عنوان مقاله:

Modeling vapor-liquid equilibrium of CO2 and CO2/H2S in [bmim][Ac] using CPA EOS

محل انتشار:

پانزدهمین کنگره ملی مهندسی شیمی ایران (سال: 1393)

تعداد صفحات اصل مقاله: 5

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خلاصه مقاله:

The removal of acid gas impurities from sour gas streams and refinery gases is a significant operation in natural gas processing. We applied the Cubic Plus Association (CPA) EOS to describe the phase behaviour of CO2 and simultaneous solubility of CO2/H2S in [bmim][Ac]. Pure parameters for [bmim][Ac] were obtained from liquid density data. As CO2 and H2S have chemical reaction with [bmim][Ac], RETM model is used to find Equilibrium constants and Henry's law constants for these systems. CPA is used for modeling of H2S–[bmim][Ac], CO2–H2S, CO2 –[bmim][Ac] and ternary system CO2/H2S/[bmim][Ac] and it is shown that a good agreement between experimental and modeling data with one binary interaction(kij) were achieved.

کلمات کلیدی:

modeling, CPA, [bmim][Ac], CO2, RETM, CO2 , H2S

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