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## IN THIS ISSUE

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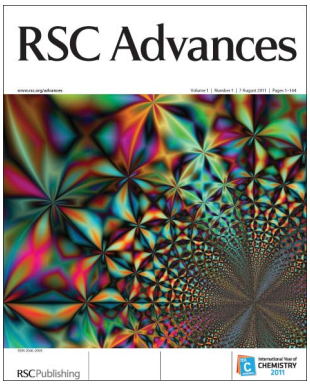
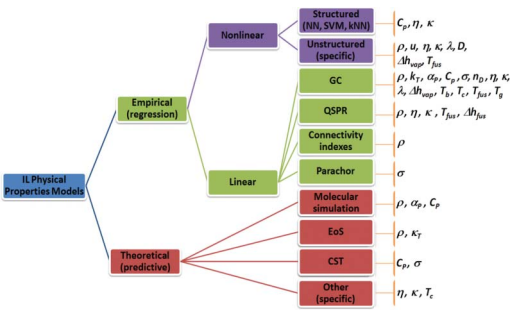


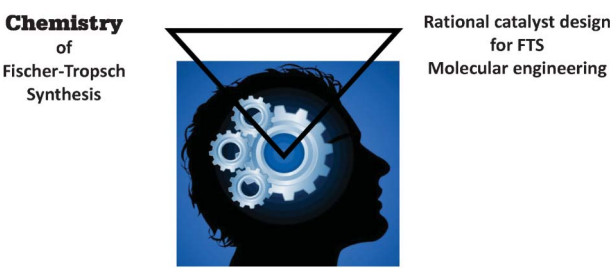



## REVIEWS







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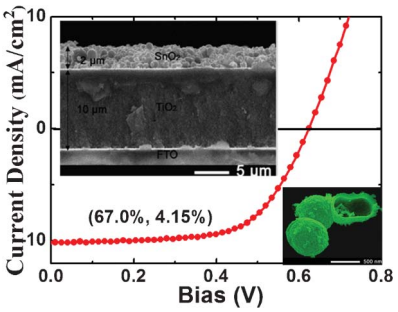
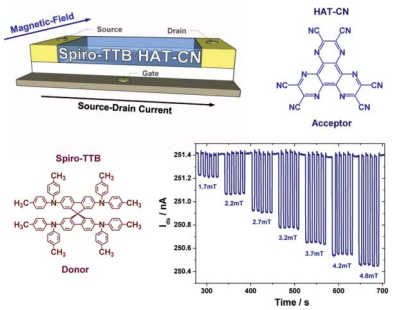
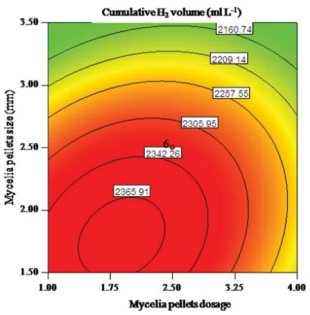


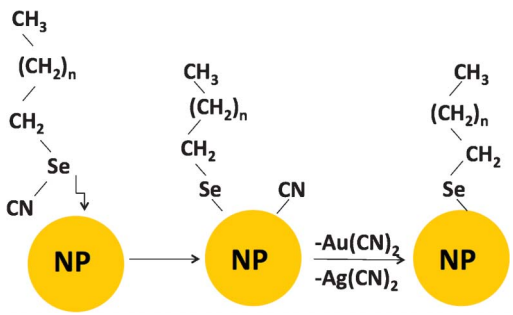




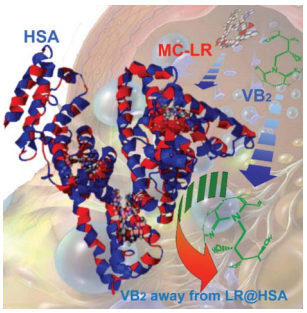





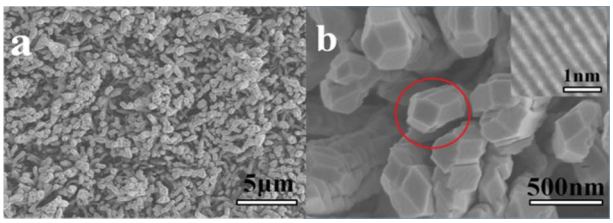



## COMMUNICATIONS



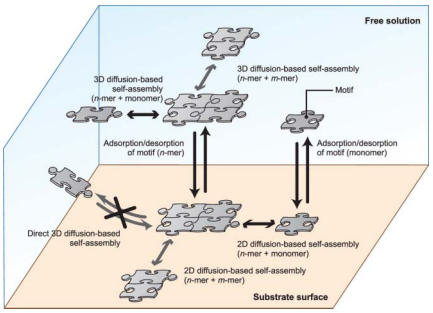




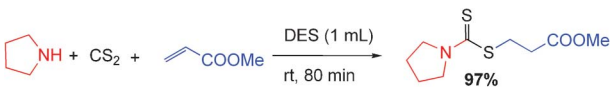




## PAPERS





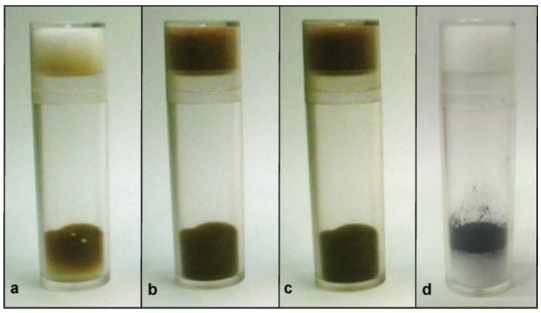


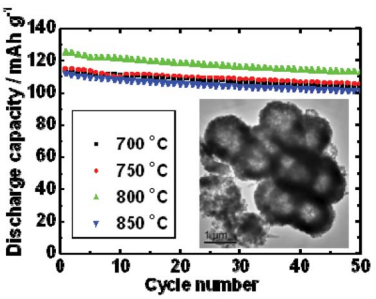
## PAPERS



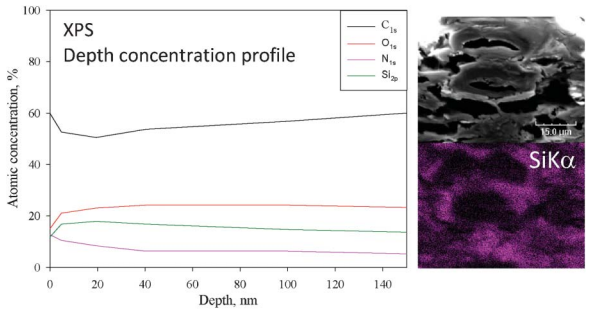
 



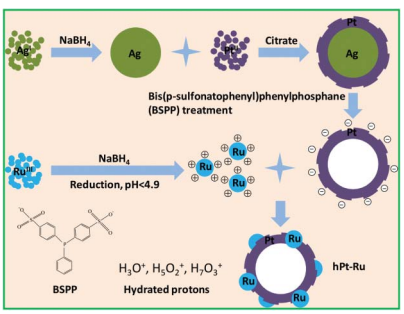






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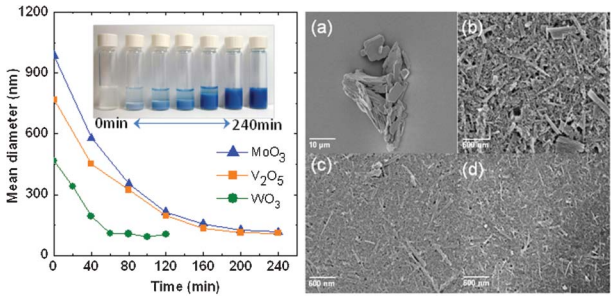
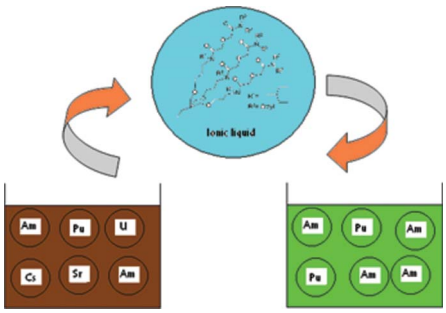



## Wet-milled transition metal oxide nanoparticles as buffer layers for bulk heterojunction solar cells

Jen-Hsien Huang, Tzu-Yen Huang, Hung-Yu Wei, Kuo-Chuan Ho and Chih-Wei Chu*

In this study, we used high-energy grinding to prepare solutions of well-dispersed transition metal oxides for application in photovoltaic devices.

7492

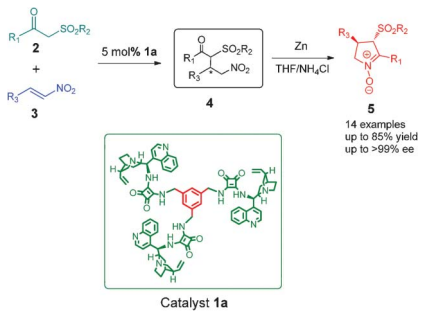



## Extraction of Am(III) using novel solvent systems containing a tripodal diglycolamide ligand in room temperature ionic liquids: a 'green' approach for radioactive waste processing

A. Sengupta, P. K. Mohapatra,* M. Iqbal, W. Verboom, J. Huskens and S. V. Godbole

Extraction of actinide ions from acidic feed solutions was investigated using novel solvent systems containing a tripodal diglycolamide (T-DGA) in three room temperature ionic liquids (RTIL), *viz*. $[C_4mim][NTf_2]$, $[C_6mim][NTf_2]$ and $[C_8mim][NTf_2]$.

7501




## An expedient approach to highly enantioenriched cyclic nitrones mediated by robust and recoverable $C_3$-symmetric cinchonine-squaramide catalysts

Xin Han, Xiangfei Wu, Chang Min, Hai-Bing Zhou and Chune Dong*

The $C_3$-symmetric cinchonine-squaramide catalyzed asymmetric Michael addition of β-ketosulfones to nitroalkenes is presented. Subsequent transformation leads to chiral cyclic nitrones with excellent results (up to 85% yield and >99% ee). The catalyst can be recovered and reused for six cycles without losing activity and selectivity.

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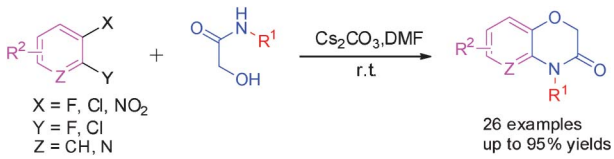
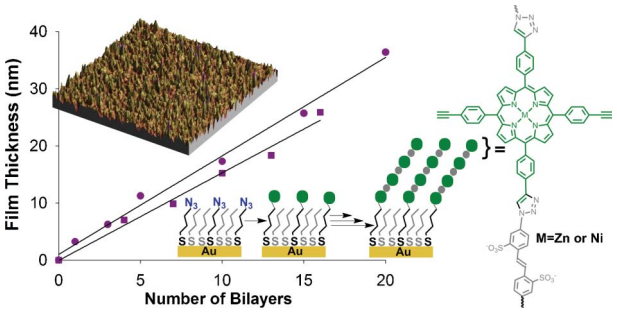



## A tandem coupling/smiles rearrangement/cyclization approach to 1,4-benzooxazinones or 1,4-pyridooxazinones under mild conditions

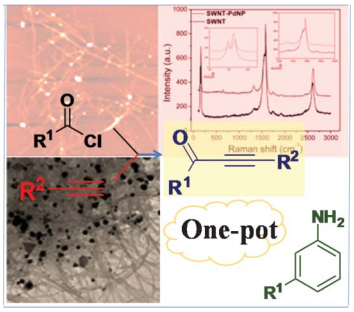
Chunjing Zhan, Jiong Jia,* Bingchuan Yang, Aiping Huang, Yanli Liu and Chen Ma*

1,4-Benzooxazinones or 1,4-pyridooxazinones were easily obtained by a one-pot coupling/Smiles rearrangement/ cyclization process.

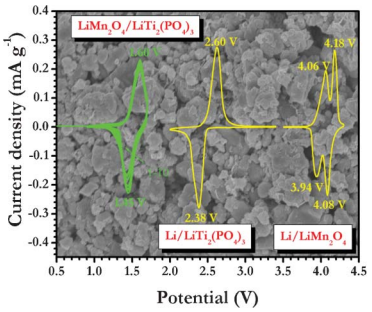
 



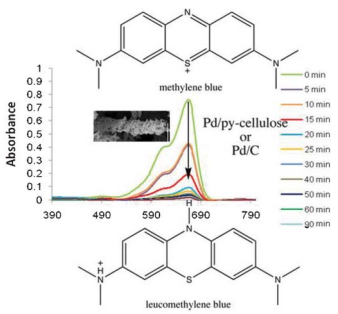


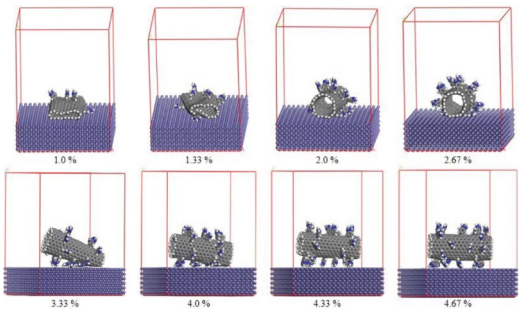







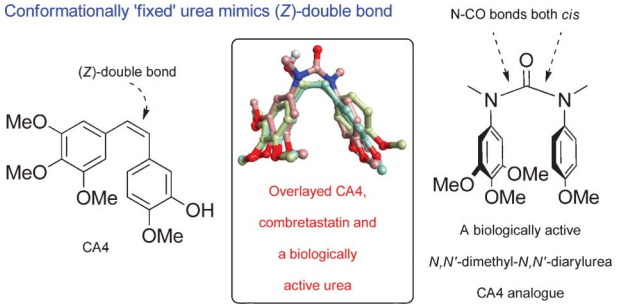



**Collapse and Stability of functionalized Carbon Nanotubes on Fe (1 0 0) Surface**

Cui-Cui Ling, Qing-Zhong Xue,* Nuan-Nuan Jing and Dan Xia

Carbon nanotubes modified by appropriate inhibitor groups can maintain their cylindrical structure on Fe surface and give them the potential to be used as nanocontainers for maintaining or transporting molecules.



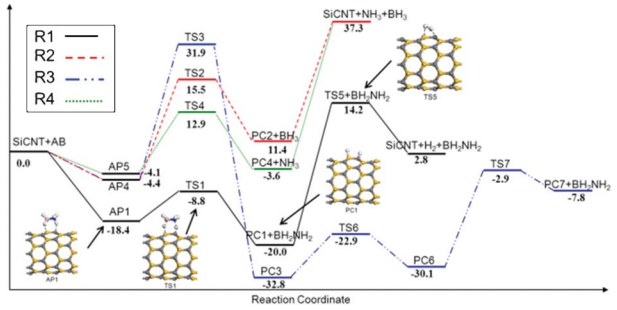



**Exploiting conformationally restricted *N*,*N*′-dimethyl-*N*,*N*′-diarylureas as biologically active C=C double bond analogues: synthesis and biological evaluation of combretastatin A-4 analogues**

Timothy J. Snape,* Katherine Karakoula, Farzana Rowther and Tracy Warr

Biologically active diarylureas, which occupy similar space to combretastatin A-4 (CA4), have been prepared. The results show that the ureas most like CA4, regarding benzene ring oxygenation and overall shape, are the most active.



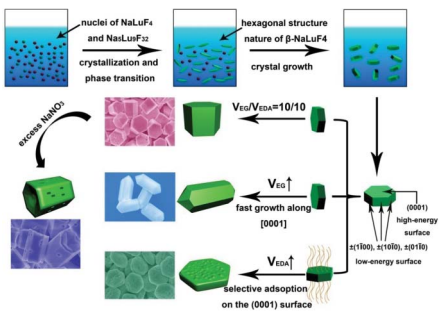



**Theoretical study on the possibility of using silicon carbide nanotubes as dehydrogenation catalysts for ammonia–borane**

Fenglei Cao and Huai Sun*

A new catalyst for the dehydrogenation of ammonia–borane is reported.






**Morphology-controllable synthesis and enhanced luminescence properties of β-$NaLuF_4$:Ln (Ln = Eu, Tb and Ce/Tb) microcrystals by solvothermal process**

Fei He, Na Niu, Zhenguo Zhang, Xiao Zhang, Dong Wang, Ling Bai, Shili Gai, Xingbo Li and Piaoping Yang*

Schematic illustration for the formation process of β-$NaLuF_4$ MCs prepared at different conditions.