

Conductivities of the Ternary Systems $\text{Y}(\text{NO}_3)_3 + \text{Ce}(\text{NO}_3)_3 + \text{H}_2\text{O}$, $\text{Y}(\text{NO}_3)_3 + \text{Nd}(\text{NO}_3)_3 + \text{H}_2\text{O}$, $\text{Ce}(\text{NO}_3)_3 + \text{Nd}(\text{NO}_3)_3 + \text{H}_2\text{O}$ and Their Binary Subsystems at Different Temperatures

Yu-Feng Hu*, Xiao-Ming Peng, Shan Ling, Jin-Zhu Zhang, and Chuan-Wei Jin

State Key Laboratory of Heavy Oil Processing and High Pressure Fluid Phase Behavior &

Property Research Laboratory, China University of Petroleum, Beijing 102249, China

(E-mail: huyf3581@sina.com; Fax: 86-10-89733846; Tel.: 86-10-89733846).

Supporting information

Table S1. Calculated Values of z ($=\frac{m_B}{m_B^o} + \frac{m_C}{m_C^o}$) for the Ternary

System $\text{Y}(\text{NO}_3)_3$ (B) + $\text{Nd}(\text{NO}_3)_3$ (C) + H_2O (A)

m_B	m_C	m_B^o	m_C^o	$\frac{m_B}{m_B^o} + \frac{m_C}{m_C^o}$
$(\text{mol} \cdot \text{kg}^{-1})$				
$\text{Y}(\text{NO}_3)_3$ (B) + $\text{Nd}(\text{NO}_3)_3$ (C)				
0.8109	0.2437	1.0244	1.1725	0.9995
0.6197	0.4622	1.0249	1.1731	0.9986
0.4135	0.6980	1.0246	1.1727	0.9988
0.2091	0.9321	1.0248	1.1730	0.9986
1.4158	0.3714	1.7345	2.0148	1.0006
1.0701	0.7727	1.7349	2.0153	1.0002
0.7252	1.1732	1.7350	2.0154	1.0001
0.3622	1.5948	1.7350	2.0153	1.0001
2.0748	0.5529	2.5502	2.9670	0.9999

1.5582	1.1531	2.5505	2.9673	0.9996
1.0441	1.7507	2.5510	2.9680	0.9992
0.5285	2.3517	2.5508	2.9677	0.9996
2.7724	0.7598	3.4286	3.9766	0.9997
2.1067	1.5293	3.4283	3.9764	0.9991
1.4180	2.3265	3.4285	3.9766	0.9986
0.7209	3.1361	3.4287	3.9768	0.9989
average				0.9992/1.0002

Table S2. Comparisons of Measured and Predicted Conductivities of the Ternary System $\text{Y}(\text{NO}_3)_3$ (B) + $\text{Nd}(\text{NO}_3)_3$ (C) + H_2O (A) at 298.15 K

m_{B}	m_{C}	$\sigma (\text{mS} \cdot \text{cm}^{-1})$			
		exp	$z = 0.9992^a$	$z = 1.0002$	$z = 1$
$(\text{mol} \cdot \text{kg}^{-1})$					
0.2532	0.7618	100.22	100.93	101.38	101.30
0.5005	0.5083	105.17	105.67	106.13	106.04
0.7512	0.2514	109.88	110.65	111.14	111.04
0.5132	1.5514	88.09	88.50	88.95	88.86
1.0147	1.0217	94.38	94.93	95.42	95.32
1.5034	0.5055	101.00	101.62	102.13	102.02
0.7595	2.2906	57.78	57.88	58.19	58.13
1.5011	1.5142	62.74	62.92	63.27	63.20
2.2355	0.7454	68.02	68.29	68.67	68.59
1.0125	3.0658	32.31	32.30	32.48	32.45

2.0077	2.0254	35.75	35.77	35.98	35.94
2.9764	1.0127	39.54	39.56	39.79	39.75

$$^a \; z = \frac{m_B}{m_B^o} + \frac{m_C}{m_C^o}$$

--	--	--	--	--	--