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加压CO_2/乙腈/$TBAPF_6$混合物的导电率分析

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Electrical Conductivity of Pressure Elevated Pressure CO_2/CH_3CN/$TBAPF_6$ Mixture

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- 摘要
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摘要 采用低频交流阻抗法测定了加压CO_2/乙腈/$TBAPF_6$混合物的导电率. 结果表明, 随着CO_2的添加,CO_2/乙腈/$TBAPF_6$混合物的导电率呈现先急剧下降、后急剧上升、最后缓慢下降的三段式变化趋势. 结合相行为观察结果和加压CO_2/乙腈混合体系的介电常数测定结果, 分析了CO_2对混合物导电性变化的可能作用.

关键词: 导电率 介电常数 二氧化碳膨胀液体 乙腈 相行为

Abstract: The conductivity of pressure-elevated CO_2/CH_3CN/$TBAPF_6$ mixture was determined using an AC impedance method. After adding CO_2, conductivity of the pressure-elevated mixture experienced three stages: first dropping rapidly, then rising rapidly and finally slowly dropping. Based on the information obtained by the phase observation and dielectric constant determination of the CO_2/CH_3CN mixed solvent, the possible effect of CO_2 on conductivity of the CO_2/CH_3CN/$TBAPF_6$ mixture is discussed.

Keywords: electrical conductivity, dielectric constant, carbon dioxide expanded liquids (CXLs), acetonitrile;phase behavior

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