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Synthesis and Properties of Phosphorescent Iridium Complexes with Heterocyclic Ligands

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Synthesis and Properties of Phosphorescent Iridium Complexes with Heterocyclic Ligands

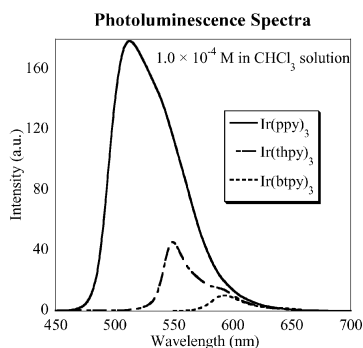
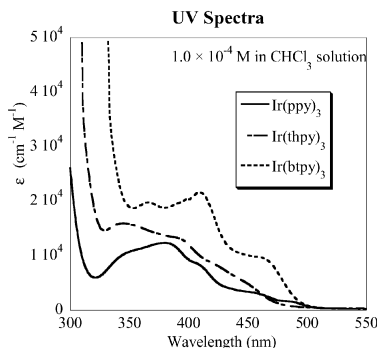
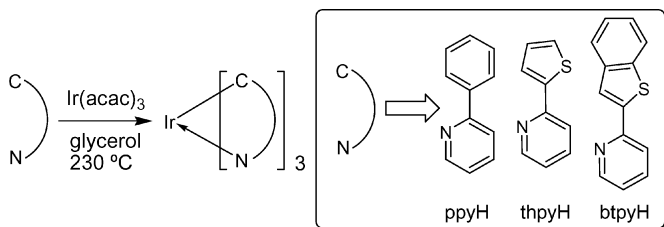
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Phosphorescent materials consisting of transition metals such as Ir, Pt, or Ru have attracted great interest in recent years, because the maximum quantum yield is theoretically four times higher than that of fluorescent materials.



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To synthesize highly efficient phosphorescent compounds, we prepared the fused heterocyclic aromatic ligands, including thiophene and pyridine rings. The photoluminescence spectra were red shifted with an increase in the conjugation length of the heterocycles. The emission peak maximum of Ir(btpy)₃ is observed at 611 nm in chloroform solution as shown below.

REFERENCE

- [1] K. Tanaka, H. Osuga, N. Tsujiuchi, M. Hisamoto, and Y. Sakaki, *Bull. Chem. Soc. Jpn.*, **75**, 551 (2002).