Supplementary Information

Table S1 Kinetics parameters of pseudo-first-order kinetic and pseudo-second-order kinetic for CIP adsorption on BC700 and g-MoS_2-BC700.

Pseudo-first-order kinetic	BC700			g-MoS_2-BC700		
	K_1 (1/h)	q_{max} (mg/g)	R^2	K_1 (1/h)	q_{max} (mg/g)	R^2
4 ppm	0.00092	2.96	0.9929	0.00161	10.884	0.9306
10 ppm	0.00138	5.61	0.9861	0.00194	29.649	0.9090
20 ppm	0.00161	7.86	0.9912	0.00207	36.995	0.9123
Pseudo-second-order kinetic	BC700			g-MoS_2-BC700		
	K_2 (g/mg.h)	q_{max} (mg/g)	R^2	K_2 (g/mg.h)	q_{max} (mg/g)	R^2
4 ppm	0.001132	3.03	0.9981	0.001741	11.85	0.9994
10 ppm	0.000577	5.73	0.9993	0.000805	31.25	0.9992
20 ppm	0.000394	7.97	0.9993	0.000772	38.31	0.9993

Table S2 Comparison of CIP removal on g-MoS_2-BC and other reported adsorbents.

Adsorbents	Maximum adsorption amount	Refer.
g-MoS_2-BC700	37.9 g/mg	–
Humic acid-loaded biochar	11.46 g/mg	Zhao et al., 2019
Chitosan/biochar	36.72 g/mg	Afzal et al., 2018

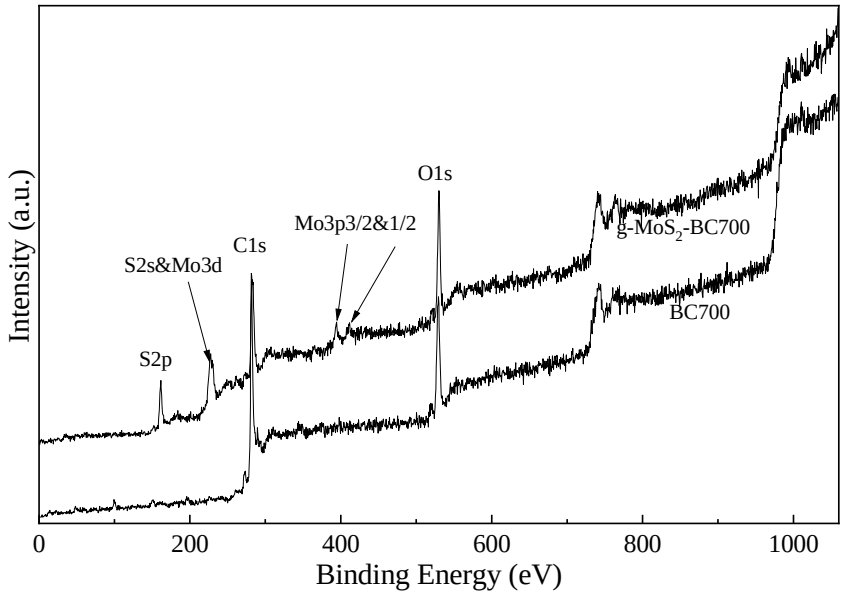


Fig. S1. XPS survey spectra of BC700 and g-MoS_2-BC700.

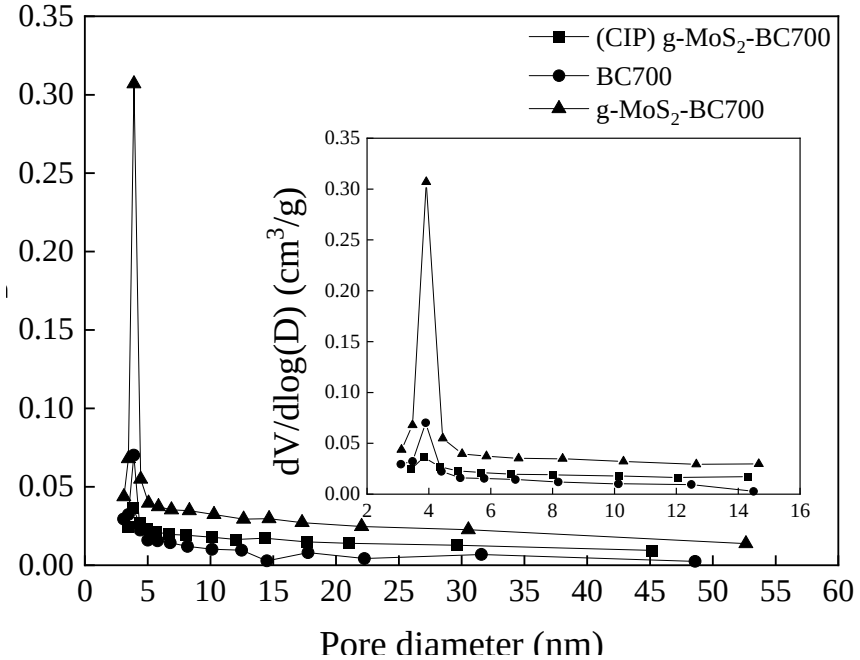
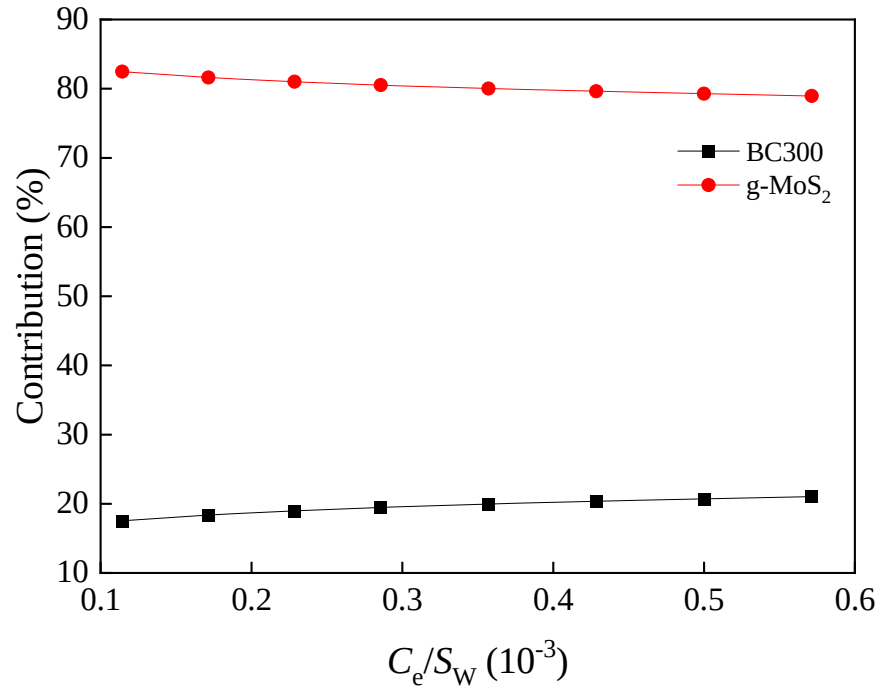


Fig. S2. Pore size distribution patterns of BC700, g-MoS_2-BC700 and the CIP loaded g-MoS_2-BC700.



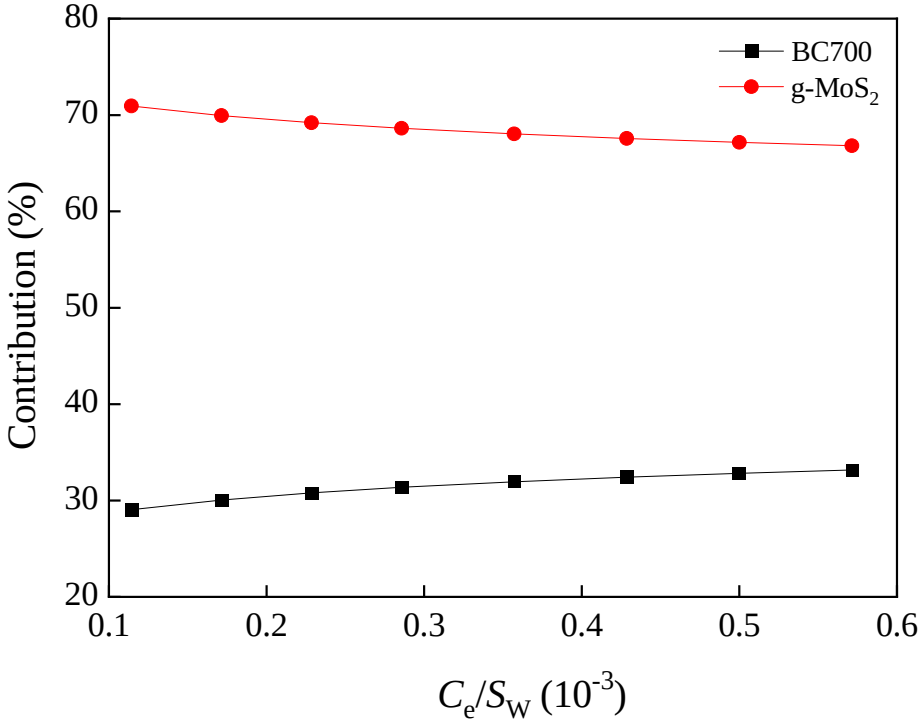


Fig.S3. Contribution of g-MoS_2 and origin biochar for CIP adsorption on g-MoS_2-BC composites.