



Synthesis Rh(III) Mononuclear Complexes of Polar Tertiaryphosphines for Aqueous Biphasic Catalysis

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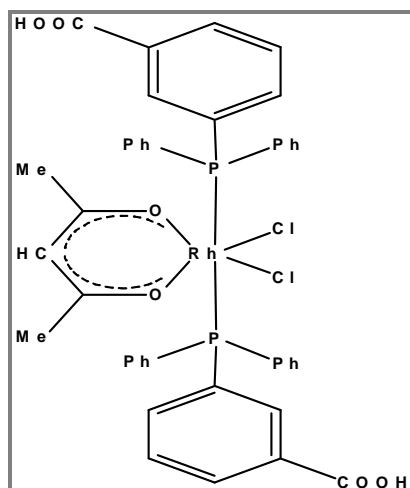
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ABSTRACT

A series of new Rh(III) complexes $[RhCl_2(acac)(PR_3)_2]$ with polar tertiaryphosphines viz., (2, formyl phenyl) diphenylphosphine, (2-carboxy)phenyldiphenylphosphine, (3-carboxy) phenyldiphenyl phosphine, (4-carboxy) phenyldiphenylphosphine, (4-pyridyl) diphenylphosphine, bis (carboxymethyl) phenyl phosphine, tris (carboxymethyl)phosphine have been synthesized and characterized by elemental analysis, IR, ¹H, ¹³C, ³¹P and electronic spectral data. The spectral data revealed that coordination chemistry about Rh(III) metal center is octahedral with two phosphine ligands in the trans positions. Preliminary results indicate that these water-soluble complexes are efficient in benzyl alcohol oxidation in toluene/water biphasic media.

Graphical Abstract



Proposed geometry of Rh(III)-phosphines.

Keywords: Polar phosphines, Rh(III)-phosphine catalysts, Aqueous biphasic catalysis, Alcohol oxidation.