

# **Effective adsorptive removal of methylene blue from water by didodecyldimethylammonium bromide-modified brown clay**

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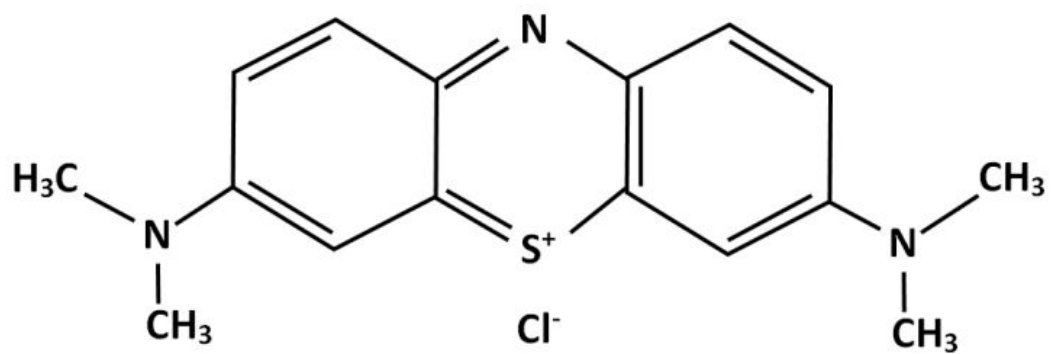
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## **Supporting Information**



**Figure S1.** Molecular structure of methylene blue (MB) dye

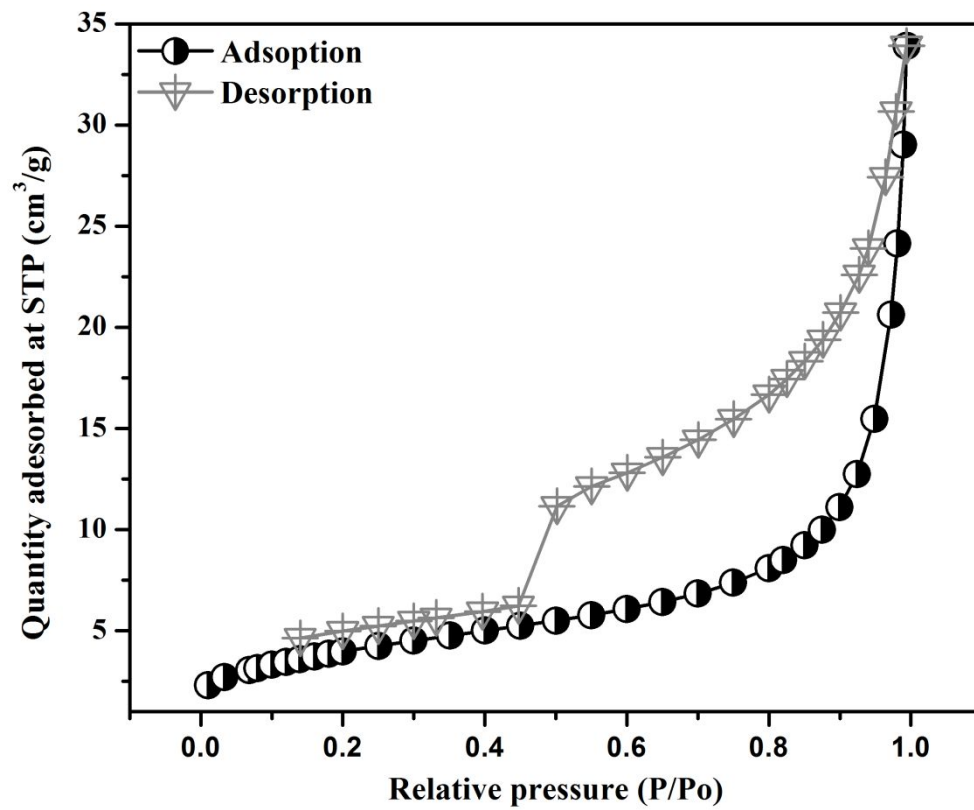


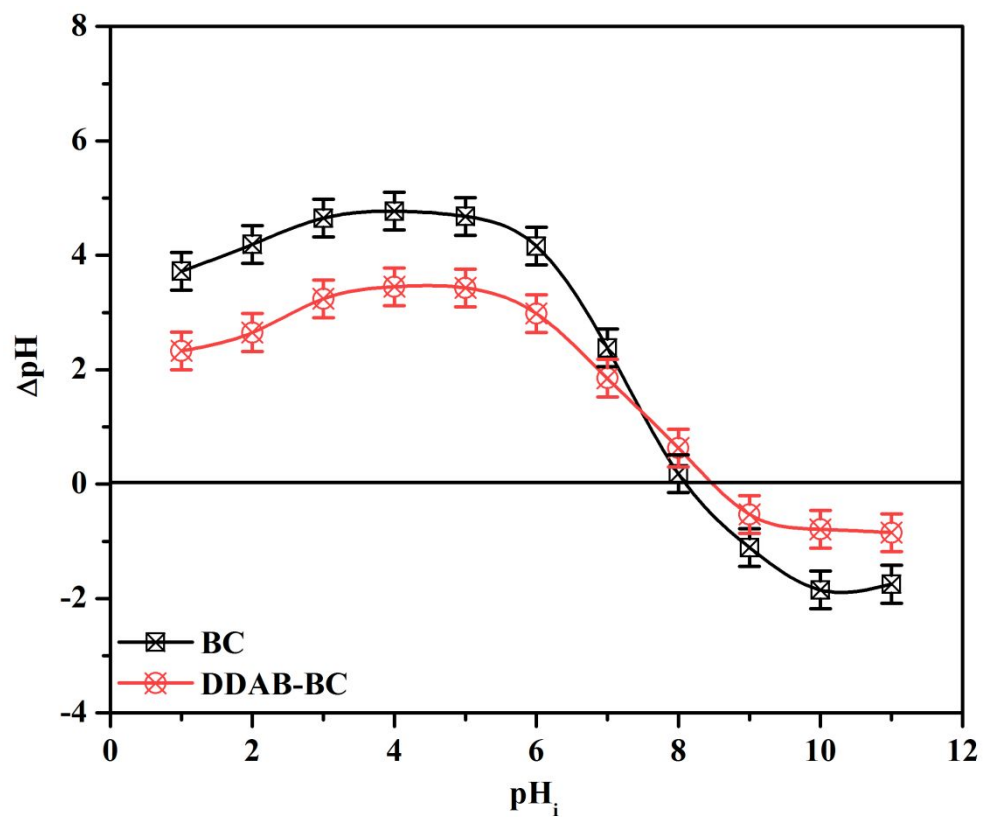
Figure S2. BET isotherm plot of BC sorbent

**Table S1. BET surface parameters of BC and DDAB-BC**

Parameters	Values
BC	
Surface area	14.5884 m <sup>2</sup> /g
Pore diameter	10.16264 nm
Pore volume	0.031916 cm <sup>3</sup> /g
DDAB-BC	
Surface area	124.6841 m <sup>2</sup> /g
Pore diameter	8.75102 nm
Pore volume	0.316780 cm <sup>3</sup> /g

**Table S2. Composition of BC**

Components	Composition (%)
SiO <sub>2</sub>	54-60
Al <sub>2</sub> O <sub>3</sub>	21-25
Fe <sub>2</sub> O <sub>3</sub>	8.9-9.3
Cu	0.4-1.54
MgO	2.23-2.65
Loss on ignition	7.25
Density	1.23 (g/cm <sup>3</sup> )
Moisture	2.5 %
Water solubility	2.41 %
pH	7.1



**Figure S3.** The point of zero charge ( $pH_{PZC}$ ) of BC and DDAB-BC sorbents

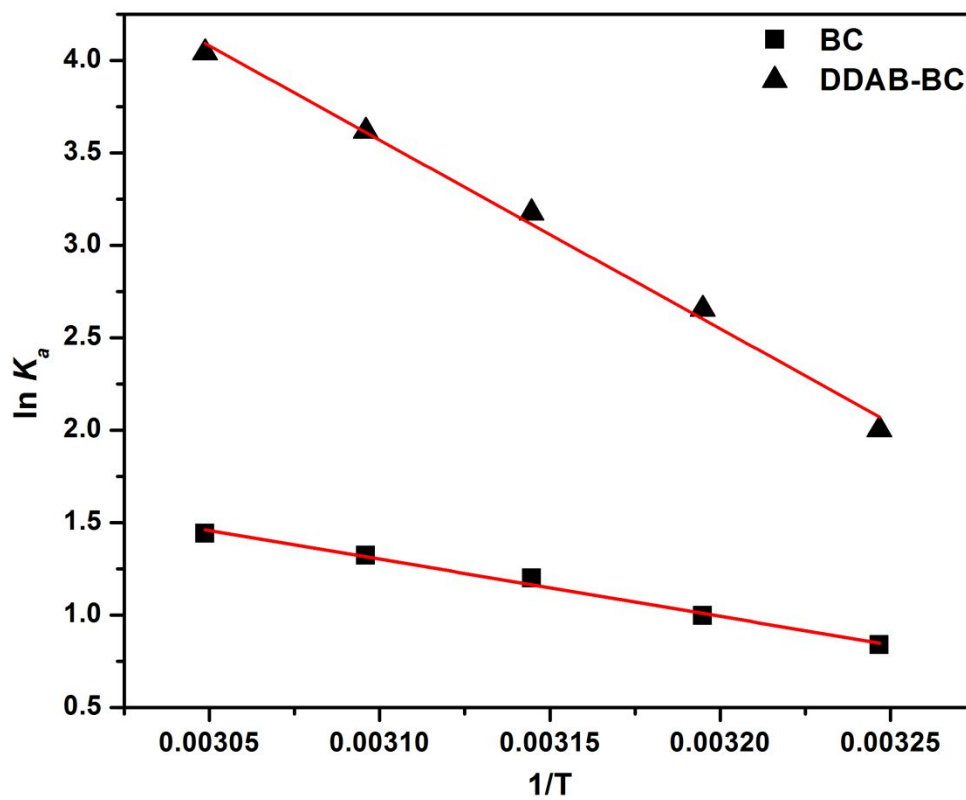


Figure S4. Plots of  $\ln K_a$  vs.  $1/T$  for MB sorption onto BC and DDAB-BC