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## Platinum(II) Used in Red Organic Light Emitting Devices

Red organic light emitting diodes (OLEDs) are usually produced by doping red dyes into a suitable host, such as aluminium(III) tris(8-hydroxyquinolate) (AlQ<sub>3</sub>). Obtaining saturated red emission with high quantum and luminous efficiencies is challenging, and the most effective complex to date to show a red colour, platinum(II) octaethylporphyrin, has been described by a group of researchers in the U.S.A. (1).

Now, this group have prepared two new Pt(II) porphyrins, PtOX and PtDPP, as phosphorescent dyes in OLEDs, by refluxing etioporphyrin III and 5,15-diphenylporphyrin, respectively, with PtCl<sub>2</sub> (R. C. Kwong, S. Sibley, T. Dubovoy, M. Baldo, S. R.

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The PtOX and PtDPP were codeposited with AlQ<sub>3</sub>, at optimum doping level of 6 mol%, in the emitting layer, and the highest saturated red emission and quantum efficiencies were observed at low to moderate current densities. Energy transfer occurred between the AlQ<sub>3</sub> and the Pt porphyrin. PtOX-doped devices reached a quantum efficiency of 1.1 per cent at 100 cd m<sup>-2</sup> with a luminous efficiency of 0.17 lm W<sup>-1</sup>.

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