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[\[PDF \(1119K\)\]](#) [\[References\]](#)**Optimization of Removal of Methylene Blue by *Platanus* Tree Leaves Using Response Surface Methodology**[Javad ZOLGHARNEIN^{1\)}](#), [Zhaleh ADHAMI^{1\)}](#), [Ali SHAHMORADI^{1\)}](#) and [S. Norollah MOUSAVI^{2\)}](#)

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Platanus tree leaves were successfully used as a novel sorbent for removing of methylene blue (MB) dye from aqueous solutions. A 2^3 full factorial design was performed for screening of the main factors. The pH, initial concentration of dye (C_d) and amount of sorbent (m) were considered to be the three main factors at two different levels. It was found that all these factors and their interactions were significant at a certain confidence level ($p < 0.05$). Doehlert response surface design was applied (13 runs) for a further inspection of the main factors effect, which led to an empirical model. An analysis of the variances (ANOVA) and relevant tests, such as lack-of-fit and residual probability plot, confirmed the validity of the suggested model. A desirability function was used for the simultaneous optimization of both the removal efficiency ($R\%$) and the maximum capacity of the sorbent (q). Plots of the response surface, through visualization of the suggested model, clearly showed the interactions between the main variables and their effects on the response.

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