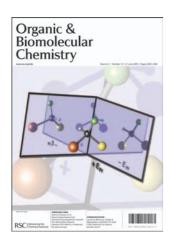
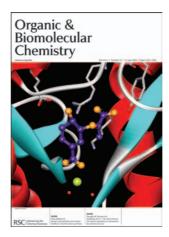
#### ISSN 1477-0520 CODEN OBCRAK 3(12) 2205-2360 (2005)



#### Cover

See Jeanne Crassous, Christian Chardonnet, Trond Saue and Peter Schwerdtfeger, pp. 2218-2224. The broken mirror: two enantiomers do not have exactly the same energy due to parity

Image reproduced by permission of Jeanne Crassous.



#### **Inside Cover**

See Richard J. Payne, Miguel D. Toscano, Esther M. M. Bulloch, A. D. Abell and C. Abell, pp. 2271-2281. The magnesium ion in the active site of Serratia marcescens anthranilate synthase coordinates the C-1 carboxylate of chorismate. Hydrogen bonding interactions further bind the substrate into the active site.

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#### **EDITORIAL**

#### 2217

#### Two new interdisciplinary journals complement Organic & Biomolecular Chemistry

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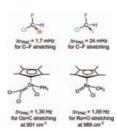
#### **EMERGING AREA**

#### 2218

#### Recent experimental and theoretical developments towards the observation of parity violation (PV) effects in molecules by spectroscopy

Jeanne Crassous,\* Christian Chardonnet, Trond Saue and Peter Schwerdtfeger

Recent progress in attempts to observe parity violation (PV) in molecules by ultra-high resolution infra-red (IR) spectroscopy is presented.



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#### "Click chemistry" en route to pseudo-starch

Laurence Marmuse, Sergey A. Nepogodiev\* and Robert A.

Starch fragment analogues incorporating up to 16 glucopyranose residues are assembled using Cu(I)-catalyzed dipolar cycloaddition.

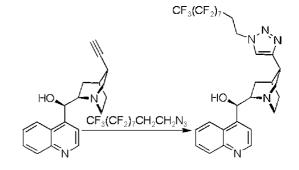


#### 2228

#### Fluorous click chemistry as a practical tagging method

Zoltán Kaleta, Orsolya Egyed and Tibor Soós\*

Highly efficient fluorous tagging methodology was developed based on catalytic 1,3-dipolar cycloaddition as the key step.



#### 2231

#### Synthetic studies on sugar-fused erinacines

Ayato Sato, Tomoya Masuda, Hirokazu Arimoto\* and Daisuke Uemura

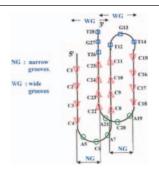
Samarium-mediated 7-endo-trig radical cyclization afforded excellent stereocontrol of the four contiguous asymmetric centers present in the 6-7-6 tricyclic cores of the (sugar-fused) erinacines E, F, and G.

#### 2234

#### Solution conformation of d(C<sub>4</sub>ACAC<sub>4</sub>TGT)<sub>2</sub>; an intramolecularly folded i-motif from the insulin minisatellite

Vandana V. Jolad, Fatima K. Murad, John R. P. Arnold and Julie Fisher\*

NMR-determined folding topology of a 28-mer DNA i-motif from the human insulin minisatellite region.



#### 2237

#### Diastereoselective reductive imino-aldol reaction of α-imino esters promoted by titanium tetraiodide: synthesis of α,β-diamino esters

Makoto Shimizu,\* Koji Inayoshi and Tetsuya Sahara

Under the influence of titanium tetraiodide reductive imino-aldol reaction of the N-tosylimine derived from ethyl glyoxylate proceeded with aldimines to give  $\alpha,\beta$ -diamino esters in good yields in a highly diastereoselective manner.

$$R^{1} = \text{aryl} \qquad O \qquad NHR^{2}$$

$$R^{1} = \text{aryl} \qquad \text{or alkyl} \qquad \text{syn} \qquad NH^{p}Ts$$

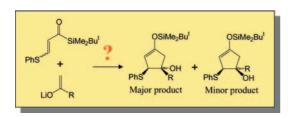
$$R^{1} = \text{alkynyl} \qquad O \qquad NHR^{2}$$

Synthesis of new organic super acids—N-(trifluoromethylsulfonyl)imino derivatives of trifluoromethanesulfonic acid and bis(trifluoromethylsulfonyl)imide

Romute Yu Garlyauskayte,\* Alexander N. Chernega, Christophe Michot, Michel Armand, Yurii L. Yagupolskii and Lev M. Yagupolskii

Two novel organic super acids: bis[N-(trifluoromethylsulfonyl)diiminotrifluoromethane sulfonimidoyl]imide and N,N'-bis(trifluoromethylsulfonyl)trifluoromethanesulfonic acid were prepared.

2244



Ab initio MO study on [3 + 2] annulation using β-phenylthioacryloylsilanes with alkyl methyl ketone enolates and its through-space/bond interaction analysis

Yuuichi Orimoto, Kazunari Naka, Kei Takeda and Yuriko Aoki\*

Ab initio through-space/bond interaction analysis was applied to [3 + 2] annulation including an uncertain reaction mechanism wherein a bulky product becomes a majority.

2250

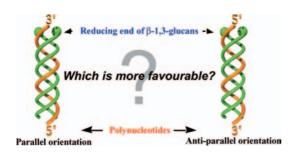


Peptide I, n = 1Peptide II n = 2  $\beta$ -Sheet mediated self-assembly of dipeptides of  $\omega$ -amino acids and remarkable fibrillation in the solid state

Anita Dutt, Michael G. B. Drew and Animesh Pramanik\*

Peptides I and II self-assemble into supramolecular  $\beta$ -sheet structures and form amyloid-like fibrils in the solid state.

2255

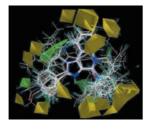


Parallel vs. anti-parallel orientation in a curdlan/oligo(dA) complex as estimated by a FRET technique

Munenori Numata, Kazuya Koumoto, Masami Mizu, Kazuo Sakurai and Seiji Shinkai\*

Two different energy transfer systems have led us to conclude that in the curdlan/oligo(dA) complex, parallel orientation is more favourable than anti-parallel orientation.

2262



New pyrazolo[3,4-b]pyridones as selective  $A_1$  adenosine receptor antagonists: synthesis, biological evaluation and molecular modelling studies

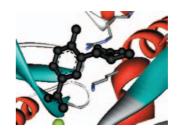
Paola Fossa, Marco Pestarino, Giulia Menozzi,\* Luisa Mosti, Silvia Schenone, Angelo Ranise, Francesco Bondavalli, M. Letizia Trincavelli, Antonio Lucacchini and Claudia Martini

A series of new pyrazolo[3,4-b]pyridones has been synthesized, pharmacologically tested and studied with molecular modelling.

#### Design and synthesis of aromatic inhibitors of anthranilate synthase

Richard J. Payne, Miguel D. Toscano, Esther M. M. Bulloch, Andrew D. Abell and Chris Abell\*

Aromatic chorismate analogues were synthesised and tested against anthranilate synthase. The most potent compound exhibited a  $K_1$  of  $3 \mu M$ .

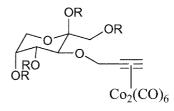


#### 2282

Synthesis, cytotoxicity, cellular uptake and influence on eicosanoid metabolism of cobalt-alkyne modified fructoses in comparison to auranofin and the cytotoxic COX inhibitor Co-ASS

Ingo Ott, Thao Koch, Hashem Shorafa, Zhenlin Bai, Daniel Poeckel, Dieter Steinhilber and Ronald Gust\*

The antiproliferative effects of cobalt-alkyne modified fructopyranoses depend on the number of protecting groups and correlate with the cellular drug concentration.



R= -H, isopropylidene

#### 2287

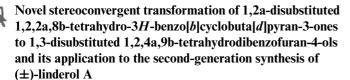
#### Synthesis of 5/7-, 5/8- and 5/9-bicyclic lactam templates as constraints for external $\beta$ -turns

Heather M. E. Duggan, Peter B. Hitchcock and Douglas W. Young\*

The synthesis of 5/7-, 5/8- and 5/9-bicyclic lactams by ring closing olefin metathesis is reported.

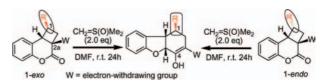
$$\begin{array}{c} H_{\text{CO}_2\text{CH}_2\text{Ph}} \\ + \\ \text{CO}_2\text{CH}_2\text{Ph} \\ + \\ \text{CO}_2\text{H} \\ \text{BocHN} \\ \text{H} \\ \end{array} \begin{array}{c} H_{\text{CO}_2\text{CH}_2\text{Ph}} \\ \text{CO}_2\text{CH}_2\text{Ph} \\ \text{BocHN} \\ \text{H} \\ \end{array} \begin{array}{c} H_{\text{CO}_2\text{CH}_2\text{Ph}} \\ \text{CO}_2\text{Br} \\ \text{CH}_2)_n \\ \text{NHBoc} \\ \text{H} \\ \end{array}$$

#### 2296



M. Yamashita, T. Inaba, M. Nagahama, T. Shimizu, S. Kosaka, I. Kawasaki and S. Ohta\*

Treatment of 1-exo- and 1-endo-substituted benzocyclobutapyranones with sulfoxonium methylide stereoconvergently afforded 1-substituted tetrahydrodibenzofuranol derivatives, and this methodology was applied to improved total synthesis of  $(\pm)$ -linderol A.

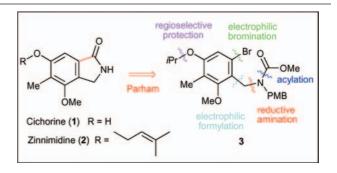


#### 2305

#### First total synthesis of cichorine and zinnimidine

Anne Moreau, Axel Couture,\* Eric Deniau, Pierre Grandclaudon and Stéphane Lebrun

The first total synthesis of the phytotoxins cichorine and zinnimidine is described. The key step is a Parham reaction applied to a polyfunctionalized bromoaryl derivative with a carbamate acting as the internal electrophile.

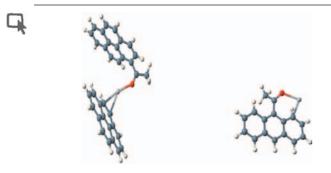


#### The dimethyldioxirane-mediated oxidation of phenylethyne

Klaus-Peter Zeller,\* Meike Kowallik and Peter Haiss

Oxygen transfer from dimethyldioxirane to phenylethyne yields phenyloxirene, followed by rearrangement to phenylketene and further oxidation to the  $\alpha$ -lactone of mandelic acid.

#### 2319

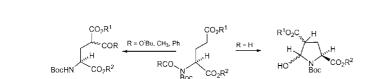


## Electrospray mass spectrometric and DFT study of substituent effects in Ag<sup>+</sup> complexation to polycyclic aromatic hydrocarbons (PAHs)

Kenneth K. Laali,\* Scott Hupertz, Alice G. Temu and Sergio E. Galembeck\*

Substituent effect on Ag<sup>+</sup> complexation in several classes of PAHs was probed *via* competitive experiments by ES-MS; complexation modes were studied by DFT.

#### 2327



# Synthesis of protected $\gamma$ -carboxyglutamates and $\gamma$ -acylglutamates by rearrangement of N,N-diacylglutamates

Anthony G. Avent, Heather M. E. Duggan and Douglas W. Young\*

A new method has been devised for the preparation of 4-carboxyglutamates and 4-acylglutamates involving rearrangement of N,N-diacylglutamates.

#### 2333



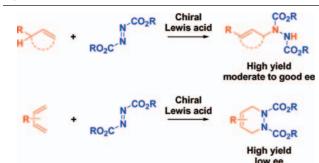


## Tandem hydroformylation—hydrazone formation—Fischer indole synthesis: a novel approach to tryptamides

Axel M. Schmidt and Peter Eilbracht\*

A novel one-pot synthesis of biologically interesting tryptamides and analogues starting from allylic amides and aryl hydrazines is described.

#### 2344



# Catalytic and enantioselective aza-ene and hetero-Diels-Alder reactions of alkenes and dienes with azodicarboxylates

Pompiliu S. Aburel, Wei Zhuang, Rita G. Hazell and Karl Anker Jørgensen\*

The development of the Lewis-acid catalyzed reactions of azodicarboxylates with different alkenes and hetero-Diels-Alder reaction of conjugated dienes with azodicarboxylates is reported.



Asymmetric double ring-opening of a  $C_{2h}$ -symmetric bis-epoxide: improved enantiomeric excess of the product through enantioselective desymmetrisation and 'proof-reading' steps

Alan Ironmonger, Peter Stockley and Adam Nelson\*

A new strategy in asymmetric synthesis is described in which the desymmetrisation of a  $C_{2h}$ -symmetric molecule is followed by a subsequent enantioselective 'proof-reading' step.

$$O \longrightarrow Me_3S N_3$$

$$Chiral catalyst$$

$$O \longrightarrow N_3$$

$$N_3$$

$$N_3 \longrightarrow N_3$$

$$N_3 \longrightarrow N_3$$

$$N_3 \longrightarrow N_3$$

$$N_3 \longrightarrow N_3 \longrightarrow N_3$$

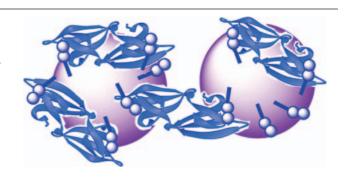
#### 2354



## Cyanovirin-N binding to Mana1-2Man functionalized

Shane L. Mangold, Joel R. Morgan, Gregory C. Strohmeyer, Angela M. Gronenborn and Mary J. Cloninger\*

Manα1-2Man functionalized PAMAM dendrimers mimic the oligosaccharide portion of glycoprotein GP-120, as demonstrated by dendrimer-Cyanovirin-N binding.



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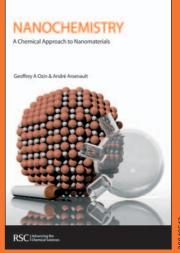
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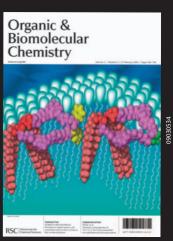
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