

## عنوان مقاله:

Application of a New Polymer AgCl Nanoparticles Coated Polyethylene Terephthalat [PET] as Adsorbent for Removal and Electrochemical Determination of Methylene Blue Dye

## محل انتشار:

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## خلاصه مقاله:

In this study, two efficient applications for a novel modified polymer (polyethylene terephthalate [PET] modified with AgCl nanoparticles) were proposed and experimentally evaluated. First, PET-AgCl NPs were applied as an adsorbent to remove methylene blue (MB) dye, and the effect of pH, incubation time, concentration of MB, and temperature on the dye removal were studied and optimized to improve dye removal efficiency. The optimum condition included pH 9, temperature 45 °C, and incubation time 24 h. The adsorption fitted the Temkin isotherm model. In the other part of the study, a composite of PET-AgCl NPs with multiwall carbon nanotubes (MWCNTs) was used to modify the gold electrode in order to detect MB dye. The modified electrode exhibited a linear detection range, 5  $\mu$ M to 10 nM, with a detection limit of 4.6 nM.

## کلمات کلیدی:

Polyethylene terephthalate, Methylene Blue Removal, AgCl nanoparticles, Adsorbent, Nanocomposite

## لینک ثابت مقاله در پایگاه سیویلیکا:

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