BT04

The Conductivity Study of Lithium Polyelectrolyte-Ionic Liquid

리튬고분자전해질 - 이온성 액체의 전도성에 관한 연구

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Lithium-polyelectrolyte p(lithium 2-acrylamido-2-methyl propanesulfonate) -ionic liquid (1-ethyl-3-methylimidazolium tricyanomethanide: emImTCM) system has been prepared and characterized by measuring the conductivity and thermal property. This ionic liquid, emImTCM used in this experiment is from a novel family of imidazolium salts of tricyanomethanide, dicyanamide. Specially emImTCM, which is chosen because the TCM is a close relative of dicyanamide anion (DCA), which is known to afford very low melting point, low viscosity ionic liquids. So this ionic liquid acts as a good solvating medium for the polyelectrolyte. By this result the freedom of imidazolium cation seems to affect the ionic conductivity. This lithium polyelectrolyte - ionic liquid exhibits a higher ionic conductivity. Because of using the polymerizable anion is seemed to maintain high flexibility of imidazolium cation effectively to exhibit the higher conductivity. And also the copolymer-based polyelectrolyte-ionic system exhibits the higher conductivity than that of the homopolymer-ionic system.

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