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Organic & Biomolecular Chemistry

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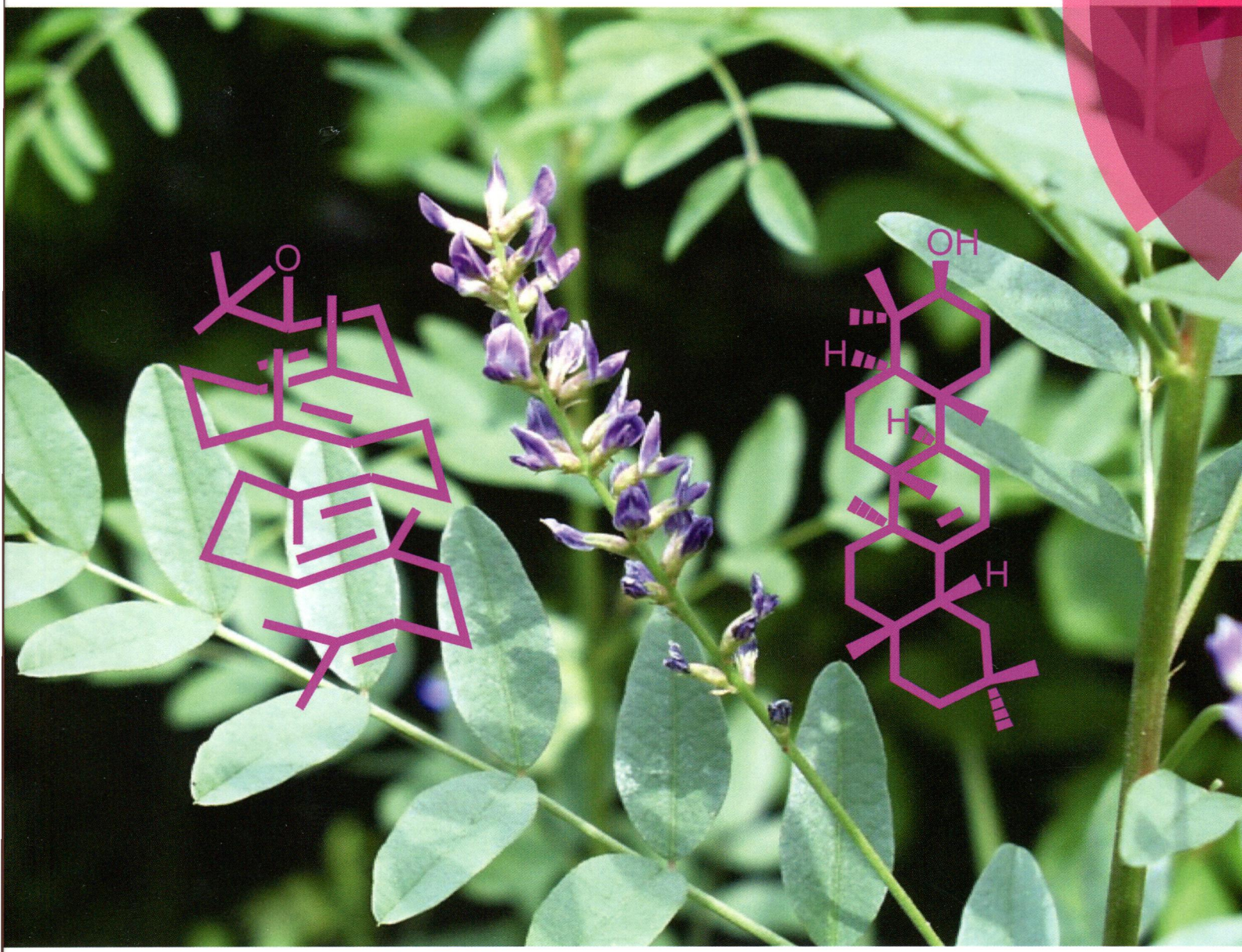

ISSN 1477-0520

ROYAL SOCIETY OF CHEMISTRY

PAPER

Tsutomu Hoshino *et al.*

β-Amyrin synthase from *Euphorbia tirucalli*. Steric bulk, not the π-electrons of Phe, at position 474 has a key role in affording the correct folding of the substrate to complete the normal polycyclization cascade

Organic & Biomolecular Chemistry

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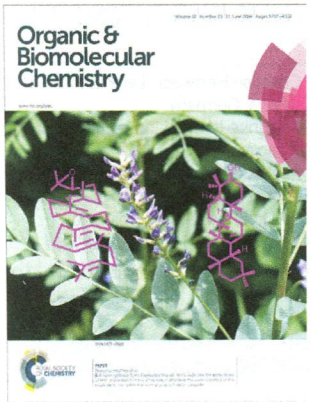
IN THIS ISSUE

ISSN 1477-0520 CODEN OBCRAK 12(23) 3757–4032 (2014)



Cover
See Tsutomu Hoshino *et al.*, pp. 3836–3846.

Image by Hoshino, T. and Kimura, T.

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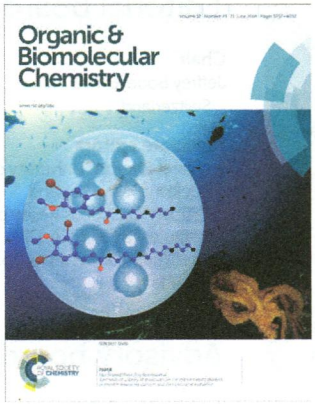

Inside cover
See Faiz Ahmed Khan, Roy Anindya *et al.*, pp. 3847–3865.

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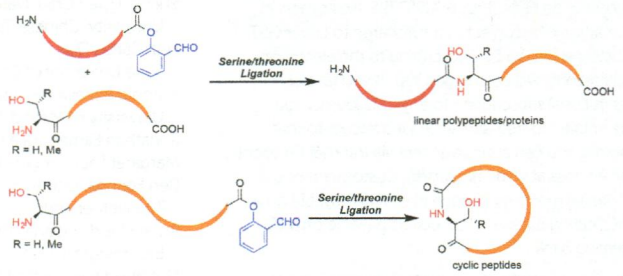
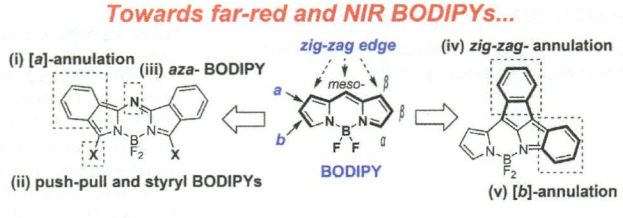
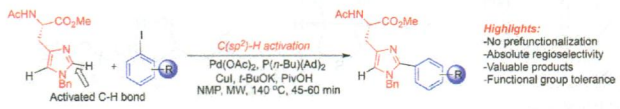
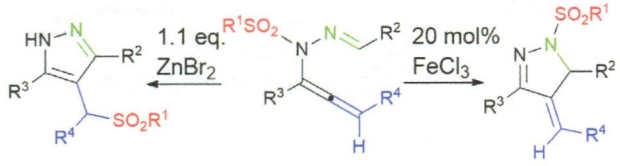
PERSPECTIVE

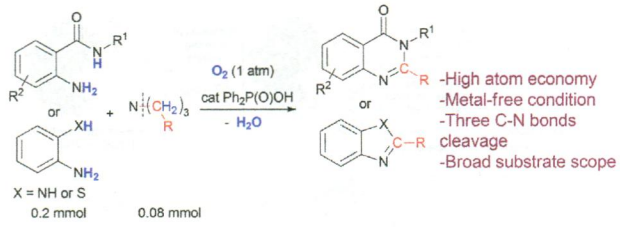


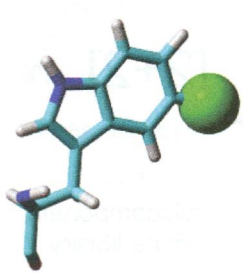
REVIEW

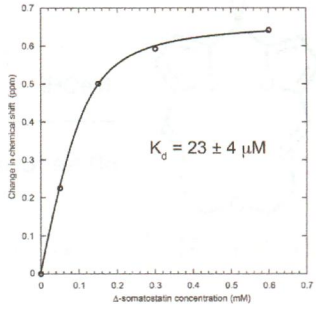


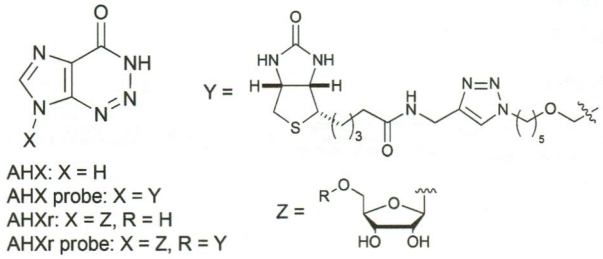








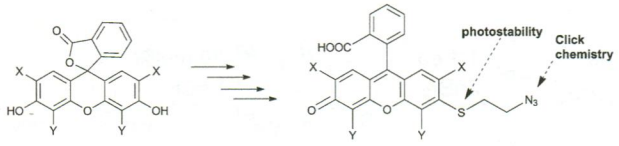




Practical synthesis of natural plant-growth regulator 2-azahypoxanthine, its derivatives, and biotin-labeled probes

Kazutada Ikeuchi, Ryosuke Fujii, Shimpei Sugiyama, Tomohiro Asakawa, Makoto Inai, Yoshitaka Hamashima, Jae-Hoon Choi, Tomohiro Suzuki, Hirokazu Kawagishi* and Toshiyuki Kan*

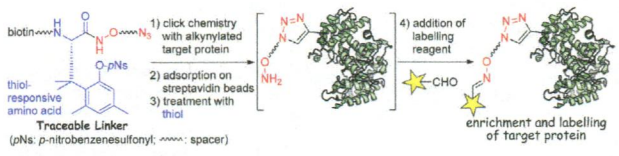
AHX derivatives and their probe molecules.



Synthesis of new asymmetric xanthene dyes *via* catalyst-free S_NAr with sulfur nucleophiles

Michaela Kotaskova, Okan Osman Oglou and Mark Helm*

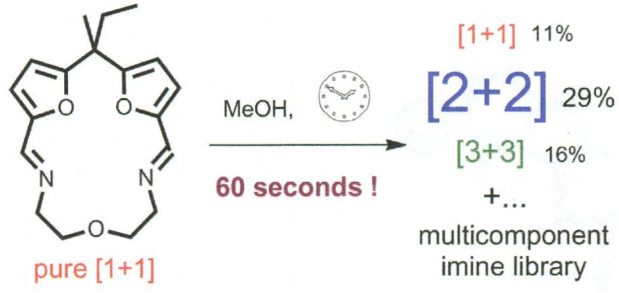
An unusual S_NAr with sulfur nucleophiles on electron rich aromatic xanthenes affords a new class of photostable asymmetric thioether xanthene dyes.



Development of a traceable linker containing a thiol-responsive amino acid for the enrichment and selective labelling of target proteins

Jun Yamamoto, Masaya Denda, Nami Maeda, Miku Kita, Chiaki Komiya, Tomohiro Tanaka, Wataru Nomura, Hirokazu Tamamura, Youichi Sato, Aiko Yamauchi, Akira Shigenaga* and Akira Otaka*

A traceable linker that is potentially applicable to identification of a target protein of interest was developed.



Fast imine equilibration and its consequences for the evaluation of dynamic combinatorial libraries

K. Ziach, A. Kulesza and J. Jurczak*

An example of the interplay between the templation and a very fast reequilibration of a DCL of imines that occurs upon a solvent change is reported. Such seemingly "irrelevant" details of the procedure like imine dissolution time may dictate the outcome of the whole reaction.

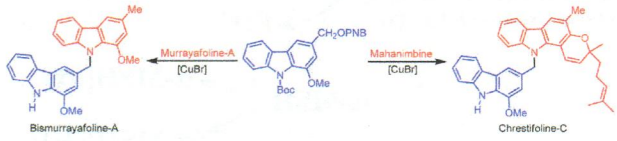
COMMUNICATIONS

3831

First total syntheses of chrestifoline-B and (±)-chrestifoline-C, and improved synthetic routes to bismurrayafoline-A, bismurrayafolinol and chrestifoline-D

Carsten Börger, Arndt W. Schmidt and Hans-Joachim Knölker*

We describe an efficient synthesis of the methylene-bridged biscarbazole alkaloids bismurrayafoline-A, bismurrayafolinol and chrestifoline B–D using an Ullmann-type coupling at the benzylic position.



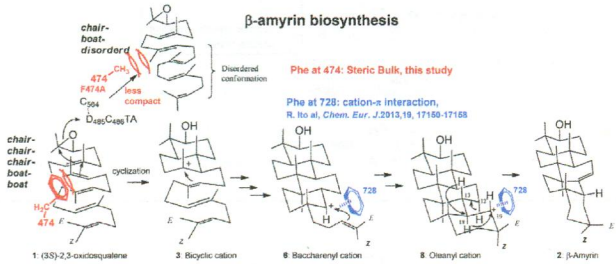
PAPERS

3836

β-Amyrin synthase from *Euphorbia tirucalli*. Steric bulk, not the π-electrons of Phe, at position 474 has a key role in affording the correct folding of the substrate to complete the normal polycyclization cascade

Ryousuke Ito, Yukari Masukawa, Chika Nakada, Kanako Amari, Chiaki Nakano and Tsutomu Hoshino*

The importance of the steric bulk at 474 residue is described for completion of the cyclization cascade, but not the π-electrons of the Phe residue.

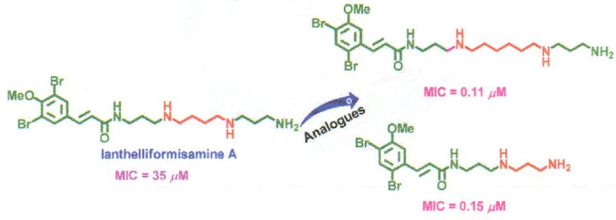


3847

Syntheses of a library of molecules on the marine natural product ianthelliformisamines platform and their biological evaluation

Faiz Ahmed Khan,* Saeed Ahmad, Naveena Kodipelli, Gururaj Shivange and Roy Anindya*

Analogues of marine natural products ianthelliformisamines were synthesized and evaluated for their biological activity, and two analogues showed promising bactericidal effects.

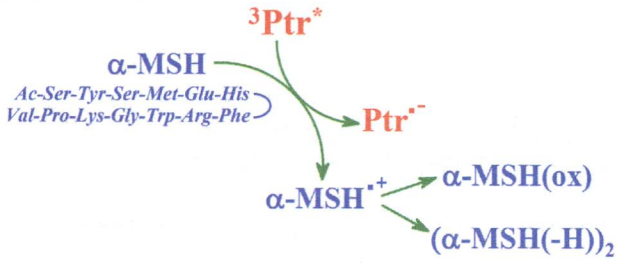


3866

Palladium(II)-catalysed total synthesis of naturally occurring pyrano[3,2-*a*]carbazole and pyrano[2,3-*b*]carbazole alkaloids

Ronny Hesse, Anne Jäger, Arndt W. Schmidt and Hans-Joachim Knölker*

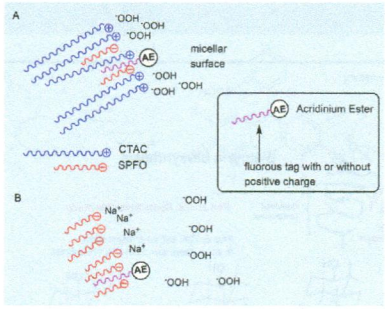
Seven naturally occurring pyranocarbazole alkaloids (pyrayafoline A–E, *O*-methylmurrayamine A and *O*-methylmahanine) have been synthesised using a palladium(II)-catalysed cyclisation of a diarylamine to an orthogonally diprotected 2,7-dihydroxycarbazole as key step.



Degradation of α-melanocyte-stimulating hormone photosensitized by pterin

Carolina Castaño, Carolina Lorente, Nathalie Martins-Froment, Esther Oliveros and Andrés H. Thomas*

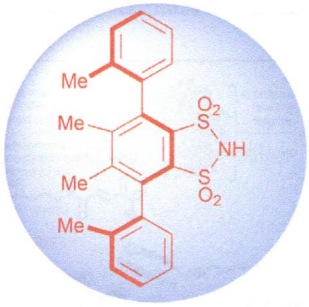
The reaction is initiated by an electron transfer and produces chemical changes in at least tryptophan and tyrosine residues.



Synthesis and properties of chemiluminescent acridinium ester labels with fluorous tags

Anand Natrajan,* David Wen and David Sharpe

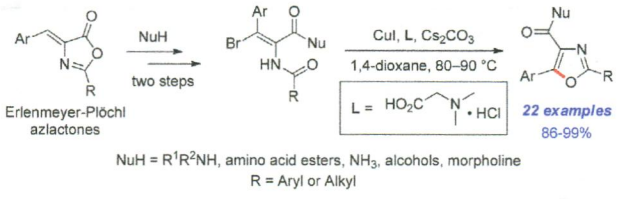
Acridinium dimethylphenyl esters are highly sensitive chemiluminescent labels that are used in clinical diagnostics.



Chiral derivatives of 1,2-benzenedisulfonimide as efficient Brønsted acid catalysts in the Strecker reaction

Margherita Barbero, Silvano Cadamuro, Stefano Dughera* and Roberta Torregrossa

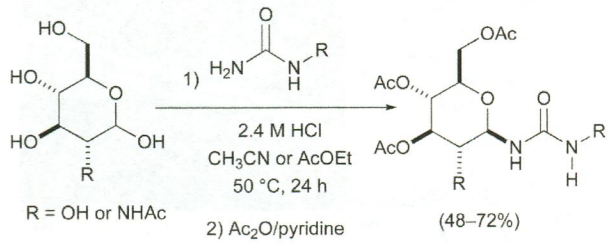
Two chiral derivatives of 1,2-benzenedisulfonimide were synthesized. (–)Atropisomers have been demonstrated to be efficient chiral catalysts in the Strecker reaction.

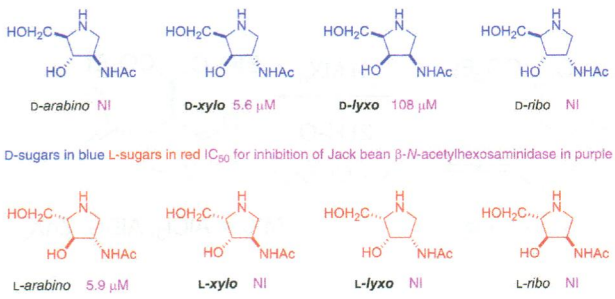


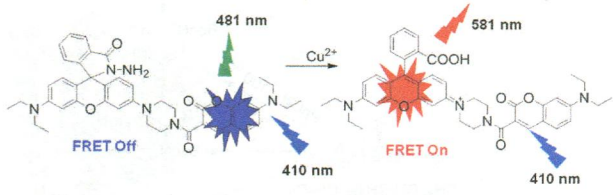
A concise approach to polysubstituted oxazoles from *N*-acyl-2-bromo enamides *via* a copper(I)/amino acid-catalyzed intramolecular C–O bond formation

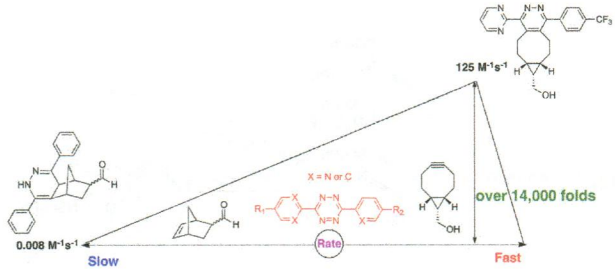
Bingjie Liu, Yueteng Zhang, Gang Huang, Xinting Zhang, Pengfei Niu, Jie Wu, Wenquan Yu* and Junbiao Chang*

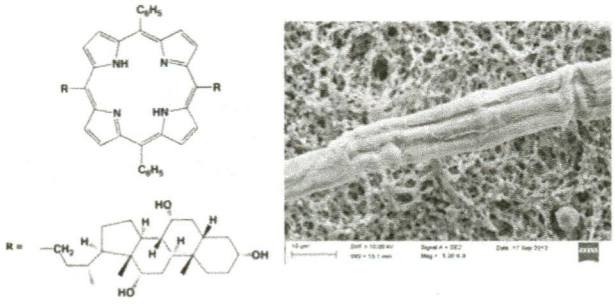
A straightforward and efficient copper(I)/amino acid-catalyzed intramolecular Ullmann-type C–O coupling reaction has been developed for oxazole synthesis.







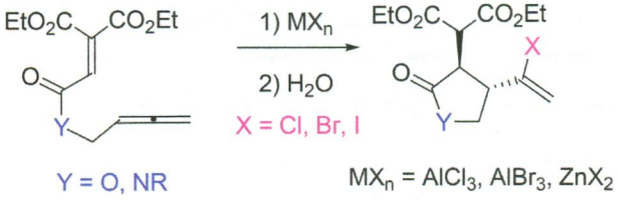




Tuning the chiroptical and morphological properties of steroidal-porphyrin aggregates: a mechanistic, structural, and MM investigation

Chiara Lorecchio, Mariano Venanzi, Claudia Mazzuca, Raffaella Lettieri, Antonio Palleschi,*
Thu Huong Nguyen Thi, Lenka Cardová, Pavel Drasar and Donato Monti*

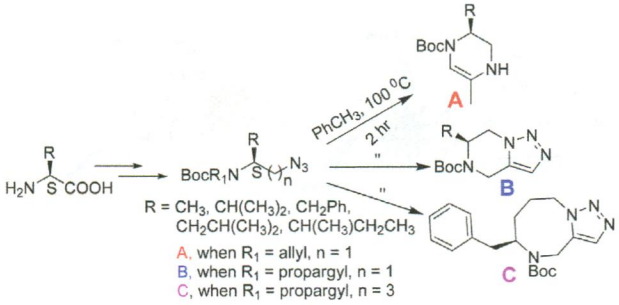
The morphology and the chirality of a steroid-functionalised porphyrin aggregate can be effectively tuned by the reaction conditions used.



Lewis acid-promoted cyclization/halogenation of allenyl ethenetricarboxylates and the corresponding amides: stereoselective synthesis of haloalkenyl five-membered heterocycles

Yugo Fukushima, Shoko Yamazaki* and Akiya Ogawa

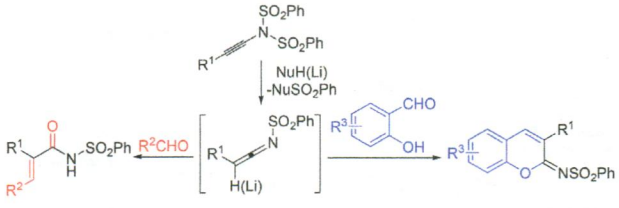
Lewis acid-promoted intramolecular reactions of allenyl ethenetricarboxylates and the corresponding amides gave 3,4-*trans* haloalkenyl five-membered heterocycles stereoselectively. Transformations of the products utilizing the haloalkenyl functionality have been demonstrated.



A rapid entry to amino acid derived diverse 3,4-dihydropyrazines and dihydro[1,2,3]triazolo[1,5-*a*]-pyrazines through 1,3-dipolar cycloaddition

Saurav Bera and Gautam Panda*

Practical synthesis of diverse 3,4-dihydropyrazines, 6,7-dihydro-[1,2,3]triazolopyrazines and 7,8-dihydro-[1,2,3]-triazolodiazepines through intramolecular 1,3-dipolar cycloaddition from amino acid derived intermediates is described.



Synthesis of α,β-unsaturated amides and iminocoumarins from *N,N*-disulfonyl ynamides with aldehydes *via* the ketenimine intermediate

Lian Yu and Jian Cao*

A novel synthesis of α,β-unsaturated amides from *N,N*-disulfonyl ynamides with aldehydes was developed. By utilization of salicylaldehydes, a variety of substituted iminocoumarins were prepared.