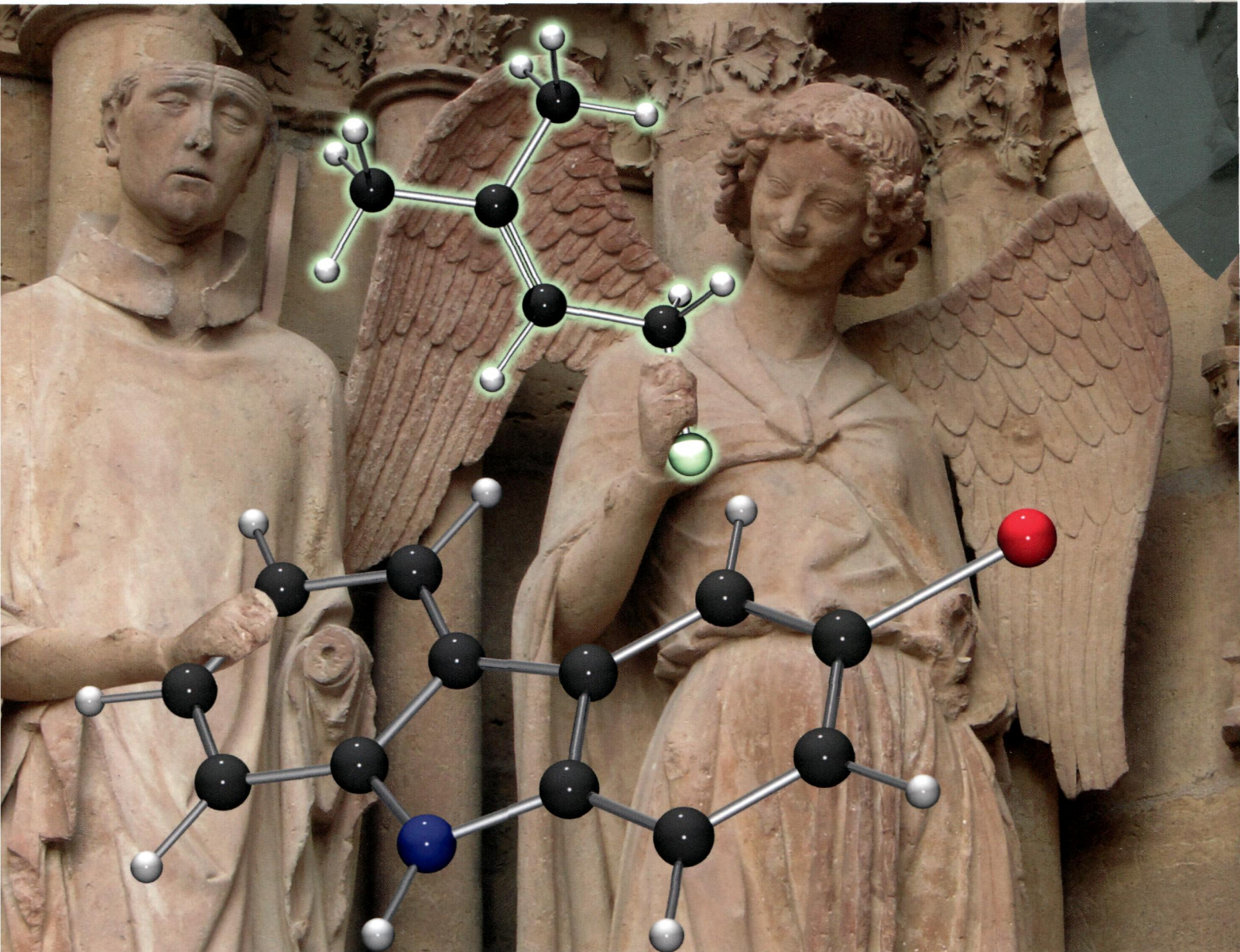
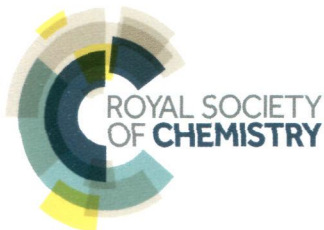


Organic & Biomolecular Chemistry

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COMMUNICATION

Hans-Joachim Knölker *et al.*

Regioselective prenylation of bromocarbazoles by palladium(0)-catalysed cross coupling – synthesis of *O*-methylsiamenol, *O*-methylmicromeline and carquinostatin A

Organic & Biomolecular Chemistry

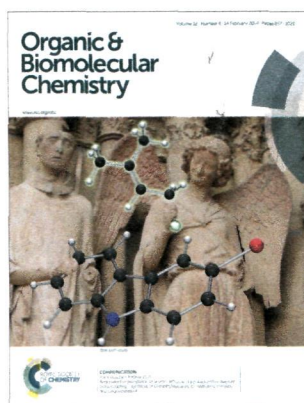
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IN THIS ISSUE

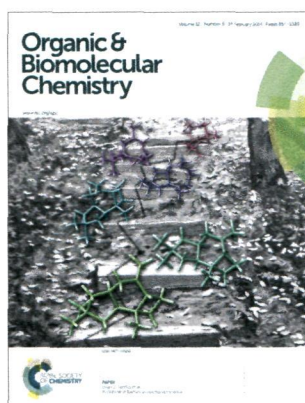
ISSN 1477-0520 CODEN OBCRAK 12(6) 857-1020 (2014)



Cover

See Hans-Joachim Knölker et al., pp. 872–875.

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Inside cover

See Dean J. Tantillo et al., pp. 887–894.

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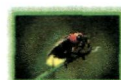
REVIEW

863

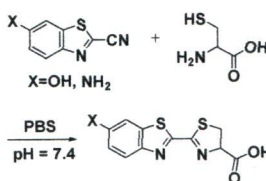
A biocompatible, highly efficient click reaction and its applications

Yue Yuan and Gaolin Liang*

Herein, we review the development, optimization, applications and potential prospects of a novel click reaction based on the condensation reaction between 2-cyanobenzothiazole (CBT) and D-cysteine (D-Cys) in fireflies.



Firefly



Spectral analysis



Optical imaging



Nuclear imaging



MR imaging

More...

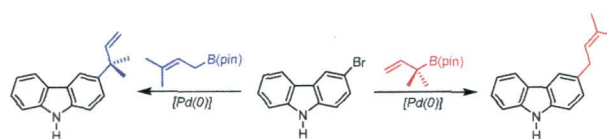
COMMUNICATIONS

872

Regioselective prenylation of bromocarbazoles by palladium(0)-catalysed cross coupling – synthesis of O-methylsiamenol, O-methylmicromeline and carquinostatin A

Claudia Thomas, Olga Kataeva, Arndt W. Schmidt and Hans-Joachim Knölker*

We describe the regioselective prenylation of 3-bromocarbazole by Pd(0)-catalysed cross coupling with a prenylstannane or a prenylboronate. The procedure is applied to the synthesis of bioactive carbazole alkaloids.

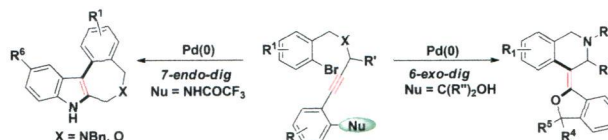


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Pd(0)-catalyzed regio- and stereoselective cyclization of alkynes: selective synthesis of (*E*)-4-(isobenzofuran-1(3*H*)-ylidene)-1,2,3,4-tetrahydroisoquinolines and aze/oxepinoindoles

Avanashiappan Nandakumar, Selvarangam E. Kiruthika, Kanagaraj Naveen and Paramasivan Thirumalai Perumal*

Palladium-catalyzed highly regio- and stereoselective cyclization of functionalized propargylic compounds is described.

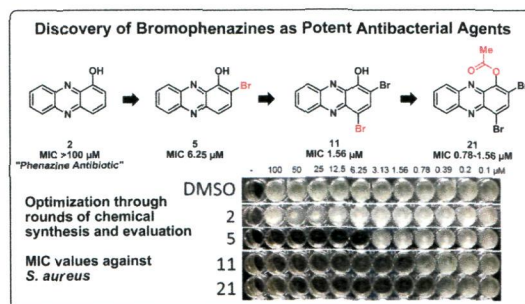


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Phenazine antibiotic inspired discovery of potent bromophenazine antibacterial agents against *Staphylococcus aureus* and *Staphylococcus epidermidis*

Nicholas V. Borrero, Fang Bai, Cristian Perez, Benjamin Q. Duong, James R. Rocca, Shouguang Jin and Robert W. Huigens III*

We have discovered a novel class of bromophenazines with potent antibacterial activity against *Staphylococcus aureus* and *Staphylococcus epidermidis*.



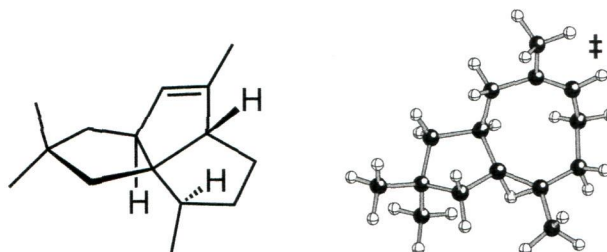
PAPERS

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Pentalene formation mechanisms redux

Michael W. Lodewyk, Dan Willenbring and Dean J. Tantillo*

The viability of various mechanisms for formation of the sesquiterpene pentalene is assessed using quantum chemical calculations.

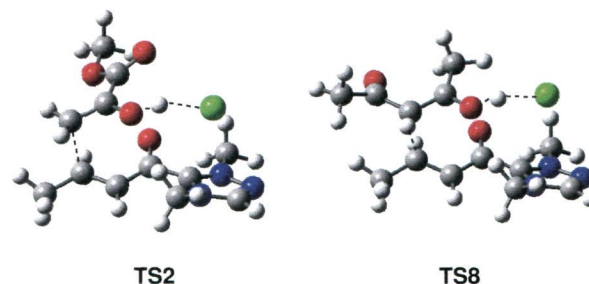


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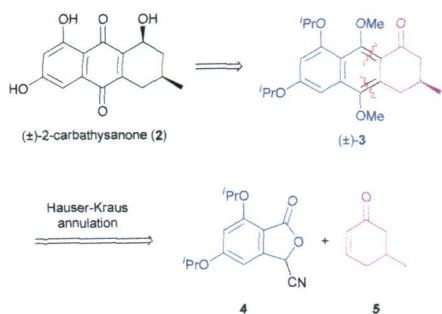
A DFT study on the NHC catalysed Michael addition of enols to α,β -unsaturated acyl-azoliums. A base catalysed C–C bond-formation step

Luis R. Domingo,* José A. Sáez and Manuel Arnó

Base catalysis in the NHC catalysed Michael addition of enols to α,β -unsaturated acyl-azoliums.



905

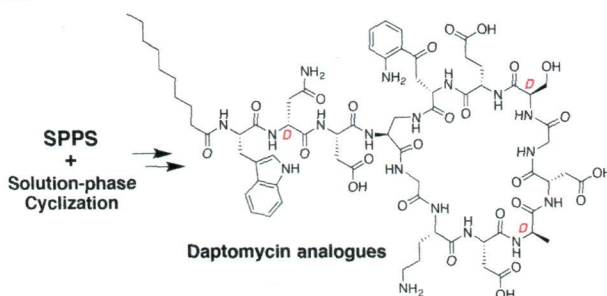


Synthesis of the 2-methylene analogue of the HRV 3C protease inhibitor thysanone (2-carbathysanone)

Katrin Schünemann, Daniel P. Furkert, Eun Cho Choi, Stephen Connelly, John D. Fraser, Jonathan Sperry and Margaret A. Brimble*

The synthesis of (±)-2-carbathysanone (2) is reported using a Hauser–Kraus annulation as the key step. A series of analogues was also synthesized using this approach and their ability to inhibit HRV 3C protease was evaluated.

913

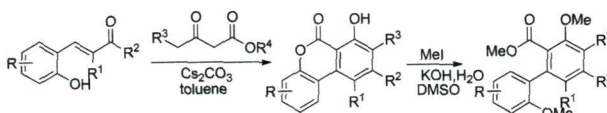


A combined solid- and solution-phase approach provides convenient access to analogues of the calcium-dependent lipopeptide antibiotics

Peter 't Hart, Laurens H. J. Kleijn, Gerjan de Bruin, Sabine F. Oppedijk, Johan Kemmink and Nathaniel I. Martin*

A synthetic route combining solid- and solution-phase techniques allows for the rapid preparation of daptomycin analogues.

919

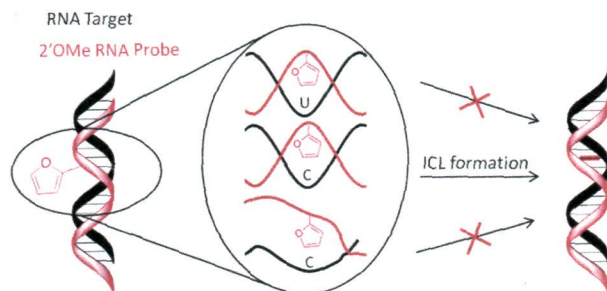


An advanced and novel one-pot synthetic method for diverse benzo[c]chromen-6-ones by transition-metal free mild base-promoted domino reactions of substituted 2-hydroxychalcones with β -ketoesters and its application to polysubstituted terphenyls

Tej Narayan Poudel and Yong Rok Lee*

Novel one-pot syntheses of a variety of benzo[c]chromen-6-one derivatives were accomplished by Cs_2CO_3 -promoted reactions of 2-hydroxychalcones.

931



A mildly inducible and selective cross-link methodology for RNA duplexes

L. L. G. Carrette, E. Gyssels, J. Loncke and A. Madder*

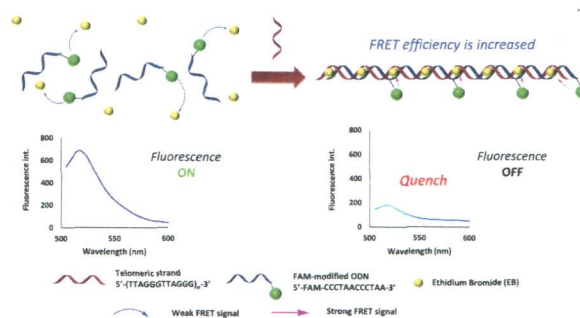
Interstrand cross-link formation with natural RNA targets.

936

A simple "add and measure" FRET-based telomeric tandem repeat sequence detection and telomerase assay method

Koji Kawamura, Hidenobu Yaku, Daisuke Miyoshi and Takashi Murashima*

A simple and sensitive method for measuring telomeric tandem repeat DNA and telomerase activity based on fluorescence resonance energy transfer (FRET) with a FAM-modified 12-mer ODN probe as a donor and ethidium bromide (EB) as an acceptor is proposed.

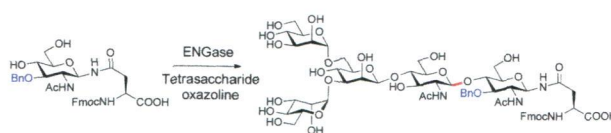


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Endo- β -N-Acetylglucosaminidase catalysed glycosylation: tolerance of enzymes to structural variation of the glycosyl amino acid acceptor

Yusuke Tomabechi, Marie A. Squire and Antony J. Fairbanks*

3-O-Benzylated GlcNAc-Asn glycosyl amino acids are efficiently synthesised and act as acceptor substrates for ENGase catalysed transfer of *N*-glycan oxazolines.

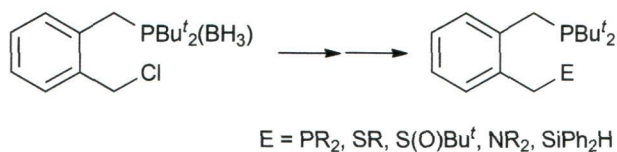


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Synthesis and characterisation of novel *o*-xylene-based *P,E* ligands

Kathryn M. Allan and John L. Spencer*

A range of novel compounds containing an *o*-xylene backbone, for use as hybrid *P,E* ligands, have been synthesised from a common precursor.

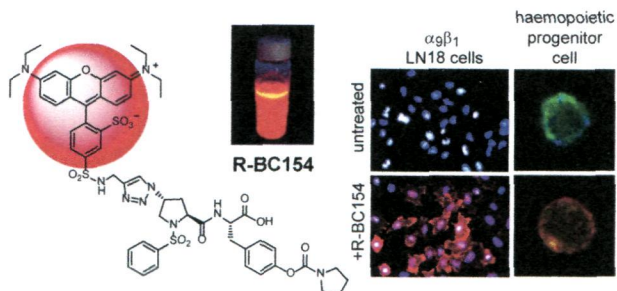


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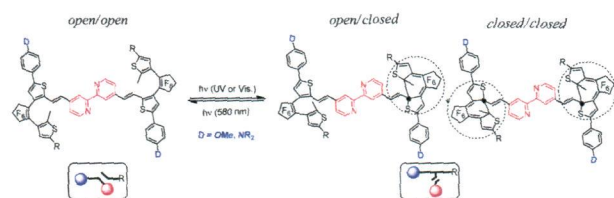
Design, synthesis and binding properties of a fluorescent $\alpha_9\beta_1/\alpha_4\beta_1$ integrin antagonist and its application as an *in vivo* probe for bone marrow haemopoietic stem cells

Benjamin Cao, Oliver E. Hutt, Zhen Zhang, Songhui Li, Shen Y. Heazlewood, Brenda Williams, Jessica A. Smith, David N. Haylock, G. Paul Savage* and Susan K. Nilsson

A fluorescent $\alpha_9\beta_1$ integrin antagonist with nanomolar binding affinities has been demonstrated to bind bone marrow haemopoietic stem and progenitor cells *in vivo*.



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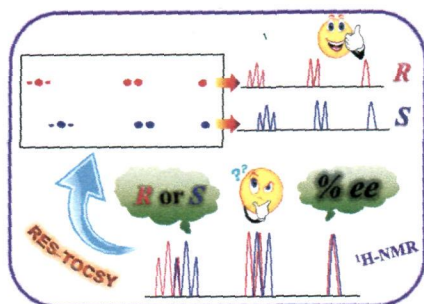


New fluorescent bis-dithienylethene (DTE)-based bipyridines as reverse interrupters: single vs. double photochromism

Lucie Ordronneau, Julien Boixel, Vincent Aubert, Matias S. Vidal, Sergio Moya, Pedro Aguirre, Loic Toupet, J. A. Gareth Williams, Hubert Le Bozec* and Véronique Guerschais*

The photochromic behaviour of a series of fluorescent bis-DTE-based bipyridines and their metal complexes is reported, incorporating donor and acceptor groups in the same thiophene ring.

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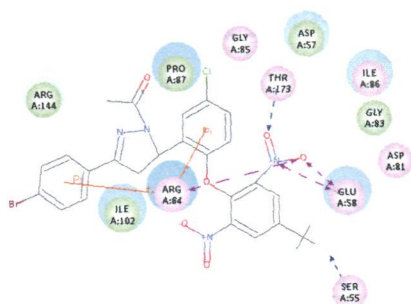


RES-TOCSY: a simple approach to resolve overlapped ^1H NMR spectra of enantiomers

Lokesh, Sachin Rama Chaudhari and N. Suryaprakash*

New NMR experiment for unravelling of overlapped NMR spectra.

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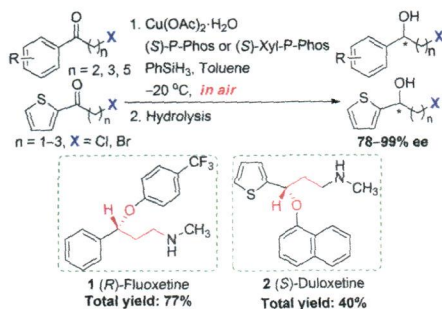


Synthesis, and antibacterial activity of novel 4,5-dihydro-1H-pyrazole derivatives as DNA gyrase inhibitors

Jia-Jia Liu, Juan Sun, Yun-Bin Fang, Yong-An Yang,* Rui-Hua Jiao* and Hai-Liang Zhu*

4,5-dihydropyrazole derivatives containing dinitrobenzotrifluoride moiety as potential DNA gyrase inhibitors were designed and evaluated for their antibacterial and DNA gyrase inhibitory activities. Compound **4t** was the most active antibacterial compound.

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Copper(II)-catalyzed enantioselective hydrosilylation of halo-substituted alkyl aryl and heteroaryl ketones: asymmetric synthesis of (*R*)-fluoxetine and (*S*)-duloxetine

Ji-Ning Zhou, Qiang Fang, Yi-Hu Hu, Li-Yao Yang, Fei-Fei Wu, Lin-Jie Xie, Jing Wu* and Shijun Li*

The developed copper-catalyzed enantioselective hydrosilylation procedure has been applied to the asymmetric synthesis of antidepressant drugs (*R*)-fluoxetine and (*S*)-duloxetine.