Electronic Supplementary Information

CaI_2-Catalysed Direct Transformation of *N*-Alloc-, N-Troc-, and *N*-Cbz-Protected Amines to Asymmetrical Ureas

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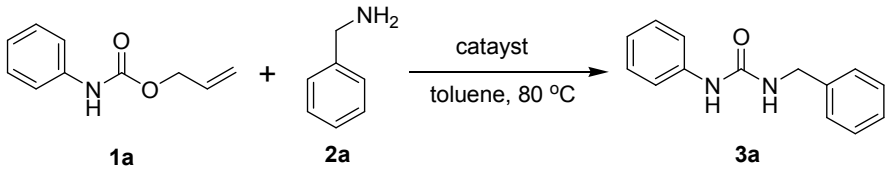
Figure S1. Effect of reagents on the rate of the preparation of urea



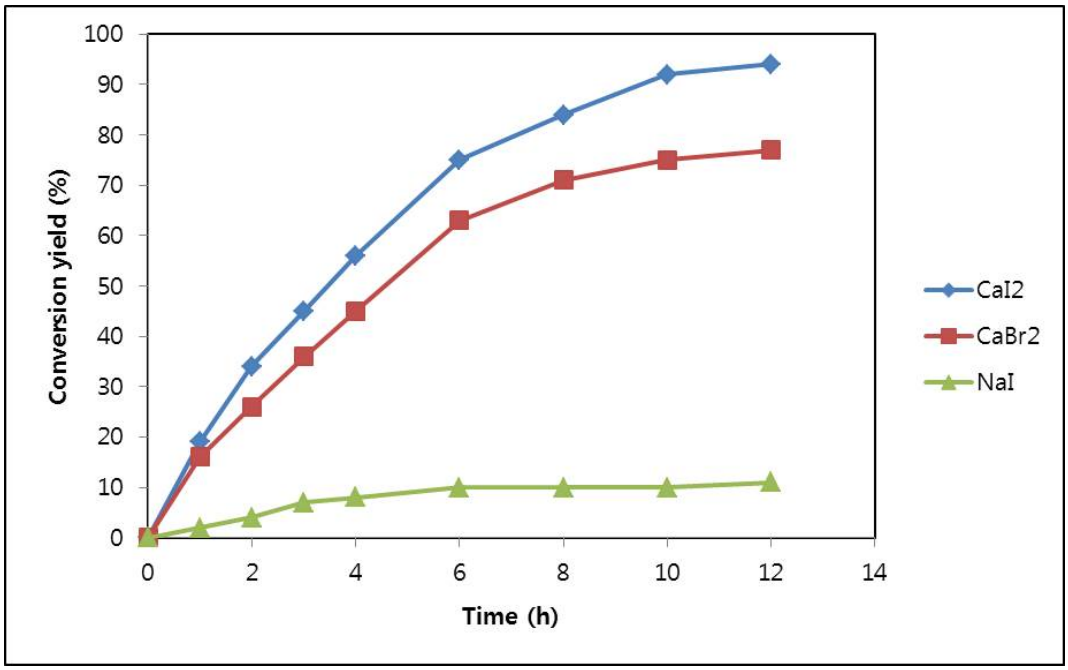
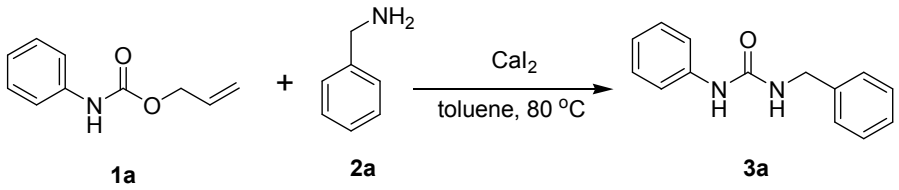
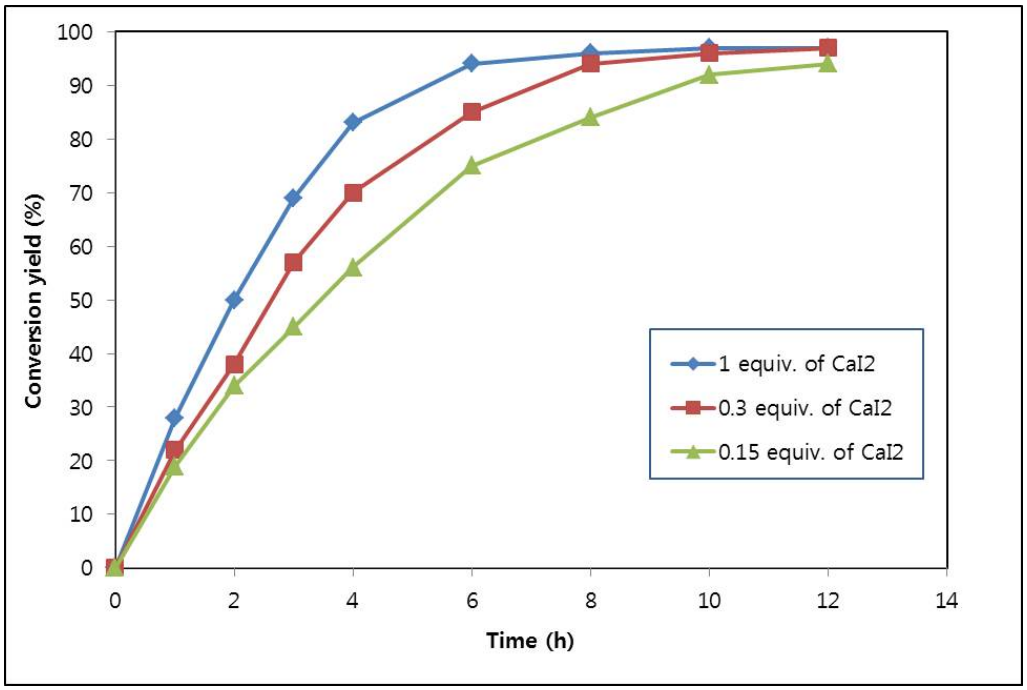


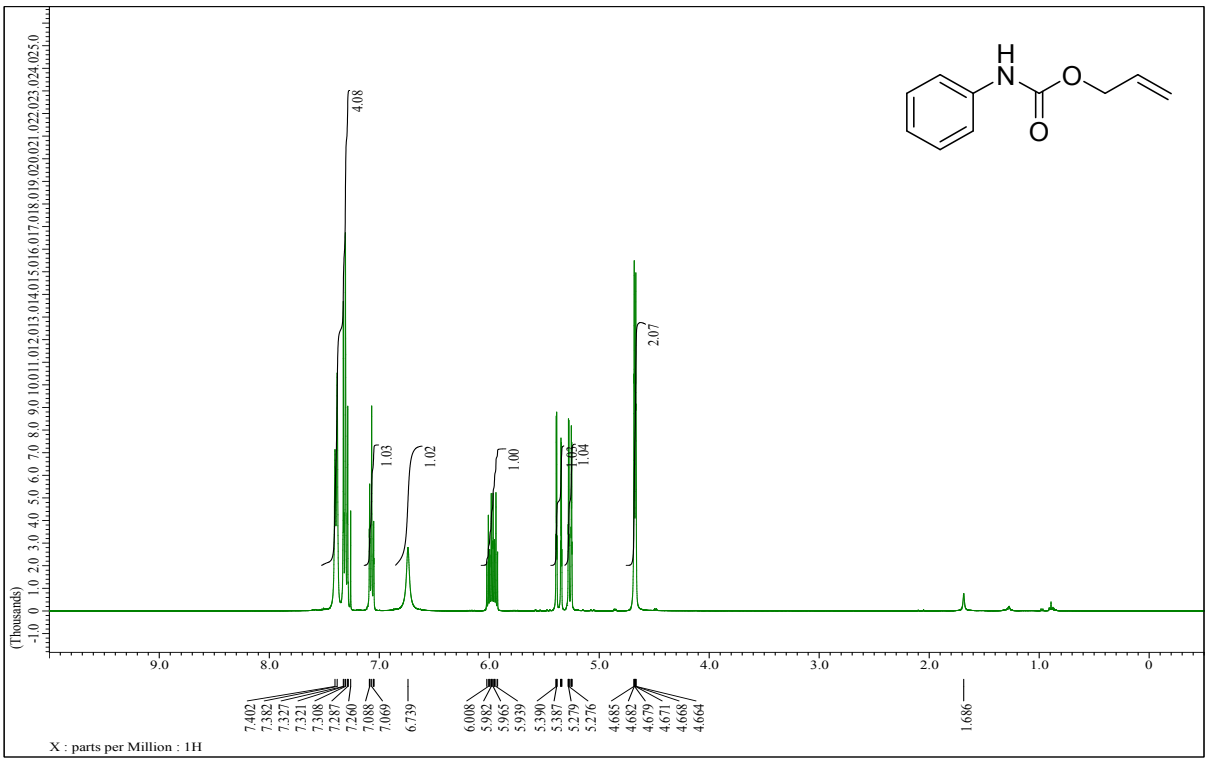
Figure S2. Effect of amount on the rate of the preparation of urea structure



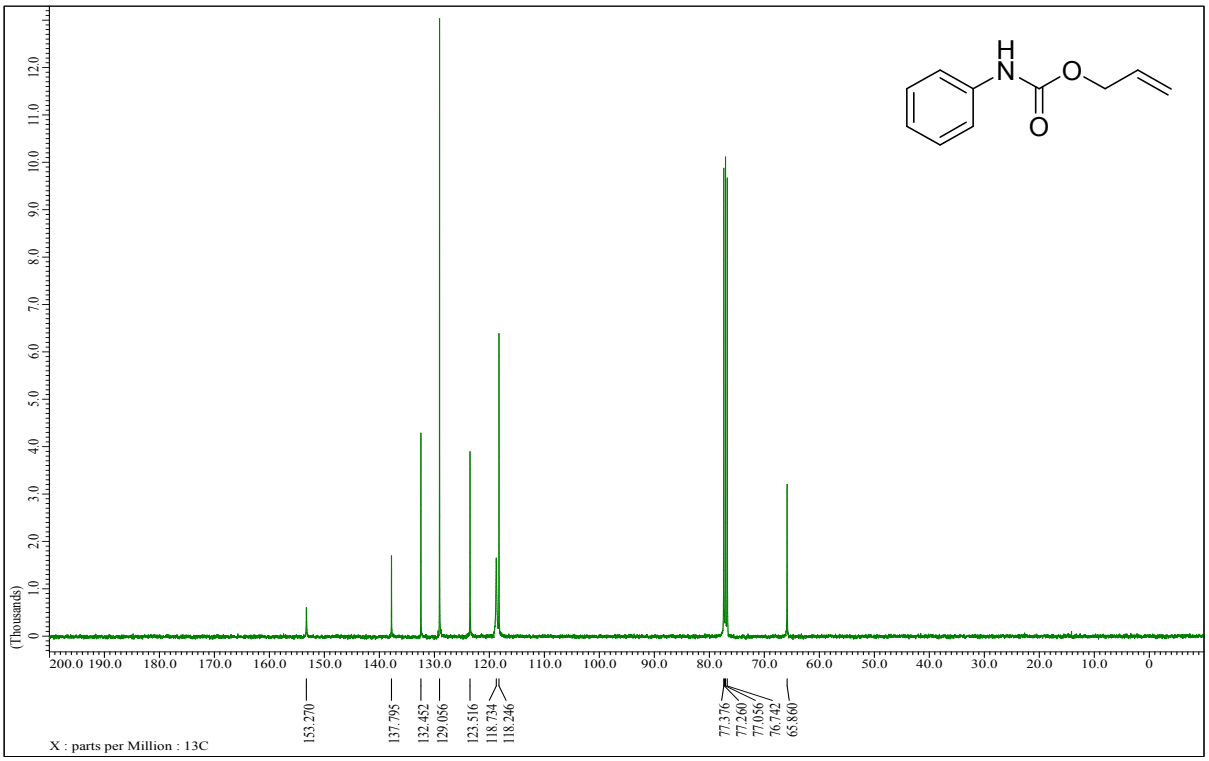
1a 2a 3a



Allyl phenylcarbamate (1a)

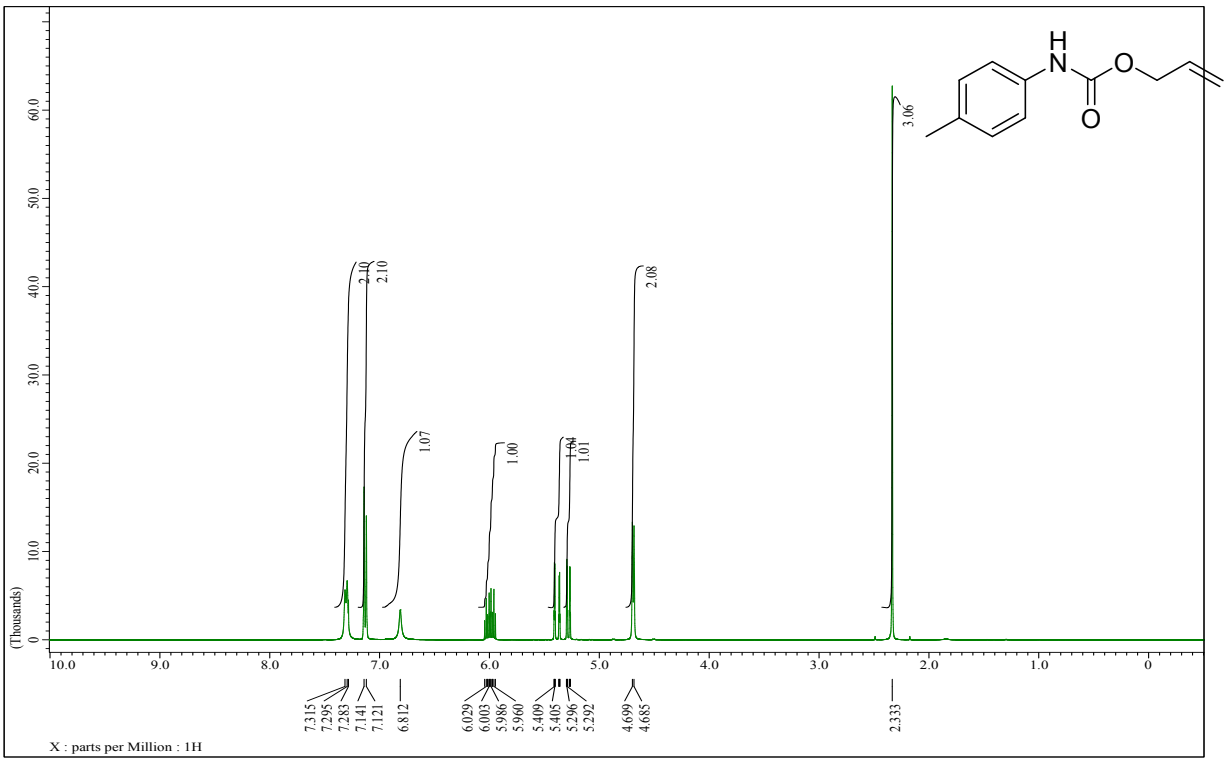


^{1}H NMR spectrum of allyl phenylcarbamate **(1a)**

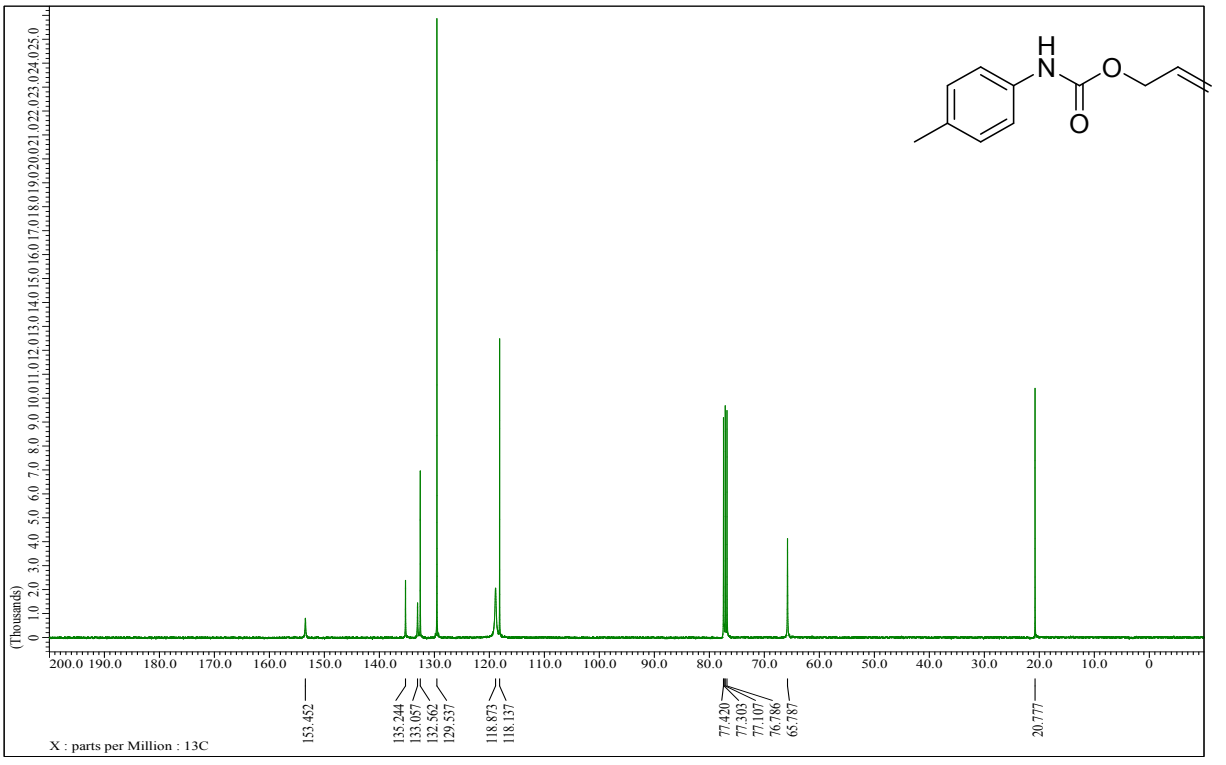


^{13}C NMR spectrum allyl phenylcarbamate **(1a)**

Allyl *p*-tolylcarbamate (1b)

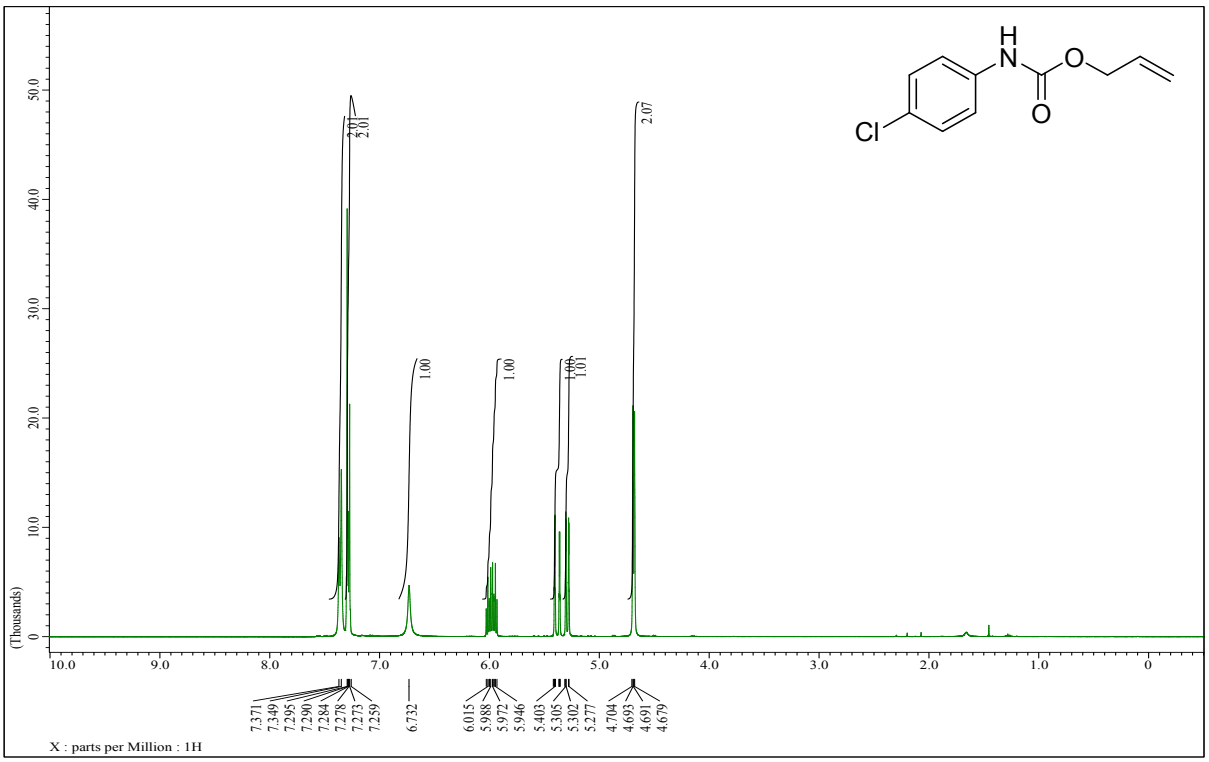


^{1}H NMR spectrum of Allyl p-tolylcarbamate **(1b)**

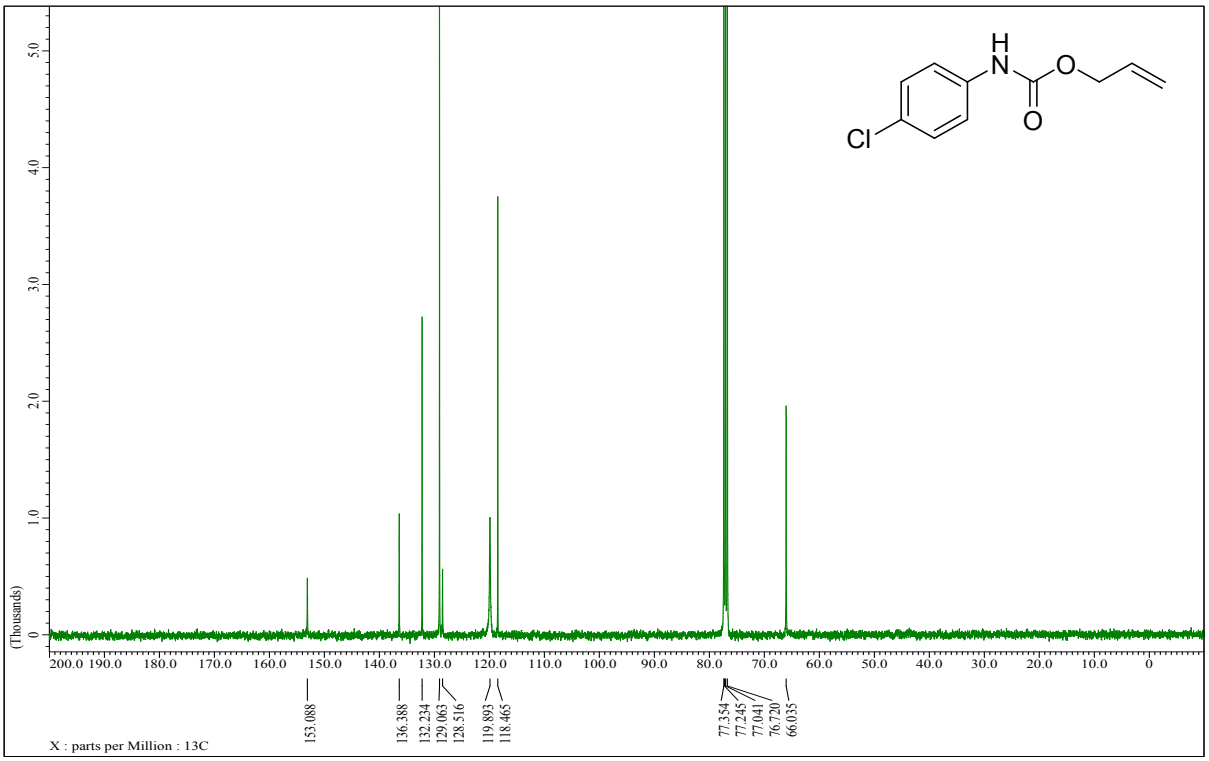


^{13}C NMR spectrum Allyl p-tolylcarbamate **(1b)**

Allyl 4-chlorophenylcarbamate (1c)

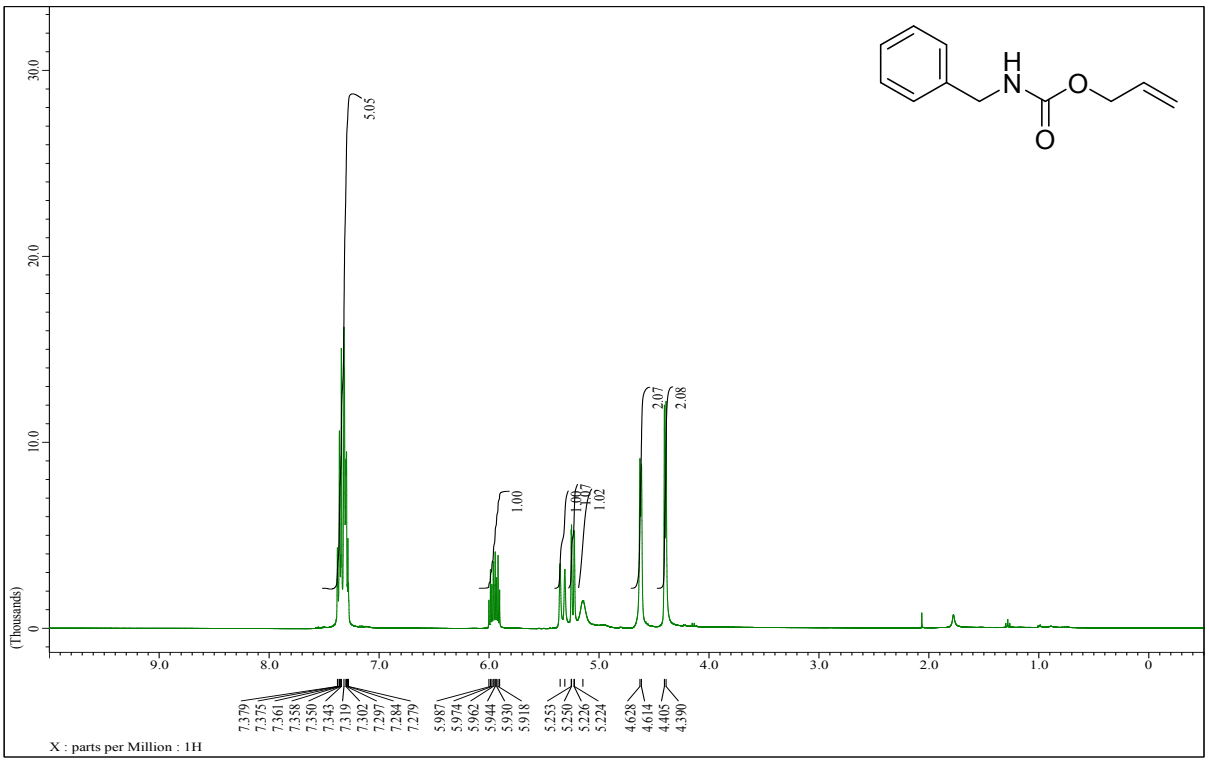


^{1}H NMR spectrum of allyl 4-chlorophenylcarbamate **(1c)**

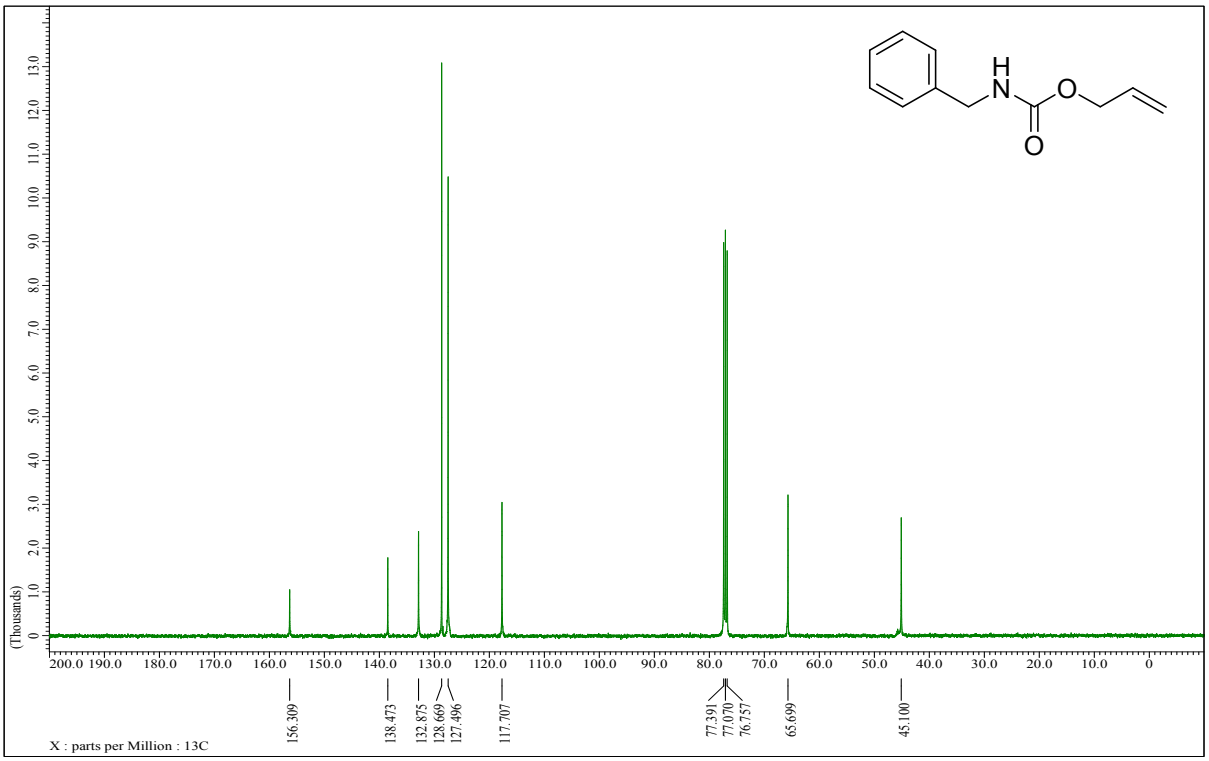


^{13}C NMR spectrum allyl 4-chlorophenylcarbamate **(1c)**

Allyl benzylcarbamate (1d)

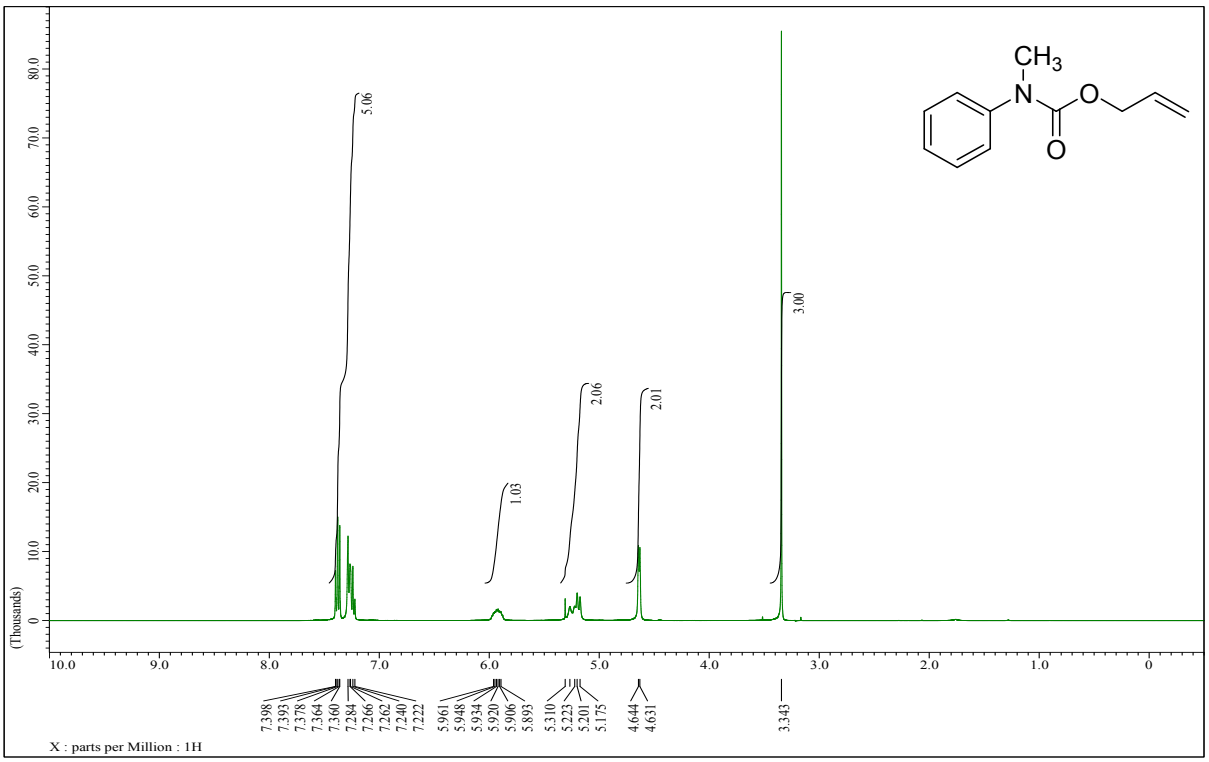


^{1}H NMR spectrum of Allyl benzylcarbamate **(1d)**

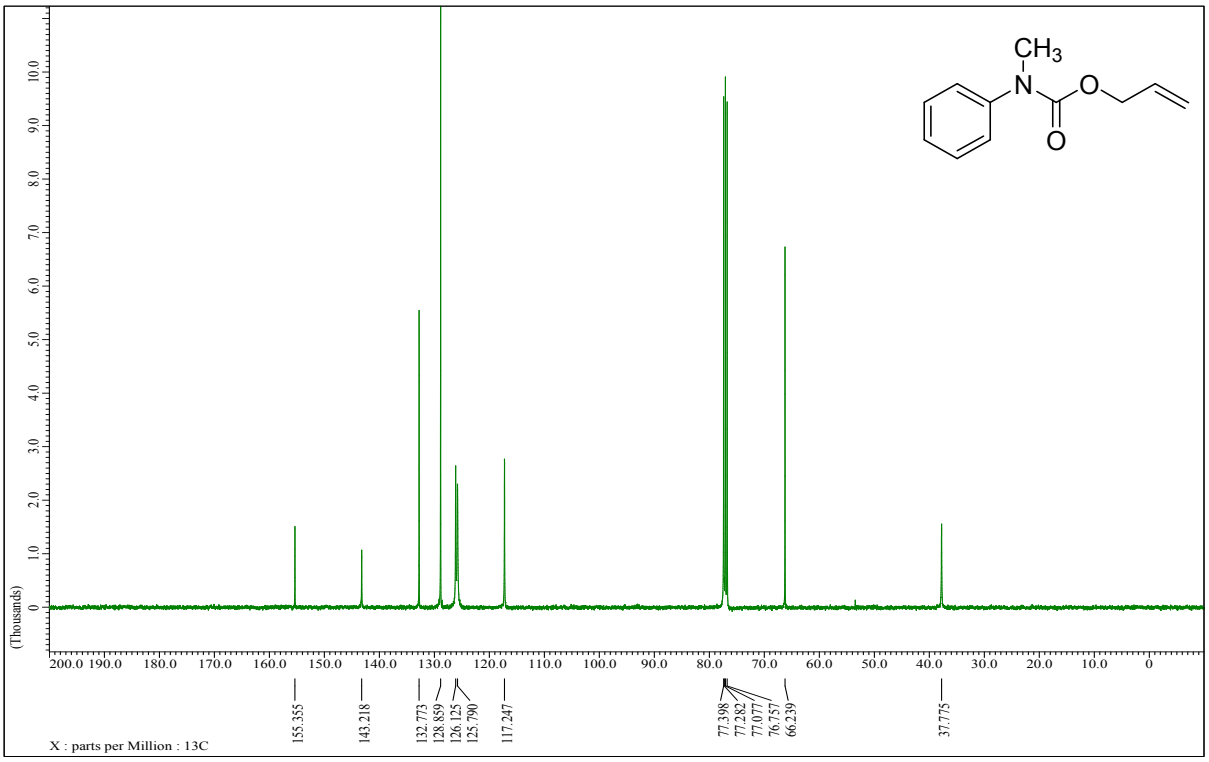


^{13}C NMR spectrum Allyl benzylcarbamate **(1d)**

Allyl methyl(phenyl)carbamate (1e)

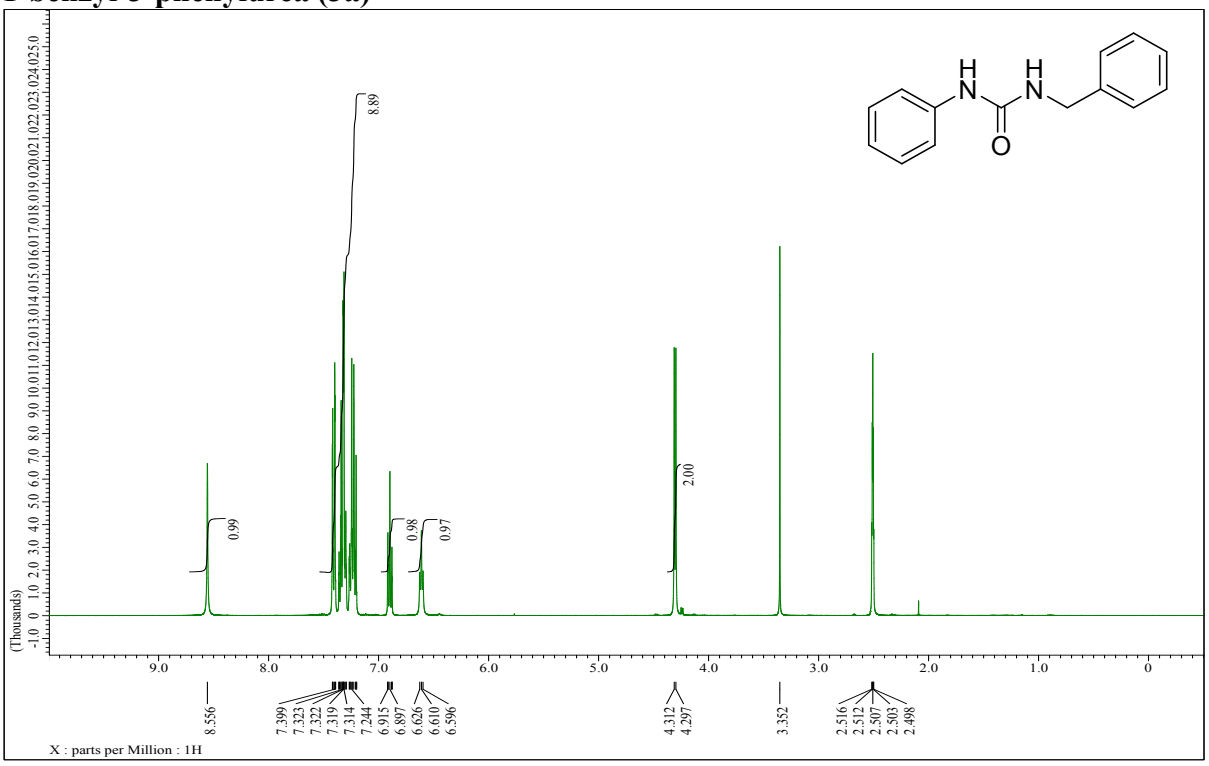


^{1}H NMR spectrum of allyl methyl(phenyl)carbamate **(1e)**

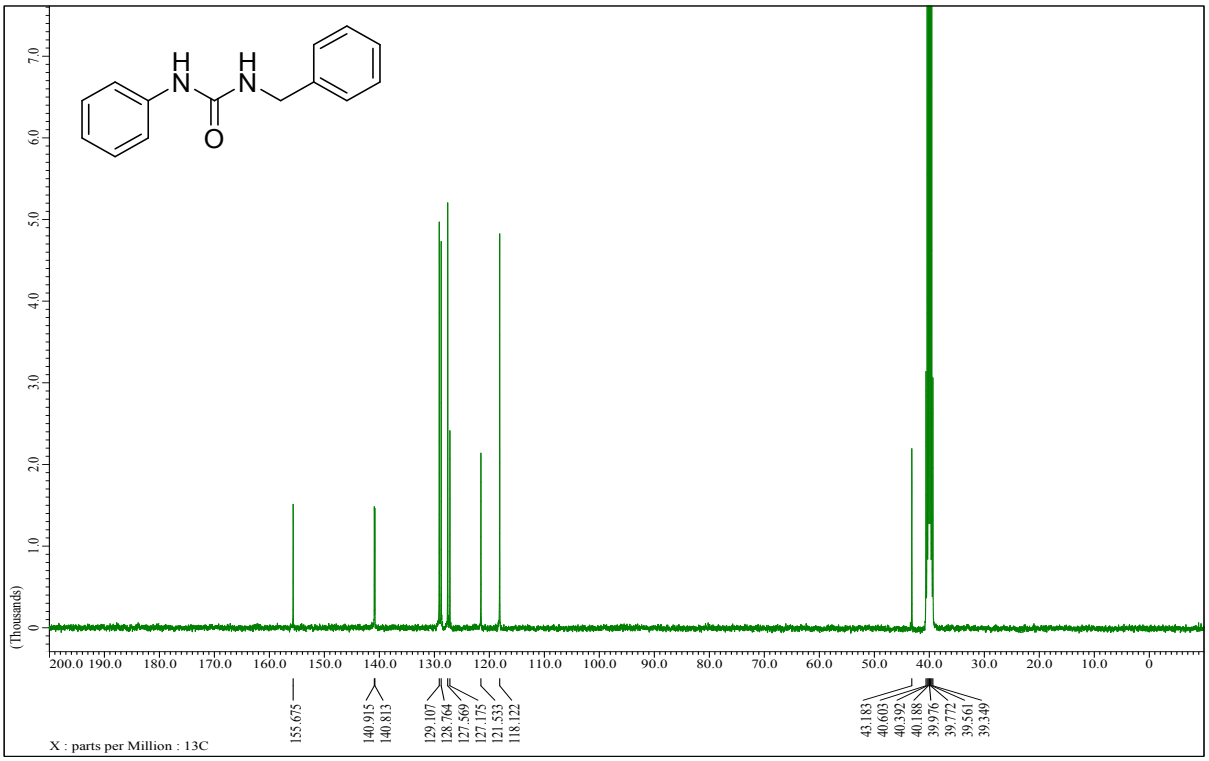


^{13}C NMR spectrum of allyl methyl(phenyl)carbamate **(1e)**

1-benzyl-3-phenylurea (3a)

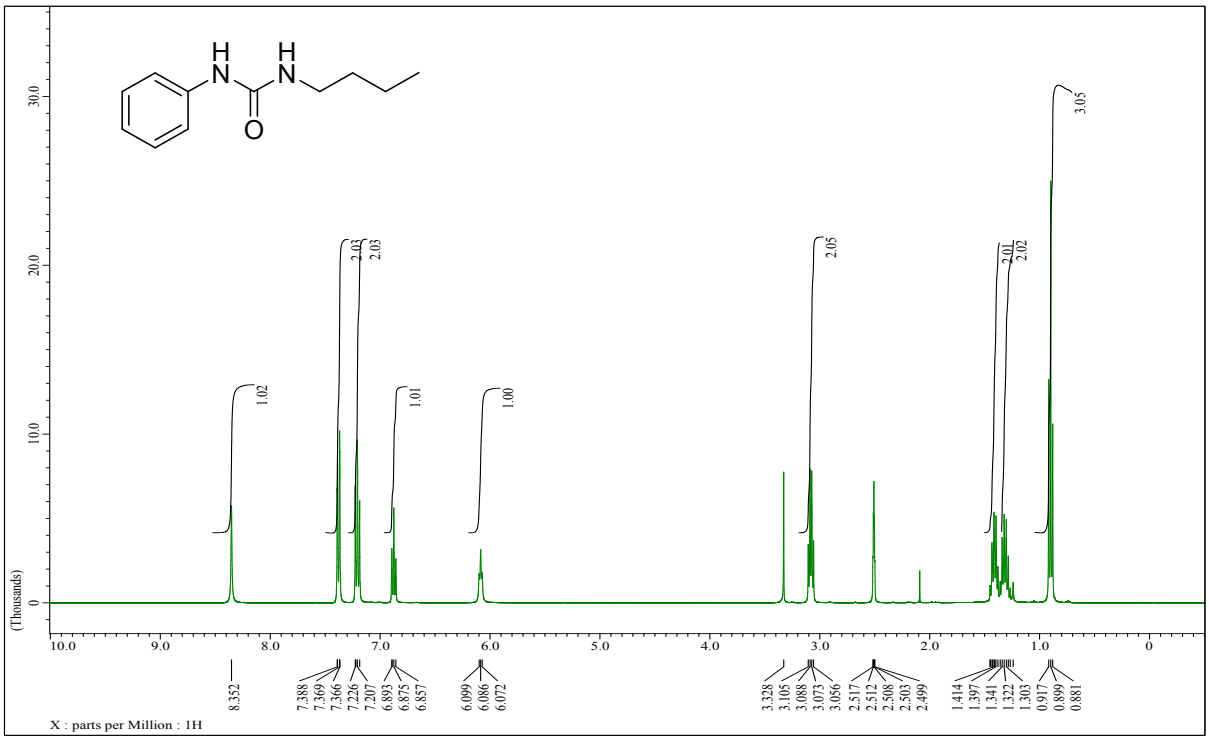


^{1}H NMR spectrum of 1-benzyl-3-phenylurea **(3a)**

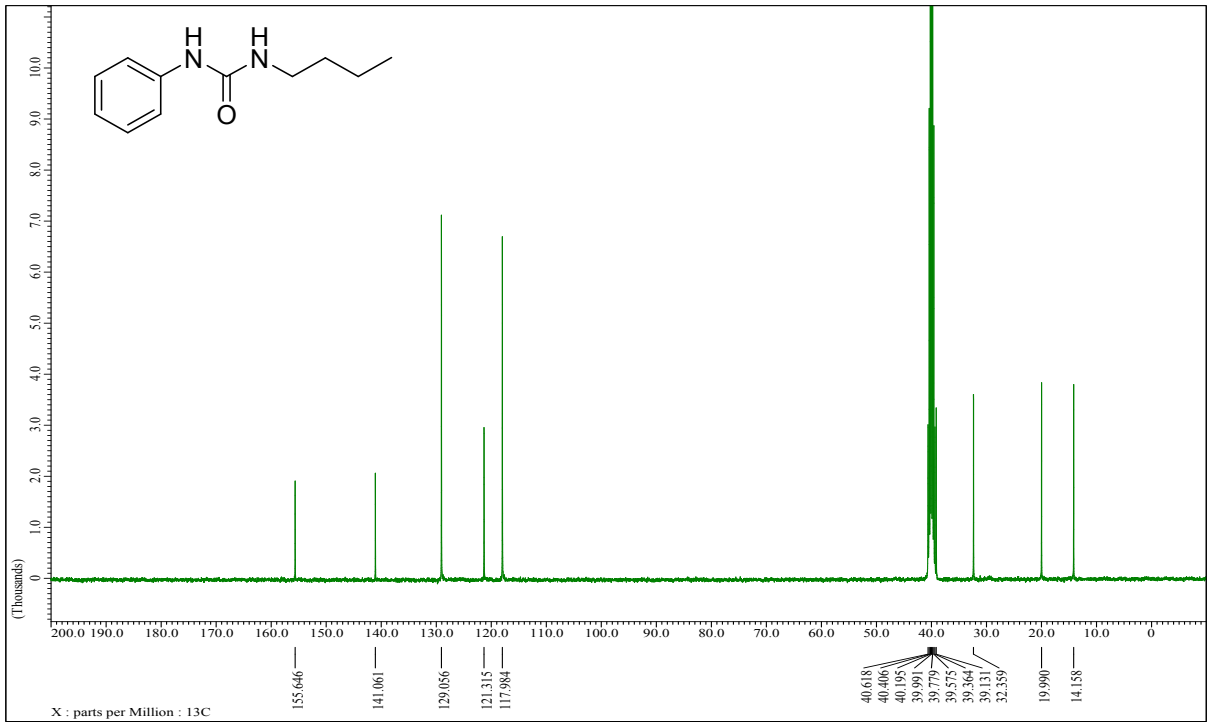


^{13}C NMR spectrum of 1-benzyl-3-phenylurea (**3a**)

1-butyl-3-phenylurea (3b)

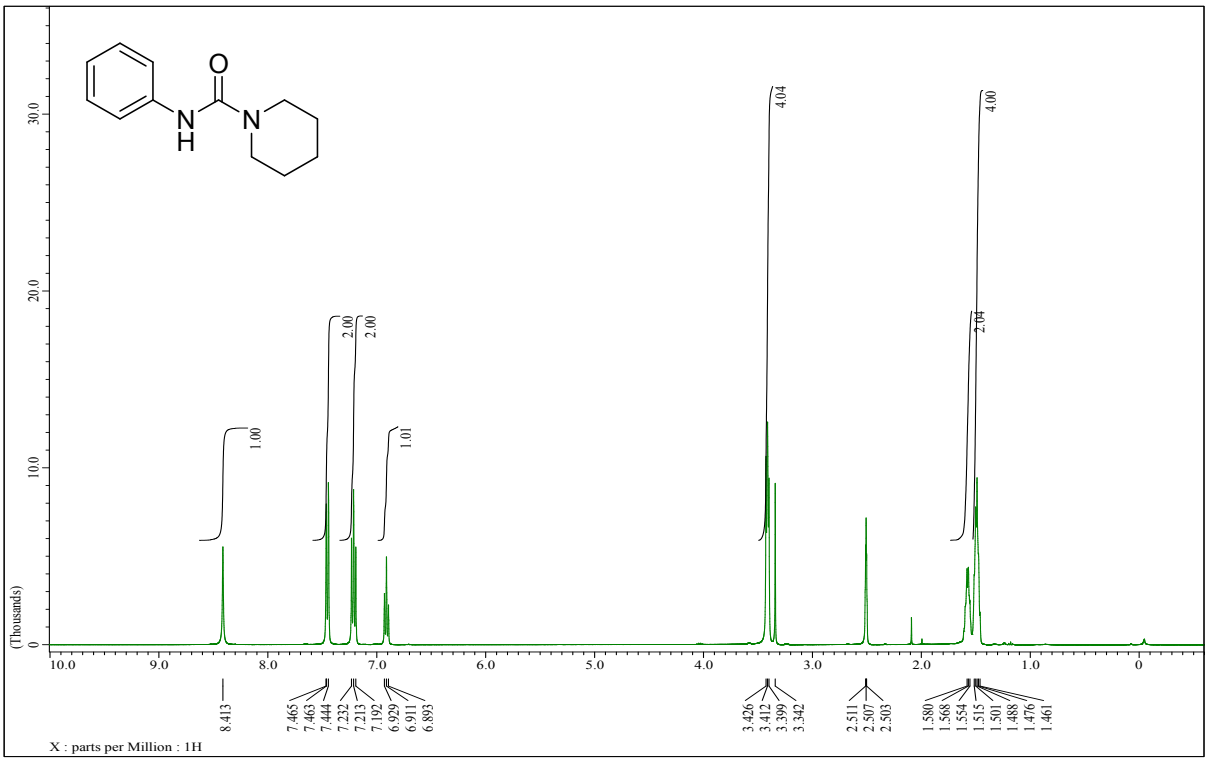


^{1}H NMR spectrum of 1-butyl-3-phenylurea (**3b**)

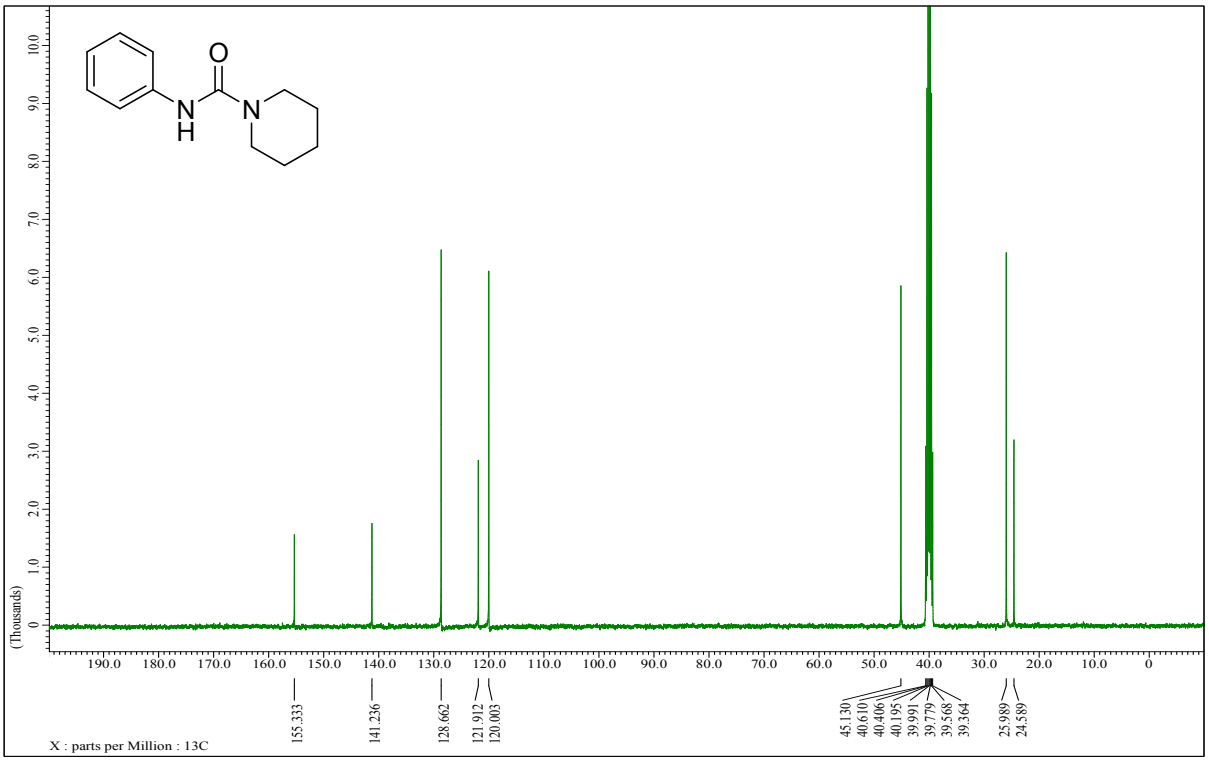


^{13}C NMR spectrum of 1-butyl-3-phenylurea (**3b**)

***N*-phenylpiperidine-1-carboxamide (3c)**

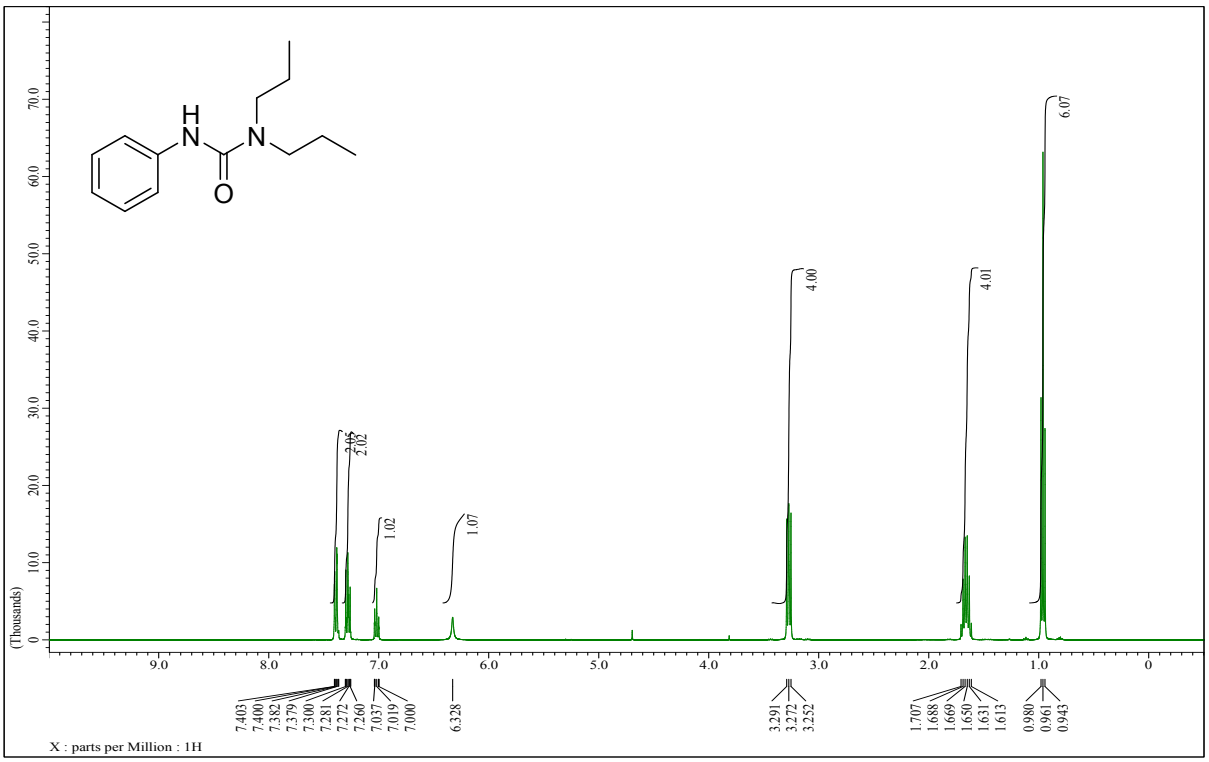


^{1}H NMR spectrum of *N*-phenylpiperidine-1-carboxamide **(3c)**

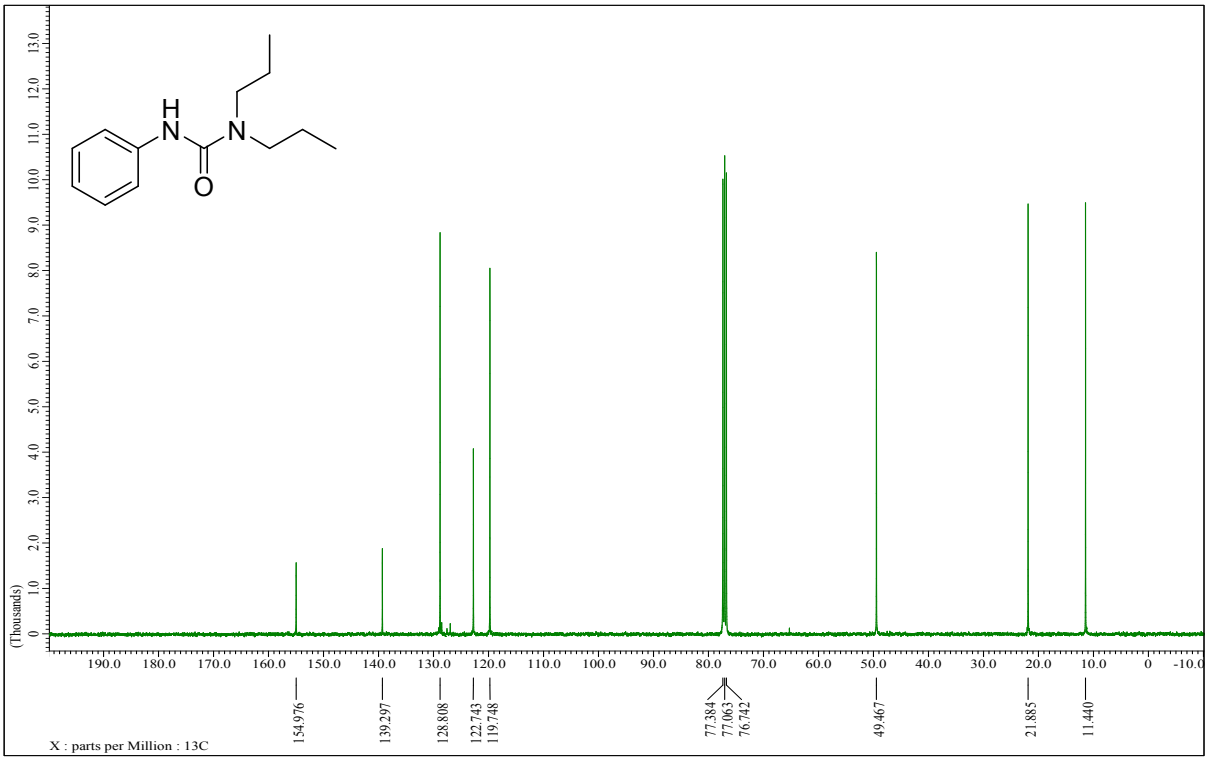


^{13}C NMR spectrum *N*-phenylpiperidine-1-carboxamide **(3c)**

3-phenyl-1,1-dipropylurea (3d)

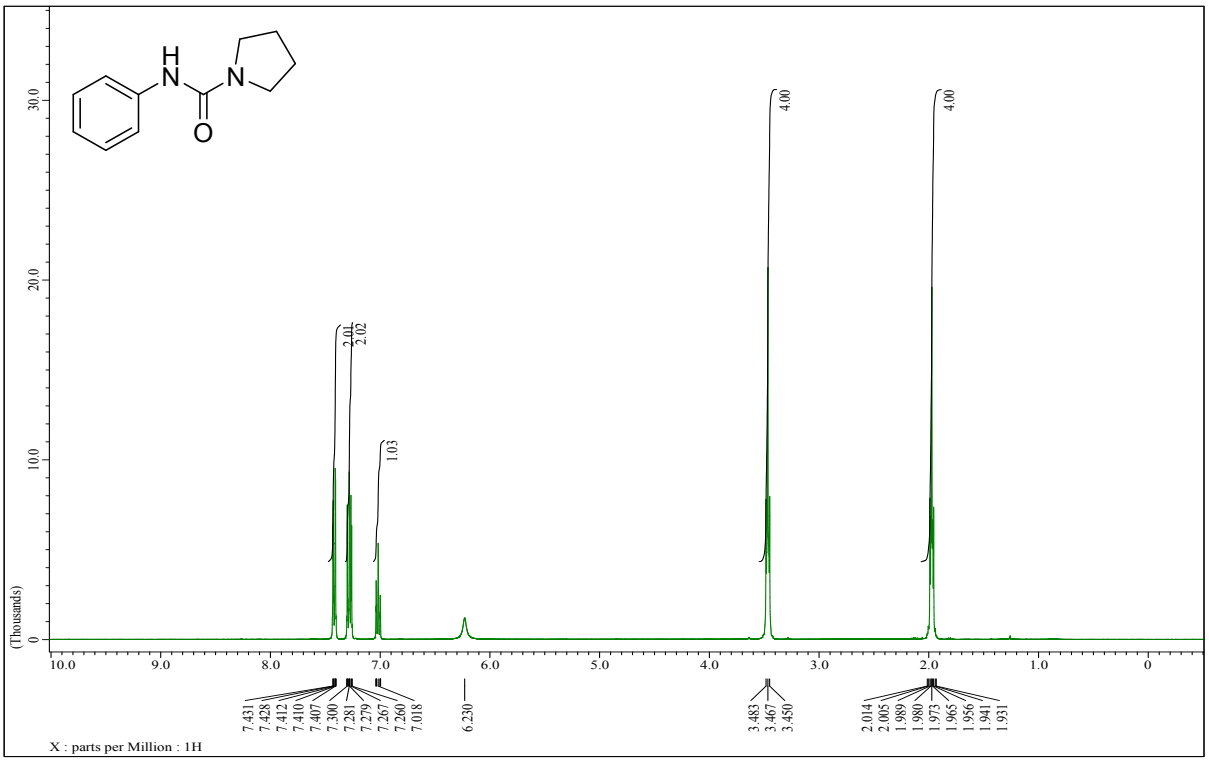


^{1}H NMR spectrum of 3-phenyl-1,1-dipropylurea **(3d)**

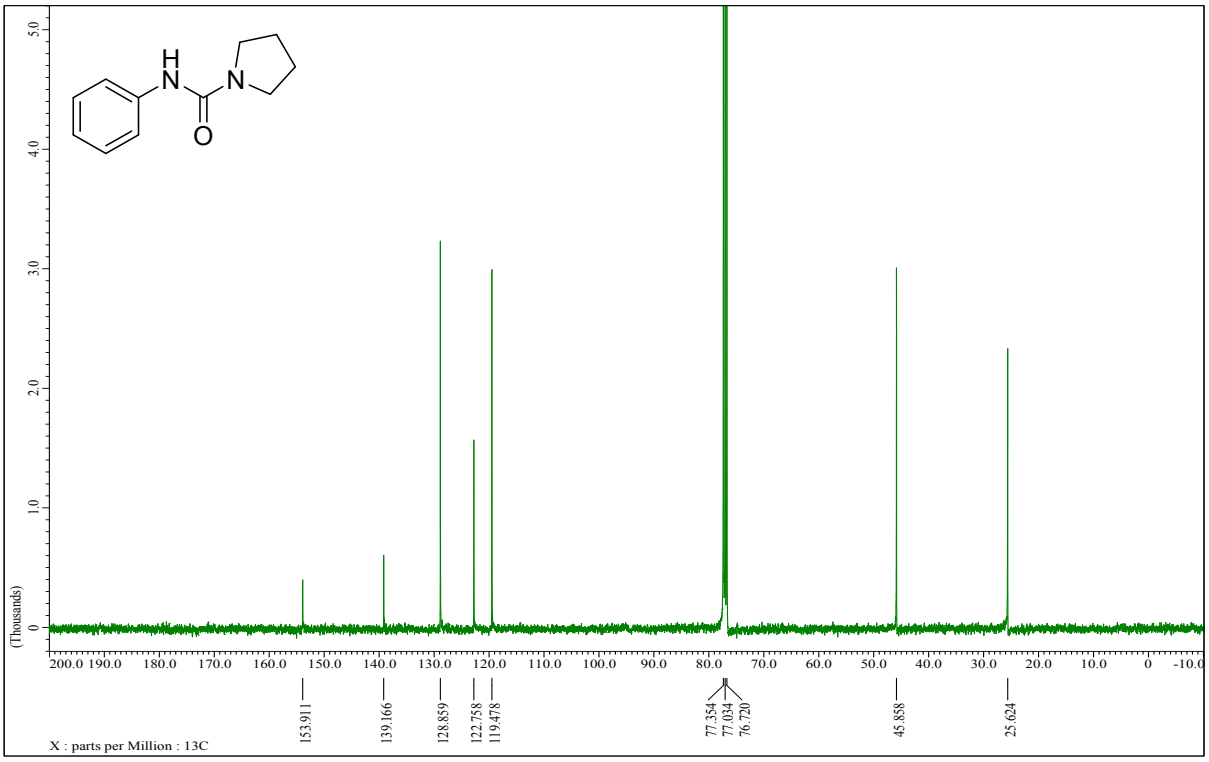


^{13}C NMR spectrum of 3-phenyl-1,1-dipropylurea **(3d)**

***N*-phenylpyrrolidine-1-carboxamide (3e)**

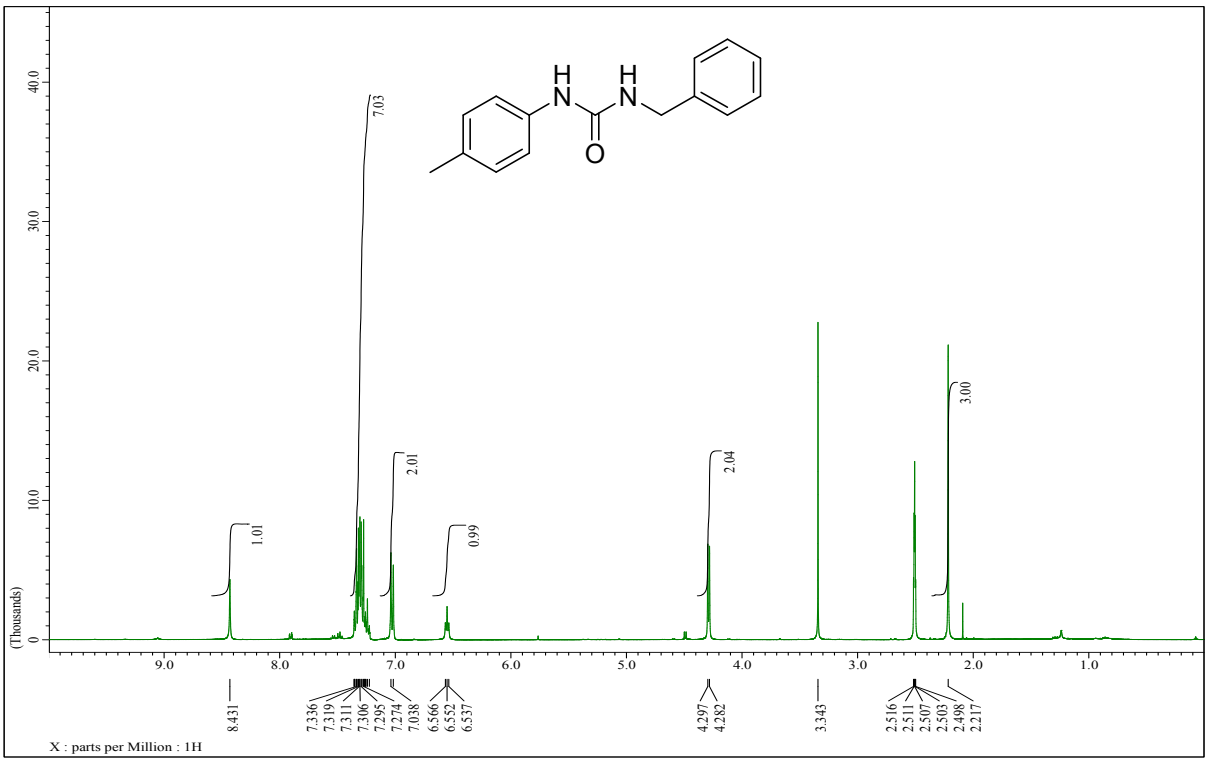


^{1}H NMR spectrum of *N*-phenylpyrrolidine-1-carboxamide **(3e)**

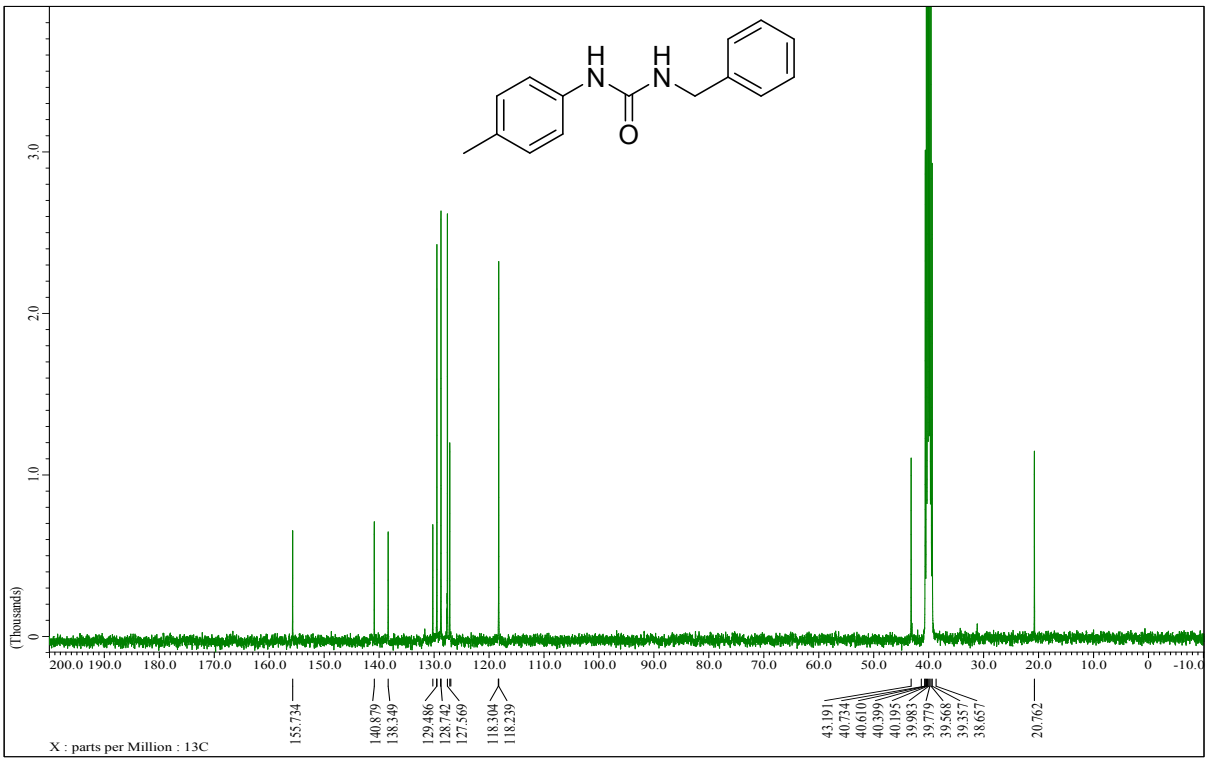


^{13}C NMR spectrum of *N*-phenylpyrrolidine-1-carboxamide (**3e)**

1-benzyl-3-*p*-tolylurea (3f)

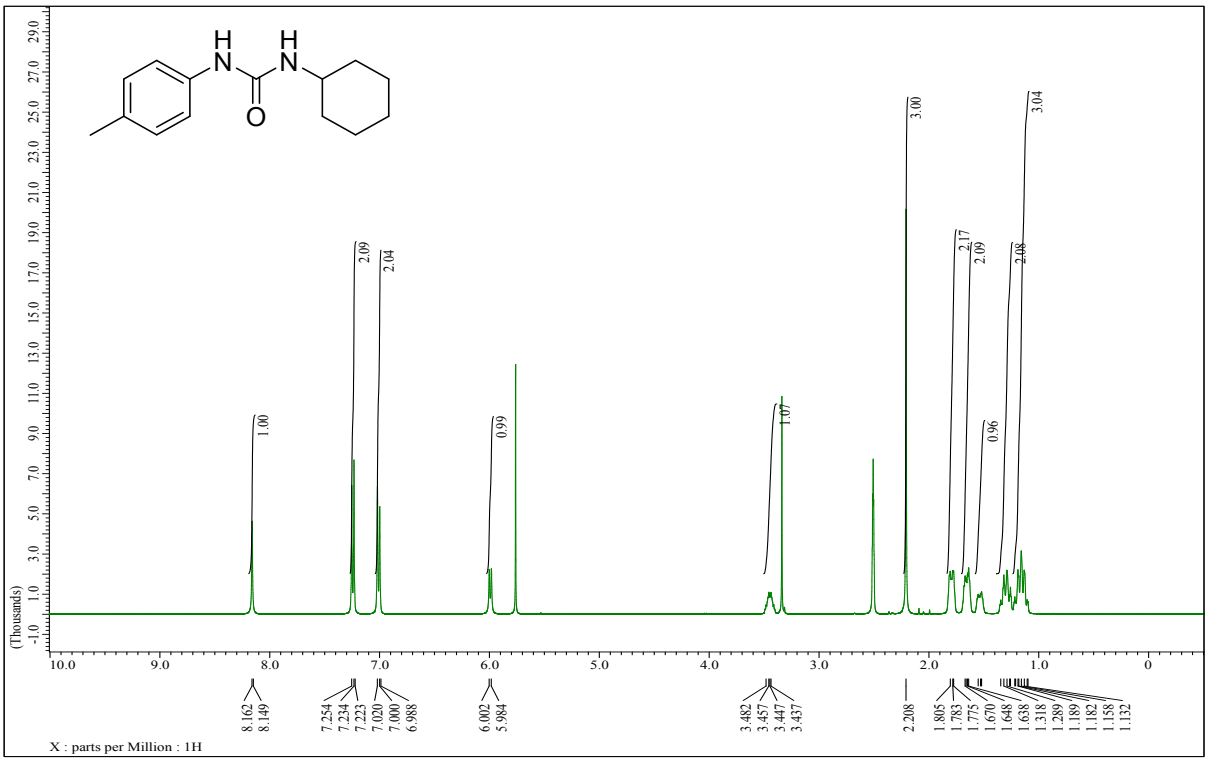


^{1}H NMR spectrum of 1-benzyl-3-*p*-tolylurea **(3f)**

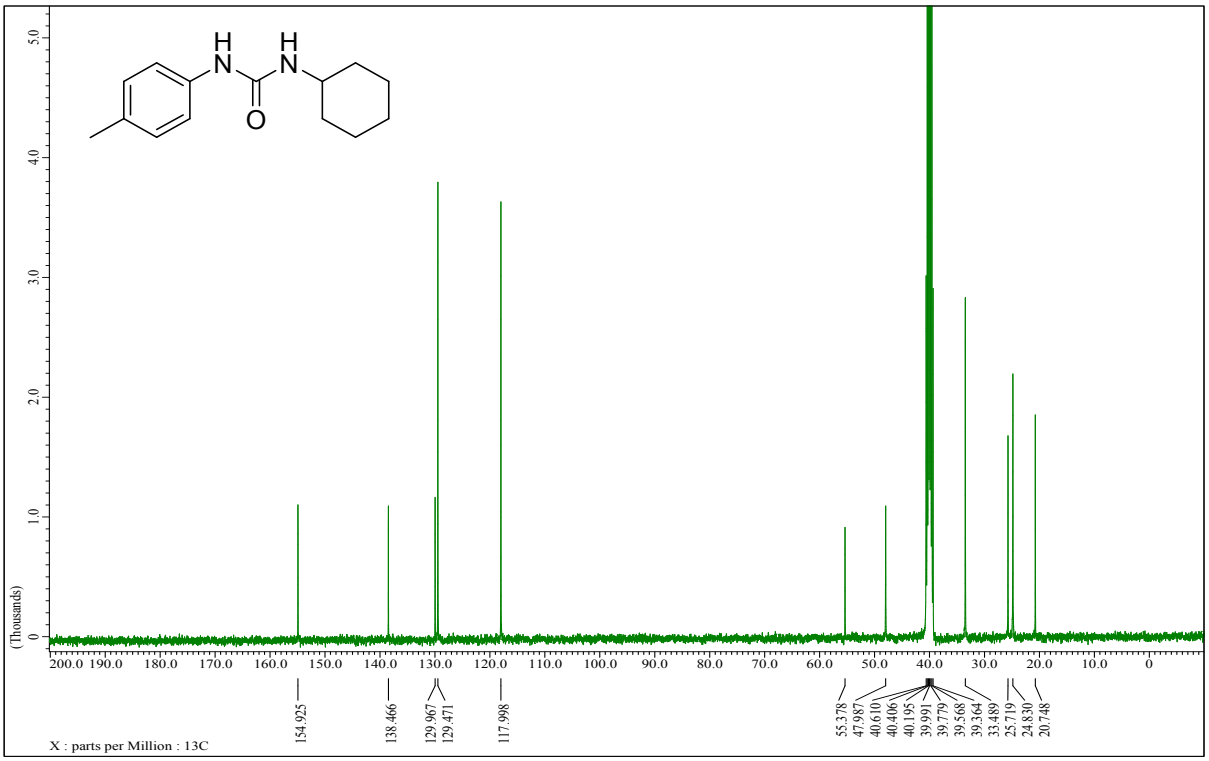


^{13}C NMR spectrum of 1-benzyl-3-*p*-tolylurea (**3f**)

1-cyclohexyl-3-*p*-tolylurea (3g)

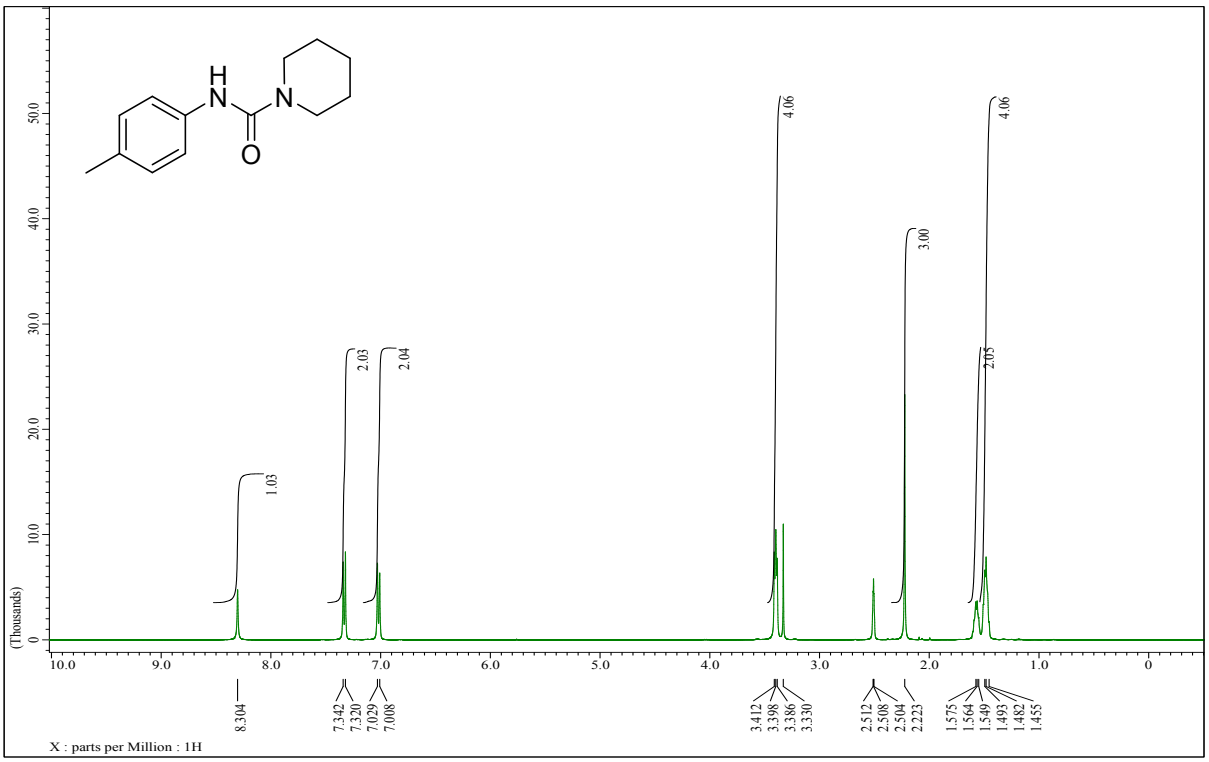


^{1}H NMR spectrum of 1-cyclohexyl-3-*p*-tolylurea (**3g**)

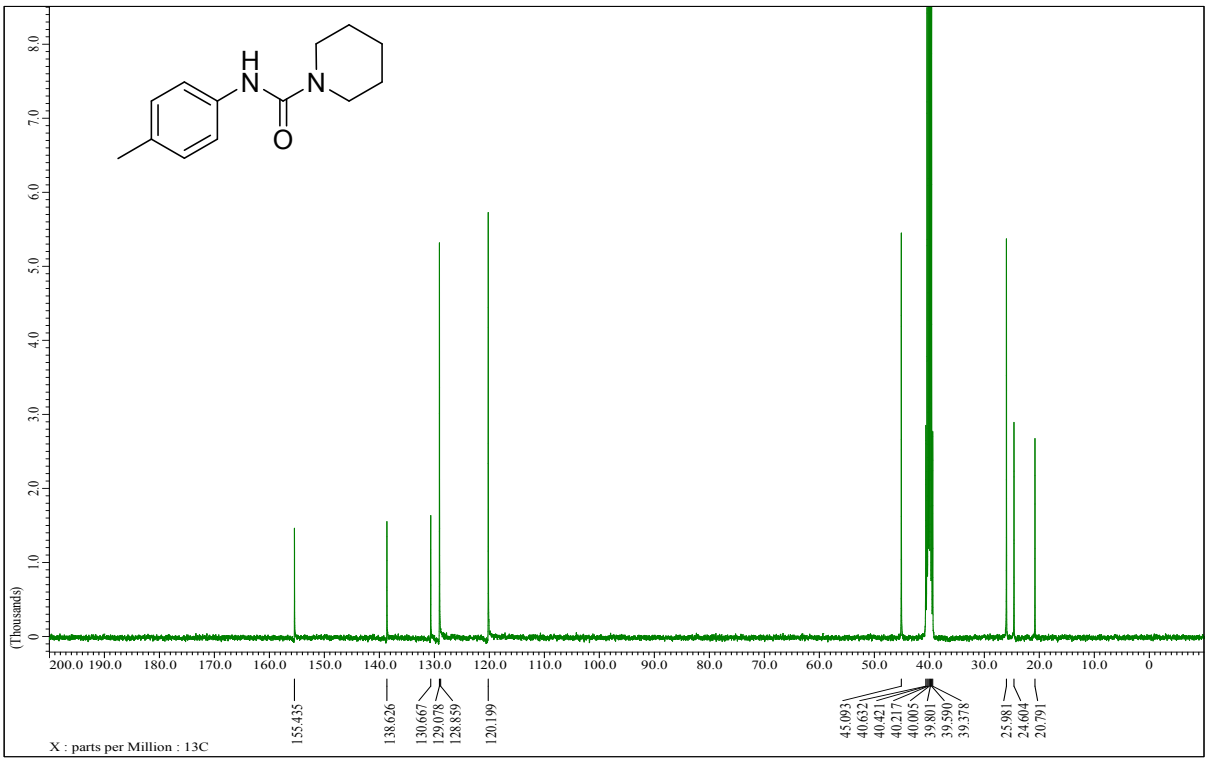


^{13}C NMR spectrum of 1-cyclohexyl-3-*p*-tolylurea (**3g**)

***N*-*p*-tolylpiperidine-1-carboxamide (3h)**

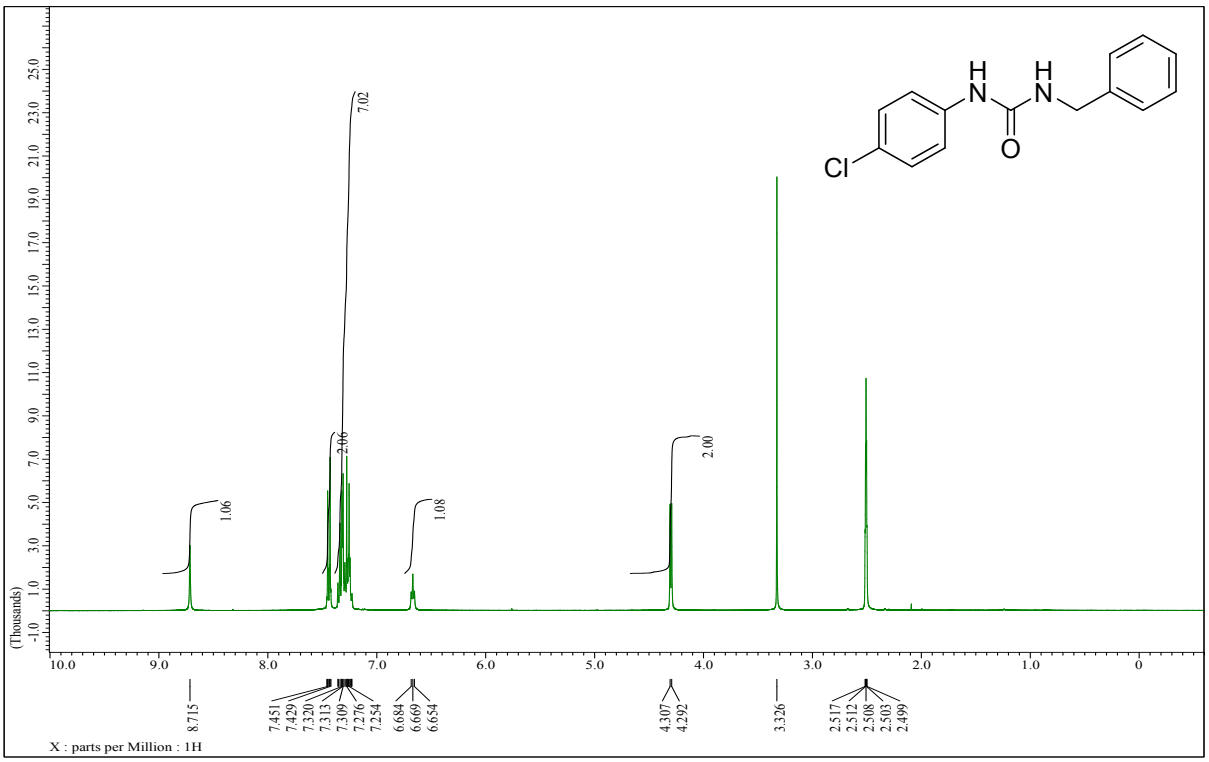


^{1}H NMR spectrum of *N*-*p*-tolylpiperidine-1-carboxamide **(3h)**

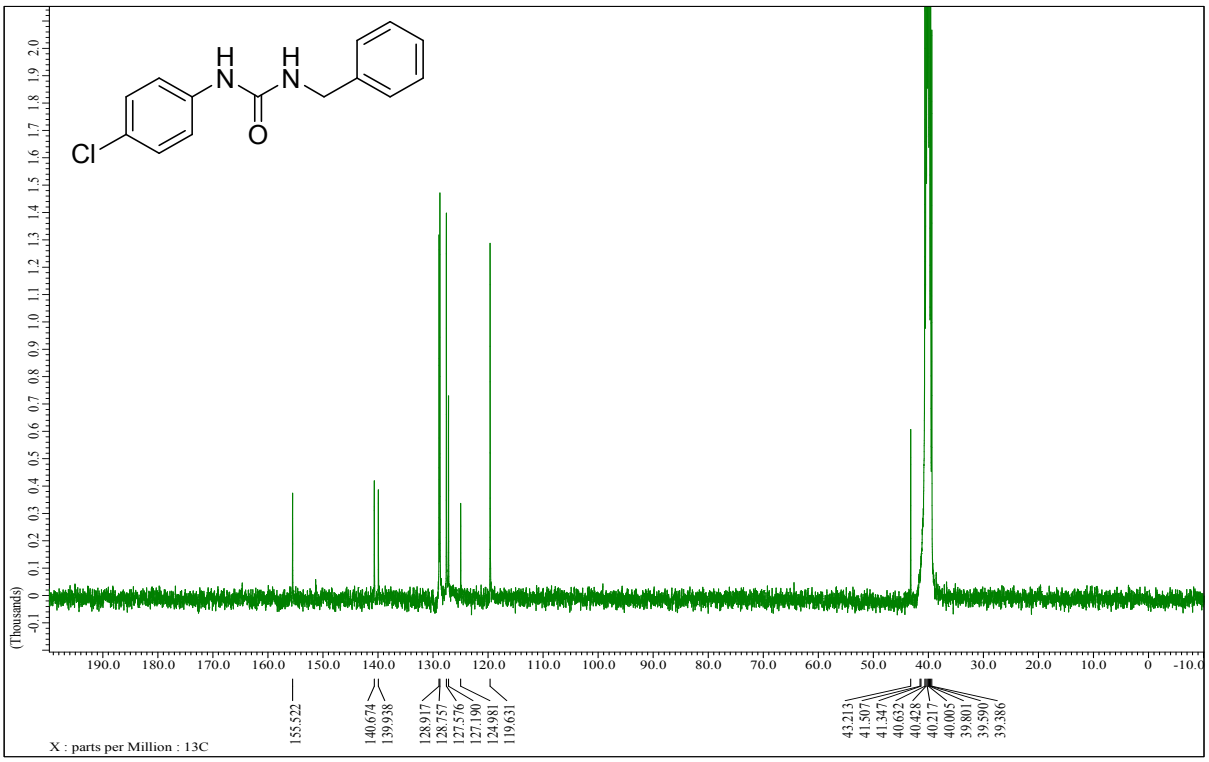


^{13}C NMR spectrum of *N*-*p*-tolylpiperidine-1-carboxamide **(3h)**

1-benzyl-3-(4-chlorophenyl)urea (3i)

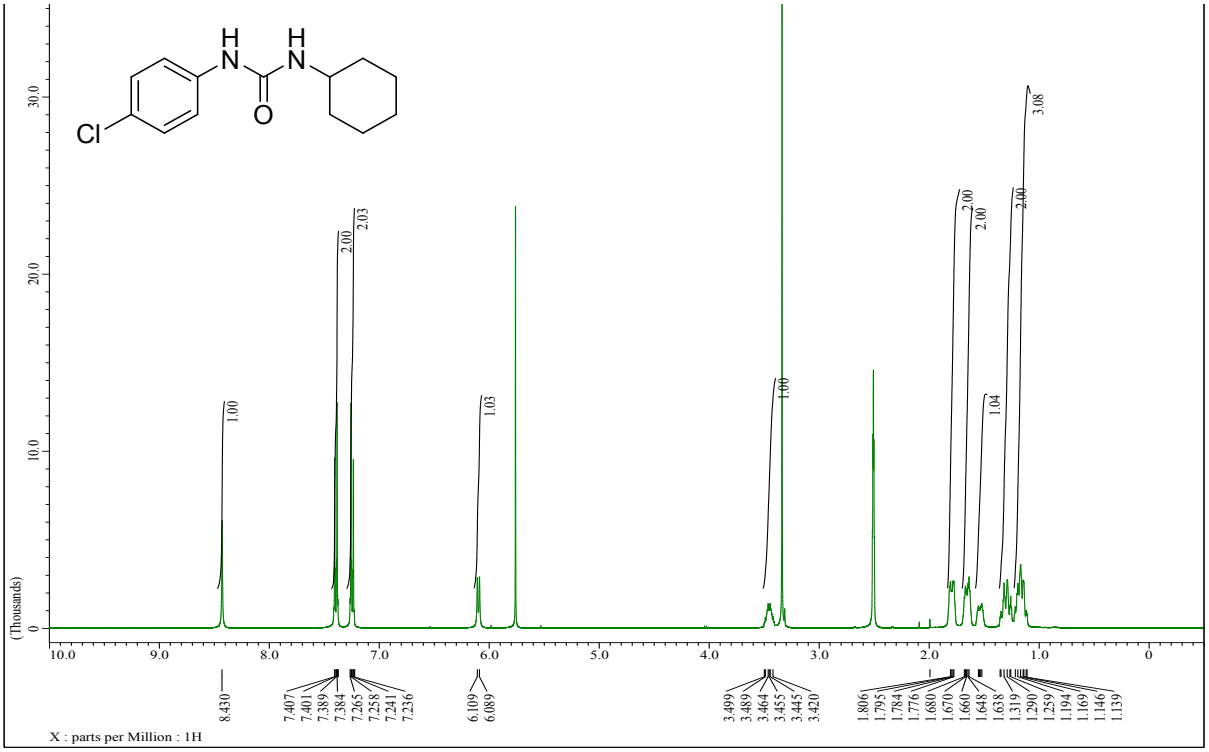


^{1}H NMR spectrum of 1-benzyl-3-(4-chlorophenyl)urea **(3i)**

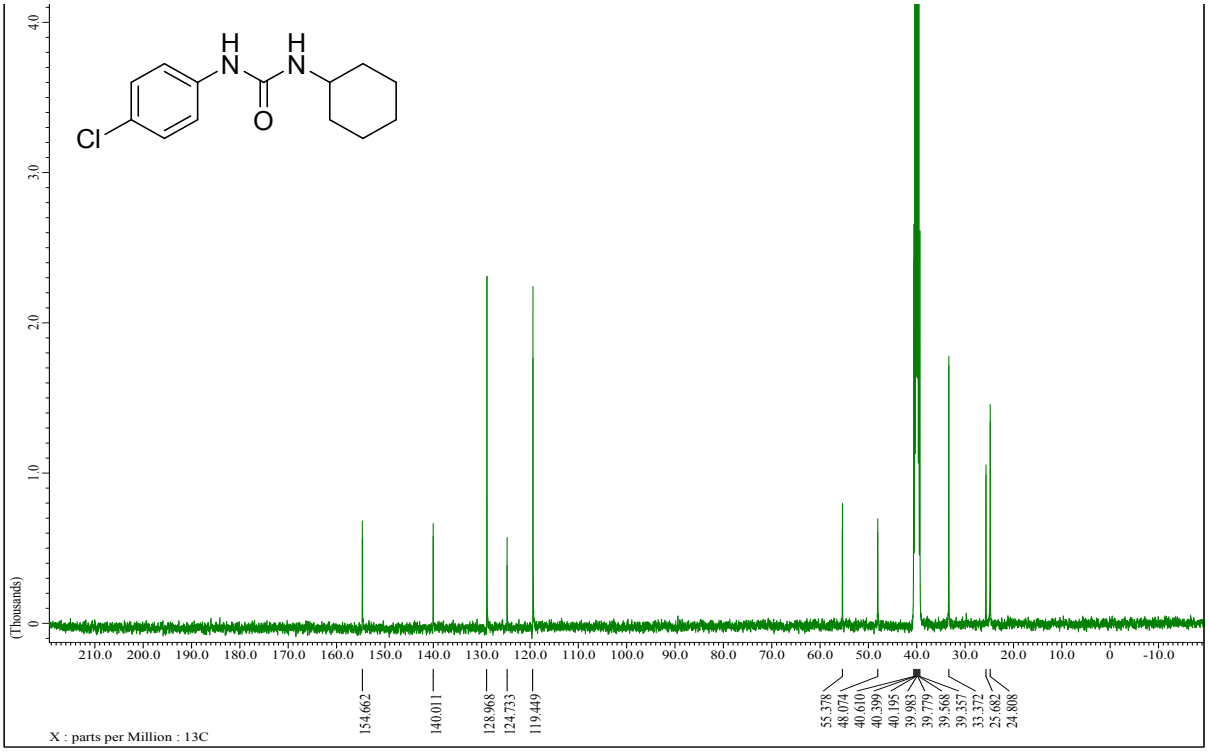


^{13}C NMR spectrum of 1-benzyl-3-(4-chlorophenyl)urea **(3i)**

1-(4-chlorophenyl)-3-cyclohexylurea (3j)

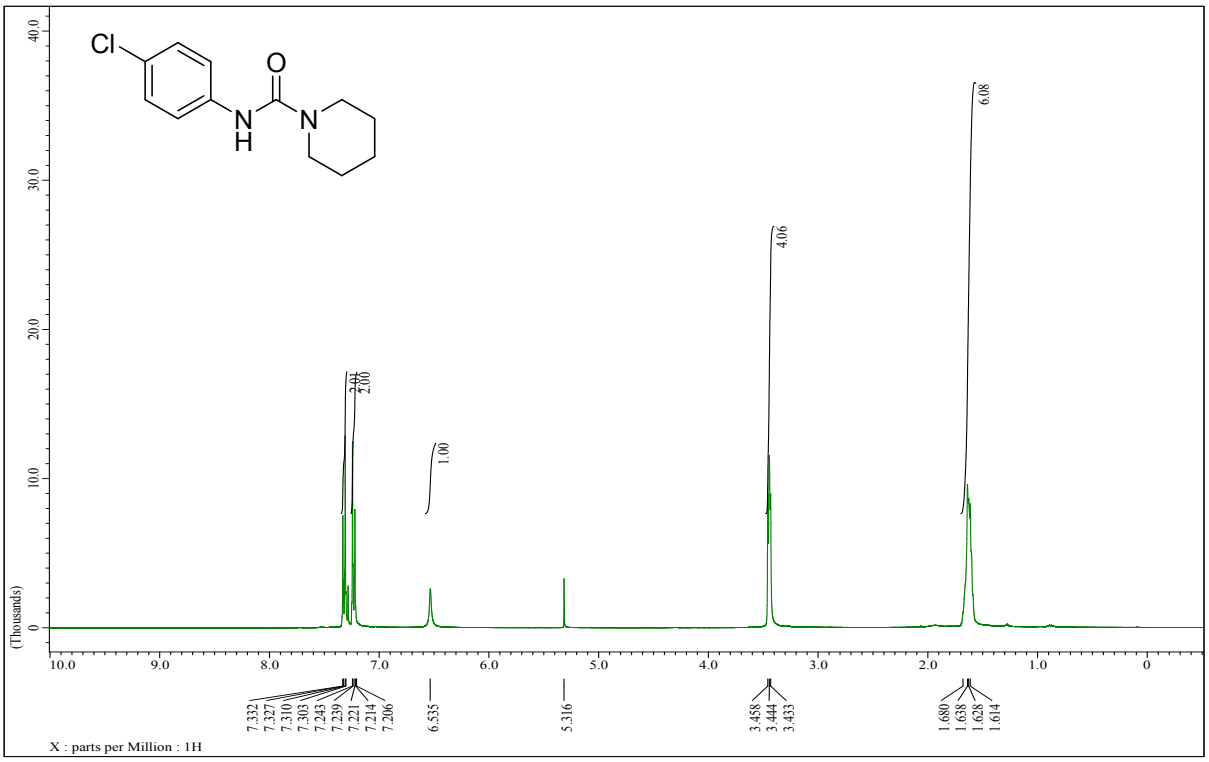


^{1}H NMR spectrum of 1-(4-chlorophenyl)-3-cyclohexylurea **(3j)**

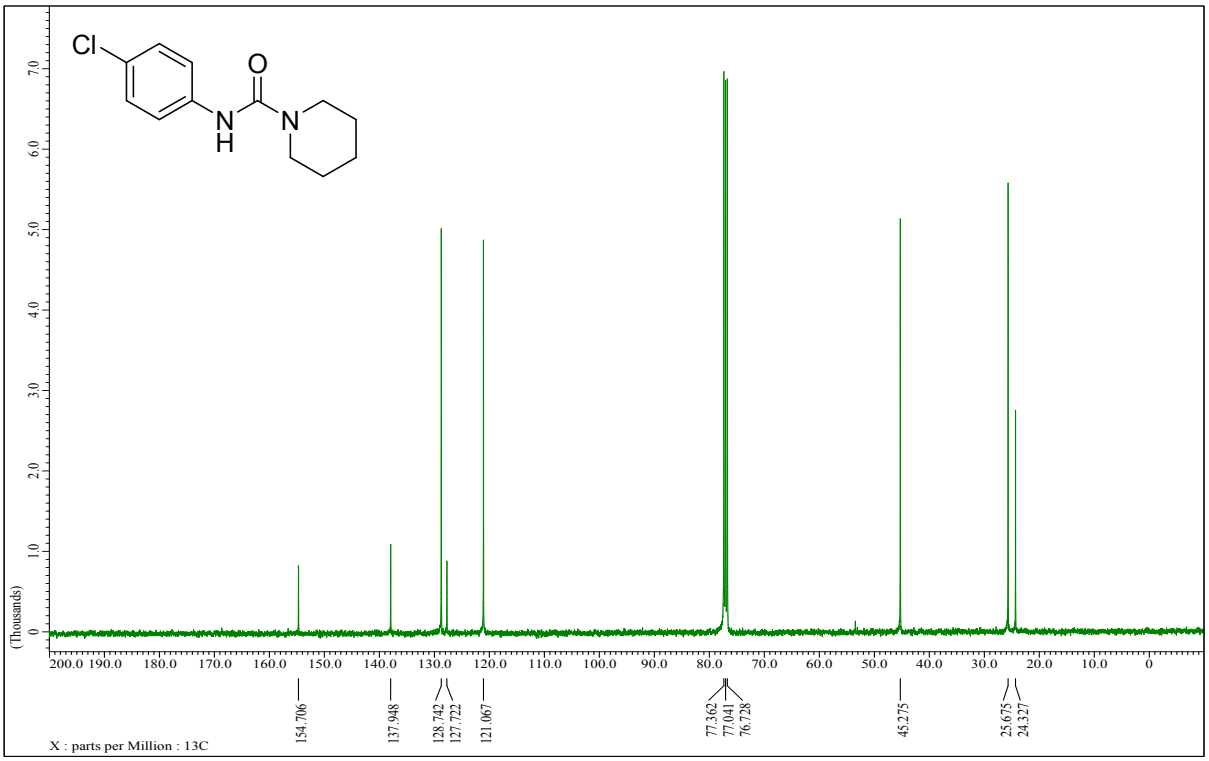


^{13}C NMR spectrum of 1-(4-chlorophenyl)-3-cyclohexylurea **(3j)**

***N*-(4-chlorophenyl)piperidine-1-carboxamide (3k)**

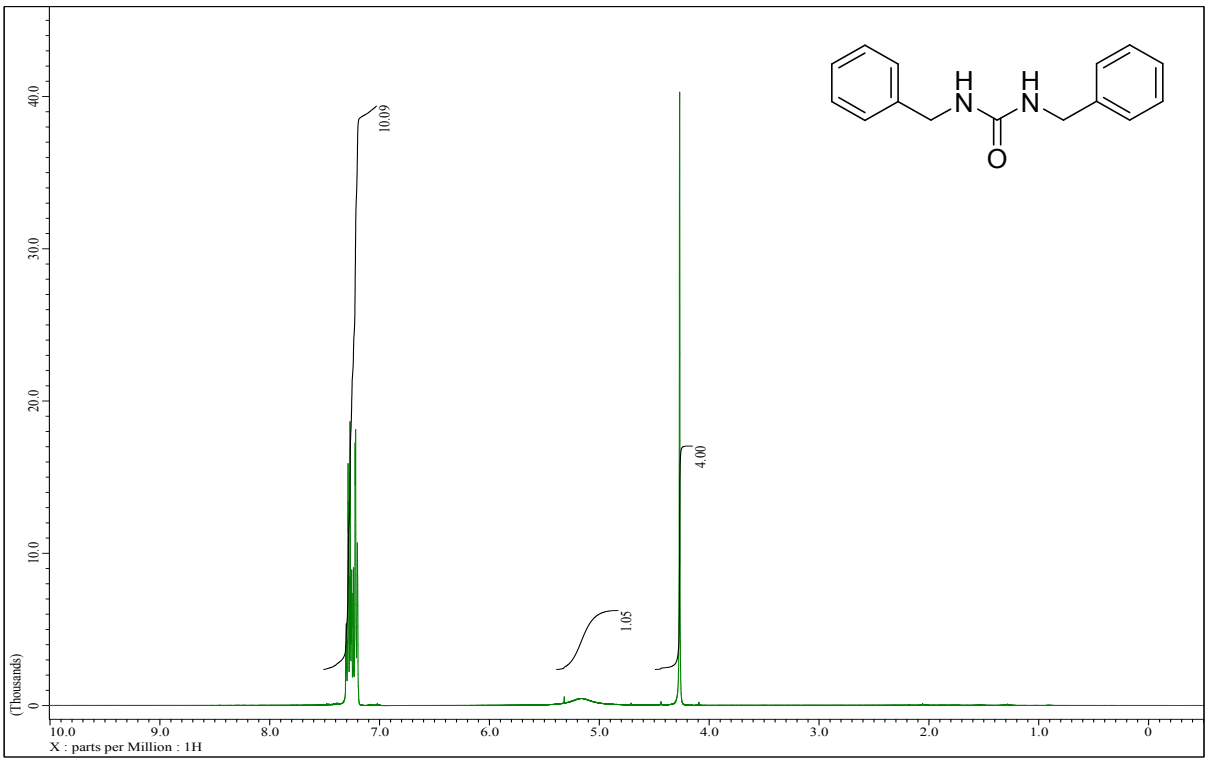


^{1}H NMR spectrum of *N*-(4-chlorophenyl)piperidine-1-carboxamide (**3k**)

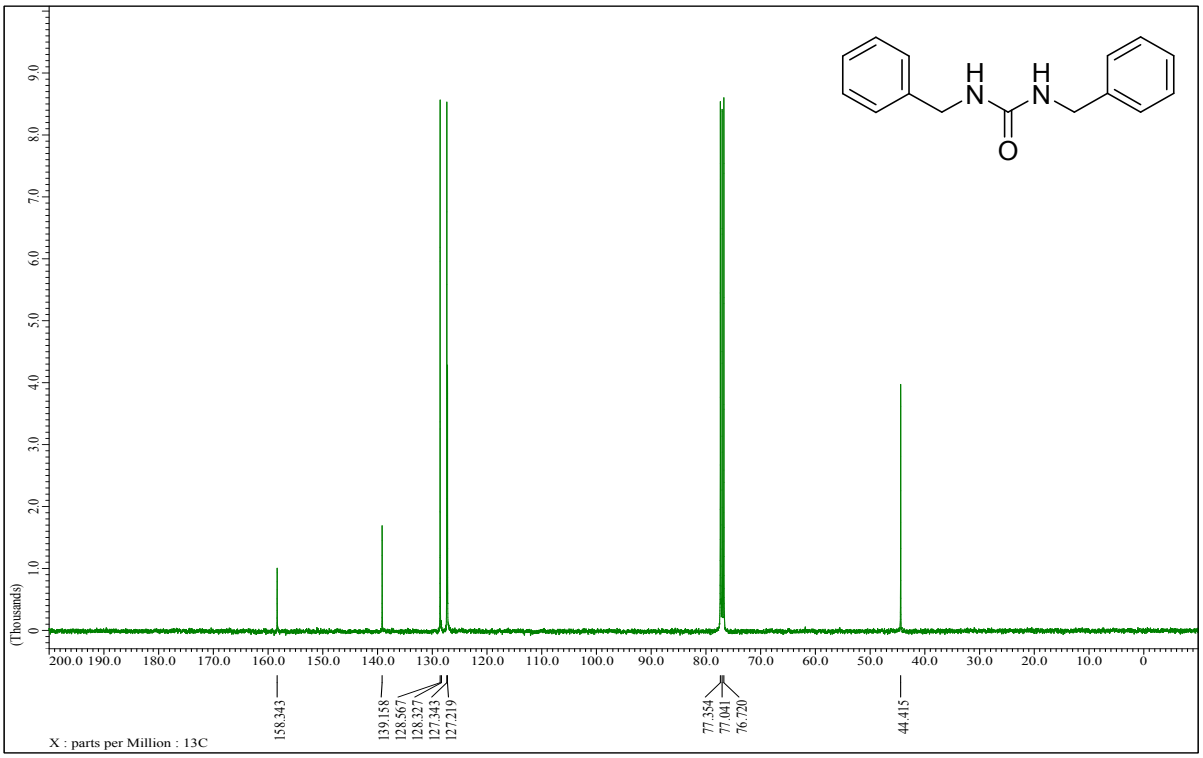


^{13}C NMR spectrum *N*-(4-chlorophenyl)piperidine-1-carboxamide (**3k**)

1,3-dibenzylurea (3l)

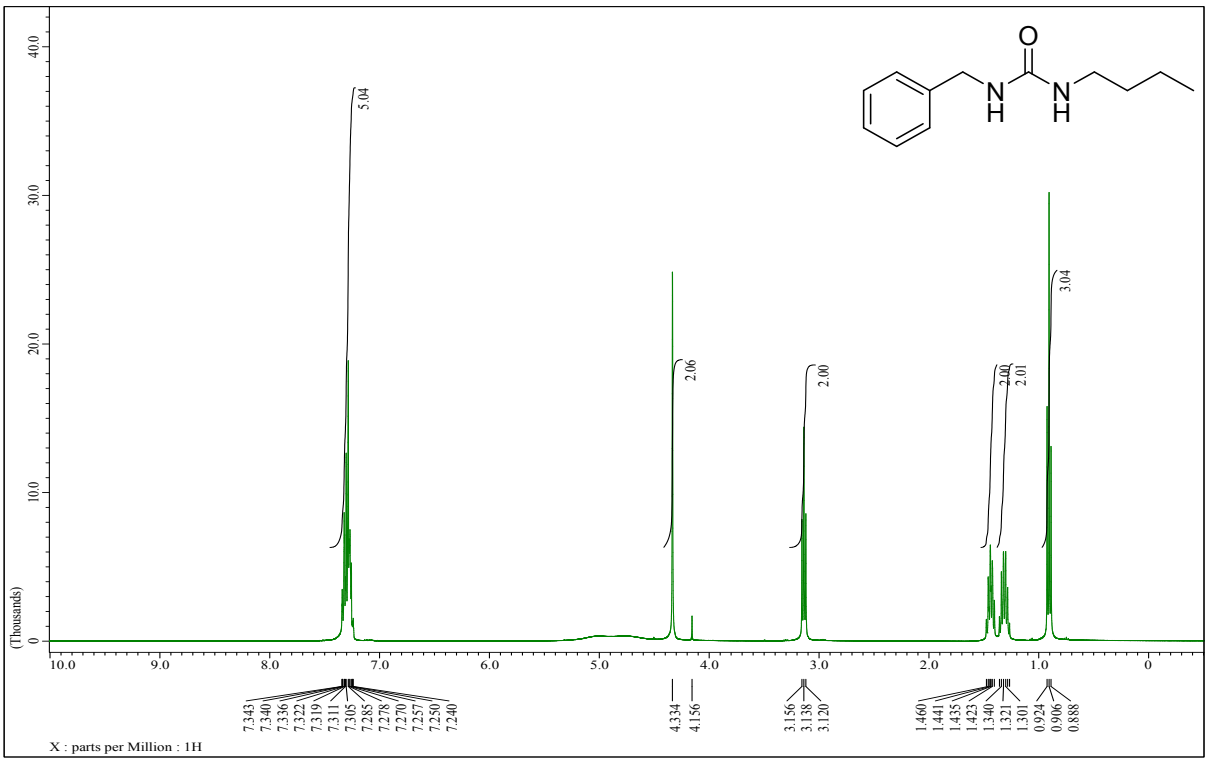


^{1}H NMR spectrum of 1,3-dibenzylurea **(3l)**

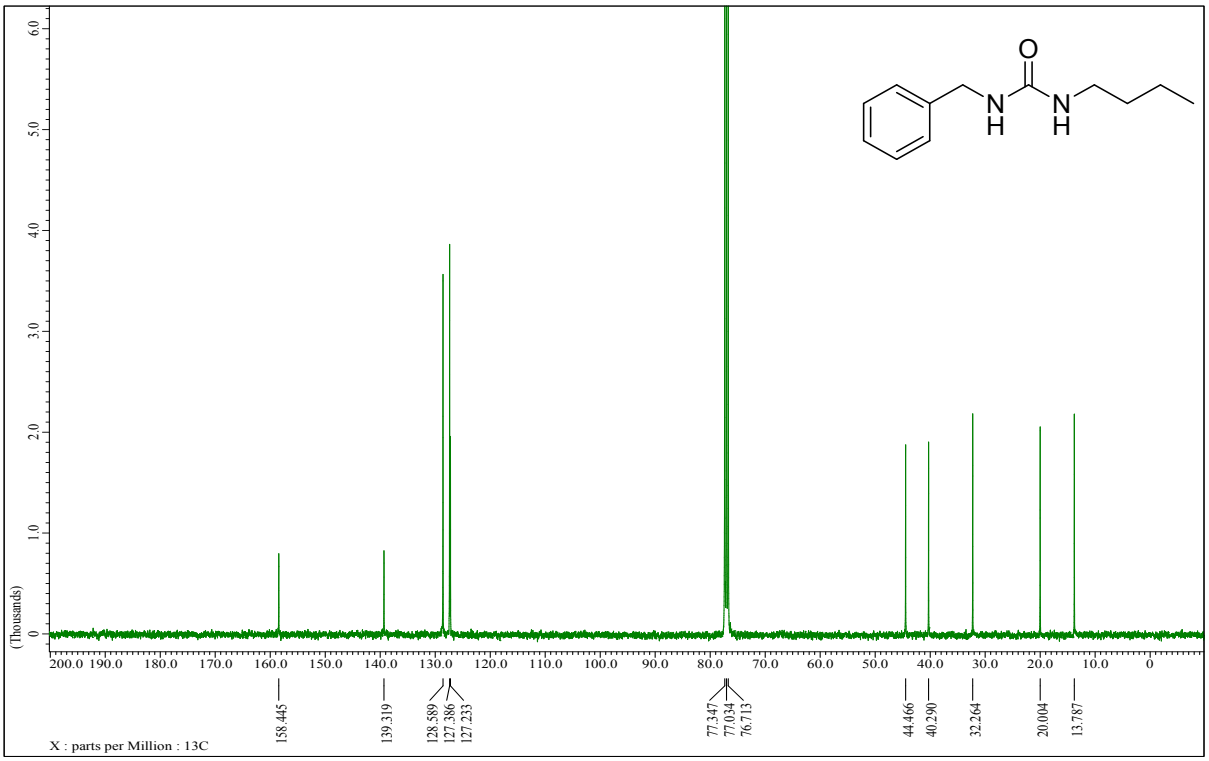


^{13}C NMR spectrum 1,3-dibenzylurea **(3l)**

1-benzyl-3-butylurea (3m)

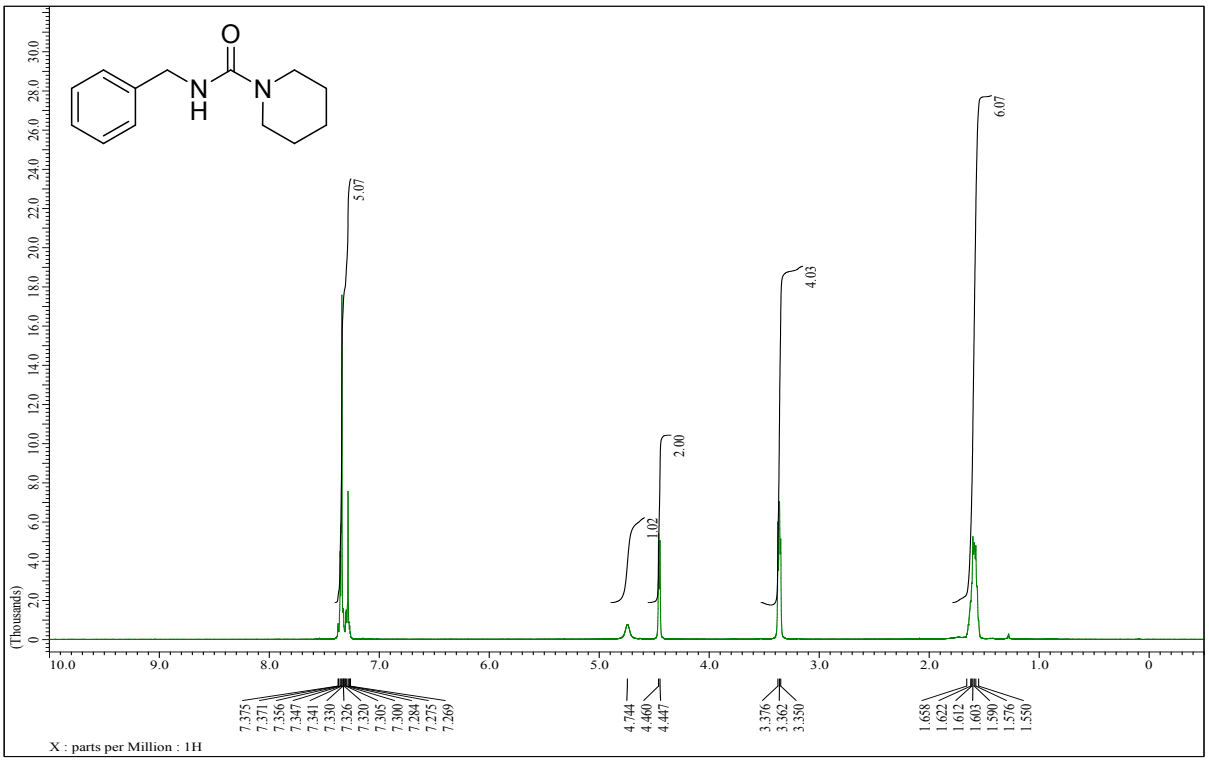


^{1}H NMR spectrum of 1-benzyl-3-butylurea **(3m)**

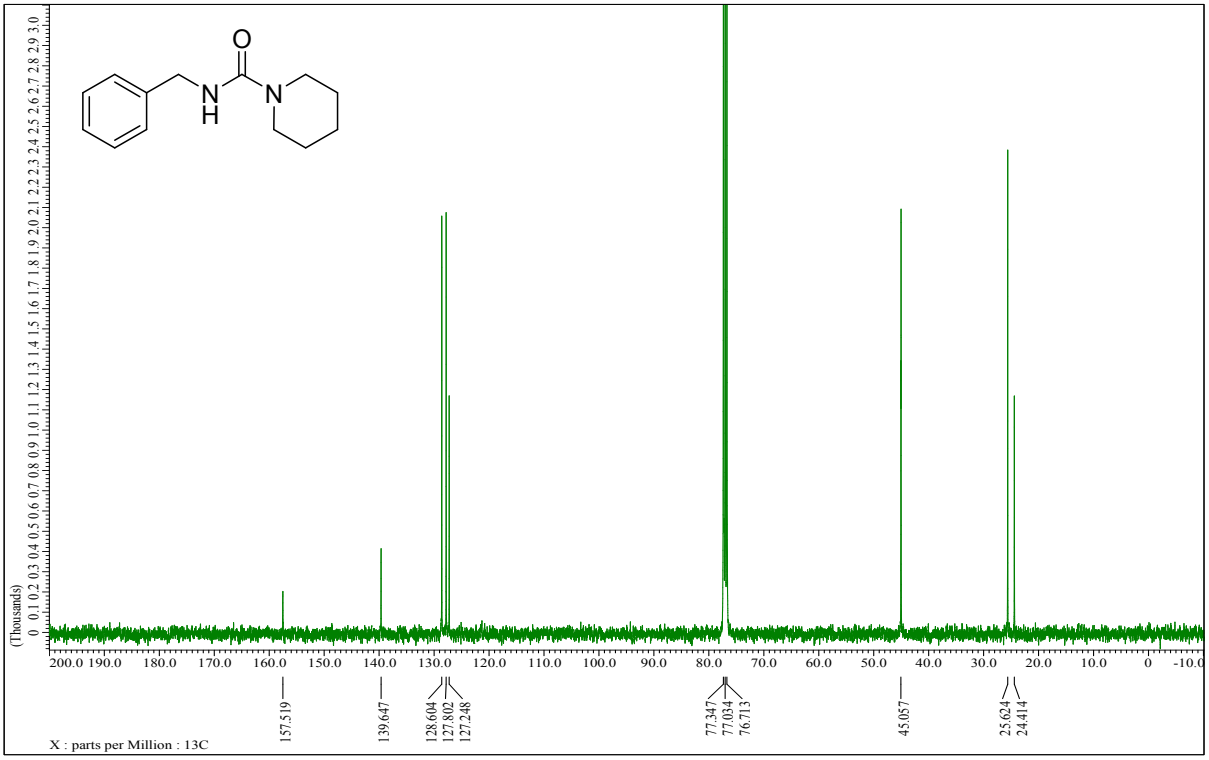


^{13}C NMR spectrum of 1-benzyl-3-butylurea **(3m)**

N-benzylpiperidine-1-carboxamide (3o)

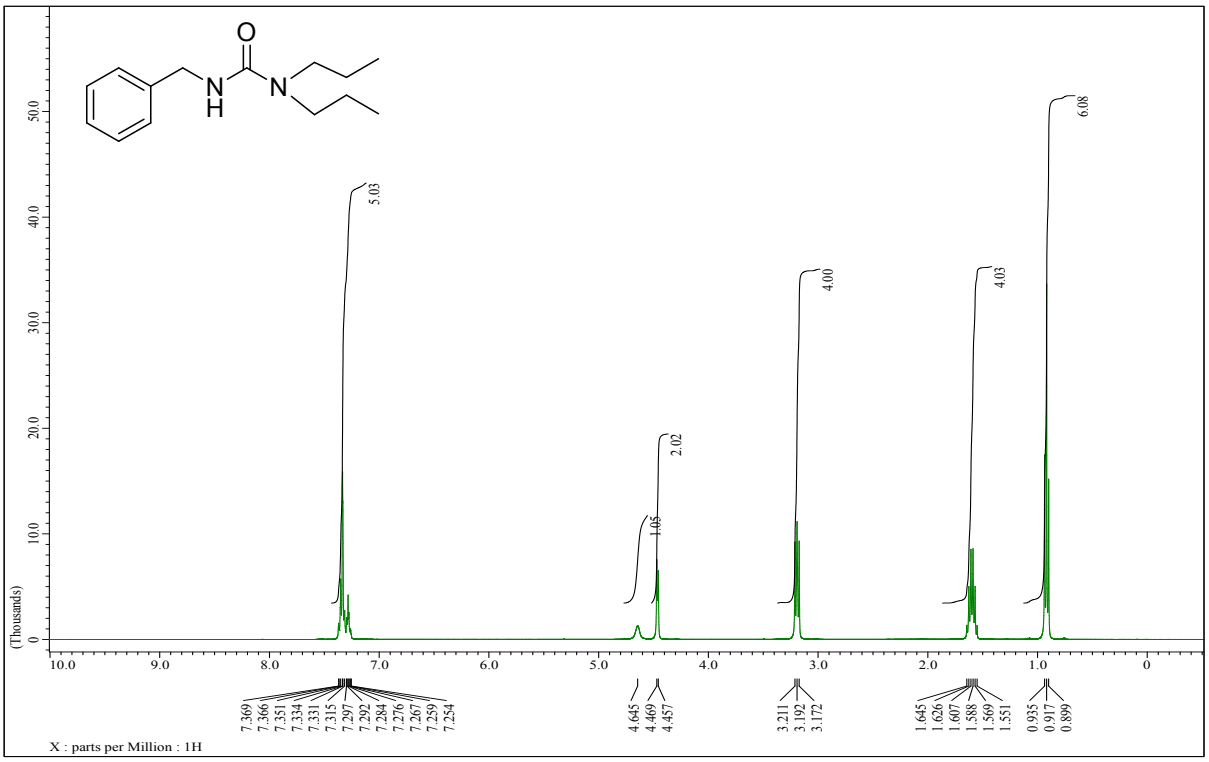


^{1}H NMR spectrum of *N*-benzylpiperidine-1-carboxamide **(3o)**

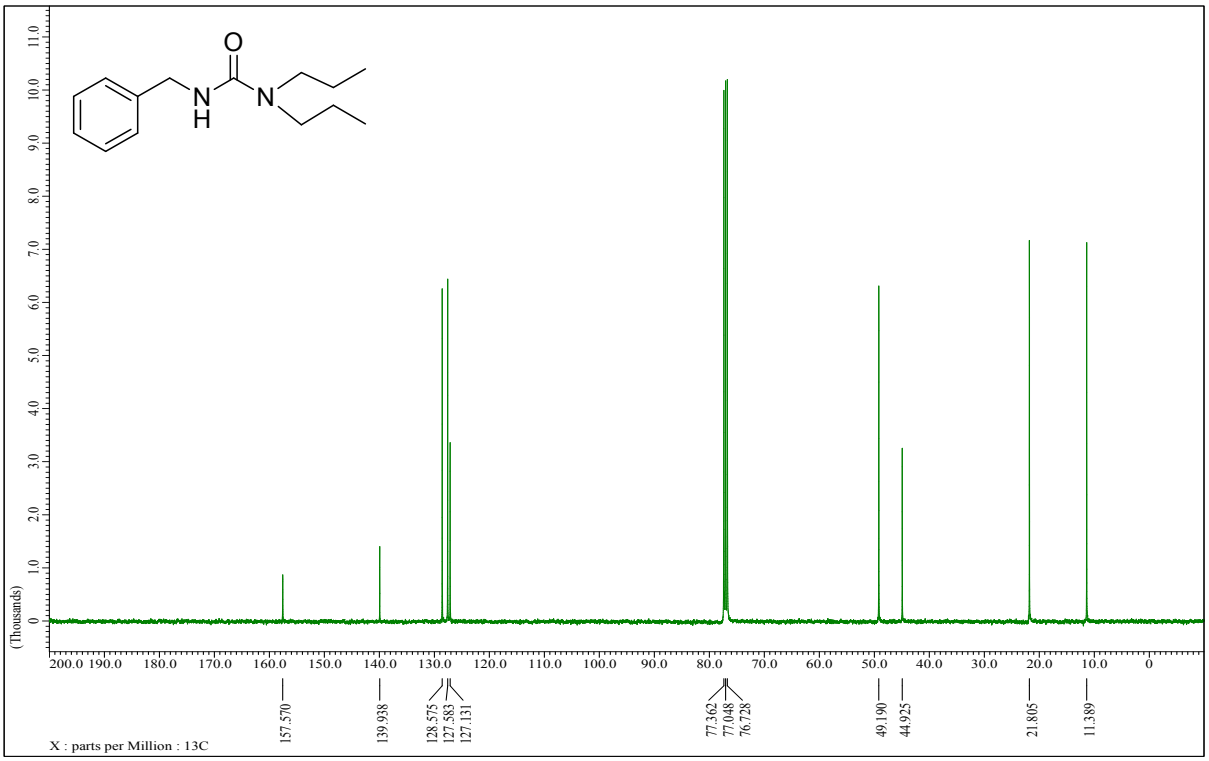


^{13}C NMR spectrum of *N*-benzylpiperidine-1-carboxamide **(3o)**

3-benzyl-1,1-dipropylurea (3p)

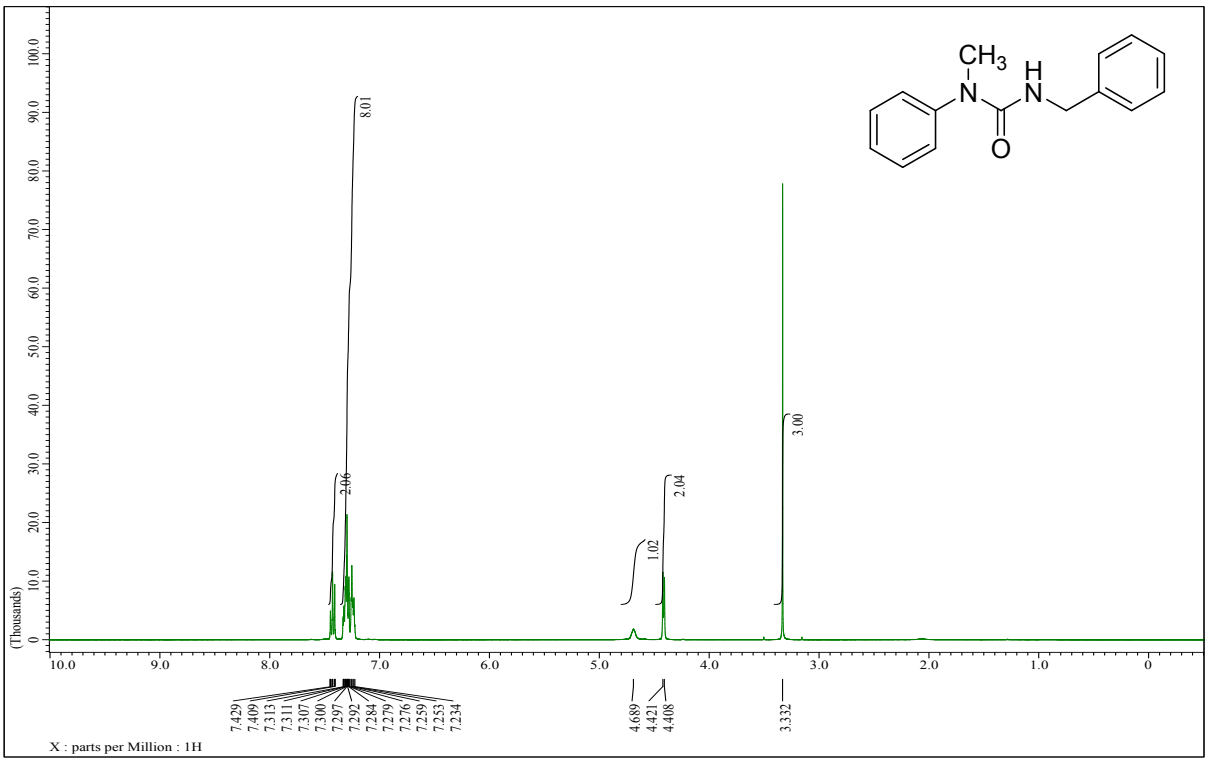


^{1}H NMR spectrum of 3-benzyl-1,1-dipropylurea **(3p)**

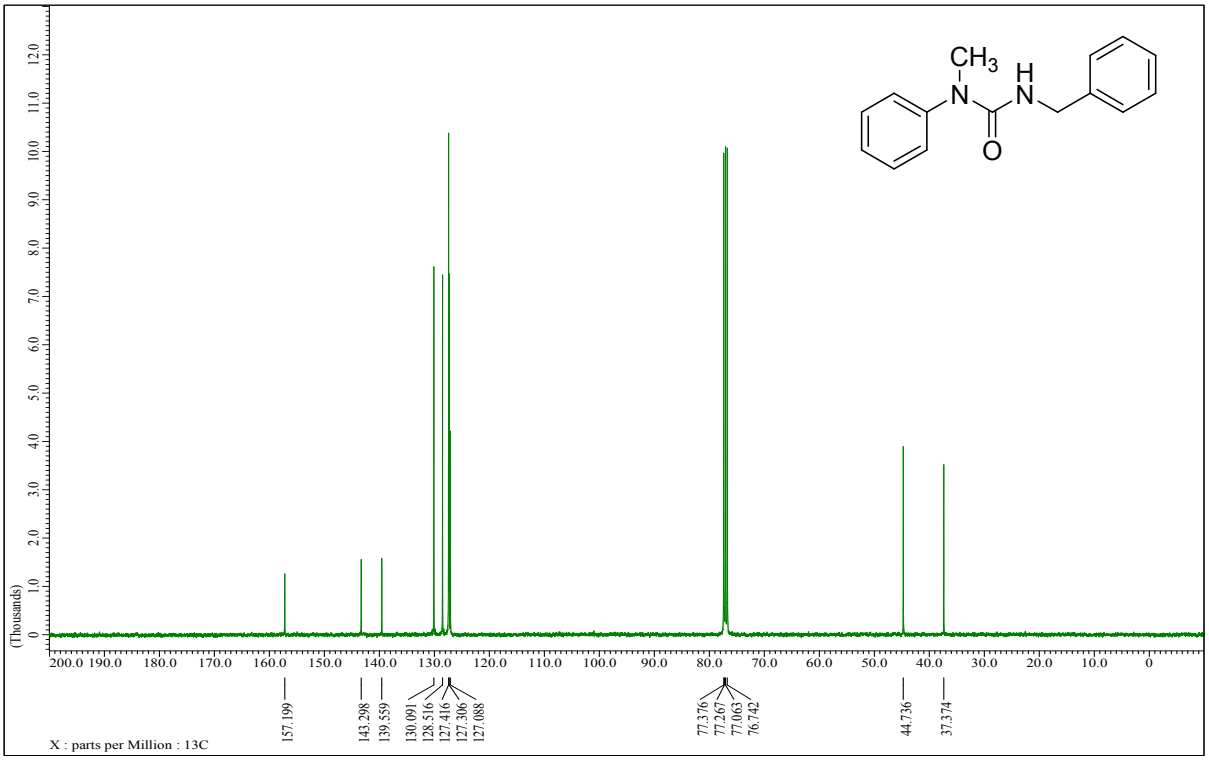


^{13}C NMR spectrum of 3-benzyl-1,1-dipropylurea **(3p)**

3-benzyl-1-methyl-1-phenylurea (3q)

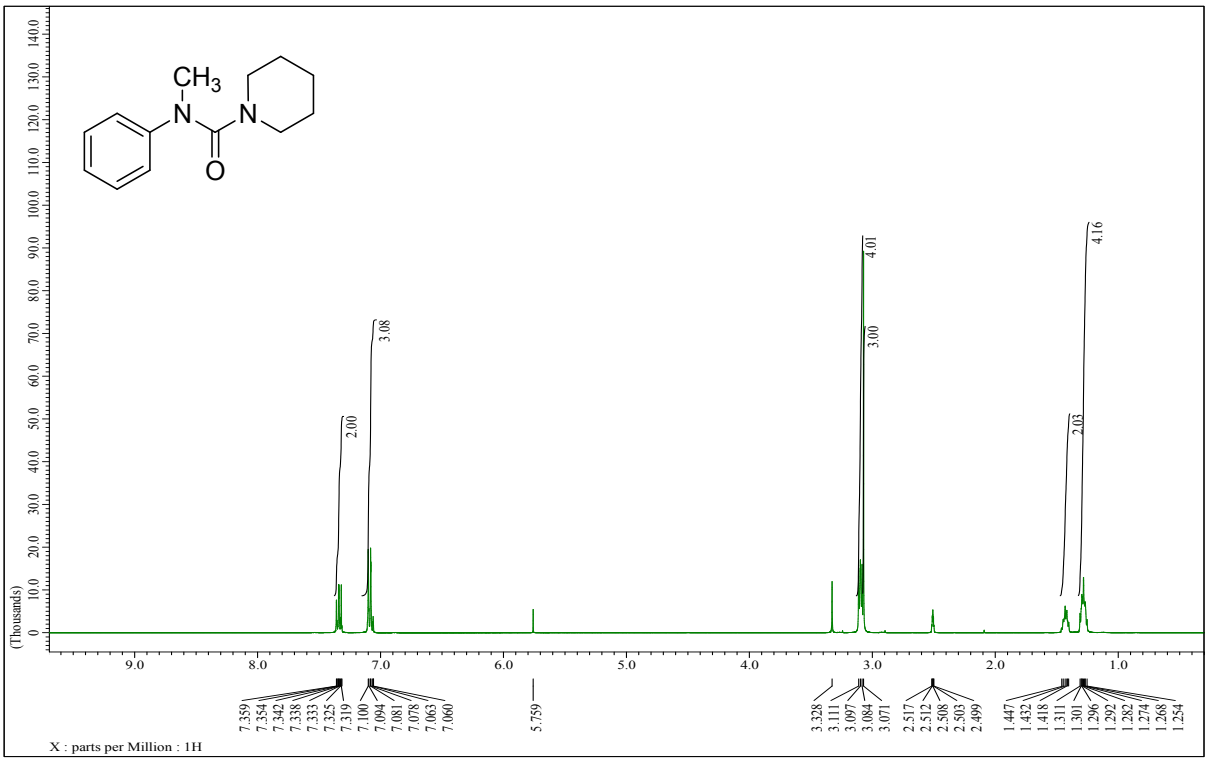


^{1}H NMR spectrum of 3-benzyl-1-methyl-1-phenylurea **(3q)**

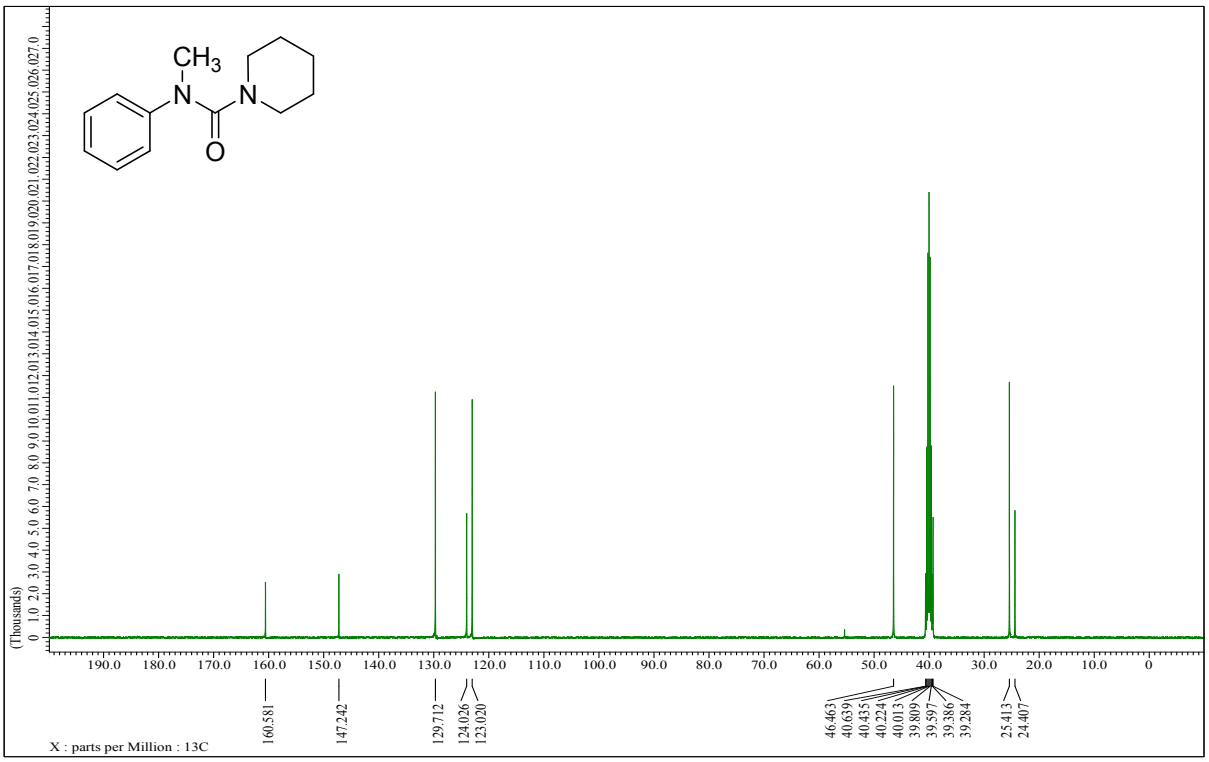


^{13}C NMR spectrum of 3-benzyl-1-methyl-1-phenylurea **(3q)**

***N*-methyl-*N*-phenylpiperidine-1-carboxamide (3r)**

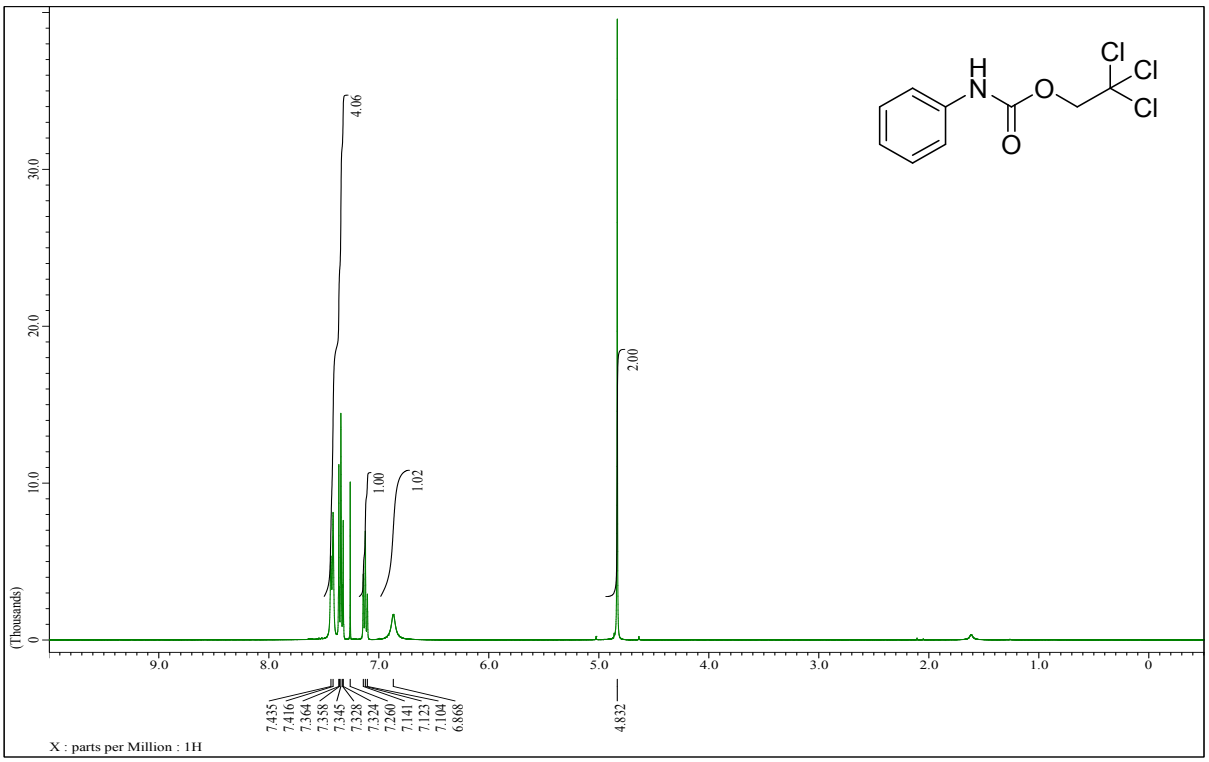


^{1}H NMR spectrum of *N*-methyl-*N*-phenylpiperidine-1-carboxamide **(3r)**

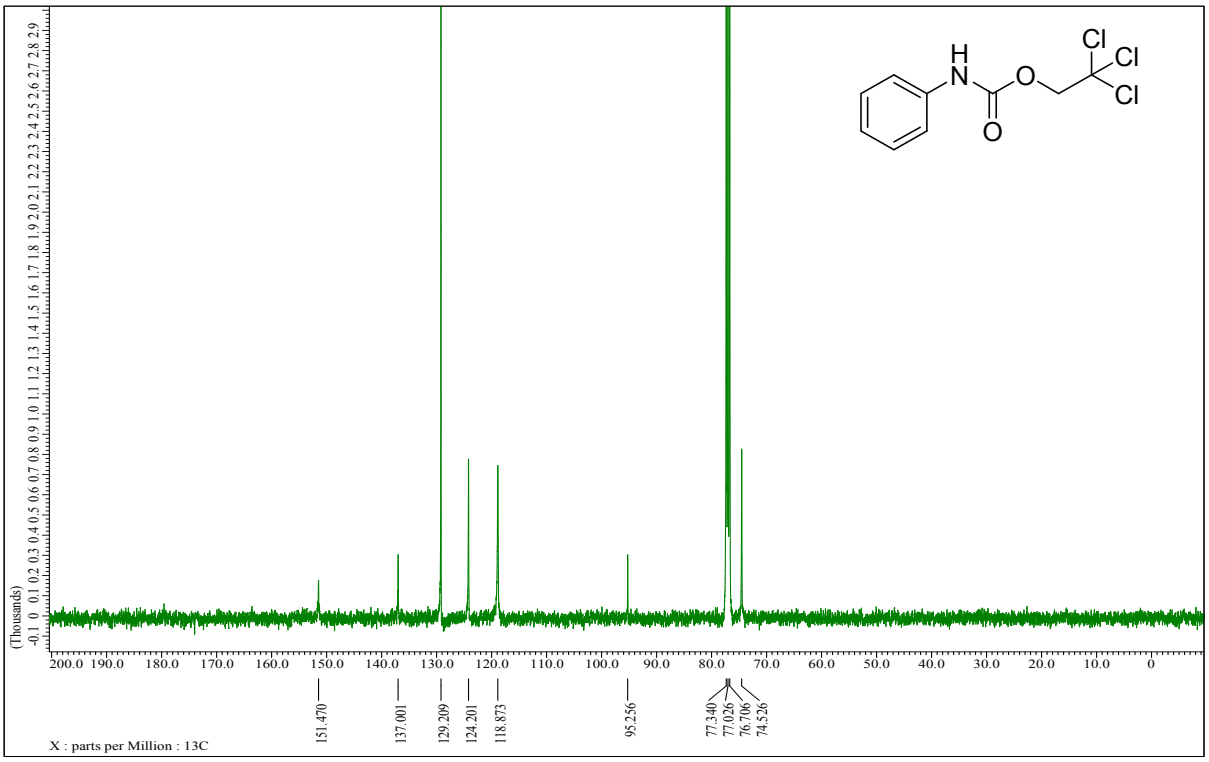


^{13}C NMR spectrum of N-methyl-N-phenylpiperidine-1-carboxamide **(3r)**

2,2,2-trichloroethyl phenylcarbamate (4a)

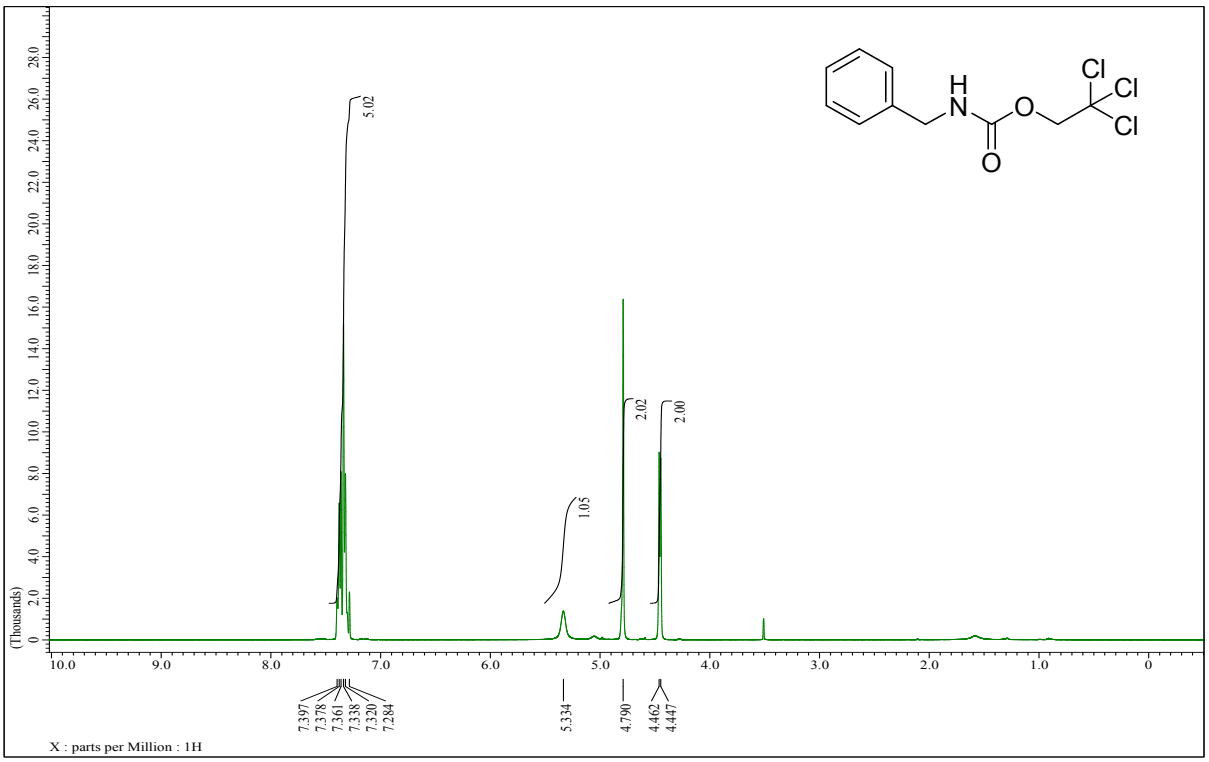


^{1}H NMR spectrum of 2,2,2-trichloroethyl phenylcarbamate **(4a)**

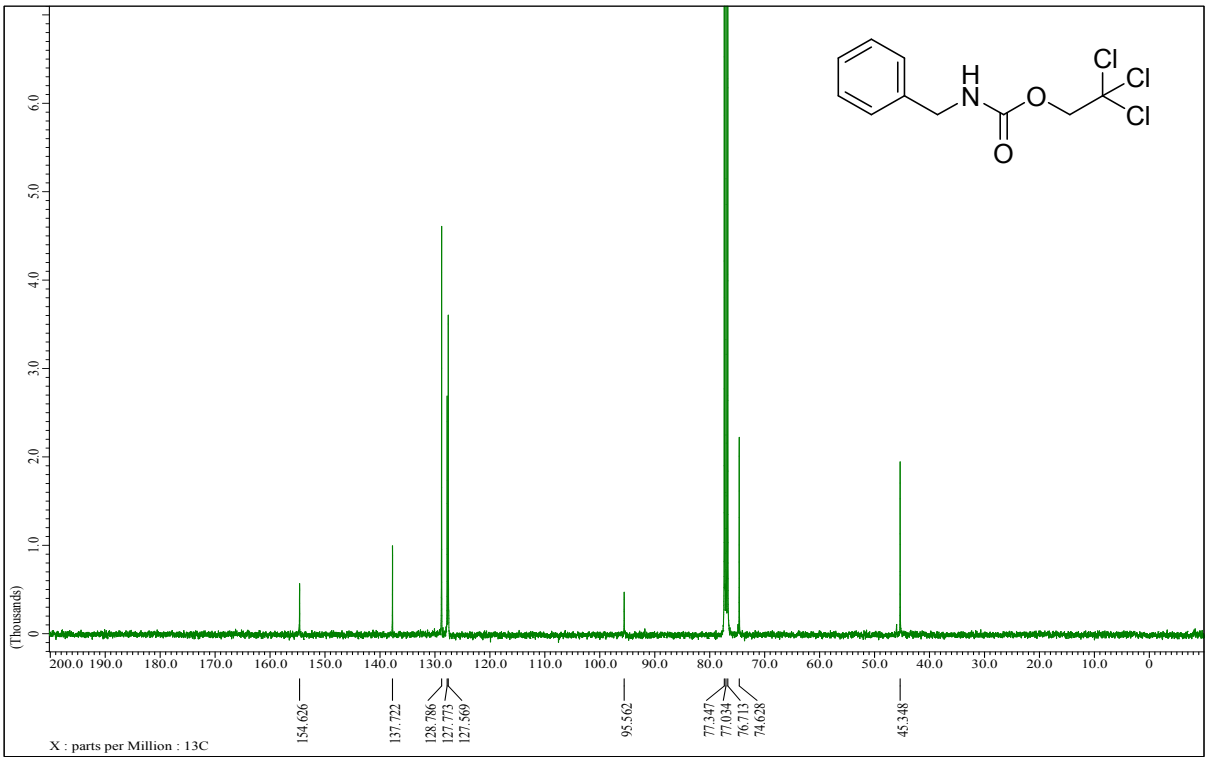


^{13}C NMR spectrum 2,2,2-trichloroethyl phenylcarbamate **(4a)**

2,2,2-trichloroethyl benzylcarbamate (4b)

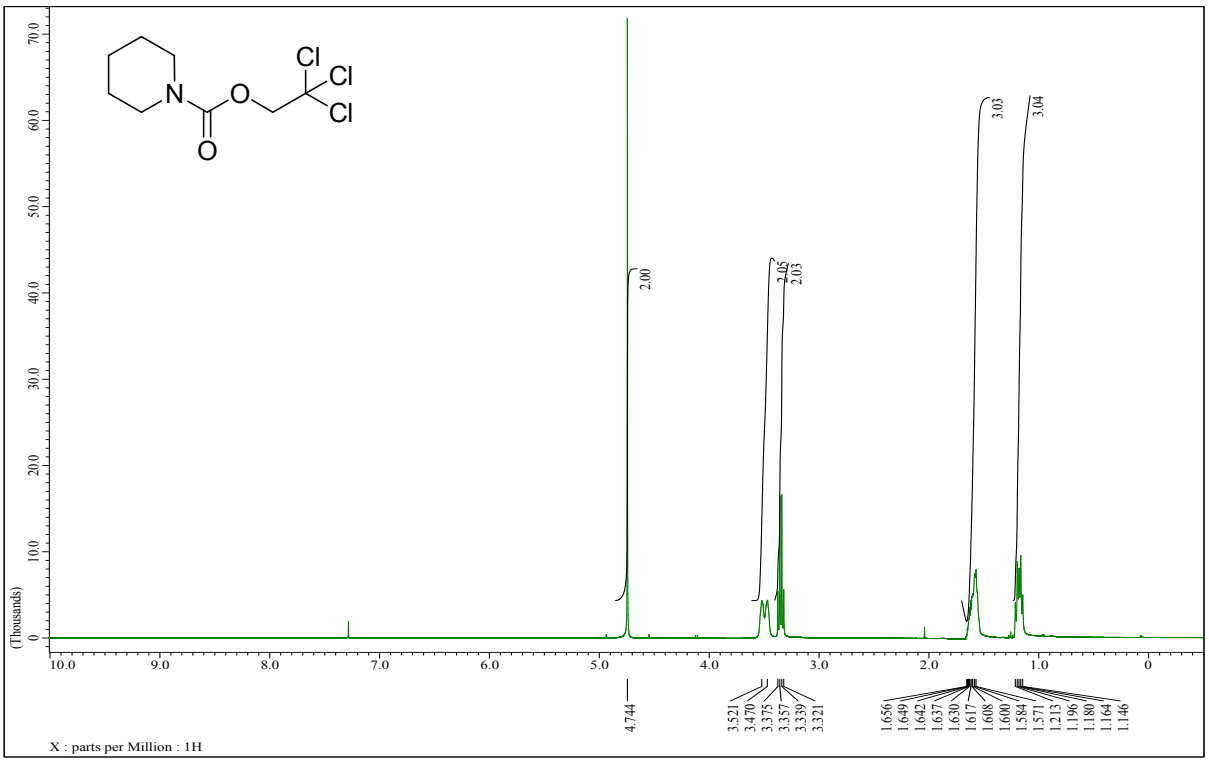


^{1}H NMR spectrum of 2,2,2-trichloroethyl benzylcarbamate **(4b)**

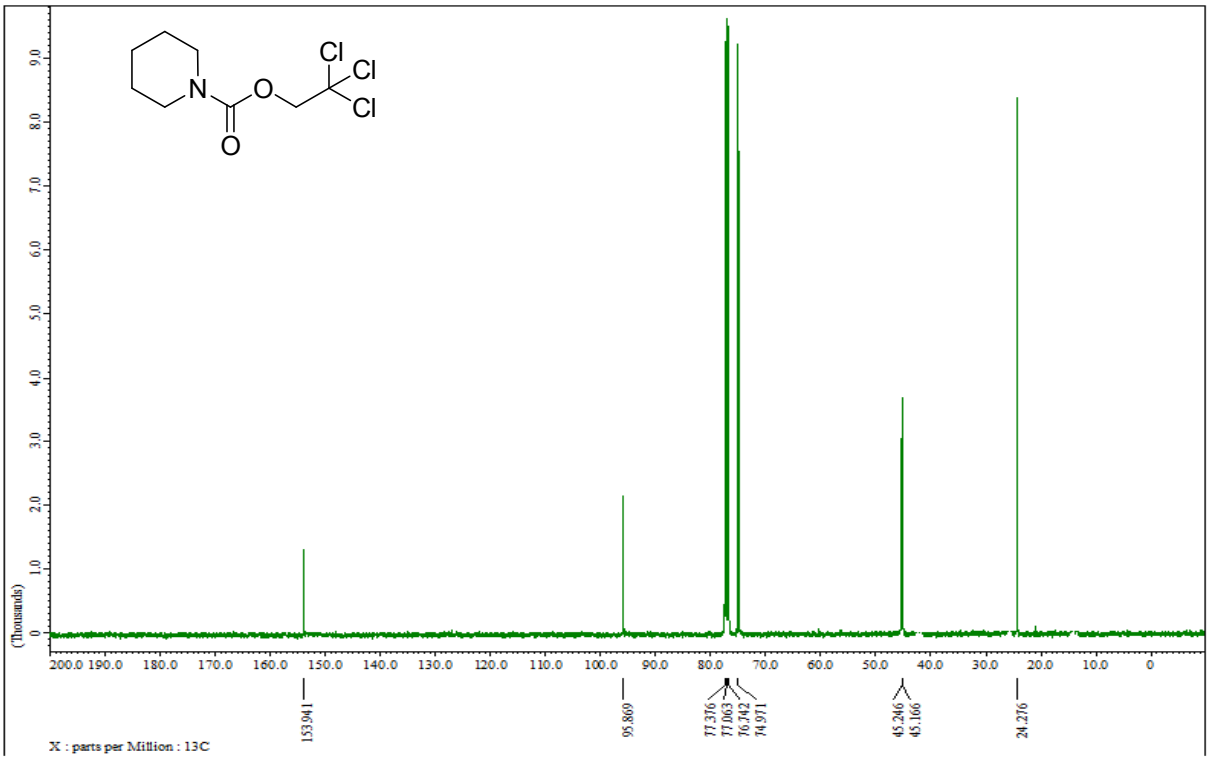


^{13}C NMR spectrum 2,2,2-trichloroethyl benzylcarbamate **(4b)**

2,2,2-trichloroethyl piperidine-1-carboxylate (4c)

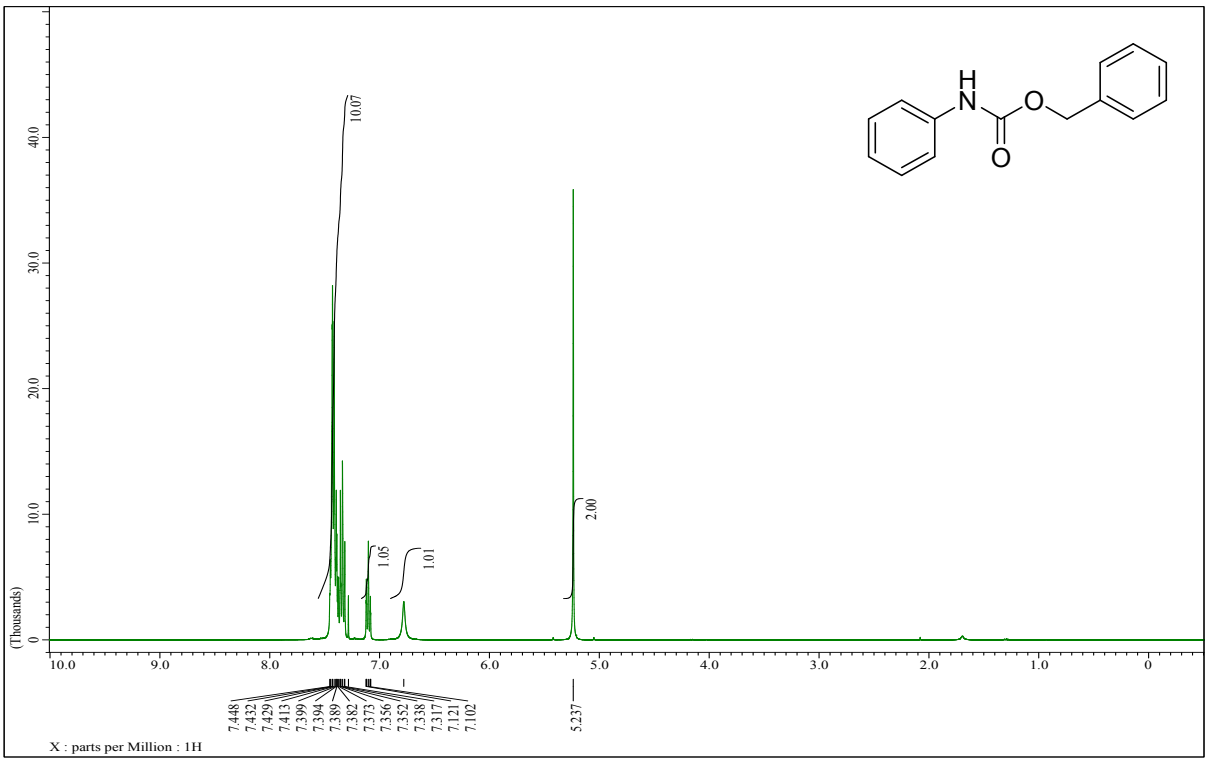


^{1}H NMR spectrum of 2,2,2-trichloroethyl piperidine-1-carboxylate **(4c)**

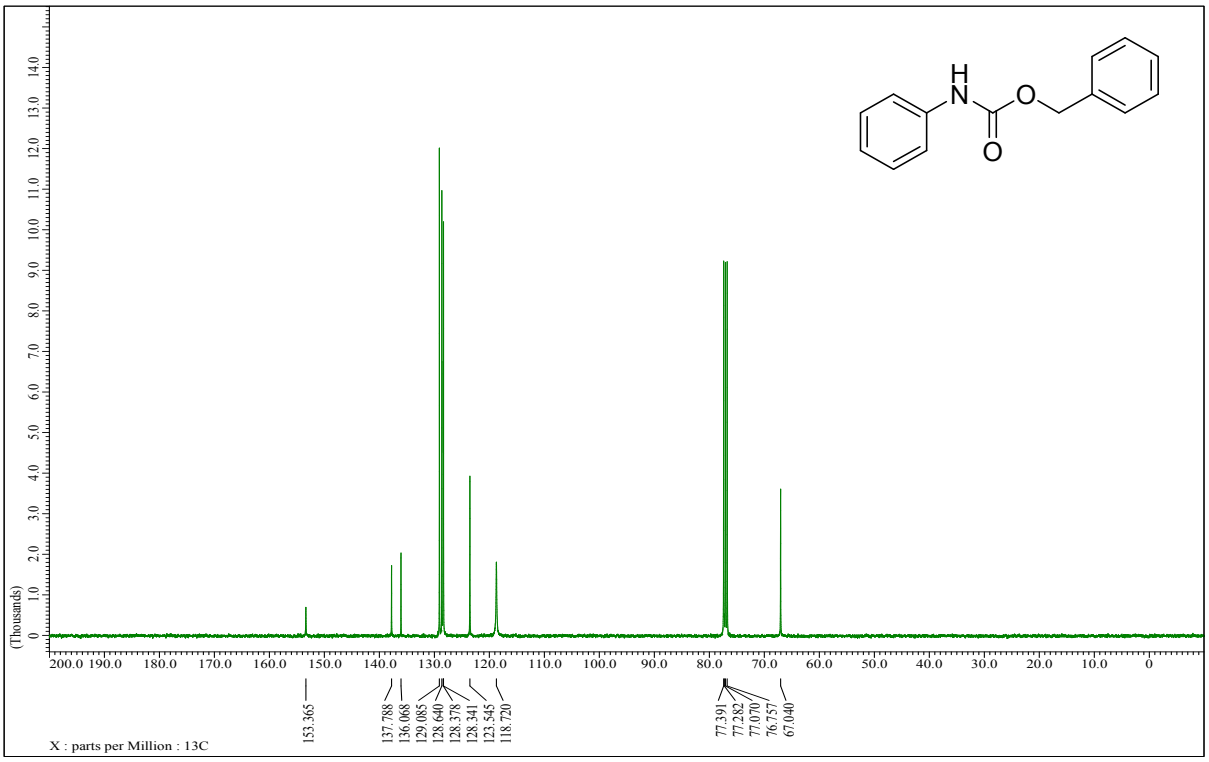


^{13}C NMR spectrum 2,2,2-trichloroethyl piperidine-1-carboxylate **(4c)**

Benzyl phenylcarbamate (4d)

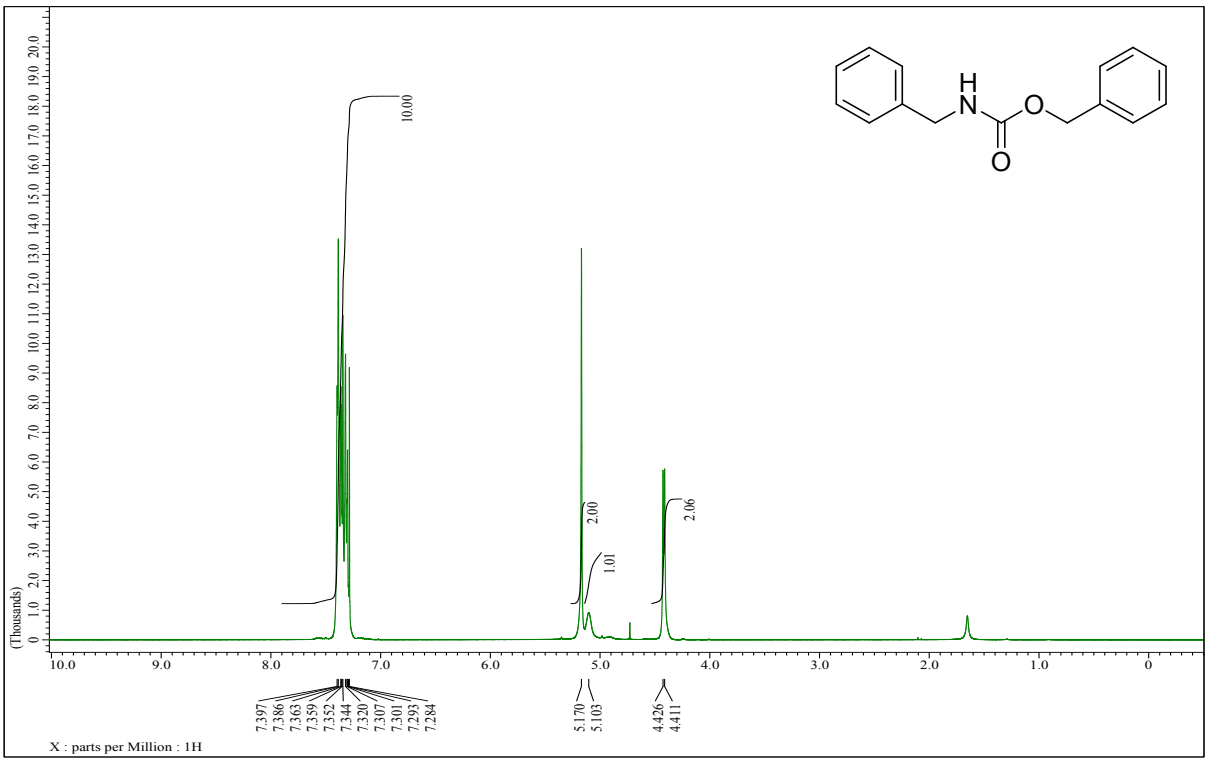


^{1}H NMR spectrum of Benzyl phenylcarbamate **(4d)**

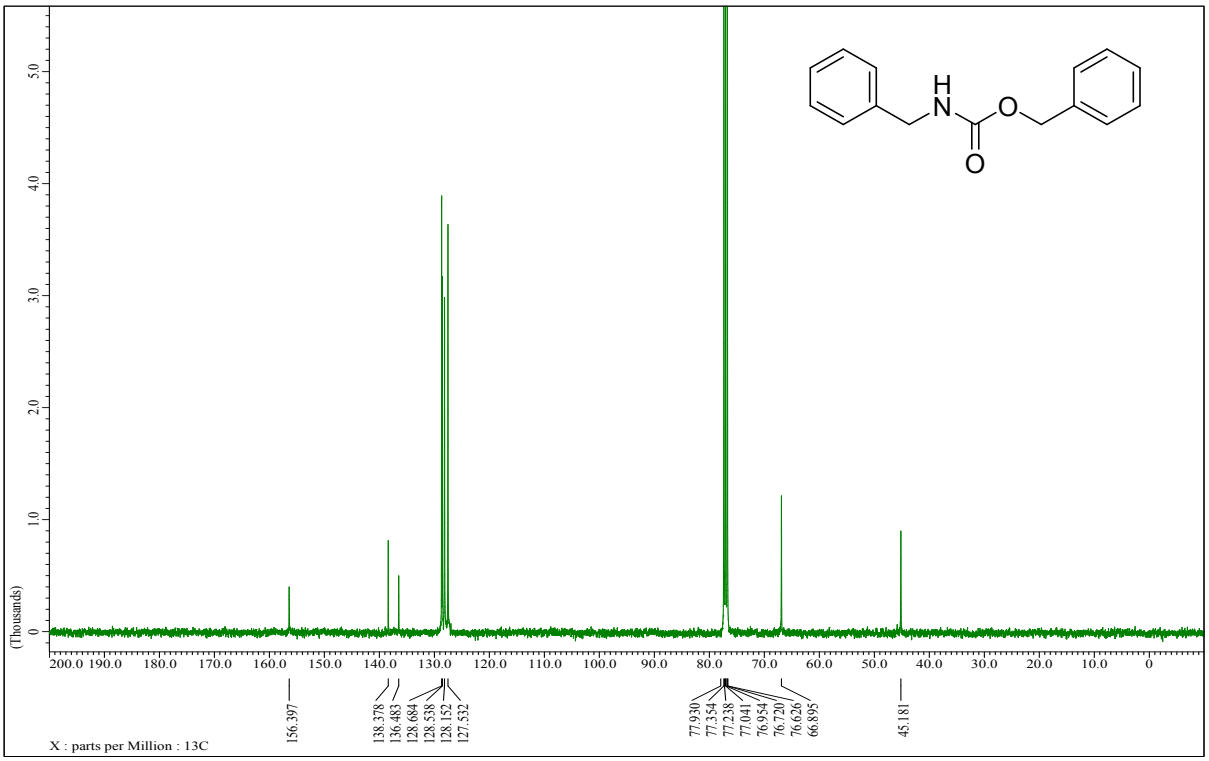


^{13}C NMR spectrum Benzyl phenylcarbamate **(4d)**

Benzyl benzylcarbamate (4e)

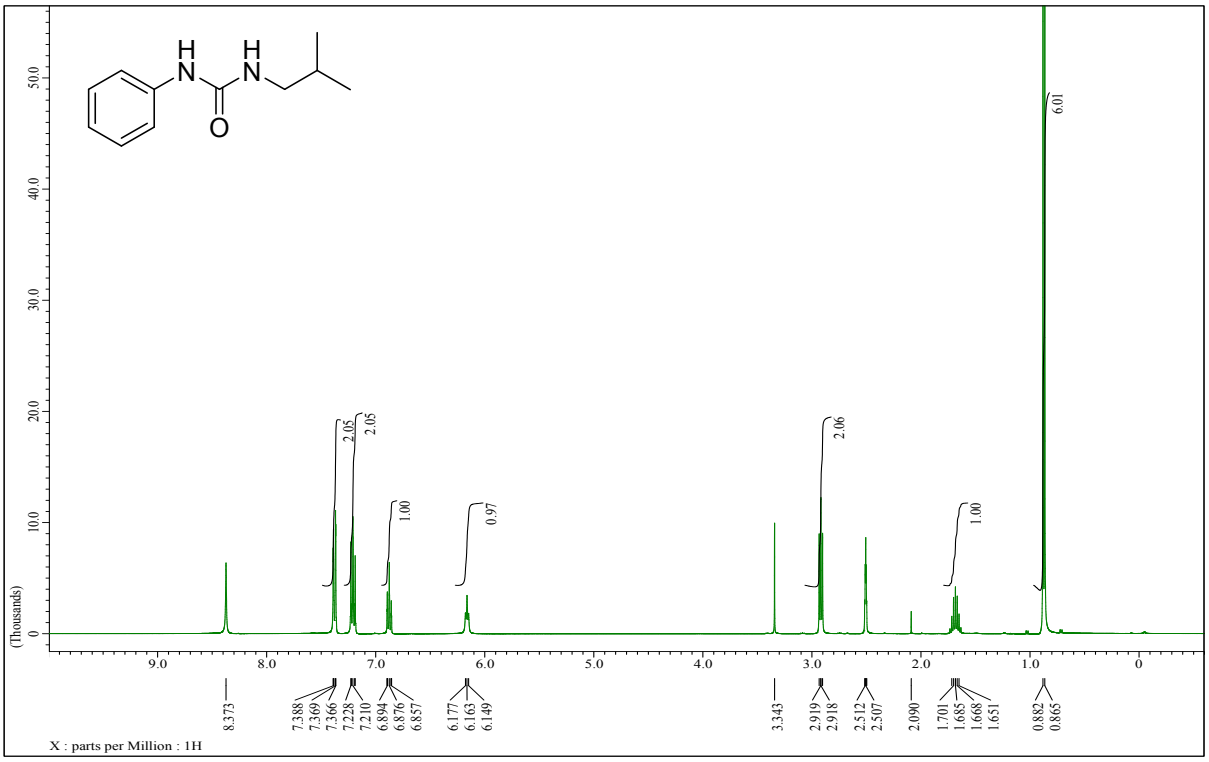


^{1}H NMR spectrum of benzyl benzylcarbamate **(4e)**

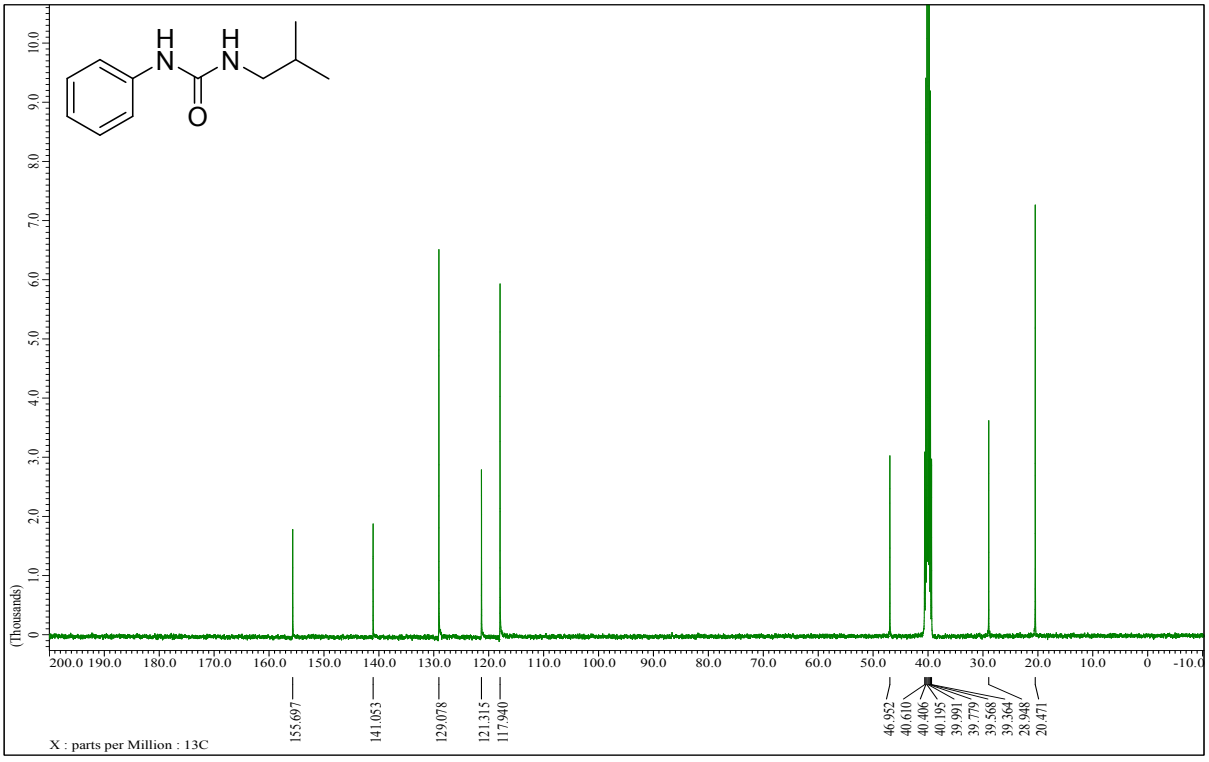


^{13}C NMR spectrum benzyl benzylcarbamate **(4e)**

1-isobutyl-3-phenylurea (6b)

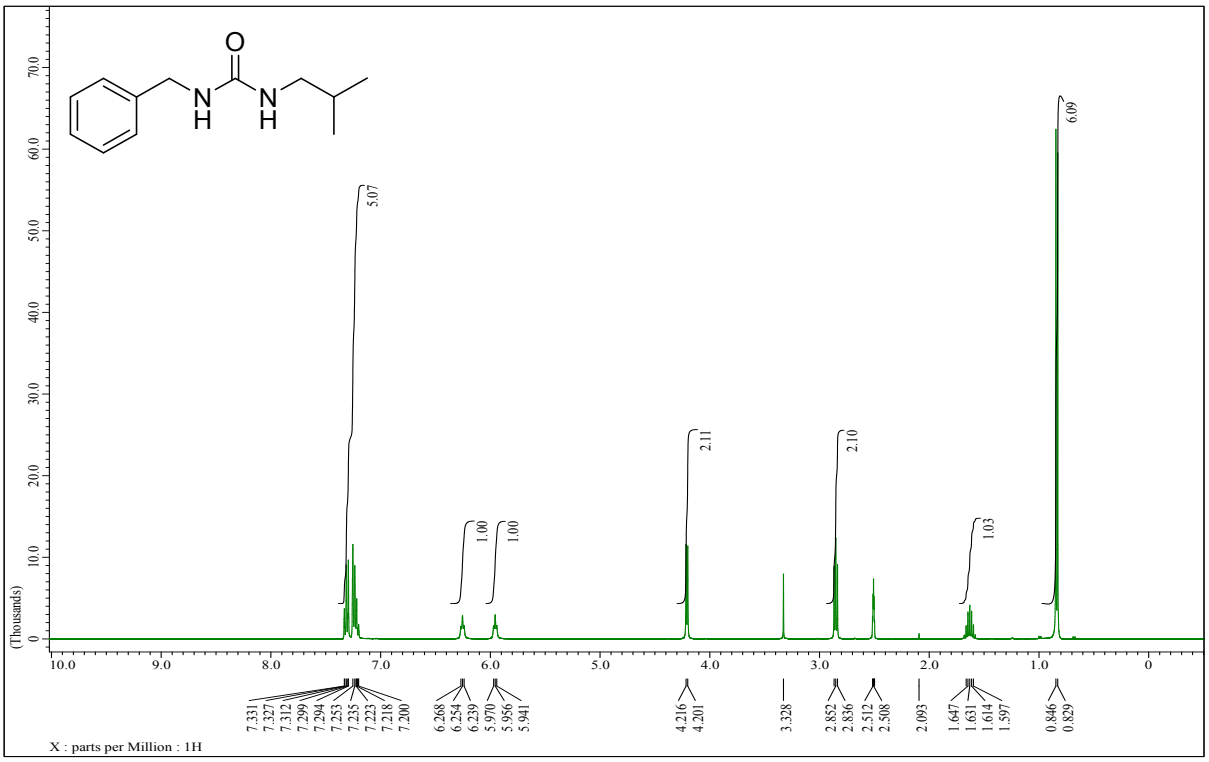


^{1}H NMR spectrum of 1-isobutyl-3-phenylurea **(6b)**

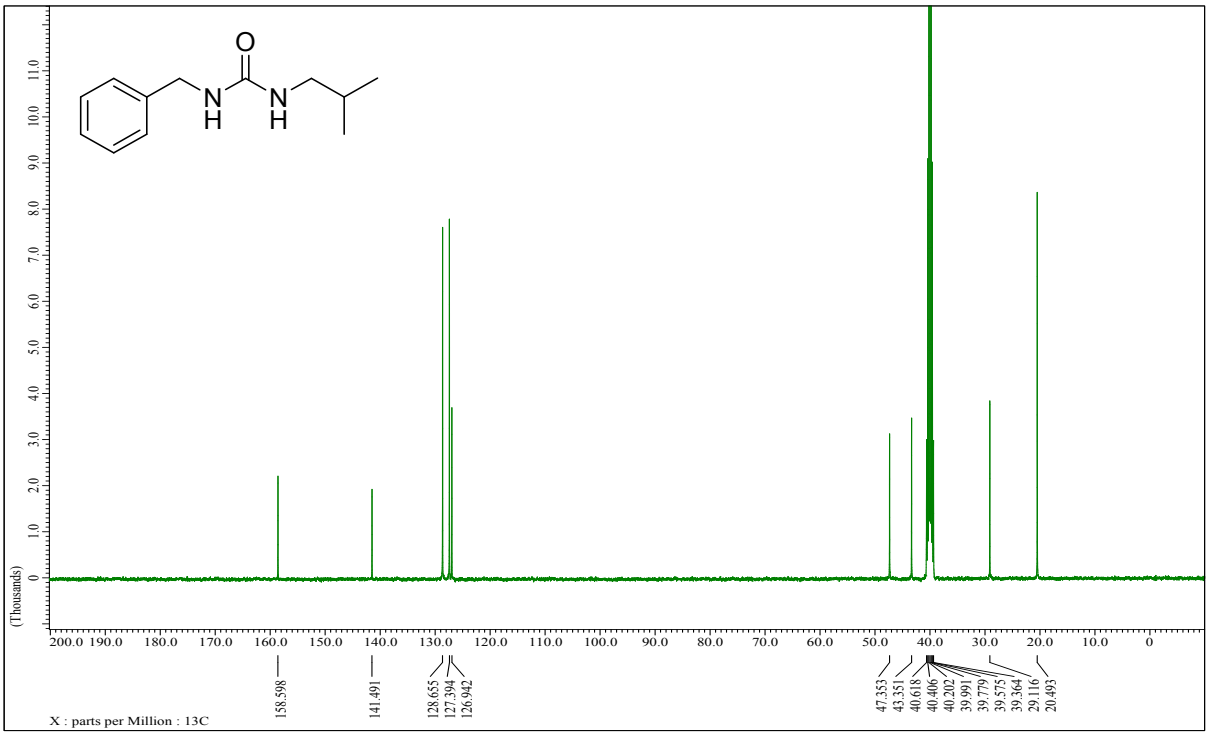


^{13}C NMR spectrum of 1-isobutyl-3-phenylurea **(6b)**

1-benzyl-3-isobutylurea (6e)

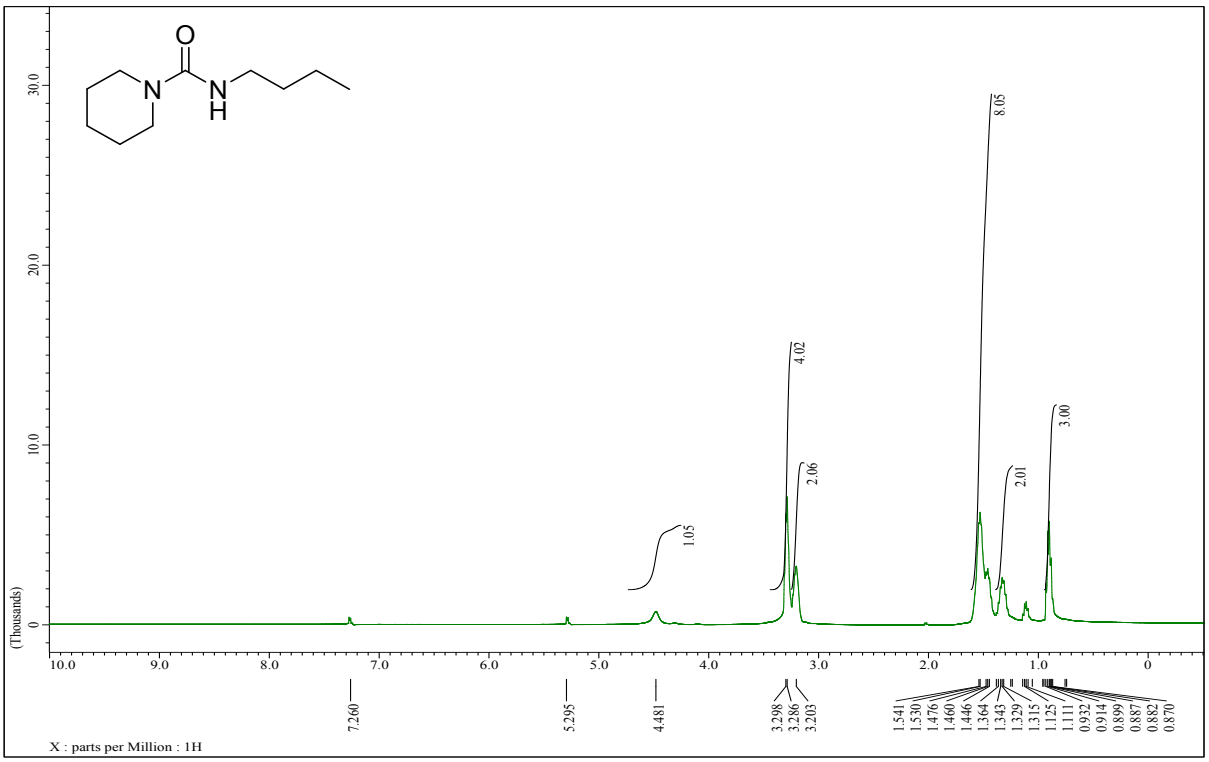


^{1}H NMR spectrum of 1-benzyl-3-isobutylurea **(6e)**

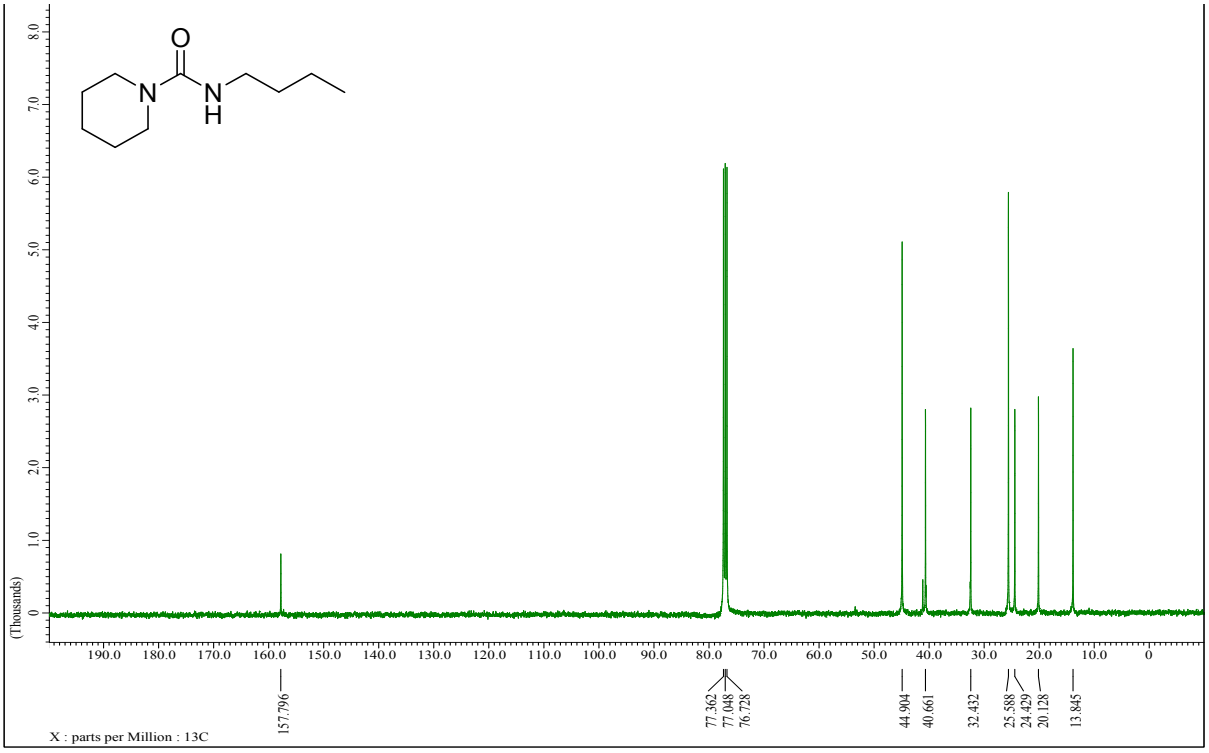


^{13}C NMR spectrum of 1-benzyl-3-isobutylurea **(6e)**

***N*-butylpiperidine-1-carboxamide (6h)**

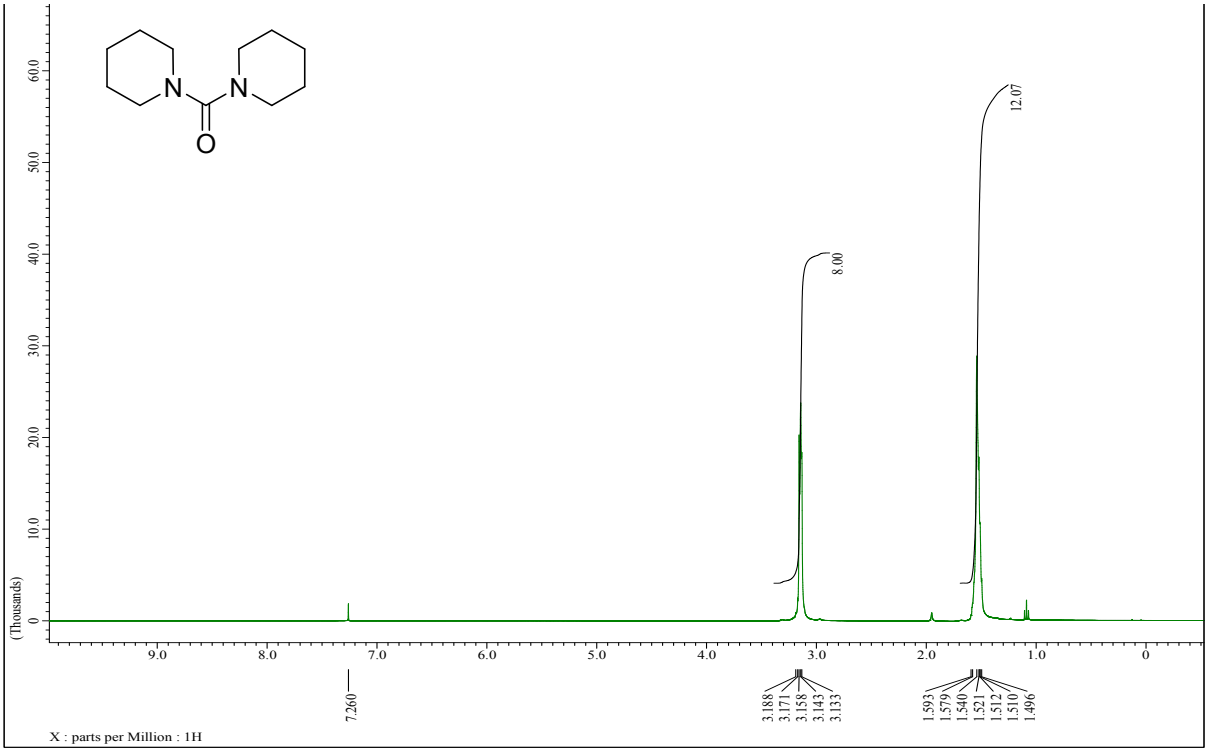


^{1}H NMR spectrum of *N*-butylpiperidine-1-carboxamide **(6h)**

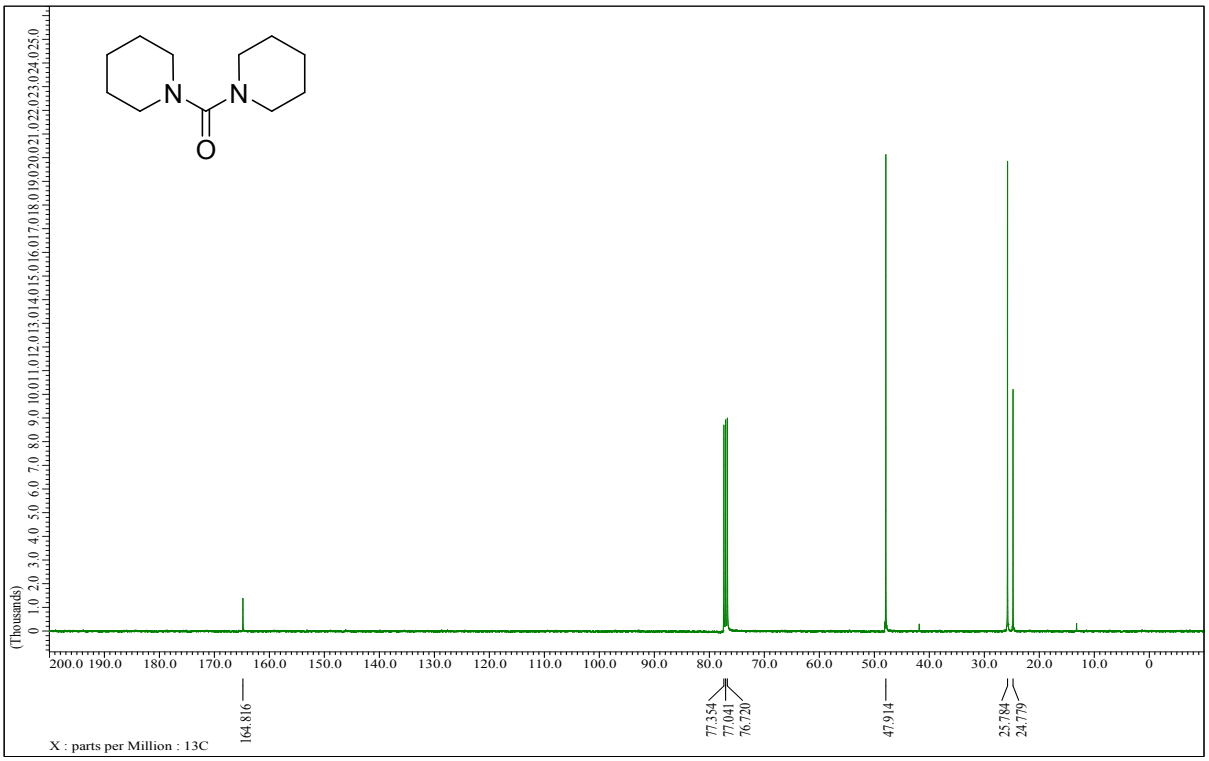


^{13}C NMR spectrum of *N*-butylpiperidine-1-carboxamide **(6h)**

Dipiperidin-1-ylmethanone (**6i**)

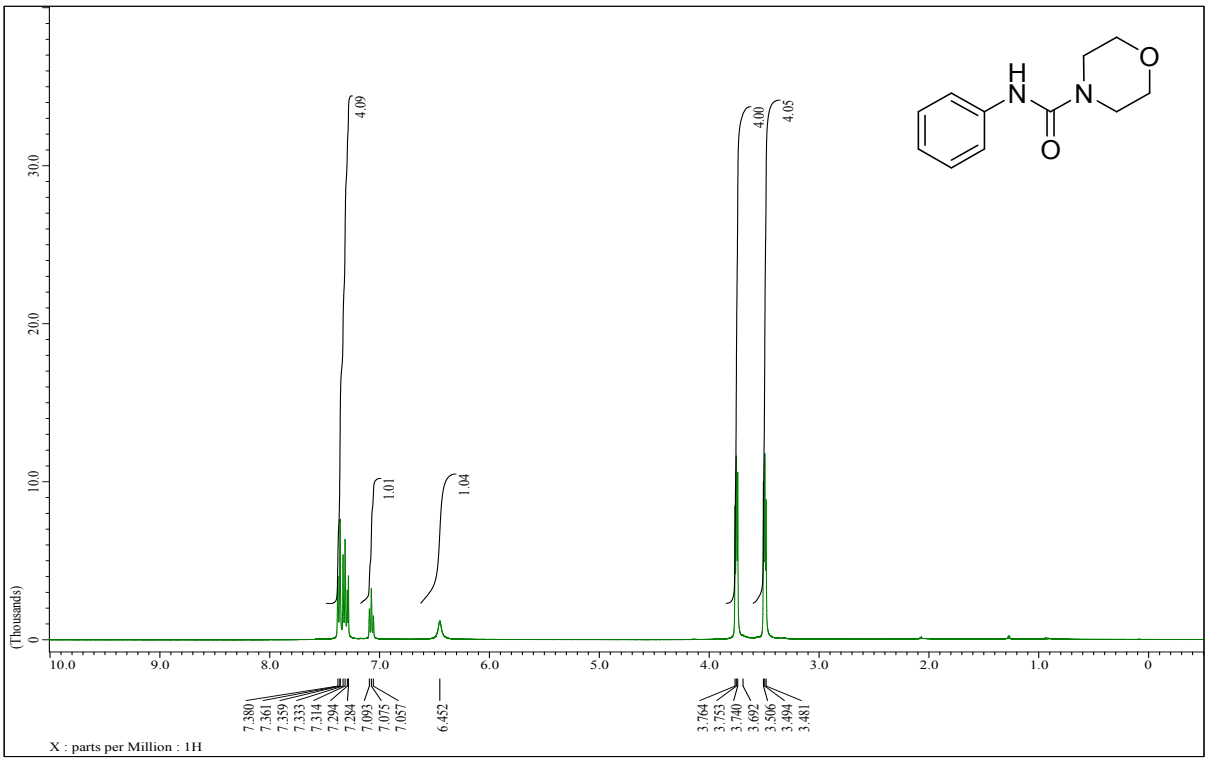


^{1}H NMR spectrum of dipiperidin-1-ylmethanone **(6i)**

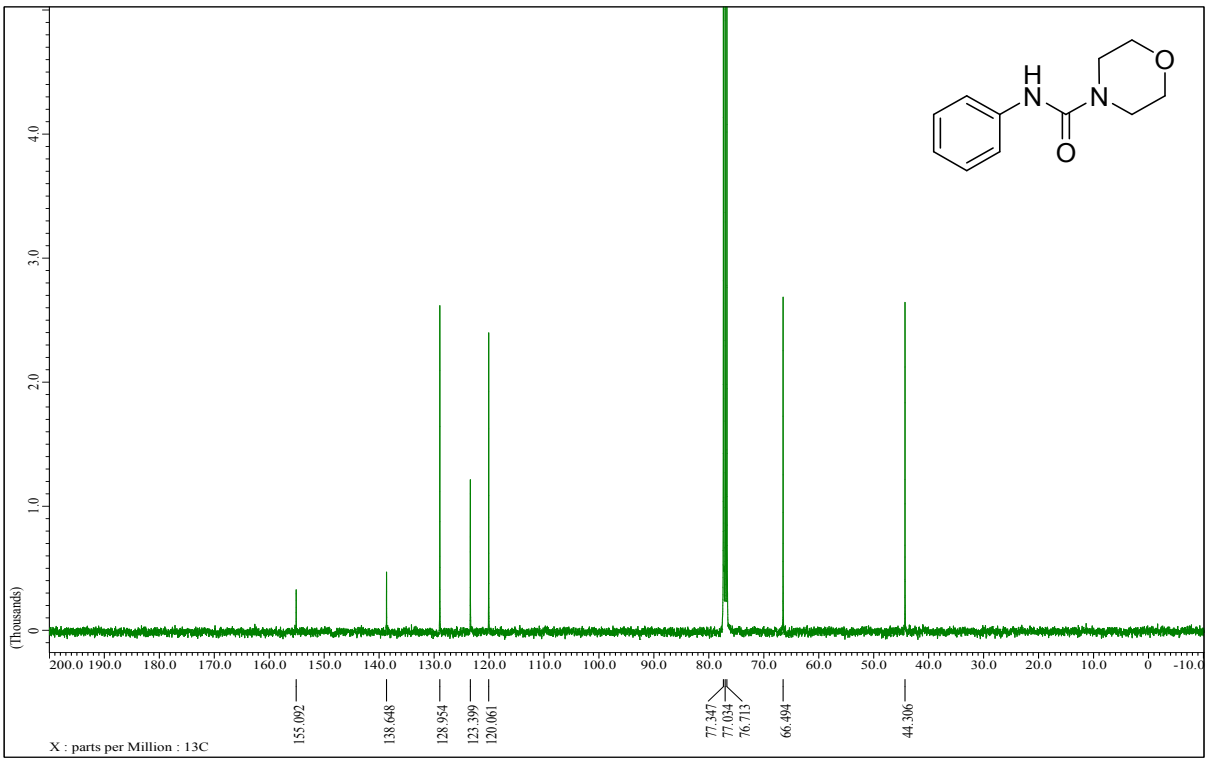


^{13}C NMR spectrum of dipiperidin-1-ylmethanone **(6i)**

***N*-phenylmorpholine-4-carboxamide (6l)**

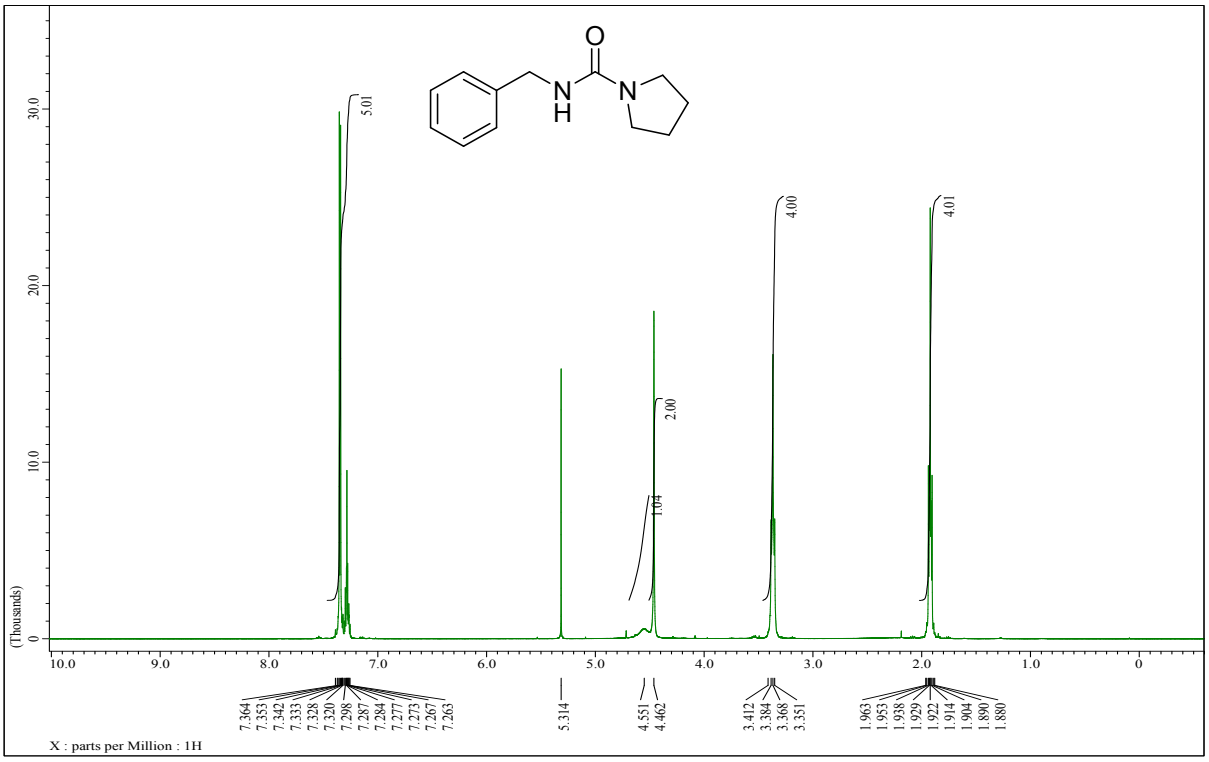


^{1}H NMR spectrum of *N*-phenylmorpholine-4-carboxamide **(6l)**

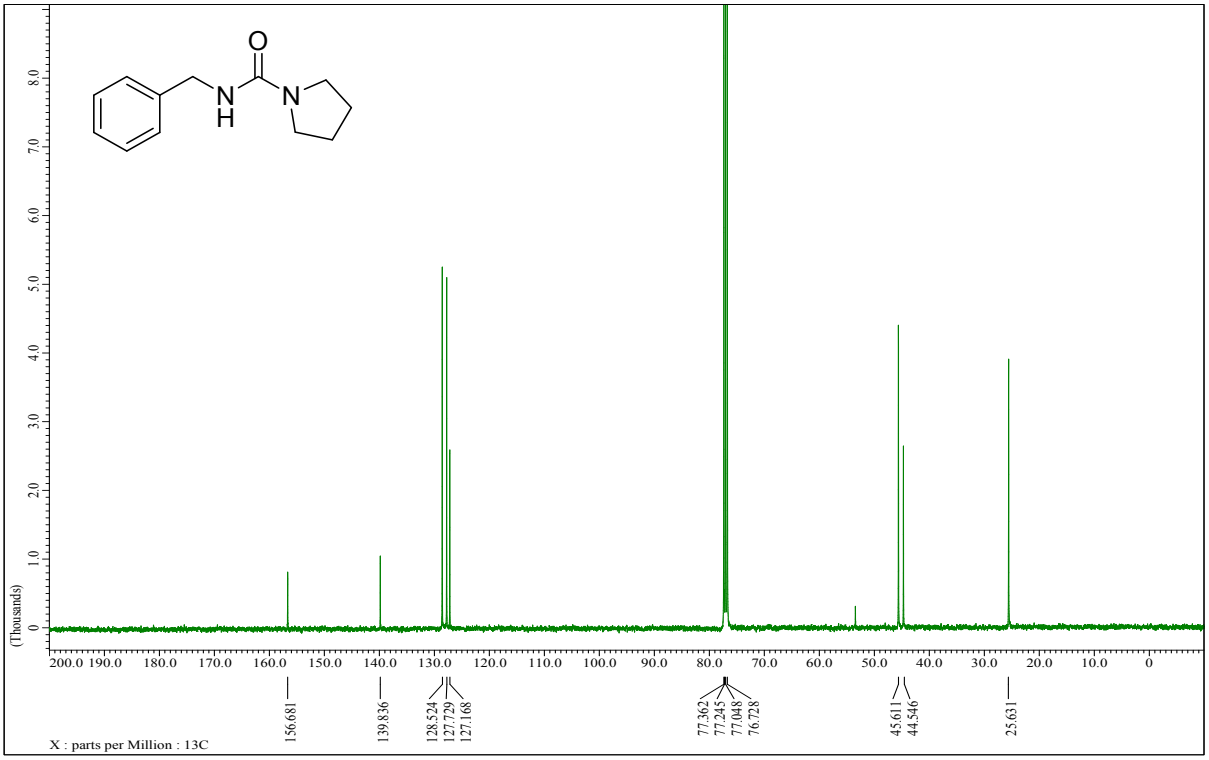


^{13}C NMR spectrum of *N*-phenylmorpholine-4-carboxamide **(6l)**

N-benzylpyrrolidine-1-carboxamide (6n)

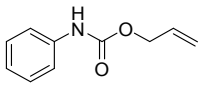


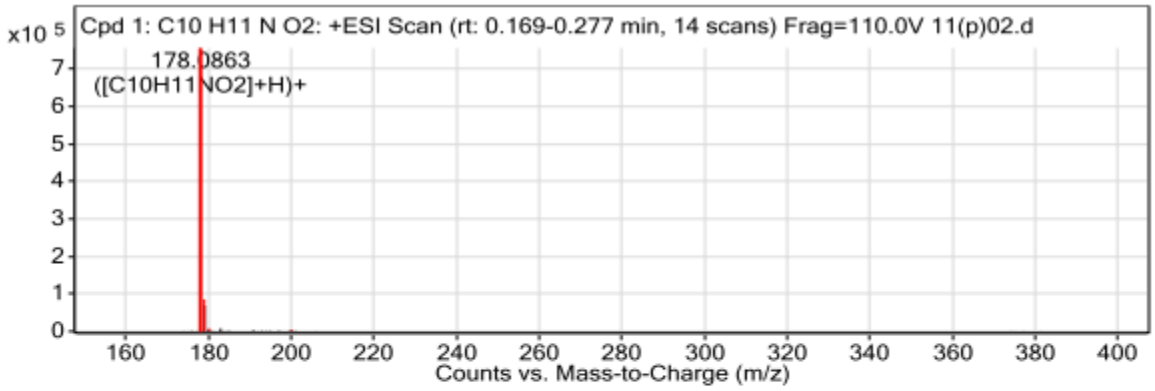
^{1}H NMR spectrum of *N*-benzylpyrrolidine-1-carboxamide **(6n)**



^{13}C NMR spectrum of *N*-benzylpyrrolidine-1-carboxamide **(6n)**

HRMS analysis of allyl phenylcarbamate

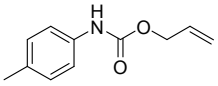


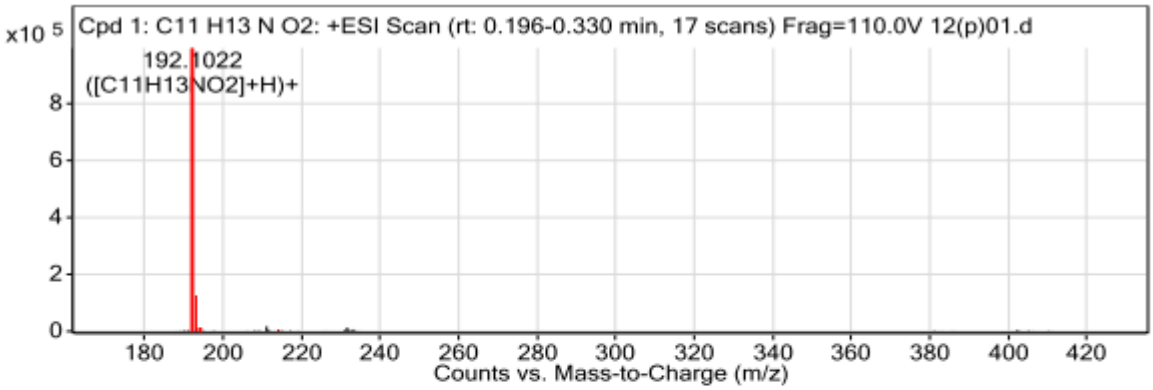


MS Spectrum Peak List

m/z	*Calc m/z*	Diff(ppm)	z	Abund	Formula	Ion
178.0863	178.0863	-0.42	1	755831.88	C10H11NO2	(M+H)+
179.0896	179.0894	-0.89	1	68924.85	C10H11NO2	(M+H)+
180.0918	180.0918	-0.31	1	4455.63	C10H11NO2	(M+H)+
195.1184	195.1128	-28.46	1	309.29	C10H11NO2	(M+NH4)+
200.0683	200.0682	-0.73	1	2927.43	C10H11NO2	(M+Na)+
201.0706	201.0714	4.01	1	382.18	C10H11NO2	(M+Na)+
377.1477	377.1472	-1.26	1	453.09	C10H11NO2	(2M+Na)+
378.1496	378.1504	1.91	1	67.98	C10H11NO2	(2M+Na)+

HRMS analysis of allyl *p*-tolylcarbamate

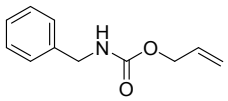


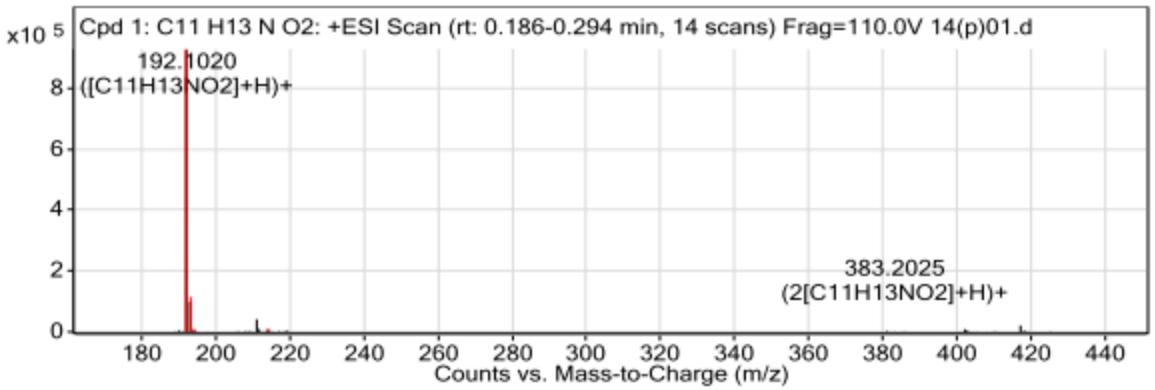


MS Spectrum Peak List

m/z	*Calc m/z*	Diff(ppm)	z	Abund	Formula	Ion
192.1022	192.1019	-1.66	1	995135.31	C11H13NO2	(M+H)+
193.1052	193.1051	-0.5	1	124137.66	C11H13NO2	(M+H)+
194.1083	194.1075	-4.1	1	7893.91	C11H13NO2	(M+H)+
209.1287	209.1285	-1.09	1	93.57	C11H13NO2	(M+NH4)+
214.084	214.0838	-0.69	1	5556.85	C11H13NO2	(M+Na)+
215.086	215.0871	4.89	1	680.59	C11H13NO2	(M+Na)+
230.0555	230.0578	9.98	1	109.08	C11H13NO2	(M+K)+
383.2018	383.1965	-13.87	1	228.74	C11H13NO2	(2M+H)+
405.1786	405.1785	-0.18	1	1648.01	C11H13NO2	(2M+Na)+
406.1816	406.1817	0.12	1	383.74	C11H13NO2	(2M+Na)+

HRMS analysis of allyl benzylcarbamate

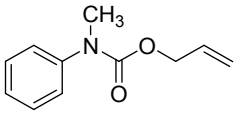


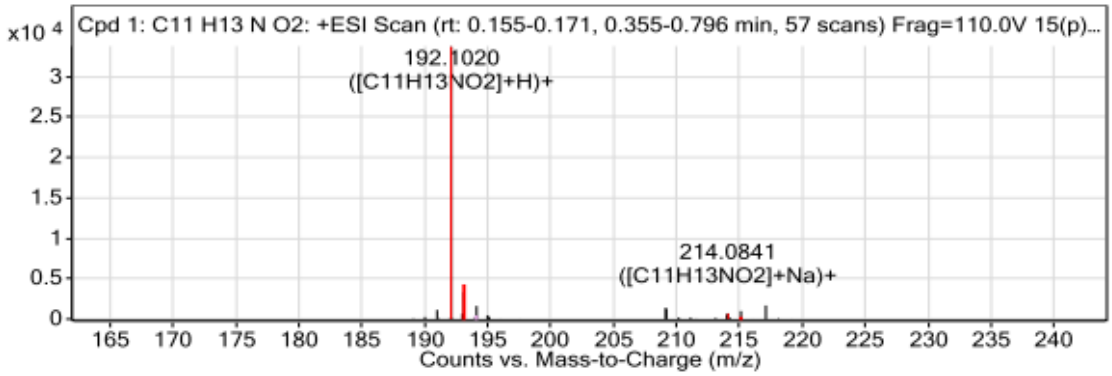


MS Spectrum Peak List

m/z	*Calc m/z*	Diff(ppm)	z	Abund	Formula	Ion
192.102	192.1019	-0.43	1	927968.31	C11H13NO2	(M+H)+
193.1053	193.1051	-0.84	1	97831.45	C11H13NO2	(M+H)+
194.1082	194.1075	-3.46	1	6391.18	C11H13NO2	(M+H)+
209.1294	209.1285	-4.47	1	88.66	C11H13NO2	(M+NH4)+
214.084	214.0838	-0.87	1	7978.07	C11H13NO2	(M+Na)+
215.0865	215.0871	2.43	1	998.99	C11H13NO2	(M+Na)+
383.2025	383.1965	-15.66	1	678.31	C11H13NO2	(2M+H)+
384.2049	384.1997	-13.33	1	134.06	C11H13NO2	(2M+H)+
405.1786	405.1785	-0.32	1	548.15	C11H13NO2	(2M+Na)+
421.1439	421.1524	20.17	1	51.03	C11H13NO2	(2M+K)+

HRMS analysis of allyl methyl(phenyl)carbamate

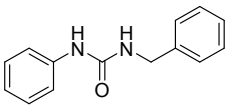


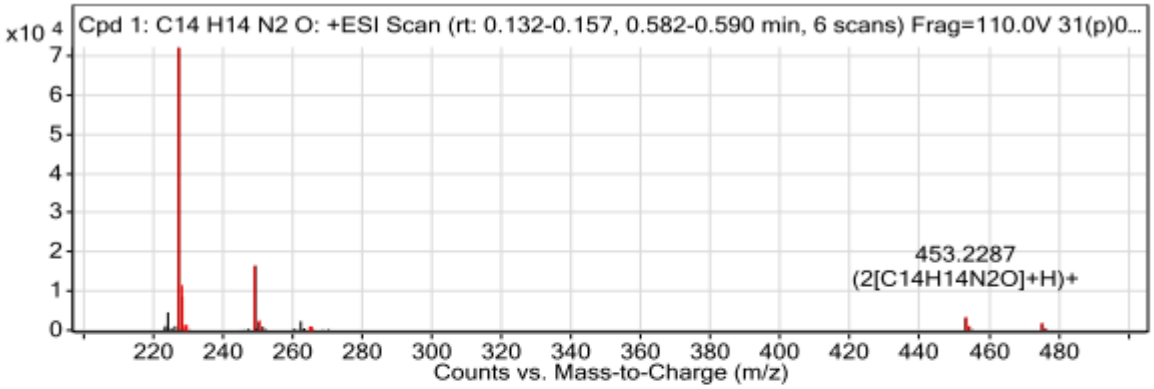


MS Spectrum Peak List

m/z	*Calc m/z*	Diff(ppm)	z	Abund	Formula	Ion
192.102	192.1019	-0.24	1	33760.37	C11H13NO2	(M+H)+
193.1054	193.1051	-1.22	1	3297.04	C11H13NO2	(M+H)+
214.0841	214.0838	-1.07	1	717.12	C11H13NO2	(M+Na)+
215.0859	215.0871	5.58	1	72.09	C11H13NO2	(M+Na)+

HRMS analysis of 1-benzyl-3-phenylurea

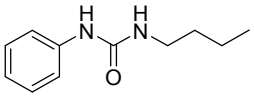


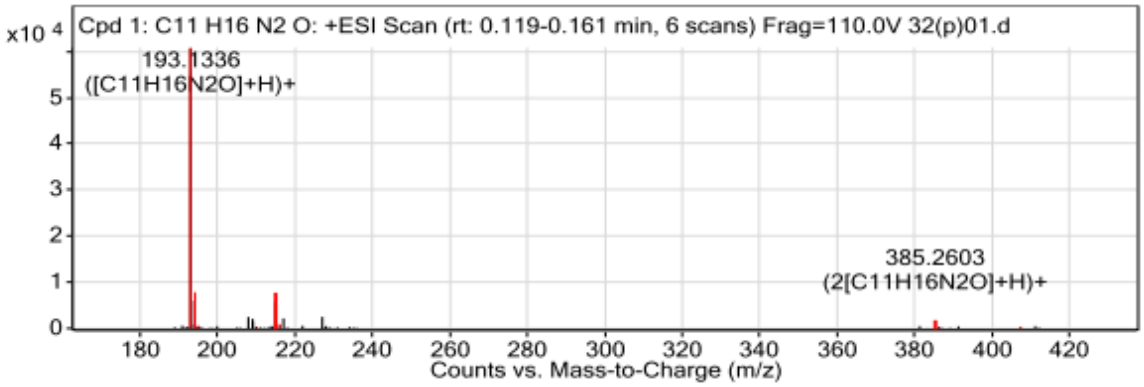


MS Spectrum Peak List

m/z	*Calc m/z*	Diff(ppm)	z	Abund	Formula	Ion
227.1179	227.1179	-0.17	1	72221.92	C14H14N2O	(M+H)+
228.1211	228.121	-0.44	1	8610.99	C14H14N2O	(M+H)+
229.1252	229.1238	-6.13	1	659.57	C14H14N2O	(M+H)+
249.0999	249.0998	-0.41	1	16504.33	C14H14N2O	(M+Na)+
250.1032	250.1029	-0.92	1	2070.75	C14H14N2O	(M+Na)+
265.0745	265.0738	-2.63	1	630.21	C14H14N2O	(M+K)+
453.2287	453.2285	-0.52	1	3173.07	C14H14N2O	(2M+H)+
454.2312	454.2316	0.89	1	904.34	C14H14N2O	(2M+H)+
475.2102	475.2104	0.47	1	1674.23	C14H14N2O	(2M+Na)+
476.2137	476.2135	-0.37	1	551.08	C14H14N2O	(2M+Na)+

HRMS analysis of 1-butyl-3-phenylurea

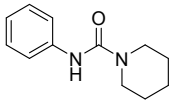


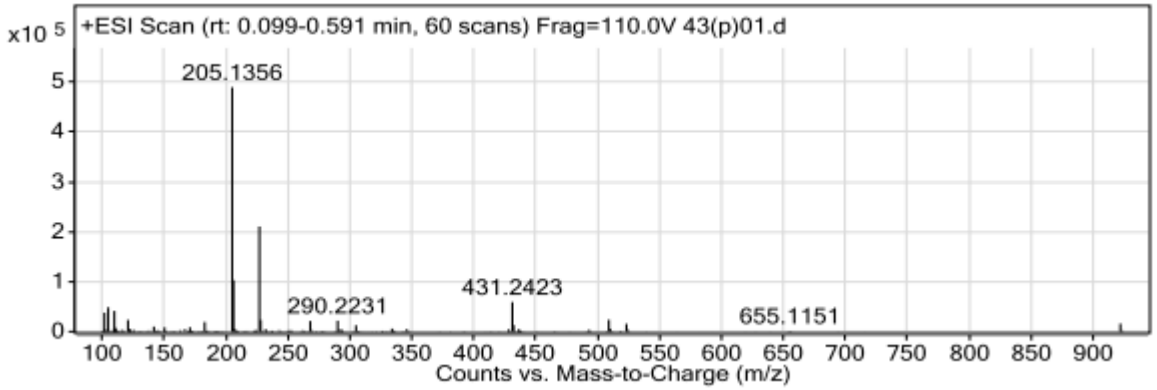


MS Spectrum Peak List

m/z	*Calc m/z*	Diff(ppm)	z	Abund	Formula	Ion
193.1336	193.1335	-0.18	1	60821.14	C11H16N2O	(M+H)+
194.1367	194.1366	-0.4	1	5980.69	C11H16N2O	(M+H)+
210.1573	210.1601	13.41	1	325.55	C11H16N2O	(M+NH4)+
215.1171	215.1155	-7.33	1	5775.23	C11H16N2O	(M+Na)+
216.12	216.1185	-6.79	1	599.35	C11H16N2O	(M+Na)+
217.1047	217.1211	75.65	1	2180	C11H16N2O	(M+Na)+
231.0886	231.0894	3.49	1	137.6	C11H16N2O	(M+K)+
385.2603	385.2598	-1.38	1	1653	C11H16N2O	(2M+H)+
386.2626	386.2628	0.62	1	411.42	C11H16N2O	(2M+H)+
407.2416	407.2417	0.28	1	216.55	C11H16N2O	(2M+Na)+

HRMS analysis of *N*-phenylpiperidine-1-carboxamide

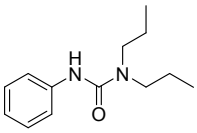


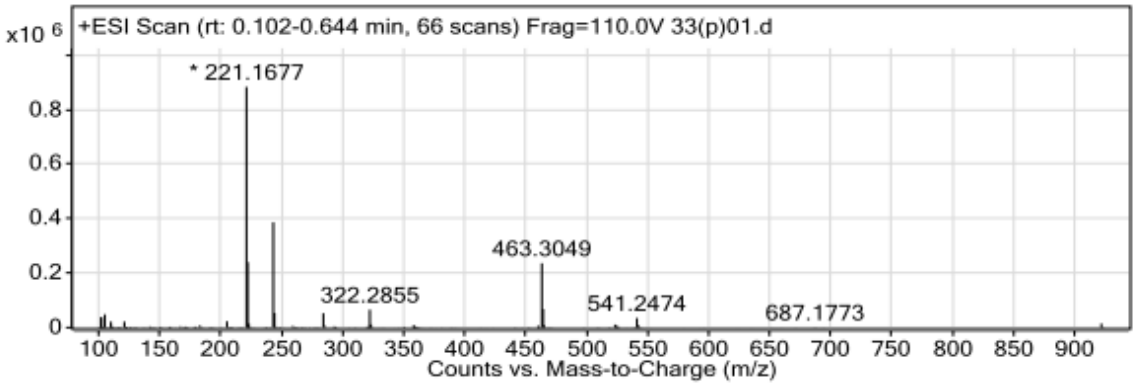


Peak List

m/z	z	Abund
102.0341	1	37882.87
105.0425	1	48663.01
110.0202	1	41440.02
121.0509	1	23466.91
205.1356	1	489772.81
206.1369	1	103043.95
227.1157	1	210662.73
228.1188	1	23299.45
431.2423	1	59130.71
509.1852	1	23782.71

HRMS analysis of 3-phenyl-1,1-dipropylurea

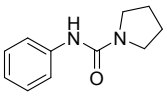


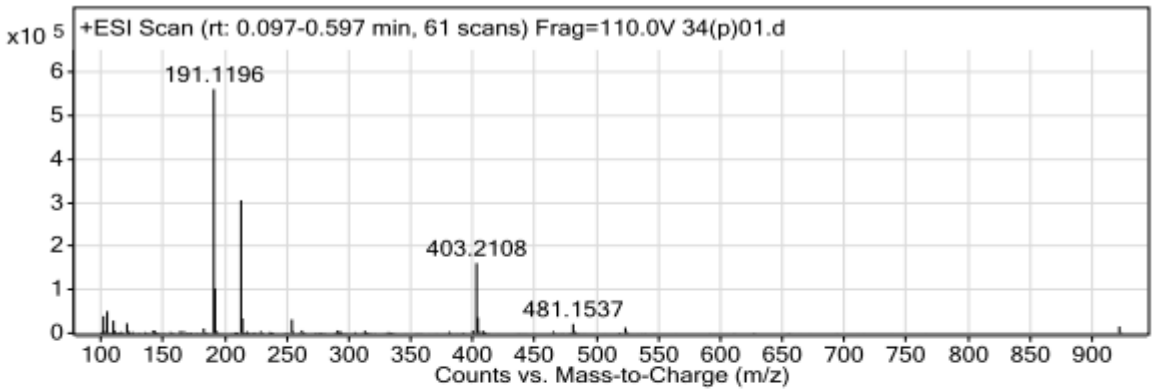


Peak List

m/z	z	Abund
102.1279	1	37996.87
105.0425	1	48330.87
221.1677	1	882819.88
222.1681	1	239895.98
243.1472	1	386143.84
244.1501	1	53614.29
284.1735	1	52594.68
322.2855	1	65667.84
463.3049	1	235945.95
464.3078	1	67972.52

HRMS analysis of *N*-phenylpyrrolidine-1-carboxamide

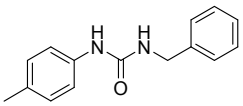


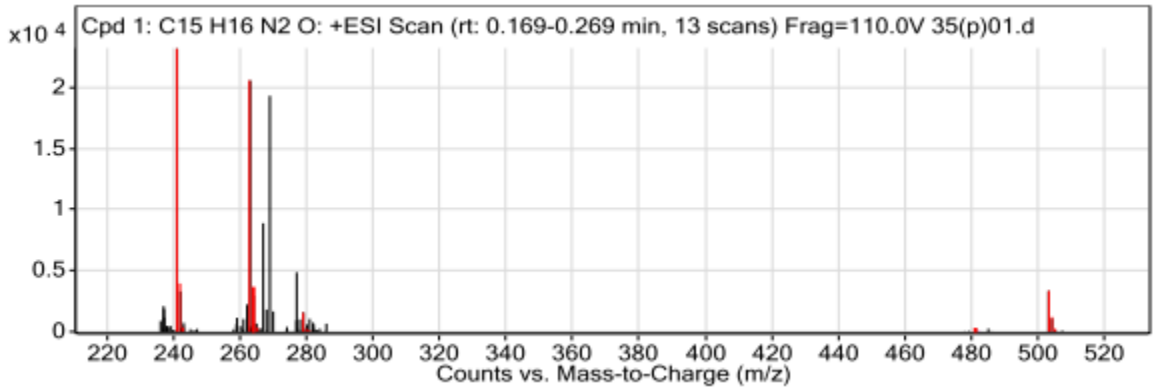


Peak List

m/z	z	Abund
102.0342	1	39276.58
105.0425	1	50688.03
110.0202	1	28865.82
191.1196	1	561603.88
192.1211	1	102729.78
213.1001	1	305899.5
214.1032	1	33915.61
254.1266	1	31513.91
403.2108	1	161267.7
404.2139	1	36091.69

HRMS analysis of 1-benzyl-3-*p*-tolylurea

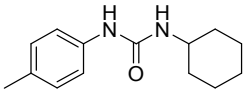


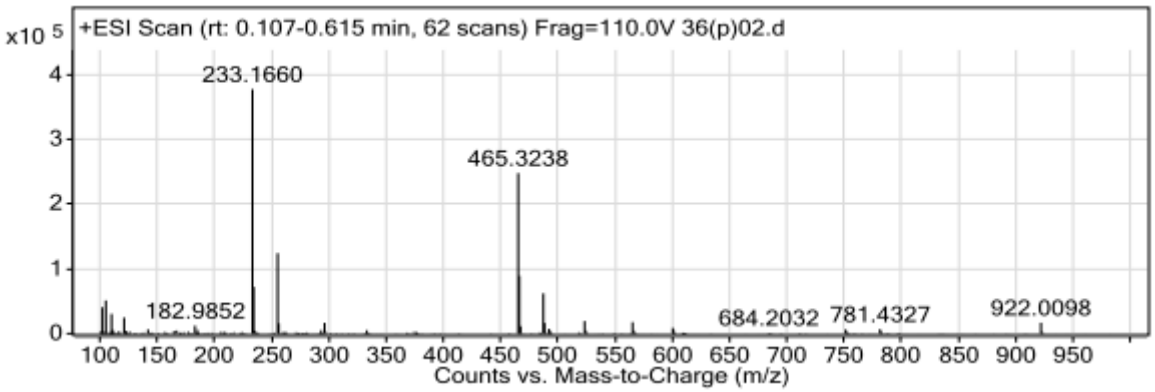


MS Spectrum Peak List

m/z	*Calc m/z*	Diff(ppm)	z	Abund	Formula	Ion
241.1337	241.1335	-0.57	1	23190.68	C15H16N2O	(M+H)+
242.1368	242.1367	-0.65	1	3292.03	C15H16N2O	(M+H)+
243.1443	243.1395	-19.76	1	721.41	C15H16N2O	(M+H)+
263.1158	263.1155	-1.02	1	20549.54	C15H16N2O	(M+Na)+
264.119	264.1186	-1.67	1	2946.38	C15H16N2O	(M+Na)+
279.09	279.0894	-1.98	1	1576.76	C15H16N2O	(M+K)+
280.0937	280.0925	-4.1	1	231.76	C15H16N2O	(M+K)+
481.2616	481.2598	-3.72	1	257.1	C15H16N2O	(2M+H)+
503.242	503.2417	-0.53	1	3333.6	C15H16N2O	(2M+Na)+
504.2454	504.2449	-1.13	1	1081.32	C15H16N2O	(2M+Na)+

HRMS analysis of 1-cyclohexyl-3-*p*-tolylurea

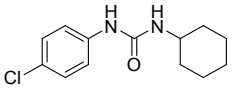


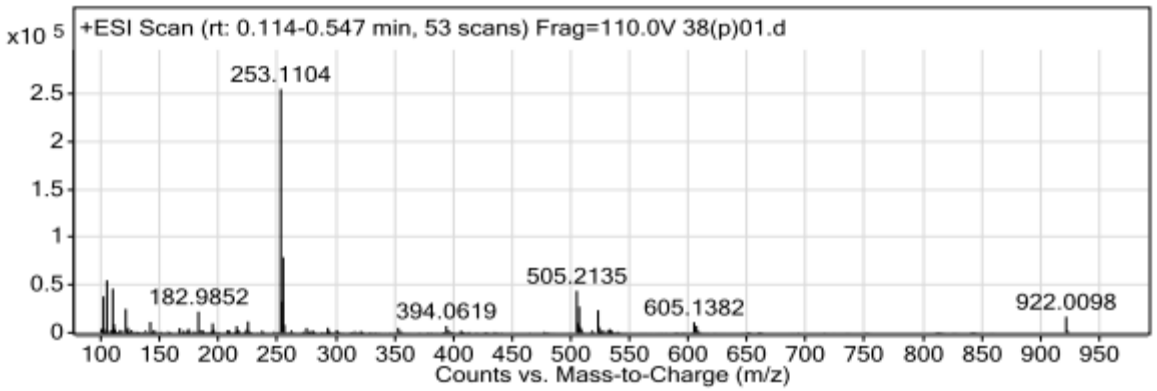


Peak List

m/z	z	Abund
102.0341	1	40752.88
105.0424	1	51224.39
110.0202	1	30458.64
121.0509	1	24749.5
233.166	1	377603.16
234.1683	1	72135.65
255.147	1	124235.4
465.3238	1	248010.47
466.3261	1	89234.87
487.3049	1	62153.42

HRMS analysis of 1-(4-chlorophenyl)-3-cyclohexylurea

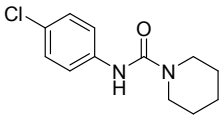


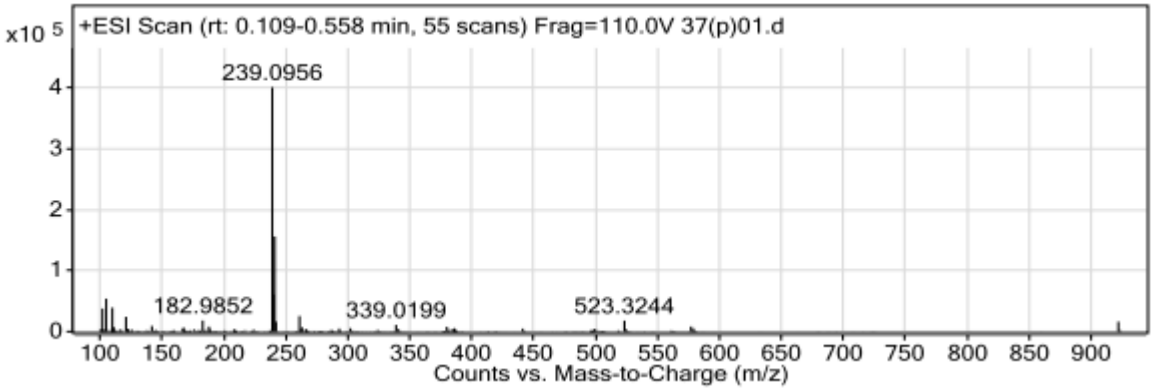


Peak List

m/z	z	Abund
102.0341	1	38105.75
105.0424	1	54933.31
110.0202	1	46137.39
121.0509	1	24947.17
253.1104	1	255211.7
254.1135	1	32619.96
255.1078	1	79053.64
505.2135	1	43938.07
507.2113	1	27415.31
523.3245	1	23589.51

HRMS analysis of *N*-(4-chlorophenyl)piperidine-1-carboxamide

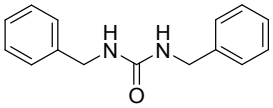


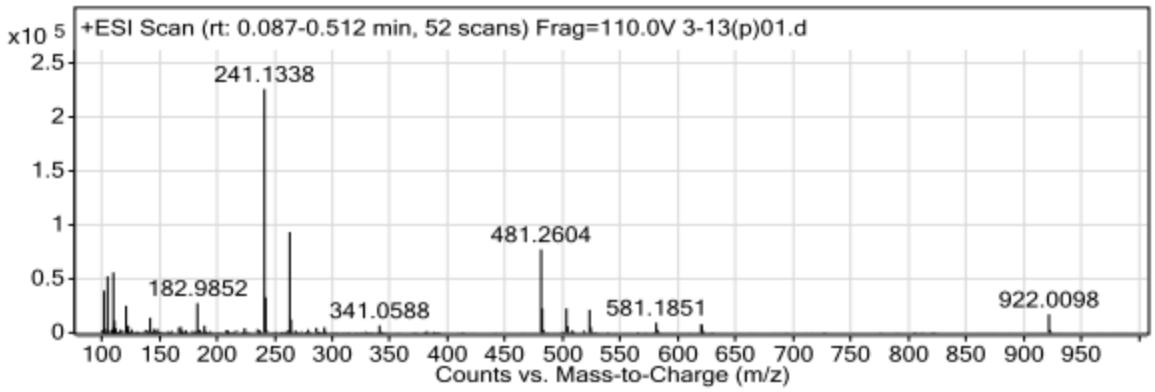


Peak List

m/z	z	Abund
102.0341	1	37879.71
105.0424	1	54058.69
110.0202	1	39275.34
121.0509	1	24275.18
182.9852	1	18145.81
239.0956	1	401047.97
240.098	1	60982.38
241.0922	1	156123.44
261.0768	1	25542.6
523.3244	1	17940.42

HRMS analysis of 1,3-dibenzylurea

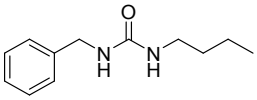


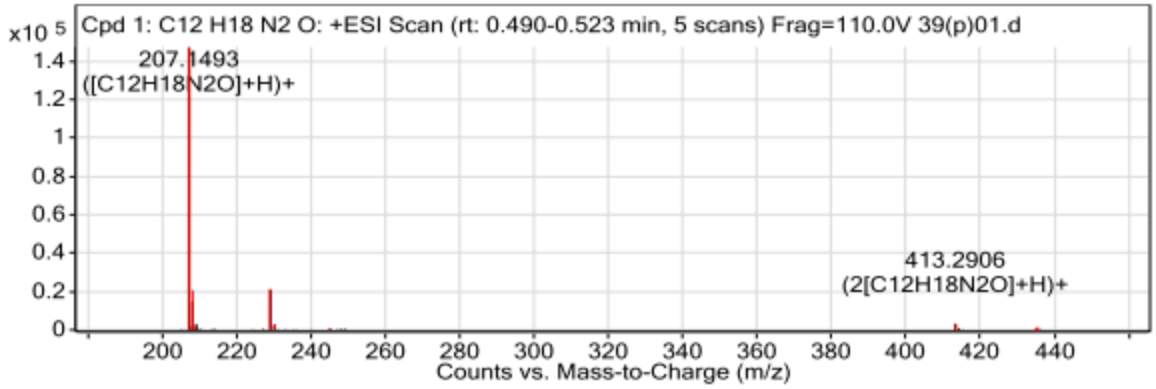


Peak List

m/z	z	Abund
102.0342	1	39116.25
105.0425	1	52403.49
110.0202	1	55995.58
121.0509	1	25040.56
182.9852	1	27528.33
241.1338	1	226250.72
242.137	1	32862.19
263.1158	1	93459.55
481.2604	1	77394.2
482.2635	1	22587.38

HRMS analysis of 1-benzyl-3-butylurea

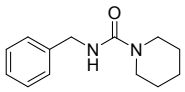


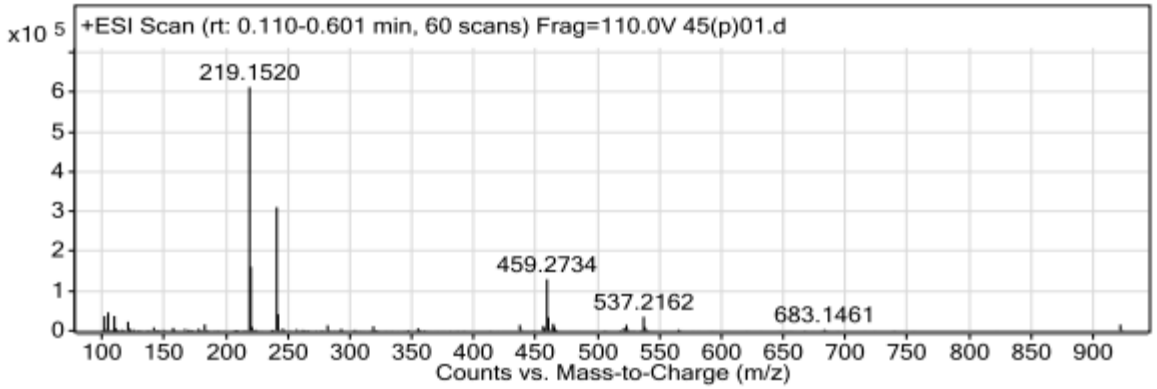


MS Spectrum Peak List

m/z	*Calc m/z*	Diff(ppm)	z	Abund	Formula	Ion
207.1493	207.1492	-0.44	1	147211.63	C12H18N2O	(M+H)+
208.1524	208.1523	-0.53	1	14611.47	C12H18N2O	(M+H)+
209.1541	209.155	4.21	1	3143.35	C12H18N2O	(M+H)+
229.1311	229.1311	0.15	1	20872.03	C12H18N2O	(M+Na)+
230.1347	230.1342	-2.07	1	2509.59	C12H18N2O	(M+Na)+
231.1351	231.1369	7.72	1	270.12	C12H18N2O	(M+Na)+
245.1049	245.1051	0.67	1	641.67	C12H18N2O	(M+K)+
413.2906	413.2911	1.26	1	3251.84	C12H18N2O	(2M+H)+
414.2936	414.2942	1.34	1	875.96	C12H18N2O	(2M+H)+
435.274	435.273	-2.18	1	938.29	C12H18N2O	(2M+Na)+

HRMS analysis of *N*-benzylpiperidine-1-carboxamide

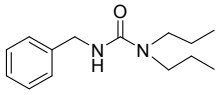


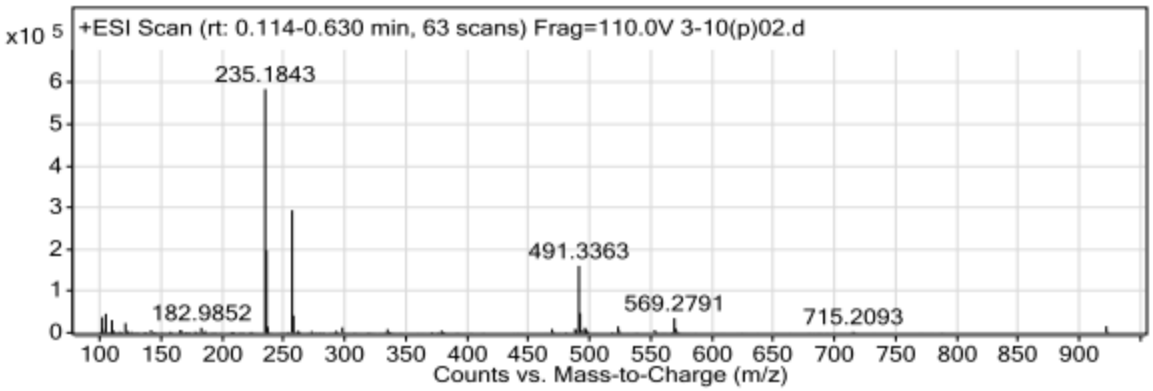


Peak List

m/z	z	Abund
102.0342	1	36743.79
105.0425	1	46101.9
110.0202	1	37128.3
219.152	1	612506.75
220.1525	1	160927.59
241.1314	1	310572.78
242.1344	1	41399.69
459.2734	1	129395.91
460.2765	1	33759.79
537.2162	1	35238.17

HRMS analysis of 3-benzyl-1,1-dipropylurea

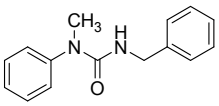


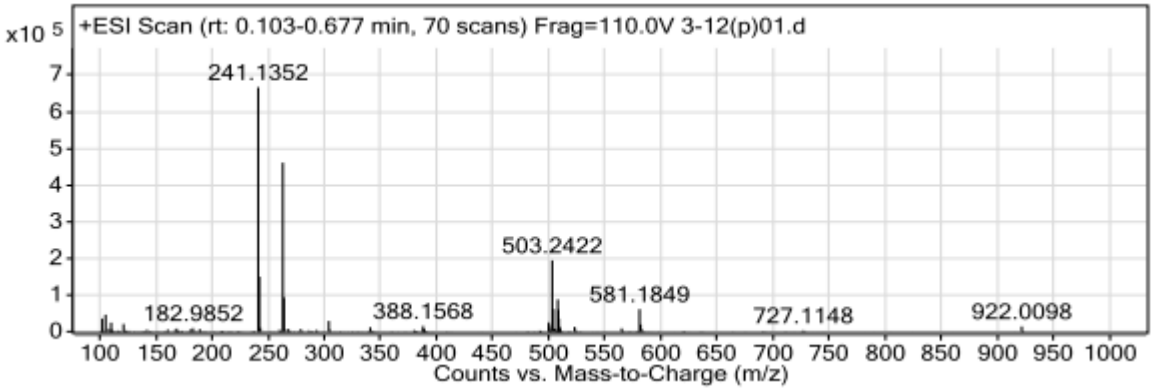


Peak List

m/z	z	Abund
102.0341	1	37344.2
105.0424	1	45526.56
110.0202	1	30319.7
235.1843	1	584508.5
236.184	1	197452.7
257.1628	1	293786.56
258.1659	1	41263.97
491.3363	1	160427.69
492.3395	1	46950.71
569.2791	1	35049.2

HRMS analysis of 3-benzyl-1-methyl-1-phenylurea

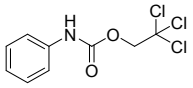


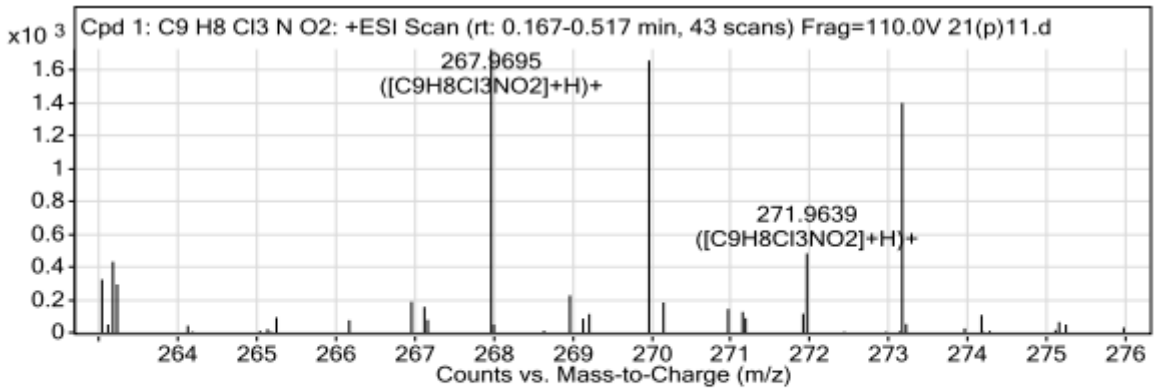


Peak List

m/z	z	Abund
105.0424	1	46126.33
241.1352	1	666556.06
242.1369	1	149666.77
263.1167	1	460782.44
264.1189	1	92995.38
503.2422	1	194206.88
504.2453	1	61674.72
508.2199	1	87692.95
508.7213	1	59677.03
581.1849	1	61241.09

HRMS analysis of 2,2,2-trichloroethyl phenylcarbamate

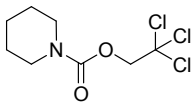


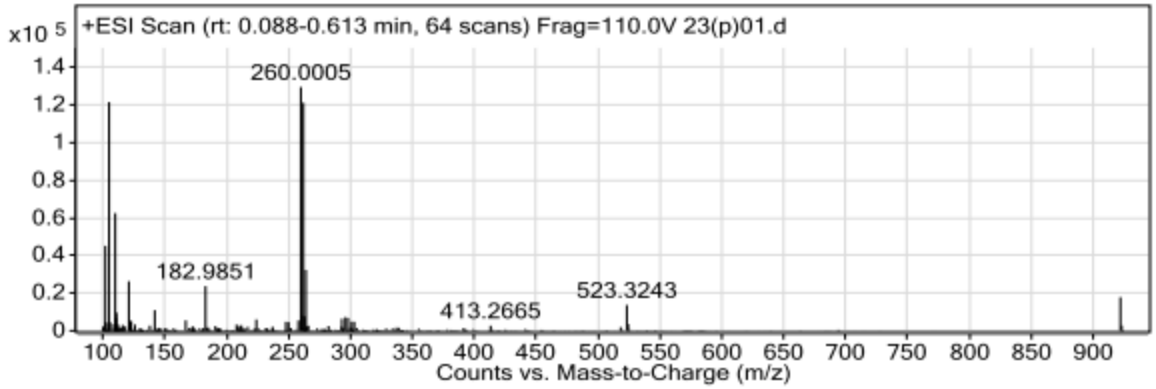


Peak List

m/z	z	Abund	Formula	Ion
267.9695	1	1726.86	C9H8Cl3NO2	(M+H)+
268.965	1	226.66	C9H8Cl3NO2	(M+H)+
269.9666	1	1658.62	C9H8Cl3NO2	(M+H)+
270.9677	1	143.95	C9H8Cl3NO2	(M+H)+
271.9639	1	482.6	C9H8Cl3NO2	(M+H)+

HRMS analysis of 2,2,2-trichloroethyl piperidine-1-carboxylate

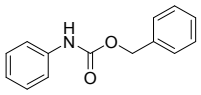


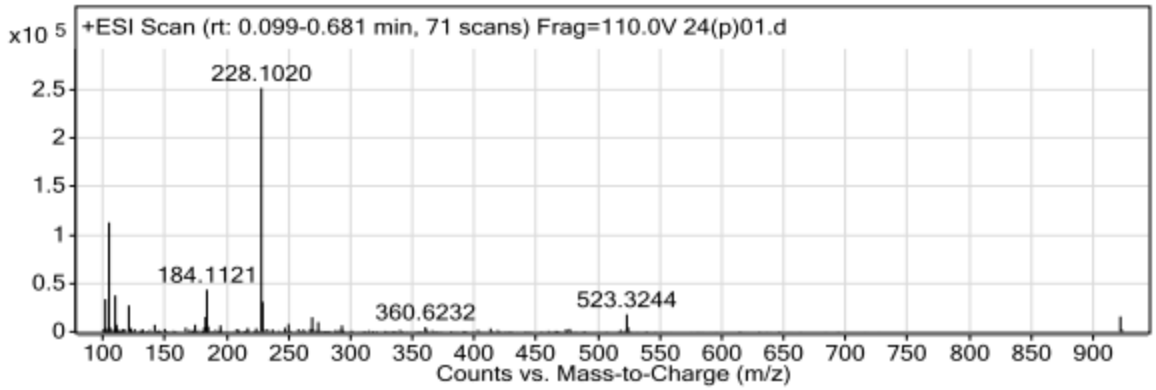


Peak List

m/z	z	Abund
102.0341	1	45193.2
105.0424	1	121634.98
110.0202	1	62565.58
121.0509	1	26328.53
182.9851	1	23734.07
260.0005	1	129658.43
261.9978	1	121282.58
263.995	1	32358.99
523.3243	1	13695.83
922.0098	1	17862.75

HRMS analysis of benzyl phenylcarbamate

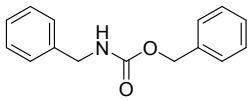


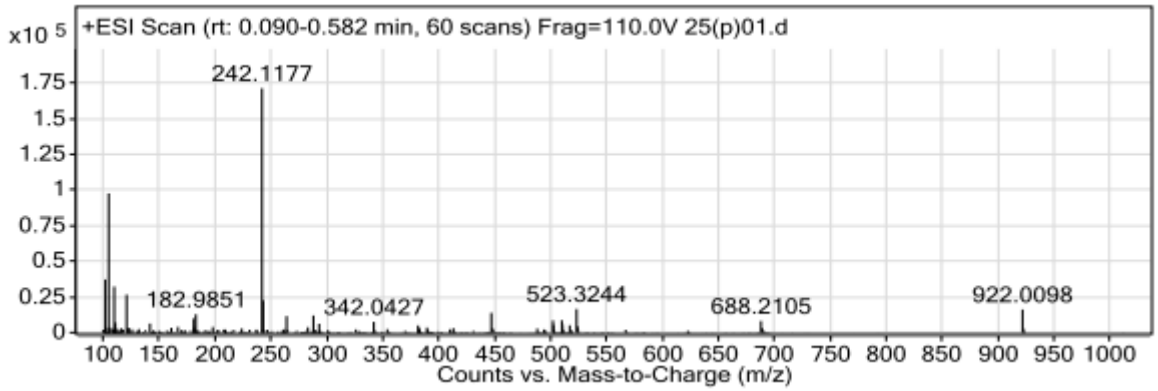


Peak List

m/z	z	Abund
102.0341	1	33657.75
105.0425	1	112880.68
110.0202	1	37513.26
121.0509	1	27220.98
182.9852	1	15258.24
184.1121	1	43494.95
228.102	1	251697.61
229.1053	1	30934.24
523.3244	1	17868.12
922.0098	1	15744

HRMS analysis of benzyl benzylcarbamate

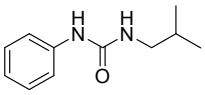


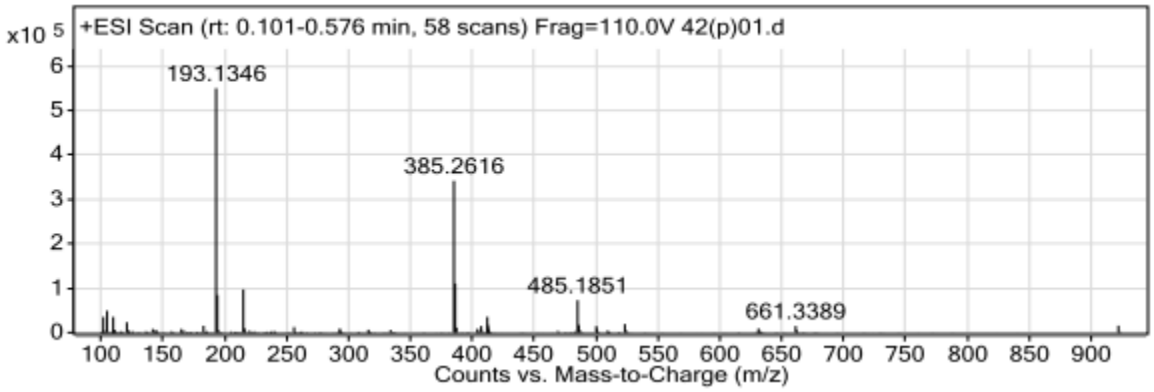


Peak List

m/z	z	Abund
102.0341	1	37257.62
105.0424	1	97656.11
110.0202	1	32268.1
121.0509	1	26610.75
182.9851	1	12802.28
242.1177	1	171408.34
243.121	1	22597.54
447.1005	1	13855.71
523.3244	1	16511.01
922.0098	1	16173.02

HRMS analysis of 1-isobutyl-3-phenylurea

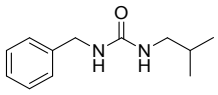


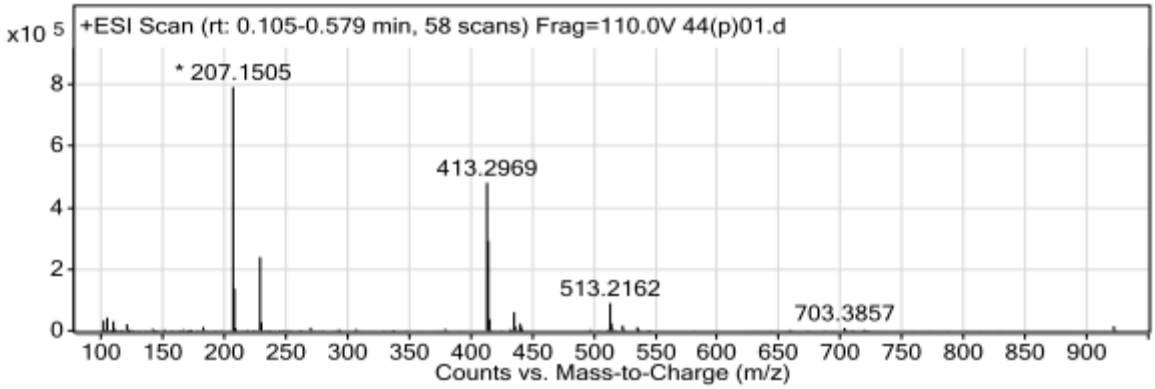


Peak List

m/z	z	Abund
102.0341	1	35382.76
105.0425	1	49300.36
110.0202	1	35350.07
193.1346	1	550206.81
194.1368	1	84611.12
215.1157	1	97182.41
385.2616	1	341779.03
386.2634	1	110620.13
412.2201	1	35458.45
485.1851	1	72925.09

HRMS analysis of 1-benzyl-3-isobutylurea

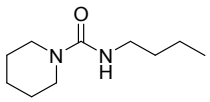


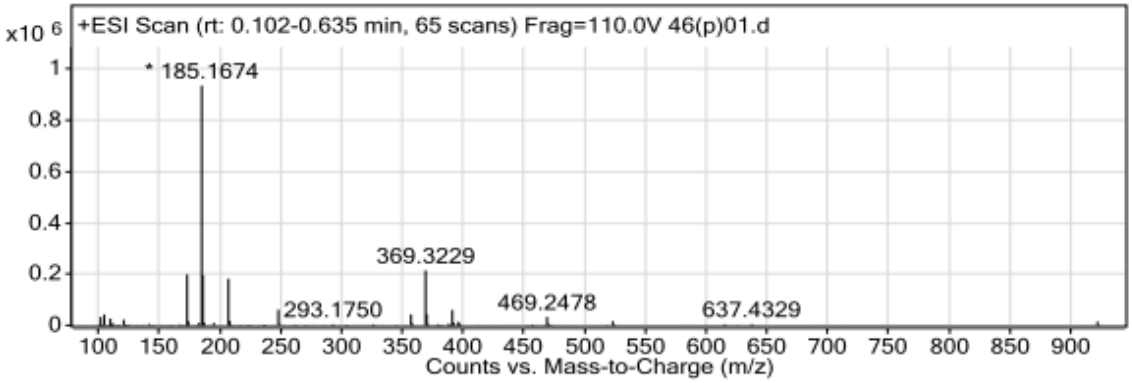


Peak List

m/z	z	Abund
102.0341	1	33061.32
105.0424	1	42688.04
207.1505	1	791371.44
208.1525	1	136705.11
229.1314	1	239097.45
413.2969	1	480597
414.2948	1	291908.53
415.2976	1	37446.03
435.2735	1	60213.49
513.2162	1	89486.1

HRMS analysis of *N*-butylpiperidine-1-carboxamide

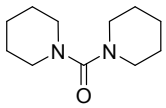


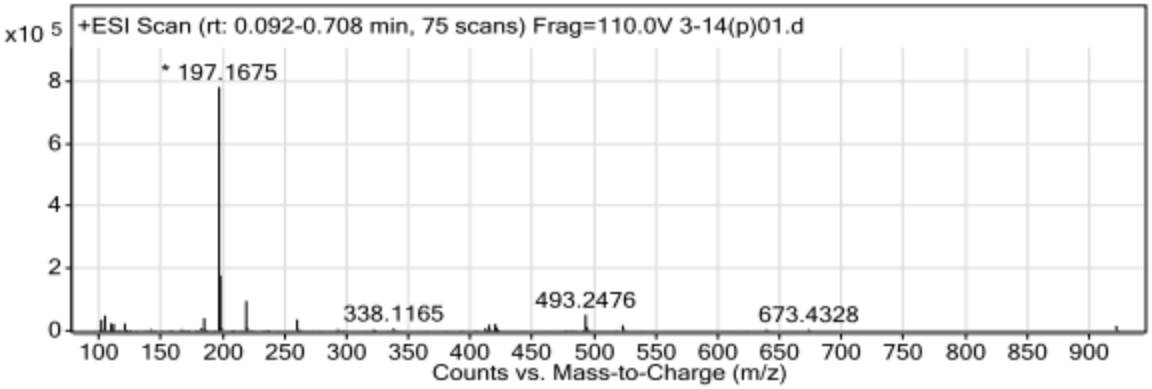


Peak List

m/z	z	Abund
105.0425	1	42230.86
173.1649	1	198687.5
185.1674	1	935793.19
186.1681	1	196360.09
207.147	1	182178.36
248.1736	1	61088.09
357.3229	1	42524.48
369.3229	1	214295.3
370.326	1	43589.21
391.3047	1	60232.18

HRMS analysis of Dipiperidin-1-ylmethanone

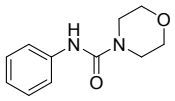


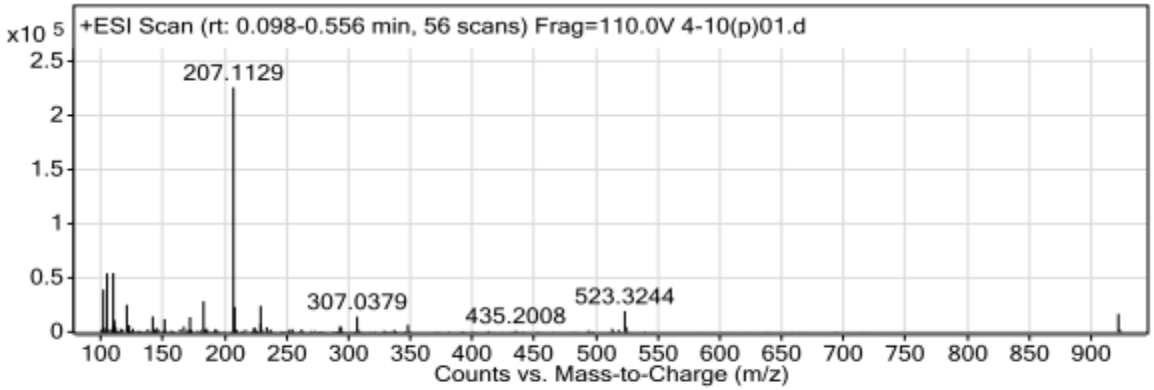


Peak List

m/z	z	Abund
102.0341	1	35688.69
105.0425	1	48719.17
110.0202	1	24080.67
121.0509	1	23371.65
185.1649	1	40455.7
197.1675	1	780681.25
198.1681	1	176769.64
219.1469	1	95269.64
260.1735	1	36141.7
493.2476	1	51162.84

HRMS analysis of *N*-phenylmorpholine-4-carboxamide

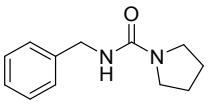


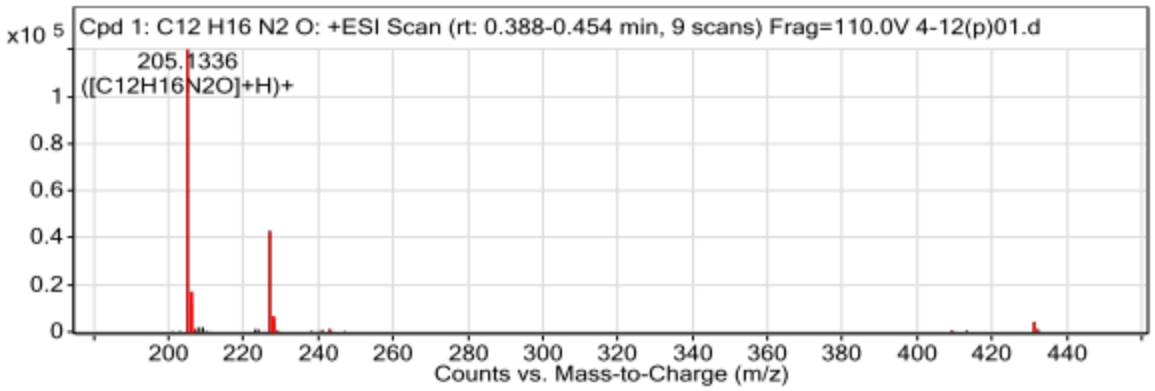


Peak List

m/z	z	Abund
102.0341	1	39111.91
105.0424	1	54192.84
110.0202	1	54372.63
121.0509	1	25110.22
182.9852	1	28361.16
207.1129	1	225589.67
208.1161	1	23062.49
229.1409	1	24099.47
523.3244	1	19318.36
922.0098	1	16622.09

HRMS analysis of *N*-benzylpyrrolidine-1-carboxamide





MS Spectrum Peak List

m/z	*Calc m/z*	Diff(ppm)	z	Abund	Formula	Ion
205.1336	205.1335	-0.23	1	120160	C12H16N2O	(M+H)+
206.1368	206.1366	-1.14	1	12049.59	C12H16N2O	(M+H)+
207.1419	207.1393	-12.51	1	968.48	C12H16N2O	(M+H)+
227.1156	227.1155	-0.68	1	42994.33	C12H16N2O	(M+Na)+
228.1188	228.1185	-0.91	1	4771.73	C12H16N2O	(M+Na)+
229.1241	229.1212	-12.54	1	381.75	C12H16N2O	(M+Na)+
243.0906	243.0894	-4.66	1	1089.52	C12H16N2O	(M+K)+
409.2599	409.2598	-0.16	1	591.42	C12H16N2O	(2M+H)+
431.2424	431.2417	-1.4	1	4206.91	C12H16N2O	(2M+Na)+
432.2452	432.2448	-1	1	1090.4	C12H16N2O	(2M+Na)+