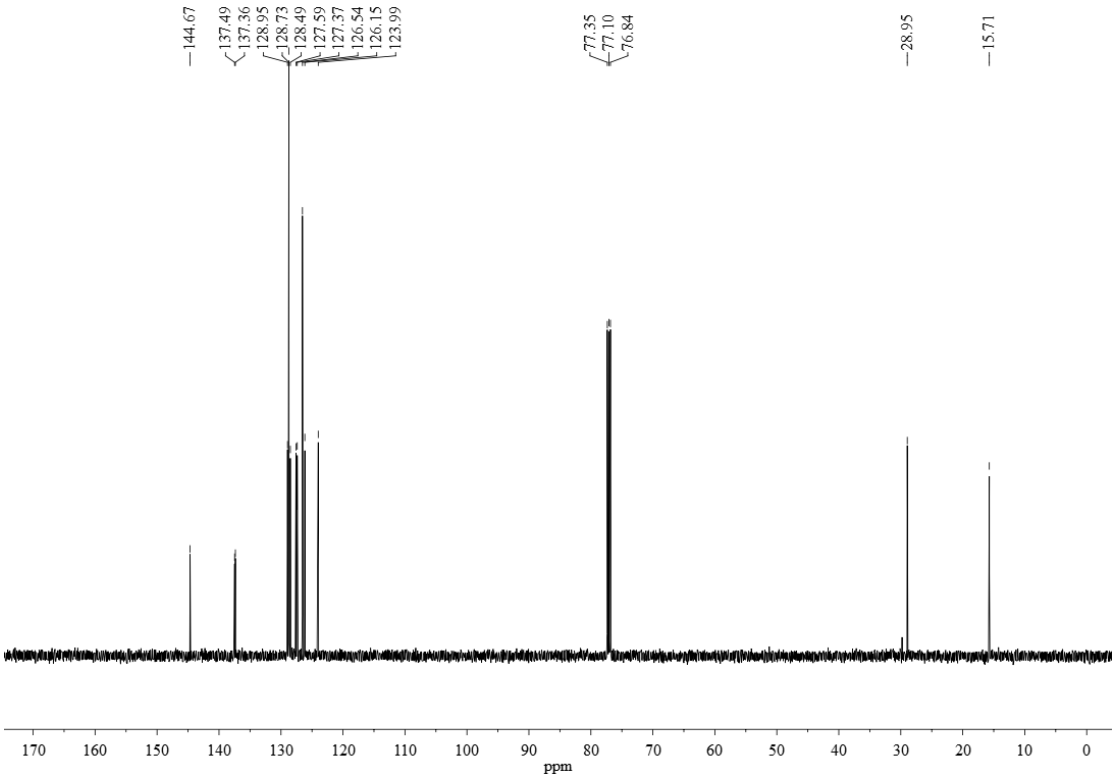
^{13}C NMR spectrum of *m*-EtSBMe-*p*

3.29 *m*-EtSBH

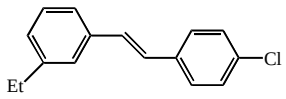


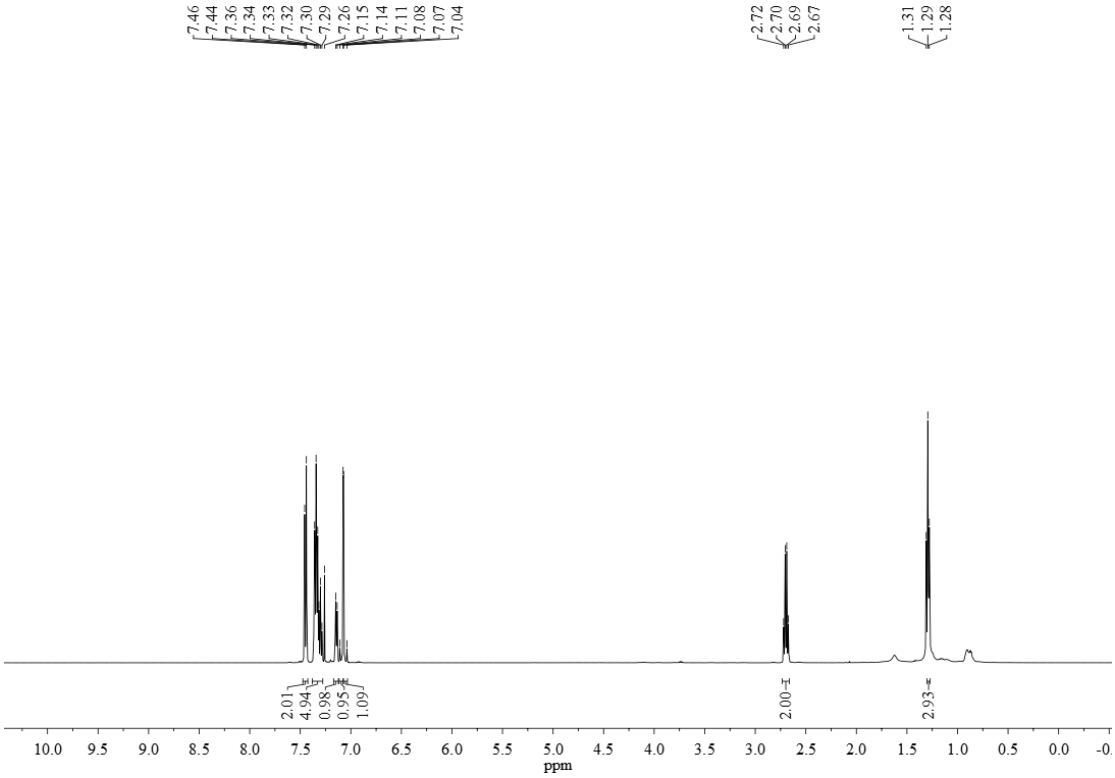


^{1}H NMR spectrum of *m*-EtSBH

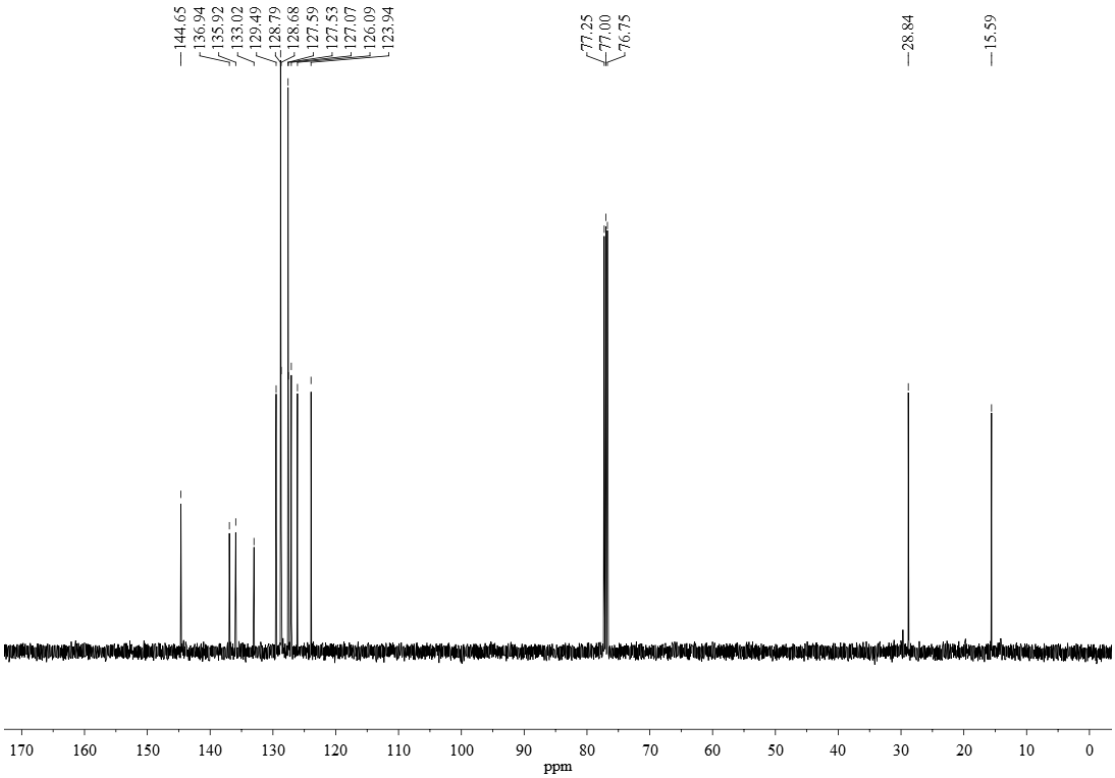


^{13}C NMR spectrum of *m*-EtSBH

3.30 *m*-EtSBCl-*p* 

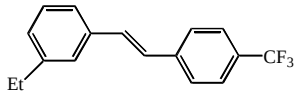


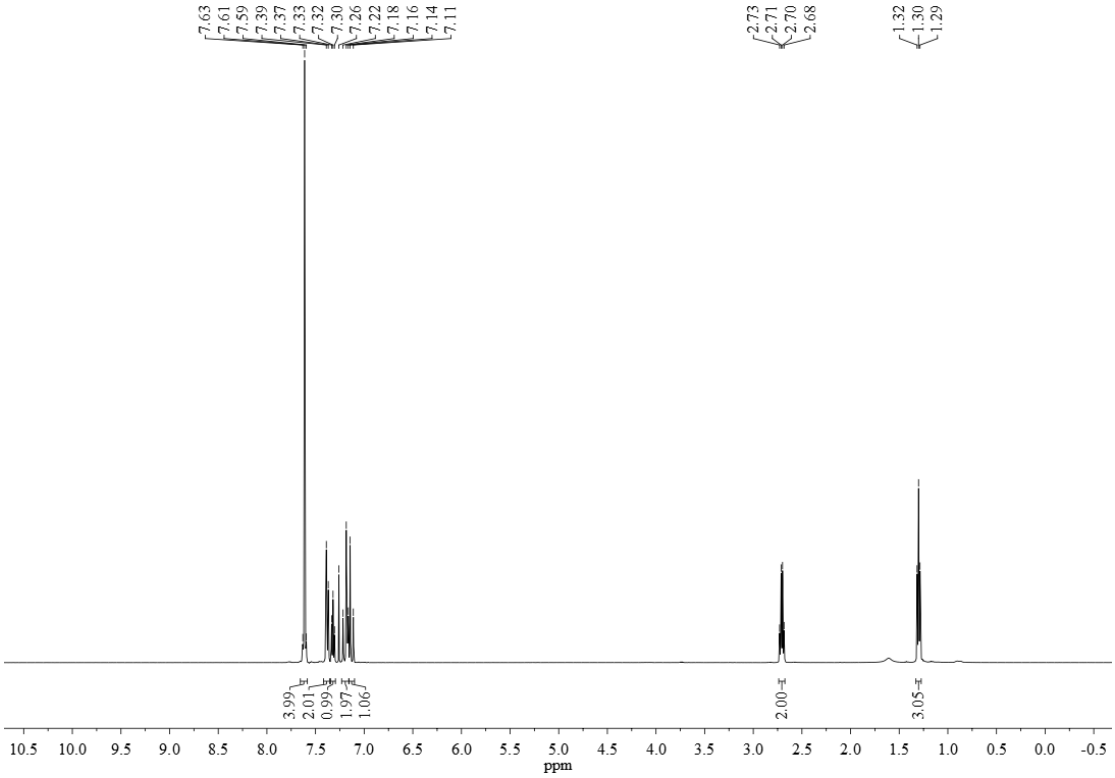
^{1}H NMR spectrum of *m*-EtSBCl-*p*



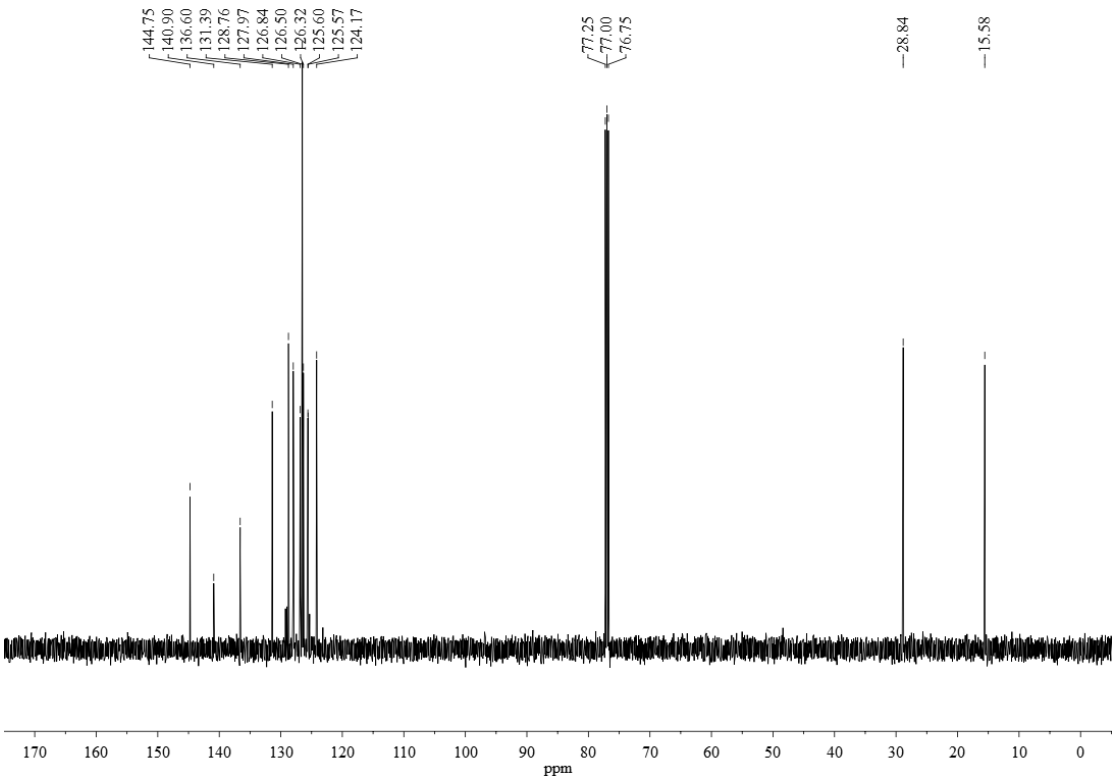
^{13}C NMR spectrum of *m*-EtSBCl-*p*

3.31 *m*-EtSBCF$_3$-*p*



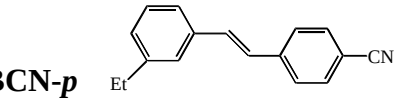


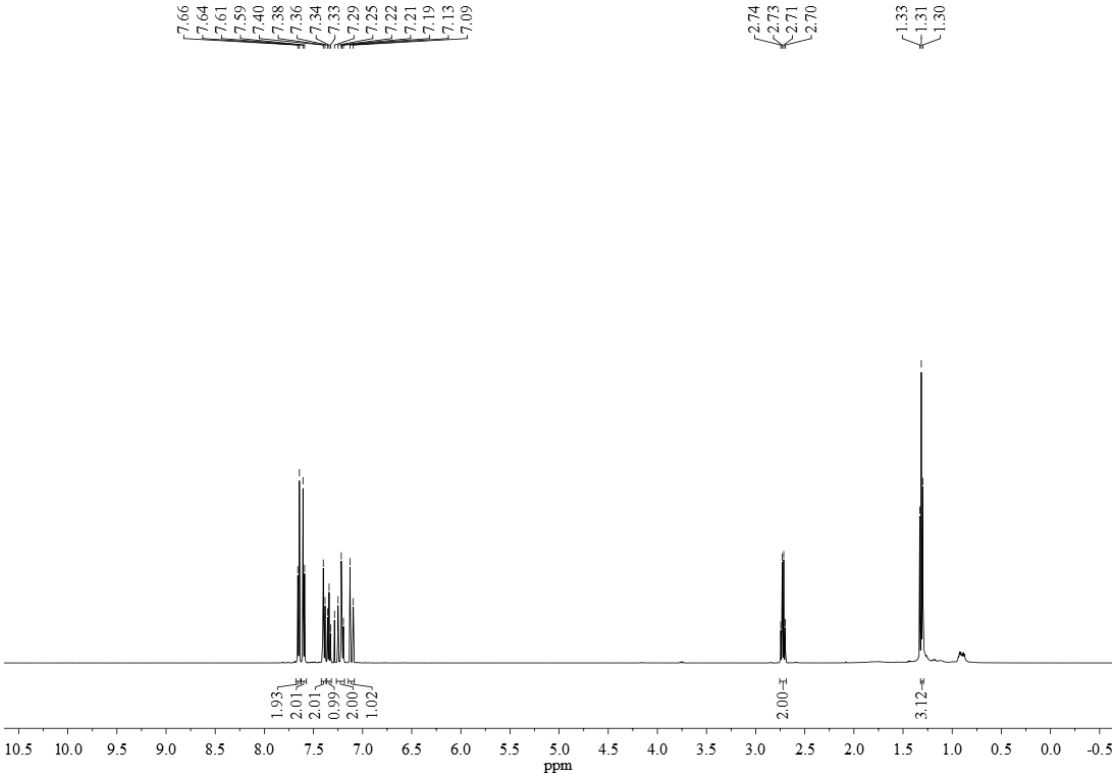
^{1}H NMR spectrum of *m*-EtSBCF$_3$-*p*



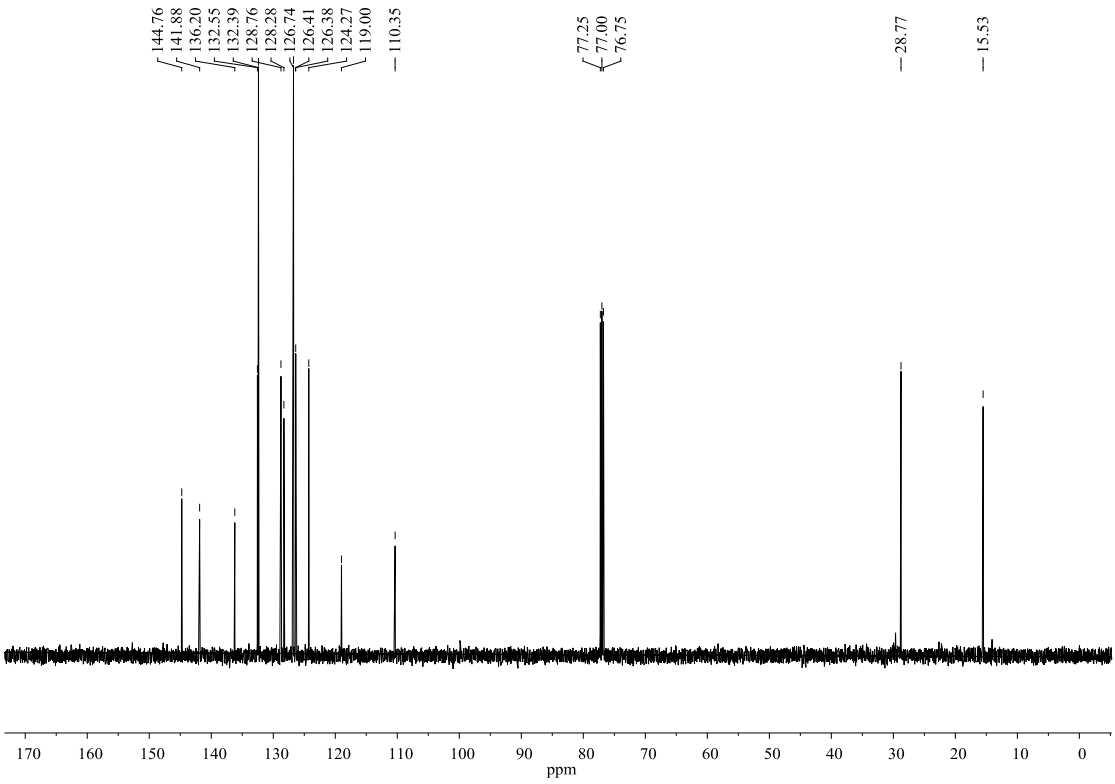
^{13}C NMR spectrum of *m*-EtSBCF$_3$-*p*

3.32 *m*-EtSBCN-*p*



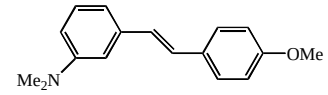


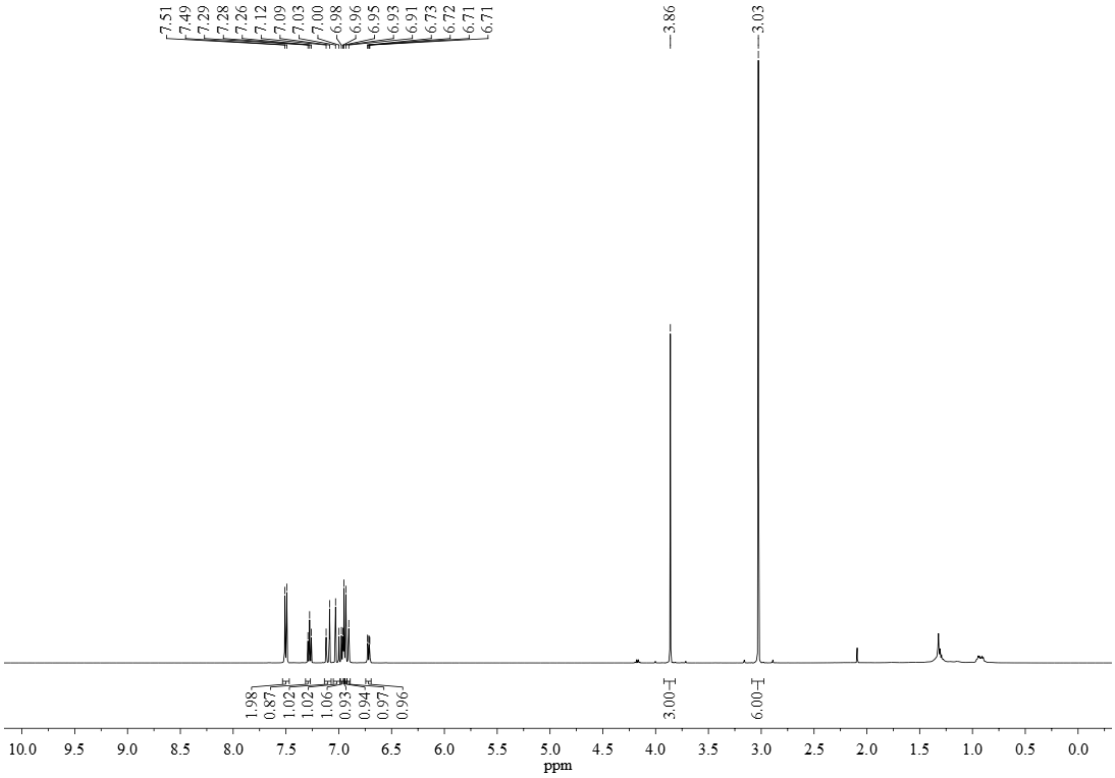
^{1}H NMR spectrum of *m*-EtSBCN-*p*



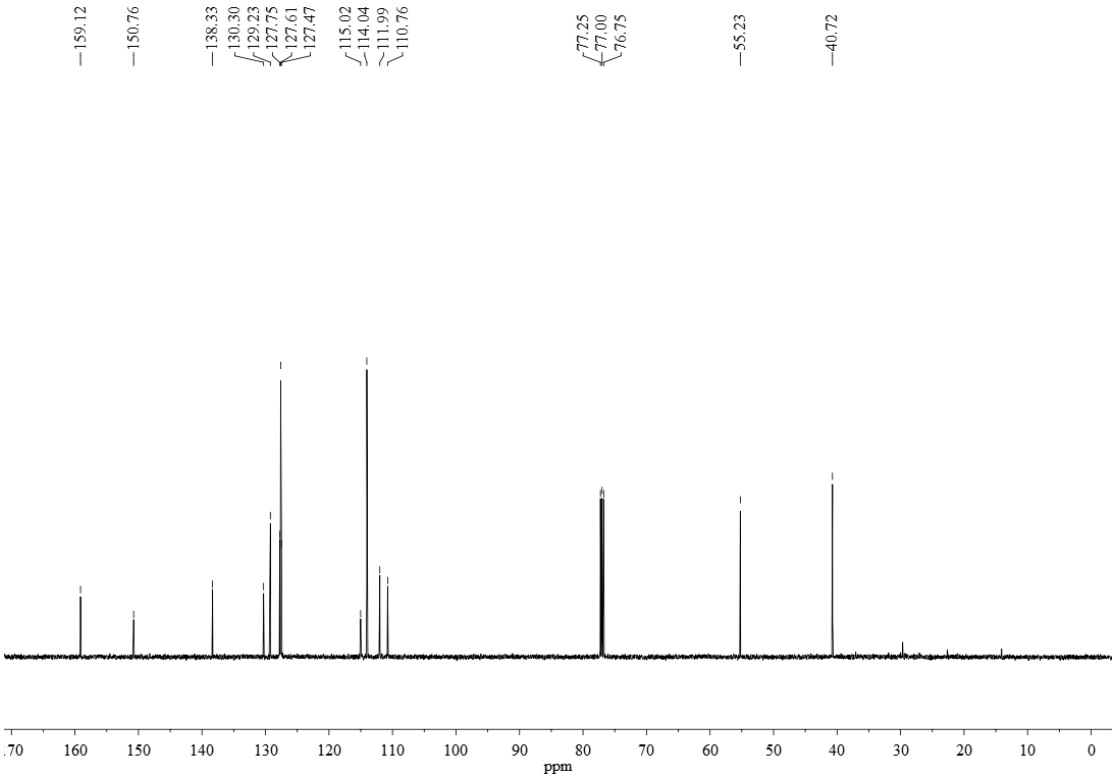
^{13}C NMR spectrum of *m*-EtSBCN-*p*

3.33 *m*-NMe$_2$SBOMe-*p*



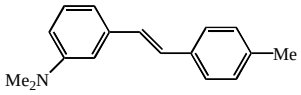


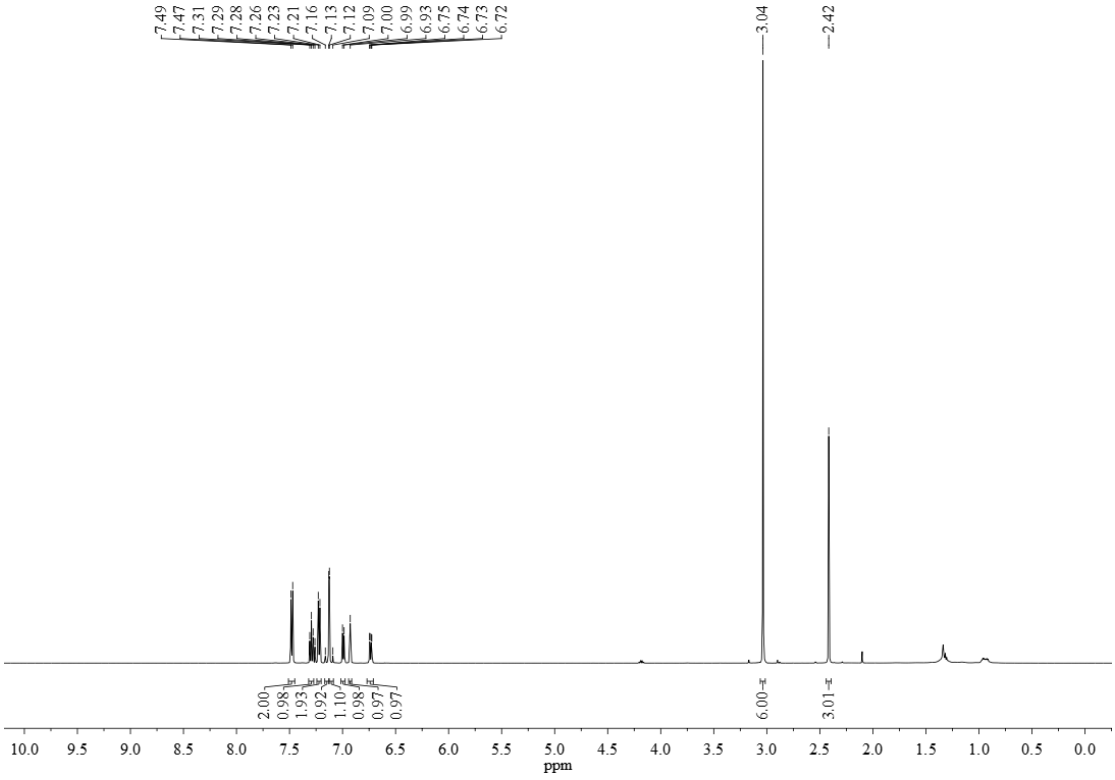
^{1}H NMR spectrum of *m*-NMe$_2$SBOMe-*p*



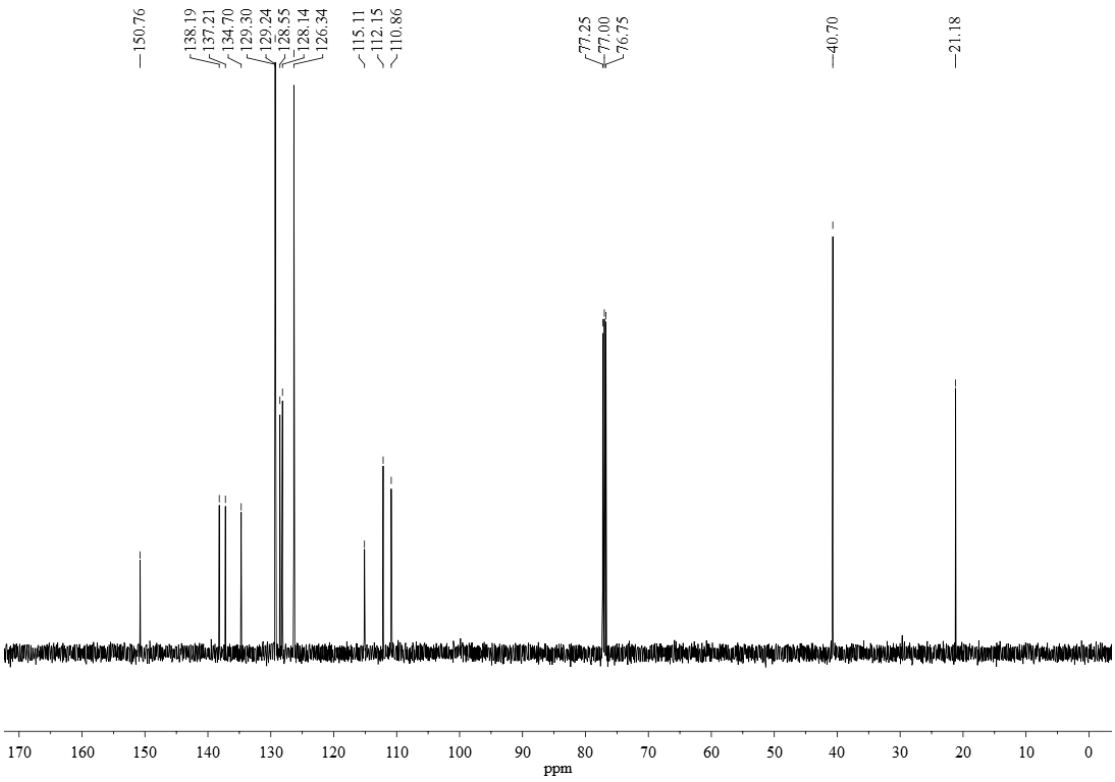
^{13}C NMR spectrum of *m*-NMe$_2$SBOMe-*p*

3.34 *m*-NMe_2SBMe-*p*



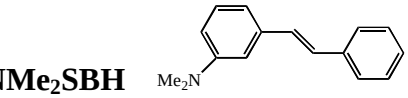


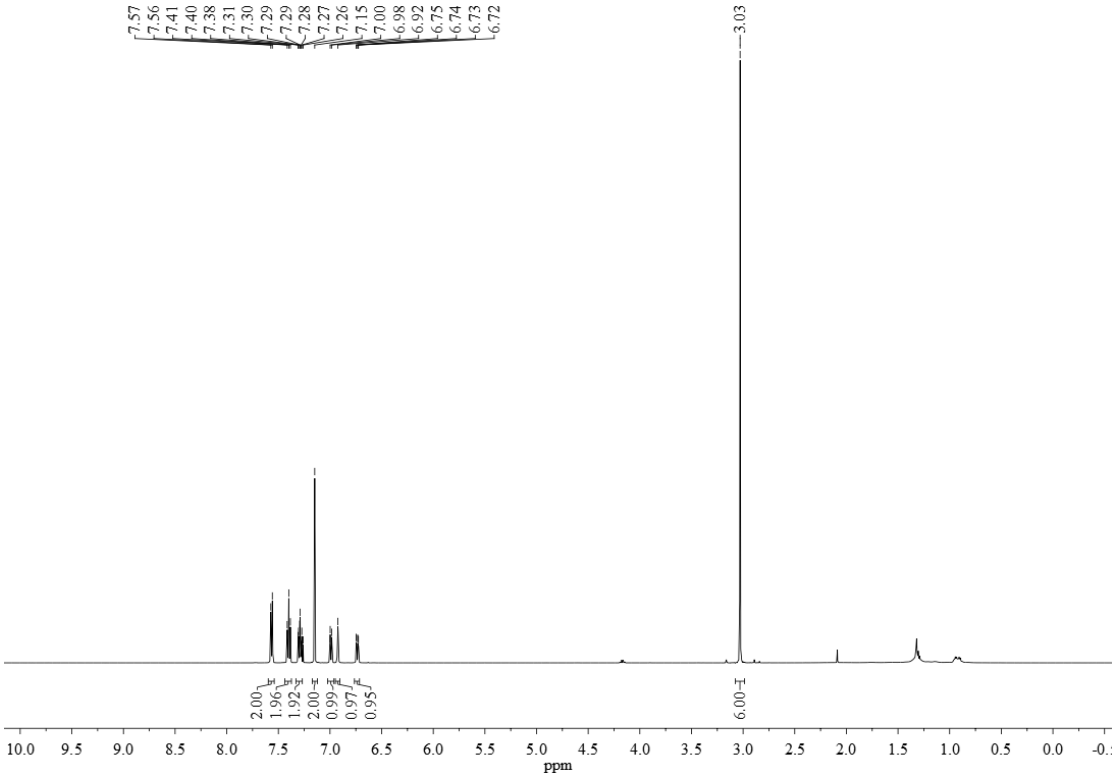
^{1}H NMR spectrum of *m*-NMe_2SBMe-*p*



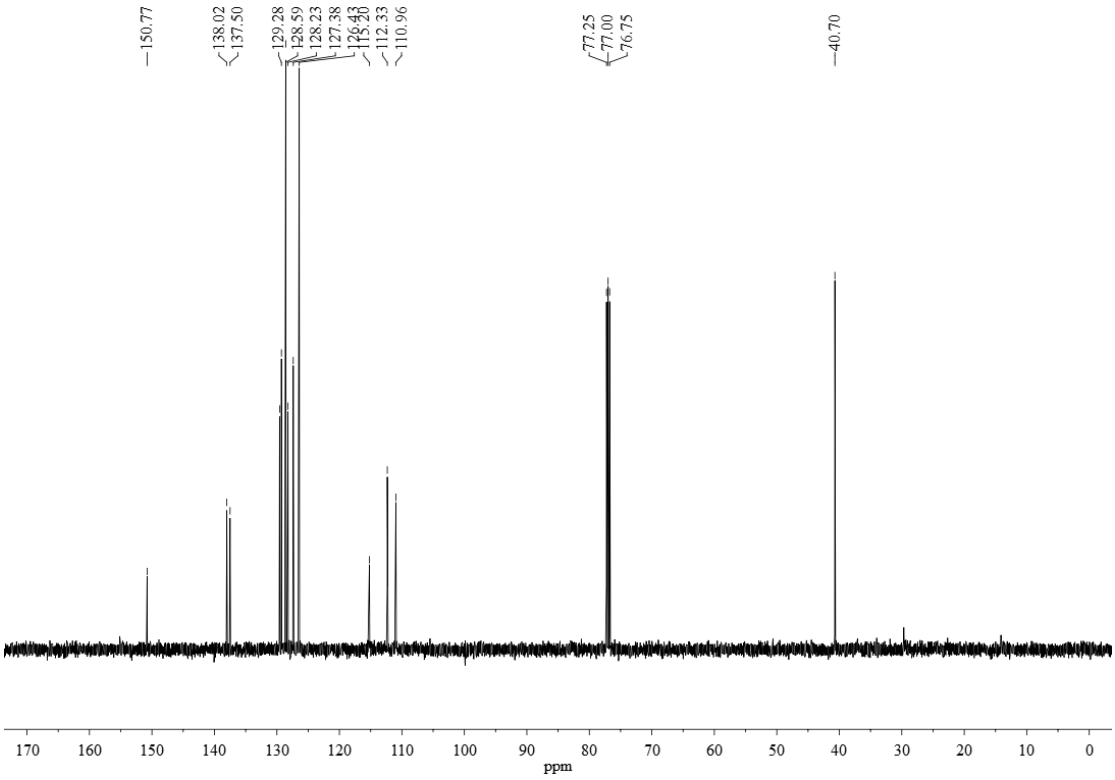
^{13}C NMR spectrum of *m*-NMe_2SBMe-*p*

3.35 *m*-NMe_2SBH



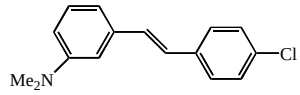


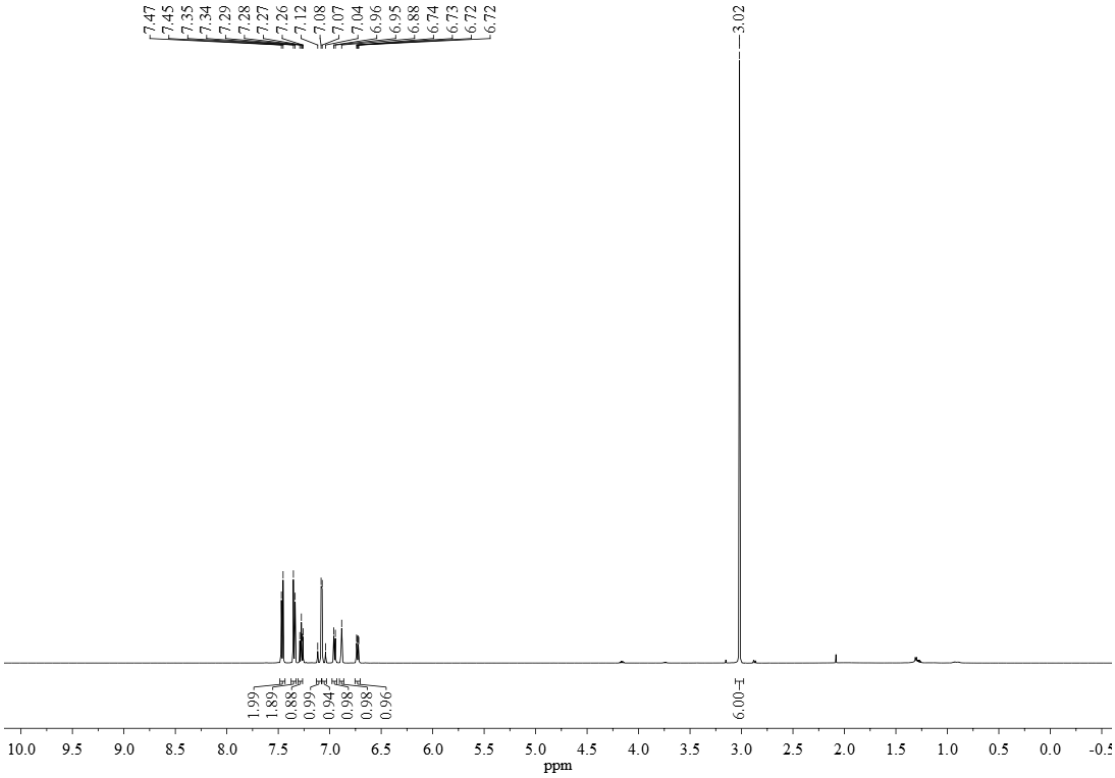
^{1}H NMR spectrum of *m*-NMe_2SBH



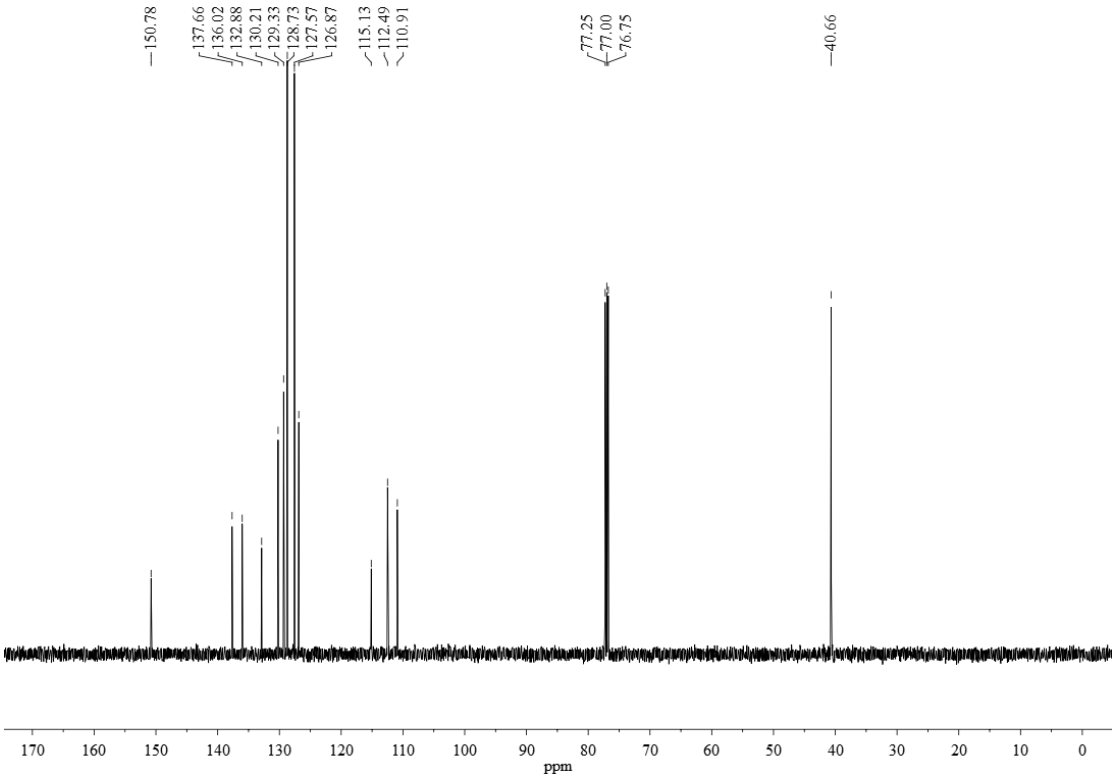
^{13}C NMR spectrum of *m*-NMe_2SBH

3.36 *m*-NMe_2SBCl-*p*



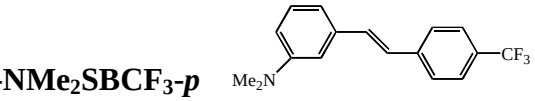


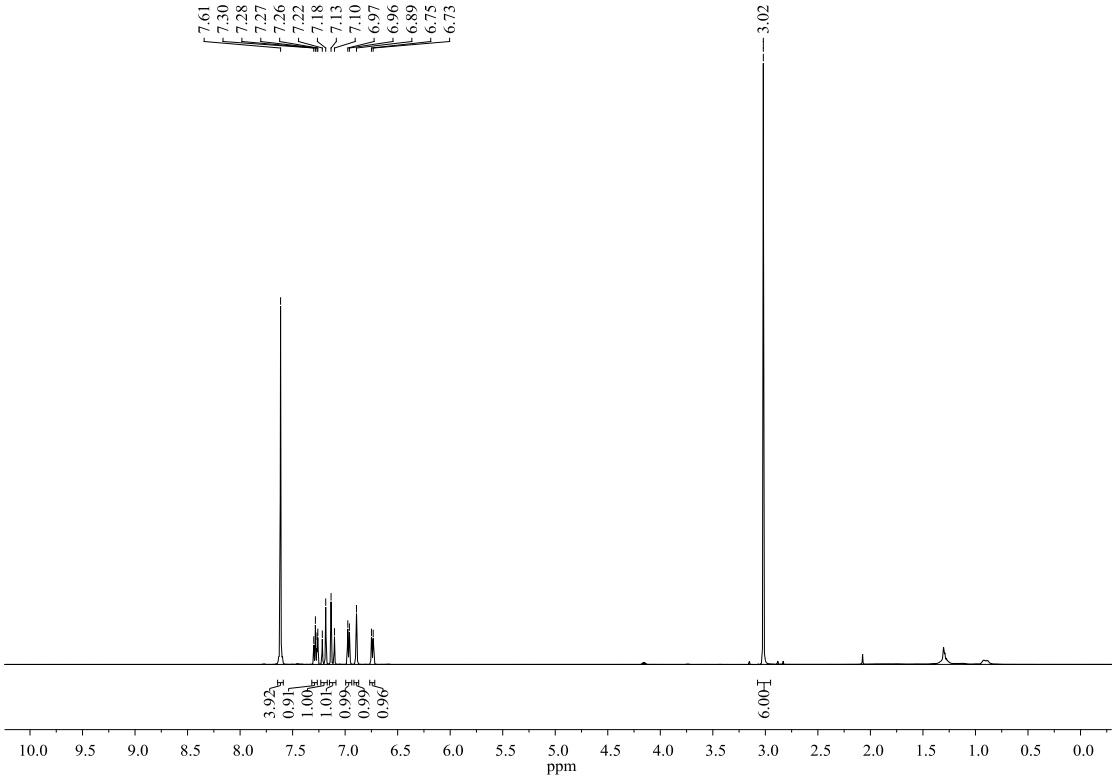
^{1}H NMR spectrum of *m*-NMe_2SBCl-*p*



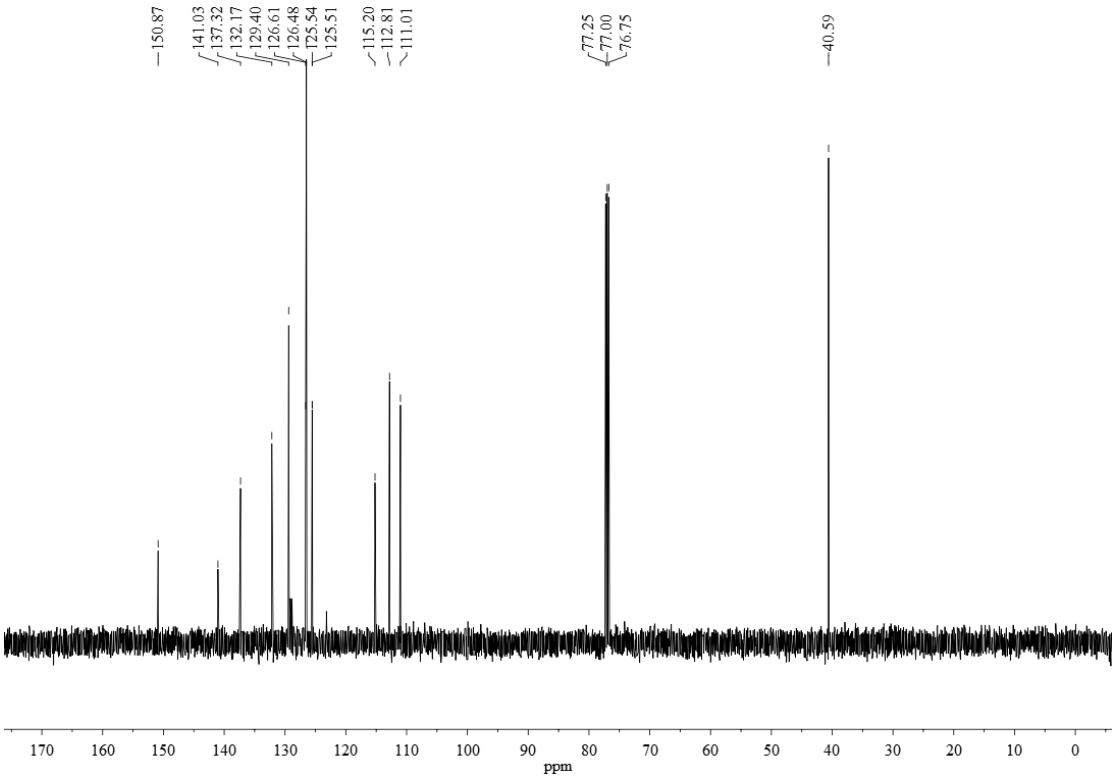
^{13}C NMR spectrum of *m*-NMe_2SBCl-*p*

3.37 *m*-NMe_2SBCF_3-*p*



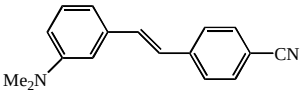


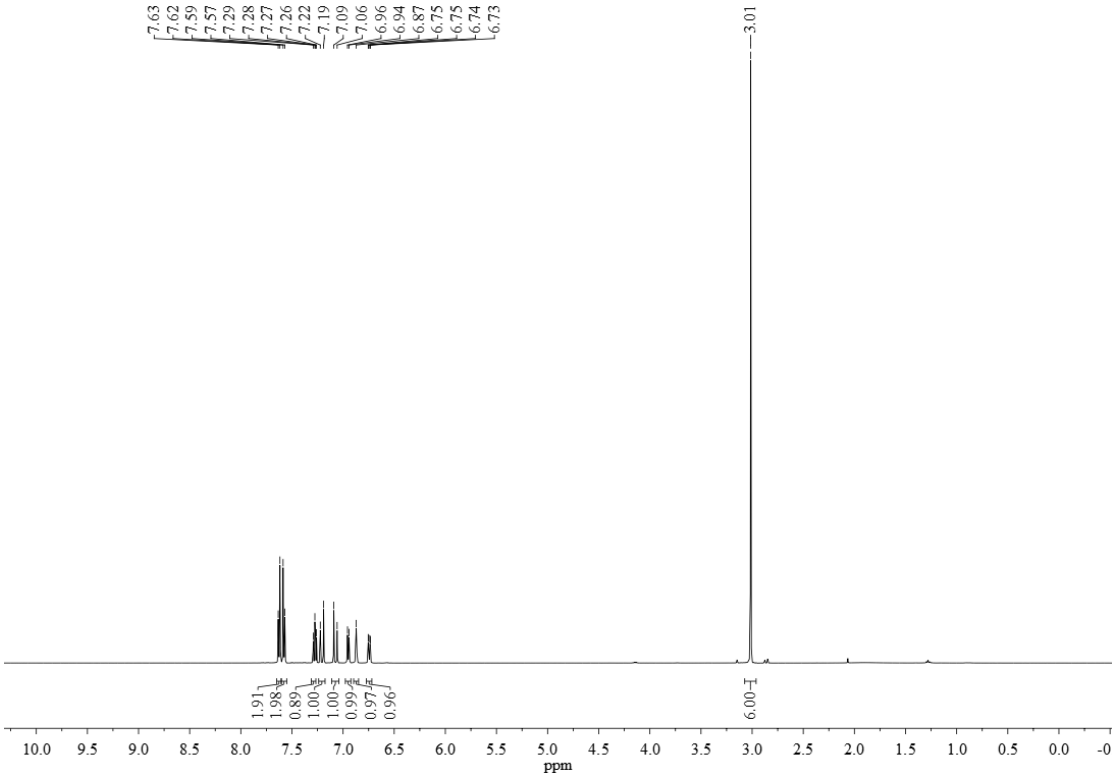
^{1}H NMR spectrum of *m*-NMe_2SBCF_3-*p*



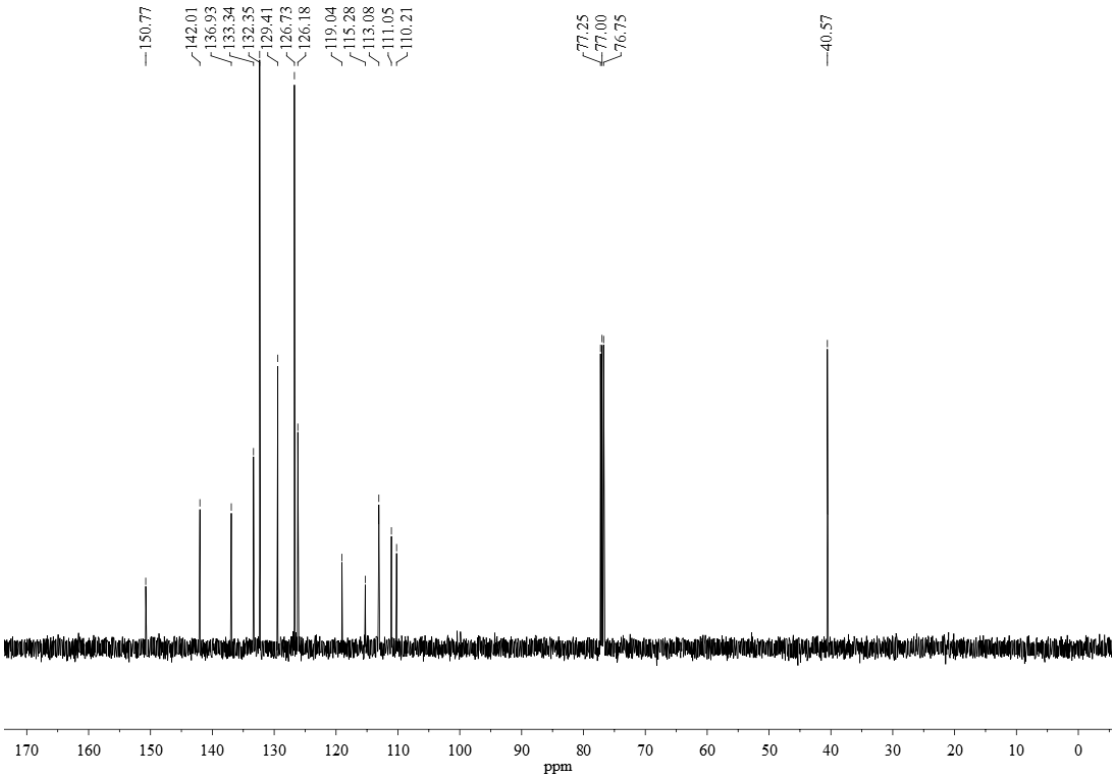
^{13}C NMR spectrum of *m*-NMe_2SBCF_3-*p*

3.38 *m*-NMe$_2$SBCN-*p*



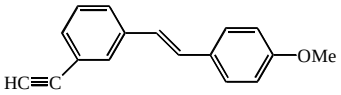


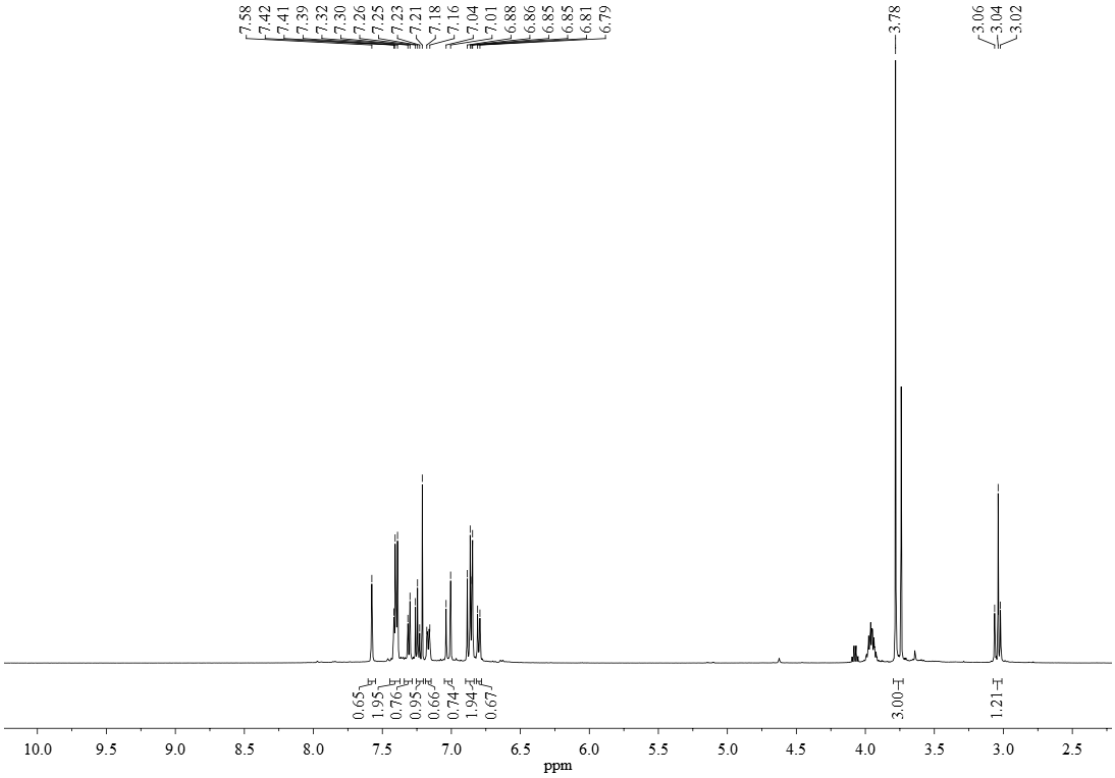
^{1}H NMR spectrum of *m*-NMe$_2$SBCN-*p*



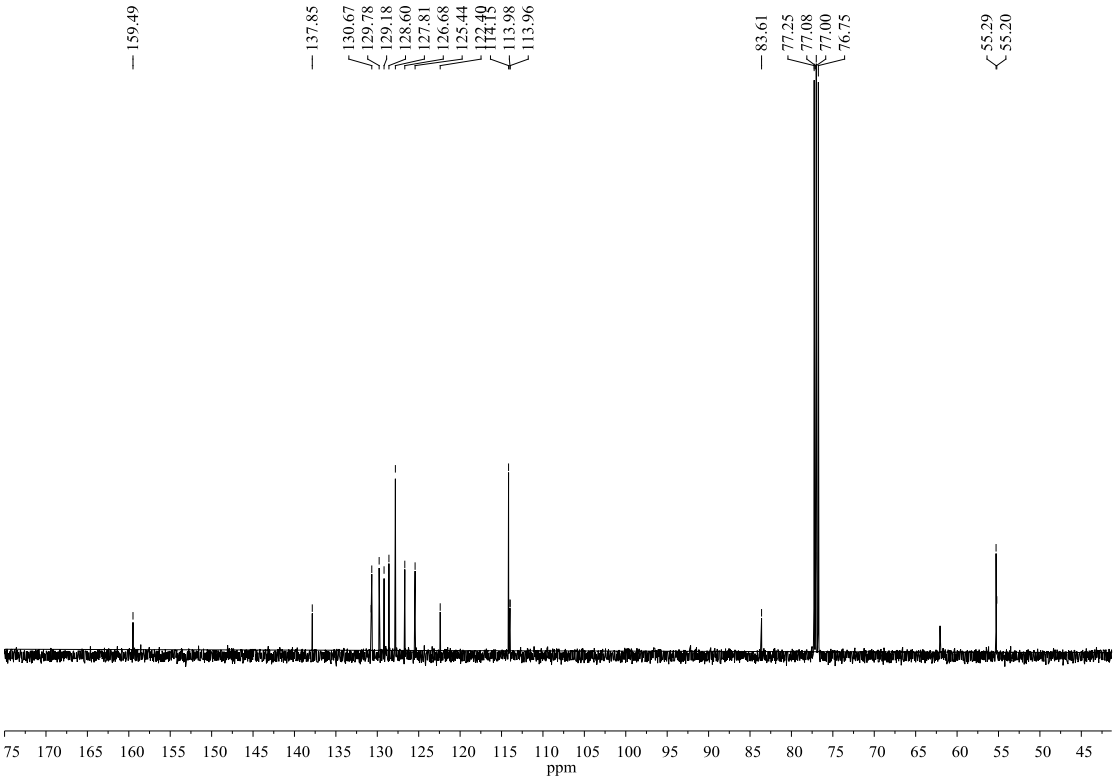
^{13}C NMR spectrum of *m*-NMe$_2$SBCN-*p*

3.39 *m*-CCHSBOMe-*p*



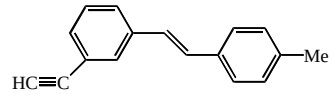


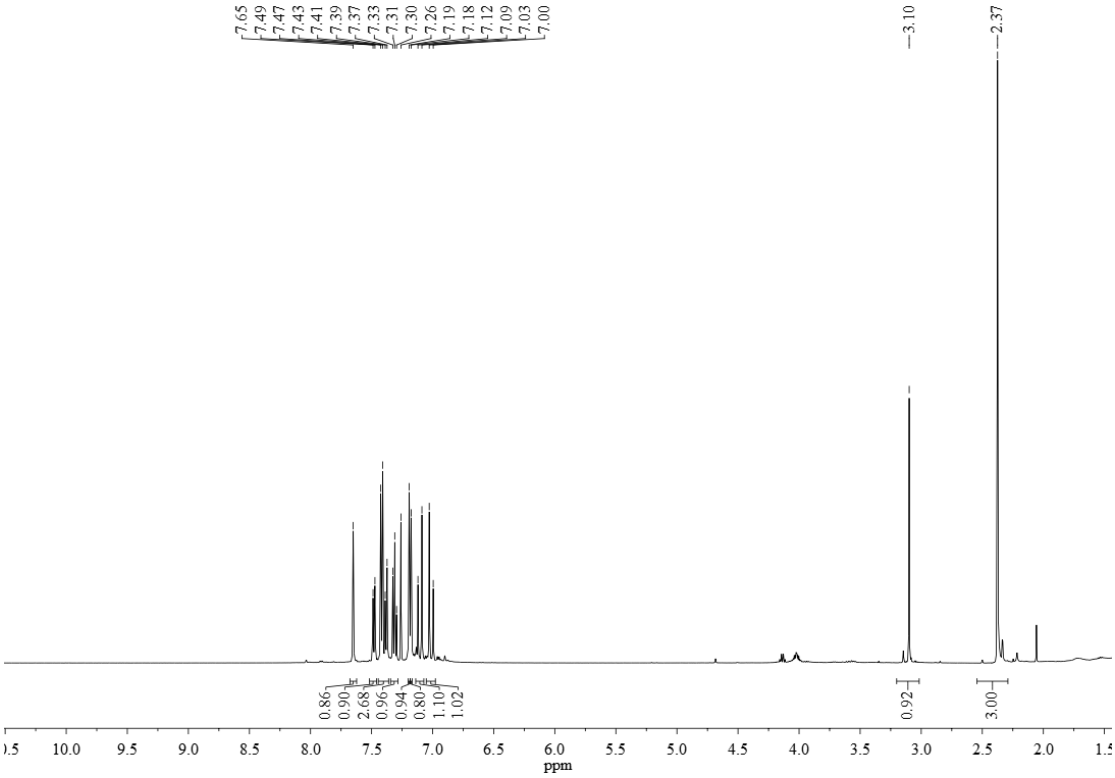
^{1}H NMR spectrum of *m*-CCHSBOMe-*p*



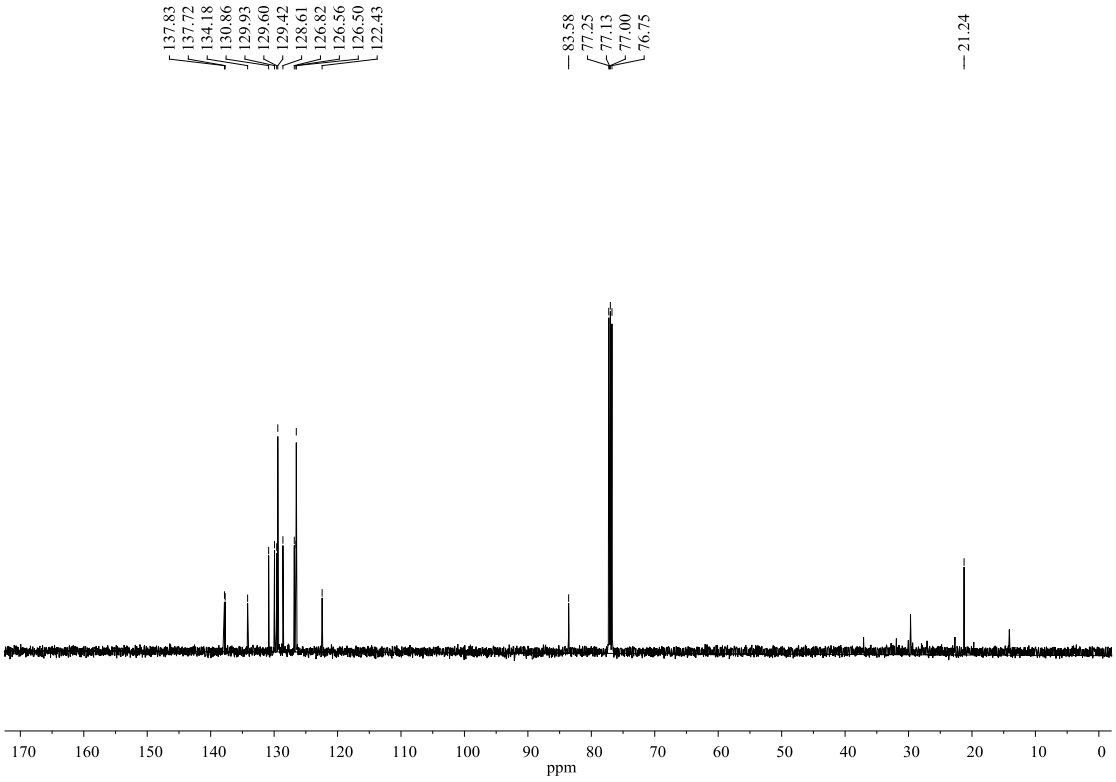
^{13}C NMR spectrum of *m*-CCHSBOMe-*p*

3.40 *m*-CCHSBMe-*p*



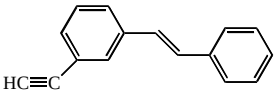


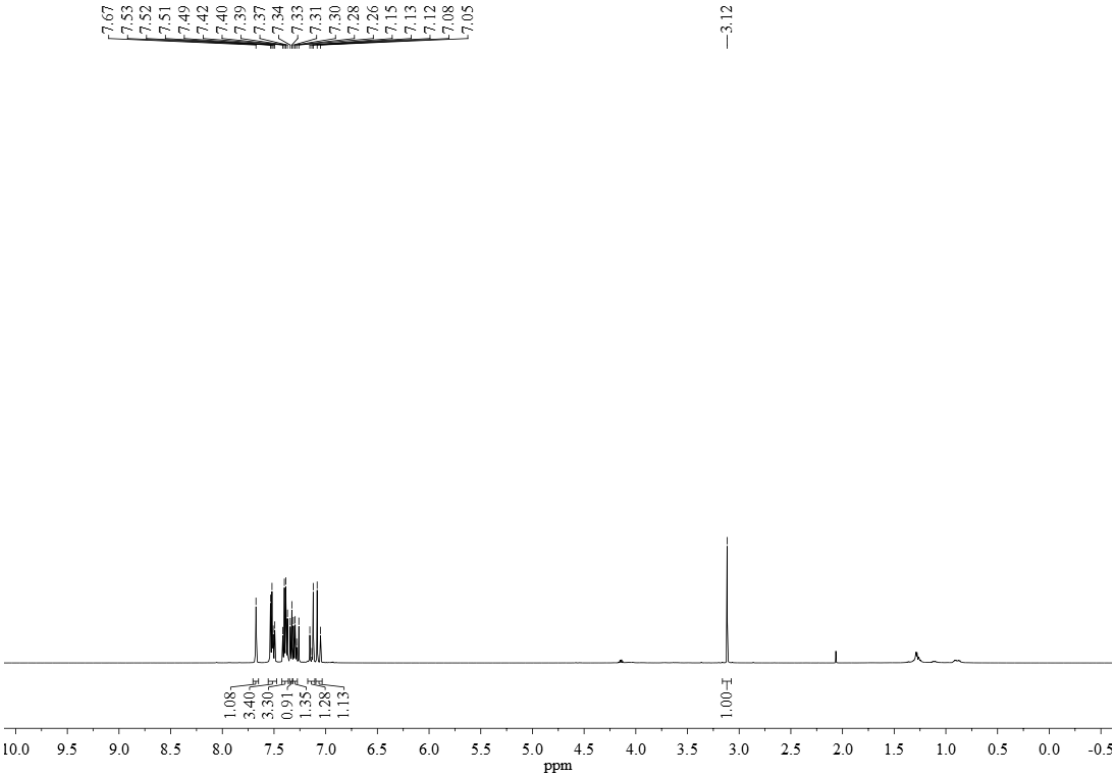
^{1}H NMR spectrum of *m*-CCHSBMe-*p*



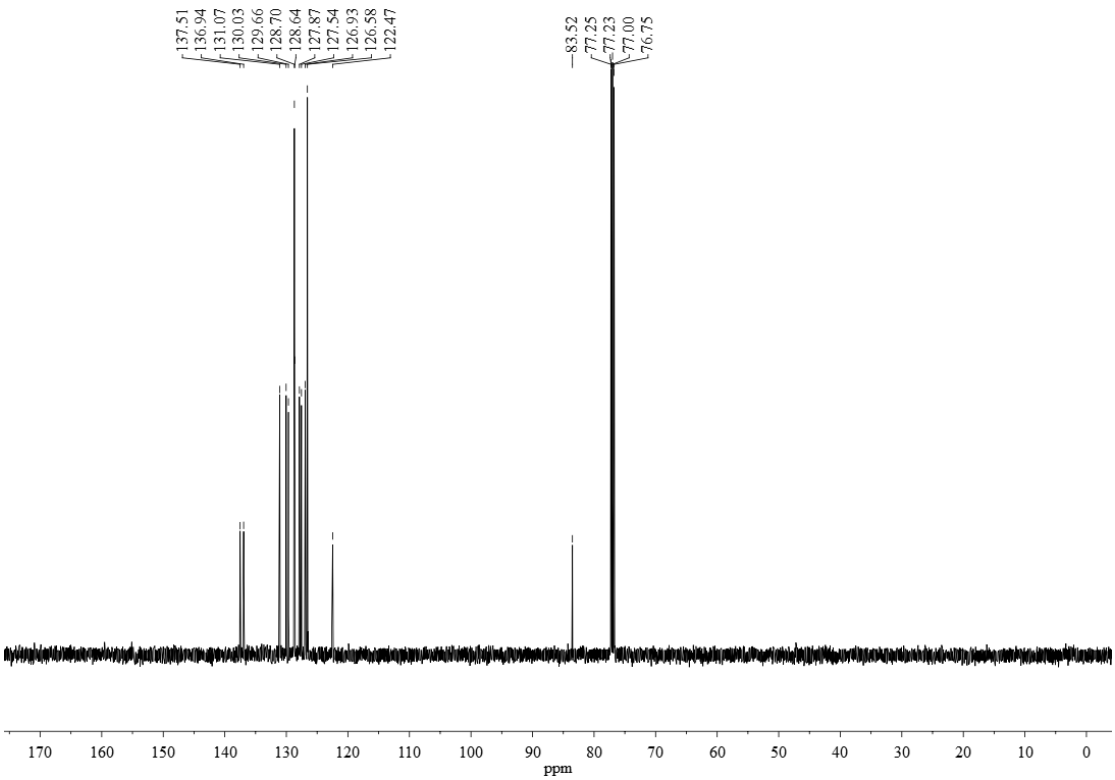
^{13}C NMR spectrum of *m*-CCHSBMe-*p*

3.41 *m*-CCHSBH



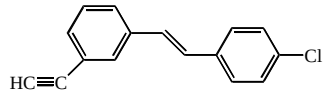


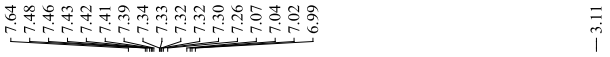
^{1}H NMR spectrum of *m*-CCHSBH

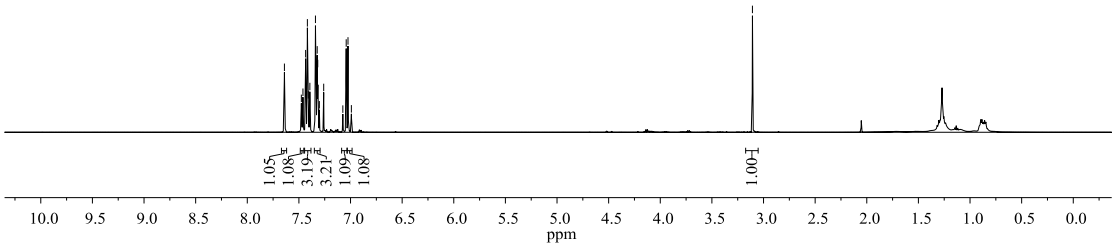


^{13}C NMR spectrum of *m*-CCHSBH

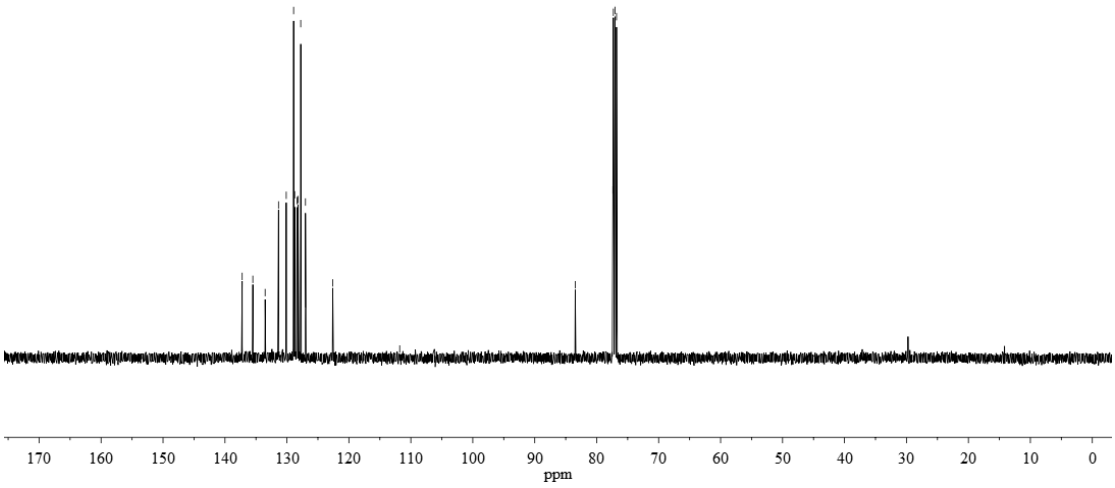
3.42 *m*-CCHSBCl-*p*





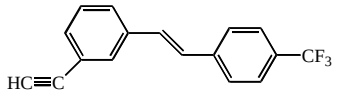


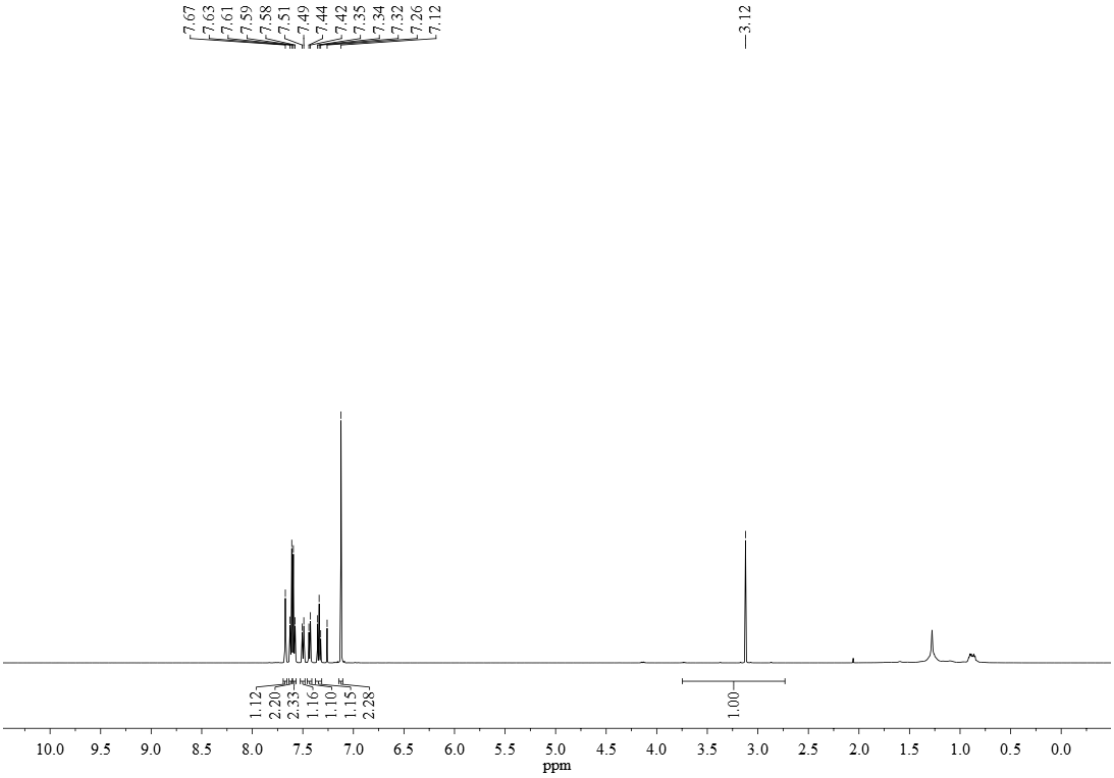
^{1}H NMR spectrum of *m*-CCHSBCl-*p*



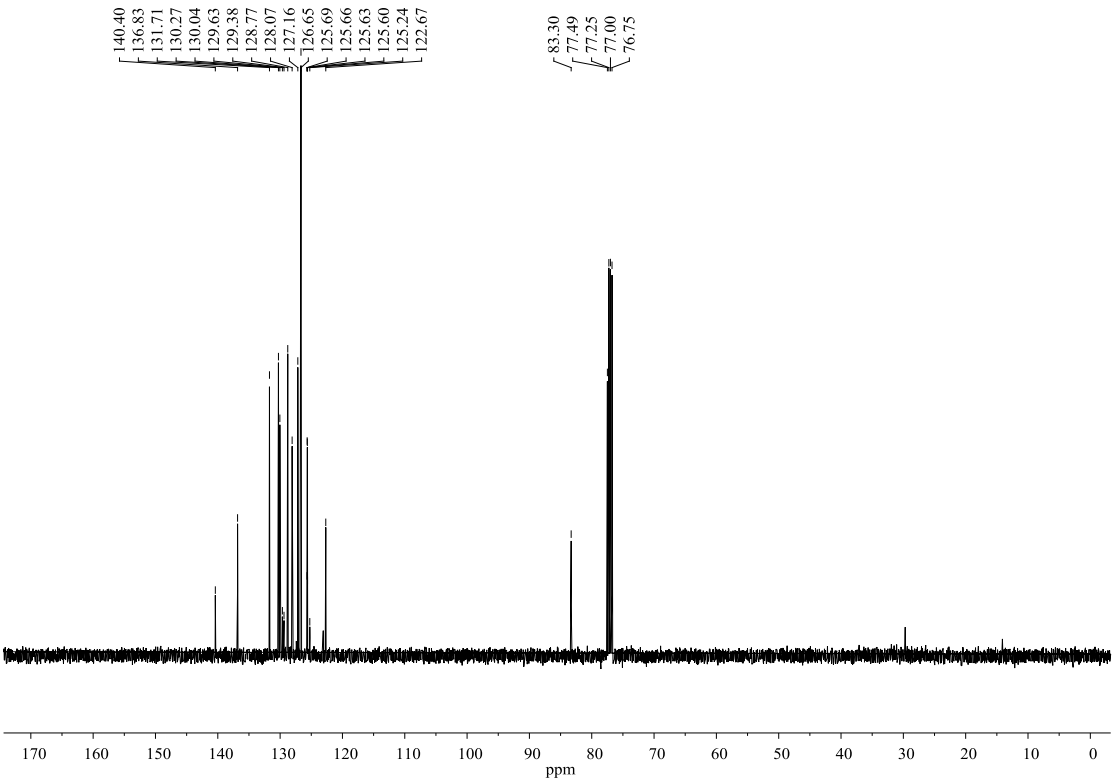
^{13}C NMR spectrum of *m*-CCHSBCl-*p*

3.43 *m*-CCHSBCF$_3$-*p*



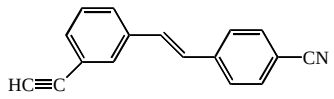


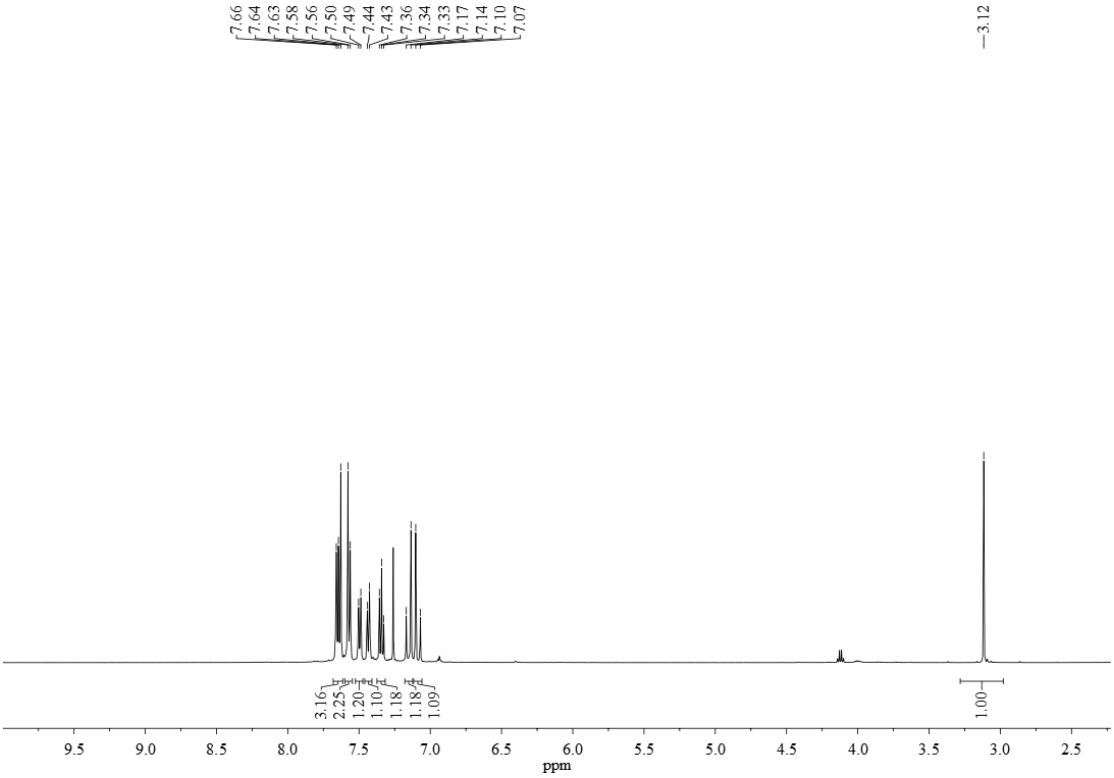
^{1}H NMR spectrum of *m*-CCHSBCF$_3$-*p*



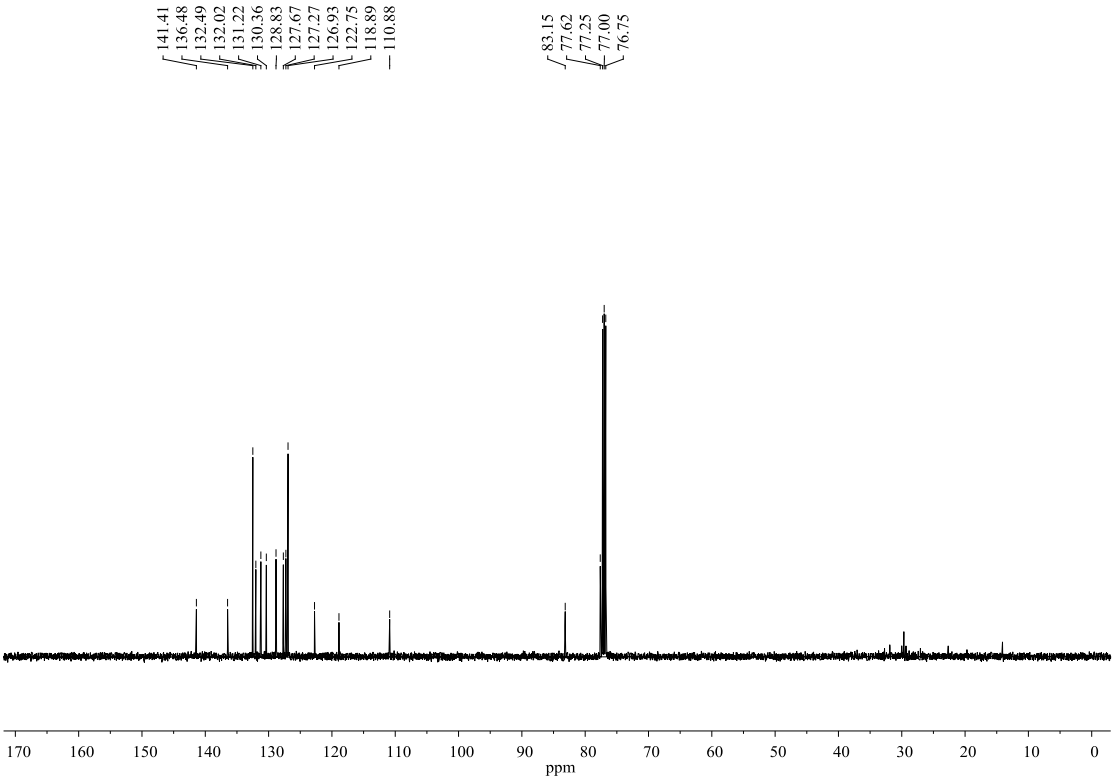
^{13}C NMR spectrum of *m*-CCHSBCF$_3$-*p*

3.44 *m*-CCHSBCN-*p*



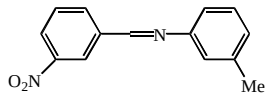


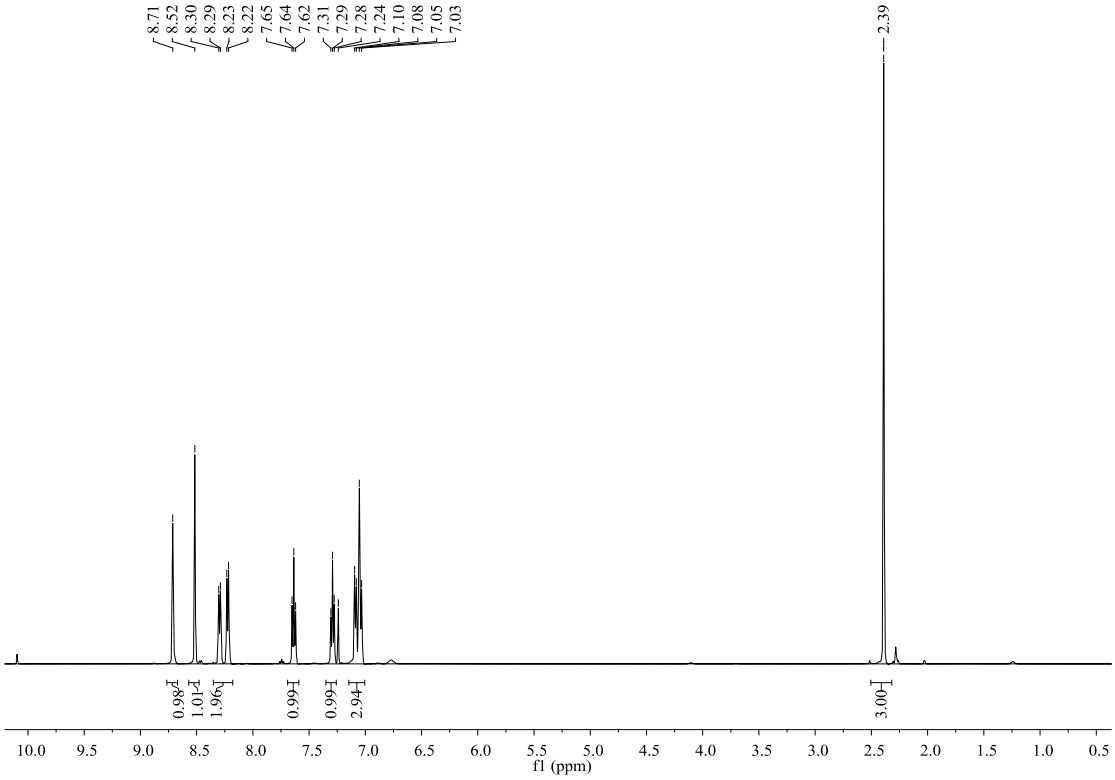
^{1}H NMR spectrum of *m*-CCHSBCN-*p*



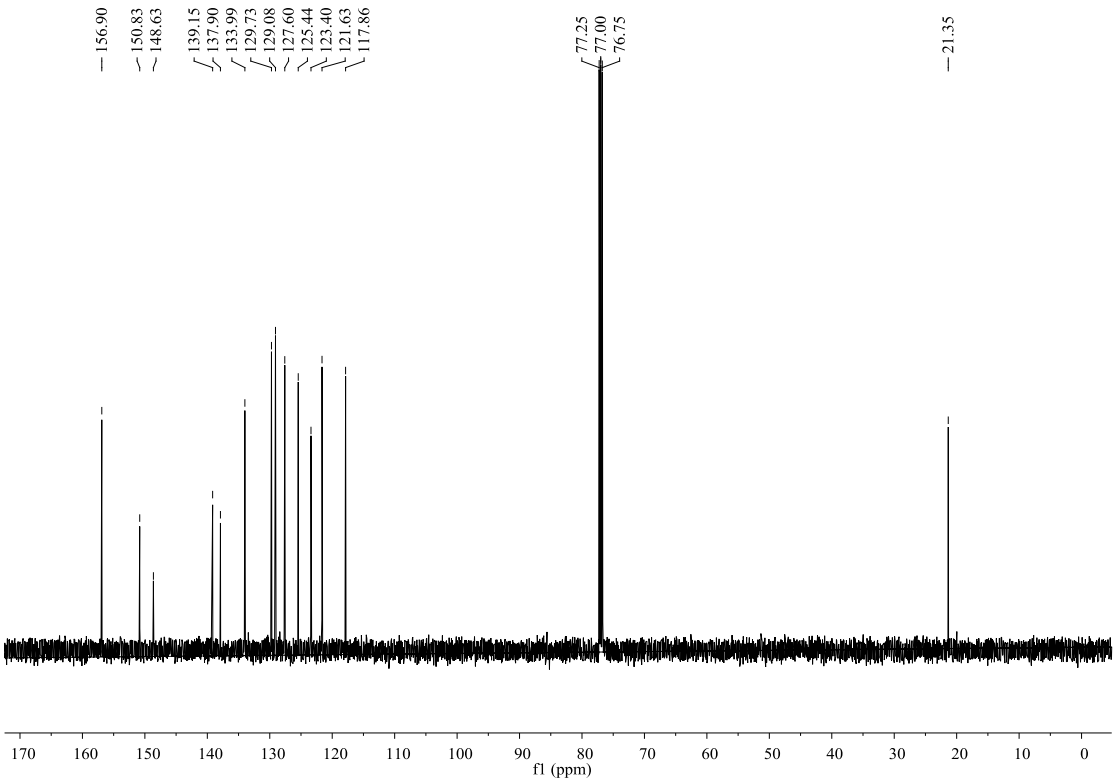
^{13}C NMR spectrum of *m*-CCHSBCN-*p*

3.45 *m*-NO_2BAMe-*m*



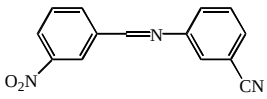


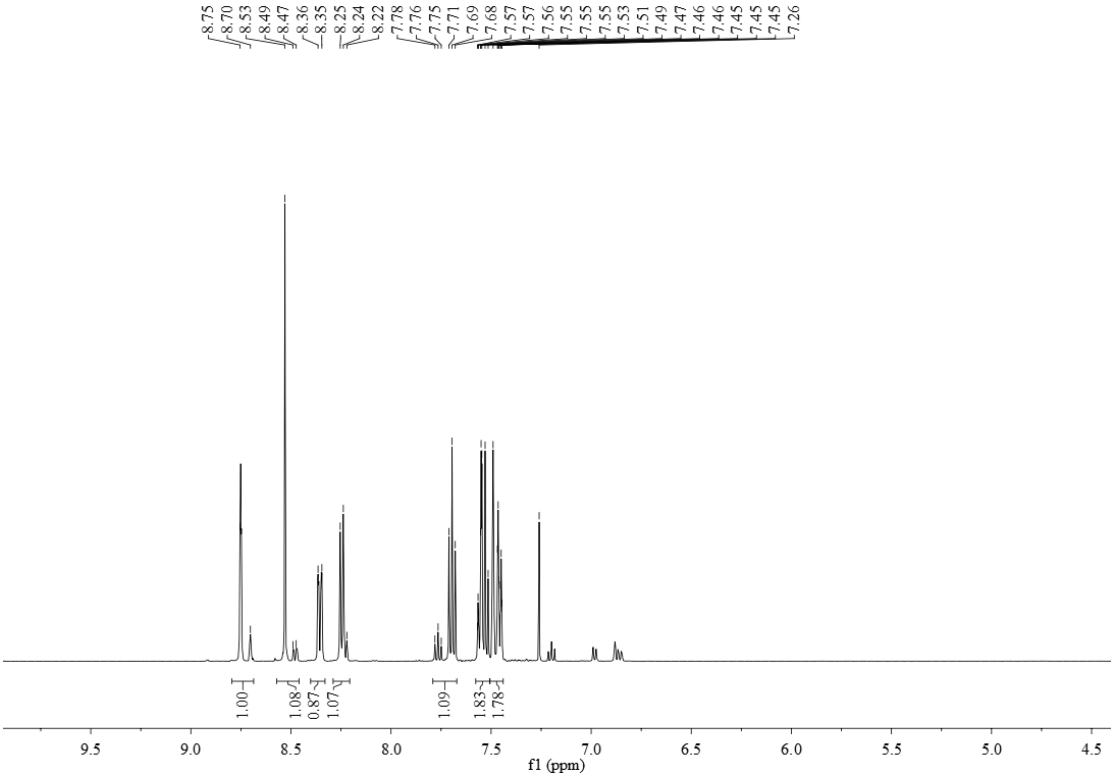
^{1}H NMR spectrum of *m*-NO_2BAMe-*m*



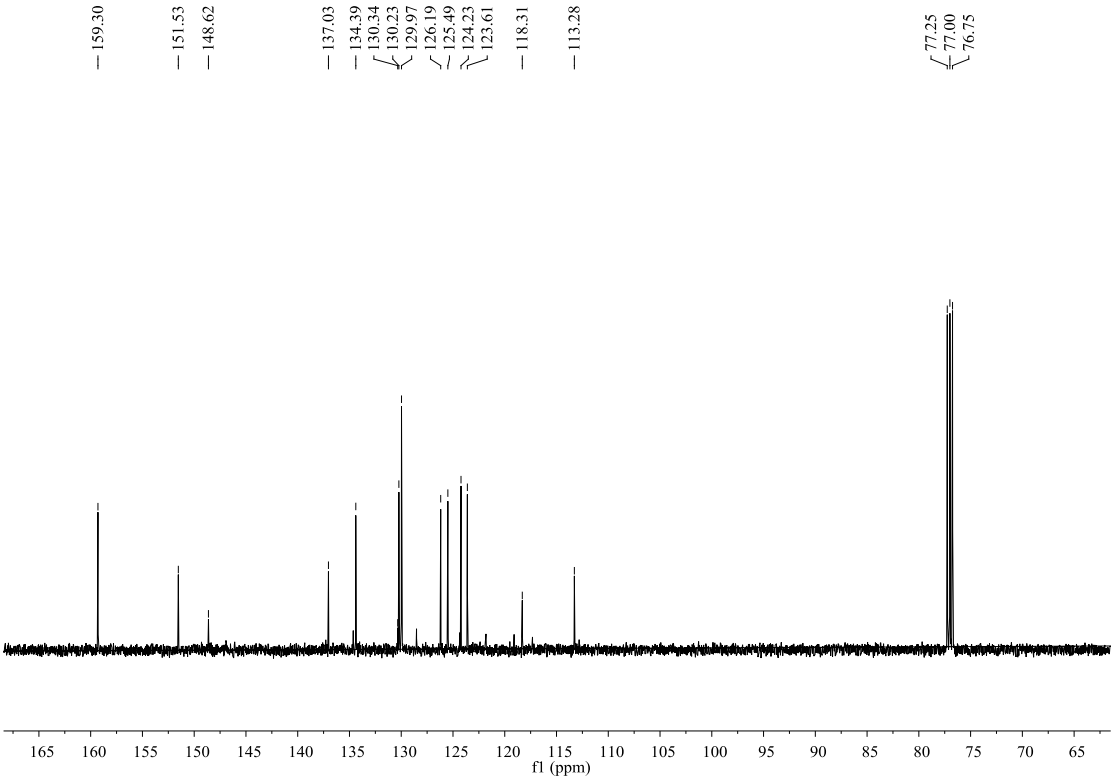
^{13}C NMR spectrum of *m*-NO_2BAMe-*m*

3.46 *m*-NO_2BACN-*m*



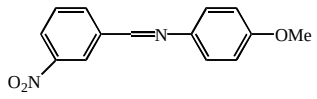


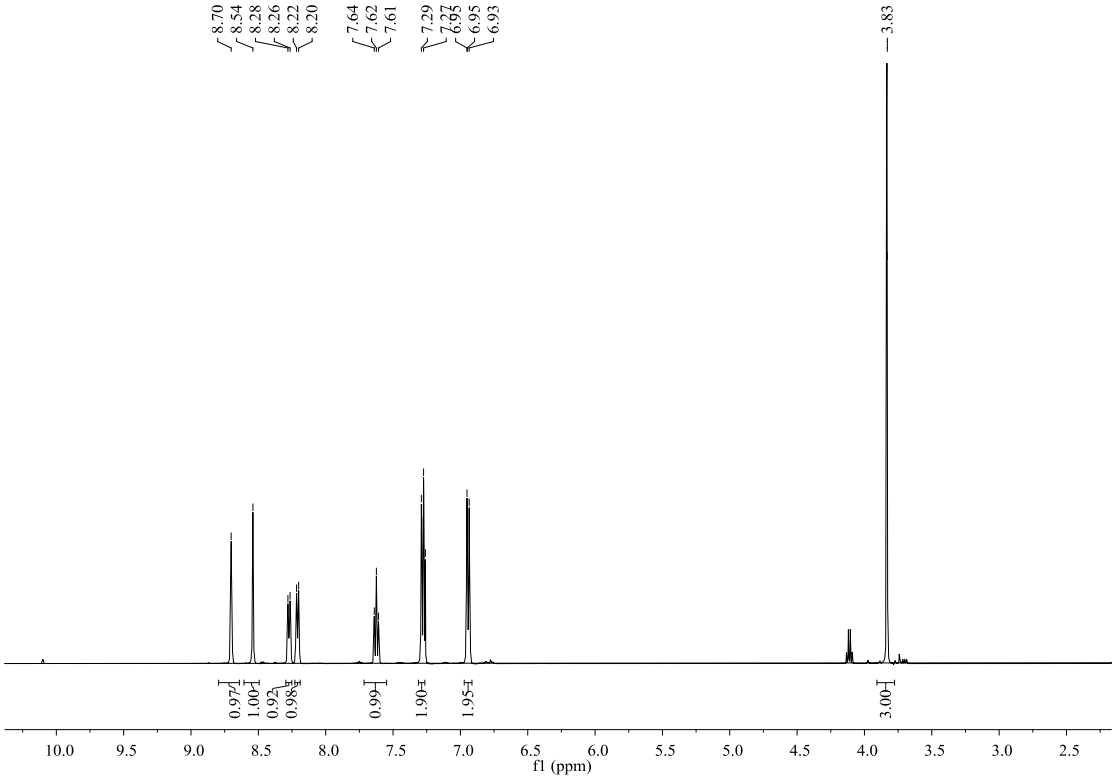
^{1}H NMR spectrum of *m*-NO_2BACN-*m*



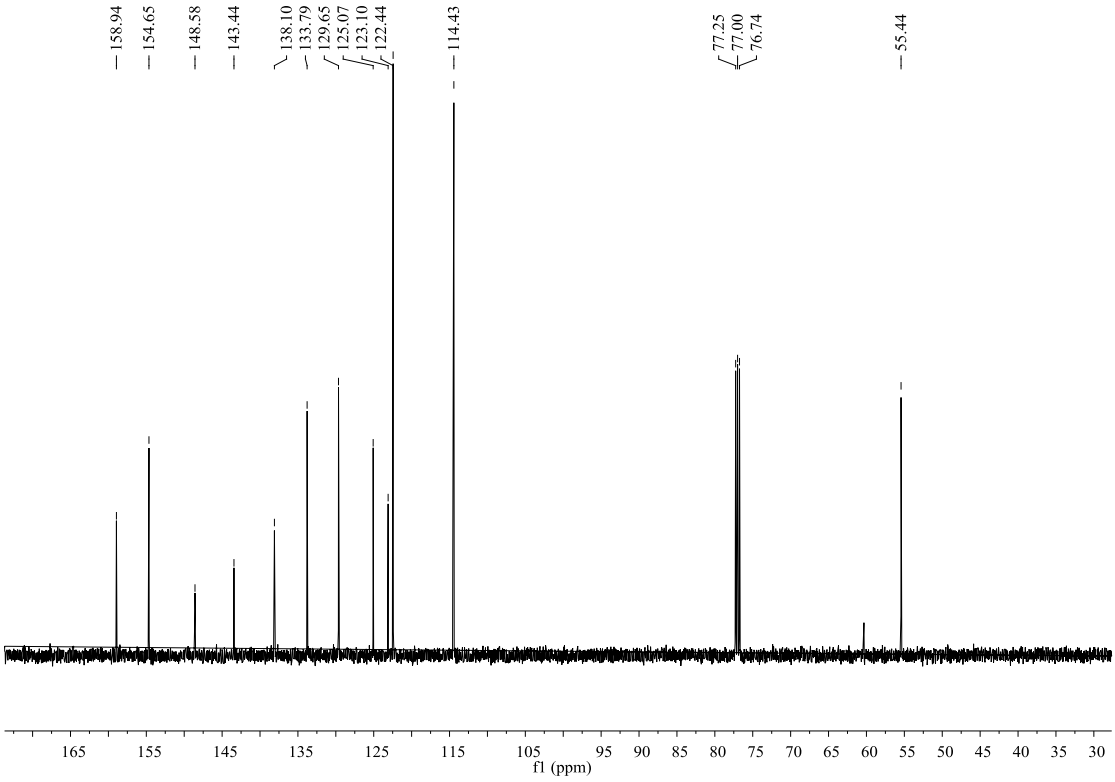
^{13}C NMR spectrum of *m*-NO_2BACN-*m*

3.47 *m*-NO_2BAOMe-*p*



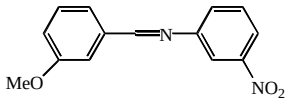


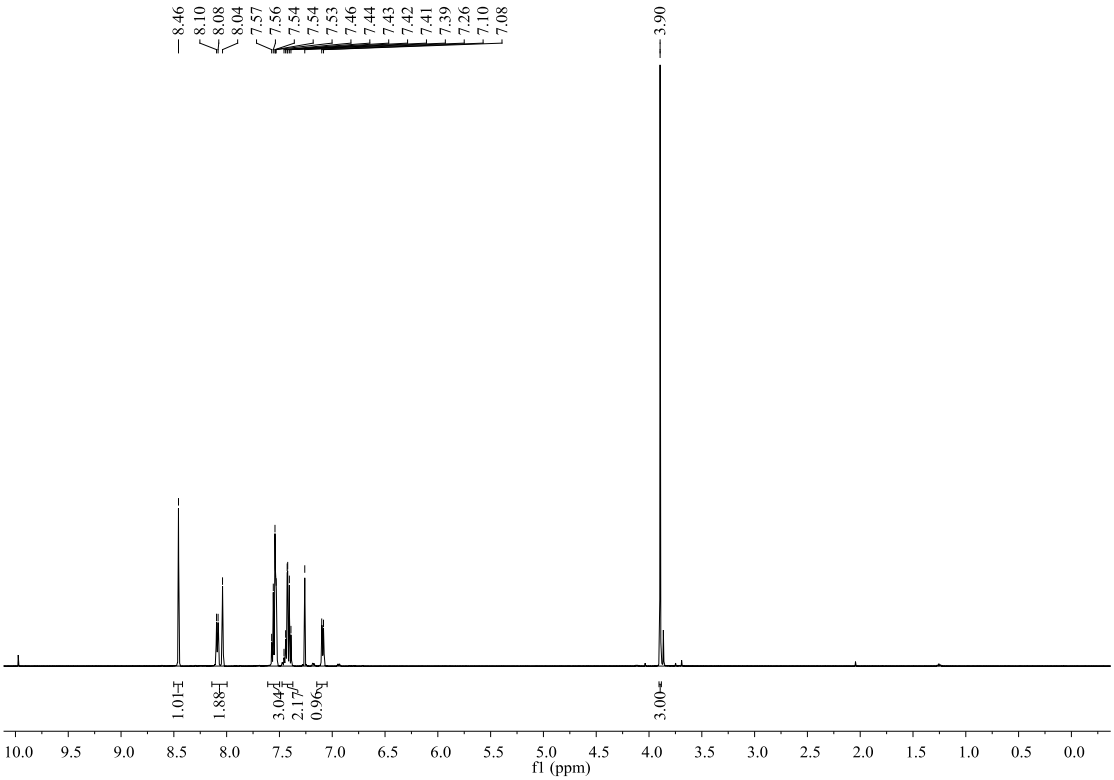
^{1}H NMR spectrum of *m*-NO_2BAOMe-*p*



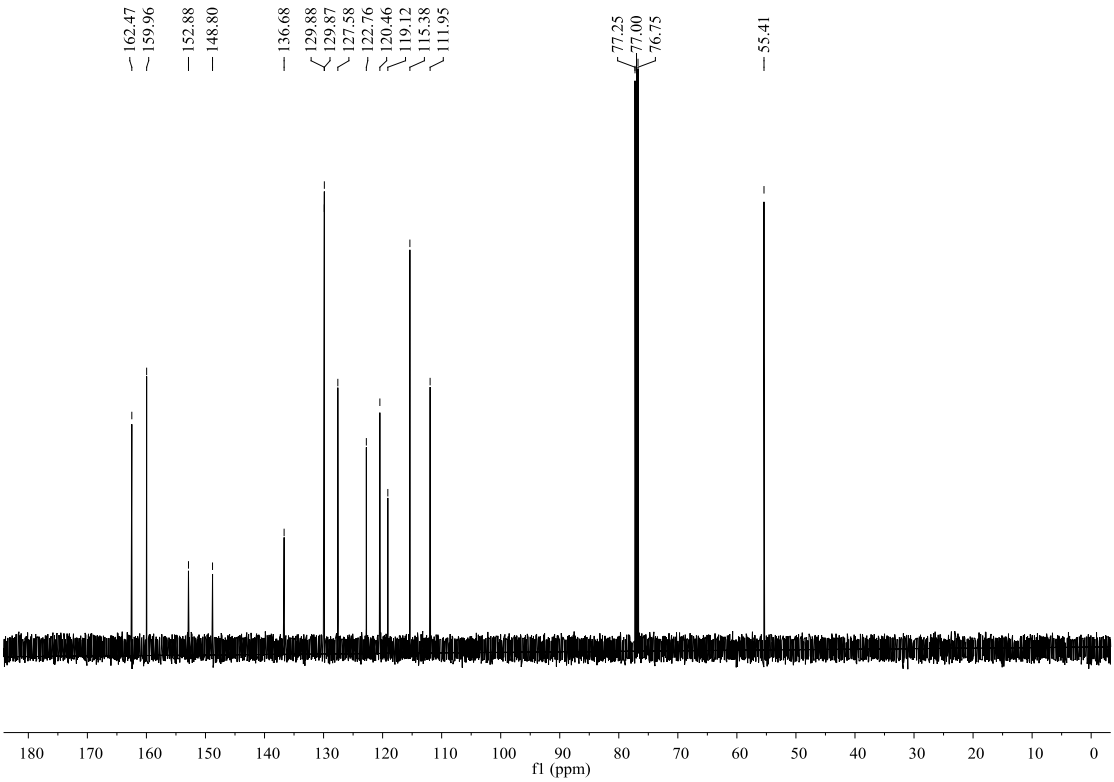
^{13}C NMR spectrum of *m*-NO_2BAOMe-*p*

3.48 *m*-OMeBANO$_2$-*m*



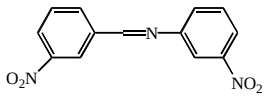


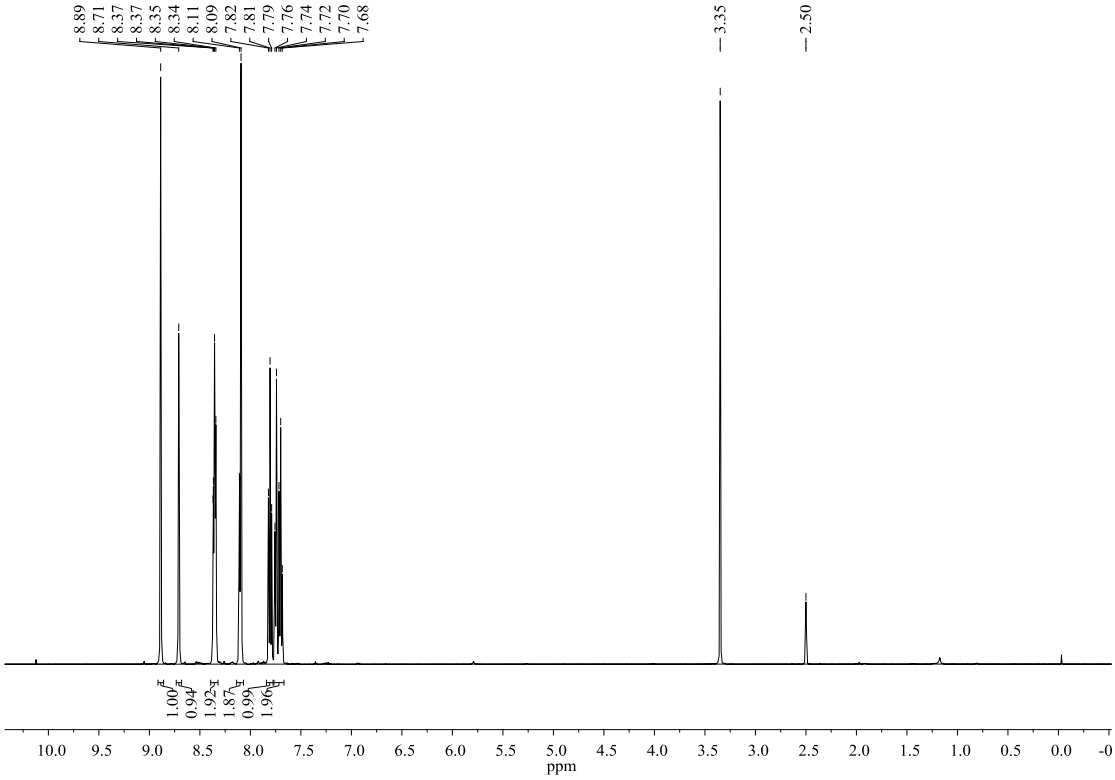
^{1}H NMR spectrum of *m*-OMeBANO$_2$-*m*



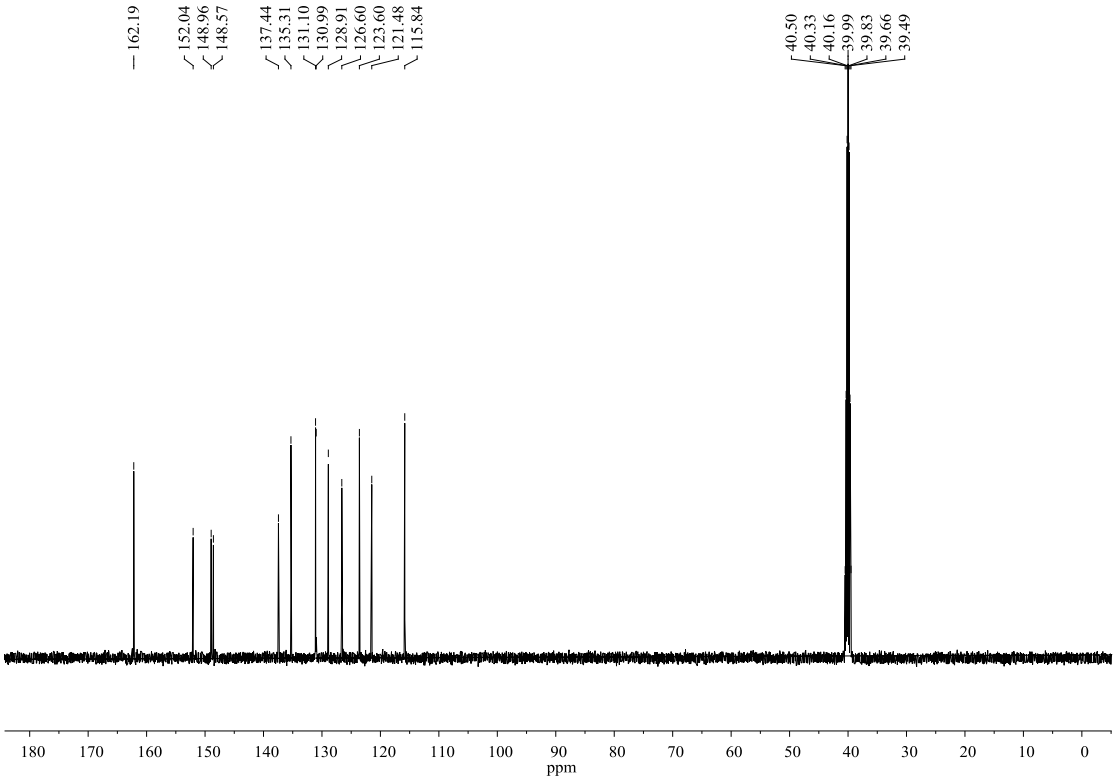
^{13}C NMR spectrum of *m*-OMeBANO$_2$-*m*

3.49 *m*-NO_2BANO_2-*m*



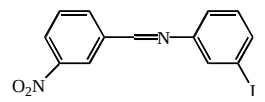


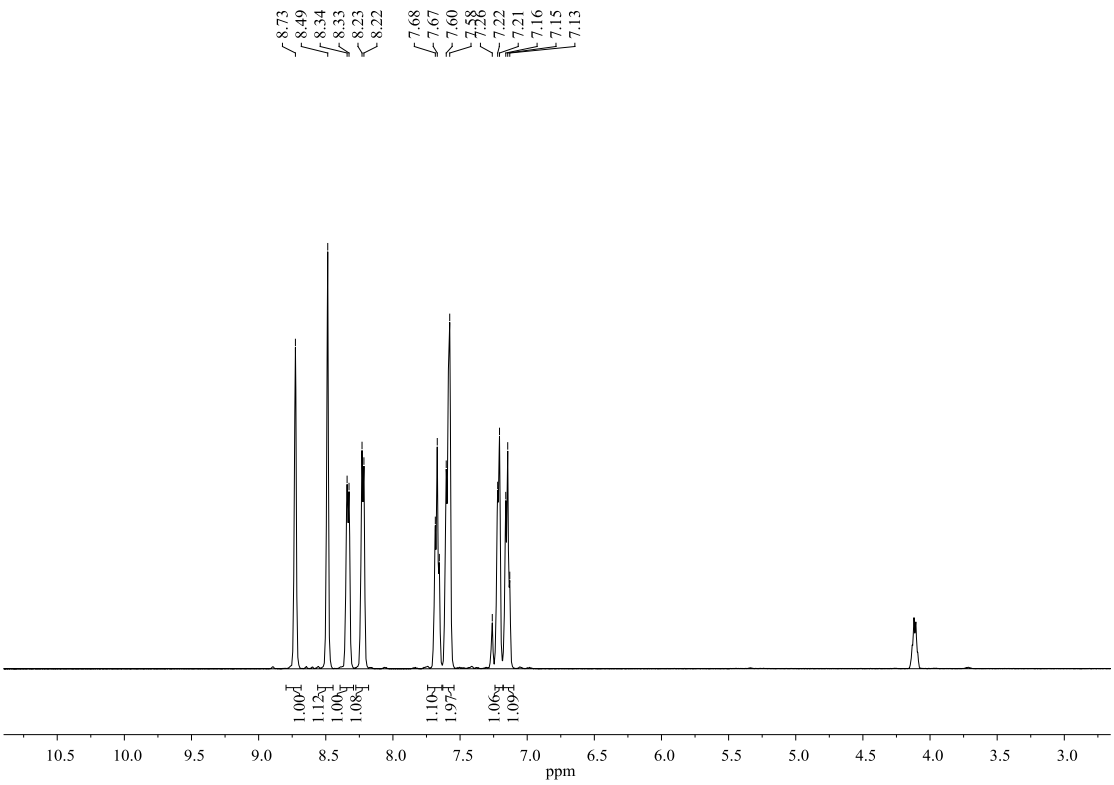
^{1}H NMR spectrum of *m*-NO_2BANO_2-*m*



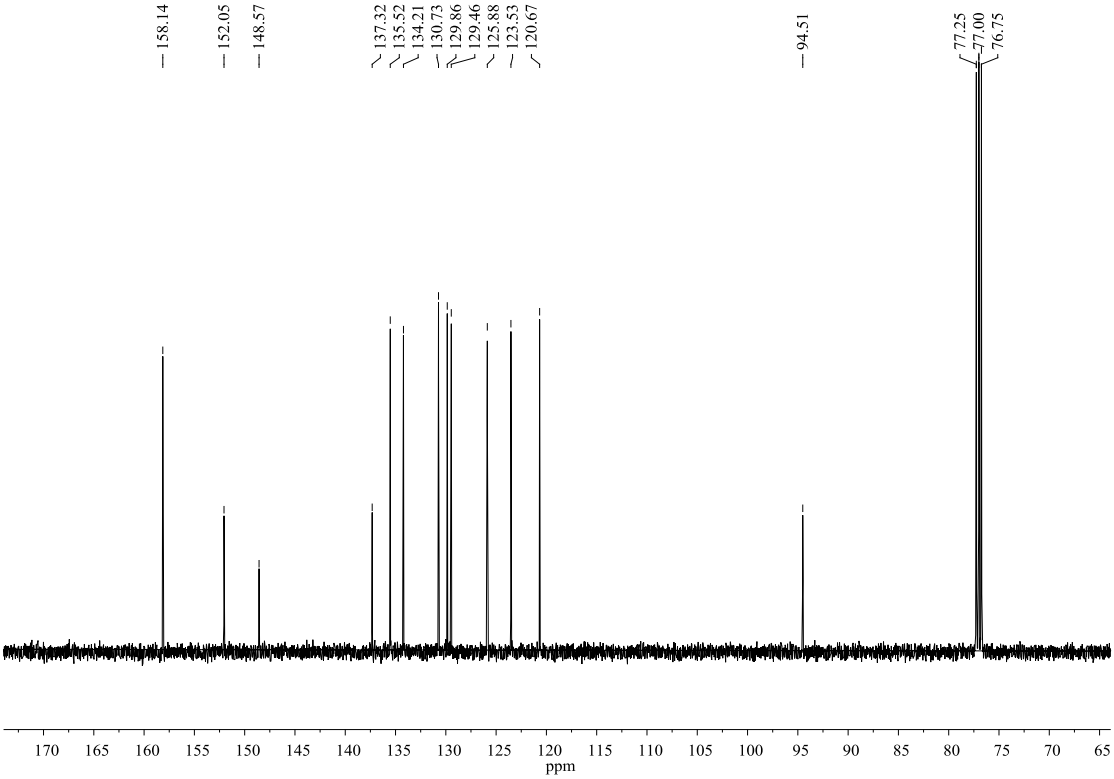
^{13}C NMR spectrum of *m*-NO_2BANO_2-*m*

3.50 *m*- NO_2BAI-*m*



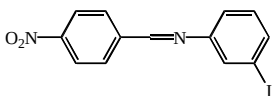


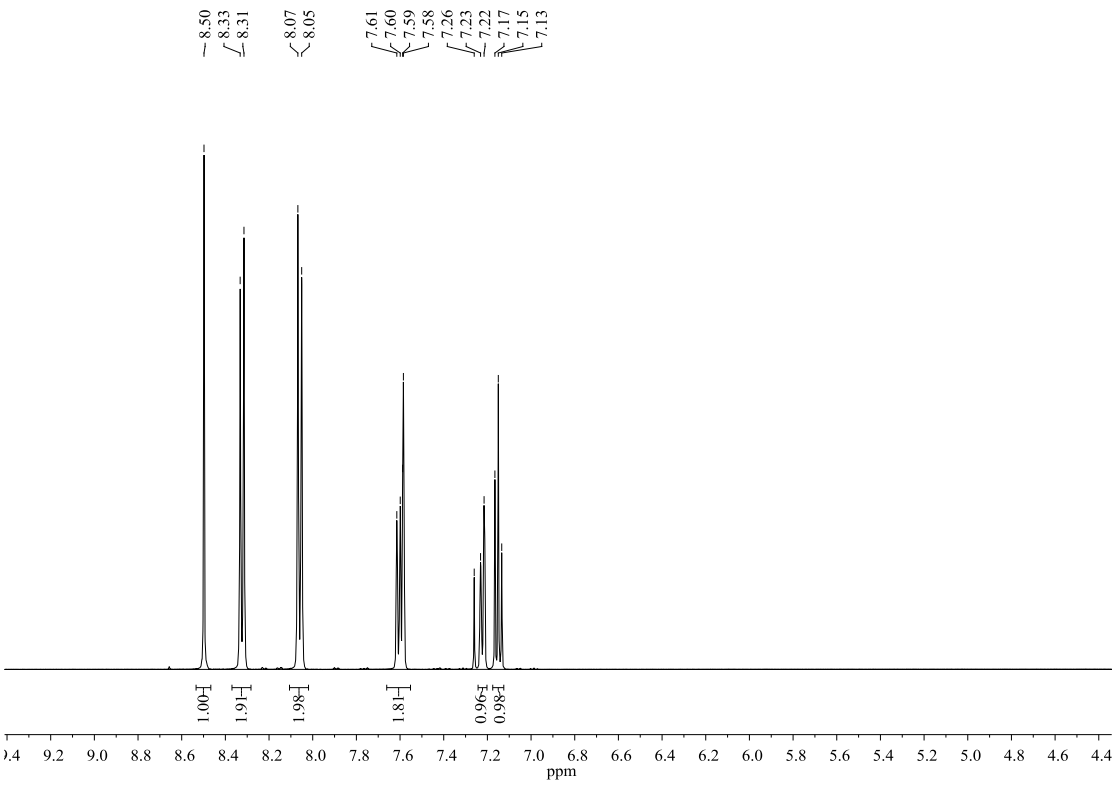
^{1}H NMR spectrum of *m*- NO_2BAI-*m*



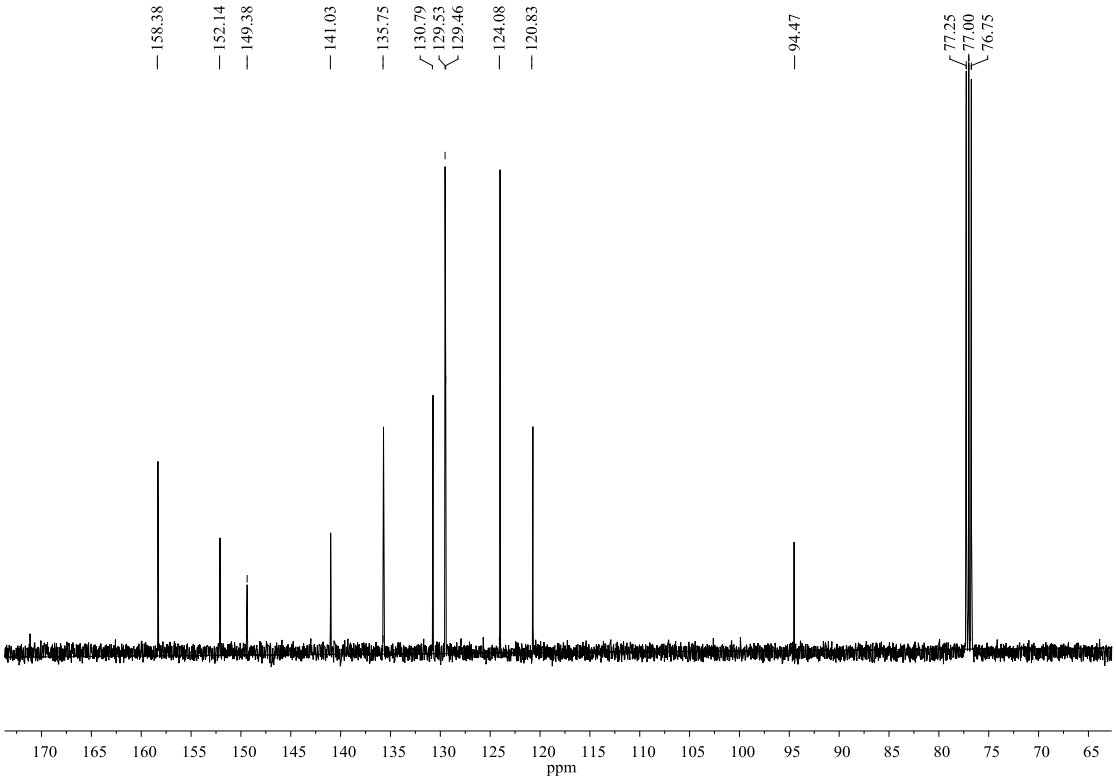
^{13}C NMR spectrum of *m*- NO_2BAI-*m*

3.51 *p*- NO_2BAI-*m*



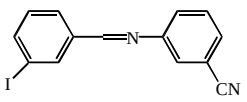


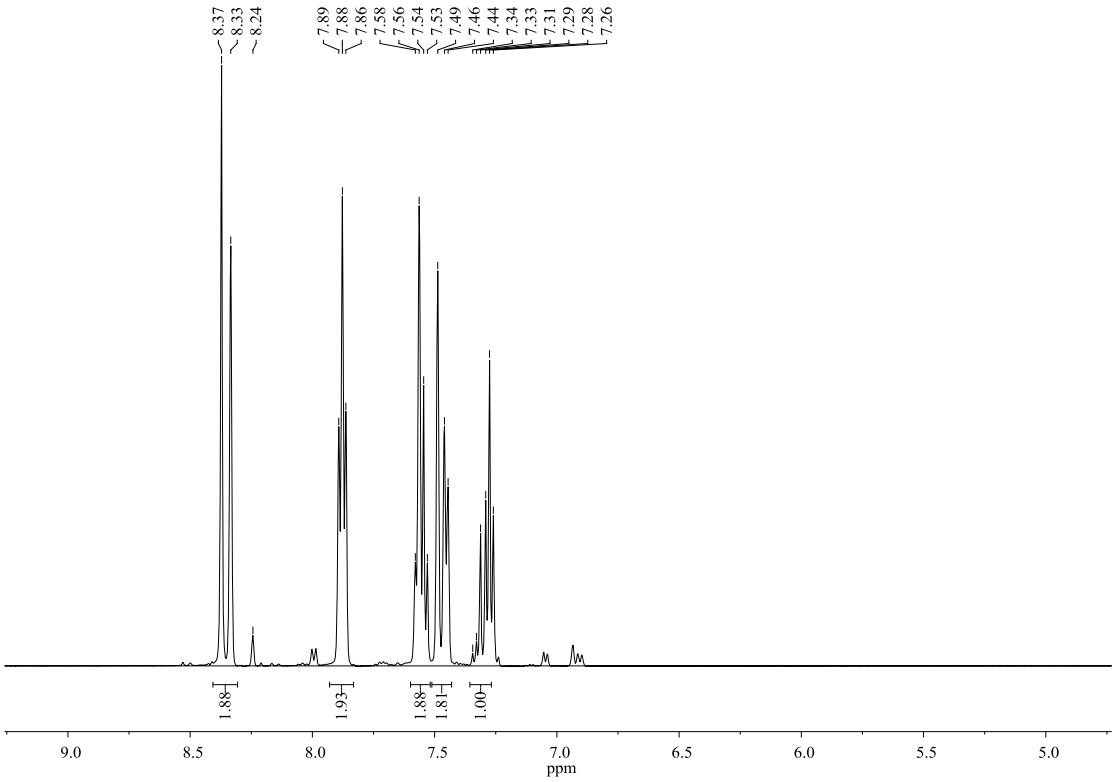
^{1}H NMR spectrum of *p*-NO_2BAI-*m*



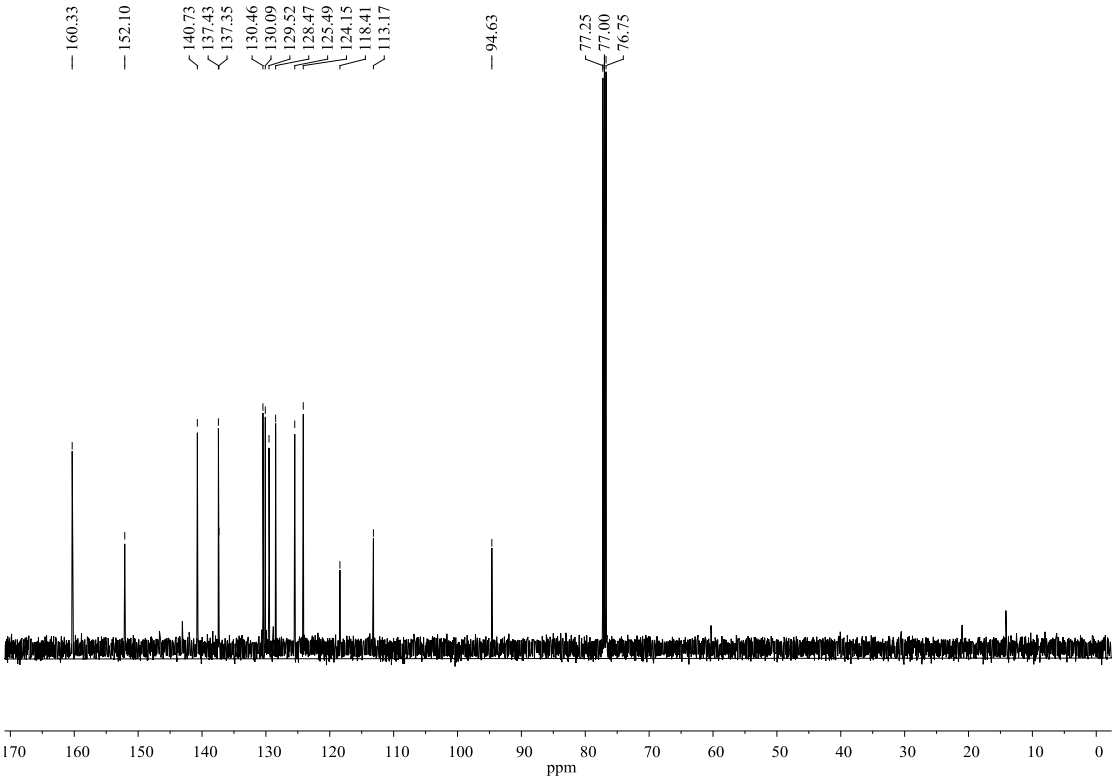
^{13}C NMR spectrum of *p*-NO_2BAI-*m*

3.52 *m*- IBACN-*m*

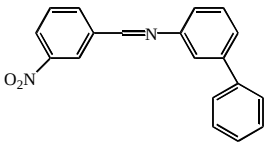




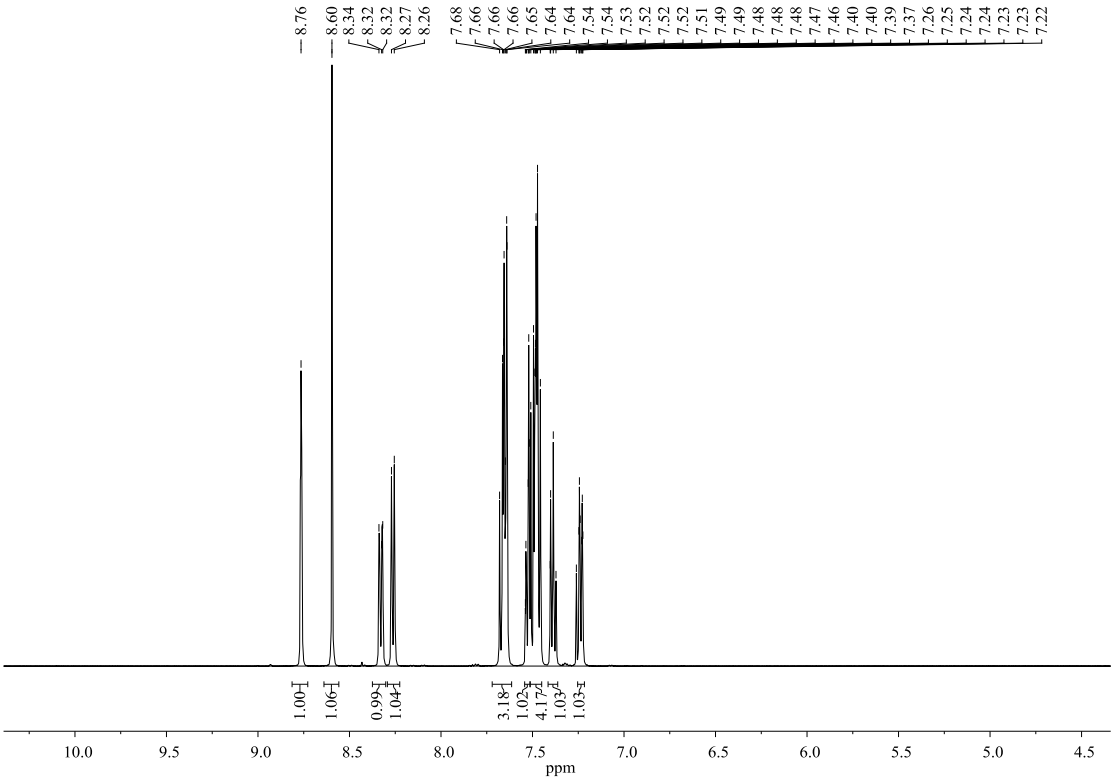
^{1}H NMR spectrum of *m*- IBACN-*m*



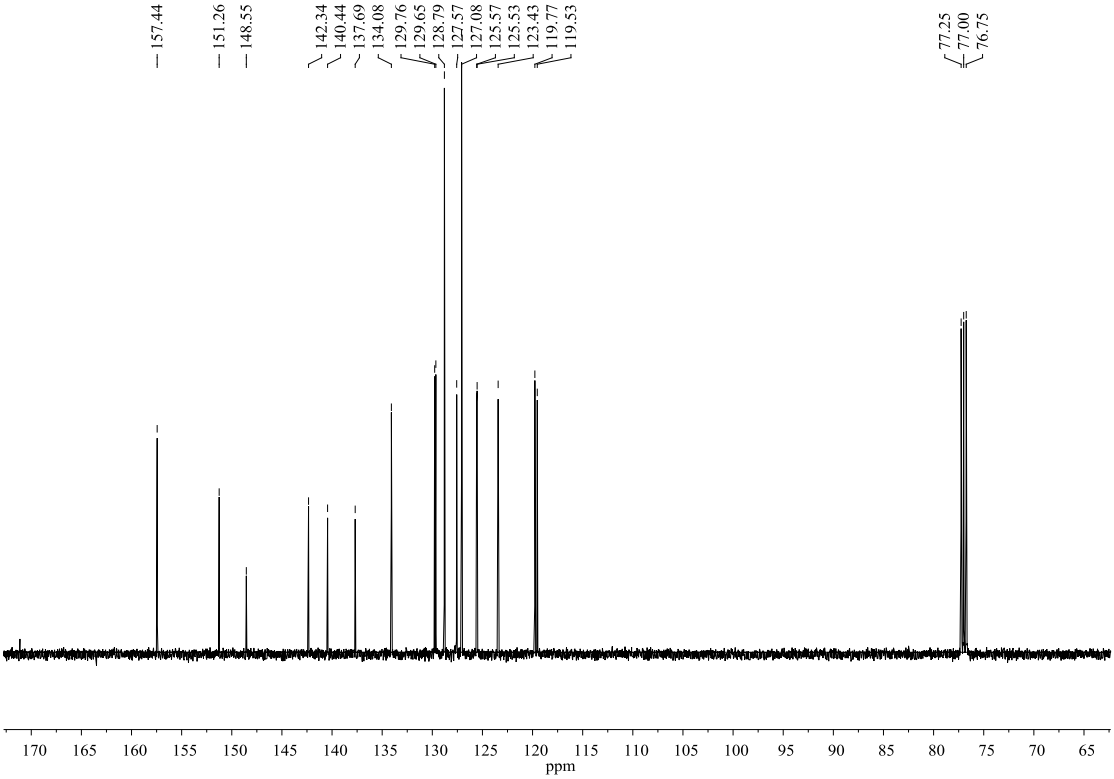
^{13}C NMR spectrum of *m*- IBACN-*m*



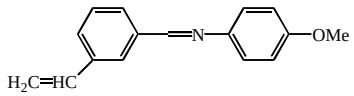
3.53 *m*- NO_2BAPh-*m*

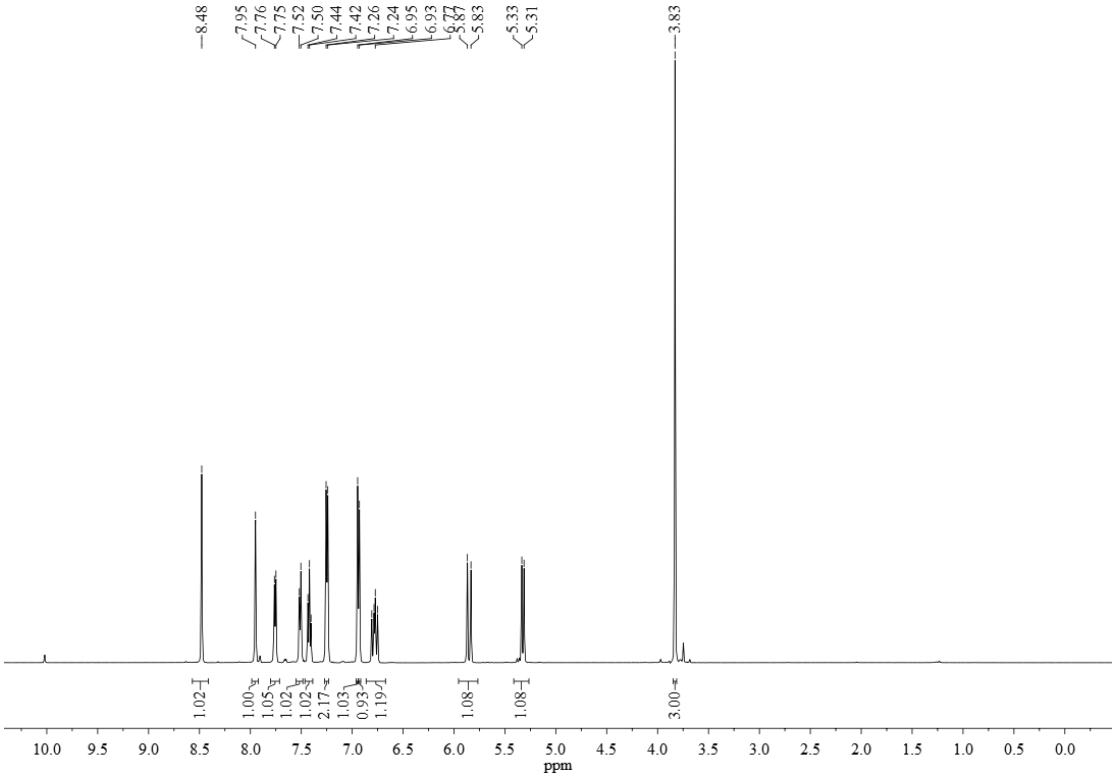


^{1}H NMR spectrum of *m*-NO_2BAPh-*m*

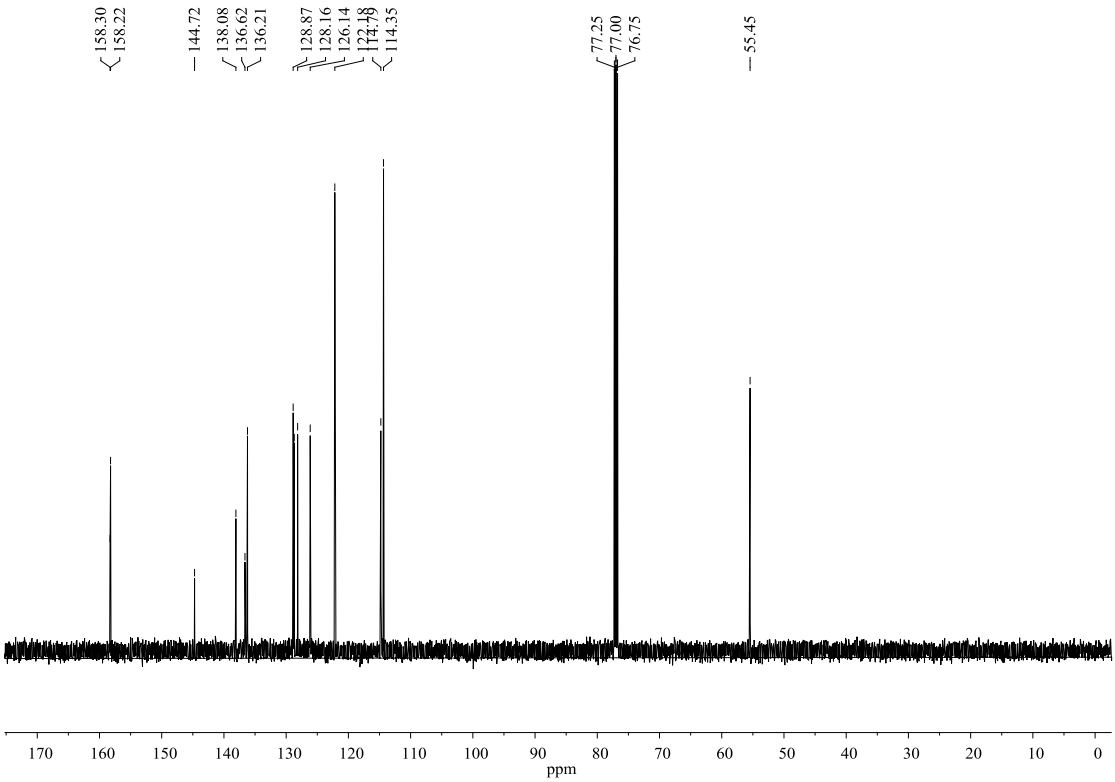


^{13}C NMR spectrum of *m*-NO_2BAPh-*m*

3.54 *m*-CH=CH2BAOMe-*p* 

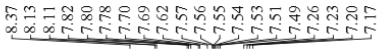


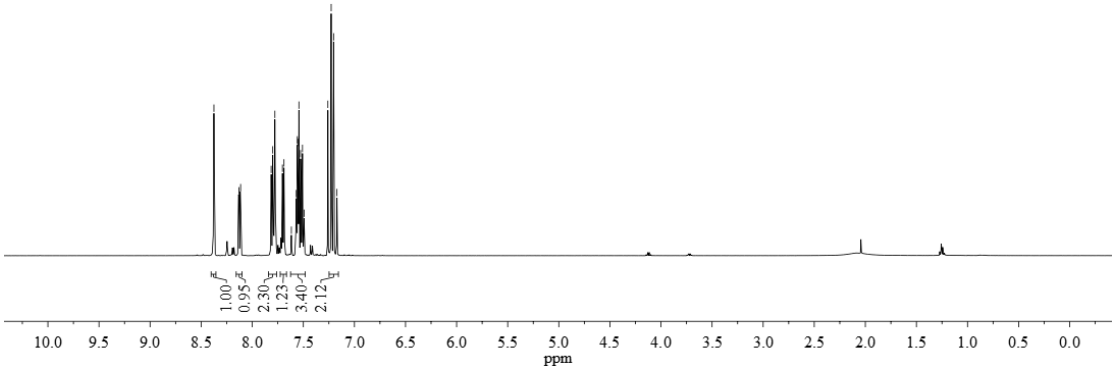
^{1}H NMR spectrum of *m*-CH=CH2BAOMe-*p*



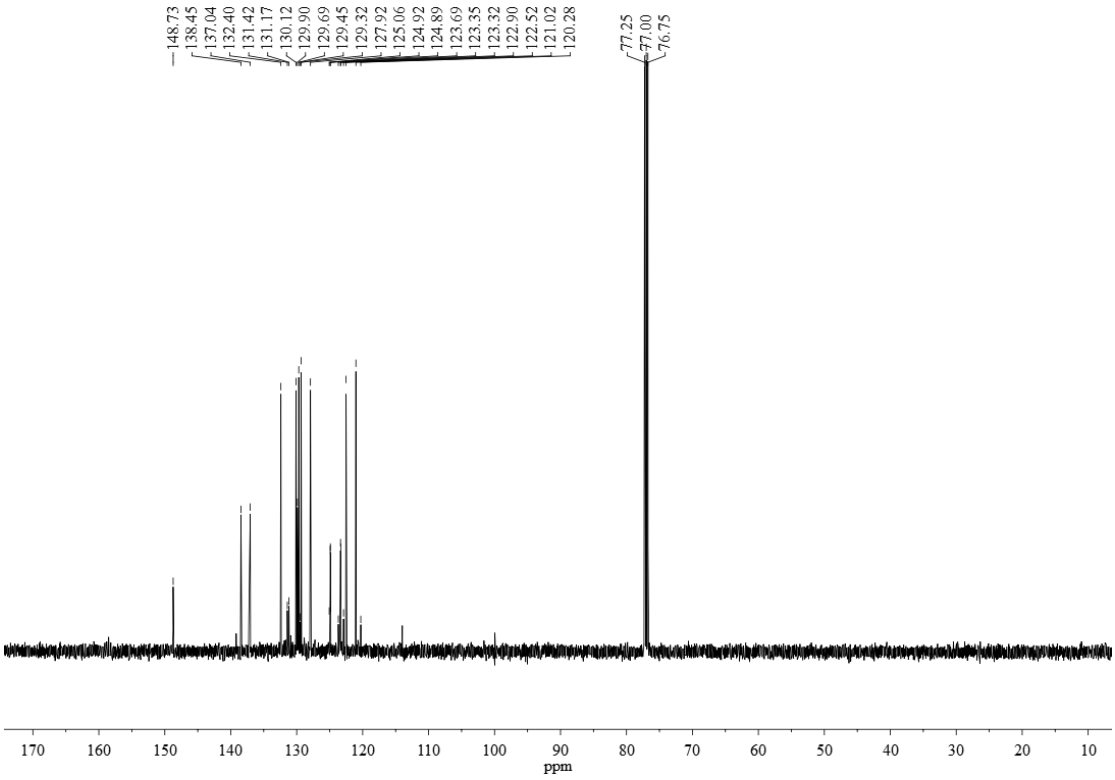
^{13}C NMR spectrum of *m*-CH=CH2BAOMe-*p*

3.55 *m*-NO_2SBCF_3-*m*



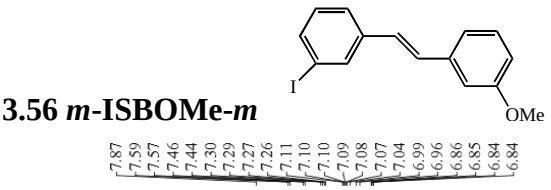


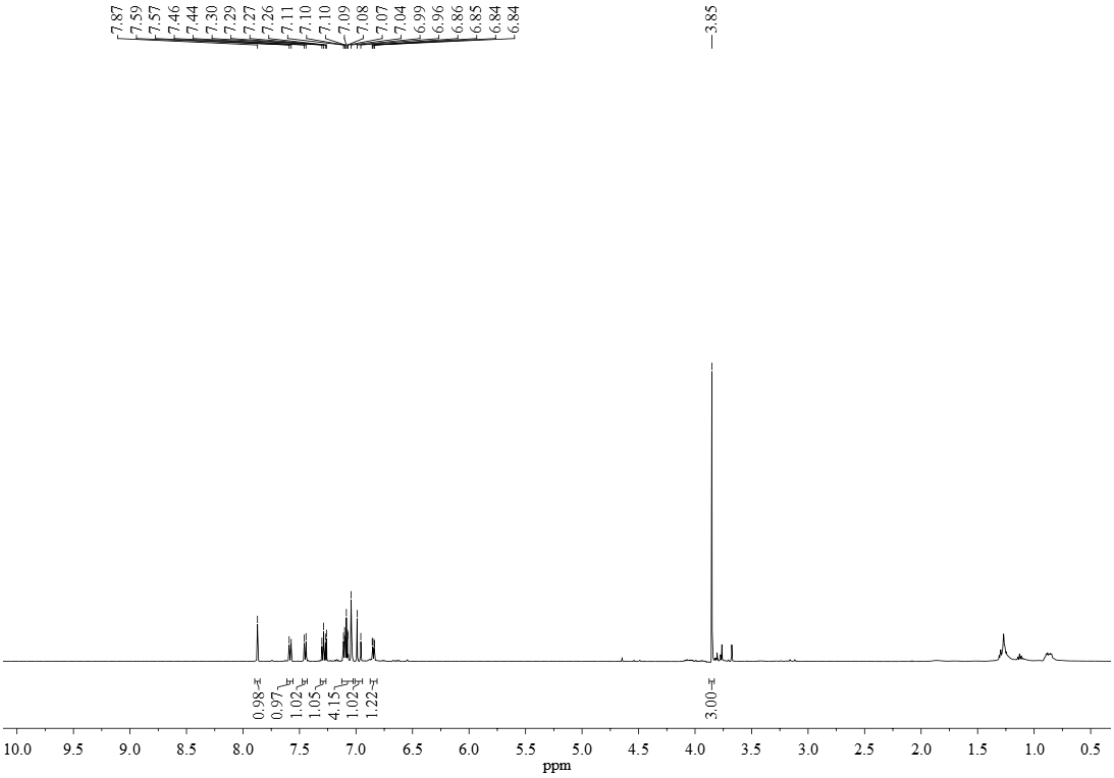
^{1}H NMR spectrum of *m*-NO_2SBCF_3-*m*



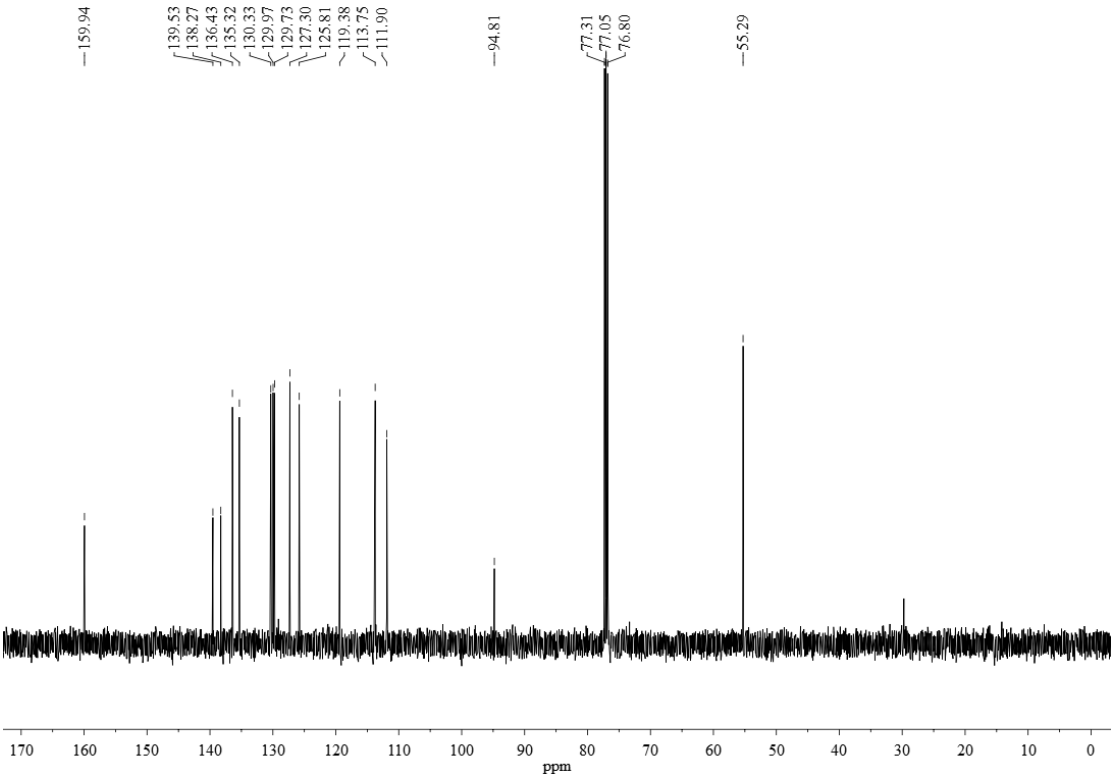
^{13}C NMR spectrum of *m*-NO_2SBCF_3-*m*

3.56 *m*-ISBOMe-*m*



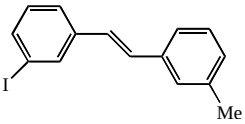


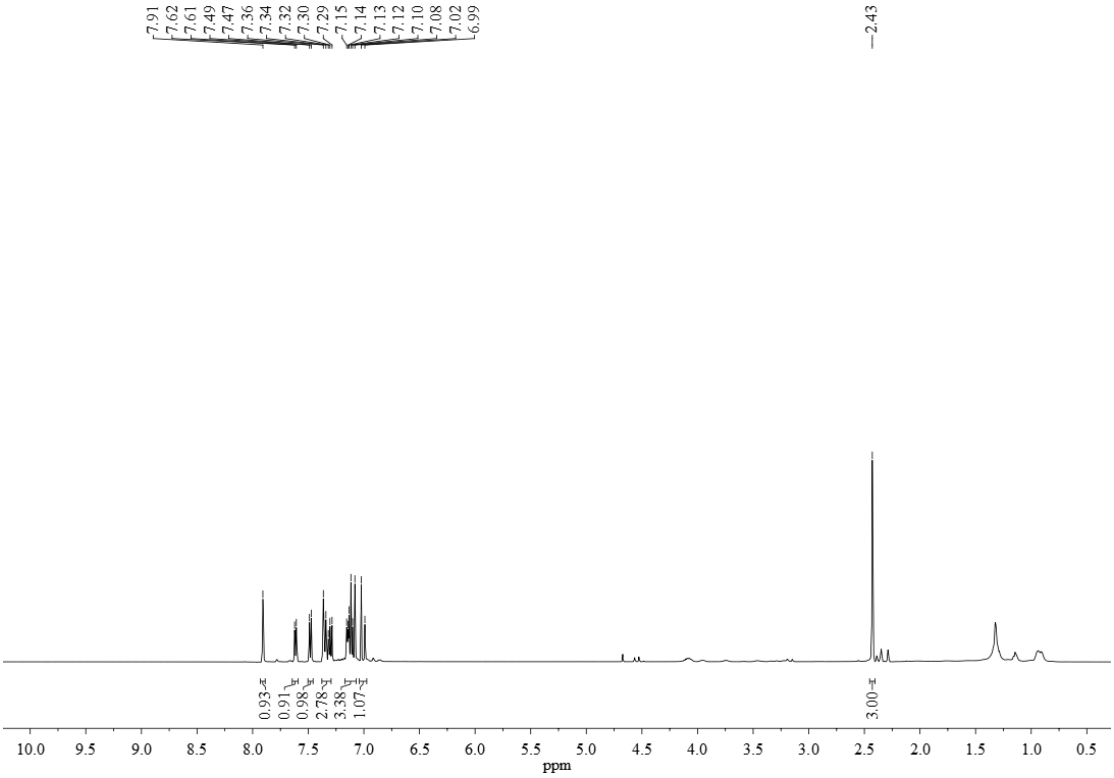
^{1}H NMR spectrum of *m*-ISBOMe-*m*



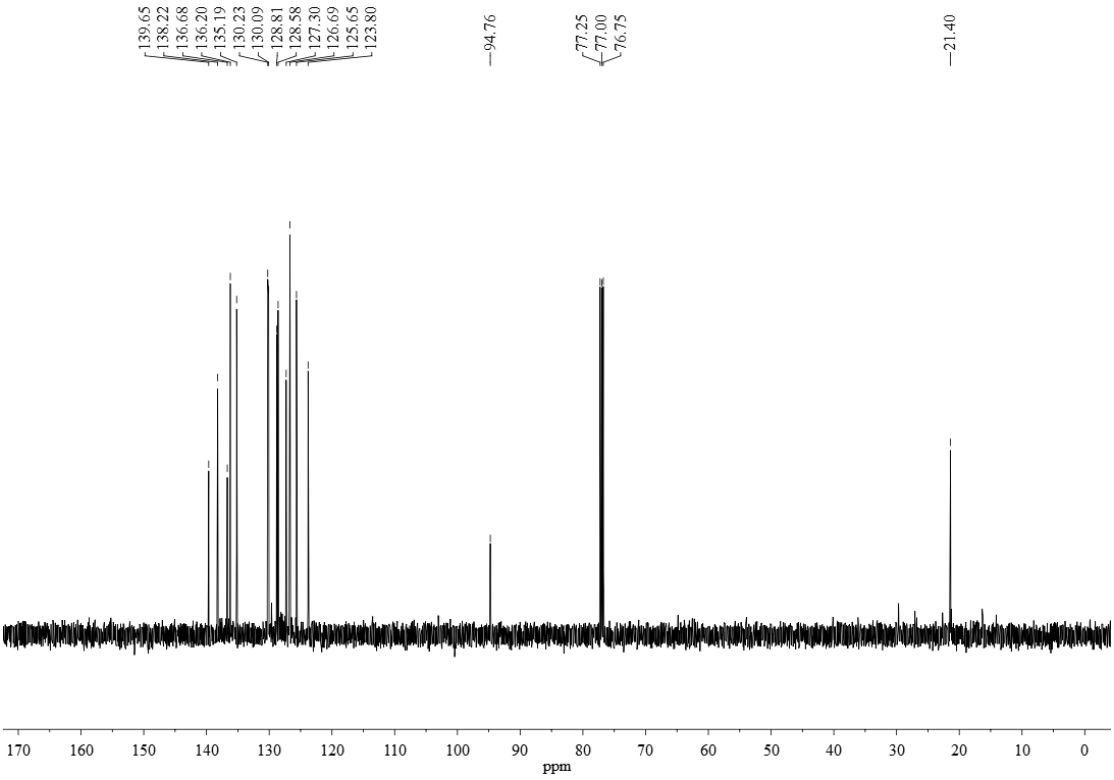
^{13}C NMR spectrum of *m*-ISBOMe-*m*

3.57 *m*-ISBMe-*m*



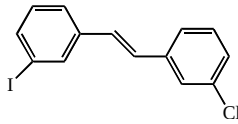


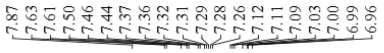
^{1}H NMR spectrum of *m*-ISBMe-*m*

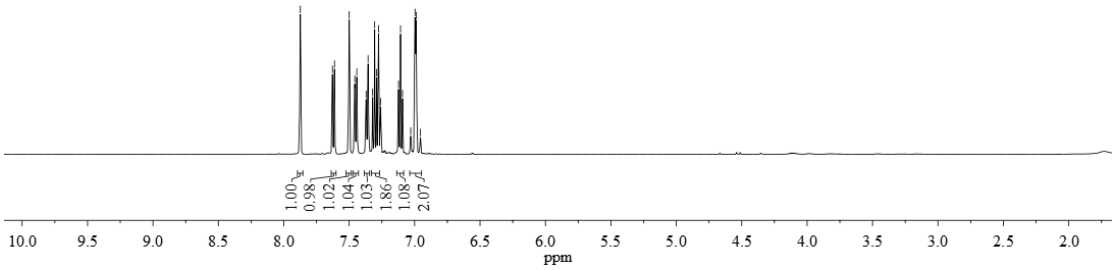


^{13}C NMR spectrum of *m*-ISBMe-*m*

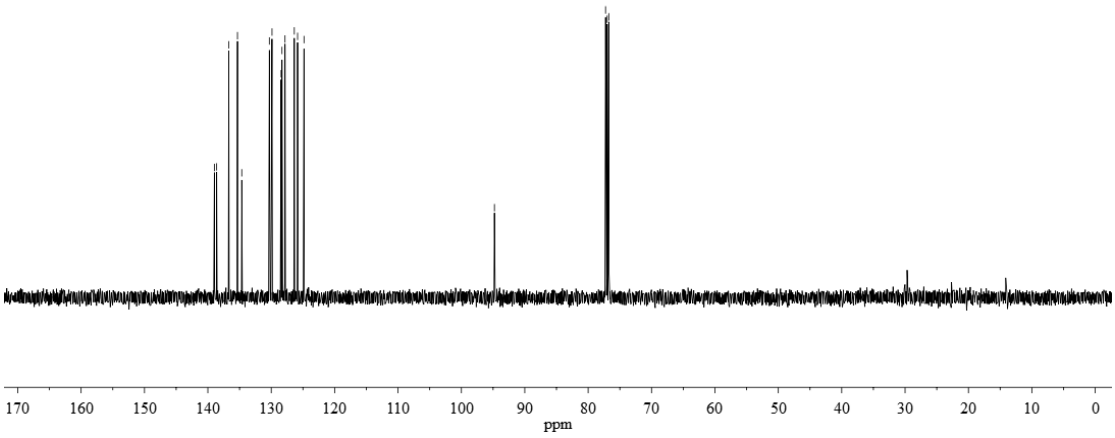
3.58 *m*-ISBCl-*m*



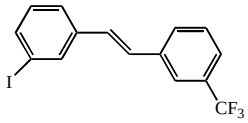




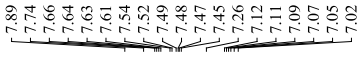
^{1}H NMR spectrum of *m*-ISBCl-*m*

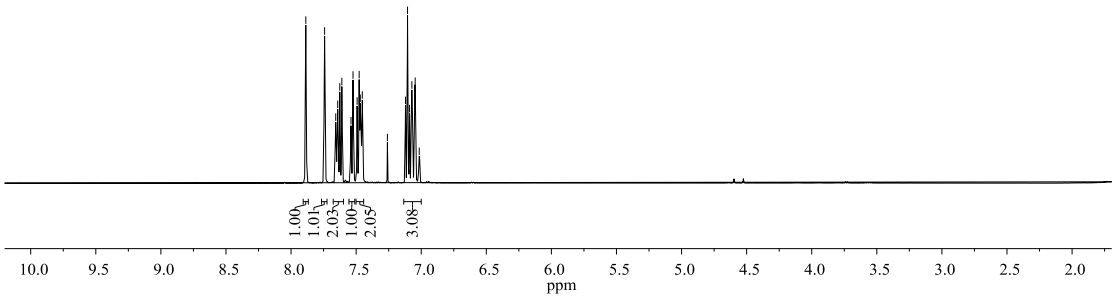


^{13}C NMR spectrum of *m*-ISBCl-*m*

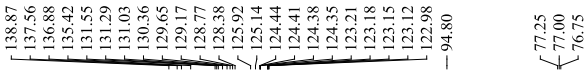


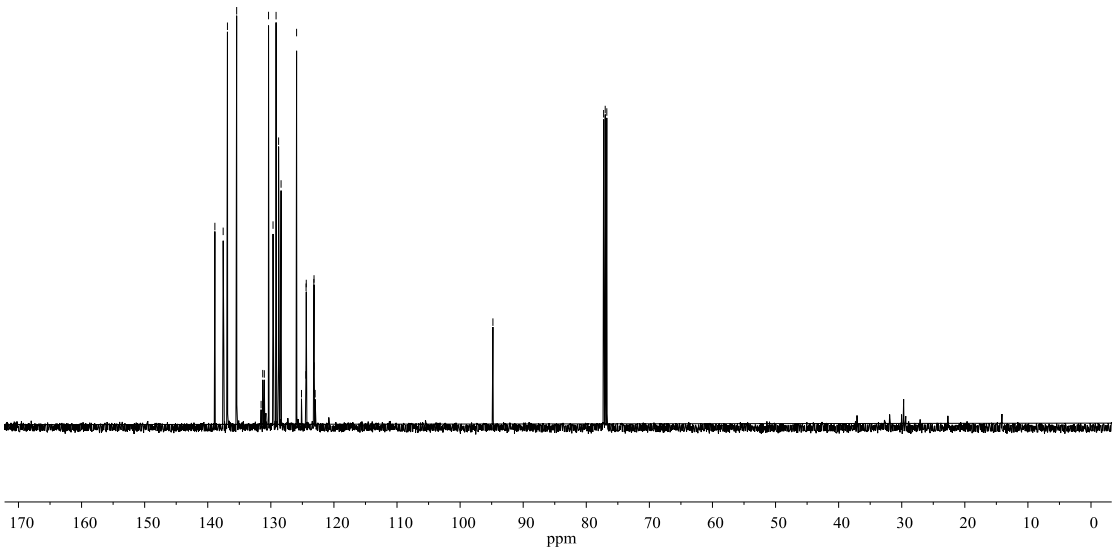
3.59 *m*-ISBCF$_3$-*m*





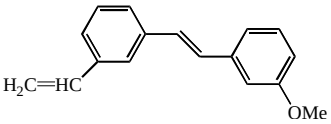
^{1}H NMR spectrum of *m*-ISBCF$_3$-*m*

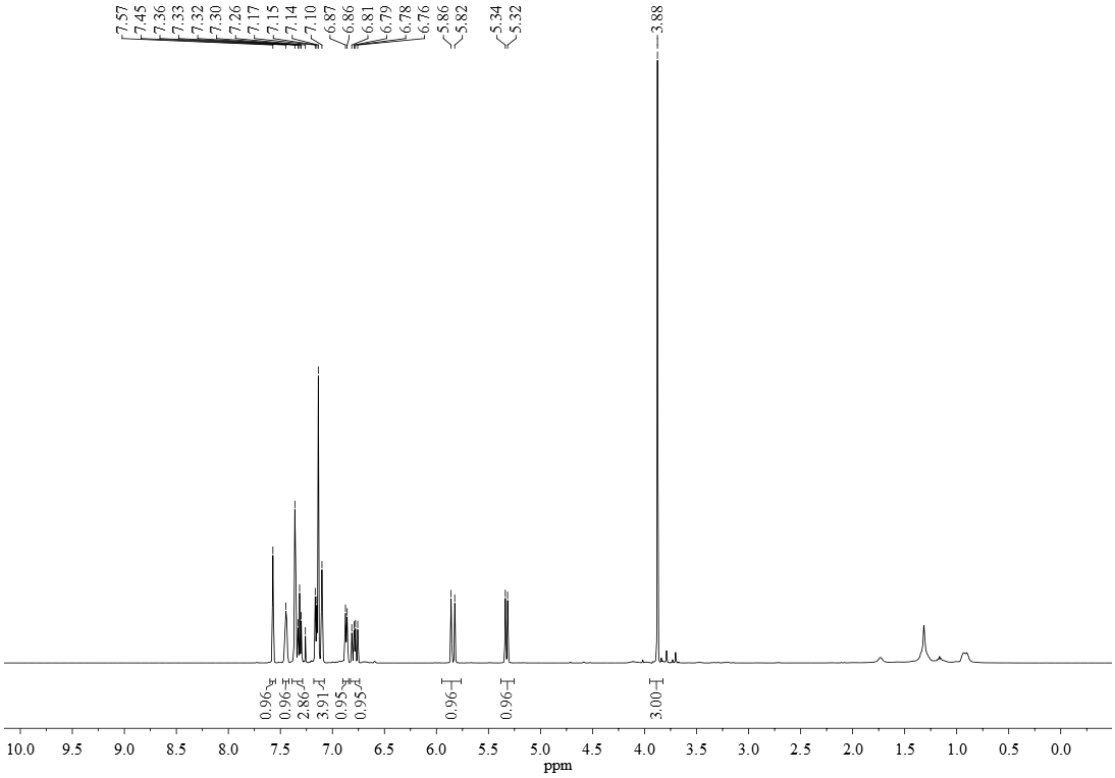




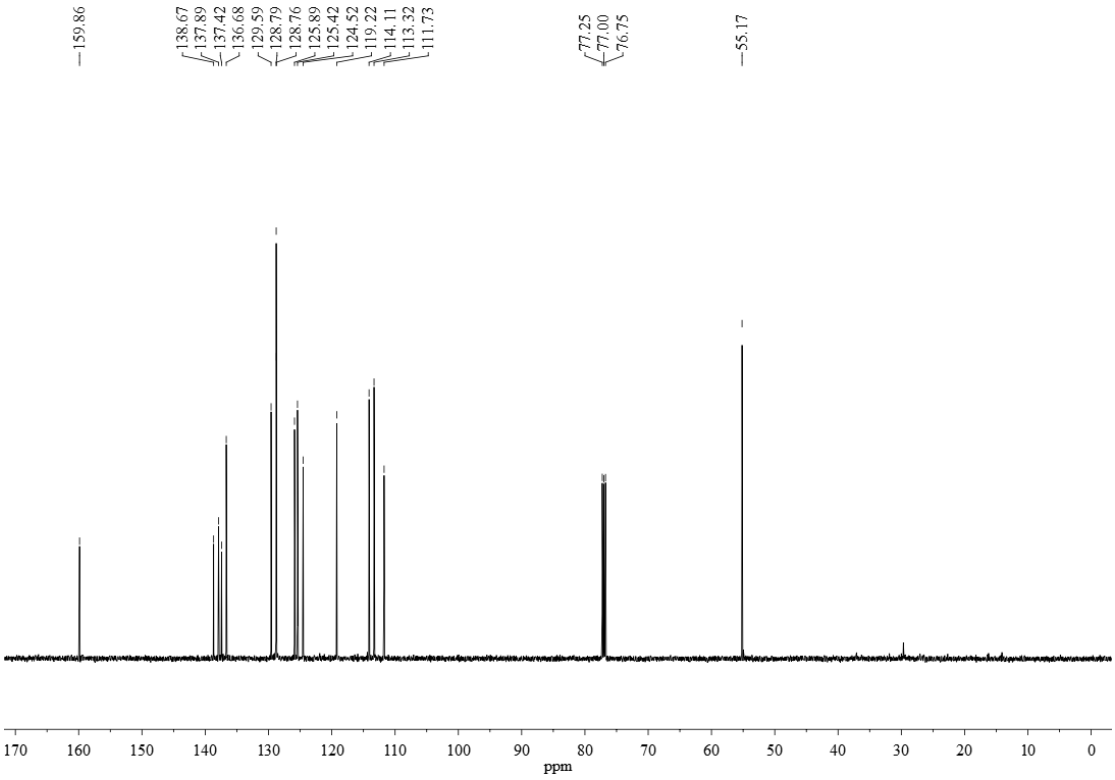
^{13}C NMR spectrum of *m*-ISBCF$_3$-*m*

3.60 *m*-CH=CH$_2$SBOMe-*m*



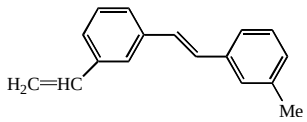


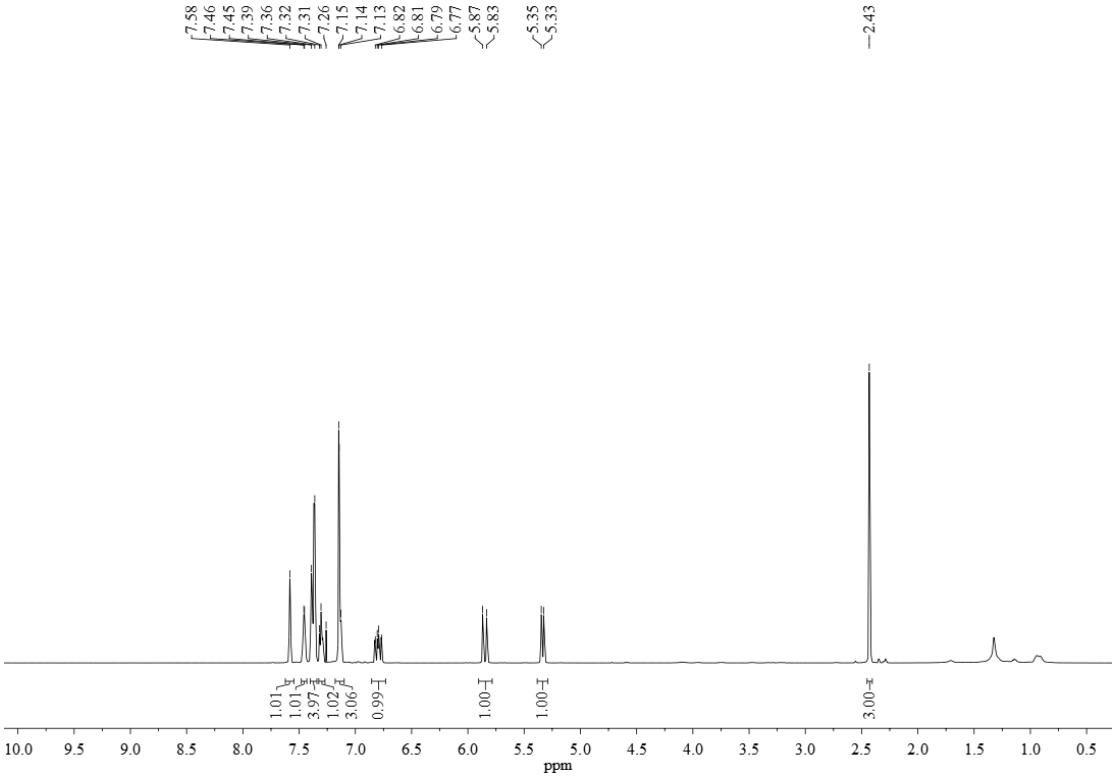
^{1}H NMR spectrum of *m*-CH=CH$_2$SBOMe-*m*



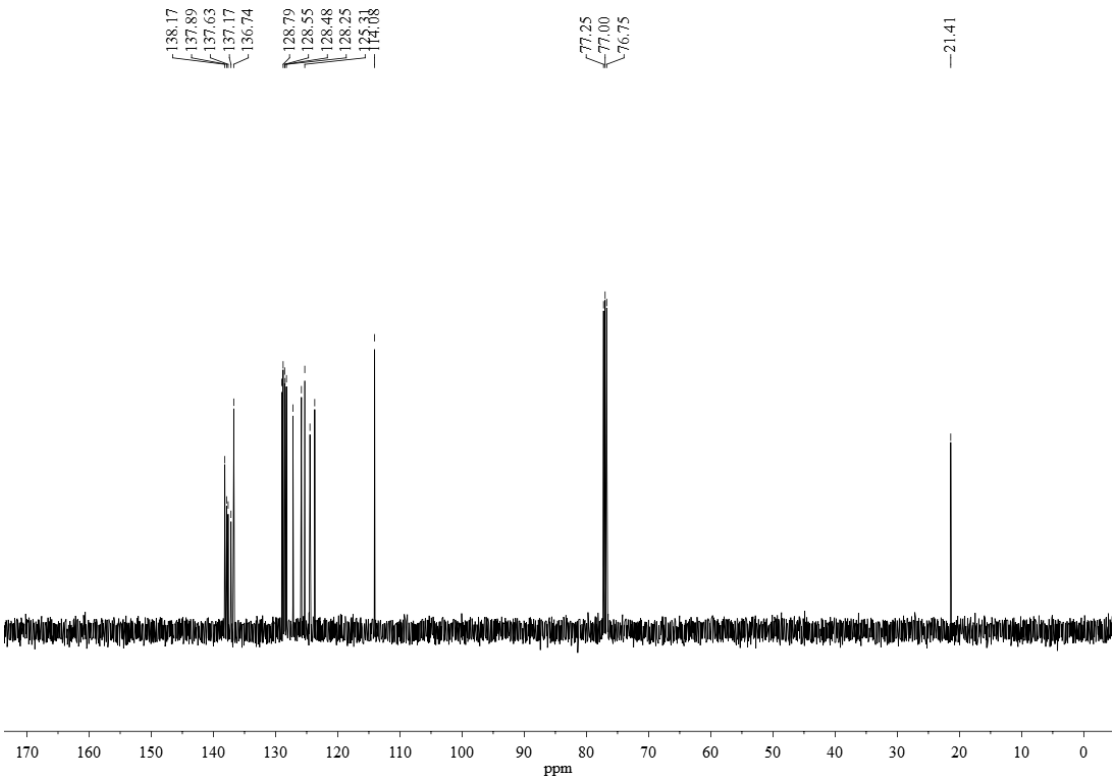
^{13}C NMR spectrum of *m*-CH=CH$_2$SBOMe-*m*

3.61 *m*-CH=CH$_2$SBMe-*m*



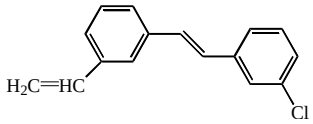


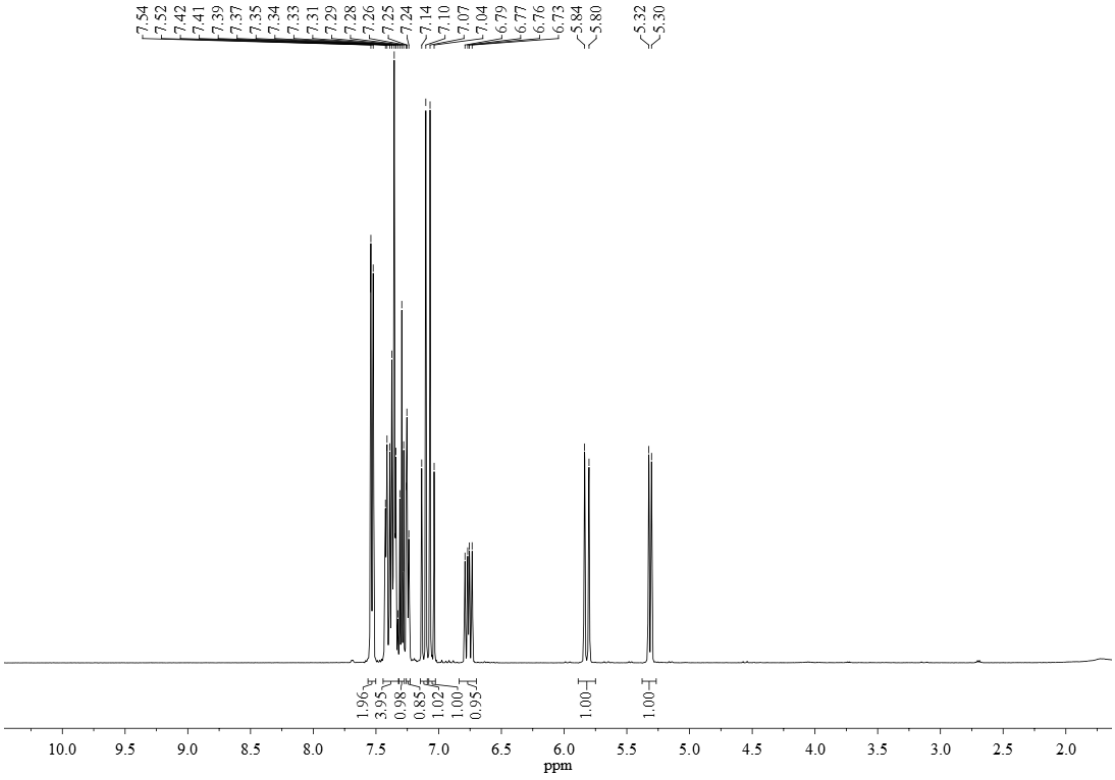
^{1}H NMR spectrum of *m*-CH=CH$_2$SBMe-*m*



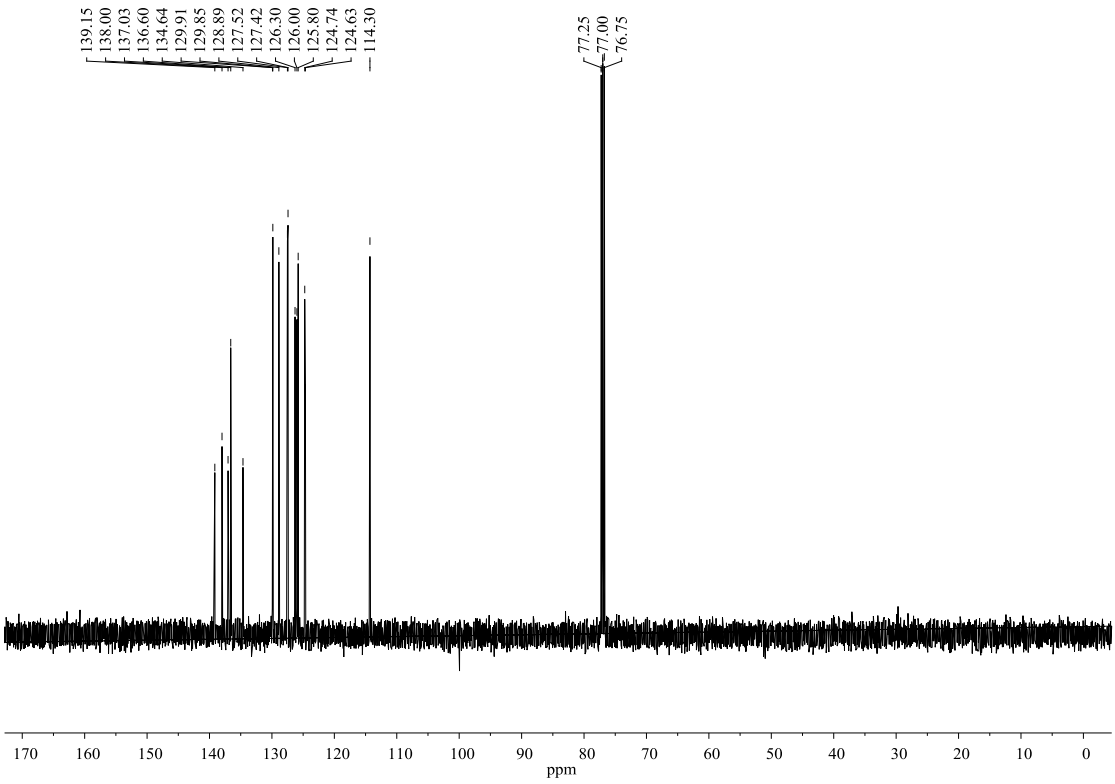
^{13}C NMR spectrum of *m*-CH=CH$_2$SBMe-*m*

3.62 *m*-CH=CH$_2$SBCl-*m*



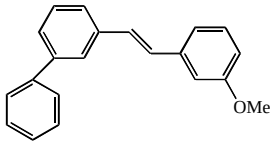


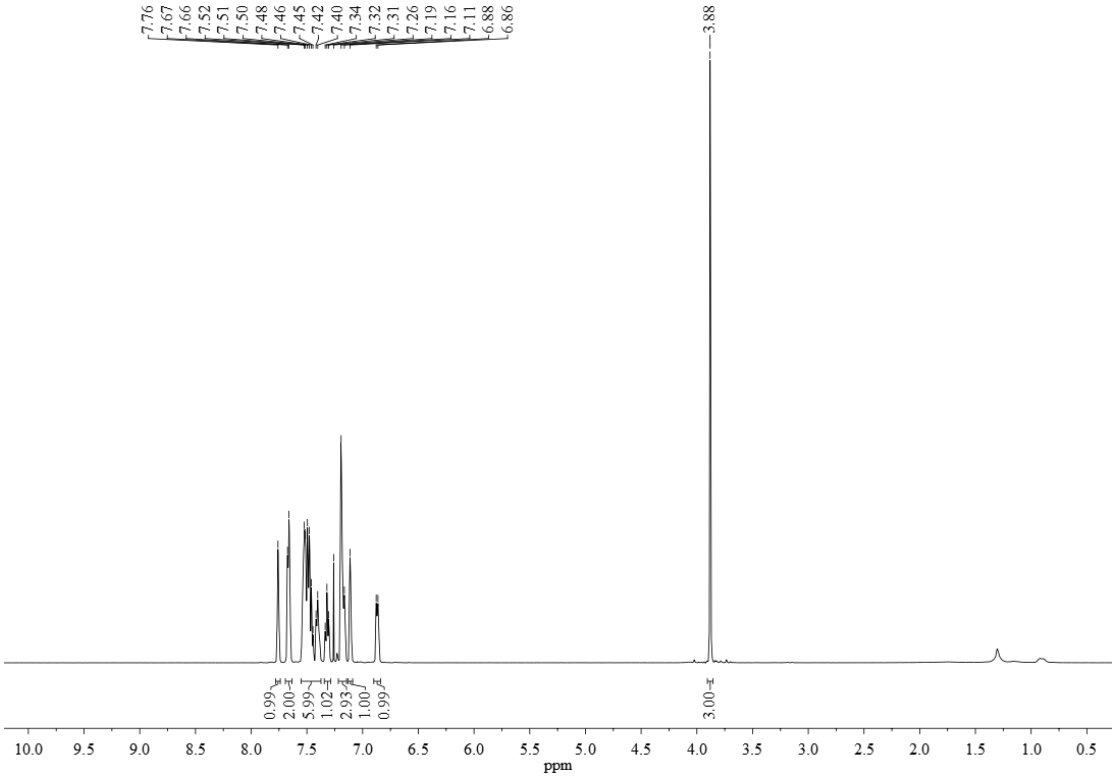
^{1}H NMR spectrum of *m*-CH=CH$_2$SBCl-*m*



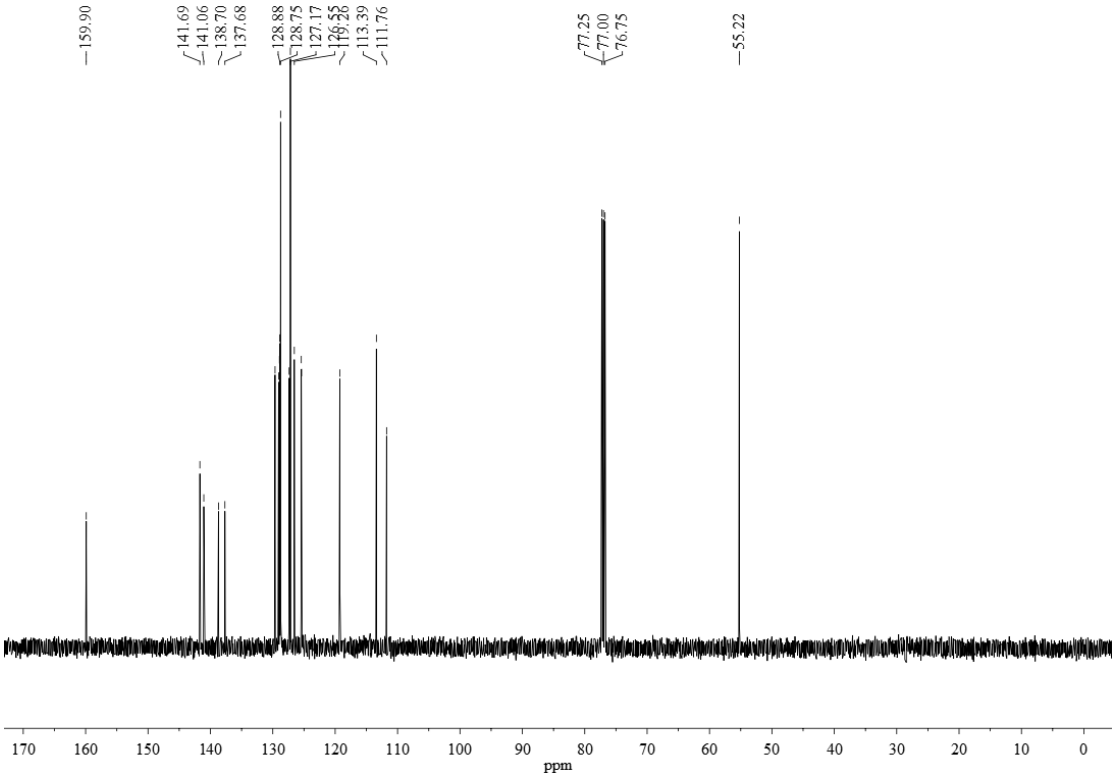
^{13}C NMR spectrum of *m*-CH=CH$_2$SBCl-*m*

3.63 *m*-PhSBOMe-*m*



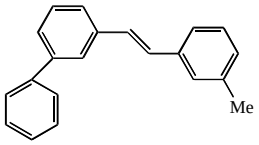


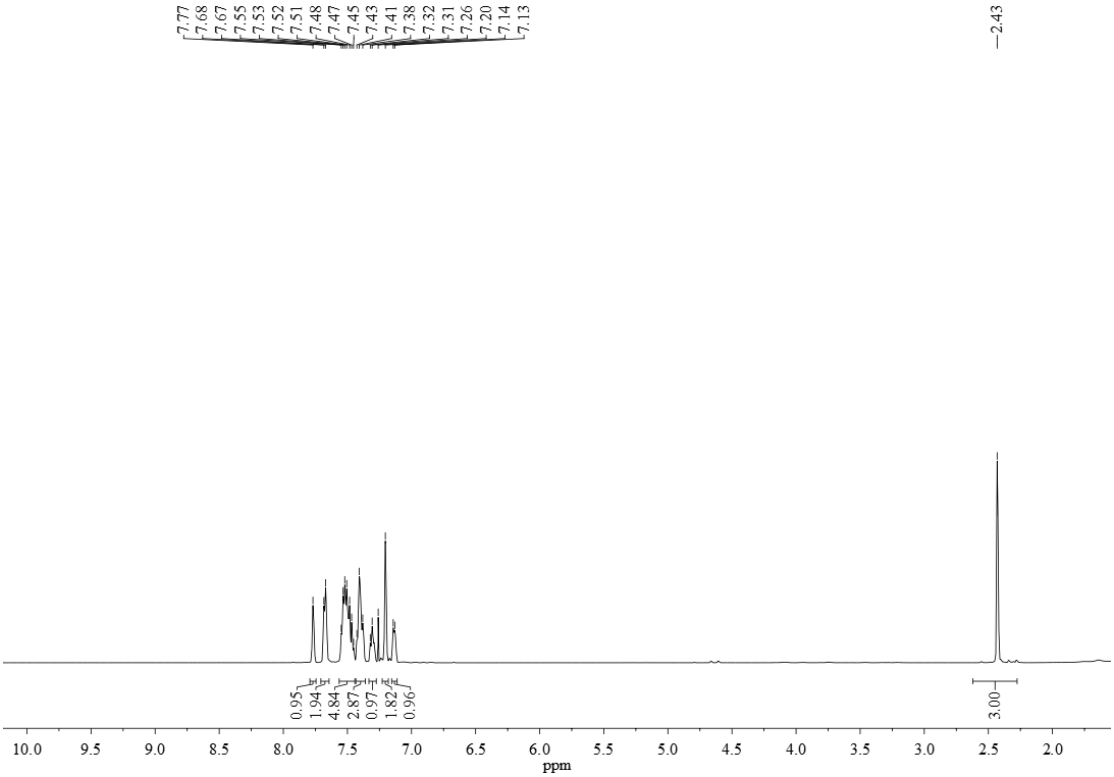
^{1}H NMR spectrum of *m*-PhSBOMe-*m*



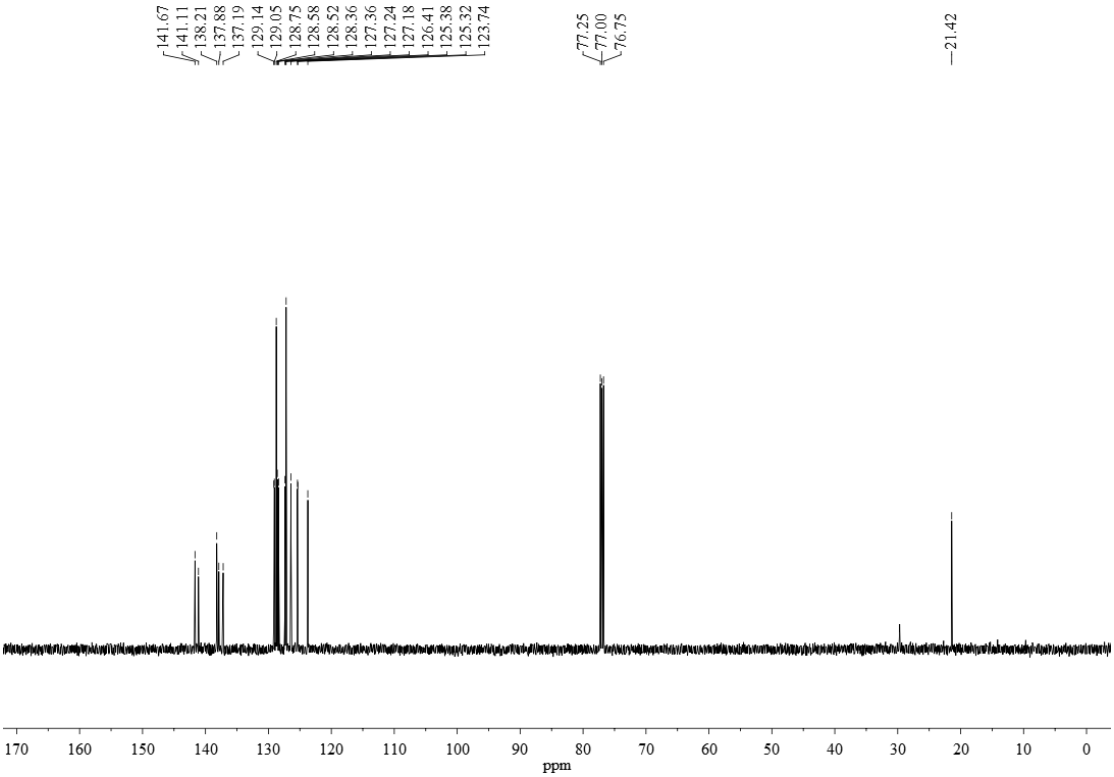
^{13}C NMR spectrum of *m*-PhSBOMe-*m*

3.64 *m*-PhSBMe-*m*



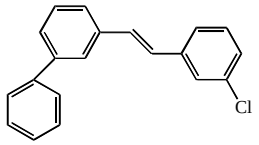


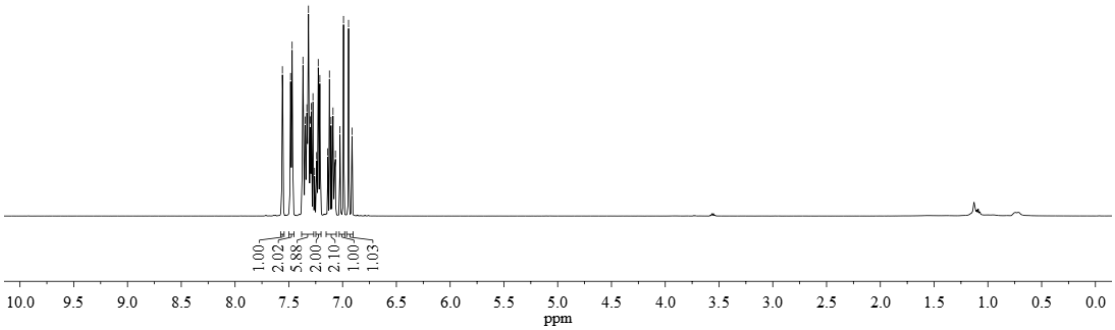
^{1}H NMR spectrum of *m*-PhSBMe-*m*



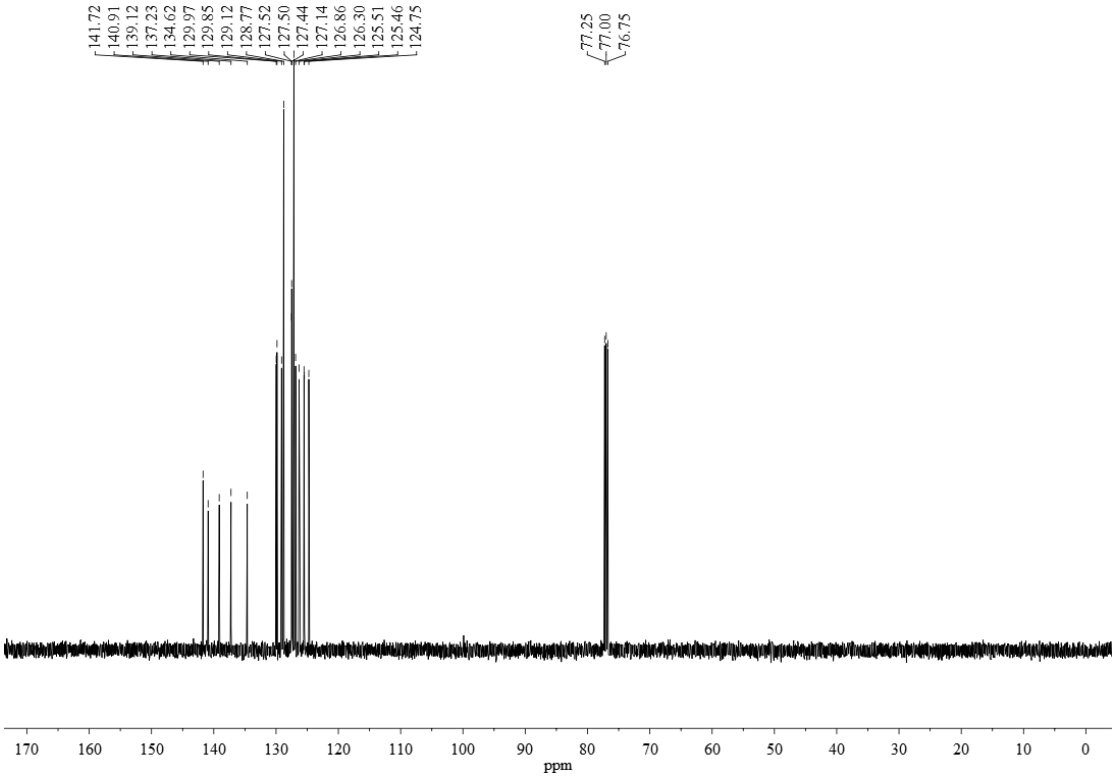
^{13}C NMR spectrum of *m*-PhSBMe-*m*

3.65 *m*-PhSBCl-*m*

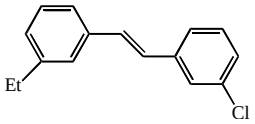




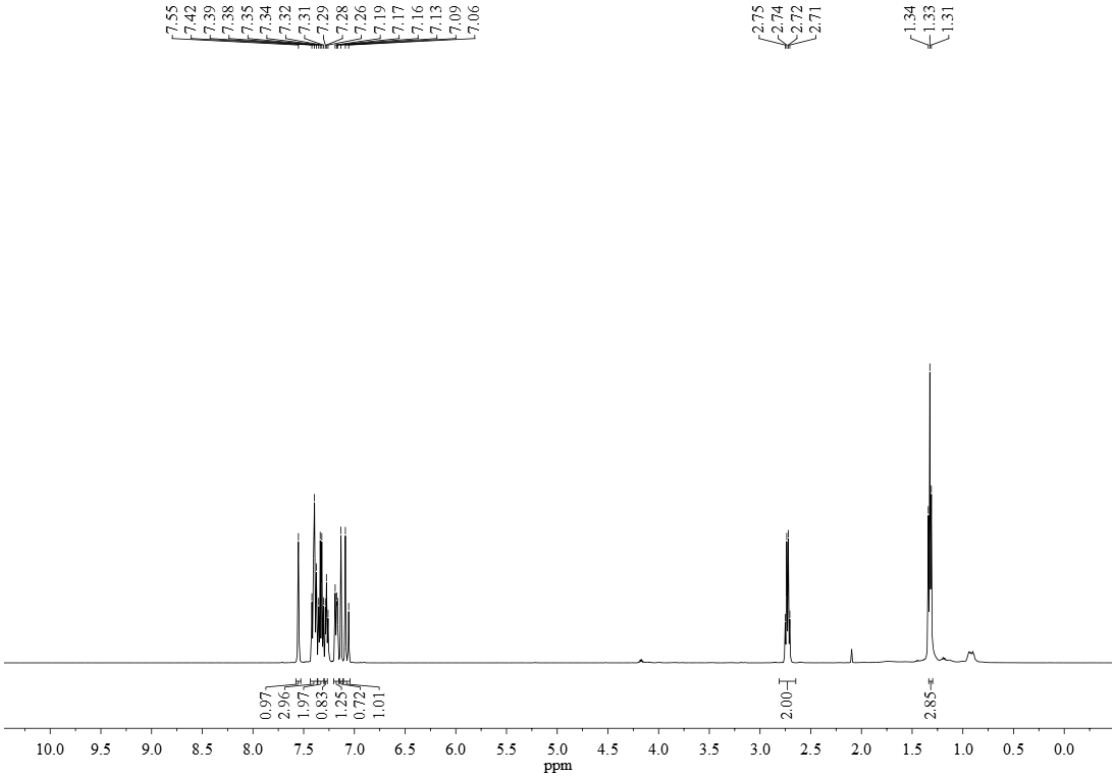
^{1}H NMR spectrum of *m*-PhSBCl-*m*



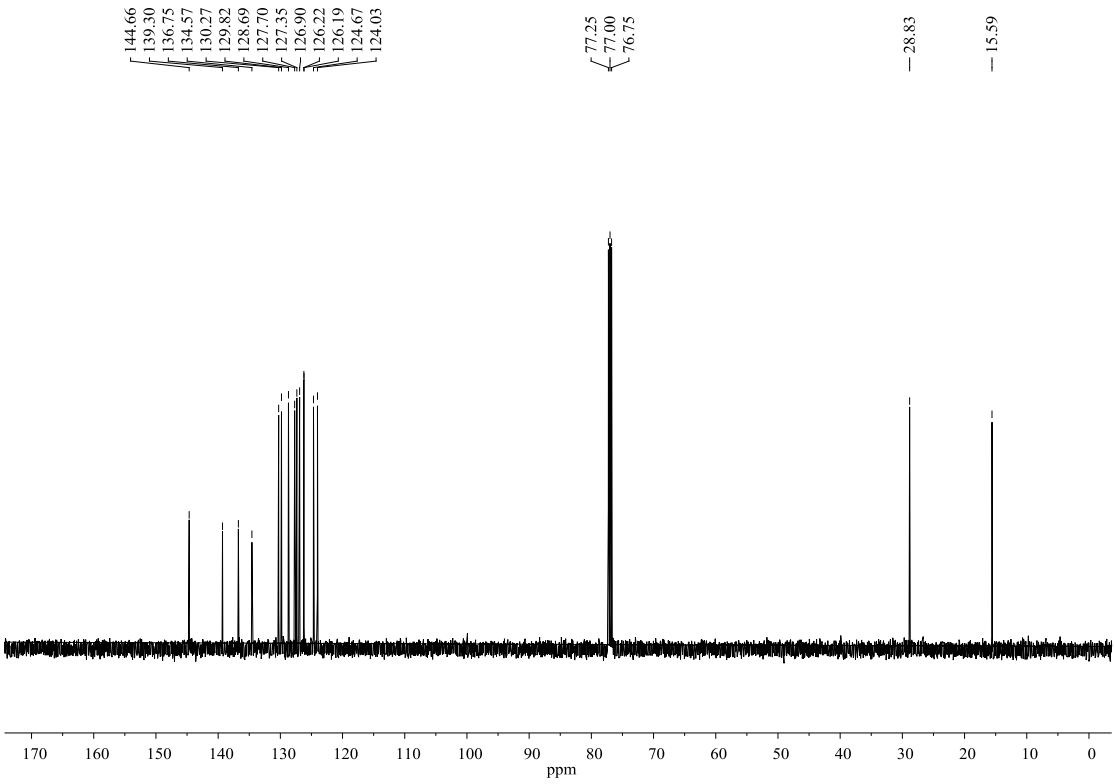
^{13}C NMR spectrum of *m*-PhSBCl-*m*



3.66 *m*-EtSBCl-*m*

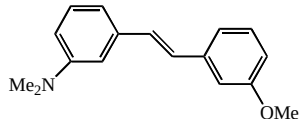


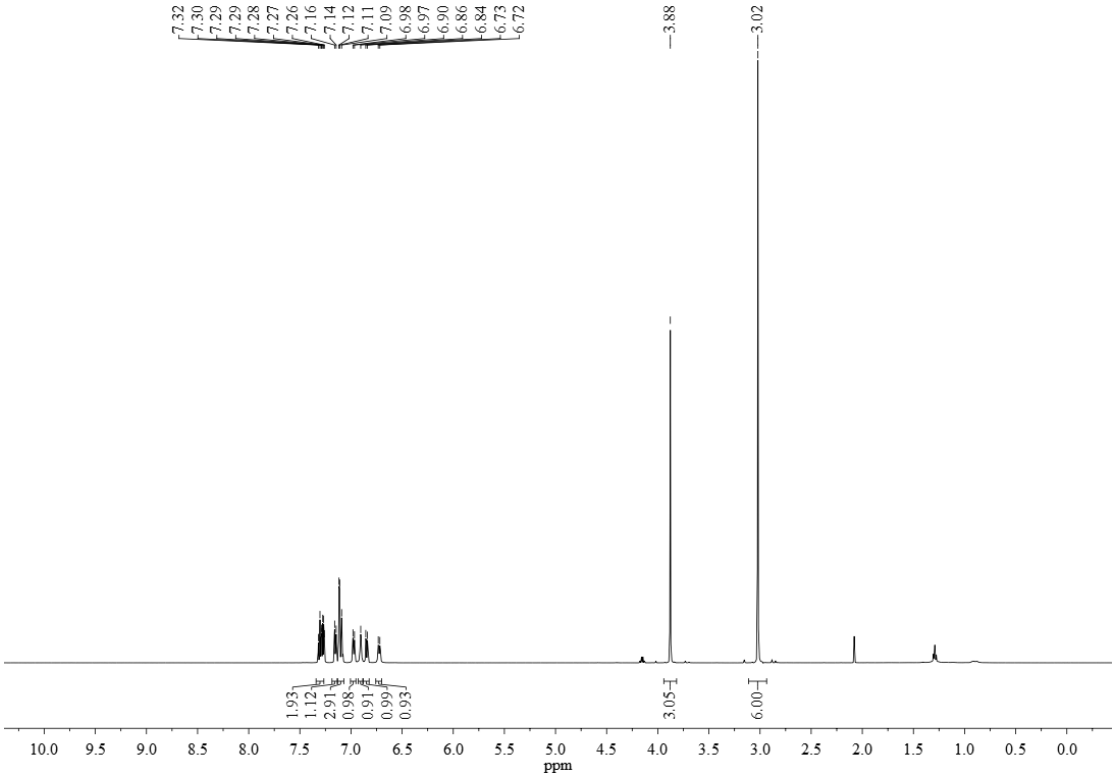
^{1}H NMR spectrum of *m*-EtSBCl-*m*



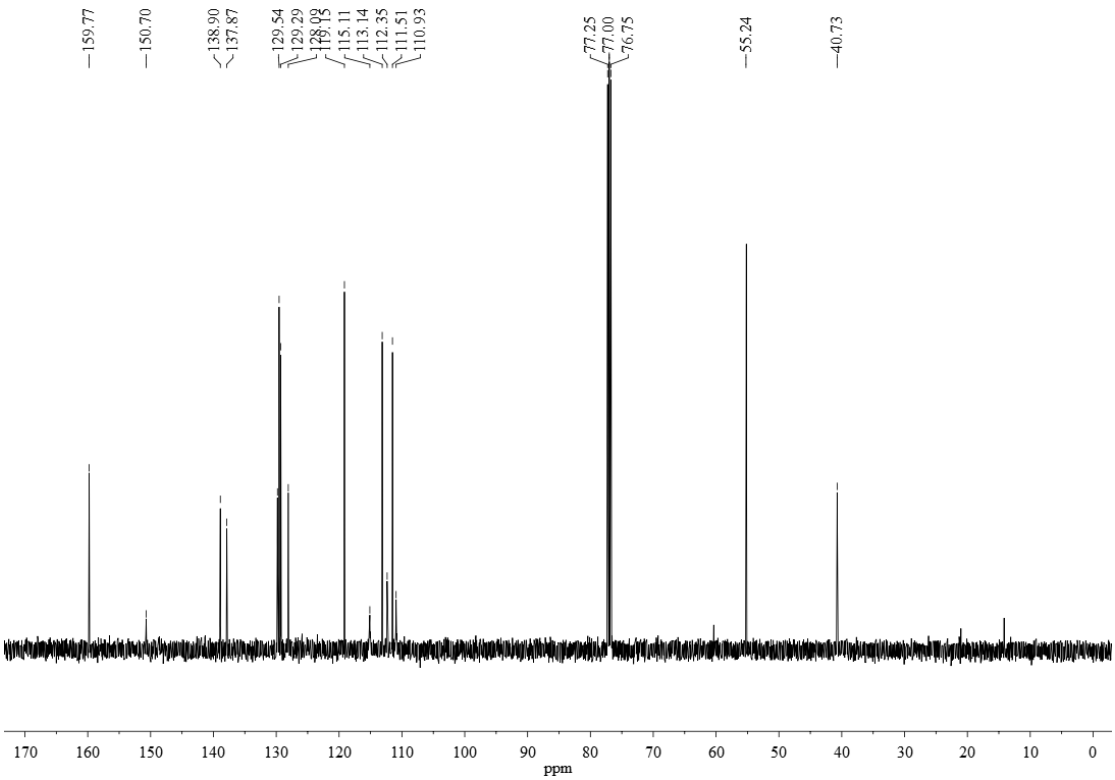
^{13}C NMR spectrum of *m*-EtSBCl-*m*

3.67 *m*-NMe$_2$SBOMe-*m*



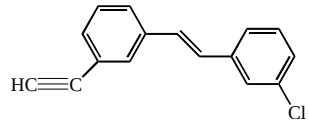


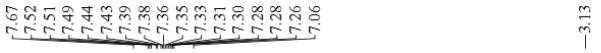
^{1}H NMR spectrum of *m*-NMe$_2$SBOMe-*m*

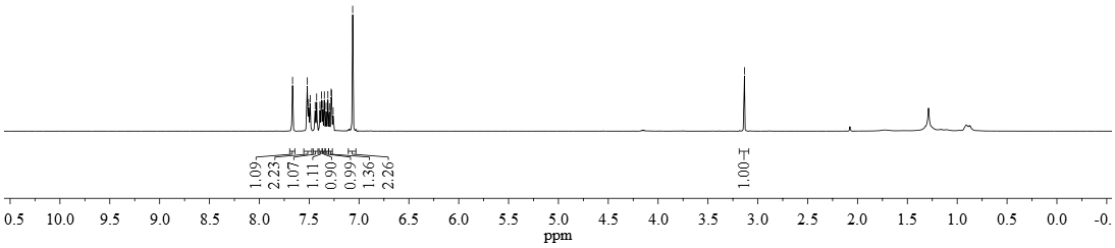


^{13}C NMR spectrum of *m*-NMe$_2$SBOMe-*m*

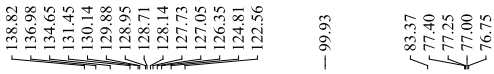
3.68 *m*-CCHSBCl-*m*

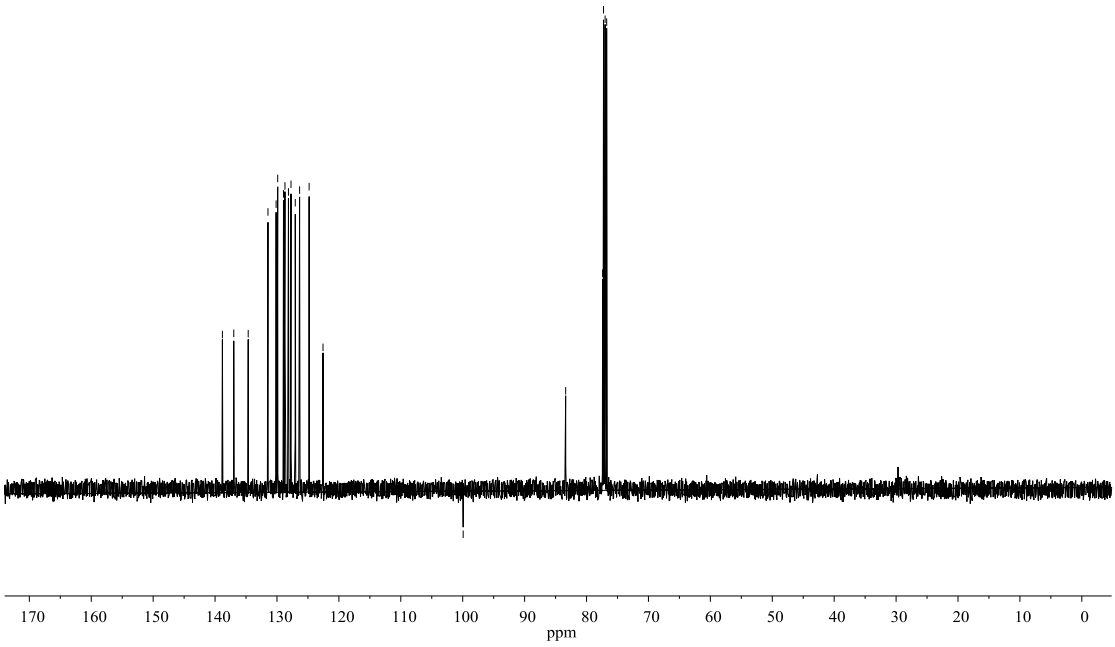






^{1}H NMR spectrum of *m*-CCHSBCl-*m*

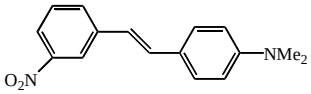


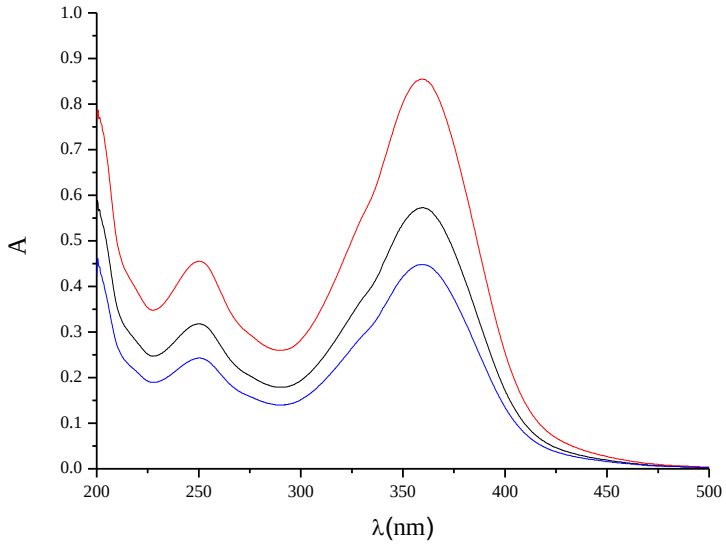


^{13}C NMR spectrum of *m*-CCHSBCl-*m*

4. 所有合成化合物的 UV 光谱图

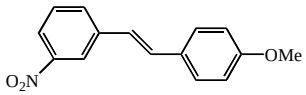
4.1 *m*-NO_2SBNMe_2-*p*

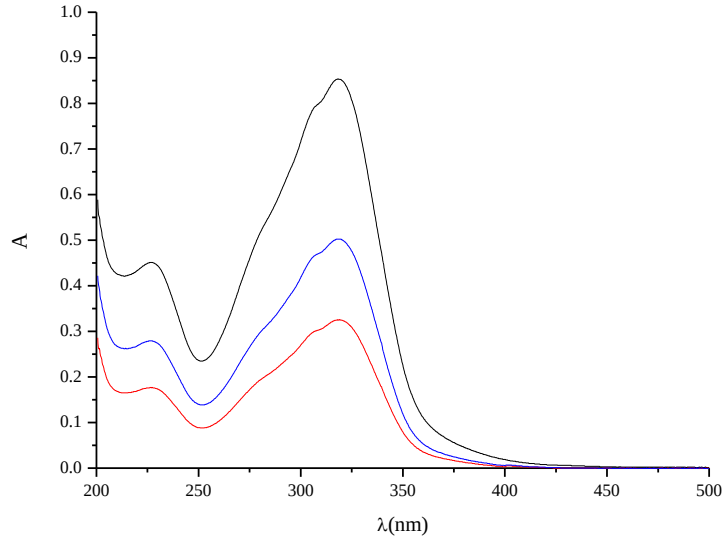




UV spectrum of *m*-NO_2SBNMe_2-*p*

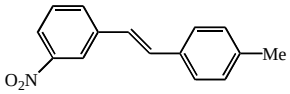
4.2 *m*-NO_2SBOMe-*p*

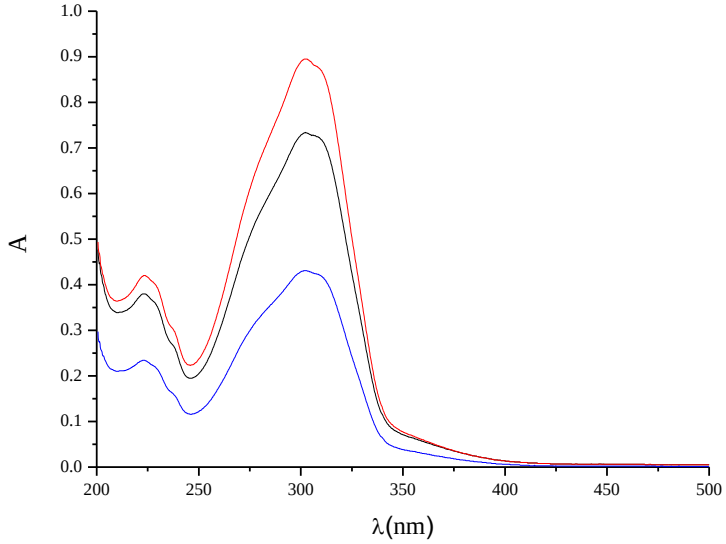




UV spectrum of *m*-NO_2SBOMe-*p*

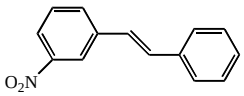
4.3 *m*-NO_2SBMe-*p*

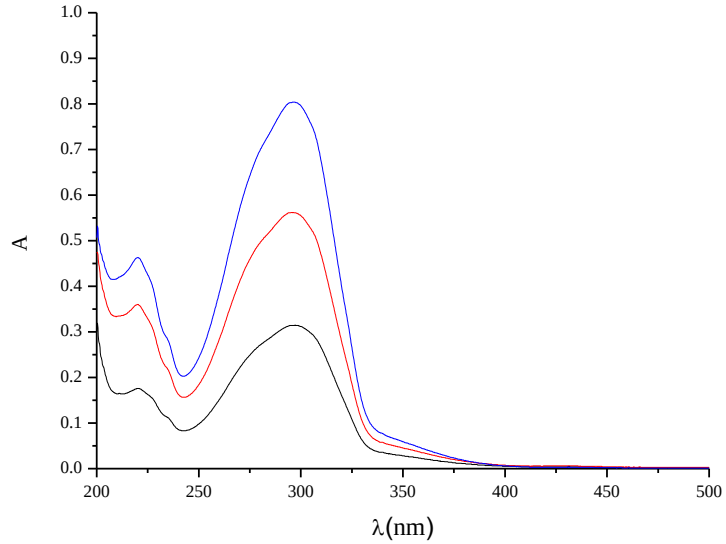




UV spectrum of *m*-NO_2SBMe-*p*

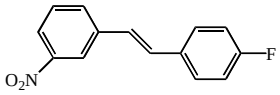
4.4 *m*-NO_2SBH

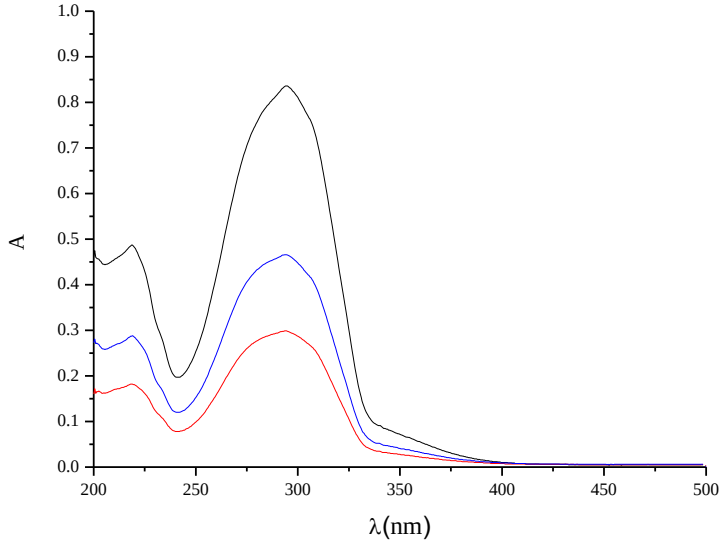




UV spectrum of *m*-NO_2SBH

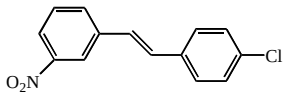
4.5 *m*-NO_2SBF-*p*

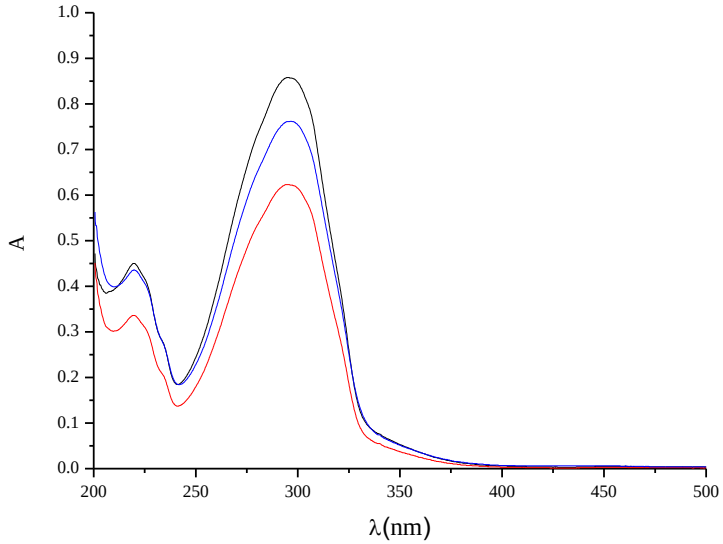




UV spectrum of *m*-NO_2SBF-*p*

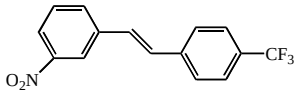
4.6 *m*-NO_2SBCl-*p*

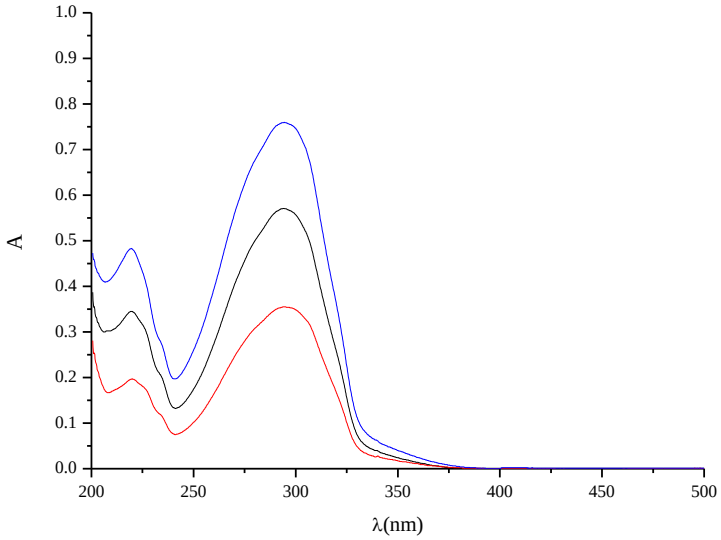




UV spectrum of *m*-NO_2SBCl-*p*

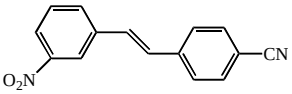
4.7 *m*-NO_2SBCF_3-*p*

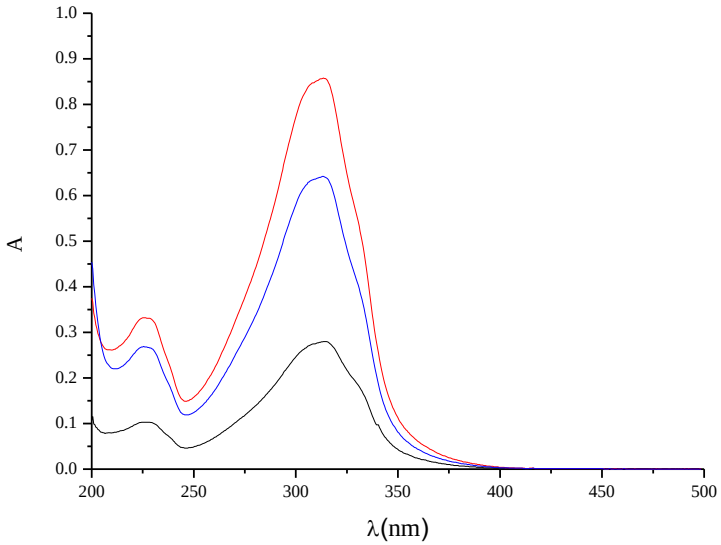




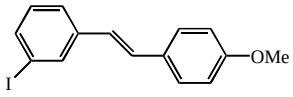
UV spectrum of *m*-NO_2SBCF_3-*p*

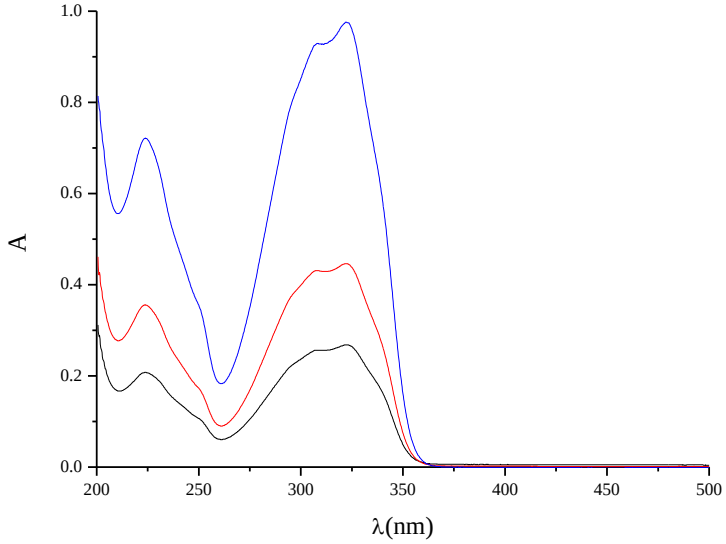
4.8 *m*-NO_2SBCN-*p*



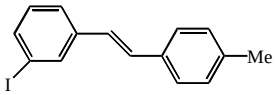


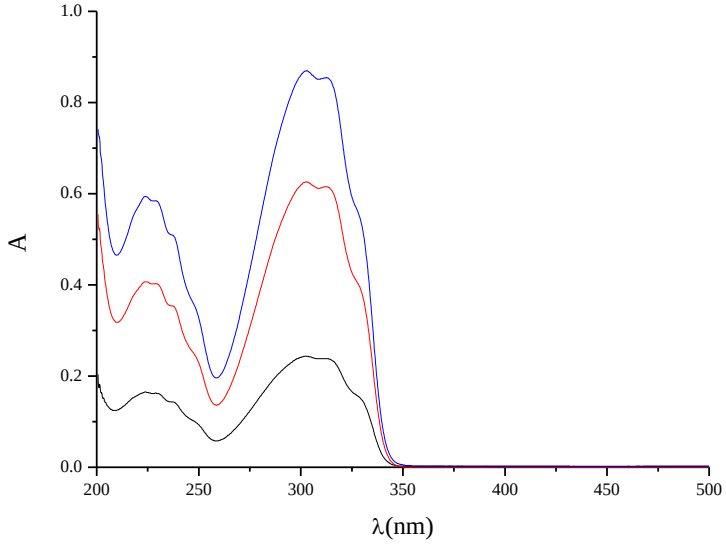
UV spectrum of *m*-NO_2SBCN-*p*

4.9 *m*-ISBOMe-*p* 



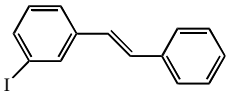
UV spectrum of *m*-ISBOMe-*p*

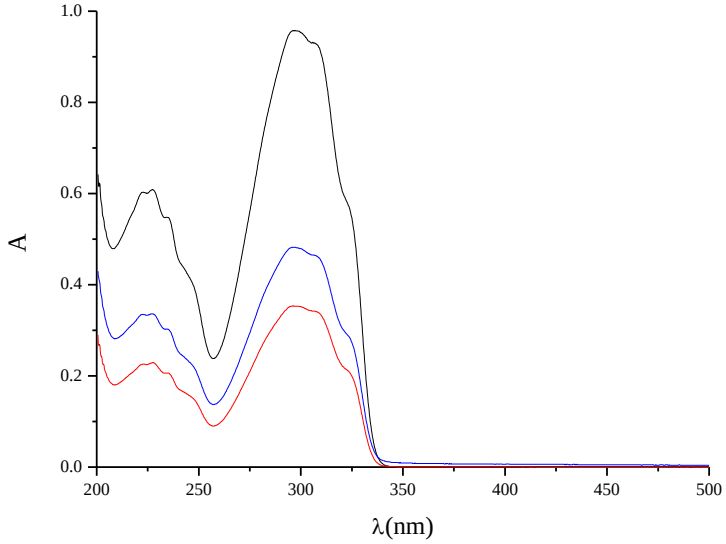
4.10 *m*-ISBMe-*p* 



UV spectrum of *m*-ISBMe-*p*

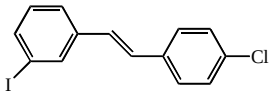
4.11 *m*-ISBH

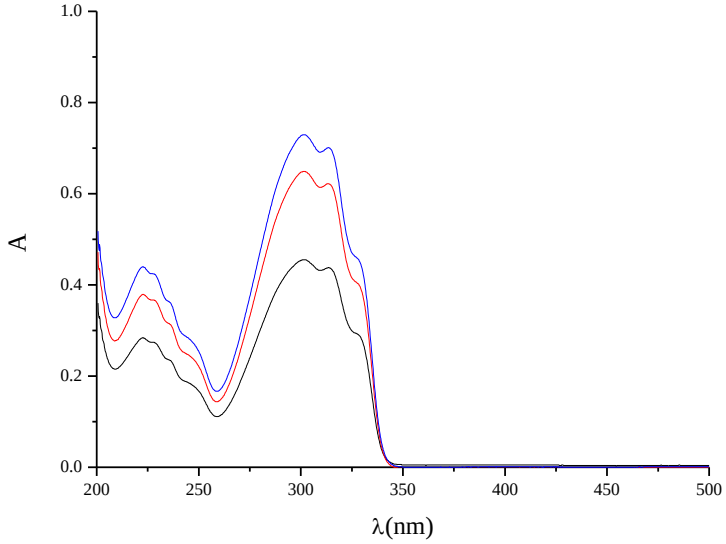




UV spectrum of *m*-ISBH

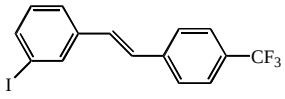
4.12 *m*-ISBCl-*p*

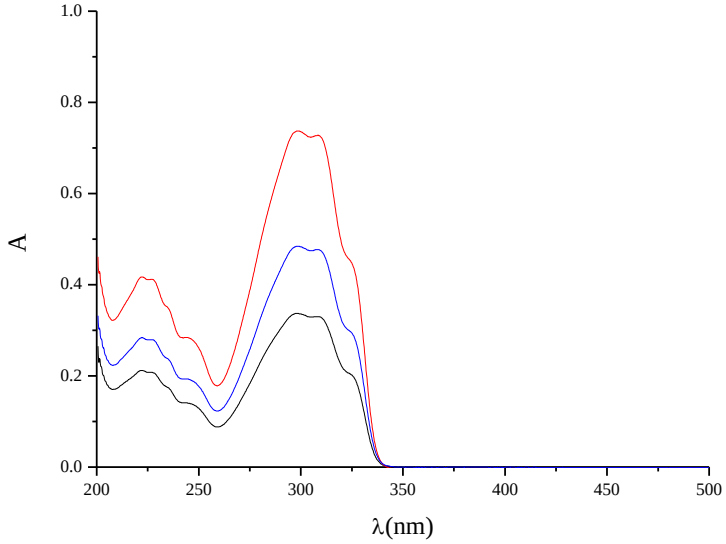




UV spectrum of *m*-ISBCl-*p*

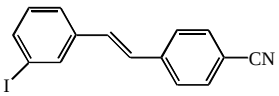
4.13 *m*-ISBCF$_3$-*p*

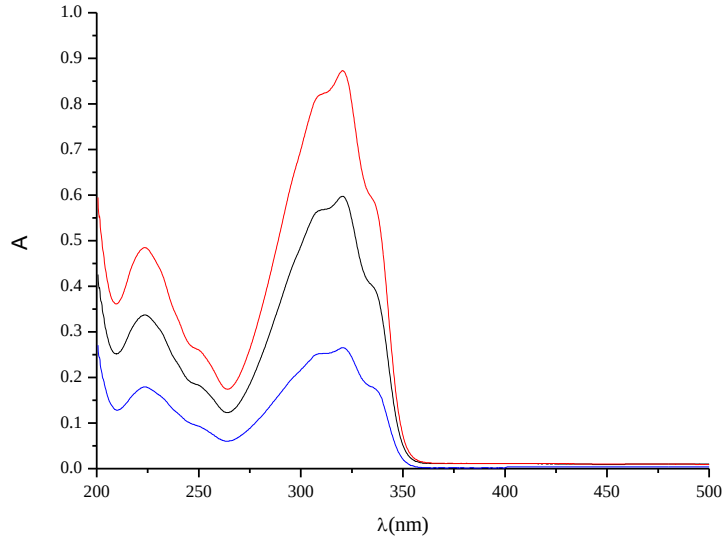




UV spectrum of *m*-ISBCF$_3$-*p*

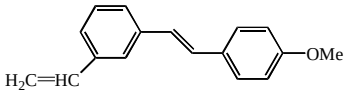
4.14 *m*-ISBCN-*p*

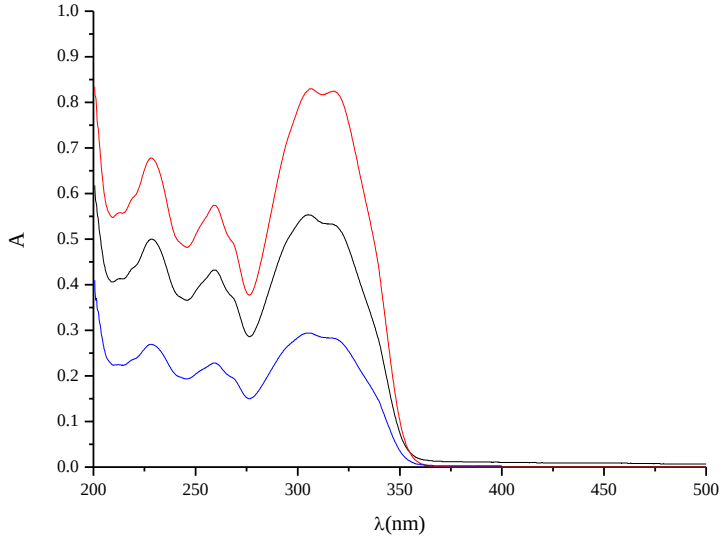




UV spectrum of *m*-ISBCN-*p*

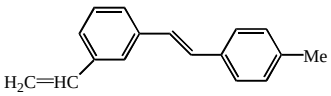
4.15 *m*-CH=CH$_2$SBOMe-*p*

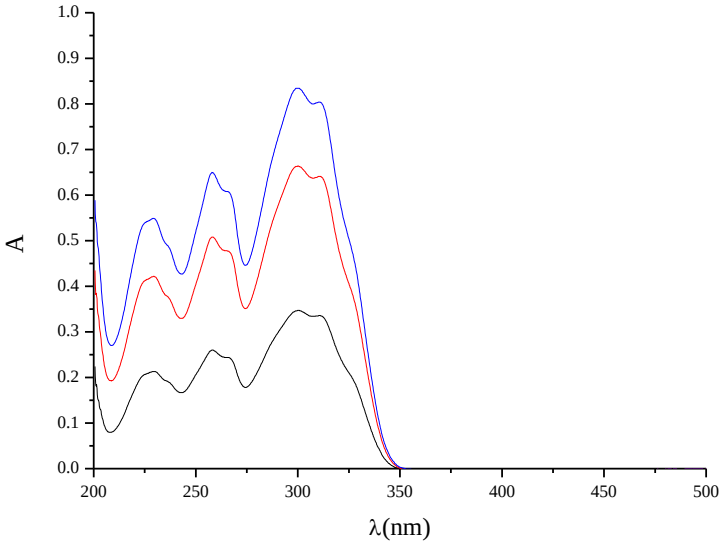




UV spectrum of *m*-CH=CH$_2$SBOMe-*p*

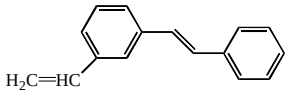
4.16 *m*-CH=CH$_2$SBMe-*p*

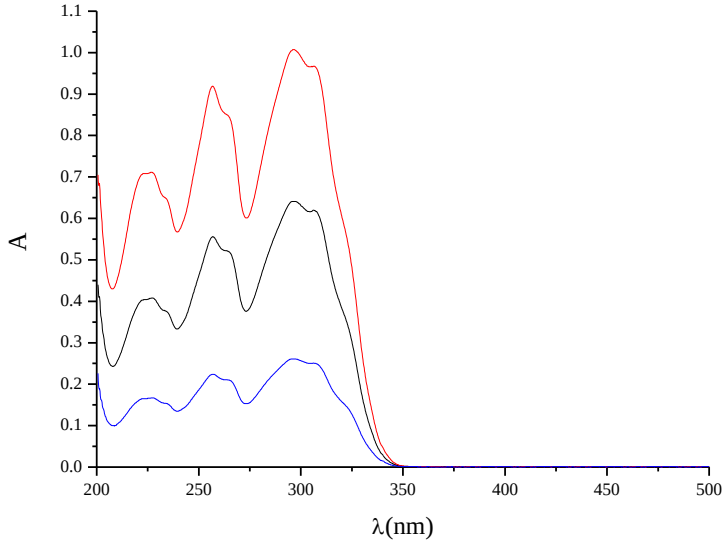




UV spectrum of *m*-CH=CH$_2$SBMe-*p*

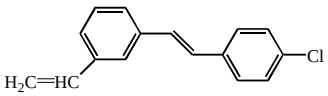
4.17 *m*-CH=CH$_2$SBH

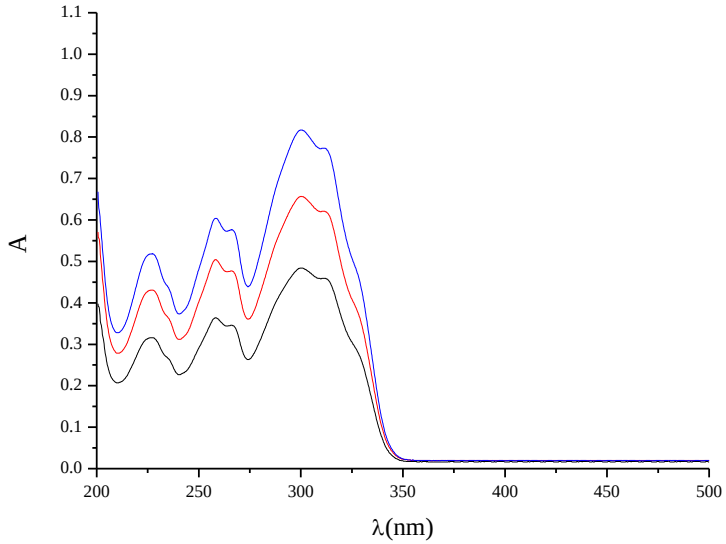




UV spectrum of *m*-CH=CH$_2$SBH

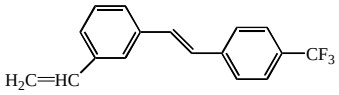
4.18 *m*-CH=CH$_2$SBCl-*p*

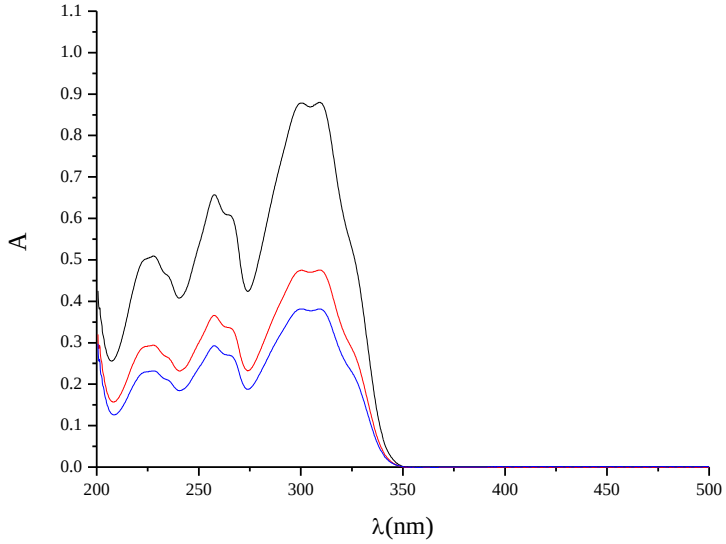




UV spectrum of *m*-CH=CH$_2$SBCl-*p*

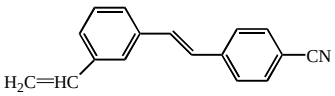
4.19 *m*-CH=CH$_2$SBCF$_3$-*p*

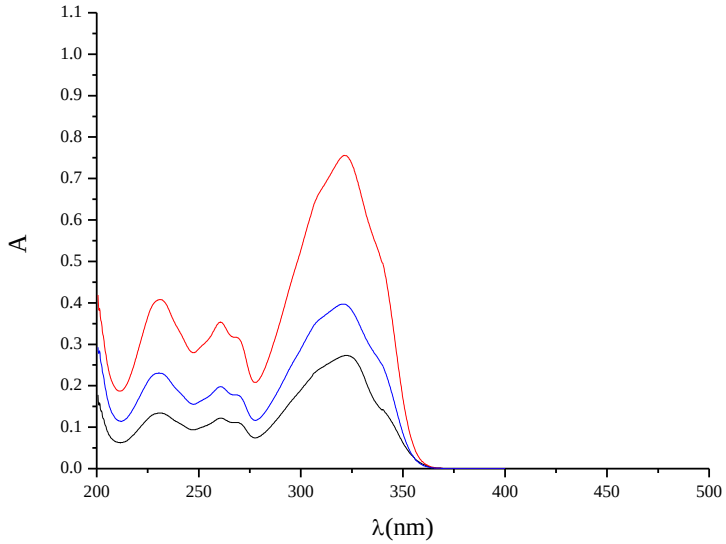




UV spectrum of *m*-CH=CH$_2$SBCF$_3$-*p*

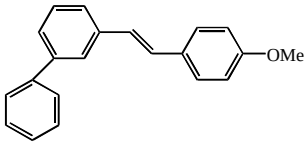
4.20 *m*-CH=CH$_2$SBCN-*p*

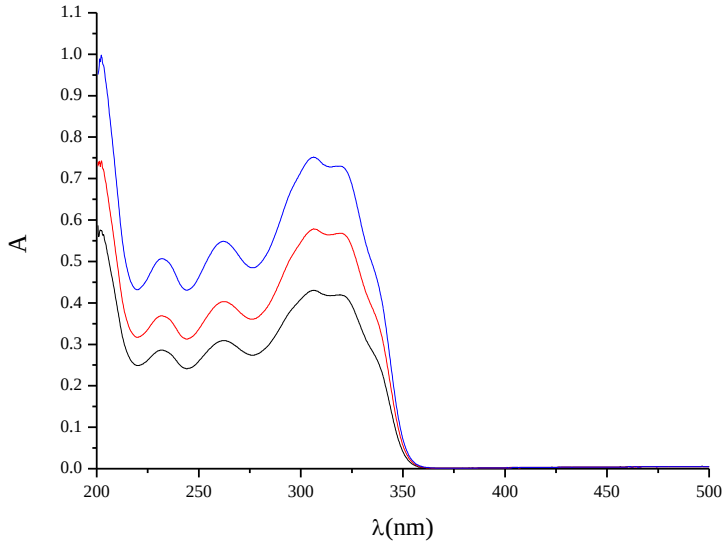




UV spectrum of *m*-CH=CH$_2$SBCN-*p*

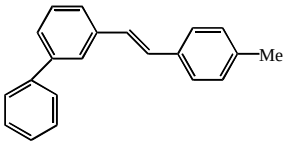
4.21 *m*-PhSBOMe-*p*

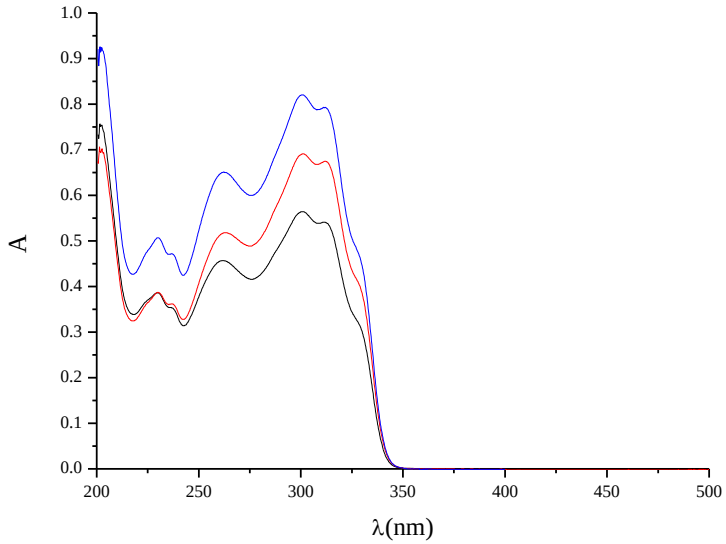




UV spectrum of *m*-PhSBOMe-*p*

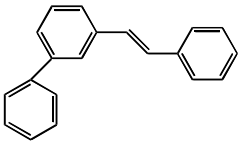
4.22 *m*-PhSBMe-*p*

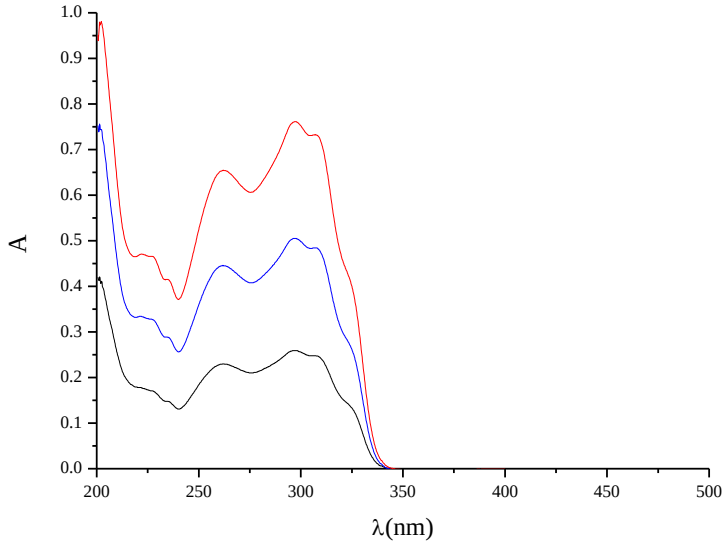




UV spectrum of *m*-PhSBMe-*p*

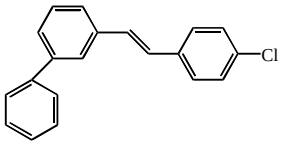
4.23 *m*-PhSBH

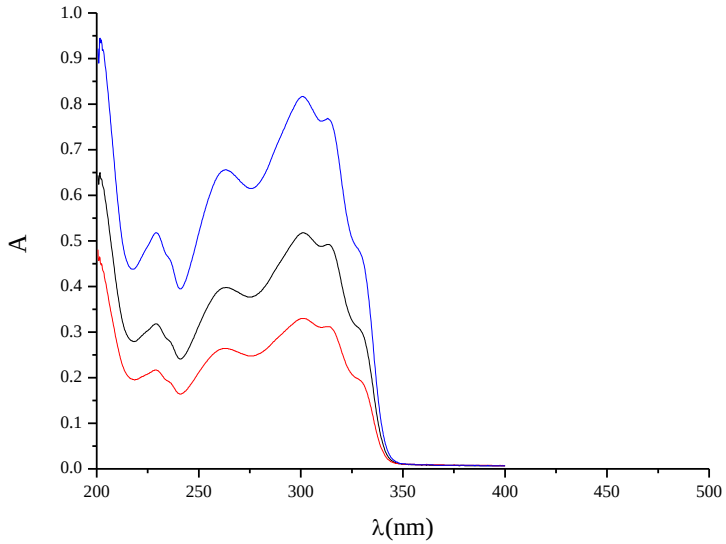




UV spectrum of *m*-PhSBH

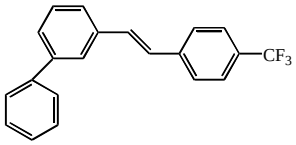
4.24 *m*-PhSBCl-*p*

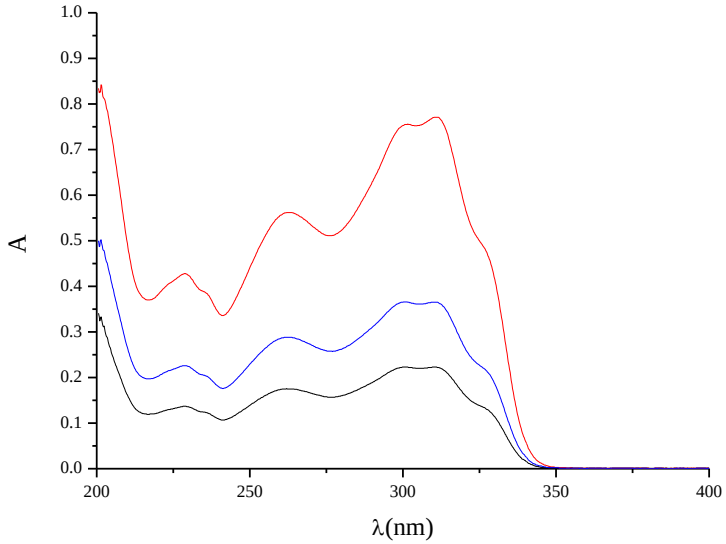




UV spectrum of *m*-PhSBCl-*p*

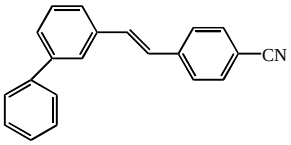
4.25 *m*-PhSBCF$_3$-*p*

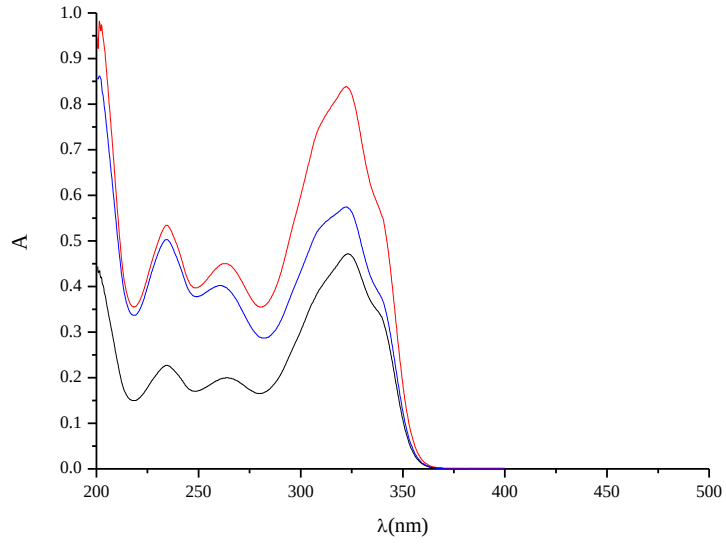




UV spectrum of *m*-PhSBCF$_3$-*p*

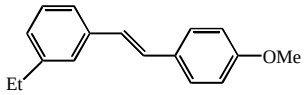
4.26 *m*-PhSBCN-*p*

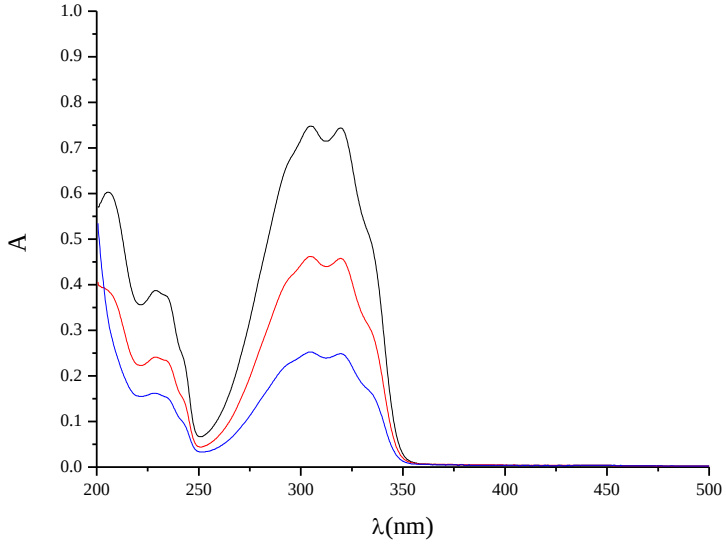




UV spectrum of *m*-PhSBCN-*p*

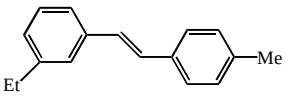
4.27 *m*-EtSBOMe-*p*

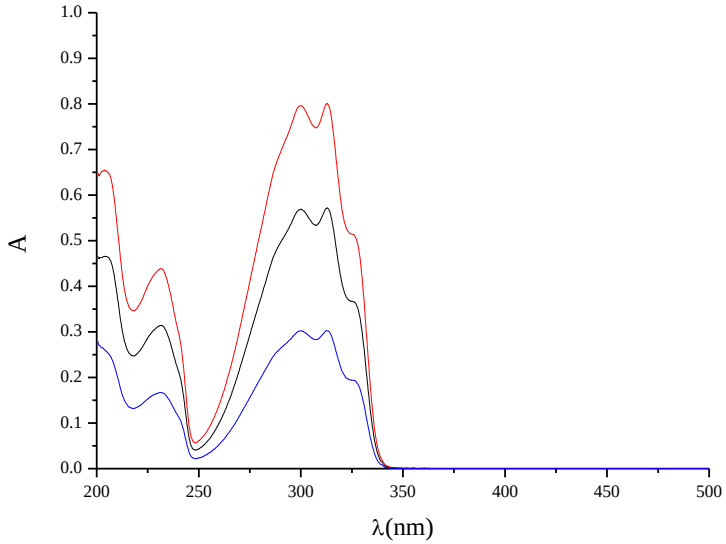




UV spectrum of *m*-EtSBOMe-*p*

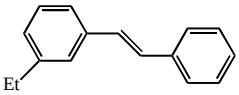
4.28 *m*-EtSBMe-*p*

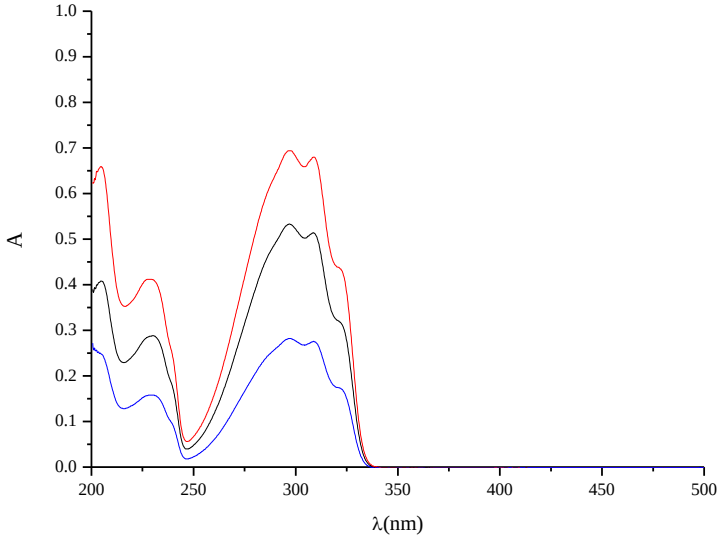




UV spectrum of *m*-EtSBMe-*p*

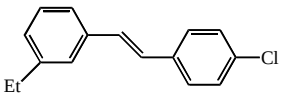
4.29 *m*-EtSBH

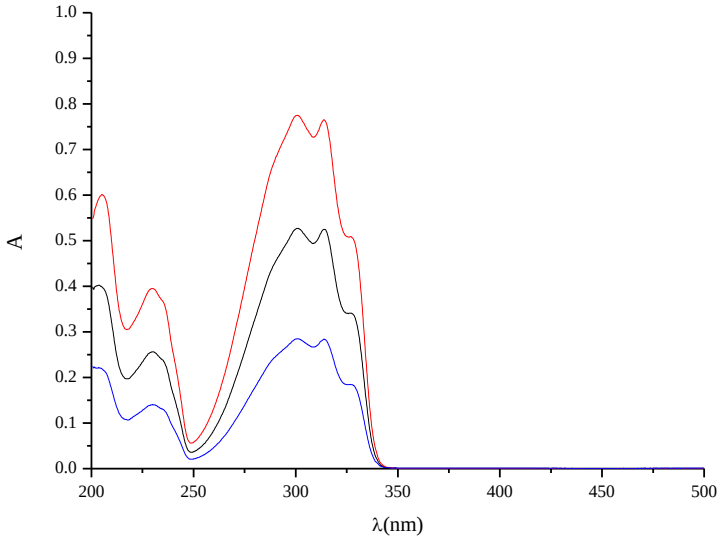




UV spectrum of *m*-EtSBH

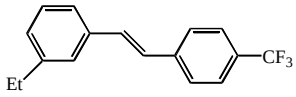
4.30 *m*-EtSBCl-*p*

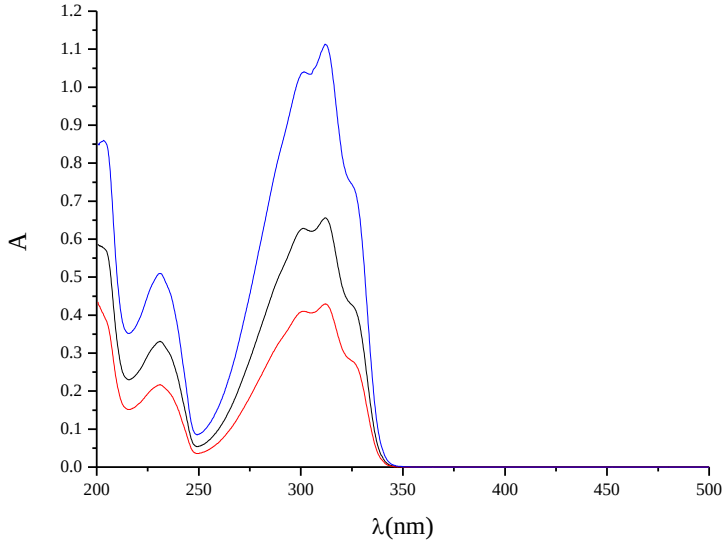




UV spectrum of *m*-EtSBCl-*p*

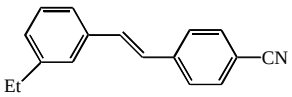
4.31 *m*-EtSBCF$_3$-*p*

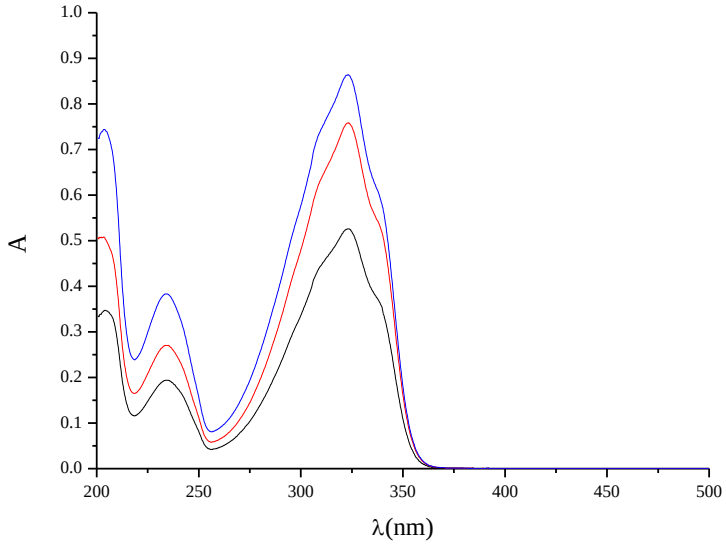




UV spectrum of *m*-EtSBCF$_3$-*p*

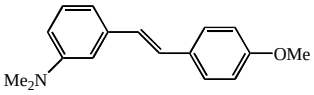
4.32 *m*-EtSBCN-*p*

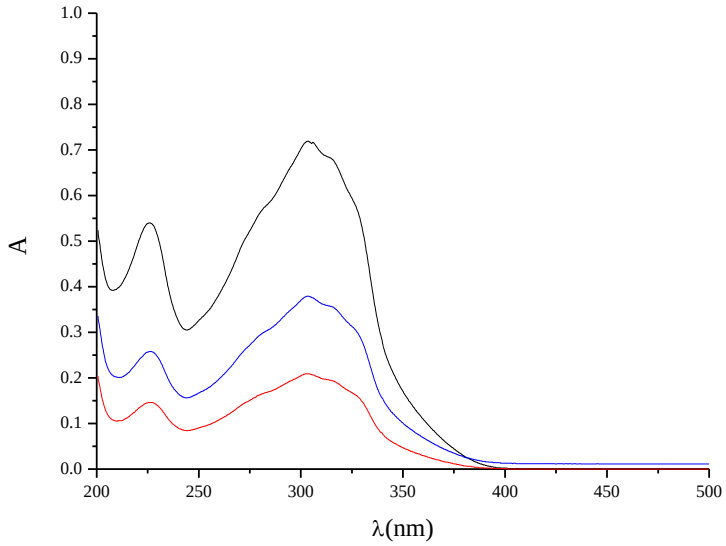




UV spectrum of *m*-EtSBCN-*p*

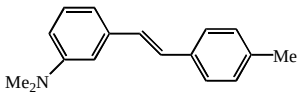
4.33 *m*-NMe_2SBOMe-*p*

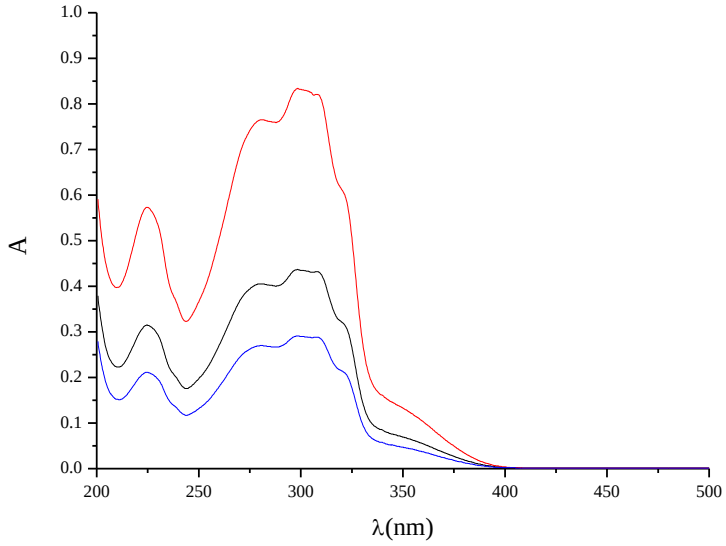




UV spectrum of *m*-NMe_2SBOMe-*p*

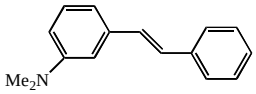
4.34 *m*-NMe_2SBMe-*p*

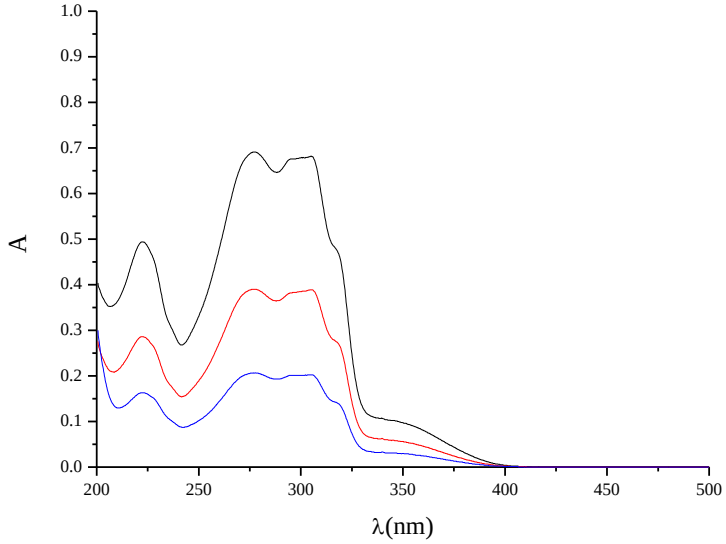




UV spectrum of *m*-NMe_2SBMe-*p*

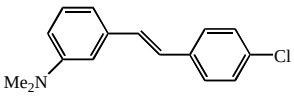
4.35 *m*-NMe_2SBH

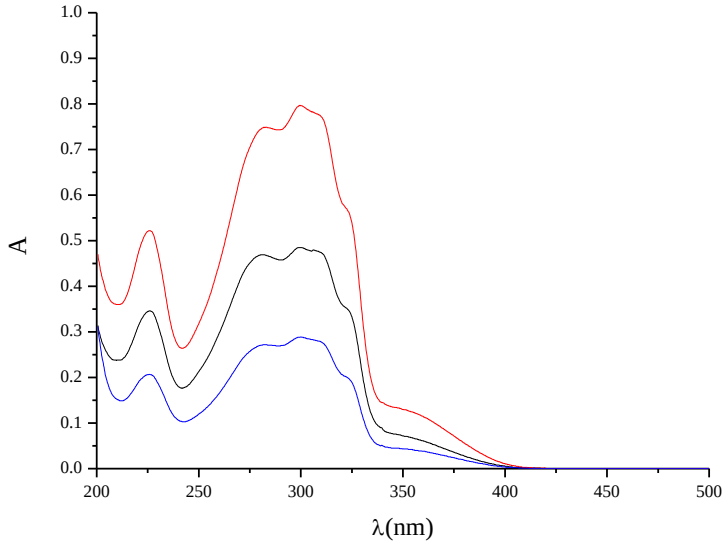




UV spectrum of *m*-NMe_2SBH

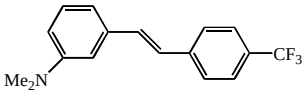
4.36 *m*-NMe_2SBCl-*p*

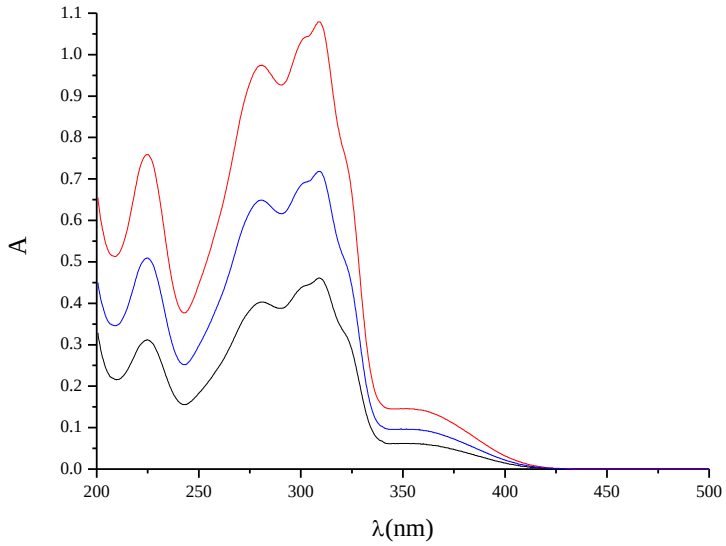




UV spectrum of *m*-NMe_2SBCl-*p*

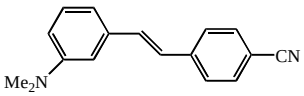
4.37 *m*-NMe_2SBCF_3-*p*

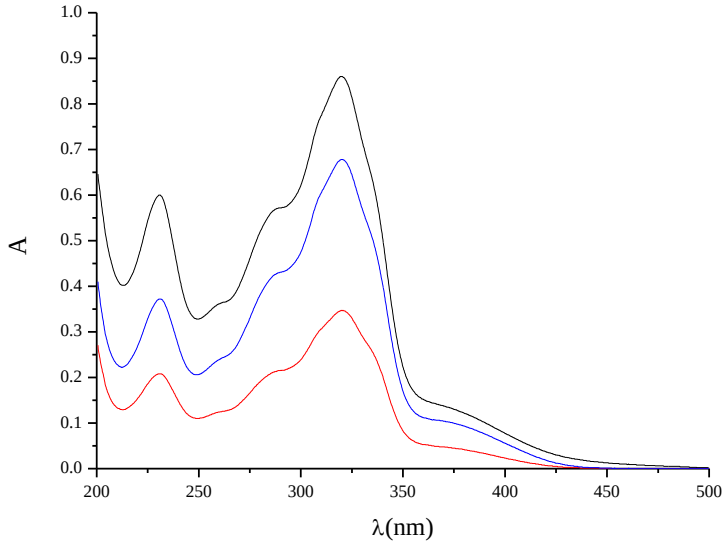




UV spectrum of *m*-NMe_2SBCF_3-*p*

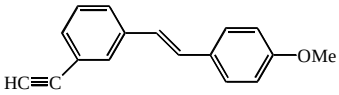
4.38 *m*-NMe_2SBCN-*p*

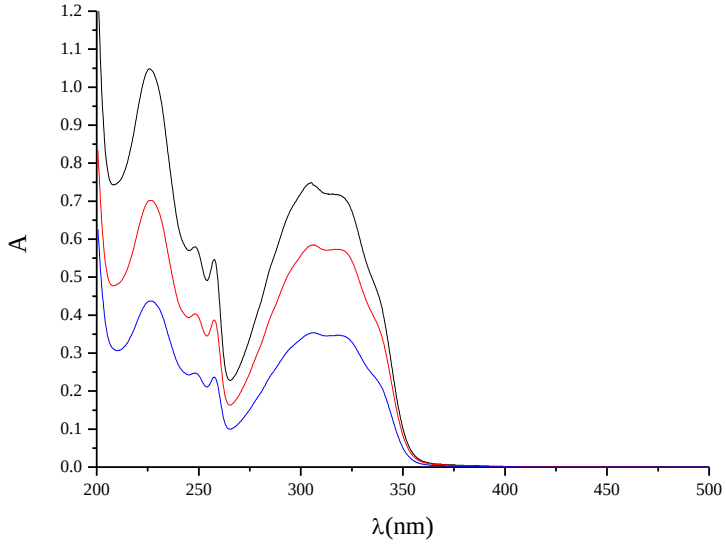




UV spectrum of *m*-NMe_2SBCN-*p*

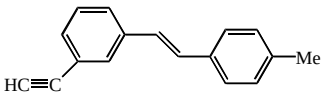
4.39 *m*-CCHSBOMe-*p*

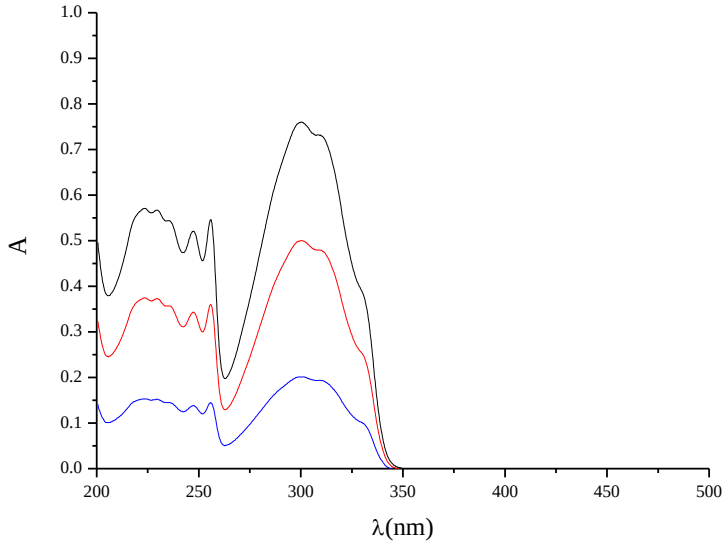




UV spectrum of *m*-CCHSBOMe-*p*

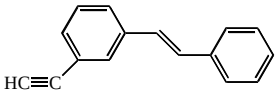
4.40 *m*-CCHSBMe-*p*

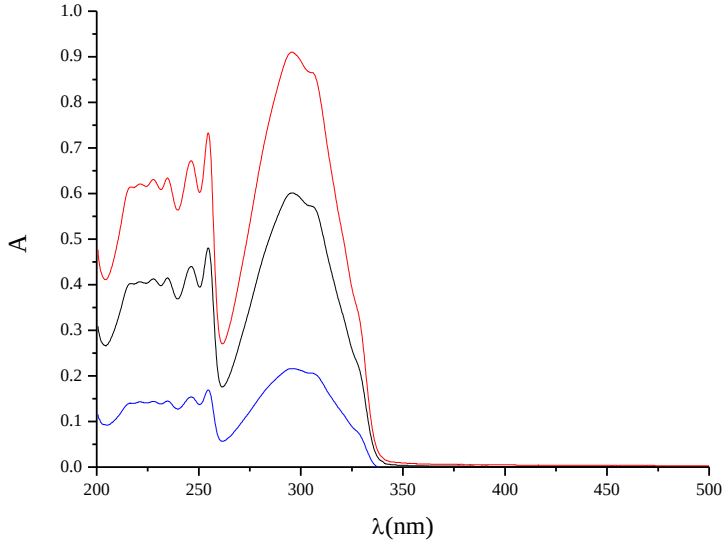




UV spectrum of *m*-CCHSBMe-*p*

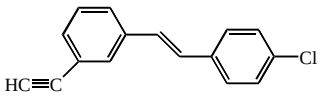
4.41 *m*-CCHSBH

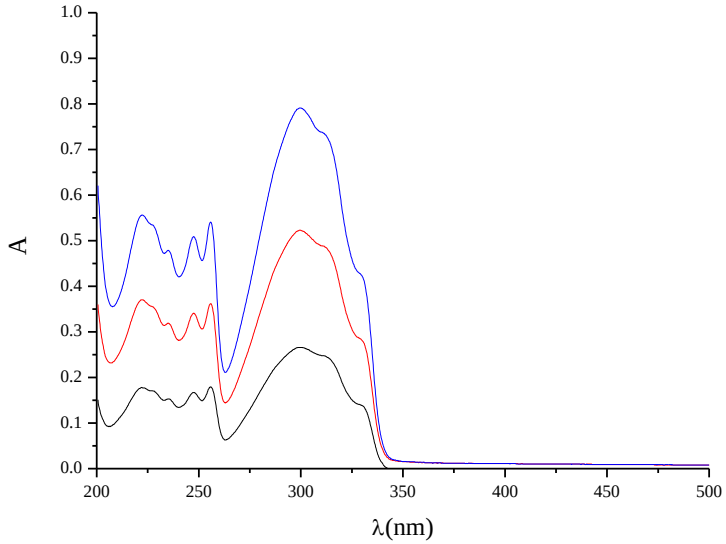




UV spectrum of *m*-CCHSBH

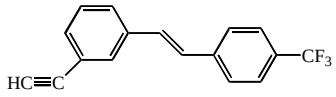
4.42 *m*-CCHSBCl-*p*

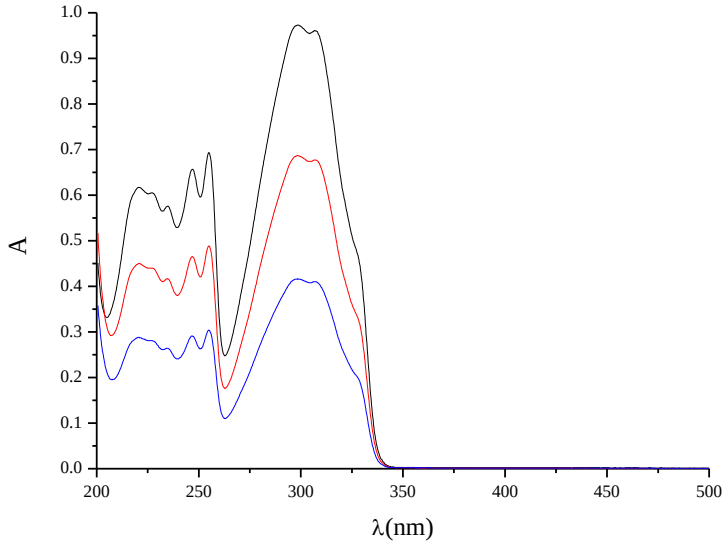




UV spectrum of *m*-CCHSBCl-*p*

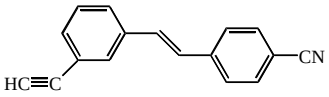
4.43 *m*-CCHSBCF$_3$-*p*

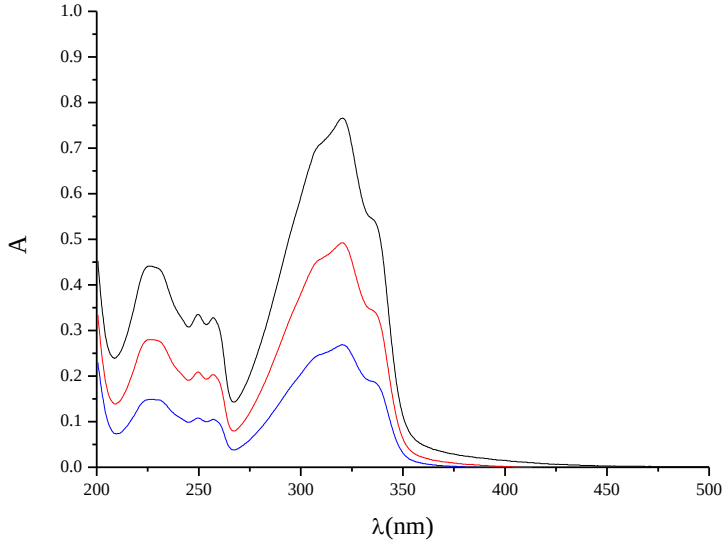




UV spectrum of *m*-CCHSBCF$_3$-*p*

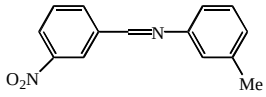
4.44 *m*-CCHSBCN-*p*

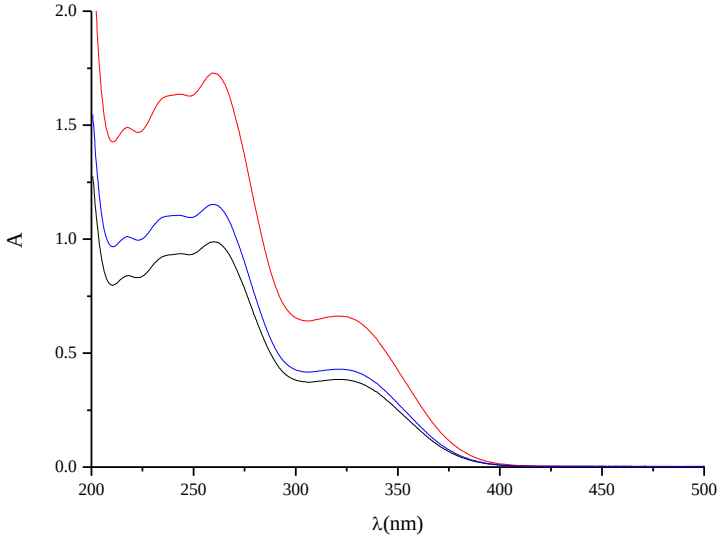




UV spectrum of *m*-CCHSBCN-*p*

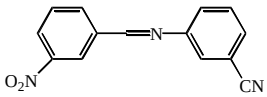
4.45 *m*-NO_2BAMe-*m*

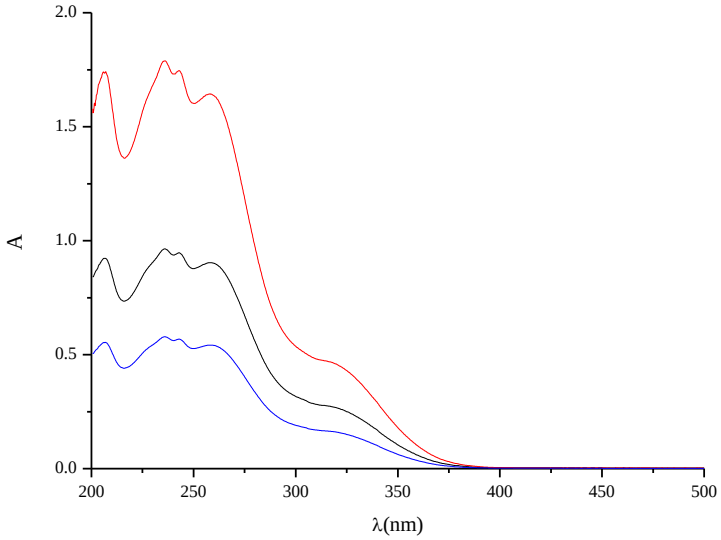




UV spectrum of *m*-NO_2BAMe-*m*

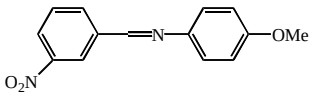
3.46 *m*-NO_2BACN-*m*

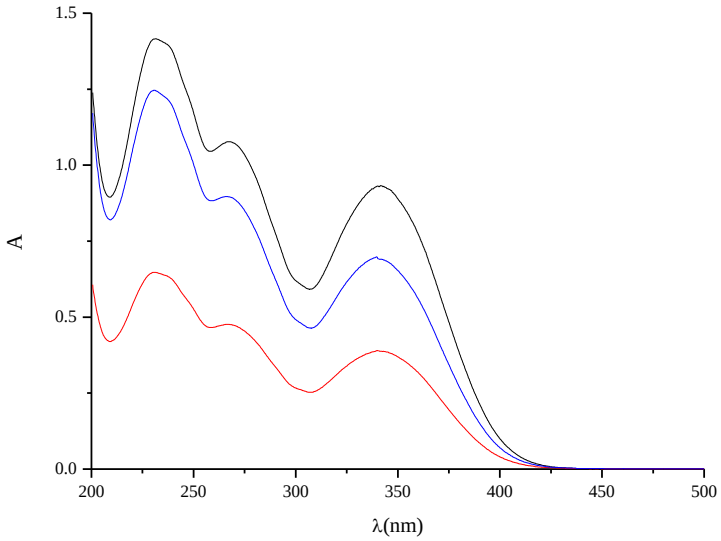




UV spectrum of *m*-NO_2BACN-*m*

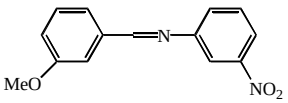
3.47 *m*-NO_2BAOMe-*p*

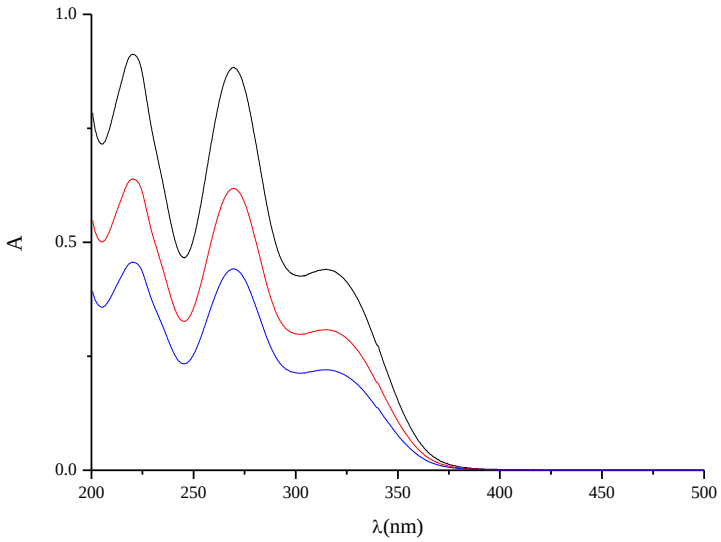




UV spectrum of *m*-NO_2BAOMe-*p*

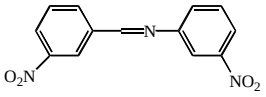
3.48 *m*-OMeBANO_2-*m*

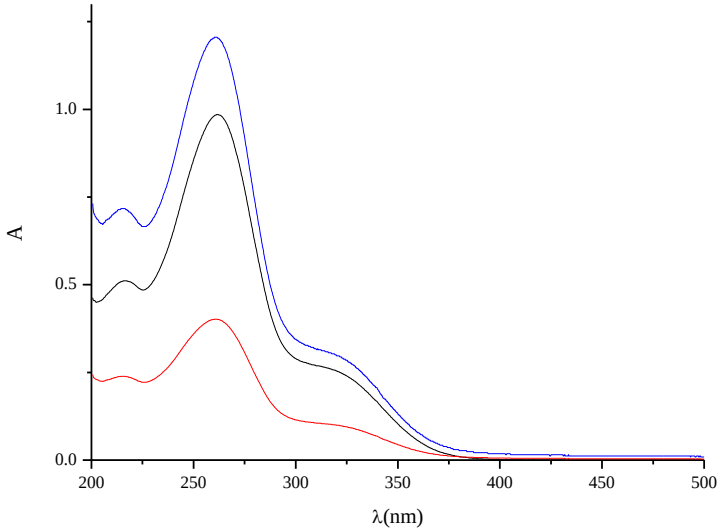




UV spectrum of *m*-OMeBANO_2-*m*

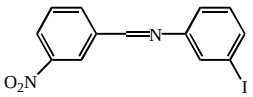
3.49 *m*-NO_2BANO_2-*m*

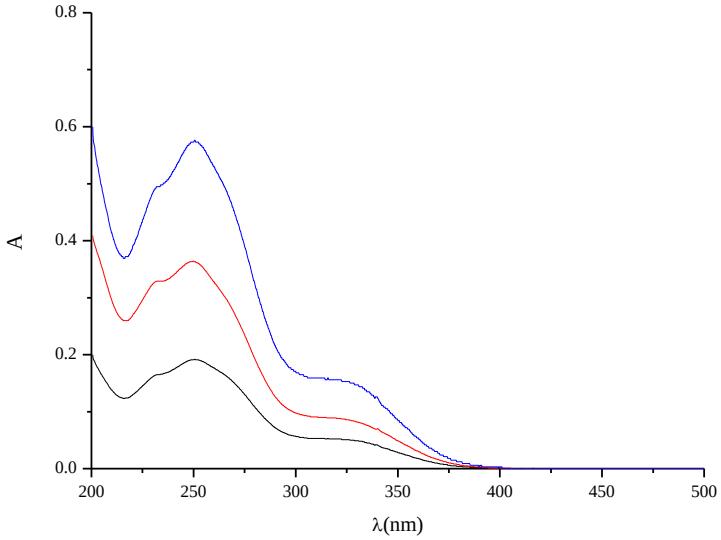




UV spectrum of *m*-NO_2BANO_2-*m*

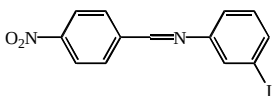
3.50 *m*- NO_2BAI-*m*

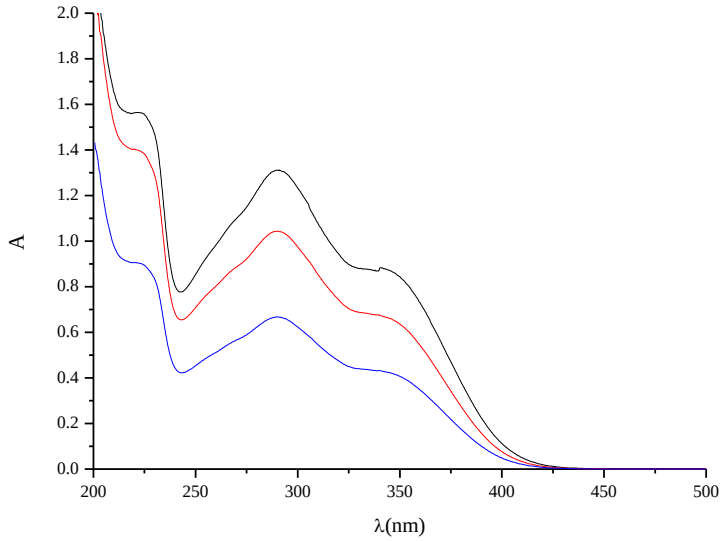




UV spectrum of *m*-NO_2BAI-*m*

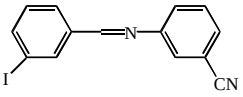
3.51 *p*- NO_2BAI-*m*

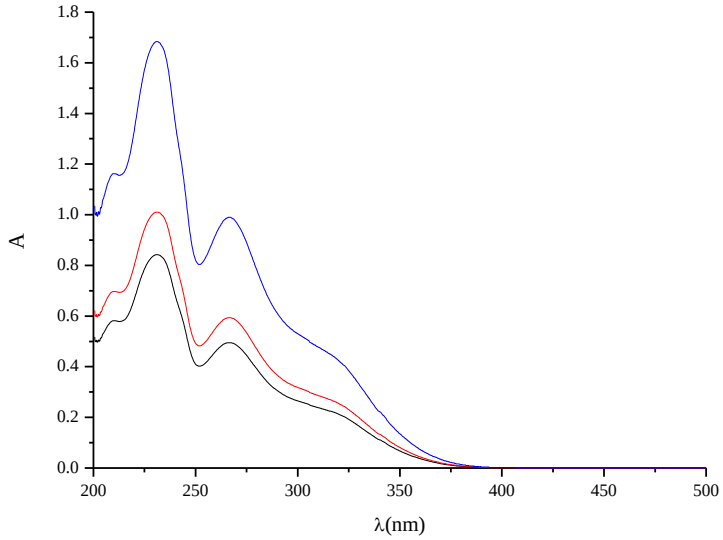




UV spectrum of *p*-NO_2BAI-*m*

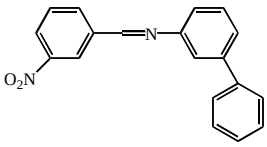
3.52 *m*- IBACN-*m*

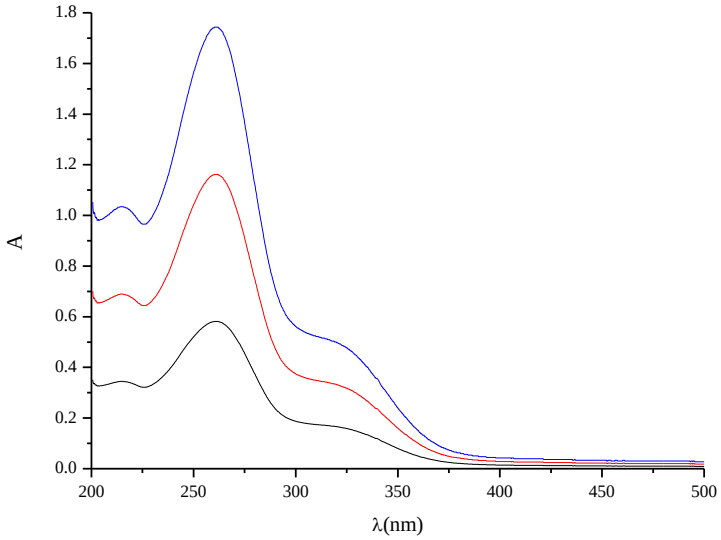




UV spectrum of *m*-IBACN-*m*

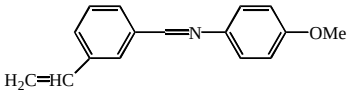
3.53 *m*- NO_2BAPh-*m*

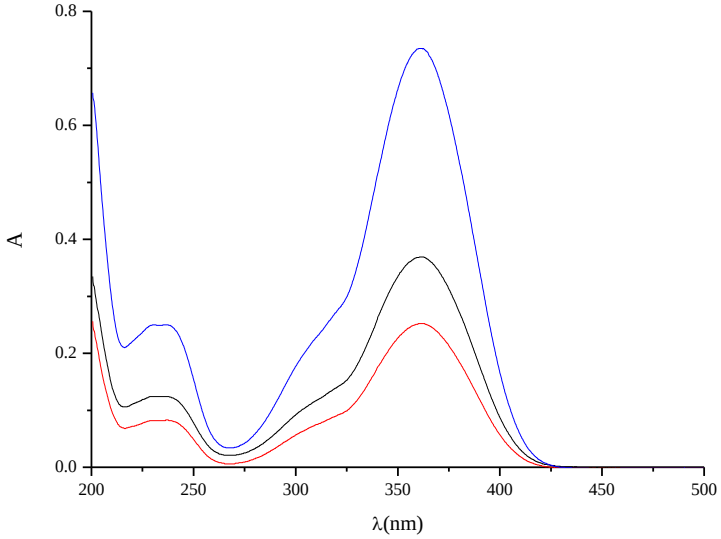




UV spectrum of *m*- NO_2BAPh-*m*

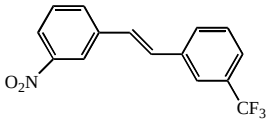
3.54 *m*-CH=CH2BAOMe-*p*

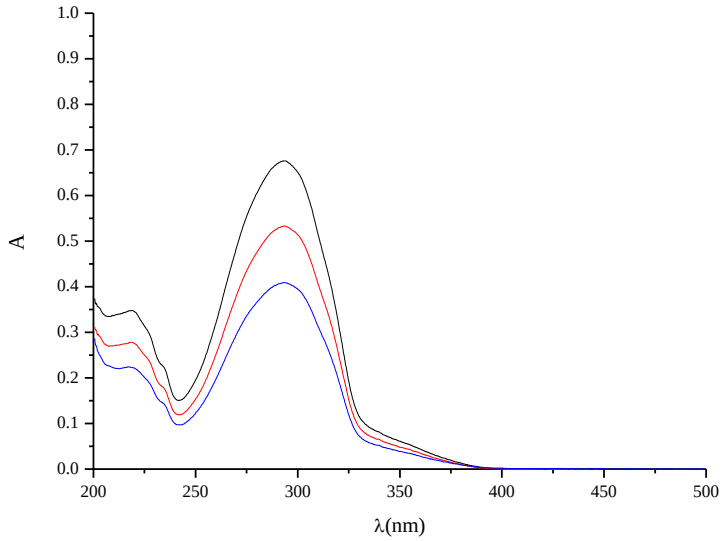




UV spectrum of *m*-CH=CH2BAOMe-*p*

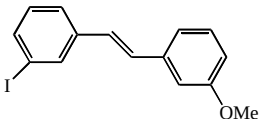
4.55 *m*-NO_2SBCF_3-*m*

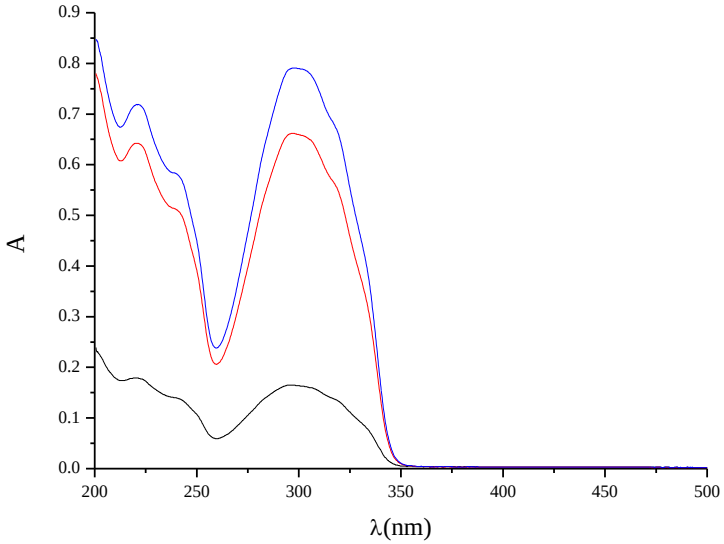




UV spectrum of *m*-NO_2SBCF_3-*m*

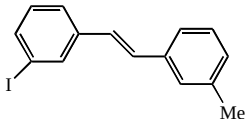
4.56 *m*-ISBOMe-*m*

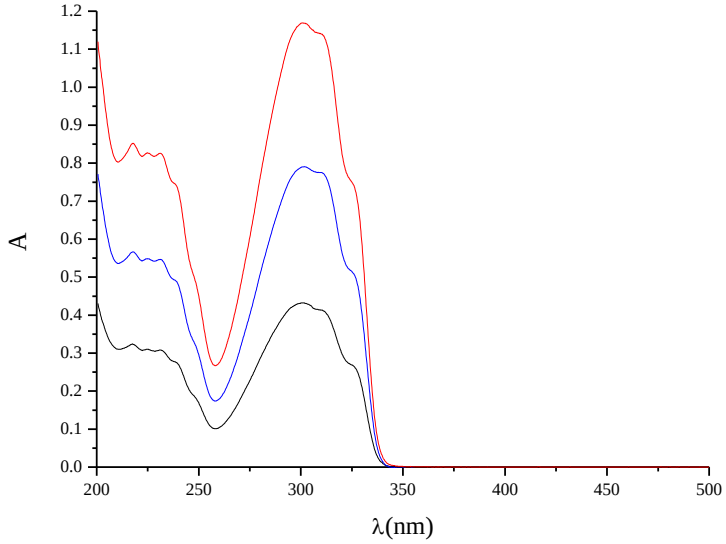




UV spectrum of *m*-ISBOMe-*m*

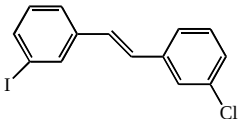
4.57 *m*-ISBMe-*m*

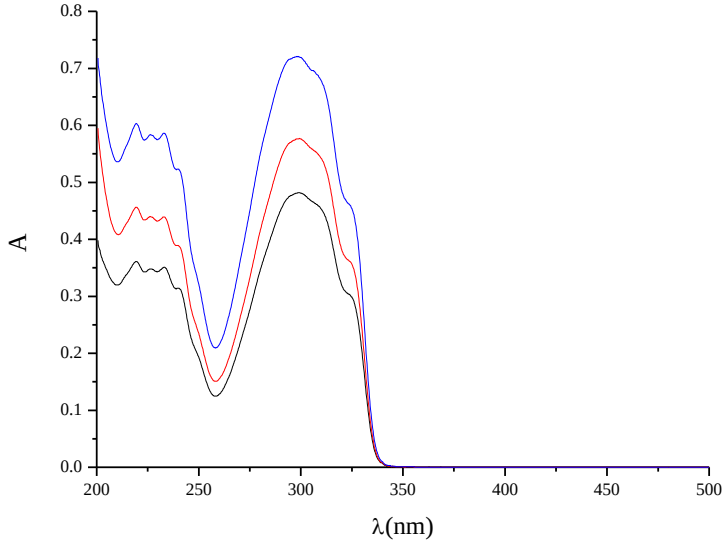




UV spectrum of *m*-ISBMe-*m*

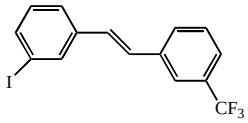
4.58 *m*-ISBCl-*m*

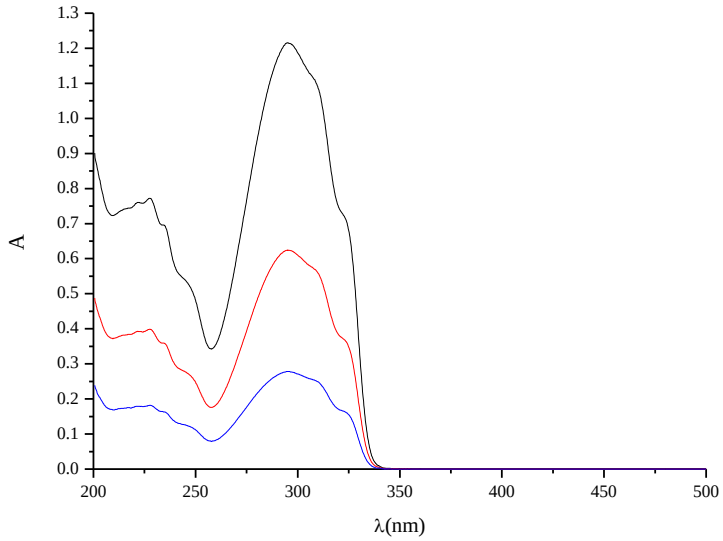




UV spectrum of *m*-ISBCl-*m*

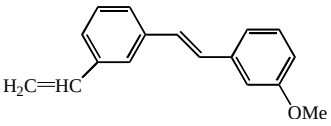
4.59 *m*-ISBCF$_3$-*m*

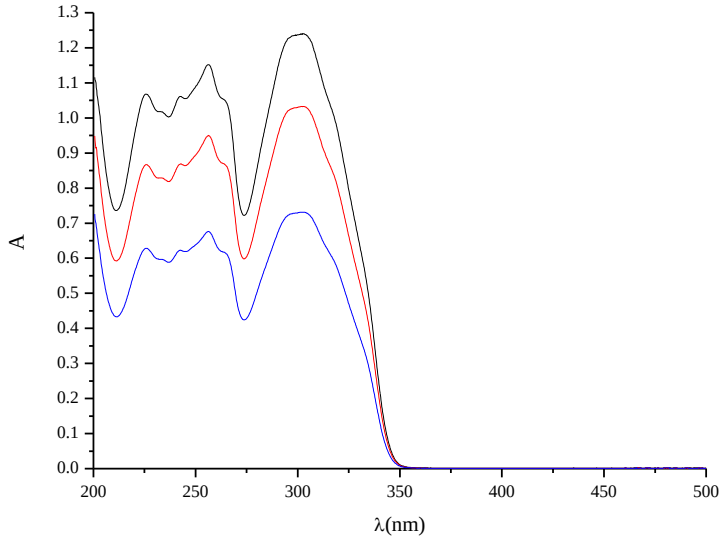




UV spectrum of *m*-ISBCF$_3$-*m*

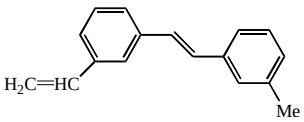
4.60 *m*-CH=CH$_2$SBOMe-*m*

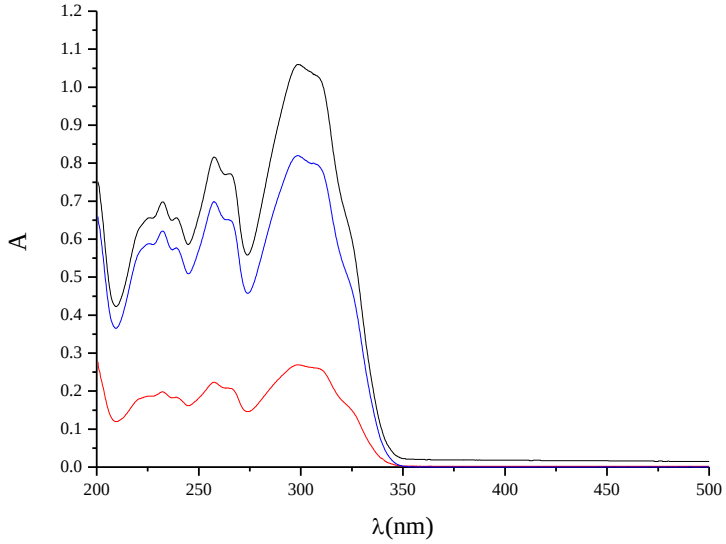




UV spectrum of *m*-CH=CH$_2$SBOMe-*m*

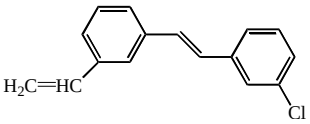
4.61 *m*-CH=CH$_2$SBMe-*m*

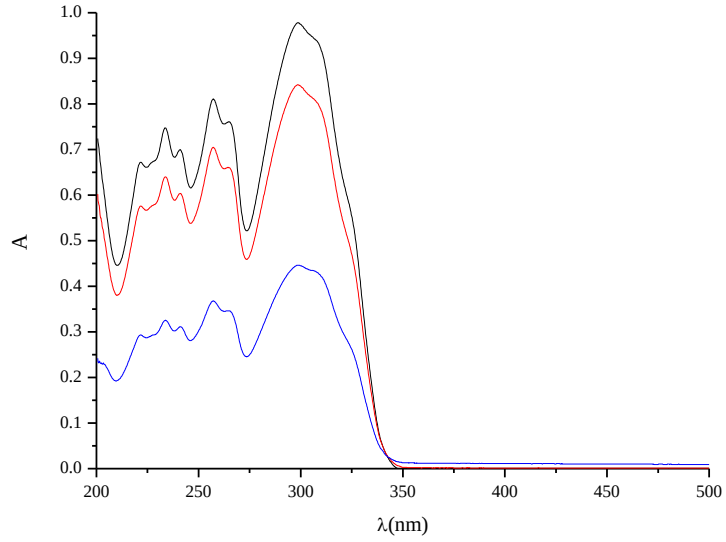




UV spectrum of *m*-CH=CH$_2$SBMe-*m*

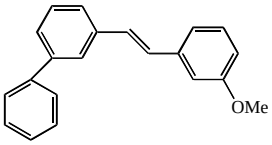
4.62 *m*-CH=CH$_2$SBCl-*m*

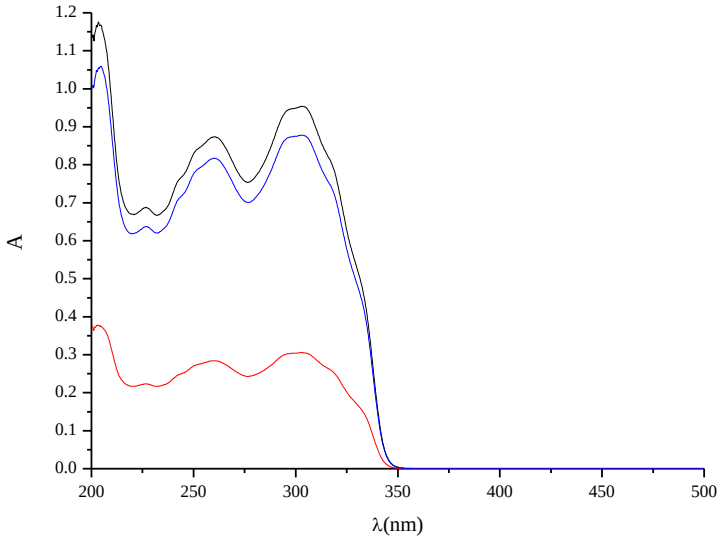




UV spectrum of *m*-CH=CH$_2$SBCl-*m*

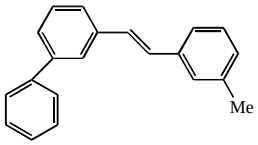
4.63 *m*-PhSBOMe-*m*

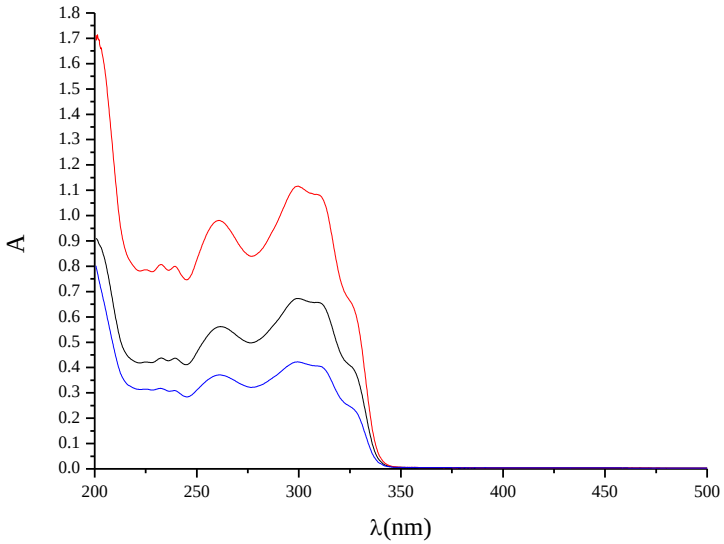




UV spectrum of *m*-PhSBOMe-*m*

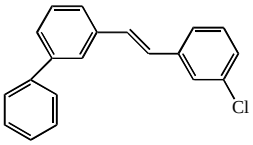
4.64 *m*-PhSBMe-*m*

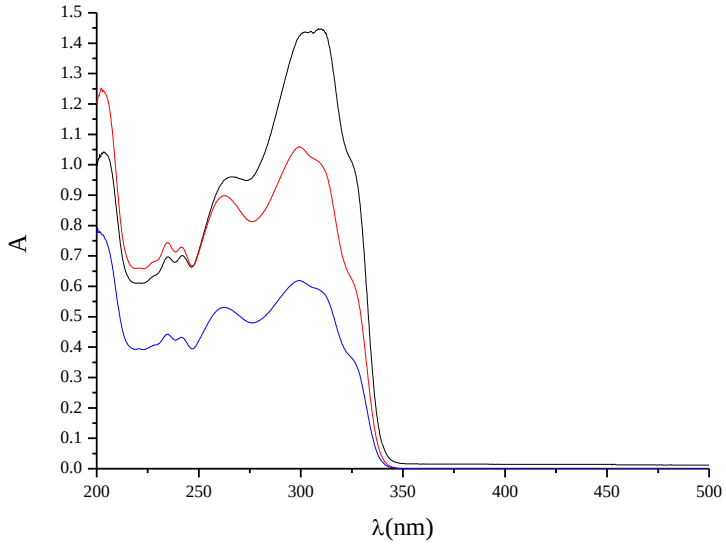




UV spectrum of *m*-PhSBMe-*m*

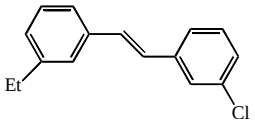
4.65 *m*-PhSBCl-*m*

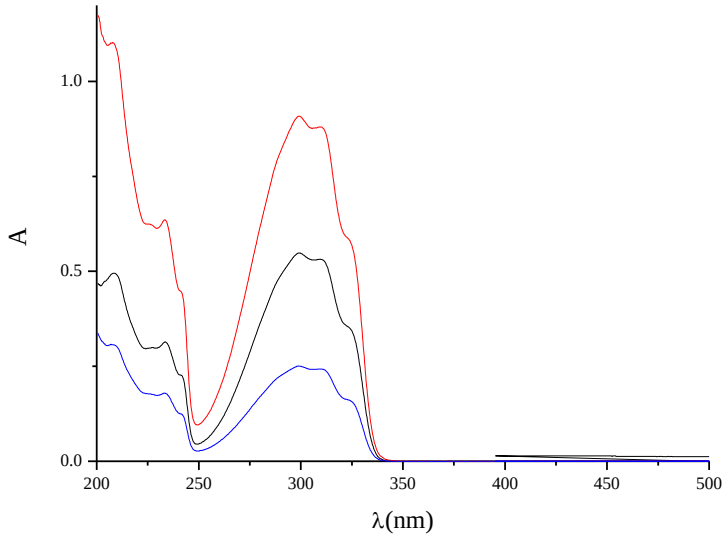




UV spectrum of *m*-PhSBCl-*m*

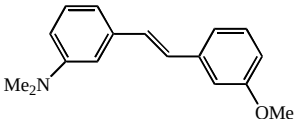
4.66 *m*-EtSBCl-*m*

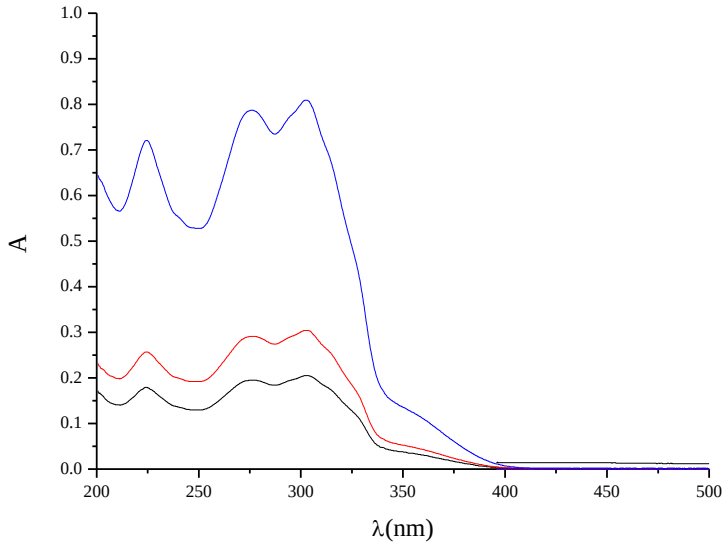




UV spectrum of *m*-EtSBCl-*m*

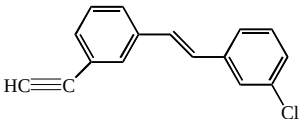
4.67 *m*-NMe$_2$SBOMe-*m*

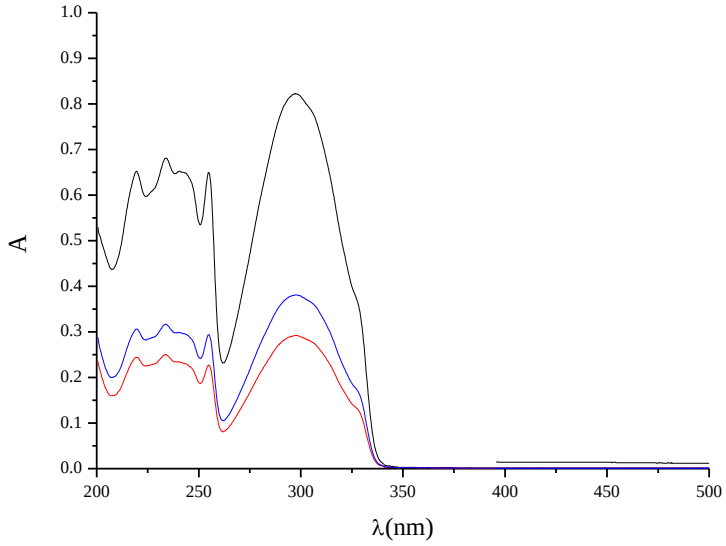




UV spectrum of *m*-NMe$_2$SBOMe-*m*

4.68 *m*-CCHSBCl-*m*





UV spectrum of *m*-CCHSBCl-*m*