

## Accepted Manuscript

Title: Influence of hydrogen bond accepting ability of anions on the adsorption performance of ionic liquid surface molecularly imprinted polymers

Authors: Guifen Zhu, Xia Gao, Xiaolong Wang, Jianji Wang, Jing Fan



PII: S0021-9673(17)31745-4  
DOI: <https://doi.org/10.1016/j.chroma.2017.11.057>  
Reference: CHROMA 359041

To appear in: *Journal of Chromatography A*

Received date: 4-6-2017  
Revised date: 21-11-2017  
Accepted date: 24-11-2017

Please cite this article as: Zhu G, Gao X, Wang X, Wang J, Fan J, Influence of hydrogen bond accepting ability of anions on the adsorption performance of ionic liquid surface molecularly imprinted polymers, *Journal of Chromatography A* (2010), <https://doi.org/10.1016/j.chroma.2017.11.057>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## **Influence of hydrogen bond accepting ability of anions on the adsorption performance of ionic liquid surface molecularly imprinted polymers**

Guifen Zhu<sup>1</sup>, Xia Gao<sup>1,2</sup>, Xiaolong Wang<sup>1</sup>, Jianji Wang<sup>1</sup>, Jing Fan<sup>1\*</sup>

<sup>1</sup>. School of Environment, Henan Key Laboratory for Environmental Pollution Control, Key Laboratory for Yellow River and Huai River Water Environmental Pollution Control, Ministry of Education, Henan Normal University, Xinxiang, Henan 453007, P. R. China; <sup>2</sup>. School of Public Health, Xinxiang Medical University, Xinxiang, Henan 453003, P. R. China.

Corresponding author: Tel.: +86 373 3325971; fax: +86 373 3326336.  
E-mail address: fanjing@htu.cn

### **Highlights**

- **Six imidazolium ionic liquids (ILs) imprinted polymers were designed, prepared and characterized.**
- **MIP<sub>[C<sub>4</sub>mim][Cl]</sub> and MIP<sub>[C<sub>4</sub>mim][CH<sub>3</sub>SO<sub>3</sub>]</sub> were found to have a better adsorption performance.**
- **Adsorption capacity of MIPs was mainly determined by hydrogen bond accepting ability of anions of the ILs.**
- **Hydrogen bond of anion of the ILs with functional monomer was the main driving force for the efficient recognition of MIPs.**
- **IL-MIPs could selectively extract the ILs with stronger hydrogen bond accepting ability of anions in practical samples.**

**Abstract:** To illuminate the influence mechanism of anionic structure of ionic liquids (ILs) on the adsorption performance of surface molecularly imprinted polymers (MIPs), in this work, six newly designed MIPs were prepared on the surface of amino-poly(styrene-divinylbenzene) particles by using imidazolium ILs with the same cation [C<sub>4</sub>mim]<sup>+</sup> but different anions (Cl,

Download English Version:

<https://daneshyari.com/en/article/7609187>

Download Persian Version:

<https://daneshyari.com/article/7609187>

[Daneshyari.com](https://daneshyari.com)