

Bio-mass Derived High Surface Area Activated Carbon for Organic Dyes Removal

Gram bean shells



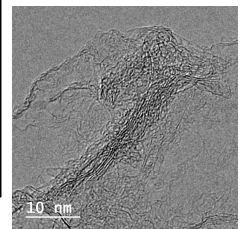
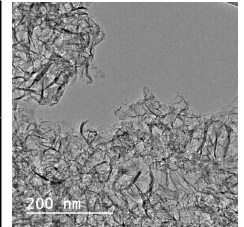
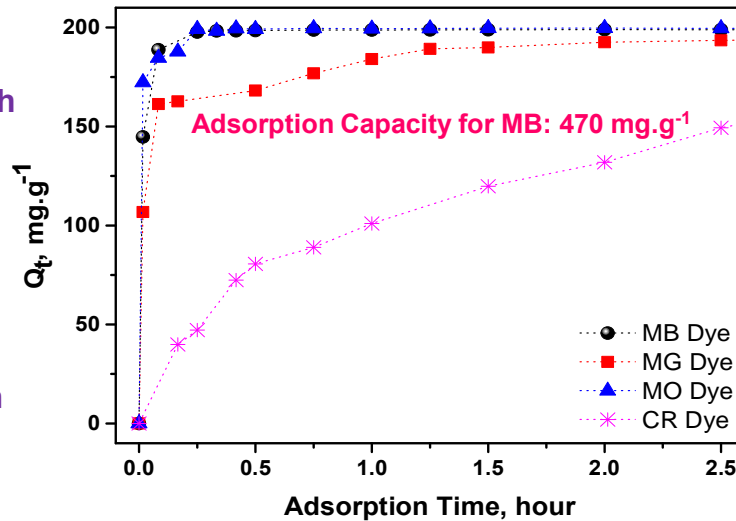
Two-steps Chemical Approach
(Surface Area: $\sim 1700 \text{ m}^2.\text{g}^{-1}$)

Coconut shells



One-step Chemical Approach
(Surface Area: $\sim 2000 \text{ m}^2.\text{g}^{-1}$)

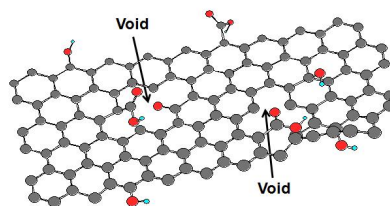
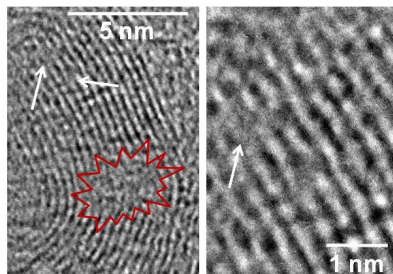
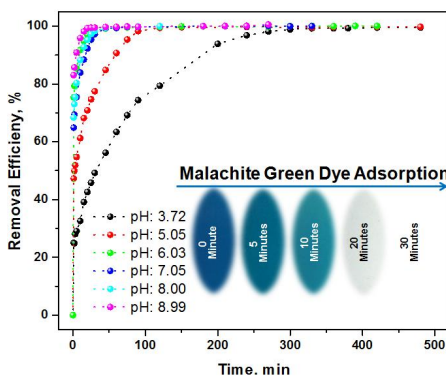
Fast Adsorption of Cationic & Anionic Dyes



Salient Features:

- High surface area activated carbon from the waste bio-mass
- Controlled porosity to improve the adsorption capacity for fast and efficient removal of organic dyes from waste water

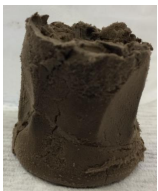
Reduced Graphene Oxide for Fats and Efficient Removal of Organic Dyes



Salient Features:

- Facile and Scalable synthesis of reduced graphene oxide
- Fast and efficient removal of cationic dyes
- Defects and residual oxygen functionalities promotes the adsorption of cationic dyes

3D Low Density Scaffolds of Nanostructural Carbon



- 3D foams of graphene oxide
- controlled porosity for efficient and fast adsorption of water contaminants