In this issue

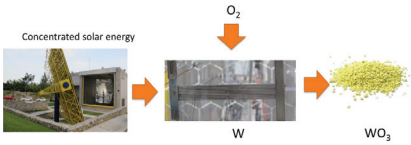
Heidi Isabel Villafán Vidales, Antonio Jiménez-González, Alejandro Bautista-Orozco, Camilo A. Arancibia-Bulnes and Claudio A. Estrada

Solar production of WO_3: a green approach

DOI 10.1515/gps-2014-0102
Green Process Synth 2015; 4: 167–177

Original article: Concentrated solar energy was used to synthesize WO_3 at high temperatures.

Keywords: concentrated solar energy; green WO_3 synthesis; solar chemistry; solar furnace; WO_3 synthesis.



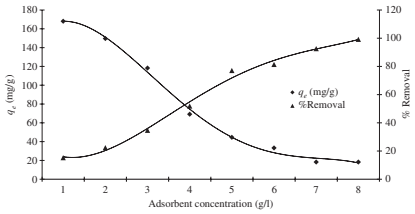
Ali Hashem and Sayed M. Badawy

***Sesbania sesban* L. biomass as a novel adsorbent for removal of Pb(II) ions from aqueous solution: non-linear and error analysis**

DOI 10.1515/gps-2014-0101
Green Process Synth 2015; 4: 179–190

Original article: The feasibility of *Sesbania sesban* L. as a biosorbent to remove Pb(II) from aqueous solutions and its effects, such as pH, contact time, adsorbate concentration and biosorbent dosage on the adsorption capacity, were studied using various adsorption kinetic models. These models include pseudo-first-order model, the pseudo-second-order model, Batacharia-Venkobachar, the Elovich equation, the intraparticle diffusion model, and Bangham equation.

Keywords: contaminated water; error analysis; isotherm models; Pb(II) adsorption; *Sesbania sesban* L.



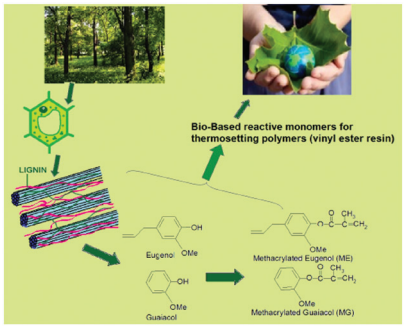
Shipra Jaswal and Bharti Gaur

Green methacrylated lignin model compounds as reactive monomers with low VOC emission for thermosetting resins

DOI 10.1515/gps-2015-0005
Green Process Synth 2015; 4: 191–202

Original article: The paper reports a detailed comparison of the thermal, mechanical and chemical properties of the vinyl ester resin samples cured with bio-based methacrylated LMCs as reactive monomers versus petroleum based monomers, i.e., styrene and MMA.

Keywords: chemical and corrosion resistance; crosslinking; environment sustainability; reactive monomers; renewable resources; thermal and mechanical performance.



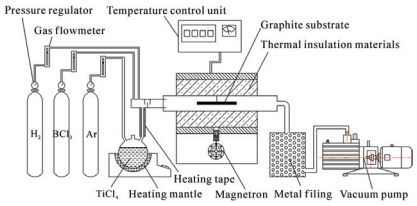
Shuaidan Lu, Shuchen Sun, Xiaoxiao Huang, Ganfeng Tu, Xiaoping Zhu and Kuanhe Li

Deposition behavior of TiB_2 by microwave heating chemical vapor deposition (CVD)

DOI 10.1515/gps-2015-0020
Green Process Synth 2015; 4: 203–208

Original article: Microwave heating chemical vapor deposition (CVD) was used to deposit titanium diboride (TiB_2) films on graphite substrate using a gas mixture of $TiCl_4$, BCl_3, H_2 and Ar.

Keywords: CVD; micro-hardness; microwave; titanium diboride.



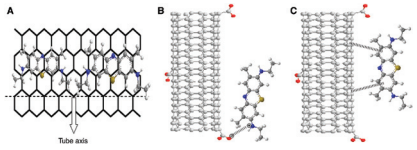
Abdul Ghaffar and Muhammad Naeem Younis

Interaction and thermodynamics of methylene blue adsorption on oxidized multi-walled carbon nanotubes

DOI 10.1515/gps-2015-0009
Green Process Synth 2015; 4: 209–217

Original article: Oxidation of multi-walled carbon nanotubes and their use as adsorbents was studied.

Keywords: adsorption; carbon nanotubes; energy distribution; methylene blue; thermodynamics.



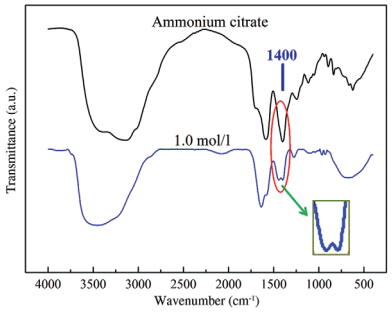
Shiwei Li, Aiyuan Ma, Kun Yang, Shaohua Yin, Libo Zhang, Jinhui Peng, Weiheng Chen and Feng Xie

Alkaline leaching of zinc from low-grade oxide zinc ore using ammonium citrate as complexing agent

DOI 10.1515/gps-2015-0023
Green Process Synth 2015; 4: 219–223

Original article: The effects of ammonium citrate concentrations on the leaching of low grade zinc oxide ores in the ammonia solution (5 M) were studied.

Keywords: ammonium citrate; low grade zinc oxide ore; zinc recovery.



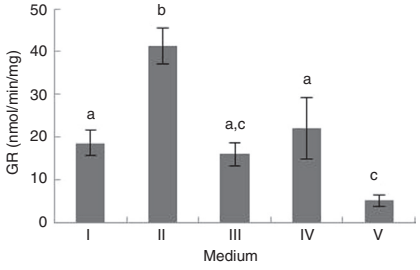
Joana Capela-Pires, Rui Ferreira and Isabel Alves-Pereira

Heat shock and titanium dioxide nanoparticles decrease superoxide dismutase and glutathione enzymes activities in *Saccharomyces cerevisiae*

DOI 10.1515/gps-2015-0007
Green Process Synth 2015; 4: 225–233

Original article: Titanium dioxide nanoparticles, under heat shock conditions, caused oxidative stress in *Saccharomyces cerevisiae* grown in glycerol and glucose, decreasing their antioxidant defences such as superoxide dismutase and glutathione enzymes.

Keywords: cell damages; oxidative stress; respiratory/fermentative; yeast.



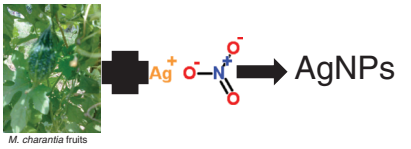
Mst Kamrun Nahar, Zarina Zakaria, Uda Hashim and Md Fazlul Bari

Momordica charantia fruit mediated green synthesis of silver nanoparticles

DOI 10.1515/gps-2015-0004
Green Process Synth 2015; 4: 235–240

Original article: In this article, we investigated the green synthesis of silver nanoparticles (AgNPs) by the reduction of silver nitrate, using fruit extracts of *Momordica charantia* (bitter melon), a plant commonly found in southeast Asia.

Keywords: FTIR spectroscopy; green biosynthesis; *Momordica charantia* (bitter melon); silver nanoparticles; TEM; UV-Vis spectrophotometer.



Kendra W. Brinkley, Michael Burkholder, Ali R. Siamaki, Katherine Belecki and B. Frank Gupton

The continuous synthesis and application of graphene supported palladium nanoparticles: a highly effective catalyst for Suzuki-Miyaura cross-coupling reactions

DOI 10.1515/gps-2015-0021
Green Process Synth 2015; 4: 241–246

Original article: An efficient, sustainable, and continuous method for the preparation of graphene supported palladium nanoparticles has been developed and successfully applied to Suzuki-Miyaura cross-coupling reactions in both batch and flow regimes.

Keywords: flow chemistry; graphene; palladium; solid supported catalysis; Suzuki-Miyaura cross-coupling.