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Tetrahedron Letters

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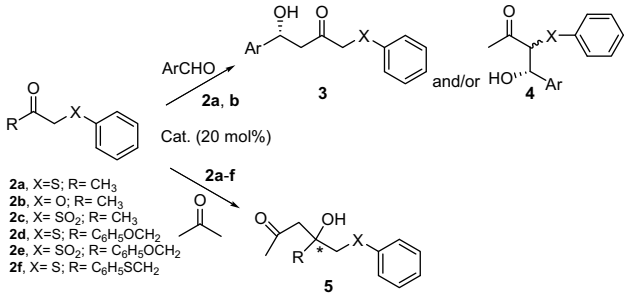
Contents

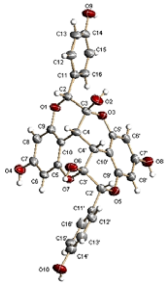
COMMUNICATIONS

Synthesis of enantiomerically enriched secondary and tertiary phenylthio- and phenoxy-aldols **pp 3037–3041**
Angela M. Bernard, Angelo Frongia *, Pier Paolo Piras, Francesco Secci, Marco Spiga

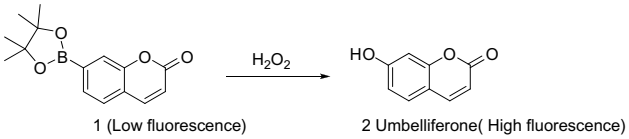


Abiesanol A, a novel biflavanol with unique six connective hexacyclic rings isolated from *Abies georgei* **pp 3042–3044**
Xian-Wen Yang, Su-Mei Li, Lin Feng, Yun-Heng Shen, Jun-Mian Tian, Hua-Wu Zeng, Xiao-Hua Liu, Lei Shan, Juan Su, Chuan Zhang *, Wei-Dong Zhang *

A novel biflavanol (abiesanol A, **1**) was isolated from the aerial part of *Abies georgei*. The structure was confirmed by single-crystal X-ray diffraction analysis.

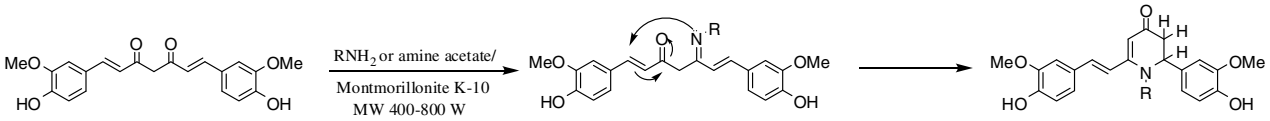


Rational design of a fluorescent hydrogen peroxide probe based on the umbelliferone fluorophore **pp 3045–3048**
Lupei Du, Minyong Li, Shilong Zheng, Binghe Wang *



A novel water-soluble umbelliferone-based fluorescent for hydrogen peroxide is described.

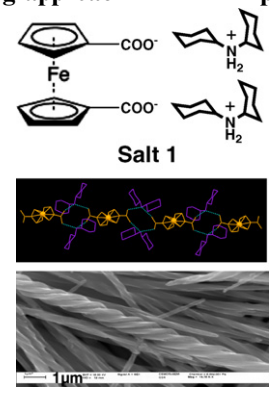
Microwave-assisted synthesis of dihydropyridones from curcumin **pp 3049–3051**
Rita S. Elias, Bahjat A. Saeed *, Kawkab Y. Saour, Najim A. Al-Masoudi



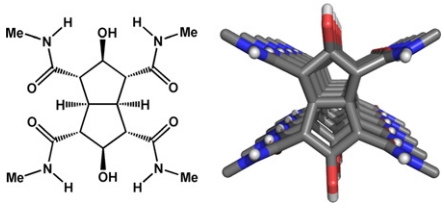
Dihydropyridones were prepared by microwave-assisted reaction between curcumin and primary amines or their acetates in the presence of Montmorillonite (K10) as a catalyst. The reaction was complete within a few minutes and the yield depends on the amine used.

An easy access to an organometallic low molecular weight gelator: a crystal engineering approach **pp 3052–3055**
Pathik Sahoo, D. Krishna Kumar, Darshak R. Trivedi, Parthasarathi Dastidar *

A crystal engineering rationale has been exploited to achieve an easy access to an organometallic *low molecular weight gelator* (LMWG) derived from a salt of ferrocene-1,1′-dicarboxylic acid (FDCA) and dicyclohexyl amine (DCHA). To the best of our knowledge, this is the first report wherein a crystal engineering approach has been exploited to design an organometallic LMWG.

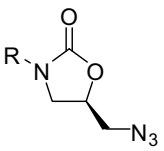


A rigid bicyclo[3.3.0]octane (octahydropentalene): a heavily constrained novel aliphatic template for molecular self-assembly **pp 3056–3059**
Amol M. Kendhale, Rajesh Gonnade, P. R. Rajamohanan, Gangadhar J. Sanjayan *

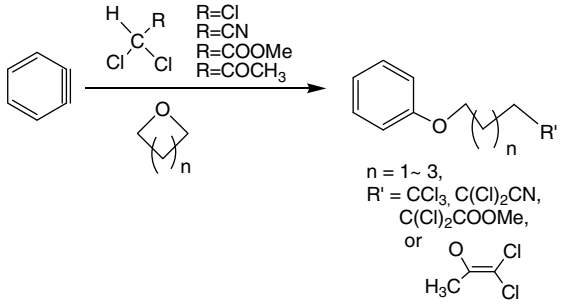


This Letter reports the utility of a heavily constrained cis-fused bicyclo[3.3.0]octane (octahydropentalene) aliphatic template for effecting molecular self-assembly. An attractive feature of this system is its heavily constrained alicyclic backbone that would allow for the exploration of self-assembling systems with conformationally ordered features.

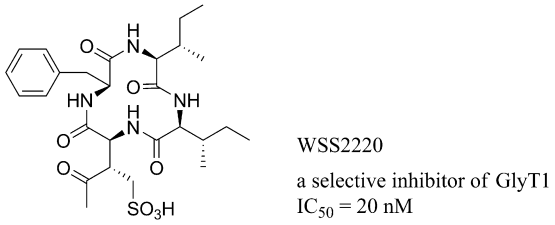
Stereoselective synthesis of novel (*R*)- and (*S*)-5-azidomethyl-2-oxazolidinones from (*S*)-epichlorohydrin: a key precursor for the oxazolidinone class of antibacterial agents **pp 3060–3062**
G. Madhusudhan *, G. Om Reddy, T. Rajesh, J. Ramanatham, P. K. Dubey



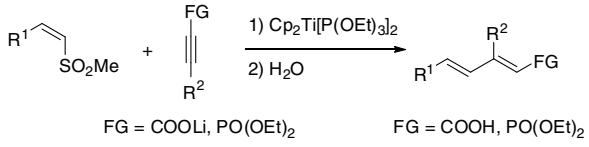
Novel tandem reaction of benzyne with cyclic ethers and active methines: synthesis of ω-trichloroalkyl phenyl ethers **pp 3063–3066**
Kentaro Okuma *, Yuta Fukuzaki, Akiko Nojima, Kosei Shioji, Yoshinobu Yokomori



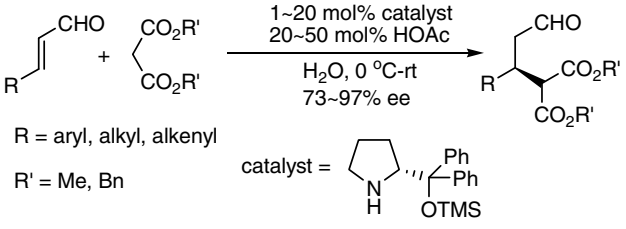
WSS2220, a novel cyclic tetrapeptide with a new sulfonoamino acid, exhibits potent and selective inhibitory activity against GlyT1 **pp 3067–3070**
Yuichi Terui *, Chu Yi-wen, Li Jun-ying, Osamu Nozawa, Tsutomu Ando, Takuya Fukunaga, Takeshi Aoki, Yoshihisa Toda, Akira Kawashima



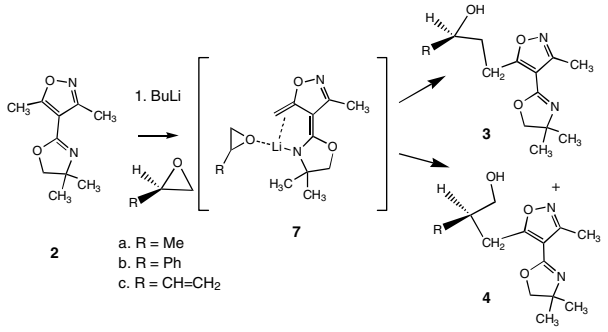
Regio- and stereoselective preparation of dienylcarboxylic acids and dienylphosphonic esters using a (*Z*)-alkenyl sulfone–titanocene(II) system **pp 3071–3074**
Akitoshi Ogata, Masami Nemoto, Yoshitaka Takano, Akira Tsubouchi, Takeshi Takeda *



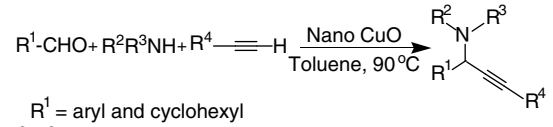
Enantioselective organocatalytic Michael addition of malonates to α,β-unsaturated aldehydes in water **pp 3075–3077**
Anqi Ma, Shaolin Zhu, Dawei Ma *



Synthetic utility of epoxides for chiral functionalization of isoxazoles **pp 3078–3082**
Jared K. Nelson, Christopher T. Burns, Miles P. Smith, Brendan Twamley, N. R. Natale *

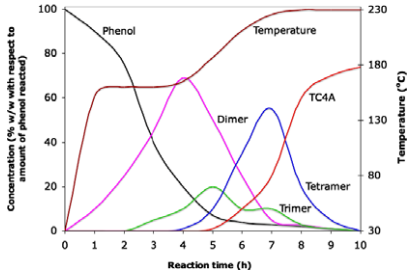


An efficient synthesis of propargylamines via three-component coupling of aldehydes, amines and alkynes catalyzed by nanocrystalline copper(II) oxide **pp 3083–3086**
M. Lakshmi Kantam *, Soumi Laha, Jagjit Yadav, Suresh Bhargava

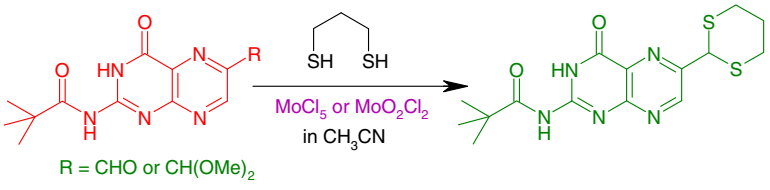


An efficient three-component coupling of aldehydes, amines and alkynes to prepare propargylamines in nearly quantitative yields using nanocrystalline CuO as a catalyst is described. The reaction does not require any co-catalyst.

Genesis of thiacalixarenes: a one-pot highly efficient synthesis of TC4A **pp 3087–3091**
Mitesh H. Patel, Vijay B. Patel, Pranav S. Shrivastav *

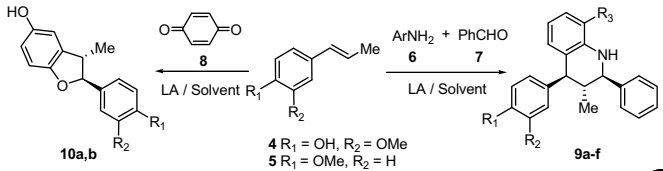


Molybdenum pentachloride ($MoCl_5$) or molybdenum dichloride dioxide (MoO_2Cl_2): advanced catalysts for thioacetalization of heterocyclic, aromatic and aliphatic compounds **pp 3092–3096**
Shyamaprosad Goswami *, Annada C. Maity

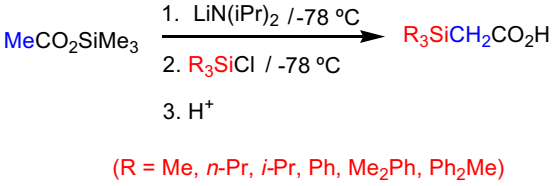


PEG-400 as green reaction medium for Lewis acid-promoted cycloaddition reactions with isoeugenol and anethole pp 3097–3100
Vladimir V. Kouznetsov *, Diego R. Merchan Arenas, Arnold R. Romero Bohórquez

A simple and efficient one-pot method for the synthesis of new 2,4-diaryl-1,2,3,4-tetrahydroquinolines **9** using a three-component imino Diels–Alder cycloaddition between *trans*-isoeugenol **4** or *trans*-anethole **5**, anilines **6**, and benzaldehyde **7** in the presence of $BF_3{\cdot}OEt_2$ in PEG-400 has been developed. Also, $BF_3{\cdot}OEt_2$-catalyzed formal [3+2] cycloaddition reaction of *trans*-isoeugenol or *trans*-anethole with 1,4-benzoquinone **8** in PEG-400 to give dihydrobenzo[*b*]furan derivatives **10** has been described.

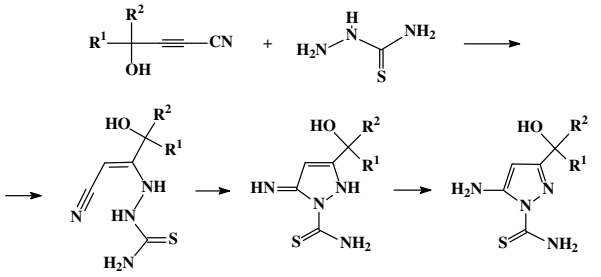


A convenient method for the synthesis of α-silylacetic acids pp 3101–3103
Alex V. Shtelman, James Y. Becker *

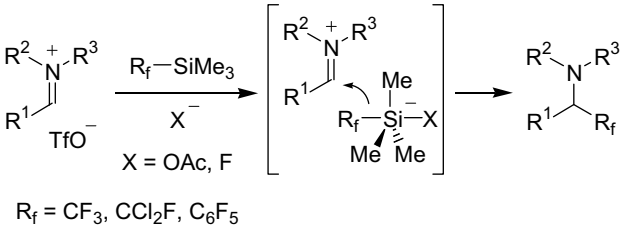


A method is described for the preparation of α-silylacetic acids of the type $R_3SiCH_2CO_2H$ by treating trimethylsilyl acetate with LDA followed by quenching with chlorosilanes.

Expedient synthesis of pyrazoles substituted with amino, hydroxyl and thioamide groups pp 3104–3107
Boris A. Trofimov *, Anastasiya G. Mal'kina, Angela P. Borisova, Valentina V. Nosyreva, Olesya A. Shemyakina, Olga N. Kazheva, Gennadii V. Shilov, Oleg A. Dyachenko

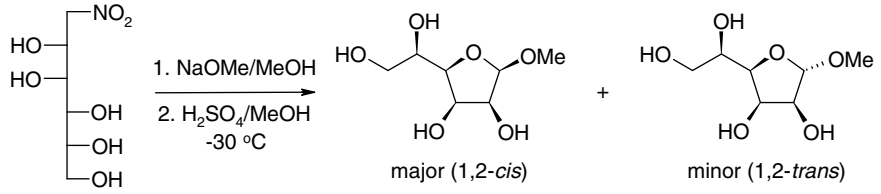


Nucleophilic fluoroalkylation of iminium salts pp 3108–3111
Vitalij V. Levin, Mikhail A. Kozlov, Young-Hun Song, Alexander D. Dilman *, Pavel A. Belyakov, Marina I. Struchkova, Vladimir A. Tartakovsky

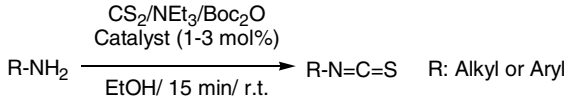


The reaction of iminium salts with fluorinated trimethylsilyl derivatives is described.

Direct conversion of 1-deoxy-1-nitroalditols to methyl glycofuranosides **pp 3112–3116**
M. Vojtech, M. Petrušová, B. Pribulová, L. Petruš *

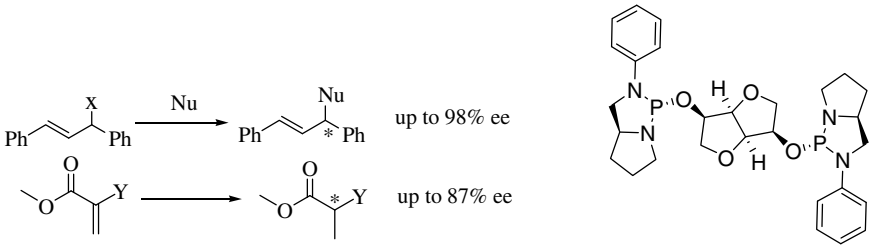


A new efficient synthesis of isothiocyanates from amines using di-*tert*-butyl dicarbonate **pp 3117–3119**
Henrik Munch, Jon S. Hansen, Michael Pittelkow, Jørn B. Christensen, Ulrik Boas *

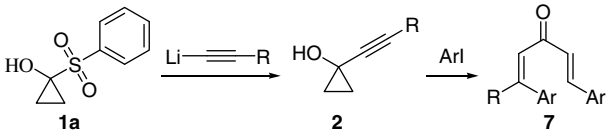


Alkyl and aryl amines are converted smoothly to the corresponding isothiocyanates in good to excellent yields with di-*tert*-butyl dicarbonate (Boc_2O) and 1–3 mol % of DMAP or DABCO.

A *P-chiral bisdiamidophosphite ligand with a 1,4:3,6-dianhydro-D-mannite backbone and its application in asymmetric catalysis** **pp 3120–3123**
Konstantin N. Gavrilov *, Sergey V. Zheglov, Pavel A. Vologzhanin, Marina G. Maksimova, Anton S. Safronov, Sergey E. Lyubimov, Vadim A. Davankov, Benjamin Schäffner, Armin Börner

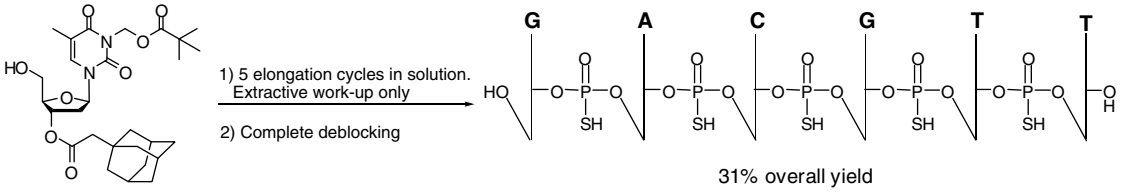


A convenient new method to construct 1-alkynyl cyclopropanol and its synthetic application to prepare trisubstituted dienones **pp 3124–3128**
Yan An, Jie Liu, Hai-Ying Jiang, Yahui Wang, Zili Chen *

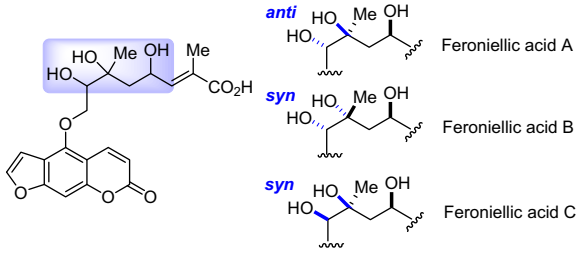


A new synthetic route is developed to afford 1-alkynyl cyclopropanol from 1-arylsulfonyl cyclopropanol **1**, which then react with aryl iodide to construct trisubstituted cross-conjugated dienones **7** through a palladium-catalyzed process.

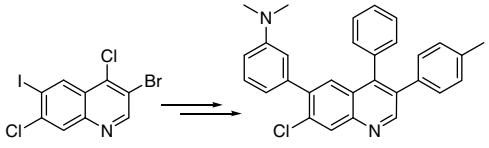
A two-step sulfurization for efficient solution-phase synthesis of phosphorothioate oligonucleotides **pp 3129–3132**
Amar B. T. Ghisaidoobe, Martijn C. de Koning, Howard I. Duynstee, Paul B. W. Ten Kortenaar, Herman S. Overkleeft, Dmitri V. Filippov, Gijs A. van der Marel *



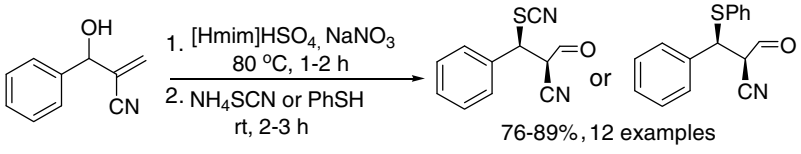
Feroniellic acids A–C, three new isomeric furanocoumarins with highly hydroxylated geranyl derived moieties from *Feroniella lucida* **pp 3133–3136**
Preecha Phuwapraisirisan *, Chalouyluk Phoopichayanun, Butsarakham Supudompol



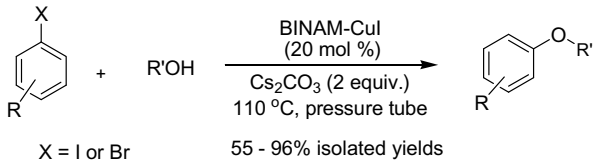
Controlled derivatization of polyhalogenated quinolines utilizing selective cross-coupling reactions **pp 3137–3141**
M. Brad Nolt, Zhijian Zhao, Scott E. Wolkenberg *



Ionic liquid [Hmim]HSO_4-promoted one-pot oxidative conjugate addition of sulfur-centred nucleophiles to Baylis–Hillman adducts **pp 3142–3146**
Lal Dhar S. Yadav *, Vishnu P. Srivastava, Rajesh Patel

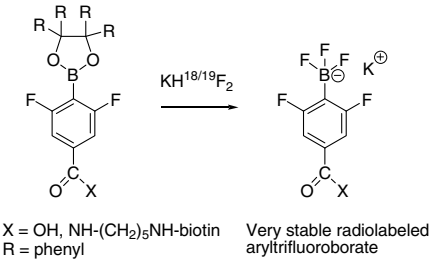


An efficient intermolecular BINAM–copper(I) catalyzed Ullmann-type coupling of aryl iodides/bromides with aliphatic alcohols pp 3147–3151
Ajay B. Naidu, G. Sekar *

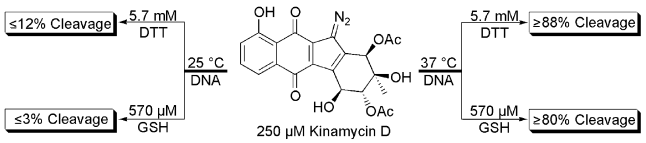


A wide range of alkyl aryl ethers are synthesized from the corresponding aryl iodides and aliphatic alcohols through Ullmann type intermolecular coupling reactions in the presence of a catalytic amount of easily available BINAM-CuI complex. Less reactive aryl bromides have also been shown to react with aliphatic alcohols under identical reaction conditions to give good yields of the alkyl aryl ethers without increasing the reaction temperature and time.

Synthesis and characterization of 2,6-difluoro-4-carboxyphenylboronic acid and a biotin derivative thereof as captors of anionic aqueous [^{18}F]-fluoride for the preparation of [^{18}F/^{19}F]-labeled aryltrifluoroborates with high kinetic stability pp 3152–3156
Curtis W. Harwig, Richard Ting, Michael J. Adam, Thomas J. Ruth, David M. Perrin *

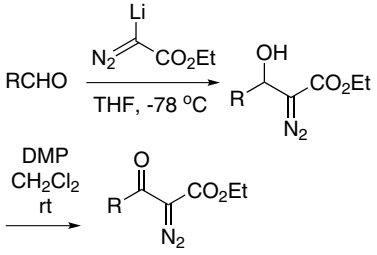


Kinamycin-mediated DNA cleavage under biomimetic conditions pp 3157–3161
T. Eric Ballard, Christian Melander *



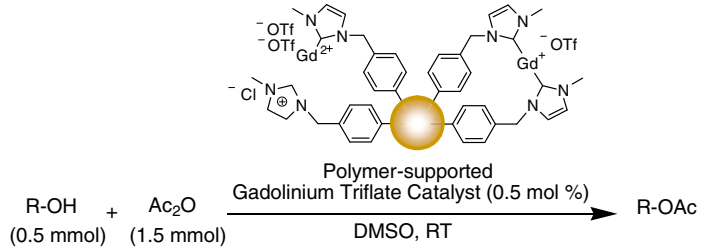
The kinamycins are biologically active secondary metabolites characterized by an uncommon diazobenzo[*b*]fluorene skeleton. Kinamycin D has been shown to potently cleave DNA under mild biomimetic conditions. Use of the endogenously abundant reductant glutathione at 570 μM, kinamycin D effectively cleaved DNA in a concentration, temperature, and time-dependent fashion. Dithiothreitol also proved effective at low concentration while other reductants failed to induce DNA cleavage. Mechanistic consequences of the DNA cleavage results are described.

A mild, efficient method for the oxidation of α-diazo-β-hydroxyesters to α-diazo-β-ketoesters pp 3162–3164
Puhui Li, Max M. Majireck, Ilia Korboukh, Steven M. Weinreb *

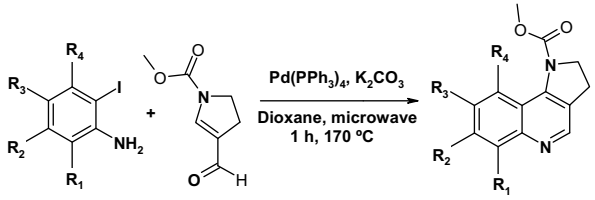


A variety of α-diazo-β-ketoesters can be prepared in high yields via addition of ethyl lithiodiazoacetate to aliphatic, aromatic, and α,β-unsaturated aldehydes, followed by mild oxidation with Dess–Martin periodinane in CH_2Cl_2.

Polymer-supported gadolinium triflate as a convenient and efficient Lewis acid catalyst for acetylation of alcohols and phenols pp 3165–3171
Hyo-Jin Yoon, Sang-Myung Lee, Jong-Ho Kim, Hong-Jun Cho, Jung-Woo Choi, Sang-Hyeup Lee, Yoon-Sik Lee *

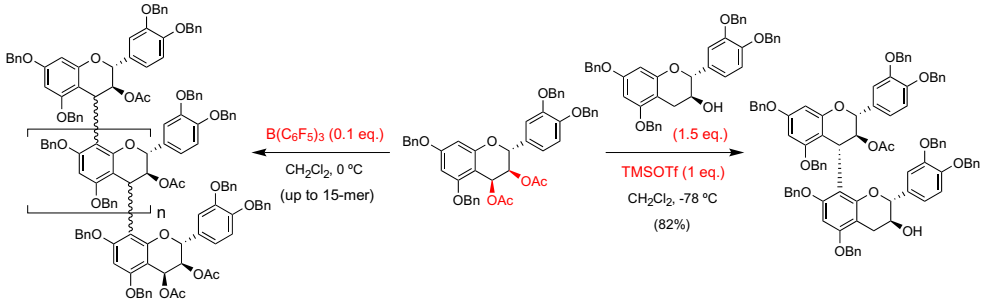


A one-pot synthesis of 2,3-dihydro-1*H*-pyrrolo[3,2-*c*]quinolines pp 3172–3175
Mirosław J. Tomaszewski, Adam Whalley, Yun-Jin Hu *

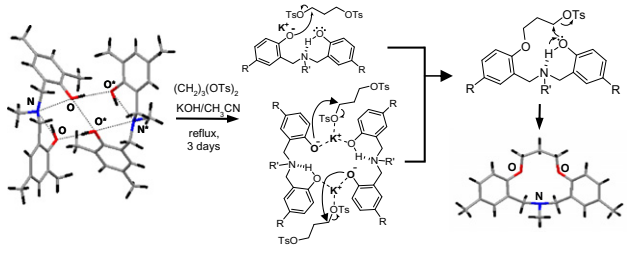


A one-pot synthesis of the 2,3-dihydro-1*H*-pyrrolo[3,2-*c*]quinoline core from substituted 2-iodoanilines and 2,3-dihydro-1*H*-pyrrole was achieved using 10 mol % $Pd(PPh_3)_4$ and K_2CO_3 in 1,4-dioxane at 170 °C for 1 h in a microwave oven.

Synthesis of procyanidins by stepwise- and self-condensation using 3,4-*cis*-4-acetoxy-3-*O*-acetyl-4-dehydro-5,7,3′,4′-tetra-*O*-benzyl-(+)-catechin and (−)-epicatechin as a key building monomer pp 3176–3180
Kin-ichi Oyama, Miyuki Kuwano, Mie Ito, Kumi Yoshida, Tadao Kondo *



Synergistic effects of a specific metal template and H-bonds in controlling macrocyclization: a simple, selective, and effective cyclization from *N*,*N*-bis(2-hydroxybenzyl)alkylamine derivatives pp 3181–3184
Suwabun Chirachanchai *, Suttinun Phongtamrug, Thitiporn Rungsimanon



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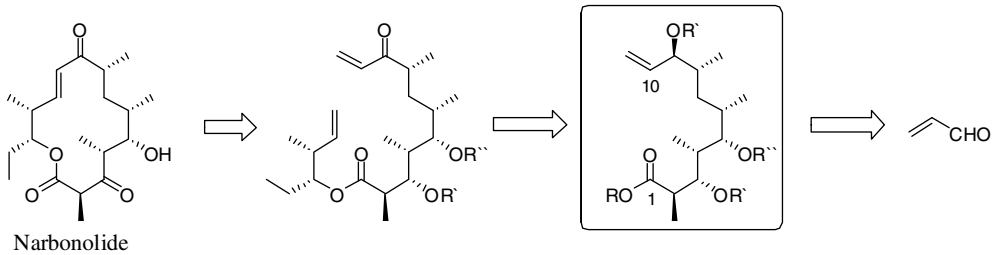

Narbonolide

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