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Synthesis and Use of Thiourea Derivative (1-Phenyl-3- Benzoyl-2-Thiourea) for Extraction of Cadmium Ion

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Abstract : The environmental pollution by heavy metals became more problematic nowadays. To solve the problem of Cadmium accumulation in human organs which lead to dangerous effects on human health, and to determine its concentration, the organic legand 1-phenyl-3-benzoyl-2-thiourea was used to extract the cadmium ions from its solution. This legand as one of thiourea derivatives was successfully synthesized. The legand was characterized by NMR and CHN elemental analysis, and used to extract the cadmium from its solutions by formation of a stable complex at neutral pH. The complex was characterized by elemental analysis and melting point. The concentrations of cadmium ions before and after the extraction were determined by Atomic Absorption Spectrophotometer (AAS). The data show the percentage of the extract was more than 98.7% of the concentration of cadmium used in the study.

Keywords : thiourea derivatives, cadmium extraction, water, environment
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