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分离工程

菌丝体表面分子印迹吸附剂的选择性吸附

苏海佳 赵一飞 谭天伟

北京化工大学化工学院

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摘要

采用制备得到的菌丝体表面分子印迹吸附剂;系统研究了菌丝体表面分子印迹吸附剂对模板金属离子的吸附选择性。结果表明：与非印迹吸附剂相比;以Ni+为模板制备的菌丝体表面分子印迹吸附剂;对Ni+、Cu+与Cr3+的吸附速率和吸附容量都有较大幅度的提高。对于含有Ni+的金属离子混合溶液;菌丝体表面分子印迹吸附剂对Ni+的吸附容量和选择性都比另一种金属离子（如Cr3+和Cu+）明显提高;与非印迹吸附剂相比;印迹吸附剂对非模板金属离子Cr3+和Cu+的选择性明显降低。

关键词

菌丝体表面分子印迹吸附剂 选择性吸附 金属离子 分子印迹 生物吸附

分类号

Selective adsorption of surface molecular imprinted adsorbent based on mycelium

SU Haijia,ZHAO Yifei,TAN Tianwei

Abstract

Using a new chitosan molecular imprinted adsorbent based on the mycelium of waste biomass（surface imprinted adsorbent）;the adsorption selectivity of the surface imprinted adsorbent for the template ion was studied.The results showed that;compared with the surface non-imprinted adsorbent;the adsorption capacity and rate for three ions（Ni+;Cr3+;Cu+）of the surface imprinted adsorbent with Ni+ as template ion increased considerably.In the presence of the template ion（Ni+）and other ions in solution;the adsorption capacity and selectivity for the template ion（Ni+）of the surface imprinted adsorbent were higher than those of another ion（such as Cr3+ or Cu+）.However compared with the surface non-imprinted adsorbent;the adsorption selectivity for the non-template ions（Cr3+ and Cu+）obviously decreased.

Key words

surface imprinted adsorbent selective adsorption metal ion molecular imprinting biosorption

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通讯作者 苏海佳 suhj@mail.buct.edu.cn