

## IN THIS ISSUE:

Annette Johnston

### Finding the most effective organization for a global green processing practice network

DOI 10.1515/gps-2012-0005  
Green Process Synth 1 (2012):  
145-148

**Review:** The American Institute of Chemical Engineers (AIChE) is building upon its existing technical network to develop a global exchange of water use and treatment professionals.

**Keywords:** global; knowledge management; network; organizational dynamics; tacit knowledge.



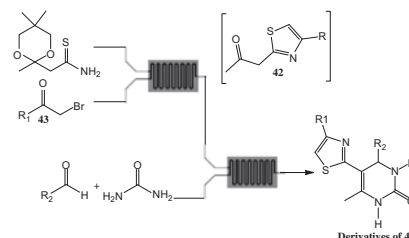
Patricia T. Baraldi and Volker Hessel

### Micro reactor and flow chemistry for industrial applications in drug discovery and development

DOI 10.1515/gps-2012-0008  
Green Process Synth 1 (2012):  
149-167

**Review:** In this review case studies focused on syntheses of active pharmaceutical ingredients, intermediates and lead compounds are reported employing micro reactors and continuous flow technology in areas such as medicinal chemistry, chemical development and chemical manufacturing.

**Keywords:** active pharmaceutical ingredients; continuous flow; flow systems; micro reactors.



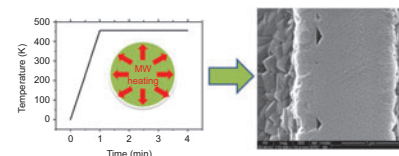
Ingrid Marin, Esperanza Adrover, Didac Vega, Miguel Urbiztondo, Maria Pilar Pina, Reyes Mallada and Jesús Santamaría

### Fast microwave synthesis of Pt-MFI zeolite coatings on silicon micromonoliths: application to VOC catalytic combustion

DOI 10.1515/gps-2012-0006  
Green Process Synth 1 (2012):  
169-174

**Original article:** Microwave assisted seeded hydrothermal synthesis in silicon micromonoliths in 3 min.

**Keywords:** MFI; microreactor; microwave synthesis; VOC combustion.



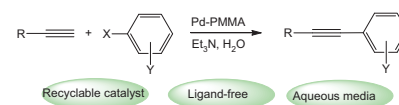
Wen-Bin Yi, Xin-Lei Shi, Chun Cai and Wei Zhang

### Polymer-supported Pd(0) catalyst for copper- and ligand-free Sonogashira reactions in aqueous media

DOI 10.1515/gps-2012-0002  
Green Process Synth 1 (2012):  
175-180

**Original article:** Methacrylate microspheres (Pd-PMMA) as a supported catalyst for the Sonogashira cross-coupling reaction has high reactivity, good recovery, and low catalyst leaching. The reaction is conducted in aqueous media and under Cu(I)- and ligand-free conditions.

**Keywords:** aqueous reaction; ligand-free catalysis; polymethyl methacrylate; Sonogashira reaction; supported palladium catalyst.



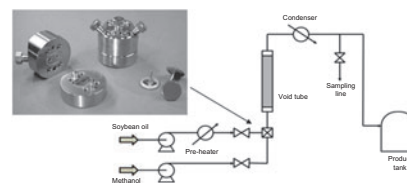
Elio Santacesaria, Rosa Turco, Miriam Tortorelli, Vincenzo Russo, Martino Di Serio and Riccardo Tesser

**Biodiesel process intensification: the role of the liquid-liquid interface area in the achievement of a complete conversion in few seconds**

DOI 10.1515/gps-2012-0001  
Green Process Synth 1 (2012):  
181–189

**Original article:** Biodiesel process intensification using a micro mixer device followed by a small void tube. By using this device, a nearly complete conversion can be obtained, at 60°C and atmospheric pressure, in less than 10 s thanks to the extremely efficient liquid-liquid micro-mixing effect.

**Keywords:** biodiesel; kinetics; micro-mixer; process intensification; transesterification.



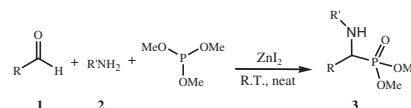
Zahed Karimi-Jaberi, Masoud Mardani and Mohammad Amiri

**Green, one-pot synthesis of  $\alpha$ -aminophosphonates catalyzed by  $\text{ZnI}_2$  at room temperature**

DOI 10.1515/gps-2011-0028  
Green Process Synth 1 (2012):  
191–193

**Original article:** An efficient, green and simple solvent-free method is described for the synthesis of  $\alpha$ -aminophosphonates based on one-pot three-component condensation of trimethyl phosphite, aldehydes and amines in the presence of zinc iodide.

**Keywords:**  $\alpha$ -aminophosphonates; room temperature; solvent-free; trimethylphosphite; zinc iodide.



Chi Wai Kan, Yin Ling Lam and Chun Wah Yuen

**Fabric handle of plasma-treated cotton fabrics with flame-retardant finishing catalyzed by titanium dioxide**

DOI 10.1515/gps-2011-0018  
Green Process Synth 1 (2012):  
195–204

**Original article:** This paper studied the fabric handle, measured in term of low stress mechanical properties, of plasma-treated cotton fabrics with flame-retardant finishing catalysed by titanium dioxide.

**Keywords:** flame-retardant; low stress mechanical properties; plasma; pre-treatment; titanium dioxide.

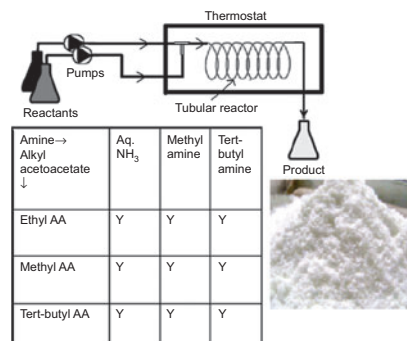
Ramesh A. Joshi, Rohini R. Joshi, Jagdish Tibhe, Nayana T. Nivangune and Amol A. Kulkarni

**Continuous flow synthesis of  $\beta$ -amino  $\alpha$ ,  $\beta$ -unsaturated esters in aqueous medium**

DOI 10.1515/gps-2011-0002  
Green Process Synth 1 (2012):  
205–210

**Original article:** A continuous flow scalable process is demonstrated for the synthesis of 9 different  $\beta$ -amino crotonates with emphasis on intensified process for synthesis of methyl amino crotonate.

**Keywords:**  $\beta$ -amino crotonate; continuous flow synthesis; Hantzsch synthesis; microreactor.



Dirk Ziegenbalg, Christoph Kompter,  
Friedhelm Schönfeld and Dana Kralisch

**Evaluation of different micromixers  
by CFD simulations for the anionic  
polymerisation of styrene**

DOI 10.1515/gps-2012-0004  
Green Process Synth 1 (2012):  
211–224

**Original article:** Semi-quantitative CFD calculations were used to determine the best suited micromixer out of a collection of different devices. As a result it could be shown that CFD calculations can beneficially be used to rank micromixing devices for specific process conditions and synthesis tasks.

**Keywords:** anionic polymerisation;  
micromixer; reaction control; simulation.

