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Supplementary material to

GREEN GRAPE MARC BIOSORBENTS PREPARATION FOR MERCURY REMOVAL IN AQUEOUS MEDIA

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Table S1. Comparison of Hg(II) adsorption capacity of different biosorbents

Natural biosorbents	Adsorption capacity (mg g^{-1})	References
Brown alga *Sargassum muticum*	200	[1]
Aspergillus versicolor biomass	75.6	[2]
Carbon aerogel	35	[3]
Rice husk ash	9.32	[4]
Zea mais	8.6	[5]
GM-CA	36.39	This study
GM-HCl	35.30	This study

Table S2. Langmuir, Freundlich, Temkin and D-R isotherm parameters for adsorption of Hg(II) ions on GM-HCl and GM-CA

Isotherm model	Parameters	GM-HCl biosorbent	GM-CA biosorbent
Langmuir	q_{max} (mg g^{-1})	2.18	66.23
	K_L (L mg^{-1})	9.60×10^{-3}	1.28×10^{-2}
	R^2	0.783	0.838
Freundlich	N	0.43	2.40
	K_f (mg g^{-1})	1.40×10^{3}	4.51
	R^2	0.721	0.700
Temkin	A_t (L g^{-1})	0.0455	0.2124
	B (J mol^{-1})	17.501	11.74
	R^2	0.959	0.885
D-R	q_{max} (mg g^{-1})	35.71	36.42
	K_{ad} (mol^2 KJ^{-2})	3.87×10^{2}	4.99×10^{1}
	E (kJ mol^{-1})	3.59×10^{-2}	1.00×10^{-1}
	R^2	0.999	0.980

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Table S3. Kinetic parameters for adsorption of Hg(II) ions on GM-CA biosorbent

Kinetic equations	Constants	Values
Pseudo-first order	q_e (mg g^{-1})	3.85
	K_1 (min^{-1})	1.01x10^{-2}
	R^2	0.9300
Pseudo-second order	q_e (mg g^{-1})	23.75
	K_2 (g mg^{-1} min^{-1})	7.67x10^{-4}
	R^2	0.9937

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