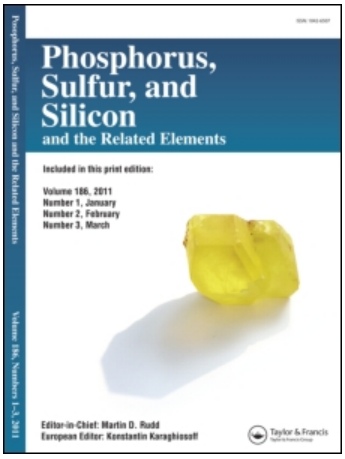

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Synthesis and Properties of Phosphorescent Iridium Complexes with Heterocyclic Ligands

Takayuki Tashiro[a]; Hideji Osuga[a]; Kazuhiko Tanaka[a]
[a] Faculty of Systems Engineering, Wakayama University, Wakayama, Japan

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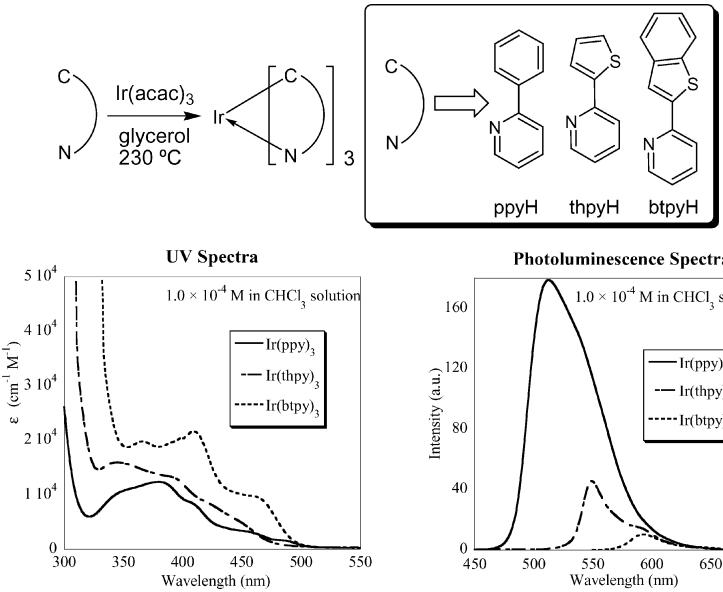
Takayuki Tashiro
Hideji Osuga
Kazuhiko Tanaka
Faculty of Systems Engineering, Wakayama University, Wakayama, Japan

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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Address correspondence to Kazuhiko Tanaka, Faculty of Systems Engineering, Wakayama University, Sakaedani 930, Wakayama 640-8510, Japan. E-mail: ktanaka@sys.wakayama-u.ac.jp

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.

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