

Thermodynamic and Excess properties of electrolyte solution at 298.15 K - 323.15 K

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The aim of this study is to measure the density and refractive index of Diethyl carbonate (DEC), Dimethyl carbonate (DMC), Propylene carbonate (PC) and γ -Butyrolactone (GBL) for the electrolyte solution of Lithium ion battery. The density, refractive index data of pure carbonate solvent were measured at 298.15 - 323.15 K and correlated with DIPPR, linear equation, respectively. In addition, the excess properties, excess molar volumes (V^E) and deviations in the molar refractivity (ΔR) of binary systems {DEC + GBL}, {DMC + GBL} and {PC + GBL} were measured at 298.15 - 318.15 K. The measured V^E and ΔR data were regressed with the Redlich-Kister equation.