Absorption of Carbon Dioxide into the 2-Hydroxy Ethylammonium Lactate Ionic Liquid

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Absorption of carbon dioxide into organic solvents with the 2-hydroxy ethylammonium lactate (HEL) ionic liquid was investigated using a batch stirred tank with a plane of gas-liquid interface in a range of 0-2.0 kmol/m3 of HEL and 298-318 K at 101.3 kPa. The absorption of CO2 was analyzed with the film model accompanied by zwitterion mechanism of CO2 with HEL. The proposed model fits the experimental data of the enhancement factor due to the ready, chemical absorption of CO2 in different solvents, and at different temperatures, and HEL concentrations. The reaction rate constant of CO2 with HEL was correlated linearly with the solubility parameter of the solvent.