化学学报 2000 58 (9): 1120-1124 ISSN: 0567-7351 CN: 31-1320/06

聚二甲基二烯丙基氯化铵及其与**CTAB**混合物水溶液 的吸附动力学

莫春生,N.N.卡丘洛娃,M.N.普杰琳泽娃

江西师范大学化学系.南昌;俄罗斯圣-彼得堡大学化学系

收稿日期 修回日期 网络版发布日期 接受日期

摘要 用最大泡压法分别测定了聚二甲基二烯丙基氯化铵，十六烷基三甲基溴化铵以及两者混合物水溶液的动表面张力。十六烷基三甲基溴化铵的吸附服从扩散-动力学控制机理。发现聚二甲基二烯丙基氯化铵水溶液的表面张力具有独特的时间相关性。吸附的前期服从扩散控制机理，而在吸附的后期，即接近吸附平衡时服从扩散-动力学控制机理。混合物水溶液的整个吸附过程受扩散控制。

关键词 聚二甲基二烯丙基氯化铵 溴化十六烷基三甲铵 表面张力 表面吸附 表面活性剂

分类号 0647

Adsorption kinetics of aqueous poly(diallyldimethylammonium chloride) and its mixture with CTAB solutions

Mo Chunsheng,NNnNkaqiuluowa,MNnNpujielinzewa

Jiangxi Normal Univ., Dept of Chem.Nanchang

Abstract The dynamic surface tension of the aqueous solutions of cetyltrimethylammonium bromide (CTAB), poly (diallyldimethylammonium chloride) (PDADMAC) and their mixed solution were measured in the case of slow stretching surface by the maximum bubble pressure method at 30℃. The adsorption of CTAB molecules follows a diffusion- kinetic-controlled adsorption mechanism. dynamic surface tension isotherm of aqueous PDADMAC solution exhibits a peculiar feature. Each of the four sections in isotherm corresponds a special adsorption period. Increasing surface tension at the beginning of adsorption may be responsible for the adsorption of excess water at the interface. The existence of an induction period can be explained by the adsorption barrier due to polymer molecular characteristics. A marked reduction in surface tension in the time period t~1

Key words SURFACE TENSION SURFACES ADSORPTION SURFACTANTS

DOI:

通讯作者