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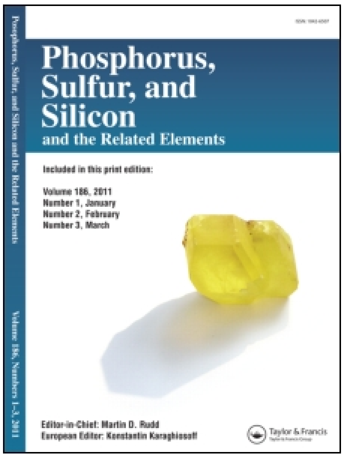

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Diamino-Cyclodiphosph(V)azenes and Diimino-cyclodiphosph(V)azanes: Tautomerism, Structures and Reactivity

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DIAMINO-CYCLODIPHOSPH(V)AZENES AND DIIMINO-CYCLODIPHOSPH(V)AZANES: TAUTOMERISM, STRUCTURES AND REACTIVITY

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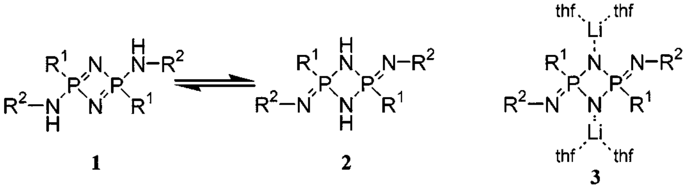
Herein we report on the synthesis of a amino-cyclodiphosph(V)azene **1** (R^1: Cp*, R^2: Mes*) by thermal decomposition of an amino substituted azidophosphane. **1** reacts with lithio alkyl compounds to the dilithio derivate **3**, protonation lead to the first imino-cyclodiphosphazane **2**. In solution **2** equilibrates via a prototopic isomerization reaction to the tautomeric form **1**, which is enthalpically and entropically favored. The crystal structures of the tautomers **1** (R^1: Cp*, R^2: Mes*) and 2 (R^1: Cp*, ^{t}Bu, R^2: Mes*), as well as for **3** (R^1: t-Bu, R^2: Mes*), have been determined and indications regarding the reaction mechanism of the interconversion **1**, **2** were reported.



SCHEME 1

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[1] J. Tirreé, D. Gudat, M. Nieger, and E. Niecke, *Angew. Chem. Int. Ed.*, **40,** 3025–3028 (2000).

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