عنوان مقاله:

How Porous Nanofibers Have Enhanced the Engineering of Advanced Materials: A Review

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خلاصه مقاله:

Nanofibers are one-dimensional nanomaterialswith a superfine diameter and many potential applicationsdue to their desirable characteristics such as small diameter,high surface area, high flexibility, high porosity, and specialmechanical properties. In the recent years, porous nanofibershave been the subject of considerable research works in awide range of applications owing to high surface area tovolume ratios and high porosity ratio. Combination ofsuperfine diameter and porosity in porous nanofibersrepresent an emergent class of nanoporous materials withmaximum conceivable specific surface area, high poresvolume and extreme adsorption capacity that could lead toimprovement in many applications such as tissue engineering,catalysts, sensors, batteries, energy storage,adsorption/separation, filtration, medical applications, solarcells, superhydrophobic surfaces, supercapacitors, andconductors. The present review focuses on the currentprogresses in the fabrication mechanisms andcharacterization methods of porous nanofibers. In addition,some application capabilities of porous nanofibers that .werereported in literature are discussed and an outline of futuretrends is presented

کلمات کلیدی:

Electrospinning, Nanofibers, porosity