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RESEARCH NOTES

液滴凝并端效应对单液滴传质测定的影响及消除

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摘要 For the mass transfer to single drops during the stage of steady buoyancy-driven motion, experimental measurement is complicated with the terminal effect of additional mass transfer during drop formation and coa lescence at the drop collector. Analysis reveals that consistent operating conditions and experimental procedure are of critical significance for minimizing the terminal effect of drop coalescence on the accuracy of mass transfer measurements. The novel design of a totally-closed extraction column is proposed for this purpose, which guaran tees that the volumetric rate of drop phase injection is exactly equal to that of withdrawal of drops. Tests in two extraction systems demonstrate that the experimental repeatability is improved greatly and the terminal effect of mass transfer during drop coalescence is brought well under control.

关键词 solvent extraction mass transfer single drop terminal effect drop coalescence

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Terminal Effect of Drop Coalescence on Single Drop Mass Transfer Measurements and Its Minimization

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Key words solvent extraction; mass transfer; single drop; terminal effect; drop coalescence

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