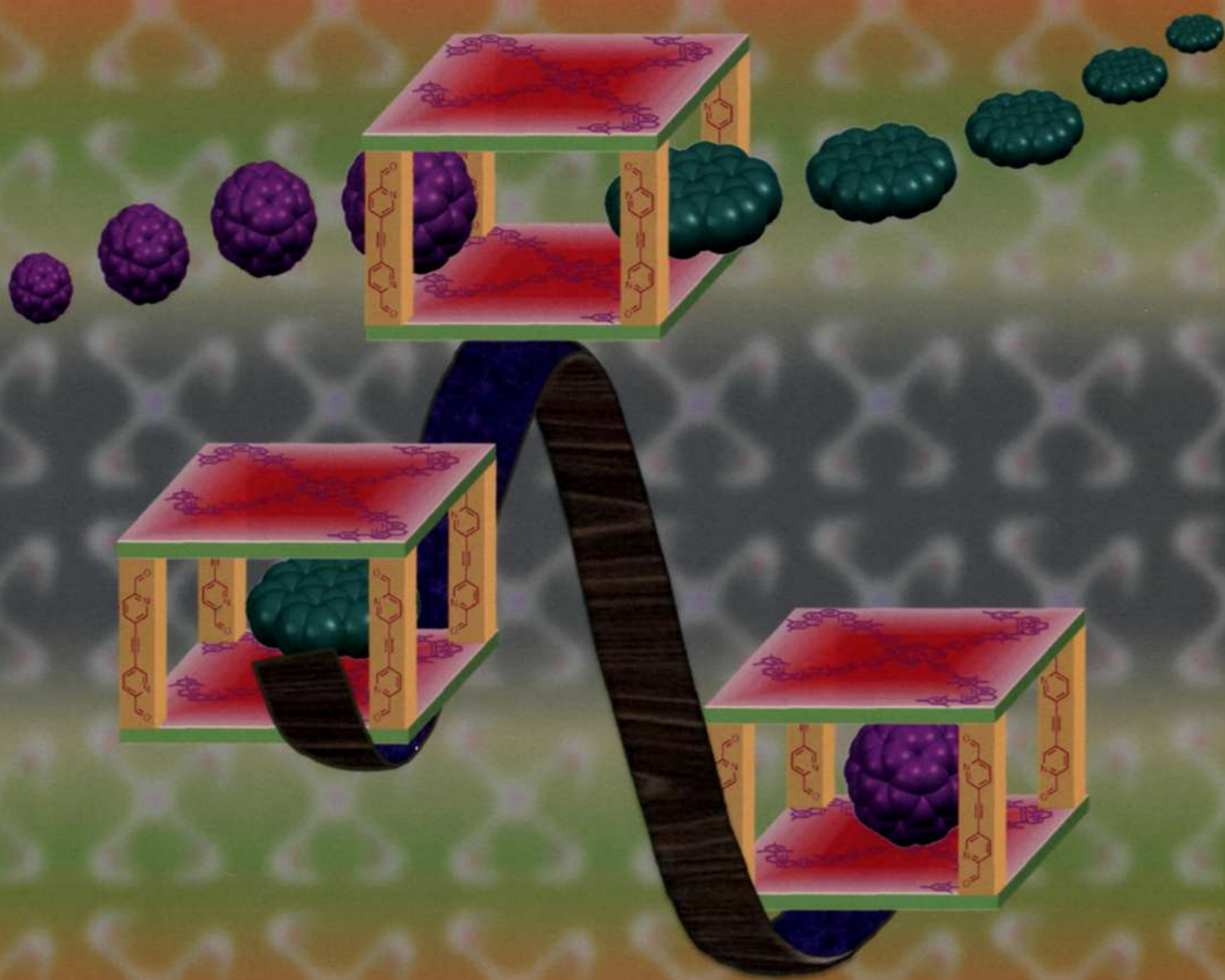


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PAPER

Soumen K. Samanta and Michael Schmittel
Guest encapsulation and coronene–C₆₀ exchange in supramolecular zinc porphyrin tweezers, grids and prisms



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Organic & Biomolecular Chemistry

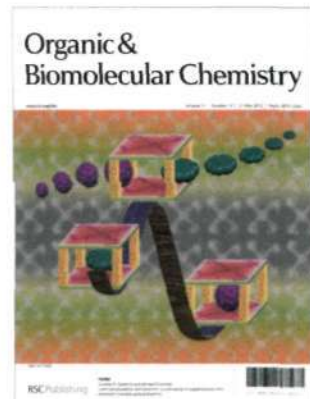
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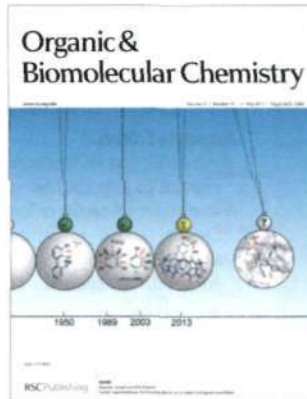
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Cover

See Soumen K. Samanta and Michael Schmittl, pp. 3108–3115.

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Inside cover

See Roymon Joseph and Eric Masson, pp. 3116–3127.

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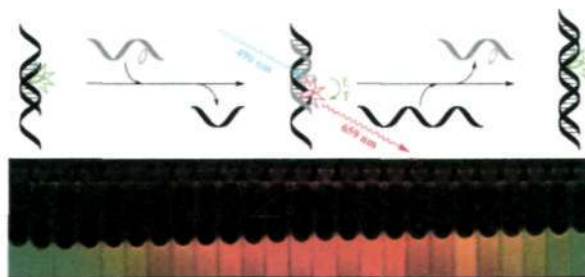
COMMUNICATIONS

3085

In-stem labelling allows visualization of DNA strand displacements by distinct fluorescent colour change

Sebastian Barrois and Hans-Achim Wagenknecht*

The combination of thiazole orange (TO) and thiazole red (TR) as an internal pair of fluorescent DNA base surrogates ("DNA traffic lights") allows us to follow at least two consecutive DNA strand displacements in real time through a distinct fluorescence colour change from green to red and vice versa.

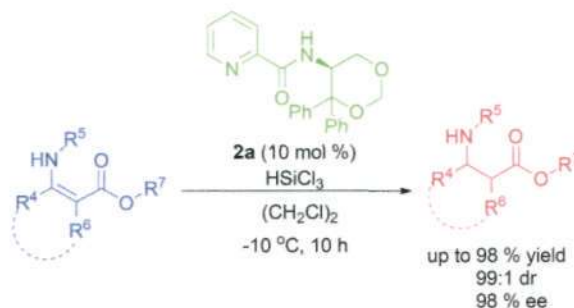


3089

Synthesis of a series of novel chiral Lewis base catalysts and their application in promoting asymmetric hydrosilylation of β -enamino esters

Xing Chen, Xiao-Yan Hu, Chang Shu, Yong-Hong Zhang, Yong-Sheng Zheng, Yan Jiang, Wei-Cheng Yuan, Bo Liu* and Xiao-Mei Zhang*

Asymmetric hydrosilylation of β -enamino esters promoted by a novel Lewis base catalyst provided the corresponding β -amino acid derivatives in good yields, with good diastereoselectivities and good enantioselectivities.

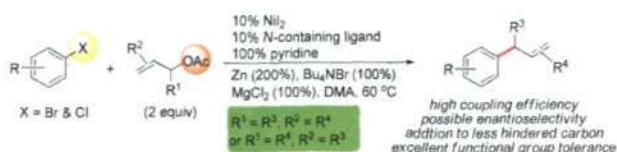


3094

Nickel-catalyzed reductive allylation of aryl bromides with allylic acetates

Xiaozhan Cui, Shulin Wang, Yuwei Zhang, Wei Deng, Qun Qian* and Hegui Gong*

This work features a broad substrate scope of aryl halides and the first asymmetric version of reductive coupling of two electrophiles.



3098

Expeditious synthesis of bacterial, rare sugar building blocks to access the prokaryotic glycome

Madhu Emmadi and Suvarn S. Kulkarni*

A general protocol for the synthesis of the rare, bacterial deoxy amino hexopyranoside building blocks from D-mannose and its application to the first total synthesis of the *Neisseria meningitidis* trisaccharide is described.

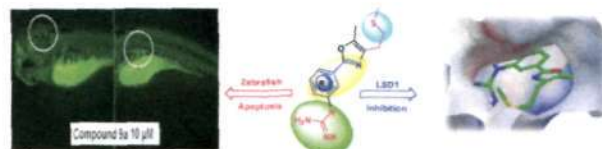


3103

Synthesis and evaluation of 3-amino/guanidine substituted phenyl oxazoles as a novel class of LSD1 inhibitors with anti-proliferative properties

Balakrishna Dulla, Krishna Tulasi Kirla, Vandana Rathore, Girdhar Singh Deora, Sridhar Kavela, Subbareddy Maddika, Kiranam Chatti, Oliver Reiser,* Javed Iqbal* and Manojit Pal*

Novel phenyl oxazole derivatives were synthesized and screened for their activities against LSD1 *in vitro* and antiproliferative properties *in vitro/in vivo*.



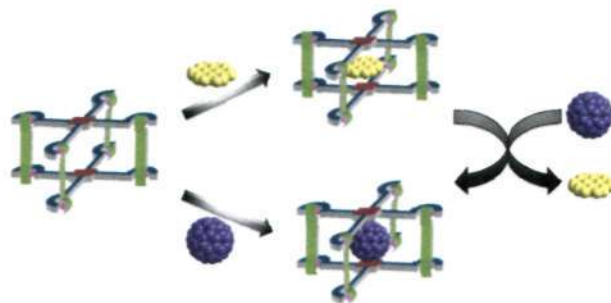
PAPERS

3108

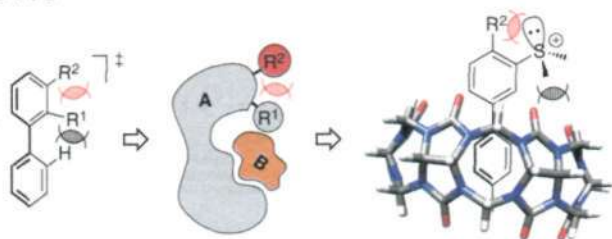
Guest encapsulation and coronene-C60 exchange in supramolecular zinc porphyrin tweezers, grids and prisms

Soumen K. Samanta and Michael Schmittl*

The self-assembled three-component tetragonal prism is a strong and impressively selective host allowing the differentiation of coronene *versus* C60.



3116

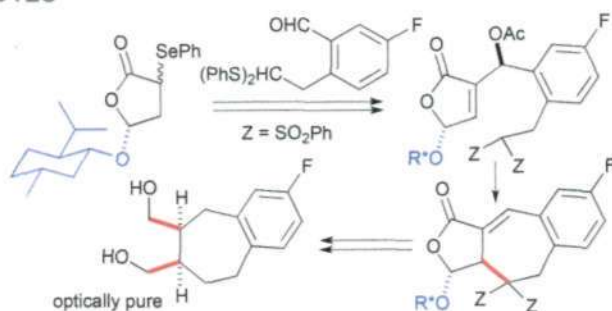


Subtle "supramolecular buttressing effects" in Cucurbit[7]uril/guest assemblies

Roymon Joseph and Eric Masson*

"Supramolecular buttressing" was defined as the alteration, by a neighboring unit, of a substituent effect on intermolecular recognition, and was assessed using Cucurbit[7]uril-guest assemblies.

3128

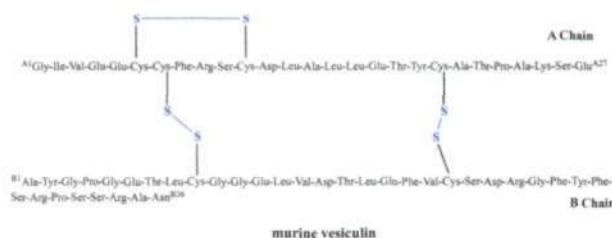


Asymmetric synthesis of carbocycles: use of intramolecular conjugate displacement

Dinesh T. Sreedharan and Derrick L. J. Clive*

Morita-Baylis-Hillman acetates derived from enantiopure γ -lactones undergo intramolecular conjugate displacement; reduction then affords the corresponding optically pure carbocycle.

3145

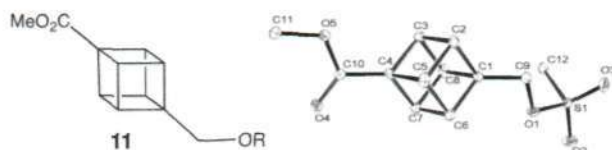


Synthesis of the IGF-II-like hormone vesiculin using regioselective formation of disulfide bonds

Geoffrey M. Williams, Garth J. S. Cooper, Kathryn Lee, Lynda Whiting and Margaret A. Brimble*

Murine vesiculin was synthesised using a combined Fmoc/Boc solid phase synthesis strategy, with orthogonal protection of cysteine residues allowing regioselective formation of disulfide bonds. Synthetic vesiculin reproduced the insulin-like response originally observed with material obtained from an immortalised murine pancreatic β -cell line.

3151



Hyperconjugation involving strained carbon-carbon bonds. Application of the variable oxygen probe to ester and ether derivatives of cubylmethanol

Benjamin Harris, G. Paul Savage and Jonathan M. White*

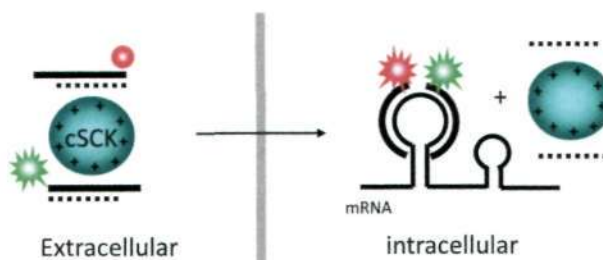
Application of the variable oxygen probe to crystal structures of derivatives of the cubylmethanol **11**, reveals that a strained cubane C-C bond is a stronger σ -donor than an unstrained C-C bond.

3159

Imaging mRNA expression levels in living cells with PNA-DNA binary FRET probes delivered by cationic shell-crosslinked nanoparticles

Zhenghui Wang, Ke Zhang, Yuefei Shen, Jillian Smith, Sharon Bloch, Samuel Achilefu, Karen L. Wooley and John-Stephen Taylor*

Binary PNA-DNA FRET probes in combination with cationic nanoparticles can image iNOS mRNA expression level in living mouse macrophage cells.

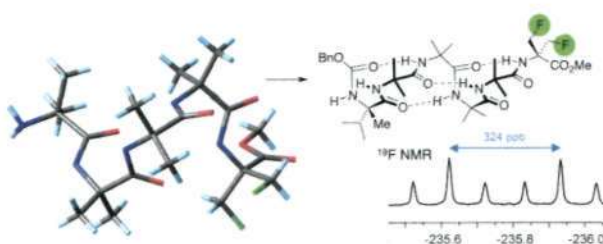


3168

Diastereotopic fluorine substituents as ^{19}F NMR probes of screw-sense preference in helical foldamers

Sarah J. Pike, Matteo De Poli, Wojciech Zawodny, James Raftery, Simon J. Webb and Jonathan Clayden*

Achiral residues containing diastereotopic fluorine substituents facilitate conformational analysis of helical peptide foldamers by ^{19}F NMR.

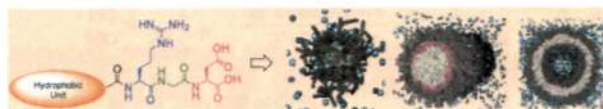


3177

Self-assembled multivalent RGD-peptide arrays – morphological control and integrin binding

Daniel J. Welsh, Paola Posocco, Sabrina Pricl* and David K. Smith*

Self-assembly allows us to form multivalent RGD arrays with different morphologies, which has an impact on the apparent binding to integrin proteins in a solution-phase assay.

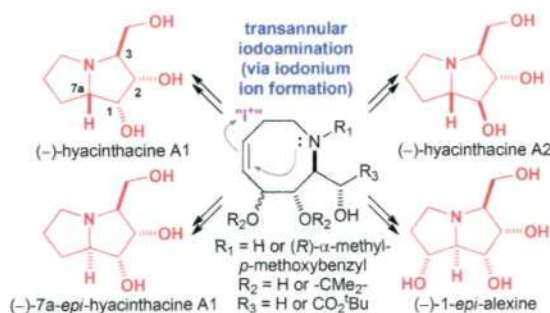


3187

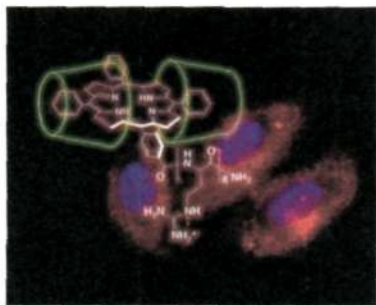
Polyhydroxylated pyrrolizidine alkaloids from transannular iodoaminations: application to the asymmetric syntheses of (–)-hyacinthacine A1, (–)-7a-*epi*-hyacinthacine A1, (–)-hyacinthacine A2, and (–)-1-*epi*-alexine

E. Anne Brock, Stephen G. Davies,* James A. Lee, Paul M. Roberts and James E. Thomson

Transannular iodoamination of substituted 1,2,3,4,7,8-hexahydroazocines facilitates the asymmetric synthesis of polyhydroxylated pyrrolizidine alkaloids.



3203

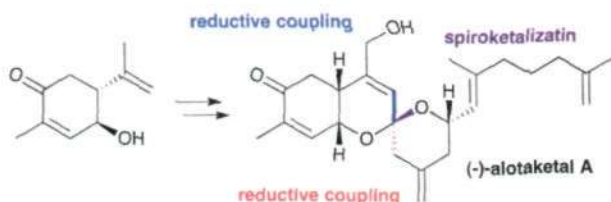


Cellular uptake of octaarginine-conjugated tetraarylporphyrin included by per-*O*-methylated β -cyclodextrin

Hiroaki Kitagishi,* Satoshi Hatada, Toshiaki Itakura, Yuki Maki, Yasuaki Maeda and Koji Kano*

A supramolecular complex of *meso*-tetraarylporphyrin having an octaarginine peptide with per-*O*-methylated β -cyclodextrin (TMe- β -CD) was prepared to investigate the effect of encapsulation of the hydrophobic porphyrin plane by TMe- β -CD on the cellular uptake efficiency.

3212

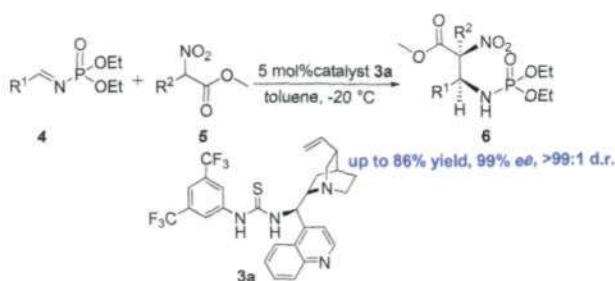


Total synthesis and structure–activity relationship study of the potent cAMP signaling agonist (–)-alotaketal A

Jinhua Huang, Jessica R. Yang, Jin Zhang* and Jiong Yang*

Total synthesis of alotaketal A employing repeated reductive allylation of esters. The SAR and subcellular specific activity of alotaketal A is elucidated.

3223

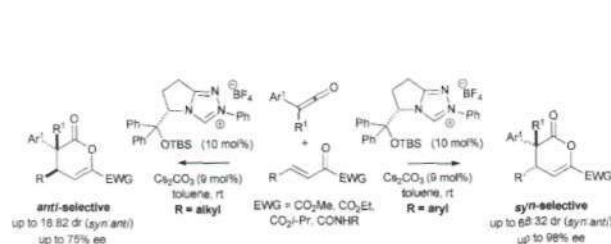


Diastereo- and enantioselective nitro-Mannich reaction of α -substituted nitroacetates to *N*-phosphoryl imines catalyzed by *cinchona* alkaloid thiourea organocatalysts

Weidong Fan, Shasha Kong, Yan Cai, Guiping Wu and Zhiwei Miao*

The stereoselective formation of β -nitro ethylphosphoramidates has been achieved via a nitro-Mannich reaction employing a *cinchona* alkaloid thiourea as an organocatalyst.

3230



NHC-mediated enantioselective formal [4 + 2] cycloadditions of alkylarylketenones and β,γ -unsaturated α -ketocarboxylic esters and amides

Stuart M. Leckie, T. Bruce Brown, David Pryde, Tomas Lebl, Alexandra M. Z. Slawin and Andrew D. Smith*

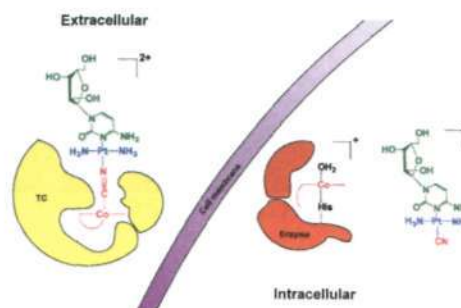
Chiral *N*-heterocyclic carbenes (NHCs) promote the asymmetric formal [4 + 2] cycloaddition of alkylarylketenones with β,γ -unsaturated α -ketocarboxylic esters and amides.

3247

Two-step activation prodrugs: transplatin mediated binding of chemotherapeutic agents to vitamin B₁₂

Mai Thanh Quynh Tran, Evelyne Furger and Roger Alberto*

Cytotoxic drugs X in the vitamin B₁₂ conjugate $[\{Co\}-CN-\{trans-Pt(NH_3)_2-X\}]^{2+}$ are released for exerting their biological activity *via* a two-step activation process.



3255

Gold amides as anticancer drugs: synthesis and activity studies

Sonya Newcombe, Mariusz Bobin, Amruta Shrikhande, Chris Gallop, Yannick Pace, Helen Yong, Rebecca Gates, Shuvashri Chaudhuri, Mark Roe, Eva Hoffmann* and Eddy M. E. Viseux*

Modular gold amide chemotherapeutics: Access to modern chemotherapeutics with robust and flexible synthetic routes amenable to extensive customisation is a key requirement in drug synthesis and discovery.

