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An Investigation on the Removal of Synthetic Dyes from Aqueous Solution by a Functional Polymer

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Abstract : The synthetic dyes, one of the most hazardous chemical compound classes, are important potential water pollutions since their presence in water bodies reduces light penetration, precluding the photosynthesis of aqueous flora and causing various diseases. Some the synthetic dyes are highly toxic and/or carcinogenic, and their biodegradation can produce even more toxic aromatic amines. The adsorption procedure is one of the most effective means of removing synthetic dye pollutants, and has been described in a number of previous studies by using the functional polymers. In this study, we investigated the removal of synthetic dyes from aqueous solution by using a functional polymer as an adsorbent material. The effect of initial solution concentration, pH, and contact time on the adsorption capacity of the adsorbent were studied in details. The results showed that functional polymer has a potential to be used as cost-effective and efficient adsorbent for the treatment of aqueous solutions from textile industries.

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