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

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## Highlights

- **Six imidazolium ionic liquids (ILs) imprinted polymers were designed, prepared and characterized.**
- **$MIP_{[C4mim][Cl]}$ and $MIP_{[C4mim][CH3SO3]}$ 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 $[C_4mim]^+$ but different anions (Cl,