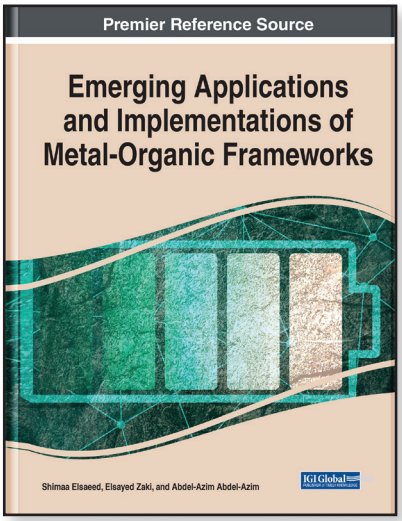
Emerging Applications and Implementations of Metal-Organic Frameworks

Part of the Advances in Chemical and Materials Engineering Book Series

Shimaa Elsaeed (Egyptian Petroleum Research Institute, Egypt), Elsayed Zaki (Egyptian Petroleum Research Institute, Egypt) and Abdel-Azim Abdel-Azim (Egyptian Petroleum Research Institute, Egypt)



Description:

Metal-organic frameworks (MOFs) are some of the most discussed materials of the last decade. Their extraordinary porosity and functionality from metals and organic linkers make them one of the most promising materials for a vast array of applications. The easy tunability of their pore size and shape from the micro- to meso-scale by changing the connectivity of the inorganic moiety and the nature of the organic linkers makes these materials special. Moreover, by combining with other suitable materials, the properties of MOFs can be improved further for enhanced functionality/stability, ease of preparation, and selectivity of operation.

Emerging Applications and Implementations of Metal-Organic Frameworks combines the latest empirical research findings with relevant theoretical frameworks in this area in order to improve the reader's understanding of MOFs and their different applications in areas that include drug delivery, heavy metal removal from water, and gas storage. The design and synthesis of MOFs is also investigated along with the preparation of composites of MOFs. While covering applications that include water defluoridation, rechargeable batteries, and pharmaceutically-adapted drug delivery systems, the book's target audience is comprised of professionals, researchers, academicians, and students working in the field of physical and polymer chemistry, physics, engineering science, and environmental science.

ISBN: 9781799847601 **Pages:** 335 **Copyright:** 2021 **Release Date:** December, 2020

Hardcover: $225.00 **Softcover:** $170.00 **E-Book:** $225.00 **Hardcover + E-Book:** $270.00

Topics Covered:

- Building Materials
- Composites
- Drug Delivery System
- Heavy Metals
- Quartz Crystal Microbalance
- Rechargeable Batteries
- Supercapacitors
- Water Defluoridation

Subject: Science and Engineering

Classification: Edited Reference

Readership Level: Advanced-Academic Level (Research Recommended)

Research Suitable for: Advanced Undergraduate Students; Graduate Students; Researchers; Academicians; Professionals; Practitioners

Order Information
Phone: 717-533-8845 x100
Toll Free: 1-866-342-6657
Fax: 717-533-8661 or 717-533-7115
Online Bookstore: www.igi-global.com
Mailing Address: 701 East Chocolate Avenue, Hershey, PA 17033, USA

IGI Global
PUBLISHER of TIMELY KNOWLEDGE