

研究论文

盐对正负离子表面活性剂双水相性质的影响

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摘要 主要研究了盐对SDS/CTAB/H₂O混合系统双水相相行为的影响,

并对双水相上相的液晶性质进行了初步的探索. 结果表明:

盐能促使阴离子双水相区和阳离子双水相区分别向SDS和CTAB方向移动, 并使双水相区加宽.

反离子扩散双电层中盐的离子半径越大, 其对ATPS区的位置及相区宽度的影响程度越大. 盐的浓度达到一定值时, 它对双水相的影响可以达到饱和状态. ATPS_a区的饱和盐浓度值大于ATPS_c区的饱和盐浓度值.

异号盐离子对反离子层的限制作用与其离子半径有关.

关键词 [双水相](#) [正离子表面活性剂](#) [负离子表面活性剂](#) [液晶](#) [电导](#)

分类号

Influence of Salts on Aqueous Two-phase System of Cationic and Anionic Surfactant Aqueous Mixture

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Abstract The effect of salt on the phase behavior of aqueous two-phase system (ATPS) formed by sodium dodecyl sulphate (SDS) and cetyl trimethyl ammonium bromide (CTAB) aqueous mixture has been studied. In the ternary phase diagram of 0.2 mol·L⁻¹ SDS/0.2 mol·L⁻¹ CTAB/H₂O systems, there are two ATPS regions, which are called ATPS_a region (containing more SDS) and ATPS_c region (containing more CTAB). When salt was added to the system, ATPS_a region and ATPS_c region moved towards SDS and CTAB respectively, and the width of each ATPS region was enlarged. The effect of salt would be saturated if the concentration of salt in system attain to certain value. It was easier to attain the saturated state in ATPS_c than in ATPS_a. The larger the radius of salt ion in the counter ion diffusion layer is, the stronger the effect on the position and the width of ATPS regions is. But the effect would be restricted by the opposite ion of salt.

Key words [aqueous two-phase system \(ATPS\)](#) [cationic surfactant](#) [anionic surfactant](#) [liquid crystal](#) [conductivity](#)

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