NEW BIDENTATE LIGANDS FOR THE REMOVAL OF HEAVY METALS FROM AQUEOUS MEDIUM

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The removal of toxic heavy metals from contaminated drinking water is a critical issue of water quality management to safeguard public health. The chronic exposure to toxic heavy metal ions can pose a host of serious health risks ranging from nerve and organ damages to cancer. To mitigate the problems, the contaminated water must be treated to bring the metal contents to EPA defined levels. The development of new materials is key to new technologies for such task. Imidazole and pyridine are two classes of ligands that have been previously found in various applications. The combination of the two has been explored for new ligands recently. The study here is to focus on the method development for the material preparation, and to evaluate effectiveness of heavy metal ion removal. In particular, the removal efficiency of lead and cadmium has been examined.

Keyword: imidazole, pyridine, imidazopyridine, heavy metals, lead, cadmium, metal removal, absorption kinetics, absorption capacity, polymer, sol-gel

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