

Nanofibers have a wide range of applications in many fields such as energy generation and storage, environmental sensing and treatment, biomedical and health, thanks to their large specific surface ...

Nanofiber sensors containing dispersed magnetic particles, sodium alginate, and chitosan, prepared by multifluid electrospinning (Wang et al., 2020), are used in human-computer ...

Definition: Nanofibers are fibers with diameters in the nanometer range, typically less than 100 nm. They are known for their high surface area to volume ratio, flexibility in surface functionalities, and superior ...

The sensor comprises three main layers: a thermoplastic polyurethane (TPU) nanofiber layer, an alginate/silk fibroin (SA/SF) aerogel layer, and a silk fibroin/graphene (SG) nanofiber layer. The SG ...

In this review, we first introduce the main evaluation parameters for gas sensors, the designed principle of sensors, and the advantages of nanofiber materials for gas sensing.

Integrating polymer nanofibers with optical sensors takes advantage of the high sensitivity, fast response, and strong immunity to electromagnetic interference of optical sensors, ...

For example, a nanofiber filter can capture much smaller particles than conventional filters due to its increased surface area and smaller pore sizes. Nanofibers also exhibit high porosity, meaning they ...

The main focus of current research is the control of nanoscale structures in nanofibers. For example, we have demonstrated that electrospinning of self-assembling block copolymers gives rise to unique self ...

Nanofibers have a large area of surface variable 3D topography, porosity, and adaptable surface functions. Several researchers are researching nanofiber technology as a potential solution to the ...

An electrospun nanofiber network resembles the extracellular matrix (ECM) well. This resemblance is a major advantage of electrospinning because it opens up the possibility of mimicking ...

Herein, latest summaries in the unique structure and properties of nanofiber/nanowire function materials and their applications for flexible and stretchable sensor are highlighted.

Nanofiber-based sensors and biosensors, both electrochemical and optical, can be used to detect a variety of species, from heavy metal ions, through small molecules, to microorganisms.

Nanofiber technology is a technique that involves the synthesis, processing, manufacturing, and applications

of fibers with nanometric dimensions . Materials with fiber morphology are of great ...

Nanofibers are fibers with diameters of 100 nm or less, which have characteristic features such as extremely small pore dimensions, large surface-area-to-volume ratio and superior ...

Schematic diagram showing the research content of wearable tactile sensors based on the electrospun nanofiber platform, including the electrospinning principle, unique properties of ...

The development of micro/nanofiber sensors and the related integrated systems is a grand project spanning photonics, engineering, and materials science, and will become a hot academic research field.

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