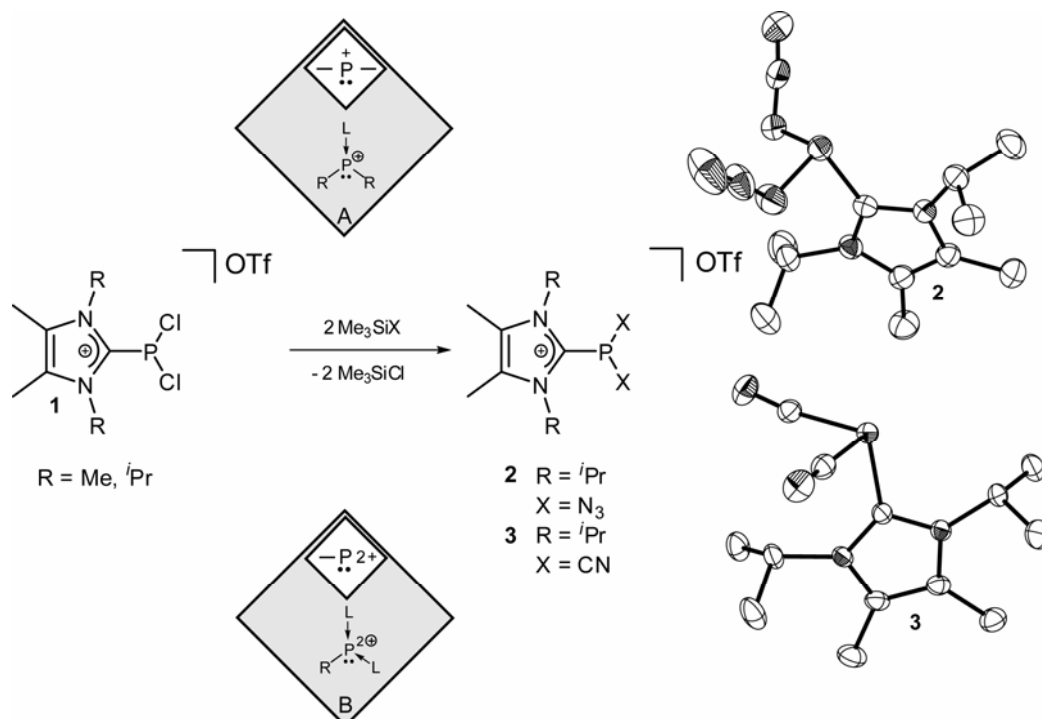


## Synthesis of NHC-stabilized (L) P(III) Cations $[\text{LPCl}_2]^+$ and $[\text{L}_2\text{PCl}]^{2+}$ and Subsequent Transformation to $[\text{LPX}_2]^+$ and $[\text{L}_2\text{PX}]^{2+}$ (X = CN, N<sub>3</sub>)

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Phosphorus in the +3 oxidation state, P(III), is typically associated with a bonding environment in which a single “lone pair” of electrons can be drawn (**A** and **B**). Two-coordinate, carbene-analogous phosphonium cations  $[\text{R}_2\text{P}]^+$  are among others the most prominent examples of P(III) cations, and numerous traditional tri-coordinate Lewis acid–base adducts have been reported.<sup>[1,2]</sup> Ligand stabilized donor-acceptor complexes of type **1** represent versatile phosphorus building blocks due to the presence of chloro-substituents on the P(III) centre.

Since NHCs have been successfully used for the stabilization of unusual and highly reactive main group element species,<sup>[3]</sup> we were recently able to synthesise and completely characterise the P(III) cations  $[\text{LPCl}_2]^+$  and  $[\text{L}_2\text{PCl}]^{2+}$  using Bertands versatile concept of “onio-substituent transfer reagents”.<sup>[4]</sup> In addition, the subsequent transformation to unprecedented NHC stabilized cationic cyano- and azido-complexes  $[\text{LPX}_2]^+$  (**2<sup>+</sup>**, **3<sup>+</sup>**) and  $[\text{L}_2\text{PX}]^{2+}$  (X = CN, N<sub>3</sub>) is presented and discussed in the poster.<sup>[5]</sup>



### References:

- [1] J. J. Weigand, N. Burford, A. Decken, A. Schulz, *Eur. J. Inorg. Chem.* **2007**, 4868.  
 [2] N. Burford, P. J. Ragogna, *Dalton Trans.* **2002**, 4307. [3] R. Wolf, W. Uhl, *Angew. Chem. Int. Ed.* **2009**, *48*, 6774. [4] D. Mendoza-Espinosa, B. Donnadieu, G. Bertrand, *J. Am. Chem. Soc.* **2010**, *132*, 7264. [5] J. J. Weigand, K.-O. Feldmann, F. Henne, submitted for publication.