

Solid-Liquid Equilibria and the binary excess molar volumes and deviation of the refractive indices for mixtures of Dimethyl carbonate, Anisole and Phenol

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The aim of this study is to report the solid-liquid equilibrium (SLE) of binary systems: DMC + Anisole, DMC + Phenol, Anisole + Phenol for the intermediates of Non-phosgene Diphenyl carbonate (DPC) synthetic process, which are Dimethyl carbonate (DMC), Anisole and Phenol, etc. The SLE data for the binary systems were determined at atmospheric pressure by the visual method. The experimental SLE data were correlated with the non-random two-liquid (NRTL) and universal quasi-chemical (UNIQUAC) equations. In addition, the physical properties, excess molar volumes (VE) and deviations in the molar refractivity (ΔR) of these binary systems at 323.15 K were reported. The measured VE and ΔR data were regressed well with the Redlich-Kister equation.