In this issue

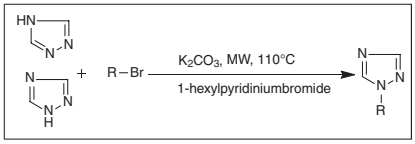
Ramandeep Kaur, Bhupinder Kumar, Ashish Ranjan Dwivedi and Vinod Kumar

Regioselective alkylation of 1,2,4-triazole using ionic liquids under microwave conditions

DOI 10.1515/gps-2015-0138
Green Process Synth 2016; 5: 233–237

Original article: 1-Alkyl-1,2,4-triazole derivatives were synthesized under microwave conditions using potassium carbonate as the base and ionic liquid (hexylpyridinium bromide) as the solvent.

Keywords: 1,2,4-triazole; green chemistry; ionic liquids; microwave; regioselective alkylation.



Microwave assisted regioselective synthesis of 1-alkyl-1,2,4-triazole

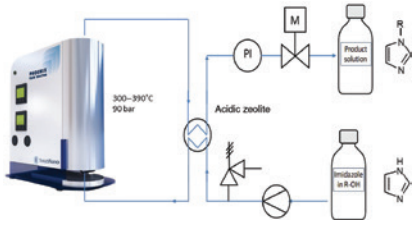
Melinda Fekete, László Kocsis, György Dormán, Richard V. Jones and Ferenc Darvas

A continuous flow process for the green and sustainable production of *N*-alkyl imidazoles

DOI 10.1515/gps-2015-0146
Green Process Synth 2016; 5: 239–246

Original article: Development of a green synthesis of *N*-alkyl imidazoles over a zeolite catalyst at high temperature and pressure in a heterogeneous catalytic flow reactor using alcohols as simple alkylating agents.

Keywords: continuous flow; high pressure flow reactor zeolite; high temperature; ionic liquid; *N*-alkyl imidazoles.



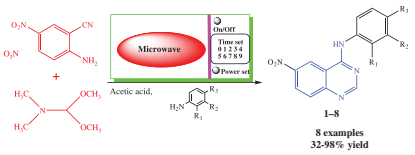
Wenting Song, Shunli He, Zeli Yuan, Guangqing Yu, Di Wu, Qing Wu, Minqing Zhang, Yongzheng Chen and Qinghong Hu

Microwave-assisted one-pot syntheses of 4-aminoquinazolines

DOI 10.1515/gps-2015-0121
Green Process Synth 2016; 5: 247–252

Original article: A simple, environmentally friendly, one-pot method for the synthesis of 4-aminoquinazoline derivatives was developed using microwave irradiation.

Keywords: 4-aminoquinazoline; methodology; microwave assisted; one-pot syntheses.



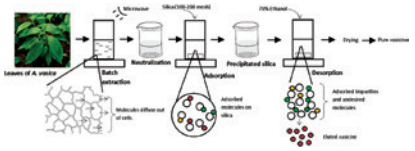
Shankar Subramaniam and Aravind Sivasubramanian

Microwave assisted adsorption based elution: a benign green process optimized by Box-Behnken modeling yields pure vasicine from *Adhatoda vasica*

DOI 10.1515/gps-2015-0134
Green Process Synth 2016; 5: 253–267

Original article: A green method for isolating pure vasicine from *Adhatoda vasica* was developed using a unique developed green process – microwave assisted adsorption based elution (MAABE), which finally yielded vasicine with recovery=93% and purity=95%.

Keywords: adsorption isotherms; Box-Behnken; green process; industrial purification; vasicine.



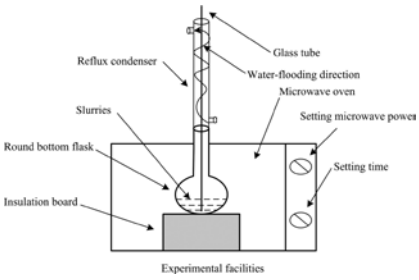
Hongzhou Ma, Chao Yan and Yaoning Wang

Pretreatment of arsenic-bearing gold ore with microwave-assisted alkaline leaching

DOI 10.1515/gps-2015-0122
Green Process Synth 2016; 5: 269–273

Original article: This paper is focused on finding an efficient and environmentally friendly pretreatment method for arsenic-bearing gold ores.

Keywords: arsenic-bearing gold ore; leaching; microwave; sodium hydroxide.



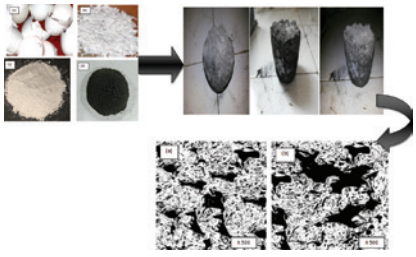
Shashi Prakash Dwivedi, Satpal Sharma and Raghvendra Kumar Mishra

Synthesis and mechanical behaviour of green metal matrix composites using waste eggshells as reinforcement material

DOI 10.1515/gps-2016-0006
Green Process Synth 2016; 5: 275–282

Original article: Chicken eggshell (ES) is an aviculture by-product that has been listed worldwide as one of the worst environmental problems, and the effective utilisation of chicken ES biowaste is strongly encouraged in our society for environmental and economic reasons.

Keywords: aviculture by-product; density; eggshells; hazardous; mechanical properties.



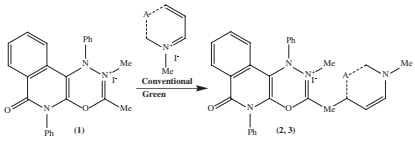
Fayez M. Eissa and Reda S. Abdel Hameed

Efficient green synthesis of monomethine cyanines via grinding under solvent-free conditions

DOI 10.1515/gps-2015-0130
Green Process Synth 2016; 5: 283–288

Original article: A solvent-free efficient green synthesis of monomethine cyanine dyes is presented.

Keywords: benign synthesis; cyanine; green synthesis; grinding; monomethine; solvent free.



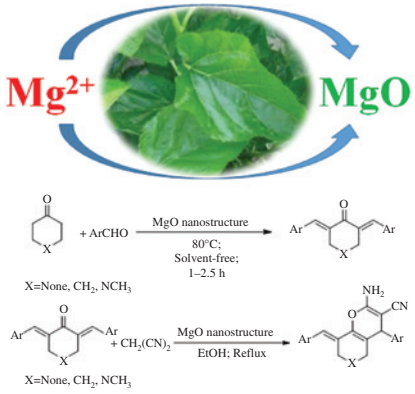
Akbar Mobinikhaledi, Atisa Yazdanipour and Majid Ghashang

Green chemistry preparation of MgO grit like nanostructures: efficient catalyst for the synthesis of 4*H*-pyrans and α,α′-bis(substituted-benzylidene) cycloalkanone derivatives

DOI 10.1515/gps-2015-0136
Green Process Synth 2016; 5: 289–295

Original article: Green preparation of MgO nanostructures as a catalyst for synthesis of 4*H*-pyrans and bis-benzylidene cycloalkanones is reported.

Keywords: 4*H*-pyrans; cycloalkanones; green; mulberry leaves; nanoparticles.



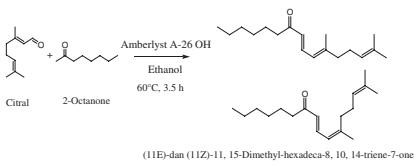
Daniel J.W. Chong, Florence H.L. Chong and Jalifah Latip

An improved method for aldol condensation catalyses by Amberlyst A-26 OH: application in the synthesis of pseudoionone derivative, 11,15-dimethylhexadeca-8,10,14-trien-7-one

DOI 10.1515/gps-2015-0126
Green Process Synth 2016; 5: 297–304

Original article: The recently reported novel pseudoionone derivative 11,15-dimethylhexadeca-8,10,14-trien-7-one can be synthesised in a more environmentally-benign way by utilising Amberlyst A-26 OH.

Keywords: 2-octanone; aldol condensation; Amberlyst A-26 OH; citral; pseudoionone.



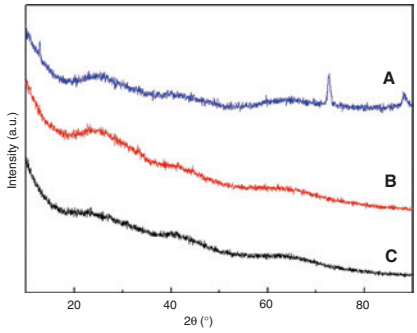
Zhenfeng Wang, Wenyuan Wu, Xue Bian and Yongfu Wu

Synthesis and characterization of amorphous Al_2O_3 and γ-Al_2O_3 by spray pyrolysis

DOI 10.1515/gps-2015-0128
Green Process Synth 2016; 5: 305–310

Original article: The present work focuses on the mass production of high surface area Al_2O_3 nanoparticles using inexpensive precursors developed from natural minerals, such as bauxite, and the effect of the precursor on the pore structure of alumina prepared by the spray pyrolysis method.

Keywords: γ-Al_2O_3; amorphous Al_2O_3; modified lanthanum particles; spray pyrolysis.



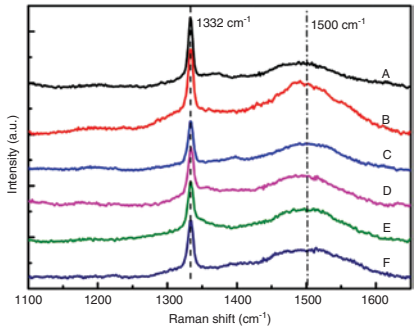
Caiyi Jiang, Shenghui Guo, Li Yang, Jiyun Gao, Tu Hu, Jinhui Peng and Libo Zhang

Synergetic surface modification effect of argon and oxygen for diamond films by MPCVD

DOI 10.1515/gps-2015-0135
Green Process Synth 2016; 5: 311–320

Original article: The synergetic surface modification effect of argon and oxygen for diamond films by MPCVD was studied, and the diamond phase content was estimated.

Keywords: diamond films; MPCVD; synergetic effect; surface roughness.



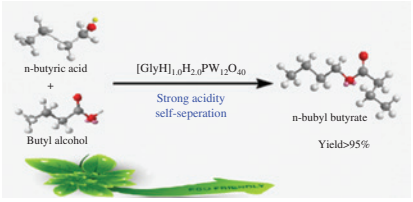
Xiaofang Zhang, Kai Ouyang, Juanjuan Liang, Keke Chen, Xiujuan Tang and Xiaoxiang Han

Optimization of process variables in the synthesis of butyl butyrate using amino acid-functionalized heteropolyacids as catalysts

DOI 10.1515/gps-2015-0131
Green Process Synth 2016; 5: 321–329

Original article: Eco-friendly $[GlyH]_{1.0}H_{2.0}PW_{12}O_{40}$ catalyst with superior ester yield, excellent durability, and unique self-separation property desirable for facile recovery and recycling for esterification of butyric acid to benzyl butyrate is reported.

Keywords: esterification; heteropolyacid; kinetic model; optimization; reaction engineering.



Jérôme Husson and Laurent Guyard

A new and facile method for the functionalization of a Merrifield resin with terpyridines: application as a heterogeneous catalyst for the synthesis of biaryls in environmentally friendly solvents

DOI 10.1515/gps-2015-0144
Green Process Synth 2016; 5: 331–336

Original article: Suzuki coupling with a new heterogenous terpyridine-based Pd catalyst is reported.

Keywords: pyrrole; Sonogashira coupling; Suzuki coupling; terpyridine.