3,17-dibromo-5,10,15-(tris)pentafluorophenylmonoazaporphyrinatoiridium(III) (bis)ammine, $2b_2$-Ir$(NH_3)_2$, 3-bromo-5,10,15-(tris)pentafluorophenylmonoazaporphyrinatoiridium(III) (bis)ammine, 2b-Ir$(NH_3)_2$, and 5,10,15-(tris)pentafluorophenylmonoazaporphyrinatoiridium(III) (bis)ammine, 2-Ir$(NH_3)_2$: To a rapidly stirring solution of **1-Ir$(NH_3)_2$** (22 mg) in methanol was added 250 µL of aqueous 6 N NH_4OH. Shortly after, 104 mg N-bromosuccinimide was added and the reaction mixture immediately turned from green to purple and began to evolve gas. After five minutes, a new pink spot could be observed by TLC, and the reaction was allowed to stir for ten more minutes before being concentrated onto silica and subjected to column chromatography on silica. CH_2Cl_2 was first used to elute any remaining corrole, followed by 2% MeOH in CH_2Cl_2 to elute pink solutions of **$2b_2$-Ir$(NH_3)_2$** (9 mg, 35% yield), 3% MeOH in CH_2Cl_2 to elute **2b-Ir$(NH_3)_2$** (2 mg, 8% yield), and 4% MeOH in CH_2Cl_2 to elute **2-Ir$(NH_3)_2$** (1 mg, 4% yield), all of which could be evaporated to yield red solid products. Characterization data: **$2b_2$-Ir$(NH_3)_2$.** ^{1}H NMR (CD_3CN): δ 9.45 (s, 2H), 8.89 (d, 2H, J = 4.8), 8.85 (d, 2H, J = 4.8), -4.161 (s, 6H). UV-vis (CH_3CN, nm): 392, 513 (sh), 548. Emission (CH_3CN, nm): 695. **2b-Ir$(NH_3)_2$.** ^{1}H NMR (CD_3CN): δ 9.48 (s, 1H), 9.20 (d, 1H, J = 4.8), 9.03 (d, 1H, J = 5.4), 8.91 (d, 1H, J= 4.2), 8.88 (d, 2H, J = 6.0), 8.84 (d, 1H, J = 5.4), -4.251 (s, 6H). **2-Ir$(NH_3)_2$.** ^{1}H NMR (d^6-DMSO): δ 9.19 (d, 2H, J = 5.4), 9.09 (d, 2H, J = 4.8), 8.99 (d, 2H, J = 5.4), 8.94 (d, 2H, J = 4.8), -3.361 (s, 6H). UV-vis (CH_3CN, nm): 389, 506 (sh), 542. Emission (CH_3CN, nm): 691

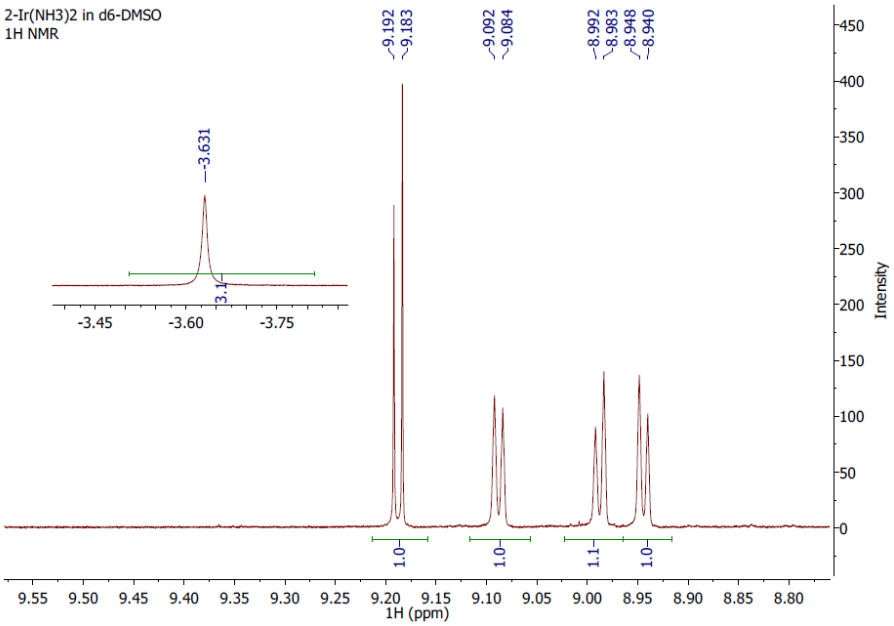

Figure B-34: ^{1}H NMR of **2-Ir(NH$_3$)$_2$** in d^6-DMSO

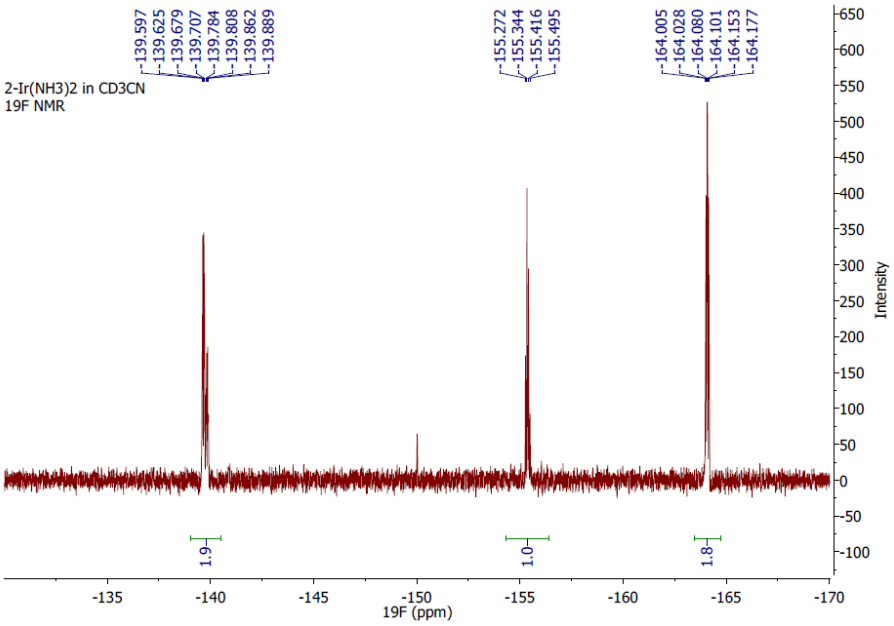

Figure B-35: ^{19}F NMR of **2-Ir(NH$_3$)$_2$** in CD_3CN

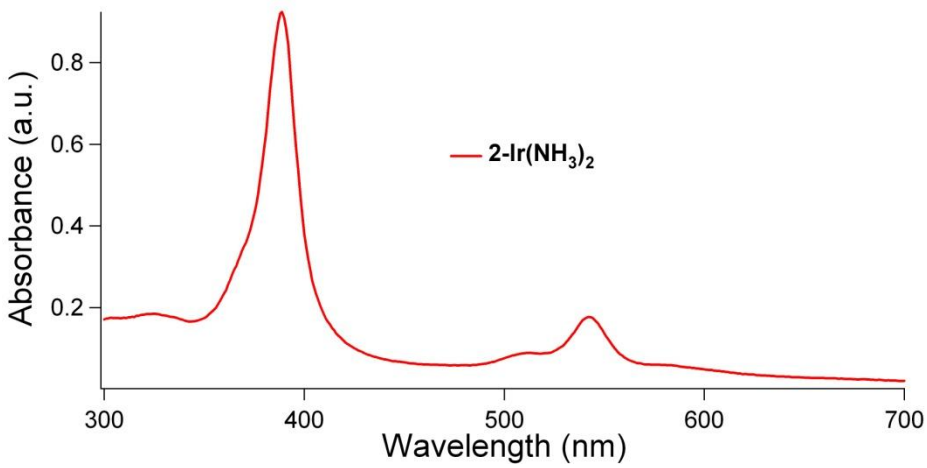

Figure B-36: UV-vis of **2-Ir(NH$_3$)$_2$** in CD_3CN

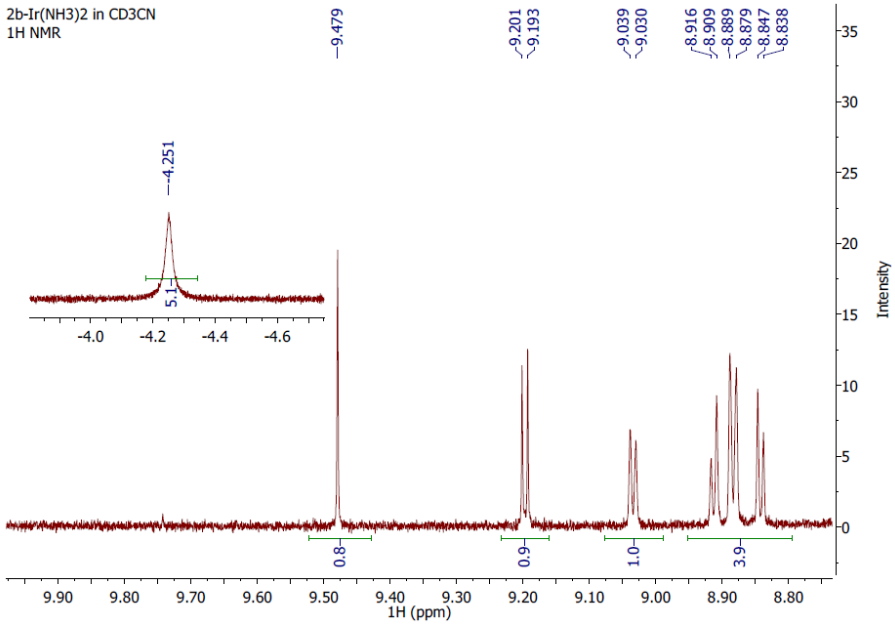

Figure B-37: ^{1}H NMR of **2b-Ir(NH$_3$)$_2$** in CD_3CN

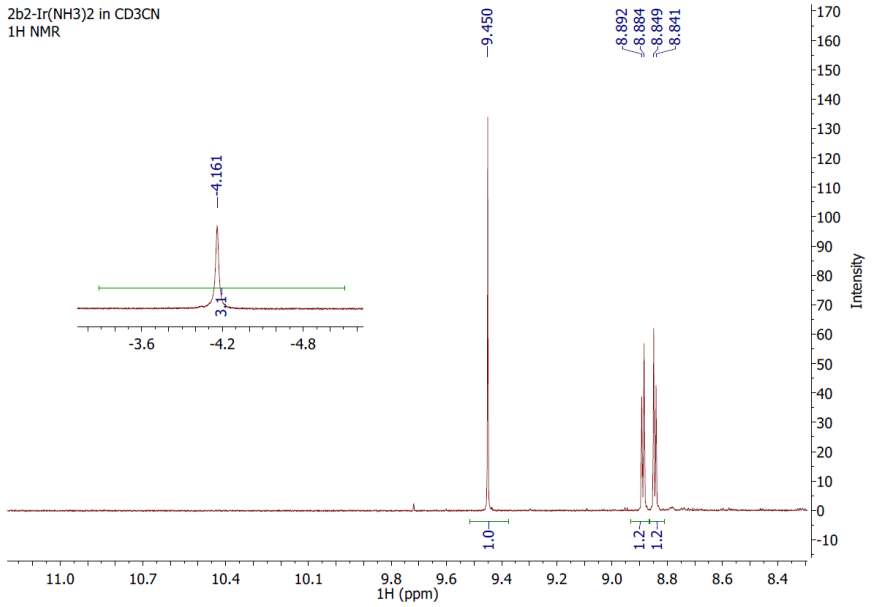

Figure B-38: ^{1}H NMR of **$2b_2$-Ir$(NH_3)_2$** in CD_3CN

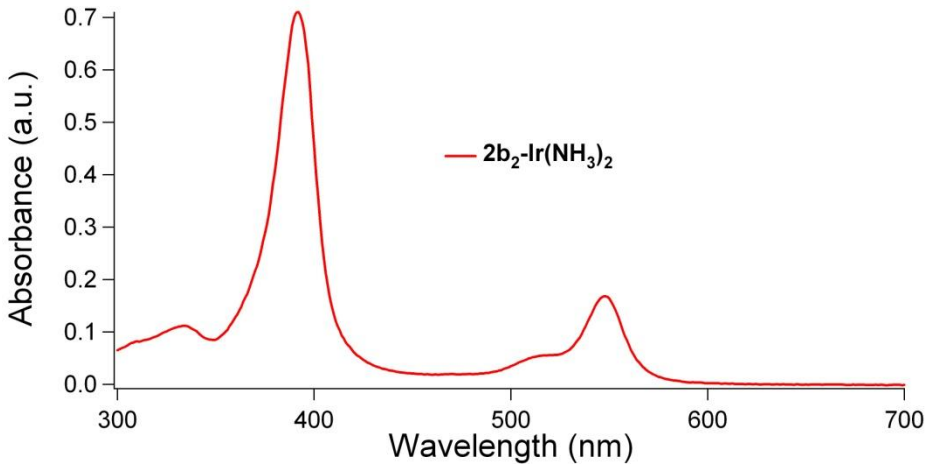

Figure B-39: UV-vis of **$2b_2$-Ir$(NH_3)_2$** in CD_3CN