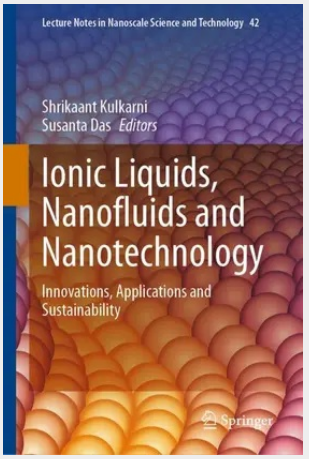
Kulkarni / Das

# Ionic Liquids, Nanofluids and Nanotechnology

Innovations, Applications and Sustainability




This book provides a comprehensive exploration of the dynamic intersections between ionic liquids (ILs) and nanotechnology. Highlighting innovative strategies for industrial, environmental, and biomedical applications, this book presents insights into the latest research, sustainable solutions, and future prospects, making it a valuable resource for scientists, engineers, and policymakers.

Known as "designer solvents," ionic liquids exhibit exceptional properties like low vapor pressure and high thermal stability, enabling green chemistry applications in chemical synthesis, material design, and nanotechnology. This book examines ILs in green nanoparticle synthesis, where they offer eco-friendly advantages and precise control over size, shape, and surface chemistry. ILs also play a critical role in nanofluids, improving thermal conductivity, stability, and energy efficiency. Covering topics such as catalysis, environmental remediation, energy storage, and pharmaceutical applications, this book also addresses challenges like scalability, toxicity, and green chemistry integration, offering a forward-looking perspective on IL-based nanotechnology.

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