Microchim Acta (2010) 170:187
DOI 10.1007/s00604-010-0355-8

SHORT COMMUNICATION

Comments on "Preparation and application of 4-amino-4′-nitro azobenzene modified chitosan as a selective adsorbent for the determination of Au(III) and Pd(II)"

Yuh-Shan Ho

Received: 25 February 2010 / Accepted: 1 April 2010 / Published online: 23 April 2010

Keywords Adsorption kinetics · Initial adsorption rate · Pseudo-second-order kinetic equation

Recently, Wang et al. published the paper entitled "preparation and application of 4-amino-4′-nitro azobenzene modified chitosan as a selective adsorbent for the determination of Au(III) and Pd(II)" [1].

In section "Adsorption kinetics", the authors presented the term "original rate" as "h stands for original rate of reaction which can be defined as $h = k_2 q_e^2$." without any citations. In fact, the definition of initial adsorption rate (original rate) for the adsorption systems of divalent metal ions using sphagnum moss peat has been presented by Ho [2], and this expression has also been published in 1996 [3]. A modified initial adsorption rate has been presented in 1998 to correct a mistake that was included in the previous paper published in 1996 [4–6]. These papers should be cited. Another quotation error is that the authors cited Atia [7] and Merrifield et al. [8] regarding the pseudo-second-order kinetic equation while nothing about "the pseudo-second-order kinetic equation" was mentioned in these two references. Two most suggested papers for the pseudo-second-order kinetic equation were published in 1984 and 1995 by Blanchard et al. [9] and Ho [2, 6], respectively. Blanchard et al. noted the overall exchange reaction of NH_4^+ ions fixed in zeolite by divalent metallic ions in the solution using a second-order kinetic model [9]. Ho used the pseudo-second-order kinetic model to the copper ion/peat adsorption system. The adsorption involved not only cation exchange but also chemical bonding [2].

When a scientific publication duplicate previously published idea, text, equations, or figures without any citations, it frequently is regarded as a sign of possible plagiarism [10]. To avoid being misconstrued, as well as to provide more accurate information, I would suggest that the authors cite the original paper for the initial adsorption rate.

Y.-S. Ho (✉)
Water Research Centre, Asia University,
Taichung 41354, Taiwan
e-mail: ysho@asia.edu.tw

References

1. Wang HF, Bao CL, Li F, Kong XF, Xu JJ (2010) Preparation and application of 4-amino-4′-nitro azobenzene modified chitosan as a selective adsorbent for the determination of Au(III) and Pd(II). Microchim Acta 168:99–105
2. Ho YS (1995) Adsorption of heavy metals from waste streams by peat. Ph.D. Thesis, The University of Birmingham, Birmingham, UK
3. Ho YS, Wase DAJ, Forster CF (1996) Kinetic studies of competitive heavy metal adsorption by sphagnum moss peat. Environ Technol 17:71–77
4. Ho YS, McKay G (1998) Sorption of dye from aqueous solution by peat. Chem Eng J 70:115–124
5. Ho YS, McKay G (2000) The kinetics of sorption of divalent metal ions onto sphagnum moss peat. Water Res 34:735–742
6. Ho YS (2006) Review of second-order models for adsorption systems. J Hazard Mater 136:681–689
7. Atia AA (2005) Adsorption of silver(I) and gold(III) on resins derived from bisthiourea and application to retrieval of silver ions from processed photo films. Hydrometallurgy 80:98–106
8. Merrifield JD, Davids WG, MacRae JD, Amirbahman A (2004) Uptake of mercury by thiol-grafted chitosan gel beads. Water Res 38:3132–3138
9. Blanchard G, Maunaye M, Martin G (1984) Removal of heavy metals from waters by means of natural zeolites. Water Res 18:1501–1507
10. Noè LF, Batten DJ (2006) 'Publish or perish': the pitfalls of duplicate publication. Palaeontology 49:1365–1367