

## 氧化石墨烯-壳聚糖复合材料对甲烯蓝的吸附动力学

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## Adsorption Kinetics of Methylene Blue on Graphene Oxide-Chitosan Composite

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摘要 氧化石墨烯-壳聚糖复合材料(graphene oxide-chitosan composite, GO-CS) 可用于清除阳离子染料, 具有吸附量大、易于分离等优点. 对GO-CS吸附阳离子染料甲烯蓝的动力学进行了研究, 结果显示, GO-CS对甲烯蓝的吸附符合二级动力学模型. 颗粒内扩散模型分析表明, GO-CS 吸附甲烯蓝的扩散机制包括颗粒内扩散和表面扩散.此外, 还发现GO-CS 对甲烯蓝的吸附量受pH 值和离子强度的影响, 较高的pH 值和离子强度有利于提高吸附量.

关键词: [氧化石墨烯-壳聚糖](#) [甲烯蓝](#) [吸附动力学](#) [印染废水](#)

Abstract: Graphene oxide-chitosan composite (GO-CS) is powerful in decoloration of cationic dyes. GO-CS holds several advantages including high adsorption capacity and easy separation after adsorption. This paper investigates the adsorption kinetics of methylene blue on GO-CS. The adsorption process is nicely described by a pseudo-second-order model. The diffusion mechanism includes intraparticle diffusion and surface diffusion. The adsorption capacity of GO-CS can be regulated by pH and ionic strength, where higher pH and ionic strength were preferred.

Keywords: [graphene oxide-chitosan](#), [methylene blue](#), [adsorption kinetics](#), [dyeing wastewater](#)

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