Smart Polymeric Materials for Dye Removal from Wastewater

Dyes can have significant adverse effects on aquatic ecosystems. When discharged into water bodies, dyes can block sunlight, reducing photosynthesis and disrupting the aquatic food chain. Some dyes may also be toxic to aquatic organisms, leading to reduced biodiversity and ecological imbalances. Although there are some instances of materials for dye removal, mostly it is tough to translate these materials into engineered materials for large scale industrial use. Researchers at IIT Bhilai, led by Dr. Sanjib Banerjee from the Department of Chemistry, have developed a "smart polymeric materials for dye removal" formulation. The formulation is developed via a simple and cost-effective "industry friendly" process and enables dye removal from wastewater. This promising material will be further evaluated to develop into self-standing membrane for industrial use.

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