

**ADSORPTION OF METHYLENE BLUE ONTO  
XANTHOGENATED-MODIFIED CHITOSAN MICROBEADS**

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## ABSTRACT

### ADSORPTION OF METHYLENE BLUE ONTO XANTHOGENATED-MODIFIED CHITOSAN MICROBEADS

Methylene Blue (MB) is thiazine dyes that widely use to color product in many industry such as textile, printing, leather, cosmetic and paper. Xanthogenated-Modified Chitosan Microbeads (XMCM) is use to observe the new alternative adsorbent in removing MB from water body through adsorption process. The interactions between MB and functional group in XMCM were confirmed by Fourier Transform Infrared (FT-IR) spectra. Several parameters that influence adsorption ability such as the effect of adsorbent dosage of XMCM and the effect of initial pH of MB aqueous solution were studied. This study were done at optimum condition which is at pH 4 of initial pH of MB solution, 0.01 g of initial XMCM dosage, 6 hours stirring time and temperature of  $(30 \pm 2 \text{ }^\circ\text{C})$ . The adsorption data fit well Langmuir model more than Freundlich model. Based on Langmuir model, the maximum monolayer adsorption capacity of MB was  $21.62 \text{ mg g}^{-1}$  which indicated that XMCM can be a new alternative adsorbent for removing MB.