

## عنوان مقاله:

Predicting Second-Order Derivative Properties of Ionic Liquids based on the SAFT- PRGHO

## محل انتشار:

هفدهمین کنگره ملی مهندسی شیمی ایران (سال: 1400)

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## خلاصه مقاله:

The knowledge of the thermophysical properties is essential to develop industrial processes involving ionic liquids (ILs). In the present research, the SAFT- $\gamma$  group contribution (GC) technique is performed to estimate the second-order thermodynamic derivative properties of some imidazolium-, cyano-based ILs (with [SCN], [DCA], [TCM] or [TCB] anions). The second-order derivatives including isothermal and isentropic compressibility coefficients, thermal expansion and thermal pressure coefficients, isochoric and isobaric heat capacities, and speed of sound are determined for the mentioned ionic liquids within temperature range of ۲۶۲-۴۱۲ K and pressures range of ۰.۱-۲۰۰ MPa. The SAFT- $\gamma$  predictions of the second-order derivatives are compared with some available experimental data. The results demonstrate that the SAFT- $\gamma$  equation can estimate the thermophysical properties of the studied ILs with good accuracy.

## کلمات کلیدی:

[SAFT], [SCN], [DCA], [TCM], [TCB]

## لینک ثابت مقاله در پایگاه سیویلیکا:

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