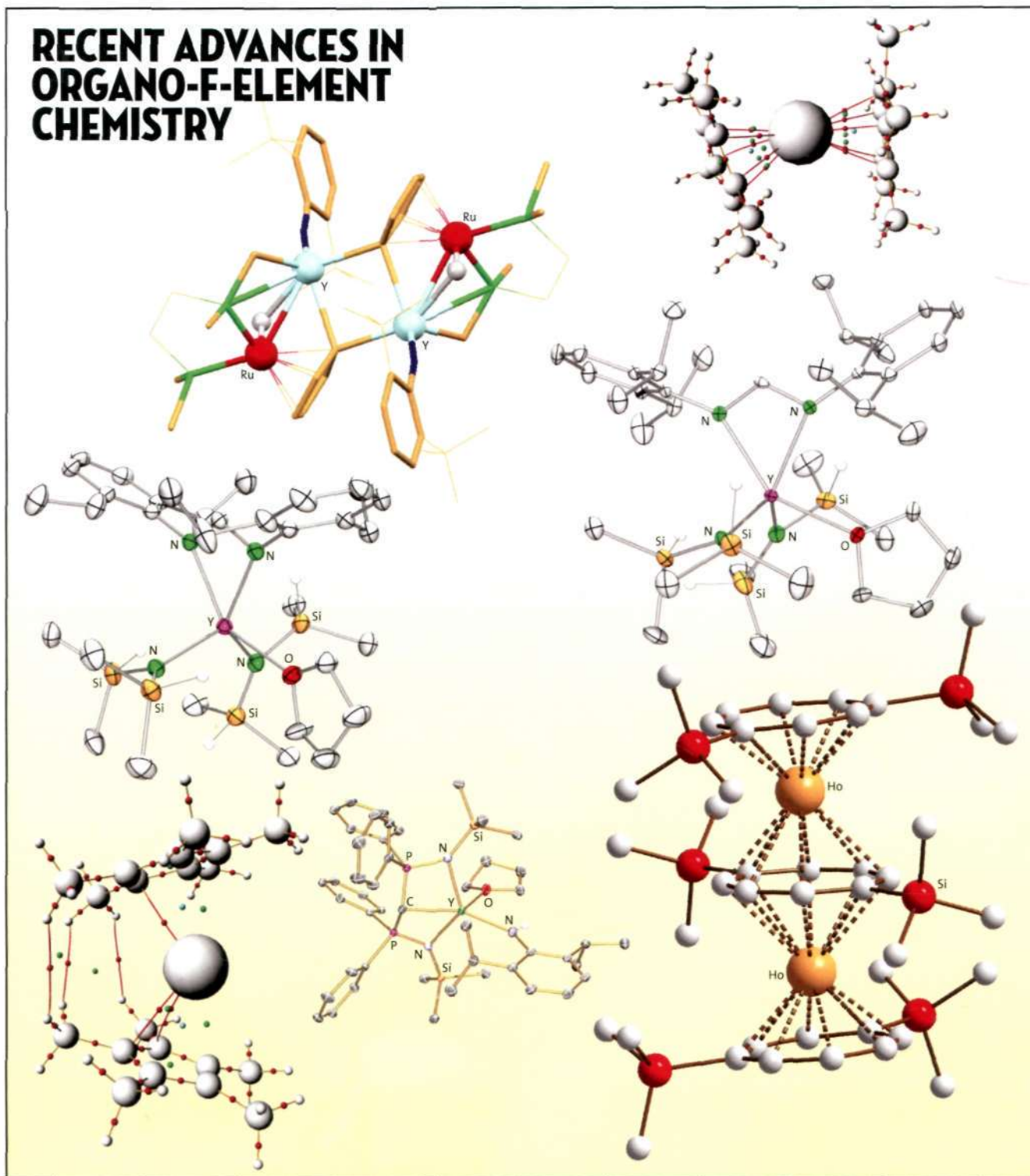


# ORGANOMETALLICS

## RECENT ADVANCES IN ORGANO-F-ELEMENT CHEMISTRY



**ON THE COVER:** Recent advances in the chemical and physicochemical properties of lanthanide and actinide organometallic compounds are surveyed in this compendium of articles by leading researchers worldwide.

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[dx.doi.org/10.1021/om400094n](https://doi.org/10.1021/om400094n)

Introduction to the "Recent Advances in f-Element Organometallic Chemistry" Special Issue of *Organometallics*

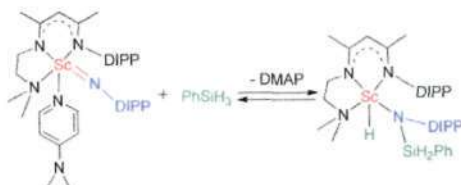
Tobin J. Marks

## Communications

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[dx.doi.org/10.1021/om3010349](https://doi.org/10.1021/om3010349)

Reversible Addition of the Si–H Bond of Phenylsilane to the Sc=N Bond of a Scandium Terminal Imido Complex  
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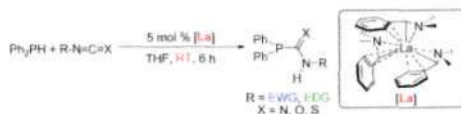
## Articles

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[dx.doi.org/10.1021/om300807k](https://doi.org/10.1021/om300807k)

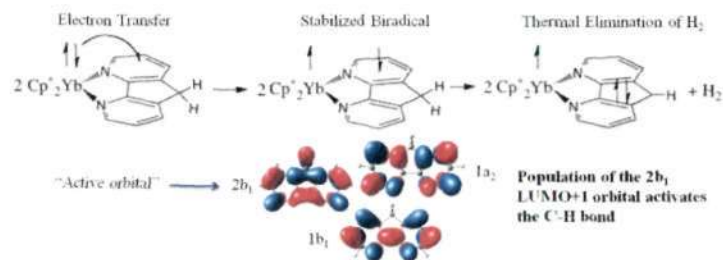
Insertion Reactions and Catalytic Hydrophosphination of Heterocumulenes using  $\alpha$ -Metalated *N,N*-Dimethylbenzylamine Rare-Earth-Metal Complexes

Andrew C. Behrle and Joseph A. R. Schmidt\*



Grégory Nocton, Corwin H. Booth, Laurent Maron, and Richard A. Andersen\*

dx.doi.org/10.1021/om300876b



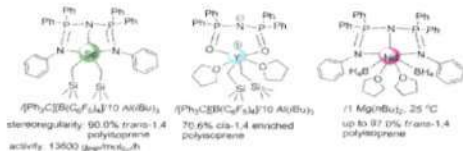
Terry Chu, Warren E. Piers,\* Jason L. Dutton, and Masood Parvez

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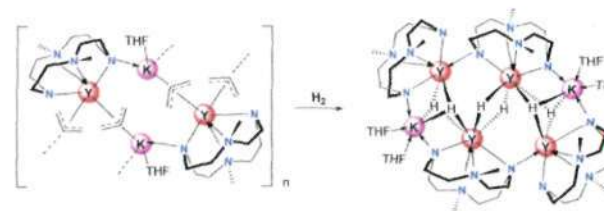
Weifeng Rong, Dongtao Liu, Huiping Zuo, Yupeng Pan, Zhongbao Jian, Shihui Li, and Dongmei Cui\*

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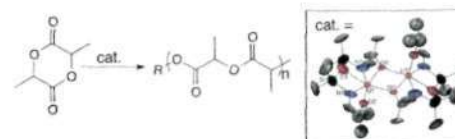
Peng Cui, Thomas P. Spaniol, and Jun Okuda\*

dx.doi.org/10.1021/om300986w



Cassandra E. Hayes, Yann Sarazin, Michael J. Katz, Jean-François Carpentier,\* and Daniel B. Leznoff\*

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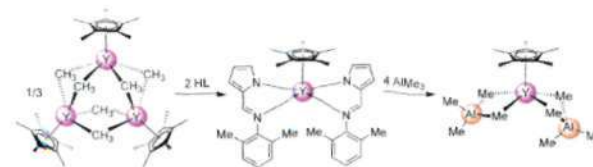
Jessie L. Brown, Guang Wu, and Trevor W. Hayton\*

dx.doi.org/10.1021/om301004q



Hiroshi Kaneko, H. Martin Dietrich, Christoph Schädle, Cécilia Maichle-Mössmer, Hayato Tsurugi, Karl W. Törnroos, Kazushi Mashima,\* and Reiner Anwander\*

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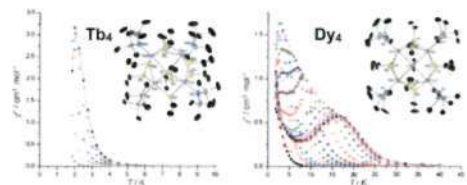




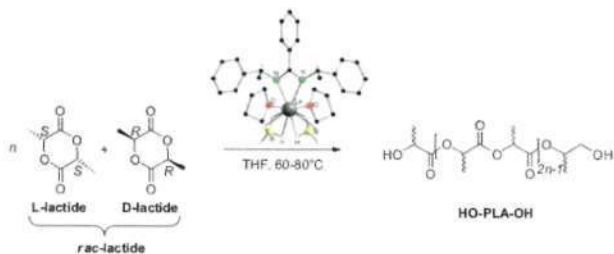
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 Shima Hamidi, Lars N. Jende, H. Martin Dietrich, Căcilia Maichle-Mössner, Karl W. Törnroos, Glen B. Deacon,\* Peter C. Junk,\* and Reiner Anwander\*



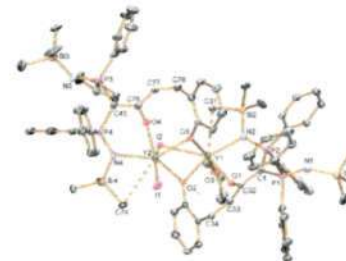
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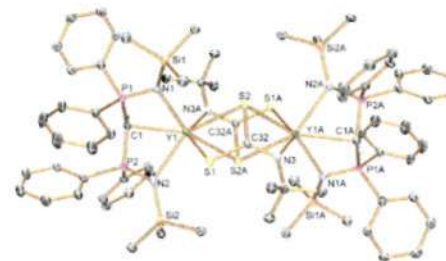
- 1230 **5** dx.doi.org/10.1021/om301011v  
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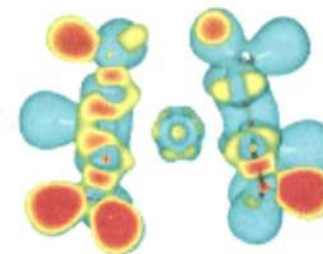
- 1239 **5** dx.doi.org/10.1021/om301016j  
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- 1251 **5** dx.doi.org/10.1021/om3010178  
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 David P. Mills, Lyndsay Soutar, Oliver J. Cooper, William Lewis, Alexander J. Blake, and Stephen T. Liddle\*

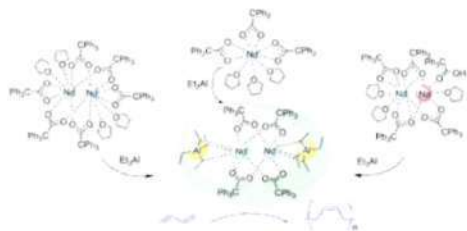


- 1265 dx.doi.org/10.1021/om301018u  
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Dmitrii M. Roitershtein,\* Alexander A. Vinogradov, Alexei A. Vinogradov, Konstantin A. Lyssenko, Yulia V. Nelyubina, Ivan V. Anan'ev, Ilya E. Nifant'ev,\* Vladimir A. Yakovlev, and Natalya N. Kostitsyna



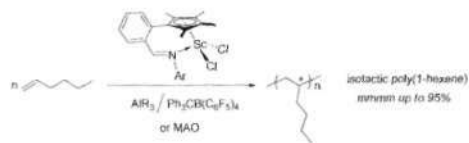
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dx.doi.org/10.1021/om301026e

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Xin Tao, Wei Gao, Hang Huo, and Ying Mu\*



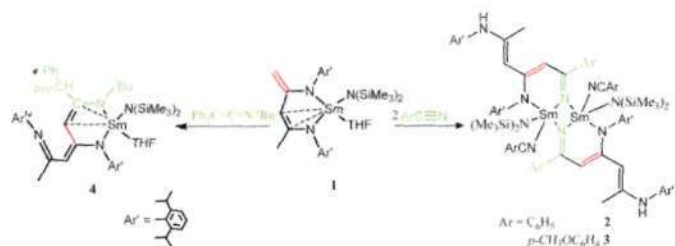
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dx.doi.org/10.1021/om301023u

### Reactivity of Dianionic $\beta$ -Diketiminato Samarium Amide $L\text{Sm}(\text{SiMe}_3)_2(\text{THF})$ ( $L = \{(2,6\text{-}i\text{-Pr}_2\text{C}_6\text{H}_3)\text{NC}(\text{CH}_2)\text{CHC}(\text{CH}_3)\text{-N}(2,6\text{-}i\text{-Pr}_2\text{C}_6\text{H}_3)\}^{2-}$ ) toward $\text{ArC}\equiv\text{N}$ ( $\text{Ar} = \text{C}_6\text{H}_5, p\text{-MeOC}_6\text{H}_4$ ) and $\text{Ph}_2\text{C}=\text{C}=\text{N}^t\text{Bu}$ : A Facile Route for Modification of Dianionic $\beta$ -Diketiminato Ligands

Peng Liu, Yong Zhang, and Qi Shen\*



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dx.doi.org/10.1021/om3010299

### Intermolecular $\beta$ -Hydrogen Abstraction in Ytterbium, Calcium, and Potassium Tris(dimethylsilyl)methyl Compounds

KaKing Yan, George Schoendorf, Brianna M. Upton, Arkady Ellern, Theresa L. Windus, and Aaron D. Sadow\*



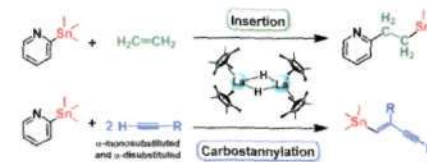
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### Carbostannylation Mediated by Bis(pentamethylcyclopentadienyl)lanthanide Catalysts. Utility in Accessing Organotin Synthons

Stephen D. Wobser, Casey J. Stephenson, Massimiliano Delferro,\* and Tobin J. Marks\*



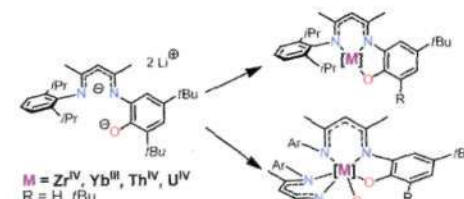
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dx.doi.org/10.1021/om3010355

### Synthesis of $N$ -Aryloxy $\beta$ -diketiminato Ligands and Coordination to Zirconium, Ytterbium, Thorium, and Uranium

Florian Dulong, Pierre Thuéry, Michel Ephritikhine, and Thibault Cantat\*



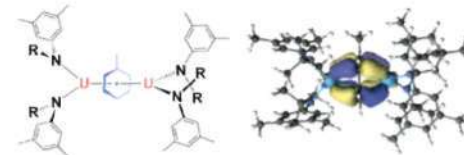
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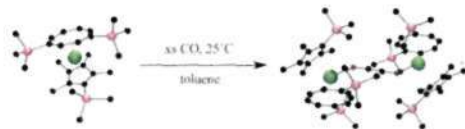
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### Investigations of the Electronic Structure of Arene-Bridged Diuranium Complexes

Bess Vlasisavljevic, Paula L. Diaconescu,\* Wayne L. Lukens Jr.,\* Laura Gagliardi,\* and Christopher C. Cummins\*

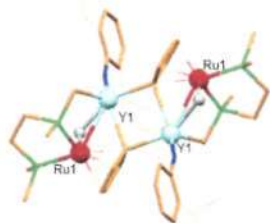


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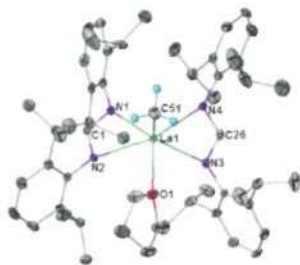
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**Heterometallic Hydride Complexes of Rare-Earth Metals and Ruthenium through C–H Bond Activation**  
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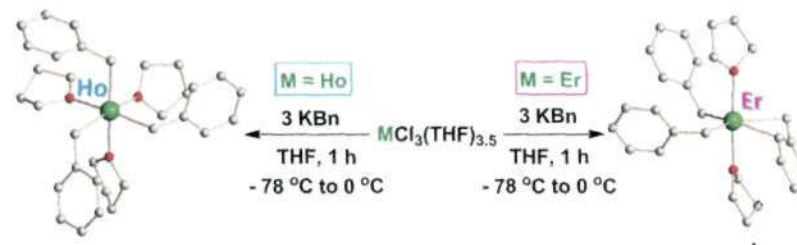
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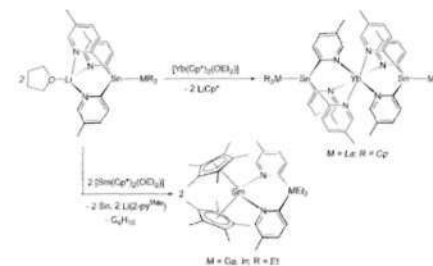
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Wenliang Huang, Brianna M. Upton, Saeed I. Khan, and Paula L. Diaconescu\*



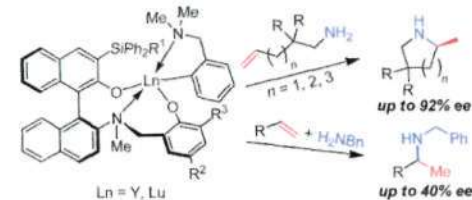
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dx.doi.org/10.1021/om301032x

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dx.doi.org/10.1021/om3010614

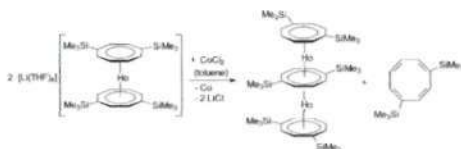
1409 **5** dx.doi.org/10.1021/om3010806  
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 Elsa Mora, Leonor Maria,\* Biplab Biswas, Clément Camp, Isabel C. Santos, Jacques Pécaut, Adelaide Cruz, José M. Carretas, Joaquim Marçalo, and Marinella Mazzanti\*



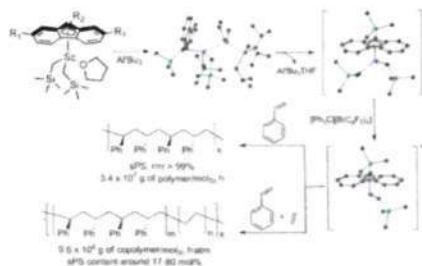
1423 **5** dx.doi.org/10.1021/om3010965  
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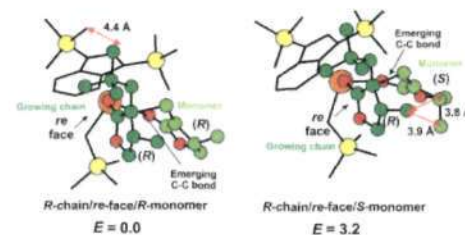
1435 **5** dx.doi.org/10.1021/om3010993  
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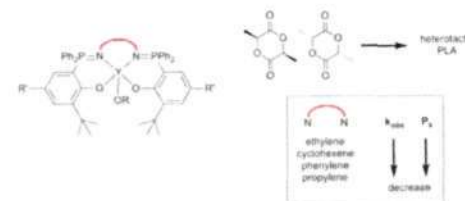
1459 **5** dx.doi.org/10.1021/om301128g  
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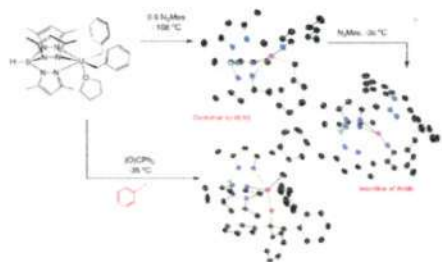


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dx.doi.org/10.1021/om301139h

Synthesis and Reactivity of Trivalent  $\text{Tp}^*\text{U}(\text{CH}_2\text{Ph})_2(\text{THF})$ : Insertion vs Oxidation at Low-Valent Uranium–Carbon Bonds  
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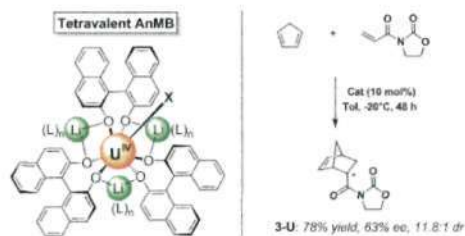


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dx.doi.org/10.1021/om3011849

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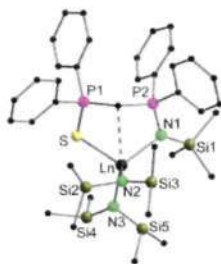


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dx.doi.org/10.1021/om400001e

(Iminophosphoranyl)(thiophosphoranyl)methanide  $[\text{CH}(\text{PPh}_2\text{NSiMe}_3)(\text{Ph}_2\text{PS})]^-$  as a Ligand in Rare-Earth-Element Chemistry  
Balasubramanian Murugesapandian, Magdalena Kuzdrowska, Michael T. Gamer, Larissa Hartenstein, and Peter W. Roesky\*

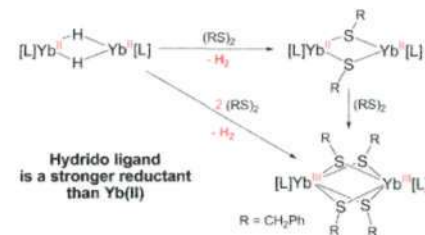


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dx.doi.org/10.1021/om400015k

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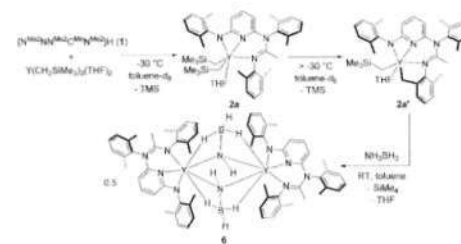


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dx.doi.org/10.1021/om400027d

Alkylttrium Complexes of Amidine–Amidopyridinate Ligands. Intramolecular  $\text{C}(\text{sp}^3)\text{--H}$  Activation and Reactivity Studies  
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dx.doi.org/10.1021/om3006849

Rapid and Efficient Procedure for the Synthesis of Group 3 Metal Tris[bis(dimethylsilyl)amide] THF Complexes  
Adrian R. Smith and Tom Livinghouse\*

