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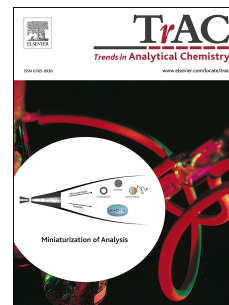
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Graphene-Based Optical Nanosensors for Detection of Heavy Metal Ions

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ABSTRACT Heavy metal ion pollution has threatened the environmental and human safety. Therefore, there is a remarkable demand to detect heavy metal ions in a fast, sensitive and selective way. Although conventional sensors have been designed and widely applied in heavy metal ion determination, they present many limitations and challenges. Graphene-based nanotechnology overcomes these challenges and endows the sensing platform better performance. In this overview, studies concerning graphene-based optical nanosensors for heavy metal ion detection have been summarized, paying special attention to sensors based on graphene, graphene oxide, and graphene quantum dots. In addition, prospects and developing trends of nanosensors for heavy metal ion analysis are also proposed.

Keywords: Graphene; Heavy metal ions; Optical detection; Nanosensor; Fluorescence probes

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