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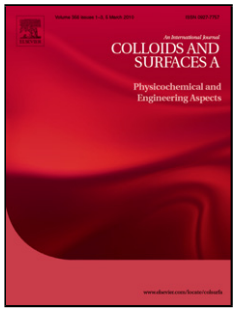

Title: Fabrication of cotton fabrics through in-situ reduction of polymeric N-halamine modified graphene oxide with enhanced ultraviolet-blocking, self-cleaning, and highly efficient, and monitorable antibacterial properties

Authors: Nengyu Pan, Ying Liu, Xuehong Ren, Tung-Shi Huang

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Fabrication of cotton fabrics through in-situ reduction of polymeric N-halamine modified graphene oxide with enhanced ultraviolet-blocking, self-cleaning, and highly efficient, and monitorable antibacterial properties

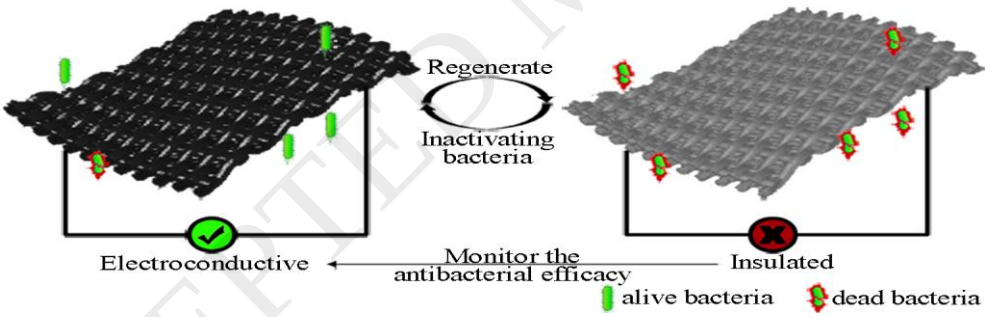
Nengyu Pan[1], Ying Liu[1], Xuehong Ren[1 *], Tung-Shi Huang[2]

[1] Key Laboratory of Eco-textiles of Ministry of Education, College of Textiles and Clothing, Jiangnan University, 214122, Jiangsu, China

[2] Department of Poultry Science, Auburn University, Auburn 36849, AL, USA

[*] Corresponding author: Xuehong Ren (Email: xhren@jiangnan.edu.cn; Tel: +86-51085912007; Fax: +86-51085912009)

Graphical Abstract



Abstract: In this study, graphene oxide modified polymeric N-halamine precursor was coated onto cotton fabrics through a conventional “dipping-drying” method. The functionalized cotton fabrics were in-situ reduced by treating with L-ascorbic acid. The coated cotton fabrics were then treated with household bleach for enhanced antibacterial activity. After chlorination, the coated cotton fabrics showed an UPF value of 132, and the value increased after oxidative chlorine being consumed. The