

Theme:

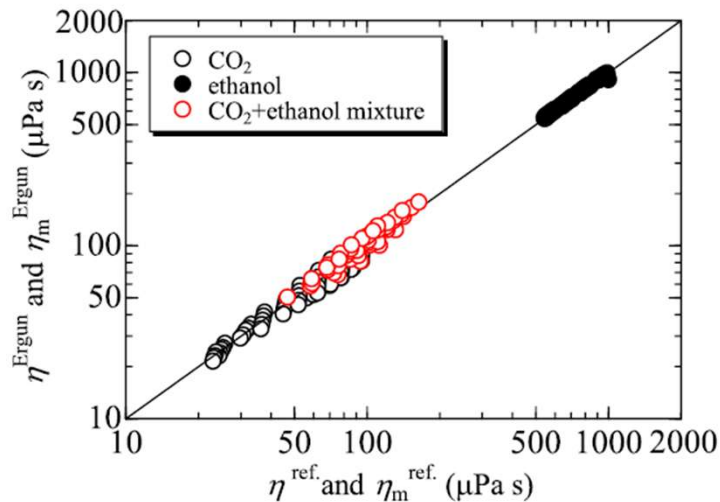
Physical properties of high-pressure CO₂ mixtures and their application to supercritical fluid processes

Purpose:

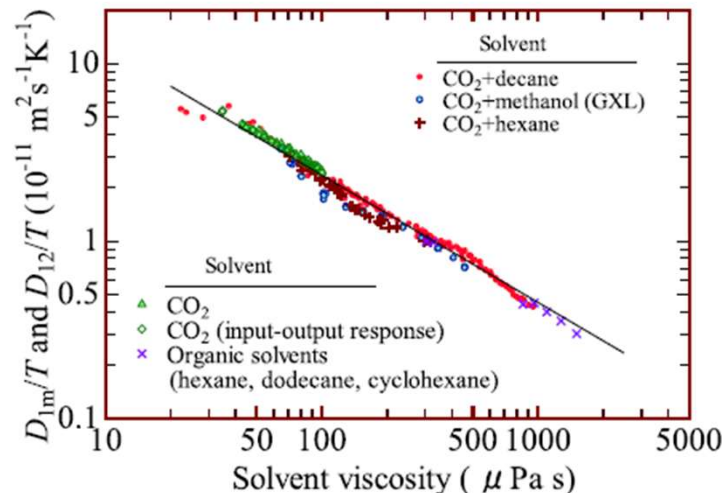
- (1) Experimental measurement of the transport properties of high-pressure CO₂ mixtures
- (2) Application to physical-property-model-based design of supercritical fluid processes

Achievement:

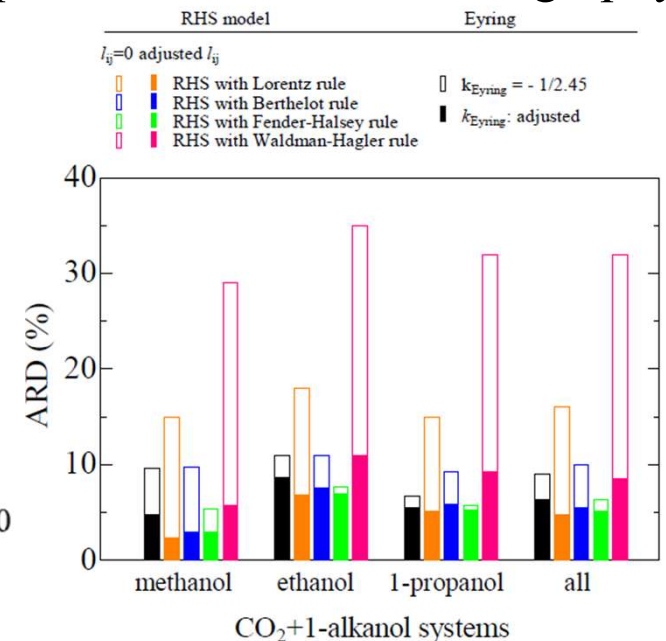
- (1) Development of a simultaneously density and viscosity measurement method under high-pressure conditions
- (2) Development of a transport property prediction model based on equilibrium properties
- (3) Development of a prediction method for retention factors in supercritical fluid chromatography (SFC) based on physical property data



Viscosity measurements using a packed-bed and the Ergun equation



Measurements and correlation of binary and pseudo-binary diffusion coefficients in high pressure



Measurements and prediction of the fluid mixture viscosity under high pressure