



Inorganic Chemistry

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## Biradicaloid ligands for homogeneous catalysis

We focus on the coordination chemistry of unusual cyclic phosphorus-centered biradicaloids. Despite their exotic nature, these biradicaloids have some very appealing properties for the development of functional and cooperative ligands such as their strong binding to metal centers, their redox non-innocent behavior and the presence of Lewis-basic sites.

Our goal is to use these properties to develop more sustainable approaches in homogeneous catalysis, specifically by using biradicaloid ligands to enable first-row transition metals and main-group metals to mimic the behavior of noble metals in olefin functionalization. As a first step, we developed a modular synthetic protocol for the efficient synthesis of biradicaloids and two typical examples and representative complexes thereof are shown in the figure.

