

Separation of Guanine and Hypoxanthine with some Ionic Liquids in RP-HPLC

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In this paper, guanine and hypoxanthine were separated with four different ionic liquids as additives for the mobile phase using reversed phase high performance liquid chromatography (RP-HPLC). The ionic liquids, 1-butyl-3-methylimidazolium tetrafluoroborate ([BMIm][BF₄]), 1-ethyl-3-methylimidazolium tetrafluoroborate ([EMIm][BF₄]), 1-ethyl-3-methylimidazolium methylsulfate ([EMIm][MS]), and 1-octyl-3-methylimidazolium methylsulfate ([OMIm][MS]) were used. Guanine and hypoxanthine couldn't be separated with many different kinds of unadjusted mobile phase, such as aqueous-methanol, aqueous-acetonitrile, etc. In this reason, present study introduced the ionic liquid for separation of guanine and hypoxanthine as an eluent modifier. And the effects of length of alkyl on the imidazolium ring and its counterion, the concentrations of ionic liquid on the retention factor, and effect of pH of mobile phase on retention factor of solutes were investigated also. As a result, guanine and hypoxanthine were separated with the mobile phase including ionic liquid, and the excellent separations of these sorbats were achieved using 2.0 mM/L [OMIm][MS] as the eluent modifier.