

Methylene blue sorption on CS/Nano- γ alumina as a novel and environmentally friendly adsorbent

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Abstract (600 word limits)

Nowadays, the presence of hazardous dyes in the effluent of industries has been the most important environmental danger [1]. The existence of dyes in water is noxious for both human and environment owing to having serious adverse health problem [2].

Lately, several methods have been used for removal of toxic dyes from effluents of industries including flocculation, photo catalytic degradation, adsorption, membrane filtration and reverse osmosis, and etc. [3]. Among these, adsorption is one of the strategies that is vastly utilized because it has some advantages for example ease of operation, low cost, and good removal efficiency [4]. Chitosan is a plentiful biopolymer has been announced to be extensively used in water purification. Alumina based adsorbent has some profits such as stability, high surface area, possible reuse, short adsorption contact time, and high mechanical characteristics [5]. In the present study, CS/Nano- γ alumina was synthesized and characterized by FTIR, FESEM, XRD and BET analysis. The influence of four parameters such as pH, initial dye concentration, contact time and adsorbent dosage were studied.

Keywords— Adsorbent, Chitosan, Methylene blue

Biography (200 word limit)

Abbas Teimouri is graduate student at IUT University working under the direction of Professor Dabbagh in Sep 2006. Currently he is working as professor of organic in Payame Noor University. As my curriculum vitae shows, He has had excellent opportunities to teaching and experience combined with my course work and research background in synthesis, catalyst, biomaterials and theoretical studies.

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