

Ionic Liquids as an Organic Modifier in HPLC : Separation of Some Amino Acids

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Ionic liquids are receiving an upsurge of interest as green solvents; primarily as replacements for conventional media in chemical processes. Although ionic liquids are rather “young” modifier, they already demonstrated their great potential in high-performance liquids chromatography (HPLC). In this work, some amino acids including phenylalanine (Phe) and tryptophane (Trp) are separated using ionic liquid [BMIm][BF₄] as additive for the mobile phase in reversed-phase HPLC. The effect of the nature of ionic liquid and their concentrations on the separation of these analytes are performed. Investigation showed that the resolution and selectivity of the analytes was dependent on the concentration of ionic liquid used. Mechanism of ionic liquid as mobile phase modifier on separation of amino acids was discussed. This work indicated that the investigated ionic liquid possess enormous advantage and potential in the liquid chromatography.