In this issue

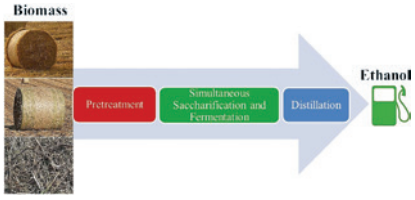
Bohdan Volynets, Farhad Ein-Mozaffari and Yaser Dahman

Biomass processing into ethanol: pretreatment, enzymatic hydrolysis, fermentation, rheology, and mixing

DOI 10.1515/gps-2016-0017
Green Process Synth 2017; 6: 1–22

Review: The key steps of the process for conversion of lignocellulosics, pretreatment, enzymatic hydrolysis, and fermentation, have undergone a considerable amount of research and development over the past decades nearing the process to commercialization.

Keywords: ethanol; lignocellulose; mixing; pretreatment; rheology.



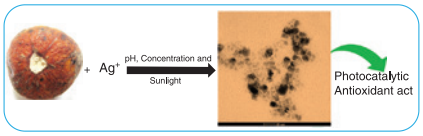
Karla Sofía Vizuete, Brajesh Kumar, Katherine Guzmán, Alexis Debut and Luis Cumbal

Shora (*Capparis petiolaris*) fruit mediated green synthesis and application of silver nanoparticles

DOI 10.1515/gps-2016-0015
Green Process Synth 2017; 6: 23–30

Original article: Ecofriendly synthesis, characterization and application of silver nanoparticles using fruit extracts of *Capparis petiolaris* under sunlight are reported.

Keywords: antioxidant; *Capparis petiolaris*; ecofriendly synthesis; nanoparticles; photocatalysis; TEM; XRD.



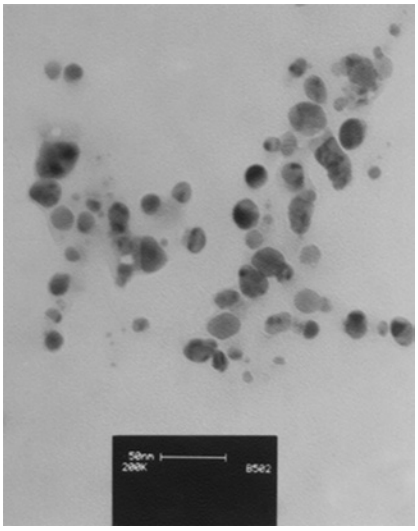
Mojgan Mohammadlou, Hoda Jafarizadeh-Malmiri and Hafez Maghsoudi

Hydrothermal green synthesis of silver nanoparticles using *Pelargonium/Geranium* leaf extract and evaluation of their antifungal activity

DOI 10.1515/gps-2016-0075
Green Process Synth 2017; 6: 31–42

Original article: Hydrothermal heating was developed for the synthesis of silver nanoparticles using *Pelargonium/Geranium* leaf extract.

Keywords: antifungal activity; green synthesis; *Pelargonium/Geranium*; response surface methodology; silver nanoparticles.



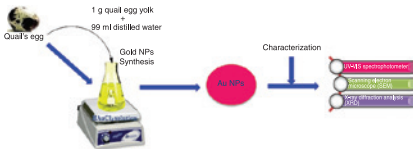
Hayrunnisa Nadaroglu, Selvi Ince and Azize Alayli Gungor

Green synthesis of gold nanoparticles using quail egg yolk and investigation of potential application areas

DOI 10.1515/gps-2016-0091
Green Process Synth 2017; 6: 43–48

Original article: Green synthesis of gold nanoparticles using quail egg yolks, which have a high protein and vitamin content, is presented.

Keywords: egg yolk; gold nanoparticles; green synthesis; quail egg.



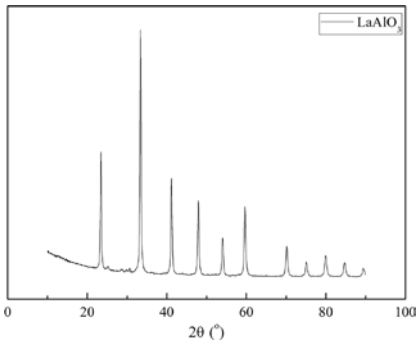
Zhenfeng Wang, Wenyuan Wu, Xue Bian and Yongfu Wu

Low temperature green synthesis of $LaAlO_3$ using microcrystalline LaOCl and amorphous Al_2O_3 precursors derived from spray pyrolysis

DOI 10.1515/gps-2016-0087
Green Process Synth 2017; 6: 49–54

Original article: An easy, inexpensive, and reliable method to synthesize $LaAlO_3$ powders with a high surface area crystallized at low temperatures and sintered to near full density is reported.

Keywords: amorphous Al_2O_3; $LaAlO_3$; microcrystalline LaOCl; precursor; spray pyrolysis.



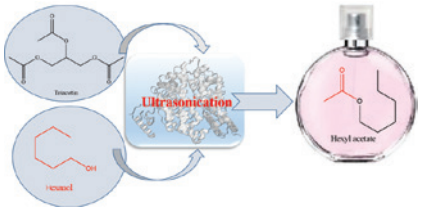
Ashwini R. Deshmukh and Virendra K. Rathod

Intensification of enzyme catalysed synthesis of hexyl acetate using sonication

DOI 10.1515/gps-2015-0117
Green Process Synth 2017; 6: 55–62

Original article: The study focuses on ultrasound assisted process intensification of hexyl acetate synthesis via lipozyme RMIM catalysed transesterification of hexanol with triacetin by using hexane as a solvent.

Keywords: batch reactor; hexyl acetate; lipozyme; transesterification; ultrasound.



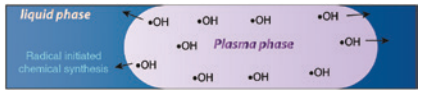
Mengxue Zhang, Stephanie Ognier, Nadia Touati, Laurent Binet, Christophe Thomas, Patrick Tabeling and Michaël Tatoulian

The development and numerical simulation of a plasma microreactor dedicated to chemical synthesis

DOI 10.1515/gps-2016-0086
Green Process Synth 2017; 6: 63–72

Original article: Plasma, generating reactive species in the gaseous phase, combined with microfluidics techniques, may give rise to a novel route for chemical synthesis.

Keywords: ESR; hydroxyl radical; iCCD; microreactor; plasma.



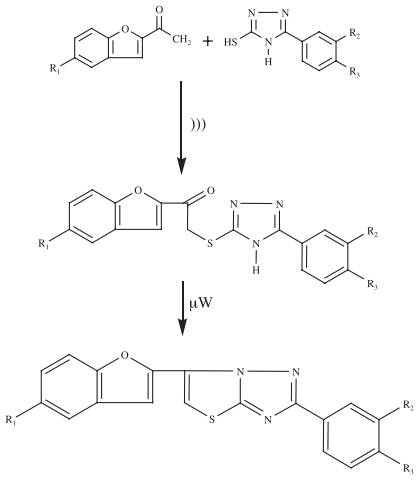
Surender Kumar and Dinesh Kumar Sharma

Ultrasound promoted green synthesis of benzofuran substituted thiazolo[3,2-b][1,2,4]triazoles

DOI 10.1515/gps-2016-0099
Green Process Synth 2017; 6: 73–77

Original article: An ultrasonic and microwave assisted highly efficient, eco-friendly and one-pot synthesis of benzofuran substituted thiazolo[3,2-b][1,2,4]triazoles was developed using Eaton's reagent.

Keywords: 5-(benzofuran-2-yl)-2-(4-chlorophenyl) thiazolo[3,2-b][1,2,4]triazoles; 5-(benzofuran-2-yl)-acylthio-3-(4-chlorophenyl)-1,2,4-triazoles; 5-mercapto-3-(4-chlorophenyl)-1,2,4triazole; microwave conditions; ultrasonic conditions.



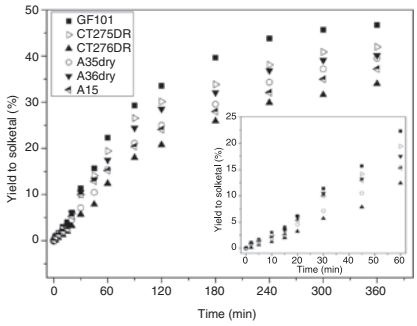
Jesús Esteban, Félix García-Ochoa and Miguel Ladero

Solventless synthesis of solketal with commercially available sulfonic acid based ion exchange resins and their catalytic performance

DOI 10.1515/gps-2016-0105
Green Process Synth 2017; 6: 79–89

Original article: The catalytic activity of ion exchange resins to produce green solvent solketal was studied.

Keywords: catalyst deactivation; glycerol; ion exchange resin; solketal; solventless synthesis.



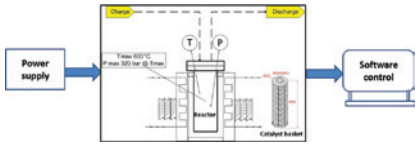
Dung Hoang, Samir Bensaid, Guido Saracco, Raffaele Pirone and Debora Fino

Investigation on the conversion of rapeseed oil via supercritical ethanol condition in the presence of a heterogeneous catalyst

DOI 10.1515/gps-2016-0081
Green Process Synth 2017; 6: 91–101

Original article: The rapeseed oil transesterification using catalytic supercritical fluid ethanol has been studied.

Keywords: biodiesel; catalyst; ethanol; high performance liquid chromatography (HPLC); supercritical fluid (SCF).



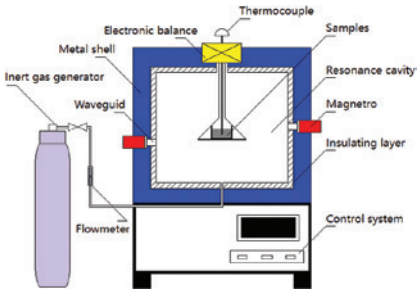
Xuefeng Liao, Guo Chen, Qianqian Liu, Jin Chen and Jinhui Peng

Investigation on drying characteristics of high titanium slag using microwave heating

DOI 10.1515/gps-2015-0114
Green Process Synth 2017; 6: 103–112

Original article: The demonstration of microwave drying techniques can be applied effectively and efficiently to the treatment processing of drying of the raw materials of metallurgy and chemical industry with microwave theory and techniques.

Keywords: behavior of moisture transfer; high titanium slag; microstructure; microwave drying; physical properties.



Shashi Prakash Dwivedi, Satpal Sharma and Raghvendra Kumar Mishra

Effects of waste eggshells and SiC addition in the synthesis of aluminum hybrid green metal matrix composite

DOI 10.1515/gps-2016-0119
Green Process Synth 2017; 6: 113–123

Original article: The mechanical behavior, physical behavior, microstructural characteristics, and corrosion behavior of AA2014/SiC/carbonized eggshell hybrid green metal matrix composites were investigated.

Keywords: corrosion; density; green hybrid MMC; waste eggshells; wettability.