

Synthesis, structure and catalytic activities for hydrogen transfer reaction of the carbonyl ruthenium(II) complex containing polypyridine and phosphine ligands

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The synthesis and characterization of new ruthenium(II) carbonyl complexes containing polypyridine and triphenylphosphine ligands is reported. Crystallographic information obtained for the $\text{trans-PPh}_3\text{-[Ru(biq) (PPh}_3\text{)}_2\text{(CO)]Cl}_2$ complex (biq = 2,2'-biquinoline) reveals five-coordination on the metal. The complexes were studied as catalysts in hydrogen transfer reactions in basic solution. Turnover frequencies in the 2250-817 h⁻¹ range were determined in 1 hour of reaction with a substrate/catalysts ratio of 830. © 2010 Elsevier B.V. All rights reserved.