Applications of Fluorescent Fibers in Ion Sensing



Overview

Fluorescent probes have emerged as indispensable tools for the detection, quantification and imaging of ions in a wide range of environments, from industrial process streams to living cells. School of Control Engineering, Hebei Key Laboratory of Micro-Nano Precision Optical Sensing and Measurement Technology, Northeastern University at Qinhuangdao, Qinhuangdao, China 2. College of Information Science and Engineering, Northeastern University, Shenyang, China Recently, novel fluorescent. Cai Y, Li M, Wang M, Li J, Zhang Y and ZhaoY(2020)OpticalFiberSensorsfor Metal Ions Detection Based on Novel Fluorescent Materials. 598209 Recently, novel fluorescent probes based on biomaterials and luminescent nanomaterials for metal ions attract. 1 Institute for Photonics & Advanced Sensing (IPAS) and School of Chemistry & Physics, The University of Adelaide, North Terrace, SA 5005, Australia; E-Mails: tze. These small-molecule or polymeric sensors combine a selective ion-binding moiety (ionophore) with a. We combine suspended-core microstructured optical fibers with the photoinduced electron transfer (PET) effect to demonstrate a new type of fluorescent optical fiber-dip sensing platform for small volume ion detection.



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Article Content

Optical Fiber Sensors for Metal Ions Detection Based on ...

This paper summarized the studies of optical fiber sensors for metal detection based on novel fluorescent materials to help researchers get the highlights of recent notable advancements

Optical Fiber Sensors for Metal Ions Detection Based on ...

Immobilized on the optical fiber sensor, fluorescent probes reveal the advantages while facing outdoor detection challenges. Therefore, numerous fluorescent optical fiber sensors for metal

Development of alginate gel nanosphere-based fluorescent fiber optic ...

Fluorescent fiber optic sensors operate on the principle of fluorescence quenching, leveraging chloride-responsive dyes to detect ion concentration through linear fluorescence intensity

Development and evaluation of fluorescent optical fiber sensors for ...

This research synthesized three types of SiO 2 fluorescent nanoparticles using lucigenin, rhodamine B, and rhodamine 6G as luminophores. These nanoparticles were then applied to the tips

fphy-2020-598209 1..5

Recently, novel fluorescent probes based on biomaterials and luminescent nanomaterials for metal ions attract tremendous attentions, owing to their advantages of simple operation, high sensitivity and

Photoinduced Electron Transfer Based Ion Sensing within an Optical

We combine suspended-core microstructured optical fibers with the photoinduced electron transfer (PET) effect to demonstrate a new type of fluorescent optical fiber-dip sensing platform for small

Fluorescent Probes for Ion Sensing Applications

Fluorescent probes have emerged as indispensable tools for the detection, quantification and imaging of ions in a wide range of environments, from industrial process streams to living cells.

Fluorescent Probes for Ion Sensing Applications

Uncover the latest and most impactful research in Fluorescent Probes for Ion Sensing Applications. Explore pioneering discoveries, insightful ideas and new methods from leading

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Fe3+ Sensing Based on Hydrogel Optical Fiber Doped with ...

With the continuous development of fluorescence detection technology, the combination of fluorescence detection and optical fiber sensing technology can realize the quantitative detection

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It focuses on the mechanism and application of these materials for oxygen sensing and evaluates the future development direction of these materials for oxygen sensing. #fluorescence #biosensor # ...

Photo-responsive films in food packaging: mechanisms, preparation ...

The mechanisms and applications of these systems were then discussed, with emphasis on light-triggered active regulation and environment-responsive sensing. In addition, the potential of

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(c) fluorescent off-on (d) fluorescent on-off and (e) colorimetric response curves. Selectivity: Selective sensor response is highly demanded in real-time applications. As many of the

Stimuli-Responsive Electrospun Fluorescent Fibers Augmented with ...

Emerging applications of luminescent AIE-active polymeric fibers constructed by electrospinning for deployment in multiple sectors, encompassing optoelectronics—OLEDs and

The optical fiber sensing platform for ferric ions detection: A ...

Abstract Carbon quantum dots (CQDs), as one kind of promising carbon nanomaterials, are widely used as fluorescent probes for metal ions sensing. An optical fiber sensing platform is

Fig. 4 Role of CDs in chemical and bio-sensing via

Furthermore, potential applications of these plastic-derived CDs in sensing, catalysis, agronomics, and LED lights are summarized herein.

Flexible Optical Fiber Sensing: Materials, Methodologies, and ...

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Flexible optical fiber sensors benefit from both technology-merits of optical fiber sensing and flexible materials. They utilize specially designed polymer materials with exceptional elasticity and

Cellulose-based fluorescent materials for chemical sensing applications

In particular, the perspective of cellulose-based fluorescent materials for sensing are discussed from the design and functionality perspectives, and the future opportunities for the

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