Supporting Information

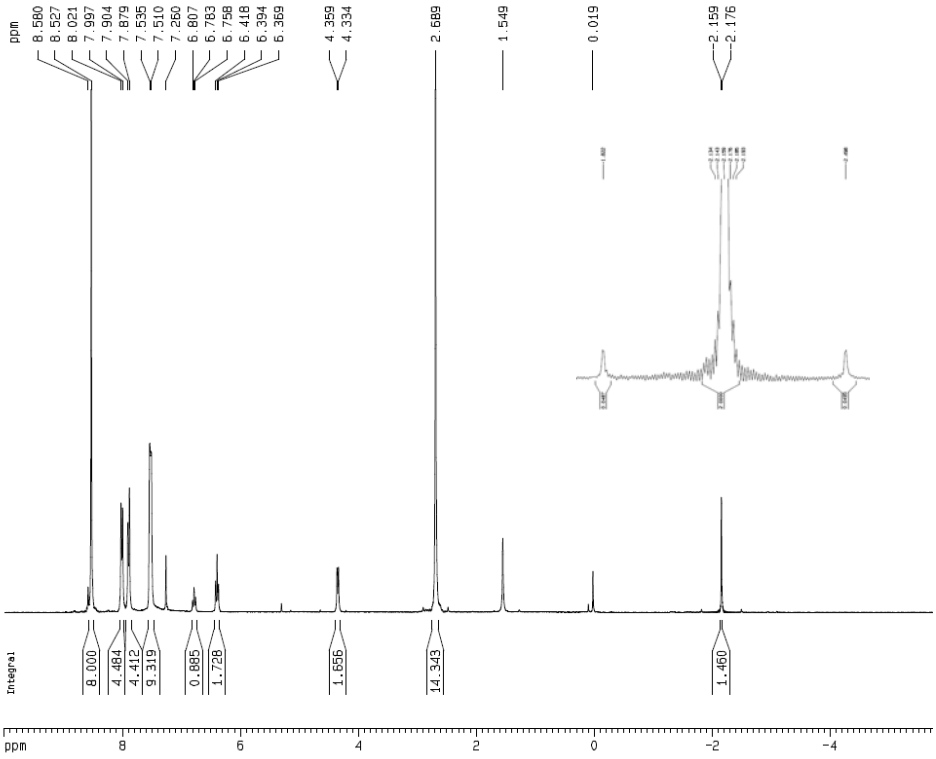
Base-Promoted Silicon-Hydrogen Bond Activation of Silanes by Iridium (III) Porphyrin Complexes

*Baozhu Li and Kin Shing Chan**

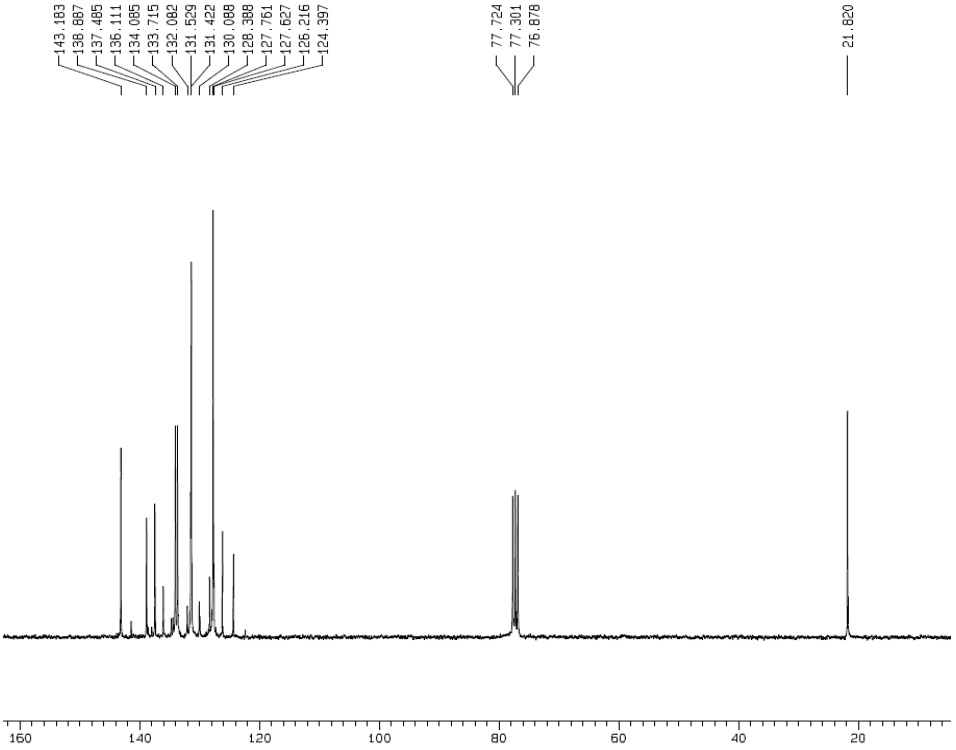
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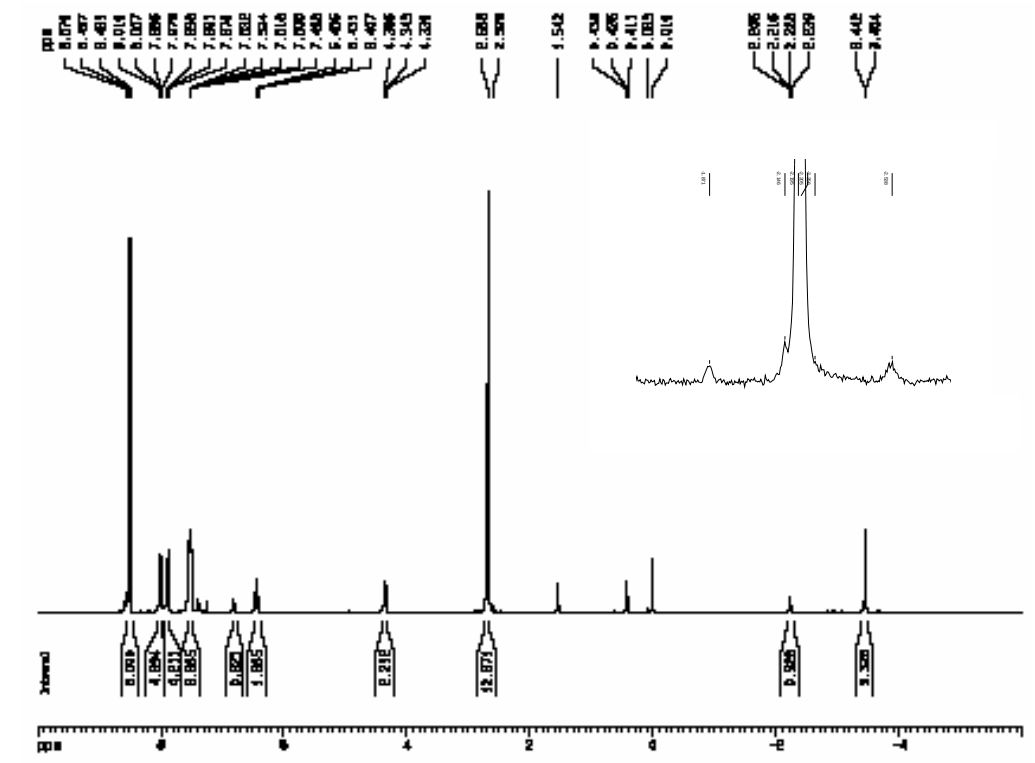
1H NMR for Ir(ttp)SiPhH$_2$ (**5b**)



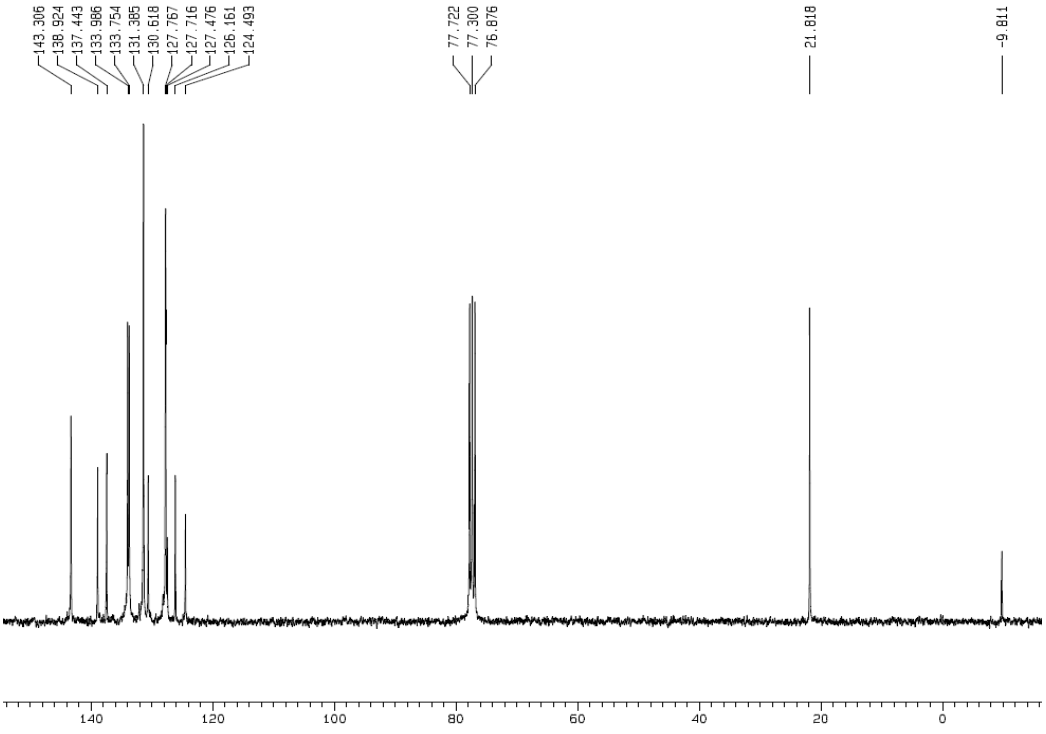
^{13}C NMR for Ir(ttp)SiPhH$_2$ (**5b**)



^{1}H NMR for Ir(ttp)SiPhMeH (**6b**)

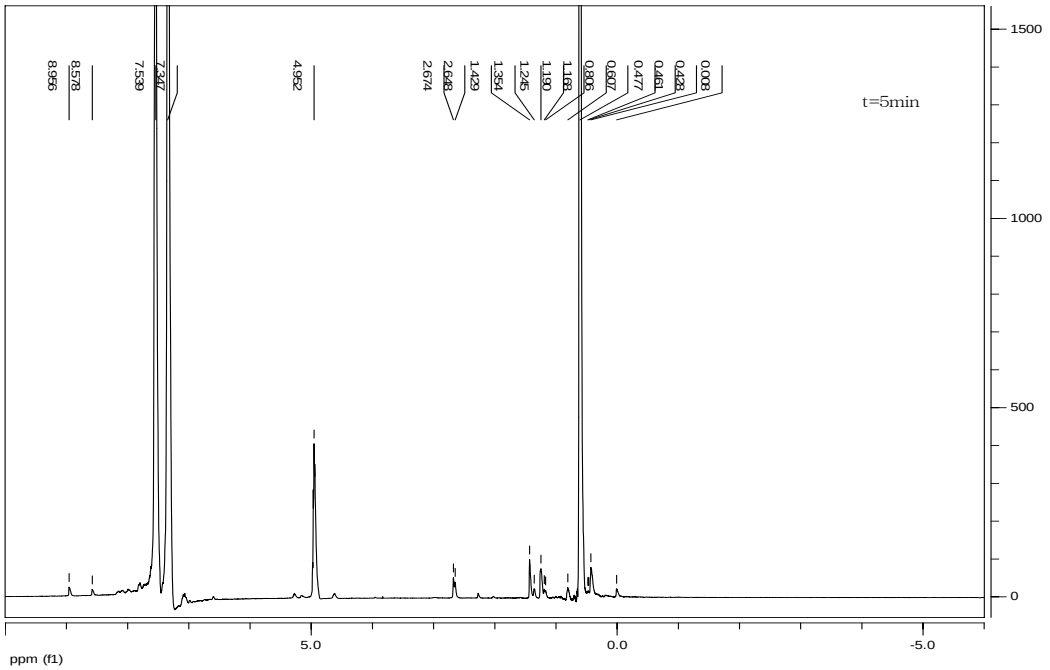


^{13}C NMR for Ir(ttp)SiPhMeH (**6b**)

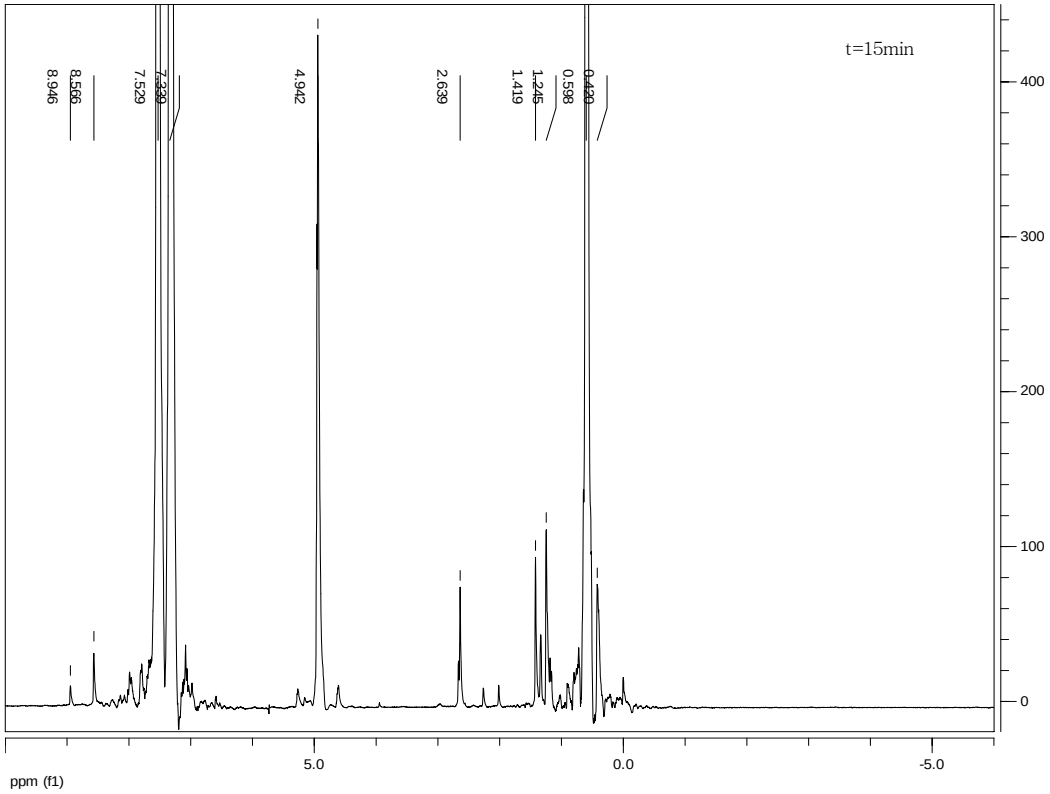


^{1} H NMR ($CDCl_3$, 300 MHz) for reaction between Ir(ttp)Cl(CO) **1a** and $HSiPh_2Me$ **8a**
The ratio between **8b** and **6b** was about 1.00 : 1.15 after 1 day.

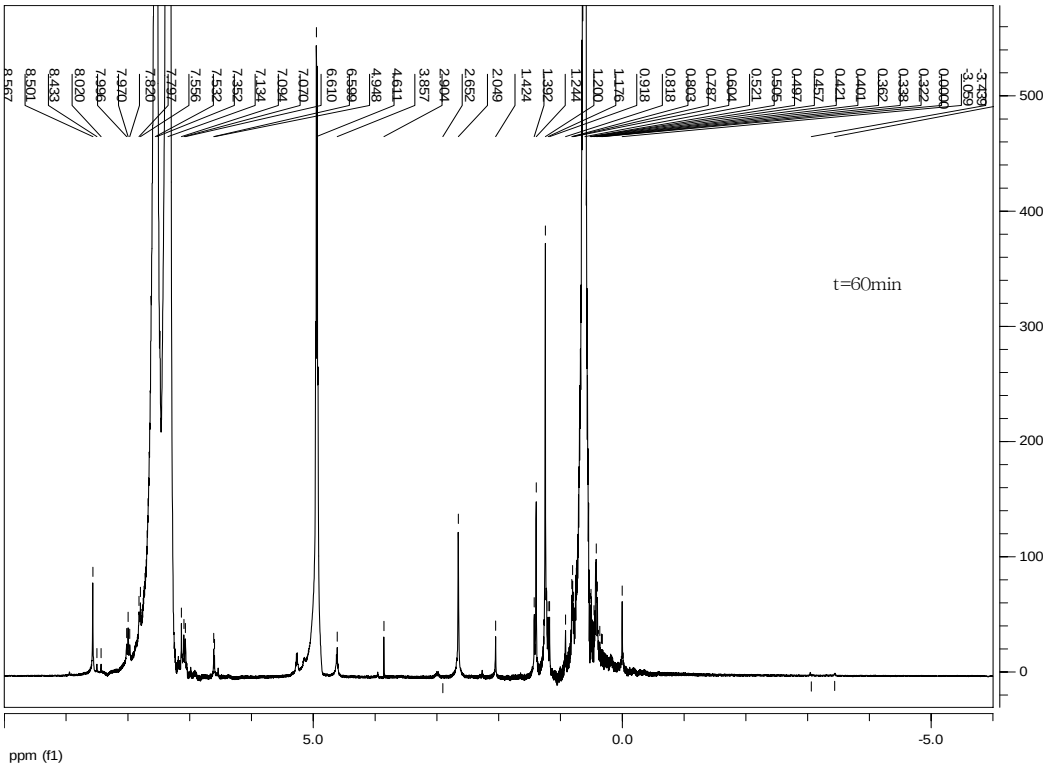
t = 5 min



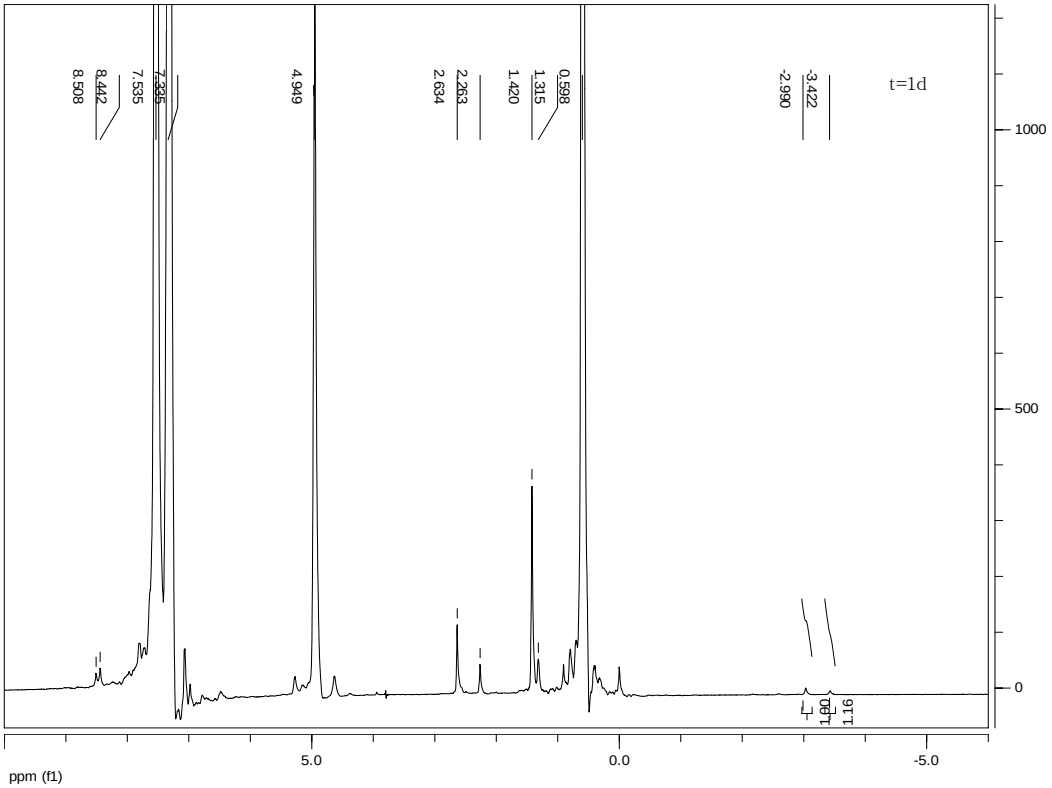
t = 15 min



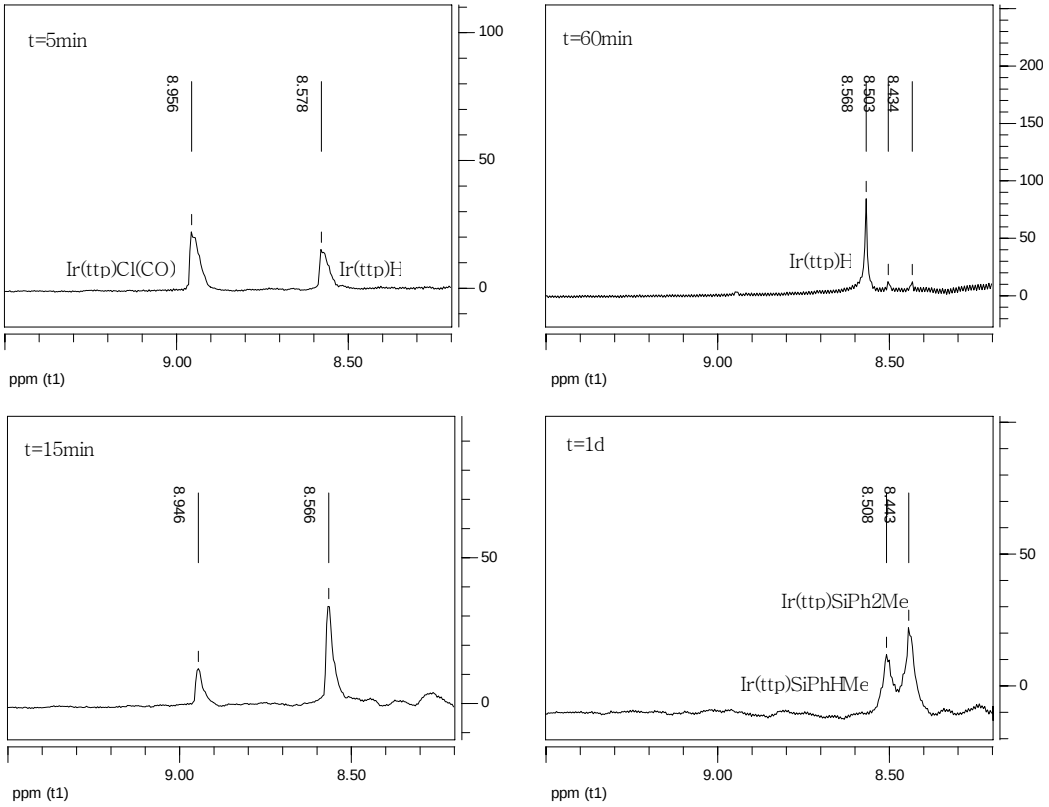
t = 60 min


8.567
8.501
8.433
8.020
7.996
7.970
7.820
7.797
7.556
7.532
7.352
7.134
7.094
7.070
6.610
6.599
4.948
4.611
3.857
2.904
2.652
2.049
1.424
1.392
1.244
1.200
1.176
0.918
0.818
0.803
0.787
0.604
0.521
0.505
0.487
0.457
0.421
0.401
0.362
0.338
0.322
0.000
-3.059
-3.439
t=60min
500
400
300
200
100
0
5.0
0.0
-5.0
ppm (f1)

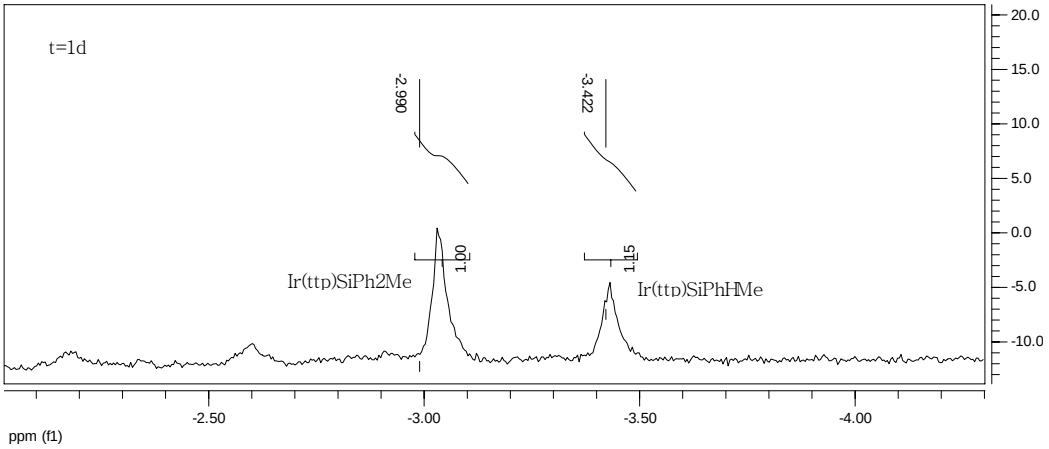
t = 1d


8.508
8.442
7.535
7.295
4.949
2.634
2.263
1.420
1.315
0.598
-2.990
-3.422
t=1d
1.00
1.16
1000
500
0
5.0
0.0
-5.0
ppm (f1)

Expansion of the signals of pyrrole for iridium porphyrin complexes

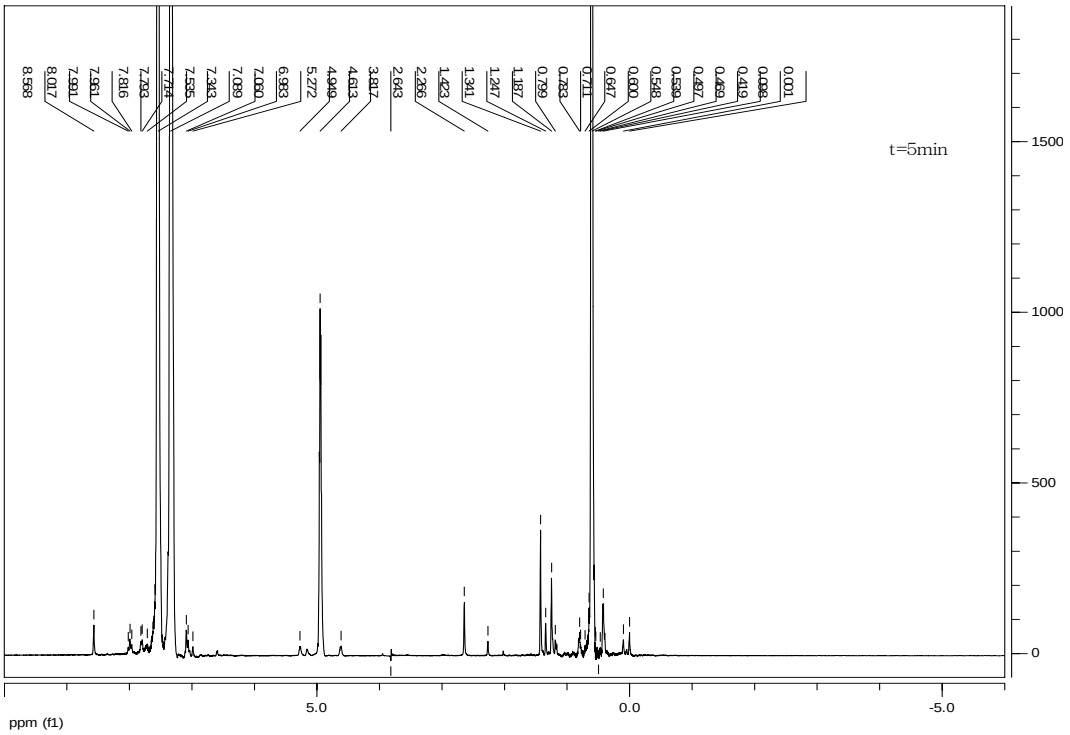


NMR integration ratio of Ir(ttp)$SiPh_2Me$ **8b** and Ir(ttp)SiPhHMe **6b**

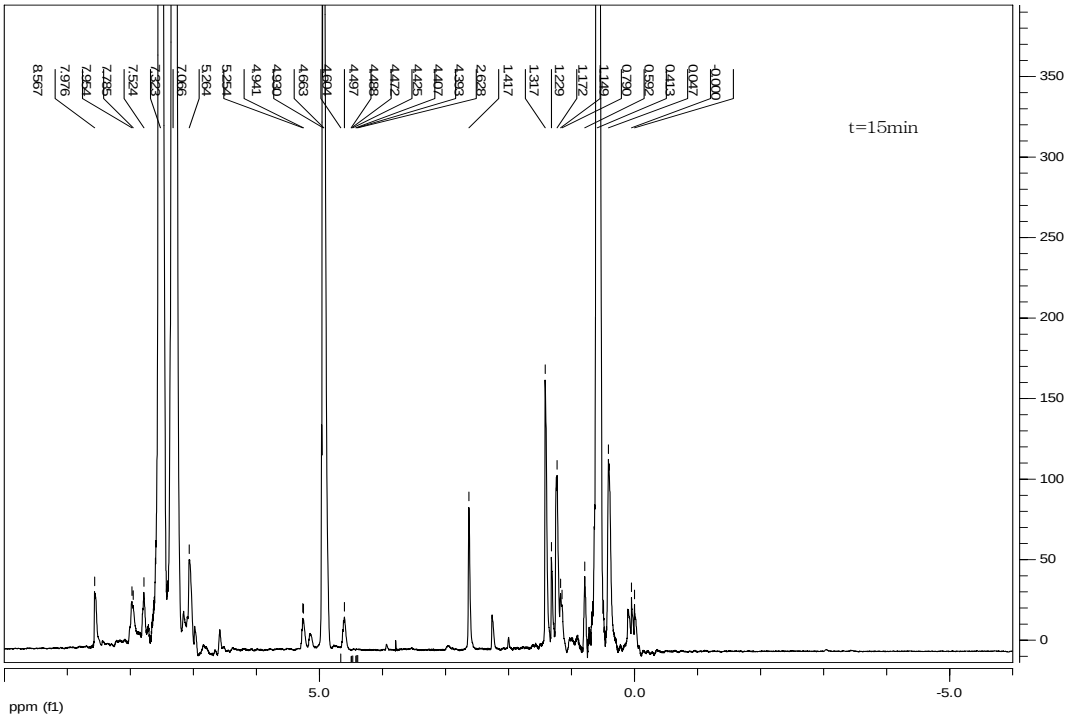


^{1}H NMR ($CDCl_3$, 300 MHz) for reaction between Ir(ttp)H **1d** and $HSiPh_2Me$ **8a**
The ratio between **8b** and **6b** was about 1.00 : 0.71 after 2h.

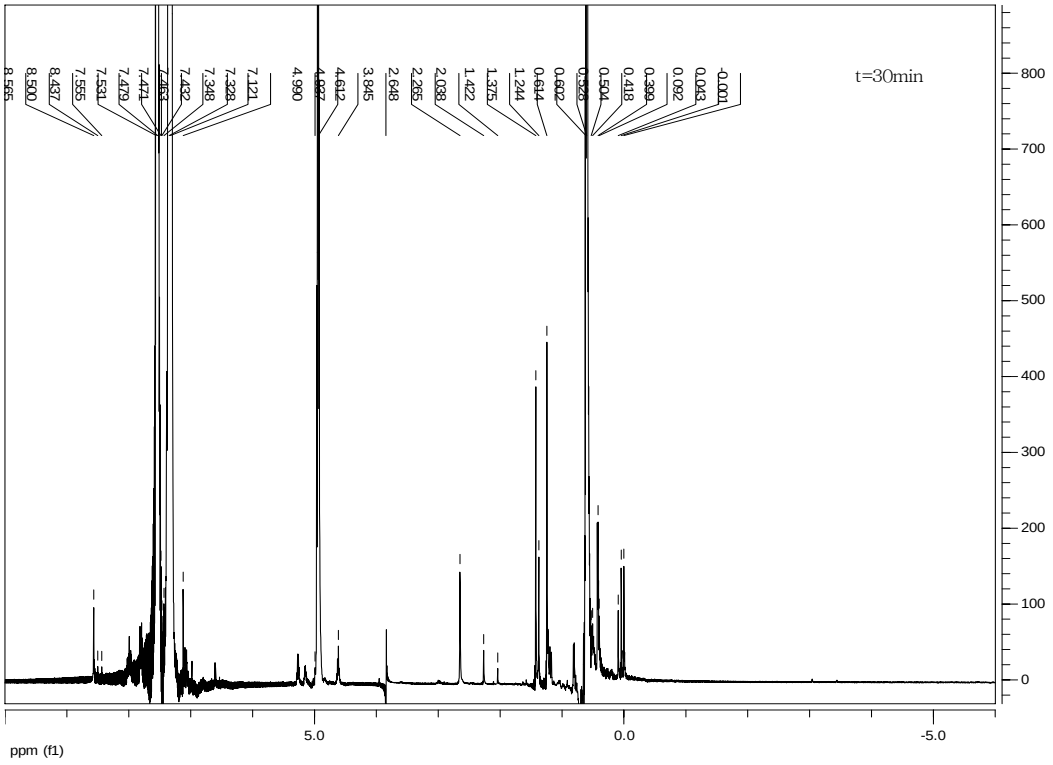
t = 5 min



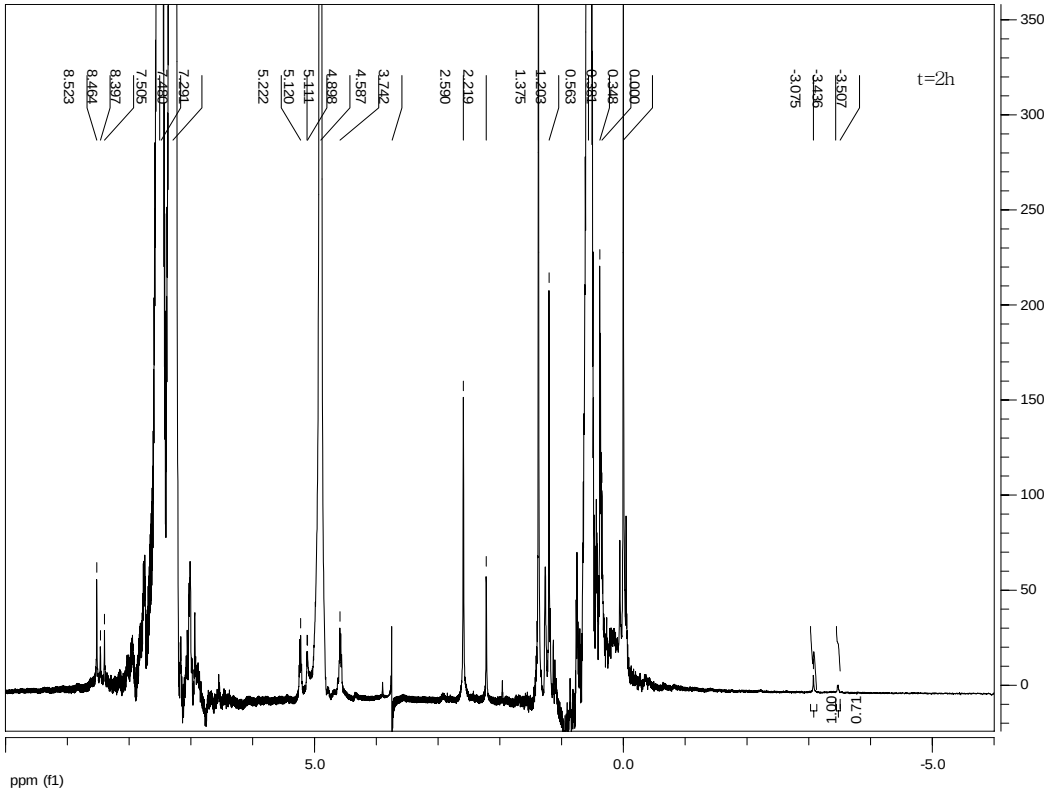
t = 15 min



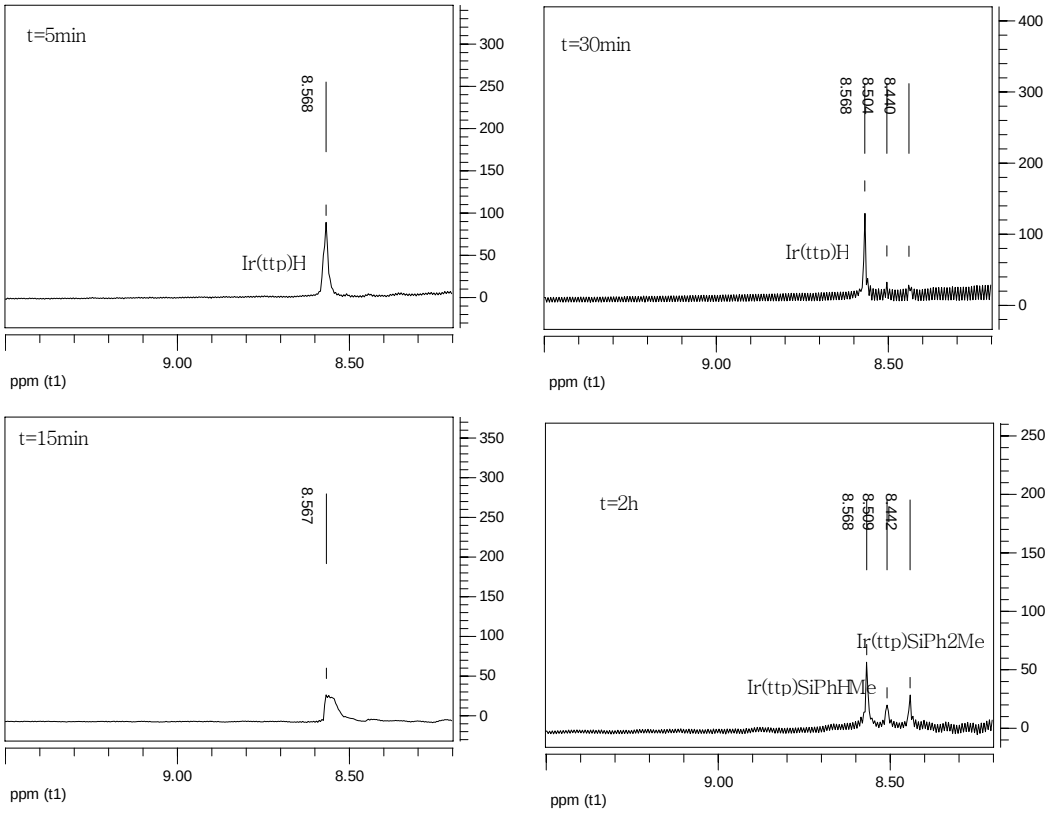
t = 30 min


t=30min
8.565
8.500
8.437
7.555
7.531
7.479
7.471
7.348
7.328
7.121
4.990
4.612
3.845
2.648
2.265
2.038
1.422
1.375
1.244
0.614
0.602
0.504
0.418
0.399
0.092
0.043
-0.001
ppm (f1)

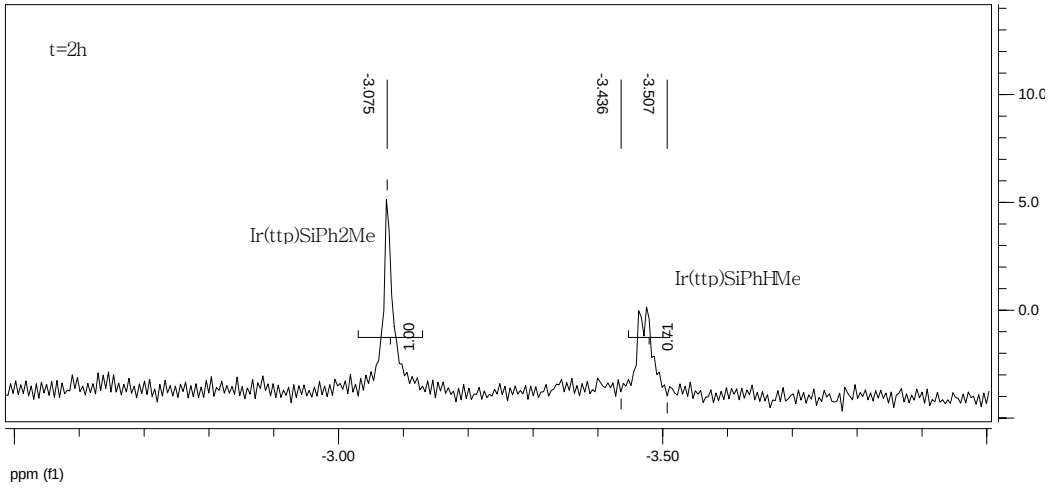
t = 2 h


t=2h
8.523
8.464
8.397
7.505
7.291
5.222
5.120
5.111
4.898
4.587
3.742
2.590
2.219
1.375
1.203
0.563
0.381
0.348
0.000
-3.075
-3.436
-3.507
ppm (f1)

Expansion of the signals of pyrrole for iridium porphyrin complexes



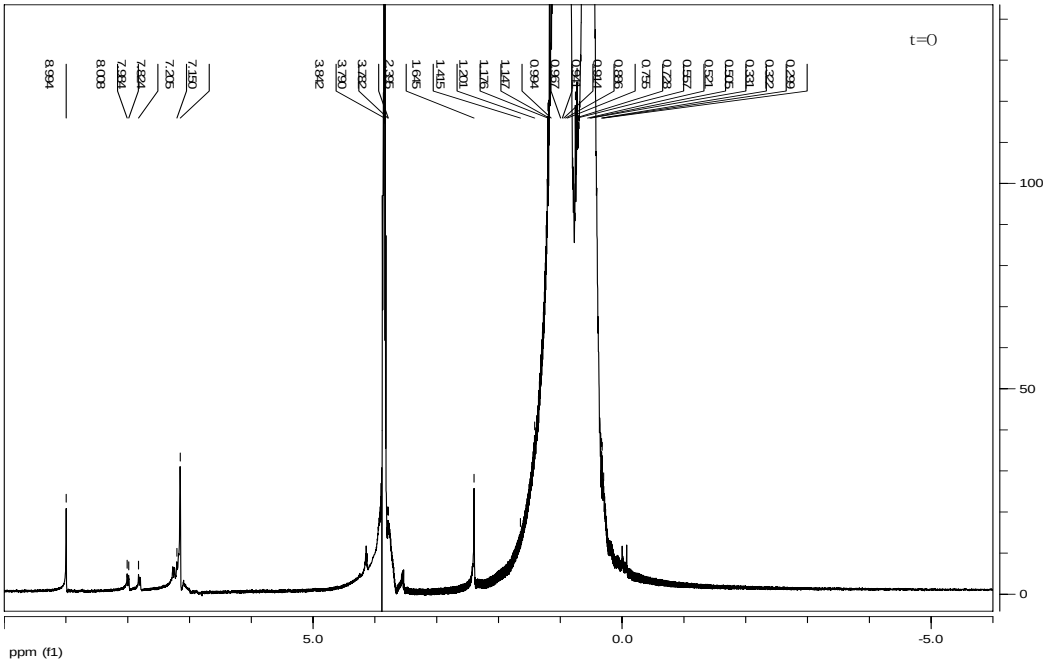
NMR integration ratio of Ir(ttp)$SiPh_2Me$ **8b** and Ir(ttp)SiPhHMe **6b**



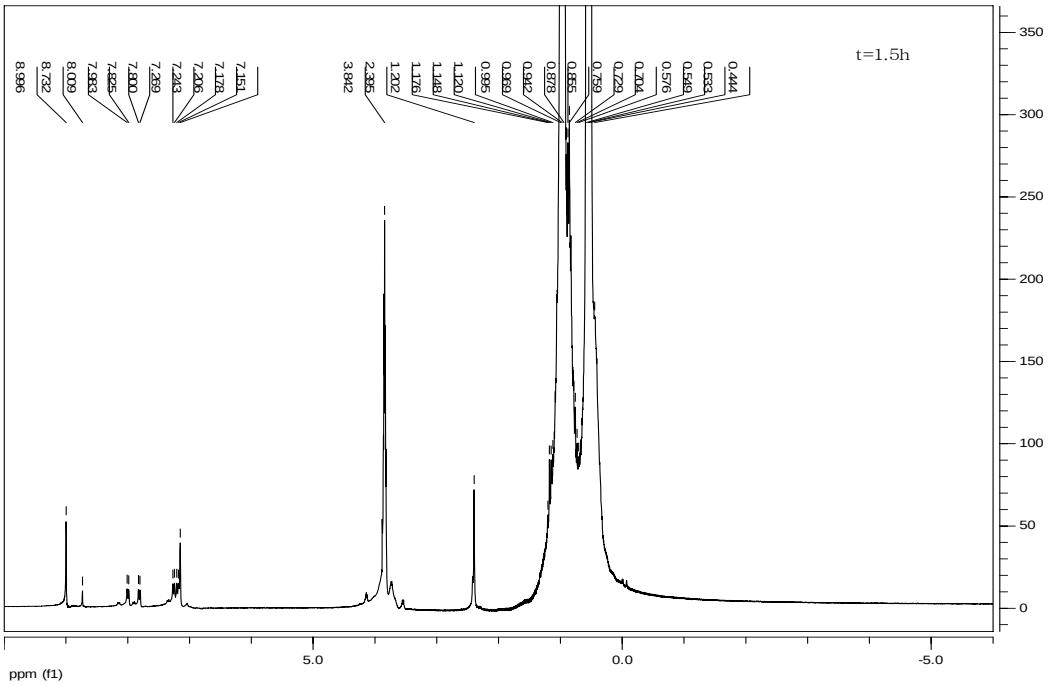
^{1}H NMR (C_6D_6, 300 MHz) for reaction between Ir(ttp)Cl(CO) **1a** and $HSiEt_3$ **2a** in benzene-d_6 with the addition of K_3PO_4 in sealed-tube.

Ir(ttp)H was observed after 1.5 h without the formation of Ir(ttp)$SiEt_3$. After 19 h, besides the formation of Ir(ttp)$SiEt_3$, a new species, [Ir], was also generated, but the structure has not been confirmed.

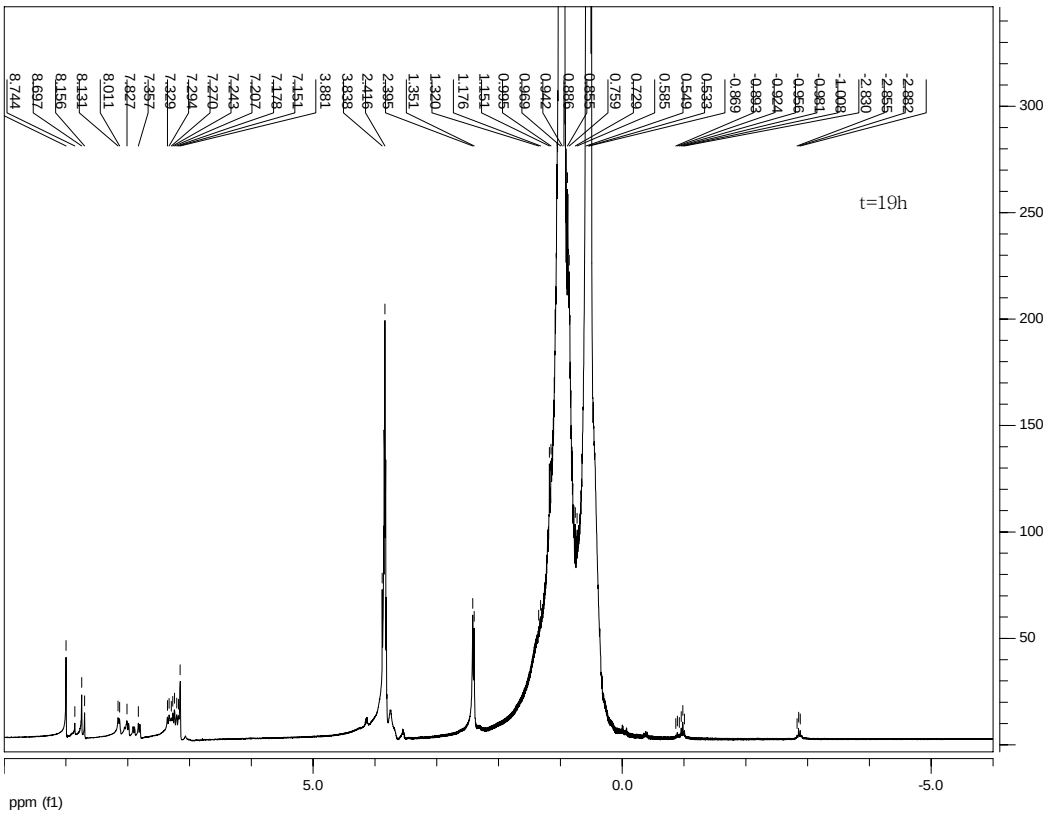
t = 0



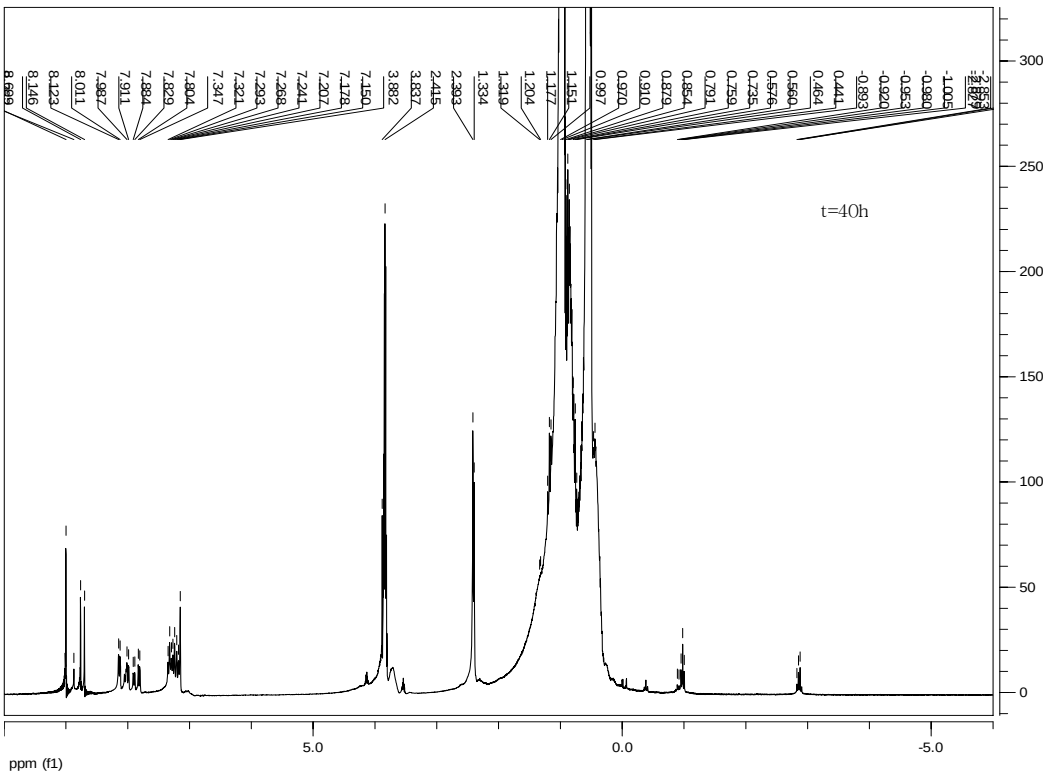
t= 1.5 h



t = 18 h


8.744
8.697
8.156
8.131
8.011
7.827
7.367
7.329
7.294
7.270
7.243
7.207
7.178
7.151
3.881
3.838
2.416
2.395
1.351
1.320
1.176
1.151
0.995
0.969
0.942
0.886
0.855
0.759
0.729
0.585
0.549
0.533
0.869
0.893
0.924
0.956
0.981
1.008
2.830
2.855
2.882
t=19h
300
250
200
150
100
50
5.0
0.0
-5.0
ppm (f1)

t= 40 h


8.689
8.146
8.123
8.011
7.987
7.911
7.884
7.829
7.804
7.347
7.321
7.293
7.268
7.241
7.207
7.178
7.150
3.882
3.837
2.415
2.393
1.334
1.319
1.204
1.177
1.151
0.997
0.970
0.910
0.879
0.854
0.791
0.759
0.735
0.576
0.560
0.464
0.441
0.893
0.920
0.953
0.980
1.005
2.853
2.879
t=40h
300
250
200
150
100
50
0
5.0
0.0
-5.0
ppm (f1)

Expansion of the signals of pyrrole for iridium porphyrin complexes

