Efficient Oxygen Reduction Reaction Using Ruthenium Tetrakis(diaqua Platinum)Octacarboxyphthalocyanine Catalyst Supported on MWCNT Platform

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ABSTRACT
Electrocatalytic reduction of molecular oxygen in alkaline solution using a novel ruthenium tetrakis(diaqua platinum) octacarboxyphthalocyanine (RuOCPcPt) electrocatalyst supported on multi-walled carbon nanotube electrode has been described. We show that the oxygen reduction activity follows a direct 4-electron transfer process at high kinetic rate constant, $3.57 \times 10^2 \text{cms}^{-1}$. 