Electronic Supplementary Material (ESI) for Environmental Science: Water Research & Technology.

Sustainable high-efficiency removal of cationic and anionic dye using new super adsorbent biochar: performance, isotherm, kinetic and thermodynamic evaluation

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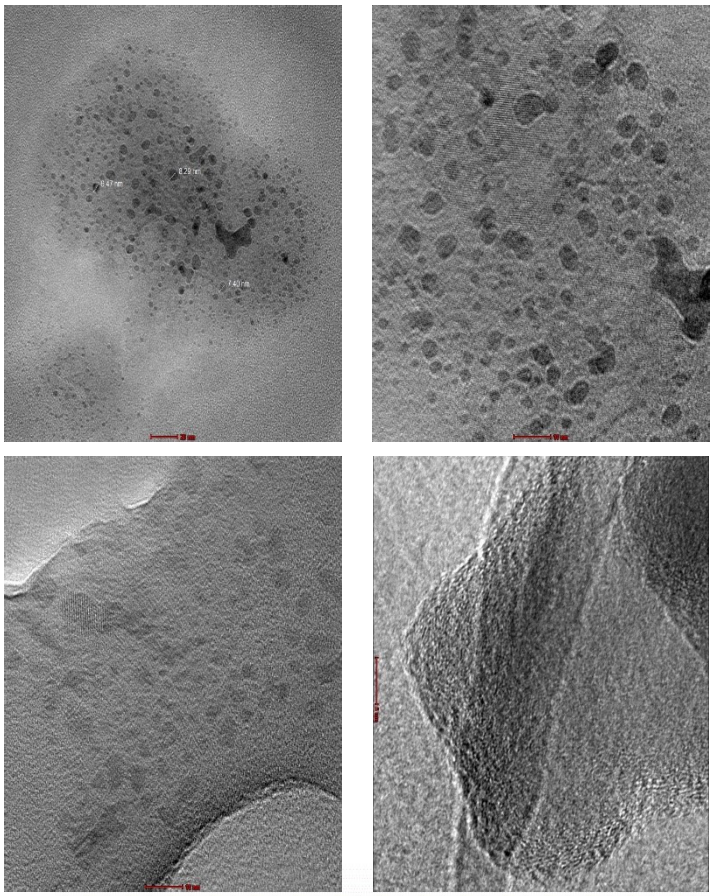

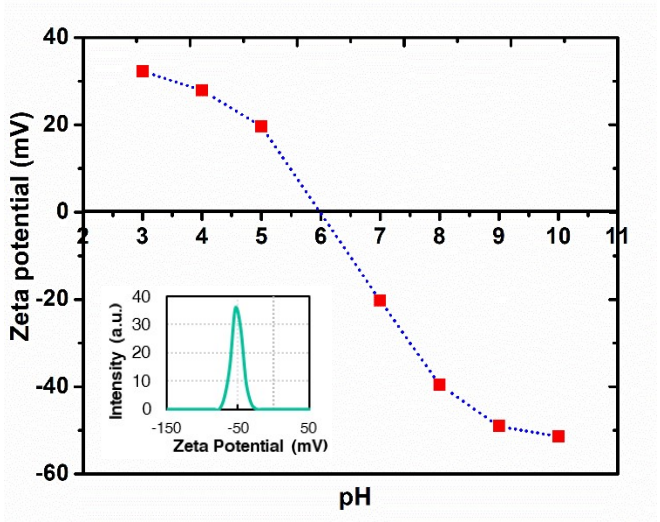

Fig. S1 The TEM micrographs.

Fig. S2 Zeta potential result as a function of pH.

Table S1 Comparative analysis of adsorbent with the reported values for the q_{max} of MG and CR using various adsorbents.

Adsorbent	Dye	qe	Ref
Cd zeolitic imidazolate MOF	MG	3324	[1]
Lignin-inspired porous polymer	MG	1449	[2]
Zeolitic imidazole framework (ZIF-67)	MG	2430	[3]
High metals-containing coal gasification fine slag (CGFS)	MG	1787	[4]
Mesoporous Fe-silica aerogel composite with phenomenal	MG	1592	[5]
Oxidized mesoporous carbon	MG	1265	[6]
Fe/Al Di-Metal Nanostructured Composite	CR	411	[7]
MgAl-LDH nanohydrotalcite-like	CR	769	[8]
peony seeds shell activated carbon	CR	2003	[9]
Potassium citrate-derived porous carbon	CR	652	[10]
activated carbon prepared from Aloe vera leaves shell	CR	1850	[11]
Ice-Bio 350	MG	10042	This study
Ice-Bio 700	MG	10596	
Ice-Bio 700	CR	7094	

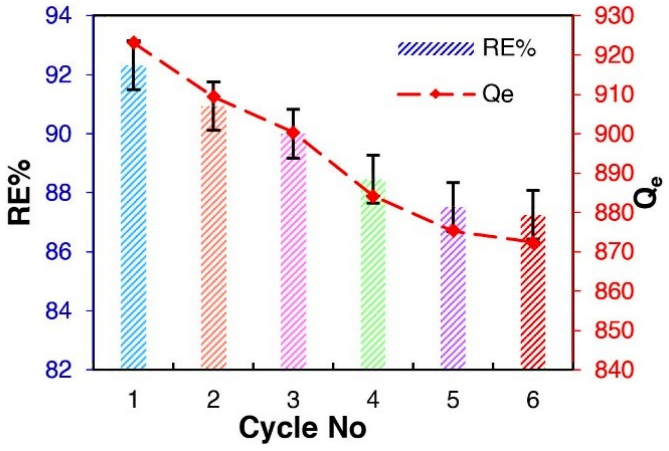

Fig. S3 Reusability of Ice-Bio in MG removal through six continuous cycles.

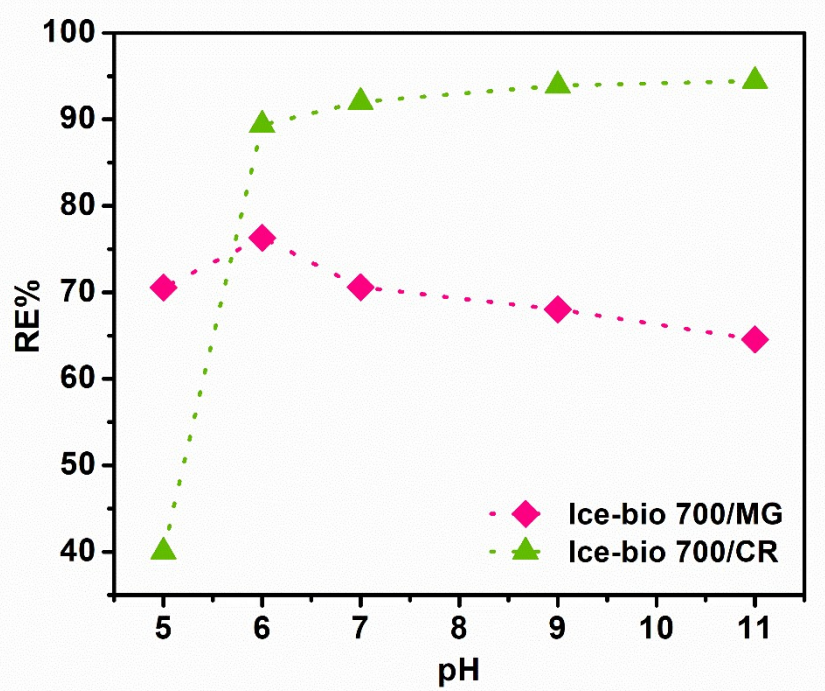

Fig. S4 Removal efficiency of MG and CR in mixed dye system experiment at various pH.

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