

## Application of 1-hexyl-3-methylimidazolium tetrafluoroborate [Hmim][BF<sub>4</sub>] as a mobile phase additive to separate acidic stereoisomers in simulated moving bed chromatography

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Ionic liquids have been recently well-known as a “green solvent” in various fields of chemistry as well as mobile phase additives in liquid chromatography. To study the application of ionic liquids as mobile phase additives in Simulated Moving Bed chromatography—a technology of continuous chromatography, 1-hexyl-3-methyl-imidazolium tetrafluoroborate [Hmim][BF<sub>4</sub>] was added to binary mobile phase solution (water/methanol) for separation of a mixture of 2 acidic stereoisomers. The 4-zone SMB chromatograph composed with 8 columns (C18, 25μm, 1.0x10 cm) was used. Frontal analysis experiment results showed that using [hmim][BF<sub>4</sub>] as mobile phase additive conducted to an apparent improvement of adsorption behavior. The ionic liquid ([Hmim][BF<sub>4</sub>]) therefore could be used as an additive of mobile phase to separate anionic solutes and was useful for enhancing the efficiency of SMB chromatography.