

Table 2 Thermodynamic functions for adsorption of Cu(II), Pb(II) ions

ion	Co (mg/l)	K				- $\Delta G$				$\Delta H$	$\Delta S$
		Temperature				283	298	310.5	323		
		283	298	310.5	323						
Cu(II)	10	76.51	115.27	135.98	231.55	9.87	11.44	12.75	19.84	14.07	0.10
	20	56.80	79.64	134.13	201.02	9.24	11.03	12.52	24.43	14.01	0.12
	30	12.00	29.12	81.19	142.54	5.48	8.33	10.70	48.29	13.08	0.19
	40	4.40	6.22	22.68	56.55	2.77	5.58	7.91	50.14	10.25	0.18
	50	1.86	2.22	4.04	4.07	1.12	2.06	2.85	16.71	3.64	0.06
Pb(II)	50	18.44	37.91	57.34	115.82	6.58	8.73	10.51	33.88	12.30	0.14
	100	11.96	14.55	20.21	28.17	5.44	6.59	7.56	16.34	8.52	0.07
	200	4.01	5.96	10.11	21.22	2.84	4.64	6.14	31.11	7.64	0.12
	300	2.25	2.70	3.57	5.14	1.50	2.40	3.15	15.48	3.90	0.06
	400	1.18	1.38	1.511	1.85	0.40	0.80	1.06	8.07	1.65	0.03