

## عنوان مقاله:

The soluting-out effect in aqueous solutions of 1-butyl-3-methylimidazolium tetrafluoroborate and carbohydrates at various temperatures

## محل انتشار:

بیستمین کنفرانس شیمی فیزیک ایران (IPCC20) (سال: 1396)

تعداد صفحات اصل مقاله: 2

## نویسندگان:

Rahmat Sadeghi - *Department of Chemistry, University of Kurdistan, Sanandaj, Iran*

Bahman Jamehbozorg - *Department of Chemistry, University of Kurdistan, Sanandaj, Iran*

## خلاصه مقاله:

Phase diagrams and liquid-liquid equilibrium (LLE) data of the aqueous 1-butyl-3-methylimidazoliumtetrafluoroborate+ carbohydrate two-phase systems were determined experimentally at 298.15, 303.15, 308.15, 313.15 and 318.15 K. The soluting-out effect of four carbohydrates including sucrose, maltose monohydrate, D-(+)-glucose, and D-(-)-fructose on the aqueous ionic liquid solutions were investigated. It was found that a decreasing in temperature and increasing the number of hydroxyl groups from monosaccharides (glucose and fructose) to disaccharides (sucrose and maltose monohydrate) caused the expansion of two-phase region. Although glucose and fructose are structural isomers and the numbers of their hydroxyl groups are equal, the soluting-out capability of glucose is more than that of fructose. The soluting-out powers of disaccharides obey the order: maltose > sucrose. It was also found that the concentration of carbohydrate, which is in equilibrium with a certain concentration of ionic liquid, increases by increasing temperature. Based on the cloud point values, the GC values for all systems are negative and become more negative by decreasing the temperature and increasing the hydrophilicity of the carbohydrates.

## کلمات کلیدی:

Soluting-out effect; Aqueous biphasic system; Ionic liquid; Cloud point

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/741955>

