1-Aza-3,4-diphospholides – Synthesis, Structure and Reactivity

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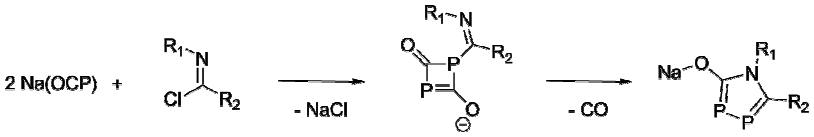
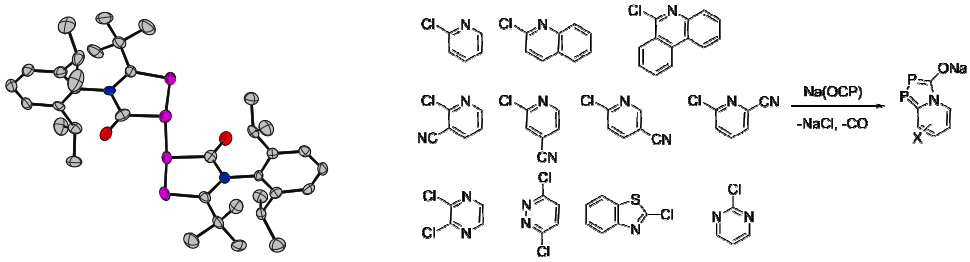
Na(OCP) has been shown to be a versatile precursor for a variety of compounds.[1,2] The versatility and the easy synthesis make this salt a powerful building block. The anion can act as a P^- transfer agent [3] and the unsaturated C≡P bond can undergo cyclo-addition reactions [4]. Two equivalents of Na(OCP) react with imidoyl chlorides to form 1-aza-3,4-diphospholides in good yields up to 80%. These electron rich diphsopholides were oxidized with hexachloroethane to from the phosphorus coupled dimers.



The reactivity of Na(OCP) towards imidoyl chlorides was transferred to 2-chloro-pyridines and its derivatives. The result is a variety of new products with outstanding properties. The light absorption and emission are easily tuned by the substituents in the backbone. Further studies on the use of those ring systems as building blocks for chelating ligands, and electronic materials will be presented.



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