

研究论文

微乳液电动色谱测定油-水分配系数的改进方法研究

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摘要 通过考察微乳液电动色谱(MEEKC)中化合物浓度和高电场对其迁移行为的影响, 探讨了化合物分配于微乳后改变微乳内相性质的原因, 以及电泳高电场致使微乳液性质变化的机理. 在此基础上建立了一种测定化合物油-水分配系数的改进型MEEKC方法. 将此改进方法应用于烷基苯化合物之油-水分配系数的测定, 其测定值与文献参考值平均相差0.07个对数单位, 准确度较现行MEEKC方法有了明显提高.

关键词 [MEEKC](#) [改进方法](#) [油-水分配系数](#) [高电场](#)

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Measurement of Oil-Water Partition Coefficients by Improved Microemulsion Electrokinetic Chromatography

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Abstract Microemulsion electrokinetic chromatography(MEEKC) was used as a powerful method for the indirect measurement of oil-water partition coefficients of organic compounds. Considering the problems of determining oil-water partition coefficients by conventional MEEKC, the concentration of solute and high electric-field having impact on the migration behavior of compound was studied, the reason and mechanism of which were also studied. Moreover, an improved method of MEEKC(I-MEEKC) that can be used to solve the problems found was developed. Applying this improved method to determining oil-water partition coefficients for compounds, such as alkyl-benzene: benzene, toluene and ethyl benzene, good result was obtained: the average error between oil-water partition coefficients estimated by using improved MEEKC and literature values published was 0.07 logarithm units. In this work not only a new method was established to measure oil-water partition coefficients with MEEKC, but also the improved MEEKC is developed further and become more reliable and more accurate method for qualitative analysis.

Key words [MEEKC](#) [Improved method](#) [Oil-water partition coefficients](#) [High electric-field](#)

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