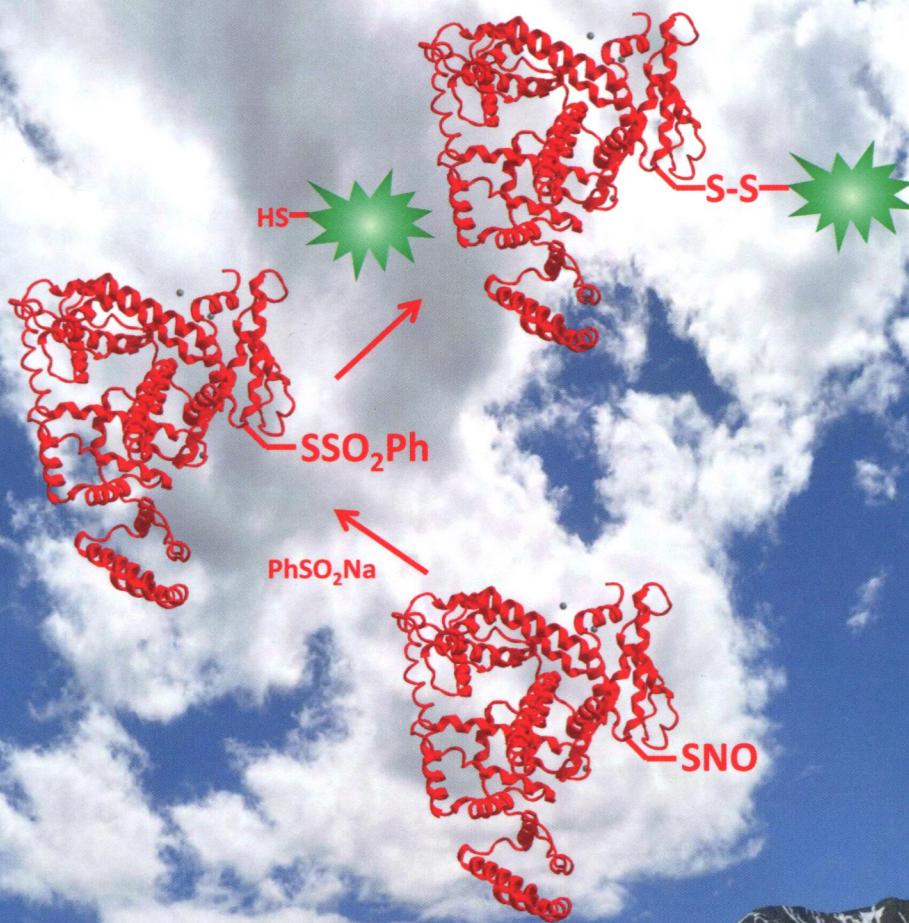


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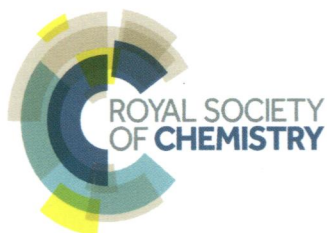
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PAPER

P. A. Grieco *et al.*

Conversion of *S*-phenylsulfonylcysteine residues to mixed disulfides at pH 4.0: utility in protein thiol blocking and in protein-*S*-nitrosothiol detection

Organic & Biomolecular Chemistry

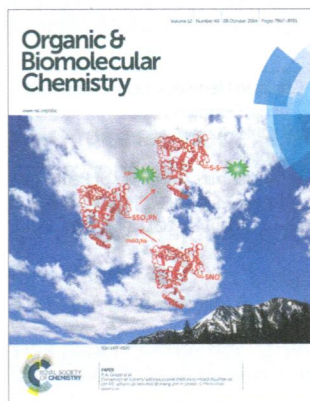
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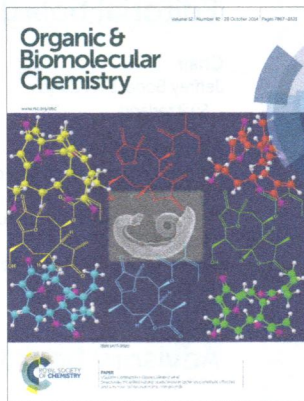
ISSN 1477-0520 CODEN OBCRAK 12(40) 7867–8101 (2014)



Cover

See P. A. Grieco *et al.*, pp. 7942–7956.

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Inside cover

See Vladimir Constantino Gomes Heleno *et al.*, pp. 7957–7964.

Image reproduced by permission of Vladimir Constantino Gomes Heleno from *Org. Biomol. Chem.*, 2014, **12**, 7957.

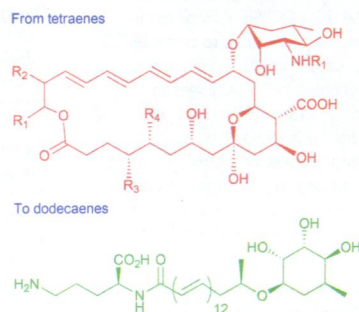
REVIEW

7877

Non-isoprenoid polyene natural products – structures and synthetic strategies

Katrina S. Madden, Fathia A. Mosa and Andrew Whiting*

This review provides insight into the variety of structures and biological activities found in the non-isoprenoid family of polyene natural products and examines the strategies and synthetic methods applied for the polyenic components in particular by way of examples.



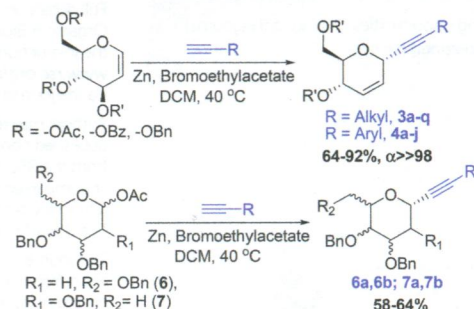
COMMUNICATIONS

7900

Zinc mediated activation of terminal alkynes: stereoselective synthesis of alkynyl glycosides

Madhu Babu Tatina, Anil Kumar Kusunuru, Syed Khalid Yousuf* and Debaraj Mukherjee*

Zinc mediated alkylation reaction was studied for the preparation of C-glycosides from unactivated aromatic and aliphatic acetylenes. Different glycosyl donors such as glycols and anomeric acetates were tested towards *in situ* generated alkynyl zinc reagent using zinc dust and ethyl bromoacetate. The method provides a simple, mild and stereoselective access of alkynyl glycosides.

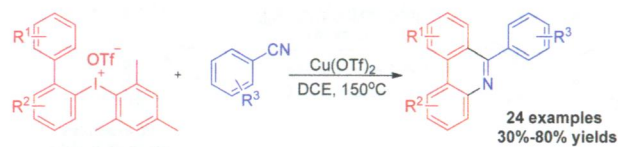


7904

Synthesis of phenanthridine derivatives *via* cascade annulation of diaryliodonium salts and nitriles

Jian Li,* Hongni Wang, Jiangtao Sun, Yang Yang and Li Liu

A cascade coupling reaction of diaryliodonium salts and nitriles *via* copper-catalysis toward phenanthridine derivatives has been developed.

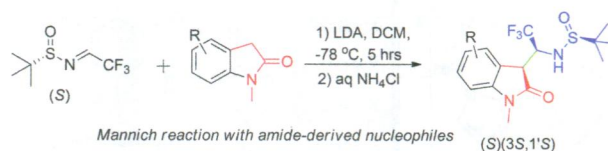


7909

Asymmetric synthesis of (3*S*,1'*S*)-3-(1-amino-2,2,2-trifluoroethyl)-1-(alkyl)-indolin-2-one derivatives by addition of (*S*)-*N*-*t*-butylsulfinyl-3,3,3-trifluoroacetaldimine to 1-(alkyl)-indolin-2-ones

Ping Qian, Chen Xie, Lingmin Wu, Haibo Mei, Vadim A. Soloshonok, Jianlin Han* and Yi Pan*

This paper for the first time presents the addition reactions between amide-derived nucleophiles and CF₃-containing *N*-sulfinyl-imines, with synthetically useful diastereoselectivity and chemical yields.

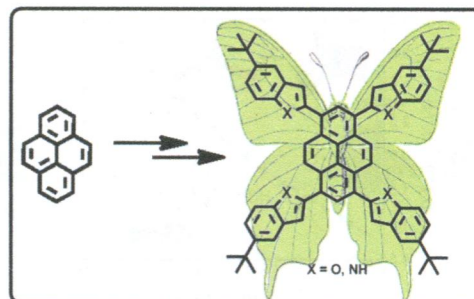


7914

Synthesis and photophysical properties of pyrene-based green fluorescent dyes: butterfly-shaped architectures

Devendar Goud Vanga, Mithun Santra, Ashok Keerthi and Suresh Valiyaveetil*

A few pyrene-based fluorescent compounds were synthesized using Pd/Cu-catalyzed cross-coupling reaction.

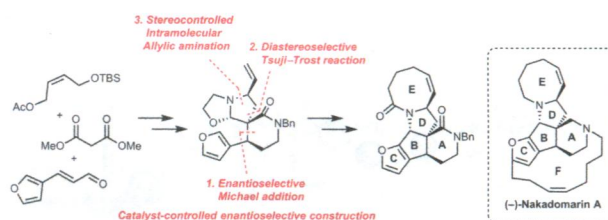


7919

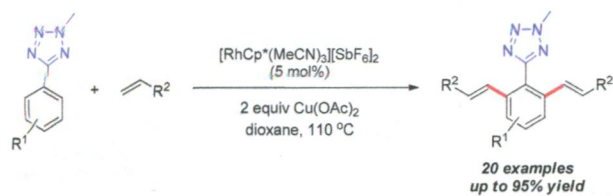
Catalytic asymmetric synthesis of the pentacyclic core of (–)-nakadomarin A *via* oxazolidine as an iminium cation equivalent

Nobuya Tsuji, Michael Stadler, Naoya Kazumi, Tsubasa Inokuma, Yusuke Kobayashi and Yoshiji Takemoto*

A catalytic asymmetric synthesis of the pentacyclic core of (–)-nakadomarin A was achieved.



7923

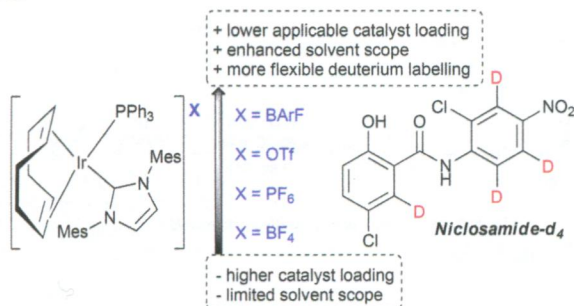


Rhodium-catalyzed olefination of aryl tetrazoles via direct C–H bond activation

Liang Wang,* Wenting Wu, Qun Chen and Mingyang He*

Rh(III)-catalyzed direct olefination reaction via aromatic C–H bond activation is described using tetrazole as the directing group.

7927

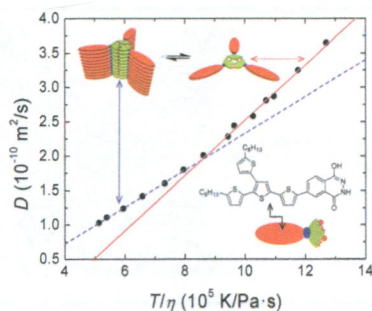


Anion effects to deliver enhanced iridium catalysts for hydrogen isotope exchange processes

Alan R. Kennedy, William J. Kerr,* Rory Moir and Marc Reid

Enhanced catalyst efficiency and solvent applicability has been achieved for hydrogen isotope exchange processes with Ir(I) complexes possessing larger, more weakly coordinating counterions.

7932



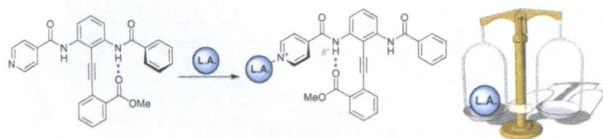
Estimating the shape and size of supramolecular assemblies by variable temperature diffusion ordered spectroscopy

Benjamin M. Schulze, Davita L. Watkins, Jing Zhang, Ion Ghiviriga and Ronald K. Castellano*

Reported is characterization of the self-assembly of π -conjugated oligomers, molecules studied recently in photovoltaic devices, using variable temperature diffusion ordered spectroscopy; the approach has allowed estimation of assembly size, shape, and molecularity.

PAPERS

7937



A Lewis acid-mediated conformational switch

Peter C. Knipe, Hannah Lingard, Ian M. Jones, Sam Thompson* and Andrew D. Hamilton*

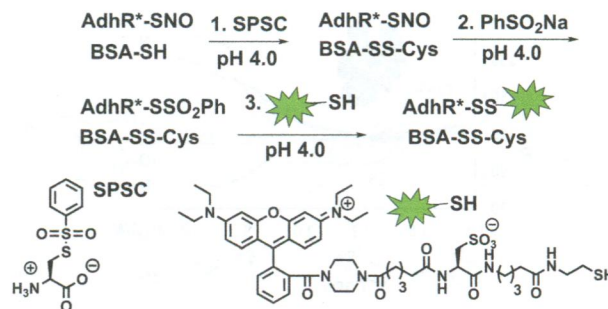
An isonicotinamide-substituted diphenylacetylene undergoes conformational switching upon recognition of Lewis acids.

7942

Conversion of *S*-phenylsulfonyleysteine residues to mixed disulfides at pH 4.0: utility in protein thiol blocking and in protein-*S*-nitrosothiol detection

B. D. Reeves, N. Joshi, G. C. Campanello, J. K. Hilmer, L. Chetia, J. A. Vance, J. N. Reinschmidt, C. G. Miller, D. P. Giedroc, E. A. Dratz, D. J. Singel and P. A. Grieco*

A protocol denoted as the thiosulfonate switch featuring sequential protein thiol blocking and conversion of protein-*S*-nitrosothiols to mixed disulfides bearing a fluorescent probe at pH 4.0 is reported.

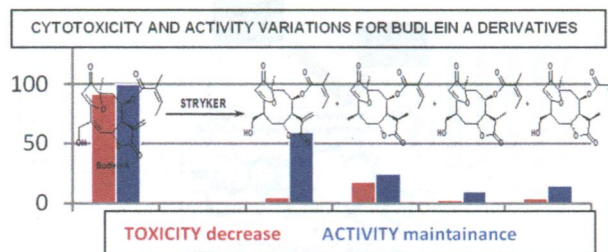


7957

Structurally modified natural sesquiterpene lactones constitute effective and less toxic schistosomicidal compounds

D. C. Sass, G. O. Morais, R. A. C. Miranda, L. G. Magalhães, W. R. Cunha, R. A. dos Santos, N. S. Arakawa, F. B. Da Costa, M. G. Constantino and V. C. G. Heleno*

Selective obtention of novel natural sesquiterpene lactone derivatives with interesting schistosomicidal activity and low toxicity, together with complete NMR assignments.

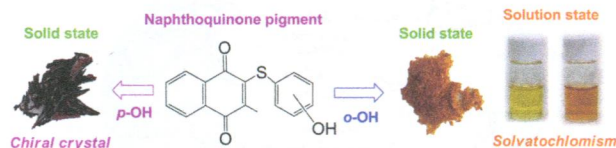


7965

Multiple optical properties of a naphthoquinone pigment: 2-methyl-3-(4- or 2-hydroxyphenylthio)-1,4-naphthalenedione

Hirota Akiyama, Takafumi Inoue, Nobuo Tajima, Reiko Kuroda and Yoshitane Imai*

Naphthoquinone pigments 2-methyl-3-(4- or 2-hydroxyphenylthio)-1,4-naphthalenedione show characteristic multiple optical properties in solution and in the solid state.

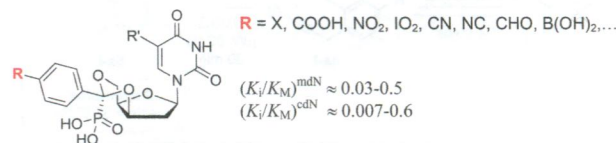


7971

Conformationally constrained nucleoside phosphonic acids – potent inhibitors of human mitochondrial and cytosolic 5'(3')-nucleotidases

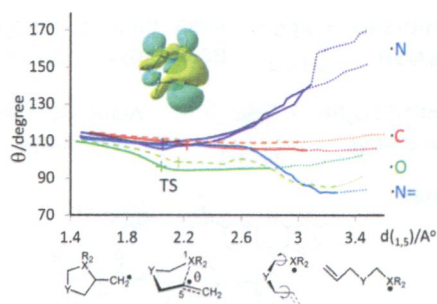
Ondřej Šimák, Petr Páchl, Milan Fábry, Miloš Buděšinský, Tomáš Jandušík, Aleš Hnízda, Radka Skleničková, Magdalena Petrová, Václav Veverka, Pavlína Řezáčová, Jiří Brynda* and Ivan Rosenberg*

Conformationally constrained nucleoside phosphonic acids – potent inhibitors of human mitochondrial and cytosolic 5'(3')-deoxynucleotidases.



Selectivity index for various R $(K_i/K_M)^{\text{mdN}}/(K_i/K_M)^{\text{cdN}} \approx 0.07\text{--}40$

7983

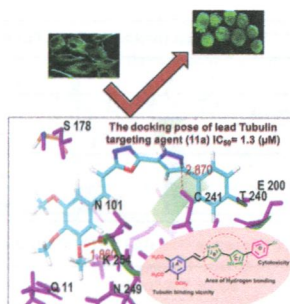


The importance of chain conformational mobility during 5-exo-cyclizations of C-, N- and O-centred radicals

John C. Walton

The access angle of a radical centre to an alkene acceptor was found to be a key parameter that pinpointed difficult chain reorganizations as responsible for the slow 5-exo cyclizations of N-centred radicals.

7993

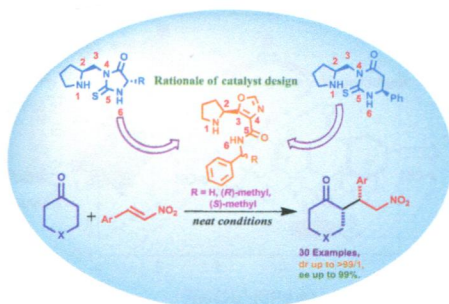


Pyrazole-oxadiazole conjugates: synthesis, antiproliferative activity and inhibition of tubulin polymerization

Ahmed Kamal,* Anver Basha Shaik, Sowjanya Polepalli, Vangala Santosh Reddy, G. Bharath Kumar, Soma Gupta, K. V. S. Rama Krishna, Ananthamurthy Nagabhushana, Rakesh K. Mishra and Nishant Jain

A library of pyrazole-oxadiazole conjugates were synthesized and investigated for their antiproliferative activity in human cancer cell lines.

8008

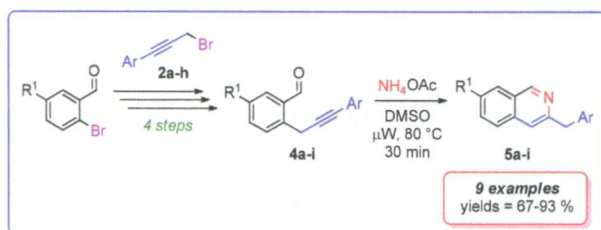


Asymmetric Michael addition of ketones to nitroolefins: pyrrolidinyl-oxazole-carboxamides as new efficient organocatalysts

Ahmed Kamal,* Manda Sathish, Vunnam Srinivasulu, Jadala Chetna, Kunta Chandra Shekar, Shalini Nekkanti, Yellaiah Tangella and Nagula Shankaraiah

New pyrrolidinyl-oxazole-carboxamides were synthesized and utilized as efficient organocatalysts for asymmetric Michael addition reaction. In addition, computational mechanistic studies were performed.

8019



Synthesis of 3-benzylisoquinolines by domino imination/cycloisomerisation of 2-propargylbenzaldehydes

Monica Dell'Acqua,* Valentina Pirovano, Giorgio Confalonieri, Antonio Arcadi, Elisabetta Rossi and Giorgio Abbiati*

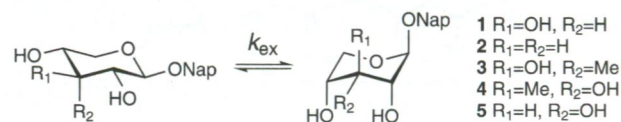
A modular entry to 2-propargylbenzaldehydes and their use in μ W-promoted cascade reaction with ammonium acetate for the synthesis of 3-benzylisoquinolines.

8031

Conformational effects due to stereochemistry and C3-substituents in xylopyranoside derivatives as studied by NMR spectroscopy

Jerk Rönnols, Sophie Manner, Ulf Ellervik and Göran Widmalm*

Dynamic NMR spectroscopy revealed an unequally populated equilibrium at low temperature for a 3-deoxygenated compound.

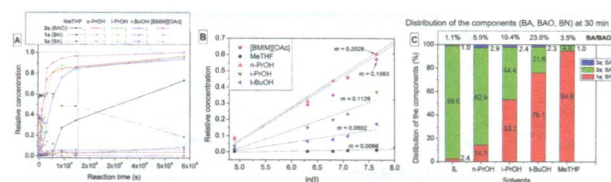


8036

An experimental and theoretical study of reaction mechanisms between nitriles and hydroxylamine

Attila Vörös,* Zoltán Mucsi,* Zoltán Baán, Géza Timári, István Hermeicz, Péter Mizsey and Zoltán Finta

The industrially relevant reaction between nitriles and hydroxylamine yielding amidoximes was studied in different molecular solvents and in ionic liquids.



8048

Discovery and SAR study of piperidine-based derivatives as novel influenza virus inhibitors

Guoxin Wang,* Longjian Chen, Tongmei Xian, Yujie Liang, Xintao Zhang, Zhen Yang* and Ming Luo*

A series of 4-(quinolin-4-yloxy)piperidine-1-carboxylate derivatives were identified as novel and potent inhibitors of the influenza virus through structural modification of a compound from a high-throughput screen.

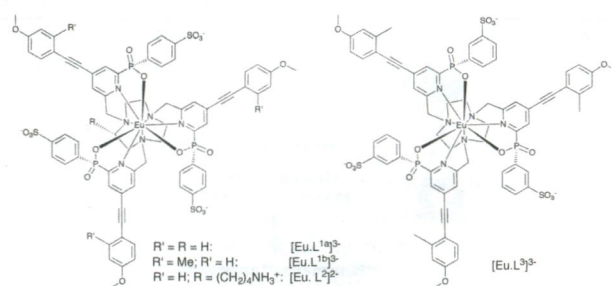


8061

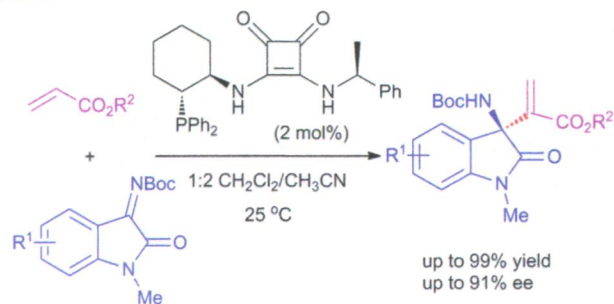
Synthesis of *meta* and *para*-substituted aromatic sulfonate derivatives of polydentate phenylazaphosphinate ligands: enhancement of the water solubility of emissive europium(III) EuroTracker® dyes

Martina Delbianco, Laurent Lamarque and David Parker*

The use of a trifluoroethyl ester group to protect sulfonic acid moieties is used in the synthesis of a short series of water-soluble, very bright europium(III) complexes.



8072

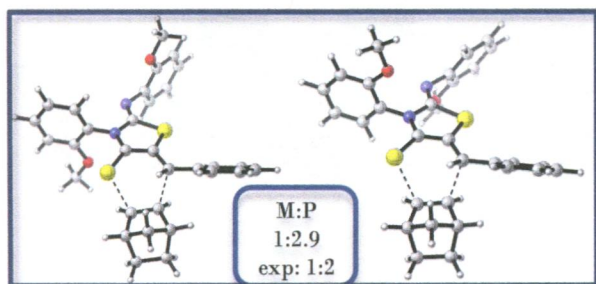


Enantioselective aza-Morita-Baylis-Hillman reaction between acrylates and *N*-Boc isatin ketimines: asymmetric construction of chiral 3-substituted-3-aminooxindoles

Xuan Zhao, Tian-Ze Li, Jing-Ying Qian, Feng Sha* and Xin-Yan Wu*

The first enantioselective aza-Morita-Baylis-Hillman reaction of acrylates with ketimines was achieved in excellent yields and good enantioselectivities.

8079

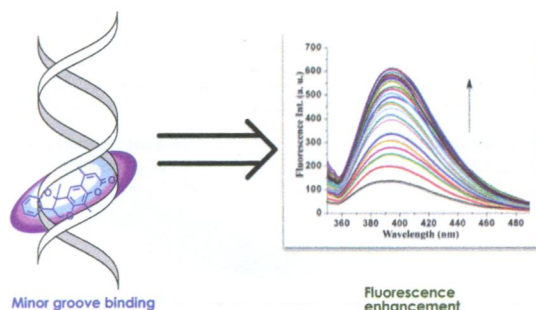


The origin of *exo*-stereoselectivity of norbornene in hetero Diels-Alder reactions

Sesil Agopcan Cinar, Selami Ercan, Sule Erol Gunal, Ilknur Dogan* and Viktorya Aviyente*

The distortion of norbornene and the steric effect of the quasi-eclipsing forming bonds in the *endo* transition structures were demonstrated successfully in order to highlight the *exo* selectivity of norbornene in the reaction of 5-benzylidene-2-arylimino-3-aryl-thiazolidine-4-thiones with norbornene with the M06-2X/6-31+G(d)//B3LYP/6-31+G(d) methodology.

8087

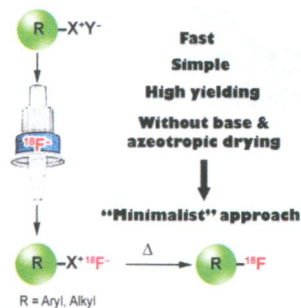


The coumarin-pterocarpan conjugate – a natural product inspired hybrid molecular probe for DNA recognition

Shital K. Chattopadhyay,* Indranil Kundu and Ratnava Maitra

Thermally induced cascade sigmatropic rearrangement of a butynyloxycoumarin derivative has led to a quick access to the coumarin-pterocarpan hybrid molecule. Biophysical studies together with molecular modeling show that this nature-inspired hybrid molecule is capable of binding to the minor groove of DNA as a non-conventional entity.

8094



Neither azeotropic drying, nor base nor other additives: a minimalist approach to ^{18}F -labeling

R. Richarz, P. Krapf, F. Zarrad, E. A. Urusova, B. Neumaier* and B. D. Zlatopolskiy

A novel radiofluorination procedure using only precursor and [^{18}F]fluoride without the need for azeotropic drying, base and other ingredients was developed.