

SUPPORTING INFORMATION

Reusable, few-layered-MoS₂ nanosheets/graphene hybrid on cellulose paper for superior adsorption of methylene blue dye

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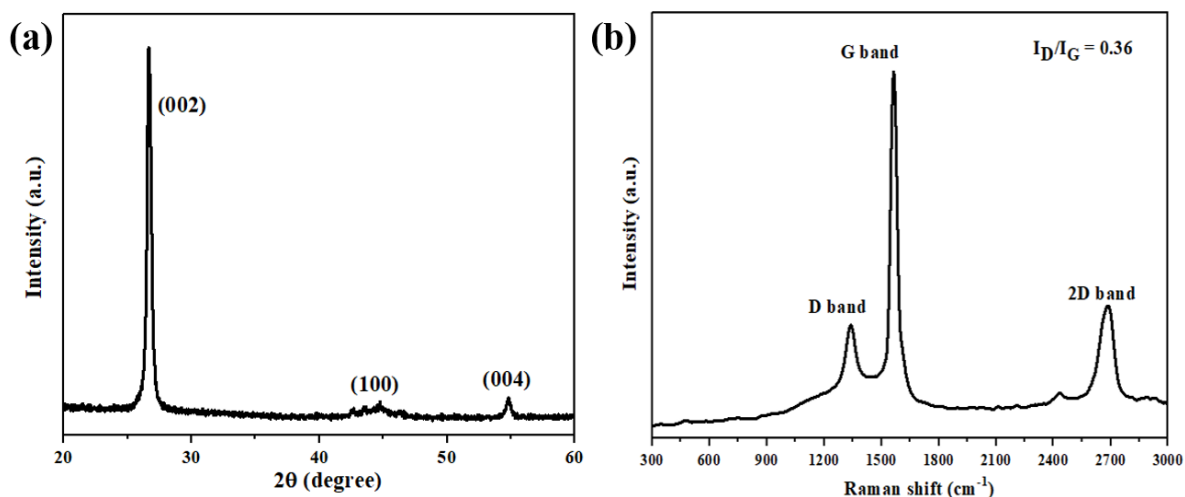


Figure S1: Graphene coated cellulose filter paper (G-CFP) (a) XRD pattern; (b) Raman spectrum

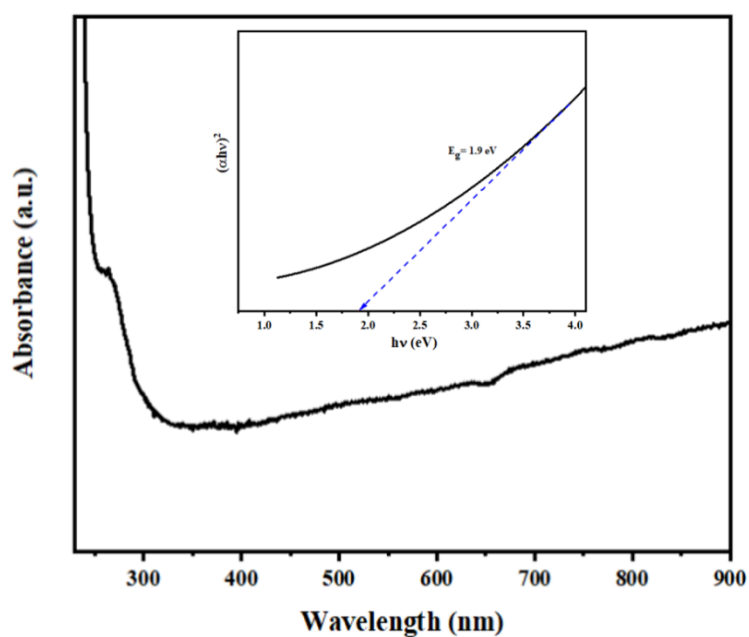


Fig. S2: UV-Vis spectroscopy of MoS₂/Graphene coated cellulose filter paper (M-G-CFP).

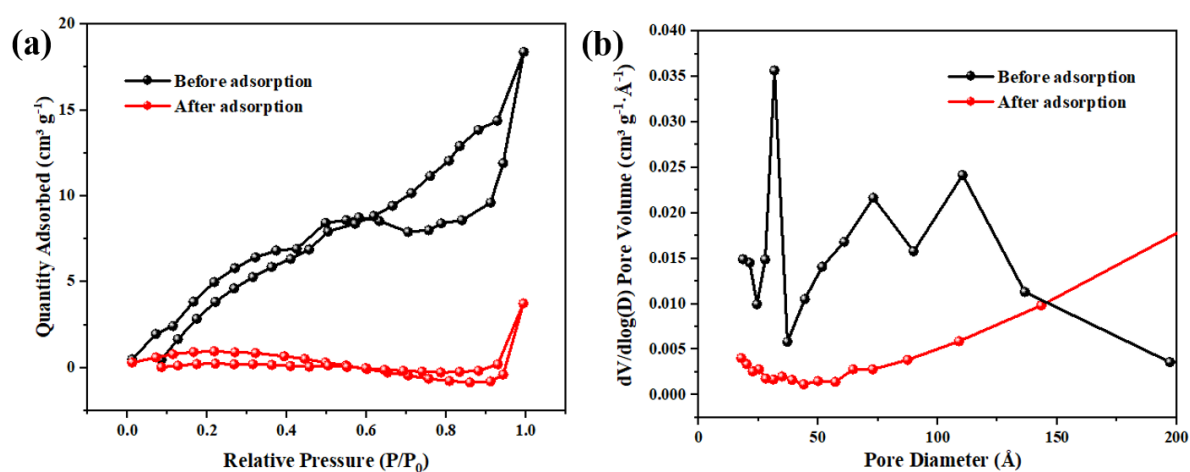


Fig. S3: (a) Nitrogen adsorption-desorption isotherm and (b) Pore size distribution curve of MoS₂/Graphene coated cellulose filter paper (G-CFP) before and after MB adsorption (30mg dosage at pH 7, 298K, 100mg/L concentration)..

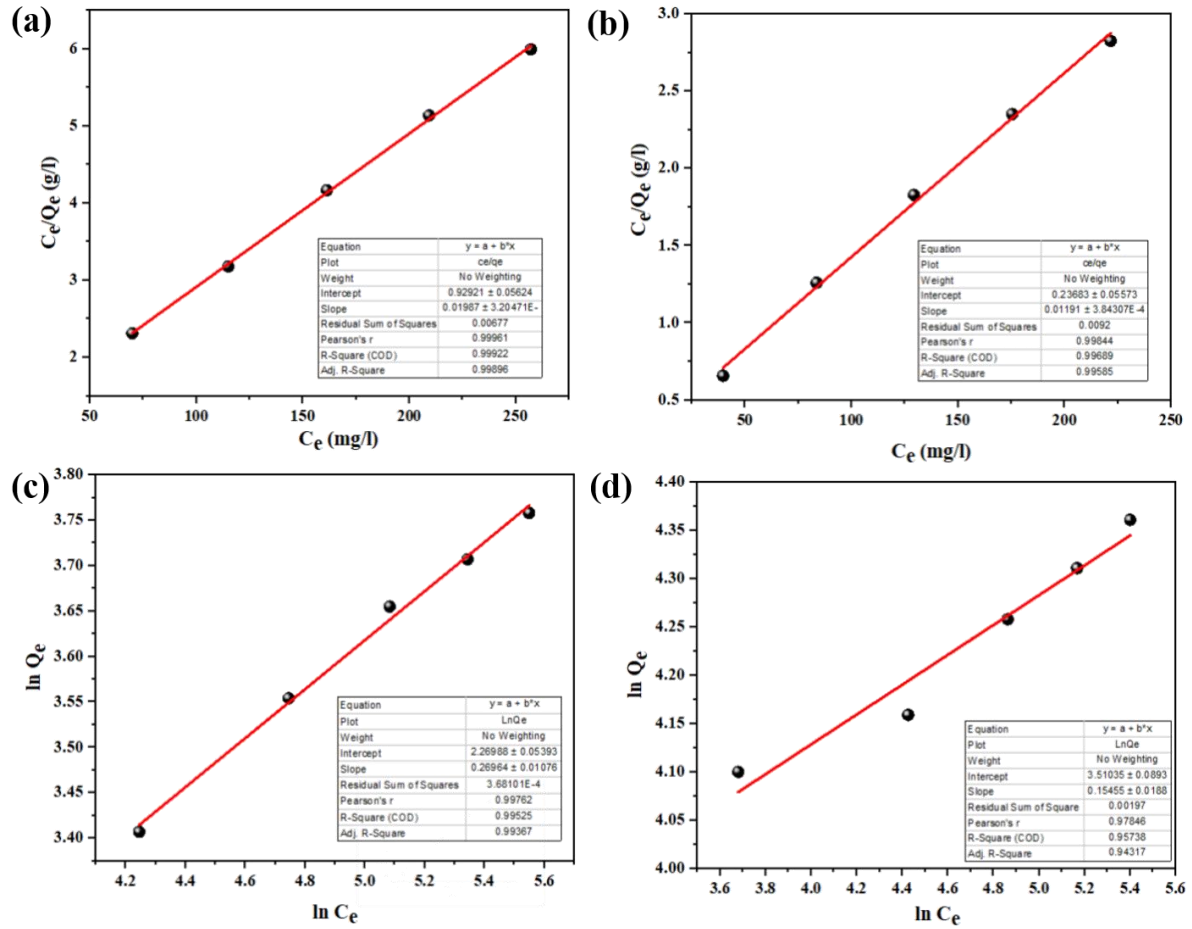


Fig. S4: (a) & (b)-Langmuir isotherm of CFP and G-CFP; (c) & (d)- Freundlich isotherm of CFP and G-CFP (30mg dosage at pH 7, 298K, 100-300mg/L).

Table S1: Adsorption isotherm parameters for MB adsorption on CFP and G-CFP of 30mg at 298K, pH 7.

Isotherms	Parameters	Cellulose filter paper	Graphene-coated cellulose filter paper
Langmuir (Linear)	Q_0 (mg/g)	50.32	83.96
	b (L/mg)	0.0213	0.0502
	R_L	0.1348	0.0625
	R^2	0.999	0.996
	K_f (mg ^{1-1/n} · L ^{1/n} · g ⁻¹)	9.66	33.44
	$1/n$	0.2696	0.15455

Freundlich (Linear)	R^2	0.995	0.957
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