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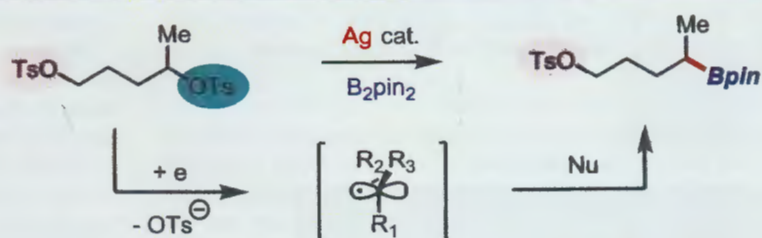


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Breaking Report

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Free Radical Pathway Cleavage of C–O Bonds
for the Synthesis of Alkylboron Compounds



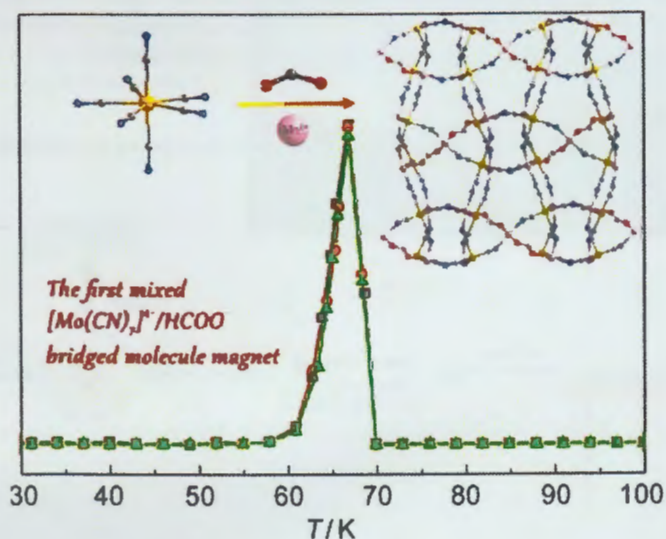
Radical Pathway Cleavage of C–O Bonds

Xi Lu, Zhen-Qi Zhang, Lu Yu, Ben Zhang, Bing Wang, Tian-Jun Gong, Chang-Lin Tian, Bin Xiao, Yao Fu*

We report a silver-catalyzed borylation of alkyl tosylates for the synthesis of alkylboron compounds via radical pathway cleavage of C–O bonds.

Concise Reports

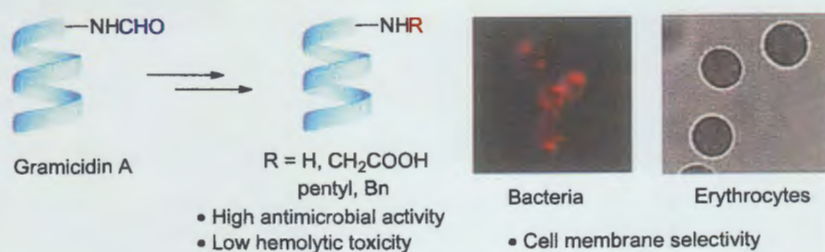
19
A Three-Dimensional Mn^{II} - $[Mo^{III}(CN)_6]^{4-}$ Ferri-
magnet Containing Formate as a Second Bridg-
ing ligand



Le Shi, Dong Shao, Fu-Ying Shen, Xiao-Qin Wei, Xin-Yi Wang*

The first complex containing both the $[Mo(CN)_6]^{4-}$ and the formate as the bridges has been synthesized and characterized. This compound is a ferrimagnet with a critical temperature of 70 K.

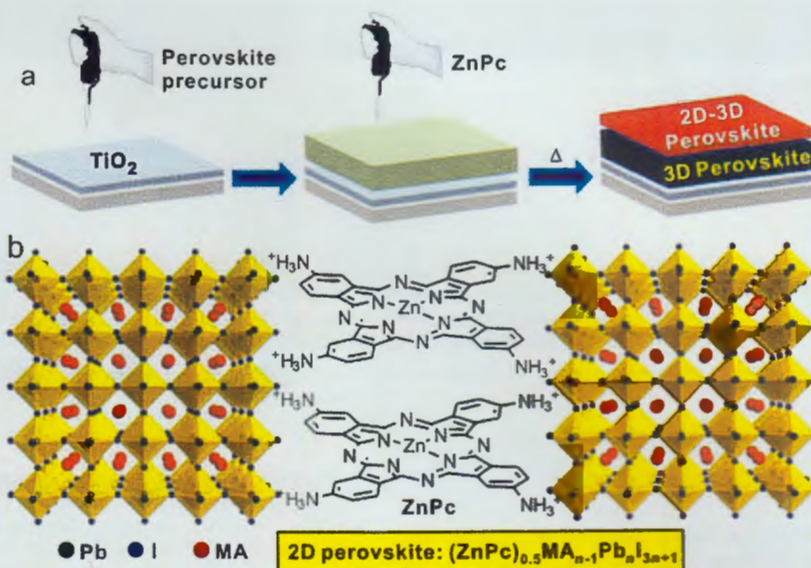
25
Deformylated Gramicidin A and Its Derivatives
Showing High Antimicrobial Activity and Low
Hemolytic Toxicity



Wei-Wei Haoyang, Min Zhang, Jun-Li Hou*

30

Tetra-ammonium Zinc Phthalocyanine to Construct a Graded 2D–3D Perovskite Interface for Efficient and Stable Solar Cells

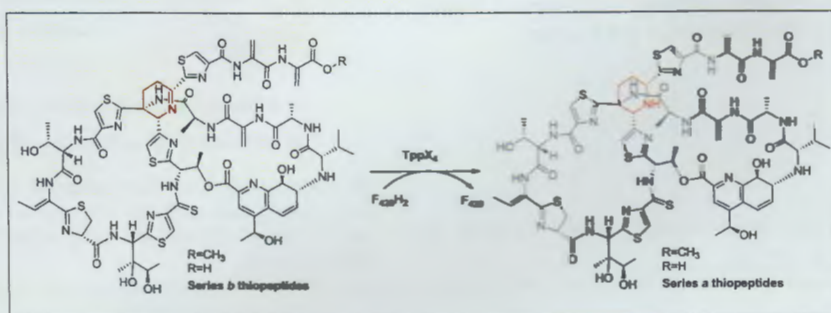


A 2D-3D graded perovskite interface was constructed by introducing phthalocyanine to passivate the grain boundary of perovskite film. The corresponding PSCs revealed the enhanced cell performance and stability.

Congping Li, Xudong Lv, Jing Cao,* Yu Tang*

35

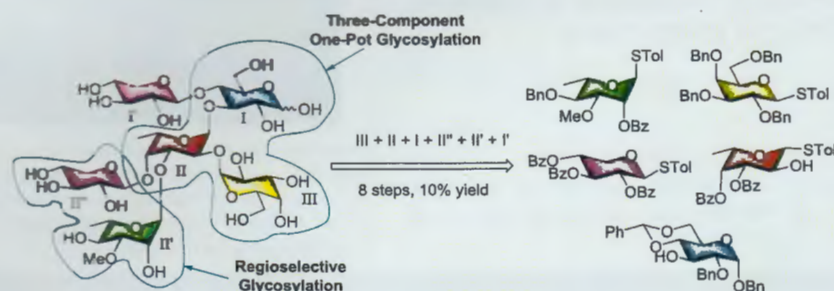
Biosynthesis of the Central Piperidine Nitrogen Heterocycle in Series *a* Thiopeptides



Jingyu Liu, Zhi Lin, Hua Chen, Heng Guo, Jiang Tao, Wen Liu

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Total Synthesis of a Hyperbranched *N*-Linked Hexasaccharide Attached to ATCV-1 Major Capsid Protein without Precedent

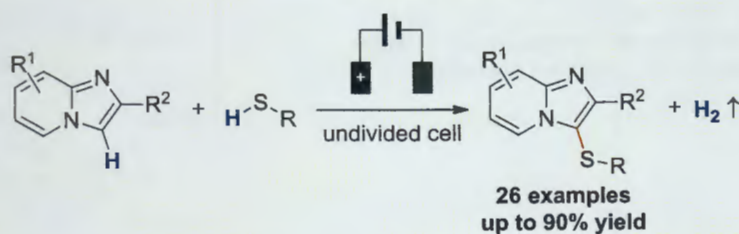


Yong-Shi Wang, Yong Wu, De-Cai Xiong, Xin-Shan Ye*

A highly branched hexasaccharide was successfully synthesized by the three-component preactivation-based one-pot glycosylation and the regioselective glycosylation reactions for the first time.

49

Electrochemical Oxidative C–H Sulfenylation of Imidazopyridines with Hydrogen Evolution

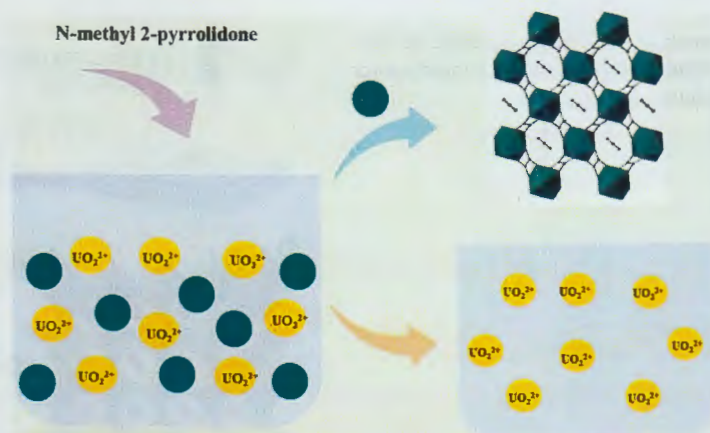


Yong Yuan, Yangmin Cao, Jin Qiao, Yueping Lin, Xiaomei Jiang, Yaqing Weng, Shan Tang,* Aiwen Lei*

This work describes an exogenous-oxidant-free C–H sulfenylation of imidazopyridines using an electrochemical oxidative protocol.

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Competing Crystallization between Lanthanide and Actinide in Acidic Solution Leading to Their Efficient Separation

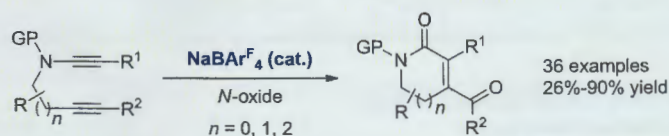


In this work, a new method for the separation of trivalent Eu^{3+} and hexavalent UO_2^{2+} in initial high-acidity HNO_3 solution is presented. *N*-Methyl 2-pyrrolidone was added in the HNO_3 solution where Eu^{3+} and UO_2^{2+} coexisted, then the solution was heated. Eu^{3+} will react with oxalic acid and dimethylamine produced by *N*-methyl 2-pyrrolidone and form compound $\text{NH}_2(\text{CH}_3)_2[\text{Eu}(\text{C}_2\text{O}_4)_2 \cdot (\text{H}_2\text{O})]$, while UO_2^{2+} remains in the solution. This method provides a new strategy for separation of trivalent Eu^{3+} and hexavalent UO_2^{2+} .

Xuemiao Yin, Yaxing Wang, Xiaoyan Li, Jian Xie, Mark A. Silver, Lanhua Chen, Daopeng Sheng, Guoxun Ji, Zhifang Chai, Shuao Wang*

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NaBAR_4^F -Catalyzed Oxidative Cyclization of 1,5- and 1,6-Diynes: Efficient and Divergent Synthesis of Functionalized γ - and δ -Lactams



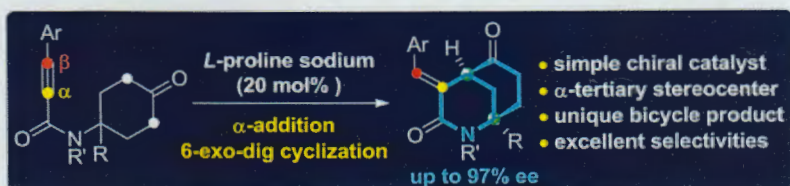
- transition metal-free catalysis
- oxidative cyclization
- broad substrate scope
- easily accessible precursors
- valuable heterocycles
- practical synthesis

We report a NaBAR_4^F -catalyzed oxidative cyclization of 1,5- and 1,6-diynes via a presumable Lewis acid-catalyzed $\text{S}_{\text{N}}2'$ pathway. This method leads to the efficient and practical construction of a diverse range of synthetically useful γ - and δ -lactams in mostly good to excellent yields with broad substrate scope.

Bo-Han Zhu, Cai-Ming Wang, Hong-Yu Su, Long-Wu Ye*

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Enantioselective Intramolecular Desymmetric α -Addition of Cyclohexanone to Propiolamide Catalyzed by Sodium L-Proline



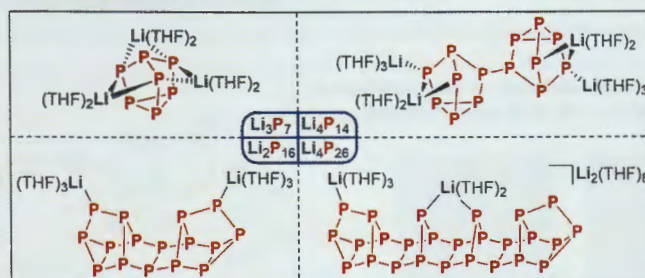
A new enantioselective approach to morphan core is developed based on the desymmetric intramolecular α -addition of cyclohexanone to propiolamide, which represents a new method for asymmetric ketone α -vinylation reaction. α -Carbonyl tertiary stereocenter is formed without racemization due to its unique bridged bicyclic structure. A very simple and readily available catalyst Li-Pro-Na is used for this reaction.

Bao-Le Li, Wei-Yang Gao, Han Li, Shuo-Qing Zhang, Xiao-Qing Han, Jun Lu, Ren-Xiao Liang, Xin Hong,* Yi-Xia Jia*

Comprehensive Report

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Isolation and Characterization of Four Phosphorus Cluster Anions P_7^{3-} , P_{14}^{4-} , P_{16}^{2-} and P_{26}^{4-} from the Nucleophilic Functionalization of White Phosphorus with 1,4-Dilithio-1,3-butadienes

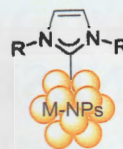


We have isolated and characterized four phosphorus cluster anions including $\text{Li}_3(\text{THF})_7\text{P}_7$, $\text{Li}_4(\text{THF})_{14}\text{P}_{14}$, $\text{Li}_2(\text{THF})_{16}\text{P}_{16}$ and $\text{Li}_4(\text{THF})_{26}\text{P}_{26}$ from the nucleophilic functionalization of white phosphorus with 1,4-dilithio-1,3-butadienes. Their structural features and NMR behaviors are discussed based on X-ray diffraction analysis and low-temperature $^{31}\text{P}\{^1\text{H}\}$ COSY NMR analysis.

Shanshan Du, Jingyuan Hu, Zhengqi Chai, Wen-Xiong Zhang,* Zhenfeng Xi

Recent Advances

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Recent Advances in the Chemistry of N-Heterocyclic-Carbene-Functionalized Metal-Nanoparticles and Their Applications

The modification of the surface of the nanoparticles to prevent aggregation through the coordination of ligands is a particularly active area. Numbers of rationally designed NHC-modified M-NPs have been developed through metal complex decomposition and ligand exchange. This review summarizes the recent advances of NHC-stabilized M-NPs based on a range of transition metals.

Yuan-Yuan An, Jian-Gang Yu, Ying-Feng Han*

Meeting Our New Associate Editor (page 88)**Meeting Our New Member of Editorial Board of Rising Stars** (page 89)