Elusive phosphorus macrocycles:

Shape control and reactivity in organometallic complexes

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Elusive phosphorus macrocycles: Shape control and reactivity in organometallic complexes

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Ligand lability and coordination geometry or shape are fundamentally important in the development of new chemistry, and ultimately applications, of metal complexes. We have investigated strategies for the control of lability in metal- phosphine complexes by the study of rigid chelating and macrocyclic ligands. These fundamental properties of metal complexes are heavily dependent upon the nature of the ligand systems designed to stabilise them. In this presentation we will explore the chemistry of phosphorus ligands designed to control lability which have a strong influence upon coordination geometries, and consequences for reactivity. As well as new strategies for ligand synthesis, the unusual reactivity of new classes of remarkably robust transitional metal complexes and applications in homogeneous catalysis will be discussed.

PhD Imperial College London (1979, Sir Geoffrey Wilkinson).
Postdoctoral Research Fellow, University of Southern California (1979-80).
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