NEW ORGANOPHOSPHORUS BASES FROM OLD PHOSPHANE

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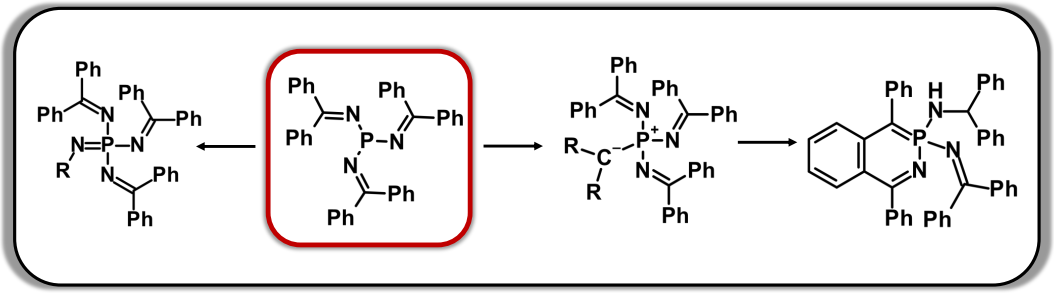

Among other things, organophosphorus compounds are well-known for their application in acid-base and catalytic chemistry. They are not only used as ionic liquids and drug carriers, but their beneficial properties have also led to the development of novel compounds and effective synthesis methods. A number of organophosphorus compounds qualify as "superbases" due to their remarkable basicity. These compounds are needed not only to produce novel pharmaceuticals, reagents, and materials but also to obtain bases of various strengths and natures.

Tris(benzophenoneimino)phosphane (P(bpi)3) has been used for the first time in this work with the aim of creating a new group of superbases. It was found that these bpi-compounds tend to form P-N heterocycles upon protonation or deprotonation depending on the starting compound. Further investigation of this phenomenon discovered at least one occasion where a P-P bond is responsible for forming the heterocycle.

P(bpi)3 has proved to be an intriguing and challenging compound, from its synthesis to its use as a starting material. The formation of P-N heterocycles on multiple occasions proves the high instability of bpi-compounds, but also their uniqueness. The basic properties of these compounds demonstrate their potential as valuable bases for future applications. These bases can be needed for anything from solubility to ion pairing to steric demand to UV-Vis properties.

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