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# Preparation, recognition characteristics and properties for quercetin molecularly imprinted polymers

Lanzhe Yu[a], Yanbin Yun[a,*], Weijun Zhang[a], Lihua Wang[b]

[a]*College of Environmental Science & Engineering, Beijing Forestry University, Beijing, China*
*Tel. +86-132 4173 0890; email: y.yanbin@unsw.edu.au*
[b]*Laboratory of New Materials, Institute of Chemistry, Chinese Academy of Sciences, Beijing, China*

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**ABSTRACT**

Molecular imprinting polymer (MIP) is a leading edge approach to extract quercetin (an important active ingredient of gingko). The preparation of MIP involved bulk polymerization using quercetin as the template molecule, acrylamide as the functional monomer, ethylene glycol dimethacrylate as the cross-linker in the porogens of chloroform and N,N-dimethylformamide. Afterwards, the synthesized MIP and non-imprinted polymer (NIP) were characterized by FTIR, SEM and BET. In addition, the obtained polymers were evaluated by adsorption isotherms and dynamic curves with respect to their selective recognition properties for quercetin. The experimental results showed that (1) there are quite differences between MIP and NIP in the aspects of surface morphologies, specific surface area and certain functional groups; (2) the quercetin-MIP exhibited a higher affinity for quercetin than the NIP; (3) a class of homogeneous recognition sites were formed in quercetin-MIP within the range of certain concentration by Scatchard analysis.

*Keywords:* Molecular imprinting; Flavonoids; Quercetin; Isothermal adsorption; Adsorption dynamics; Scatchard model

*Corresponding author.

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