In this issue

Jan Harmsen

Novel sustainable industrial processes: from idea to commercial scale implementation

DOI 10.1515/gps-2013-0102
Green Process Synth 2014; 3: 189–193

Feature: This article summarizes the consensus on sustainable development, shows industrial cases and provides key guidelines to transfer ideas into commercial scale processes.

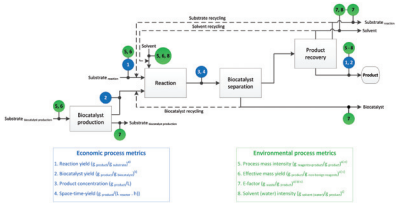
Keywords: design; industrial; innovation; process; sustainable.

Joana Lima-Ramos, Pär Tufvesson and John M. Woodley

Application of environmental and economic metrics to guide the development of biocatalytic processes

DOI 10.1515/gps-2013-0094
Green Process Synth 2014; 3: 195–213

Original article: Systematic improvement of biocatalytic processes by target setting based on economic and environmental metrics.



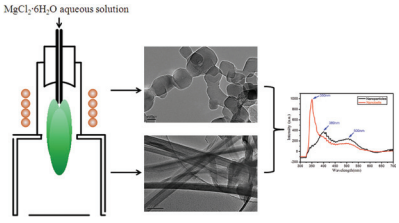
Keywords: biocatalysis; economic evaluation; environmental evaluation; process development; process evaluation.

Haibao Zhang, Tengfei Cao and Yi Cheng

Synthesis of nanostructured MgO powders with photoluminescence by plasma-intensified pyrohydrolysis process of bischofite from brine

DOI 10.1515/gps-2014-0026
Green Process Synth 2014; 3: 215–222

Original article: $MgCl_2{\cdot}6H_2O$ (bischofite) was converted to value-added nanostructured MgO powders via the radio frequency (RF) thermal plasma intensified high-temperature pyrohydrolysis process for the comprehensive utilization of resources and the sustainable development of the environment of salt lakes.



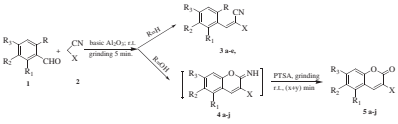
Keywords: MgO nanopowder; photoluminescence; process intensification; synthesis; thermal plasma.

Suresh Kumar

A solvent free approach for Knoevenagel condensation: facile synthesis of 3-cyano and 3-carbethoxycoumarins

DOI 10.1515/gps-2013-0114
Green Process Synth 2014; 3: 223–227

Original article: A simple, efficient and solvent free approach for the Knoevenagel condensation has been developed which involves grinding of active methylene compounds with aromatic aldehydes over basic alumina.



Keywords: 3-carbethoxycoumarin; 3-cyanocoumarin; basic alumina; grinding; solvent free.

Sayed M. Badawy

Green synthesis and characterisations of antibacterial silver-polyvinyl alcohol nanocomposite films for wound dressing

DOI 10.1515/gps-2014-0022
Green Process Synth 2014; 3: 229–234

Original article: Green synthesis of antibacterial silver-polyvinyl alcohol nanocomposite films for biomedical applications such as wound dressing was performed in water at room temperature using β-D-glucose as reducing agent and polyvinyl alcohol (PVA) as a bio-friendly polymer.

Keywords: green synthesis; nanocomposite films; PVA; silver; wound dressing.