中国化学工程学报 2003 11 (6): 681-685 ISSN: 1004-616x CN: 44-1063/R

SELECTED PAPERS IN COMMEMORATE

伊朗轻质原油减渣馏分油水界面张力的研究

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收稿日期 修回日期 网络版发布日期 接受日期

摘要 The vacuum residual from Iranian Light crude oil are separated into a series of 16 narrow
fractions according to the molecular weight by the supercritical fluid extraction and fractional(SFEF)technologY.The chemical element and the UV spectrum of each fraction are analyzed.The efiects of severalfactors on the interfacial tension are investigated,which are the fraction concentration in oil phase,the ratio of oil component,the salts dissolved in the water phase and the pH valne.The interfacial tension decreazes rapidly as the concentration of the residual fraction in the oil increases,showing a higher interfacial activity ofthe fraction.The interfacial tension changes,as the amount of absorption or the state ofthe fractions in the interface changes resulting from difierent ratios of oil,difierent kinds or concentratiohs of salts in water,and difierent pH values.It is concluded that the interfacial tension changes regularly,corresponding to the regular molecular parameters of the vacuum residual fractions.

关键词 crude oil emulsion interfacialtension vacuum residual supercritical fluid extraction and fractionation
分类号
DOI:

Study of Oil/Water Interfacial Tension of Vacuum Residual Fractions from Iranian Light Crude Oil

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Received Revised Online Accepted

Abstract The vacuum residual from Iranian Light crude oil are separated into a series of 16 narrow fractions according to the molecular weight by the supercritical fluid extraction and fractional(SFEF)technologY.The chemical element and the UV spectrum of each fraction are analyzed.The efiects of severalfactors on the interfacial tension are investigated,which are the fraction concentration in oil phase,the ratio of oil component,the salts dissolved in the water phase and the pH valne.The interfacial tension decreazes rapidly as the concentration of the residual fraction in the oil increases,showing a higher interfacial activity ofthe fraction.The interfacial tension changes,as the amount of absorption or the state ofthe fractions in the interface changes resulting from difierent ratios of oil,difierent kinds or concentratiohs of salts in water,and difierent pH values.It is concluded that the interfacial tension changes regularly,corresponding to the regular molecular parameters of the vacuum residual fractions.

Key words crude oil emulsion; interfacialtension; vacuum residual; supercritical fluid extraction and fractionation

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