

Das **Institut für Biochemie** lädt gemeinsam mit dem Ortsverband der
Gesellschaft Deutscher Chemiker zu einem

Kolloquium der GDCh

Großer Hörsaal des Instituts für Biochemie

Felix-Hausdorff-Str. 4, Greifswald

Montag, 09. Juli 2018, 16 Uhr c.t.

Dr. Anukul Jana

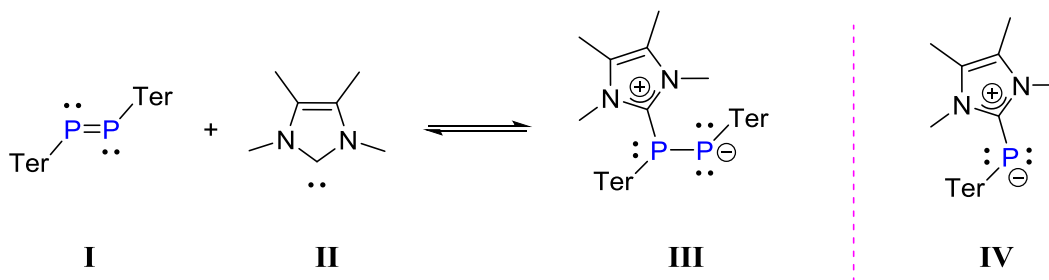
Tata Institute of Fundamental Research Hyderabad Gopanpally, India

spricht zum Thema:

Influence of N-Heterocyclic Carbene (NHC) on Reactivity Enhancement of a Diphosphene

Abstract:

Reversible binding / coordination is well known in certain transition metal complexes, such as for example the Wilkinson's catalyst, making them very useful in catalytic processes.^[1] In recent years the possibility of reversible binding / coordination in main group chemistry has been studied^[2], a feature that allows such compounds to mimic as transition metal complexes.^[3] Developments of this type will allow chemists to make sustainable catalysts, using compounds of *p*-block elements, instead of transition metal complexes, for different organic transformations.^[4] In this talk I will discuss the reversible coordination of *N*-heterocyclic carbene (NHC), **I** with diphosphene, **II** under the formation of Lewis acid-base complex of diphosphene and NHC, **III**. The NHC-coordination enhanced the reactivity of the diphosphene towards hydrolysis and hydrogenation reactions.^[5] To know the influence of NHC on the reactivity of diphosphene - we have considered i) the use of catalytic amount of NHC and ii) the use of different NHCs in terms of electronic and steric variation. The breaking of P-P bond in diphosphene will also be addressed under the formation of donor-stabilized phosphinidene, **IV**.



References:

- [1] S. K. Tanielyan, R. L. Augustine, N. Marin, G. Alvez, *ACS Catal.* **2011**, *1*, 159–169.
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- [3] P. P. Power, *Nature* **2010**, *463*, 171–177.
- [4] N. L. Dunn, M. Ha, A. T. Radosevich, *J. Am. Chem. Soc.* **2012**, *134*, 11330–11333.
- [5] D. Dhara, P. Kalita, S. Mondal, R. S. Narayanan, K. R. Mote, V. Huch, M. Zimmer, C. B. Yildiz, D. Scheschekewitz, A. Jana, *Chem. Sci.* **2018**, *9*, 4235–4243.

Einladende

Prof. Dr. Carola Schulzke

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Vorsitzende des Ortsverbandes der GDCh