Removal of chromium (VI) from aqueous solution using modified CdO nanoparticles

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\textbf{ABSTRACT}

The CdO and modified CdO nanoparticles were synthesized using hydrothermal method. The absorption spectra, crystal phase, surface morphology, particle size, and surface area of CdO and modified CdO nanoparticles were studied by UV–DRS, FT-IR, XRD, SEM, TEM, TGA, PL, and BET surface area analysis. The present paper reports adsorption technique for the removal of chromium (VI) using CdO and modified CdO nanoparticles. The operating variables such as adsorbent dose, nature of adsorbent, adsorbate concentration, contact time, and pH were optimized. The technique was found to be highly useful and cost effective for removal of chromium (VI). The Langmuir and Freundlich models were evaluated using the experimental data and result showed that the Freundlich isotherm fit better than the Langmuir isotherm.

\textit{Keywords:} Hydrothermal synthesis; CdO nanoparticles; Modified CdO nanoparticles; Adsorption; Chromium (VI)

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