Volume 13 | Number 4 | 28 January 2015 | Pages 957–1266

Organic & Biomolecular Chemistry

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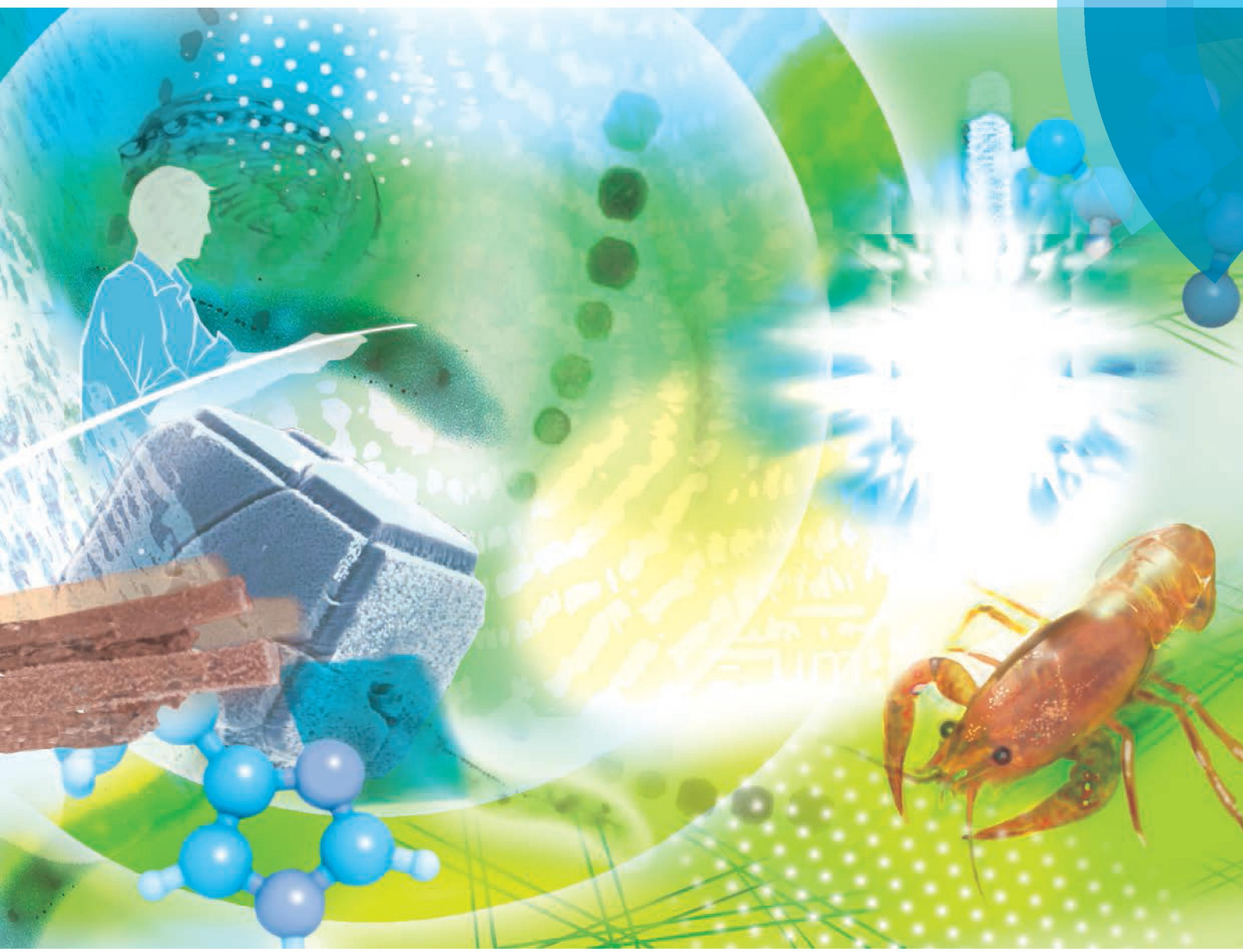

ISSN 1477-0520

ROYAL SOCIETY OF CHEMISTRY

REVIEW ARTICLE

Atsushi Arakaki, Takashi Kato *et al.*

Biomineralization-inspired synthesis of functional organic/inorganic hybrid materials: organic molecular control of self-organization of hybrids

Organic & Biomolecular Chemistry

An international journal of synthetic, physical and biomolecular organic chemistry

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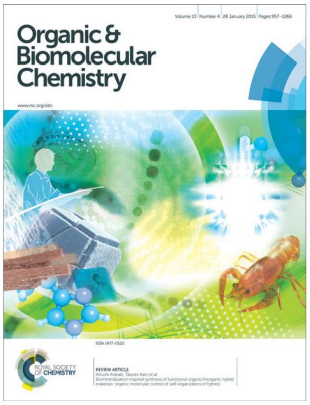
IN THIS ISSUE

ISSN 1477-0520 CODEN OBCRAK 13(4) 957–1266 (2015)



Cover
See Atsushi Arakaki, Takashi Kato *et al.*, pp. 974–989.

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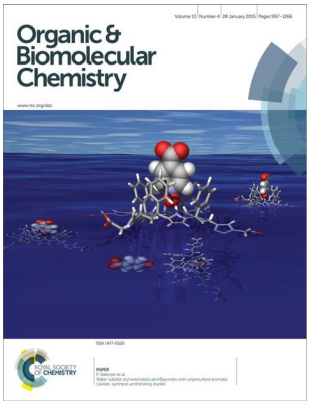

Inside cover
See P. Ballester *et al.*, pp. 1022–1029.

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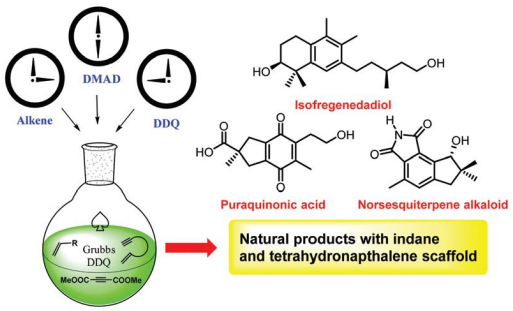
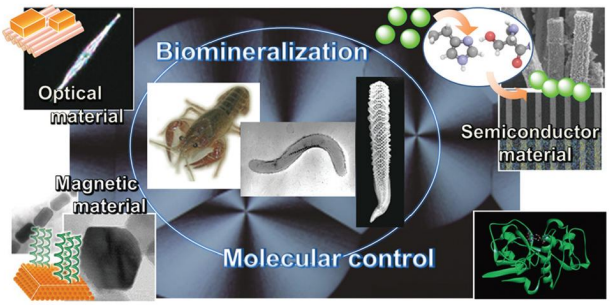
PERSPECTIVE



REVIEW



Organic & Biomolecular Chemistry (print: ISSN 1477-0520; electronic: ISSN 1477-0539) is published 48 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

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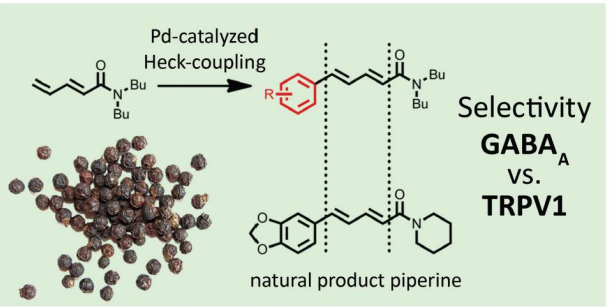
COMMUNICATIONS

990

Developing piperine towards TRPV1 and $GABA_A$ receptor ligands – synthesis of piperine analogs *via* Heck-coupling of conjugated dienes

Laurin Wimmer, David Schönbauer, Peter Pakfeifer, Angela Schöffmann, Sophia Khom, Steffen Hering and Marko D. Mihovilovic*

Synthetic analogs of piperine, the pungent alkaloid of black pepper, were identified as selective ligands for either $GABA_A$ or TRPV1 receptors.

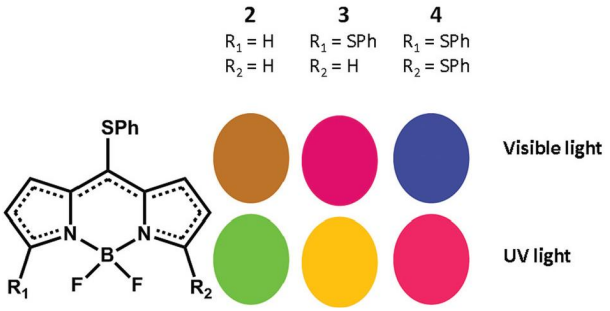


995

Unprecedented one-pot sequential thiolate substitutions under mild conditions leading to a red emissive BODIPY dye 3,5,8-tris(PhS)-BODIPY

Robinson I. Roacho, Alejandro Metta-Magaña, Eduardo Peña-Cabrera and Keith Pannell*

Phenylthiol performs a thiol exchange with 8-MeS-BODIPY and activates/substitutes the 3,5 positions forming a tri-thiolated BODIPY.

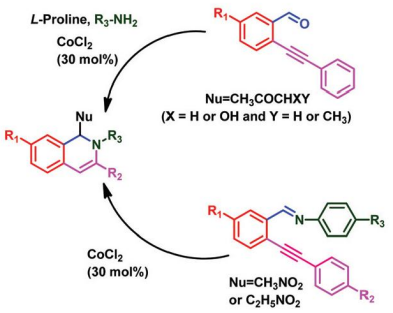


1000

An expedient approach to 1,2-dihydroisoquinoline derivatives *via* cobalt catalysed 6-*endo dig* cyclization followed by Mannich condensation of *o*-alkynylarylaldimines

Urvashi, Gaurav K. Rastogi, Sandeep K. Ginotra, Alka Agarwal and Vibha Tandon*

A highly effective 6-*endo dig* cyclisation of *o*-alkynyl aldimines to 1,2-dihydroisoquinolines has been described *via* direct and nitro Mannich condensation using inexpensive and readily available cobalt chloride as catalyst.

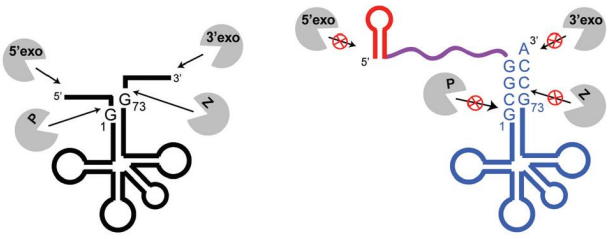


1008

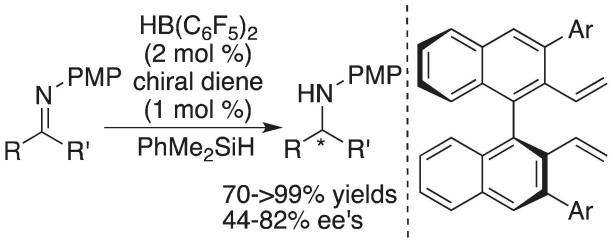
Investigation of end processing and degradation of premature tRNAs and their application to stabilization of *in vitro* transcripts in wheat germ extract

Atsushi Ogawa* and Yasunori Doi

We investigated the end processing and degradation of premature tRNAs in wheat germ extract (left), which led to the findings of end protectors for efficiently stabilizing an *in vitro* transcript (purple, right).



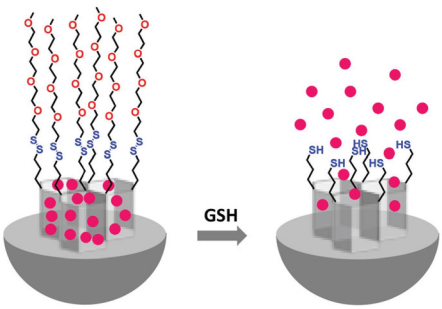
COMMUNICATIONS



A chiral borane catalyzed asymmetric hydrosilylation of imines

Xiaxia Zhu and Haifeng Du*

An enantioselective hydrosilylation of imines was achieved using an *in situ* generated chiral borane to furnish amines with up to 82% ee.

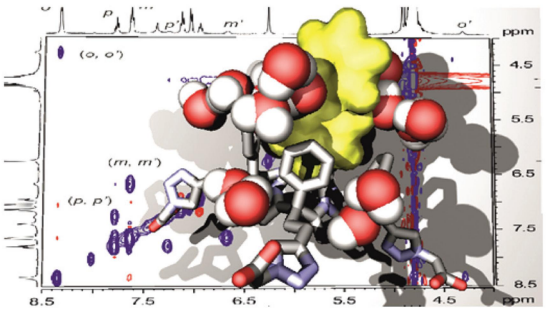


Highly selective and sensitive detection of glutathione using mesoporous silica nanoparticles capped with disulfide-containing oligo(ethylene glycol) chains

S. El Sayed, C. Giménez, E. Aznar, R. Martínez-Máñez,* F. Sancenón and M. Licchelli*

Mesoporous silica nanoparticles loaded with safranin O and capped with disulfide-containing oligo(ethylene glycol) chains were used for the selective and sensitive fluorimetric detection of GSH.

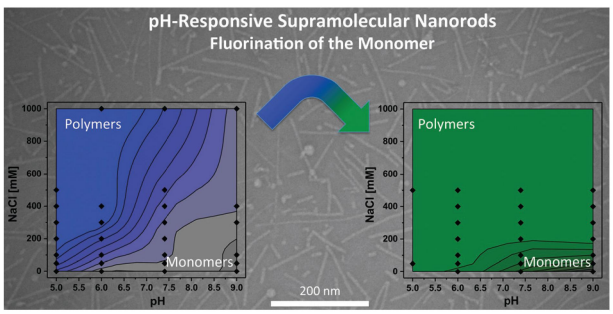
PAPERS



Water-soluble aryl-extended calix[4]pyrroles with unperturbed aromatic cavities: synthesis and binding studies

D. Hernández-Alonso, S. Zankowski, L. Adriaenssens and P. Ballester*

An aryl-extended calix[4]pyrrole receptor with four carboxylic groups at the lower rim binds *N*-oxides in water with high stability constants.

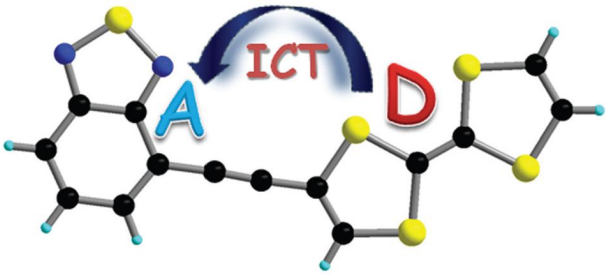


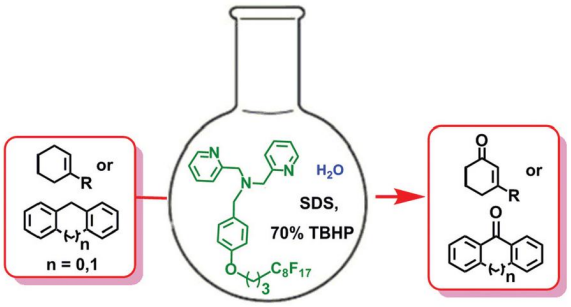
Tuning the pH-triggered self-assembly of dendritic peptide amphiphiles using fluorinated side chains

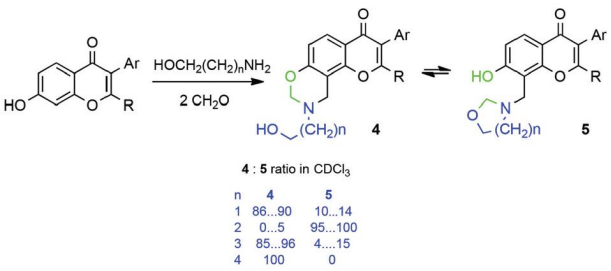
Ralph Appel, Sebastian Tacke, Jürgen Klingauf and Pol Besenius*

We report the synthesis of a series of anionic dendritic peptide amphiphiles of increasing hydrophobic character and describe their self-assembly into supramolecular nanorods using pH and ionic strength dependent state diagrams.

PAPERS

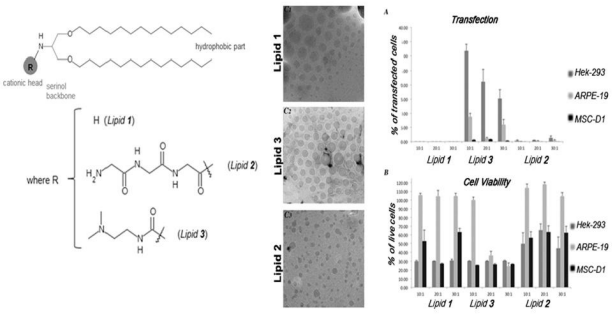






4 : **5** ratio in $CDCl_3$

n	4	5
1	86...90	10...14
2	0...5	95...100
3	85...96	4....15
4	100	0



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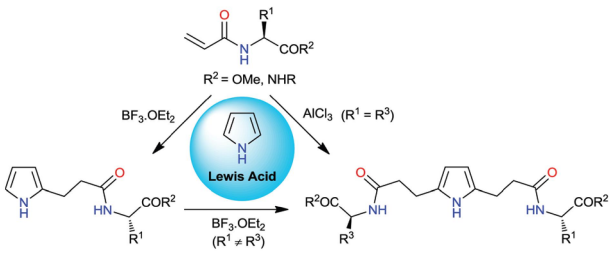
1082

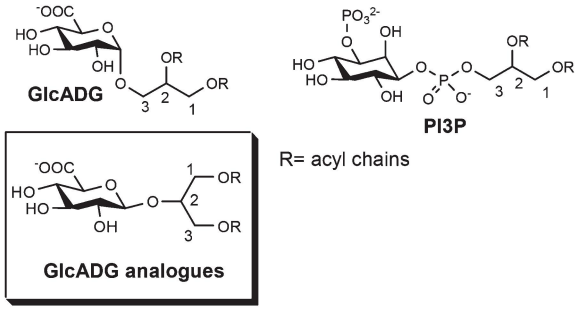


1,4 Addition of unprotected pyrrole onto chiral acrylamides: toward synthesis of new polypeptidic architectures

Alexander Gratais, Xavier Pannecoucke and Samir Bouzbouz*

A variety of new chiral functionalized pyrroloamides have been synthesized by a simple and robust process involving Lewis acids. Unprotected pyrrole could be selectively monoalkylated or dialkylated.

1091

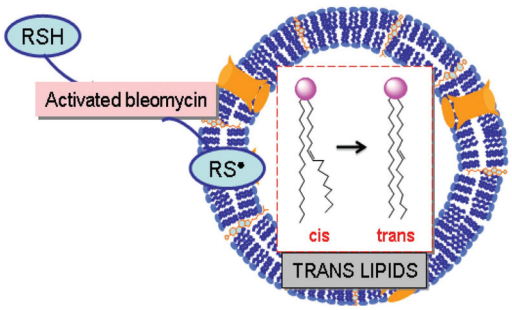


Anionic glycolipids related to glucuronosyl-diacylglycerol inhibit protein kinase Akt

Maria Vetro, Barbara Costa, Giulia Donvito, Noemi Arrighetti, Laura Cipolla, Paola Perego,* Federica Compostella, Fiamma Ronchetti and Diego Colombo*

Long chain GlcADG analogues synthesized as PI3P mimics inhibited isolated Akt and proliferation of human ovarian carcinoma IGROV-1 cells.

1100

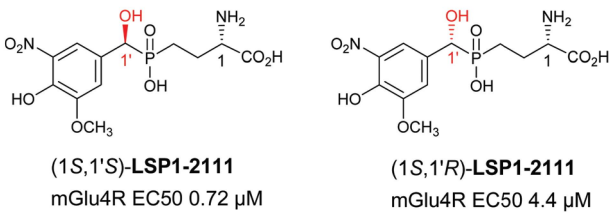


Bleomycin-induced *trans* lipid formation in cell membranes and in liposome models

Aysegul Cort, Tomris Ozben, Anna Sansone, Sebastian Barata-Vallejo, Chryssostomos Chatgilialoglu and Carla Ferreri*

Bleomycin–iron complexes cause lipid *cis–trans* isomerisation through thiyl radical formation and reactivity with unsaturated phospholipids, revealing membranes as a relevant and novel site of drug effect.

1106



(1*S*,1'*S*)-**LSP1-2111**
mGlu4R EC50 0.72 μM

(1*S*,1'*R*)-**LSP1-2111**
mGlu4R EC50 4.4 μM

Determination of the absolute configuration of phosphinic analogues of glutamate

Bruno Commare, Delphine Rigault, Isabelle A. Lemasson, Patrick Deschamps, Alain Tomas, Pascal Roussel, Isabelle Brabet, Cyril Goudet, Jean-Philippe Pin, Frédéric R. Leroux,* Françoise Colobert* and Francine C. Acher*

Stereomers of **LSP1-2111** have been separated, their absolute configuration and agonist activity at mGlu4R determined.

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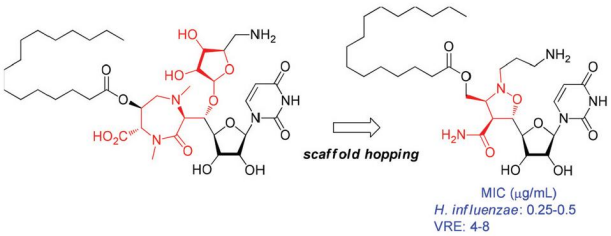

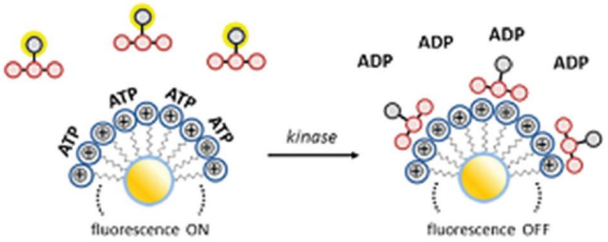

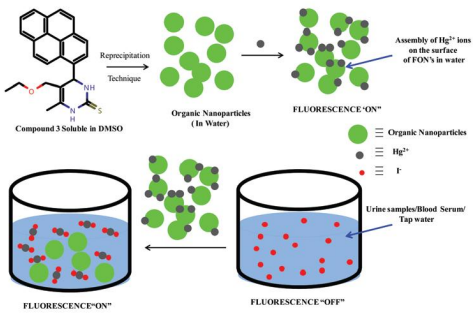

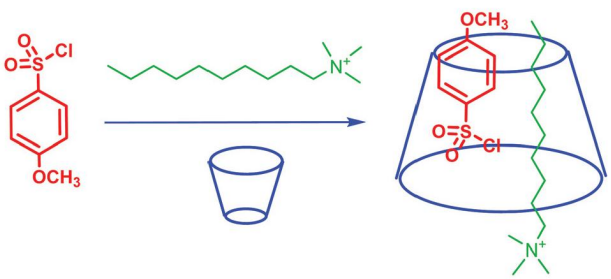

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Ruthenium-catalyzed direct C3 alkylation of indoles with α,β-unsaturated ketones

Shuai-Shuai Li, Hui Lin, Xiao-Mei Zhang and Lin Dong*

In this paper, a simple and highly efficient ruthenium-catalyzed direct C3 alkylation of indoles with various α,β-unsaturated ketones without chelation assistance has been developed.