



Abstract Listing

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415682: Green syntheses in ionic liquids

IEC 0 [415682]: Green syntheses in ionic liquids

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ACCEPTED

Topic Selection: *Green (or Greener) Industrial Applications of Neoteric Solvents: Ionic and Supercritical Fluids: Ionic Liquids in Context*

Invited: *Y*

Preferred Presentation Format: *OralOnly*

Consider for Sci-Mix: *N*

Special Equipment Needs: *ANy chance of computer projection from Corel Presentations?*

Conforms to Bylaw 6: *Y*

Last Modified: *2000-11-19*

Abstract

The latest advances in industrially relevant organic syntheses utilising room-temperature ionic liquids will be presented; it is too early to present details at the time of abstract submission.

419208: Neoteric solvents: A comparative analysis of their industrial potential

IEC 0 [419208]: Neoteric solvents: A comparative analysis of their industrial potential

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ACCEPTED

Topic Selection: *Green (or Greener) Industrial Applications of Neoteric Solvents: Ionic and Supercritical Fluids: Ionic Liquids in Context*

Invited: *N*

Preferred Presentation Format: *Oral*

Consider for Sci-Mix: *N*

Conforms to Bylaw 6: *Y*

Last Modified: *2000-11-19*

Abstract

The demonstration of several new types of solvent capable of carrying out chemical reactions effectively is one of the triumphs of the new discipline of Green Chemistry. Ionic liquids, supercritical fluids, fluorous biphasic systems, even water revisited, all promise new chemistry and lower use of conventional organic solvents. The speed with which new opportunities have been identified is breathtaking.

For the industrial chemist seeking to use new process technology, however, neoteric solvents represent unknowns with unquantified degrees of risk, and equally uncertain benefits. Faced with the need to make a rapid decision about candidate routes for a new process, the industrial researcher will tend to favour known and trusted technologies. On a longer timescale, few companies can afford to invest in exploring all the new options, and must therefore make choices about which to back with their research moneys.

Overcoming these barriers is a critical challenge for the implementation of new, cleaner technologies. One approach, the subject of this paper, is to compare the performance and properties of the new solvents, looking at all the factors which influence choice of process.

The paper will review the available information about using ionic liquids, supercritical fluids and other neoteric solvents, for three key classes of reactions C-C bond formation, oxidation, and hydrogenation.

419316: Ionic liquids as green solvents**IEC 0 [419316]: Ionic liquids as green solvents**

William M. Nelson, Pollution Prevention, IL DNR/ Waste Management & Research Center, One E. Hazelwood Dr, Champaign, IL 61820, Fax: 217-333-8944, wmnelson@uiuc.edu

ACCEPTED

Topic Selection: *Green (or Greener) Industrial Applications of Neoteric Solvents: Ionic and Supercritical Fluids: Ionic Liquids in Context*

Invited: *Y*

Comments to Organizer: *I would like to present early in the session, as my talk will present challenges and questions that subsequent talks will address. Additionally, it will attempt to place the discussion on ionic liquids in terms of green chemistry.*

Preferred Presentation Format: *Oral*

Consider for Sci-Mix: *N*

Special Equipment Needs: *I will bring a laptop and would like an overhead LED projector.*

Conforms to Bylaw 6: *Y*

Last Modified: *2000-11-19*

Abstract

The examination of ionic liquids (ILs) as green solvents includes two very different criteria: internal (chemical and solvency characteristics) and external (environmental toxicological considerations.) The internal characteristics, as illustrated by current reactions and measured properties, will be used to describe ionic liquids as a solvent/reaction media. The external characteristics, as measured by

environmental impact and toxicity studies, will evaluate these compounds in terms of their environmental effects. Taken together, and given the vast number of potential ionic liquids, these chemicals display a wide range of potential application and limitation as green solvents. During the talk, we will discuss actual chemical reactions involving ionic liquids in terms of their "greenness" and how the economics would compare with current reactions. This would lead to some of the work we are doing to improve the preparation of ILs and promote their industrial applications.

420242: Comparison of the behavior of ionic liquids with supported reagents

IEC 0 [420242]: Comparison of the behavior of ionic liquids with supported reagents

Richard M. Pagni, and George W. Kabalka, Department of Chemistry, The University of Tennessee, Buehler Hall, Knoxville, TN 37996-1600, Fax: 865-974-3454, rpagni@utk.edu

ACCEPTED

Topic Selection: Green (or Greener) Industrial Applications of Neoteric Solvents: Ionic and Supercritical Fluids: Ionic Liquids in Context

Invited: Y

Preferred Presentation Format: Oral

Consider for Sci-Mix: N

Conforms to Bylaw 6: Y

Last Modified: 2000-11-19

Abstract

A large number of green phases have been proposed as alternatives to traditional solvents. These include water, supercritical fluids, surfaces of solids and supported reagents, and ionic liquids. Each of these media has its advantages and disadvantages when compared to one another and to traditional solvents. This talk will focus on ionic liquids and supported reagents, both of which have been studied extensively by the authors, in this light. Chemical applications from the authors' own work and those of others will be presented.

439848: Green chemistry and ionic liquids: Synergies and ironies

IEC 0 [439848]: Green chemistry and ionic liquids: Synergies and ironies

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ACCEPTED

Topic Selection: Green (or Greener) Industrial Applications of Neoteric Solvents: Ionic and Supercritical Fluids: Ionic Liquids in Context

Invited: Y

Preferred Presentation Format: OralOnly

Consider for Sci-Mix: N

Conforms to Bylaw 6: Y

Last Modified: 2000-11-19

Abstract

One of Society's biggest challenges as we enter the new millennium, is the elimination of industrial pollution. Perhaps as a result of the compelling need for industry to consider the reengineering of entire processes, ionic liquids have begun to receive worldwide academic and industrial attention as VOC replacements in catalysis, synthesis, and separations processes, in addition to their well known role in electrochemistry. Combined with green chemistry, a new paradigm in thinking about synthesis in general, ionic liquids provide a unique opportunity for science/engineering/business to work together from the beginning of a field's development and thus lead more quickly to innovative environmentally- and economically-sustainable industrial processes. This presentation will discuss the role of green chemistry in the ionic liquid research agenda.

445108: Intermission**0 [445108]: Intermission****ACCEPTED**

Topic Selection: *Green (or Greener) Industrial Applications of Neoteric Solvents: Ionic and Supercritical Fluids: Ionic Liquids in Context* **Preferred Presentation Format:** *Break*

Consider for Sci-Mix:

Last Modified: 2000-11-24

Abstract: Abstract text not available.

445109: Discussion**0 [445109]: Discussion****ACCEPTED**

Topic Selection: *Green (or Greener) Industrial Applications of Neoteric Solvents: Ionic and Supercritical Fluids: Ionic Liquids in Context* **Preferred Presentation Format:** *Break*

Consider for Sci-Mix:

Last Modified: 2000-11-24

Abstract: Abstract text not available.
