

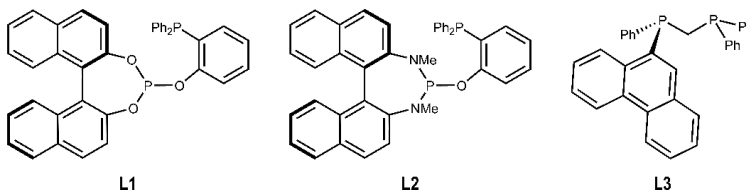
Title: Asymmetric olefin hydrogenation with Rh complexes with unsymmetrical diphosphorus ligands.

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Date: June 2020

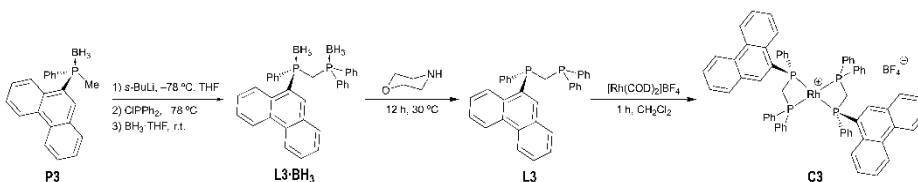
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In this project, rhodium(I) complexes **C1–C3** bearing ligands **L1–L3** were intended to be used in the asymmetric hydrogenation of substrates **S1–S12**. Complexes **C1** and **C2**, of the type $[\text{Rh}(\text{COD})(\text{L})]\text{BF}_4$, were prepared in a previous project, while complex **C3** was prepared from ligand **L3**. Ligand **L3** has been synthesized from methylphosphine–borane **P3** and fully characterized, while complex **C3** could only be partially characterized due to the covid19 pandemic.



It has been observed that **C3** is a bischelated complex that tends to oxidize in solution. In the future, the synthesis of **C3** will be repeated under stricter inert atmosphere.

Also due to the confinement against covid19, the hydrogenation of substrates **S1–S12** has not been possible, and instead a literature search of hydrogenation results with similar ligands has been made.



Keywords: asymmetric hydrogenation, Rh, phosphine–phosphite, methylene bridge phosphines.