

## **Development of new extract-materials from separation of natural products including pigments and flavors**

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Measurements of vapor-liquid distribution coefficients (K-values) of compounds contained in hops-extract ethanol solution in high pressure CO<sub>2</sub> system were carried out at temperatures of 313–373 K and pressures of 5–14 MPa with a continuous flow apparatus for fractionation of hops-extract by using supercritical counter-current extraction process. Using available experimental data for 105 K-values, a correlation equation for the vapor-liquid distribution coefficient of solutes was constructed based on entropy-based solubility parameter (eSP) and dimensionless temperature. The dimensionless distribution equation that takes into account the eSP concept, originally developed in the previous work (Ota et al., 2017), was also applied to the available experimental data, and four universal constants were re-determined. From the established calculation methods, the K-values of solutes could be applied to the counter-current extraction systems with supercritical CO<sub>2</sub>.