

Adsorption Behaviors of Some Amine and Carboxylic Acid Compounds in Reverse Phase Liquid Chromatography Using Ionic Liquids as Mobile Phase Additives

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In order to study the ionic liquid effects on the adsorption behaviors in preparative liquid chromatography using C18 silica based stationary phase, some amine and carboxylic acid compounds were used as analytes. Two common kinds of ionic liquids including 1-butyl-3-methylimidazolium tetrafluoroborate ([BMIM]BF₄) and 1-ethyl-3-methylimidazolium tetrafluoroborate ([EMIM]BF₄) were used as mobile phase additives. The optimum condition for ionic liquid effect and the ionic liquid concentration were investigated. The effect mechanism of ionic liquids on amino and carboxylic functional groups were discussed. The results showed the potential applications of ionic liquids in chromatography.