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Thermally Activated Delayed Fluorescence of Copper(I) Complexes using *N*, *N'*-heteroaromatic of 2-(5-phenyl-1,2,3- triazole)pyridine as ligand

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Abstract

Two Cu(I) complexes of **[Cu(PPh₃)₂(pptz)]BF₄** and **[Cu(POP)(pptz)]BF₄** using 2-(5-phenyl-1,2,3-three triazole)pyridine (pptzH), triphenyl phosphine (pph₃) and (bis-[2-(diphenyl phosphino) phenyl]ether) (POP) as ligands were synthesized and characterized. The complexes **[Cu(PPh₃)₂(pptz)]BF₄** and **[Cu(POP)(pptz)]BF₄** exhibit thermally activated delayed fluorescence (TADF) features with photoluminescence quantum yields (ϕ_{PL}) of 89.87 and 27.82 % at room temperature in solid state. The maximum emission peak of **[Cu(PPh₃)₂(pptz)]BF₄** is located at 490 nm. The solution-processing organic-light emitting devices (OLEDs) were fabricated by using **[Cu(PPh₃)₂(pptz)]BF₄** and **[Cu(POP)(pptz)]BF₄** as emitters and

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