

### Measurement of Solubility of CO<sub>2</sub> in ionic liquids based on the cyano groups in the anion

김지은, 임종성\*  
서강대학교  
(limjs@sogang.ac.kr\*)

Most of organic solvents are very toxic and cause an environmental pollution. The ionic liquids(ILs) receive attention recently as green alternatives to volatile organic solvents. Ionic liquids are liquids which are composed of ions at room temperature or below. ILs are a wide liquid range, high thermal stability, low combustibility, electrically conductive and have extremely low vapor pressure.

This study presents measurements of the solubility of CO<sub>2</sub> in imidazolium-based ILs ([emim][N(CN)<sub>2</sub>], [emim][C(CN)<sub>3</sub>]) so as to clarify the effect of anion. The solubility of CO<sub>2</sub> in ionic liquids was measured by using high pressure variable volume view cell. The range of temperature for the experimental measurements is from 303.15 K to 373.15 K. The experimental (CO<sub>2</sub>+ionic liquid) data were correlated with Peng-Robinson equation of state (PR-EoS).