

1. Record Nr.	UNINA9910132236703321
Titolo	Ionic liquids further uncoiled : critical expert overviews // edited by Kenneth R. Seddon, Robin D. Rogers
Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley, , 2014 ©2014
ISBN	1-118-83970-6 1-118-83961-7 1-118-83971-4
Descrizione fisica	1 online resource (356 p.)
Classificazione	SCI013000
Disciplina	541/.372
Soggetti	Ionic solutions
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Cover; Title page; Copyright page; Contents; COIL Conferences; Preface; Acknowledgements; Contributors; Abbreviations; 1: Ionic Liquid and Petrochemistry: A Patent Survey; 1.1 Introduction; 1.2 New Formulations and Methods of Fabrication for an Improved Use of Ionic Liquids; 1.2.1 Alkyl Sulfate Ionic Liquids; 1.2.2 Other Ionic Liquids; 1.2.3 High-Purity Ionic Liquids; 1.2.4 Production of Ionic Liquids under Ultrasonication; 1.2.5 Immobilised Ionic Liquids; 1.3 Separation Processes Using Ionic Liquids; 1.3.1 Introduction; 1.3.2 Separation of Olefins; 1.3.3 Close-Boiling Mixtures Treatment 1.3.4 Acid Removal from Organic Mixtures 1.3.5 Sulfur Compound Elimination from Hydrocarbon Streams; 1.3.6 Natural Gas Purification; 1.3.7 Oxygen- or Nitrogen-Containing Polar Compound Separation; 1.3.8 Other Applications; 1.4 Use of Ionic Liquids as Additives with Specific Properties; 1.4.1 Ionic Liquids as Lubricants; 1.4.2 Ionic Liquids as Antistatic Agents in Polymers; 1.4.3 Ionic Liquids as Additives for Oil Drilling/Oil Wells; 1.4.4 Carbon Nanotubes; 1.4.5 Fine Particles Recovery; 1.4.6 Anionic Surfactants; 1.4.7 Pressure-Sensitive Compositions 1.5 Use of Ionic Liquids as Both Acidic Catalysts and Solvents 1.5.1 Introduction; 1.5.2 Economical Preparation of Chloroaluminate(III) Ionic

Liquids; 1.5.3 Applications of Acidic Ionic Liquids: Catalysts and Solvents; 1.5.4 Regeneration of Chloroaluminate(III) Ionic Liquids; 1.6 Applications of Ionic Liquids as Solvents for Catalytic Systems; 1.6.1 Introduction; 1.6.2 Transition-Metal Catalysed Olefin Oligomerisation; 1.6.3 Hydroformylation; 1.6.4 Carbonylation of Alcohols; 1.6.5 Metathesis; 1.6.6 Hydrosilylation; 1.6.7 Synthesis of Polymers 1.6.8 Microwave-Assisted Chemical Transformations with Ionic Liquids 1.6.9 Methane to Methanol; 1.6.10 Fluorination; 1.6.11 Aldol Condensation; 1.6.12 Acylation; 1.6.13 Hydrocarbon Stream Drying; 1.6.14 Photolysis; 1.6.15 Preparation of Alkoxyamines; 1.7 Ionic Liquids and Biopolymers; 1.7.1 Dissolution and Processing of Cellulose; 1.7.2 Starch and Ionic Liquids; 1.7.3 Other Biopolymers; 1.8 Conclusions and Perspectives; References; 2: Supercritical Fluids in Ionic Liquids; 2.1 Introduction; 2.2 Phase Behaviour of (Ionic Liquid + Supercritical Fluid) Systems; 2.2.1 Experimental Methods 2.2.2 Phase Behaviour of Binary (Ionic Liquid + Supercritical Fluid) Systems 2.2.3 Phase Behaviour of Ternary (Ionic Liquid + Supercritical Fluid) Systems; 2.3 Chemical Processing in (Ionic Liquid + Supercritical Fluid) Systems; 2.3.1 Separations in Ionic Liquid + Supercritical Fluid Systems; 2.3.2 Combined Reactions and Separations in Ionic Liquid + Supercritical Fluid Systems; 2.4 Conclusions and Outlook; References; 3: The Phase Behaviour of 1-Alkyl-3-Methylimidazolium Ionic Liquids; 3.1 Phase Transitions Linked with Conformational Changes of Cations 3.1.1 Conformers of 1-Alkyl-3-Methylimidazolium Cations

Sommario/riassunto

"This book includes eleven overviews of specific areas of ionic liquid chemistry, covering such topics as physicochemical properties of ionic liquids, a patent survey, ionic liquid membrane technology, engineering simulations as well as molecular simulations. Providing insight, appreciation and prospect the chapters give a sense of importance and scope of the area, highlighting the best published works, and looking for the direction in which the field is moving. The value of the chapters lies in the expertise and insight of the authors - and their willingness to share it with the reader, including typical problems related to experimental techniques, selection of liquids, and variability of data.

--

"Containing eleven excellently perceptive reviews, this volume will help guide those new to the field and experienced alike, thereby securing the future of ionic liquids"--
