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Effectiveness of Ionic Fluid L-Butyl-3-Methylimidazolium Chlorine on the Ethanol Fermentation

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Abstract

With the shortage of traditional fossil fuels and global climate change worsening, the development of sustainable energy has become the most important issue in many countries, Ethanol, as a clean and renewable energy, has drawn much attention in recent years. Lignocellulosic materials are the most economical and highly renewable natural resources in the world. Therefore, production of ethanol from lignocellulosic materials has become one of the potentially practical routes to solve the energy problems. Because of their recalcitrance, the lignocellulosic materials must be pretreated to separate the cellulose from lignin prior to their enzymatic hydrolysis and ethanol fermentation. Many pretreatment methods that increase the yield and rate of their enzymatic hydrolysis to fermentable sugars have been reported, but few can be used in industrial scale based on economic and environmental consideration. Hence, it is desirable to develop more efficient pretreatment methods for lignocellulosic ethanol production, ionic liquids (ILs) are a group of new organic salts that exist as liquids at a relatively low

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