

Supporting Information to “A benchmark database for mixed-solvent electrolyte solutions: Consistency analysis using E-NRTL”

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In the Supporting Information, the following contents are provided:

- S-1. Analytical expressions for $\left(\frac{\partial A_\phi}{\partial n_i}\right)_{T,p,n_{j(j \neq i)}}$ and the other derivatives over n_i .
- S-2. Solvent activity coefficients of (water + methanol + KCl) and (water + ethanol + NaCl/KCl).
- S-3. Parameters for solvent component liquid density and relative permittivity.
- S-4. Parameters of the consistent and original E-NRTL models for (water + methanol/ethanol + NaCl/KCl) with OF-M and OF-MV.
- S-5. Deviations of MIAC calculated with the E-NRTL model with OF-MV and parameters regressed in the region up to $x_{\text{ion}} = 0.06$ and in the entire x_{ion} range.
- S-6. Average and maximum deviations of the E-NRTL model from the experimental datasets.
- S-7. Summary of accepted MIAC and VLE datasets for aqueous electrolyte solutions.
- S-8. Benchmark database files for the mixed-solvent electrolyte solutions and relevant aqueous electrolyte solutions.
- S-9. MIAC results for the mixed-solvent electrolyte solutions.
- S-10. Contribution contours of the NRTL, PDH, and Born terms to solvent and ion activity coefficients.

S-1. Analytical expressions for $\left(\frac{\partial A_\varphi}{\partial n_i}\right)_{T,p,n_{j(j \neq i)}}$ and the other derivatives over n_i .

$$\left(\frac{\partial A_\varphi}{\partial n_i}\right)_{T,p,n_{j(j \neq i)}} = A_\varphi \left[\frac{1}{2d_s} \left(\frac{\partial d_s}{\partial n_i}\right)_{T,p,n_{j(j \neq i)}} - \frac{3}{2\varepsilon_s} \left(\frac{\partial \varepsilon_s}{\partial n_i}\right)_{T,p,n_{j(j \neq i)}} \right]$$

$$\left(\frac{\partial d_s}{\partial n_i}\right)_{T,p,n_{j(j \neq i)}} = \begin{cases} \frac{1 - \frac{d_s}{d_{i,\text{solvent}}}}{N \sum \frac{x_{k,\text{solvent}}}{d_{k,\text{solvent}}}} & \text{for solvents} \\ 0 & \text{for ions} \end{cases}$$

$$\left(\frac{\partial \varepsilon_s}{\partial n_i}\right)_{T,p,n_{j(j \neq i)}} = \begin{cases} \frac{M_{i,\text{solvent}}(\varepsilon_{i,\text{solvent}} - \varepsilon_s)}{N \sum x_{k,\text{solvent}} M_{k,\text{solvent}}} & \text{for solvents} \\ 0 & \text{for ions} \end{cases}$$

$$\left(\frac{\partial I_x}{\partial n_i}\right)_{T,p,n_{j(j \neq i)}} = \frac{Z_i^2 - 2I_x}{2 \sum n_k}$$

S-2. Solvent activity coefficients of (water + methanol + KCl) and (water + ethanol + NaCl/KCl).

Figure S1 shows the comparison of the solvent activity coefficients of (water + methanol + KCl) and (water + ethanol + NaCl/KCl) calculated using the consistent and original E-NRTL models with OF-M and OF-MV at 298.15 K. The upper parts of the graphs are alcohol activity coefficient, while the lower parts are water activity coefficient. The figure for (water + methanol + NaCl) is shown in the main text of the paper.

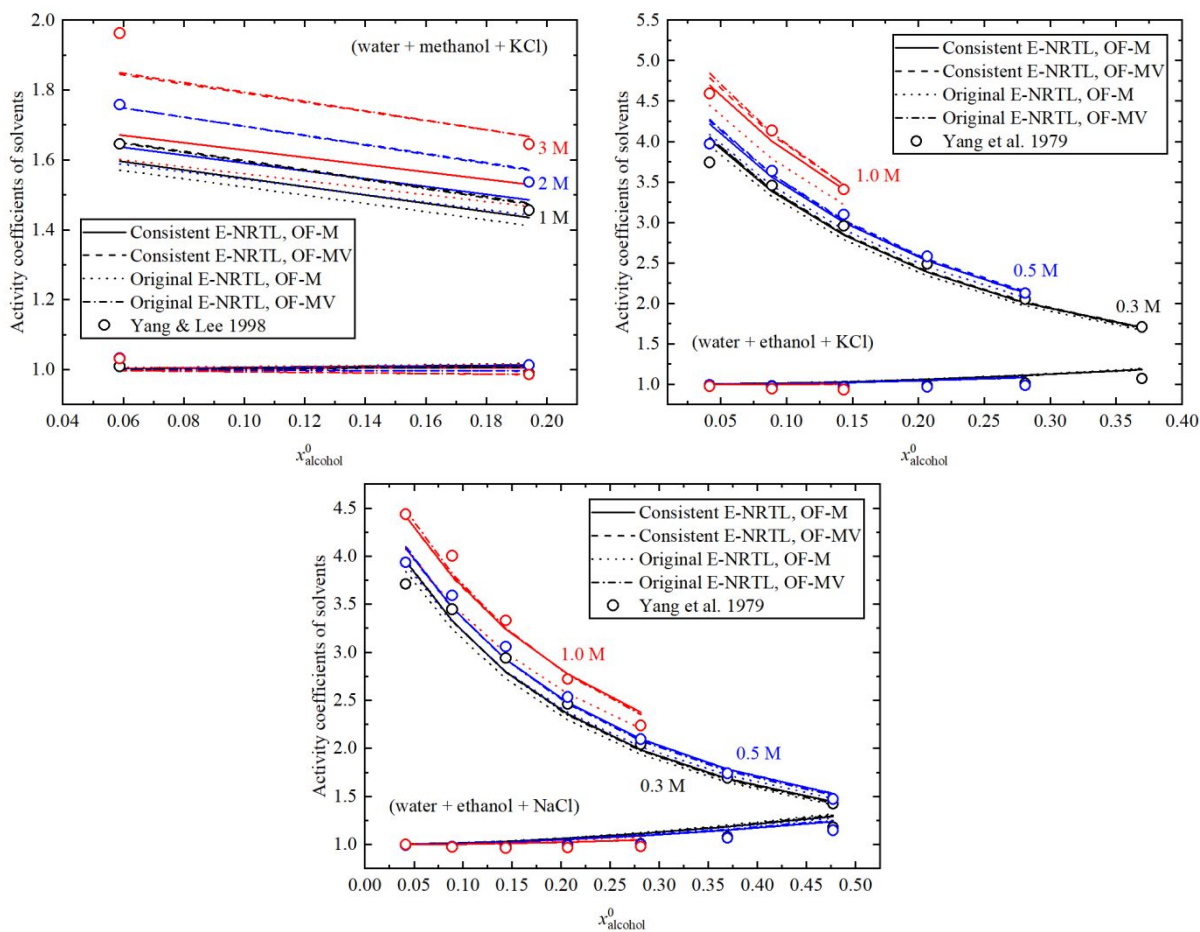


Figure S1. Comparison of the solvent activity coefficients of (water + methanol + KCl) and (water + ethanol + NaCl/KCl) calculated using the consistent and original E-NRTL models with OF-M and OF-MV at 298.15 K. The upper parts of the graphs are alcohol activity coefficient, while the lower parts are water activity coefficient.

S-3. Parameters for solvent component liquid density and relative permittivity.

Table S1 shows the parameters for solvent component liquid density and relative permittivity. The liquid density parameters of methanol and ethanol are obtained from DIPPR ¹. The liquid density parameters of water are regressed to the DIPPR data for the same equation. The relative permittivity parameters are regressed to the empirical correlation by Raspo and Neau ² using the simplified correlation, Eq. (17).

Table S1. Parameters for solvent component density and relative permittivity.

	Water	Methanol	Ethanol
<i>A</i>	4.9669	2.3267	1.6288
<i>B</i>	0.27788	0.27073	0.27469
<i>C</i>	647.10	512.50	514.00
<i>D</i>	0.18740	0.24713	0.23178
ϵ^0	88.399	38.000	27.950
ϵ^1	33174	18075	13051

S-4. Parameters of the consistent and original E-NRTL models for (water + methanol/ethanol + NaCl/KCl) with OF-M and OF-MV.

Table S2 shows the parameters of the consistent and original E-NRTL models for (water + methanol/ethanol + NaCl/KCl) with OF-M and OF-MV.

Table S2. Parameters of the consistent and original E-NRTL models for (water + methanol/ethanol + NaCl/KCl) with OF-M and OF-MV.

Mixture	Model	OF	$\tau_{\text{salt-alcohol}}$	$\tau_{\text{alcohol-salt}}$	α
(water + methanol + NaCl)		M	- 3.4667	8.1115	0.2
	Consistent	MV	- 2.4187	6.8713	0.2
	Original	MV	- 1.8819	6.5115	0.2
(water + methanol + KCl)		M	- 3.5480	9.3780	0.2
	Consistent	MV	- 2.6033	7.7412	0.2
	Original	MV	1.7051	6.4358	0.2
(water + ethanol + NaCl)		M	- 1.8983	7.6887	0.2
	Consistent	MV	- 1.4847	7.2184	0.2
	Original	MV	- 0.17638	6.3848	0.2
(water + ethanol + KCl)		M	- 0.51275	7.1163	0.2
	Consistent	MV	- 0.10247	6.9013	0.2
	Original	MV	- 2.0490	7.2185	0.2

S-5. Deviations of MIAC calculated with the E-NRTL model with OF-MV and parameters regressed in the region up to $x_{\text{ion}} = 0.06$ and in the entire x_{ion} range.

Figures S2 and S3 shows the deviations of MIAC calculated with the E-NRTL model with OF-MV and parameters regressed in the region up to $x_{\text{ion}} = 0.06$ and in the entire x_{ion} range for (water + NaCl) and (water + LiCl), respectively. The VLE deviations are presented in the main text of the paper. For MIAC, the absolute deviation is shown rather than the relative deviation, because the latter is exaggerated at low MIAC values.

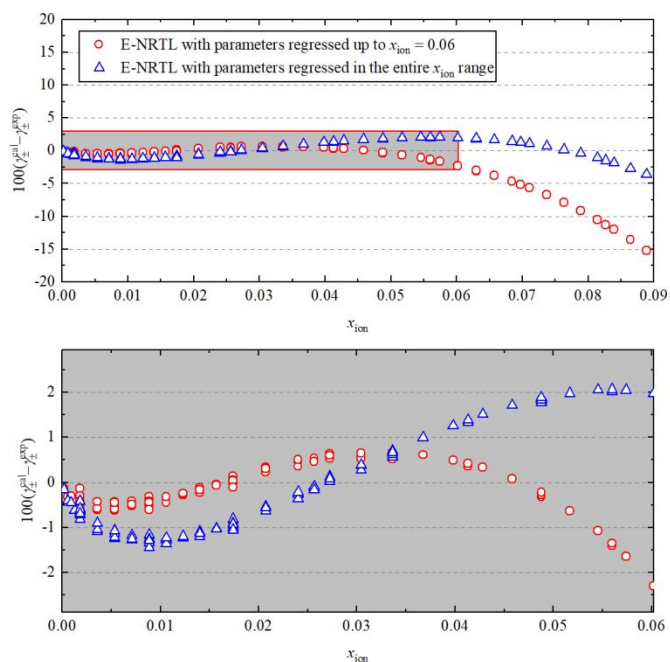


Figure S2. Deviations of MIAC calculated with the E-NRTL model with OF-MV and parameters regressed in the region up to $x_{\text{ion}} = 0.06$ and in the entire x_{ion} range for (water + NaCl).

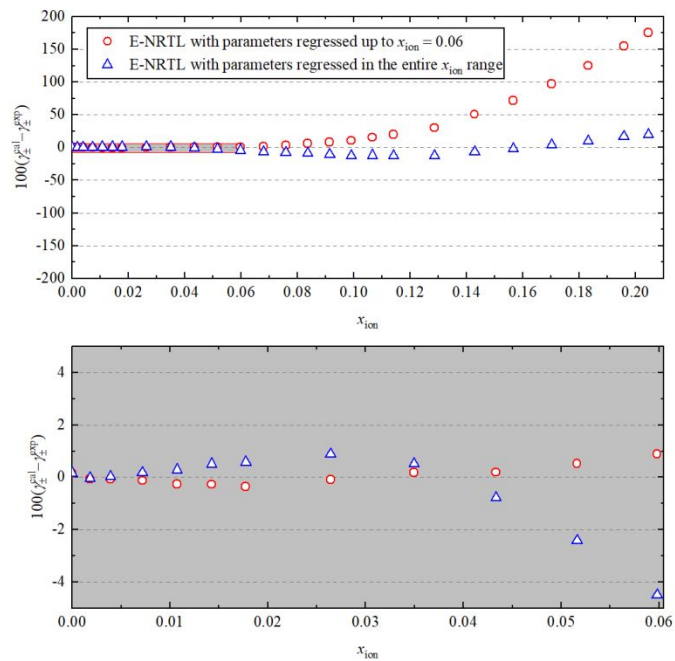


Figure S3. Deviations of MIAC calculated with the E-NRTL model with OF-MV and parameters regressed in the region up to $x_{\text{ion}} = 0.06$ and in the entire x_{ion} range for (water + LiCl).

S-6. Average and maximum deviations of the E-NRTL model from the experimental datasets.

Table S3 shows the average and maximum deviations (Ads and MDs) of the E-NRTL model from the experimental datasets for the (water + methanol/ethanol + alkali halide) mixtures. Deviations are only shown for the mixtures for which the parameters that are regressed to datasets that are categorized as **R** and **T**.

Table S3. Average and maximum deviations (ADs and MDs) of the E-NRTL model from the experimental datasets for the (water + methanol/ethanol + alkali halide) mixtures. The significance of the letters under “group” is explained in Section 5 of the main text.

Reference	Group	T (K)	$\text{Max}(x_{\text{ion}})$	w_{alc}^0	N_{DP}	100AD	100MD
(water + methanol + LiCl)							
MIAC							
Harned 1962 ³	T	298.15	0.037	0.100 – 0.200	18	1.6	8.5
Mussini et al. 2000 ⁴	T	298.15	0.131	0.200 – 0.800	128	2.7	23
Basili et al. 1999 ⁵	T	298.15	0.131	0.200	12	1.7	4.7
Hu et al. 2008 ⁶	T	298.15	0.027	0.050 – 0.150	46	1.7	6.4
VLE							
Broul et al. 1969 ^{7, p}	T	333.15	0.179	0.010 – 0.892	40	3.0	9.2
y						1.8	3.8
(water + methanol + NaCl)							
MIAC							
Xu et al. 2014 ⁸	R	298.15	0.022	0.100	28	0.60	1.4
Basili et al. 1996 ⁹	R	298.15	0.068	0.200 – 0.800	76	1.5	6.0
Yao et al. 1999 ¹⁰	R	308.15 – 318.15	0.038	0.100 – 0.900	206	1.5	4.8
Hernandez-Hernandez et al. 2007 ¹¹	R	308.15	0.035	0.100	17	0.56	0.98
VLE							
Yang & Lee 1998 ^{12, p}	R	298.15	0.065	0.100 – 0.300	7	2.2	5.5
y						1.1	2.3
Yao et al. 1999 ^{13, p}	R	318.15	0.090	0.110 – 0.949	30	1.5	7.2
y						0.83	3.1
Johnson & Furter 1960 ^{14, p}	R	339.25 – 352.15	0.092	0.050 – 0.928	12	1.9	3.8
y						0.43	1.6
(water + methanol + KCl)							
MIAC							
Basili et al. 1997 ¹⁵	R	298.15	0.037	0.200 – 0.600	47	1.2	4.5
Harned 1962 ³	T	298.15	0.037	0.100 – 0.200	18	1.6	7.2
VLE							

Reference	Group	T (K)	$\text{Max}(x_{\text{ion}})$	w_{alc}^0	N_{DP}	100AD	100MD
Yang & Lee 1998 ^{12, p}	R	298.15	0.029	0.100 – 0.300	6	1.8	4.3
y						0.48	0.91
Johnson & Furter 1960 ^{14, p}	R	338.45 – 351.55	0.095	0.042 – 0.944	12	1.5	2.4
y						0.50	1.8
(water + methanol + RbCl)							
MIAC							
Zhang et al. 2004 ¹⁶	R	298.15	0.043	0.100	9	0.47	0.90
Basili et al. 1997 ¹⁵	R	298.15	0.068	0.200 – 0.800	67	1.0	3.1
(water + methanol + NaF)							
MIAC							
Hernandez-Luis et al. 2003 ¹⁷	R	298.15	0.010	0.100 – 0.900	113	1.4	4.6
(water + ethanol + NaCl)							
MIAC							
Esteso et al. 1989 ¹⁸	R	298.15	0.038	0.200 – 0.900	123	2.4	7.2
Mamontov et al. 2016 ¹⁹	R	288.15 – 318.15	0.055	0.100 – 0.400	117	1.2	2.9
VLE							
Yang et al. 1979 ^{20, p}	R	298.15	0.025	0.100 – 0.700	22	2.2	6.5
y						1.6	3.3
Meyer et al. 1991 ^{21, p}	T	306.35 – 332.05	0.072	0.013 – 0.904	30	3.6	11
y						2.3	6.2
(water + ethanol + KCl)							
MIAC							
Mussini et al. 1995 ²²	R	298.15	0.038	0.200 – 0.400	24	0.88	1.8
VLE							
Yang et al. 1979 ^{20, p}	R	298.15	0.021	0.100 – 0.600	14	2.4	4.0
y						1.7	2.6
Sun 1996 ^{23, p}	R	352.2 – 356.1	0.029	0.378 – 0.714	10	1.3	3.7
y						1.6	4.4
(water + ethanol + CsCl)							
MIAC							
Mussini et al. 1995 ²²	T	298.15	0.112	0.200 – 0.700	59	1.7	3.7
(water + ethanol + NaF)							

Reference	Group	T (K)	$\text{Max}(x_{\text{ion}})$	w_{alc}^0	N_{DP}	100AD	100MD
MIAC							
Hernandez-Luis et al. 2003 ¹⁷	T	298.15	0.011	0.100 – 0.800	89	3.1	7.6
(water + ethanol + KBr)							
VLE							
Burns & Furter 1976 ²⁴ , p	T	354.65 – 356.75	0.090	0.399 – 0.536	35	2.2	4.0
y						0.80	3.7
(water + ethanol + NaI)							
VLE							
Yamamoto et al. 1995 ²⁵ , p	T	298.15	0.052	0.140 – 0.968	9	3.8	8.9
y						3.9	6.8
(water + ethanol + KI)							
VLE							
Burns & Furter 1979 ²⁶ , p	T	355.25 – 357.15	0.106	0.384 – 0.856	21	1.3	2.7
y						0.27	0.52
Average							
(water + methanol + salt) mixtures							
MIAC						1.3	
VLE, p						2.0	
y						0.86	
(water + ethanol + salt) mixtures							
MIAC						1.9	
VLE, p						2.4	
y						1.7	

S-7. Summary of accepted MIAC and VLE datasets for aqueous electrolyte solutions.

Table S4 shows the summary of the accepted MIAC and VLE datasets of the (water + salt) mixtures.

Table S4. Summary of the accepted MIAC and VLE datasets of the (water + salt) mixtures.

Reference	T (K)	$\text{Max}(x_{\text{ion}})$	N_{DP}
(water + LiCl)			
MIAC			
Hurlen 1979 ²⁷	298.15	0.063	7
Robinson & Stokes 1949 ²⁸	298.15	0.209	37
Wang et al. 1993A ²⁹	298.15	0.089	10
Wang et al. 1993B ³⁰	298.15	0.089	8
Zhao et al. 2014 ³¹	298.15	0.027	113
Holmes & Mesmer 1981 ³²	383.15 – 473.15 (383.15)	0.089 (0.089)	28 (7)
VLE			
Pearce & Nelson 1932 ³³	298.15	0.205	25
Patil et al. 1990 ³⁴	303.15 – 343.15	0.200	40
Vercher et al. 2004 ³⁵	373.95 – 387.25	0.111	6
Kolar et al. 2005 ³⁶	335.45 – 394.47	0.133	9
Patil et al. 1994 ³⁷	348.15 – 368.15	0.200	45
Lee & Lee 1998A ³⁸	333.15	0.076	9
Broul et al. 1969 ⁷	333.15	0.153	17
Chaudhari & Patil 2002 ³⁹	303.15 – 373.15	0.201	72
(water + NaCl)			
MIAC			
Hurlen 1979 ²⁷	298.15	0.063	7
Yan et al. 1995 ⁴⁰	298.15	0.041	8
Robinson & Stokes 1949 ²⁸	298.15	0.089	23
Hernandez-Luis et al. 1995 ⁴¹	298.15	0.089	12
Platford 1968 ⁴²	298.15	0.089	4
Kelly et al. 1961 ⁴³	298.15	0.089	6
Downes 1970 ⁴⁴	298.15	0.017	2
Khoshkbarchi & Vera 1996 ⁴⁵	298.15	0.017	9

Reference	T (K)	$\text{Max}(x_{\text{ion}})$	N_{DP}
Sirbu et al. 2011 ⁴⁶	298.15 – 308.15	0.063	18
Phang & Steel 1974 ⁴⁷	273.15 – 323.15	0.017	36
Ji et al. 2001 ⁴⁸	283.15 – 313.15	0.034	29
Rodriguez-Raposo et al. 1994 ⁴⁹	298.15	0.063	10
Stokes & Levien 1946 ⁵⁰	298.15	0.089	35
Esteso et al. 1989 ⁵¹	298.15	0.049	4
Harned & Cook 1937 ⁵²	298.15	0.017	2
Manohar et al. 1992 ⁵³	298.15	0.049	4
Yan et al. 1994 ⁵⁴	298.15	0.041	6
Robinson 1939 ⁵⁵	288.15 – 333.15	0.017	60
Yao et al. 1999 ¹⁰	308.15 – 318.15	0.035	42
Ghalami-Chooabar & Sayyadi-Nodehi 2014 ⁵⁶	298.20 – 303.20	0.063	27
VLE			
Berling et al. 1999 ⁵⁷	298.15	0.091	20
Pepela & Dunlop 1972 ⁵⁸	298.15	0.087	13
Hubert et al. 1995 ⁵⁹	294.34 – 368.07	0.082	133
(water + KCl)			
MIAC			
De Mendonca & Juusola 2005 ⁶⁰	298.15	0.049	20
Zhang et al. 2004 ⁶¹	298.15	0.038	7
Yan et al. 1994 ⁵⁴	298.15	0.041	6
Smith 1933 ⁶²	273.15	0.056	10
VLE			
Pearce & Nelson 1932 ³³	298.15	0.074	12
Apelblat 1998 ⁶³	298.15	0.063	5
Mason & Gardner 1936 ⁶⁴	298.15	0.063	9
Pearce & Snow 1927 ⁶⁵	298.15	0.074	41
Hepburn 1932 ⁶⁶	298.15	0.074	8
Faggion et al. 2016 ⁶⁷	327.45 – 374.15	0.065	45
Patil et al. 1991 ⁶⁸	303.15 – 343.15	0.067	30
Harrison & Perman 1927 ⁶⁹	313.15 – 343.15	0.095	42
(water + RbCl)			
MIAC			

Reference	T (K)	$\text{Max}(x_{\text{ion}})$	N_{DP}
Robinson & Stokes 1949 ²⁸	298.15	0.076	21
VLE			
Patil et al. 1991 ⁶⁸	303.15 – 343.15	0.100	30
Nishi 1975 ⁷⁰	348.15	0.102	7
Patil et al. 1994 ³⁷	353.15 – 368.15	0.102	28
(water + CsCl)			
MIAC			
Feng et al. 2011 ⁷¹	298.15	0.021	18
Hao et al. 2016 ⁷²	298.15	0.049	10
Lu et al. 2013 ⁷³	298.15	0.024	23
Holmes & Mesmer 1981 ³²	383.15 – 473.15 (383.15)	0.089 (0.089)	28 (7)
VLE			
Patil et al. 1991 ⁶⁸	303.15 – 343.15	0.118	40
Patil et al. 1994 ³⁷	348.15 – 368.15	0.113	35
(water + NaF)			
MIAC			
Robinson & Stokes 1949 ²⁸	298.15	0.017	10
Hernandez-Luis et al. 2004B ⁷⁴	298.15	0.017	18
Hernandez-Luis et al. 2005 ⁷⁵	298.15	0.017	19
(water + LiBr)			
MIAC			
Robinson & Stokes 1949 ²⁸	298.15	0.209	37
Robinson 1935 ⁷⁶	298.15	0.063	10
Harned 1929 ⁷⁷	298.15	0.048	10
VLE			
Rafiee & Frouzesh 2016 ⁷⁸	298.15	0.066	15
Patil et al. 1990 ³⁴	303.15 – 343.15	0.183	40
Patil et al. 1994 ³⁷	348.15 – 368.15	0.185	40
Sada & Morisue 1975 ⁷⁹	348.15	0.130	6
(water + NaBr)			
MIAC			
Robinson & Stokes 1949 ²⁸	298.15	0.063	19

Reference	T (K)	$\text{Max}(x_{\text{ion}})$	N_{DP}
Hernandez-Luis et al. 1993 ⁸⁰	298.15	0.056	9
Haghtalab & Vera 1991 ⁸¹	298.15	0.089	3
Robinson 1935 ⁷⁶	298.15	0.063	12
VLE			
Pearce & Nelson 1932 ³³	298.15	0.124	23
Patil et al. 1991 ⁶⁸	303.15 – 343.15	0.112	30
Bancroft & Gould 1934 ⁸²	373.41 – 377.88	0.062	4
Patil et al. 1994 ³⁷	348.15 – 368.15	0.109	35
(water + KBr)			
MIAC			
Robinson & Stokes 1949 ²⁸	298.15	0.063	21
Robinson 1935 ⁷⁶	298.15	0.070	13
Harned 1929 ⁷⁷	298.15	0.063	11
Robinson 1939 ⁸³	298.15	0.063	12
Harned & Douglas 1926 ⁸⁴	298.15	0.041	8
VLE			
Kiepe et al. 2003 ⁸⁵	313.15 – 353.23	0.076	4
Patil et al. 1991 ⁶⁸	303.15 – 343.15	0.068	30
Patil et al. 1994 ³⁷	348.15 – 368.15	0.070	30
(water + CsBr)			
MIAC			
Robinson & Stokes 1949 ²⁸	298.15	0.076	21
Robinson 1937 ⁸⁶	298.15	0.076	14
Robinson 1935 ⁷⁶	298.15	0.076	14
VLE			
Patil et al. 1991 ⁶⁸	303.15 – 343.15	0.088	30
Patil et al. 1994 ³⁷	348.15 – 368.15	0.089	30
(water + NaI)			
MIAC			
Robinson & Stokes 1949 ²⁸	298.15	0.056	18
Robinson 1935 ⁷⁶	298.15	0.056	11
Zhuo et al. 2008 ⁸⁷	298.15	0.004	7
Harned 1929 ⁷⁷	298.15	0.017	4

Reference	T (K)	$\text{Max}(x_{\text{ion}})$	N_{DP}
VLE			
Yamamoto et al. 1995 ²⁵	298.15	0.139	9
Patil et al. 1991 ⁶⁸	303.15 – 343.15	0.116	40
Patil et al. 1994 ³⁷	348.15 – 368.15	0.121	40
(water + KI)			
MIAC			
Robinson & Stokes 1949 ²⁸	298.15	0.070	20
Robinson et al. 1940 ⁸⁸	298.15	0.070	13
Robinson 1935 ⁷⁶	298.15	0.070	13
Gelbach 1933 ⁸⁹	298.15	0.009	9
Harned 1929 ⁷⁷	298.15	0.034	7
VLE			
Pearce & Nelson 1932 ³³	298.15	0.122	22
Patil et al. 1991 ⁶⁸	303.15 – 343.15	0.085	40
Patil et al. 1994 ³⁷	353.15 – 368.15	0.081	30
(water + CsI)			
MIAC			
Robinson & Stokes 1949 ²⁸	298.15	0.049	17
VLE			
Patil et al. 1991 ⁶⁸	303.15 – 343.15	0.043	25
Patil et al. 1994 ³⁷	353.15 – 368.15	0.043	25

S-8. Benchmark database files for the mixed-solvent electrolyte solutions and relevant aqueous electrolyte solutions.

Data tables are provided in separate files for the mixed-solvent electrolyte solutions and relevant aqueous electrolyte solutions. Each dataset is marked with a dataset ID and a reference ID from the CERE aqueous solutions databank. For the mixed-solvent electrolyte solution datasets, an additional identifier is appended to the IDs to mark the “**R**”, “**T**”, and “**U**” categories. For the aqueous electrolyte solutions, only the accepted datasets are included in the database. A reference list is provided for the reference IDs.

S-9. MIAC results for the mixed-solvent electrolyte solutions.

Figures S4-S11 show the comparisons of the MIAC results calculated using the E-NRTL model and the experimental data. Only part of the data is shown on the graph for clearer illustration.

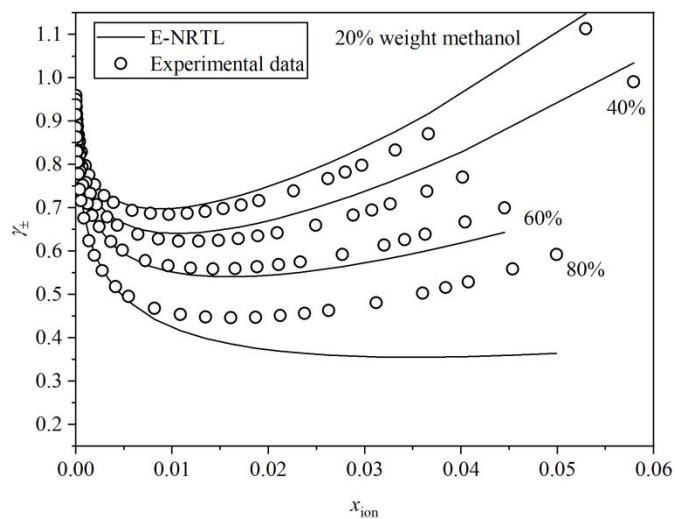


Figure S4. Comparison of the MIAC results calculated using the E-NRTL model and the experimental data⁴ for (water + methanol + LiCl) at 298.15 K.

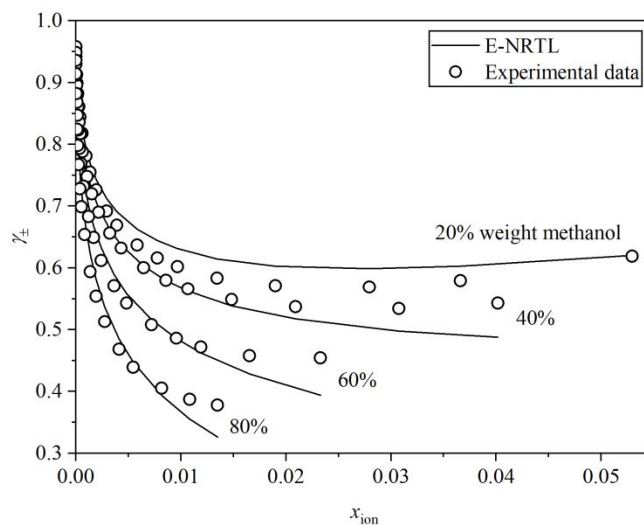


Figure S5. Comparison of the MIAC results calculated using the E-NRTL model and the experimental data⁹ for (water + methanol + NaCl) at 298.15 K.

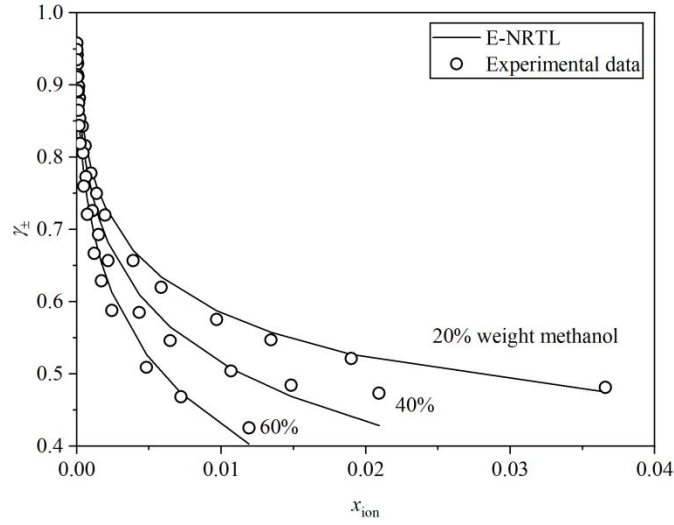


Figure S6. Comparison of the MIAC results calculated using the E-NRTL model and the experimental data¹⁵ for (water + methanol + KCl) at 298.15 K.

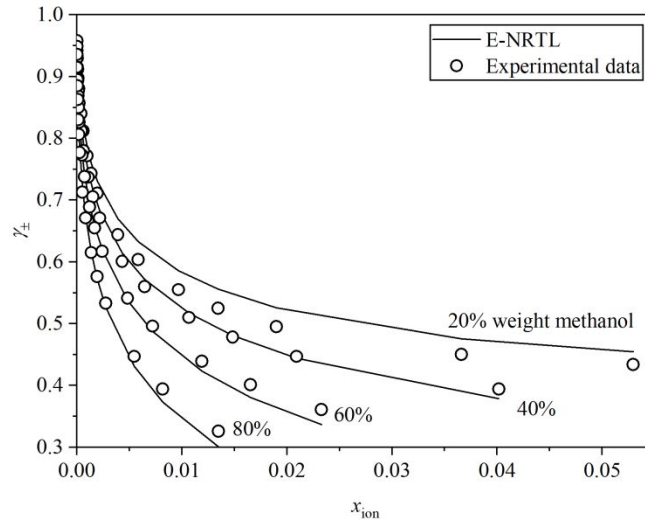


Figure S7. Comparison of the MIAC results calculated using the E-NRTL model and the experimental data¹⁵ for (water + methanol + RbCl) at 298.15 K.

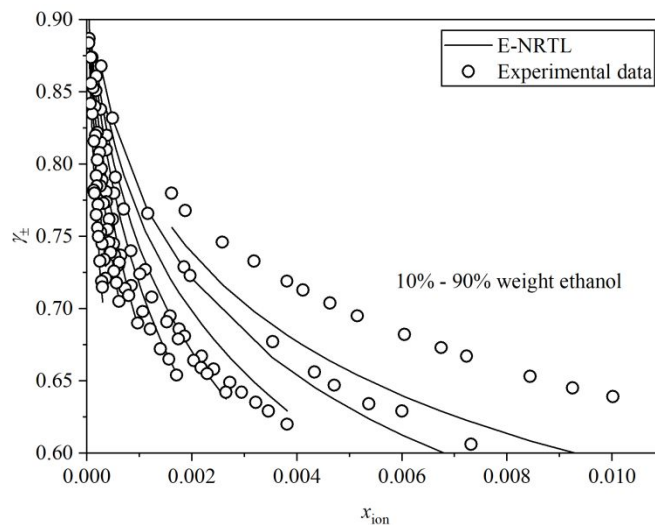


Figure S8. Comparison of the MIAC results calculated using the E-NRTL model and the experimental data¹⁷ for (water + methanol + NaF) at 298.15 K.

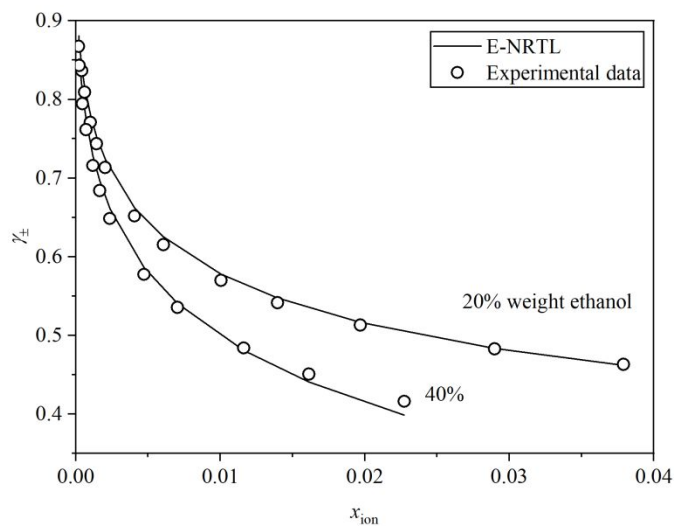


Figure S9. Comparison of the MIAC results calculated using the E-NRTL model and the experimental data²² for (water + ethanol + KCl) at 298.15 K.

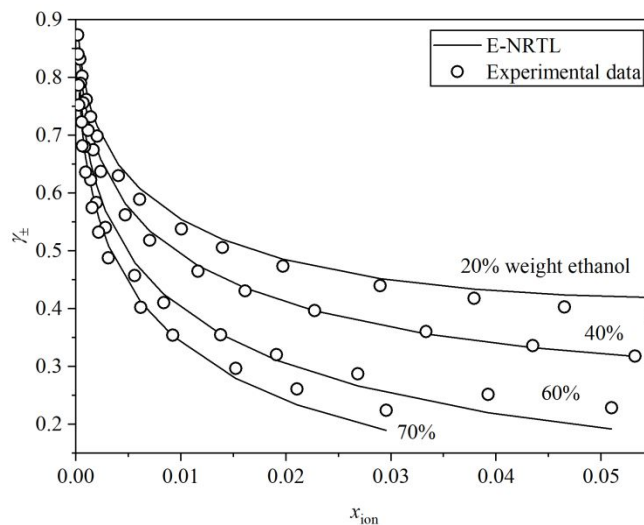


Figure S10. Comparison of the MIAC results calculated using the E-NRTL model and the experimental data²² for (water + ethanol + CsCl) at 298.15 K.

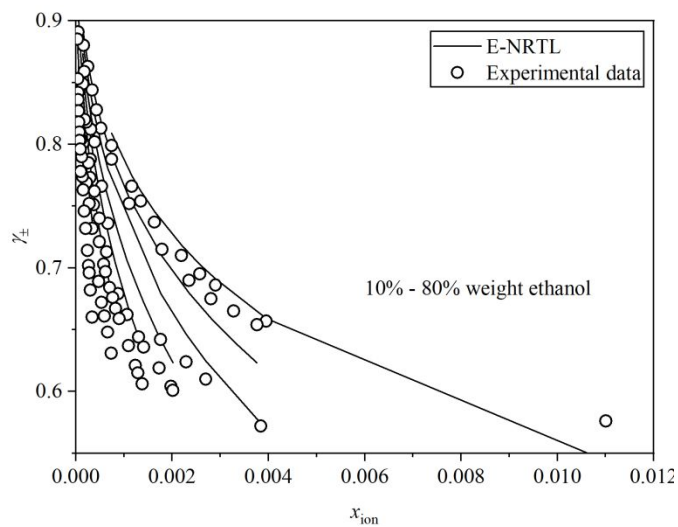


Figure S11. Comparison of the MIAC results calculated using the E-NRTL model and the experimental data¹⁷ for (water + ethanol + NaF) at 298.15 K.

S-10. Contribution contours of the PDH, Born, and NRTL terms to solvent and ion activity coefficients.

Figures S12-S14 show the contributions of the PDH, Born, and NRTL terms and the total solvent and ion activity coefficients for (water + ethanol + NaCl) using the strategy A parameters. The reference states are taken at the infinite dilution in the solvent mixture at the corresponding salt-free concentration.

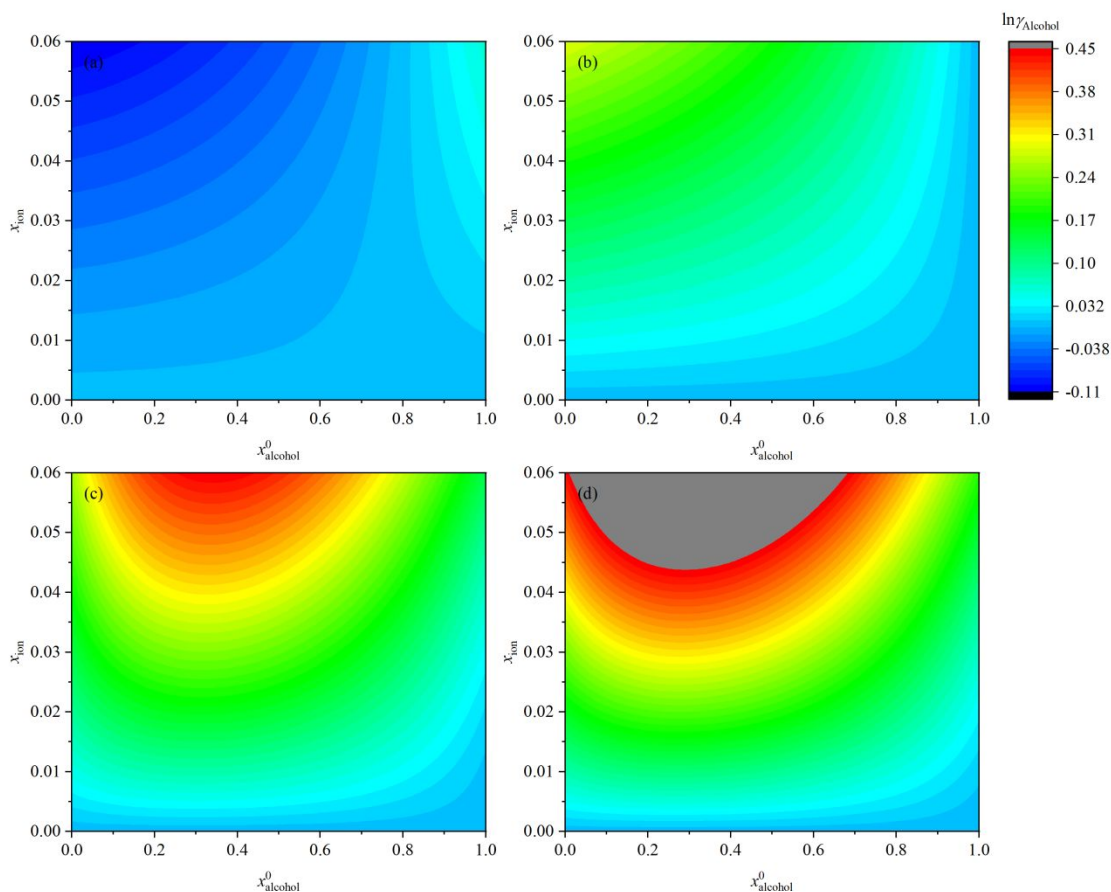


Figure S12. Contributions of the PDH, Born, and NRTL terms and the total alcohol coefficient for (water + ethanol + NaCl) using the strategy A parameters.

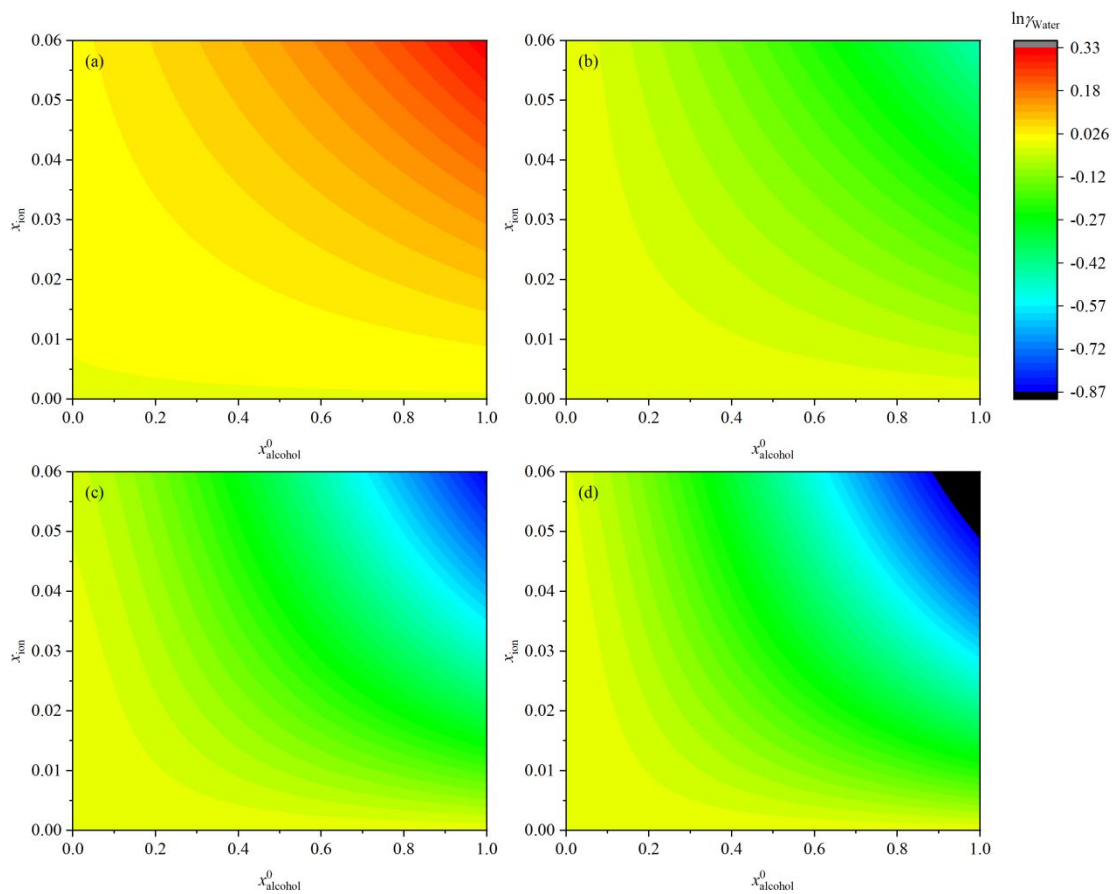


Figure S13. Contributions of the PDH, Born, and NRTL terms and the total water coefficient for (water + ethanol + NaCl) using the strategy A parameters.

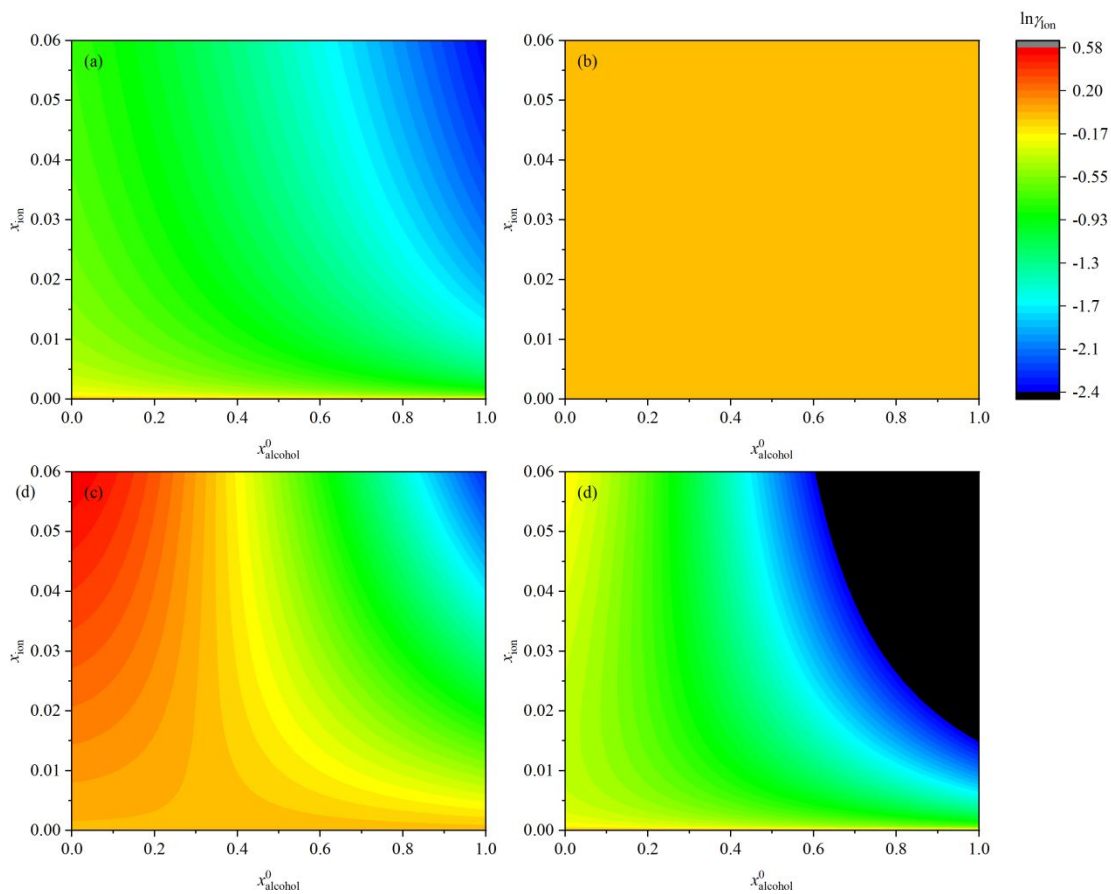


Figure S14. Contributions of the PDH, Born, and NRTL terms and the total ion coefficient for (water + ethanol + NaCl) using the strategy A parameters.

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