In this issue

Meena Krishania, Virendra K. Vijay and Ram Chandra

Performance evaluation of various bioreactors for methane fermentation of pretreated wheat straw with cattle manure

DOI 10.1515/gps-2015-0067
Green Process Synth 2016; 5: 113–121

Original article: Performance results of configured semi-continuous mesophilic bioreactors (CSTR, FFR, and conventional bioreactors) for methane fermentation of pretreated wheat straw co-digested with cattle manure were evaluated.

Keywords: biomethane; bioreactors; methane fermentation; pretreatment; wheat straw.

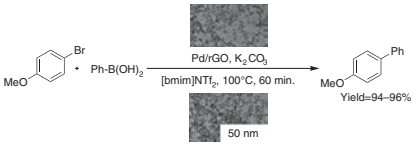
Praveenkumar Ramprakash Upadhyay and Vivek Srivastava

Recyclable graphene-supported palladium nanocomposites for Suzuki coupling reaction

DOI 10.1515/gps-2015-0112
Green Process Synth 2016; 5: 123–129

Original article: Highly selective Pd/reduced graphene oxide (rGO) were used to catalyze the Suzuki cross coupling reaction.

Keywords: catalysis; graphene; ionic liquid; nanocomposites; palladium; Suzuki reaction.



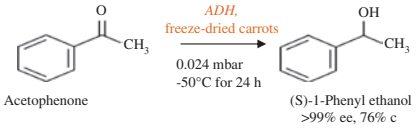
Hilal Celik Kazici, Emine Bayraktar and Ülkü Mehmetoglu

Optimization of the asymmetric synthesis of chiral aromatic alcohol using freeze-dried carrots as whole-cell biocatalysts

DOI 10.1515/gps-2015-0118
Green Process Synth 2016; 5: 131–137

Original article: Bioreduction of acetophenone using freeze-dried carrots as biocatalyst and the operating conditions to obtain enantiomerically pure (S)-1-phenyl-ethanol were investigated.

Keywords: acetophenone; asymmetric reduction; biocatalyst; optimization; (S)-1-phenyl-ethanol.



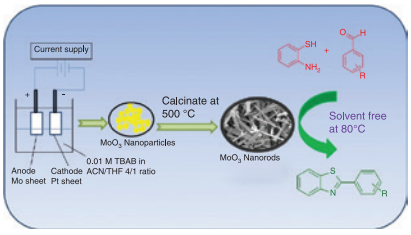
Nitin R. Dighore, Priyanka Anandgaonker, Suresh T. Gaikwad and Anjali S. Rajbhoj

Green synthesis of 2-aryl benzothiazole heterogenous catalyzed by MoO_3 nanorods

DOI 10.1515/gps-2015-0065
Green Process Synth 2016; 5: 139–143

Original article: Electrochemical synthesized MoO_3 nanoparticles calcining at 500°C, which convert to MoO_3 nanorods; synthesized MoO_3 nanorods used as a greener and heterogeneous catalysis method for the synthesis of 2-aryl benzothiazole.

Keywords: 2-aryl benzothiazole; electrochemical method; heterogeneous catalyst; MoO_3 nanorods.



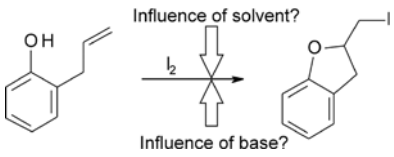
Michelle Fidelis Corrêa,
Álefe Jhonatas Ramos Barbosa,
Rie Sato, Luis Otávio Junqueira,
Mário José Politi, Daniela Gonçales Rando and João Paulo dos Santos Fernandes

Factorial design study to access the "green" iodocyclization reaction of 2-allylphenols

DOI 10.1515/gps-2015-0101
Green Process Synth 2016; 5: 145–151

Original article: A full 2^2 factorial design was performed to study the influence of solvent (water or EtOH:water mixture) and the addition of $NaHCO_3$ in iodine-promoted cyclization of 2-allylphenols.

Keywords: dihydrobenzofuran synthesis; factorial design; green chemistry; iodocyclization.



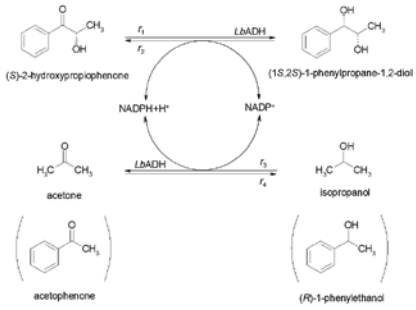
Anera Švarc, Davor Valinger,
Đurđa Vasić-Rački and Ana Vrsalović Presečki

Stereoselective synthesis of (1*S*,2*S*)-1-phenylpropane-1,2-diol by cell-free extract of *Lactobacillus brevis*

DOI 10.1515/gps-2015-0100
Green Process Synth 2016; 5: 153–161

Original article: Cultivated *Lactobacillus brevis* cells were disrupted using the optimal cell disruption method by evolutionary operation technique, and then the obtained crude ADH was used for the production of vicinal chiral phenylpropane diol with substrate-coupled NADPH regeneration.

Keywords: alcohol dehydrogenase; cell disruption; mathematical modeling; optimization; (*S*)-2-hydroxypropiophenone.



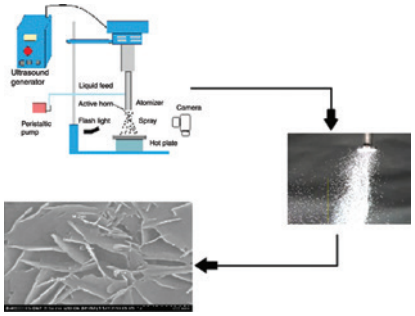
Niraj R. Sikwal,
Shirish H. Sonawane,
Bharat A. Bhanvase,
Kirankumar Ramisetty,
Dipak V. Pinjari, Parag R. Gogate and Rajulapati Satish Babu

Ultrasound-assisted preparation of ZnO nanostructures: understanding the effect of operating parameters

DOI 10.1515/gps-2015-0072
Green Process Synth 2016; 5: 163–172

Original article: This work deals with the use of ultrasonic atomization for the preparation of zinc oxide nanostructures.

Keywords: atomization; droplet size; nanoparticles; operating parameters; ultrasound.



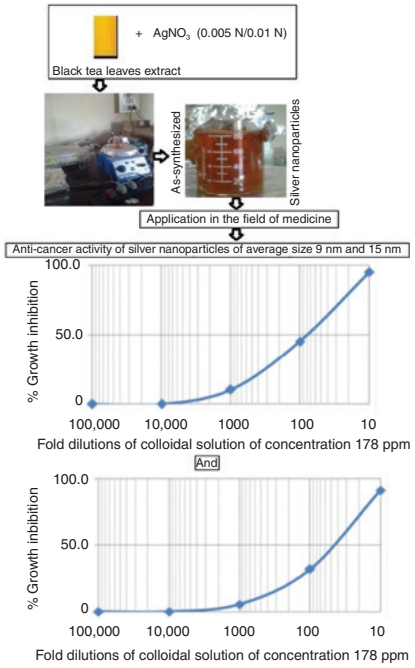
Shweta Rajawat, Rajnish Kurchania, Katherukamen Rajukumar, Shreyas Pitale, Sonali Saha and M.S. Qureshi

Study of anti-cancer properties of green silver nanoparticles against MCF-7 breast cancer cell lines

DOI 10.1515/gps-2015-0104
Green Process Synth 2016; 5: 173–181

Original article: Silver nanoparticles were synthesized using an easy, simple, and environment-friendly method based on principles of green chemistry, and their anti-cancer properties were studied.

Keywords: 50% growth inhibition concentration (IC_{50}) values; green technology; MCF-7 breast cancer cell lines; silver nanoparticles.



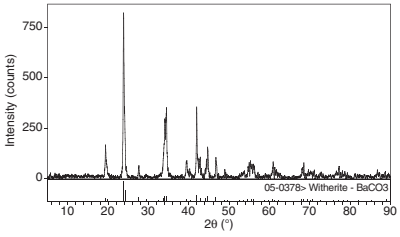
Guo Chen, Jin Chen and Jinhui Peng

Syntheses of ultra-fine barium carbonate powders by homogeneous precipitation method

DOI 10.1515/gps-2015-0095
Green Process Synth 2016; 5: 183–188

Original article: Ultra-fine barium carbonate powders were successfully synthesized using $BaCl_2 \cdot 2H_2O$, NaOH and $(NH_2)_2CO$ as raw materials, with the help of different guide reagents by the homogeneous precipitation method.

Keywords: homogeneous precipitation method; orthorhombic structures; phases and morphologies; ultra-fine barium carbonate powders.



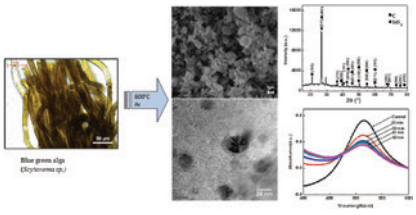
Abhijit Nath, Aparajita Das, Shoubhonik Deb, Chira R. Bhattacharjee and Jayashree Rout

Green synthesis of novel antioxidant luminescent silica nanoparticle embedded carbon nanocomposites from a blue-green alga

DOI 10.1515/gps-2015-0124
Green Process Synth 2016; 5: 189–194

Original article: Novel carbon-silica nanocomposite exhibiting fluorescent and antioxidant activity has been accessed via a scalable green protocol from a renewable feedstock, blue-green alga, *Scytonema guyanense* var. *minus*.

Keywords: antioxidant; blue-green alga; HRTEM; nanocomposites.



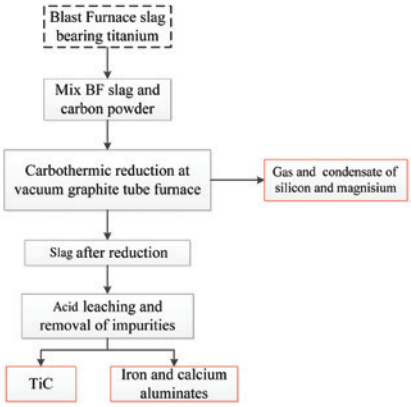
Meilong Hu, Ruirui Wei, Zhengfeng Qu, Fangqing Yin, Yuzhou Xu and Qingyu Deng

Preparation of TiC by carbothermal reduction in vacuum and acid leaching using blast furnace slag bearing titania

DOI 10.1515/gps-2015-0092
Green Process Synth 2016; 5: 195–203

Original article: A combined process of the carbothermal reduction in vacuum and acid leaching is here proposed to produce TiC from blast furnace slag bearing titanium.

Keywords: carbothermal reduction; thermodynamics; TiC; vacuum.



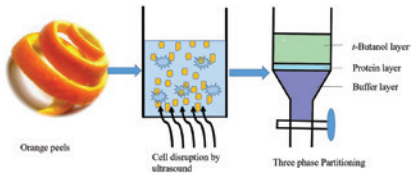
Mangesh D. Vetal and Virendra K. Rathod

Ultrasound assisted three phase partitioning of peroxidase from waste orange peels

DOI 10.1515/gps-2015-0116
Green Process Synth 2016; 5: 205–212

Original article: The article presents three phase partitioning of peroxidase from waste orange peel using a novel ultrasound technique.

Keywords: *Citrus sinensis*; extraction; peroxidase; ultrasound assisted three phase partitioning.



Ali Hashem, Alaauddin Al-Anwar, Negma M. Nagy, Doaa M. Hussein and Sara Eisa

Isotherms and kinetic studies on adsorption of Hg(II) ions onto *Ziziphus spina-christi* L. from aqueous solutions

DOI 10.1515/gps-2015-0103
Green Process Synth 2016; 5: 213–224

Original article: The feasibility of *Ziziphus spina-christi* L. as a biosorbent to remove Hg(II) from aqueous solutions and their effects, such as pH, contact time, adsorbate concentration and adsorbent dosage on the adsorption capacity, were studied using various adsorption models.

Keywords: adsorption kinetics; aqueous solution; Hg(II) ions adsorption; isotherm models; *Ziziphus spina-christi* L.