

1. Record Nr.	UNINA9910830113003321
Titolo	Nanocatalysis in ionic liquids // edited by Martin H. G. PrechtI ; with a foreword by Jairton Dupont
Pubbl/distr/stampa	Weinheim, Germany : , : Wiley-VCH, , 2017 ©2017
ISBN	3-527-69413-7 3-527-69412-9 3-527-69328-9
Descrizione fisica	1 online resource (325 p.)
Disciplina	541.2
Soggetti	Nanochemistry Catalysis 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; Contents; List of Contributors; Preface; Foreword; Symbols and Abbreviations; Part I Synthesis, Characterization, and Evaluation of Nanocatalysts in Ionic Liquids; Chapter 1 Fe, Ru, and Os Nanoparticles; 1.1 Introduction; 1.2 Synthesis of Fe, Ru, and Os NPs in ILs; 1.3 Ionic Liquid Stabilization of Metal Nanoparticles; 1.4 Applications of Ru, Fe, and Os Nanoparticles to Catalysis; 1.5 Conclusion; Acknowledgments; References; Chapter 2 Co, Rh, and Ir Nanoparticles; 2.1 Introduction; 2.2 Chemical Routes for the Synthesis of Metal NPs in ILs 2.3 Catalytic Application of Metal NPs in ILs2.4 Conclusions; References; Chapter 3 Ni and Pt Nanoparticles; 3.1 Introduction; 3.2 Synthesis and Characterization of Pt NPs in ILs; 3.3 Catalytic Applications of Pt NPs in ILs; 3.4 Synthesis and Characterization of Ni NPs in ILs; 3.5 Catalytic Applications of Ni NPs in ILs; 3.6 Summary and Conclusions; Symbols and Abbreviations; Characterization Methods; Ionic Liquids; References; Chapter 4 Pd Nanoparticles for Coupling Reactions and Domino/Tandem Reactions; 4.1 Introduction; 4.2

Formation of Pd NPs in ILs; 4.3 The Heck Coupling
4.4 The Suzuki Reaction4.5 The Stille Coupling; 4.6 The Sonogashira
Coupling; 4.7 Summary and Conclusions; Acknowledgments;
References; Chapter 5 Soluble Pd Nanoparticles for Catalytic
Hydrogenation; 5.1 Introduction; 5.2 Synthesis of Pd Nanoparticles in
ILs; 5.3 Pd Nanoparticles for Hydrogenation; 5.4 Summary and
Conclusions; Ionic Liquid Abbreviations; References; Chapter 6 Au, Ag,
and Cu Nanostructures; 6.1 Introduction; 6.2 Au NPs in the Presence of
ILs; 6.3 Catalytic Applications of AuNP/IL Composites; 6.4 Ag NPs in the
Presence of ILs; 6.5 Cu NPs in the Presence of ILs
6.6 Summary and ConclusionsAcronyms; References; Chapter 7
Bimetallic Nanoparticles in Ionic Liquids: Synthesis and Catalytic
Applications; 7.1 Introduction; 7.2 Synthesis of Bimetallic Nanoparticles
in Ionic Liquids; 7.3 Applications in Catalysis; 7.4 Summary and
Outlook; Acknowledgments; References; Chapter 8 Synthesis and
Application of Metal Nanoparticle Catalysts in Ionic Liquid Media using
Metal Carbonyl Complexes as Precursors; 8.1 Introduction; 8.2 Metal
Carbonyls - Synthesis, Structure, and Bonding; 8.3 Metal Carbonyls for
the Synthesis of Metal Nanoparticles (M-NPs)
8.4 Catalytic Applications of Metal Nanoparticles from Metal Carbonyls
in ILs8.5 Conclusions; Acknowledgment; References; Chapter 9 Top-
Down Synthesis Methods for Nanoscale Catalysts; 9.1 Introduction; 9.2
Sputter Deposition of Metals in RTILs; 9.3 Thermal Vapor Deposition on
RTILs for Preparation of Metal Nanoparticles; 9.4 Laser-Induced
Downsizing and Ablation of Materials; 9.5 Preparation of Single Crystals
by Vapor Deposition onto RTILs; 9.6 Conclusion; References; Chapter
10 Electrochemical Preparation of Metal Nanoparticles in Ionic Liquids;
10.1 Introduction
10.2 Basics of Electrodeposition
