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A Green and Facile One-Pot Synthesis of Ag NPs using *Bombax Pendantrum* Leaf Extract for Effective Removal of Organic Dyes

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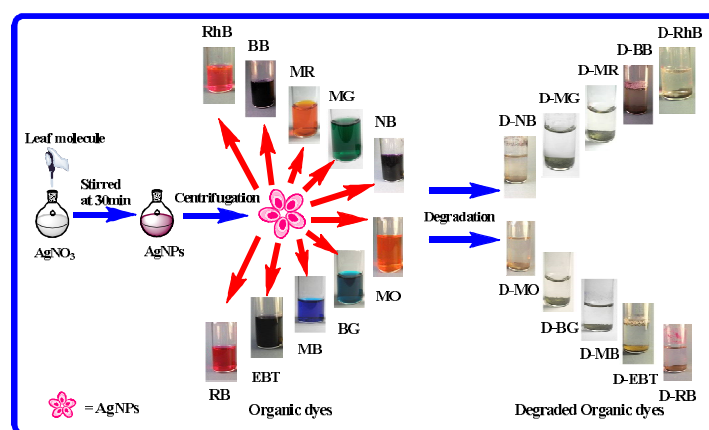
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ABSTRACT

Report a facile, green and one-pot synthesis of silver nanoparticles (Ag NPs) using *Bombax Pendantrum* leaf extract (BPLE) as both reducing and stabilizing agent. The synthesized Ag NPs was characterized by UV-Vis spectroscopy (UV-Vis), Infrared spectroscopy (IR), X-ray diffraction (XRD), Transmission electron microscopy (TEM) and tested for its ability to degrade the dyes such as RhB (Rhodamine B), NB (Nile Blue), MB (Methylene Blue), EB-T (Eriochrome Block T), MO (Methyl Orange), MG (Malachite Green), BG (Brilliant Green), BB (Bismark Brown), RB (Rose Bengal), MR (Methyl Red). The green synthesized Ag NPs shows an excellent catalytic activity and the catalyst is very much able to be reused. The formation of Ag NPs and catalytic degradation of organic dyes are discussed.

Graphical Abstract



Synthesis of the Ag NPs using *Bombax pendantrum* Leaf extract and catalytic degradation of Organic Dyes.

Keywords: Green Synthesis, Ag NPs, Degradation, Organic Dyes, Reusability.