

1. Record Nr.	UNINA9910678246603321
Titolo	Handbook of Porous Carbon Materials // Andrews Nirmala Grace [and three others], editors
Pubbl/distr/stampa	Singapore : , : Springer, Springer Nature Singapore Pte Ltd., , [2023] ©2023
ISBN	981-19-7188-9
Edizione	[First edition.]
Descrizione fisica	1 online resource (1176 pages)
Collana	Materials Horizons: from Nature to Nanomaterials Series
Disciplina	662.9
Soggetti	Carbon Porous materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Core-Shell Nanostructures Based Porous Carbon Nanomaterials for Oxygen Reduction Reaction -- Recent progress of carbonaceous materials in third generation solar cells: DSSCs -- Carbon-based materials as electrodes for biofuels electrosynthesis -- Photoluminescent carbon dots: A new generation nanocarbon material -- Porous Carbon-based Sensors and their Applications -- Synthesis and Fabrication of Advanced Carbon Nanostructures -- Nanoporous Carbon Materials for Energy Harvesting, Storage and Conversion -- Design of Porous Carbon-Based Electro-Catalyst for Hydrogen Generation -- Carbon Composites with Polymer Materials for Gas Sensing Application -- Porous graphene-based materials for enhanced adsorption towards emerging micropollutants (EMs) -- Biomedical application of Porous Carbon and its future in Precision Medical Devices -- Fanatical clout of porous carbon materials-a peek in therapeutics -- Trends in nanostructured sorbent materials for passive sampling applications -- Biochar: porous carbon material, its role to maintain sustainable environment -- Biocompatible carbon coated magnetic nanoparticles for biomedical applications -- Role of Nano-systems for Electrochemical Mapping using Diverse Carbon based Nanomaterials -- Noscainoids: a family of microtubule targeted anticancer agent -- Emerging Graphene based Nanomaterials for Cancer Nanotheranostics -- Porous carbon materials enhanced the therapeutic efficacy of

anticancer drugs -- Carbon Nanomaterial Based Biosensors: A forthcoming future for Clinical Diagnostics -- Role of Carbon Nanostructures as Nano-Theranostics against Breast and Brain Cancer.

---

**Sommario/riassunto**

This handbook summarizes the current advancements and growth in sustainable carbonaceous porous materials for fabrication and revival of energy devices, fuel cells, sensors technology, solar cell technology, stealth technology in addition to biomedical applications. It also covers the potential applications of carbon materials in various fields such as chemical, engineering, biomedical and environmental sciences. It also confers the prospective utilization of 2D and 3D hierarchical porous carbon in different interdisciplinary engineering applications. The book discusses major challenges faced in the development of cost-effective future energy storage strategies and provides effective solutions for improvement in the performance of carbon-based materials. Given the content, this handbook will be useful for students, researchers and professionals working in the area of material chemistry and allied fields.

---