Supporting Information for

Revised and Extended Values for Self-diffusion Coefficients of 1-Alkyl-3-Methylimidazolium Tetrafluoroborates and Hexafluorophosphates: Relations Between the Transport Properties.

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	[BMIN	M][PF ₆]		[HMIM][PF ₆]					
$T^{0}C$	$10^{12} \cdot D_{S+}$		$10^{12} \cdot D_{S}$	T/ ⁰ C	$10^{12} \cdot D_{S+}$	$T^{0}C$	$10^{12} \cdot D_{S}$		
ΠC	$/\mathrm{m}^2 \cdot \mathrm{s}^{-1}$	<i>II</i> C	$/m^2 \cdot s^{-1}$	<i>I/</i> C	$/m^2 \cdot s^{-1}$	ΠC	$/m^2 \cdot s^{-1}$		
59.62	36.6	44.63	14.2	49.97	13.6	49.59	12.2		
59.67	35.3	44.63	14.8	49.94	13.3	49.62	12.3		
59.71	33.5	44.63	15.4	74.98	35.3	49.63	12.3		
59.72	35.0	44.66	15.3	74.98	35.8	49.63	12.3		
74.81	59.1	49.90	18.1	85.24	50.0	50.19	12.4		
74.84	57.8	49.90	17.9	85.24	54.2	50.24	13.0		
74.86	58.4	74.45	50.0	85.24	53.4	54.51	15.4		
74.88	61.5	74.50	50.5	85.24	50.8	54.53	15.4		
90.35	90.6	74.51	50.4	90.20	58.9	54.54	15.4		
90.37	96.1	74.52	50.3	90.22	59.0	54.62	15.5		
90.37	91.7	74.58	49.0	90.22	62.7	59.77	19.4		
90.38	91.8	74.63	49.9	90.23	62.1	59.86	19.4		
		89.84	77.9			59.86	19.4		
		89.86	79.5			59.87	19.4		
		89.88	78.3			60.19	20.0		
		89.88	79.2			64.86	23.8		
						64.87	23.8		
	[OMIN	$M][PF_6]$				64.87	23.8		
T/°C	$10^{12} \cdot D_{S+}$	T/°C	$10^{12} \cdot D_{S}$			64 88	23.8		
17 0	$/m^2 \cdot s^{-1}$	1, 0	$/\mathrm{m}^2 \cdot \mathrm{s}^{-1}$			01.00	23.0		
58.73	11.39	74.49	26.4			64.92	24.8		
58.78	11.82	74.50	27.3			74.93	32.5		
58.82	11.62	74.50	25.5			74.95	36.1		
88.34	38.04	74.53	25.8			75.01	33.6		
88.60	39.31	74.49	26.7			75.02	32.6		
		74.54	25.6			89.95	53.9		
		74.54	25.1			89.95	55.9		
		89.91	43.6			89.98	56.0		
		89.99	45.2			90.04	56.7		
		90.08	44.1						
		90.12	45.2						

 Table S1: Additional Coexistence Line Liquid Phase Self-diffusion Data ^a

	[BMIN	1][B F ₄]		[HMIM][BF ₄]					
T ⁰ C	$10^{12} \cdot D_{S+}$	T/00	$10^{12} \cdot D_{s}$	T ⁽⁰⁾ C	$10^{12} \cdot D_{S+}$	T (0 C)	$10^{12} \cdot D_{S-}$		
I/C	$/m^2 \cdot s^{-1}$	<i>I/C</i>	$/m^2 \cdot s^{-1}$	<i>I/C</i>	$/m^2 \cdot s^{-1}$	<i>II</i> ⁻ C	$/m^2 \cdot s^{-1}$		
49.55	41.9	49.98	39.5 ^b	39.83	13.1	40.05	15.5		
49.75	42.3	49.99	41.7	39.89	13.0	40.06	15.7		
49.77	43.9	50.03	40.0	39.94	13.9	49.89	23.5 ^b		
88.70	137	74.65	85.7	39.97	13.4	49.93	24.1		
89.30	140	74.65	90.8	39.98	13.0	49.93	24.1		
89.24	136	74.67	95.0 ^{<i>b</i>}	39.99	13.9	49.98	24.0		
89.38	132	89.96	139	40.67	14.4	59.92	35.3		
		90.06	136	40.67	14.5	59.94	34.8		
		90.14	142 ^b	49.13	21.5	70.21	51.4		
	[OMIN	[][BF ₄]		49.64	21.4	70.26	49.16		
49.60	13.1	49.44	15.8	49.19	20.5	74.20	59.0		
49.90	13.1	59.84	24.1	49.64	21.4	74.36	61.2 ^{<i>b</i>}		
49.92	13.2	59.85	25.5	49.73	21.5	74.63	60.9		
49.93	13.7	59.99	24.8 ^{<i>a</i>}	49.89	21.2	79.95	69.7		
49.94	13.3	69.82	35.9	50.18	21.9	79.95	68.9		
50.02	13.5	69.85	35.5	50.20	21.7	89.21	87.9		
50.03	13.5	69.90	36.7 ^b	59.87	35.6	89.35	92.2		
50.28	14.5	73.93	40.5	59.91	34.6	89.39	89.4 ^b		
59.93	19.7	73.94	42.0	60.13	34.4	89.49	89.7		
59.95	19.6	80.10	54.4	60.13	33.6				
69.97	30.8	80.15	52.9 ^b	60.14	34.4				
70.02	28.6	80.22	52.6	60.16	34.7				
70.04	31.0	91.13	72.5	64.71	41.3				
70.05	29.8	91.14	72.8 ^b	64.75	41.8				
70.07	29.2	91.22	71.8	64.79	40.2				
70.09	30.9			74.37	56.3				
80.08	42.0			74.57	57.3				
80.09	42.0			74.58	56.2				
92.43	62.9			74.58	56.2				
92.43	66.0			84.87	79.2				
92.54	64.2			84.89	78.7				
92.61	65.6			84.89	77.3				
				84.91	78.4				

		92.51	97.5	
		92.52	99.5	
		92.53	96.1	
		92.55	97.2	

^{*a*} Standard uncertainty *u* is u(T) = 0.01 K, relative expanded uncertainty U_r is $100 \cdot U_r(D_{Si})$ (k = 2) = 3. ^{*b*} In these cases, runs could be performed by our normal practice of varying the 90°-180° rf pulse spacing, τ , at constant field gradient, ± *g*, and vice versa. The results were averaged as described in K. R. Harris, R. Mills, P. J. Back and D. S. Webster, *J. Magn. Res.*, 1978, **29**, 473. The remaining experiments were performed by varying only the gradient, through positive and negative ranges, at constant τ , due to the shortness of T_2 .

T/°C	<i>p</i> /MPa	$10^{12} \cdot D_{\rm S+}/{\rm m}^2 \cdot {\rm s}^{-1}$		T/°C	<i>p</i> /MPa	$10^{12} \cdot D_{\mathrm{S}}$	$_{+}/m^{2} \cdot s^{-1}$
	sealed evad	cuated tube			high pres	ssure cell	
		original	revised			original	revised
40.05	0.1	value	value	10.60	0.1	value	value
49.87	0.1	13.1	13.5	49.60	0.1	13.8	13.1
49.97	0.1	13.3	13.7	49.63	0.1	13.7	13.0
50.13	0.1	13.7	13.3	50.14	0.1	14.1	13.4
59.75	0.1	20.6	21.3	50.15	0.1	14.0	13.4
59.75	0.1	20.4	21.2	50.14	12.5	12.2	11.6
59.94	0.1	21.1	20.6	50.14	19.0	11.6	11.1
59.95	0.1	20.9	20.4	50.14	20.0	11.7	11.1
60.05	0.1	20.7	20.2	49.62	25.0	-	9.88
69.73	0.1	30.5	31.9	50.15	30.0	10.5	10.0
69.76	0.1	29.5	30.8	59.46	0.1	19.0	20.2
69.76	0.1	29.5	30.8	59.56	0.1	19.2	20.5
69.87	0.1	29.9	31.2	60.02	13.2	17.3	18.5
74.80	0.1	36.4	36.0	60.04	13.2	16.9	18.0
74.83	0.1	36.6	36.2	59.81	25.0	15.2	16.2
74.84	0.1	36.8	36.3	60.10	37.5	13.7	14.6
74.88	0.1	36.9	36.4	60.11	37.5	13.7	14.6
79.87	0.1	41.8	44.0	59.97	48.5	12.3	13.1
79.96	0.1	41.9	44.1	59.98	50.0	12.0	12.8
				74.88	0.1	35.8	36.7
				74.96	0.1	36.0	36.9
				74.95	14.5	32.4	33.2
				74.91	17.5	29.3	30.0
				74.92	25.0	28.0	28.7
				74.90	49.0	22.9	23.5
				74.95	50.0	22.1	22.6
				74.91	73.5	18.9	19.4
				74.97	100.0	15.6	16.0
				74.96	100.5	15.3	15.6
				74.96	126.5	12.4	12.7
				74.94	149.0	10.4	10.6
				74.96	149.0	10.3	10.6

Table S2: Revised Self-diffusion Data: D_{S+} for [HMIM][PF₆]

T/°C	<i>p</i> /MPa	$10^{12} \cdot D_S$	$s_{\rm s}/{\rm m}^2 \cdot {\rm s}^{-1}$		
	sealed evac	cuated tube			
		original value	revised value		
50.17	0.1	13.0	12.6		
50.19	0.1	12.8	12.9		
60.04	0.1	19.5	19.1		
60.06	0.1	19.5	19.1		
70.23	0.1	28.6	28.1		
70.30	0.1	28.5	28.0		
74.87	0.1	34.2	33.8		
74.95	0.1	36.3	35.8		
79.86	0.1	40.0	39.6		
79.94	0.1	39.6	39.3		

Table S3: Revised Self-diffusion Data: D_S. for [HMIM][PF₆]

T/⁰C	<i>p</i> /MPa	$10^{12} \cdot D_s$	$s_{s}/m^{2} \cdot s^{-1}$	T/°C	<i>p</i> /MPa	$10^{12} \cdot D_{s}$	$s_{\rm s}/m^2 \cdot s^{-1}$
	sealed eva	cuated tube			high pres	sure cell	
		original	revised			original	revised
50.01	0.1	16.7	15.5	49.55	0.1	16.9	15.7
50.13	0.1	17.0	15.7	49.77	0.1	17.0	15.9
55.11	0.1	21.4	19.7	49.86	25.0	13.7	12.8
55.17	0.1	21.3	19.7	49.94	37.5	12.1	11.3
60.03	0.1	26.4	24.4	49.92	49.0	11.0	10.2
60.05	0.1	26.3	24.3	49.98	50.0	10.8	10.1
65.00	0.1	31.6	29.2	74.92	0.1	46.1	43.2
65.02	0.1	32.2	29.8	74.93	0.1	46.0	43.1
65.03	0.1	33.0	30.5	49.37	0.1	16.6	15.5
69.94	0.1	38.0	35.1	49.50	0.1	17.0	15.8
70.05	0.1	38.3	35.4	50.12	22.7	13.7	12.8
74.92	0.1	46.0	42.6	50.12	50.0	10.5	9.81
74.93	0.1	46.2	42.7	50.12	60.0	9.6	8.98
74.97	0.1	44.8	41.4	50.12	75.0	8.53	7.95
79.75	0.1	55.0	50.8	59.95	0.1	26.0	24.7
79.79	0.1	55.3	51.1	60.07	0.1	26.0	24.7
50.09	0.1	18.4	17.0	60.01	25.5	21.5	20.4
50.17	0.1	17.7	16.3	60.02	49.0	17.9	17.0
60.10	0.1	26.9	24.9	60.08	74.5	14.5	13.7
60.12	0.1	26.5	24.5	60.04	75.0	14.5	13.7
75.04	0.1	45.5	42.1	60.05	100.0	11.8	11.2
50.07	0.1	16.5	16.7	60.06	124.0	10.1	9.60
50.10	0.1	16.7	16.5	60.06	124.0	9.95	9.45
59.90	0.1	25.2	25.2	74.84	0.1	46.2	43.2
59.94	0.1	25.1	25.1	74.85	0.1	45.6	42.7
80.00	0.1	16.7	51.6	74.87	0.1	46.1	43.1
80.15	0.1	16.7	51.7	74.85	25.0	37.4	35.0
80.16	0.1	21.4	51.0	74.84	50.0	30.8	28.8
				74.83	51.7	30.7	28.7
				74.84	75.0	25.6	24.0
				74.84	100.0	21.6	20.2

Table S4: Revised Self-diffusion Data: D_S. for [OMIM][BF₄]

		74.82	101.5	21.3	20.0
		74.83	125.0	18.5	17.3
		74.81	150.0	15.7	14.7
		74.83	150.0	15.6	14.6
		74.83	175.0	13.6	12.7
		74.84	199.0	11.7	11.0
		74.82	200.0	11.2	10.5

[BMIM][PF ₆]													
<i>T</i> /K	<i>p</i> /MPa	η/mPa∙s	$f_{++}^{\ \ a}$	<i>f</i>	f+-	$D^{d}_{++}{}^{b}$	<i>D</i> ^d	D^{d}_{+-}	Δ	$r_{++}{}^{c}$	r	<i>r</i> +-	$r_{+-}^{2}/(r_{++}r_{})$
273.15	0.1	1674			-0.064			-0.63				3616	
278.15	0.1	1106			-0.100			-0.97				2373	
283.15	0.1	752			-0.149			-1.45				1622	
288.15	0.1	524			-0.216			-2.09				1147	
293.15	0.1	375			-0.302			-2.91				836	
298.15	0.1	274			-0.411			-3.96				626	
303.15	0.1	204			-0.548			-5.25				479	
313.15	0.1	120	-2.23	-1.60	-0.914	-21.3	-15.3	-8.72	0.355	44.3	141	298	0.070
323.15	0.1	75.2	-3.53	-2.65	-1.43	-33.4	-25.1	-13.5	0.367	27.9	83.8	198	0.059
333.15	0.1	49.7	-5.29	-4.12	-2.12	-49.8	-38.9	-20.0	0.379	18.2	52.2	139	0.049
343.15	0.1	34.5	-7.57	-6.11	-3.00	-70.9	-57.2	-28.1	0.390	12.5	34.1	101	0.041
353.15	0.1	24.9	-10.43	-8.66	-4.11	-97.1	-80.6	-38.2	0.398	9.05	23.3	76.8	0.036
363.15	0.1	18.6	-13.87	-11.82	-5.45	-128.3	-109.4	-50.4	0.404	6.93	16.7	59.8	0.032

Table S5. Velocity Cross-Correlation (f_{ij}) , Distinct Diffusion (D^d_{ij}) and Laity Resistance Coefficients (r_{ij}) and the Nernst-Einstein Deviation Parameter (Δ) for [BMIM][PF₆] at Temperature, *T*, and Pressures, *p*.

<i>T</i> /K	<i>p/</i> MPa	η/mPa∙s	$f_{++}^{\ \ a}$	<i>f</i>	f+-	$D^{d}_{++}{}^{b}$	D^{d}	D^{d}_{+-}	Δ	r_{++}^{c}	r	<i>r</i> ₊₋	$r_{+-}^{2}/(r_{++}r_{})$
298.15	0.1	274			-0.411			-3.96				626	
298.15	12.5	324			-0.349			-3.38				734	
298.15	25.0	386			-0.296			-2.88				861	
298.15	37.5	459			-0.251			-2.46				1009	
298.15	50.0	546			-0.214			-2.10				1182	
298.15	75.0	765			-0.155			-1.53				1617	
298.15	100.0	1063			-0.113			-1.12				2207	
323.15	0.1	75.1	-3.53	-2.63	-1.43	-33.4	-24.9	-13.5	0.366	27.8	85.3	198	0.060
323.15	12.5	86.9	-3.12	-2.26	-1.25	-29.7	-21.5	-11.9	0.364	30.0	101	225	0.060
323.15	25.0	100	-2.76	-1.95	-1.10	-26.4	-18.7	-10.5	0.364	32.4	118	255	0.059
323.15	37.5	116	-2.44	-1.69	-0.96	-23.5	-16.3	-9.29	0.364	34.8	137	289	0.057
323.15	50.0	133	-2.16	-1.48	-0.848	-20.9	-14.3	-8.20	0.365	37.4	157	327	0.055
323.15	75.0	176	-1.70		-0.657	-16.6		-6.41		43.0		419	
323.15	100.0	230	-1.34		-0.511	-13.2		-5.02		48.7		535	
323.15	125.0	299	-1.06		-0.398	-10.5		-3.94		54.5		681	
323.15	150.0	385			-0.312			-3.10				865	
323.15	175.0	493			-0.244			-2.45				1097	
323.15	200.0	626			-0.192			-1.94				1387	

T/K	<i>p</i> /MPa	η/mPa∙s	$f_{++}^{\ a}$	<i>f</i>	f+-	$D^{d}_{++}{}^{b}$	D^{d}	D^{d}_{+-}	Δ	$r_{++}{}^{c}$	r	<i>r</i> +-	$r_{+-}^{2}/(r_{++}r_{})$
343.15	0.1	34.5	-7.58	-6.06	-3.00	-71.0	-56.7	-28.1	0.388	12.4	34.9	101	0.042
343.15	12.5	39.2	-6.77	-5.27	-2.68	-63.8	-49.7	-25.3	0.383	13.8	41.6	113	0.045
343.15	25.0	44.4	-6.05	-4.60	-2.40	-57.4	-43.6	-22.7	0.379	15.3	48.9	125	0.048
343.15	37.5	50.2	-5.41	-4.04	-2.15	-51.6	-38.5	-20.4	0.375	17.1	57.0	139	0.050
343.15	50.0	56.8	-4.85	-3.56	-1.92	-46.4	-34.1	-18.4	0.372	19.1	65.6	155	0.052
343.15	75.0	72.2	-3.89	-2.80	-1.55	-37.6	-27.1	-14.9	0.368	23.8	84.5	191	0.055
343.15	100.0	91.2	-3.13	-2.26	-1.25	-30.5	-22.0	-12.2	0.366	29.8	105	234	0.057
343.15	125.0	115	-2.53	-1.85	-1.01	-24.8	-18.1	-9.93	0.368	37.2	125	287	0.057
343.15	150.0	143	-2.05	-1.55	-0.823	-20.2	-15.3	-8.12	0.372	46.5	144	351	0.054
343.15	175.0	178	-1.67		-0.671	-16.5				57.8		428	
343.15	200.0	219	-1.36		-0.548	-13.5				71.7		522	

	[HMIM][PF ₆]												
<i>T</i> /K	<i>p</i> /MPa	η/mPa∙s	$f_{++}^{\ a}$	<i>f</i>	<i>f</i> +-	$D^{d}_{++}{}^{b}$	D^{d}	D^{d}_{+-}	Δ	$r_{++}{}^{c}$	r	<i>r</i> ₊₋	$r_{+-}^{2}/(r_{++}r_{})$
273.15	0.1	3962			-0.0256			-0.215		10500			
283.15	0.1	1556			-0.0656			-0.548		4270			
293.15	0.1	705			-0.145			-1.21		2010			
298.15	0.1	495			-0.207			-1.71		1440			
303.15	0.1	357			-0.287			-2.37		1060			
313.15	0.1	198			-0.520			-4.27		607			
323.15	0.1	118	-2.49	-2.05	-0.875	-20.3	-16.7	-7.14	0.443	375	30.6	56.3	0.012
333.15	0.1	74.7	-3.93	-3.21	-1.39	-31.9	-26.0	-11.2	0.439	245	21.2	39.2	0.014
343.15	0.1	49.8	-5.85	-4.73	-2.09	-47.2	-38.1	-16.9	0.432	168	16.5	29.9	0.017
353.15	0.1	34.6	-8.31	-6.64	-3.03	-66.6	-53.2	-24.3	0.421	120	13.8	24.4	0.023
363.15	0.1	24.9	-11.3	-8.95	-4.24	-90.3	-71.2	-33.8	0.434	88.9	12.1	20.7	0.032

Table S6. Velocity Cross-Correlation (f_{ij}) , Distinct Diffusion (D^d_{ij}) and Laity Resistance Coefficients (r_{ij}) and the Nernst-Einstein Deviation Parameter (Δ) for [HMIM][PF₆] at Temperature, *T*, and Pressures, *p*.

<i>T</i> /K	<i>p</i> /MPa	η/mPa∙s	f_{++}^{a}	<i>f</i>	f+-	$D^{d}_{++}{}^{b}$	D^{d}	D^{d}_{+-}	Δ	$r_{++}{}^{c}$	r	r ₊₋	$r_{+-}^{2}/(r_{++}r_{})$
298.15	0.1	495			-0.206			-1.71				1440	
298.15	12.5	595			-0.173			-1.44				1710	
298.15	25.0	714			-0.145			-1.21				2040	
298.15	37.5	856			-0.121			-1.02				2420	
298.15	50.0	1024			-0.102			-0.859				2870	
298.15	75.0	1454			-0.0718			-0.612				4030	
298.15	100.0	2045			-0.0510			-0.438				5630	
323.15	0.1	118	-2.49	-2.07	-0.872	-20.3	-16.9	-7.12	0.446	29.7	52.6	376	0.011
323.15	12.5	137	-2.19	-1.84	-0.757	-18.0	-15.1	-6.21	0.453	29.7	52.5	431	0.008
323.15	25.0	160	-1.93	-1.63	-0.657	-15.9	-13.5	-5.42	0.460	28.2	52.0	493	0.006
323.15	37.5	186	-1.70	-1.45	-0.571	-14.1	-12.0	-4.73	0.467	24.7	50.9	565	0.004
323.15	50.0	215			-0.497			-4.14				646	
323.15	75.0	288			-0.378			-3.17				842	
323.15	100.0	382			-0.289			-2.44				1090	
323.15	125.0	503			-0.222			-1.89				1420	
323.15	150.0	657			-0.171			-1.46				1830	
323.15	175.0	851			-0.132			-1.14				2350	
323.15	200.0	1095			-0.103			-0.89				3000	

<i>T</i> /K	<i>p</i> /MPa	η/mPa∙s	$f_{++}{}^{a}$	<i>f</i>	<i>f</i> +-	$D^{d}_{++}{}^{b}$	D^{d}	D^{d}_{+-}	Δ	$r_{++}{}^{c}$	<i>r</i>	r ₊₋	$r_{+-}^{2}/(r_{++}r_{})$
333.15	0.1	74.8	-3.92	-3.20	-1.37	-32.0	-26.1	-11.2	0.443	19.3	37.1	247	0.012
333.15	12.5	86.2	-3.45	-2.86	-1.20	-28.3	-23.5	-9.85	0.447	21.1	38.3	280	0.010
333.15	25.0	99.4	-3.04	-2.55	-1.05	-25.1	-21.1	-8.69	0.452	22.4	39.5	317	0.009
333.15	37.5	114	-2.69	-2.27	-0.926	-22.4	-18.9	-7.68	0.456	23.1	40.7	359	0.007
333.15	50.0	131	-2.39	-2.03	-0.815	-20.0	-16.9	-6.79	0.460	22.9	42.1	406	0.006
333.15	75.0	172			-0.634			-5.33				517	
333.15	100.0	224			-0.495			-4.20				656	
333.15	125.0	290			-0.389			-3.32				831	
333.15	150.0	372			-0.307			-2.63				1050	
333.15	175.0	474			-0.243			-2.09				1320	
333.15	200.0	599			-0.193			-1.67				1650	
343.15	0.1	41.4	-7.00	-5.65	-2.54	-56.3	-45.4	-20.4	0.426	15.2	26.7	141	0.020
343.15	12.5	47.1	-6.18	-5.08	-2.26	-50.0	-41.0	-18.2	0.427	18.1	28.6	158	0.021
343.15	25.0	53.6	-5.47	-4.56	-2.01	-44.5	-37.1	-16.3	0.427	21.1	30.7	176	0.021
343.15	37.5	60.9	-4.86	-4.09	-1.79	-39.7	-33.5	-14.6	0.427	24.3	33.2	197	0.021
343.15	50.0	69.1	-4.33	-3.68	-1.60	-35.6	-30.2	-13.1	0.428	27.6	36.1	219	0.021
343.15	75.0	88.4	-3.47	-2.96	-1.28	-28.8	-24.6	-10.6	0.429	33.9	43.3	271	0.020
343.15	100.0	112	-2.82	-2.39	-1.03	-23.5	-20.0	-8.62	0.431	39.1	53.1	334	0.019

343.15	125.0	142	-2.32	-1.92	-0.832	-19.5	-16.2	-7.01	0.434	41.9	66.5	411	0.017
343.15	150.0	178	-1.93	-1.54	-0.675	-16.3	-13.1	-5.72	0.439	40.3	85.0	503	0.014
343.15	175.0	221			-0.550			-4.69				614	
343.15	200.0	274			-0.450			-3.85				747	

						[OMI	$M][PF_6]$						
<i>T</i> /K	<i>p</i> /MPa	η/mPa∙s	$f_{++}{}^{a}$	<i>f</i>	f+-	$D^{d}_{++}{}^{b}$	D^{d}	D^{d}_{+-}	Δ	$r_{++}{}^{c}$	r	r ₊₋	$r_{+-}^{2}/(r_{++}r_{})$
273.15	0.1	6463			-0.0141			-0.104				21400	
283.15	0.1	2432			-0.0379			-0.278				8290	
288.15	0.1	1578			-0.0586			-0.429				5460	
298.15	0.1	729			-0.128			-0.930				2610	
303.15	0.1	516			-0.182			-1.32				1870	
313.15	0.1	276			-0.342			-2.46				1034	
323.15	0.1	159	-1.75	-1.63	-0.597	-12.6	-11.7	-4.27	0.473	68.3	1.87	615	0.0003
333.15	0.1	97.8	-2.80	-2.69	-0.979	-19.9	-19.1	-6.96	0.468	52.7	-0.24	389	-0.0001
343.15	0.1	63.4	-4.27	-4.18	-1.53	-30.2	-29.5	-10.8	0.464	39.9	0.28	259	0.0002
348.15	0.1	51.9	-5.20	-5.11	-1.87	-36.6	-36.0	-13.2	0.461	34.8	0.75	215	0.0006
353.15	0.1	42.9	-6.27	-6.17	-2.27	-44.0	-43.4	-16.0	0.459	30.4	1.24	180	0.0012
363.15	0.1	30.2	-8.89	-8.75	-3.27	-62.1	-61.1	-22.8	0.454	23.5	2.07	129	0.0029

Table S7. Velocity Cross-Correlation (f_{ij}), Distinct Diffusion (D^{d}_{ij}) and Laity Resistance Coefficients (r_{ij}) and the Nernst-Einstein Deviation Parameter (Δ) for [OMIM][PF₆] at Temperature, *T*, and Pressures, *p*.

<i>T</i> /K	<i>p</i> /MPa	η/mPa∙s	$f_{++}{}^{a}$	<i>f</i>	f+-	$D^{d}_{++}{}^{b}$	D^{d}	D^{d}_{+-}	Δ	r_{++}^{c}	r	r ₊₋	$r_{+-}^{2}/(r_{++}r_{})$
298.15	0.1	731			-0.128			-0.933				2600	
298.15	12.5	878			-0.107			-0.782				3100	
298.15	25.0	1053			-0.0893			-0.656				3700	
298.15	37.5	1260			-0.0747			-0.552				4400	
298.15	50.0	1503			-0.0627			-0.465				5210	
298.15	75.0	2122			-0.0445			-0.333				7280	
298.15	100.0	2963			-0.0320			-0.241				10060	
323.15	0.1	160			-0.597			-4.27				615	
323.15	12.5	186			-0.512			-3.69				712	
323.15	25.0	218			-0.440			-3.19				824	
323.15	37.5	253			-0.379			-2.76				952	
323.15	50.0	295			-0.327			-2.40				1100	
323.15	75.0	395			-0.246			-1.82				1450	
323.15	100.0	524			-0.186			-1.39				1900	
323.15	125.0	690			-0.142			-1.07				2460	
323.15	150.0	899			-0.110			-0.832				3160	
323.15	175.0	1161			-0.0855			-0.652				4030	
323.15	200.0	1485			-0.0672			-0.515				5100	

<i>T</i> /K	<i>p</i> /MPa	η/mPa∙s	$f_{++}{}^{a}$	<i>f</i>	f+-	$D^{d}_{++}{}^{b}$	D^{d}	D^{d}_{+-}	Δ	$r_{++}{}^{c}$	r	r ₊₋	$r_{+-}^{2}/(r_{++}r_{})$
343.15	0.1	63.4	-4.33		-1.52	-30.6		-10.8		36.4		259	
343.15	12.5	72.9	-3.87		-1.33	-27.5		-9.45		35.2		295	
343.15	25.0	83.7	-3.45		-1.16	-24.7		-8.31		33.9		336	
343.15	37.5	95.9	-3.08		-1.02	-22.2		-7.32		32.4		381	
343.15	50.0	110			-0.893			-6.46				432	
343.15	75.0	142			-0.692			-5.07				551	
343.15	100.0	184			-0.542			-4.00				697	
343.15	125.0	234			-0.427			-3.18				876	
343.15	150.0	297			-0.340			-2.55				1090	
343.15	175.0	373			-0.272			-2.06				1350	
343.15	200.0	465			-0.220			-1.68				1660	
353.15	0.1	42.9	-6.38	-6.08	-2.27	-44.8	-42.7	-15.9	0.461	27.0	2.55	180	0.0021
353.15	12.5	48.9	-5.73	-5.36	-1.99	-40.5	-37.9	-14.1	0.466	26.5	2.56	204	0.0016
353.15	25.0	55.8	-5.14	-4.72	-1.75	-36.6	-33.6	-12.5	0.470	26.0	2.96	230	0.0015
353.15	37.5	63.5	-4.61	-4.15	-1.55	-33.0	-29.7	-11.1	0.473	25.4	3.92	259	0.0015
353.15	50.0	72.1	-4.14	-3.64	-1.37	-29.8	-26.2	-9.84	0.474	24.8	5.61	292	0.0016
353.15	75.0	92.5	-3.33	-2.81	-1.07	-24.2	-20.4	-7.83	0.475	24.2	12.2	367	0.0022
353.15	100.0	117.7	-2.67		-0.852	-19.6		-6.27		25.1		458	

353.15	125.0	148.5	-2.14	-0.681	-15.9	-5.05	29.1	568	
353.15	150.0	185.9		-0.548		-4.10		700	
353.15	175.0	230.8		-0.445		-3.36		855	
353.15	200.0	284.4		-0.363		-2.77		1038	

						[BMI]	M][BF ₄]						
<i>T/</i> K	<i>p</i> /MPa	η/mPa∙s	f_{++}^{a}	<i>f</i>	<i>f</i> +-	$D^{d}_{++}{}^{b}$	D^{d}	D^{d}_{+-}	Δ	$r_{++}{}^{c}$	r	r ₊₋	$r_{+-}^{2}/(r_{++}r_{})$
273.15	0.1	543			-0.150			-1.62				1320	
283.15	0.1	263			-0.313			-3.35				664	
288.15	0.1	191			-0.429			-4.59				494	
298.15	0.1	109	-2.47	-1.45	-0.750	-26.3	-15.4	-7.98	0.433	23.3	57.4	294	0.015
303.15	0.1	84.3	-3.08	-1.82	-0.960	-32.7	-19.3	-10.2	0.423	24.2	48.8	234	0.022
313.15	0.1	53.4	-4.64	-2.79	-1.49	-48.9	-29.4	-15.7	0.413	20.8	34.0	157	0.029
323.15	0.1	35.8	-6.74	-4.15	-2.19	-70.6	-43.5	-23.0	0.412	15.9	23.2	111	0.030
333.15	0.1	25.2	-9.48	-5.99	-3.08	-98.7	-62.3	-32.1	0.417	11.6	15.6	81.7	0.027
343.15	0.1	18.4	-12.9	-8.40	-4.16	-134	-86.9	-43.1	0.425	8.27	10.5	62.7	0.022
348.15	0.1	15.9	-15.0	-9.85	-4.78	-155	-102	-49.3	0.431	6.91	8.53	55.5	0.019
353.15	0.1	13.9	-17.2	-11.5	-5.45	-177	-118	-56.1	0.436	5.75	6.91	49.5	0.016
363.15	0.1	10.8	-22.5	-15.3	-6.95	-230	-157	-71.1	0.448	3.89	4.44	40.2	0.011

Table S8. Velocity Cross-Correlation (f_{ij}), Distinct Diffusion (D^{d}_{ij}) and Laity Resistance Coefficients (r_{ij}) and the Nernst-Einstein Deviation Parameter (Δ) for [BMIM][BF₄] at Temperature, *T*, and Pressures, *p*.

<i>T</i> /K	<i>p</i> /MPa	η/mPa∙s	$f_{++}{}^{a}$	<i>f</i>	<i>f</i> +-	$D^{d}_{++}{}^{b}$	D^{d}	D^{d}_{+-}	Δ	$r_{++}{}^{c}$	<i>r</i>	r ₊₋	$r_{+-}^{2}/(r_{++}r_{})$
298.15	0.1	108	-2.48		-0.753	-26.3		-8.01		23.7		293	
298.15	12.5	124	-2.20		-0.665	-23.5		-7.11		25.0		330	
298.15	25.0	141	-1.95		-0.588	-21.0		-6.31		26.5		372	
298.15	37.5	161	-1.74		-0.520	-18.7		-5.60		28.1		418	
298.15	50.0	183	-1.55		-0.461	-16.7		-4.99		30.0		471	
298.15	75.0	237			-0.363			-3.96				593	
298.15	100.0	305			-0.287			-3.15				744	
298.15	125.0	390			-0.228			-2.52				931	
298.15	150.0	497			-0.182			-2.02				1160	
298.15	175.0	629			-0.146			-1.63				1440	
298.15	200.0	794			-0.117			-1.32				1780	
323.15	0.1	35.8	-6.73	-4.14	-2.20	-70.5	-43.3	-23.0	0.410	16.4	23.6	110	0.032
323.15	12.5	39.9	-6.09	-3.75	-2.01	-64.1	-39.5	-21.1	0.407	18.7	26.2	120	0.034
323.15	25.0	44.4	-5.52	-3.40	-1.83	-58.4	-35.9	-19.4	0.404	21.3	29.1	131	0.036
323.15	37.5	49.5	-5.01	-3.08	-1.67	-53.2	-32.7	-17.8	0.401	24.2	32.5	143	0.038
323.15	50.0	55.0	-4.54	-2.79	-1.53	-48.5	-29.8	-16.3	0.399	27.3	36.2	156	0.041
323.15	75.0	67.8	-3.75	-2.29	-1.28	-40.4	-24.6	-13.7	0.393	34.4	45.1	185	0.045
323.15	100.0	83.2	-3.11	-1.88	-1.067	-33.7	-20.4	-11.6	0.388	42.8	56.4	220	0.050

<i>T</i> /K	<i>p</i> /MPa	η/mPa∙s	$f_{++}{}^{a}$	<i>f</i>	<i>f</i> +-	$D^{d}_{++}{}^{b}$	D^{d}	D^{d}_{+-}	Δ	r_{++}^{c}	r	r ₊₋	$r_{+-}^{2}/(r_{++}r_{})$
323.15	125.0	101.8	-2.59		-0.894	-28.2		-9.75		52.5		261	
323.15	150.0	123.9	-2.16		-0.750	-23.7		-8.23		63.7		309	
323.15	175.0	150.2	-1.81		-0.630	-20.0		-6.96		76.2		365	
323.15	200.0	181.4	-1.52		-0.529	-16.9		-5.88		90.2		432	
348.15	0.1	16.1	-15.0	-10.0	-4.71	-154.8	-103	-48.6	0.440	6.16	7.44	56.4	0.014
348.15	12.5	17.6	-13.8	-9.31	-4.33	-143.2	-96.6	-44.9	0.441	6.69	7.68	61.0	0.014
348.15	25.0	19.3	-12.7	-8.64	-3.99	-132.4	-90.1	-41.6	0.442	7.28	7.97	65.9	0.013
348.15	37.5	21.1	-11.7	-8.01	-3.67	-122.4	-84.0	-38.5	0.443	7.93	8.31	71.1	0.013
348.15	50.0	23.0	-10.8	-7.43	-3.39	-113.3	-78.2	-35.7	0.443	8.65	8.72	76.8	0.013
348.15	75.0	27.4	-9.16	-6.38	-2.89	-97.3	-67.8	-30.7	0.444	10.3	9.79	89.1	0.013
348.15	100.0	32.5	-7.81	-5.47	-2.48	-83.6	-58.6	-26.5	0.443	12.3	11.3	103	0.013
348.15	125.0	38.5	-6.68	-4.68	-2.13	-72.1	-50.5	-23.0	0.441	14.8	13.4	119	0.014
348.15	150.0	45.3	-5.73	-4.00	-1.84	-62.3	-43.5	-20.0	0.438	17.7	16.2	137	0.015
348.15	175.0	53.2	-4.93	-3.41	-1.59	-53.9	-37.3	-17.4	0.434	21.3	20.1	158	0.017
348.15	200.0	62.3	-4.26		-1.38	-46.8		-15.2	0.440	25.4		180	0.014

						LTTV/T							
							wij[BF4]						
<i>T</i> /K	<i>p</i> /MPa	η/mPa∙s	$f_{++}{}^{a}$	<i>f</i>	f+-	$D^{d}_{++}{}^{b}$	<i>D</i> ^d	D^{d}_{+-}	Δ	$r_{++}{}^{c}$	<i>r</i>	<i>r</i> ₊₋	$r_{+-}^{2}/(r_{++}r_{})$
273.15	0.1	1409			-0.0556			-0.509				4020	
283.15	0.1	594			-0.128			-1.16				1820	
293.15	0.1	289			-0.258			-2.34				938	
298.15	0.1	211			-0.353			-3.18				700	
303.15	0.1	158			-0.472			-4.24				535	
313.15	0.1	94.0	-2.60		-0.795	-23.3		-7.11		56.7	5.64	330	
323.15	0.1	60.0	-4.30	-3.02	-1.26	-38.2	-26.9	-11.2	0.463	27.7	4.49	216	0.0033
333.15	0.1	40.5	-6.65	-4.50	-1.88	-58.7	-39.8	-16.6	0.468	14.8	3.82	150	0.0030
343.15	0.1	28.7	-9.74	-6.40	-2.71	-85.4	-56.2	-23.7	0.471	8.63	3.39	108	0.0028
353.15	0.1	21.1	-13.6	-8.76	-3.74	-119	-76.4	-32.7	0.472	5.58	3.10	80.9	0.0029
363.15	0.1	16.1	-18.4	-11.6	-5.02	-159	-101	-43.6	0.472	3.99	5.64	62.4	0.0032

Table S9. Velocity Cross-Correlation (f_{ij}) , Distinct Diffusion (D^d_{ij}) and Laity Resistance Coefficients (r_{ij}) and the Nernst-Einstein Deviation

Parameter (Δ) for [HMIM][BF₄] at Temperature, *T*, and *p* = 0.1 MPa.

						[OMI	M][BF ₄]						
<i>T</i> /K	<i>p</i> /MPa	η/mPa∙s	$f_{++}{}^{a}$	<i>f</i>	<i>f</i> +-	$D^{d}_{++}{}^{b}$	D^{d}	D^{d}_{+-}	Δ	r_{++}^{c}	r	r ₊₋	$r_{+-}^{2}/(r_{++}r_{})$
273.15	0.1	2302			-0.0313			-0.249				7780	
283.15	0.1	979			-0.0746			-0.590				3400	
288.15	0.1	671			-0.110			-0.862				2370	
298.15	0.1	340			-0.217			-1.70				1240	
303.15	0.1	251			-0.295			-2.30				934	
313.15	0.1	145			-0.513			-3.98				558	
323.15	0.1	89.0	-3.17	-2.29	-0.836	-24.4	-17.6	-6.44	0.491	38.3	-20.7	356	-0.0063
333.15	0.1	57.8	-4.82	-3.55	-1.29	-36.9	-27.2	-9.87	0.489	29.3	-14.8	239	-0.0076
343.15	0.1	39.3	-7.07	-5.25	-1.90	-53.8	-39.9	-14.5	0.488	21.5	-10.6	168	-0.0081
348.15	0.1	32.9	-8.45	-6.28	-2.27	-64.1	-47.6	-17.3	0.488	18.3	-9.05	143	-0.0081
353.15	0.1	27.8	-10.0	-7.45	-2.70	-75.9	-56.3	-20.4	0.488	15.5	-7.72	123	-0.0080
363.15	0.1	20.4	-13.9	-10.2	-3.71	-104	-76.6	-27.9	0.489	11.1	-5.64	92.3	-0.0074

Table S10. Velocity Cross-Correlation (f_{ij}), Distinct Diffusion (D^{d}_{ij}) and Laity Resistance Coefficients (r_{ij}) and the Nernst-Einstein Deviation Parameter (Δ) for [OMIM][BF₄] at Temperature, *T*, and Pressures, *p*.

<i>T</i> /K	<i>p</i> /MPa	η/mPa∙s	$f_{++}{}^{a}$	<i>f</i>	f+-	$D^{d}_{++}{}^{b}$	D^{d}	D^{d}_{+-}	Δ	$r_{++}{}^{c}$	r	r ₊₋	$r_{+-}^{2}/(r_{++}r_{})$
298.15	0.1	341			-0.217			-1.70				1240	
298.15	12.5	398			-0.186			-1.46				1440	
298.15	25.0	465			-0.160			-1.26				1670	
298.15	37.5	542			-0.137			-1.09				1930	
298.15	50.0	630			-0.118			-0.946				2230	
298.15	75.0	846			-0.0886			-0.714				2960	
298.15	100.0	1125			-0.0668			-0.543				3890	
298.15	125.0	1483			-0.0508			-0.416				5080	
298.15	150.0	1936			-0.0390			-0.321				6590	
298.15	175.0	2505			-0.0301			-0.249				8480	
298.15	200.0	3211			-0.0234			-0.195				10850	
333.15	0.1	57.8	-4.79	-3.54	-1.27	-36.9	-27.3	-9.80	0.492	27.7	-16.3	241	-0.0078
333.15	12.5	65.3	-4.31	-3.17	-1.13	-33.4	-24.6	-8.76	0.496	27.6	-19.4	269	-0.0074
333.15	25.0	73.8	-3.87	-2.84	-1.00	-30.2	-22.2	-7.84	0.500	27.8	-23.0	301	-0.0071
333.15	37.5	83.2	-3.48	-2.56	-0.894	-27.3	-20.1	-7.03	0.503	28.2	-27.2	336	-0.0068
333.15	50.0	93.6	-3.12	-2.30	-0.799	-24.7	-18.2	-6.31	0.505	29.0	-32.1	374	-0.0067
333.15	75.0	118		-1.89	-0.641		-15.0	-5.11			-44.3	462	
333.15	100.0	147			-0.518			-4.17			-60.7	566	

<i>T</i> /K	<i>p</i> /MPa	η/mPa∙s	$f_{++}{}^{a}$	<i>f</i>	f+-	$D^{d}_{++}{}^{b}$	D^{d}	D^{d}_{+-}	Δ	$r_{++}{}^{c}$	r	r ₊₋	$r_{+-}^{2}/(r_{++}r_{})$
333.15	125.0	183			-0.422			-3.42			-82.7	691	
333.15	150.0	225			-0.346			-2.82				837	
333.15	175.0	275			-0.286			-2.34				1010	
333.15	200.0	334			-0.237			-1.95				1210	
348.15	0.1	32.9	-8.45	-6.30	-2.27	-64.1	-47.8	-17.2	0.489	18.3	-9.35	143	-0.0083
348.15	12.5	36.8	-7.63	-5.67	-2.04	-58.3	-43.4	-15.6	0.491	19.0	-10.8	158	-0.0081
348.15	25.0	41.1	-6.89	-5.12	-1.83	-53.1	-39.4	-14.1	0.493	20.0	-12.3	175	-0.0080
348.15	37.5	45.9	-6.23	-4.63	-1.65	-48.3	-35.9	-12.8	0.495	21.4	-14.1	193	-0.0081
348.15	50.0	51.1	-5.63	-4.20	-1.49	-43.9	-32.7	-11.6	0.496	23.2	-16.1	213	-0.0082
348.15	75.0	63.0	-4.61	-3.48	-1.22	-36.3	-27.4	-9.59	0.497	28.5	-20.8	257	-0.0089
348.15	100.0	77.3	-3.77	-2.91	-1.01	-30.0	-23.1	-7.99	0.497	36.9	-26.9	309	-0.010
348.15	125.0	94.1	-3.09	-2.46	-0.837	-24.7	-19.7	-6.70	0.496	49.8	-34.8	368	-0.013
348.15	150.0	113.7	-2.53	-2.09	-0.701	-20.4	-16.8	-5.64	0.495	68.8	-45.1	437	-0.016
348.15	175.0	136.5		-1.80	-0.591		-14.6	-4.78			-58.5	516	
348.15	200.0	162.8		-1.56	-0.501		-12.7	-4.07			-75.8	605	