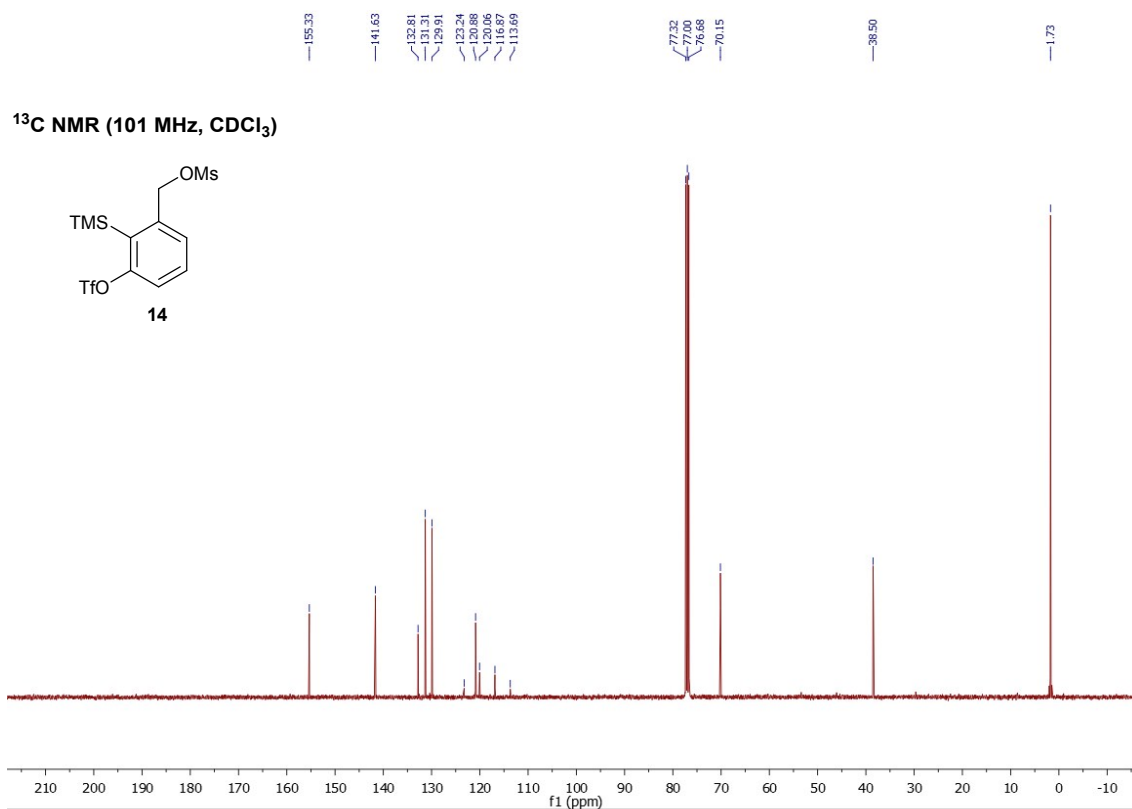
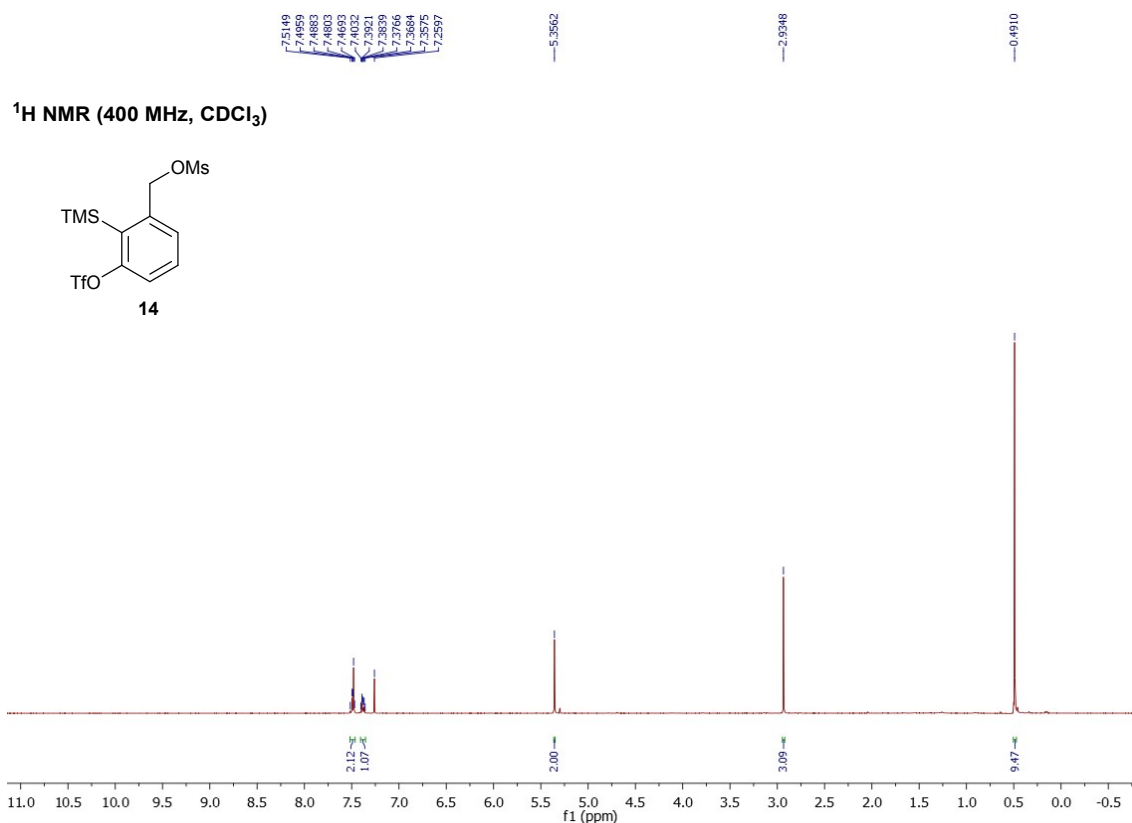
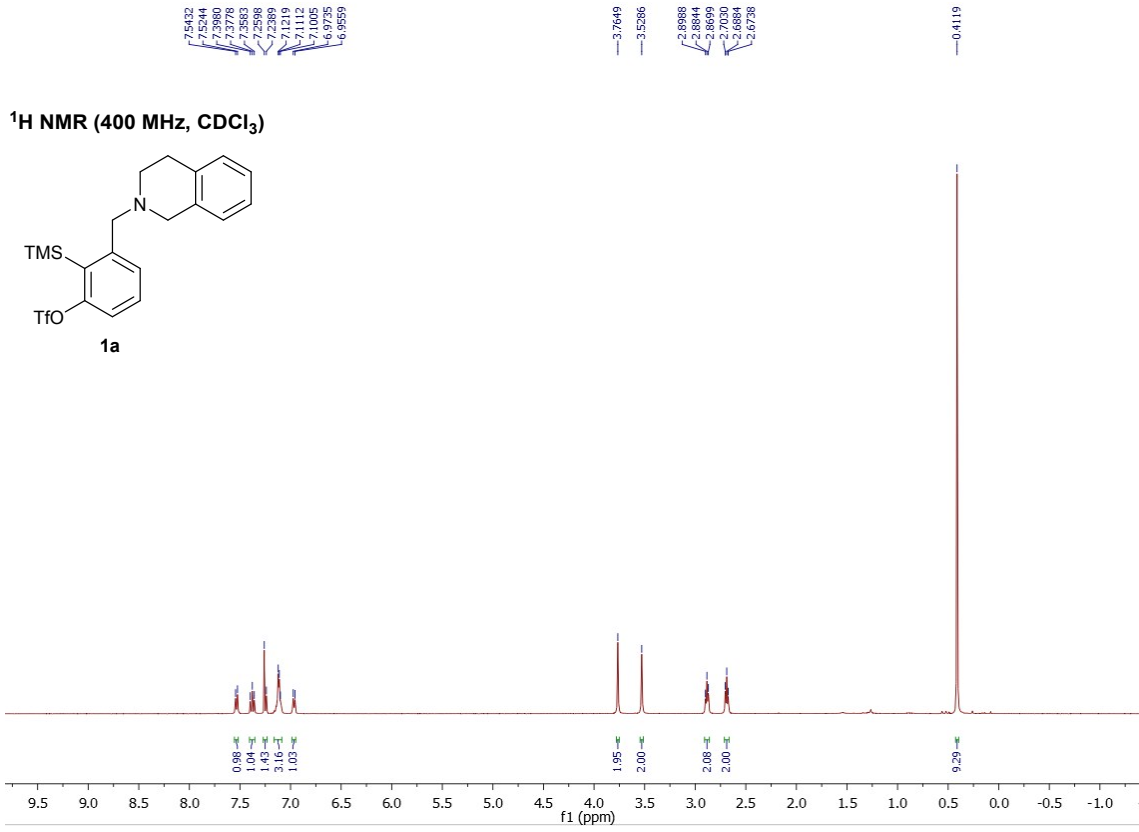
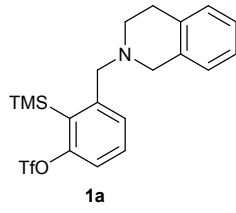


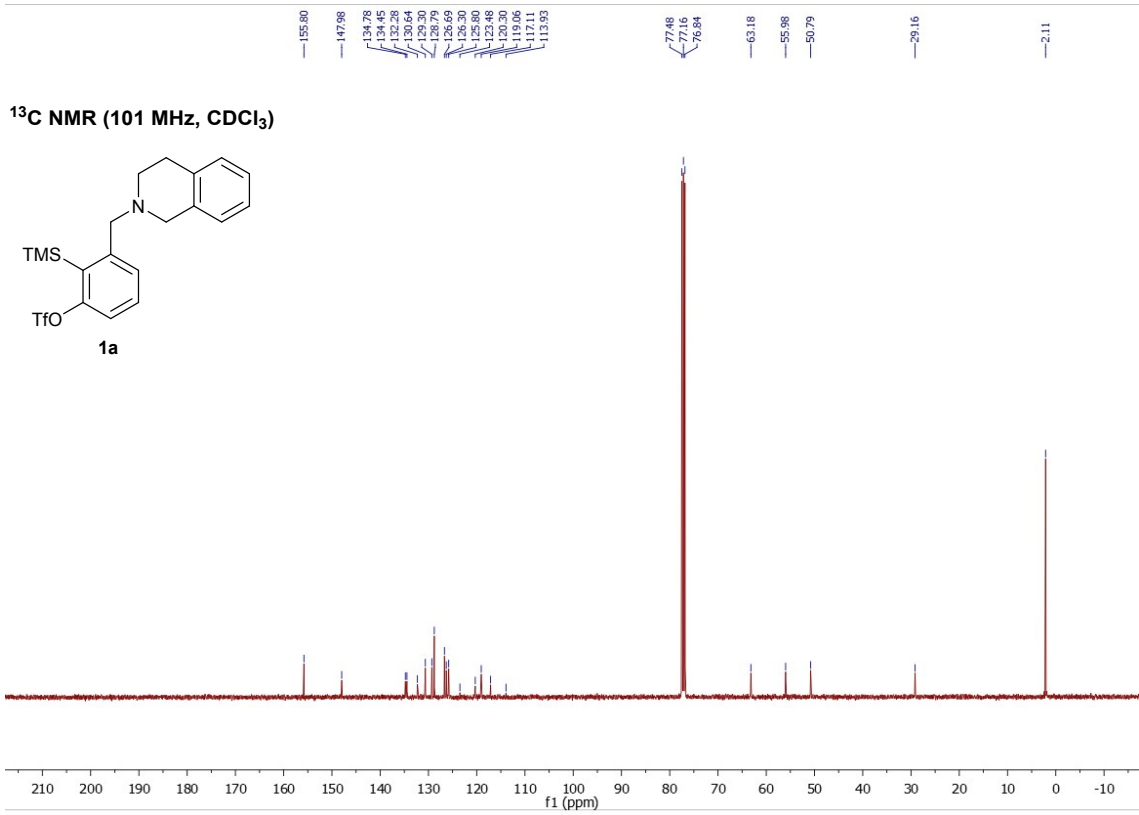
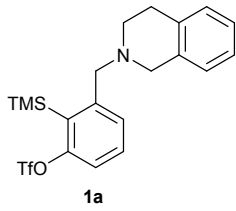
6. NMR spectra

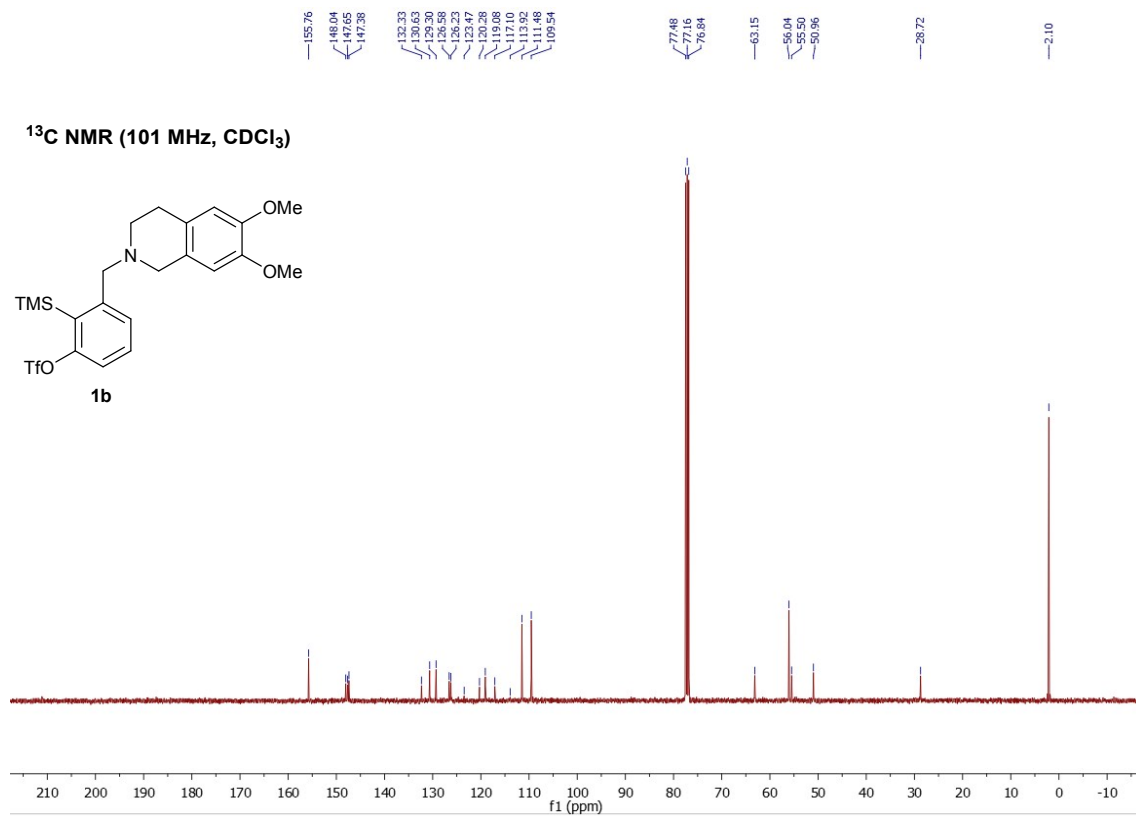
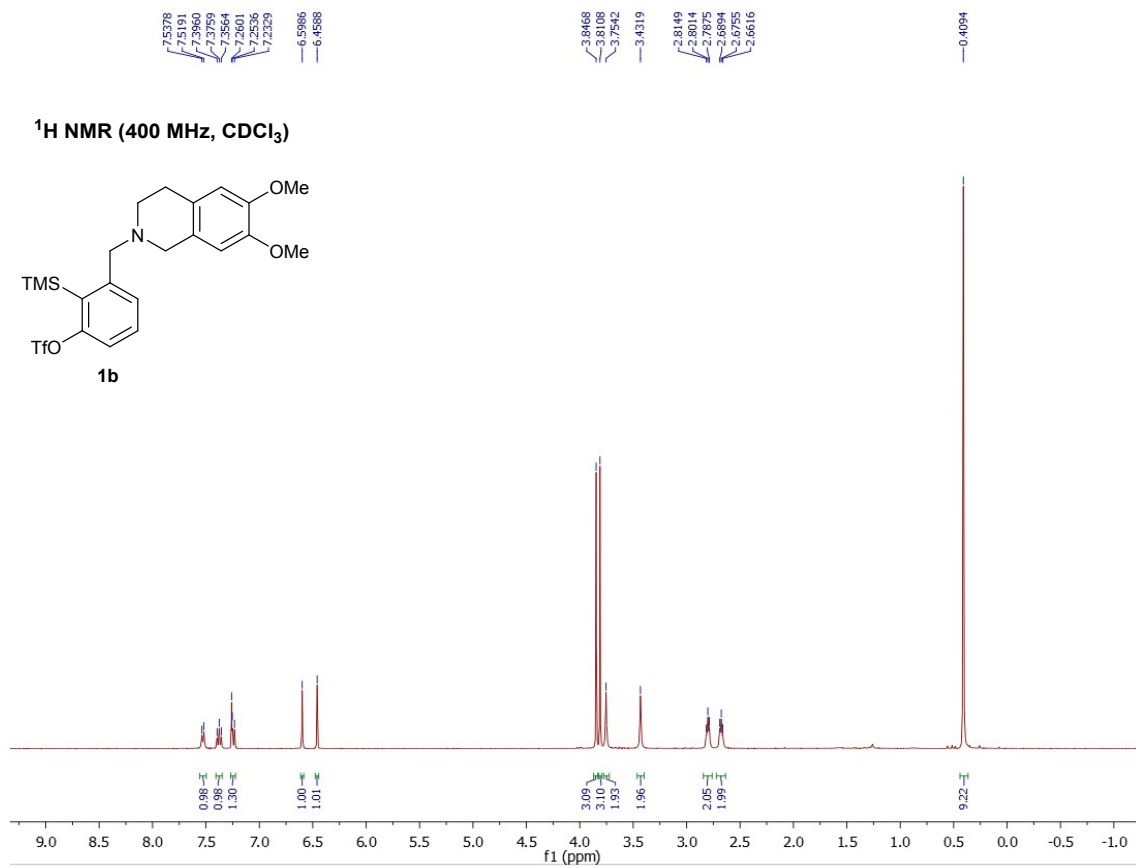


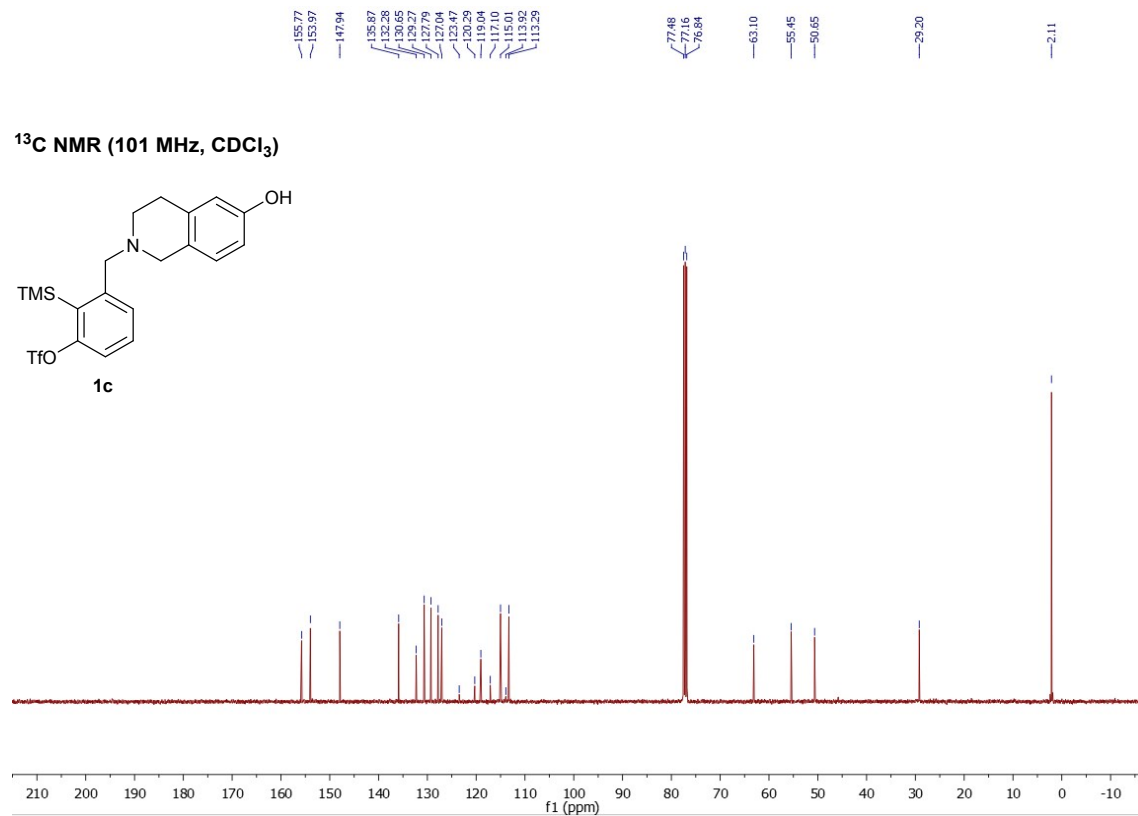
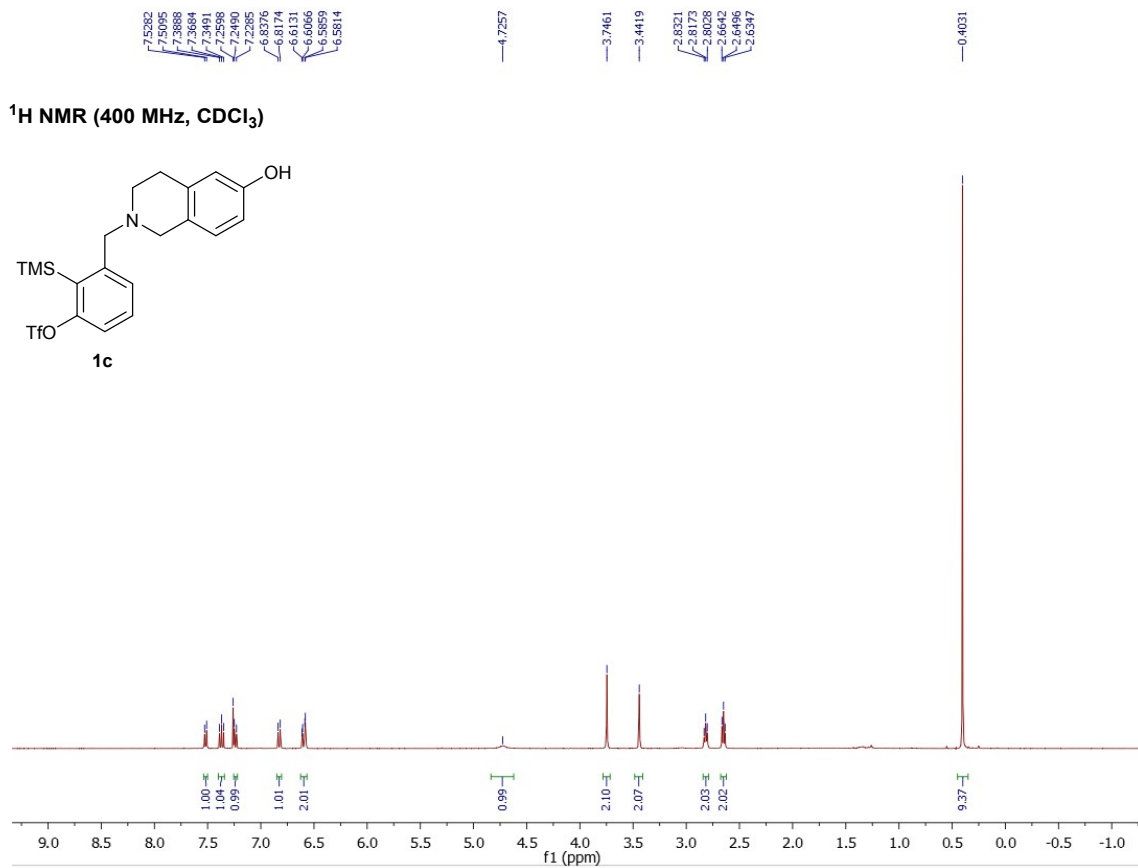
¹H NMR (400 MHz, CDCl₃)

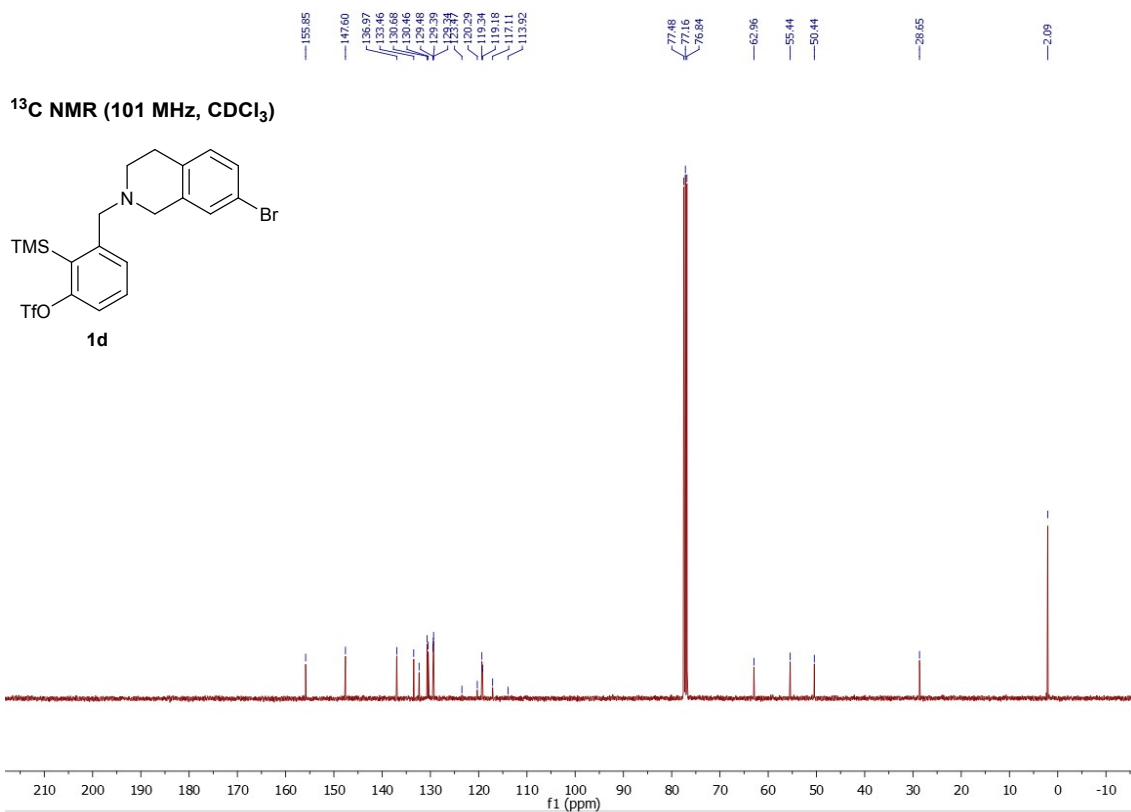
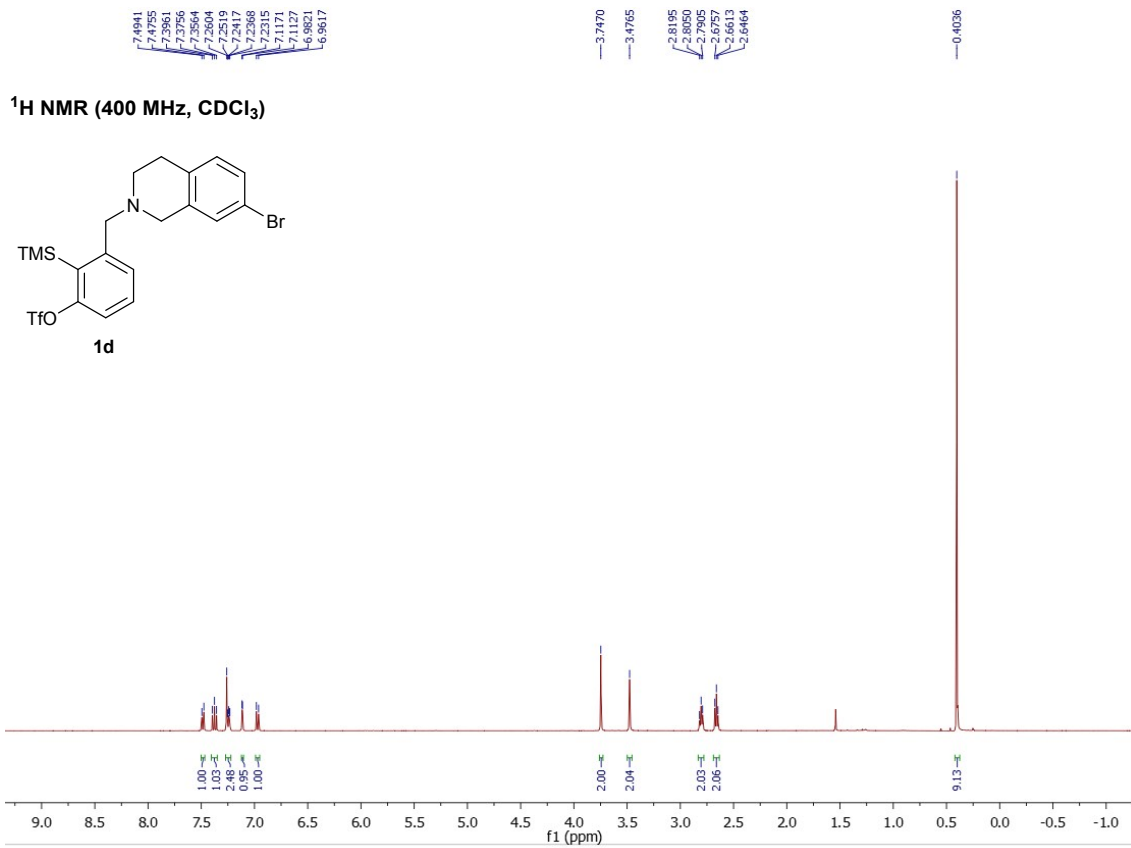


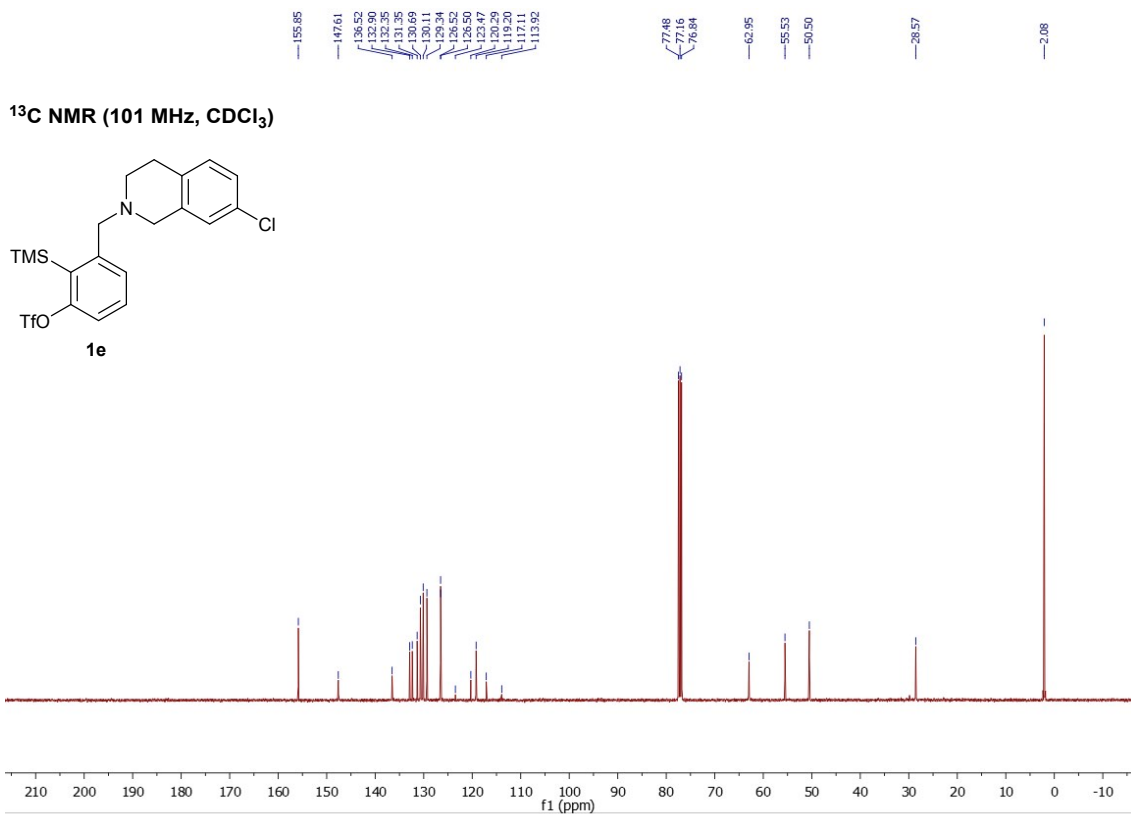
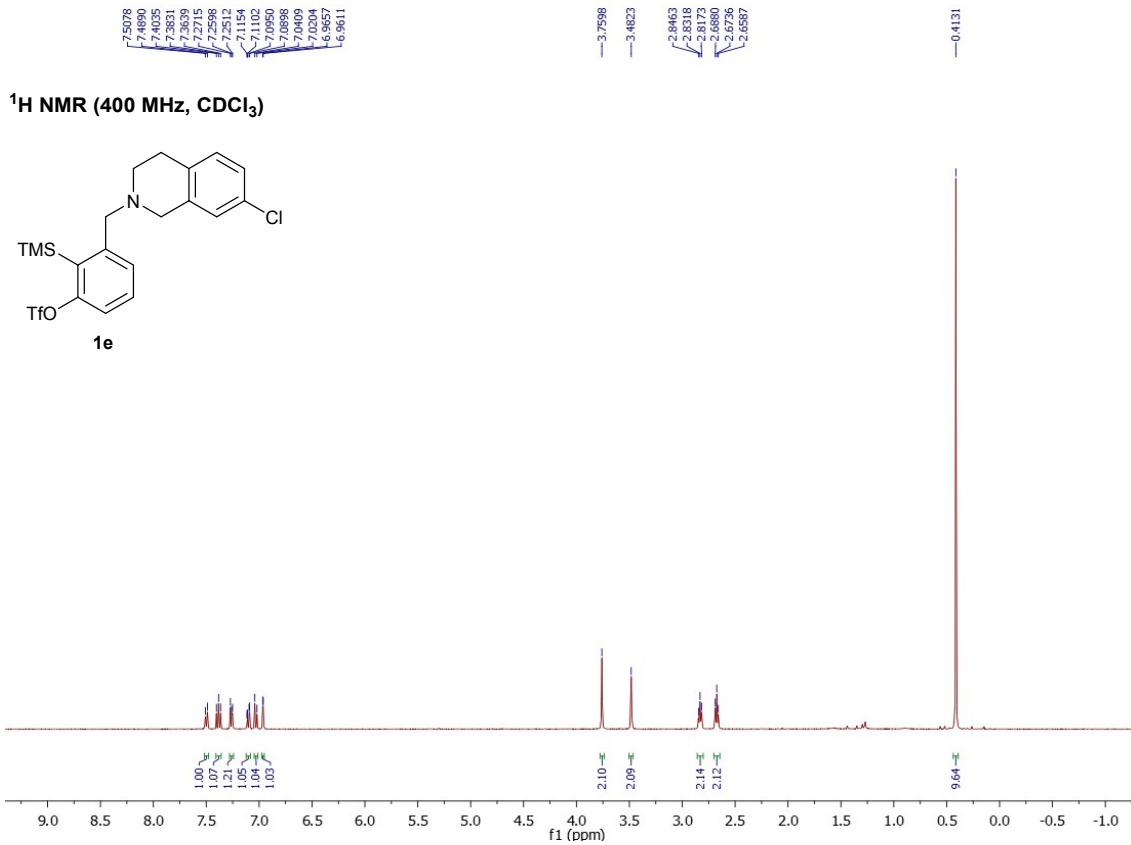
¹³C NMR (101 MHz, CDCl₃)

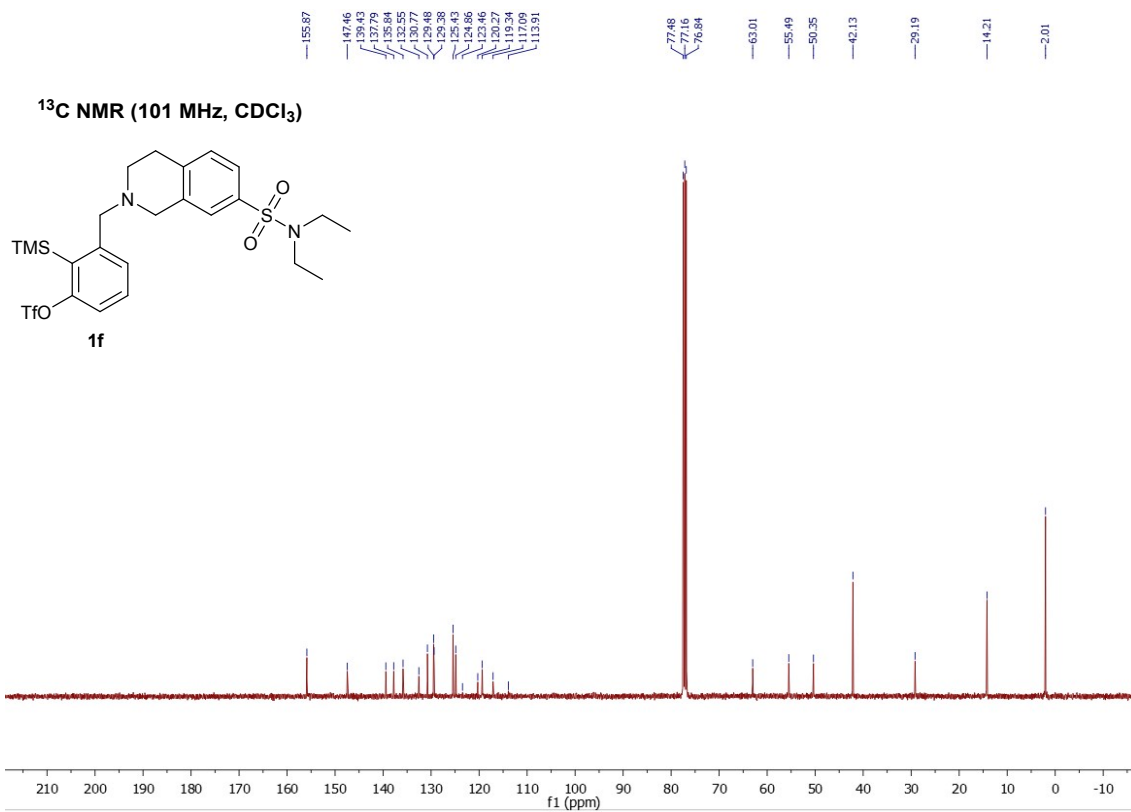
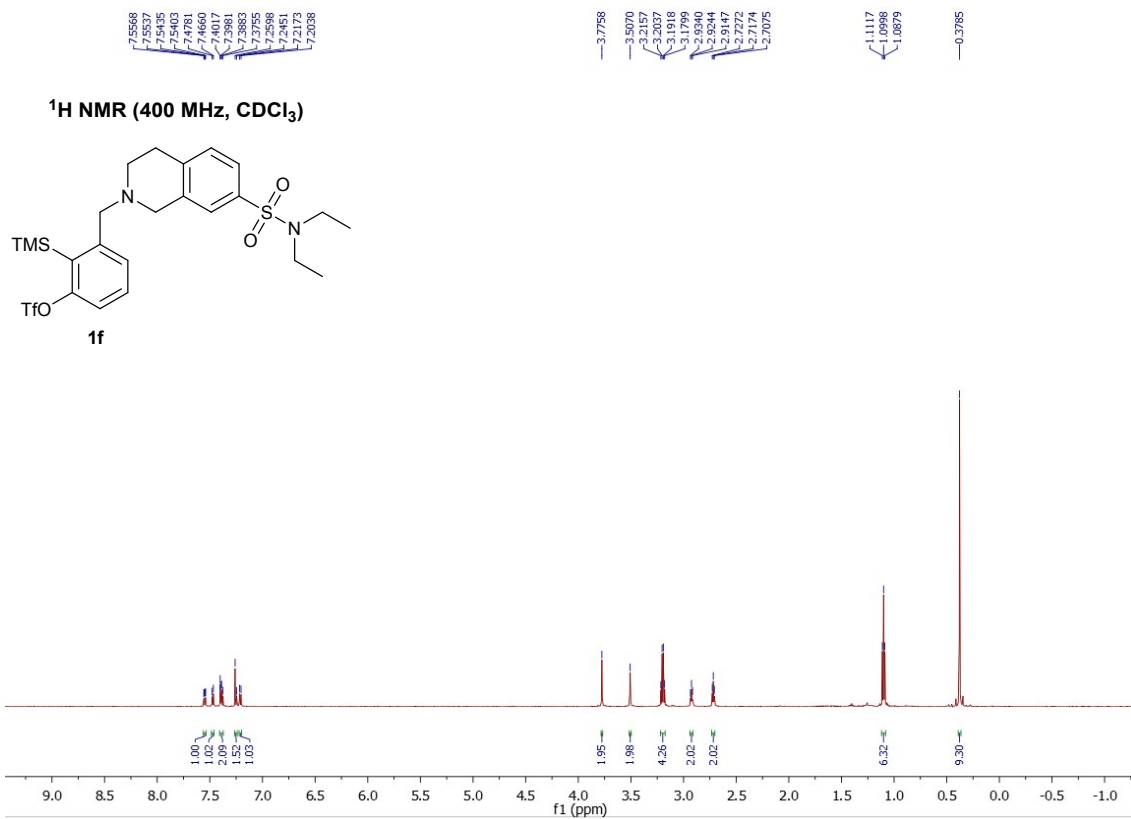


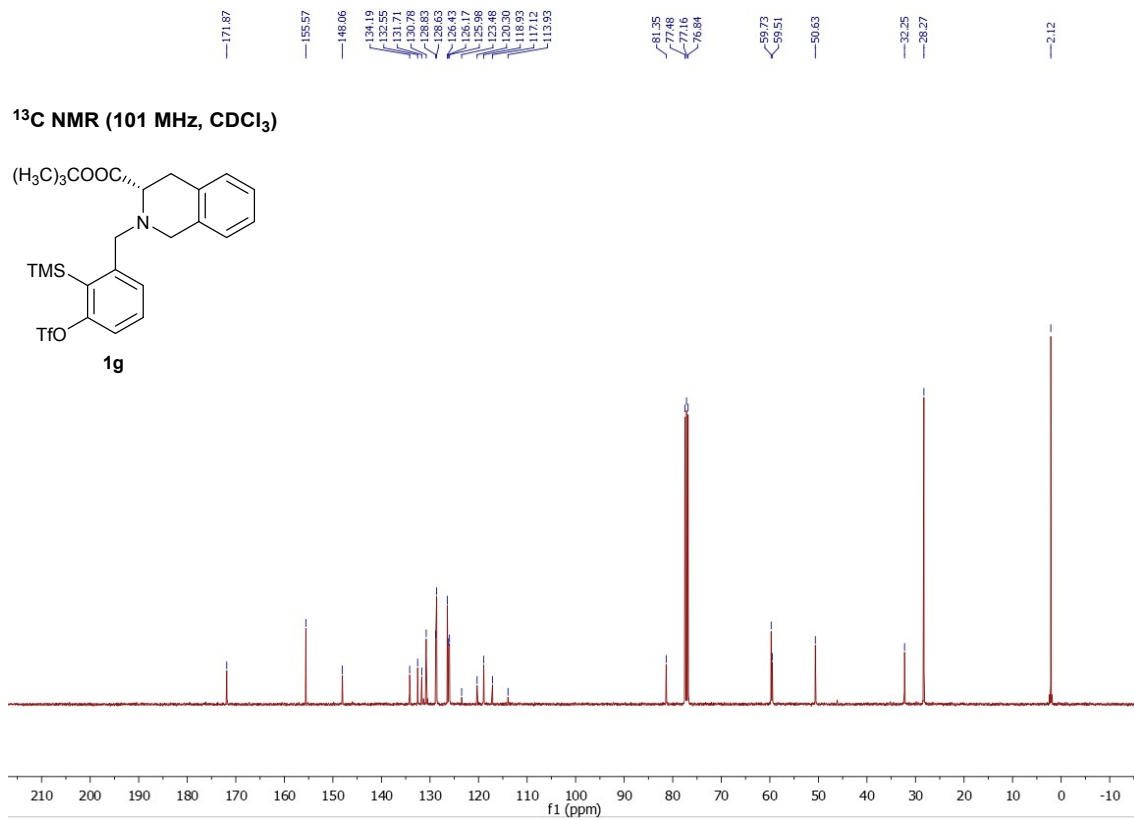
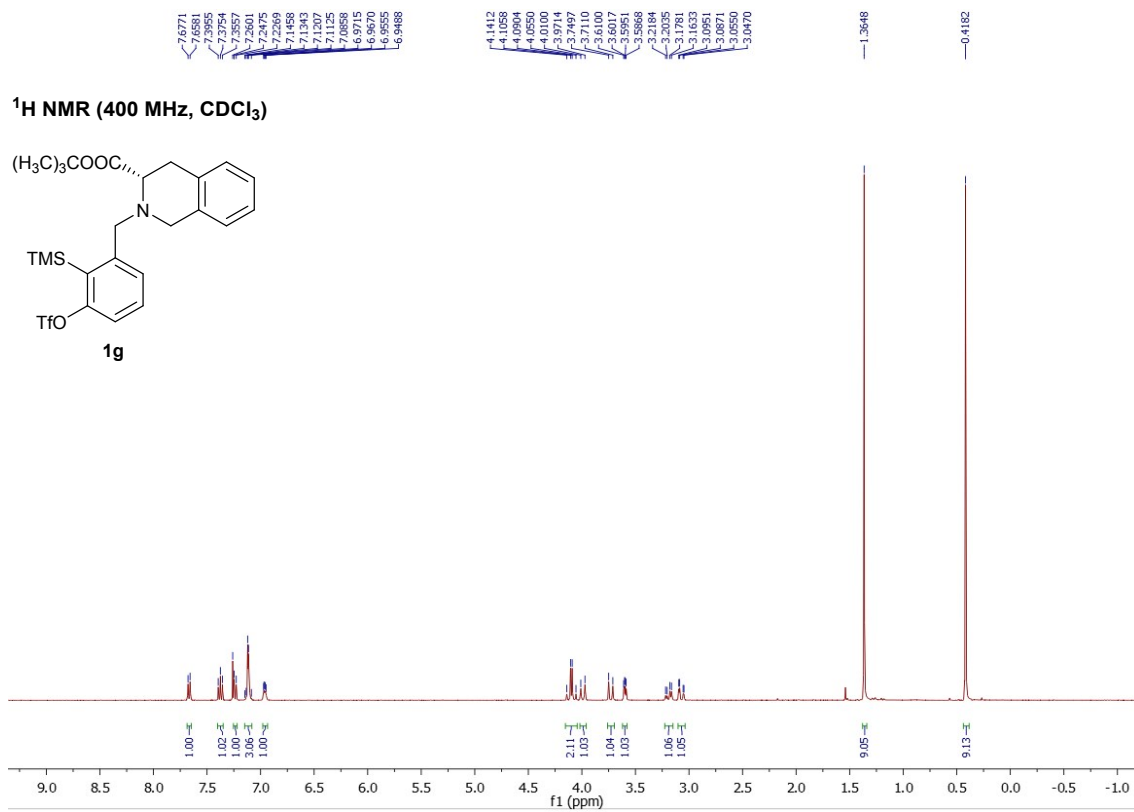


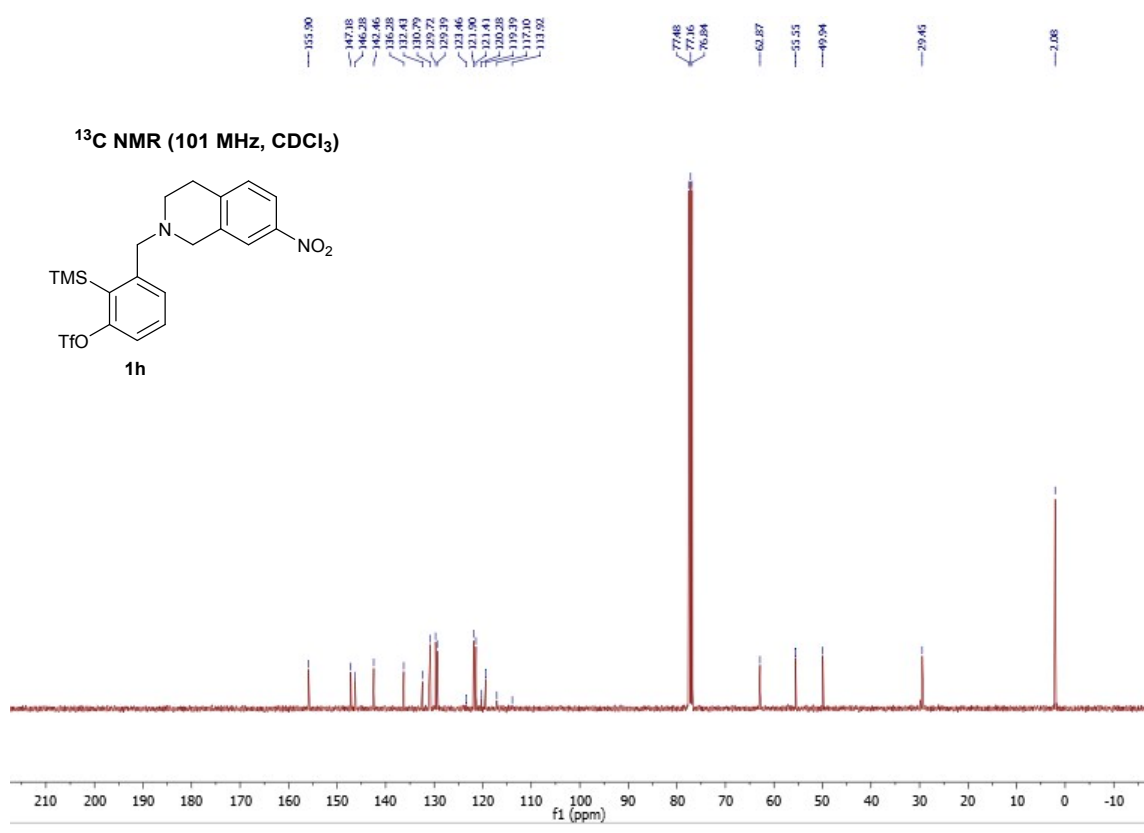
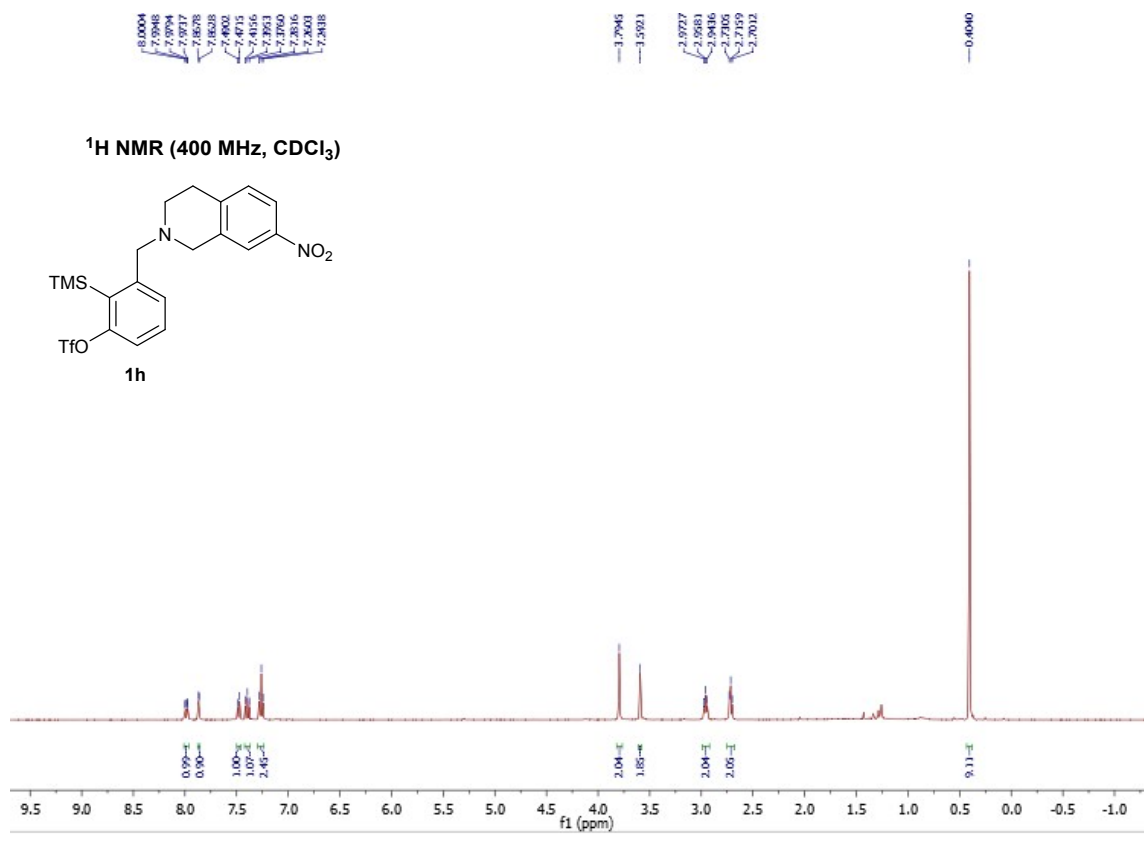


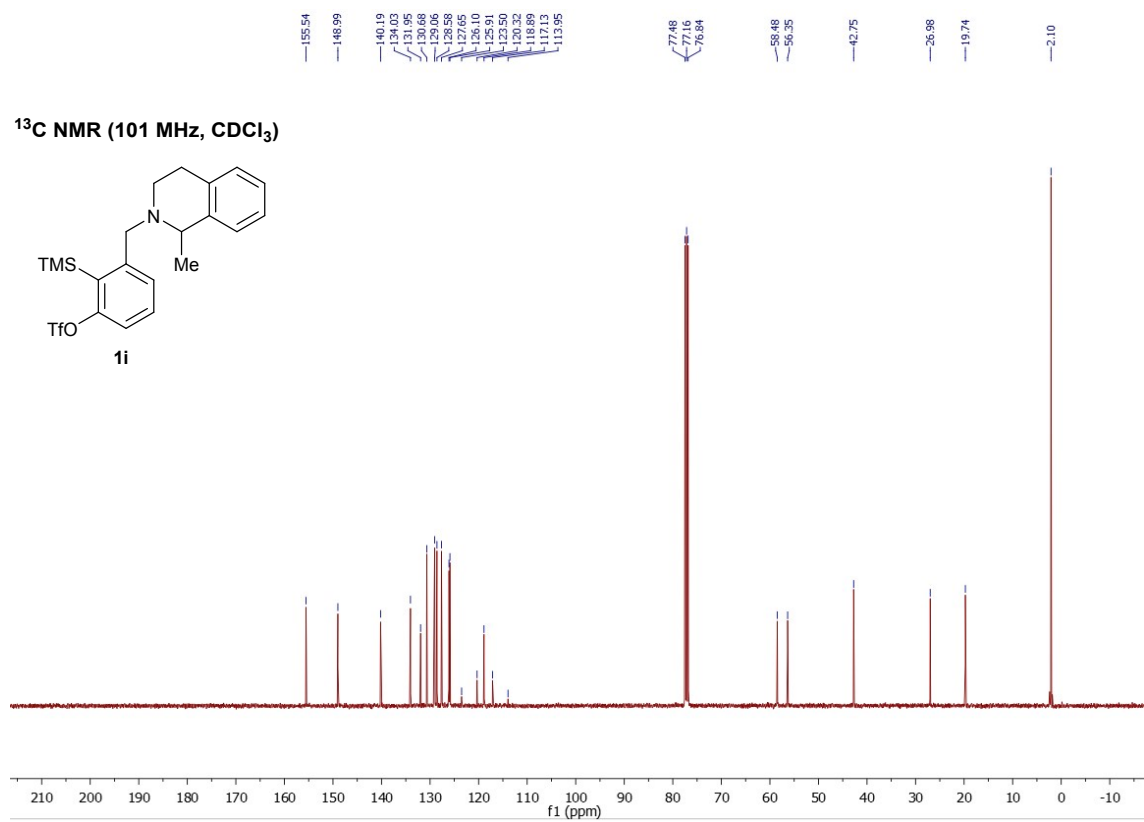
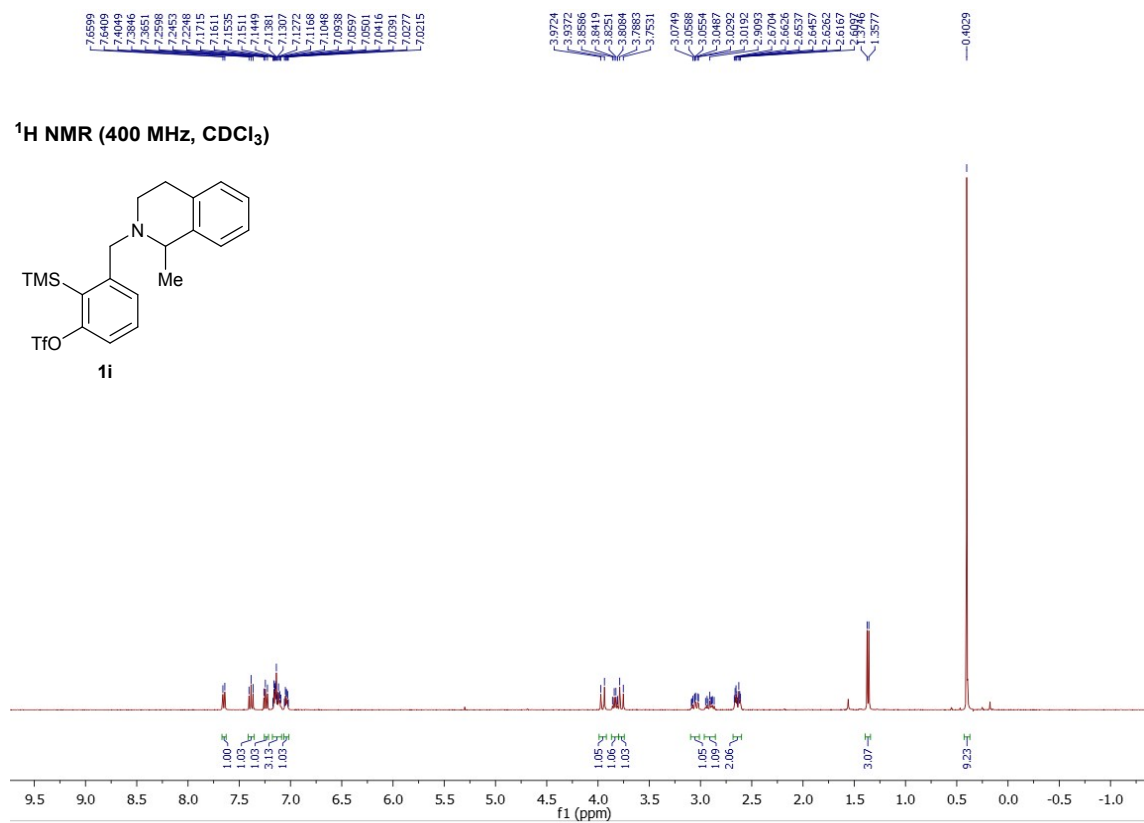


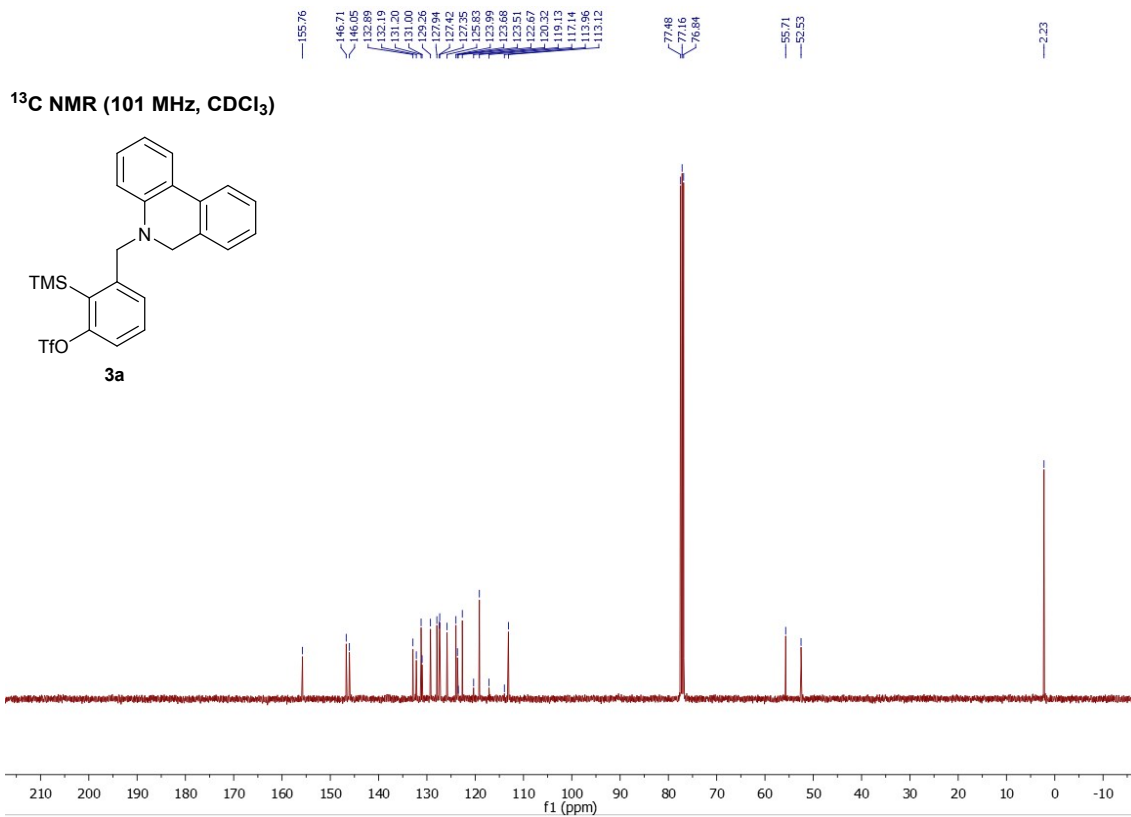
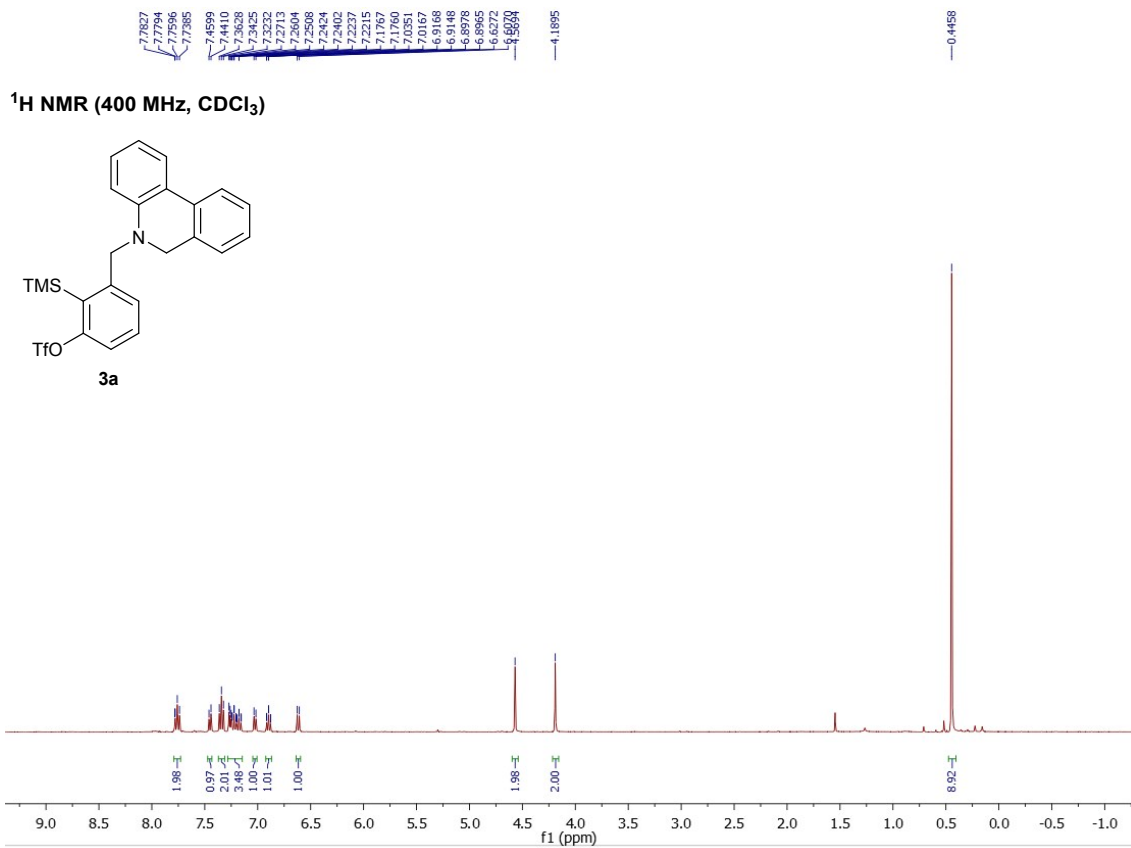


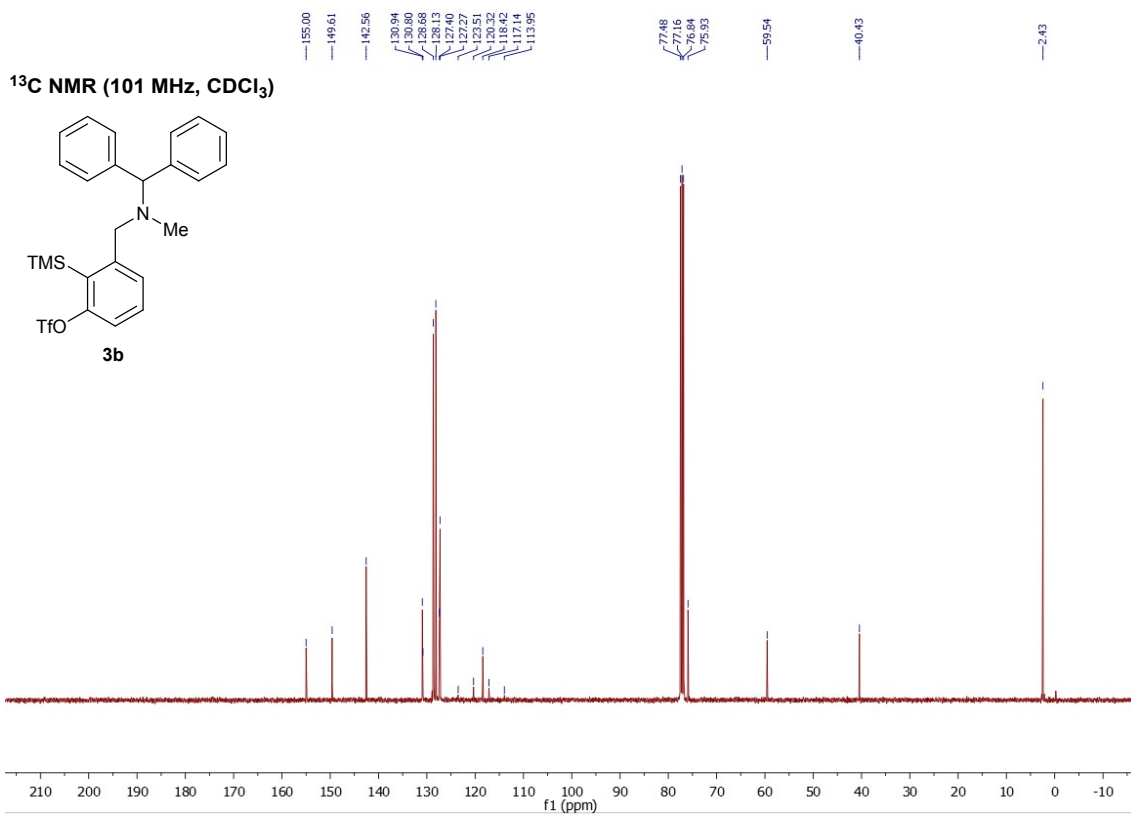
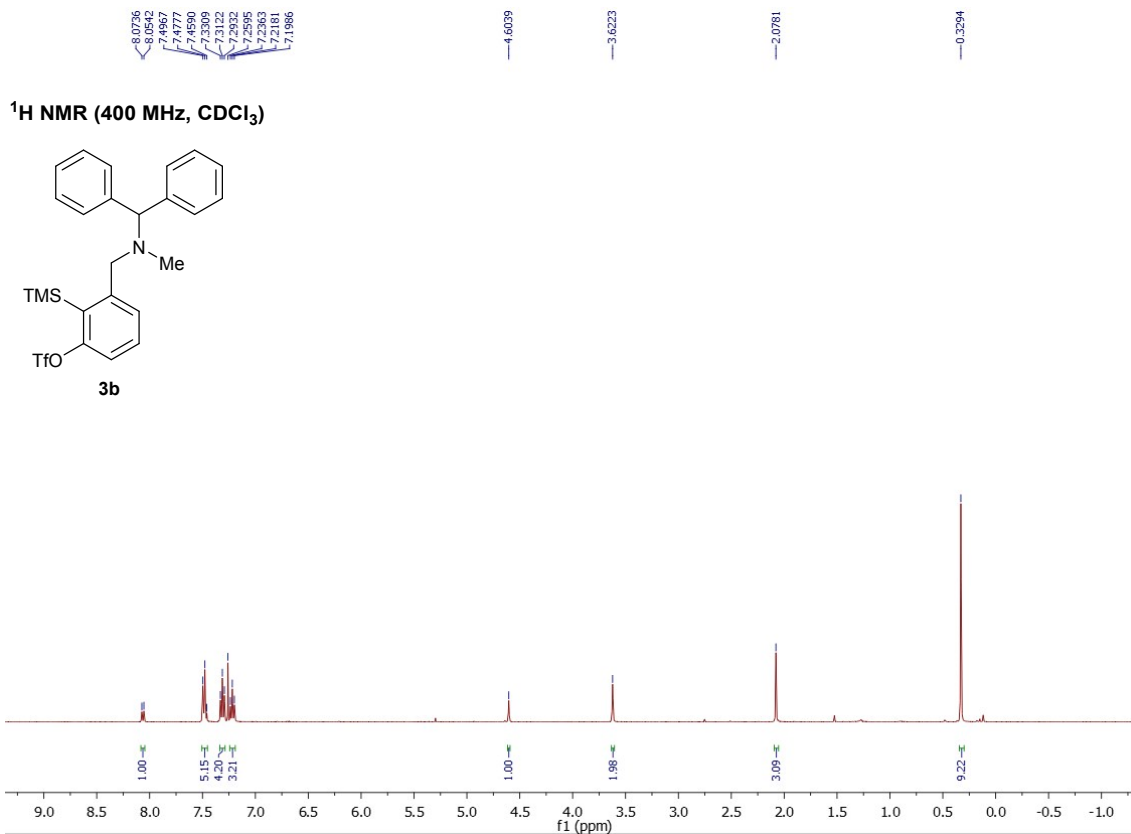


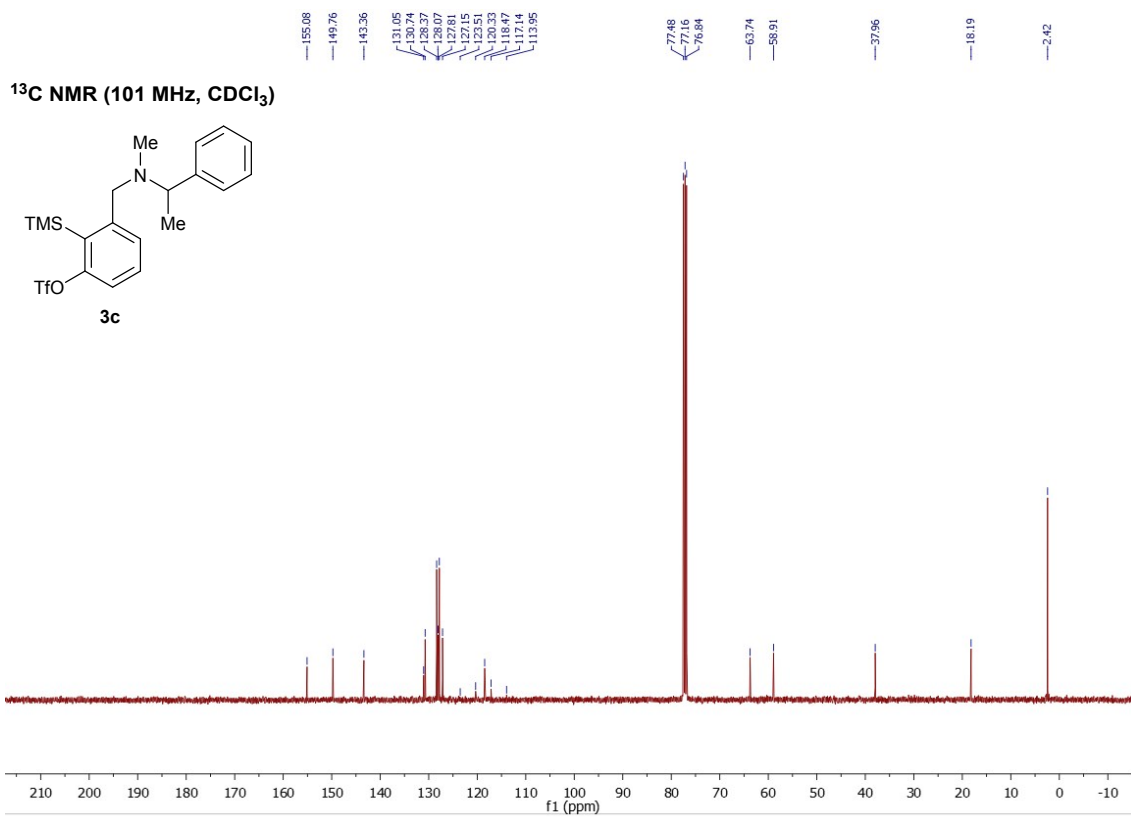
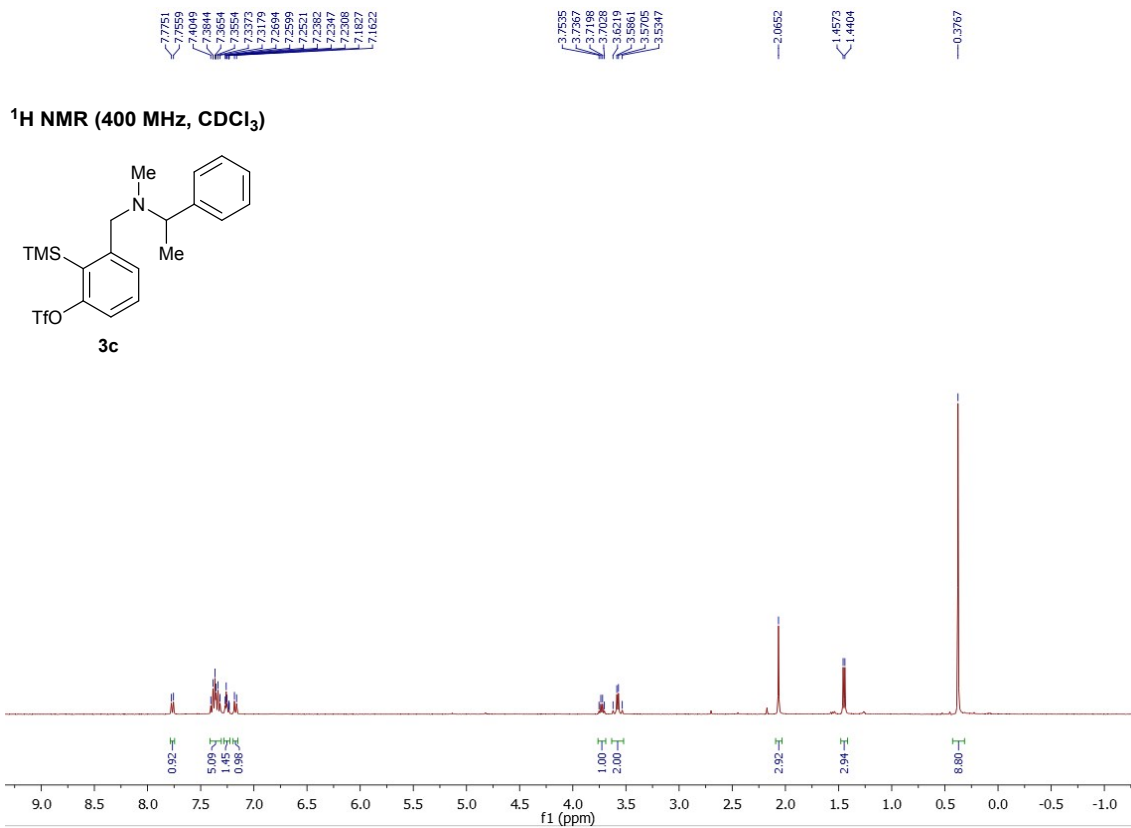




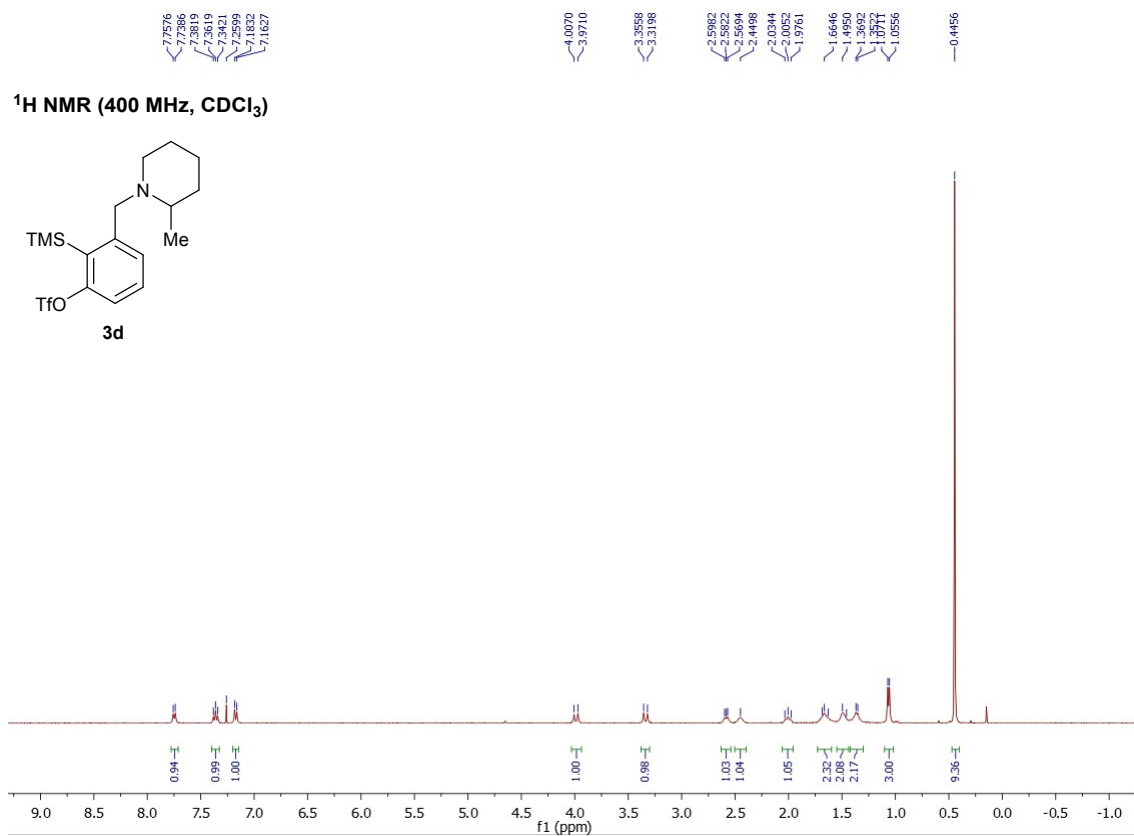
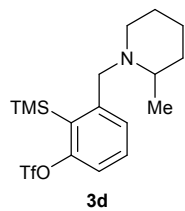




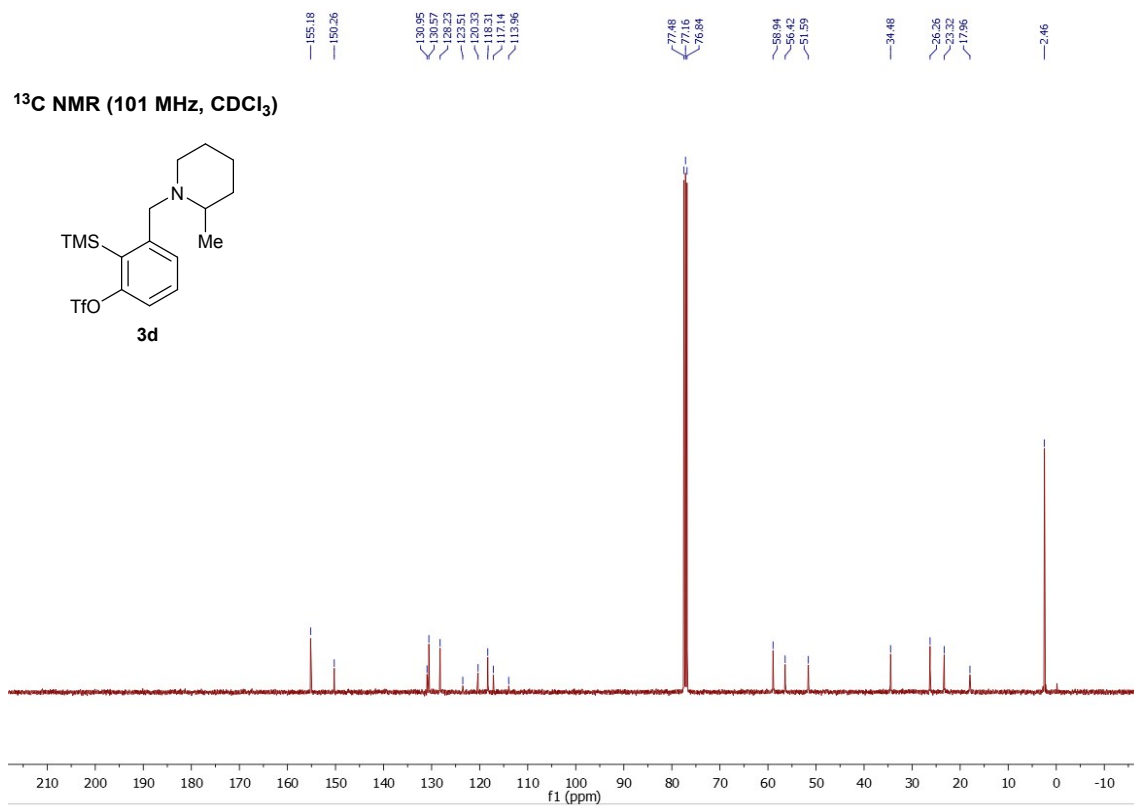
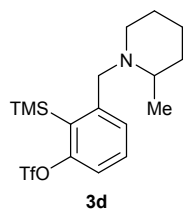


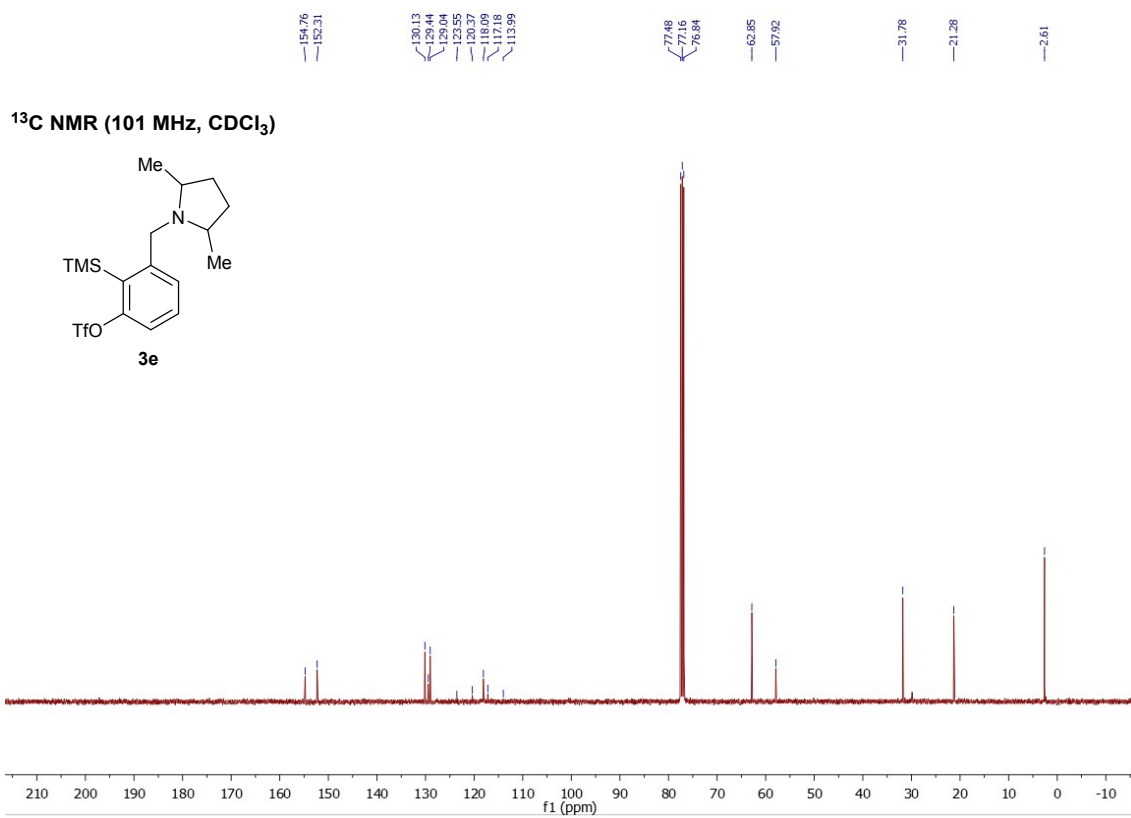
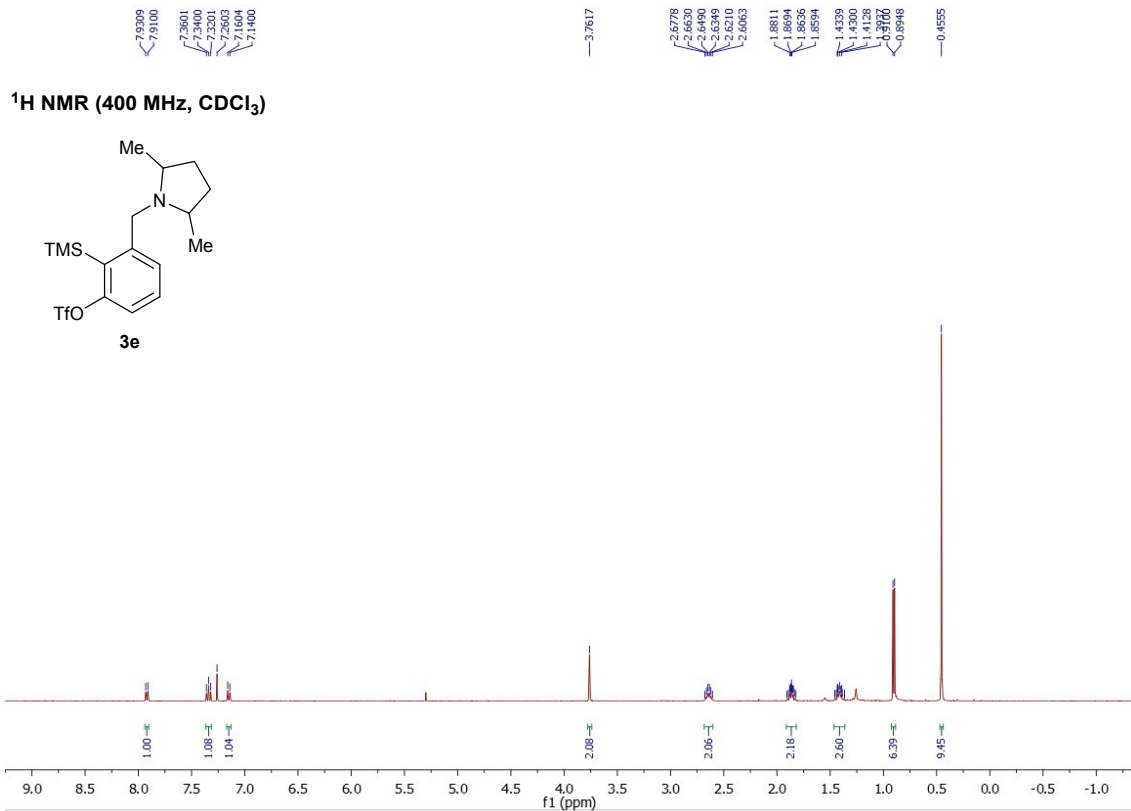


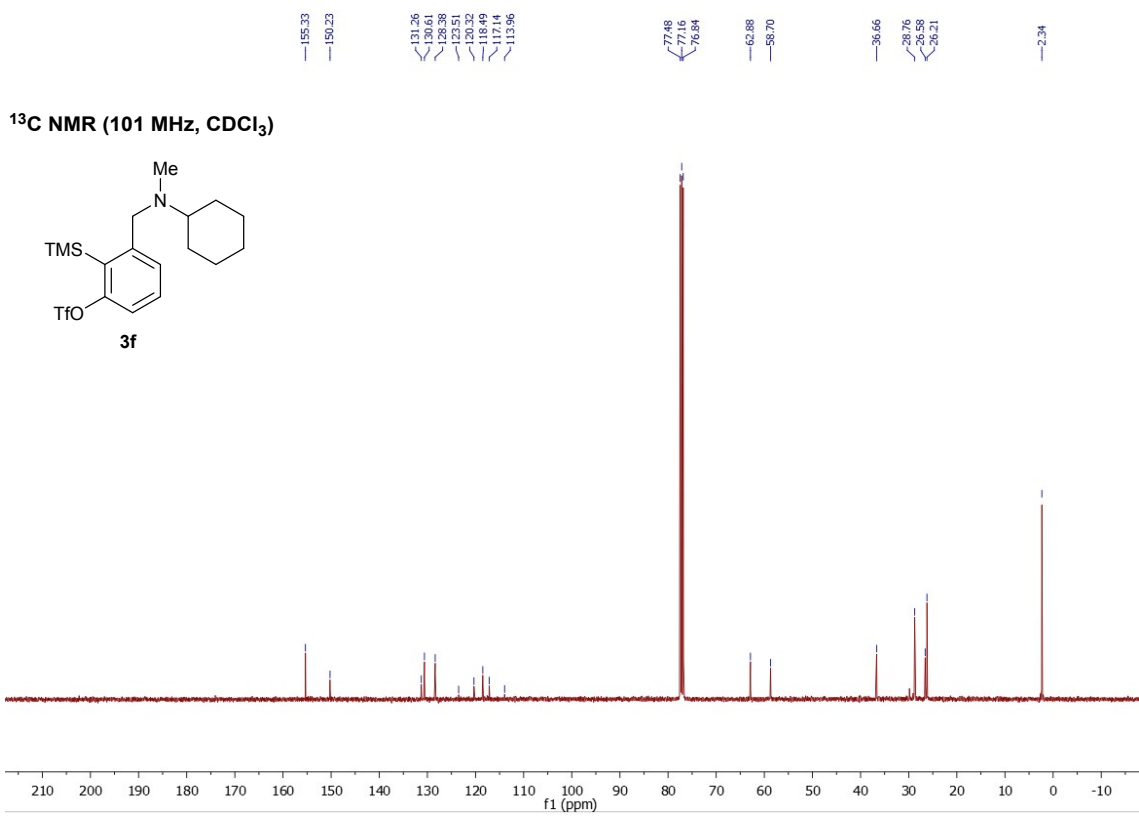
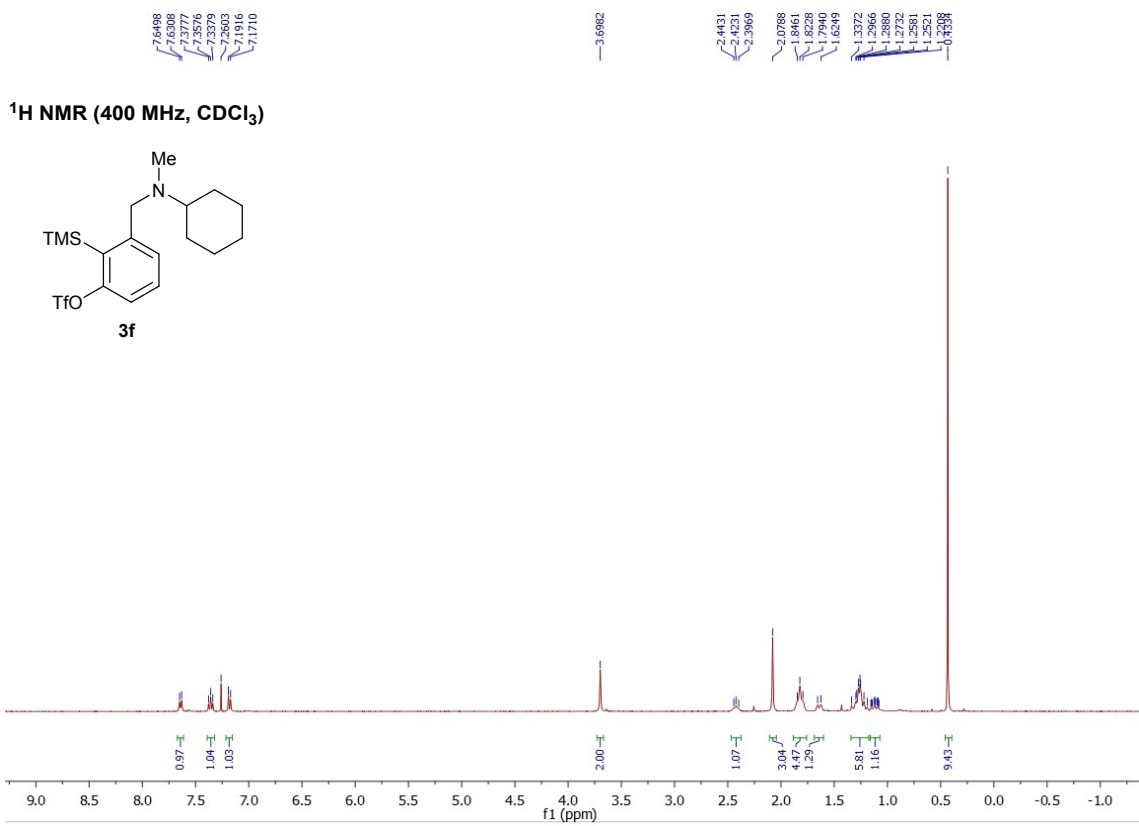
¹H NMR (400 MHz, CDCl₃)

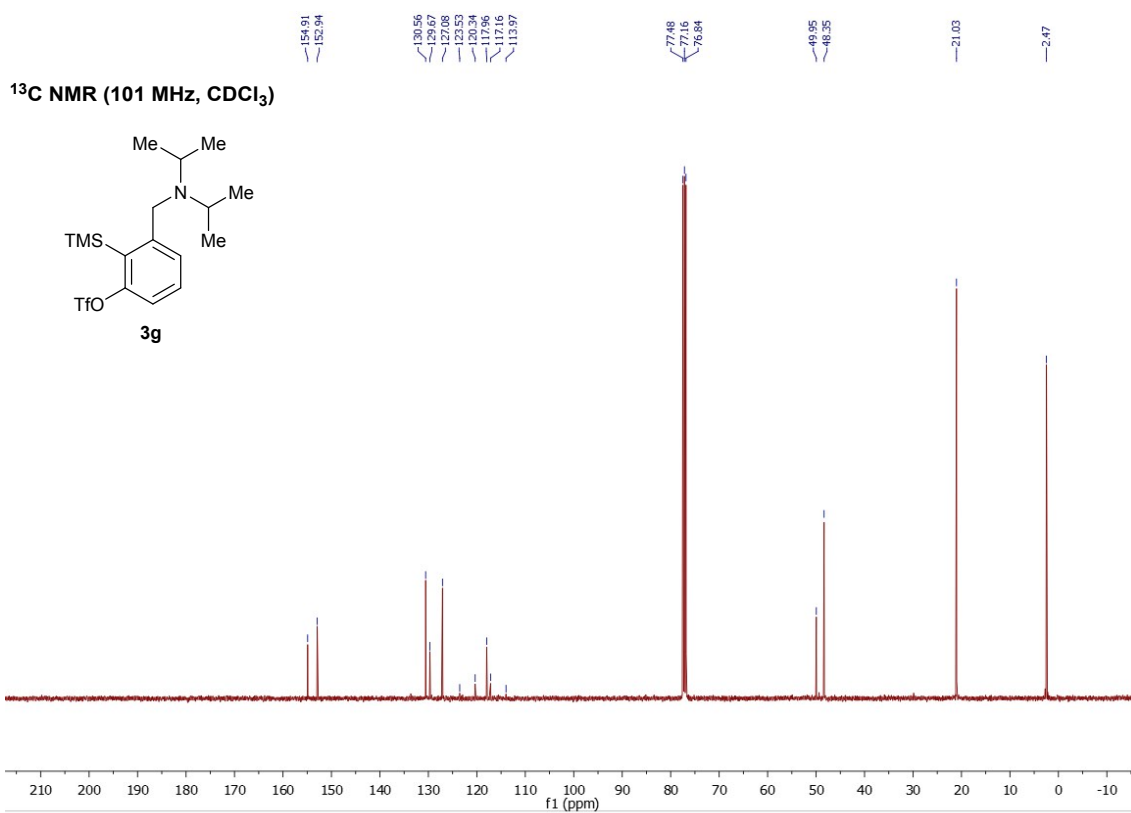
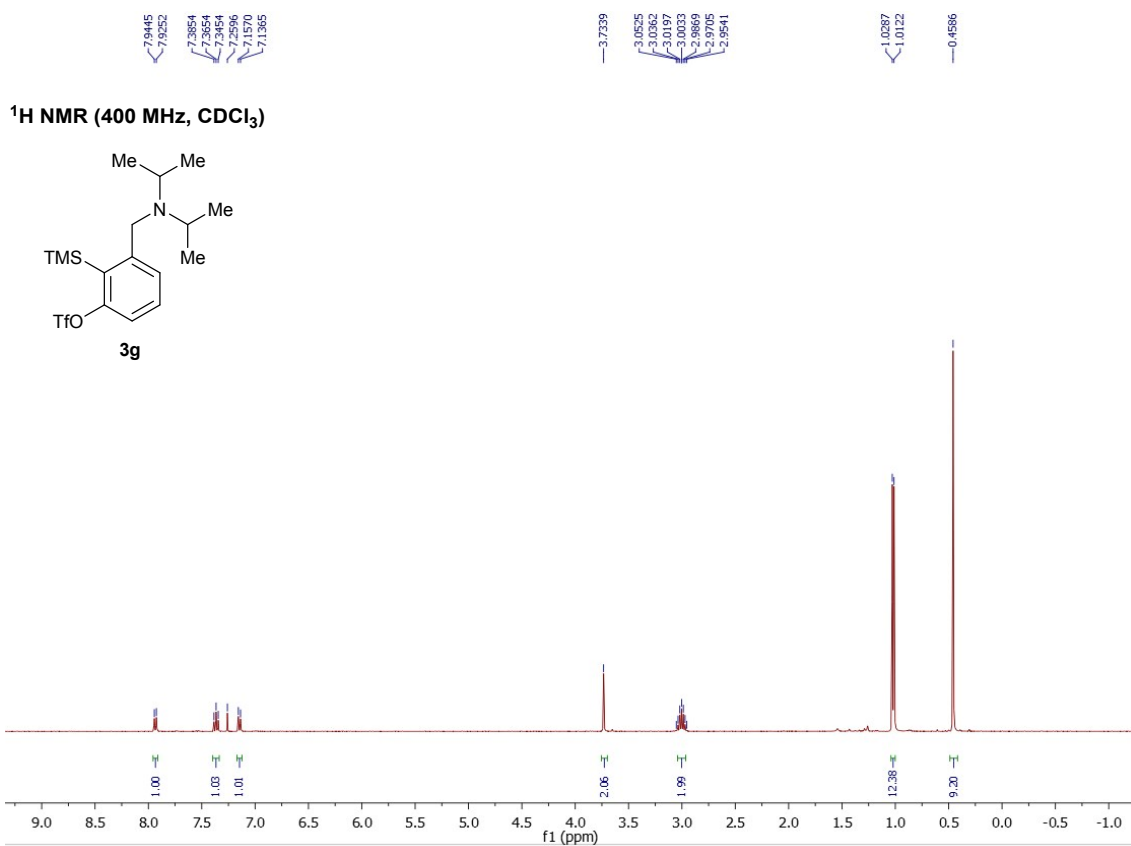


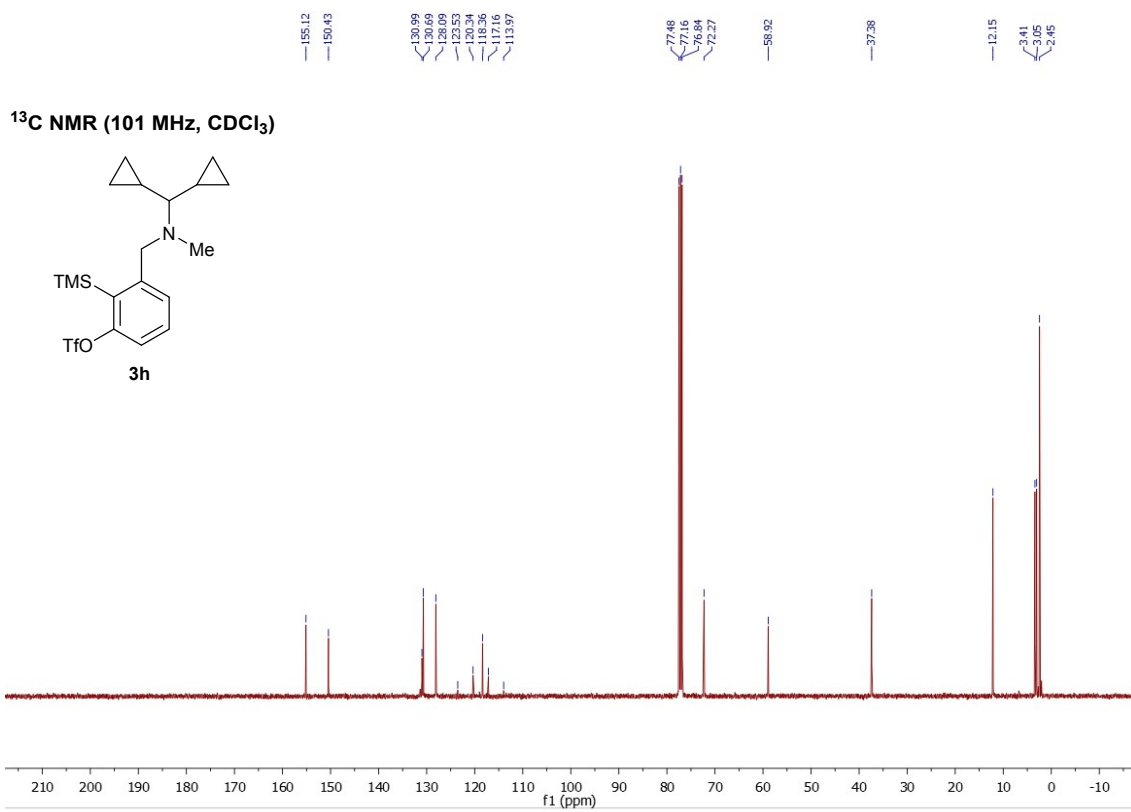
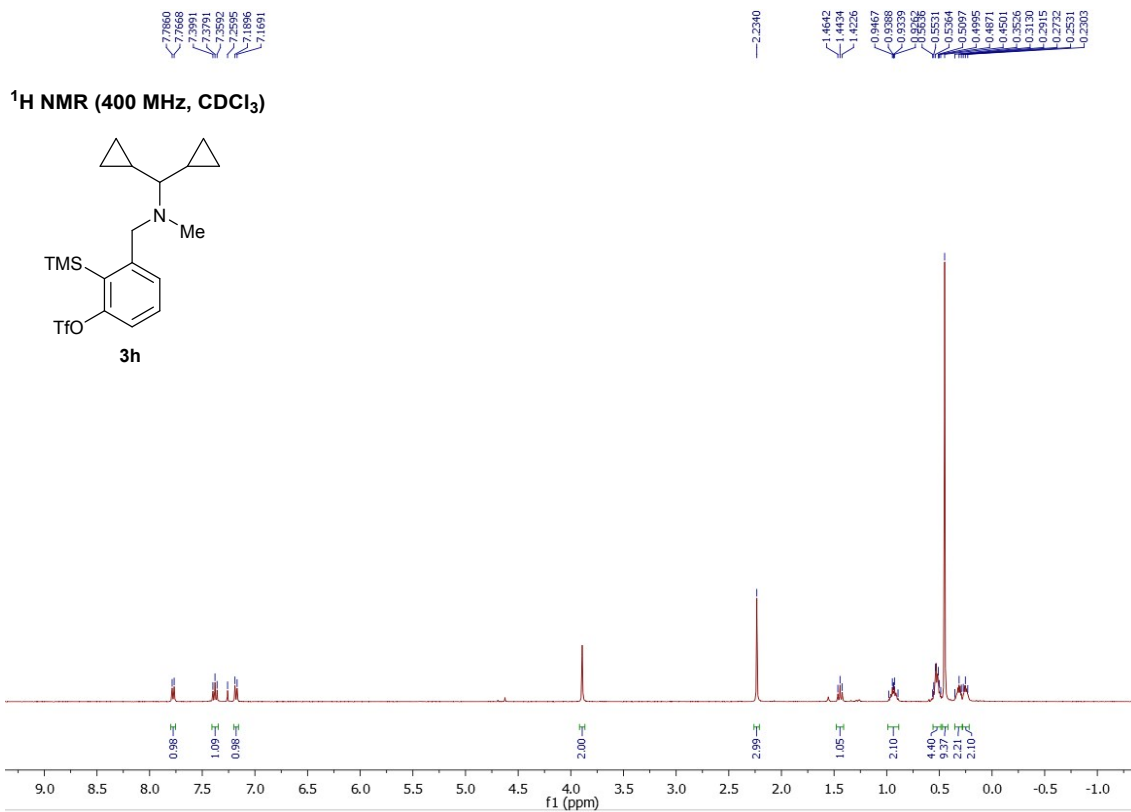
¹³C NMR (101 MHz, CDCl₃)

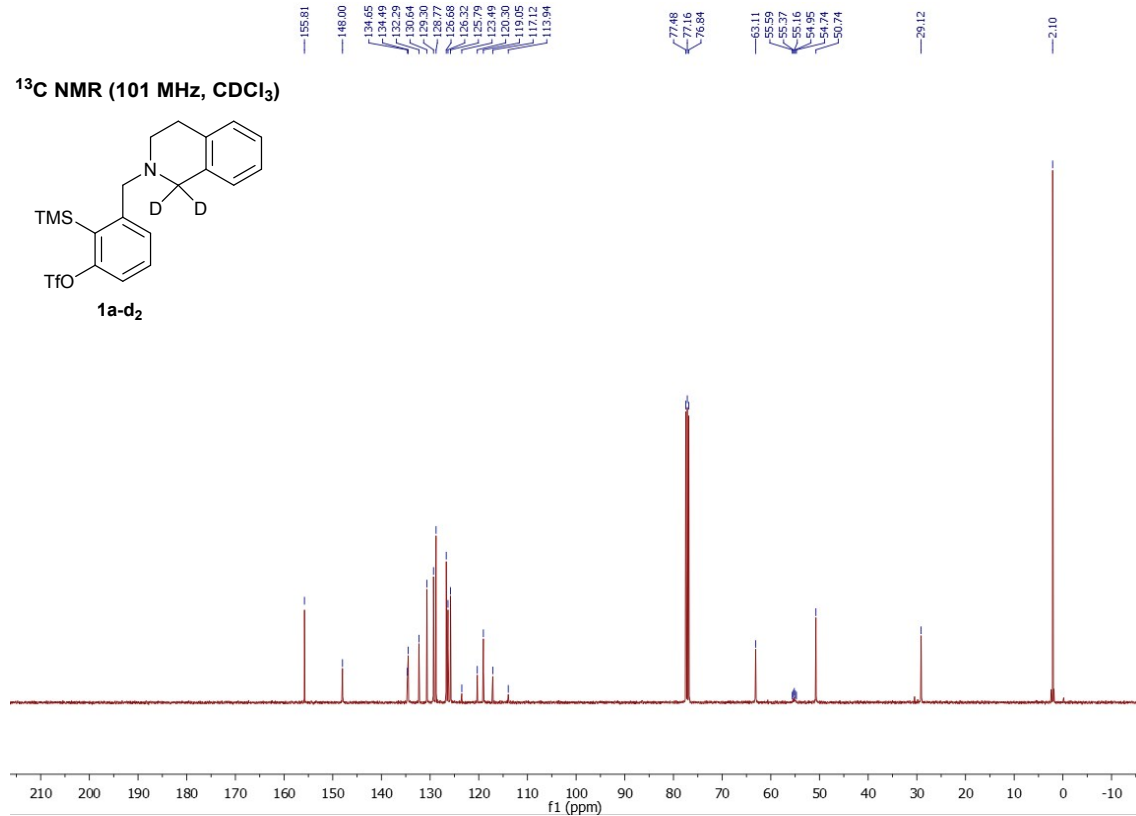
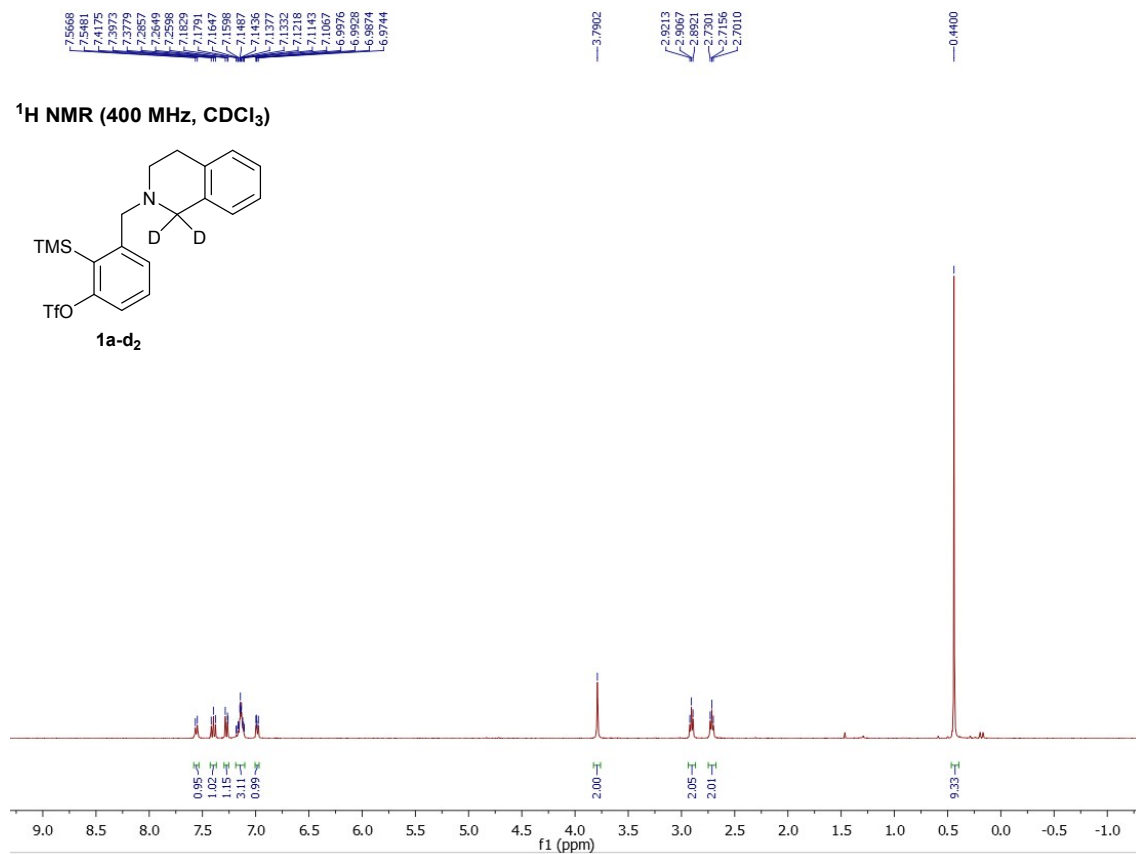








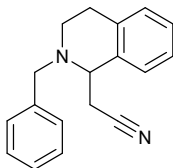




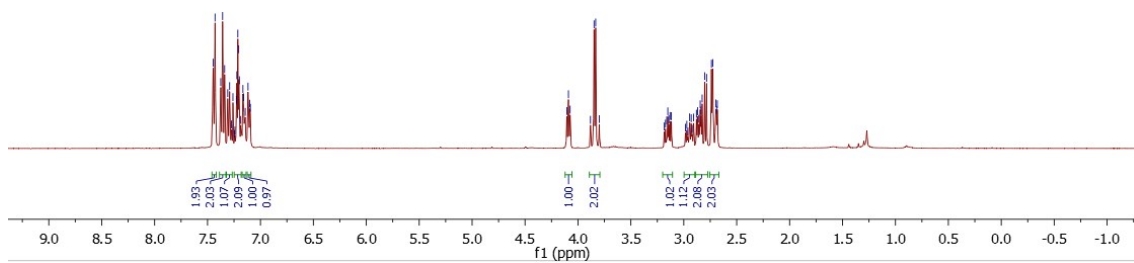
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7.3750
7.3582
7.3385
7.3082
7.2913
7.2732
7.2599
7.2457
7.2412
7.2274
7.2152
7.2137
7.2056
7.1992
7.1861
7.1656
7.1588
7.1440
7.1172
7.0816
7.0584

4.1052
4.0899
4.0741
3.8817
3.8878
3.8664
3.7985
3.1880
3.1731
3.1613
3.1510
3.1409
3.1300
3.1184
3.0942
2.9711
2.9610
2.9443
2.9299
2.9208
2.9072
2.8803
2.8700
2.8574
2.8447
2.8376
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2.6968
2.6803
2.6630

¹H NMR (400 MHz, CDCl₃)

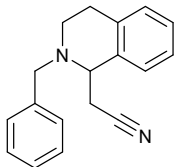


2a

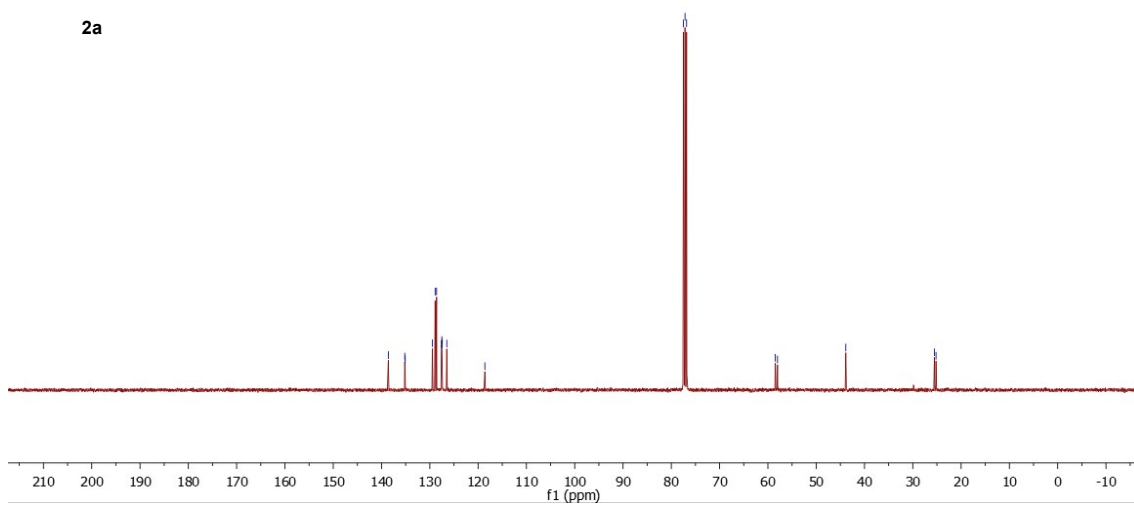


136.59
135.18
135.09
134.90
134.66
128.60
127.60
127.52
127.42
126.49
118.60
77.48
77.16
76.84
58.47
58.01
43.87
25.55
25.20

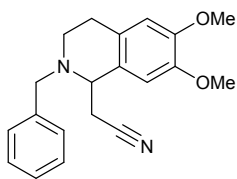
¹³C NMR (101 MHz, CDCl₃)



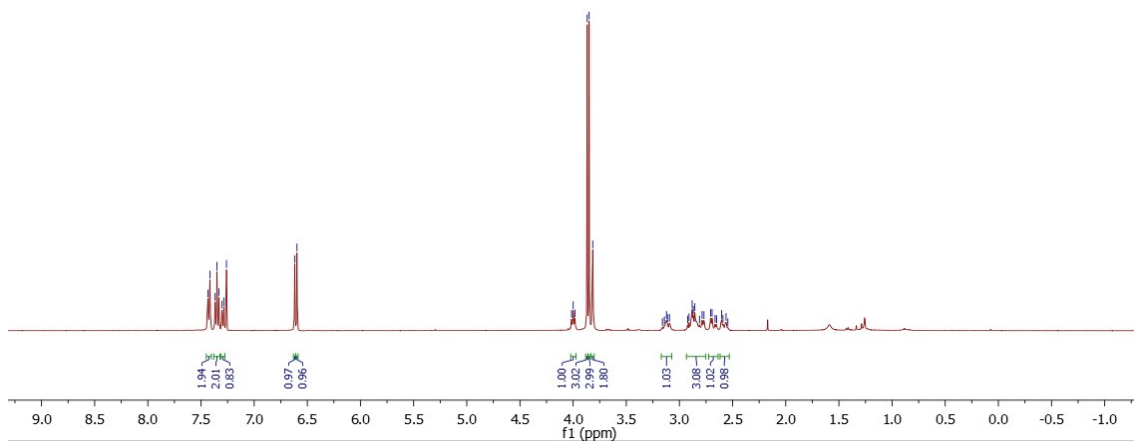
2a



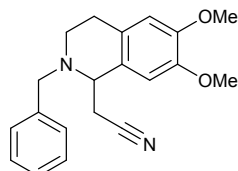
¹H NMR (400 MHz, CDCl₃)



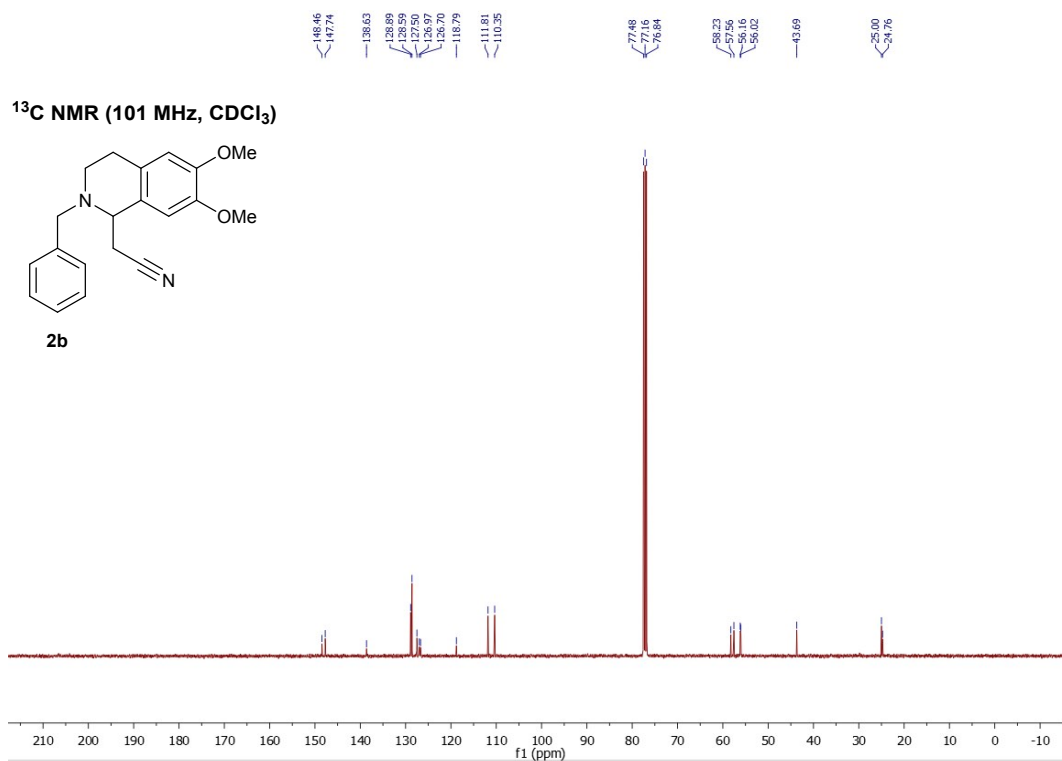
2b



¹³C NMR (101 MHz, CDCl₃)

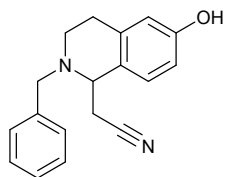


2b

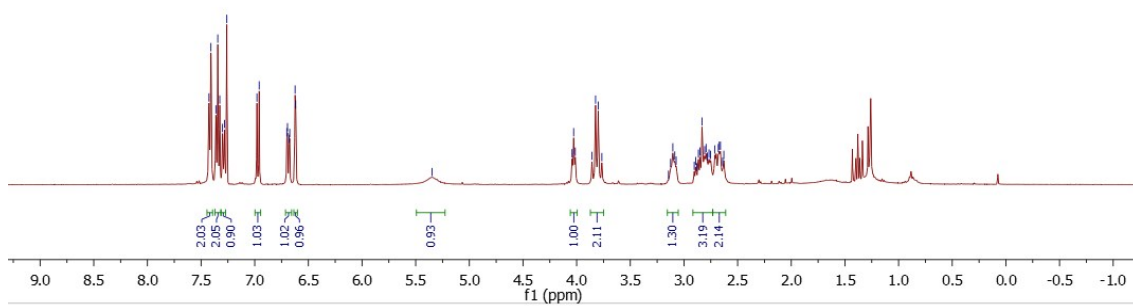


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7.4082
7.3620
7.3445
7.3257
7.2999
7.2820
7.2603
6.9793
6.9585
6.7009
6.6946
6.6901
6.6740
6.6238
6.6182
-5.3471
4.0427
4.0279
4.0128
3.8575
3.8237
3.7989
3.7651
3.7446
3.7244
3.1036
3.0856
3.0730
2.9043
2.8913
2.8817
2.8653
2.8500
2.8318
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2.7938
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2.7118
2.6795
2.6705
2.6600
2.6394
2.6285

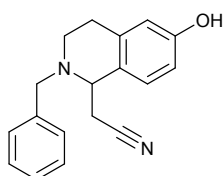
¹H NMR (400 MHz, CDCl₃)



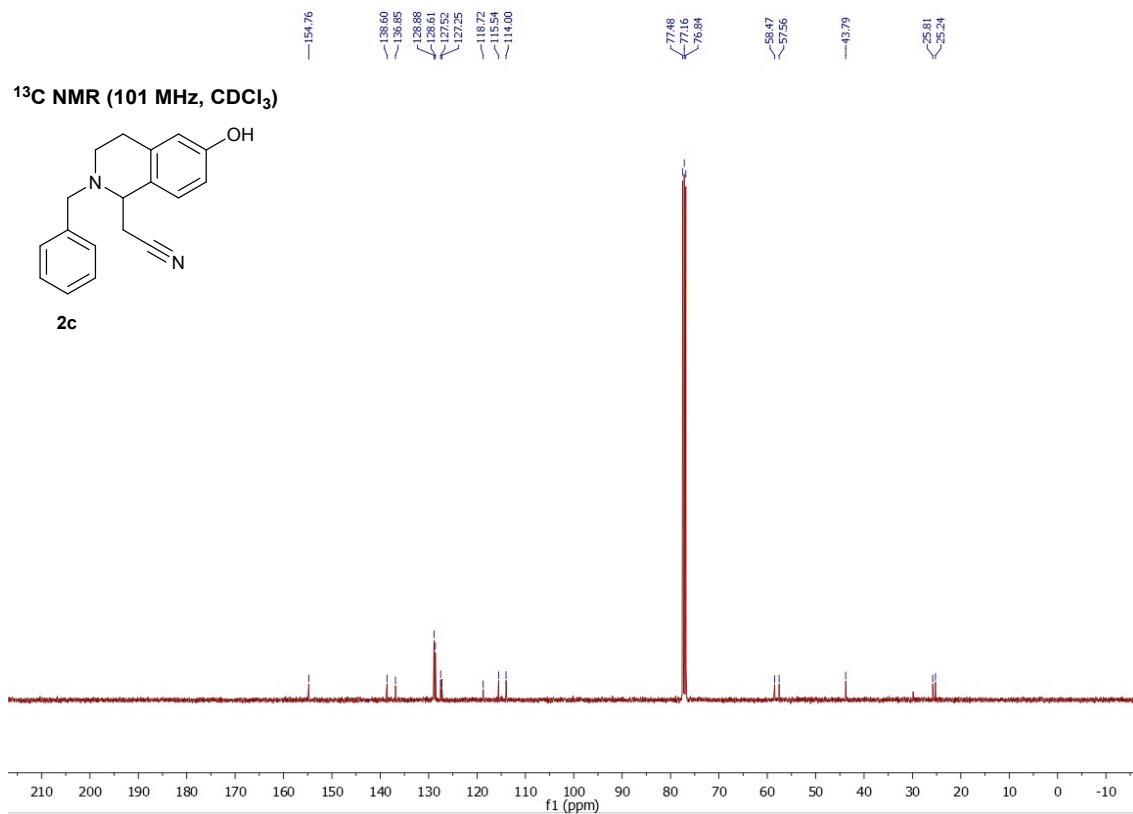
2c



¹³C NMR (101 MHz, CDCl₃)



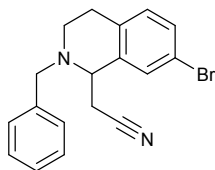
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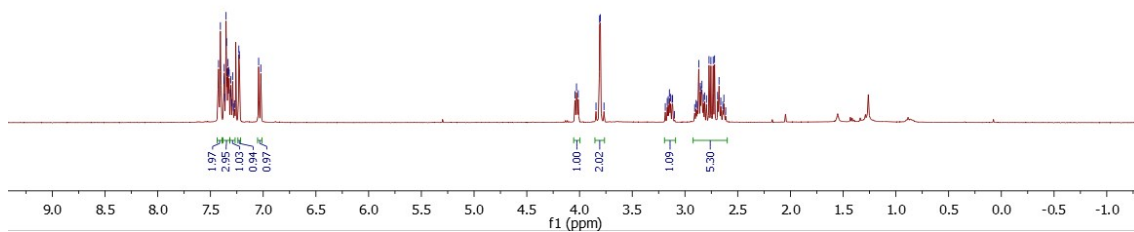
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7.3723
7.3697
7.3650
7.3521
7.3480
7.3433
7.3374
7.3222
7.3107
7.3074
7.2958
7.2899
7.2820
7.2717
7.2308
7.2261
7.0432
7.0227

4.0438
4.0287
4.0120
3.8438
3.8099
3.8021
3.6582
3.1876
3.1684
3.1593
3.1478
3.1382
3.1222
3.1079
3.0991
2.9080
2.8946
2.8838
2.8694
2.8545
2.8486
2.8390
2.8254
2.8145
2.7964
2.7722
2.7541
2.7414
2.7194
2.6901
2.6770
2.6602
2.6411
2.6313
2.6140

¹H NMR (400 MHz, CDCl₃)



2d



138.21
137.17
134.23
131.18
130.60
130.37
128.64
127.65
119.86
118.13

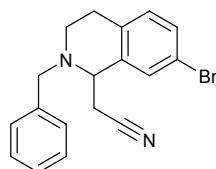
77.48
77.16
76.84

58.35
57.46

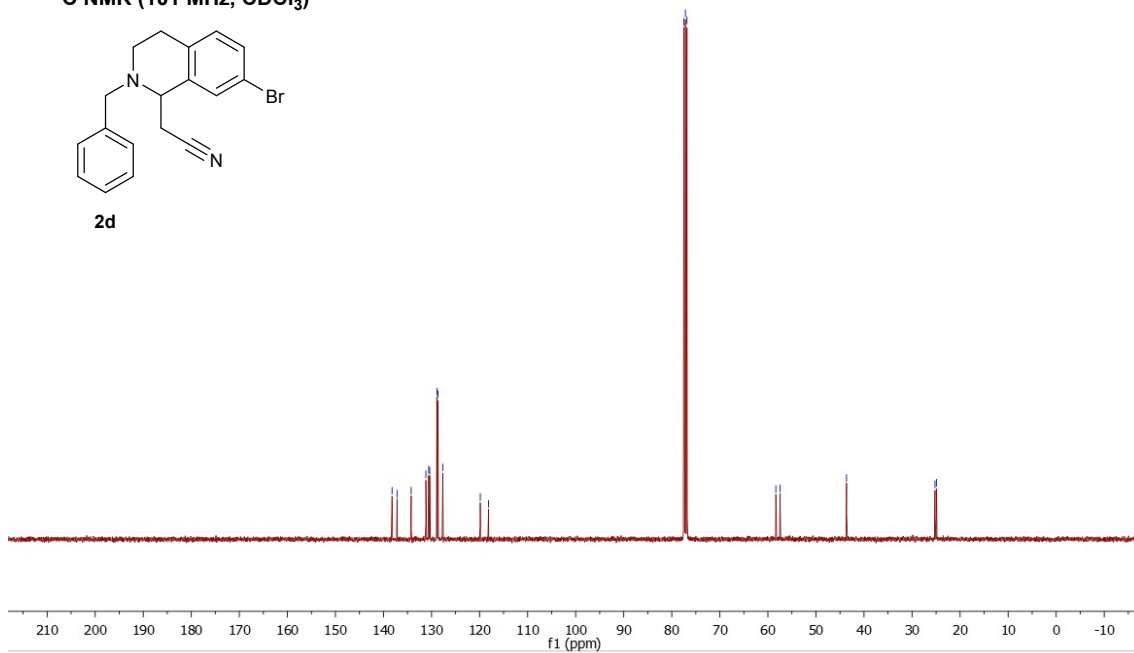
— 63.63

26.23
24.89

¹³C NMR (101 MHz, CDCl₃)



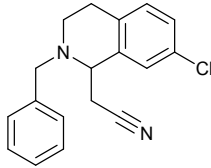
2d



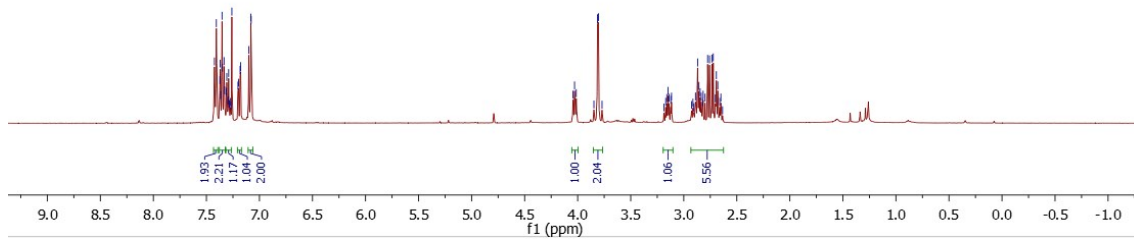
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7.4062
7.3728
7.3703
7.3657
7.3527
7.3490
7.3359
7.3283
7.3114
7.3079
7.2964
7.2901
7.2834
7.2722
7.2689
7.2601
7.2025
7.1975
7.1851
7.1768
7.1000
7.0809
7.0782

4.0440
4.0295
4.0133
3.8469
3.8130
3.8041
3.7903
3.1822
3.1701
3.1594
3.1478
3.1382
3.1222
3.1155
2.9266
2.9162
2.8953
2.8894
2.8695
2.8571
2.8459
2.8356
2.8227
2.8172
2.7952
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2.6503
2.6342

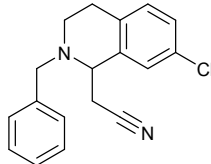
¹H NMR (400 MHz, CDCl₃)



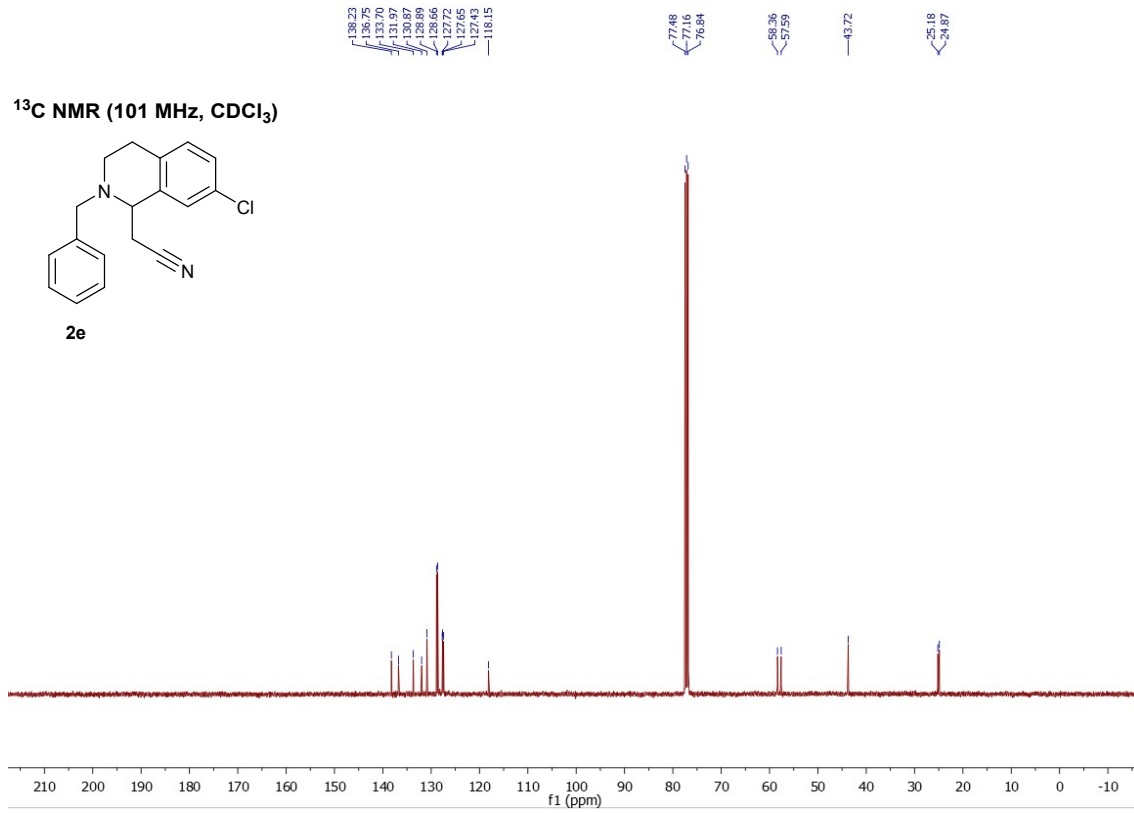
2e

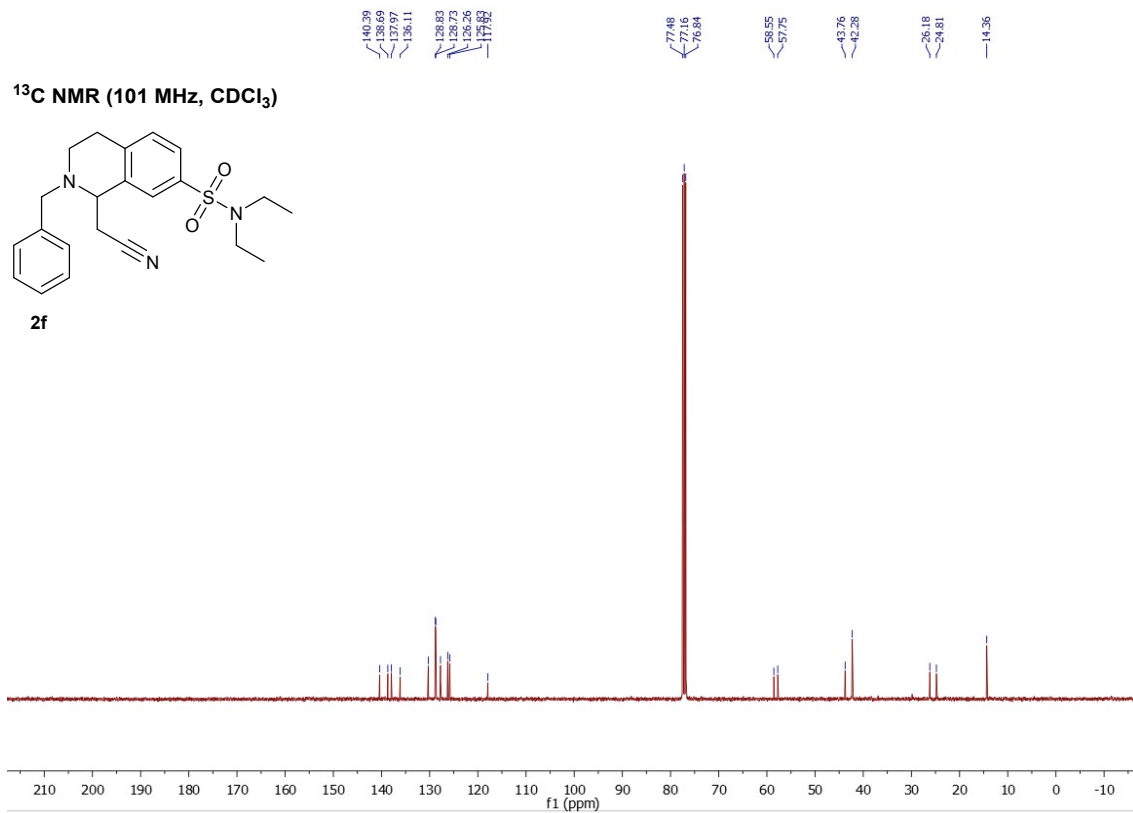
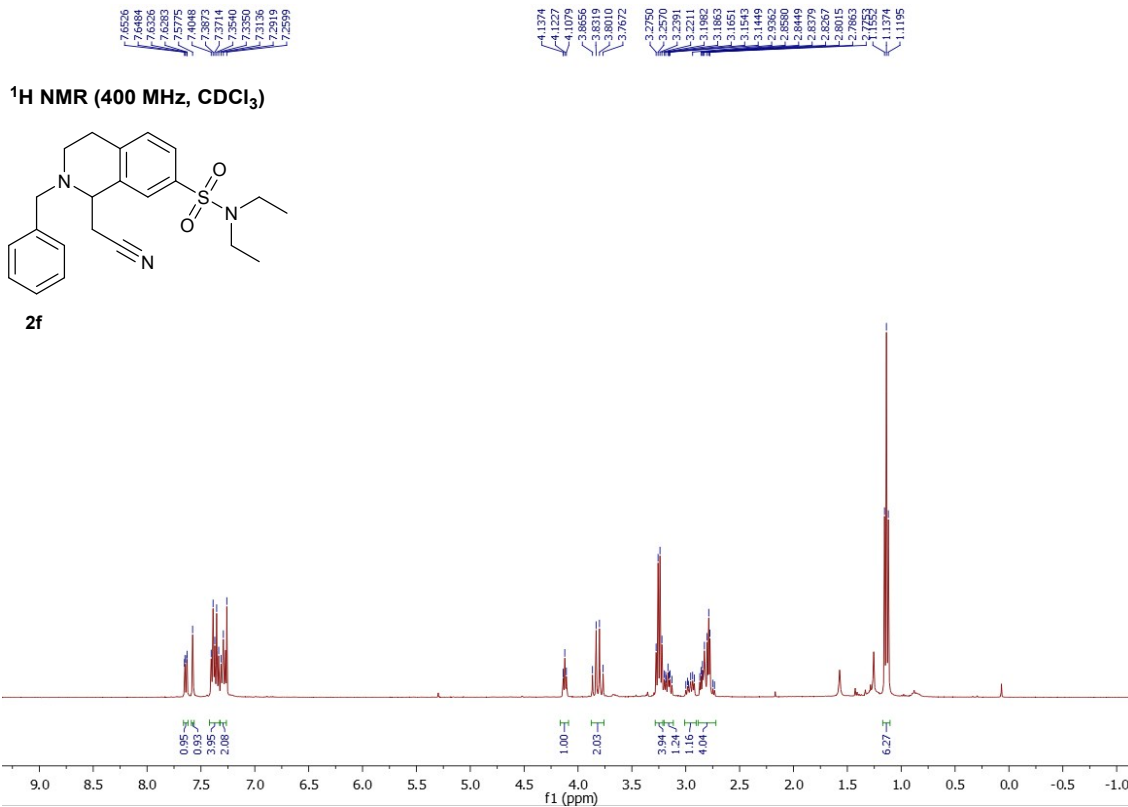


¹³C NMR (101 MHz, CDCl₃)



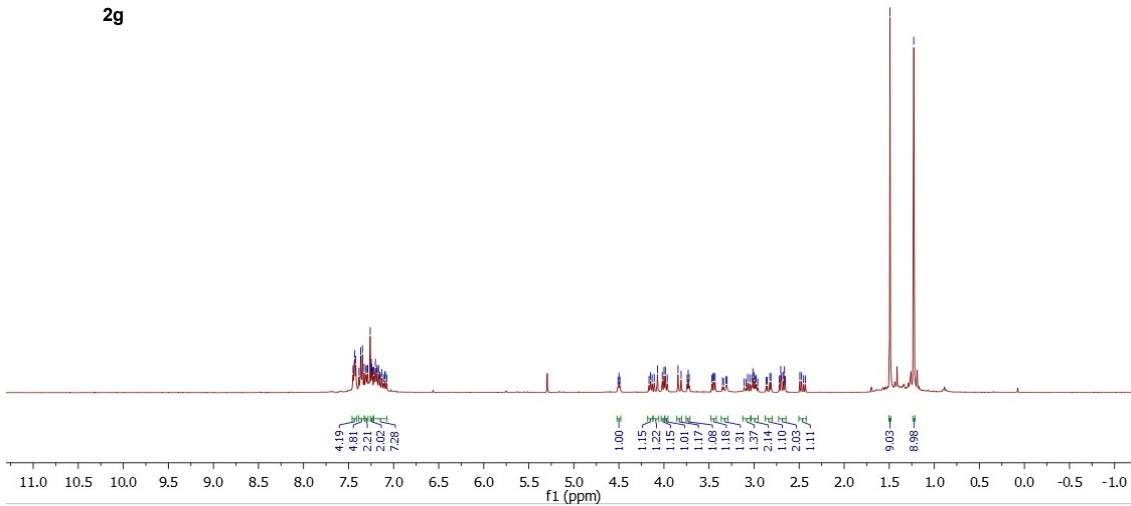
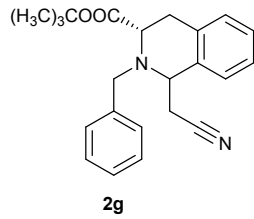
2e





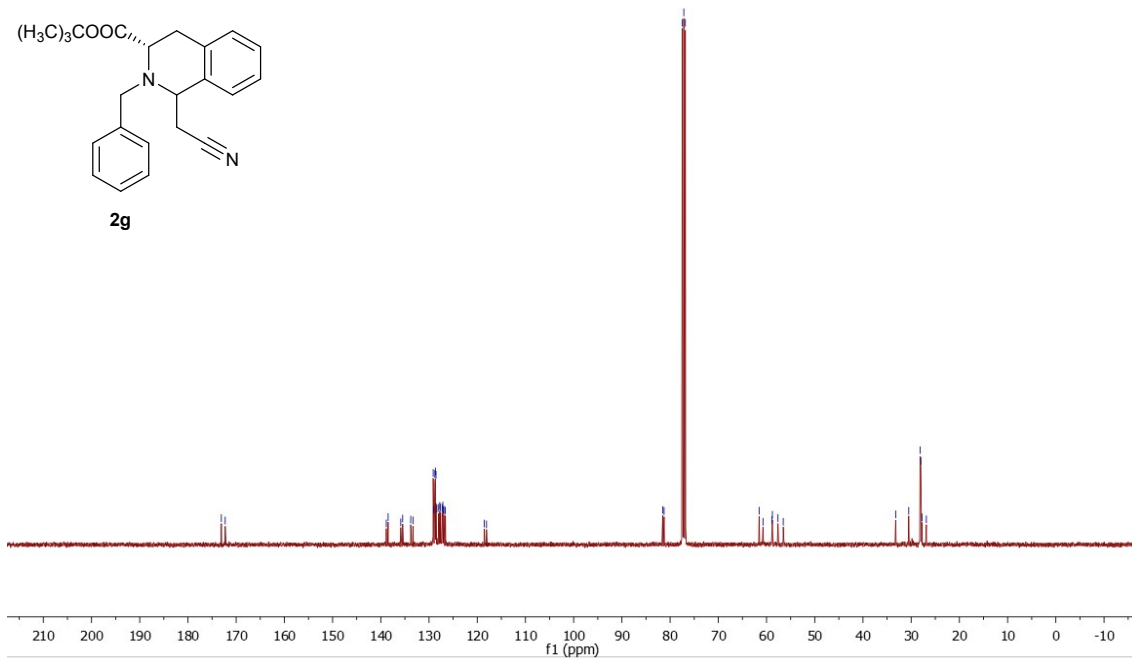
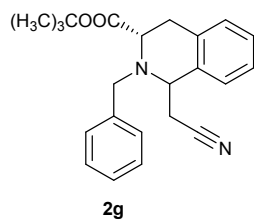
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7.3844
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7.3462
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7.3064
7.2941
7.2883
7.2803
7.2419
7.2373
7.2323
7.2189
7.2030
7.1847
7.1811
7.1679
7.1521
7.1469
7.1297
7.1122
7.0959
7.0928
7.0795
4.5099
4.4994
4.4887
4.1488
4.0725
4.0185
3.9992
3.9842
3.8843
3.8095
3.7211
3.6469
3.6128
2.9978
2.8252
2.7043
2.6948
2.6782
2.6627
2.4923
2.4819
1.2381

¹H NMR (400 MHz, CDCl₃)



172.08
172.27
138.48
135.47
133.79
128.14
127.52
126.78
126.68
126.55
126.37
121.79
121.77
121.77
121.22
121.13
126.93
118.94
118.07
81.53
81.25
77.45
77.16
76.84
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56.53
33.21
30.51
28.15
28.00
27.77
26.95

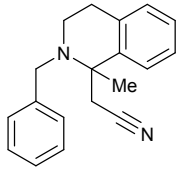
¹³C NMR (400 MHz, CDCl₃)



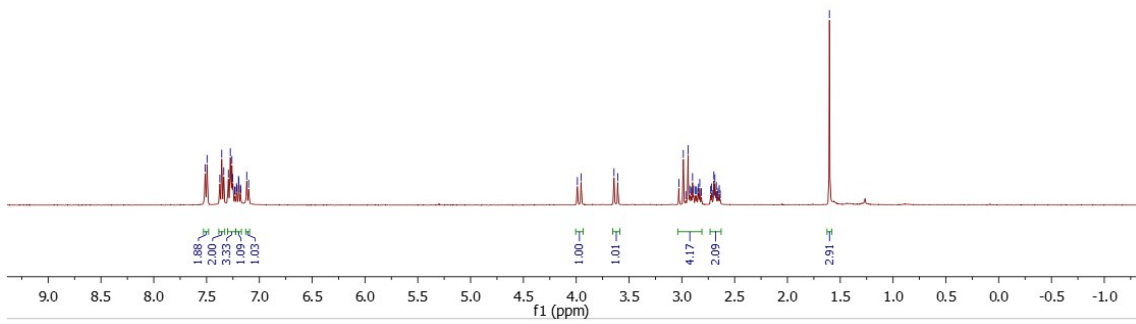
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7.2162
7.2118
7.1975
7.1938
7.1802
7.1763
7.1688
7.1613

3.9891
3.9540
3.6421
3.6070
3.0282
2.9659
2.9409
2.9248
2.8986
2.8893
2.8418
2.8302
2.7177
2.6966
2.6872
2.6723
2.6657

¹H NMR (400 MHz, CDCl₃)



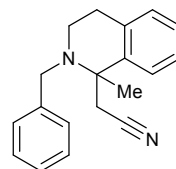
2i



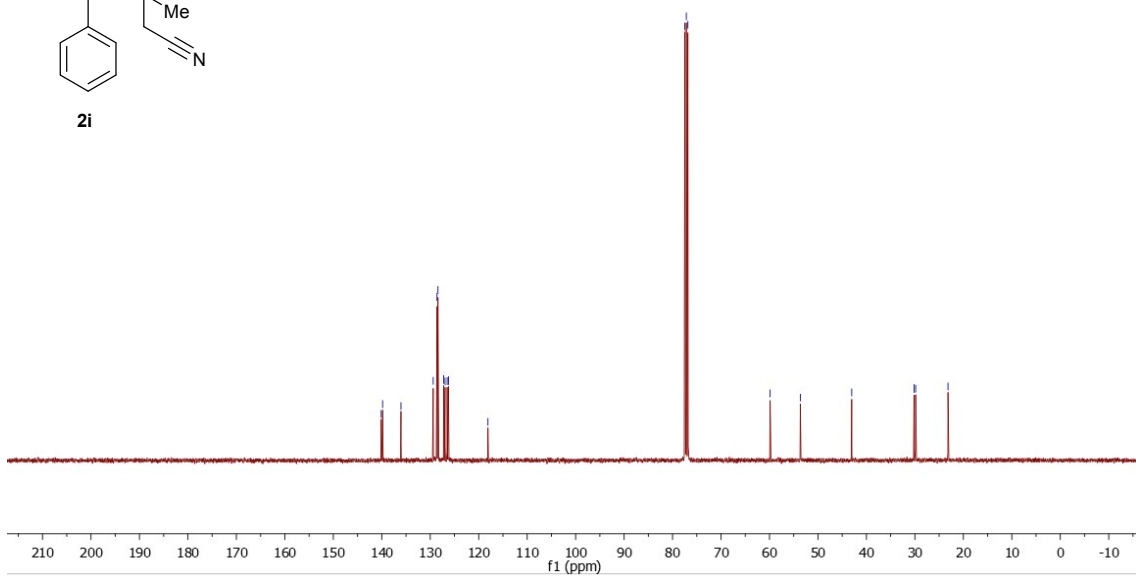
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139.83
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128.41
127.22
118.30

77.48
77.16
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59.87
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43.03
30.17
29.84
23.16

¹³C NMR (101 MHz, CDCl₃)

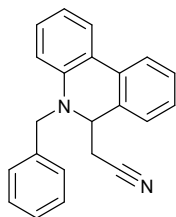


2i

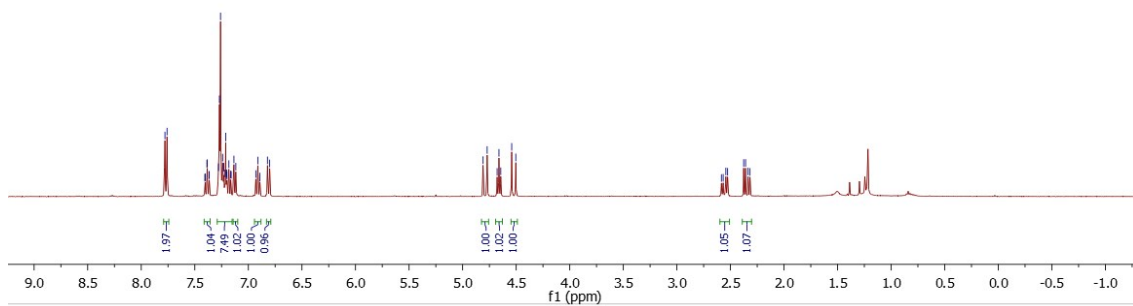




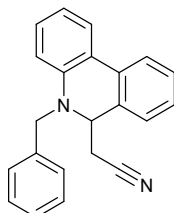
¹H NMR (400 MHz, CDCl₃)



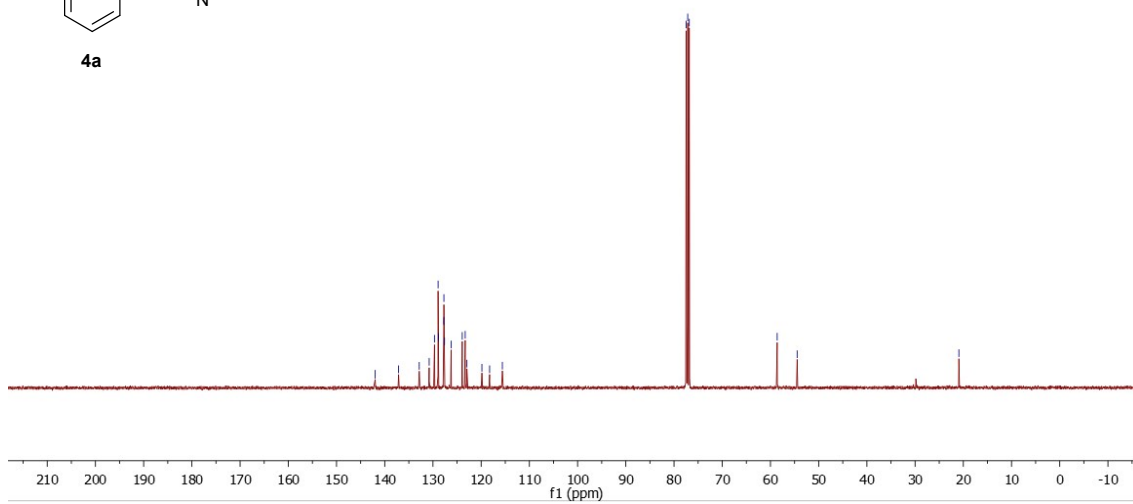
4a

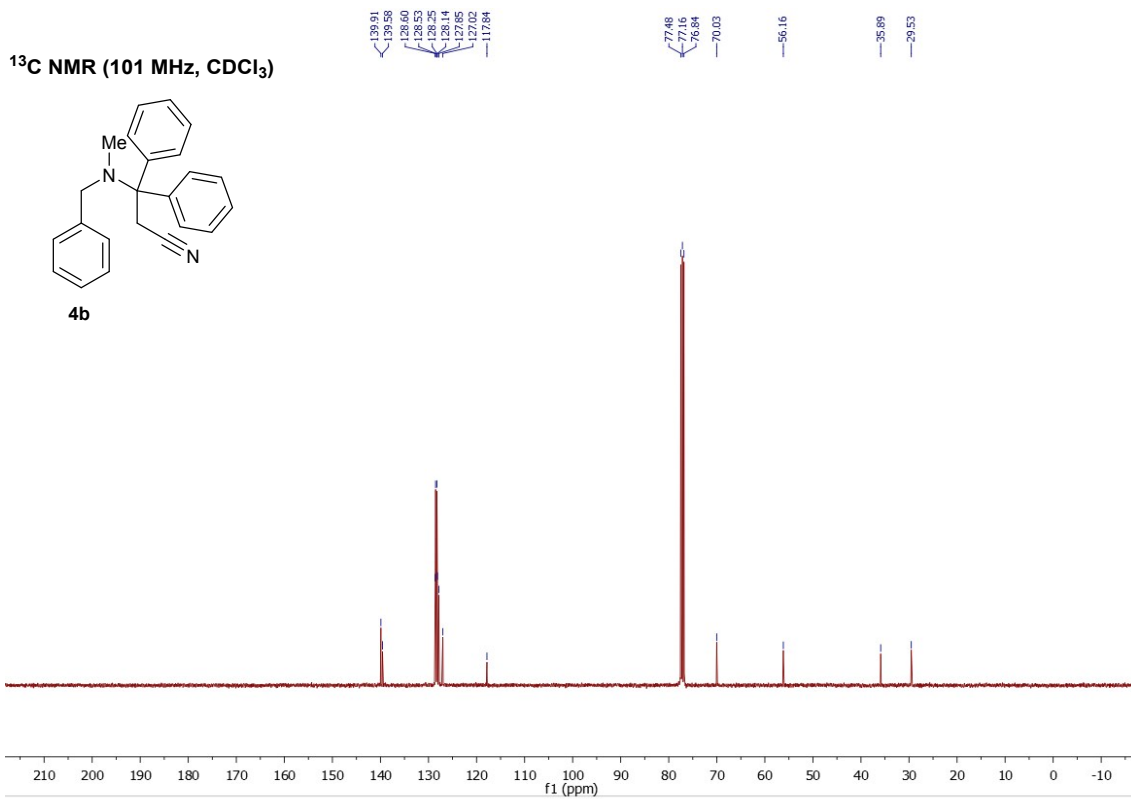
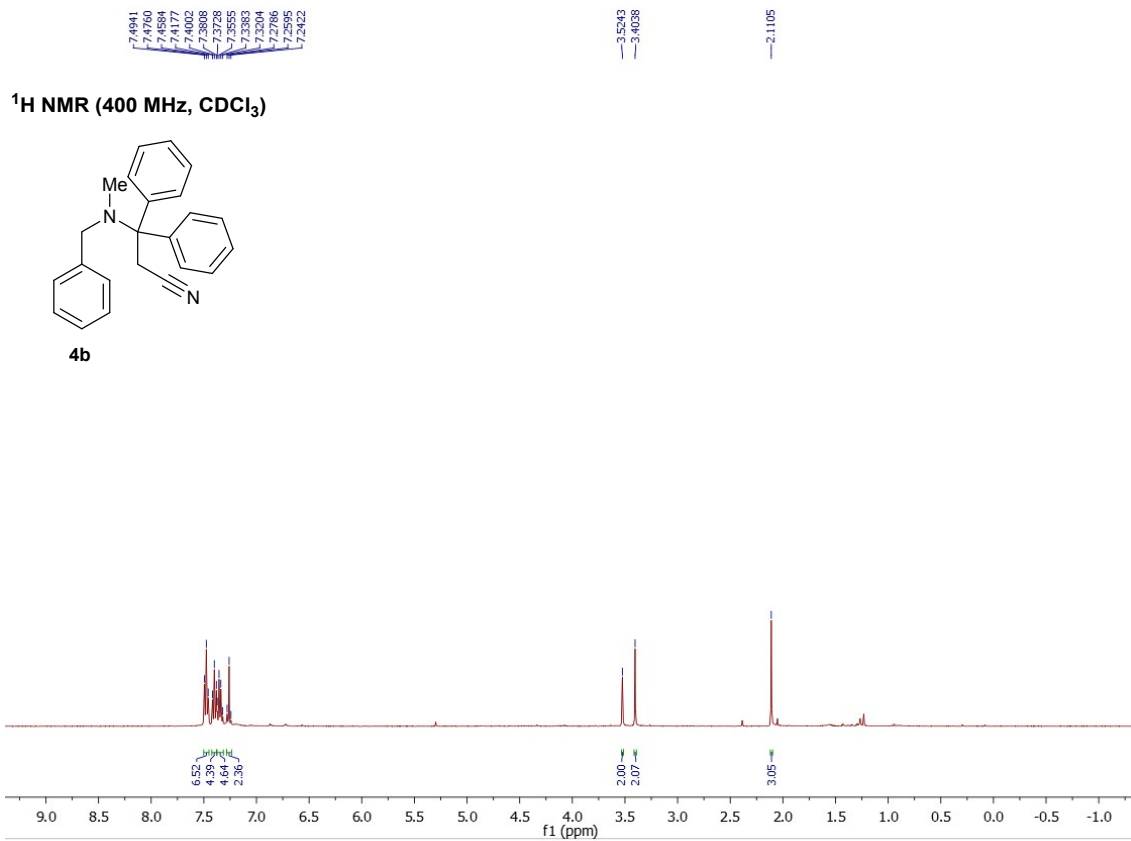


¹³C NMR (101 MHz, CDCl₃)



4a

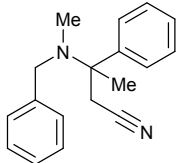




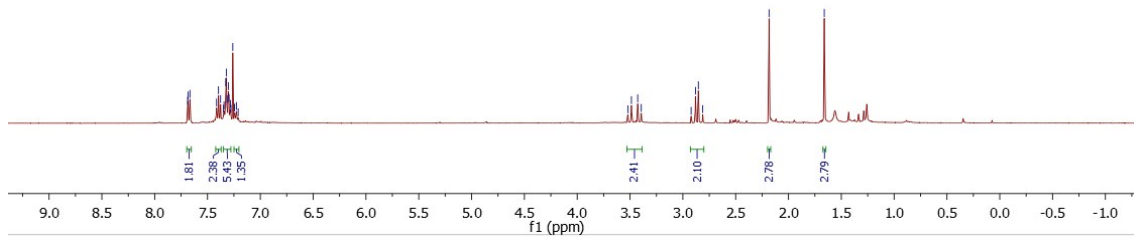
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7.3145
7.3031
7.2966
7.2837
7.2780
7.2605
7.2438
7.2365
7.2097

3.5208
3.070
3.4074
3.3937
2.9316
2.8920
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2.8119
-2.1840
-1.6612

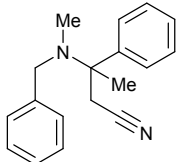
¹H NMR (400 MHz, CDCl₃)



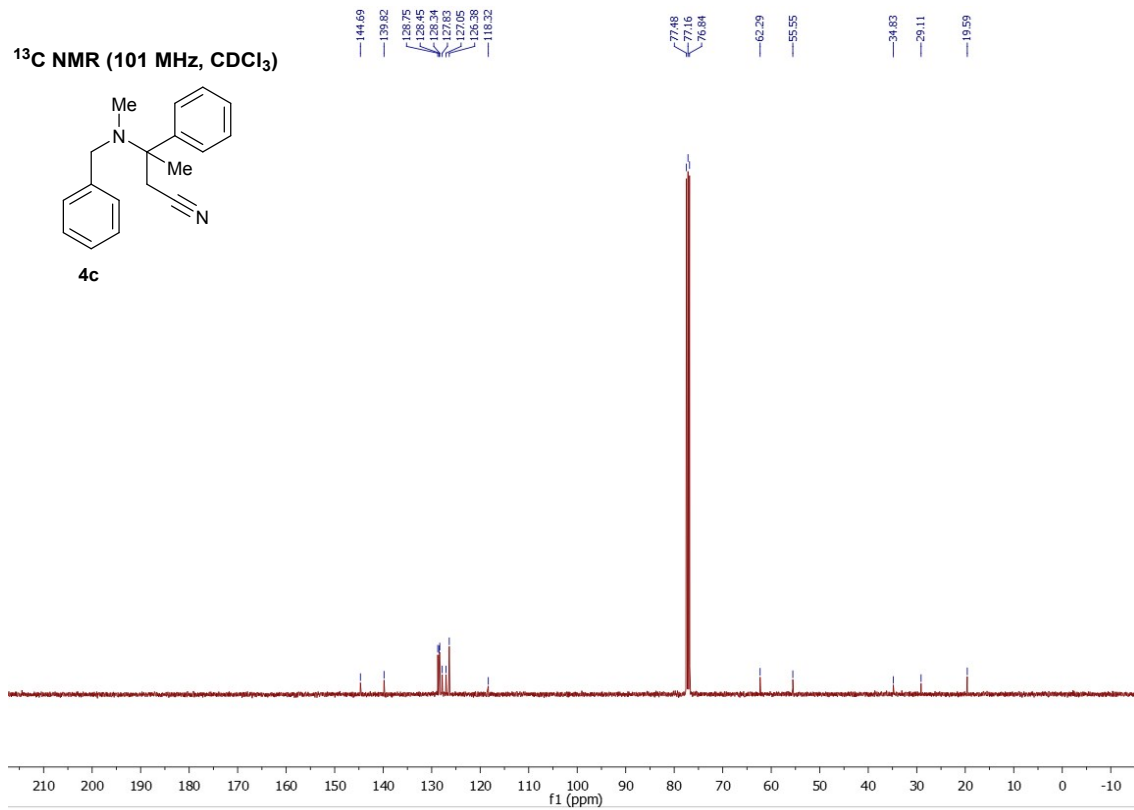
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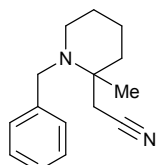
¹³C NMR (101 MHz, CDCl₃)



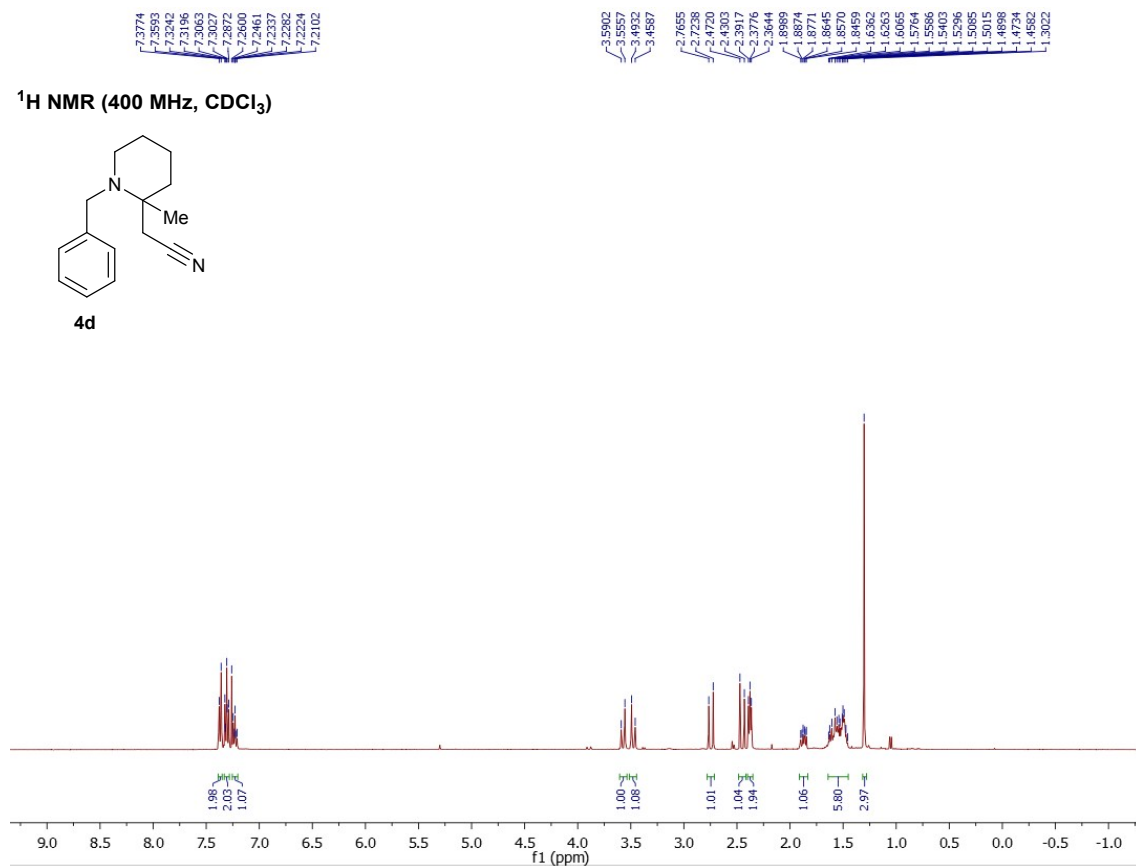
4c



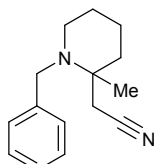
¹H NMR (400 MHz, CDCl₃)



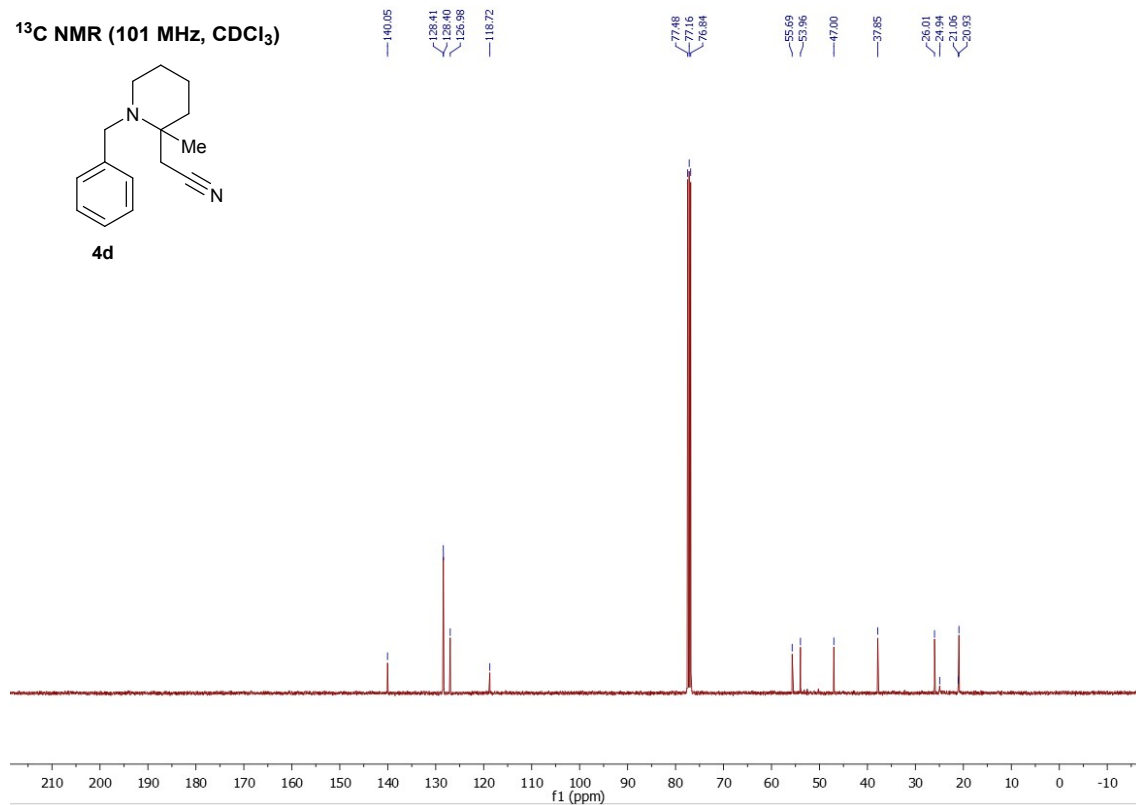
4d



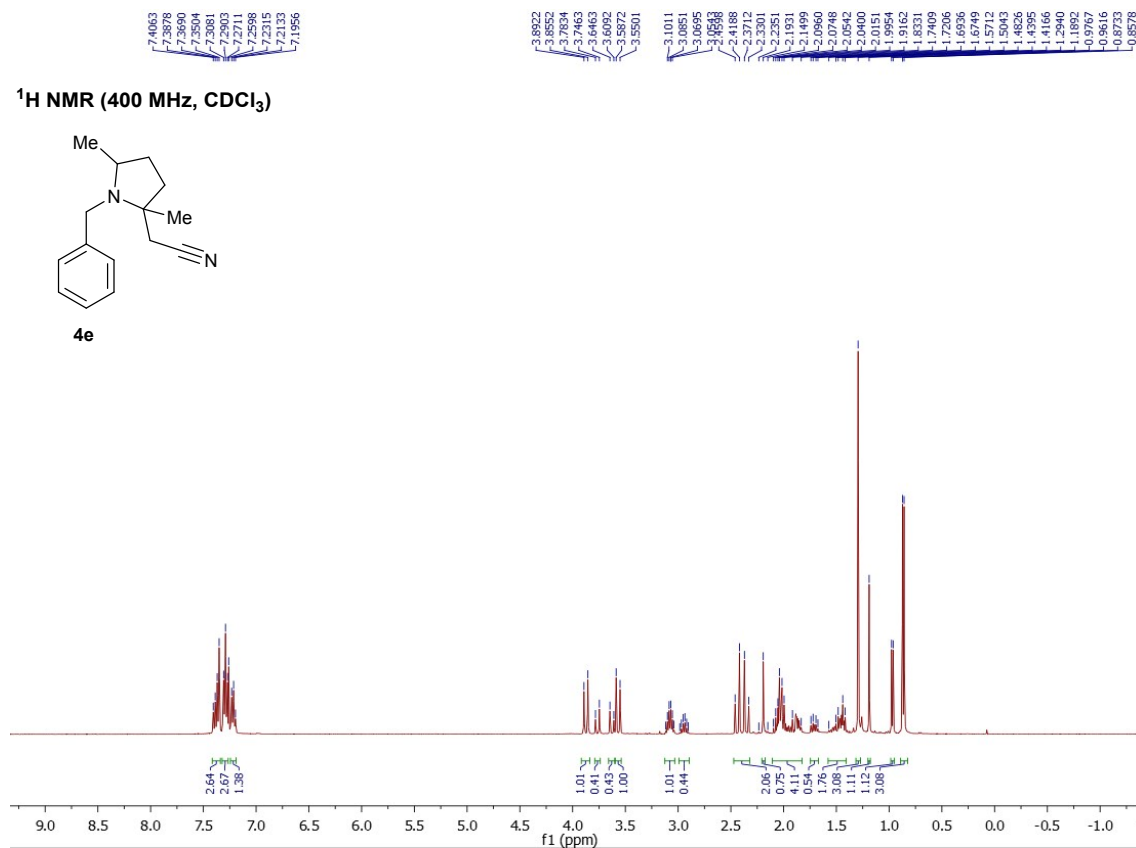
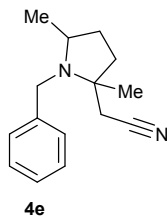
¹³C NMR (101 MHz, CDCl₃)



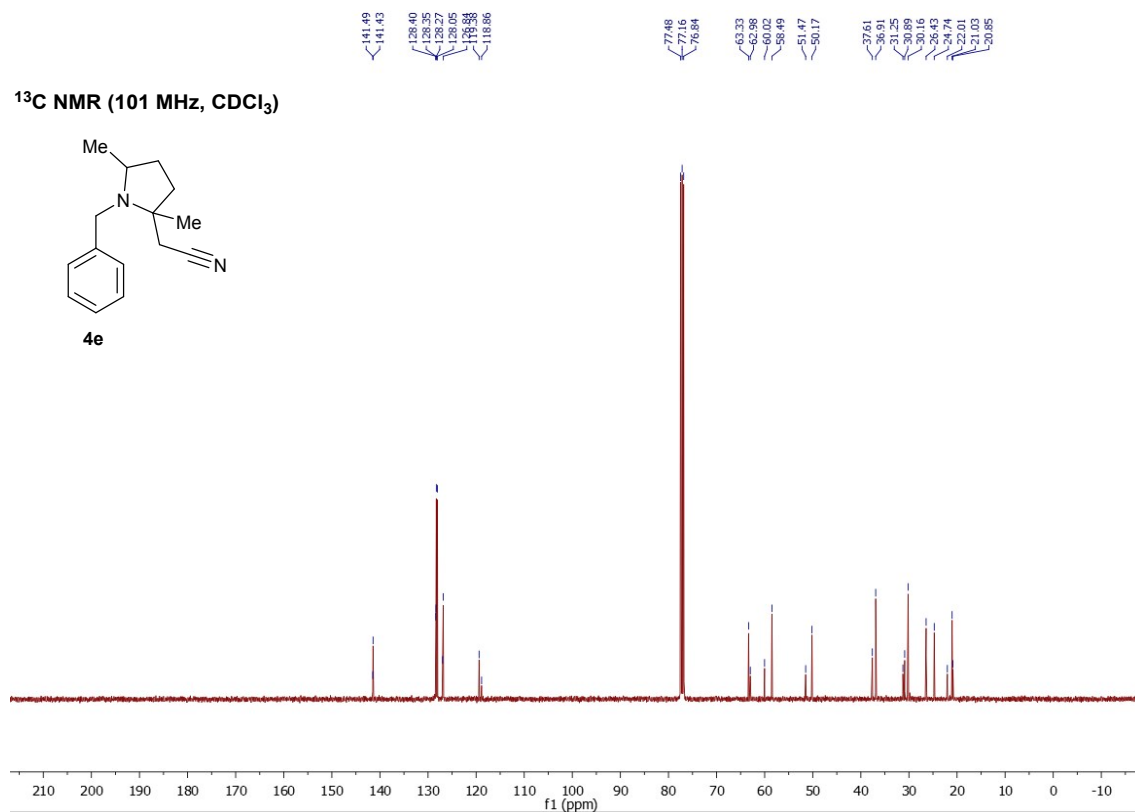
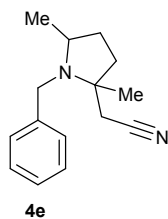
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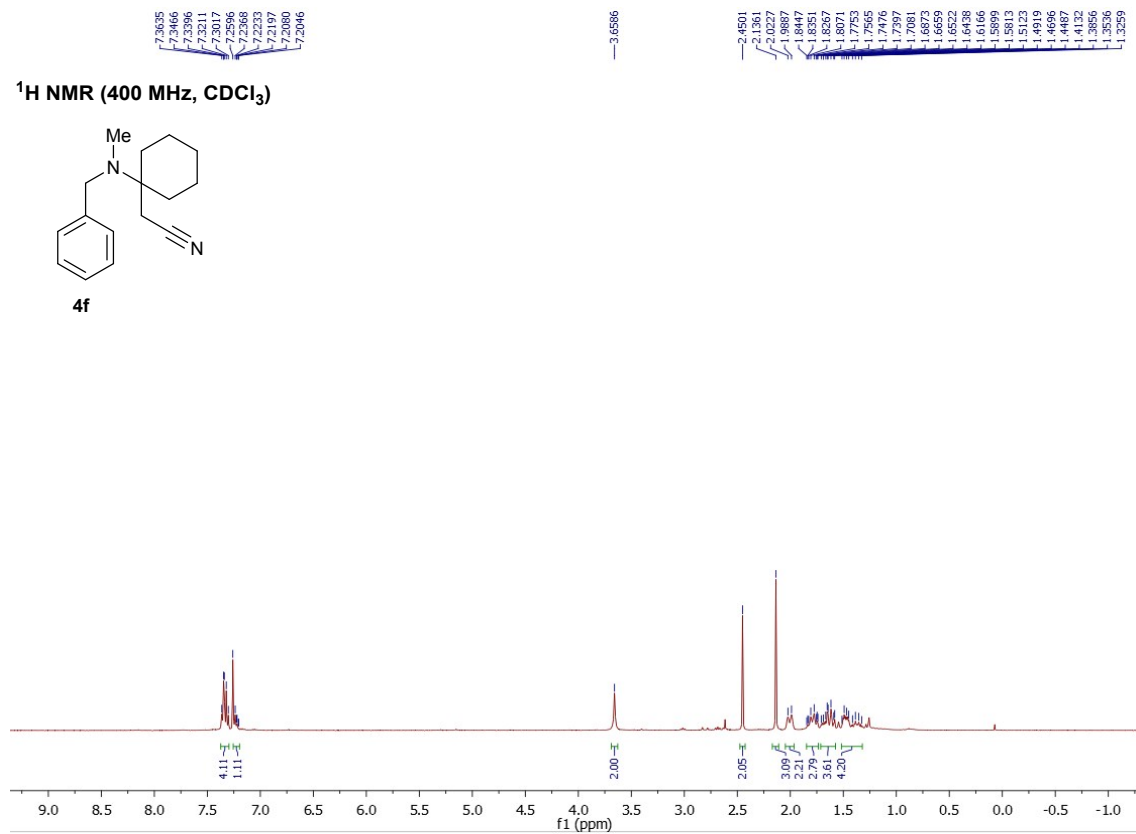
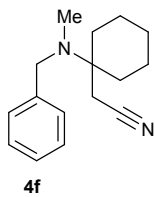
¹H NMR (400 MHz, CDCl₃)



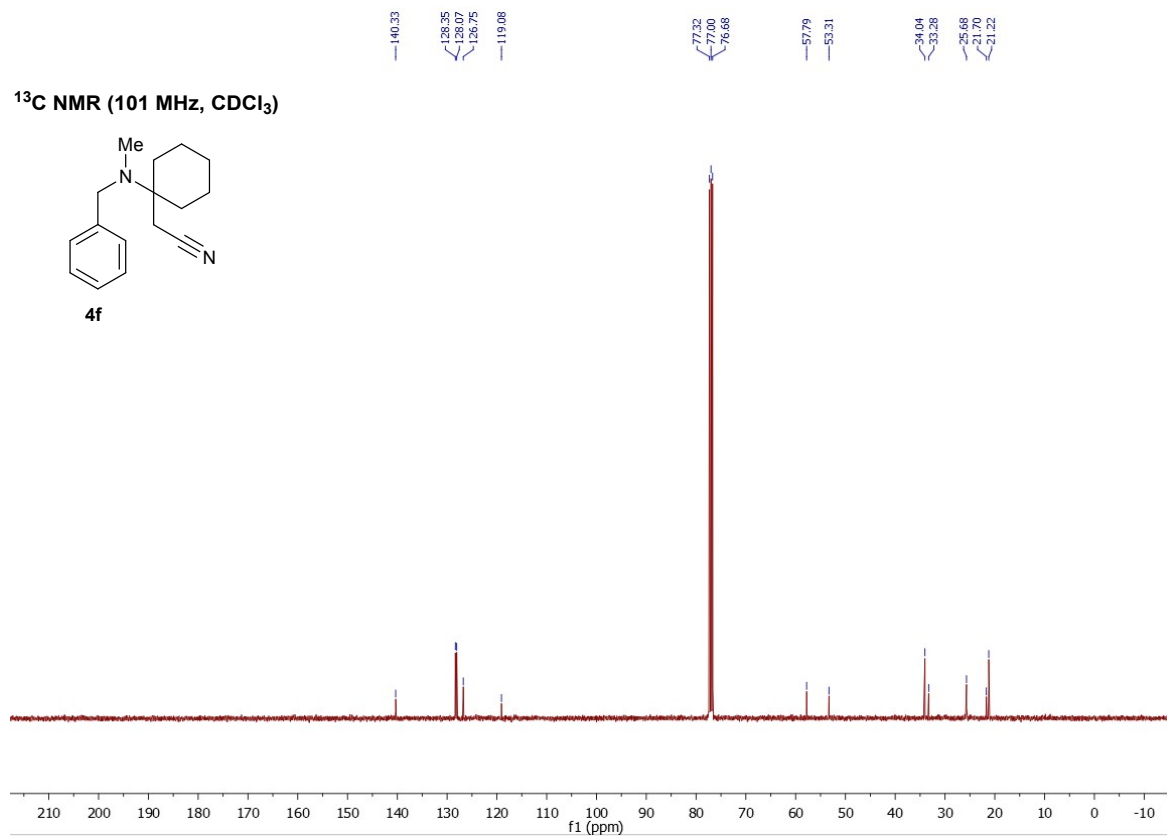
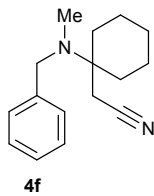
¹³C NMR (101 MHz, CDCl₃)



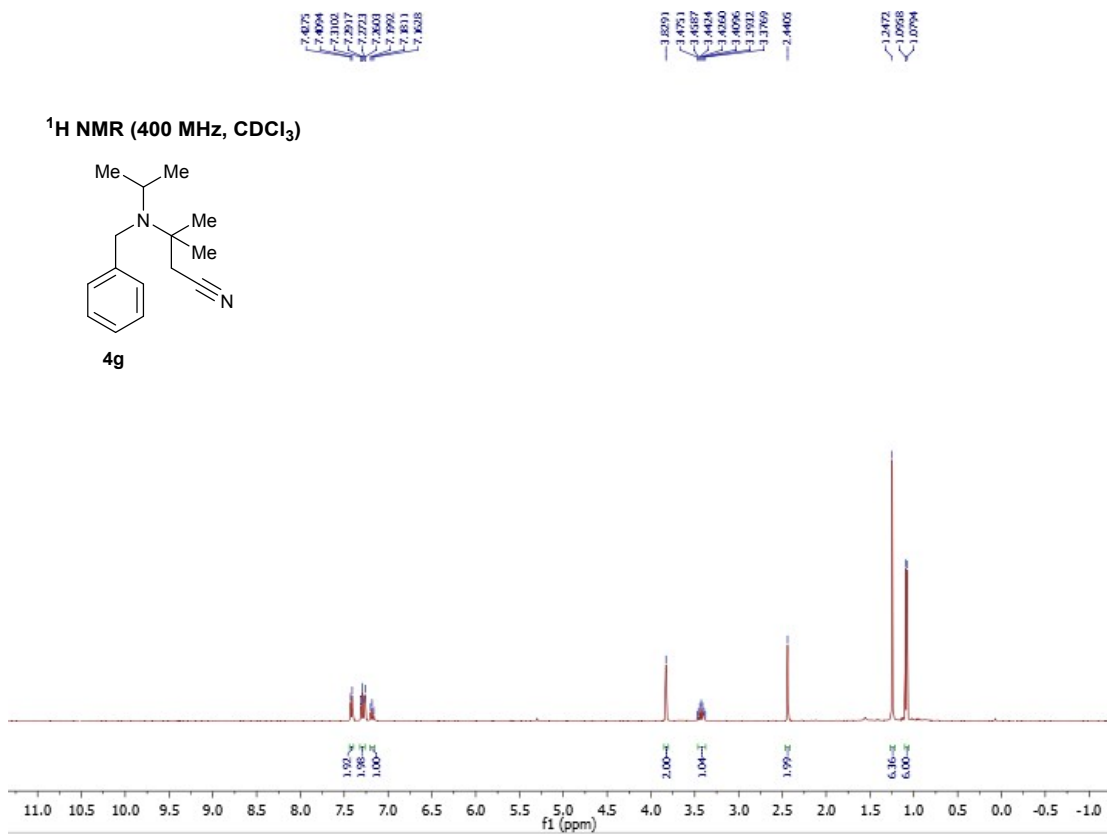
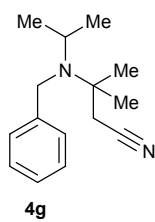
¹H NMR (400 MHz, CDCl₃)



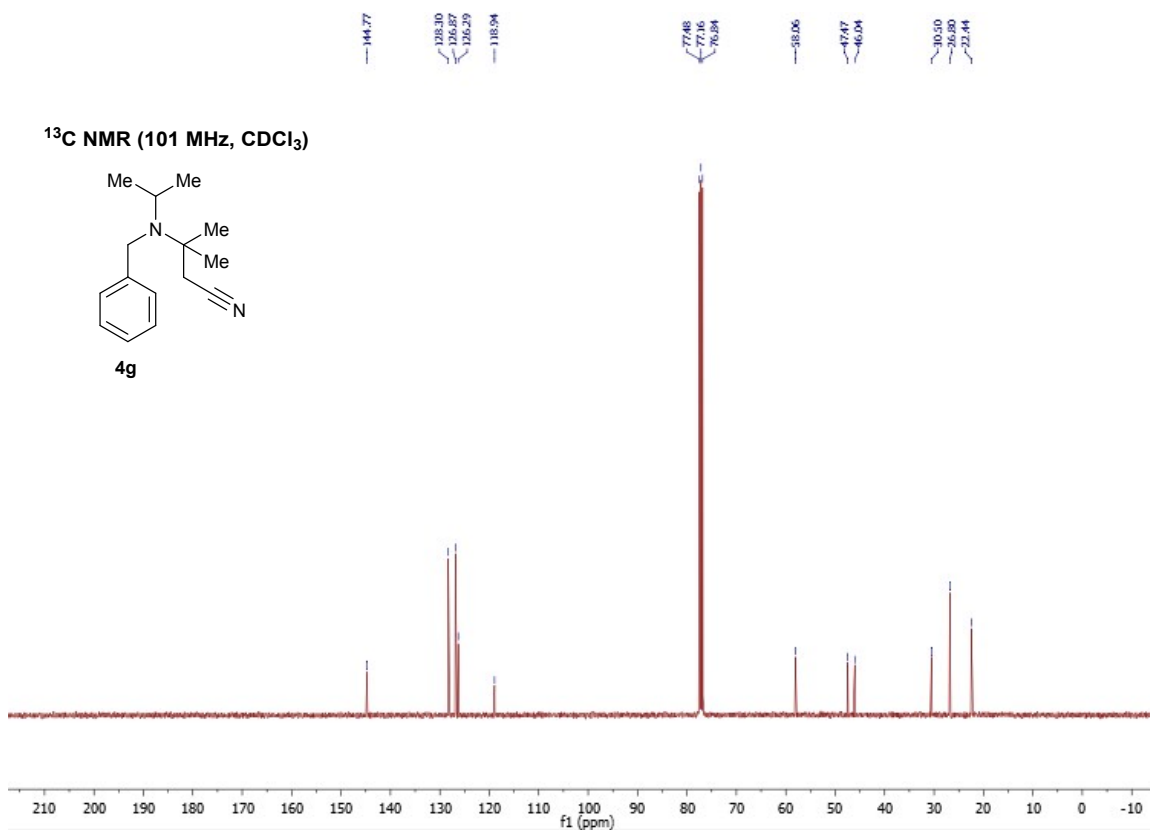
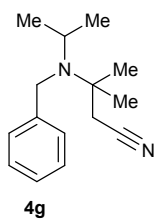
¹³C NMR (101 MHz, CDCl₃)



¹H NMR (400 MHz, CDCl₃)



¹³C NMR (101 MHz, CDCl₃)

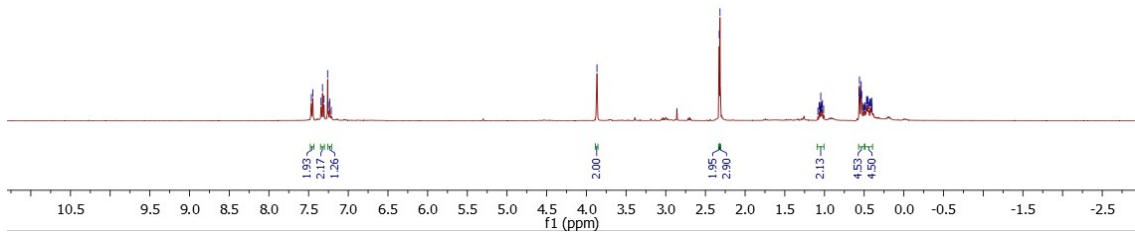
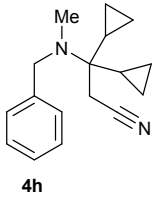


7.4651
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7.3676
7.3067
7.2604
7.2510
7.2328
7.2145

3.8666

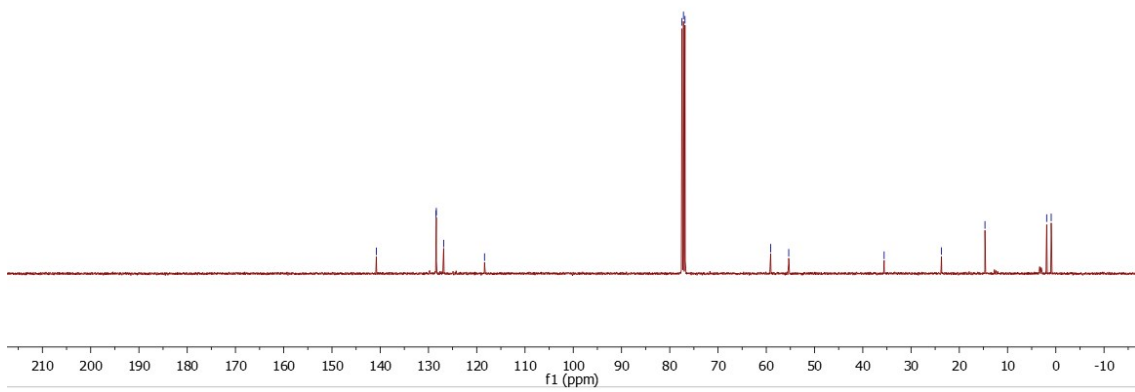
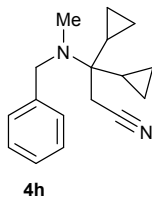
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1.0684
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1.0537
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1.0405
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0.9534
0.9424
0.9381
0.9326
0.9124
0.9068
0.8982
0.8881
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0.8491
0.8425
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0.8051
0.8001

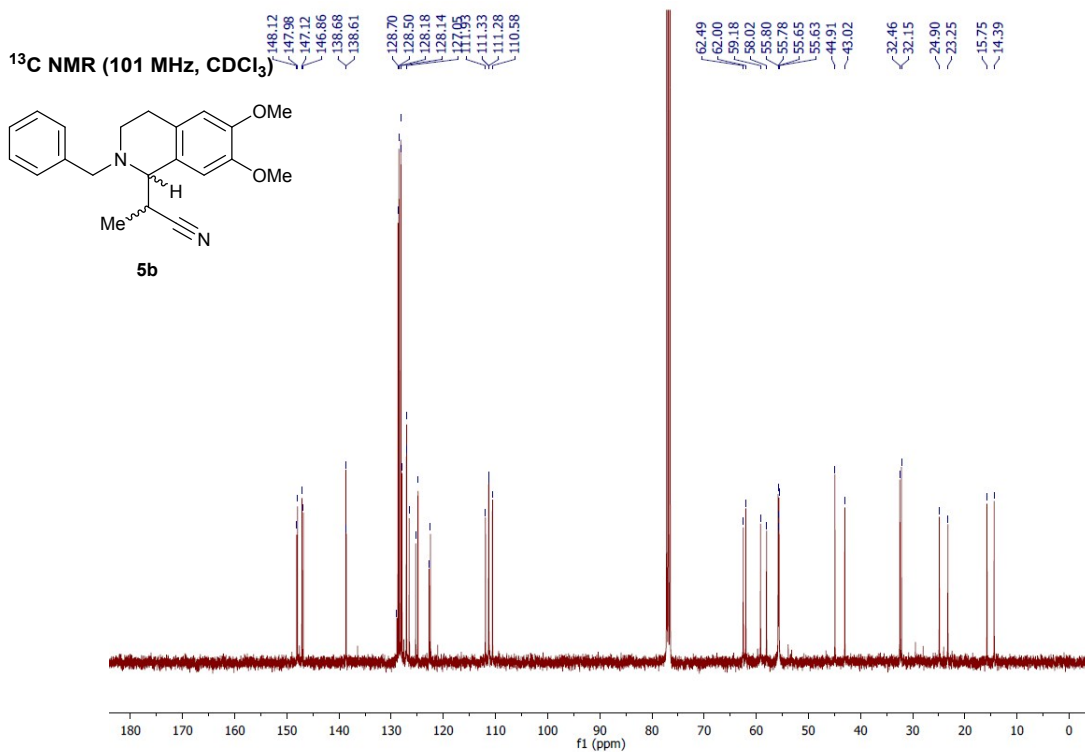
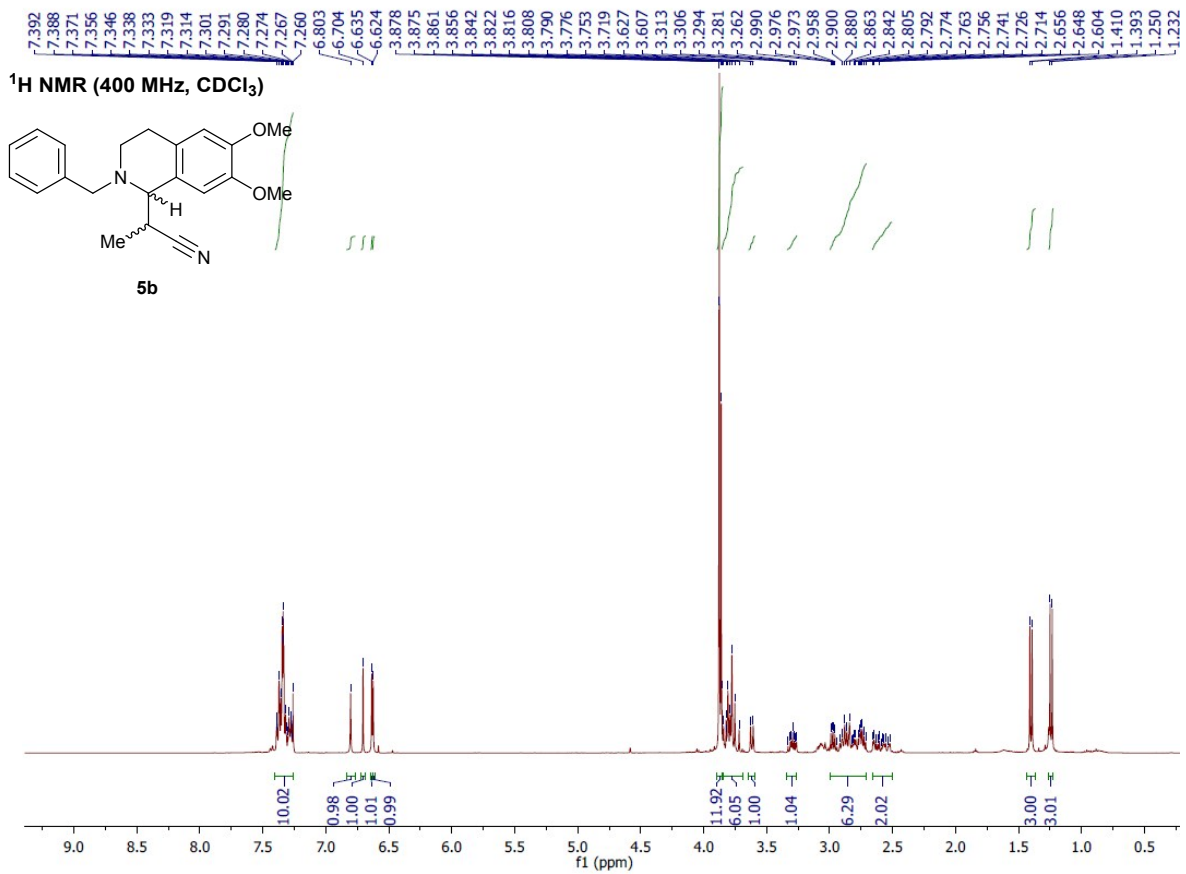
¹H NMR (400 MHz, CDCl₃)



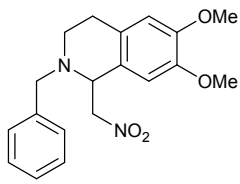
140.81
128.43
128.37
126.85
118.39
77.48
77.16
76.84
59.10
55.35
35.58
23.69
14.68
1.89
0.95

¹³C NMR (101 MHz, CDCl₃)

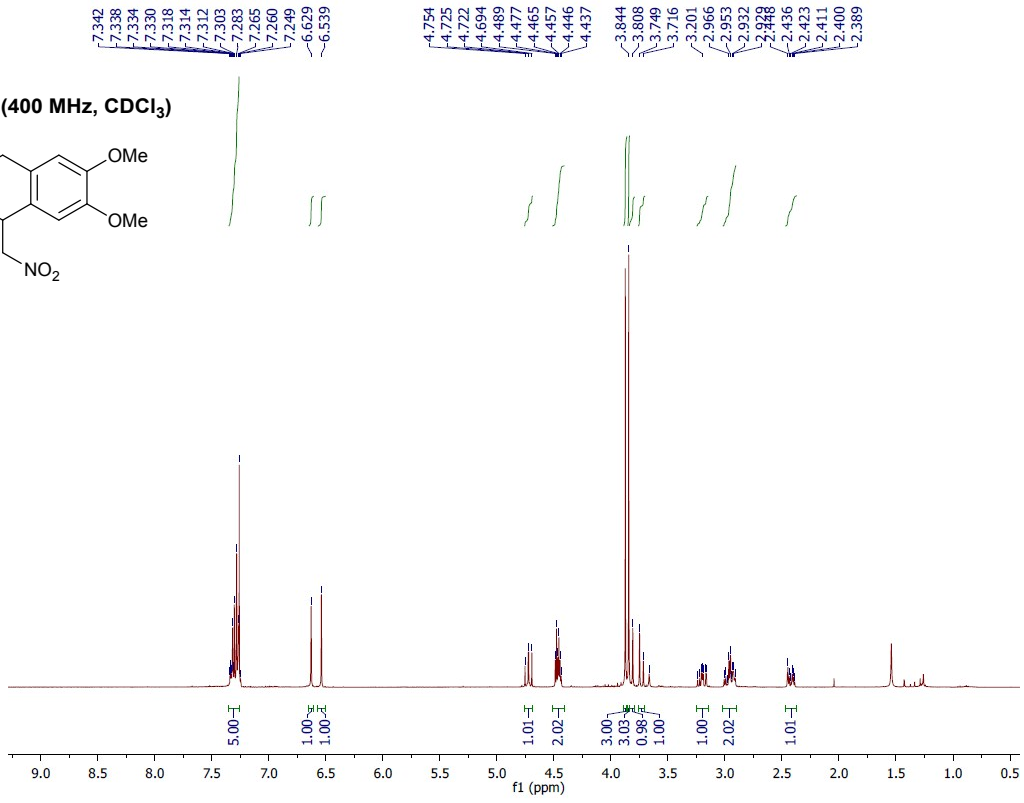




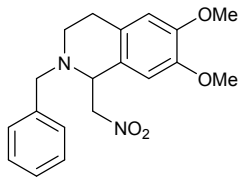
¹H NMR (400 MHz, CDCl₃)



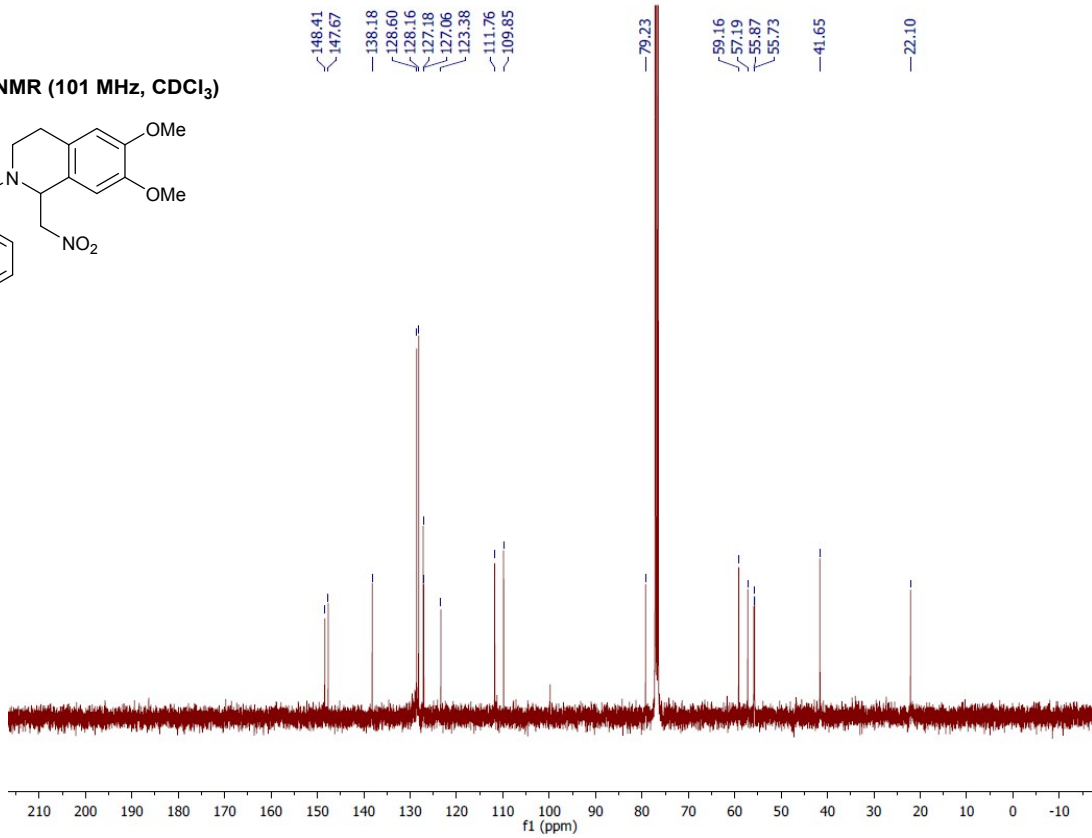
6b

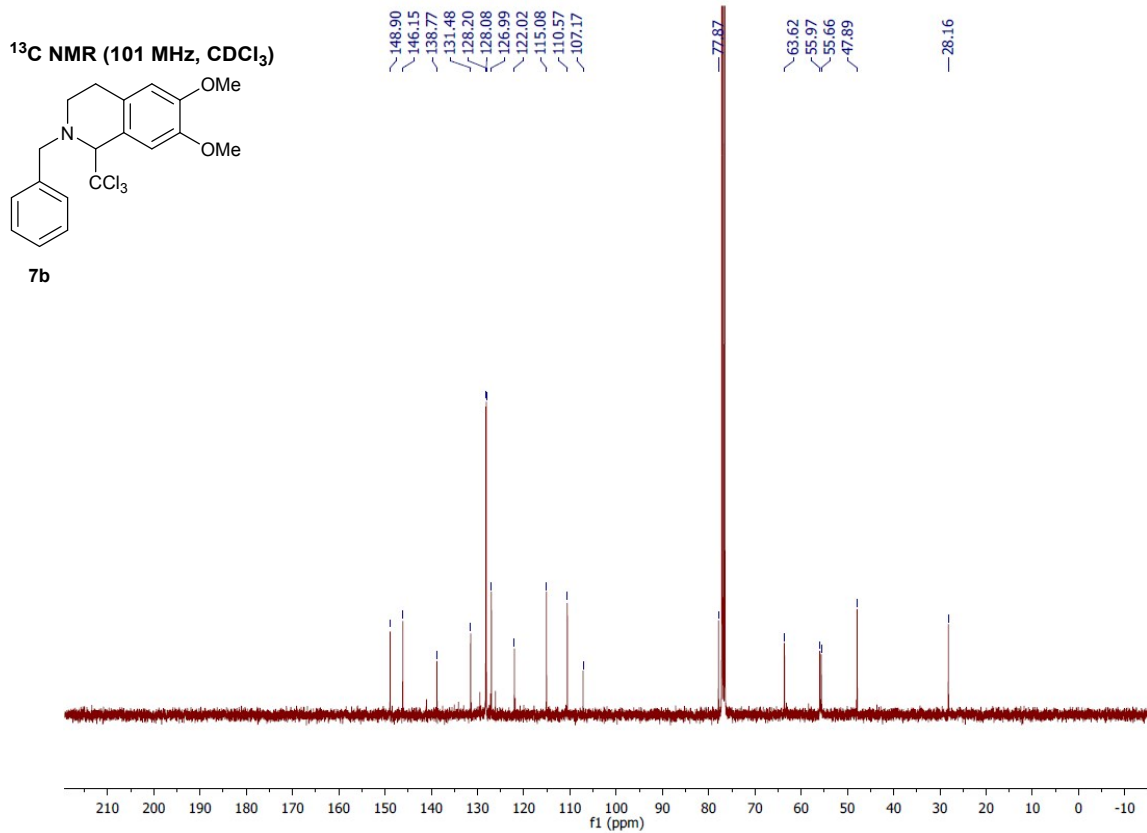
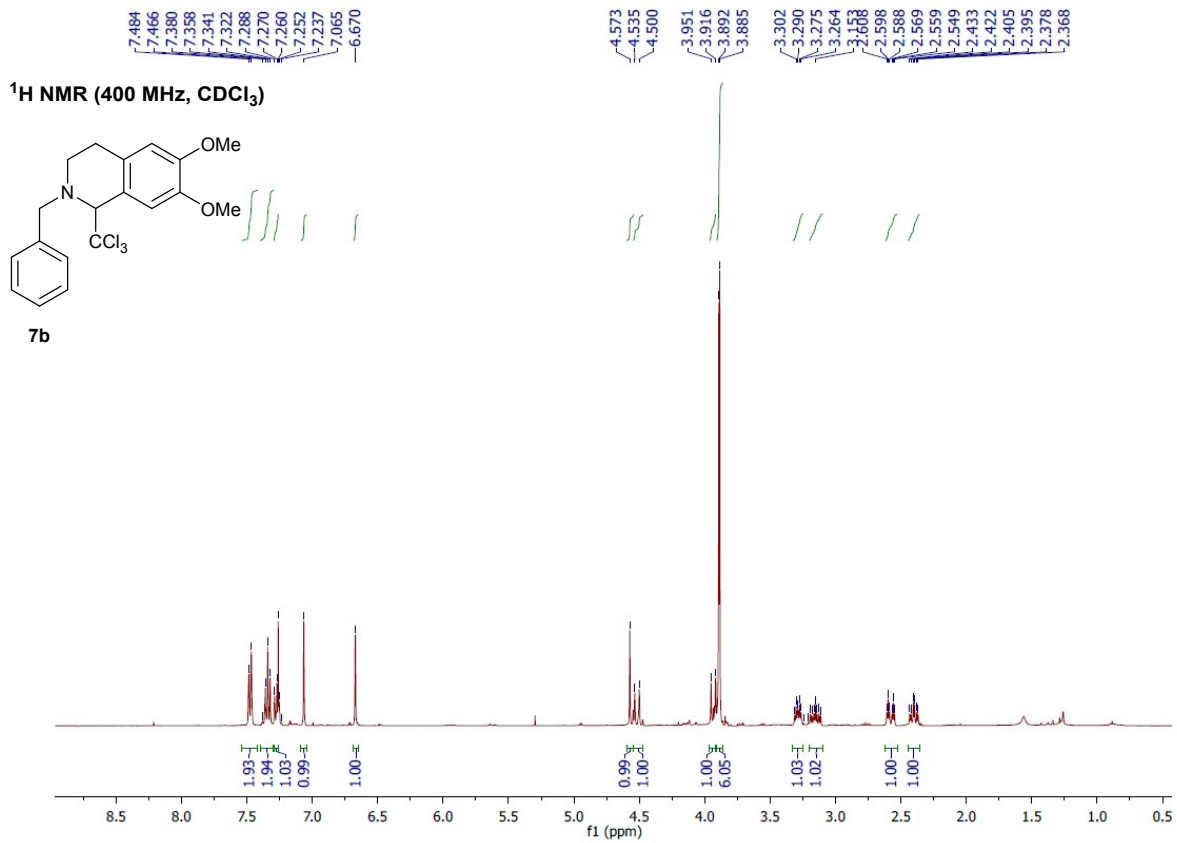


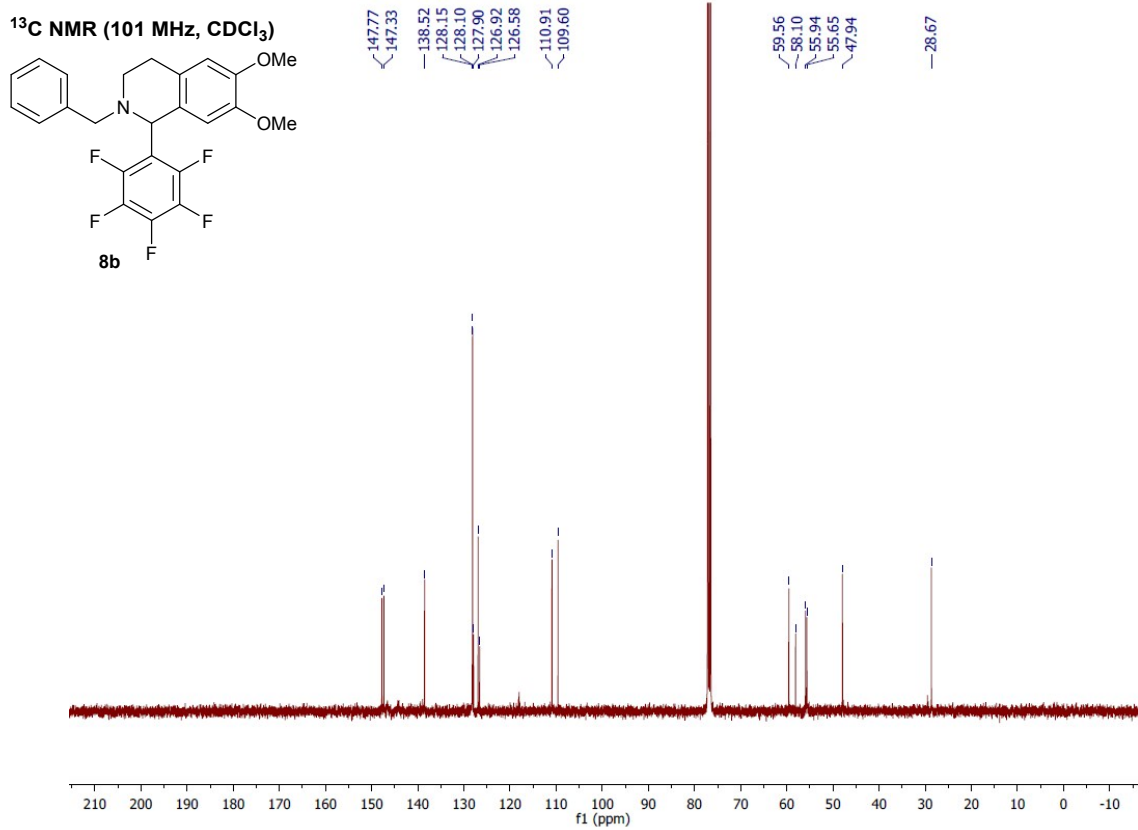
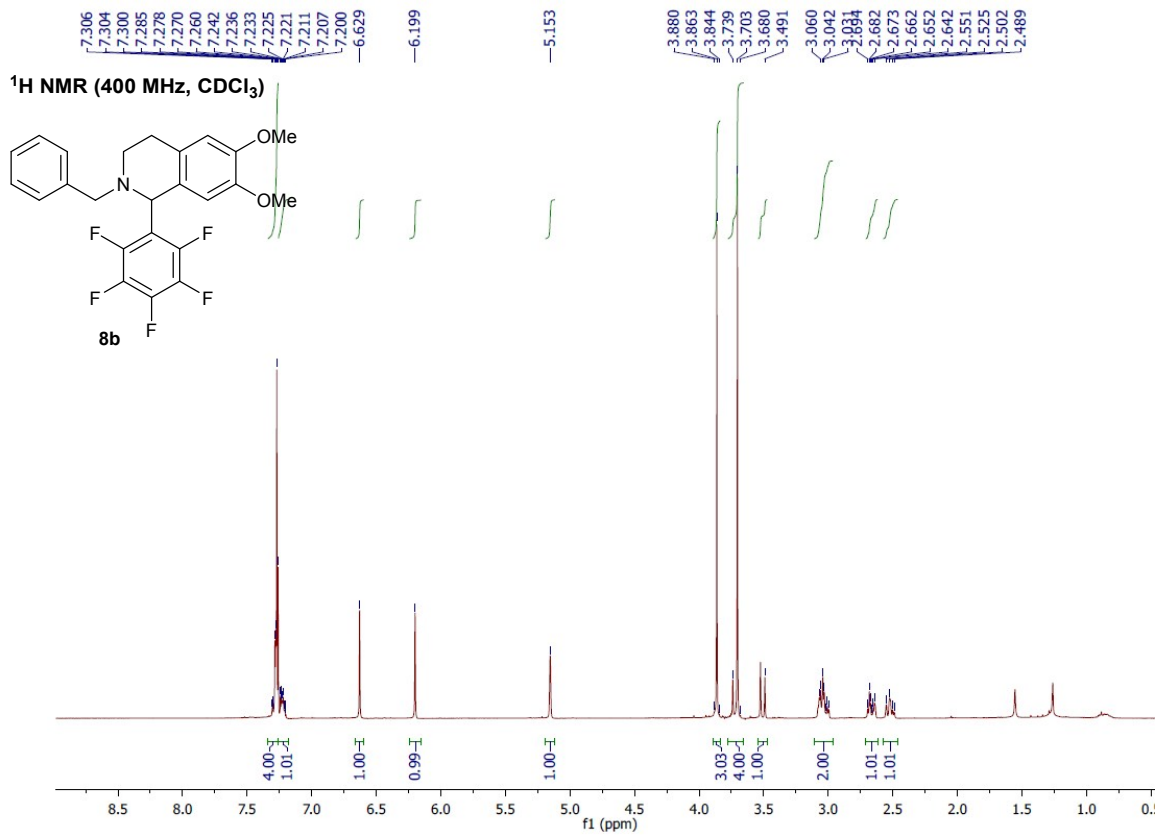
¹³C NMR (101 MHz, CDCl₃)

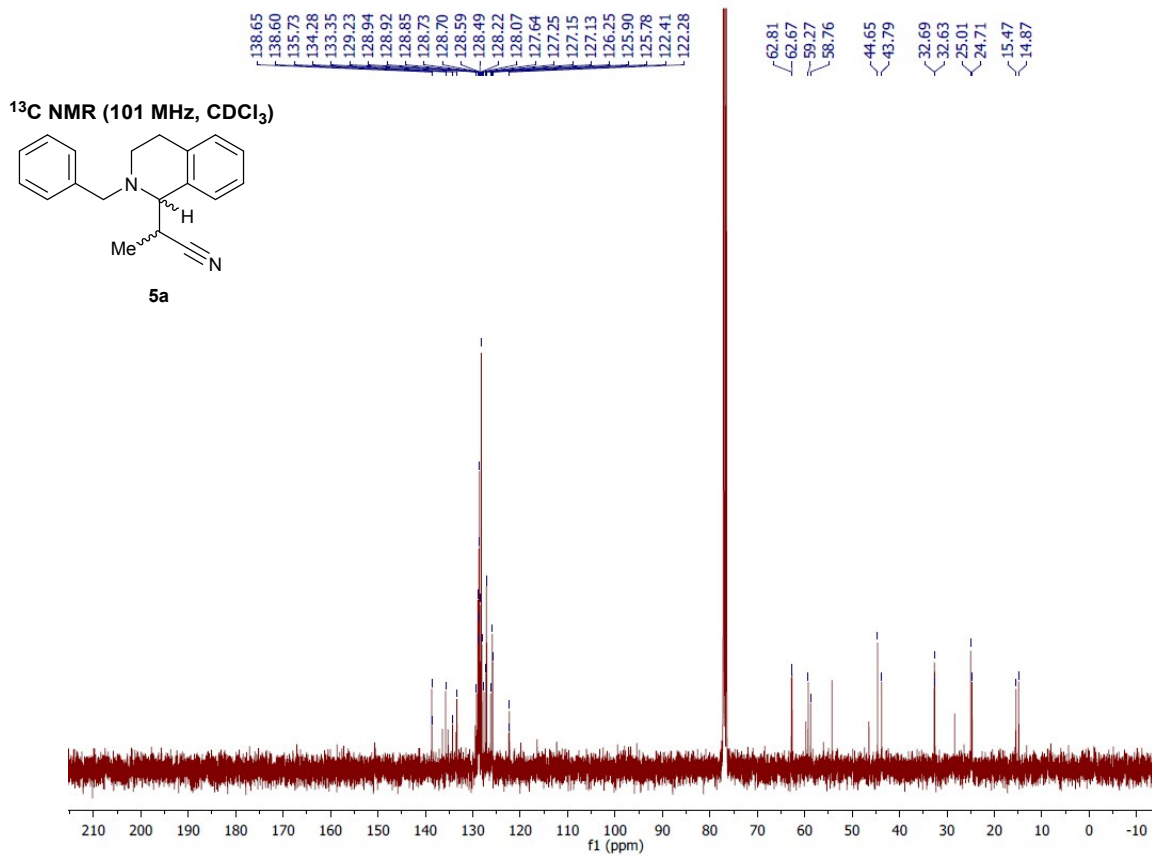
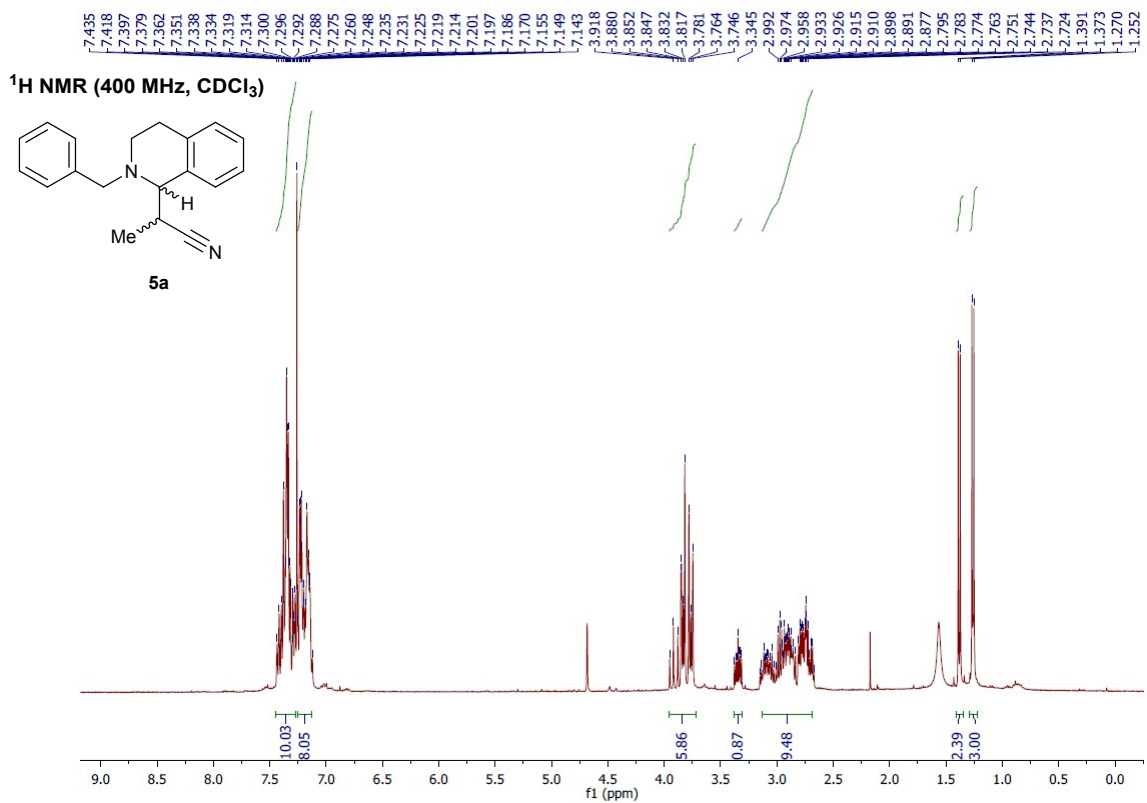


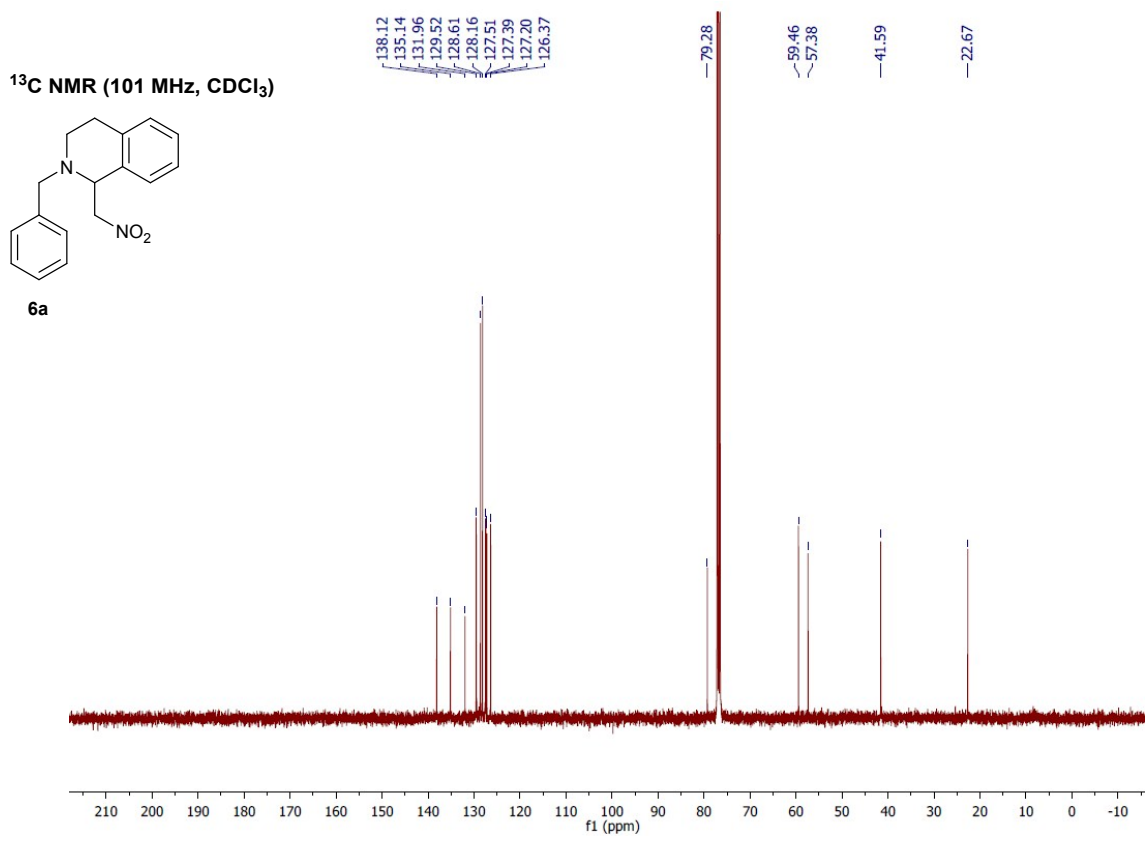
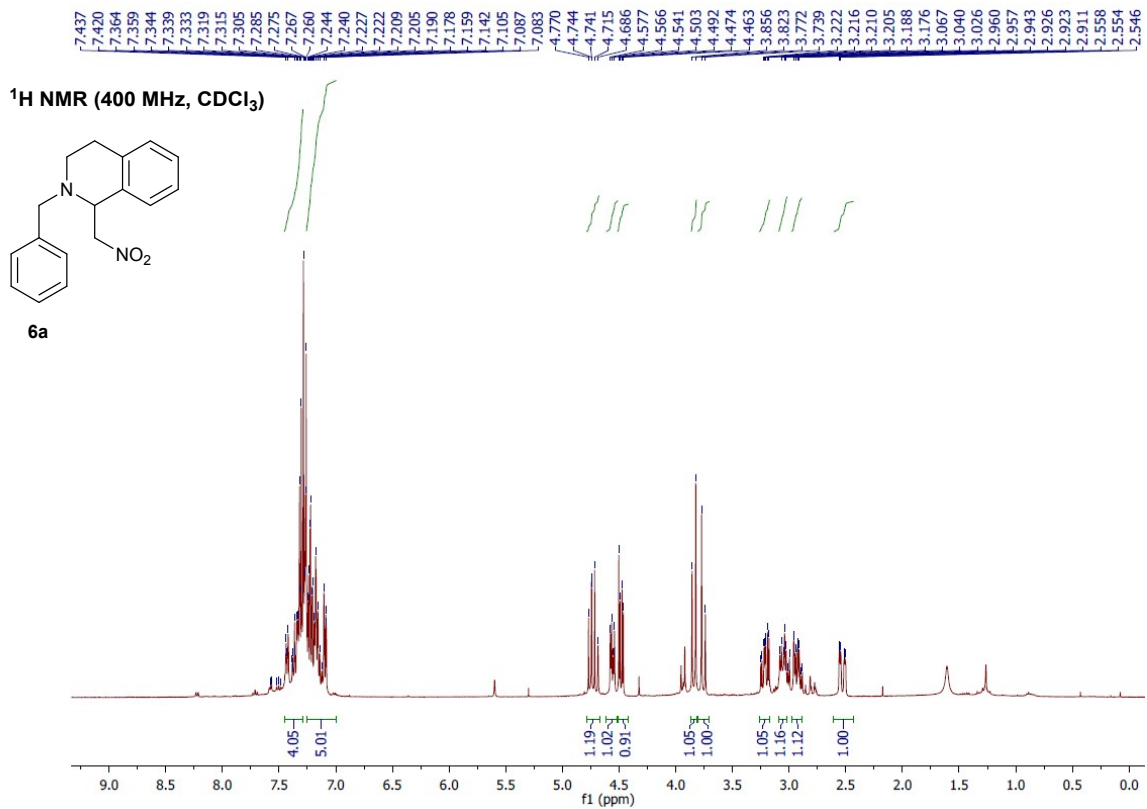
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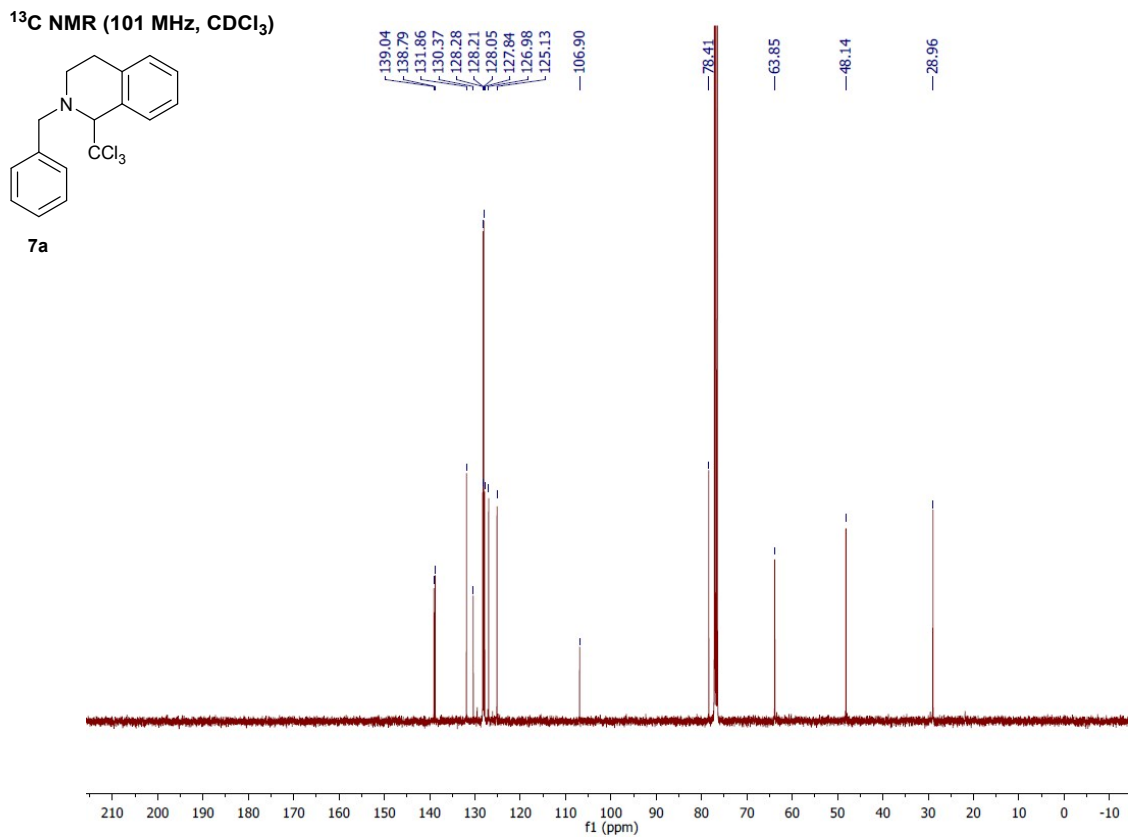
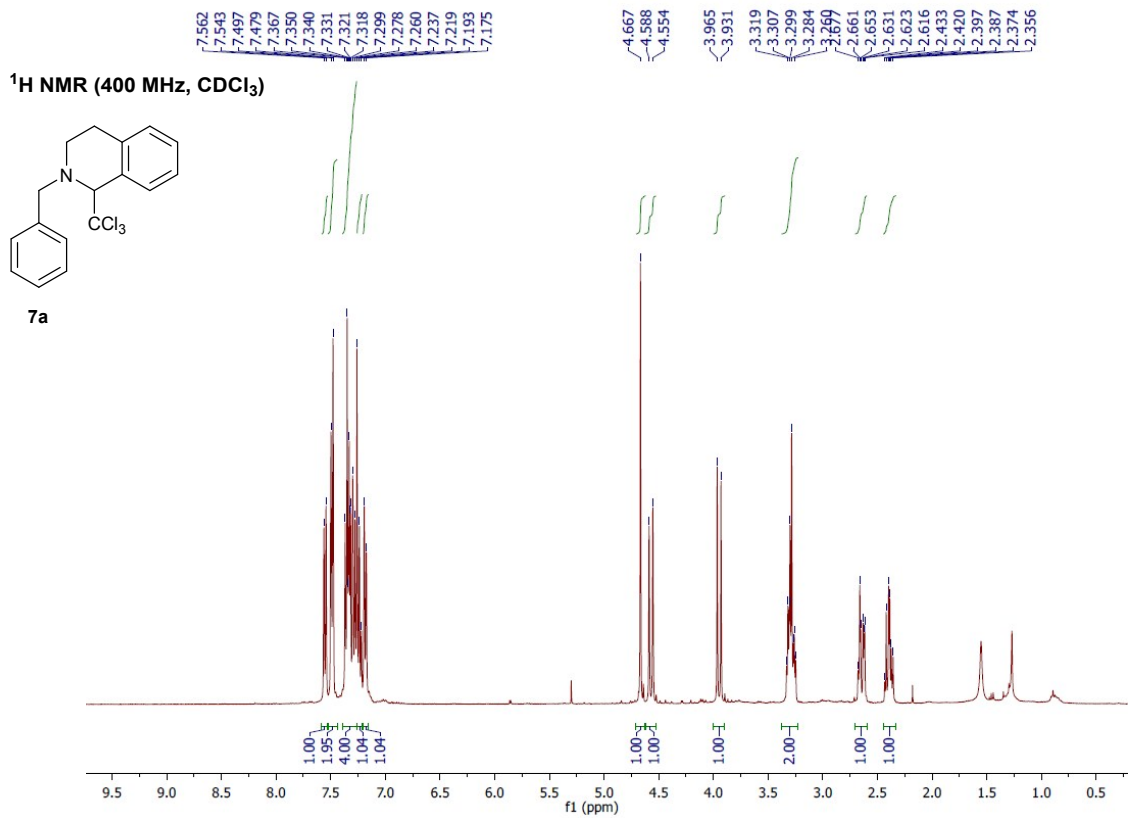


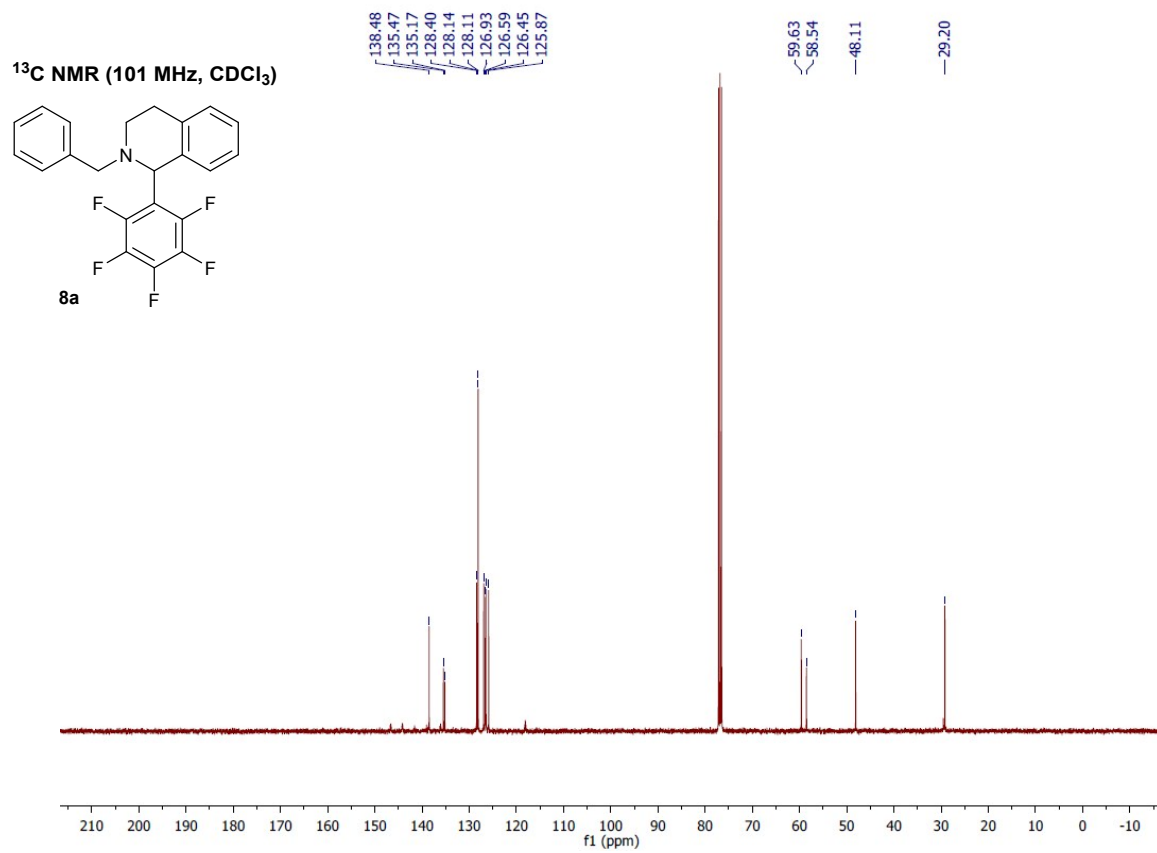
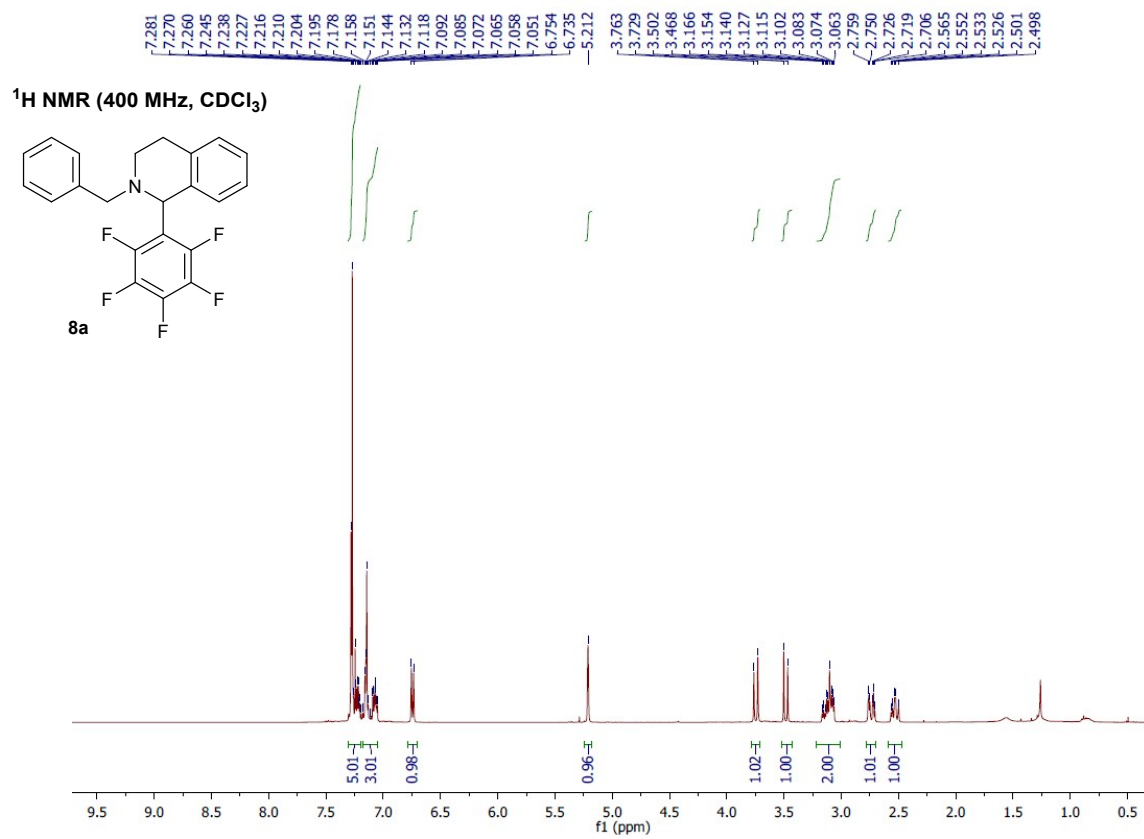


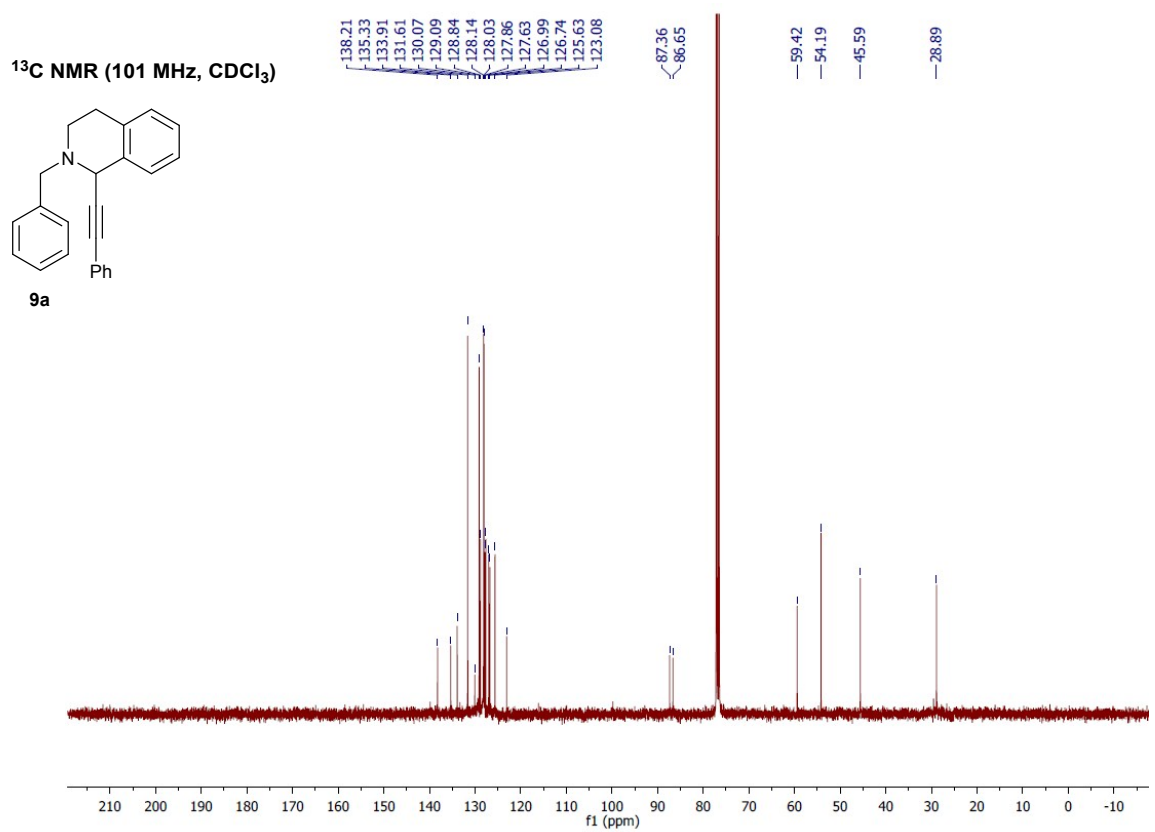
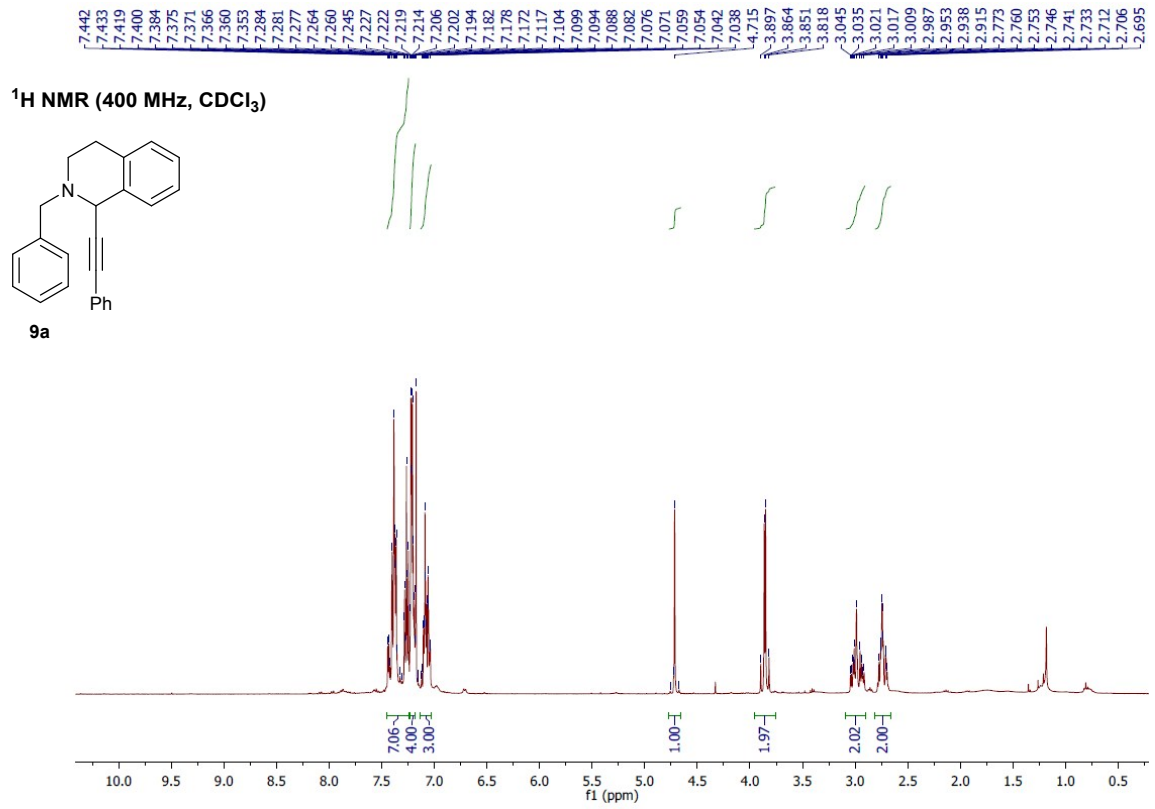


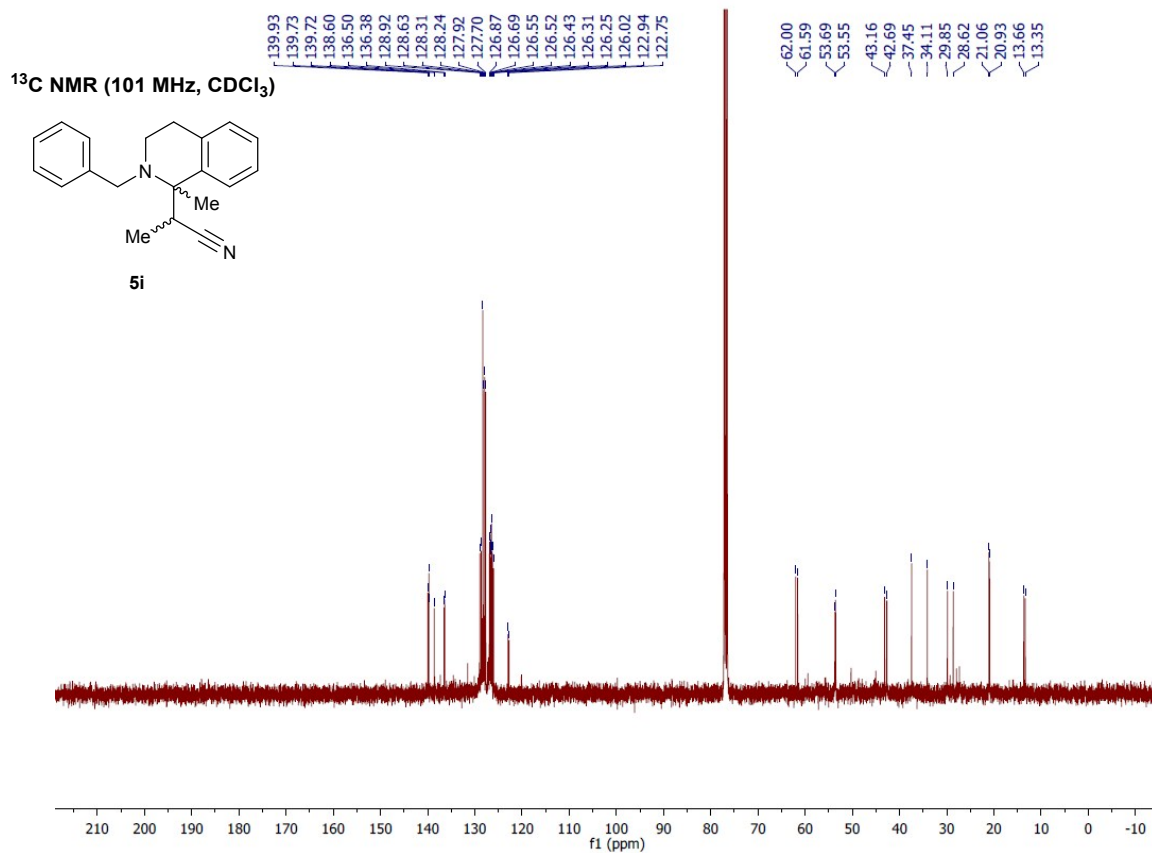
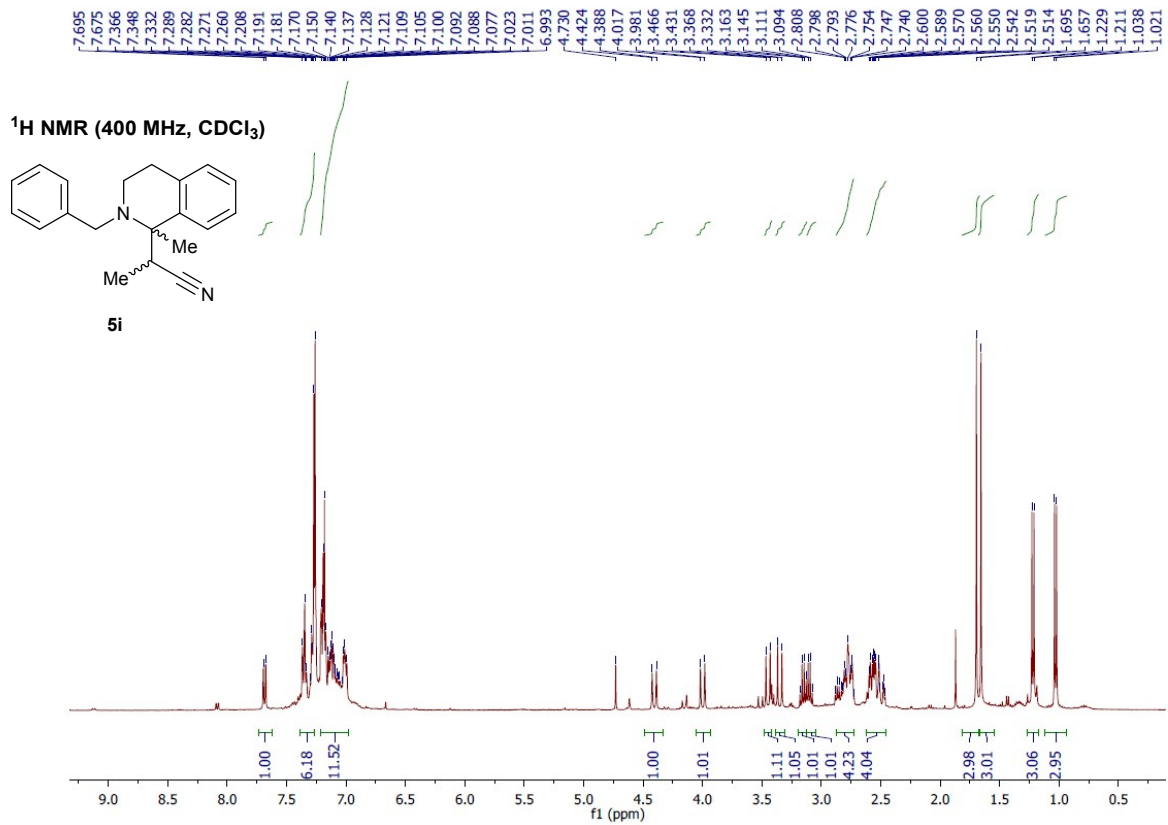


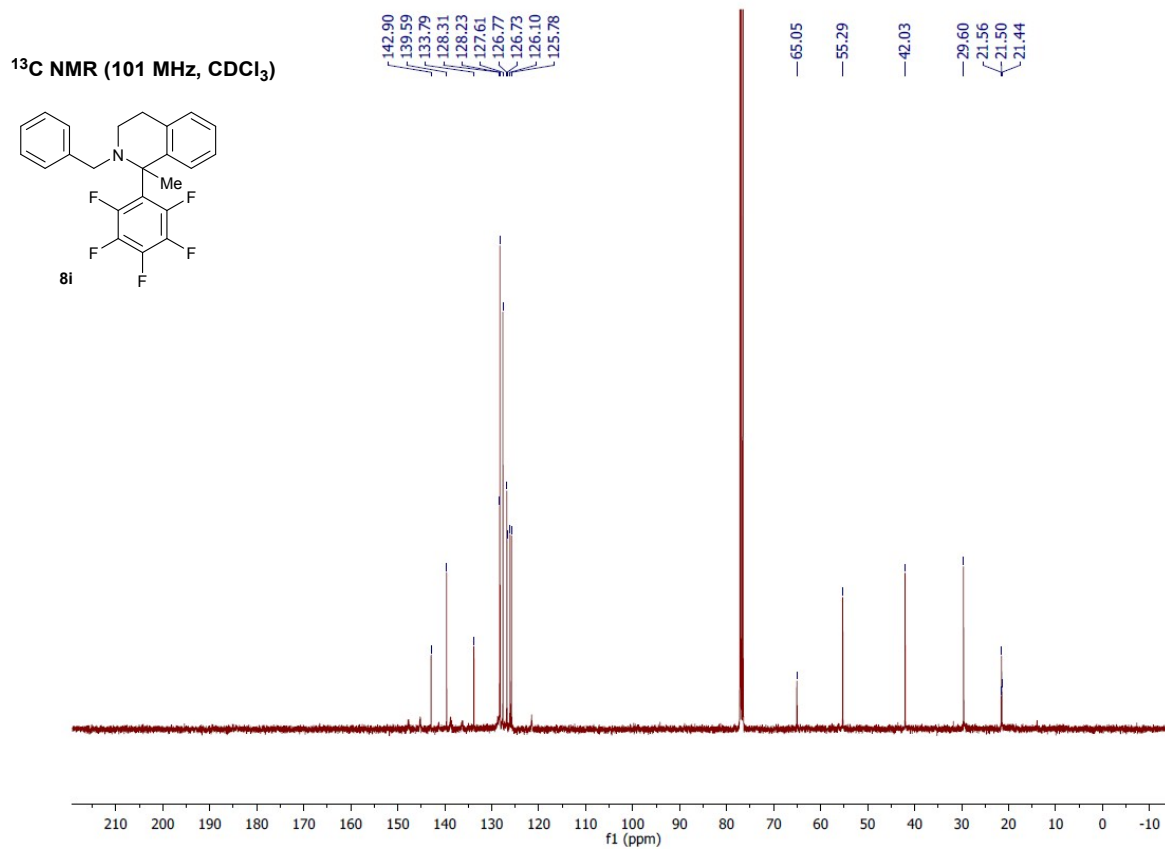
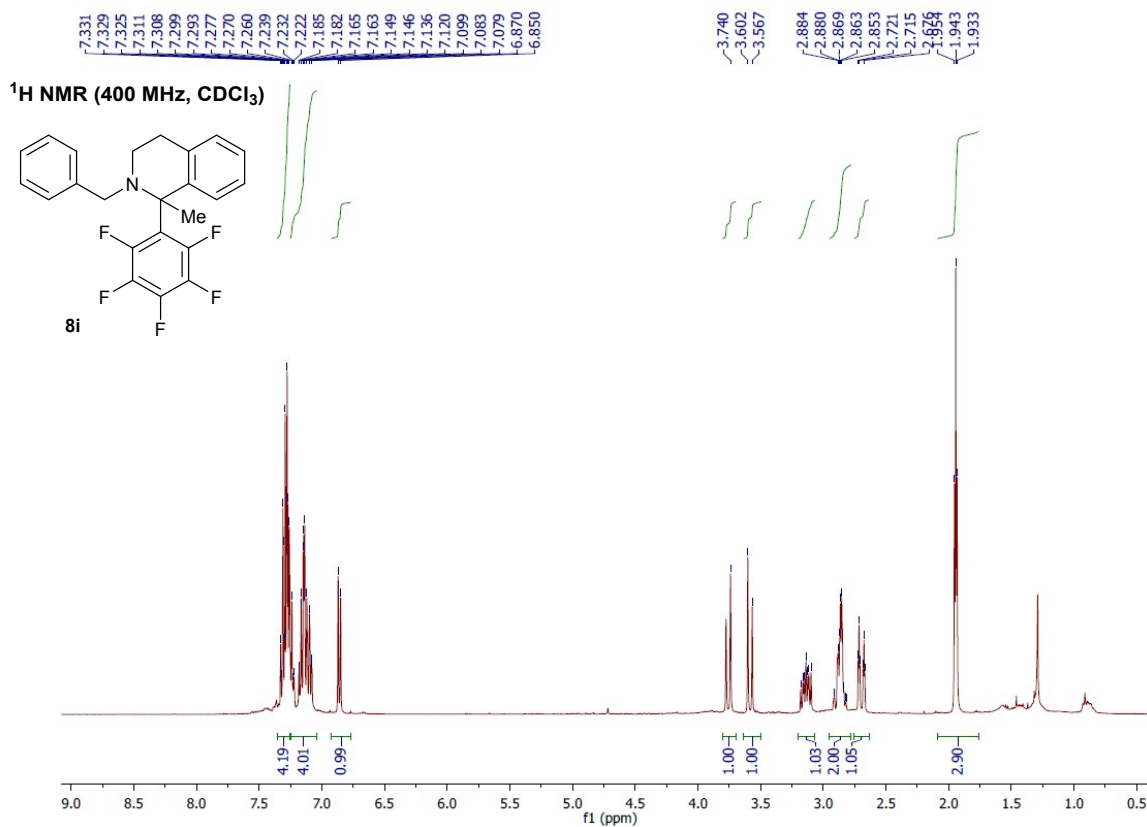




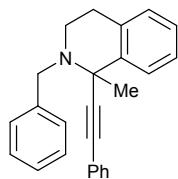




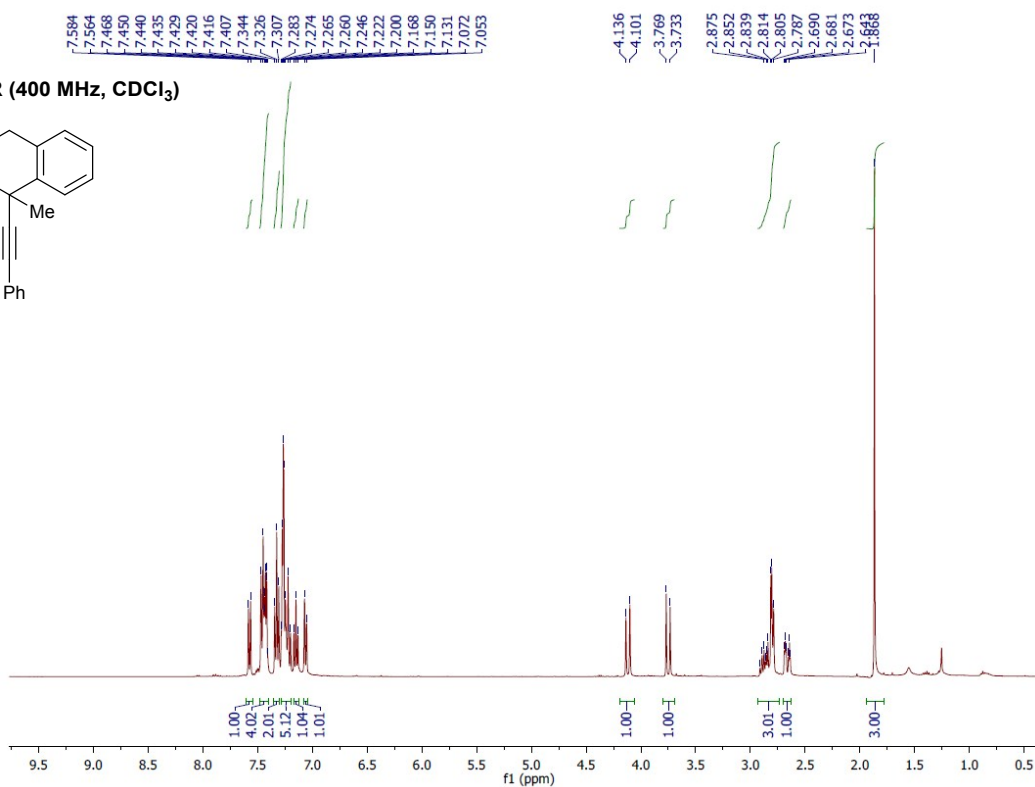




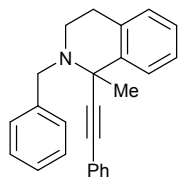
¹H NMR (400 MHz, CDCl₃)



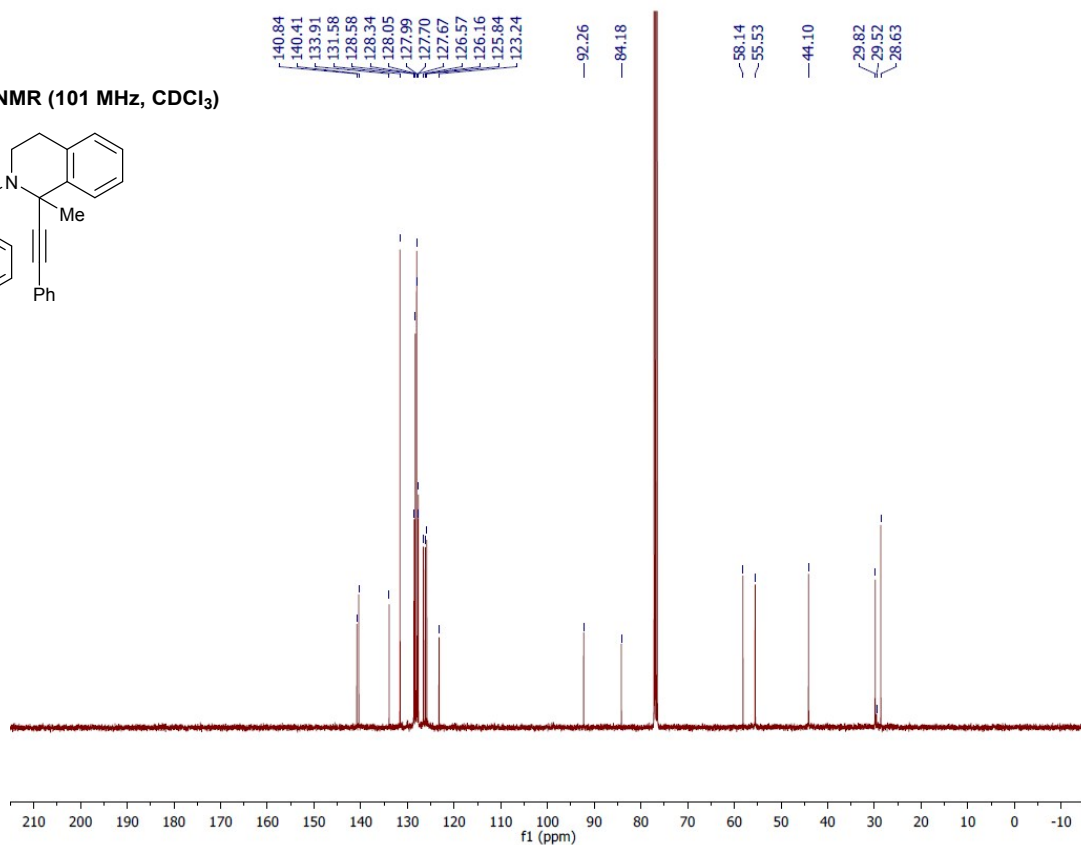
9i



¹³C NMR (101 MHz, CDCl₃)



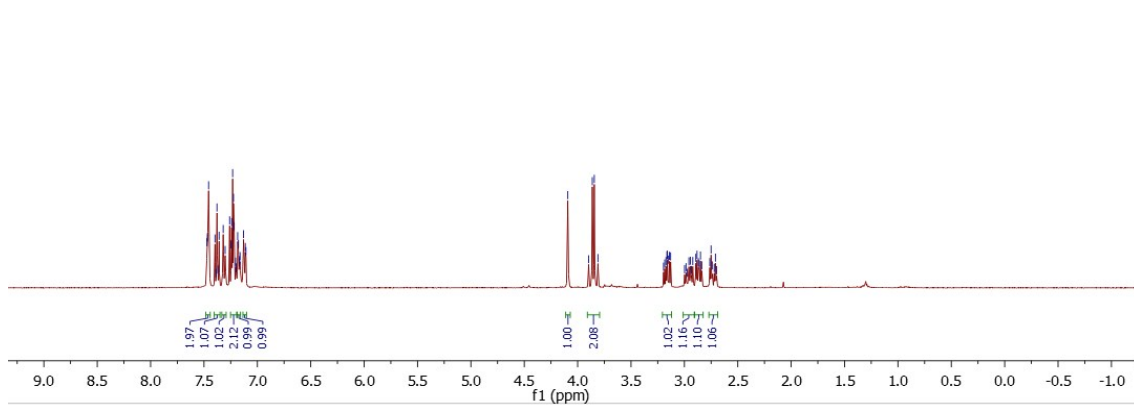
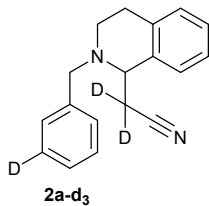
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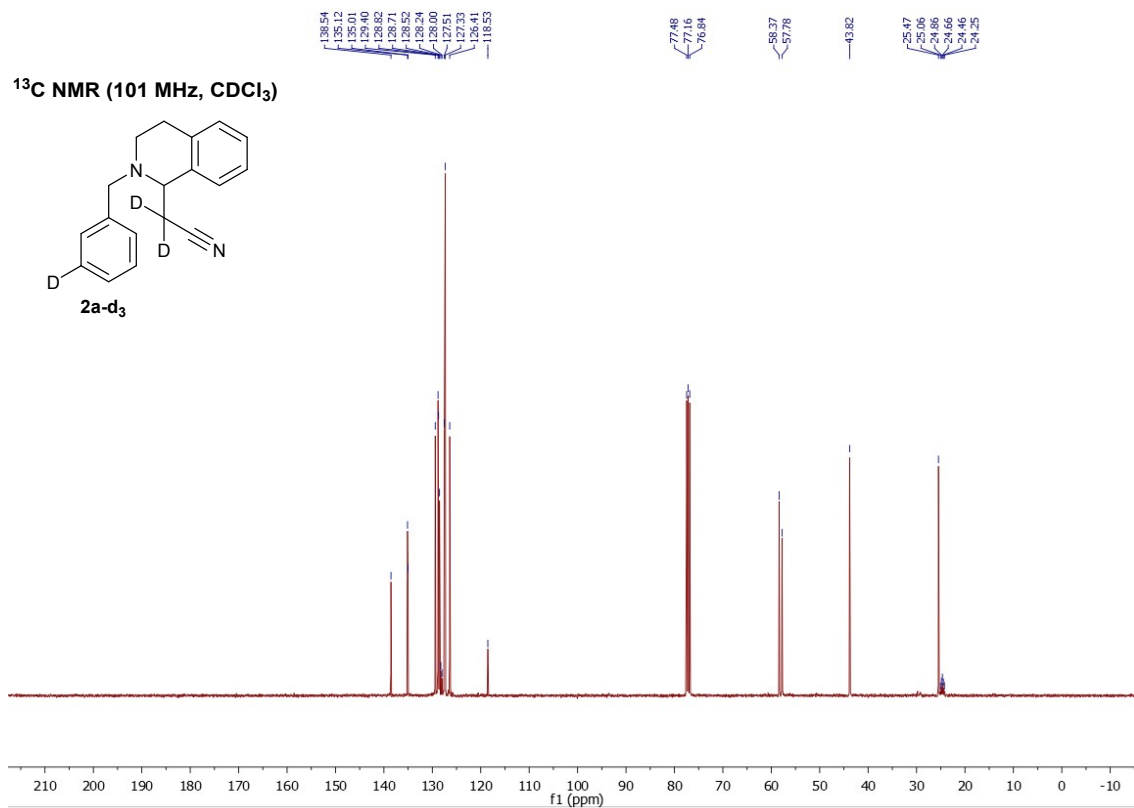
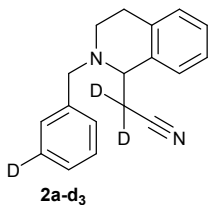
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7.1670
7.1625
7.1293
7.1135
7.1071

4.0923
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3.1521
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2.6993

¹H NMR (400 MHz, CDCl₃)



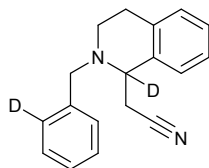
¹³C NMR (101 MHz, CDCl₃)



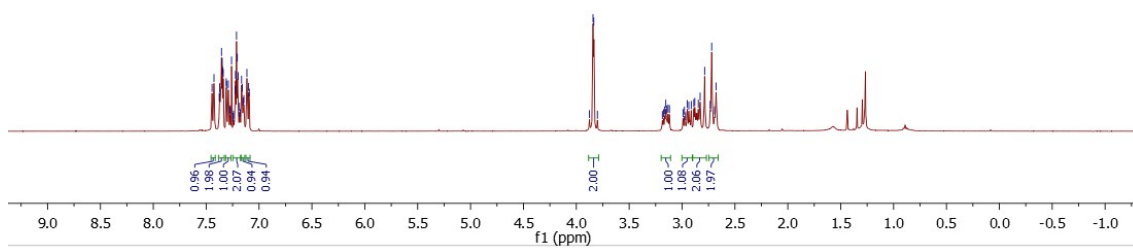
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7.0984
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3.8761
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¹H NMR (400 MHz, CDCl₃)

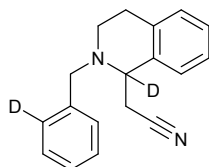


2a-d₂



138.49
135.14
135.00
133.88
133.88
128.59
128.48
127.60
127.42
126.48
118.60
77.48
77.16
76.84
58.31
57.54
57.31
43.76
25.40
25.05

¹³C NMR (101 MHz, CDCl₃)



2a-d₂

