Organic & Biomolecular Chemistry

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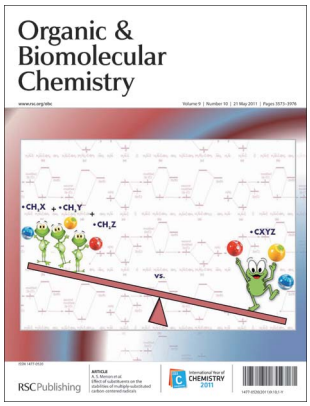
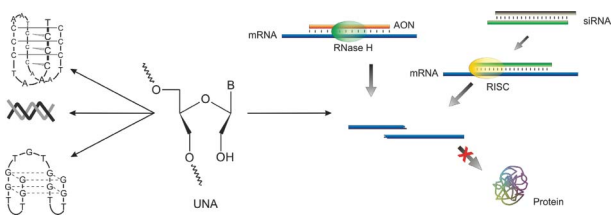


Cover

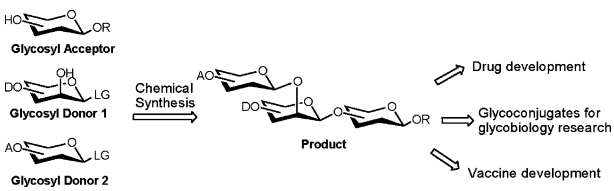
See A. S. Menon *et al.*, pp. 3636–3657.
The cover image depicts how the stabilities of multiply-substituted carbon-centered radicals are compared with the stabilities of their monosubstituted components. The factors that influence the effect of substituents on such a comparison are discussed.

Image reproduced by permission of Leo Radom from *Organic & Biomolecular Chemistry*, 2011, **9**, 3636.

EMERGING AREA



PERSPECTIVE



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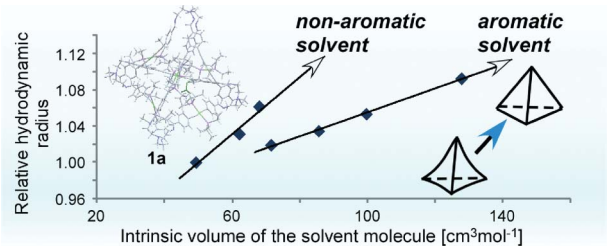
3611

Changing the volume of a giant macrocycle: the swelling of the macrocycle with organic solvents

Aya Harano, Minako Tanaka, Takeshi Nakagaki, Masahiko Annaka, Keiko Ideta, Kenta Goto and Teruo Shinmyozu*

Three novel tetrahedral macrocycles have been synthesized. Two of the macrocycles were revealed to have the property to increase in volume in solution by complexation between the macrocycle and the solvent molecules.

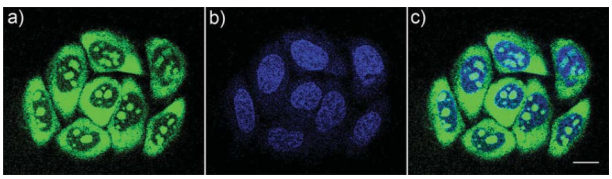


3615

A 2,7-carbazole-based dicationic salt for fluorescence detection of nucleic acids and two-photon fluorescence imaging of RNA in nucleoli and cytoplasm

Xin Liu, Yuming Sun, Yuanhong Zhang, Fang Miao, Guancong Wang, Hongshi Zhao, Xiaoqiang Yu,* Hong Liu* and Wai-Yeung Wong*

Two-photon fluorescence of 2,7-9*E*-BHVC can image RNA in nucleoli and cytoplasm (green) and is compatible with DAPI (blue).

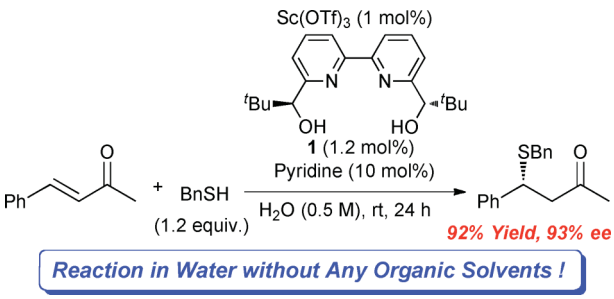


3619

Chiral Sc-catalyzed asymmetric Michael reactions of thiols with enones in water

Masaharu Ueno, Taku Kitanosono, Masaru Sakai and Shū Kobayashi*

Asymmetric Michael reactions of thiols with enones were catalyzed by a $Sc(OTf)_3$–chiral bipyridine complex at room temperature in water without using any organic solvents, to afford the desired sulfides in high yields with high enantioselectivities.

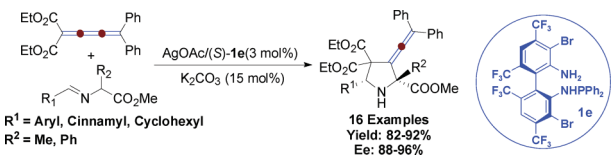


3622

Asymmetric construction of 3-vinylidene-pyrrolidine derivatives containing allene moiety *via* Ag(I)/TF-BiphamPhos-catalyzed 1,3-dipolar cycloaddition of azomethine ylides with diethyl 2-(3,3-diphenylpropa-1,2-dienylidene) malonate

Zhi-Yong Xue, Xin Fang and Chun-Jiang Wang*

Catalytic asymmetric 1,3-dipolar cycloaddition of various azomethine ylides with diethyl 2-(3,3-diphenylpropa-1,2-dienylidene)malonate has been developed successfully with good to excellent enantioselectivity.



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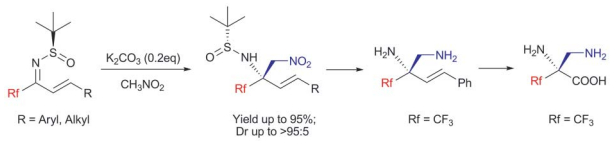
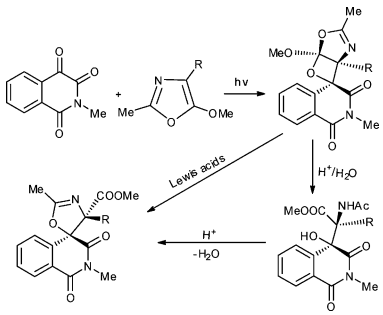


Asymmetric aza-Henry reaction of chiral fluoroalkyl α,β-unsaturated *N*-*tert*-butanesulfinyl ketoimines: an efficient approach to enantiopure fluoroalkylated α,β-diamines and α,β-diamino acids

Fan Zhang, Zhen-Jiang Liu and Jin-Tao Liu*

The asymmetric aza-Henry reaction of chiral fluoroalkyl α,β-unsaturated *N*-*tert*-butanesulfinyl ketoimines was proved to be an efficient approach to enantiopure fluoroalkylated α,β-diamines and α,β-diamino acids.

3629

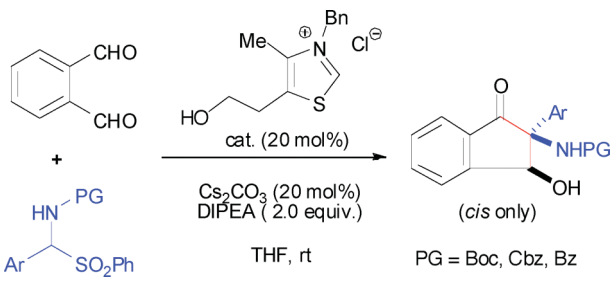


Facile synthesis of spiroisoquinolines based on photocycloaddition of isoquinoline-1,3,4-trione with oxazoles

Chengmei Huang, Haitao Yu, Zhengrui Miao, Jie Zhou, Shuai Wang, Hoong-Kun Fun, Jianhua Xu and Yan Zhang*

Photocycloadducts of isoquinoline-1,3,4-trione with 5-methoxyoxazoles can be converted into novel spiroisoquinolineoxazoline derivatives through acid catalyzed sequential reactions.

3632

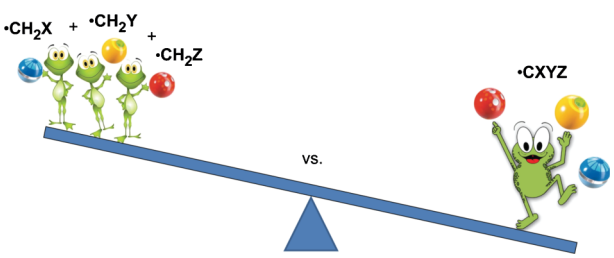


N-Heterocyclic carbene-catalyzed [4 + 1] annulation of phthalaldehyde and imines

Fang-gang Sun and Song Ye*

N-Heterocyclic carbene-catalyzed [4 + 1] annulation of phthalaldehyde and imines was developed for the diastereoselective synthesis of *cis*-2-amino-3-hydroxyindanones.

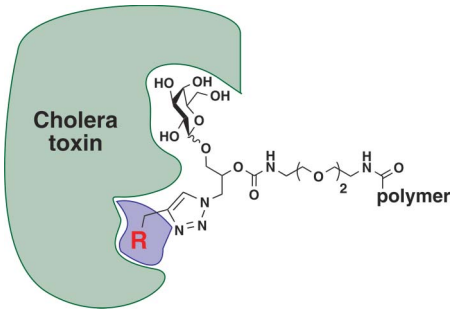
3636

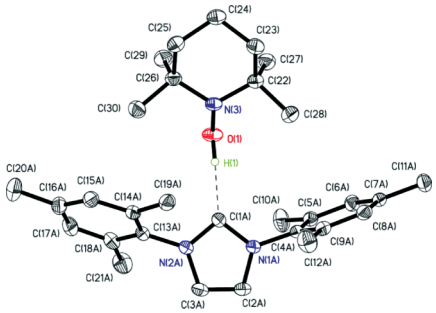


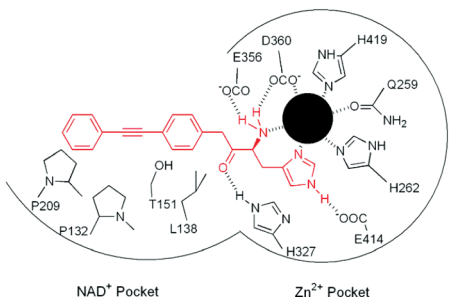
Effect of substituents on the stabilities of multiply-substituted carbon-centered radicals

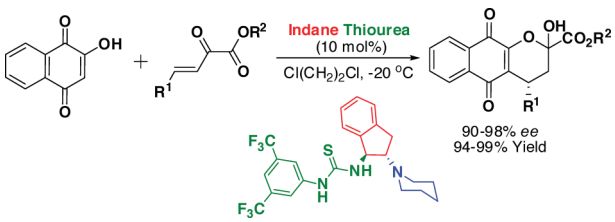
Ambili S. Menon, David J. Henry, Thomas Bally and Leo Radom*

What are the factors that influence the effect of substituents on the stability of multiply substituted carbon-centered radicals? This question is addressed with the help of a variety of existing and new thermochemical quantities.









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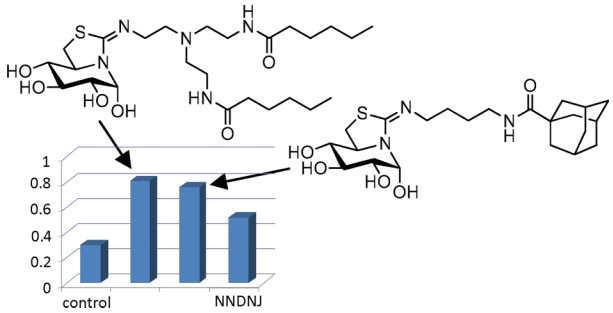

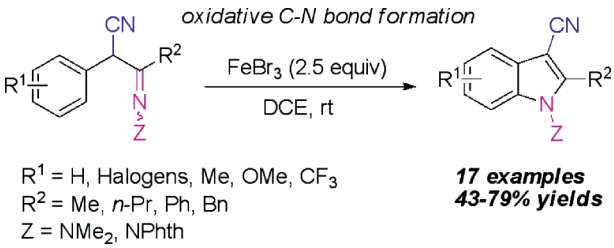

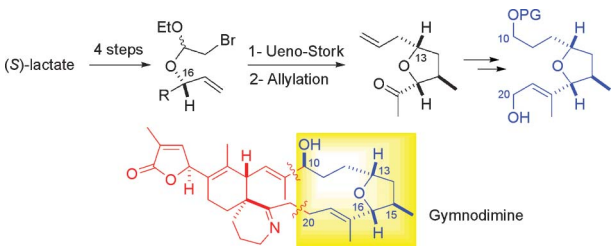

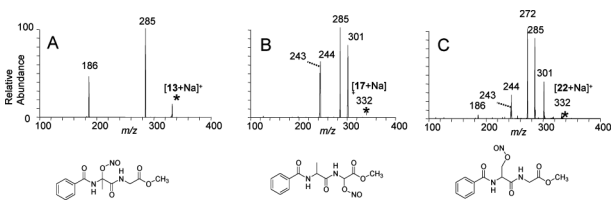

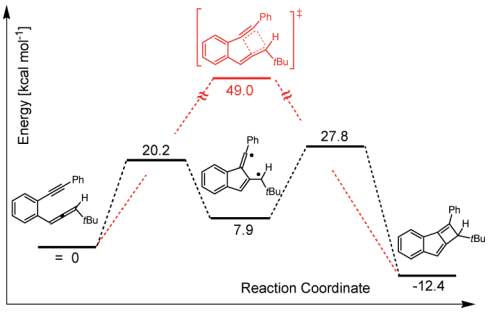

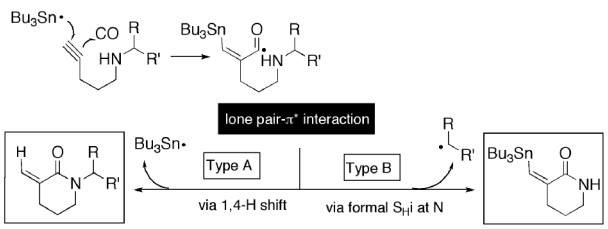

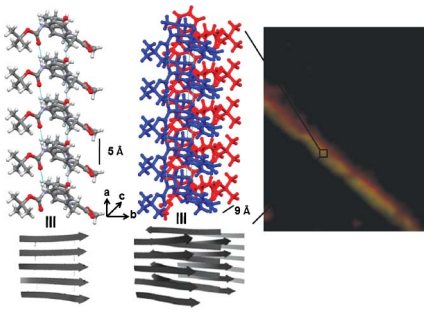

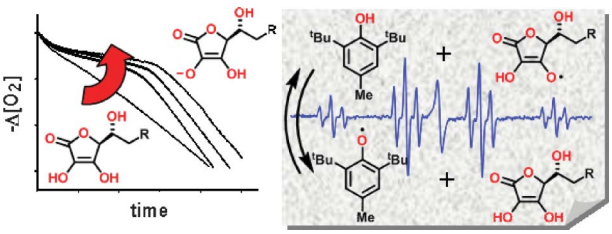

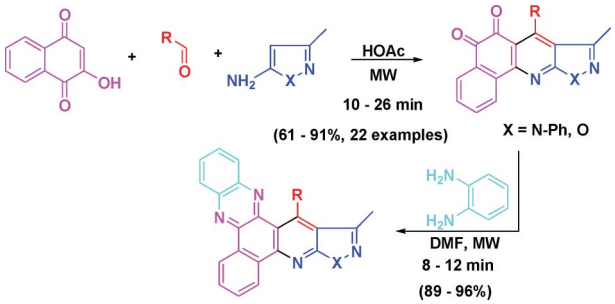

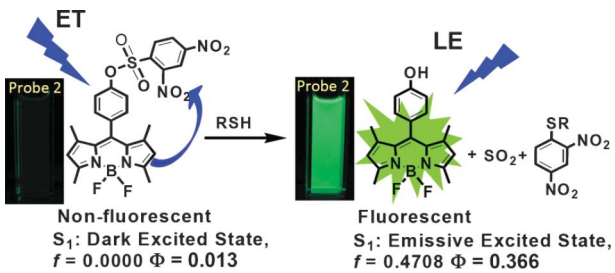

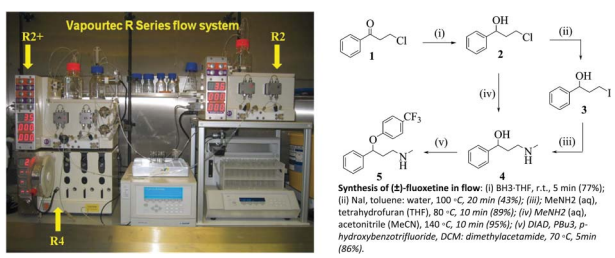

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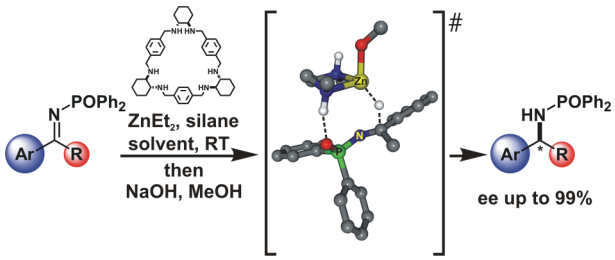
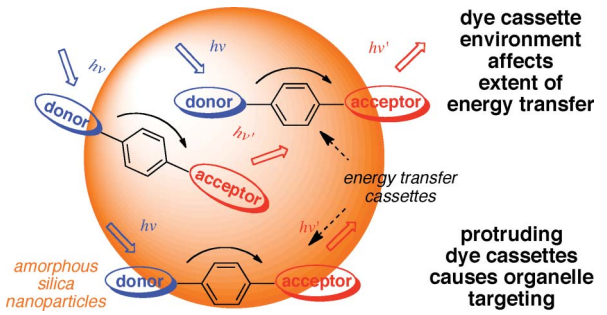
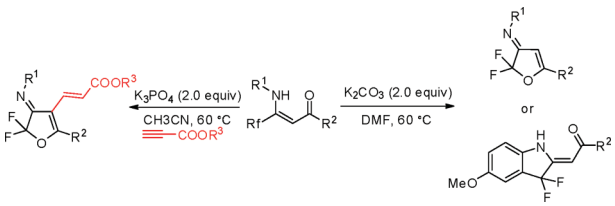
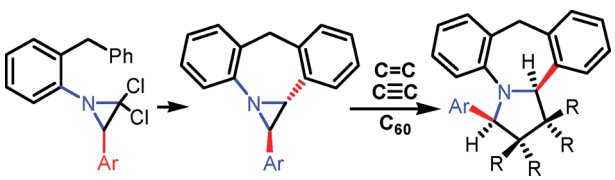
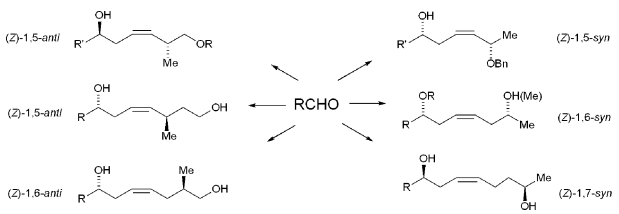






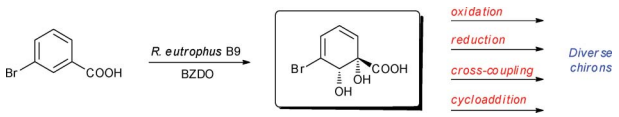




Effective 1,5-, 1,6- and 1,7-remote stereocontrol in reactions of alkoxy- and hydroxy-substituted allylstannanes with aldehydes

John S. Carey, Somhairle MacCormick, Steven J. Stanway, Aphiwat Teerawutgulrag and Eric J. Thomas*

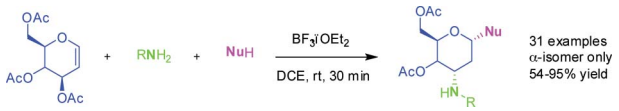
Allyltin trihalides derived from alkoxy- and hydroxy-alk-2-enylstannanes react with aldehydes with useful levels of 1,5-, 1,6- and 1,7-stereocontrol.



Expanding the chiral pool: oxidation of *meta*-bromobenzoic acid by *R. eutrophus* B9 allows access to new reaction manifolds

Julia A. Griffen, Amélie M. Le Coz, Gabriele Kociok-Köhn, Monika Ali Khan, Alan J. W. Stewart and Simon E. Lewis*

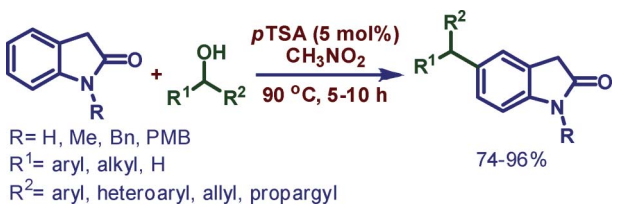
Metabolism of *meta*-bromobenzoic acid by *R. eutrophus* B9 affords an enantiopure halodiene-diol which is a versatile chiron for organic synthesis. The presence of the halogen leads to reactivity that is distinct to that observed for the non-halogenated analogue and also serves as a synthetic handle for further functionalisation.



Ready access to 3-amino-2,3-dideoxysugars *via* regio- and stereo-selective tandem hydroamination–glycosylation of glycals

Feiqing Ding, Ronny William, Siming Wang, Bala Kishan Gorityala and Xue-Wei Liu*

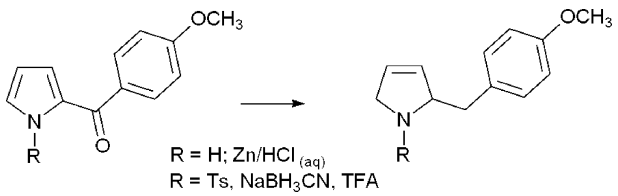
A highly stereoselective $BF_3{\cdot}OEt_2$-promoted tandem hydroamination–glycosylation on a glycal scaffold has been developed to form 3-amino-2,3-dideoxysugars in a one-pot procedure.

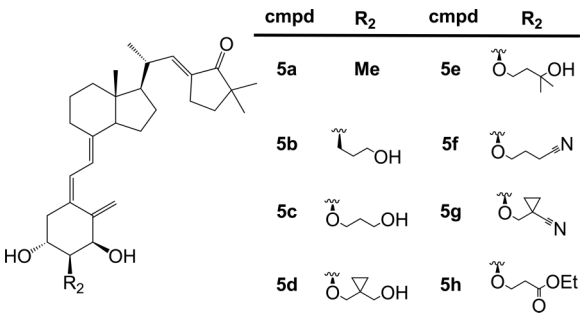


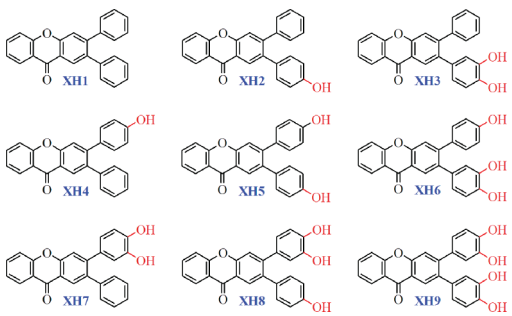
A novel acid-catalyzed C5-alkylation of oxindoles using alcohols

Chada Raji Reddy,* Enukonda Jithender, Gaddam Krishna, Gunreddy Venkat Reddy and Bharatam Jagadeesh

Unprecedented C5-alkylation of oxindoles using alcohols as alkylating agents under acid catalysis is described. The reactions of various benzylic, allylic and propargylic alcohols are studied to obtain the corresponding 5-substituted oxindoles in good yields.







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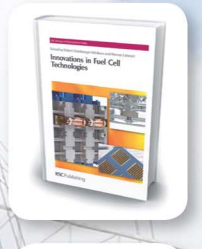

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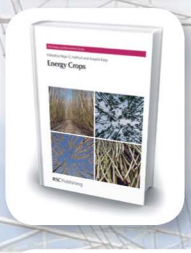

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