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Title:	A review on various electrochemical techniques for heavy metal ions detection with different sensing platforms
Authors:	Kumar, Tejinder (/jspui/browse?type=author&value=Kumar%2C+Tejinder)
Keywords:	Heavy metal ions Electrochemical techniques Metallic interface Nanomaterials Biomaterials
Issue Date:	2017
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Citation:	Biosensors and Bioelectronics, 94
Abstract:	Heavy metal ions are non-biodegradable and contaminate most of the natural resources occurring in the environment including water. Some of the heavy metals including Lead (Pb), Mercury (Hg), Arsenic (As), Chromium (Cr) and Cadmium (Cd) are considered to be highly toxic and hazardous to human health even at trace levels. This leads to the requirement of fast, accurate and reliable techniques for the detection of heavy metal ions. This review presents various electrochemical detection techniques for heavy metal ions those are user friendly, low cost, provides on-site and real time monitoring as compared to other spectroscopic and optical techniques. The categorization of different electrochemical techniques is done on the basis of different types of detection signals generated due to presence of heavy metal ions in the solution matrix like current, potential, conductivity, electrochemical impedance, and electrochemiluminescence. Also, the recent trends in electrochemical detection of heavy metal ions with various types of sensing platforms including metals, metal films, metal oxides, nanomaterials, carbon nano tubes, polymers, microspheres and biomaterials have been evoked.
Description:	Only IISERM authors are available in the record.
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