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Discussion

Comments on "Defluoridation of water using neodymium-modified chitosan"

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Recently, Yao et al. [1] published the paper entitled as above. In Section 3.7 "Sorption dynamics", the authors mentioned "The pseudo-first-order equation (Lagergren and Svenska), pseudo-second-order equation (Ho et al.) and the intra-particle diffusion models with Eqs. from (3) to (5)" without any citations. A citation review of the Lagergren rate equation for adsorption reactions has been presented [2]. The correct reference citing the original Lagergren paper was first presented by Ho et al. in 1998: "S. Lagergren, zur theorie der sogenannten adsorption gelöster stoffe, Kungliga Svenska Vetenskapsakademiens, Handlingar, Band 24, No. 4, (1898) 1–39." Its English translation is "S. Lagergren, about the theory of so-called adsorption of soluble substances, Kungliga Svenska Vetenskapsakademiens, Handlingar, Band 24, No. 4, (1898) 1–39" and the abbreviation style is "S. Lagergren, zur theorie der sogenannten adsorption gelöster stoffe, K. Sven, Vetenskapsakad. Handl., Band 24, No. 4, (1898) 1–39." In order to distinguish a kinetic equation based on the adsorption capacity of a solid from one based on the concentration of a solution, Lagergren's first-order rate equation has been called pseudo-first-order [3]. It is clear that there is only one author for the pseudo-first-order equation but are not Lagergren and Svenska. "Svenska" is a word in journal title. The pseudo-second-order kinetic expression for the adsorption systems of divalent metal ions using sphagnum peat moss was presented by Ho [4] and initial adsorption rate was also reported at the same time. A modified model has been made in the following years because a mistake was included in the Ho's thesis in 1995 [3,5,6]. There are two authors in the publications for pseudo-second-order equation but are not "Ho et al." as authors noticed. In 1963, intra-particle diffusion model was published by Weber and Morris [7]. However, the intra-particle diffusion model Eq. (5) could not be found in the paper.

Accuracy of quotations and citations are very important for the transmission of scientific knowledge. Citation errors reflect very badly on authors those have published the original ideas already in journals. Authors should make serious efforts to check the accuracy of the references cited in their manuscripts as well as read the original article before quoting it rather than citing from abstracts or cross-references [8]. I suggest that Yao et al. cite the original or the most frequently cited papers for the kinetic models to have more accuracy and details of information about kinetic expression.

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