Optimasi adsorpsi magnetik kitosan nanopartikel terhadap eosin B dengan metode respon permukaan

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Abstrak

The adsorption of Eosin B from waste water using magnetic chitosan nanoparticle(MCNs) has been investigated. Response surface methodology (RSM) was employed to optimize the adsorption parameters of Eosin B from waste water.The effects of three independent variables, namely pH, dosage MCNs and initial concentration Eosin B on the capacity adsorption were investigated. Results indicated that the data were adequately fitted into three second-order polynomial models. The independent variables, the linearity of adsorption pH and dosage , the quadratics of initial concentration and dosage, the interactions between initial concentration and pH, initial concentration and dosage, as well as absorption pH and dosage had a significant effect on the absorption capacity. The optimal adsorption parameters were the initial concentration Eosin B of 300 ppm 51.3%, adsorption pH of 5.5 and dosage CNMs of 100 mg according to the response surface analysis. Under this condition, the adsorption capacity was 23.84 mg/g,