

Supplementary Materials: Density, Viscosity, and Excess Properties of MDEA + H₂O, DMEA + H₂O, and DEEA + H₂O Mixtures

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Table S1. Viscosity of reference standard.

Temperature (°C)	Viscosity of reference standard ^a (mPa·s)	Measured viscosity of reference standard (mPa·s)	(Standard – Measured)/Standard
20	3.709	3.572	0.037
25	3.264	3.161	0.032
37.78	2.434	2.377	0.023
40	2.323	2.261	0.027
50	1.910	1.864	0.024
60	1.600	1.559	0.026
80	1.175	1.134	0.035
98.89	0.9161	0.874	0.046
100	0.9036	0.850	0.059

^a As stated by the supplier.

Table S2. Comparison of measured density of DMEA (1) + H₂O (2) mixtures with literature.

Temperature (K)	mass fraction $w_1 = 0.3$		mass fraction $w_1 = 0.4$	
	Literature ^a kg·m ⁻³	This work kg·m ⁻³	Literature ^a kg·m ⁻³	This work kg·m ⁻³
293.15	990.6	991.0	986.6	987.1
313.15	978.8	979.2	972.7	973.1
333.15	965.2	965.8	957.4	958.0
353.15	950.2	950.4	941.1	941.5

^aConcepcion, *et al.* [1].

Table S3. Comparison of measured viscosity of DMEA (1) + H₂O (2) mixtures with literature.

Temperature (K)	mass fraction $w_1 = 0.3$		mass fraction $w_1 = 0.4$	
	Literature ^a mPa·s	This work mPa·s	Literature ^a mPa·s	This work mPa·s
293.15	4.2109	4.214	6.5871	6.814
313.15	2.0424	2.055	2.9897	3.060
333.15	1.2166	1.193	1.6512	1.676
353.15	0.8063	0.790	1.0503	1.064

^aConcepcion, *et al.* [1].

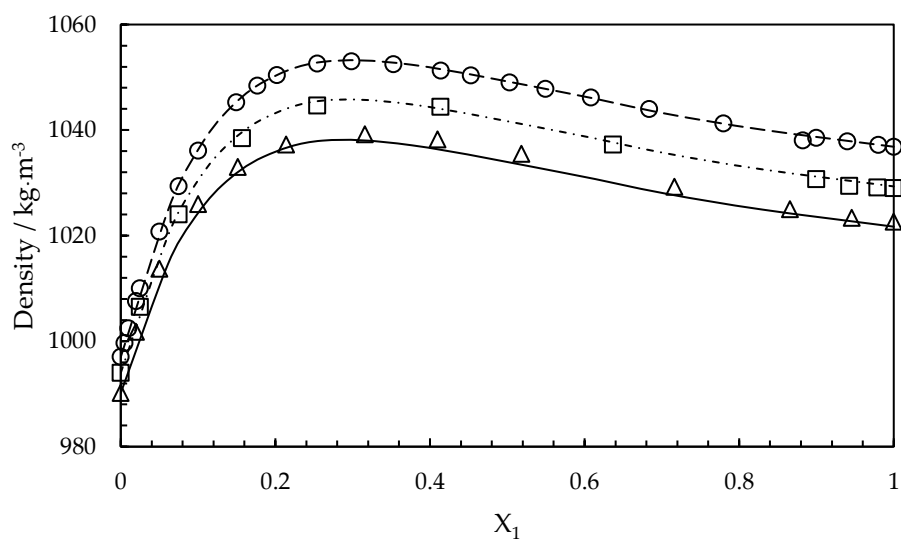


Figure S1. Comparison of measured density of MDEA (1) + H₂O (2) mixtures with literature. Hawrylak, *et al.*[2]: 298.15 '○', 308.15 '□', 318.15 '△'. This study: 298.15 '---', 308.15 '-.-', 318.15 '—'.

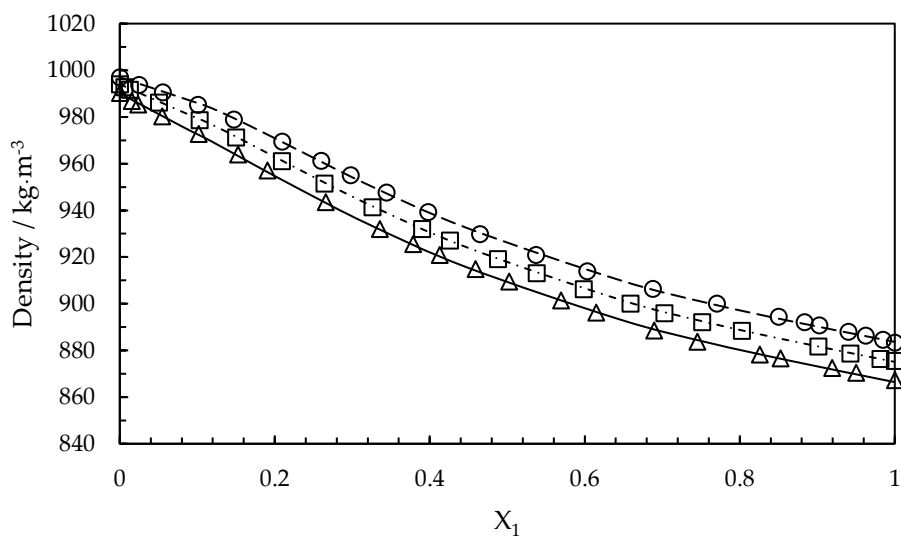


Figure 2. Comparison of measured density of DMEA (1) + H₂O (2) mixtures with literature. Hawrylak, *et al.*[2]: 298.15 '○', 308.15 '□', 318.15 '△'. This study: 298.15 '---', 308.15 '-.-', 318.15 '—'.

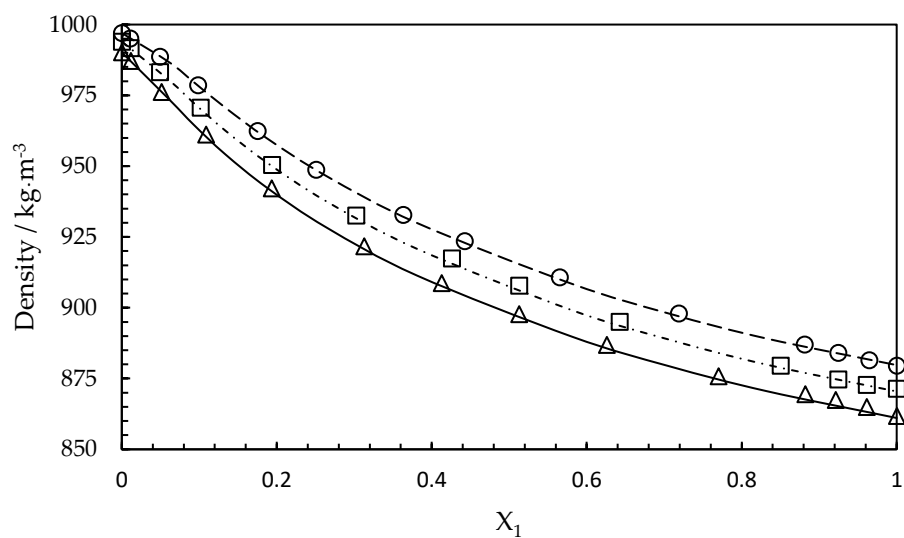


Figure S3. Comparison of measured density of DEEA (1) + H₂O (2) mixtures with literature. Hawrylak, *et al.*[2]: 298.15 '○', 308.15 '□', 318.15 '△'. This study: 298.15 '---', 308.15 '-.-', 318.15 '—'.

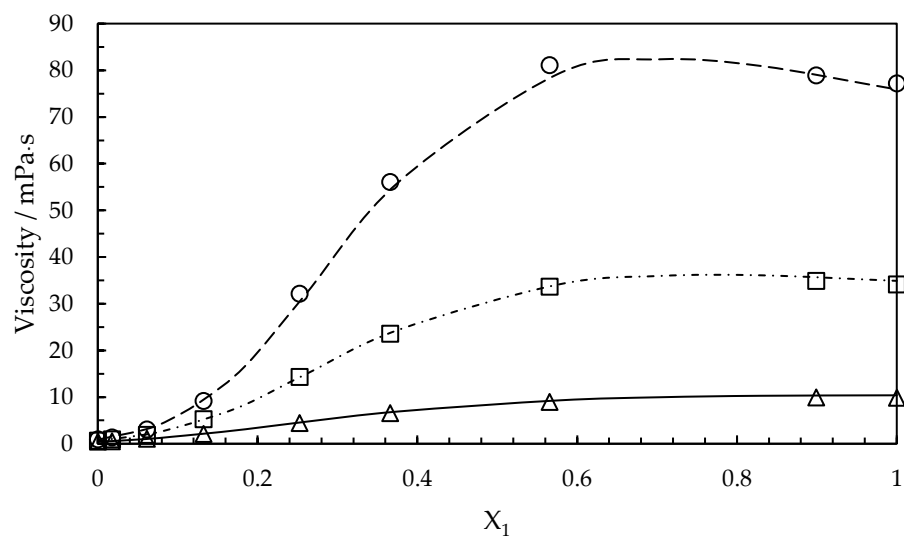


Figure S4. Comparison of measured viscosity of MDEA (1) + H₂O (2) mixtures with literature. Teng, *et al.*[3]: 298.15 '○', 313.15 '□', 343.15 '△'. This study: 298.15 '---', 313.15 '-.-', 343.15 '—'.

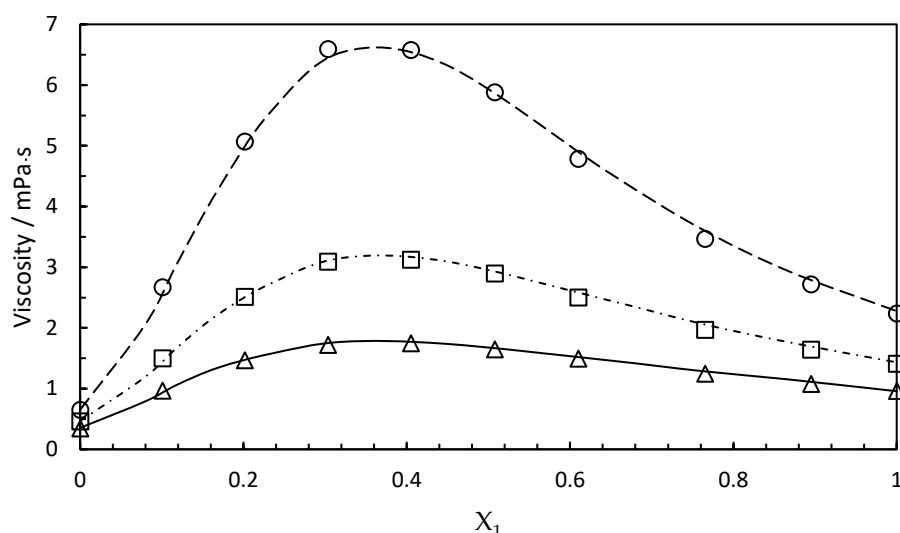


Figure 5. Comparison of measured viscosity of DMEA (1) + H₂O (2) mixtures with literature. Garcia, *et al.* [4]: 313.15 '○', 333.15 '□', 353.15 '△'. This study: 313.15 '---', 333.15 '-.-', 353.15 '—'.

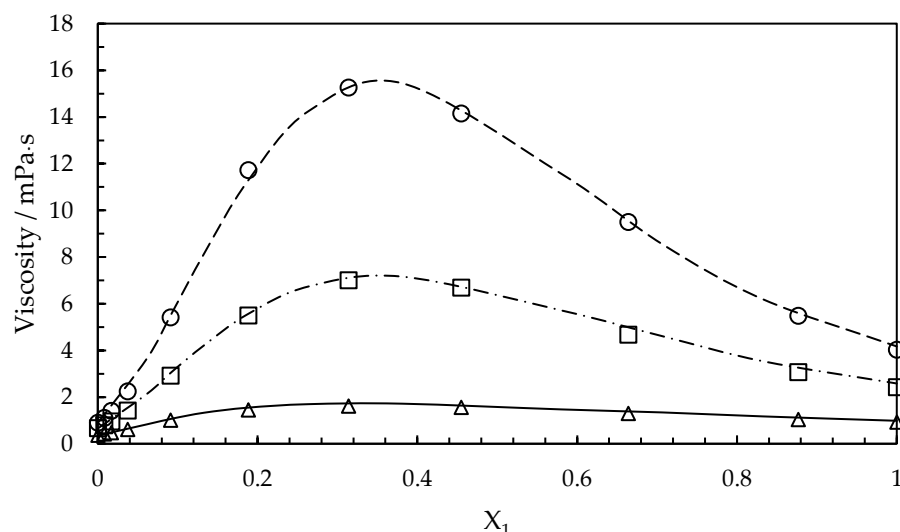


Figure 6. Comparison of measured viscosity of DEEA (1) + H₂O (2) mixtures with literature. Maham, *et al.* [5]: 298.15 '○', 313.15 '□', 353.15 '△'. This study: 298.15 '---', 313.15 '-.-', 353.15 '—'.

References

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