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Characterization and application of copolymerized micelles as pseudostationary phases in micellar electrokinetic chromatography

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Poly-sodium 10-undecenyl sulfate and poly-sodium 10-undecenyl leucinate and their five copolymerized micelles at varied percent mole ratios were prepared. These surfactant systems were then evaluated as novel pseudostationary phases in micellar electrokinetic chromatography (MEKC) for separation of benzene derivatives with a wide range of chemical properties such as hydrogen bond-acceptors, hydrogen bond-donors and non-hydrogen bonding solutes. Due to the different nature of the surfactant systems, the overall nature of the solute-surfactant system interactions was found to be significantly different. Linear solvation energy relationship studies were also successfully applied to investigate the effect of the type and composition of pseudostationary phases on the retention mechanism and selectivity in MEKC. Free energies of transfer of selected functional groups in each surfactant system were also calculated and found to be in good agreement with the linear solvation energy relationship data.

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7:00 PM-9:00 PM, Sunday, August 16, 2009 Walter E. Washington Convention Center -- Hall D, Poster

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