Erratum

Erratum to ''Removal of copper ions from aqueous solution by tree fern'' [Water Res. 37 (2003) 2323–2330] ☆

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The sentence below Eq. (2) 'A plot of C_e/q_e versus C_e should indicate a straight line of slope $1/K_a q_m$ and an intercept of $1/q_m$.' should be 'A plot of C_e/q_e versus C_e should indicate a straight line of slope $1/q_m$ and an intercept of $1/K_a q_m$.' Indeed it is a mistake by typing but nothing wrong with all results.

In fact, there is calculation mistake in the paper, Fig. 3 and Table 3 are erroneously calculated and written. The temperature used for calculation were 2–40 °C that should be changed to 275–313 K. Therefore any thing about thermodynamic parameters should be changed. After recalculation the results are shown in Table 3 and Fig. 3. The sentence in page 2325, second paragraph 'However, the sorption constant, K_a; decreases from 0.197 to 0.100 dm^3/mg, as temperatures vary from 2 to 40 °C.' should be 'However, the sorption constant, K_a; increases from -5.71 to -5.08 dm^3/mg, as temperatures vary from 2 to 40 °C.' The second paragraph in page 2327 should be also rewritten as follows:

A plot of Gibbs free energy change, ΔG°, versus temperature, T; was found to be linear, Fig. 3. The values of ΔH° and ΔS° were determined from the slope and intercept of the plots. The thermodynamic parameters Gibbs free energy change, ΔG°, are shown in Table 3. The negative values of ΔG° confirm the feasibility of the process and the spontaneous nature

of sorption with a high preference of copper ions on tree fern. The decrease in the negative value of ΔG° with the increasing in temperature indicates that the sorption process of copper ions on tree fern becomes more favorable at higher temperatures [1]. The low coefficient of determination ($r^2 = 0.365$) of the plot in Fig. 3 showed that there is no regularity between k and temperature. There is no linear relationship when plotting the Gibbs free energy change, ΔG°, versus
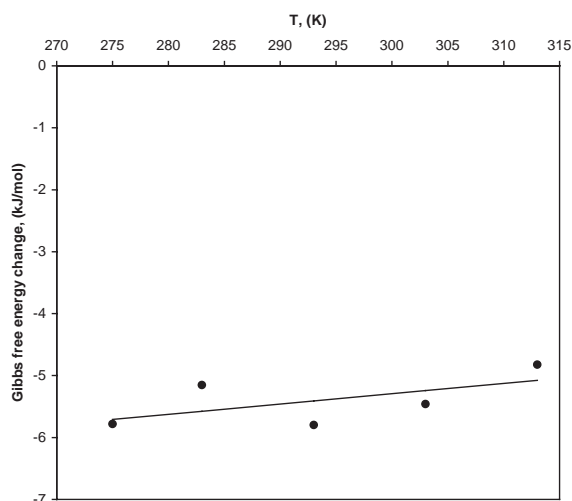

Fig. 3. Plot of Gibbs free energy change, ΔG°, versus temperature, T.

Table 3
Isotherm constants for copper ions sorbed on tree fern

T (°C)	$\Delta G°$ (kJ/mol)	Langmuir		Redlich–Peterson		
		q_m (mg/g)	K_a (dm³/mg)	A (dm³/mg)	B (dm³/mg)^g	g
2	−5.71	8.98	0.197	1.41	0.149	1.000
10	−5.58	9.80	0.141	1.32	0.133	1.000
20	−5.41	10.3	0.170	1.60	0.153	1.000
30	−5.24	10.5	0.137	1.25	0.112	1.000
40	−5.08	11.7	0.100	1.16	0.100	0.993

temperature, T. Therefore it can be inferred that at least two basic reactions included when Cu(II) sorbed onto tree fern, the reaction mechanism thus requires further investigation [2].

References

Zaki, A.B., El-Sheikh, M.Y., Evans, J., El-Safty, S.A., 2000. Kinetics and mechanism of the sorption of some aromatic amines onto amberlite IRA-904 anion-exchange resin. J Colloid Interface Sci 221 (1), 58–63.

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