

Supplementary information

Table 1 Properties of acetic acid and ethanol

Properties	Symbols	Value		Units
Ethanol				
Density	ρ_a	0.784	At 25°C	g/cm ³
Molecular mass	Mw	46.07		g/mol
Acetic acid				
Molecular mass	Mw	60.05		g/mol
Density	ρ_a	0.982	At 80°C	g/cm ³
Viscosity	μ_b	0.00056	At 80°C	Kg/m.sec

Table 2 Parameters for used for calculations

Properties	Symbols	Value		Units
Molar volume of Ethanol bubbles	v_1	36.1188		cm ³ /mol
Molar volume of Acetic acid	v_2	57.2996		cm ³ /mol
Diffusion coefficient of EtOH in AcOH	D_{ab}	2.41269×10^{-05}	At 25°C	cm ² /sec
	D_{ab}	9.06571×10^{-05}	At 80°C	cm ² /sec
Gravitational acceleration	g	9.8		m/sec ²
Henry constant	Ha	0.7132		Pa m ³ /sec
Hatta number	M_H	4		---
Enhancement factor	E	3.6686		---
Infinite Enhancement factor	E_i	14.988		---