

ABSTRACT

The Synthesis of Perfluoroalkylmono- and Diphosphines

ACKNOWLEDGEMENTS

Makeba Blanche Murphy-Jolly

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Perfluoroalkylmono- and diphosphines are of interest as tunable alternatives to the carbon monoxide ligand. However, research into the possibilities inherent in these strong π -acceptor ligands has been stunted due to the lack of accessibility to them. In this report, we have attempted to address the lack of suitable methods for the synthesis of this interesting class of ligands. A convenient, general and high yield synthesis of tris(perfluoroalkyl)phosphines using relatively non-hazardous commercially available reagents has been developed. The method has also been extended to the synthesis of the (fluoroalkyl)diphosphines. Preliminary investigations into the complexation chemistry of these phosphines have resulted in the syntheses of new rhodium and iridium complexes.

Keywords: Makeba Blanche Murphy-Jolly; Tris(perfluoroalkyl)phosphine; (Fluoroalkyl)diphosphine; Perfluoroalkylmono- and diphosphines.