

## **P4. MOLACULARLY IMPRINTED MAGNETIC CHITOSAN BEADS FOR SELECTIVE REMOVAL OF TEXTILE DYES FROM WASTE WATER**

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Organic dyes represent effective chemical hazard encountered in our environment as organic pollutants, so the dye effluent releasing in various industries is one of the most serious water pollution source. Many dyes which are one of the environmental contaminants are difficult to degrade due to their complex structures and toxic degradation product. Among various branch of dyes more attention must be droned to synthetic dyes, specifically those belonging to the xanthene class with extensive application. A variety of studies were devoted to the assessment of the acute toxicity of this dyes.

Molecularly imprinted polymers (MIP) represent a new class of materials possessing high selectivity and good affinity for target molecule. In comparison with the common adsorbents, the MIP improves the reusability, selectivity and adsorption capacity of adsorbents.

In this study, Erythrosine dye selected as a model xanthene dye. Erythrosine-imprinted magnetic chitosan particules (EIMC) was successfully synthesized for the removal of ER from aqueous solutions. Non-imprinted magnetic chitosan particules (NIMC) was also prepared for the comparison. According to TG analysis result, the Fe<sub>3</sub>O<sub>4</sub> coating process turned the polymerical matrices more resistant to degradation when compared to the former polymer. Selectivity of EIMC and NIMC for ER over other dyes (Reactive Yellow, Kim Orange and Reactive Blue) was evaluated. Adsorption capacity of EIMC and NIMC for Erythrosine, Reactive Yellow, Kim Orange, Reactive Blue was found 46.05; 20.39, 13.76; 14.06, 18.48; 18.76 and 8.49; 13.90 mg/g, respectively. So, EIMC could use for selectively removal of ER from waste water.

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