Supporting Information (Section 2)

for

Do TFSA Anions Slither?

Pressure Exposes the Role of TFSA Conformational Exchange in Self-Diffusion

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Contents

Table S22. Activation volumes from reported ionic self-diffusion coefficients and viscosities

IL / Reference for diffusion	Temperature °C	$\Delta V^{\ddagger}$(D+) cm^3/mol or molec. vols.	error_$\Delta V^{\ddagger}$(D+) cm^3/mol	$\Delta V^{\ddagger}$(D-) cm^3/mol or molec. vols.	error_$\Delta V^{\ddagger}$(D-) cm^3/mol	$\Delta V^{\ddagger}$(fluidity) cm^3/mol	Reference for fluidity or molec. vols.
		Blue = molecular volumes from Ref. 13					
EMIM TFSA		70.2		95.6			Ref. 13
This work	22	14.6	1.3	28.8	2.5		
	25					26.2 ± 0.7 (25)	Ref. 4
	50					25.7 ± 0.3 (50)	Ref. 4
	70					20.5 ± 0.1 (70)	Ref. 4
BMIM TFSA		90.6		95.6			Ref. 13
This work	22	19.2	1.4	22.6	2.7		
	25					27.7 ± 0.2 (25)	Ref. 5
	50					23.7 ± 0.2 (50)	Ref. 5
	75					21.0 ± 0.3 (75)	Ref. 5
EMIM FSA		70.2		65.0			Ref. 13
This work	22	12.9	0.9	11.0	1.5		
EMIM BF_4		70.2		30.4			Ref. 13
	20					24.7 ± 1.0 (20)	Ref. 6
This work	22	14.0	1.0	15.3	1.4		
	30					23.3 ± 0.9 (30)	Ref. 6
BMIM BF_4		90.6		30.4			Ref. 13
						25.6 ± 0.9 (20)	Ref. 6
Ref. 1	25	22.0	0.4	N/A	N/A	25.0 ± 0.1 (25)	Ref. 7
Ref. 1	50	19.0	0.2	18.9	0.7	21.4 ± 0.2 (50)	Ref. 7
Ref. 1	75	16.8	0.1	17.0	0.4	19.0 ± 0.2 (75)	Ref. 7
HMIM BF_4		111.1		30.4			Ref. 13
	22					32.6 ± 1.2 (22)	Ref. 6
	25					29.5 ± 0.6 (25)	Ref. 4
	50					23.2 ± 0.2 (50)	Ref. 4
	70					21.0 ± 0.2 (70)	Ref. 4
OMIM BF_4		131.6		30.4			Ref. 13
	20					31.3 ± 0.9 (20)	Ref. 6
	25					29.2 ± 0.2 (25)	Ref. 8
Ref. 1	50	25.3	0.8	24.7	0.4	25.5 ± 0.2 (50)	Ref. 8
Ref. 1	60	23.8	0.6	21.5	0.2	24.5 ± 0.3 (60)	Ref. 8
Ref. 1	75	21.8	0.2	20.1	0.3	23.3 ± 0.2 (75)	Ref. 8
BMIM PF_6		90.6		44.7			Ref. 13
	25					33.2 ± 0.9 (25)	Ref. 4
	25					32.6 ± 0.2 (25)	Ref. 9
Ref. 2	50	26.4	0.4	24.6	1.2	28.3 ± 0.2 (50)	Ref. 9
Ref. 2	70	23.6	0.2	24.3	0.3	26.7 ± 0.2 (70)	Ref. 9
HMIM PF_6		111.1		44.7			Ref. 13
	25					35.4 ± 0.2 (25)	Ref. 5
	25					35.9 ± 0.7 (25)	Ref. 4
	50					29.2 ± 0.3 (50)	Ref. 4
Ref. 1	50	25.0	1.1	27.6	0.4	31.0 ± 0.5 (50)	Ref. 5
Ref. 1	60	25.4	0.5	24.9	1.0	29.1 ± 0.3 (60)	Ref. 5
	70					27.2 ± 0.3 (70)	Ref. 4
Ref. 1	75	23.8	0.4	24.6	0.2	27.0 ± 0.4 (75)	Ref. 5
OMIM PF_6		131.6		44.7			Ref. 13
	20					37.0 ± 0.9 (20)	Ref. 10
	25					35.5 ± 0.3 (25)	Ref. 8
	35					34.0 ± 0.3 (35)	Ref. 8
	40					33.8 ± 0.8 (40)	Ref. 10
	60					32.8 ± 1.1 (60)	Ref. 10
	60					30.7 ± 0.3 (60)	Ref. 8
Ref. 1	70	26.9	0.8	N/A	N/A	28.8 ± 0.4 (70)	Ref. 8

Ref. 1	75	26.0	0.4	31.1	2.2		
Ref. 1	80	24.8	0.6	29.1	1.2	33.9 ± 0.7 (80)	Ref. 10
BMpyrr TFSA		101.8		95.6			Ref. 13
	25					31.4 ± 0.2 (25)	Ref. 3
Ref. 3	30	30.5	0.3	27.4	0.5		
	40					28.8 ± 0.3 (40)	Ref. 11
Ref. 3	50	26.0	0.2	25.9	0.3	28.6 ± 0.2 (50)	Ref. 3
Ref. 3	65	24.6	0.2	23.8	0.2		
	70					26.3 ± 0.1 (70)	Ref. 11
Ref. 3	75	23.0	0.1	22.6	0.2	27.3 ± 0.2 (75)	Ref. 3
	90					25.0 ± 0.4 (90)	Ref. 11
(EOM)Mpyrr TFSA		95.3		95.6			Ref. 13
	40					27.0 ± 0.3 (40)	Ref. 11
	70					24.2 ± 0.2 (70)	Ref. 11
	90					23.7 ± 0.3 (90)	Ref. 11
BMMIM TFSA		–		95.6			Ref. 13
	40					29.7 ± 0.3 (40)	Ref. 12
	70					26.3 ± 0.2 (70)	Ref. 12
	90					24.7 ± 0.5 (90)	Ref. 12
HMIM TFSA		111.1		95.6			Ref. 13
	25					27.7 ± 0.2 (25)	Ref. 4
	50					25.7 ± 0.3 (50)	Ref. 4
	70					23.8 ± 0.2 (70)	Ref. 4
C_{10}MIM TFSA		152.1		95.6			Ref. 13
	25					29.8 ± 0.4 (25)	Ref. 4
	50					27.0 ± 0.4 (50)	Ref. 4
	70					27.1 ± 0.3 (70)	Ref. 4
EMIM $EtSO_4$		70.2		58.1			Ref. 13
	40					19.4 ± 0.1 (40)	Ref. 11
BMMIM FAP		–		136.5			
	40					46.0 ± 0.2 (40)	Ref. 12
	70					39.4 ± 0.1 (70)	Ref. 12
(EOM)Mpyrr FAP		95.3		136.5			Ref. 13
	40					42.4 ± 0.2 (40)	Ref. 12
	70					37.4 ± 0.1 (70)	Ref. 12
	90					32.7 ± 0.8 (90)	Ref. 12

Reference list for Spreadsheet of Activation Volumes

(1) Harris, K. R.; Kanakubo, M.; Tsuchihashi, N.; Ibuki, K.; Ueno, M., Effect of pressure on the transport properties of ionic liquids: 1-alkyl-3-methylimidazolium salts. *J. Phys. Chem. B* **2008,** *112*, 9830-9840. http://dx.doi.org/10.1021/jp8021375

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(8) Harris, K. R.; Kanakubo, M.; Woolf, L. A., Temperature and pressure dependence of the viscosity of the ionic liquids 1-methyl-3-octylimidazolium hexafluorophosphate and 1-methyl-3-octylimidazolium tetrafluoroborate. *J. Chem. Eng. Data* **2006,** *51*, 1161-1167. http://dx.doi.org/10.1021/je060082s

(9) Harris, K. R.; Woolf, L. A.; Kanakubo, M., Temperature and pressure dependence of the viscosity of the ionic liquid 1-butyl-3-methylimidazolium hexaftuorophosphate. *J. Chem. Eng. Data* **2005,** *50*, 1777-1782. http://dx.doi.org/10.1021/je050147b

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(11) Gacino, F. M.; Paredes, X.; Comunas, M. J. P.; Fernandez, J., Effect of the pressure on the viscosities of ionic liquids: Experimental values for 1-ethyl-3-methylimidazolium ethylsulfate and two bis(trifluoromethyl-sulfonyl)imide salts. *J. Chem. Thermodyn.* **2012,** *54*, 302-309. http://dx.doi.org/10.1016/j.jct.2012.05.007

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Directory of fitted activation volume data

Glossary of chemical nomenclature for fitted data

Due to the sheer number of entries and data sets, some designations in the supporting information are different than those used in the manuscript.

BMIM = 1-butyl-3-methylimidazolium cation
BMMIM = 1-butyl-2-methyl-3-methylimidazolium cation
BMpyrr = P_{14} = 1-butyl-1-methylpyrrolidinium cation
C10MIM = 1-decyl-3-methylimidazolium cation
EMIM = 1-ethyl-3-methylimidazolium cation
(EOM)Mpyrr = 1-butyl-1-methoxyethylpyrrolidinium cation
HMIM = 1-hexyl-3-methylimidazolium cation
OMIM = 1-methyl-3-octylimidazolium cation

BF_4 = tetrafluoroborate anion
$EtSO_4$ = ethylsulfate anion
FAP = tris(pentafluoroethyl)trifluorophosphate anion
FSA = bis(fluorosulfonyl)amide anion
PF_6 = hexafluorophosphate anion
TFSA = NTf_2 = bis(trifluoromethylsulfonyl)amide anion

Plots of ionic self-diffusion constants versus pressure (counter-ion in parentheses)

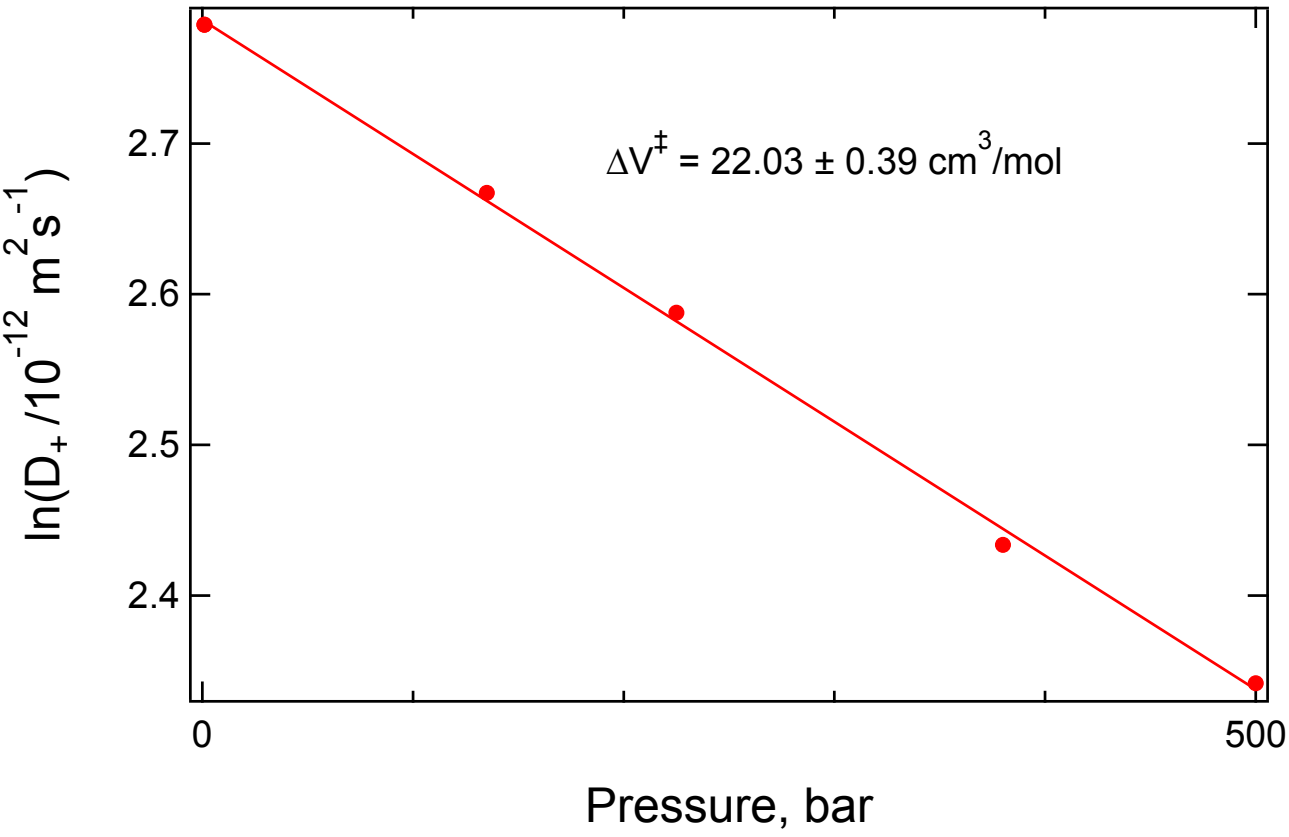
Cations

Anions

Plots of ln(fluidity) (inverse viscosity) versus pressure

$\ln(D_+)$ vs. Pressure Plot for BMIM diffusion in BMIM BF_4 at 25 °C

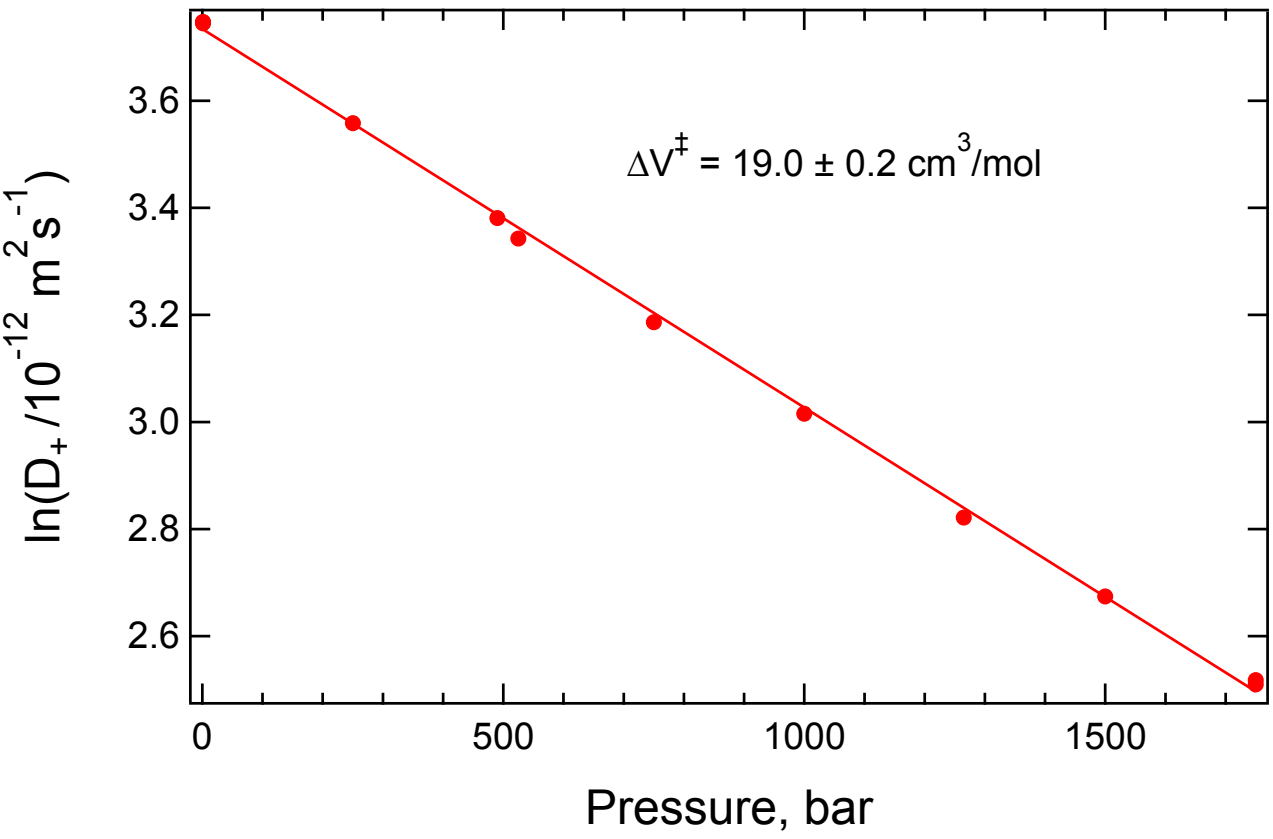
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	16.1	2.779
1	1	16.1	2.779
2	135	14.4	2.667
3	225	13.3	2.588
4	380	11.4	2.434
5	500	10.4	2.342

$\ln(D_+)$ vs. Pressure Plot for BMIM diffusion in BMIM BF_4 at 50 °C

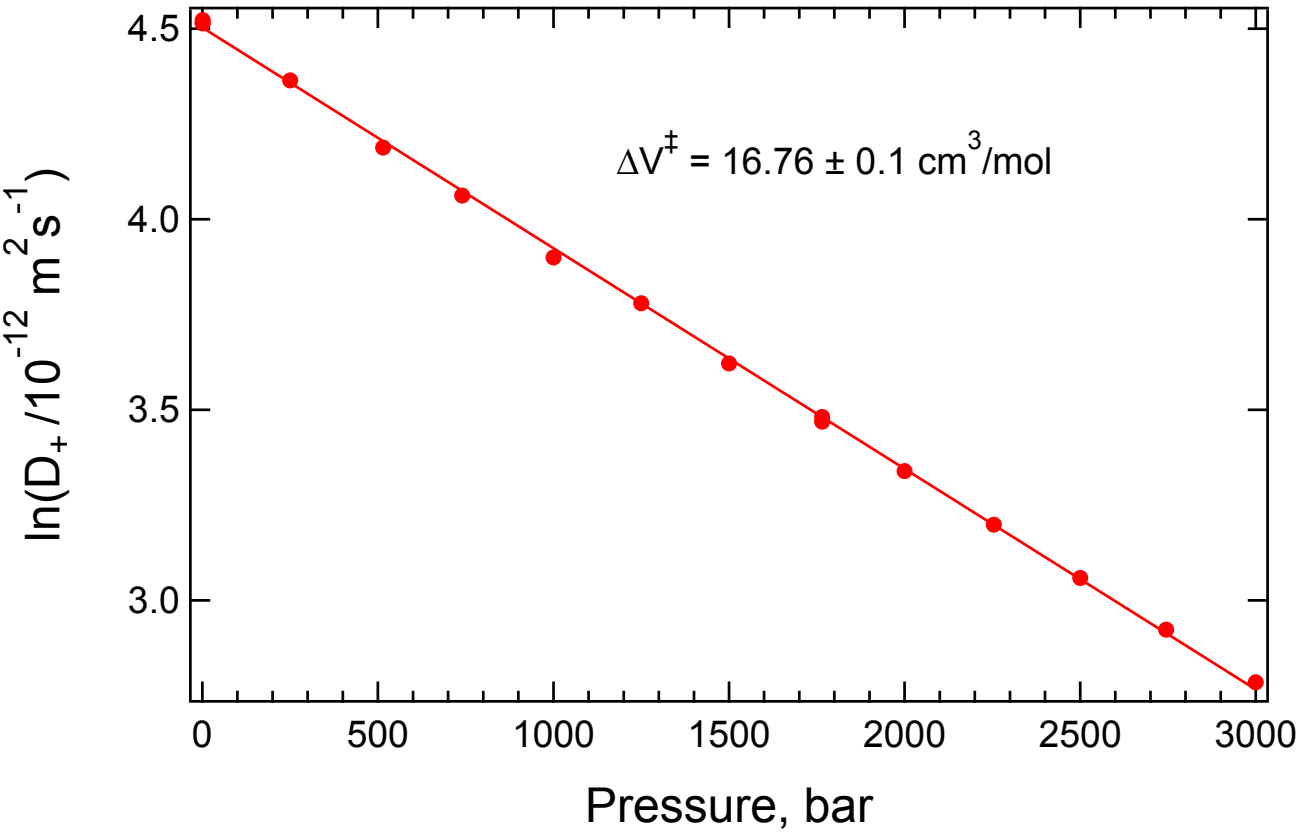
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	42.3	3.745
1	1	42.4	3.747
2	1	42.4	3.747
3	250	35.1	3.558
4	490	29.4	3.381
5	525	28.3	3.343
6	750	24.2	3.186
7	1000	20.4	3.016
8	1265	16.8	2.821
9	1500	14.5	2.674
10	1750	12.4	2.518
11	1750	12.3	2.510

$\ln(D_+)$ vs. Pressure Plot for BMIM diffusion in BMIM BF_4 at 75 °C

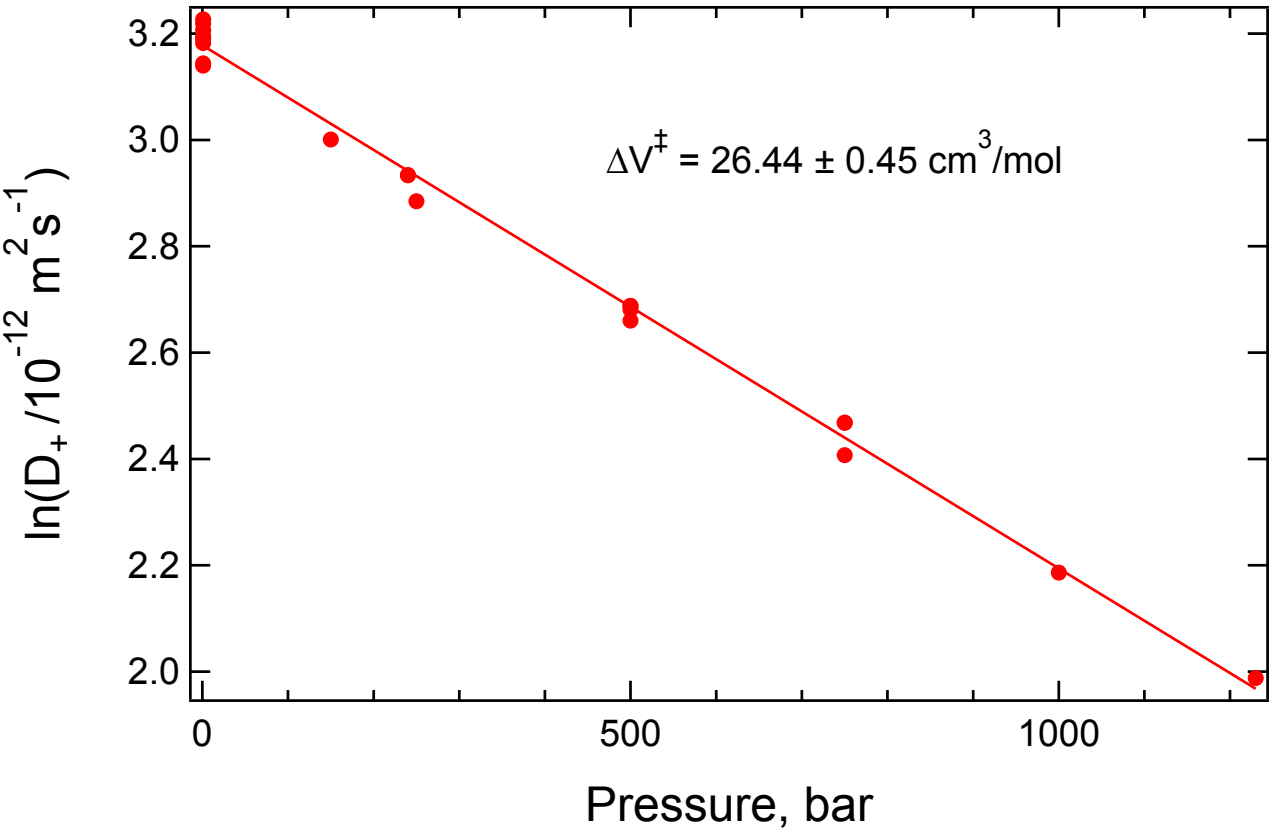
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	91.4	4.515
1	1	91.3	4.514
2	1	92.1	4.523
3	250	78.6	4.364
4	515	65.9	4.188
5	740	58.1	4.062
6	1000	49.4	3.900
7	1250	43.8	3.780
8	1500	37.4	3.622
9	1765	32.1	3.469
10	1765	32.5	3.481
11	2000	28.2	3.339
12	2254	24.5	3.199
13	2500	21.3	3.059
14	2745	18.6	2.923
15	3000	16.2	2.785

$\ln(D_+)$ vs. Pressure Plot for BMIM diffusion in BMIM PF_6 at 50 °C

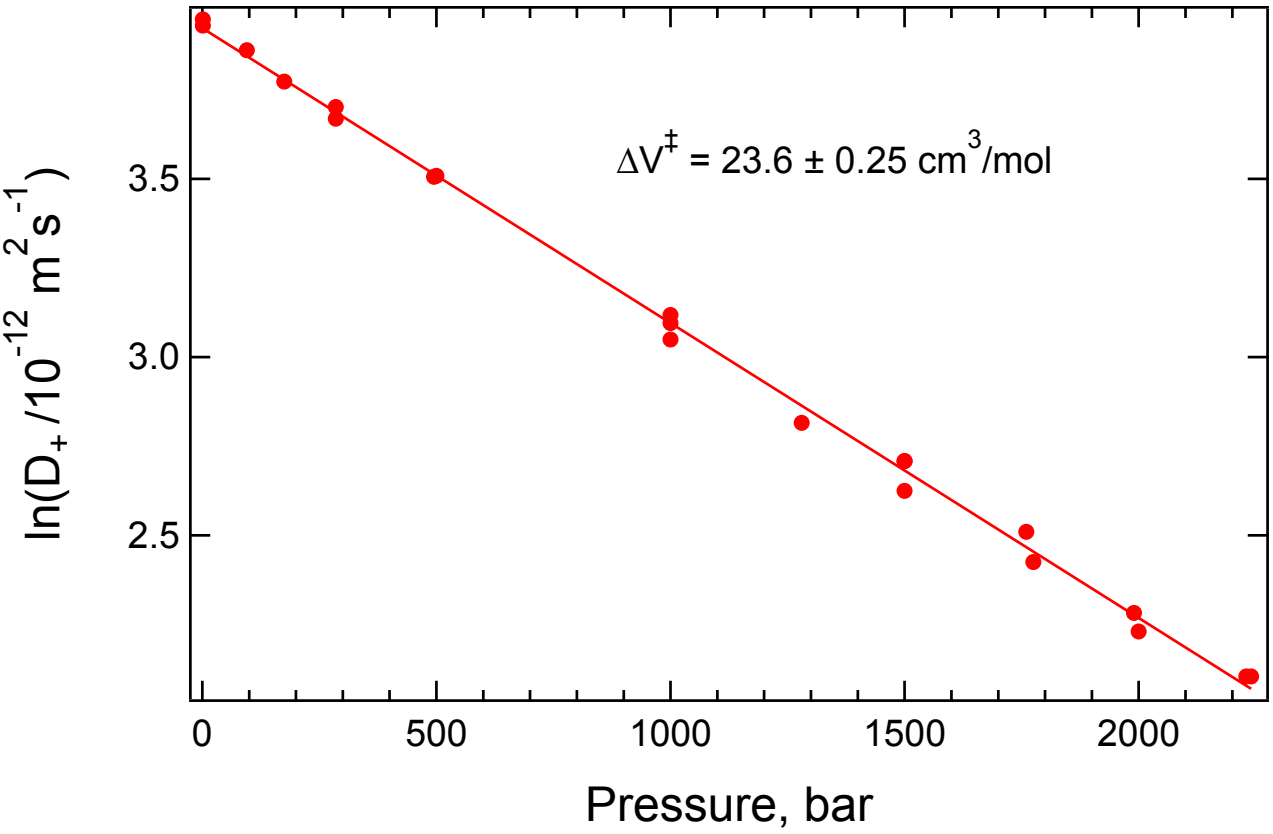
Data from Kanakubo et al. 10.1021/jp063278k



Point	Pressure	D (10^-12 m2/s)	ln(D)	
0	1	24.1	3.182	
1	1	24.4	3.195	
2	1	24.7	3.207	
3	1	23.2	3.144	
4	1	23.1	3.140	
5	1	24.3	3.190	
6	1	25.0	3.219	
7	1	25.2	3.227	
8	150	20.1	3.001	
9	240	18.8	2.934	
10	240	18.8	2.934	
11	250	17.9	2.885	
12	500	14.3	2.660	
13	500	14.7	2.688	
14	500	14.6	2.681	
15	500	14.7	2.688	
16	750	11.1	2.407	
17	750	11.8	2.468	
18	750	11.8	2.468	
19	1000	8.9	2.186	
20	1230	7.3	1.988	

$\ln(D_+)$ vs. Pressure Plot for BMIM diffusion in BMIM PF_6 at 70 °C

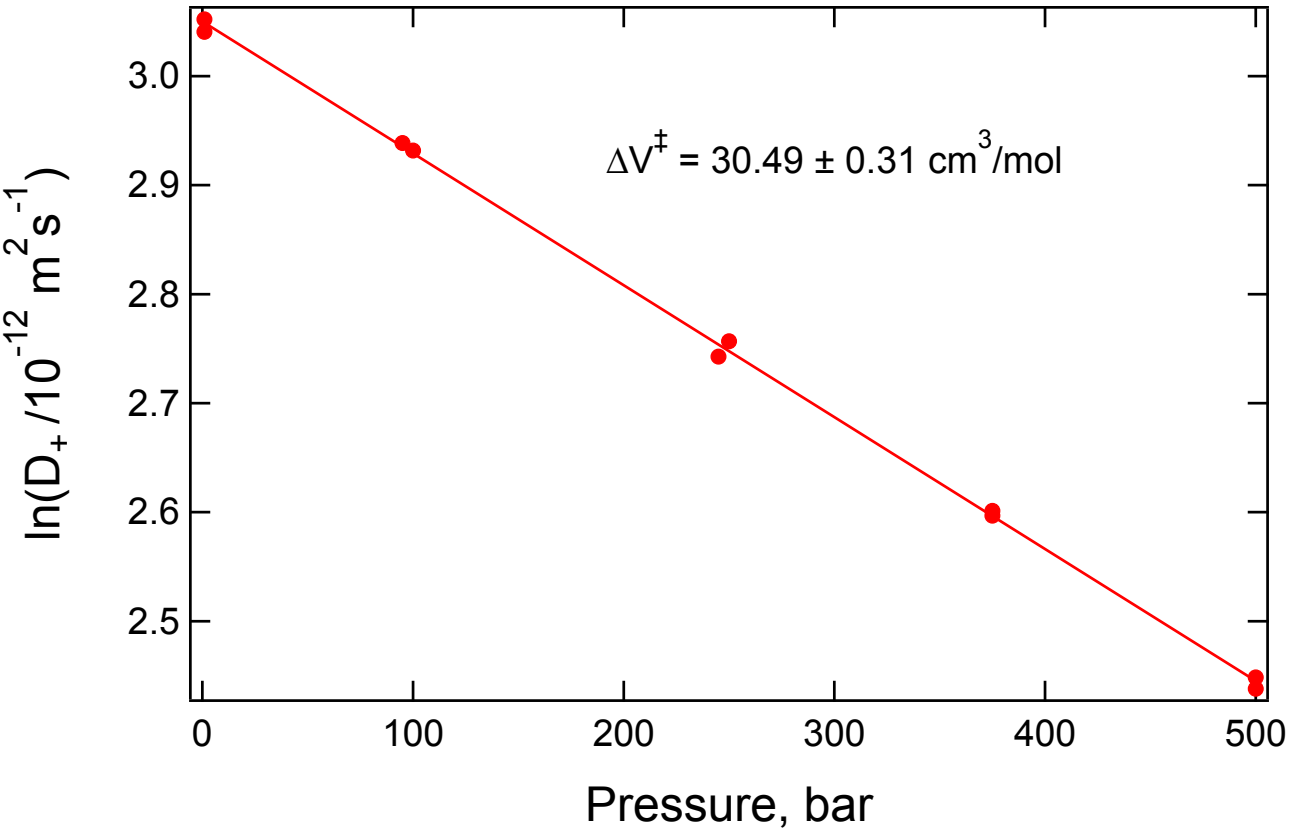
Data from Kanakubo et al. 10.1021/jp063278k



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1280	16.7	2.815
1	2230	8.2	2.104
2	95	47.5	3.861
3	1000	21.1	3.049
4	1500	13.8	2.625
5	1775	11.3	2.425
6	1990	9.8	2.282
7	2000	9.3	2.230
8	175	43.5	3.773
9	1	50.9	3.930
10	285	39.2	3.669
11	285	40.5	3.701
12	1	51.8	3.947
13	495	33.3	3.506
14	500	33.4	3.509
15	1000	22.6	3.118
16	1000	22.1	3.096
17	1500	15.0	2.708
18	1500	15.0	2.708
19	1760	12.3	2.510
20	2240	8.2	2.104

$\ln(D_+)$ vs. Pressure Plot for BMpyrr diffusion in BMpyrr TFSA at 30 °C

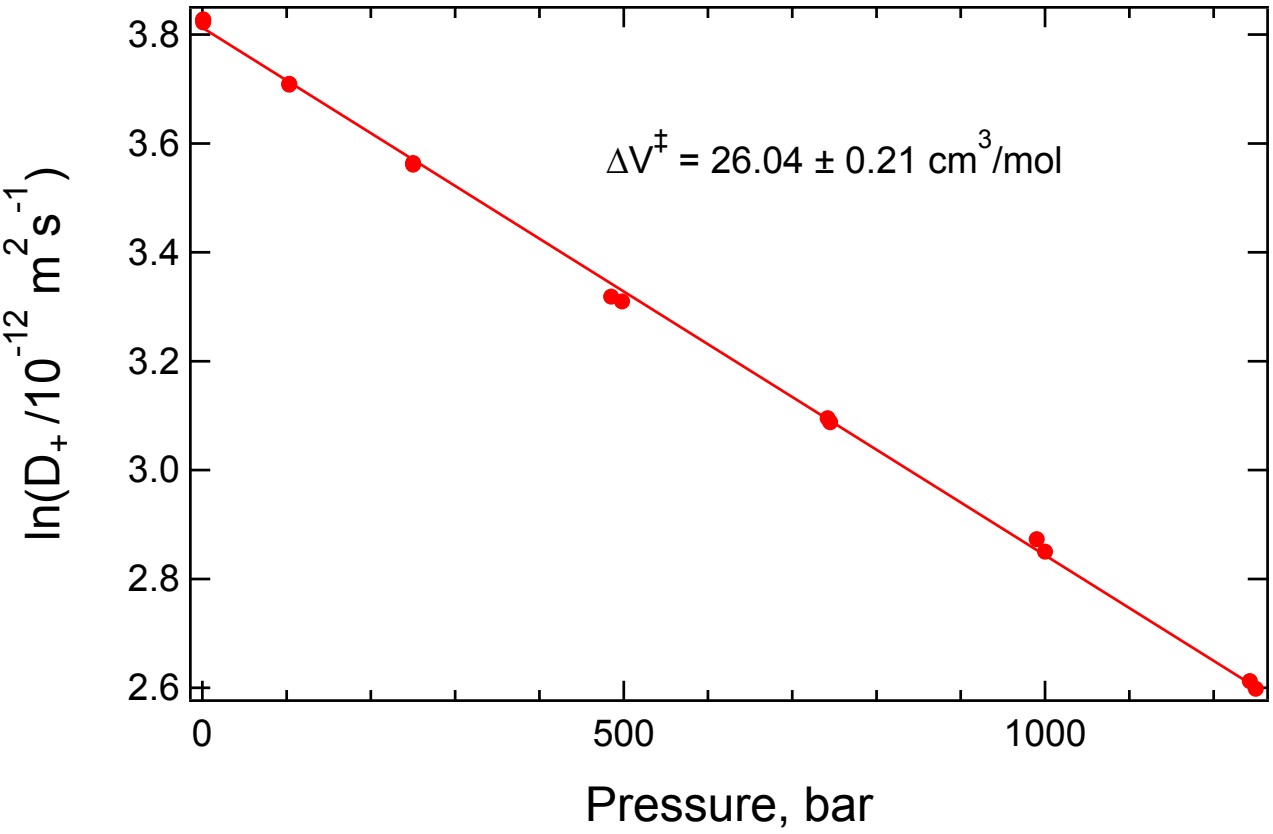
Data from Harris et al. 10.1021/je2006049



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	20.9	3.041
1	1	21.2	3.052
2	95	18.9	2.939
3	100	18.8	2.932
4	245	15.5	2.743
5	250	15.8	2.757
6	375	13.4	2.597
7	375	13.5	2.601
8	500	11.6	2.448
9	500	11.4	2.438

$\ln(D_+)$ vs. Pressure Plot for BMpyrr diffusion in BMpyrr TFSA at 50 °C

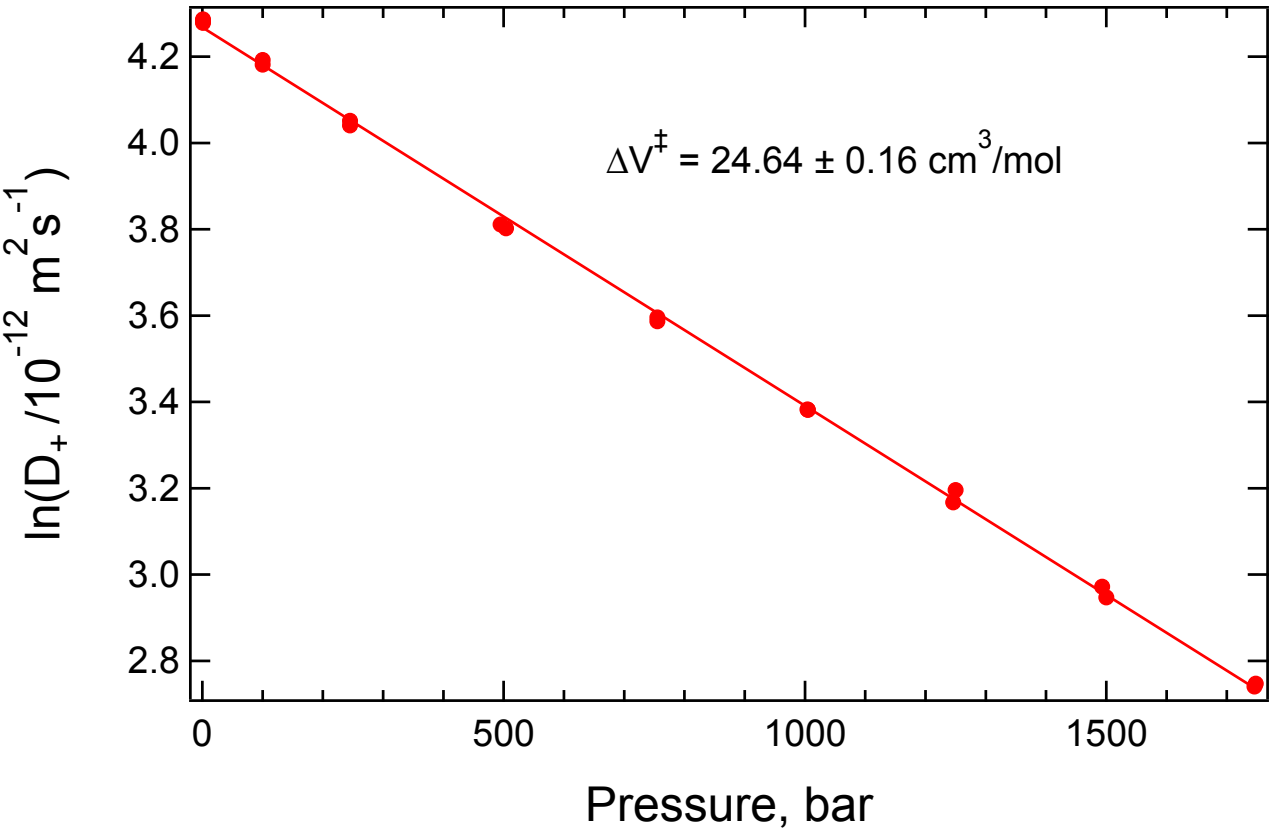
Data from Harris et al. 10.1021/je2006049



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1.0	45.9	3.827
1	1.0	45.7	3.823
2	1.0	46.0	3.828
3	103.0	40.8	3.708
4	103.0	40.8	3.709
5	250.0	35.3	3.564
6	250.0	35.2	3.561
7	485.0	27.6	3.319
8	498.0	27.4	3.310
9	742.0	22.1	3.095
10	745.0	21.9	3.088
11	990.0	17.7	2.873
12	1000.0	17.3	2.850
13	1243.0	13.6	2.612
14	1250.0	13.4	2.598

$\ln(D_+)$ vs. Pressure Plot for BMpyrr diffusion in BMpyrr TFSA at 65 °C

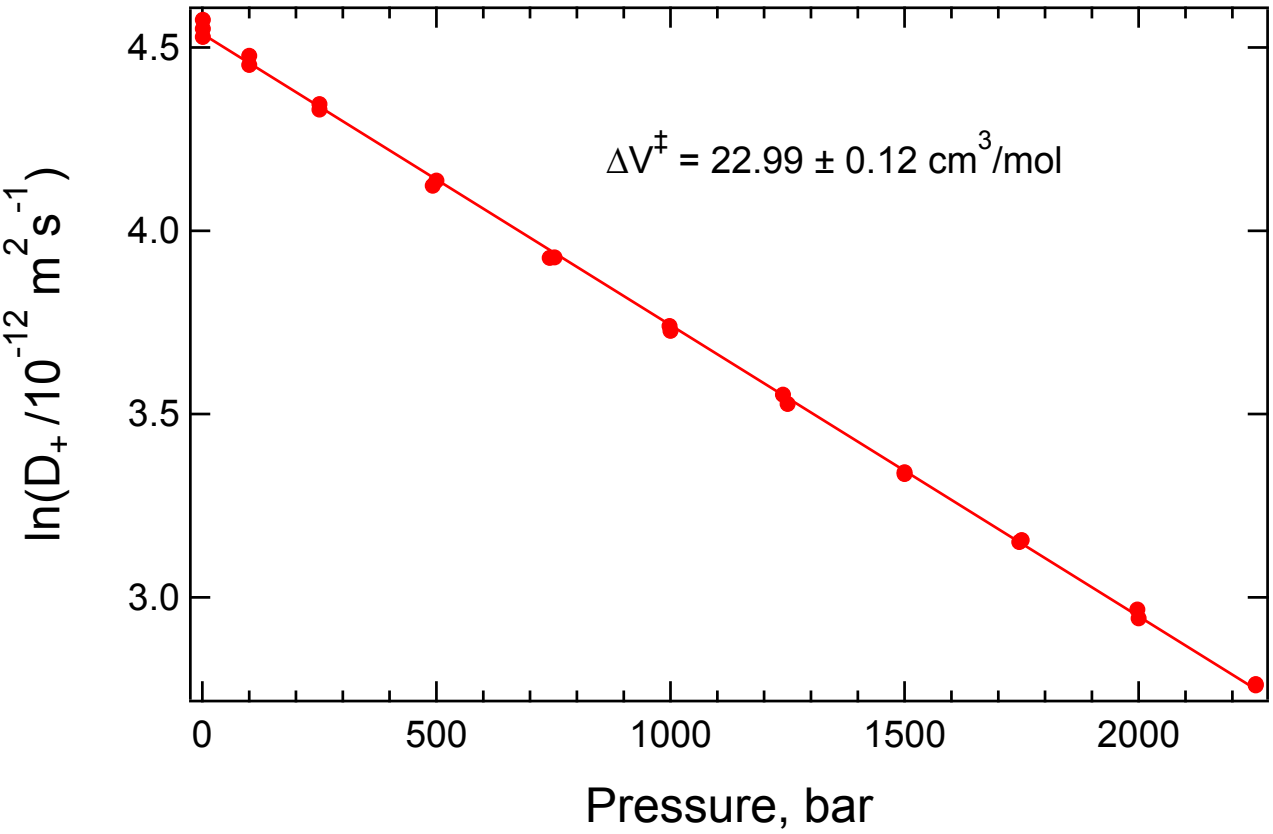
Data from Harris et al. 10.1021/je2006049



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1.0	72.7	4.286
1	1.0	72.4	4.283
2	1.0	72.1	4.278
3	100.0	66.2	4.192
4	100.0	65.5	4.181
5	245.0	56.9	4.041
6	245.0	57.5	4.051
7	495.0	45.2	3.811
8	504.0	44.8	3.802
9	755.0	36.4	3.596
10	755.0	36.1	3.587
11	1004.0	29.5	3.383
12	1005.0	29.4	3.382
13	1246.0	23.7	3.167
14	1250.0	24.4	3.196
15	1493.0	19.5	2.972
16	1500.0	19.0	2.947
17	1746.0	15.5	2.741
18	1748.0	15.6	2.747

$\ln(D_+)$ vs. Pressure Plot for BMpyrr diffusion in BMpyrr TFSA at 75 °C

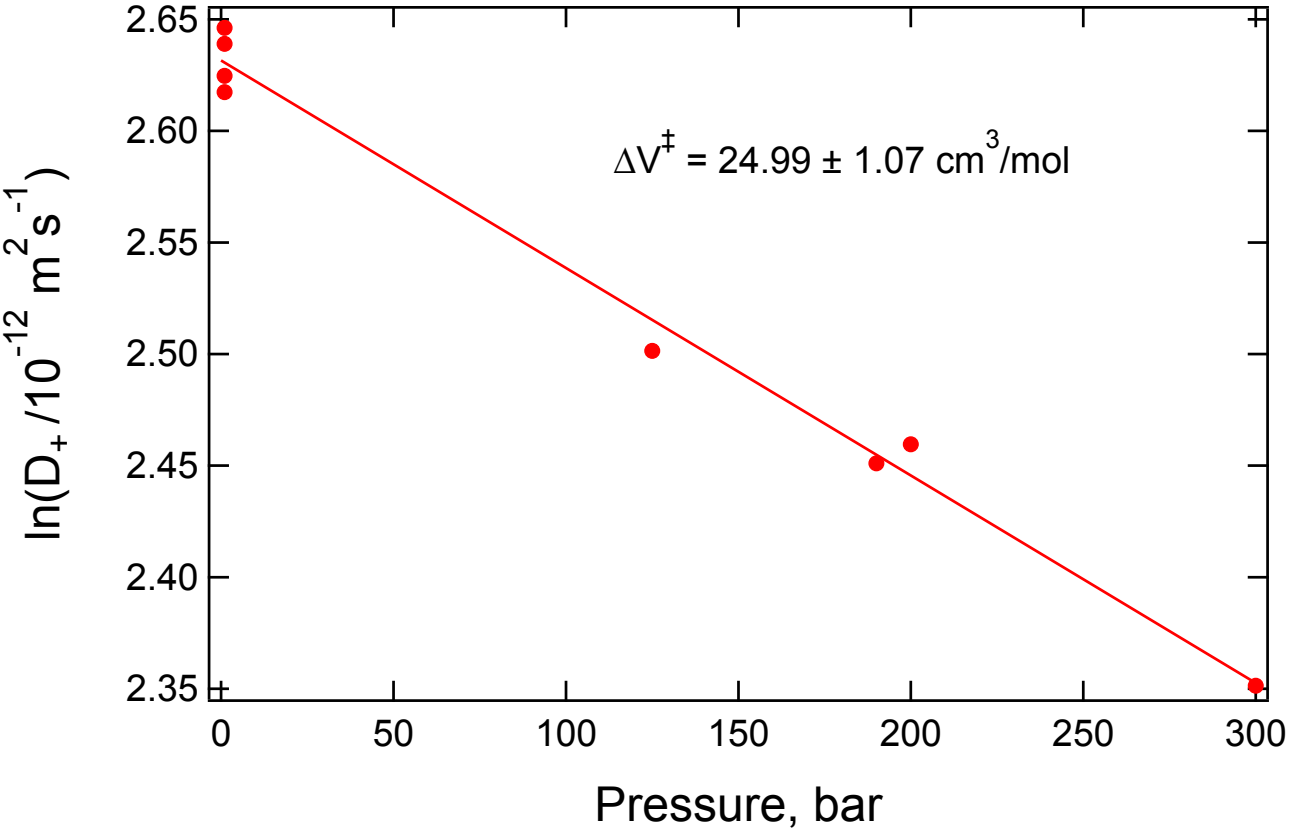
Data from Harris et al. 10.1021/je2006049



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1.0	92.6	4.529
1	1.0	94.7	4.551
2	1.0	97.1	4.575
3	100.0	85.8	4.452
4	100.0	88.0	4.477
5	250.0	76.0	4.330
6	250.0	77.1	4.345
7	492.0	61.7	4.123
8	500.0	62.6	4.137
9	742.0	50.7	3.926
10	752.0	50.8	3.928
11	998.0	42.1	3.740
12	1000.0	41.6	3.727
13	1240.0	34.9	3.553
14	1250.0	34.0	3.528
15	1500.0	28.1	3.336
16	1500.0	28.3	3.341
17	1745.0	23.4	3.151
18	1750.0	23.5	3.156
19	1997.0	19.4	2.967
20	2000.0	19.0	2.943
21	2250.0	15.8	2.760
22	2250.0	15.9	2.764

$\ln(D_+)$ vs. Pressure Plot for HMIM diffusion in HMIM PF_6 at 50 °C

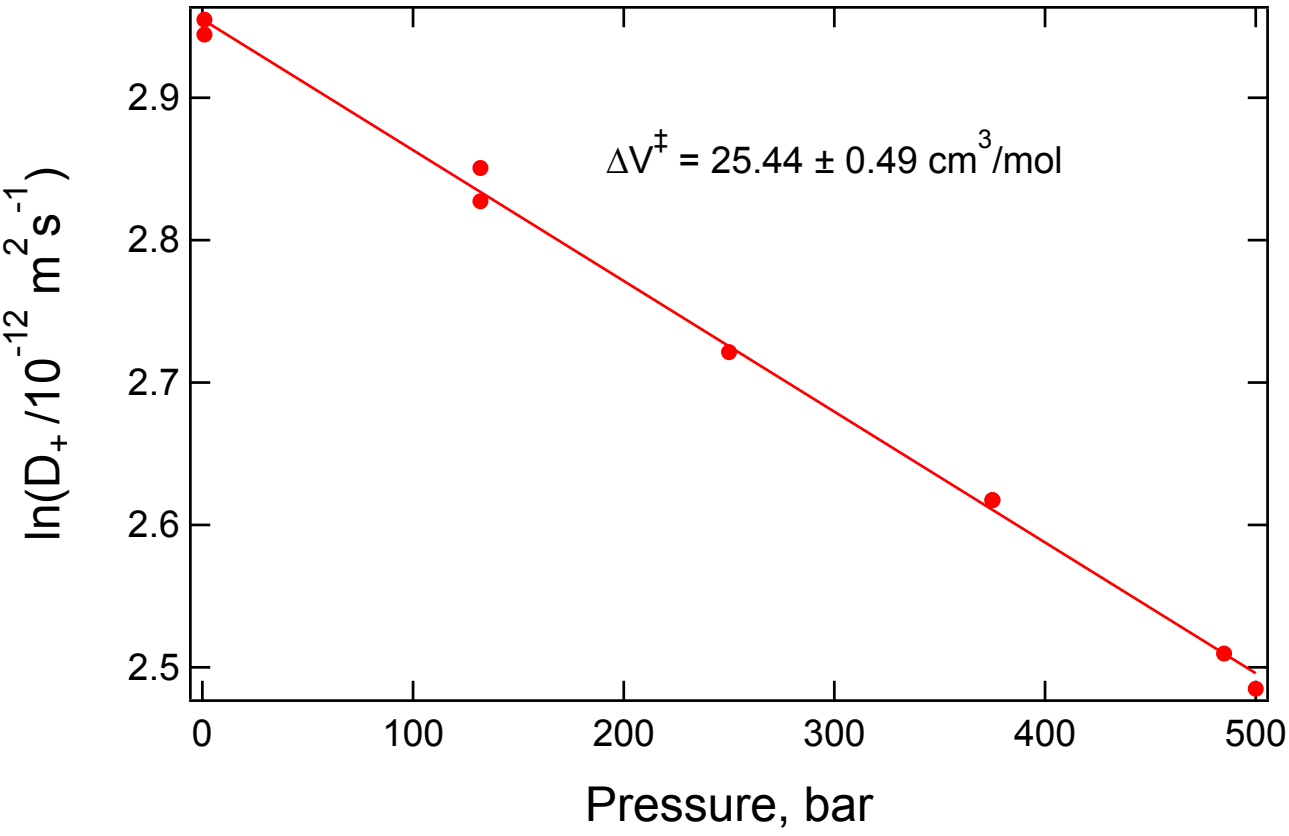
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	13.8	2.625
1	1	13.7	2.617
2	1	14.1	2.646
3	1	14.0	2.639
4	125	12.2	2.501
5	190	11.6	2.451
6	200	11.7	2.460
7	300	10.5	2.351

$\ln(D_+)$ vs. Pressure Plot for HMIM diffusion HMIM PF_6 at 60 °C

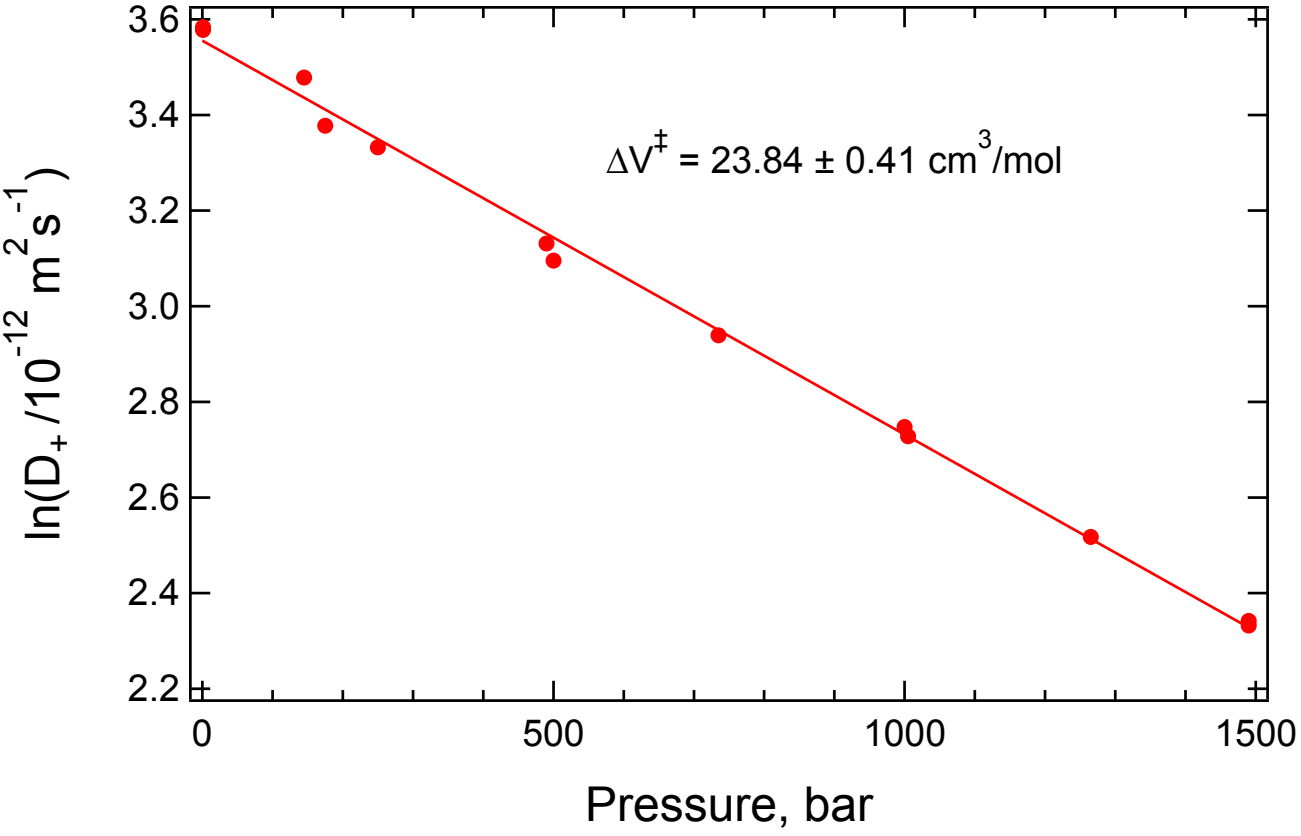
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	19.0	2.944
1	1	19.2	2.955
2	132	17.3	2.851
3	132	16.9	2.827
4	250	15.2	2.721
5	375	13.7	2.617
6	375	13.7	2.617
7	485	12.3	2.510
8	500	12.0	2.485

$\ln(D_+)$ vs. Pressure Plot for HMIM diffusion in HMIM PF_6 at 75 °C

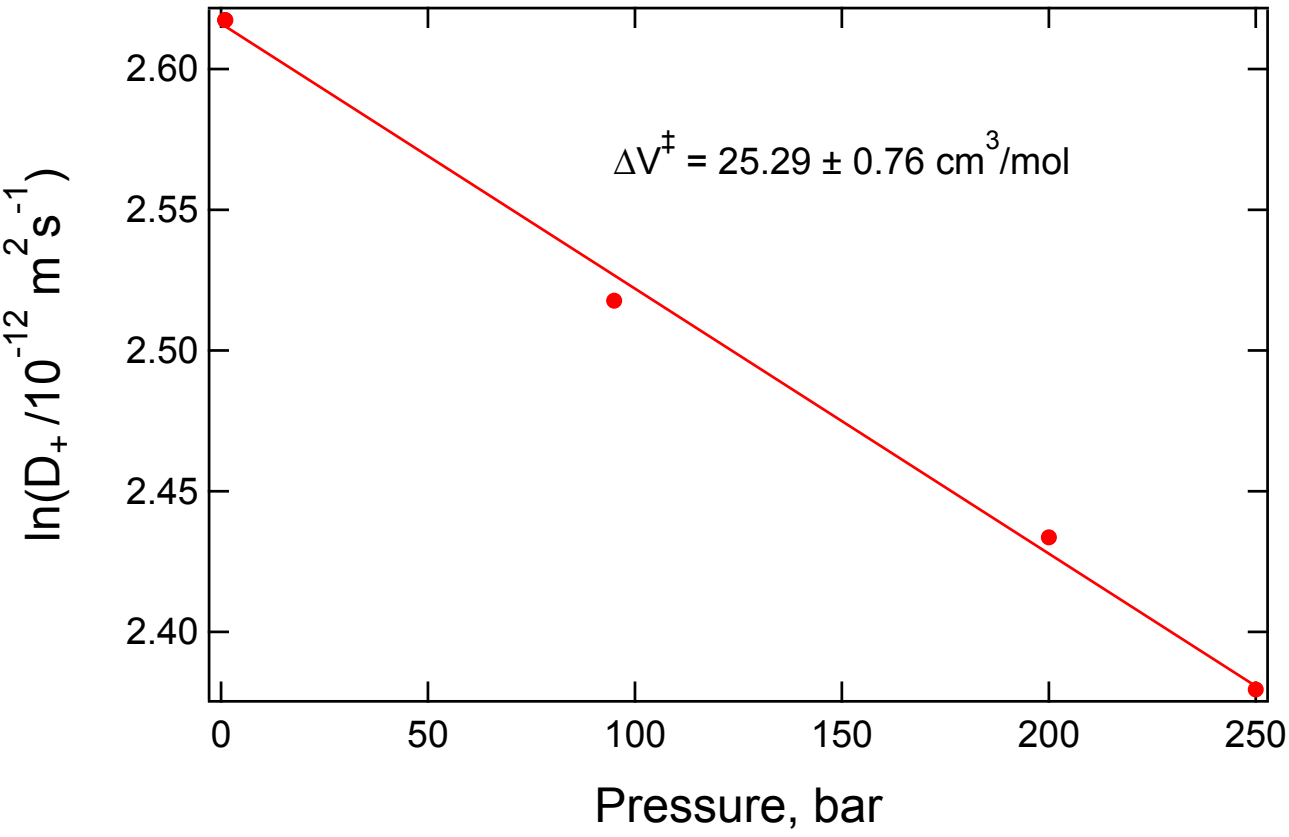
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	35.8	3.578
1	1	36.0	3.584
2	145	32.4	3.478
3	175	29.3	3.378
4	250	28.0	3.332
5	490	22.9	3.131
6	500	22.1	3.096
7	735	18.9	2.939
8	1000	15.6	2.747
9	1005	15.3	2.728
10	1265	12.4	2.518
11	1490	10.4	2.342
12	1490	10.3	2.332

$\ln(D_+)$ vs. Pressure Plot for OMIM diffusion in OMIM BF_4 at 50 °C

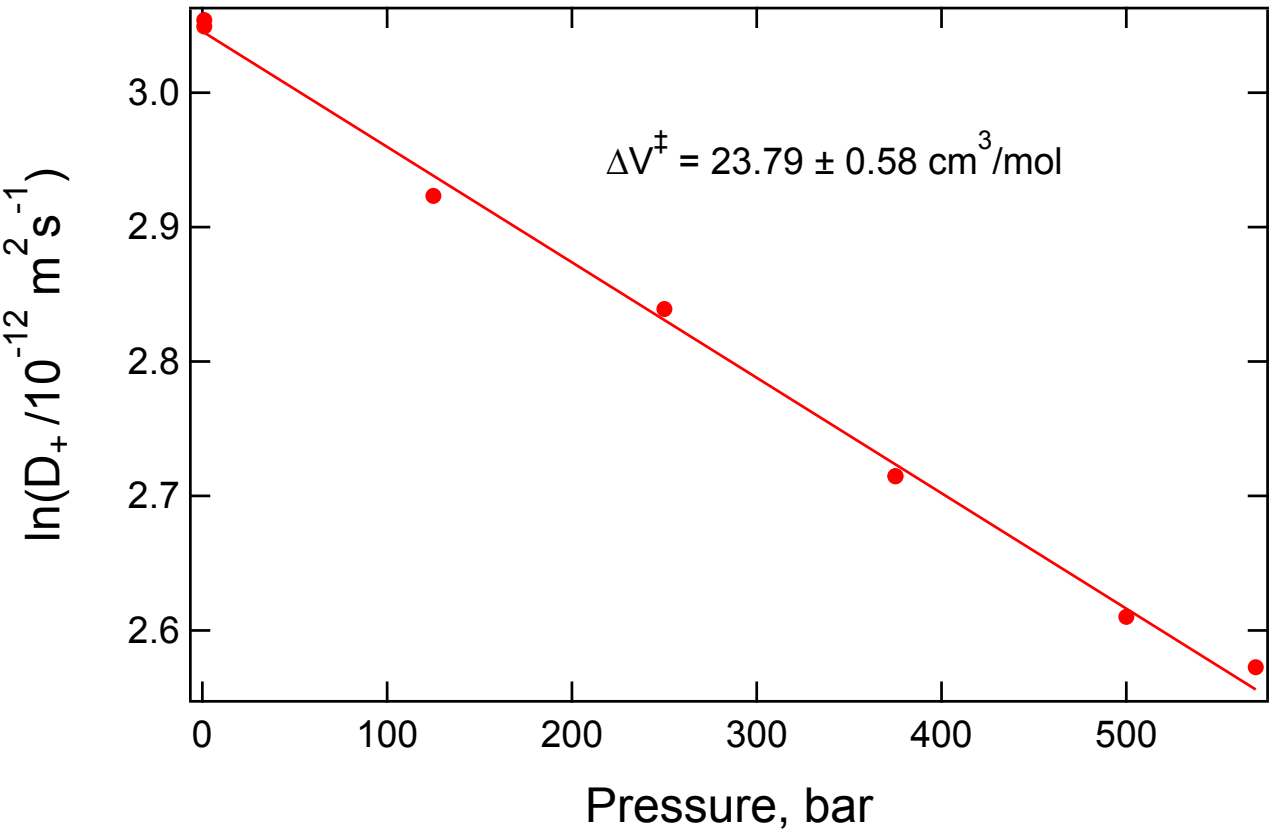
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	13.7	2.617
1	1	13.7	2.617
2	95	12.4	2.518
3	200	11.4	2.434
4	250	10.8	2.380

$\ln(D_+)$ vs. Pressure Plot for OMIM diffusion in OMIM BF_4 at 60 °C

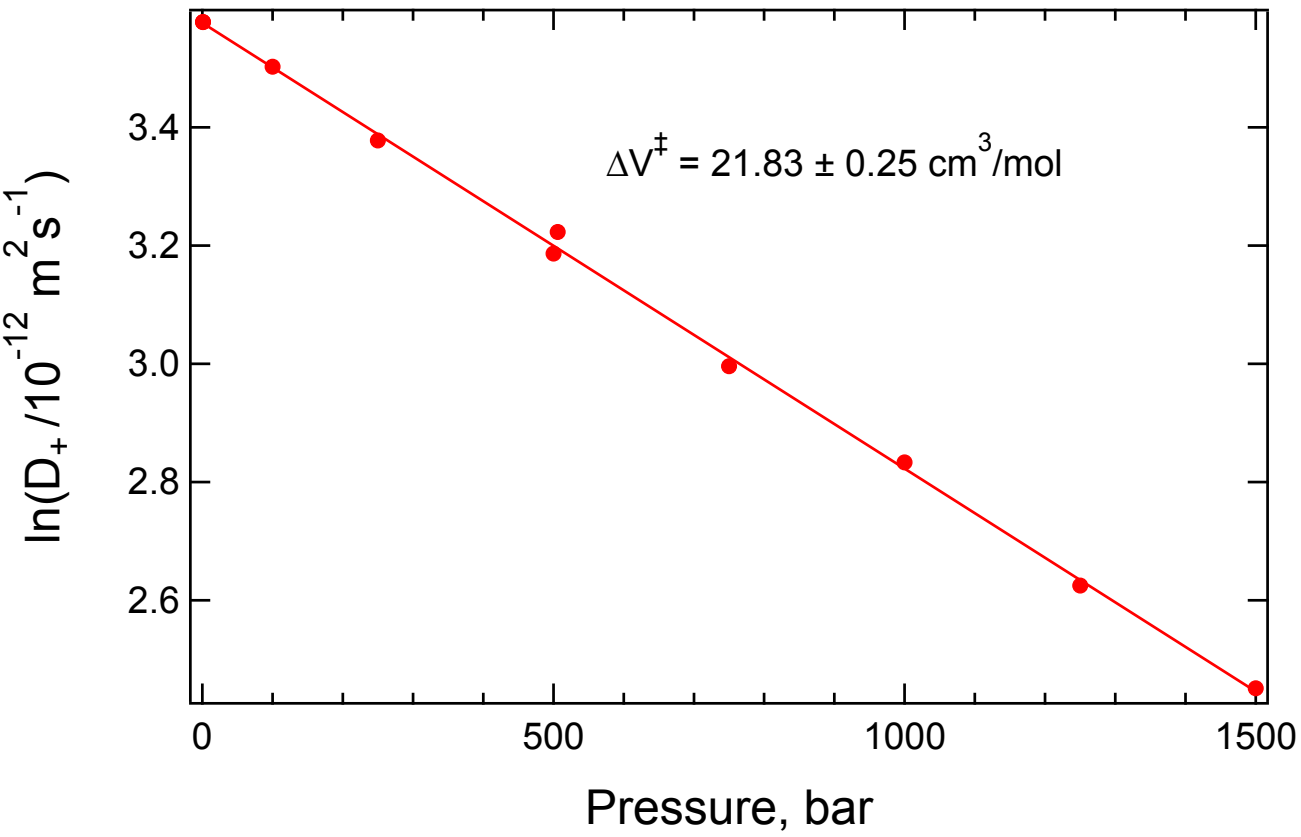
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	21.1	3.049
1	1	21.2	3.054
2	125	18.6	2.923
3	250	17.1	2.839
4	375	15.1	2.715
5	375	15.1	2.715
6	500	13.6	2.610
7	570	13.1	2.573

$\ln(D_+)$ vs. Pressure Plot for OMIM diffusion in OMIM BF_4 at 75 °C

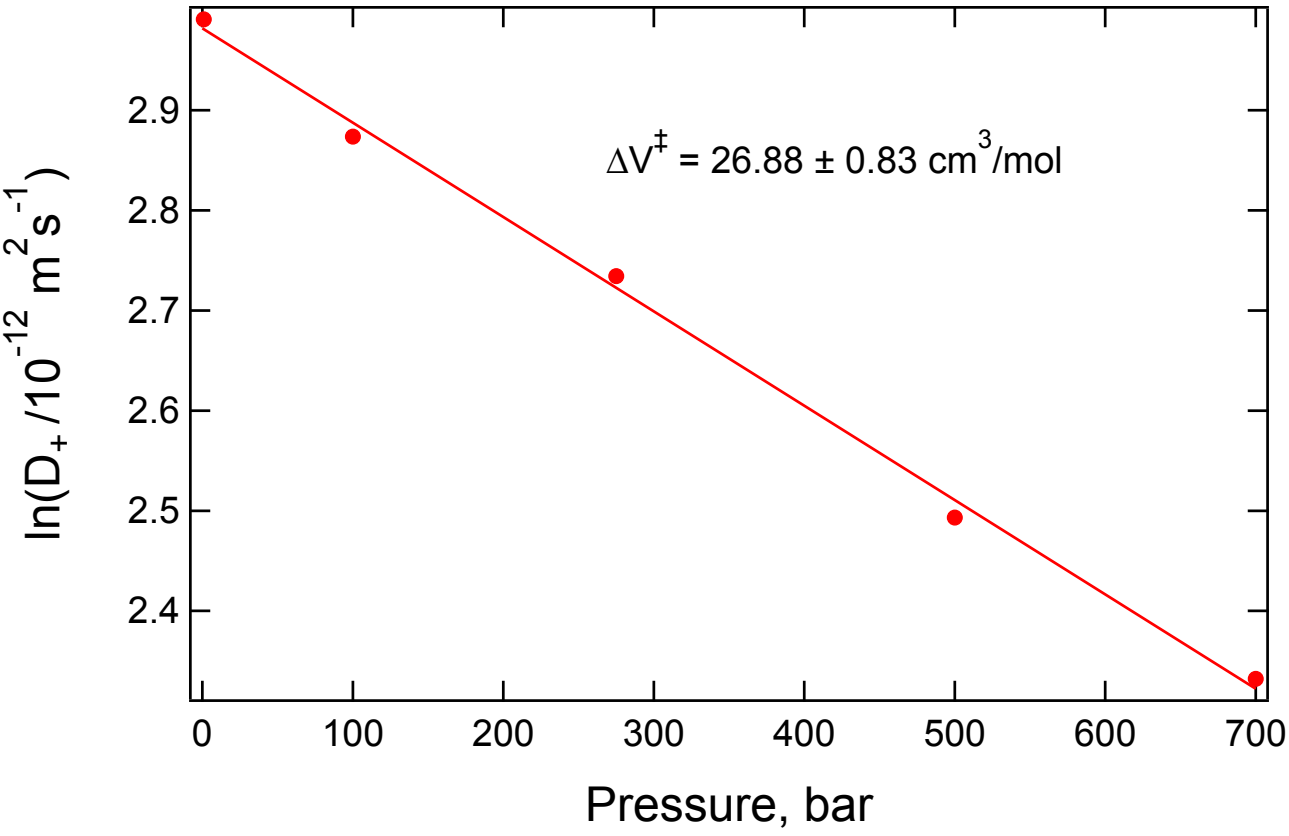
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	35.8	3.578
1	1	35.8	3.578
2	100	33.2	3.503
3	250	29.3	3.378
4	500	24.2	3.186
5	506	25.1	3.223
6	750	20.0	2.996
7	1000	17.0	2.833
8	1250	13.8	2.625
9	1500	11.6	2.451

$\ln(D_+)$ vs. Pressure Plot for OMIM diffusion OMIM PF_6 at 70 °C

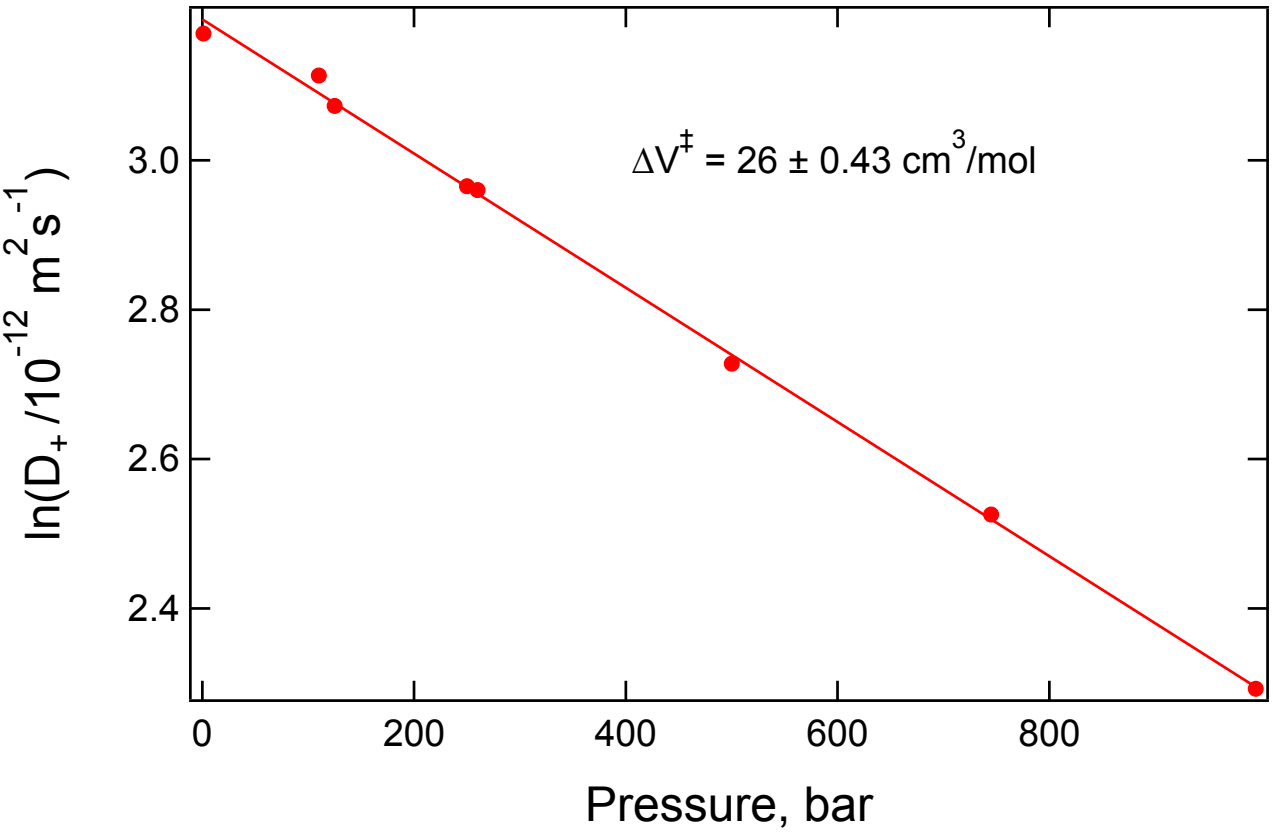
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	19.9	2.991
1	100	17.7	2.874
2	275	15.4	2.734
3	500	12.1	2.493
4	700	10.3	2.332

$\ln(D_+)$ vs. Pressure Plot for OMIM diffusion OMIM PF_6 at 75 °C

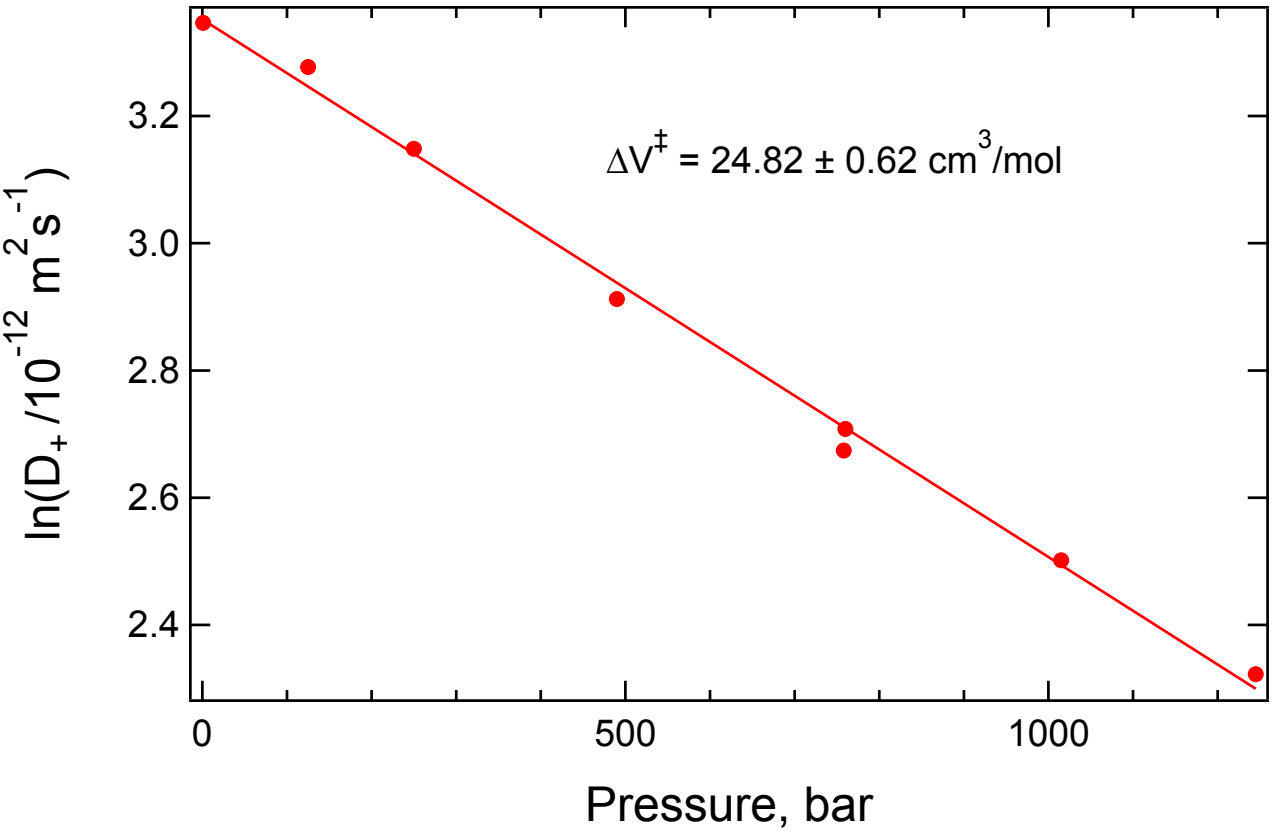
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	23.8	3.170
1	110	22.5	3.114
2	125	21.6	3.073
3	250	19.4	2.965
4	260	19.3	2.960
5	500	15.3	2.728
6	745	12.5	2.526
7	995	9.9	2.293

$\ln(D_+)$ vs. Pressure Plot for OMIM diffusion OMIM PF_6 at 80 °C

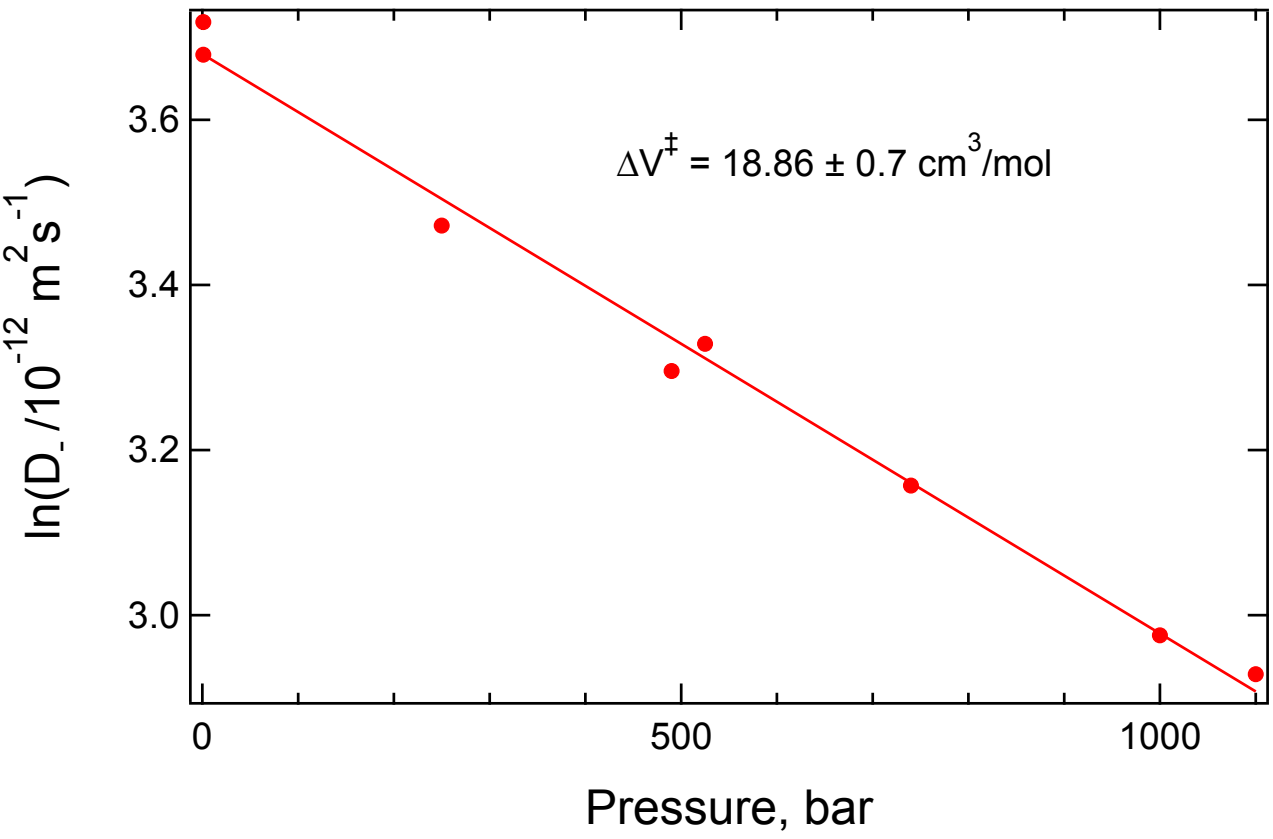
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	28.4	3.346
1	125	26.5	3.277
2	250	23.3	3.148
3	490	18.4	2.912
4	758	14.5	2.674
5	760	15.0	2.708
6	1015	12.2	2.501
7	1245	10.2	2.322

ln(D$_-$) vs. Pressure Plot for BF_4 diffusion in BMIM BF_4 at 50 °C

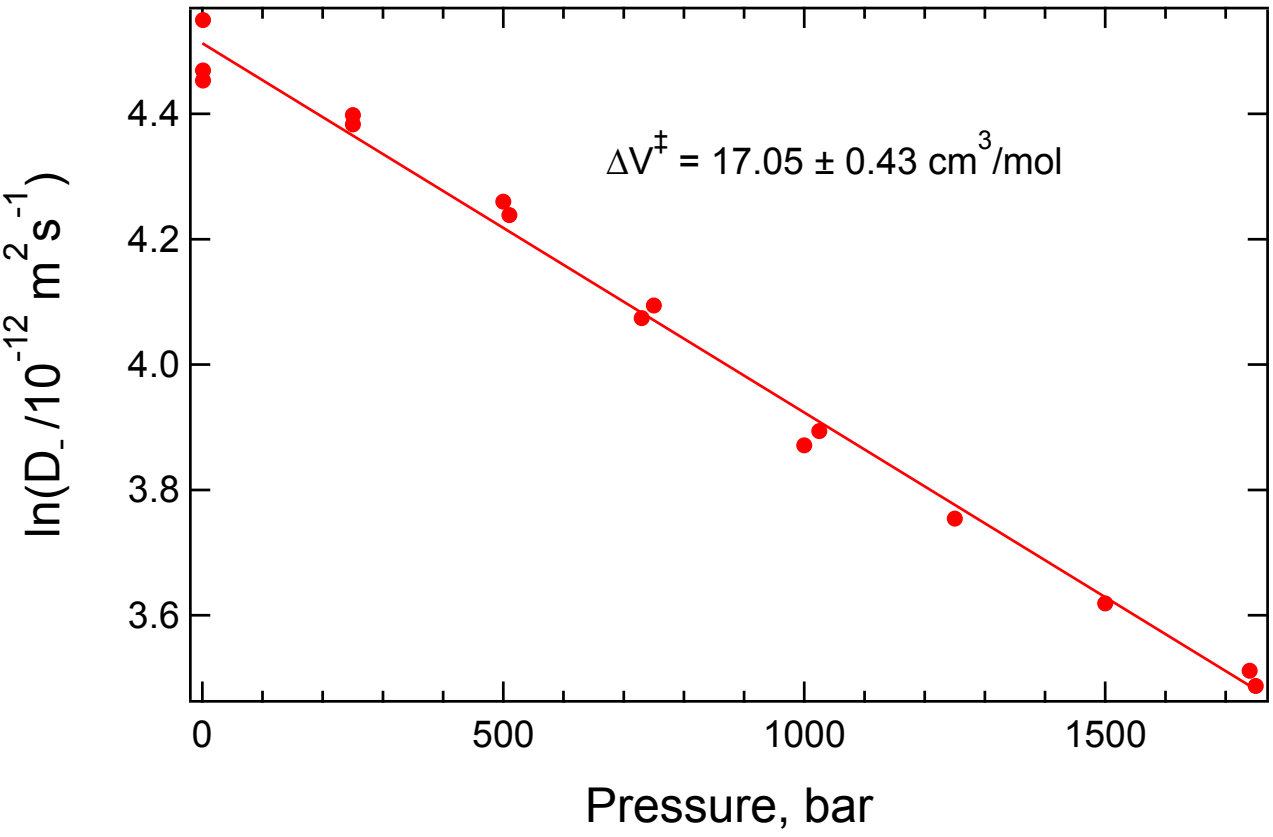
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	39.6	3.679
1	1	41.2	3.718
2	250	32.2	3.472
3	490	27.0	3.296
4	525	27.9	3.329
5	740	23.5	3.157
6	1000	19.6	2.976
7	1100	18.7	2.929

ln(D$_-$) vs. Pressure Plot for BF_4 diffusion in BMIM BF_4 at 75 °C

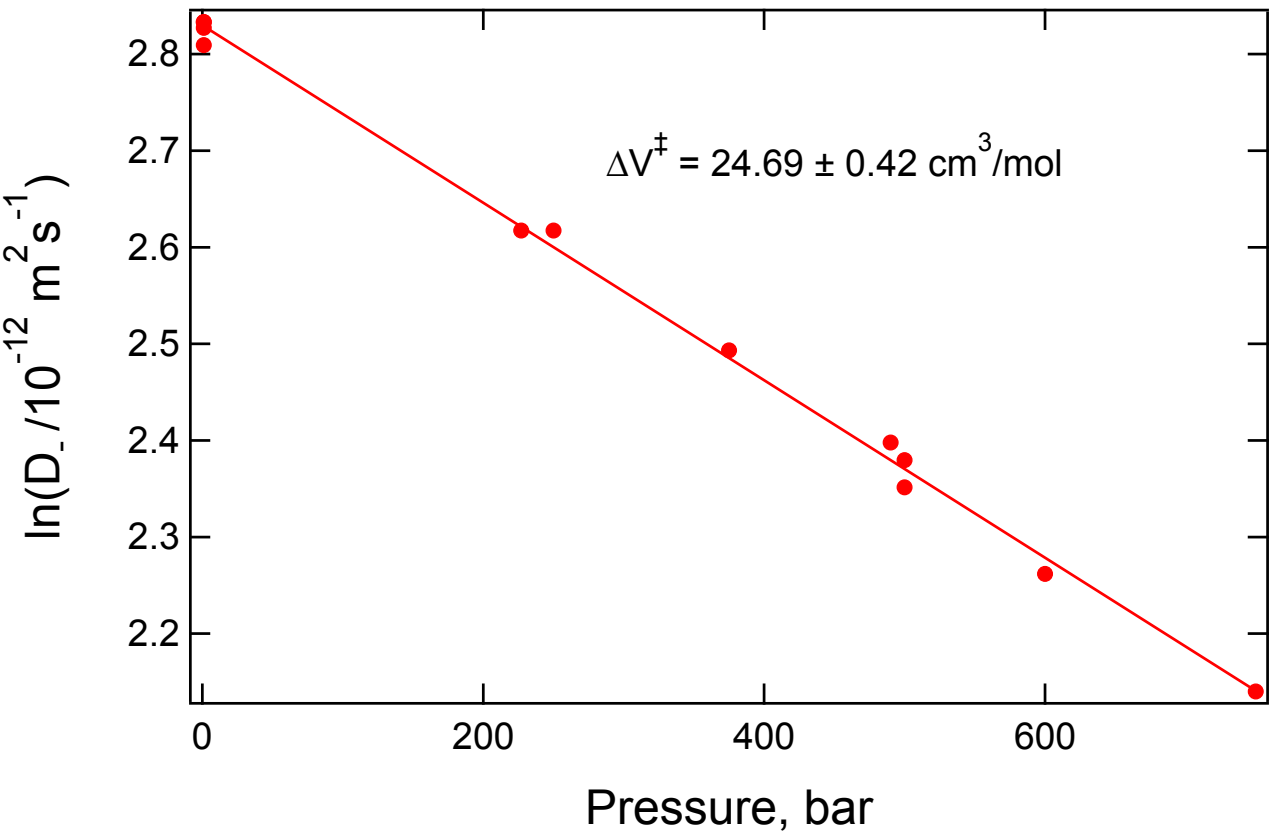
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	87.3	4.469
1	1	85.9	4.453
2	1	94.6	4.550
3	250	81.3	4.398
4	250	80.1	4.383
5	500	70.8	4.260
6	510	69.3	4.238
7	730	58.8	4.074
8	750	60.0	4.094
9	1000	48.0	3.871
10	1025	49.1	3.894
11	1250	42.7	3.754
12	1500	37.3	3.619
13	1740	33.5	3.512
14	1750	32.7	3.487

$\ln(D_-)$ vs. Pressure Plot for BF_4 diffusion in OMIM BF_4 at 50 °C

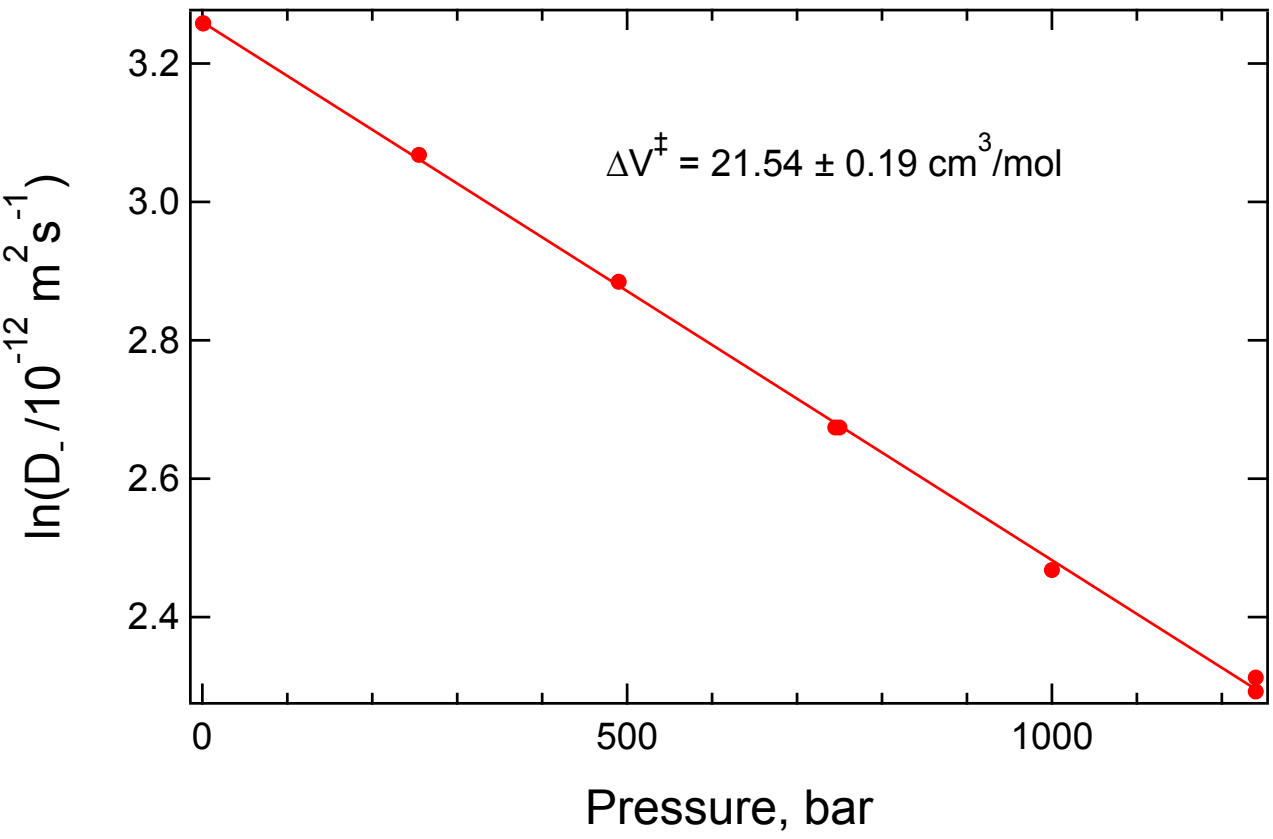
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	16.9	2.827
1	1	17.0	2.833
2	250	13.7	2.617
3	375	12.1	2.493
4	490	11.0	2.398
5	500	10.8	2.380
6	1	16.6	2.809
7	1	17.0	2.833
8	227	13.7	2.617
9	500	10.5	2.351
10	600	9.6	2.262
11	750	8.5	2.140

$\ln(D_-)$ vs. Pressure Plot for BF_4 diffusion in OMIM BF_4 at 60 °C

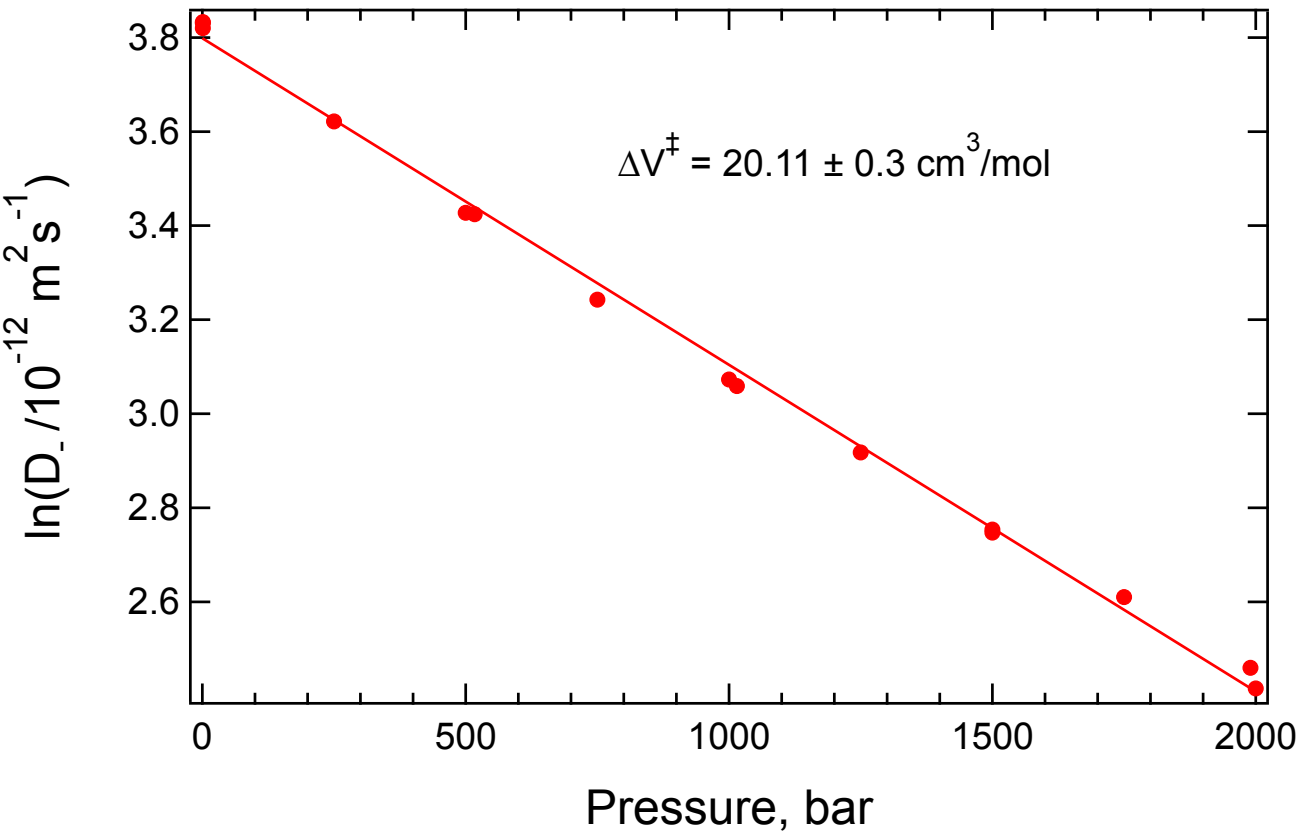
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	26.0	3.258
1	1	26.0	3.258
2	255	21.5	3.068
3	490	17.9	2.885
4	745	14.5	2.674
5	750	14.5	2.674
6	1000	11.8	2.468
7	1240	10.1	2.313
8	1240	9.9	2.293

$\ln(D_-)$ vs. Pressure Plot for BF_4 diffusion in OMIM BF_4 at 75 °C

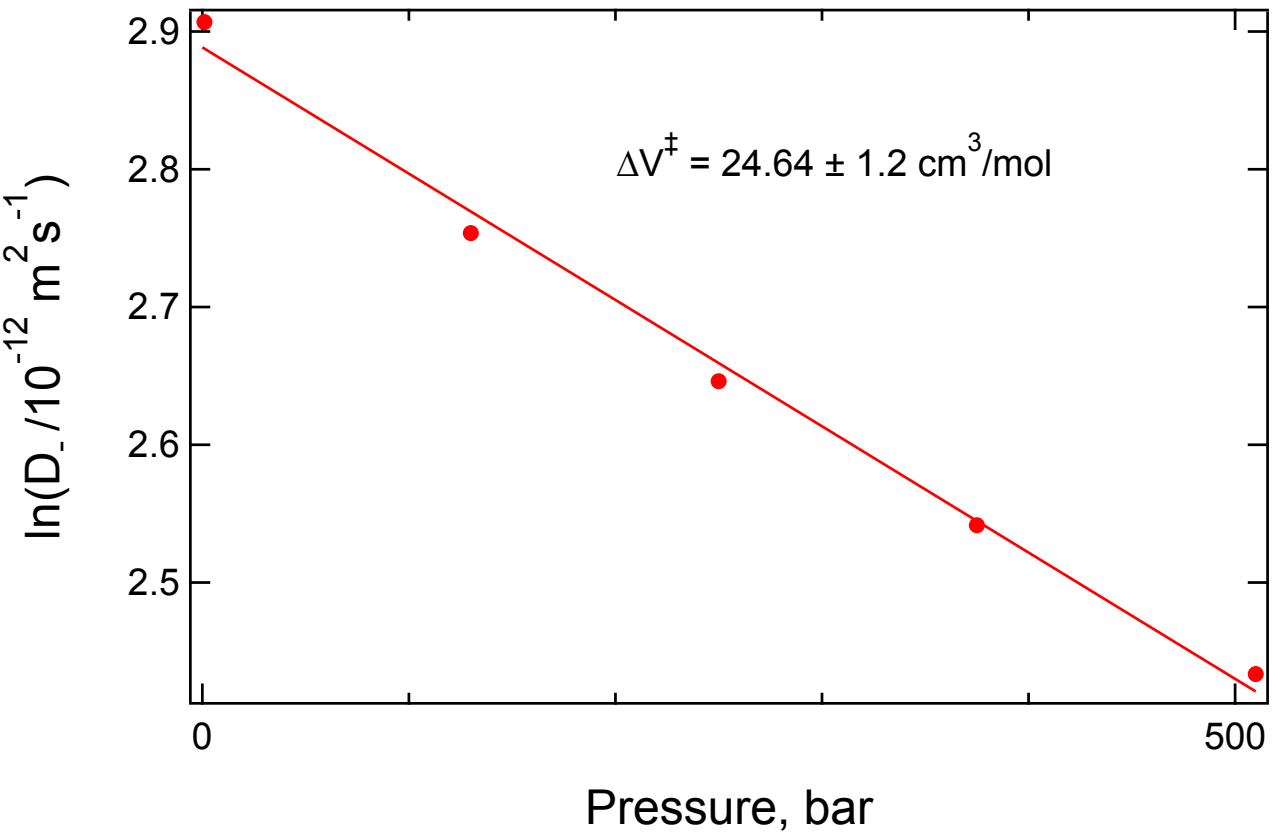
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	46.2	3.833
1	1	45.6	3.820
2	1	46.1	3.831
3	250	37.4	3.622
4	500	30.8	3.428
5	517	30.7	3.424
6	750	25.6	3.243
7	1000	21.6	3.073
8	1015	21.3	3.059
9	1250	18.5	2.918
10	1500	15.7	2.754
11	1500	15.6	2.747
12	1750	13.6	2.610
13	1990	11.7	2.460
14	2000	11.2	2.416

ln(D_) vs. Pressure Plot for PF_6 diffusion in BMIM PF_6 at 50 °C

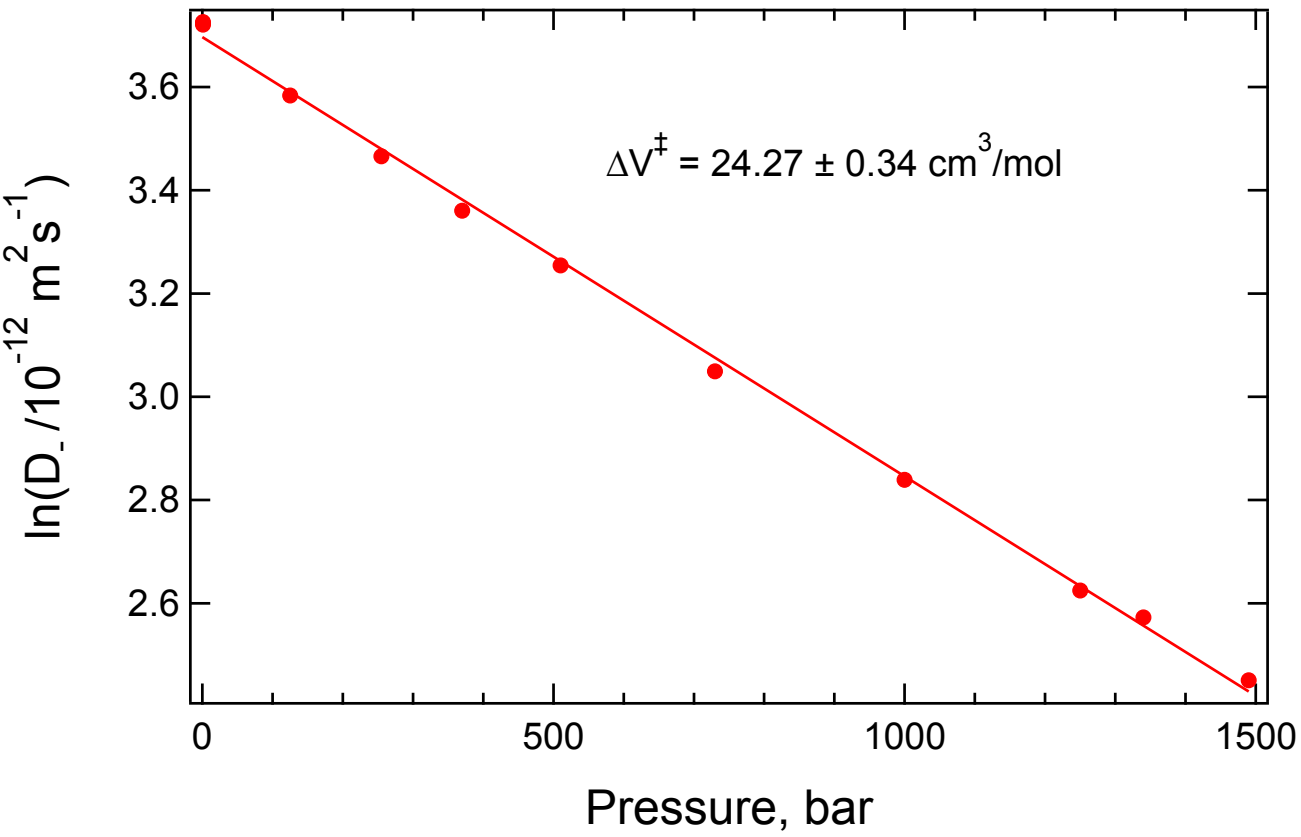
Data from Kanakubo et al. 10.1021/jp063278k



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	18.3	2.907
1	130	15.7	2.754
2	250	14.1	2.646
3	375	12.7	2.542
4	510	11.4	2.434

ln(D_) vs. Pressure Plot for PF_6 diffusion in BMIM PF_6 at 70 °C

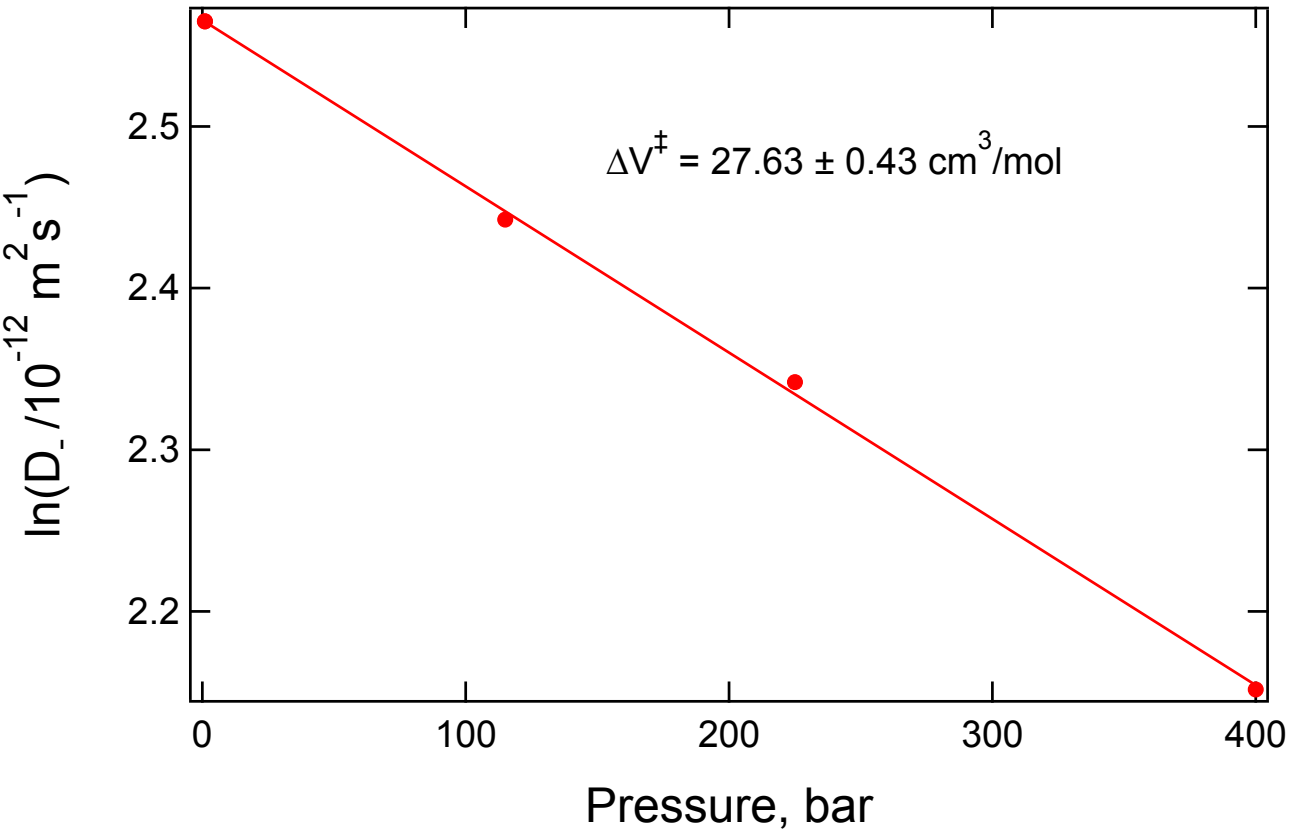
Data from Kanakubo et al. 10.1021/jp063278k



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	41.3	3.721
1	1	41.5	3.726
2	125	36.0	3.584
3	255	32.0	3.466
4	370	28.8	3.360
5	510	25.9	3.254
6	730	21.1	3.049
7	1000	17.1	2.839
8	1250	13.8	2.625
9	1340	13.1	2.573
10	1490	11.6	2.451

$\ln(D_-)$ vs. Pressure Plot for PF_6 diffusion in hmim PF_6 at 50 °C

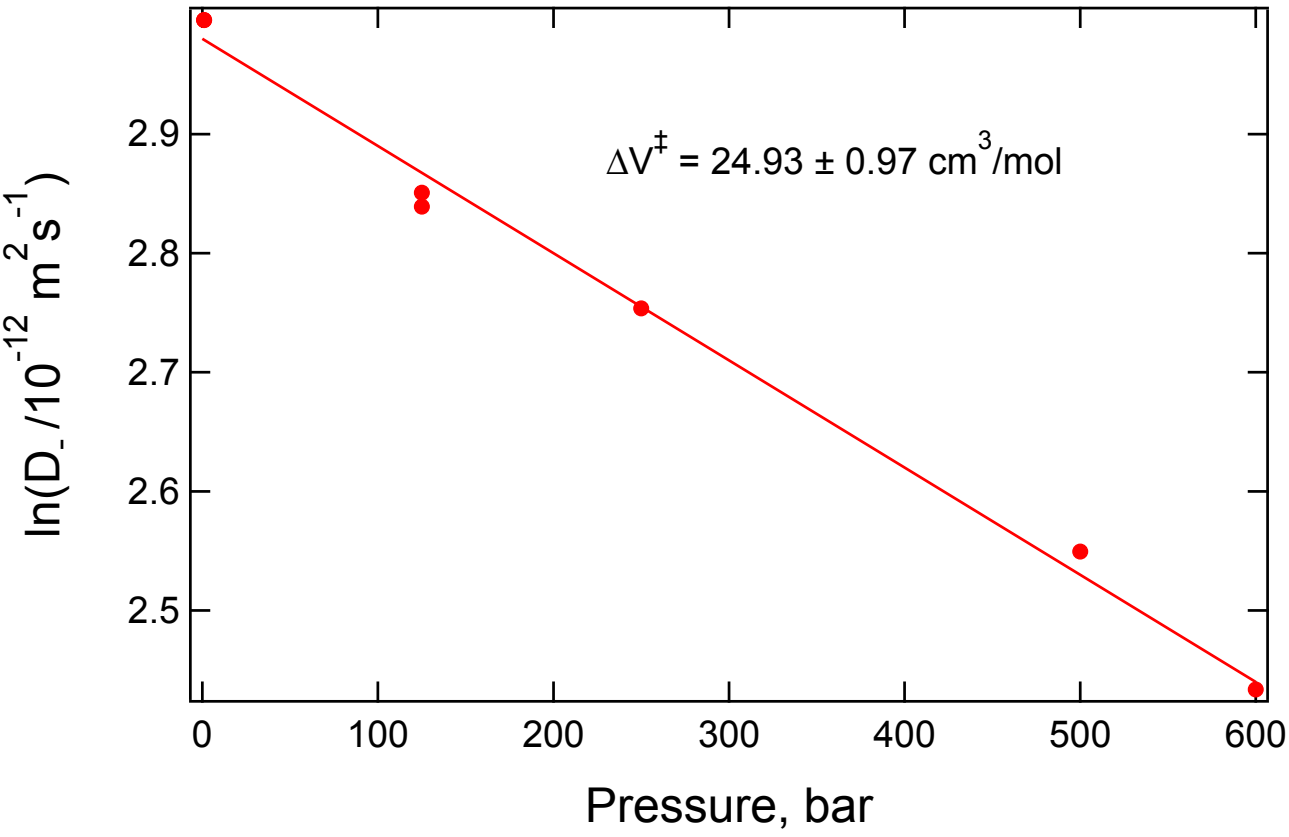
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	13.0	2.565
1	1	13.0	2.565
2	115	11.5	2.442
3	225	10.4	2.342
4	400	8.6	2.152

ln(D_) vs. Pressure Plot for PF_6 diffusion in hmim PF_6 at 60 °C

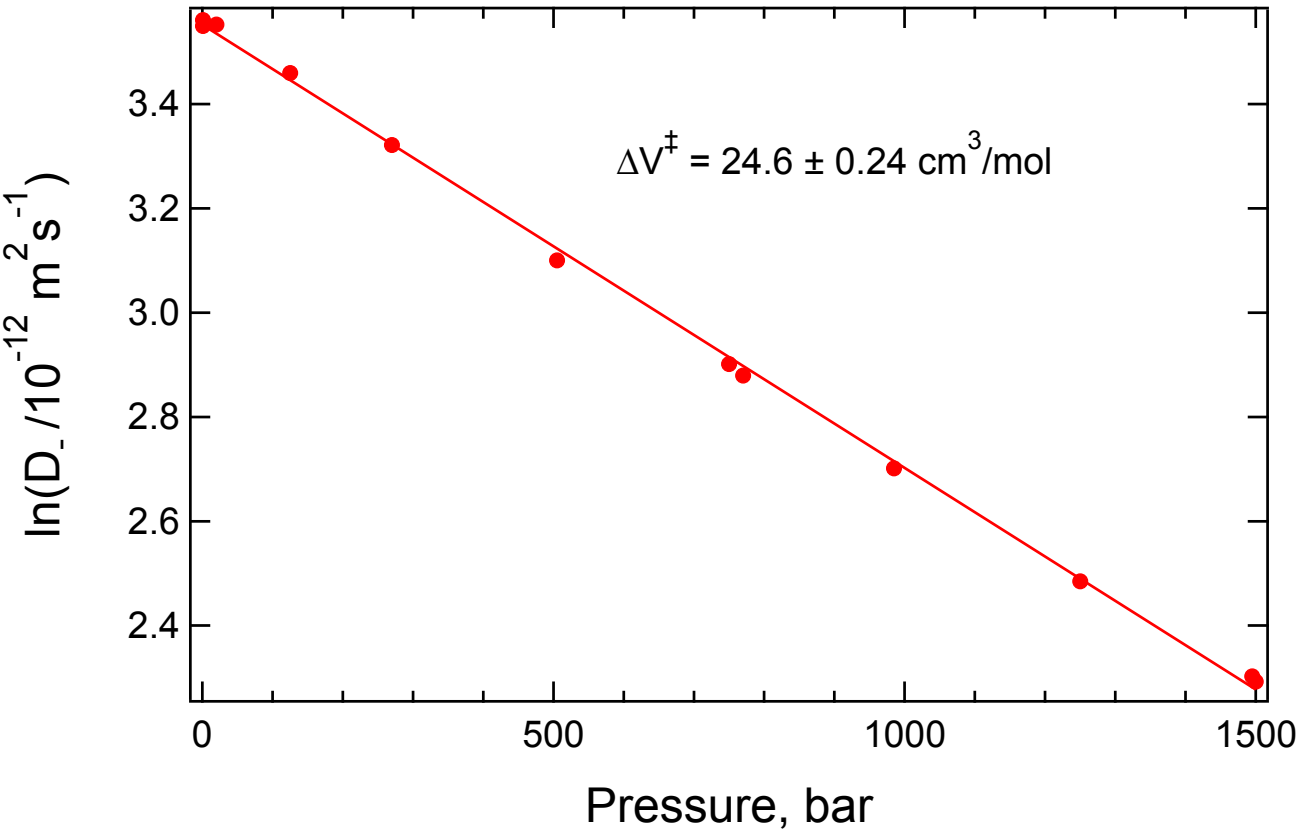
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	20.0	2.996
1	1	20.0	2.996
2	125	17.1	2.839
3	125	17.3	2.851
4	250	15.7	2.754
5	500	12.8	2.549
6	600	11.4	2.434

ln(D_) vs. Pressure Plot for PF_6 diffusion in hmim PF_6 at 75 °C

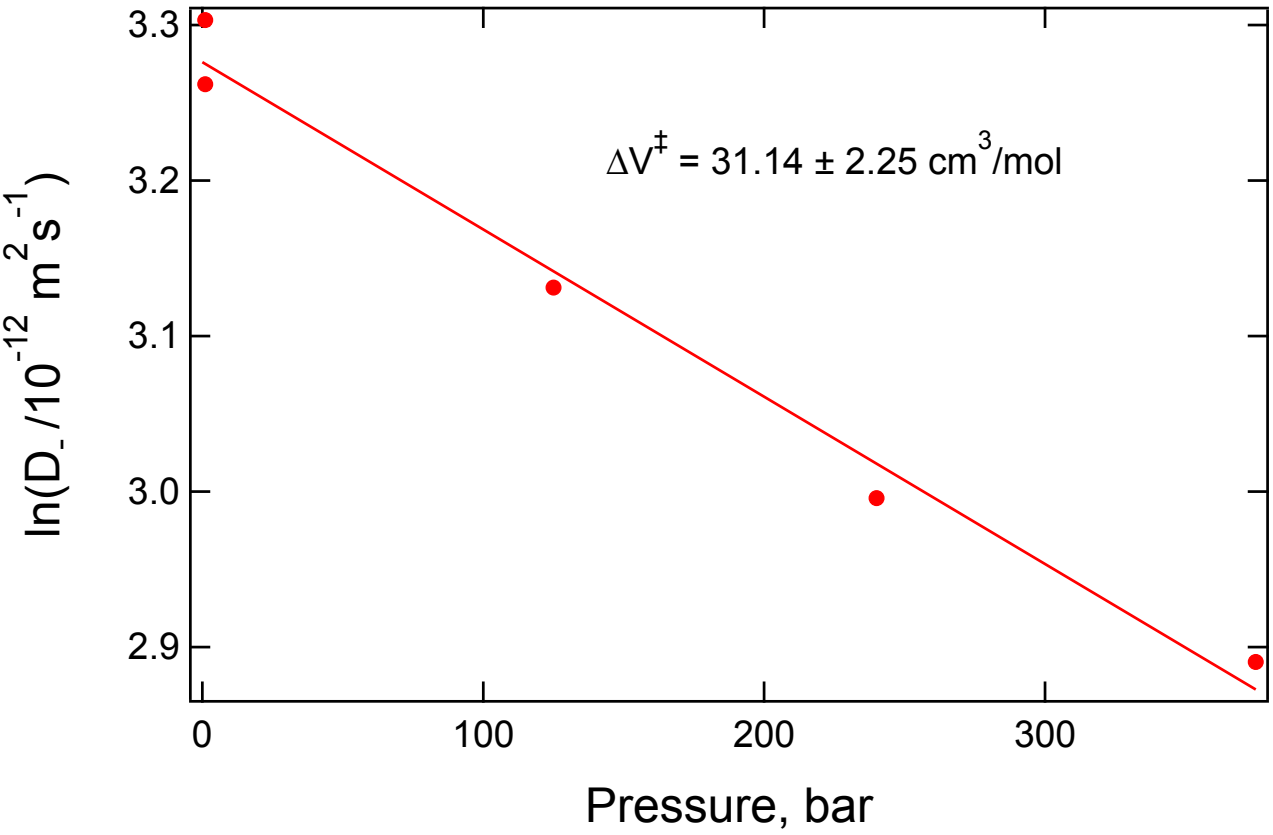
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	35.2	3.561
1	1	34.8	3.550
2	20	34.9	3.552
3	125	31.8	3.459
4	270	27.7	3.321
5	505	22.2	3.100
6	750	18.2	2.901
7	770	17.8	2.879
8	985	14.9	2.701
9	1250	12.0	2.485
10	1495	10.0	2.303
11	1500	9.9	2.293

ln(D$_-$) vs. Pressure Plot for PF_6 diffusion in OMIM PF_6 at 75 °C

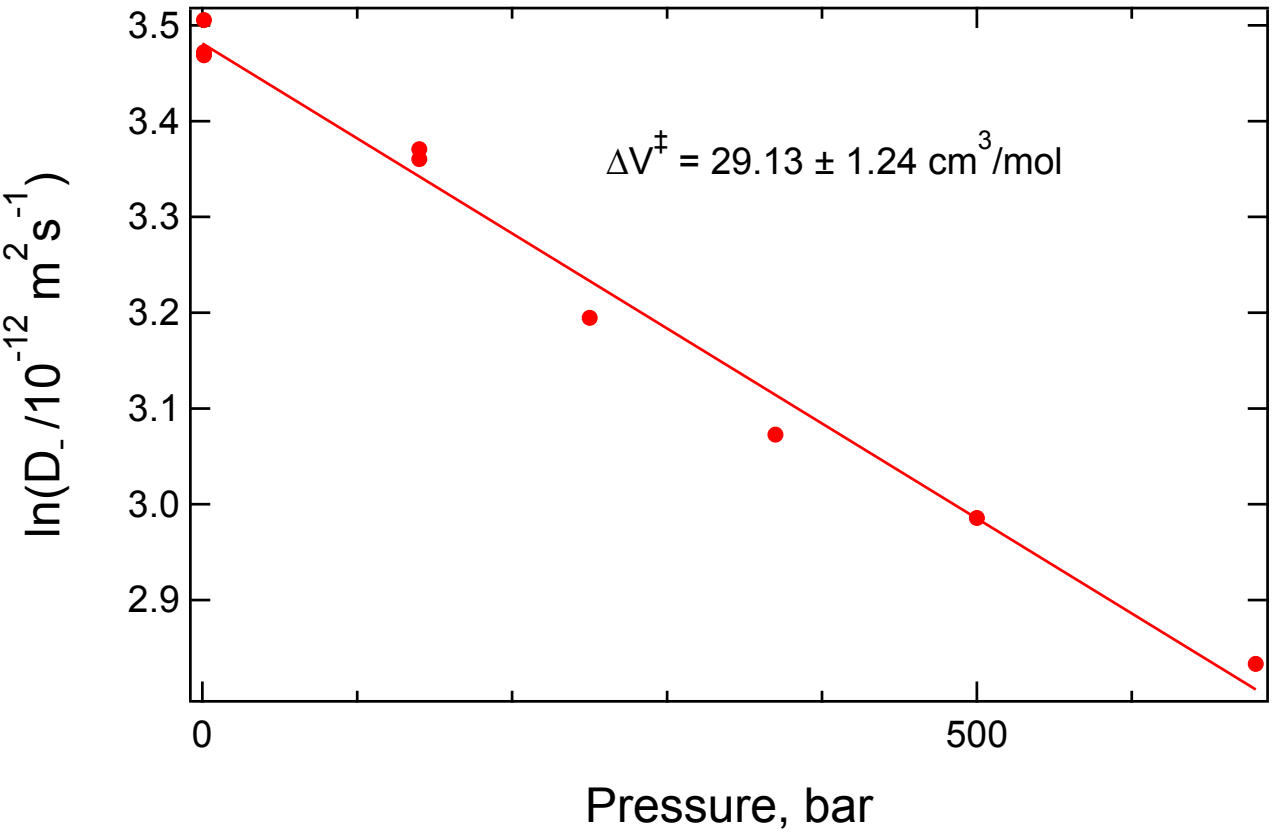
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	26.1	3.262
1	1	27.2	3.303
2	125	22.9	3.131
3	240	20.0	2.996
4	375	18.0	2.890

$\ln(D_-)$ vs. Pressure Plot for PF_6 diffusion in OMIM PF_6 at 80 °C

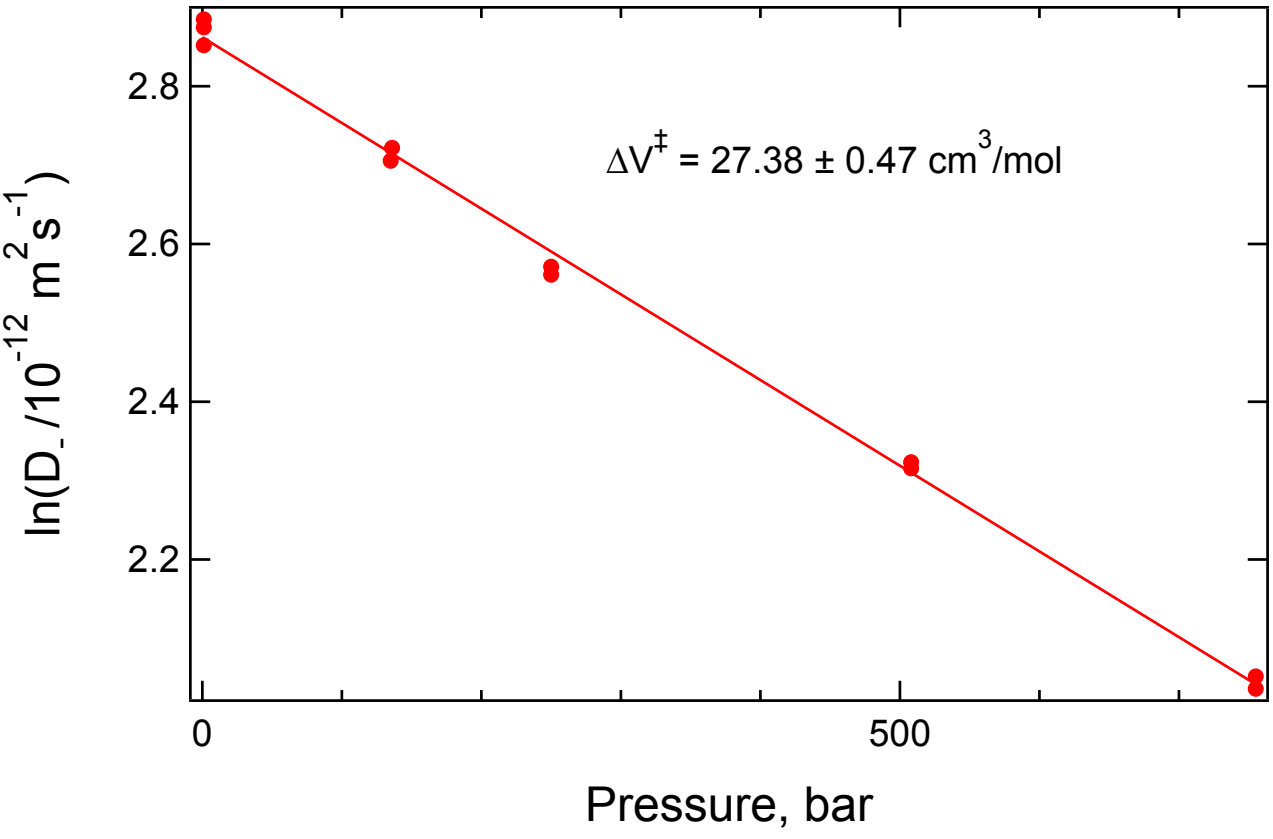
Data from Harris et al. 10.1021/jp8021375



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	32.2	3.472
1	1	32.1	3.469
2	1	33.3	3.506
3	140	29.1	3.371
4	140	28.8	3.360
5	250	24.4	3.195
6	370	21.6	3.073
7	500	19.8	2.986
8	680	17.0	2.833

ln(D_) vs. Pressure Plot for TFSA diffusion in BMpyrr TFSA at 30 °C

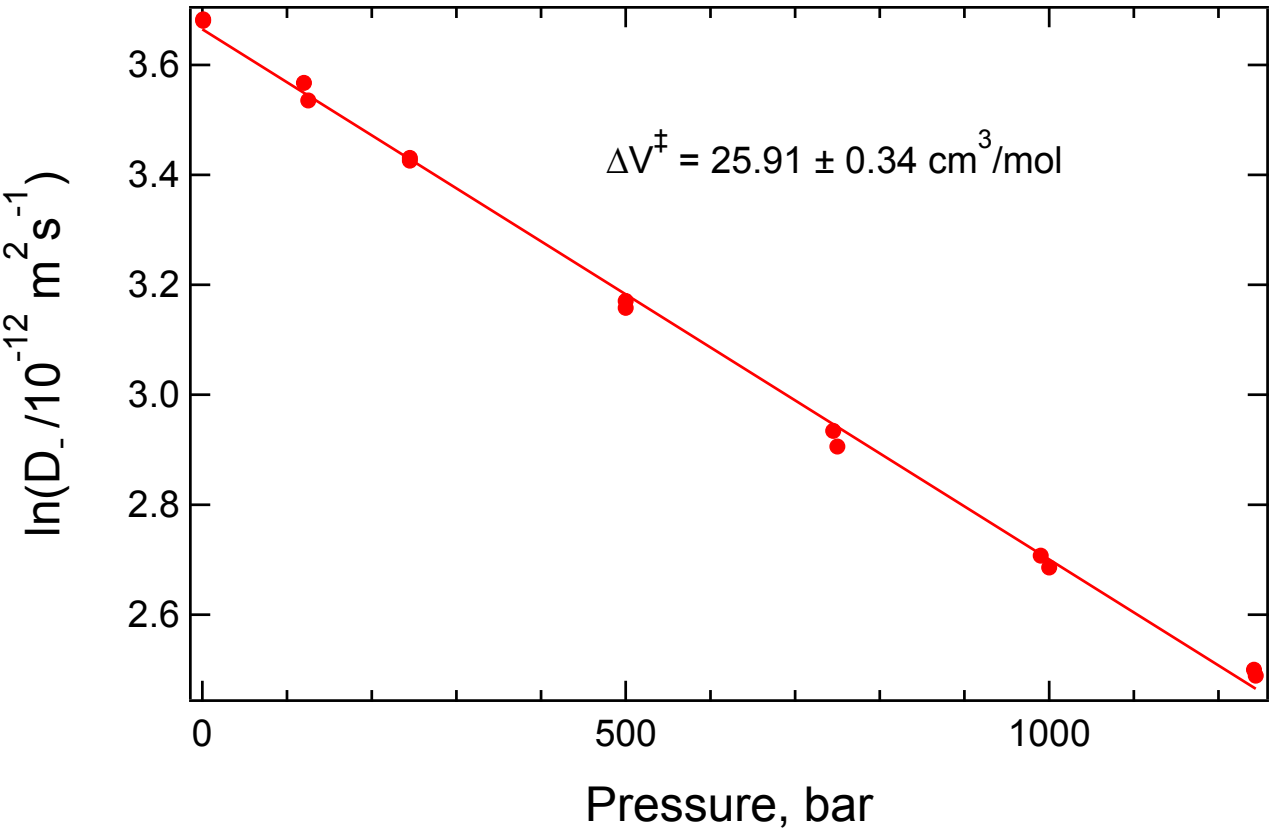
Data from Harris et al. 10.1021/je2006049



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	17.9	2.885
1	1	17.7	2.875
2	1	17.3	2.852
3	135	15.0	2.705
4	136	15.2	2.722
5	250	12.9	2.561
6	250	13.1	2.571
7	508	10.2	2.323
8	508	10.1	2.316
9	755	7.7	2.036
10	755	7.8	2.052

ln(D_) vs. Pressure Plot for TFSA diffusion in BMpyrr TFSA at 50 °C

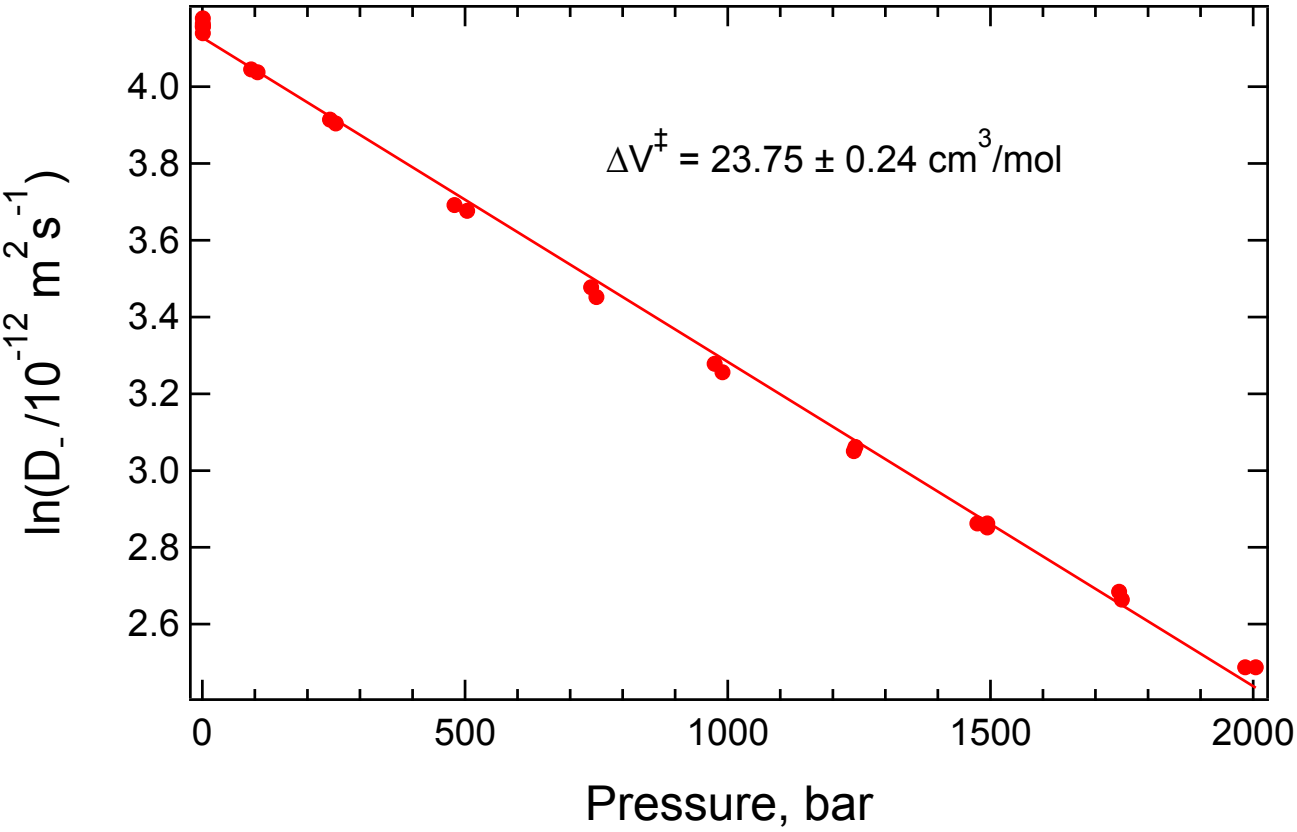
Data from Harris et al. 10.1021/je2006049



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	39.8	3.683
1	1	39.7	3.680
2	120	35.4	3.567
3	125	34.3	3.535
4	245	30.9	3.431
5	245	30.8	3.426
6	500	23.8	3.171
7	500	23.5	3.158
8	745	18.8	2.934
9	750	18.3	2.906
10	990	15.0	2.707
11	1000	14.7	2.686
12	1242	12.2	2.500
13	1244	12.1	2.489

ln(D_) vs. Pressure Plot for TFSA diffusion in BMpyrr TFSA at 65 °C

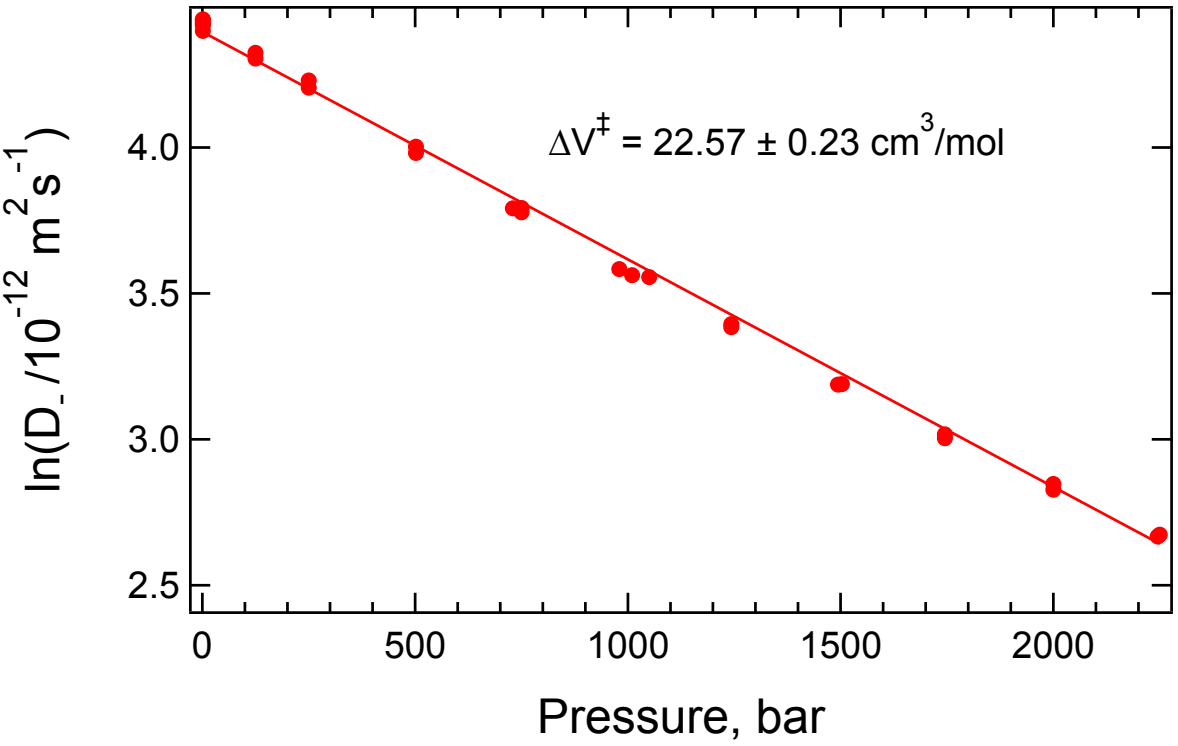
Data from Harris et al. 10.1021/je2006049



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	63.9	4.158
1	1	63.8	4.156
2	1	62.8	4.139
3	1	65.2	4.178
4	1	64.3	4.164
5	93	57.1	4.045
6	105	56.7	4.038
7	243	50.1	3.914
8	254	49.6	3.904
9	480	40.1	3.692
10	504	39.5	3.677
11	740	32.4	3.478
12	750	31.6	3.452
13	975	26.5	3.278
14	990	26.0	3.256
15	1240	21.1	3.051
16	1243	21.4	3.062
17	1475	17.5	2.862
18	1494	17.5	2.862
19	1494	17.3	2.852
20	1745	14.6	2.684
21	1750	14.4	2.664
22	1985	12.0	2.487
23	2005	12.0	2.487

ln(D_) vs. Pressure Plot for TFSA diffusion in BMpyrr TFSA at 75 °C

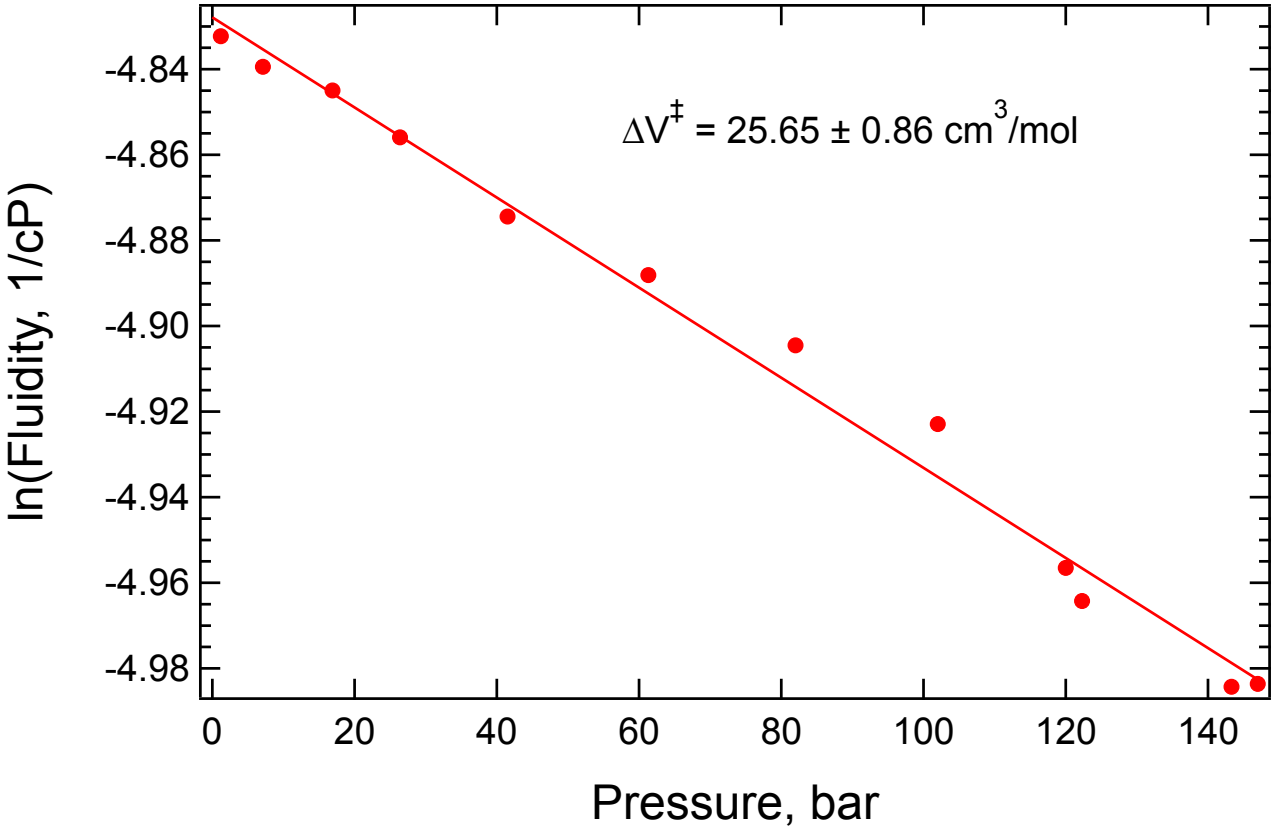
Data from Harris et al. 10.1021/je2006049



Point	Pressure	D (10^-12 m2/s)	ln(D)
0	1	83.4	4.423
1	1	83.9	4.430
2	1	81.4	4.400
3	1	82.9	4.418
4	1	84.6	4.438
5	1	84.7	4.439
6	125	75.5	4.324
7	125	74.1	4.305
8	250	67.0	4.205
9	250	68.7	4.229
10	502	54.8	4.003
11	502	53.6	3.982
12	730	44.3	3.792
13	750	44.4	3.793
14	750	43.7	3.778
15	980	36.0	3.584
16	1010	35.3	3.563
17	1050	35.0	3.556
18	1243	29.8	3.395
19	1243	29.5	3.384
20	1494	24.2	3.188
21	1503	24.3	3.189
22	1745	20.4	3.017
23	1745	20.2	3.004
24	2000	17.2	2.847
25	2000	16.9	2.827
26	2245	14.4	2.667
27	2250	14.5	2.673
28	2500	12.4	2.521
29	2500	12.4	2.519

1/Viscosity vs. Pressure Plot for BMIM BF_4 at 20 °C

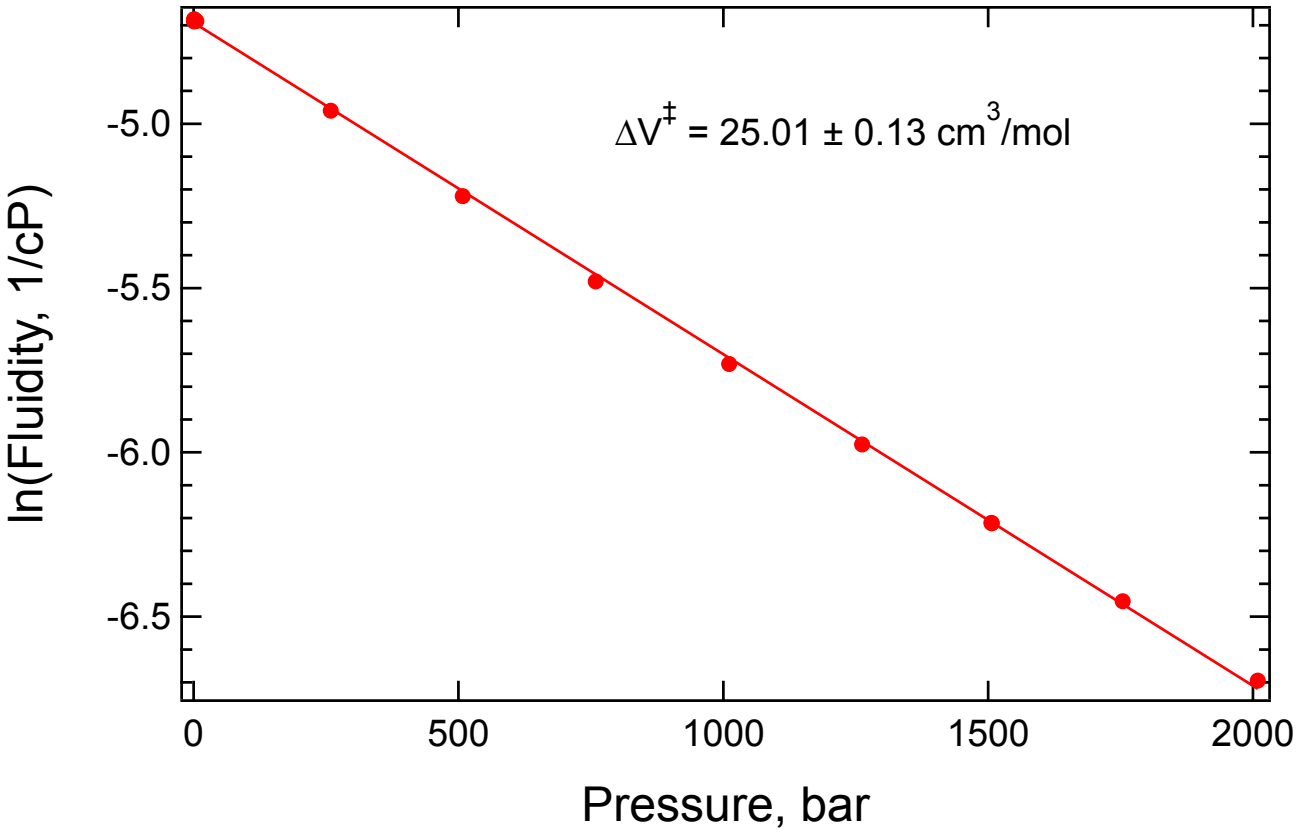
Data from Sanmamed et al. 10.1016/j.jct.2009.11.014



Point	Pressure	Visc, cP	ln(Fluidity)
0	1.2	125.5	-4.832
1	7.1	126.4	-4.839
2	16.9	127.1	-4.845
3	26.4	128.5	-4.856
4	41.5	130.9	-4.874
5	61.3	132.7	-4.888
6	82	134.9	-4.905
7	102	137.4	-4.923
8	120	142.1	-4.957
9	122.3	143.2	-4.964
10	143.3	146.1	-4.984
11	147	146	-4.984

1/Viscosity vs. Pressure Plot for BMIM BF_4 at 25 °C

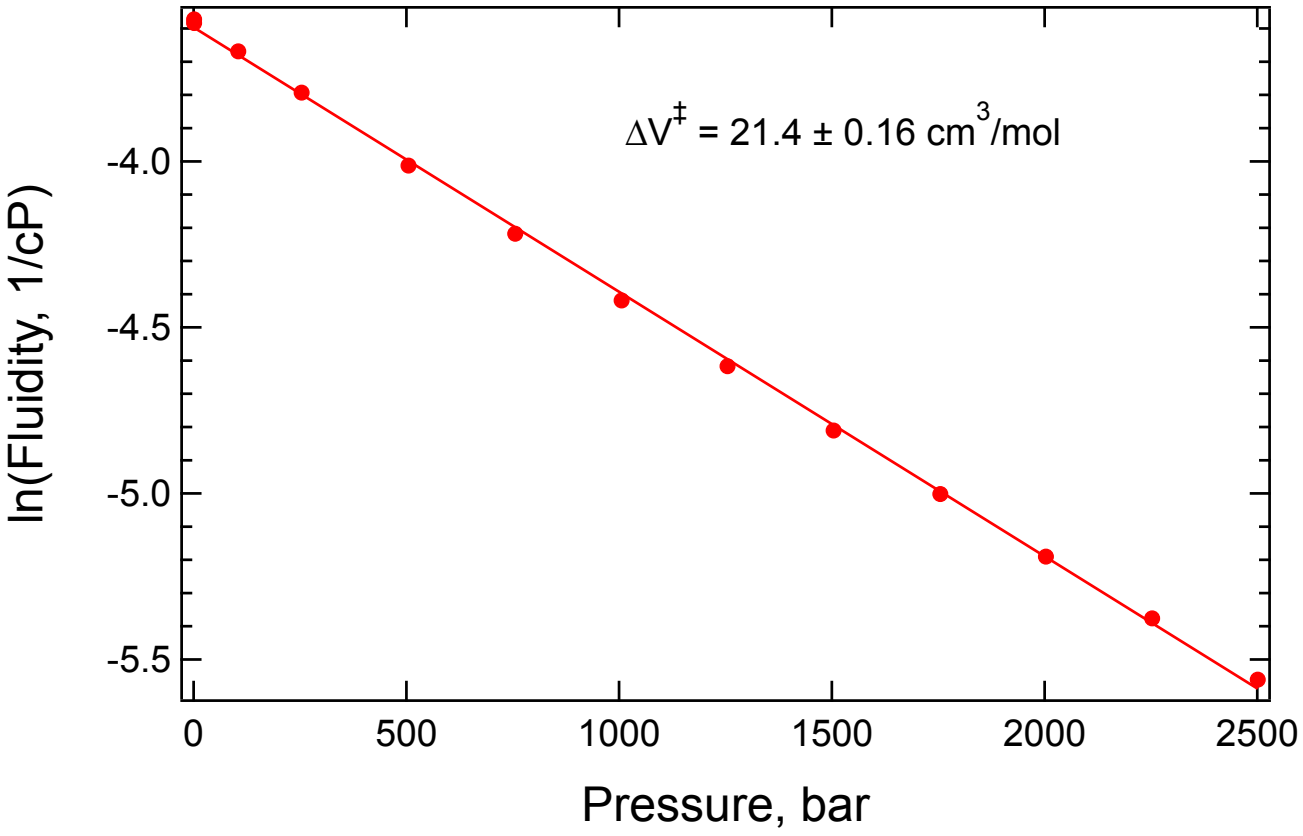
Data from Harris et al. 10.1021/je700370z
J. Chem. Eng. Data 2007, 52, 2425-2430



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	108	-4.682
1	1	108	-4.682
2	1	108.5	-4.687
3	1	108.7	-4.689
4	5	108.6	-4.688
5	259	142.6	-4.960
6	508	185	-5.220
7	759	239.8	-5.480
8	1011	308.3	-5.731
9	1262	393.9	-5.976
10	1506	499.9	-6.214
11	1507	500.6	-6.216
12	1754	634.7	-6.453
13	2009	808.3	-6.695

1/Viscosity vs. Pressure Plot for BMIM BF_4 at 50 °C

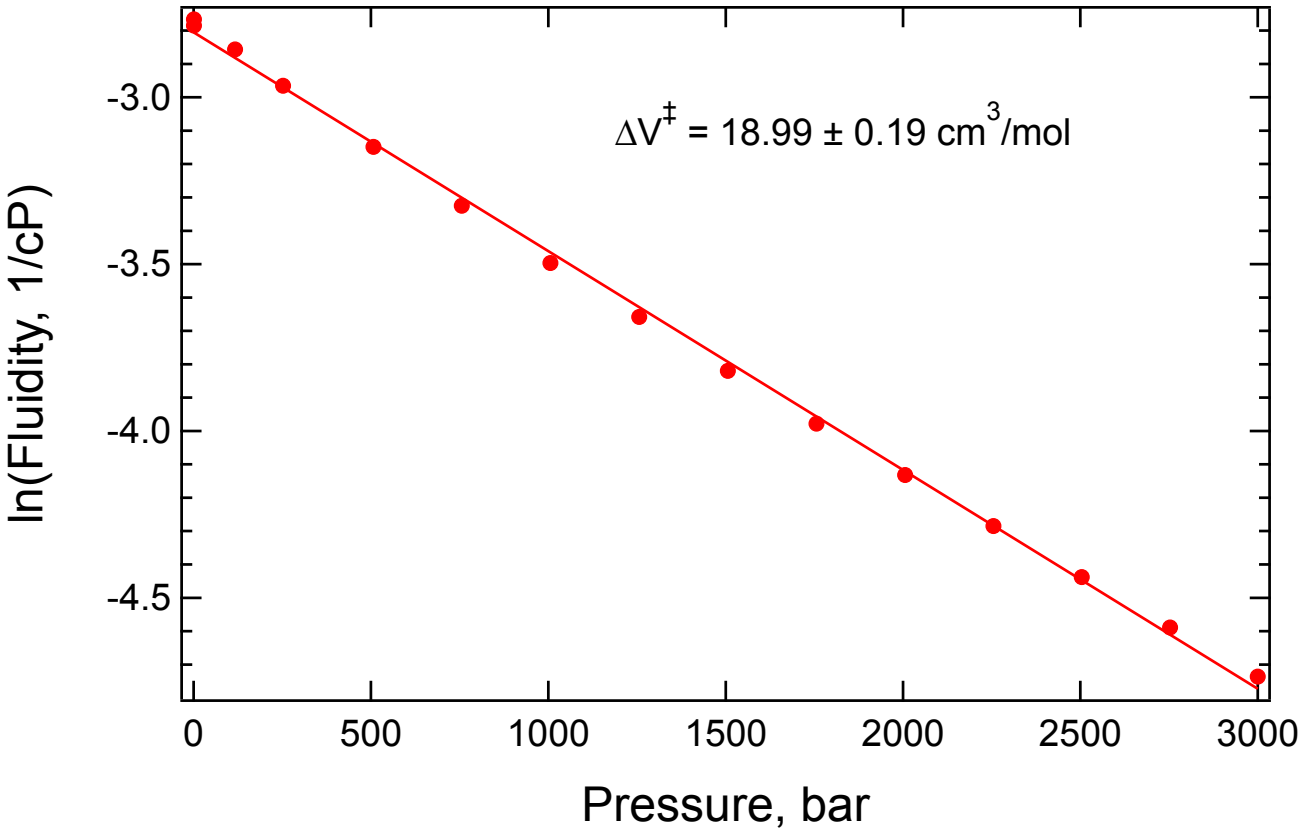
Data from Harris et al. 10.1021/je700370z
J. Chem. Eng. Data 2007, 52, 2425-2430



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	35.6	-3.572
1	1	36	-3.584
2	105	39.2	-3.669
3	254	44.4	-3.793
4	505	55.3	-4.013
5	756	67.9	-4.218
6	1006	83	-4.419
7	1255	101.2	-4.617
8	1504	122.8	-4.811
9	1755	148.7	-5.002
10	2003	179.5	-5.190
11	2253	216.2	-5.376
12	2501	260	-5.561

1/Viscosity vs. Pressure Plot for BMIM BF_4 at 75 °C

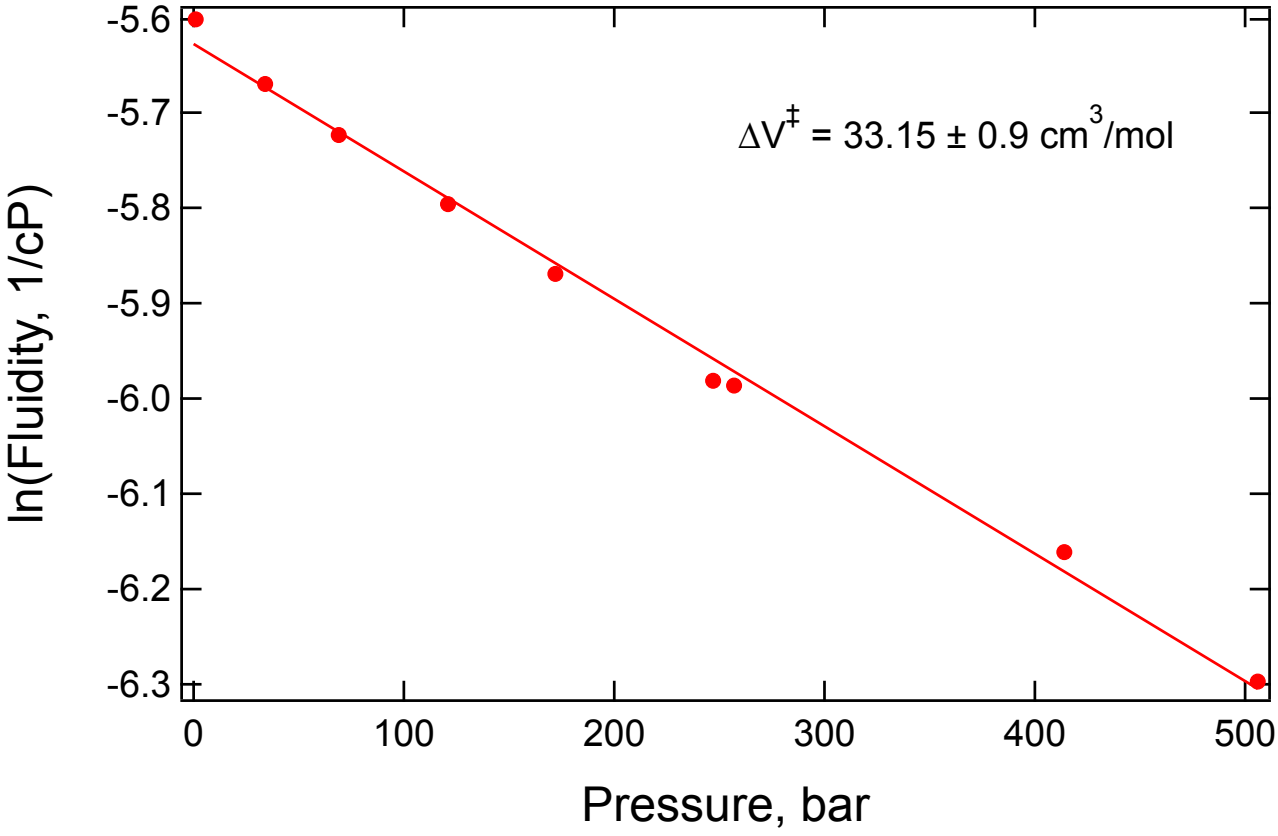
Data from Harris et al. 10.1021/je700370z
J. Chem. Eng. Data 2007, 52, 2425-2430



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	16.2	-2.785
1	1	15.9	-2.766
2	117	17.4	-2.856
3	252	19.4	-2.965
4	507	23.3	-3.148
5	756	27.8	-3.325
6	1006	33	-3.497
7	1256	38.8	-3.658
8	1506	45.6	-3.820
9	1756	53.4	-3.978
10	2006	62.3	-4.132
11	2255	72.6	-4.285
12	2504	84.6	-4.438
13	2753	98.4	-4.589
14	3000	114	-4.736

1/Viscosity vs. Pressure Plot for BMIM PF_6 at 25 °C

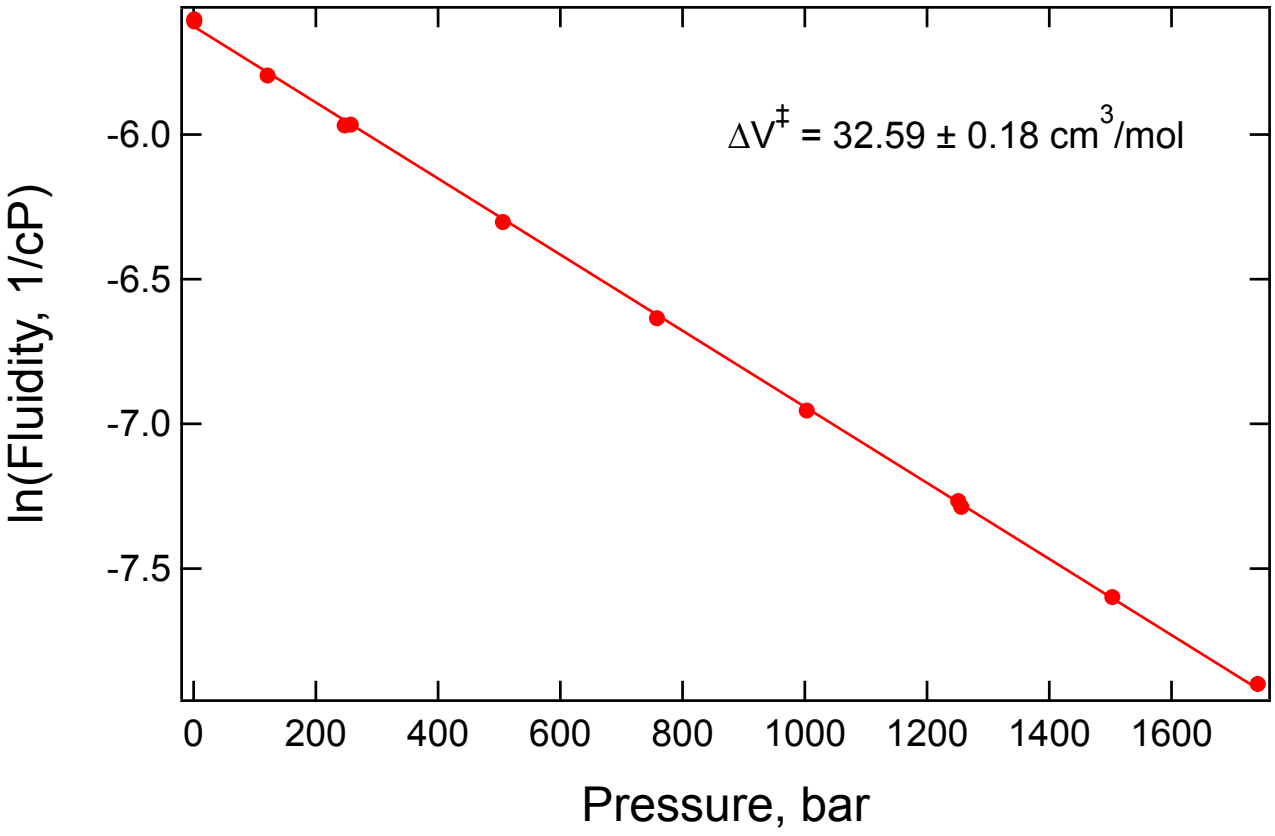
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	271	-5.602
1	34	290	-5.670
2	69	306	-5.724
3	121	329	-5.796
4	172	354	-5.869
5	247	396	-5.981
6	257	398	-5.986
7	414	474	-6.161
8	506	543	-6.297

1/Viscosity vs. Pressure Plot for BMIM PF_6 at 25 °C

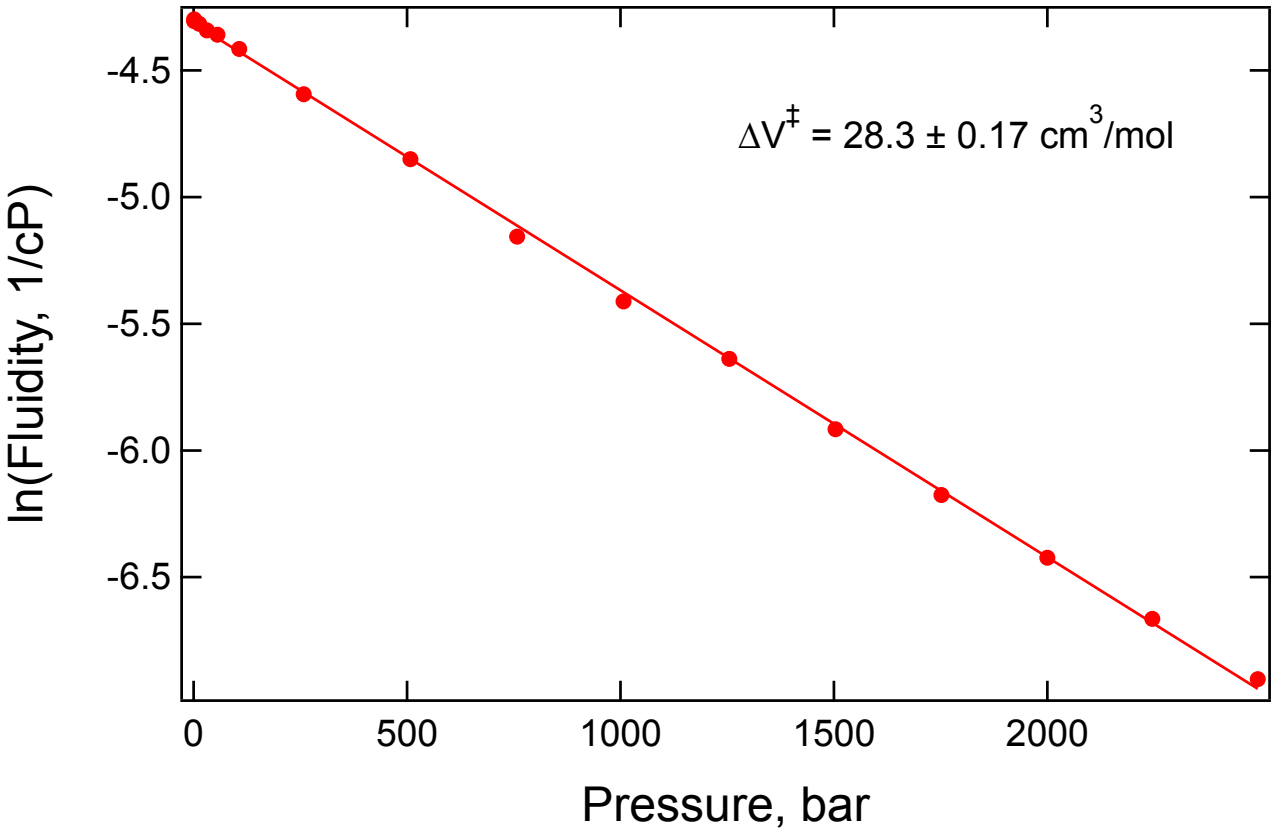
Data from Harris et al. 10.1021/je050147b



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	273	-5.609
1	1	271	-5.602
2	121	329	-5.796
3	247	391	-5.969
4	257	390	-5.966
5	506	546	-6.303
6	758	761	-6.635
7	1003	1047	-6.954
8	1251	1432	-7.267
9	1256	1461	-7.287
10	1503	1995	-7.598
11	1741	2694	-7.899

1/Viscosity vs. Pressure Plot for BMIM PF_6 at 50 °C

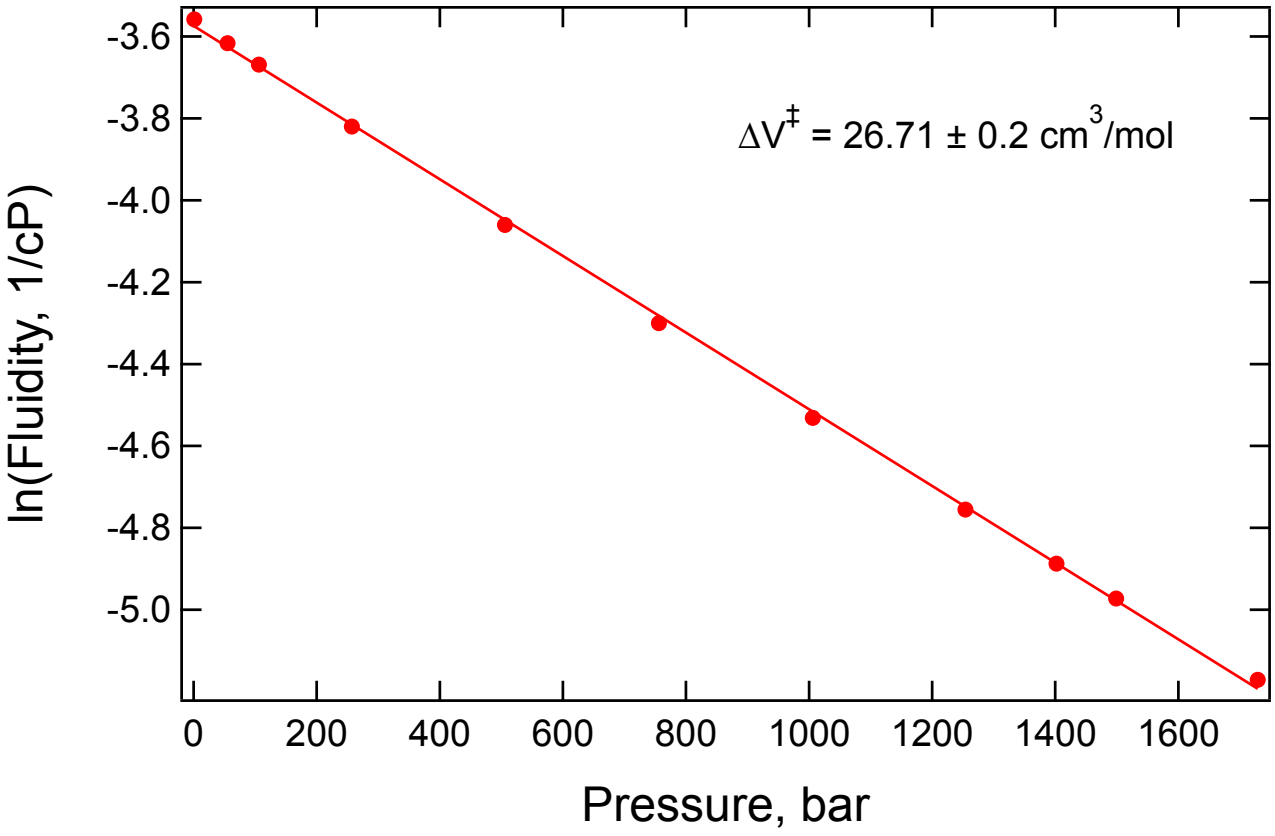
Data from Harris et al. 10.1021/je050147b



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	73.6	-4.299
1	1	74.1	-4.305
2	13	74.9	-4.316
3	31	76.9	-4.343
4	56	78.2	-4.359
5	107	82.7	-4.415
6	258	98.9	-4.594
7	508	127.8	-4.850
8	758	173.5	-5.156
9	1007	224	-5.412
10	1255	281	-5.638
11	1504	371	-5.916
12	1752	481	-6.176
13	2000	616	-6.423
14	2246	784	-6.664
15	2493	995	-6.903

1/Viscosity vs. Pressure Plot for BMIM PF_6 at 70 °C

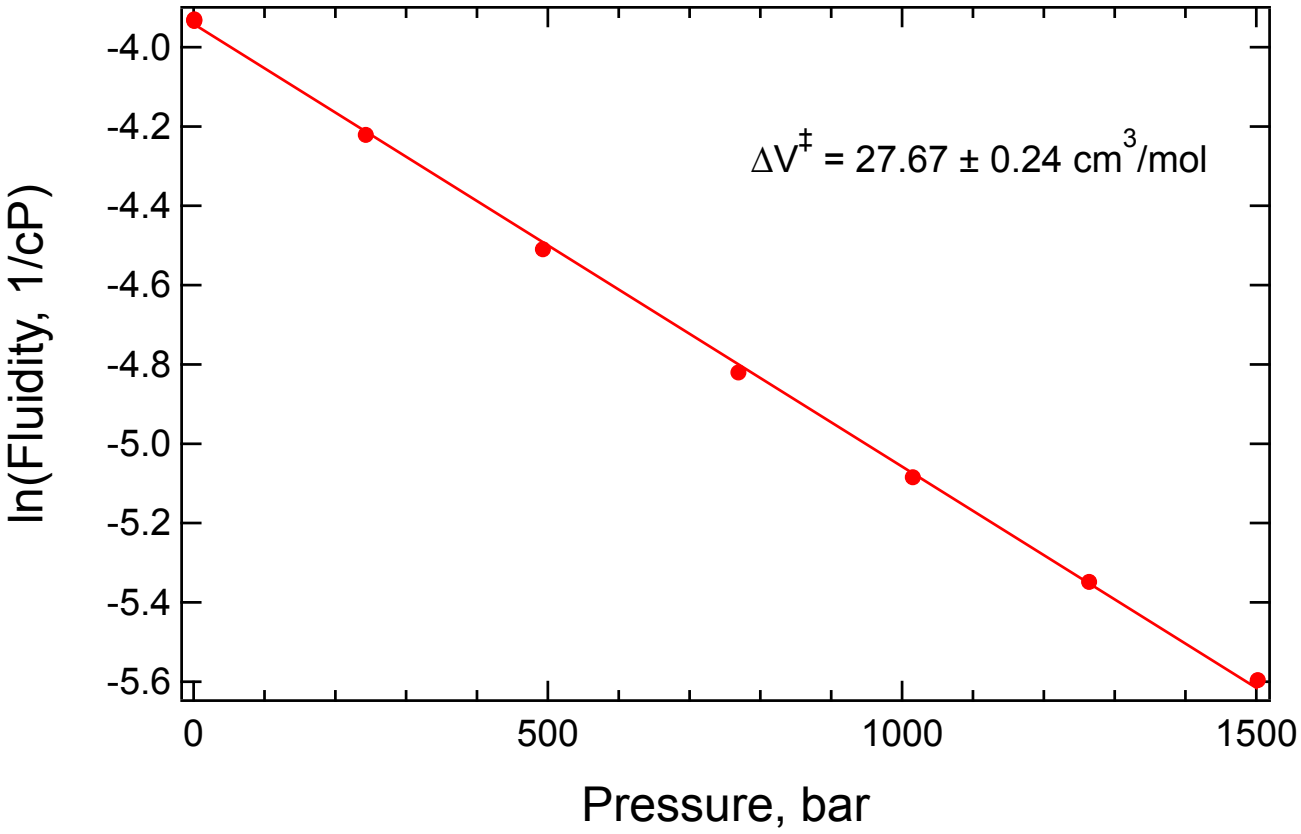
Data from Harris et al. 10.1021/je050147b



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	35.1	-3.558
1	55	37.2	-3.616
2	106	39.2	-3.669
3	257	45.6	-3.820
4	506	58	-4.060
5	756	73.7	-4.300
6	1006	92.9	-4.532
7	1254	116.2	-4.755
8	1402	132.6	-4.887
9	1499	144.4	-4.973
10	1729	176.1	-5.171

1/Viscosity vs. Pressure Plot for BMIM TFSA at 25 °C

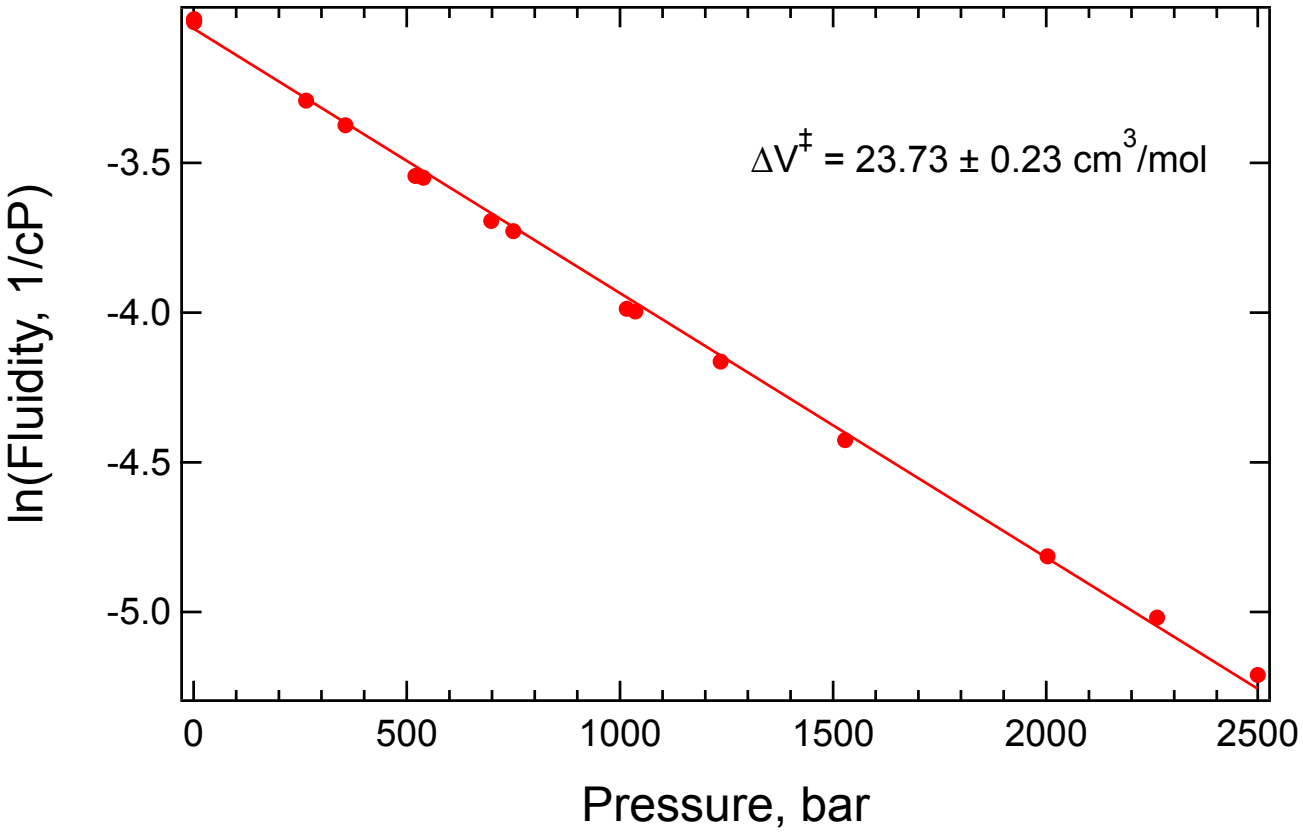
Data from Harris et al. 10.1021/je700032n
J. Chem. Eng. Data 2007, 52, 1080-1085



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	51	-3.932
1	1	51.1	-3.934
2	1	50.9	-3.930
3	243	68.1	-4.221
4	493	90.9	-4.510
5	769	124	-4.820
6	1015	161.5	-5.085
7	1264	210.3	-5.349
8	1502	269.4	-5.596

1/Viscosity vs. Pressure Plot for BMIM TFSA at 50 °C

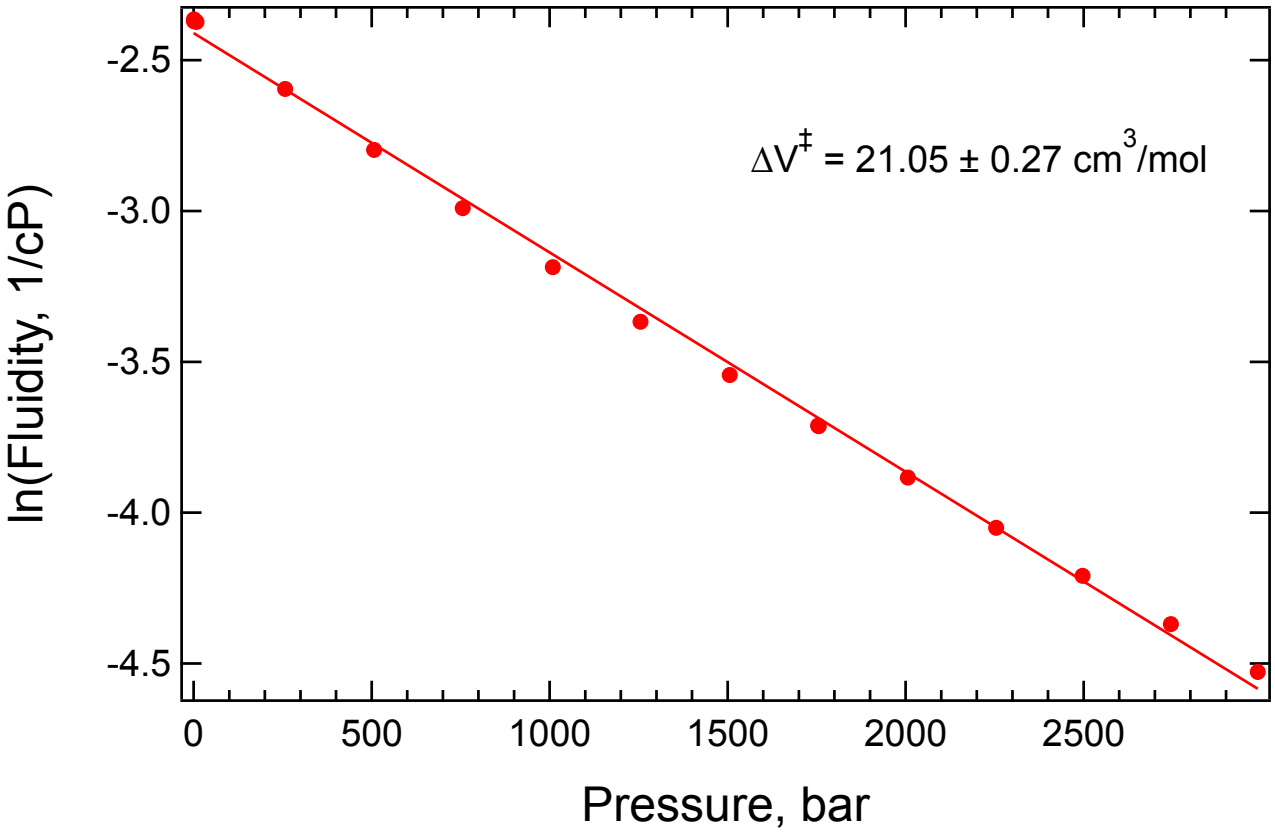
Data from Harris et al. 10.1021/je700032n
J. Chem. Eng. Data 2007, 52, 1080-1085



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	20.5	-3.020
1	1	20.5	-3.020
2	264	26.9	-3.292
3	520	34.6	-3.544
4	750	41.6	-3.728
5	1016	53.9	-3.987
6	1528	83.6	-4.426
7	2003	123.2	-4.814
8	2260	151.2	-5.019
9	2496	183.2	-5.211
10	1	20.6	-3.025
11	1	20.7	-3.030
12	1	20.6	-3.025
13	356	29.2	-3.374
14	539	34.8	-3.550
15	698	40.2	-3.694
16	1036	54.4	-3.996
17	1236	64.3	-4.164

1/Viscosity vs. Pressure Plot for BMIM TFSA at 75 °C

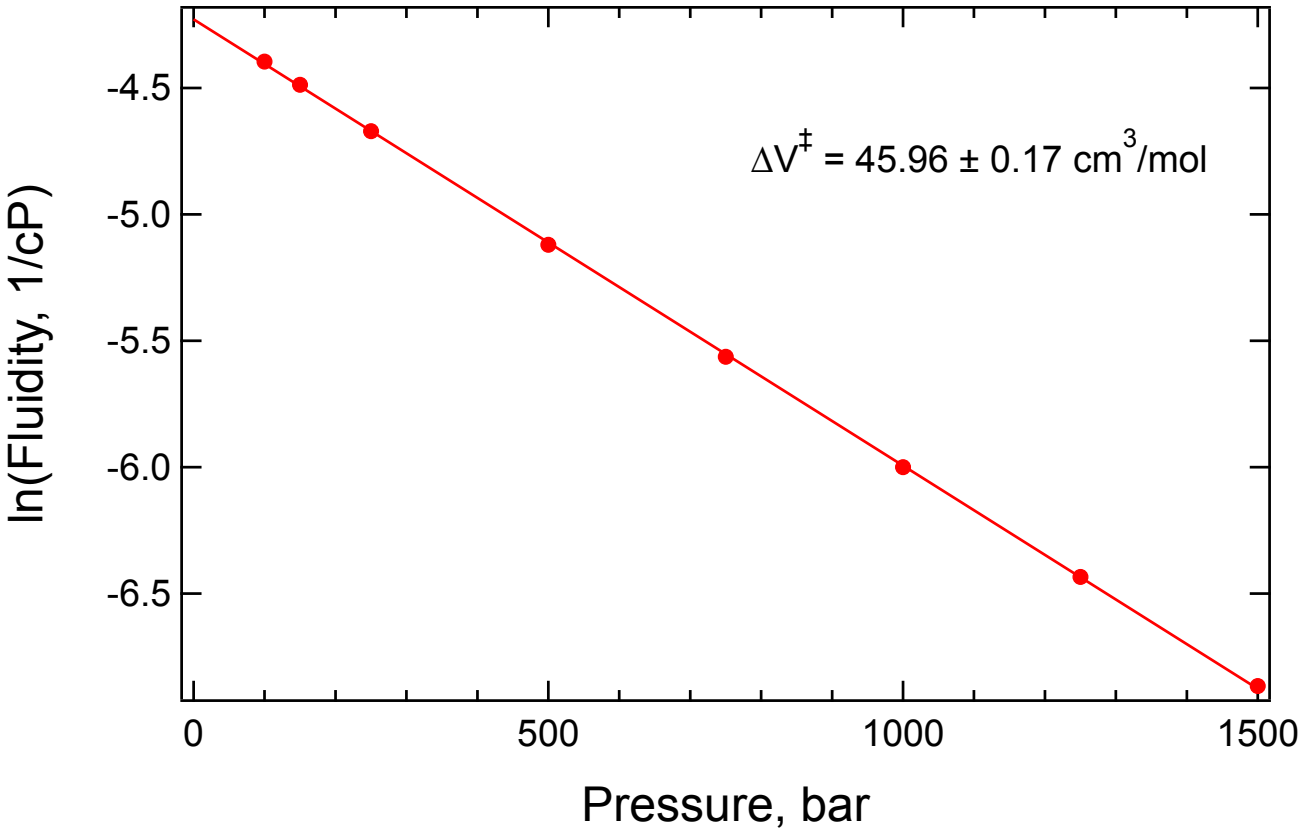
Data from Harris et al. 10.1021/je700032n
J. Chem. Eng. Data 2007, 52, 1080-1085



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	10.64	-2.365
1	1	10.71	-2.371
2	8	10.73	-2.373
3	257	13.4	-2.595
4	507	16.4	-2.797
5	756	19.9	-2.991
6	1009	24.2	-3.186
7	1255	29	-3.367
8	1506	34.6	-3.544
9	1754	40.9	-3.711
10	1756	41	-3.714
11	2006	48.6	-3.884
12	2254	57.4	-4.050
13	2497	67.3	-4.209
14	2745	79	-4.369
15	2989	92.6	-4.528

1/Viscosity vs. Pressure Plot BMMIM FAP at 40 °C

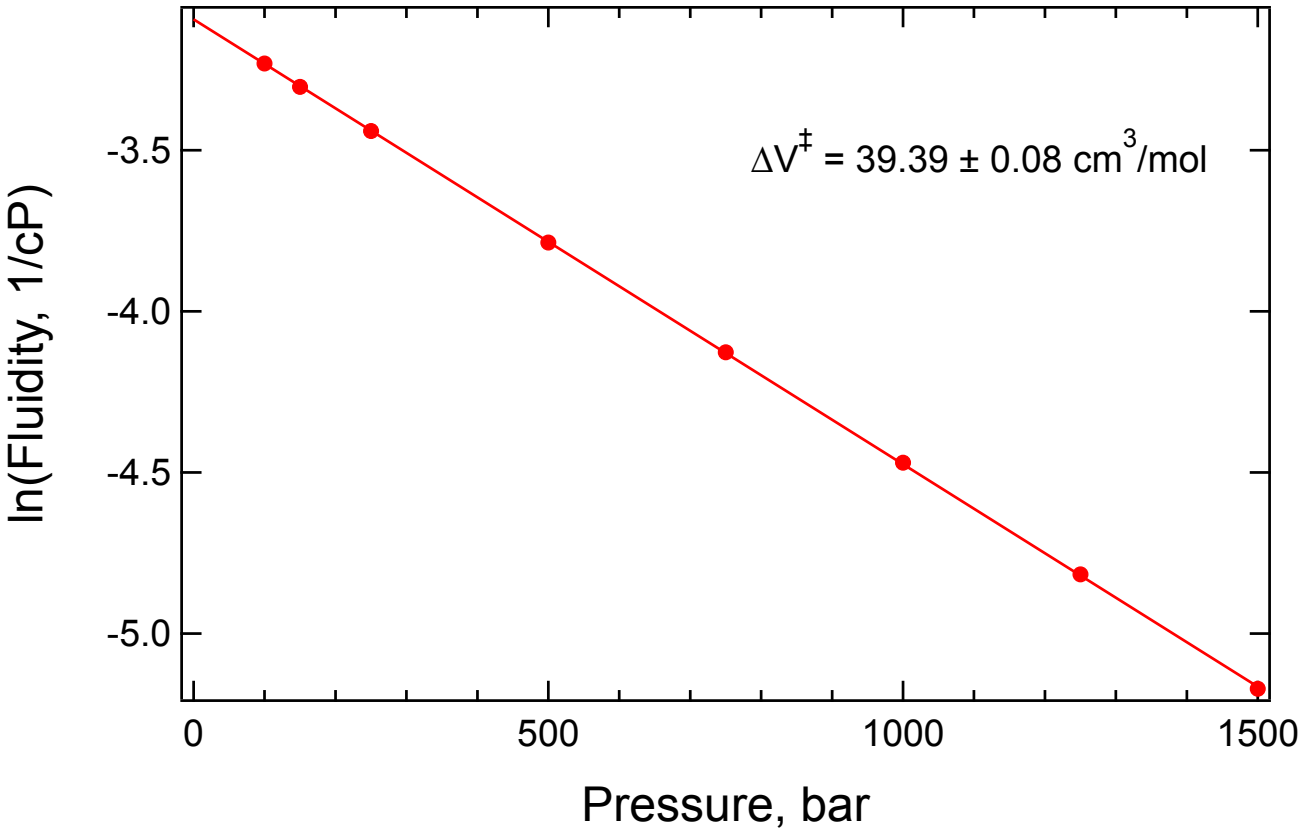
Data from Gacino et al. 10.1016/j.jct.2013.02.014
J. Chem. Thermodynamics 62 (2013) 162–169



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	81.1	-4.396
1	150	88.9	-4.488
2	250	106.8	-4.671
3	500	167.4	-5.120
4	750	260.6	-5.563
5	1000	403.5	-6.000
6	1250	622.7	-6.434
7	1500	958.7	-6.866

1/Viscosity vs. Pressure Plot BMMIM FAP at 70 °C

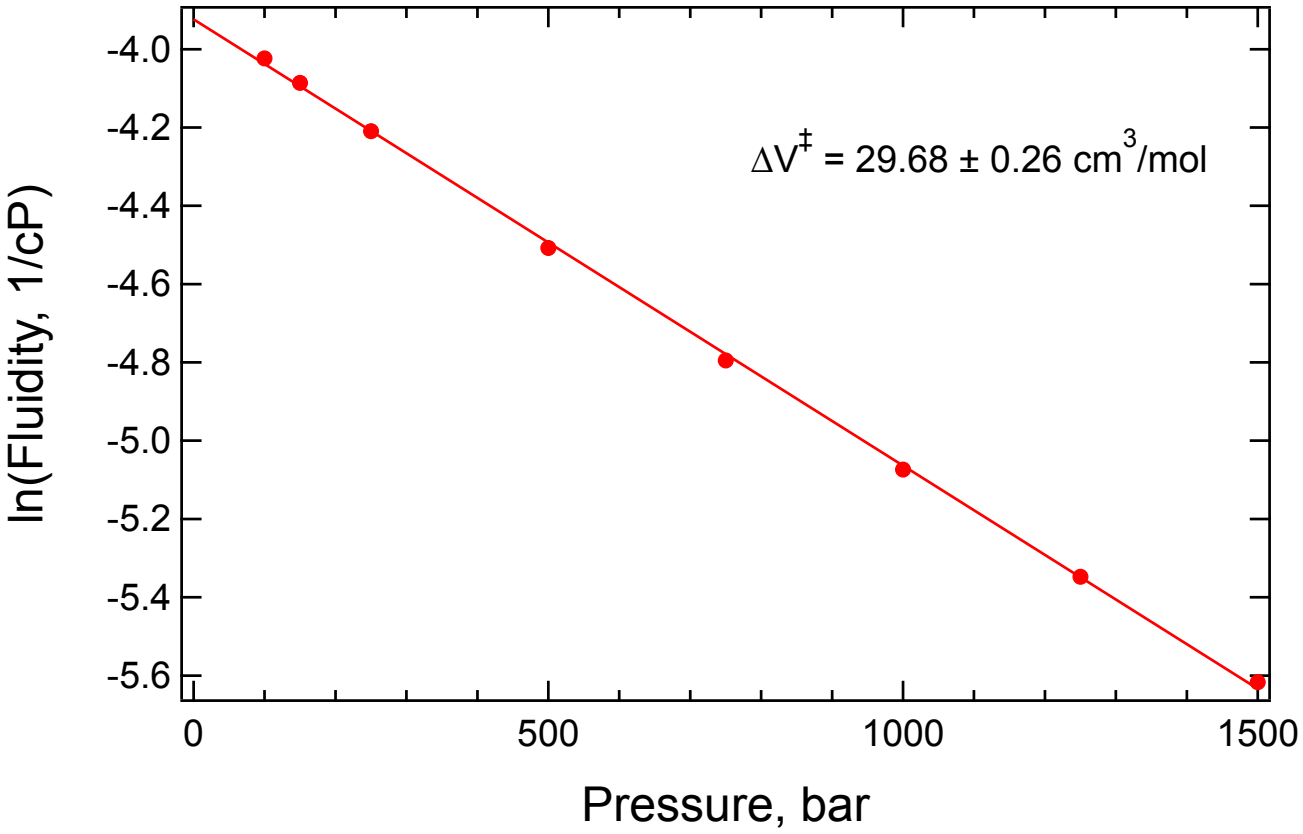
Data from Gacino et al. 10.1016/j.jct.2013.02.014
J. Chem. Thermodynamics 62 (2013) 162–169



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	25.3	-3.231
1	150	27.2	-3.303
2	250	31.2	-3.440
3	500	44.1	-3.786
4	750	62	-4.127
5	1000	87.3	-4.469
6	1250	123.5	-4.816
7	1500	176.1	-5.171

1/Viscosity vs. Pressure Plot BMMIM TFSA at 40 °C

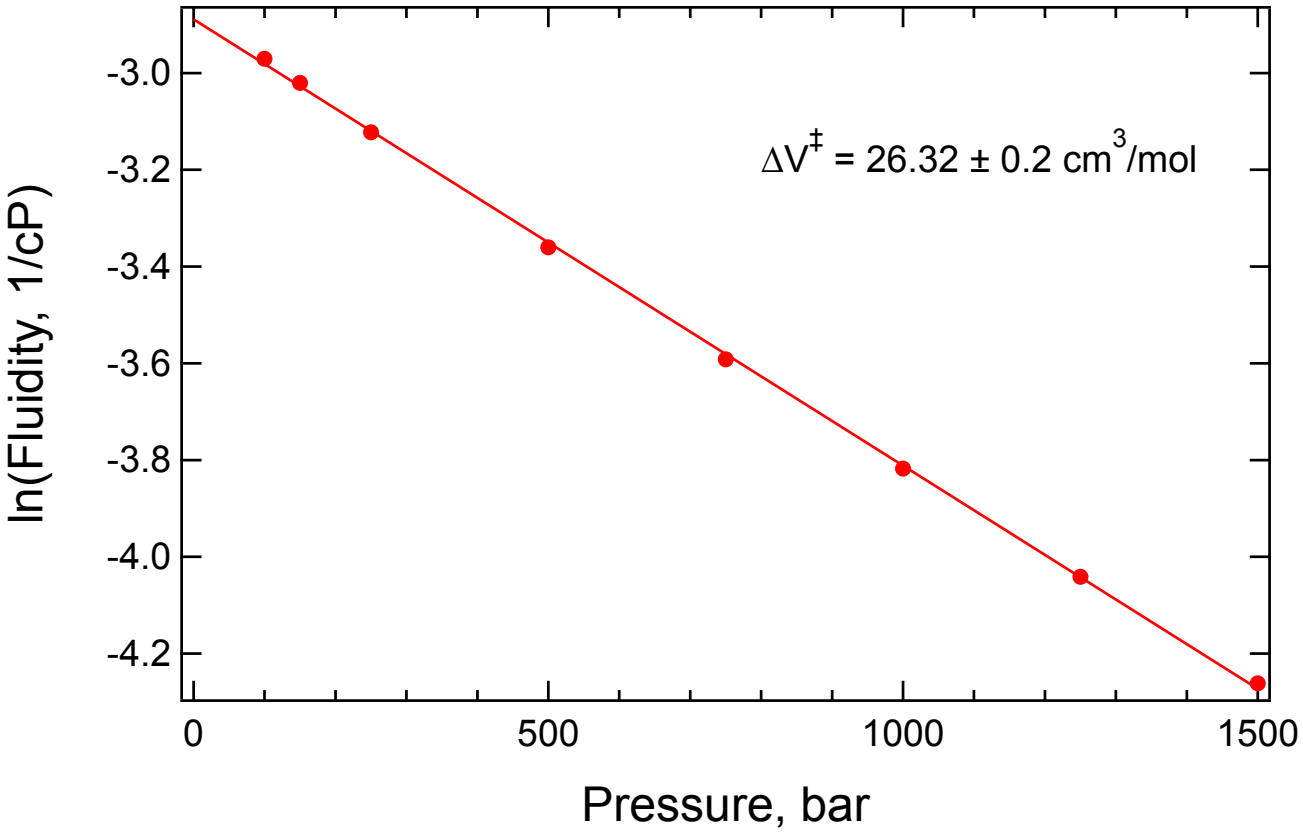
Data from Gacino et al. 10.1016/j.jct.2013.02.014
J. Chem. Thermodynamics 62 (2013) 162–169



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	55.9	-4.024
1	150	59.5	-4.086
2	250	67.3	-4.209
3	500	90.7	-4.508
4	750	120.9	-4.795
5	1000	159.8	-5.074
6	1250	210.1	-5.348
7	1500	275	-5.617

1/Viscosity vs. Pressure Plot BMMIM TFSA at 70 °C

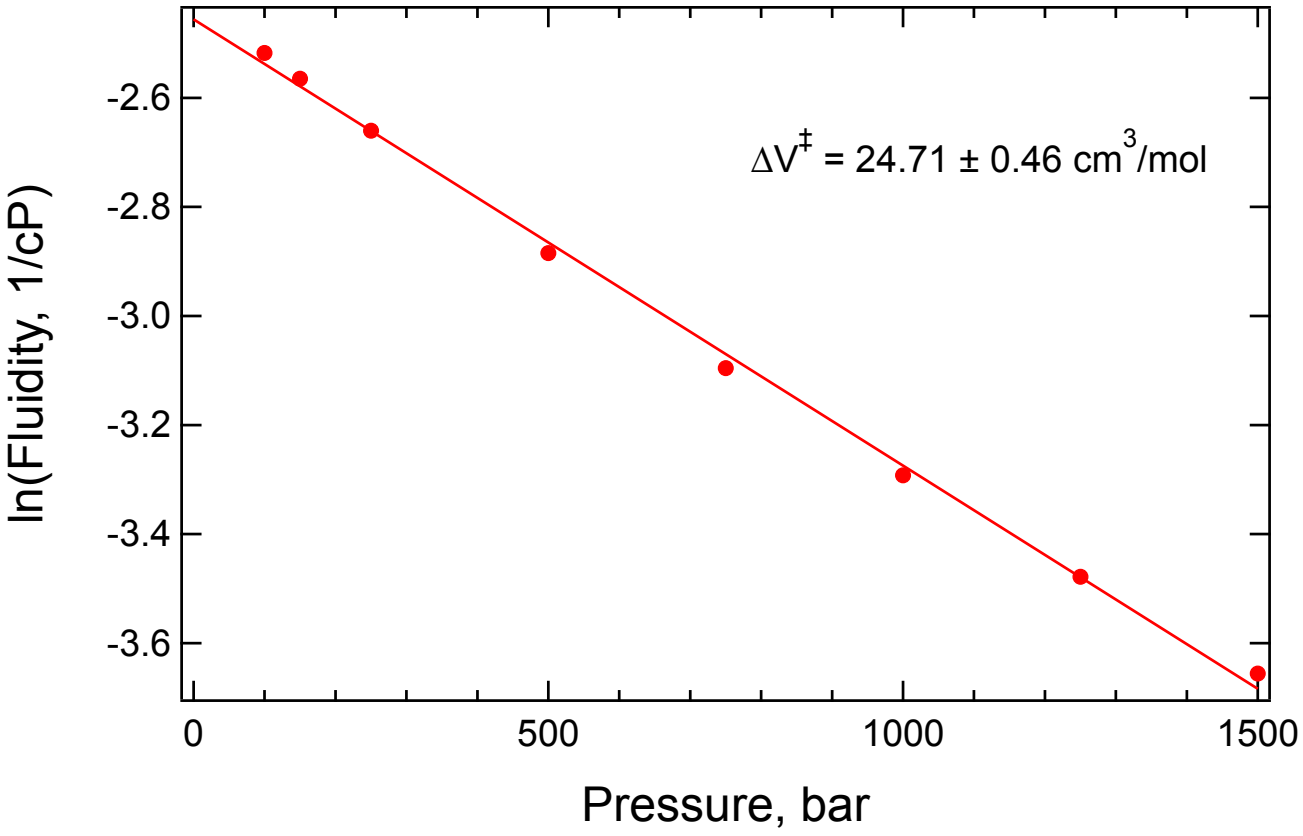
Data from Gacino et al. 10.1016/j.jct.2013.02.014
J. Chem. Thermodynamics 62 (2013) 162–169



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	19.5	-2.970
1	150	20.5	-3.020
2	250	22.7	-3.122
3	500	28.8	-3.360
4	750	36.3	-3.592
5	1000	45.5	-3.818
6	1250	56.9	-4.041
7	1500	70.9	-4.261

1/Viscosity vs. Pressure Plot BMMIM TFSA at 90 °C

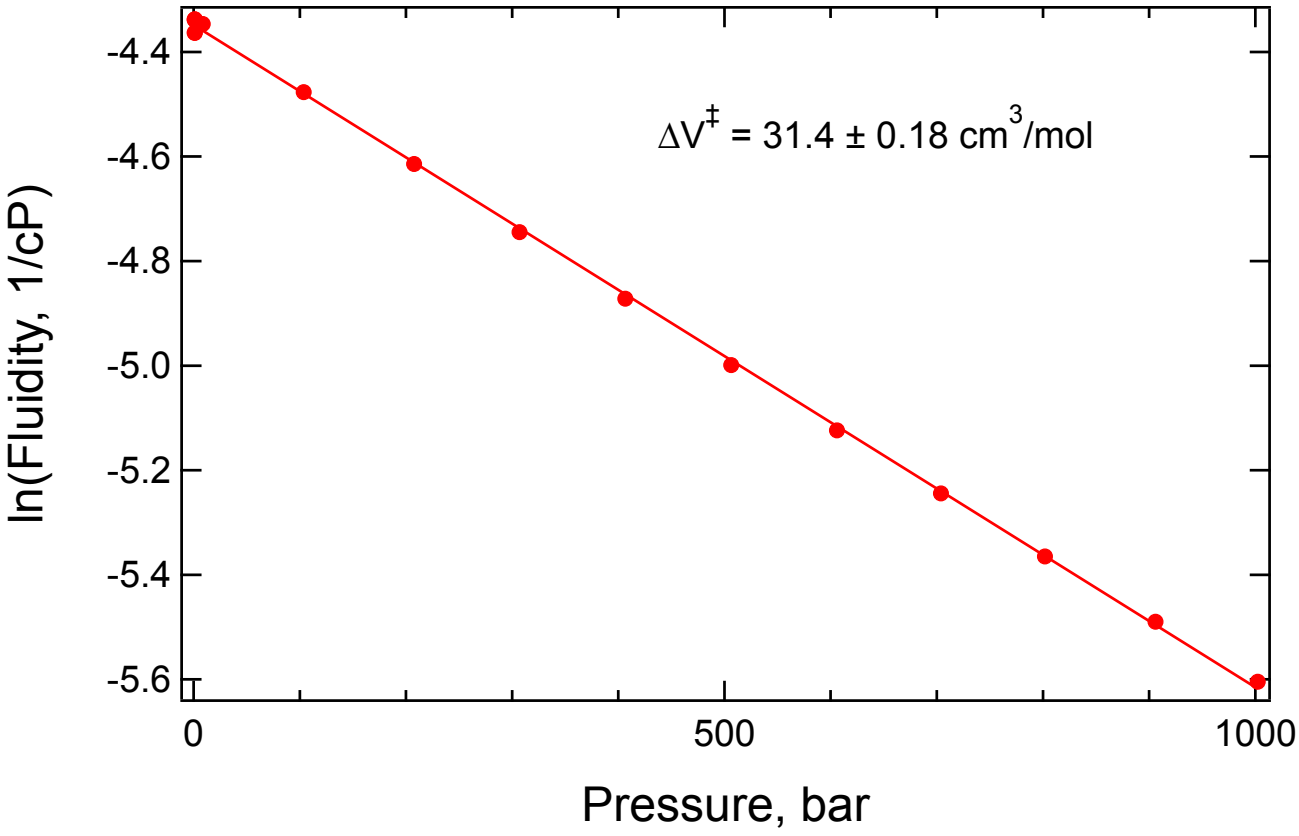
Data from Gacino et al. 10.1016/j.jct.2013.02.014
J. Chem. Thermodynamics 62 (2013) 162–169



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	12.4	-2.518
1	150	13	-2.565
2	250	14.3	-2.660
3	500	17.9	-2.885
4	750	22.1	-3.096
5	1000	26.9	-3.292
6	1250	32.4	-3.478
7	1500	38.7	-3.656

1/Viscosity vs. Pressure Plot for BMpyrr TFSA at 25 °C

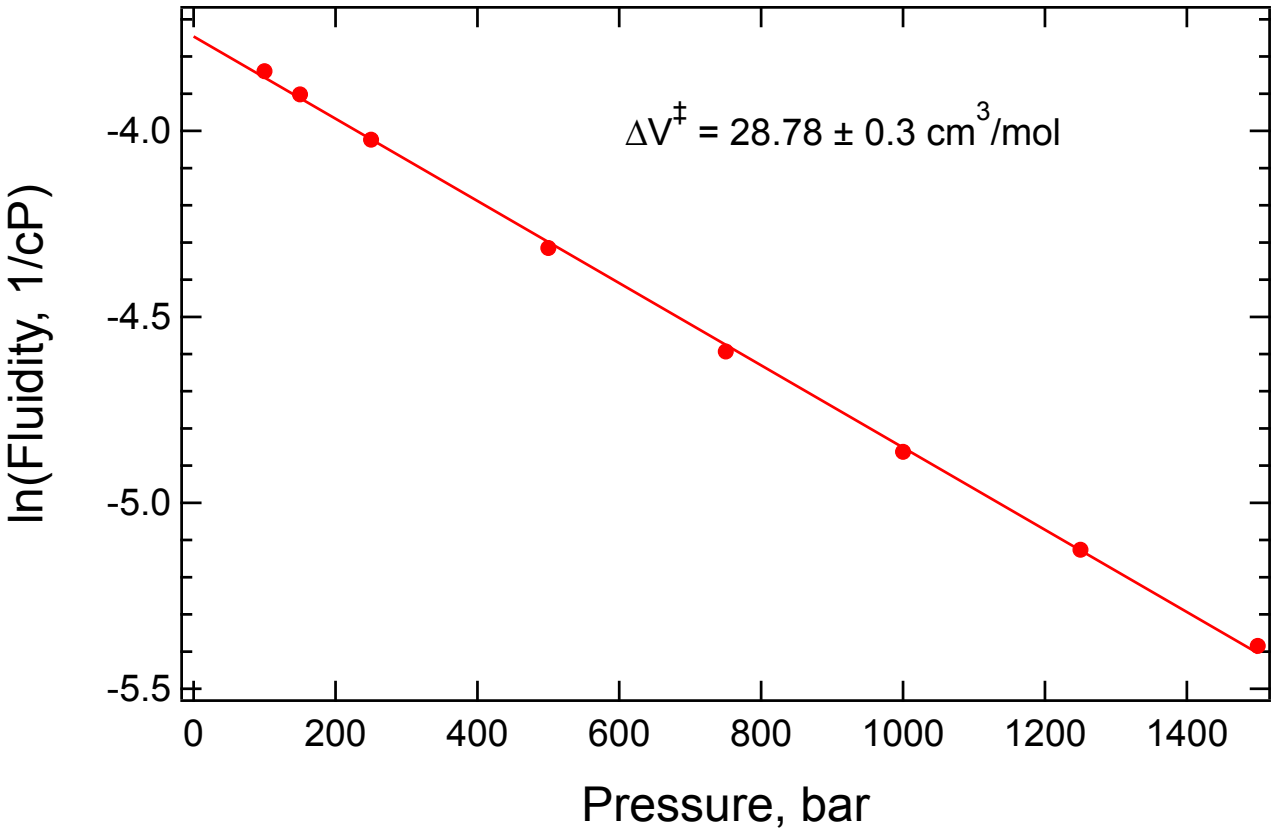
Data from Harris et al. 10.1021/je2006049



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	76.54	-4.338
1	1	78.55	-4.364
2	1	78.48	-4.363
3	1	76.53	-4.338
4	1	76.63	-4.339
5	8.6	77.22	-4.347
6	103.7	87.96	-4.477
7	207.6	100.93	-4.614
8	307	114.96	-4.745
9	406.6	130.58	-4.872
10	506.3	148.26	-4.999
11	606	167.95	-5.124
12	703.9	189.46	-5.244
13	801.8	213.75	-5.365
14	906	242.18	-5.490
15	1002.3	271.62	-5.604

1/Viscosity vs. Pressure Plot for BMpyrr TFSA at 40 °C

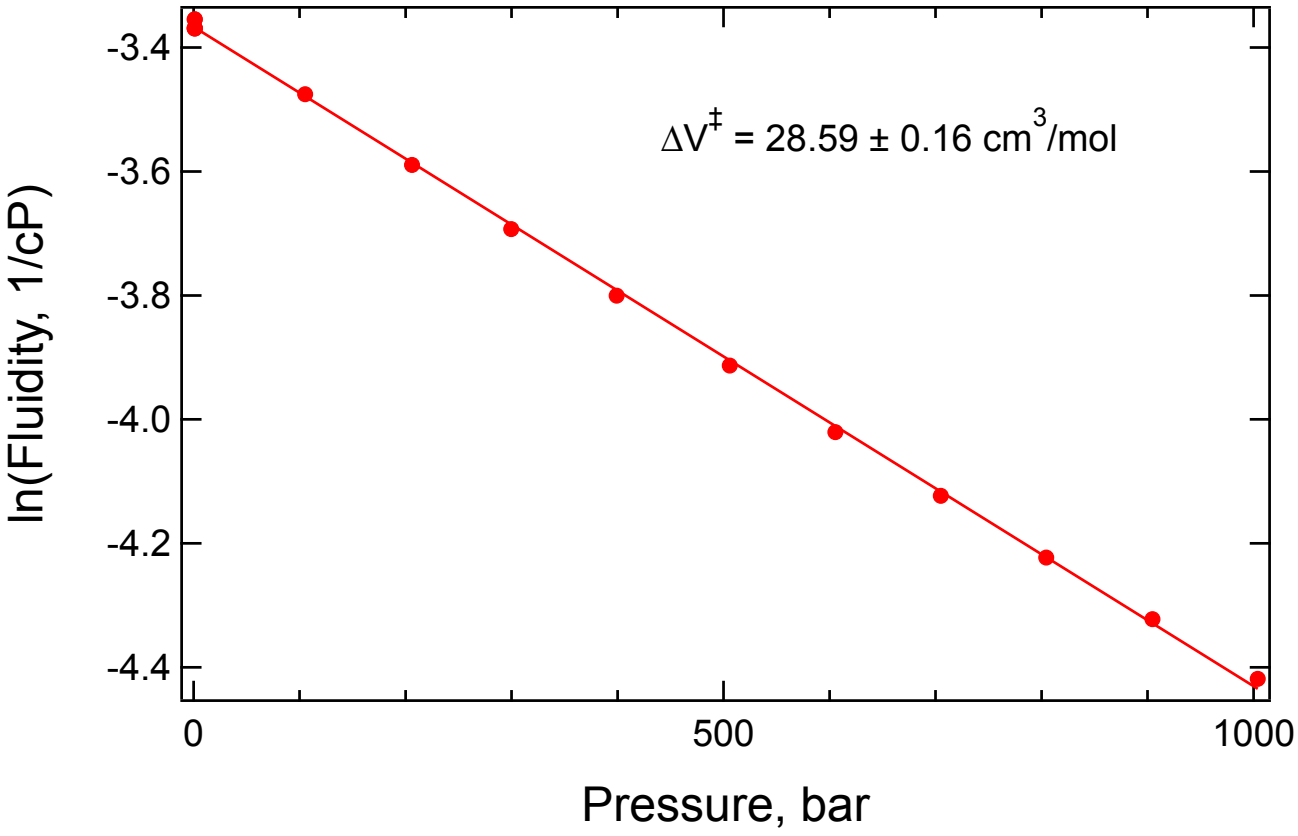
Data from Gacino et al. 10.1016/j.jct.2012.05.007



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	46.5	-3.839
1	150	49.5	-3.902
2	250	55.9	-4.024
3	500	74.8	-4.315
4	750	98.8	-4.593
5	1000	129.4	-4.863
6	1250	168.4	-5.126
7	1500	218	-5.384

1/Viscosity vs. Pressure Plot for BMpyrr TFSA at 50 °C

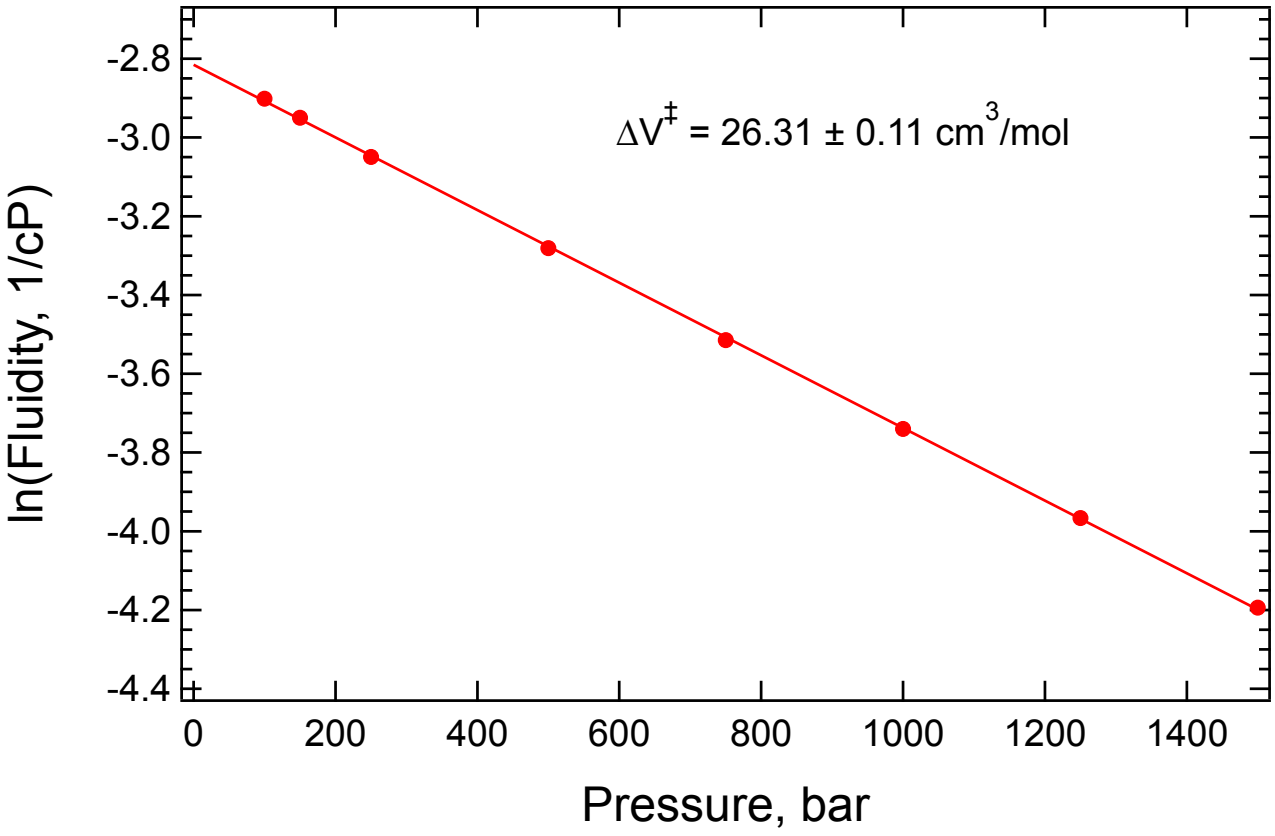
Data from Harris et al. 10.1021/je2006049



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	29.06	-3.369
1	1	29.04	-3.369
2	1	28.63	-3.354
3	1	29.05	-3.369
4	1	29.03	-3.368
5	1	28.63	-3.354
6	105.2	32.31	-3.475
7	206	36.21	-3.589
8	299.7	40.16	-3.693
9	399.1	44.72	-3.800
10	505.9	50.06	-3.913
11	605.5	55.73	-4.021
12	704.9	61.77	-4.123
13	804.5	68.24	-4.223
14	904.7	75.36	-4.322
15	1004	82.99	-4.419

1/Viscosity vs. Pressure Plot for BMpyrr TFSA at 70 °C

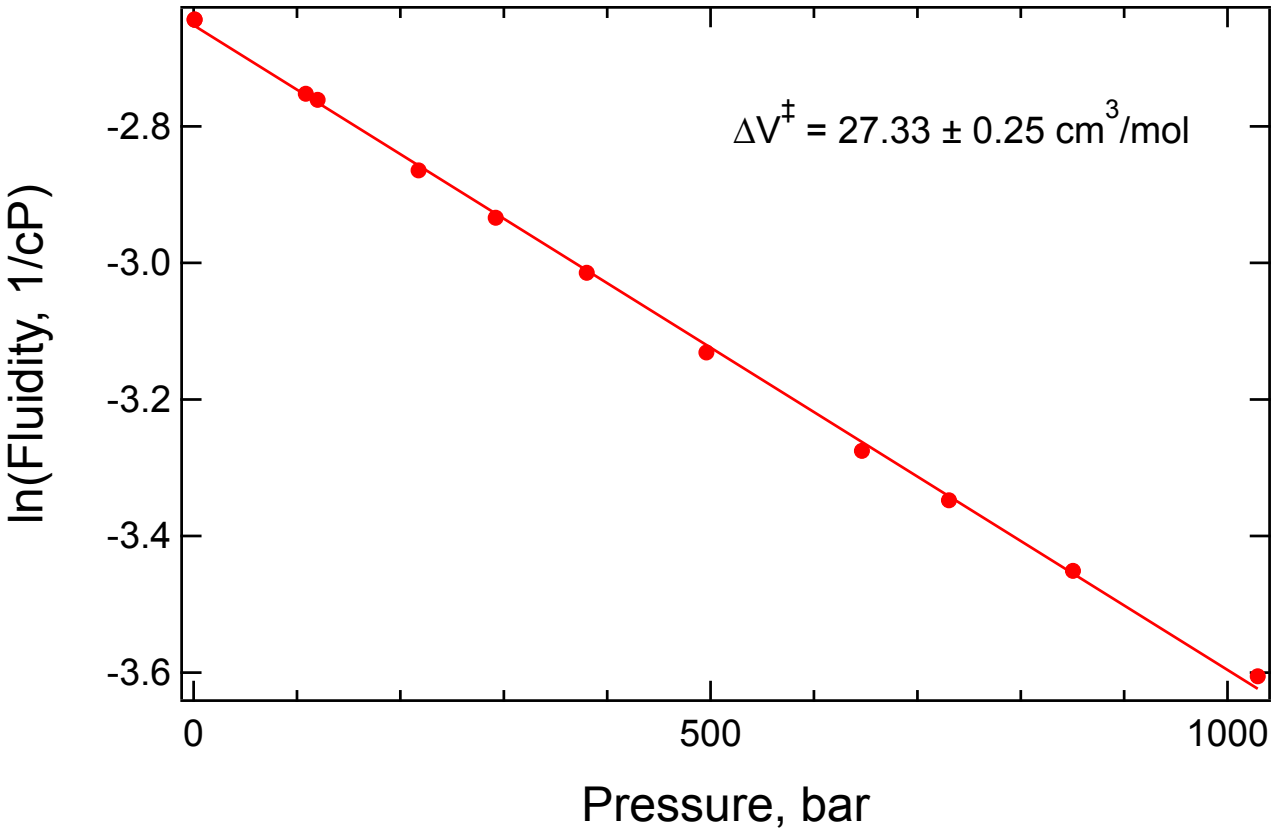
Data from Gacino et al. 10.1016/j.jct.2012.05.007



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	18.2	-2.901
1	150	19.1	-2.950
2	250	21.1	-3.049
3	500	26.6	-3.281
4	750	33.6	-3.515
5	1000	42.1	-3.740
6	1250	52.8	-3.967
7	1500	66.3	-4.194

1/Viscosity vs. Pressure Plot for BMpyrr TFSA at 75 °C

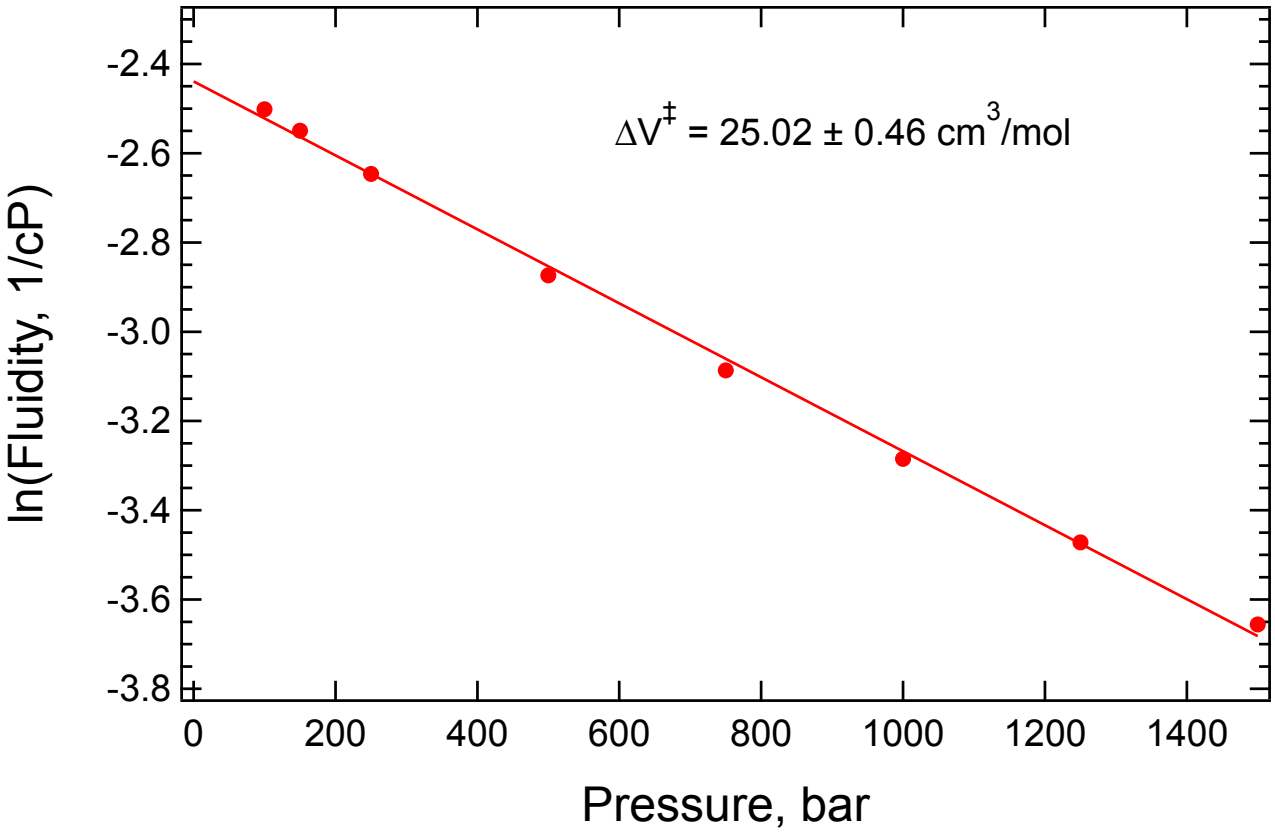
Data from Harris et al. 10.1021/je2006049



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	14.07	-2.644
1	1	14.06	-2.643
2	108.5	15.68	-2.752
3	119.9	15.82	-2.761
4	217.6	17.54	-2.864
5	292.1	18.8	-2.934
6	380.2	20.38	-3.015
7	496	22.9	-3.131
8	646.3	26.45	-3.275
9	730.6	28.44	-3.348
10	850.4	31.53	-3.451
11	1029.2	36.8	-3.605

1/Viscosity vs. Pressure Plot for BMpyrr TFSA at 90 °C

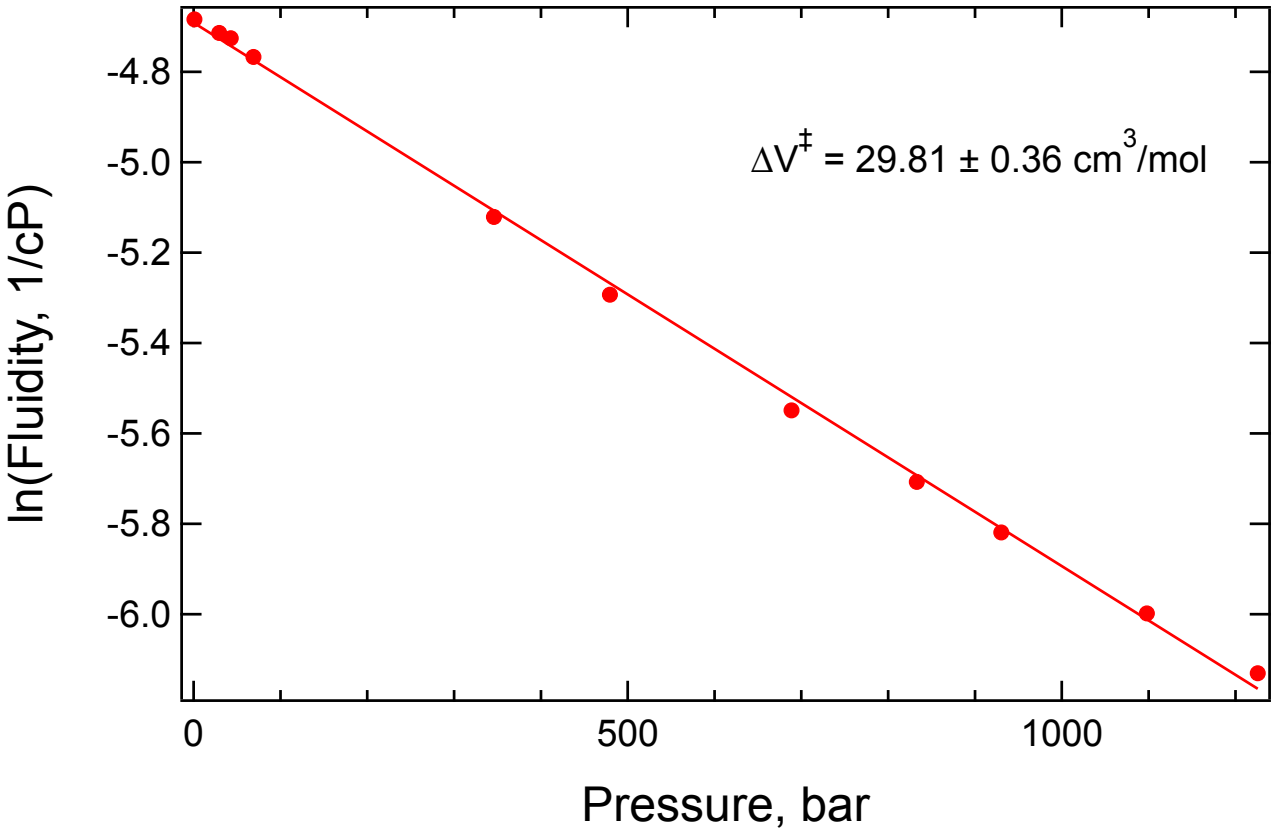
Data from Gacino et al. 10.1016/j.jct.2012.05.007



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	12.2	-2.501
1	150	12.8	-2.549
2	250	14.1	-2.646
3	500	17.7	-2.874
4	750	21.9	-3.086
5	1000	26.7	-3.285
6	1250	32.2	-3.472
7	1500	38.7	-3.656

1/Viscosity vs. Pressure Plot C_{10}MIM TFSA at 25 °C

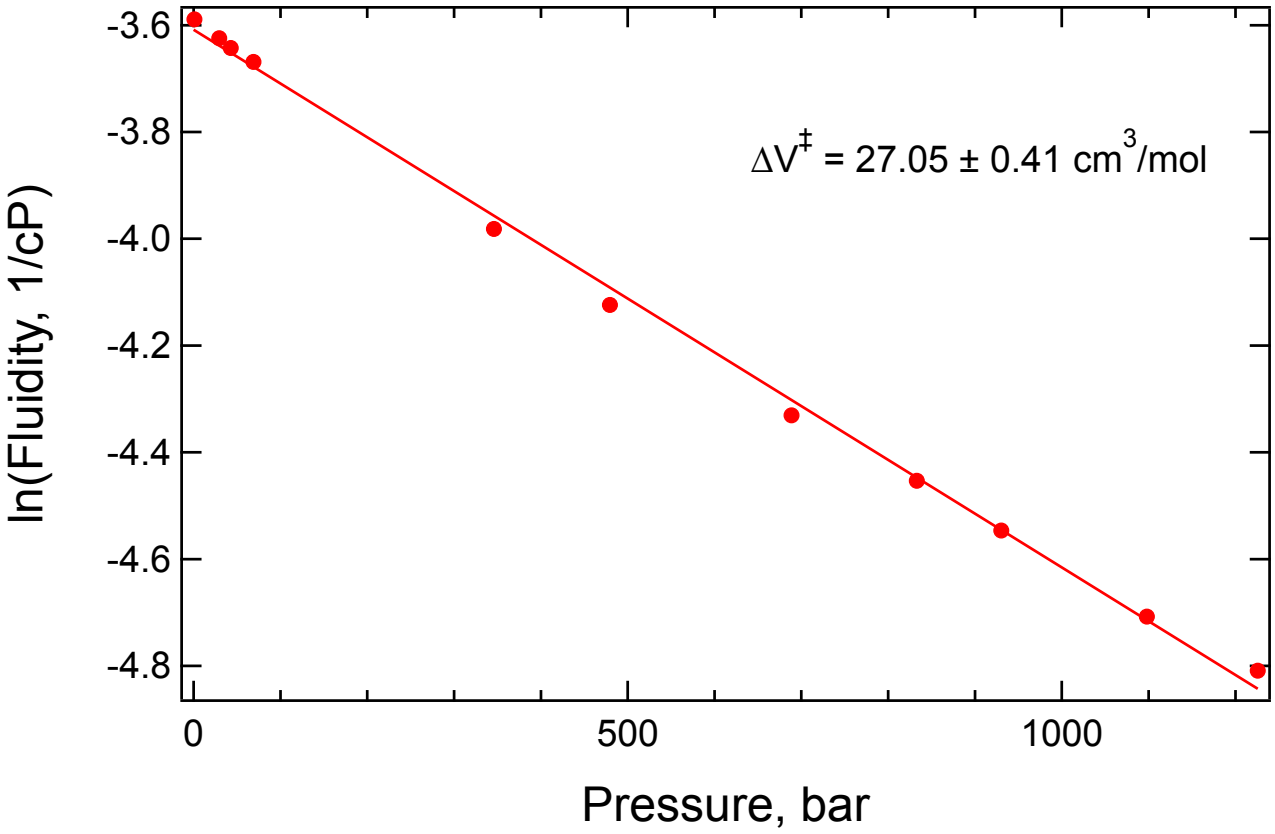
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7
Int J Thermophys (2008) 29:1222–1243



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	108.2	-4.684
1	29.5	111.5	-4.714
2	42.7	112.8	-4.726
3	69	117.6	-4.767
4	346	167.5	-5.121
5	479.6	199	-5.293
6	688.7	257	-5.549
7	832.9	301.1	-5.707
8	930.3	336.7	-5.819
9	1098	402.7	-5.998
10	1225.7	459.8	-6.131

1/Viscosity vs. Pressure Plot C_{10}MIM TFSA at 50 °C

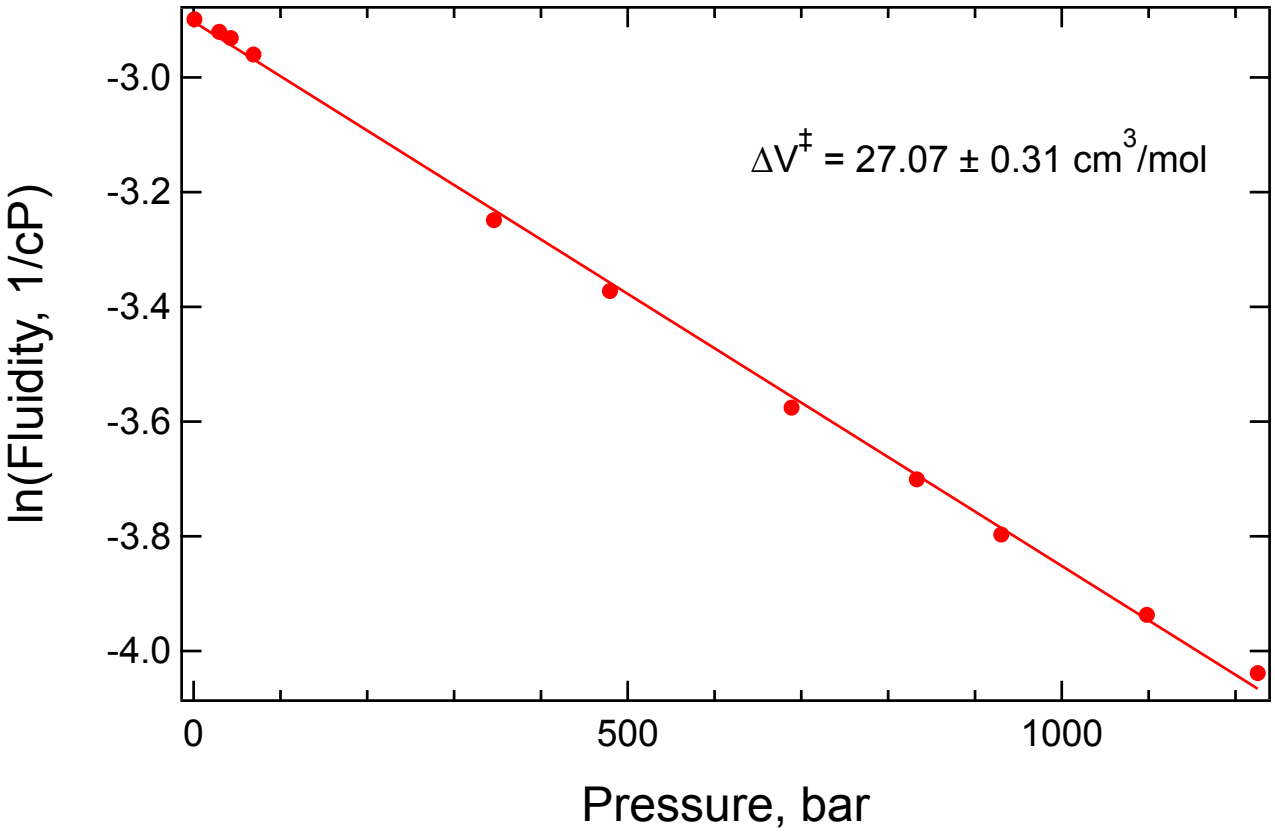
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7
Int J Thermophys (2008) 29:1222–1243



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	36.2	-3.589
1	29.5	37.5	-3.624
2	42.7	38.2	-3.643
3	69	39.2	-3.669
4	346	53.6	-3.982
5	479.6	61.8	-4.124
6	688.7	76	-4.331
7	832.9	85.9	-4.453
8	930.3	94.3	-4.546
9	1098	110.8	-4.708
10	1225.7	122.6	-4.809

1/Viscosity vs. Pressure Plot C_{10}MIM TFSA at 70 °C

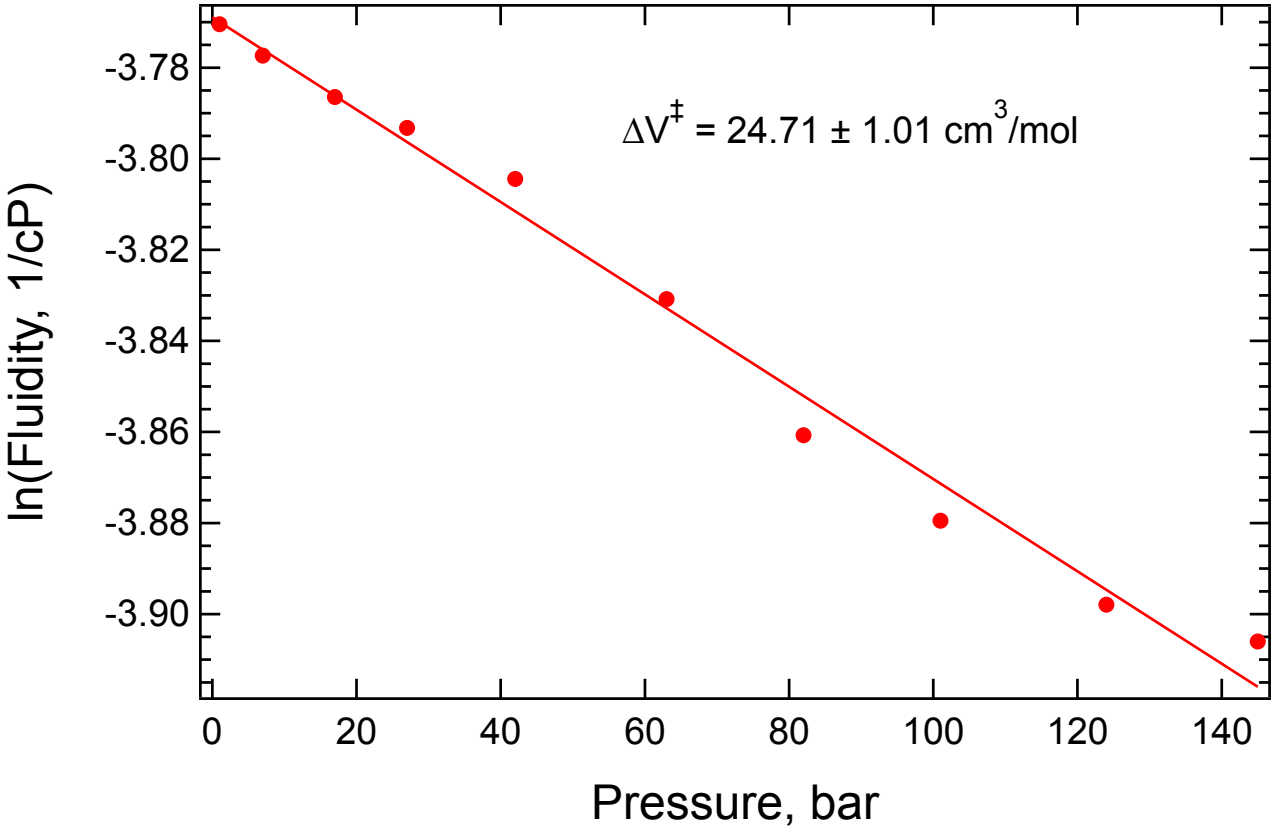
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7
Int J Thermophys (2008) 29:1222–1243



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	18.15	-2.899
1	29.5	18.55	-2.920
2	42.7	18.75	-2.931
3	69	19.3	-2.960
4	346	25.76	-3.249
5	479.6	29.15	-3.372
6	688.7	35.72	-3.576
7	832.9	40.47	-3.701
8	930.3	44.56	-3.797
9	1098	51.26	-3.937
10	1225.7	56.74	-4.038

1/Viscosity vs. Pressure Plot for EMIM BF_4 at 20 °C

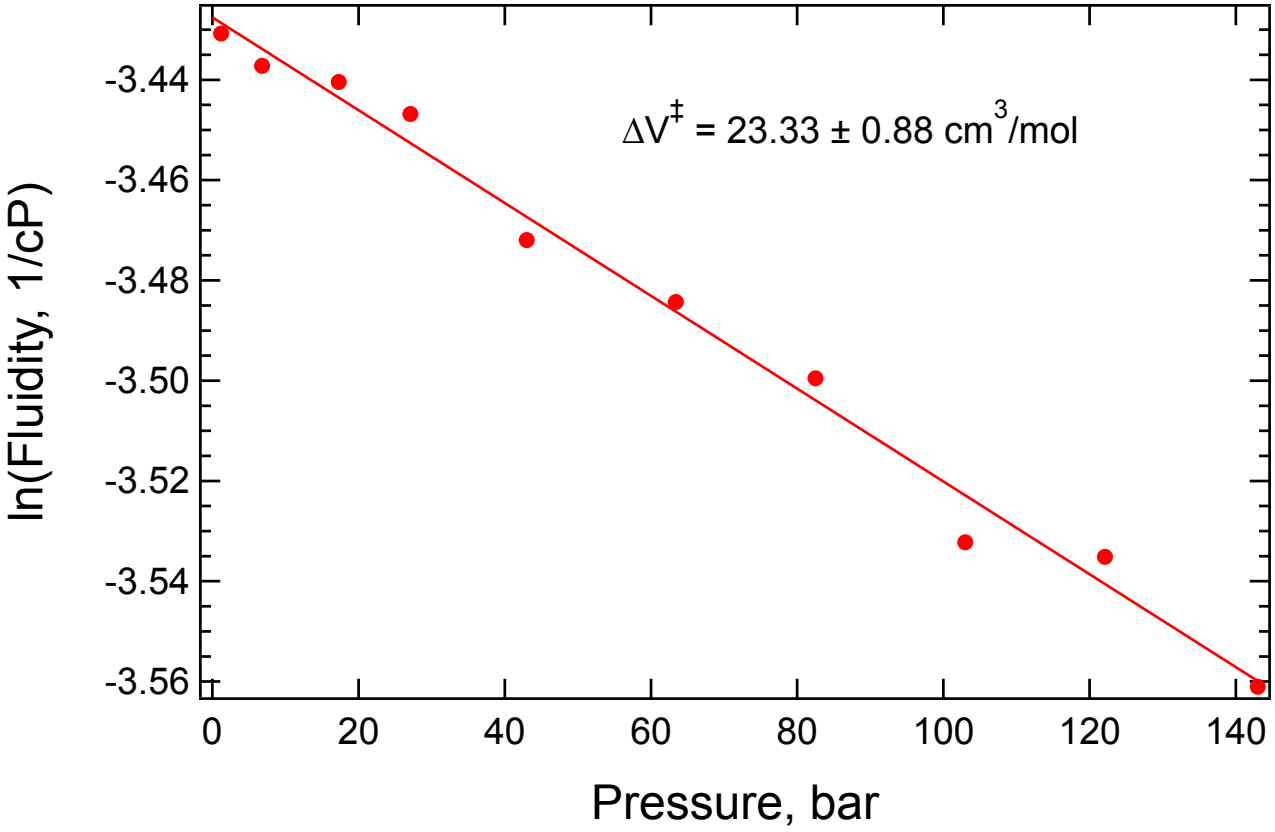
Data from Sanmamed et al. 10.1016/j.jct.2009.11.014



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	43.4	-3.770
1	7	43.7	-3.777
2	17	44.1	-3.786
3	27	44.4	-3.793
4	42	44.9	-3.804
5	63	46.1	-3.831
6	82	47.5	-3.861
7	101	48.4	-3.879
8	124	49.3	-3.898
9	145	49.7	-3.906

1/Viscosity vs. Pressure Plot for EMIM BF_4 at 30 °C

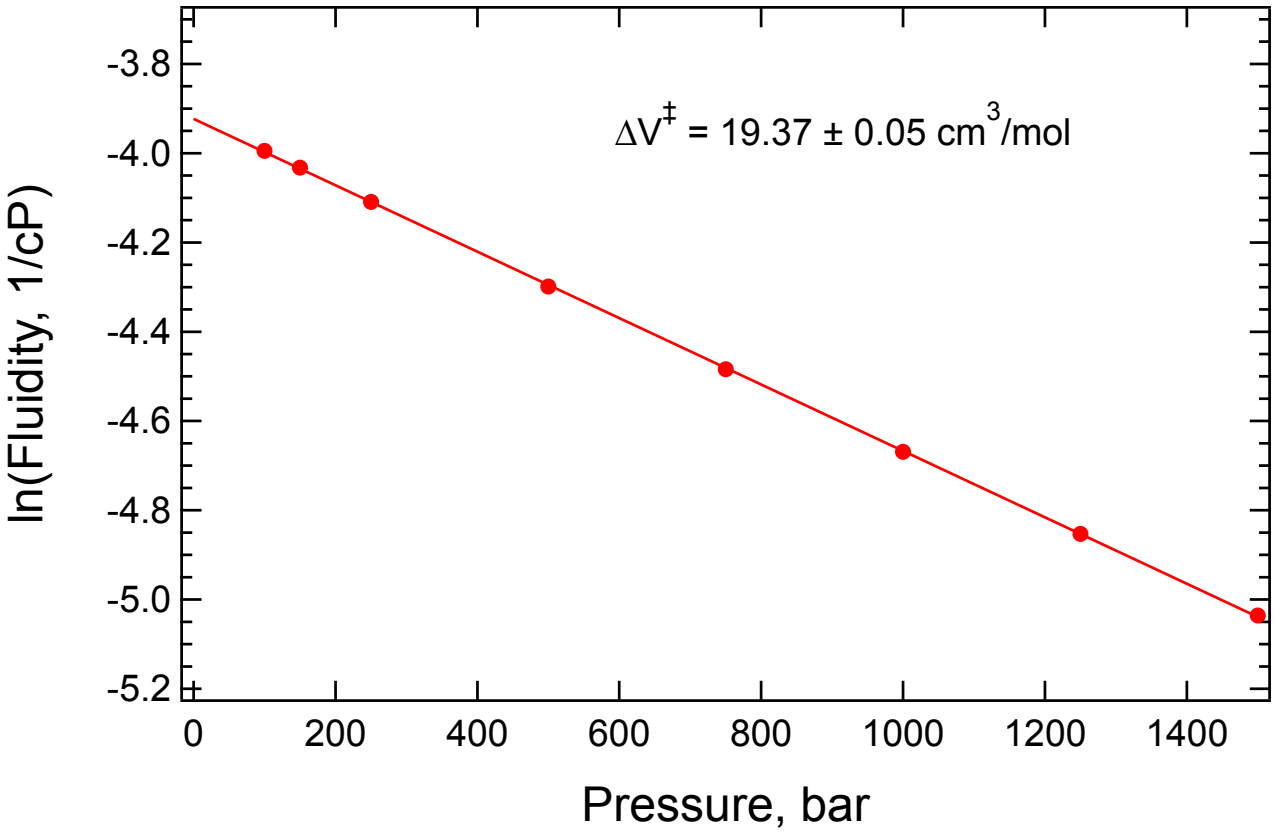
Data from Sanmamed et al. 10.1016/j.jct.2009.11.014



Point	Pressure	Visc, cP	ln(Fluidity)
0	1.2	30.9	-3.431
1	6.8	31.1	-3.437
2	17.3	31.2	-3.440
3	27.1	31.4	-3.447
4	43	32.2	-3.472
5	63.4	32.6	-3.484
6	82.5	33.1	-3.500
7	103	34.2	-3.532
8	122.1	34.3	-3.535
9	143	35.2	-3.561

1/Viscosity vs. Pressure Plot for EMIM $EtSO_4$ at 40 °C

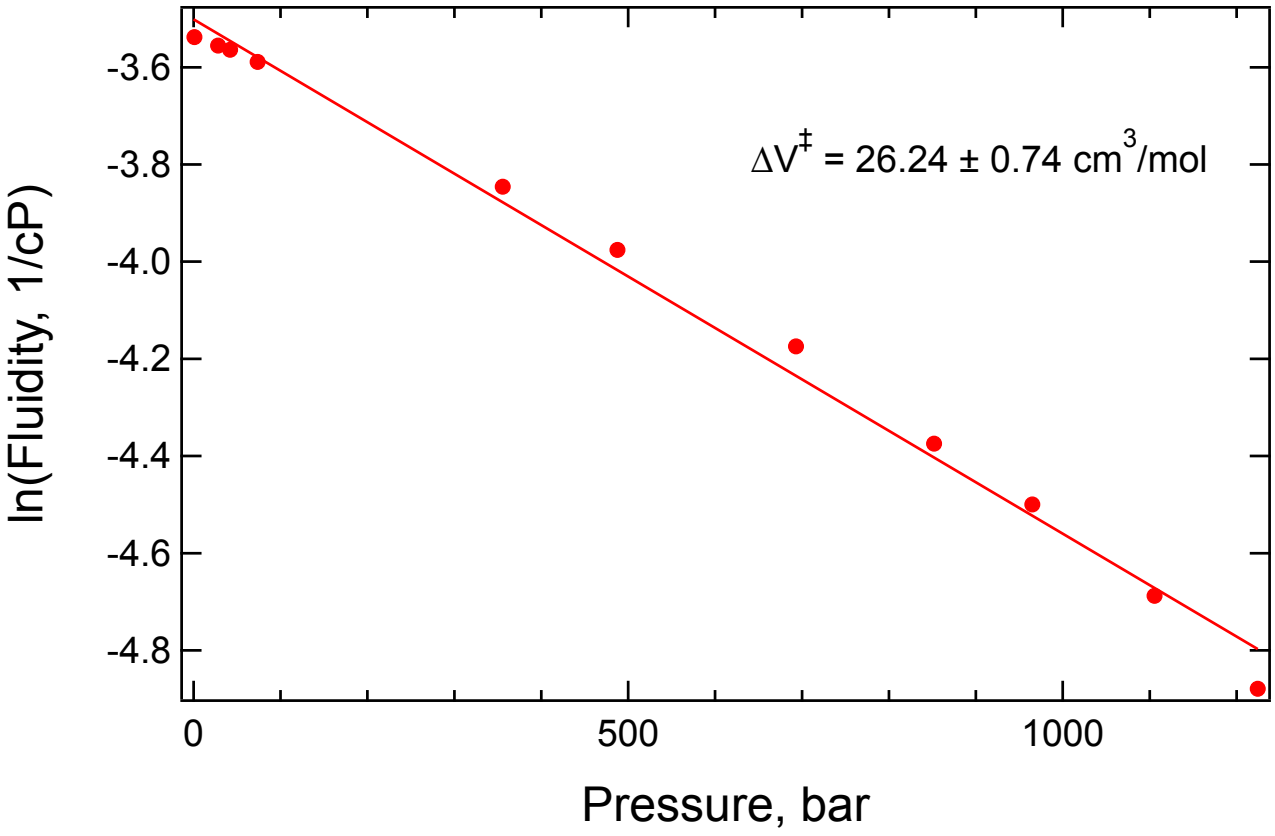
Data from Gacino et al. 10.1016/j.jct.2012.05.007



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	54.3	-3.995
1	150	56.4	-4.032
2	250	60.9	-4.109
3	500	73.6	-4.299
4	750	88.6	-4.484
5	1000	106.6	-4.669
6	1250	128.1	-4.853
7	1500	153.8	-5.036

1/Viscosity vs. Pressure Plot EMIM TFSA at 25 °C

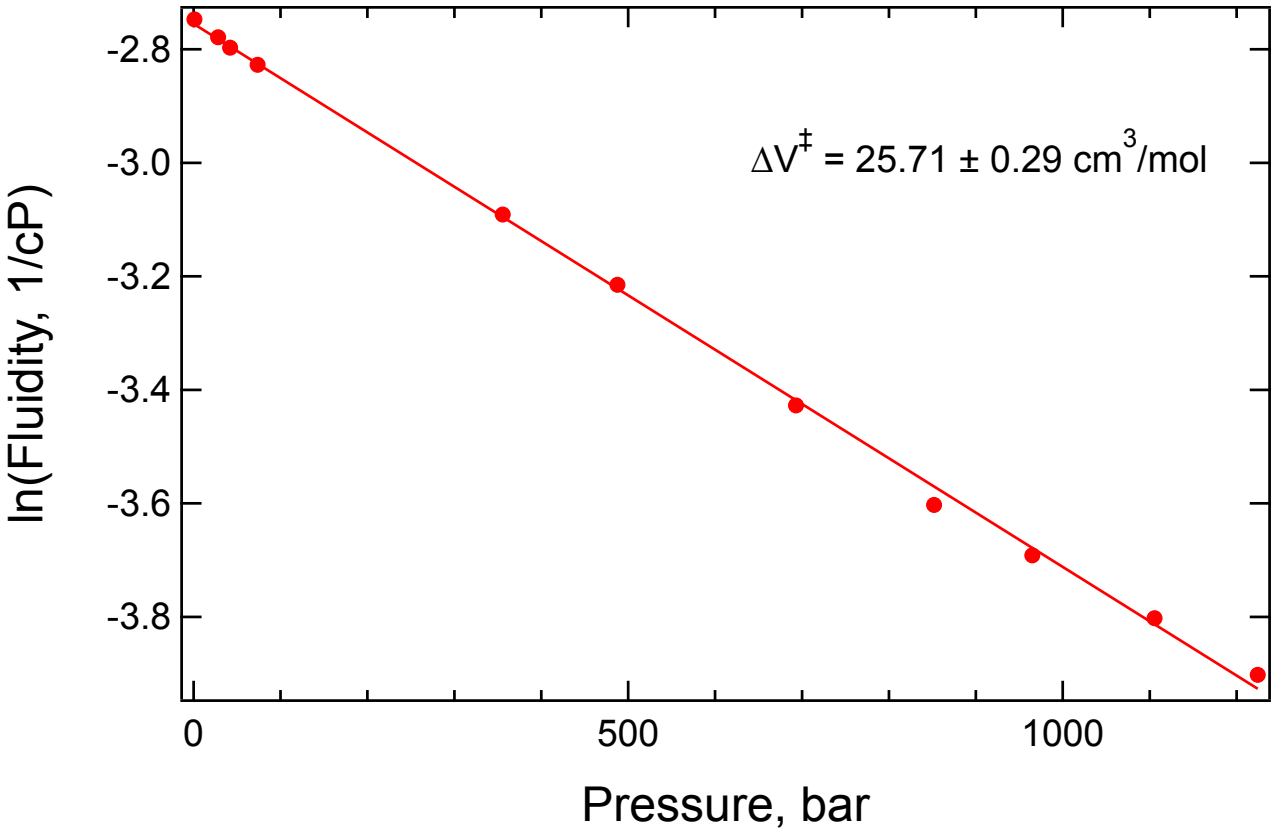
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	34.4	-3.538
1	28.2	35	-3.555
2	41.9	35.3	-3.564
3	73.6	36.2	-3.589
4	355.6	46.8	-3.846
5	487.6	53.3	-3.976
6	693	65	-4.174
7	852	79.4	-4.374
8	965	90	-4.500
9	1105.5	108.6	-4.688
10	1224.3	131.5	-4.879

1/Viscosity vs. Pressure Plot EMIM TFSA at 50 °C

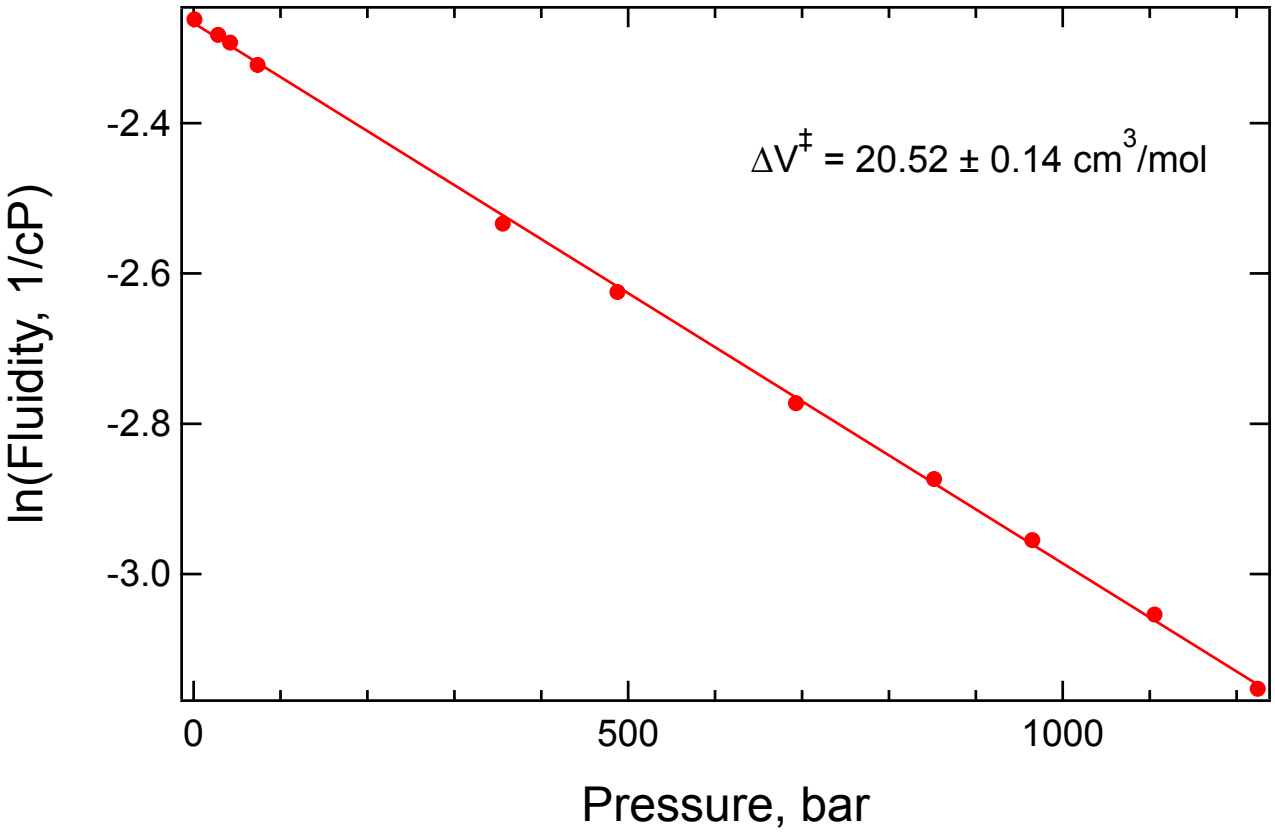
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	15.6	-2.747
1	28.2	16.1	-2.779
2	41.9	16.4	-2.797
3	73.6	16.9	-2.827
4	355.6	22	-3.091
5	487.6	24.9	-3.215
6	693	30.8	-3.428
7	852	36.7	-3.603
8	965	40.1	-3.691
9	1105.5	44.8	-3.802
10	1224.3	49.5	-3.902

1/Viscosity vs. Pressure Plot EMIM TFSA at 70 °C

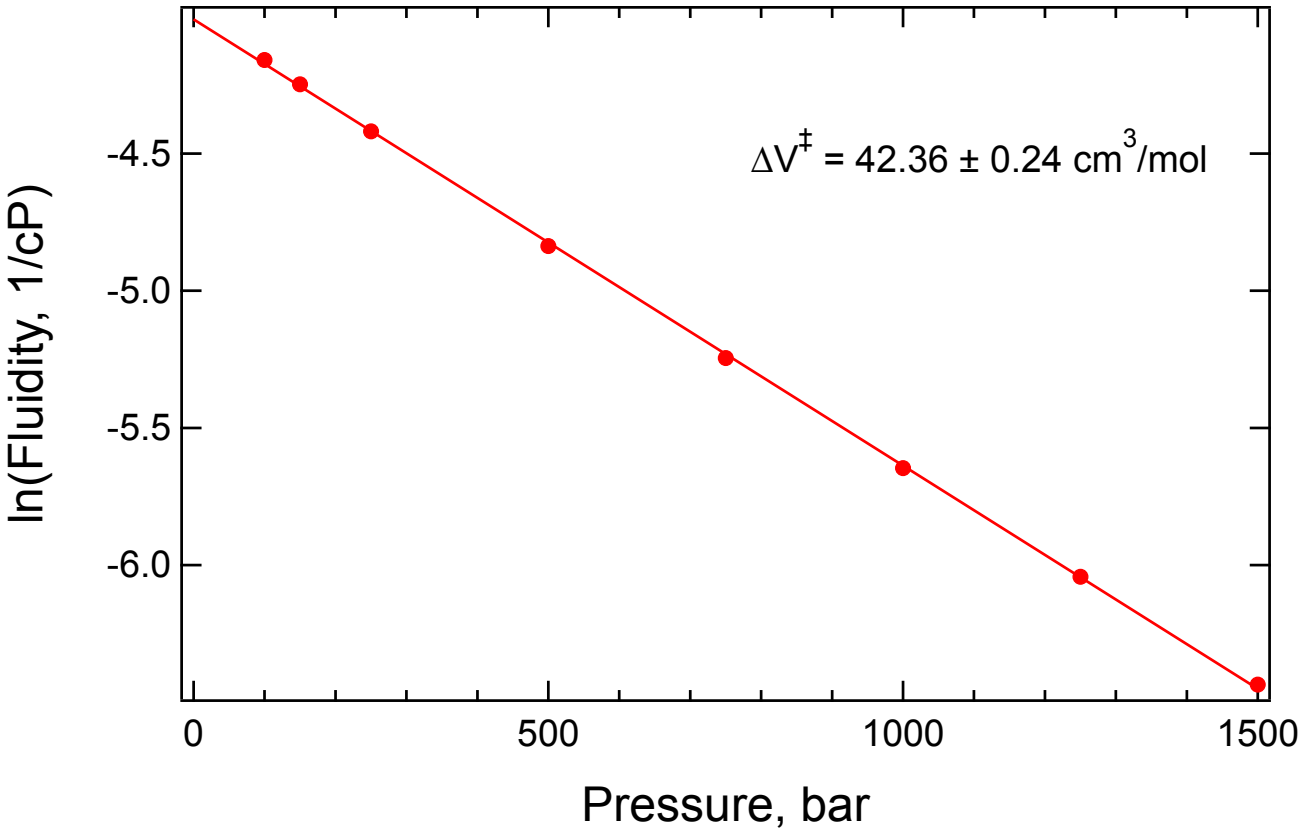
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	9.6	-2.262
1	28.2	9.8	-2.282
2	41.9	9.9	-2.293
3	73.6	10.2	-2.322
4	355.6	12.6	-2.534
5	487.6	13.8	-2.625
6	693	16	-2.773
7	852	17.7	-2.874
8	965	19.2	-2.955
9	1105.5	21.2	-3.054
10	1224.3	23.4	-3.153

1/Viscosity vs. Pressure Plot (EOM)Mpyrr FAP at 40 °C

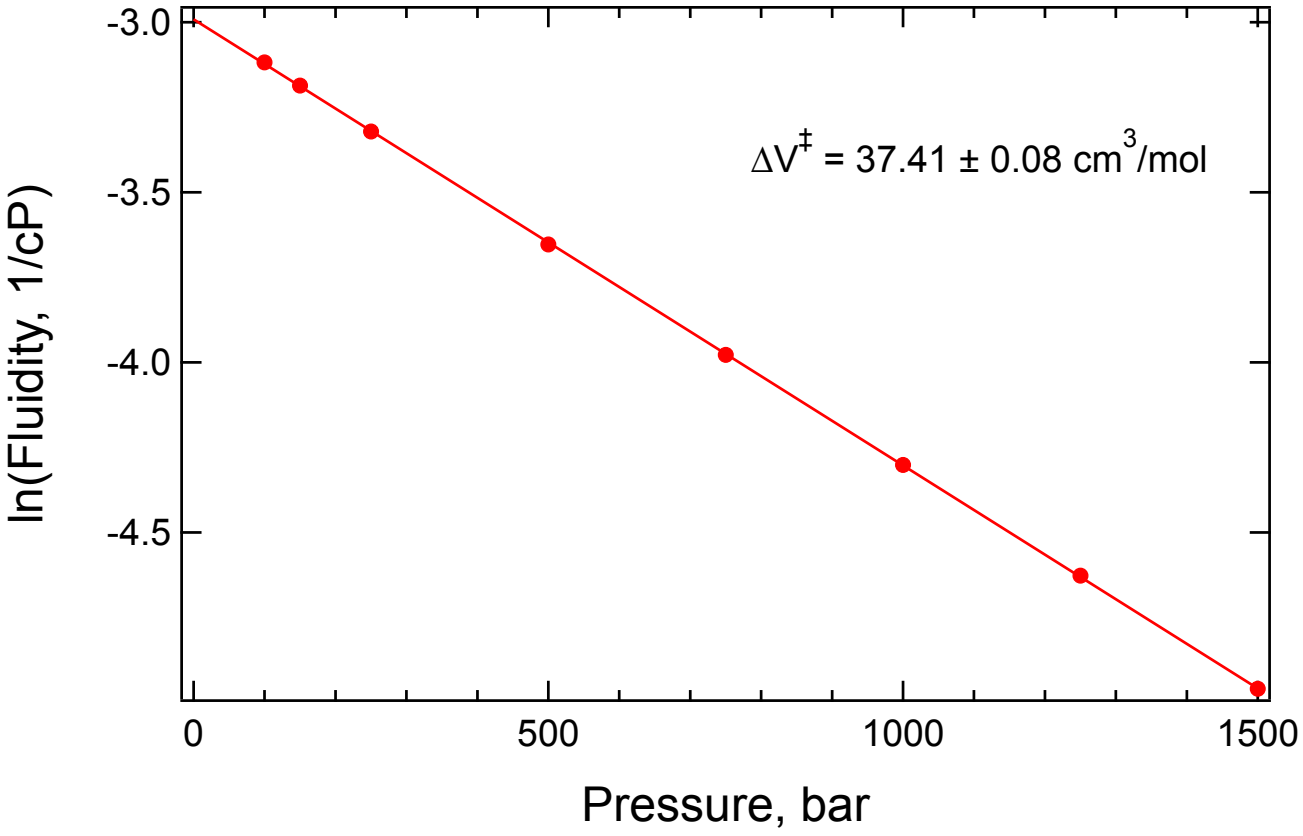
Data from Gacino et al. 10.1016/j.jct.2013.02.014
J. Chem. Thermodynamics 62 (2013) 162–169



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	64	-4.159
1	150	69.9	-4.247
2	250	83	-4.419
3	500	126.1	-4.837
4	750	189.7	-5.245
5	1000	283.3	-5.647
6	1250	421.1	-6.043
7	1500	623.8	-6.436

1/Viscosity vs. Pressure Plot (EOM)Mpyrr FAP at 70 °C

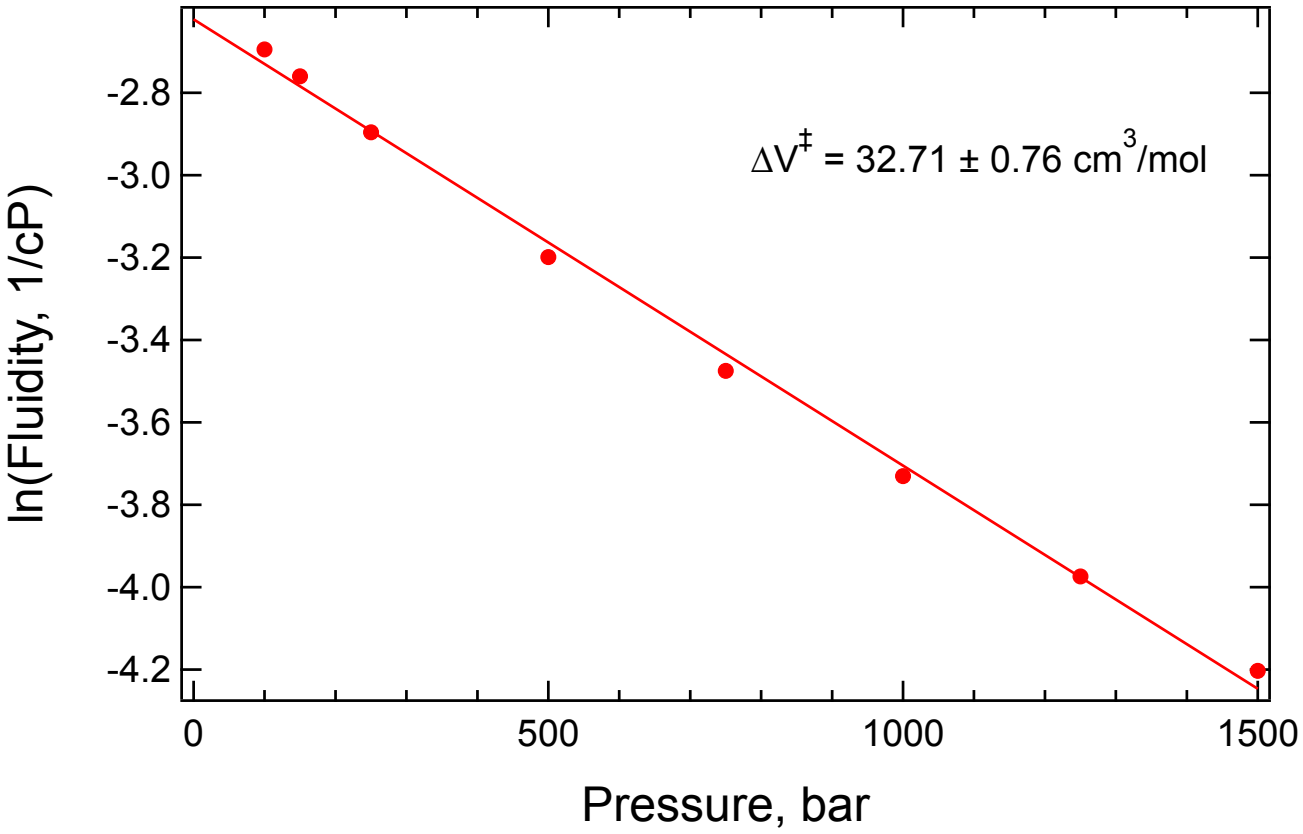
Data from Gacino et al. 10.1016/j.jct.2013.02.014
J. Chem. Thermodynamics 62 (2013) 162–169



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	22.6	-3.118
1	150	24.2	-3.186
2	250	27.7	-3.321
3	500	38.6	-3.653
4	750	53.4	-3.978
5	1000	73.8	-4.301
6	1250	102.2	-4.627
7	1500	142.5	-4.959

1/Viscosity vs. Pressure Plot (EOM)Mpyrr FAP at 90 °C

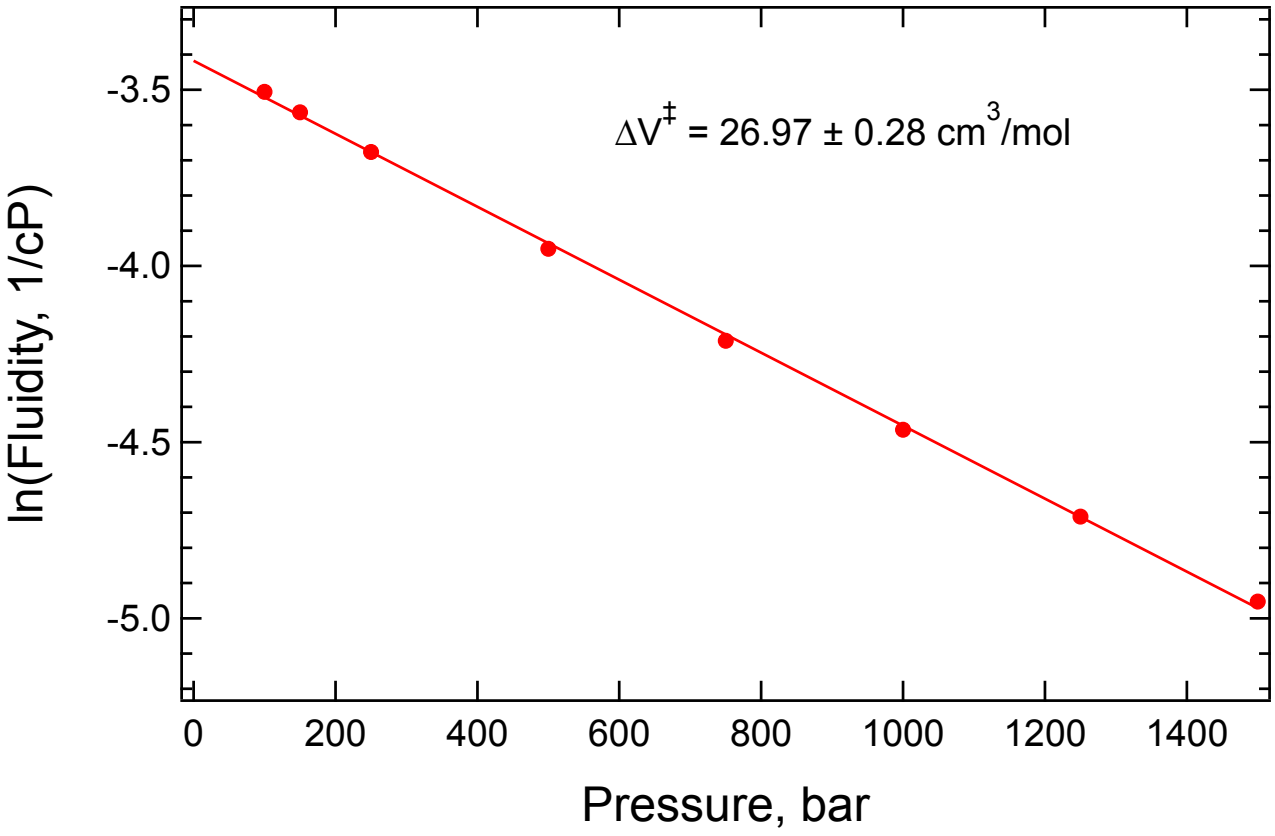
Data from Gacino et al. 10.1016/j.jct.2013.02.014
J. Chem. Thermodynamics 62 (2013) 162–169



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	14.8	-2.695
1	150	15.8	-2.760
2	250	18.1	-2.896
3	500	24.5	-3.199
4	750	32.3	-3.475
5	1000	41.7	-3.731
6	1250	53.2	-3.974
7	1500	66.9	-4.203

1/Viscosity vs. Pressure Plot for (EOM)Mpyrr TFSA at 40 °C

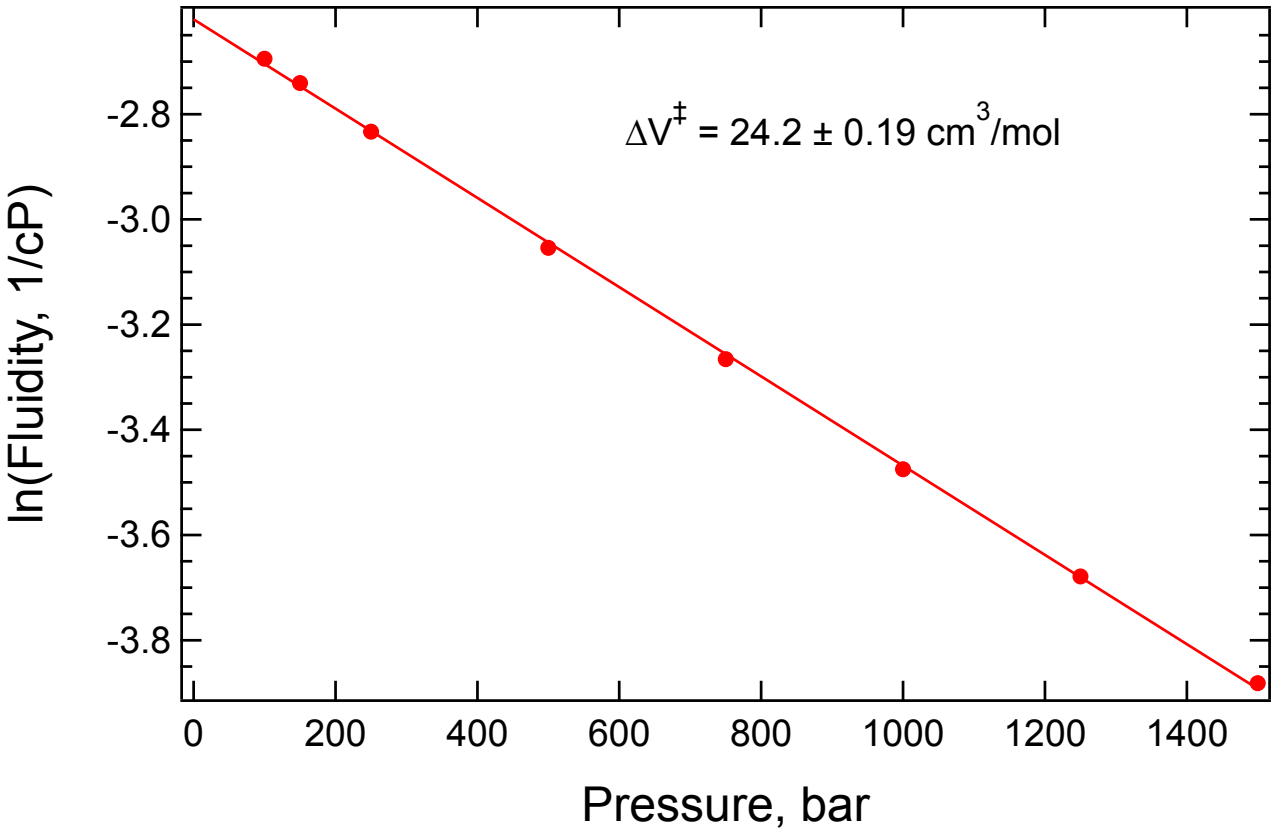
Data from Gacino et al. 10.1016/j.jct.2012.05.007



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	33.3	-3.506
1	150	35.3	-3.564
2	250	39.5	-3.676
3	500	52	-3.951
4	750	67.5	-4.212
5	1000	86.9	-4.465
6	1250	111.2	-4.711
7	1500	141.5	-4.952

1/Viscosity vs. Pressure Plot for (EOM)Mpyrr TFSA at 70 °C

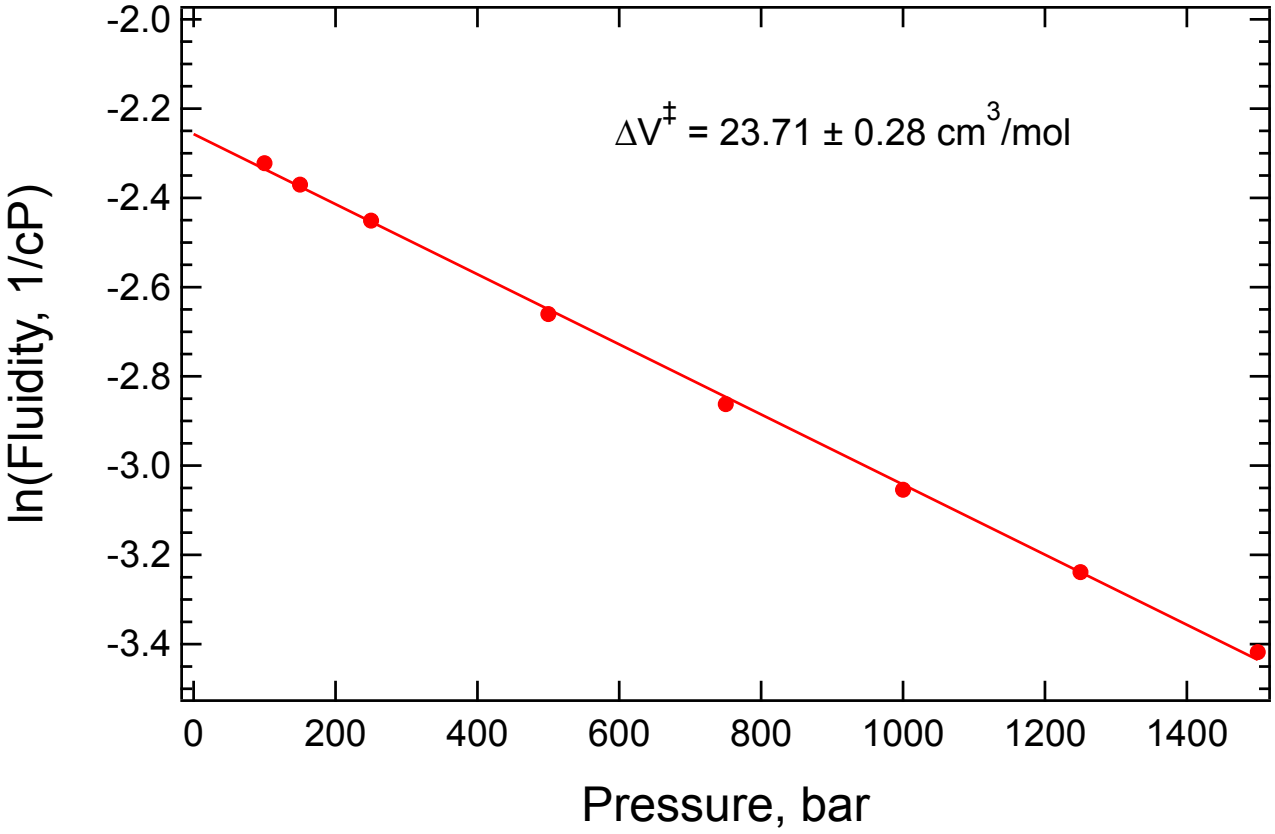
Data from Gacino et al. 10.1016/j.jct.2012.05.007



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	14.8	-2.695
1	150	15.5	-2.741
2	250	17	-2.833
3	500	21.2	-3.054
4	750	26.2	-3.266
5	1000	32.3	-3.475
6	1250	39.6	-3.679
7	1500	48.5	-3.882

1/Viscosity vs. Pressure Plot for (EOM)Mpyrr TFSA at 90 °C

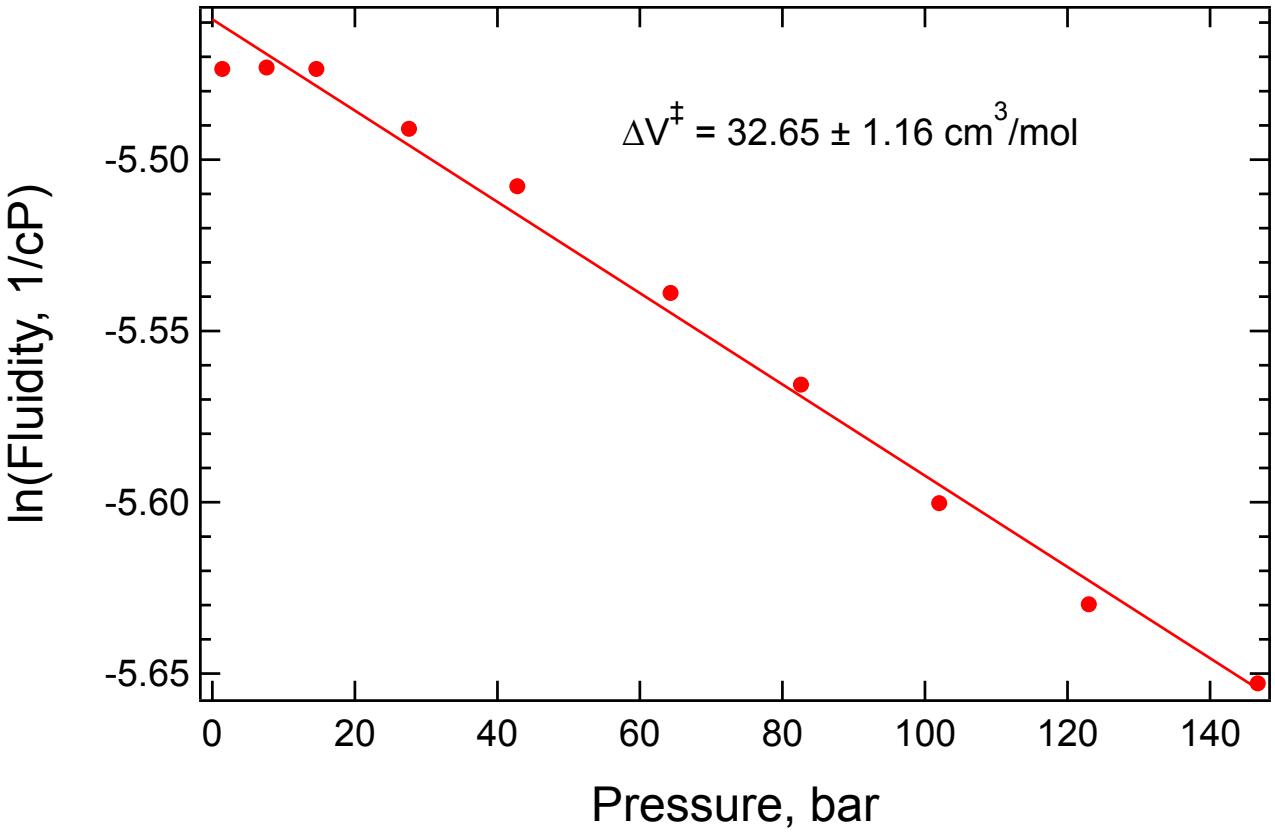
Data from Gacino et al. 10.1016/j.jct.2012.05.007



Point	Pressure	Visc, cP	ln(Fluidity)
0	100	10.2	-2.322
1	150	10.7	-2.370
2	250	11.6	-2.451
3	500	14.3	-2.660
4	750	17.5	-2.862
5	1000	21.2	-3.054
6	1250	25.5	-3.239
7	1500	30.5	-3.418

1/Viscosity vs. Pressure Plot for HMIM BF_4 at 21.7 °C

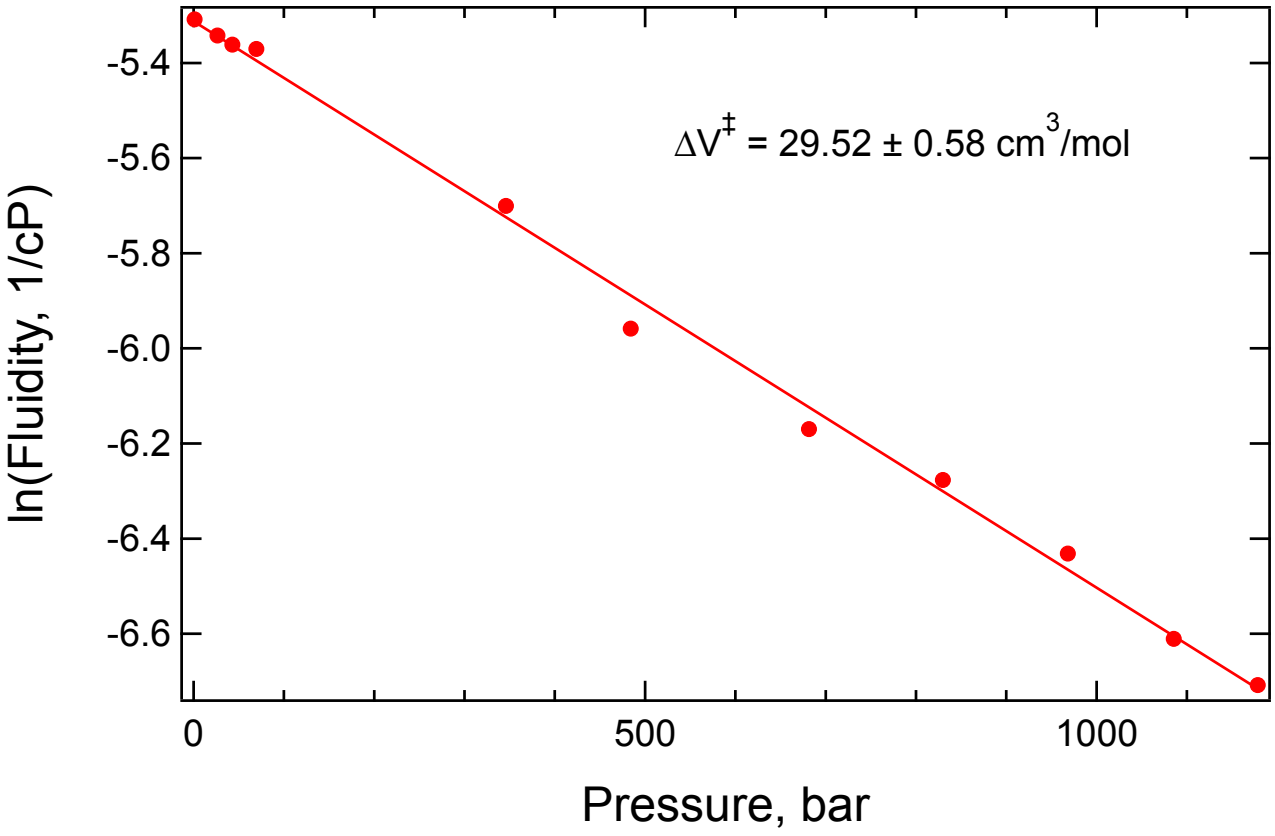
Data from Sanmamed et al. 10.1016/j.jct.2009.11.014



Point	Pressure	Visc, cP	ln(Fluidity)
0	1.4	238.3	-5.474
1	7.6	238.2	-5.473
2	14.6	238.3	-5.474
3	27.6	242.5	-5.491
4	42.8	246.6	-5.508
5	64.3	254.4	-5.539
6	82.6	261.3	-5.566
7	102	270.5	-5.600
8	123	278.6	-5.630
9	146.7	285.1	-5.653

1/Viscosity vs. Pressure Plot for HMIM BF_4 at 25 °C

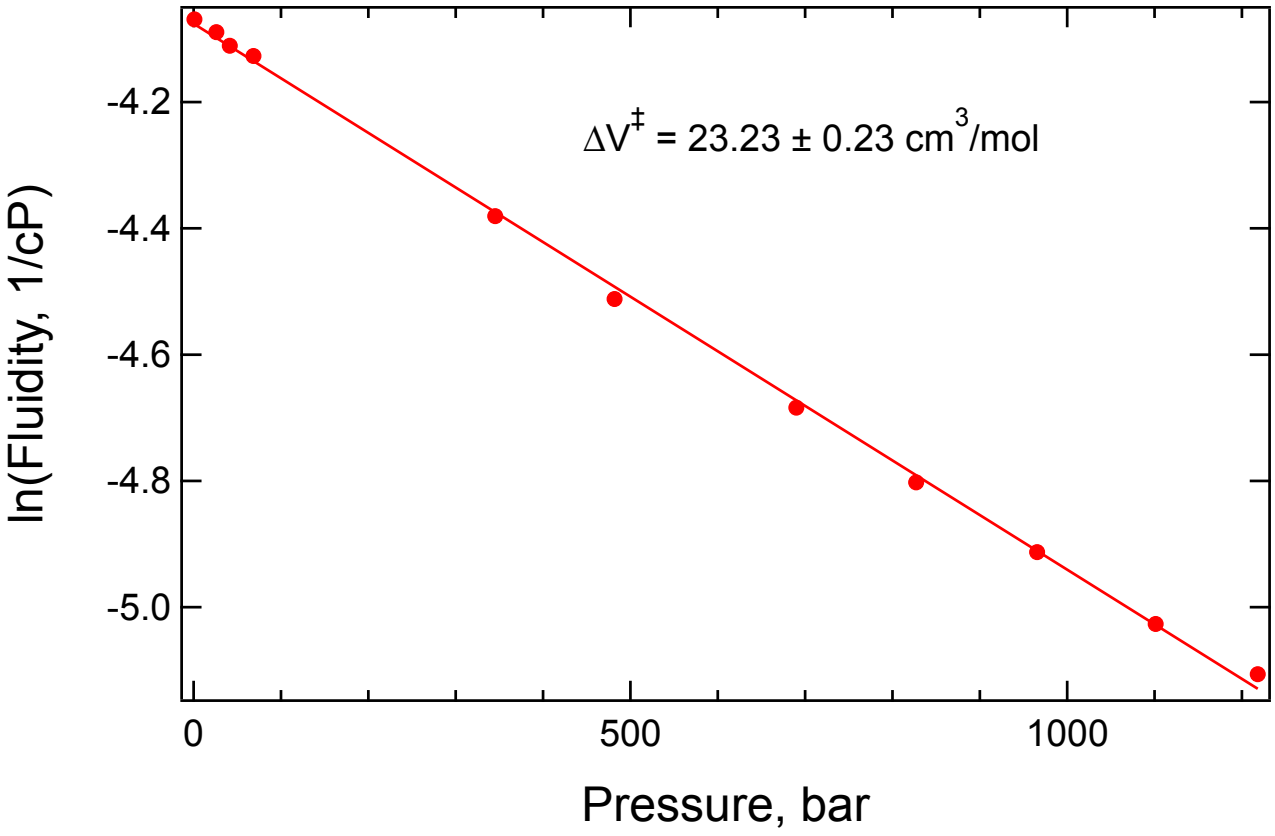
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	2.02e+02	-5.308
1	26.4	2.09e+02	-5.342
2	42.9	2.13e+02	-5.361
3	69.5	2.15e+02	-5.371
4	345.9	2.99e+02	-5.700
5	484	3.87e+02	-5.958
6	681.4	4.78e+02	-6.170
7	829.7	5.32e+02	-6.277
8	968.2	6.21e+02	-6.431
9	1085.5	7.43e+02	-6.611
10	1178.5	8.19e+02	-6.708

1/Viscosity vs. Pressure Plot for HMIM BF_4 at 50 °C

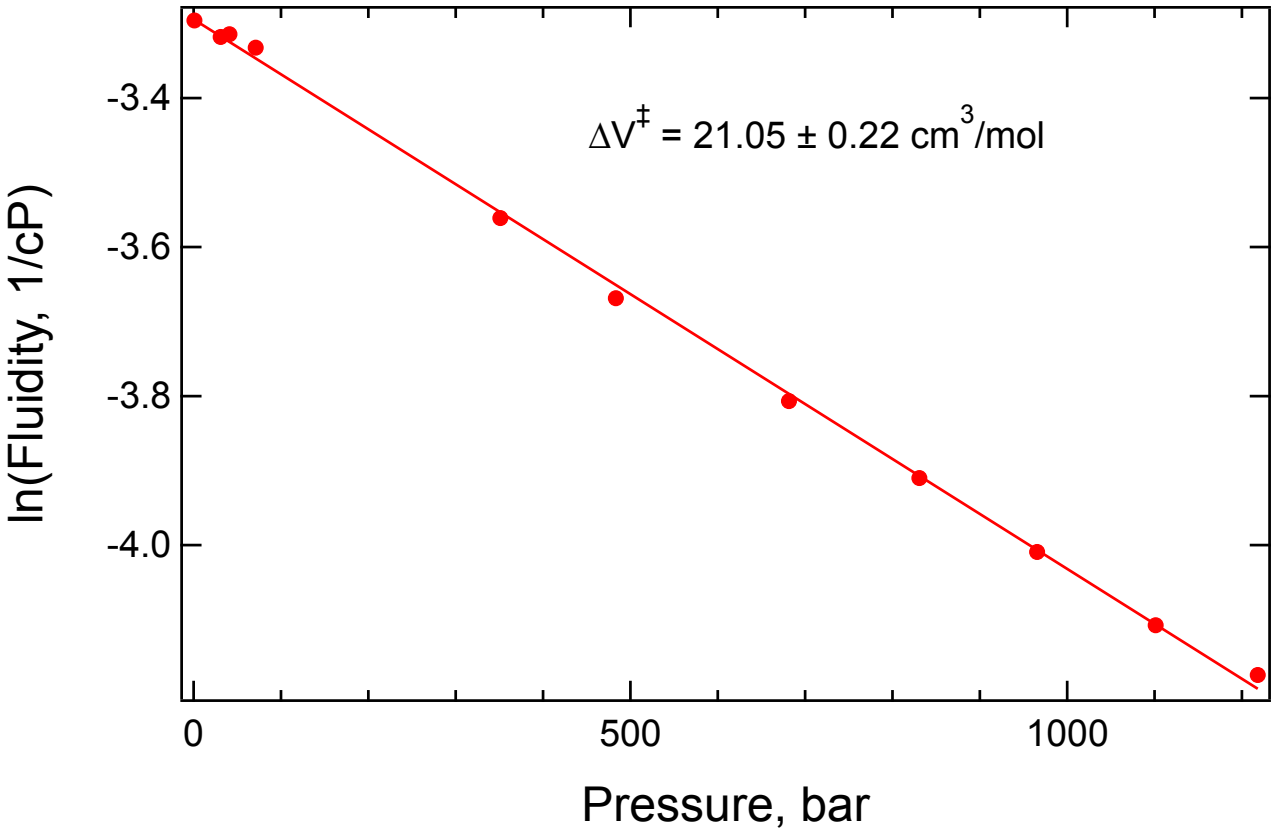
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	58.5	-4.069
1	26	59.7	-4.089
2	41.3	61	-4.111
3	68.5	62	-4.127
4	345.2	79.9	-4.381
5	481.8	91.1	-4.512
6	689.9	108.2	-4.684
7	827.1	121.8	-4.802
8	965.5	136	-4.913
9	1101.2	152.4	-5.027
10	1218.1	165	-5.106

1/Viscosity vs. Pressure Plot for HMIM BF_4 at 70 °C

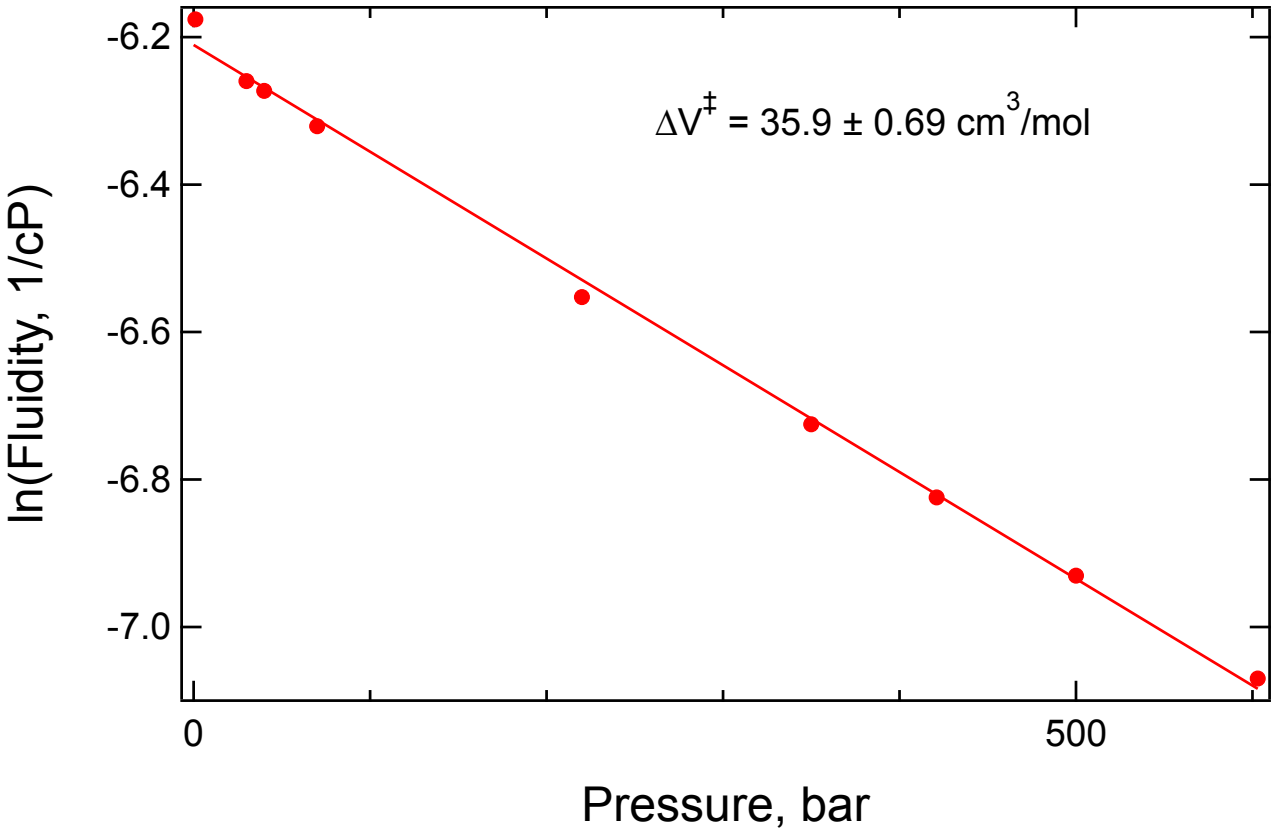
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	27	-3.296
1	31	27.6	-3.318
2	41	27.5	-3.314
3	71	28	-3.332
4	351	35.2	-3.561
5	483.4	39.2	-3.669
6	681.4	45	-3.807
7	830.8	49.9	-3.910
8	965.5	55.1	-4.009
9	1101.2	60.8	-4.108
10	1218.1	65	-4.174

1/Viscosity vs. Pressure Plot for HMIM PF_6 at 25 °C

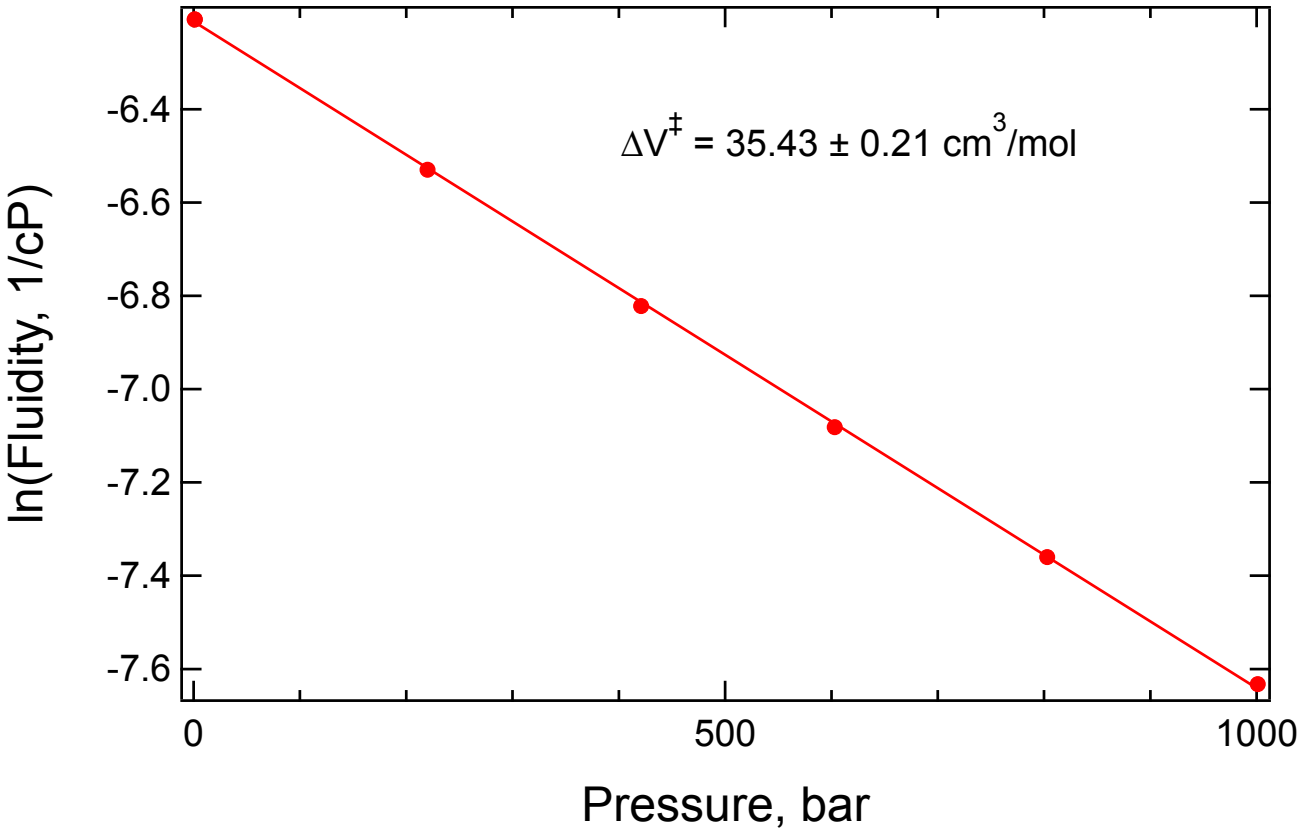
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	481	-6.176
1	29.9	523	-6.260
2	40	530	-6.273
3	70	556	-6.321
4	220	701	-6.553
5	350	833	-6.725
6	421	920	-6.824
7	500	1023	-6.930
8	603	1176	-7.070

1/Viscosity vs. Pressure Plot for HMIM PF_6 at 25 °C

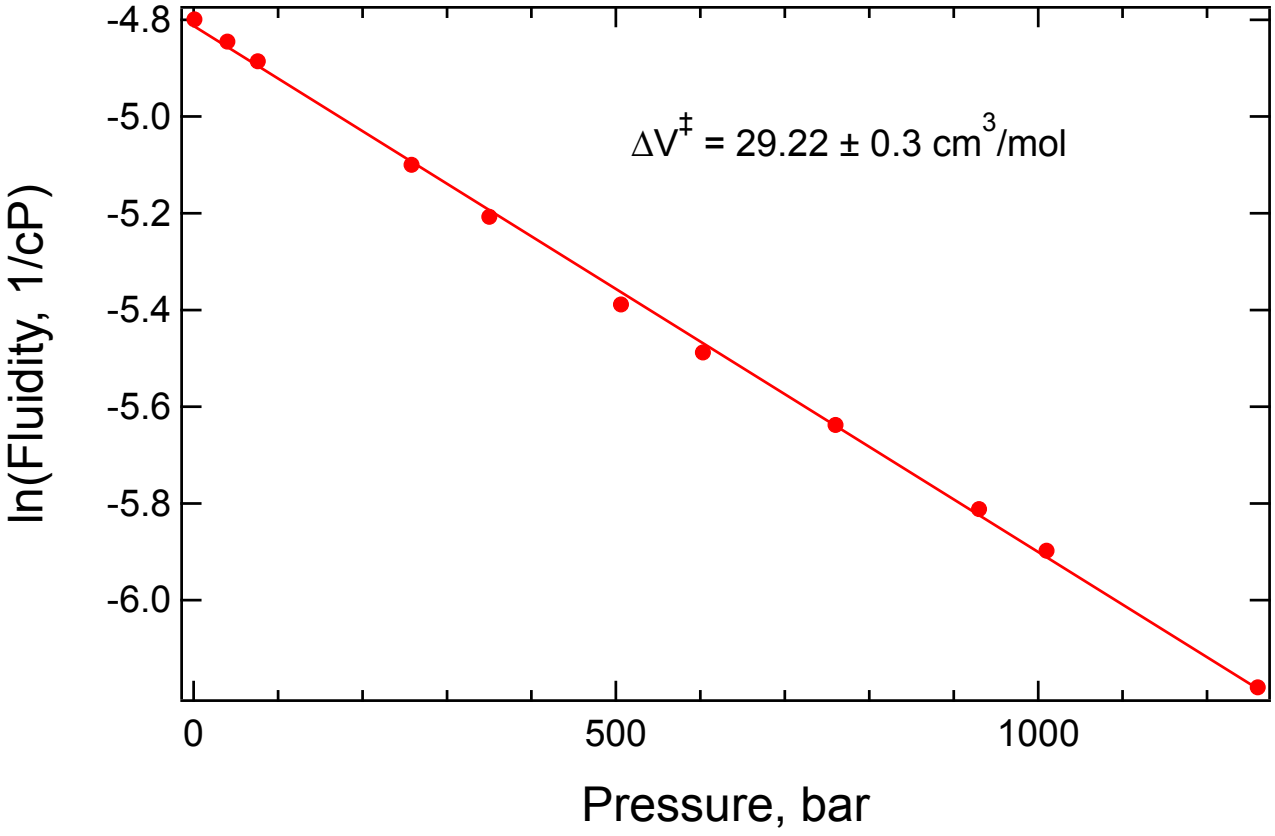
Data from Harris et al. 10.1021/je700032n
J. Chem. Eng. Data 2007, 52, 1080-1085



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	496.5	-6.208
1	1	496.4	-6.207
2	220	685.3	-6.530
3	421	917.7	-6.822
4	603	1190	-7.082
5	803	1572	-7.360
6	1001	2064	-7.632

1/Viscosity vs. Pressure Plot for HMIM PF_6 at 50 °C

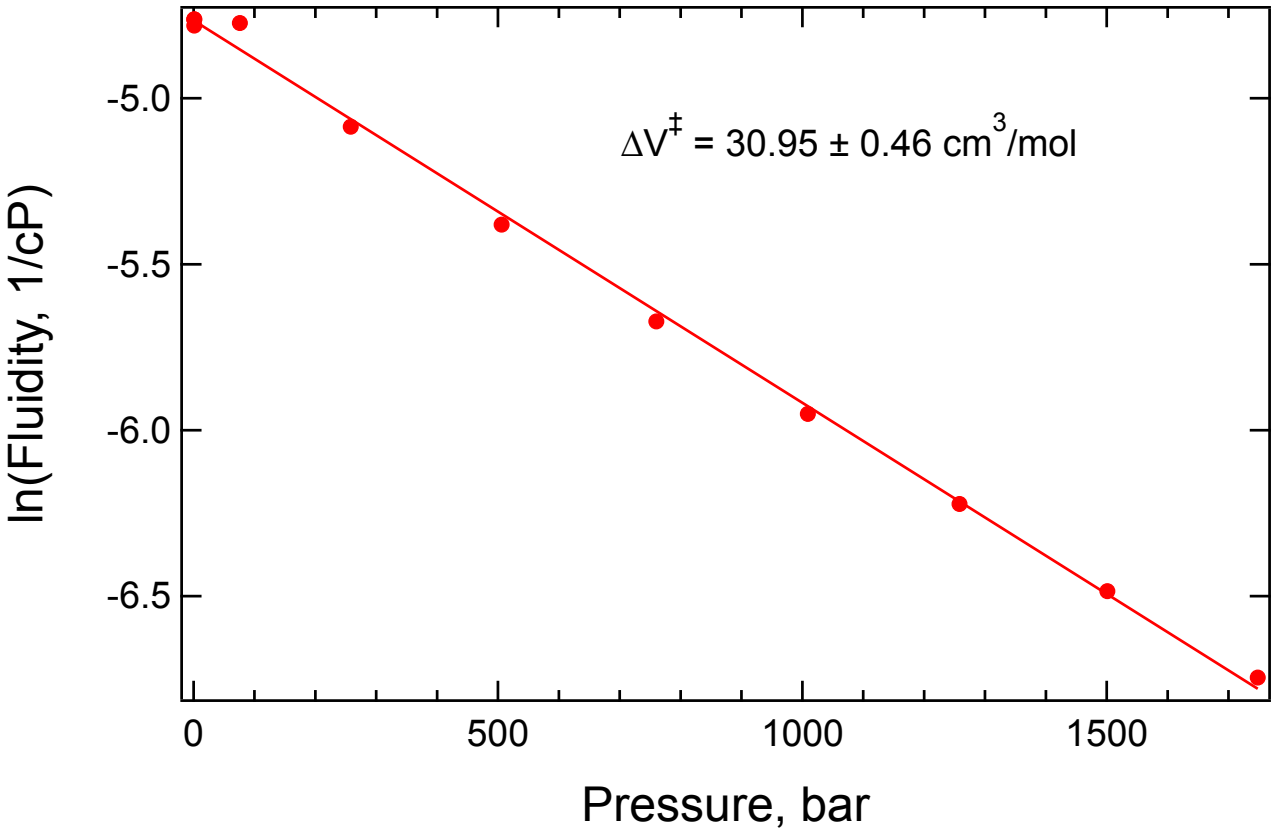
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	121.4	-4.799
1	40	127.1	-4.845
2	76	132.4	-4.886
3	258	164	-5.100
4	350	182.6	-5.207
5	506	218.9	-5.389
6	603	241.7	-5.488
7	760	280.8	-5.638
8	930	334.2	-5.812
9	1010	364.2	-5.898
10	1260	483.1	-6.180

1/Viscosity vs. Pressure Plot for HMIM PF_6 at 50 °C

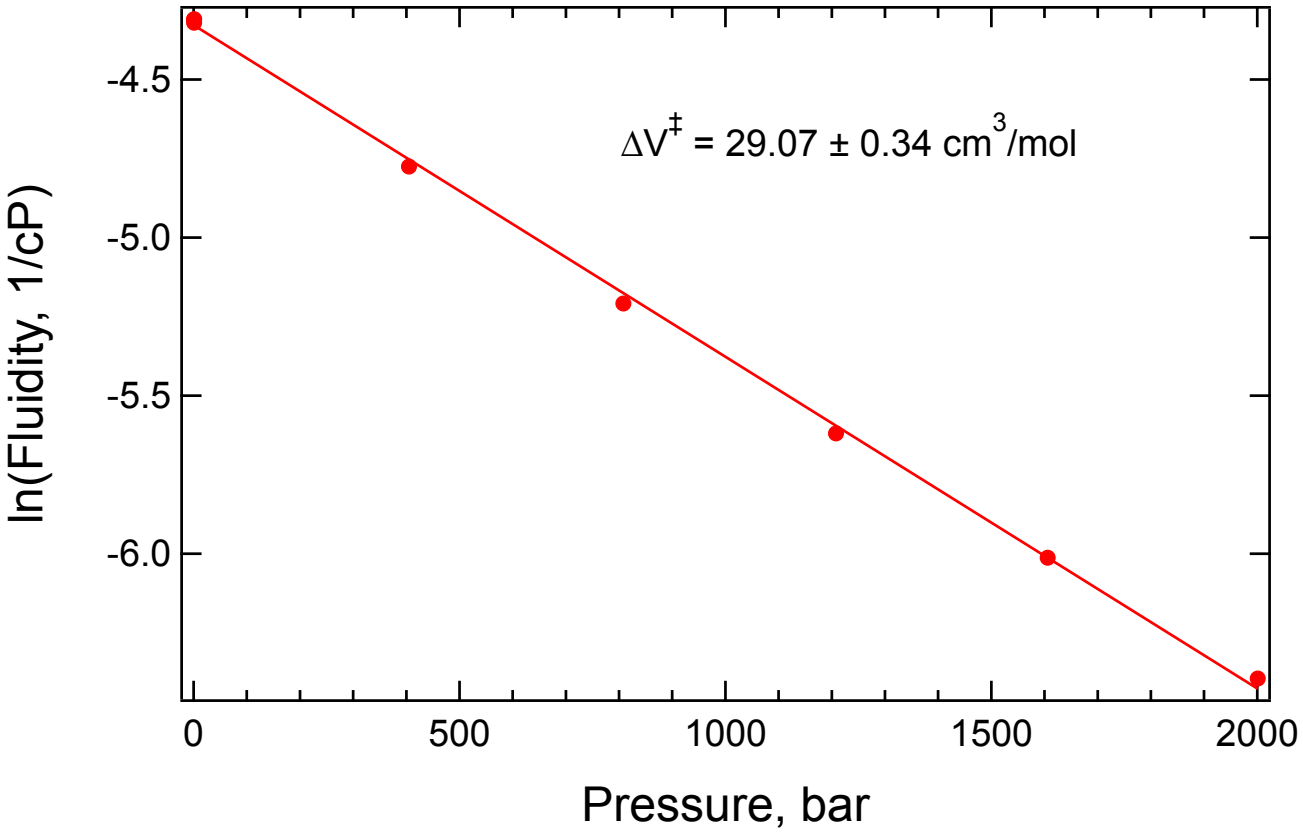
Data from Harris et al. 10.1021/je700032n
J. Chem. Eng. Data 2007, 52, 1080-1085



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	119.2	-4.781
1	1	117	-4.762
2	1	117	-4.762
3	76	118.3	-4.773
4	258	161.7	-5.086
5	506	217.1	-5.380
6	760	290.7	-5.672
7	1009	384	-5.951
8	1258	503.9	-6.222
9	1501	655	-6.485
10	1748	850.1	-6.745

1/Viscosity vs. Pressure Plot for HMIM PF_6 at 60 °C

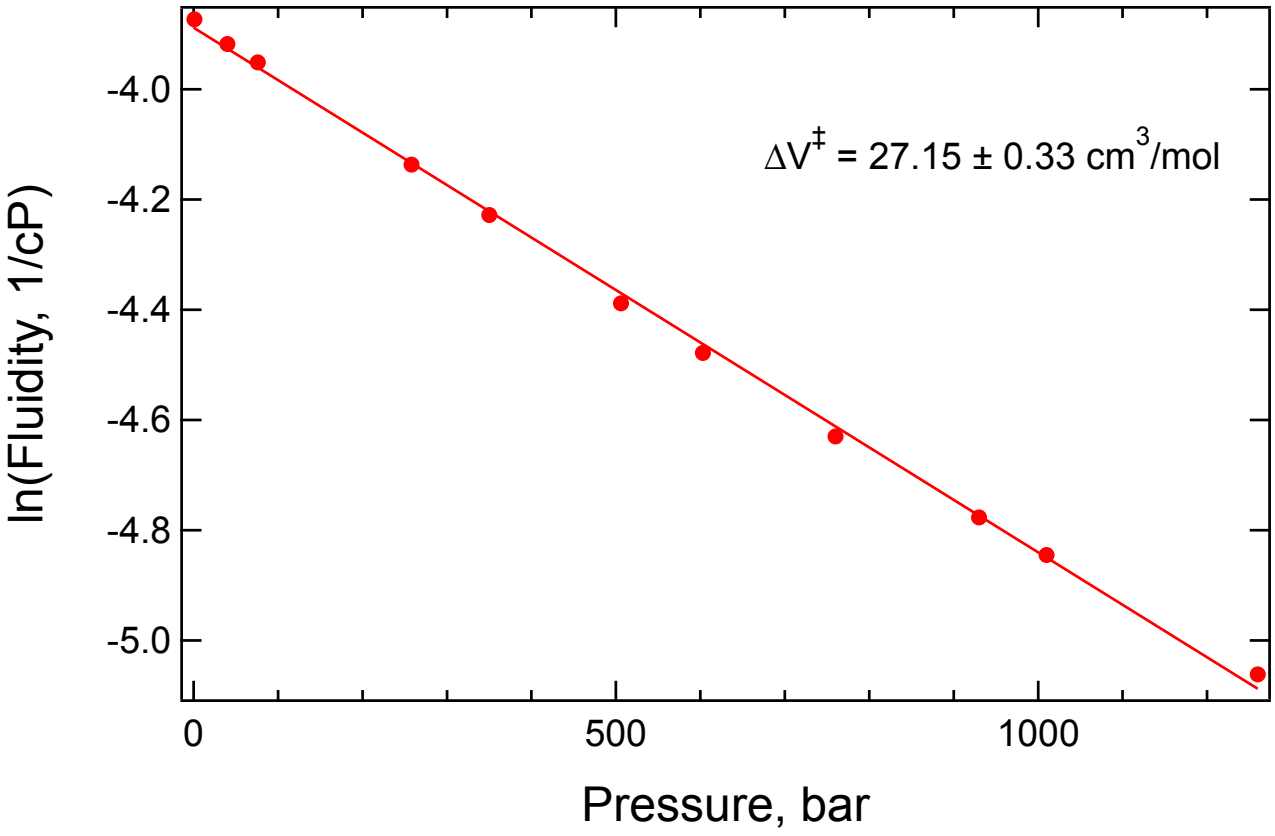
Data from Harris et al. 10.1021/je700032n
J. Chem. Eng. Data 2007, 52, 1080-1085



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	75.2	-4.320
1	1	74.4	-4.309
2	1	74.4	-4.309
3	405	118.5	-4.775
4	808	182.8	-5.208
5	1208	275.7	-5.619
6	1606	408.7	-6.013
7	2001	598.9	-6.395

1/Viscosity vs. Pressure Plot for HMIM PF_6 at 70 °C

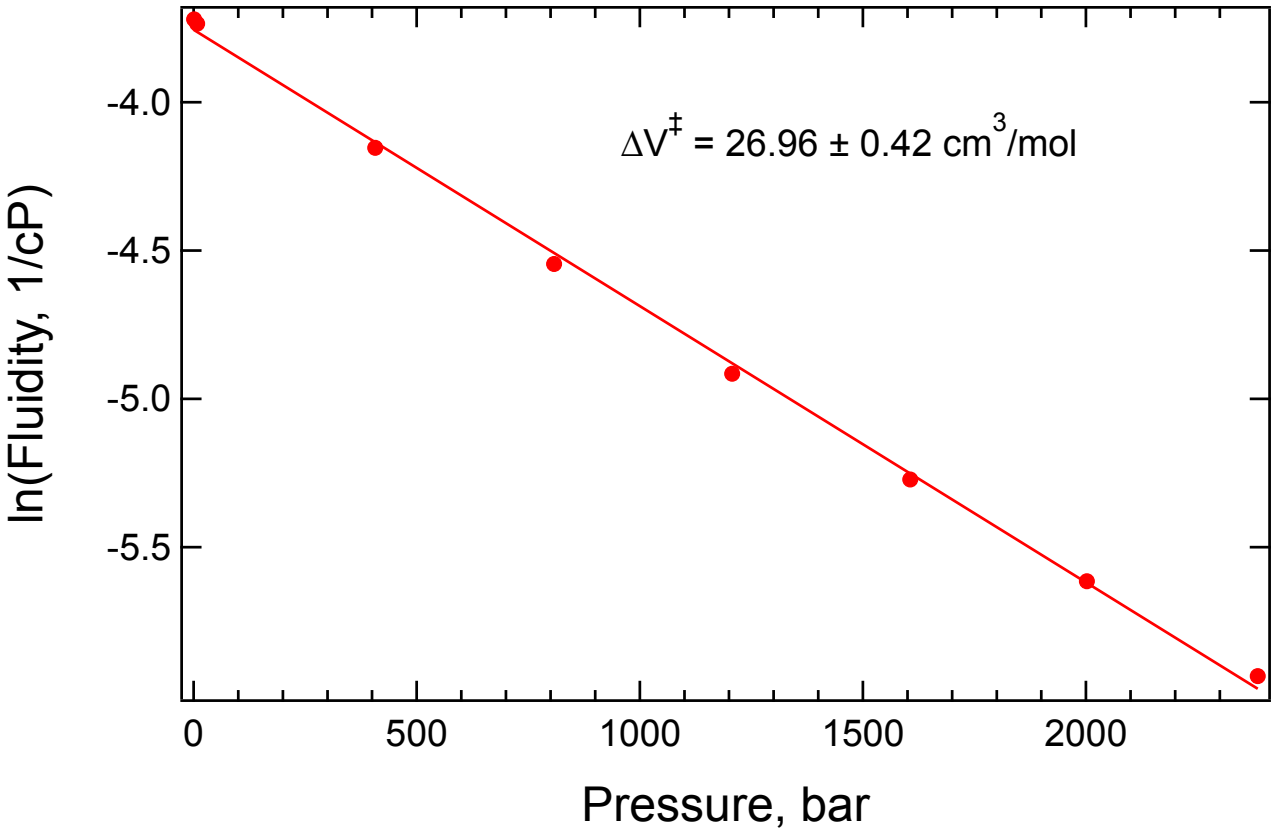
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	48.1	-3.873
1	40	50.3	-3.918
2	76	52	-3.951
3	258	62.6	-4.137
4	350	68.6	-4.228
5	506	80.5	-4.388
6	603	88.1	-4.478
7	760	102.5	-4.630
8	930	118.7	-4.777
9	1010	127.1	-4.845
10	1260	157.8	-5.061

1/Viscosity vs. Pressure Plot for HMIM PF_6 at 75 °C

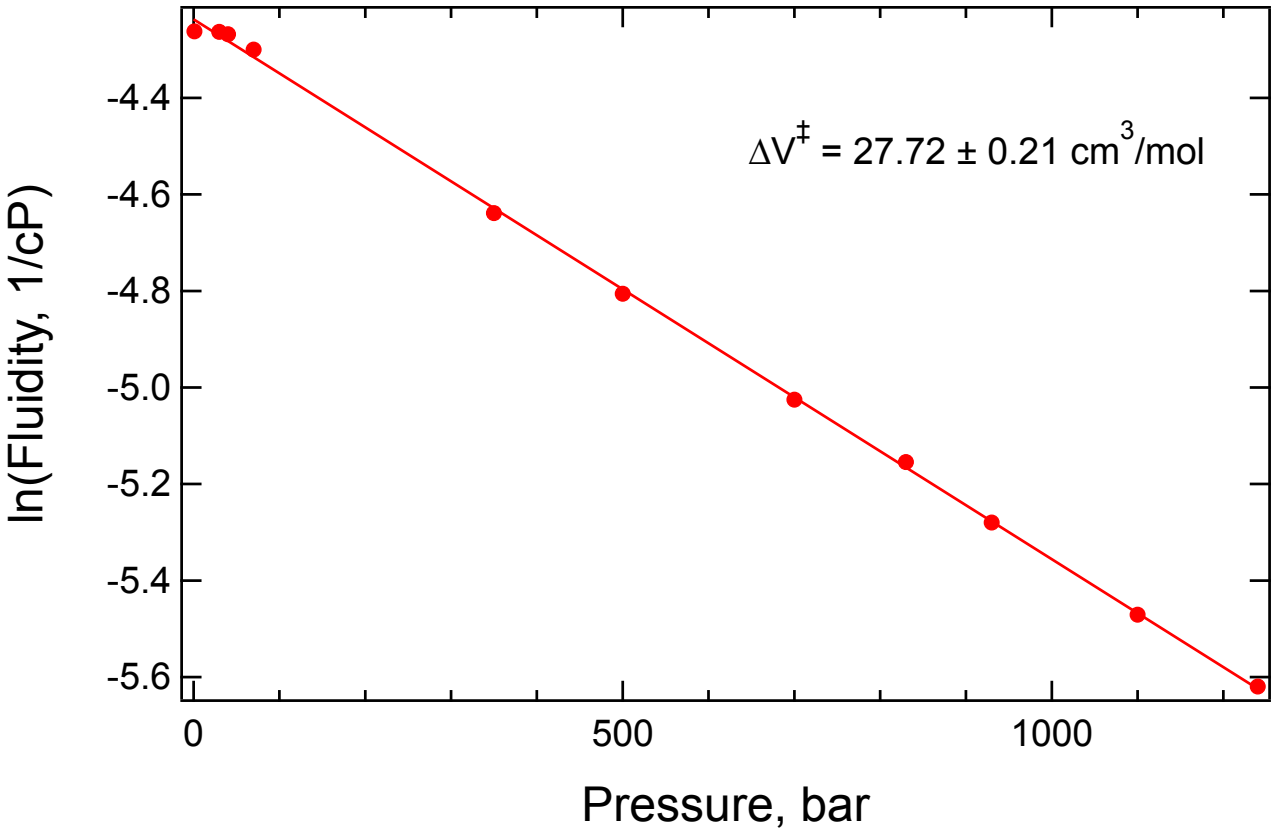
Data from Harris et al. 10.1021/je700032n
J. Chem. Eng. Data 2007, 52, 1080-1085



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	41.3	-3.721
1	8	41.9	-3.735
2	407	63.7	-4.154
3	808	94.2	-4.545
4	1207	136.4	-4.916
5	1606	194.8	-5.272
6	2002	274.5	-5.615
7	2385	378	-5.935

1/Viscosity vs. Pressure Plot for HMIM TFSA at 25 °C

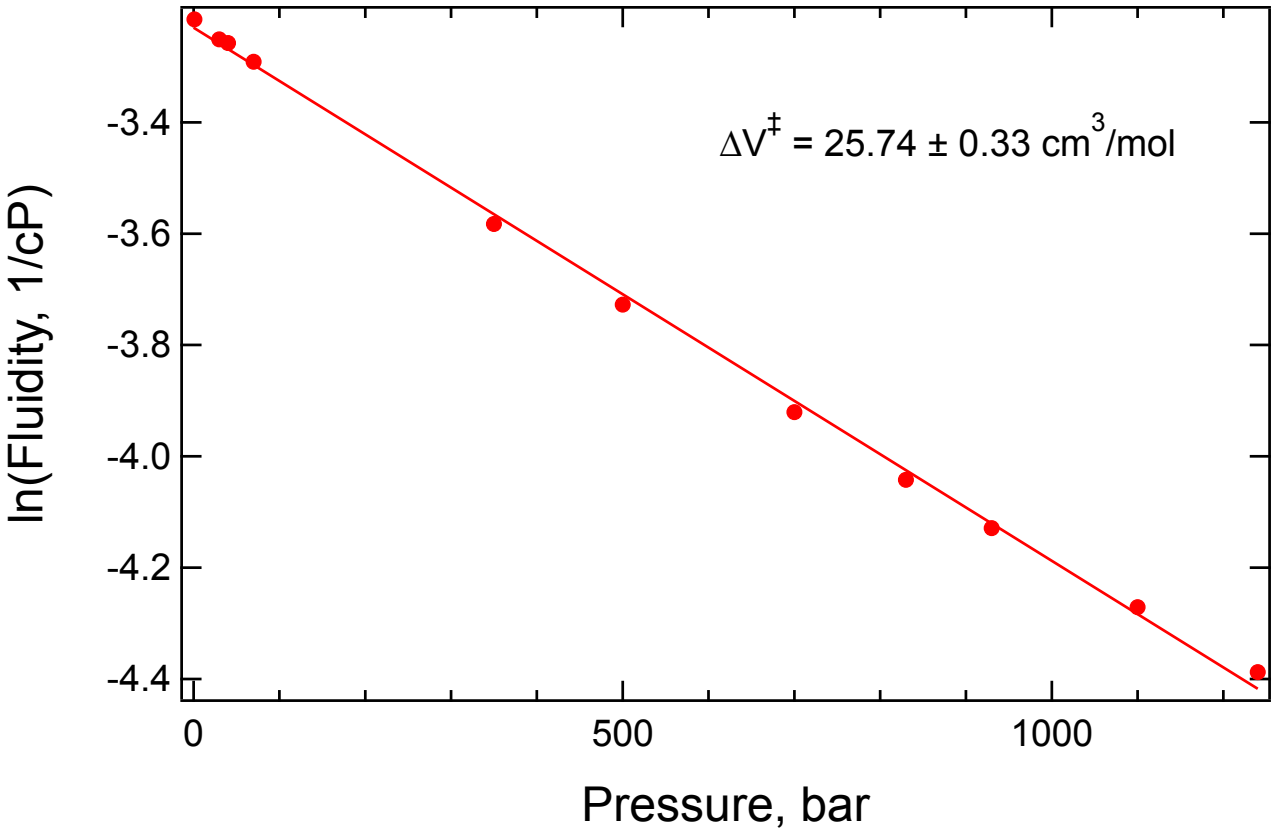
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	70.96	-4.262
1	29.9	71.04	-4.263
2	40	71.38	-4.268
3	70	73.71	-4.300
4	350	103.4	-4.639
5	500	122.2	-4.806
6	700	152.2	-5.025
7	830	173.2	-5.154
8	930	196.3	-5.280
9	1100	237.6	-5.471
10	1240	275.7	-5.619

1/Viscosity vs. Pressure Plot for HMIM TFSA at 50 °C

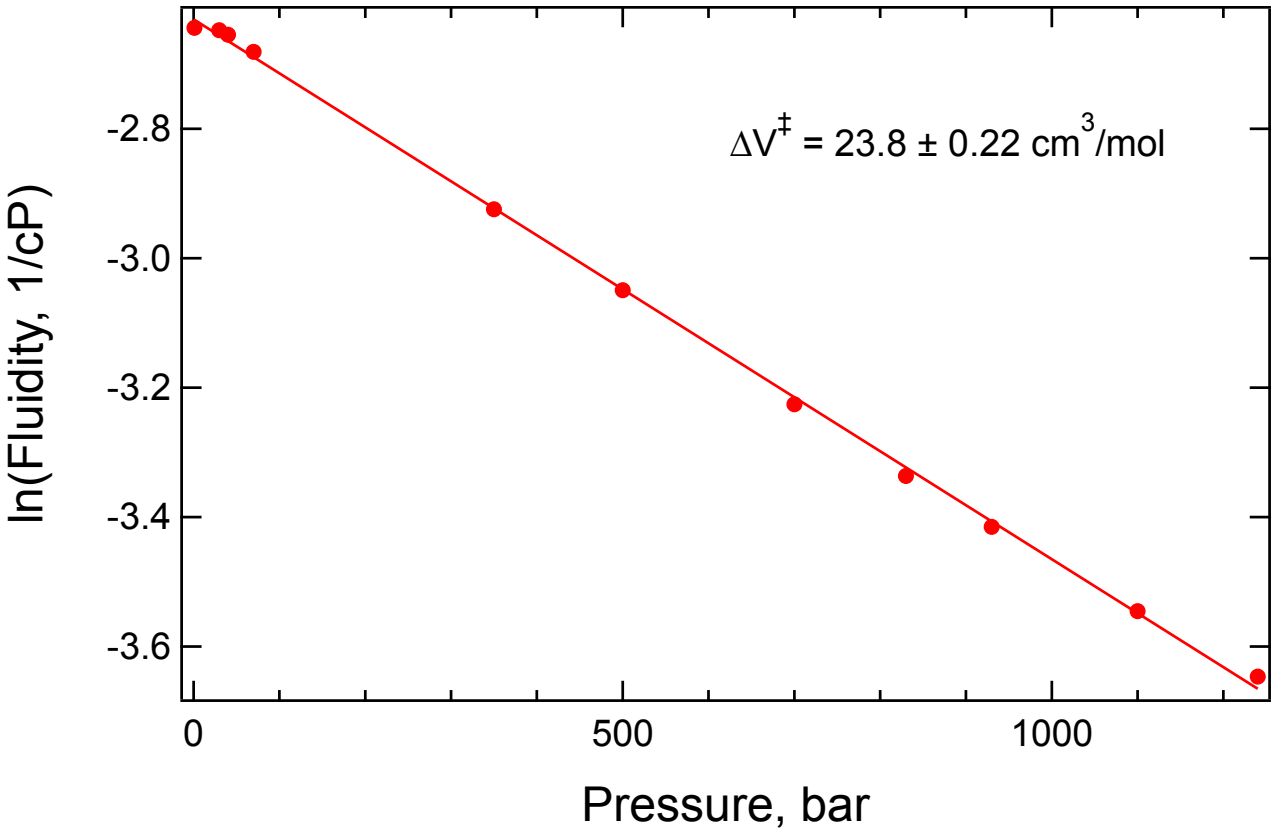
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	24.9	-3.215
1	29.9	25.81	-3.251
2	40	25.98	-3.257
3	70	26.87	-3.291
4	350	35.96	-3.582
5	500	41.57	-3.727
6	700	50.43	-3.921
7	830	56.96	-4.042
8	930	62.11	-4.129
9	1100	71.6	-4.271
10	1240	80.46	-4.388

1/Viscosity vs. Pressure Plot for HMIM TFSA at 70 °C

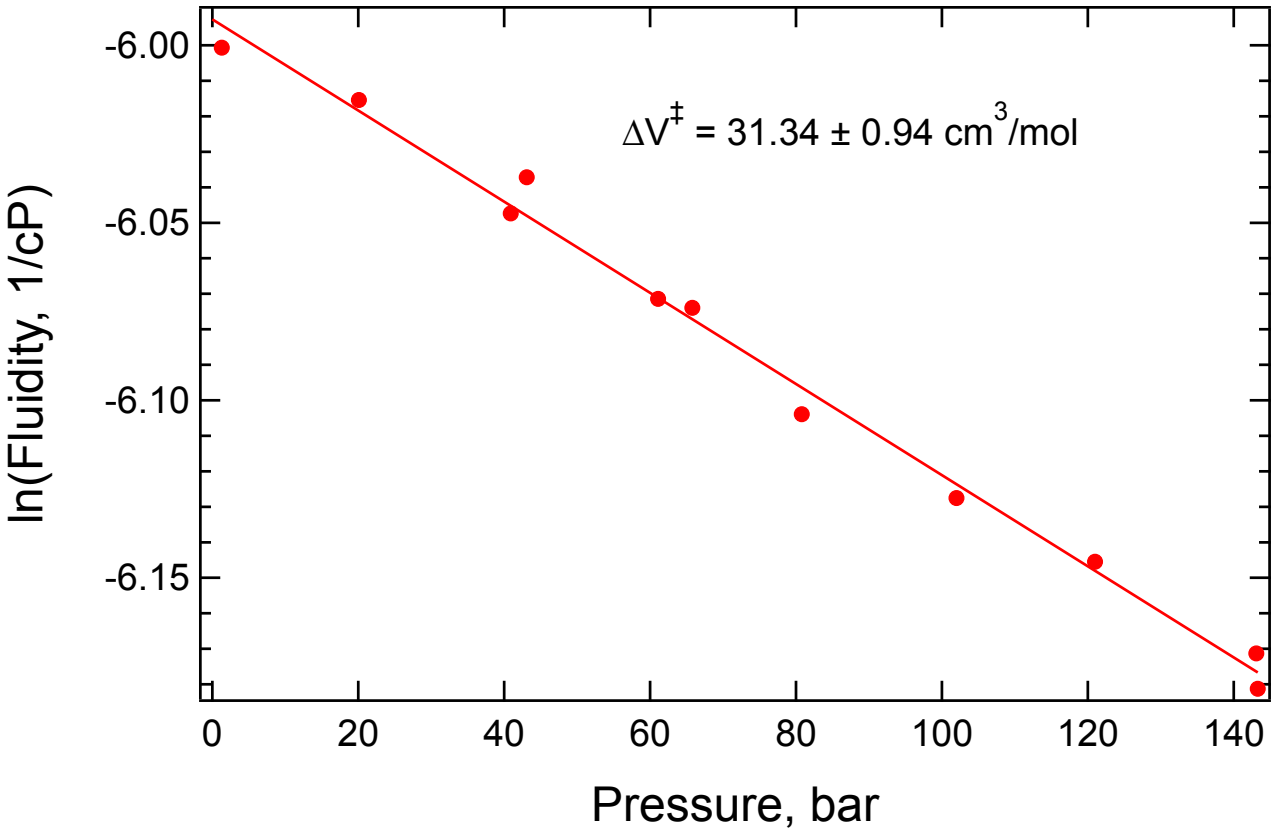
Data from Ahosseini and Scurto 10.1007/s10765-008-0497-7



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	14.07	-2.644
1	29.9	14.12	-2.648
2	40	14.22	-2.655
3	70	14.6	-2.681
4	350	18.62	-2.924
5	500	21.1	-3.049
6	700	25.17	-3.226
7	830	28.12	-3.336
8	930	30.42	-3.415
9	1100	34.65	-3.545
10	1240	38.34	-3.646

1/Viscosity vs. Pressure Plot for OMIM BF_4 at 20.5 °C

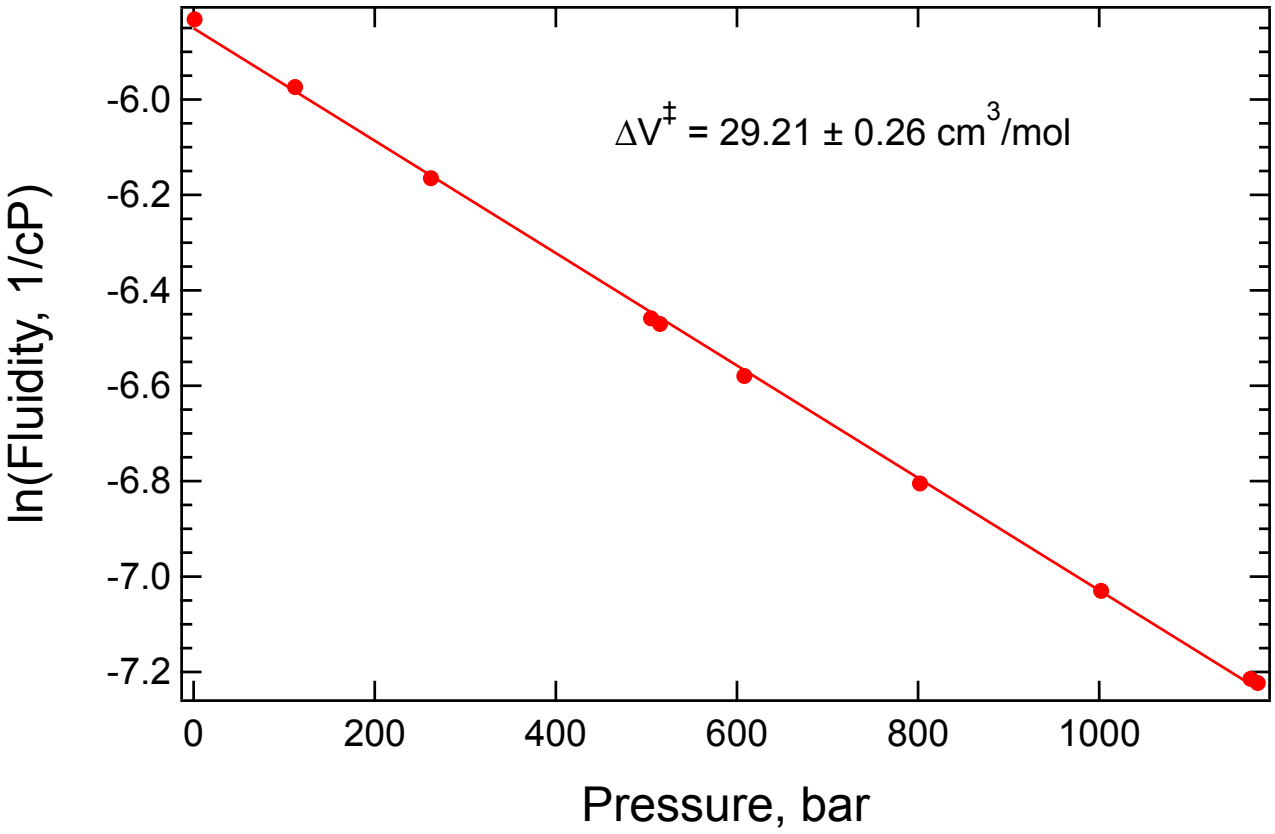
Data from Sanmamed et al. 10.1016/j.jct.2009.11.014



Point	Pressure	Visc, cP	ln(Fluidity)
0	1.3	403.7	-6.001
1	20.1	409.7	-6.015
2	40.9	423	-6.047
3	43.1	418.7	-6.037
4	61.1	433.3	-6.071
5	65.8	434.4	-6.074
6	80.8	447.6	-6.104
7	102	458.3	-6.128
8	121	466.6	-6.145
9	143.1	478.8	-6.171
10	143.3	483.6	-6.181

1/Viscosity vs. Pressure Plot for OMIM BF_4 at 25 °C

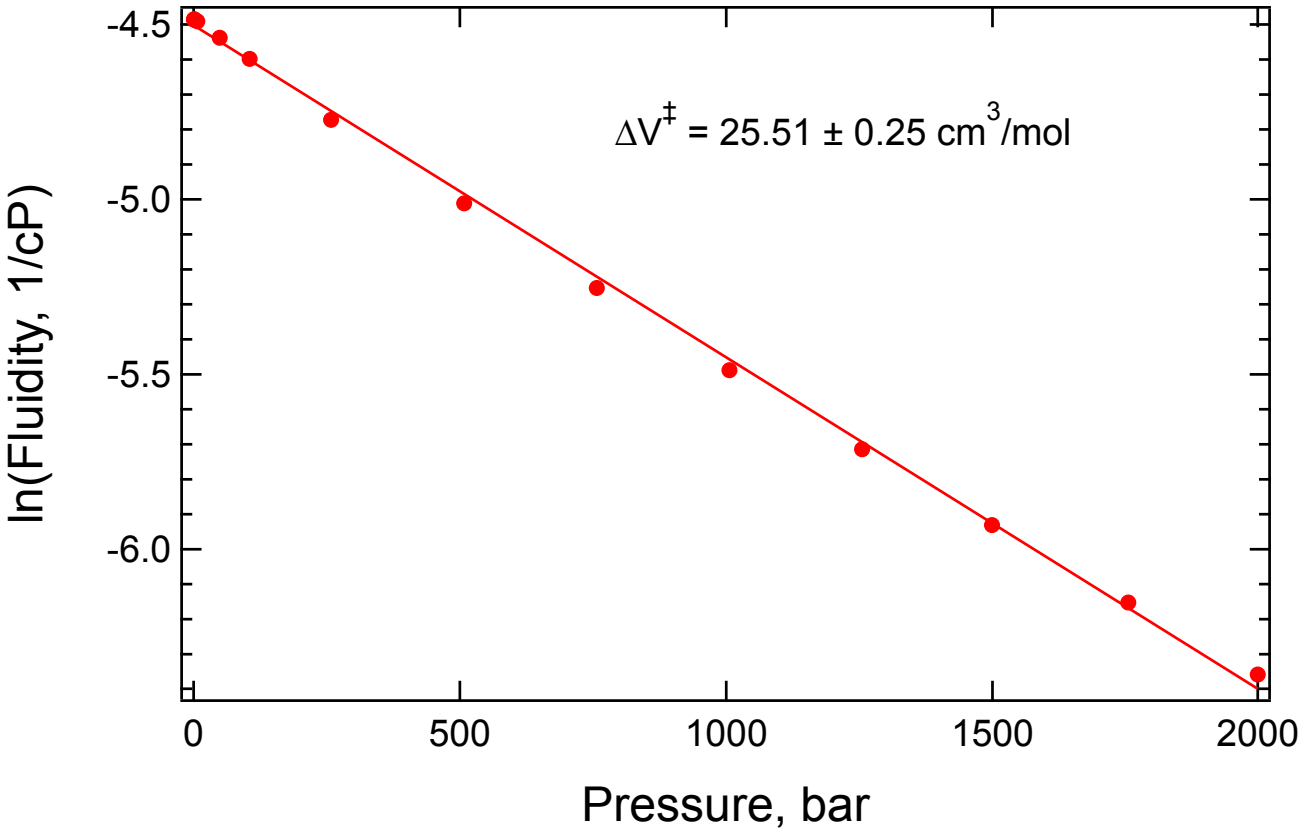
Data from Harris et al. 10.1021/je060082s



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	341	-5.832
1	112	393	-5.974
2	262	475.7	-6.165
3	505	638.3	-6.459
4	515	645.9	-6.471
5	608	720.1	-6.579
6	802	902.3	-6.805
7	1002	1130	-7.030
8	1167	1359	-7.215
9	1175	1371	-7.223

1/Viscosity vs. Pressure Plot for OMIM BF_4 at 50 °C

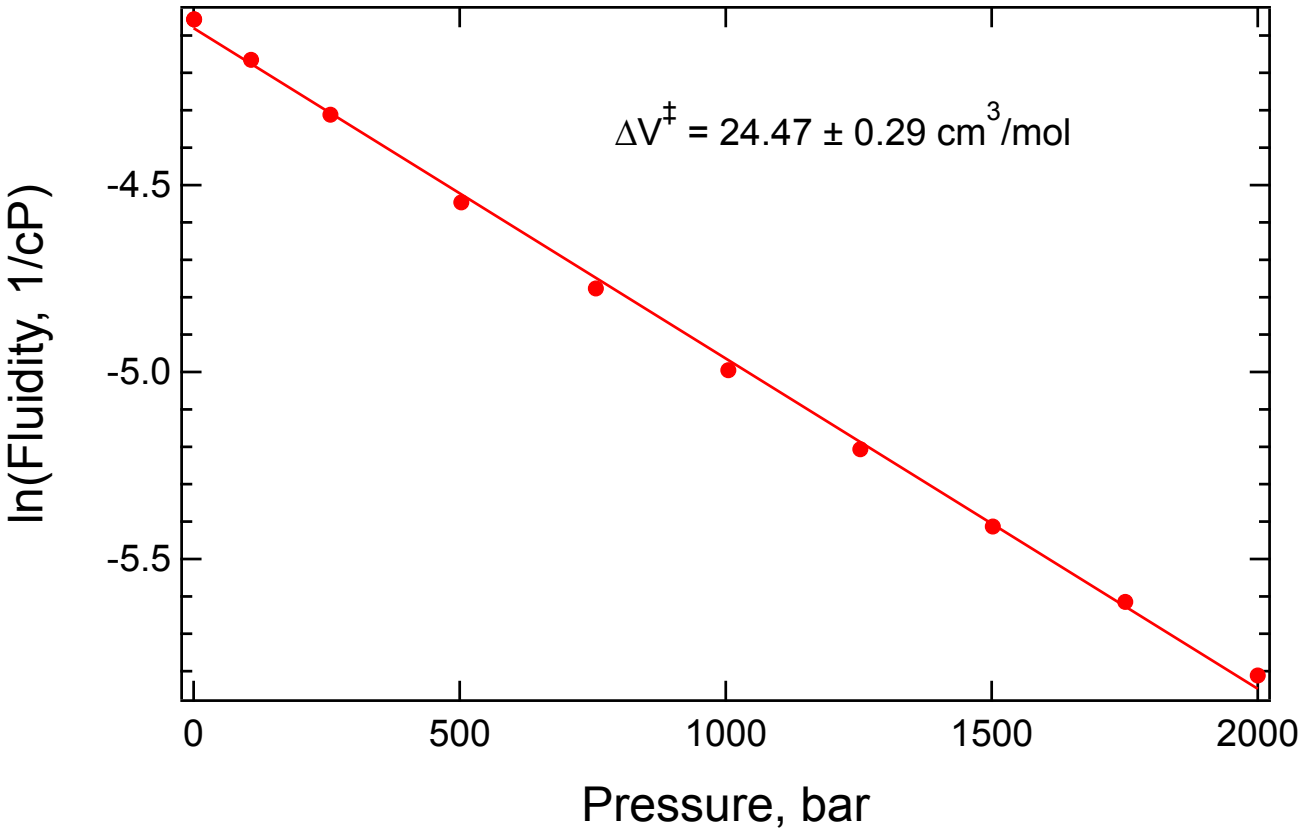
Data from Harris et al. 10.1021/je060082s



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	88.8	-4.486
1	1	88.7	-4.485
2	1	88.7	-4.485
3	7	89.2	-4.491
4	49	93.5	-4.538
5	105	99.3	-4.598
6	258	118.2	-4.772
7	508	150.1	-5.011
8	757	191.2	-5.253
9	1006	241.8	-5.488
10	1255	303.1	-5.714
11	1499	376.5	-5.931
12	1755	469.8	-6.152
13	1998	577.3	-6.358

1/Viscosity vs. Pressure Plot for OMIM BF_4 at 60 °C

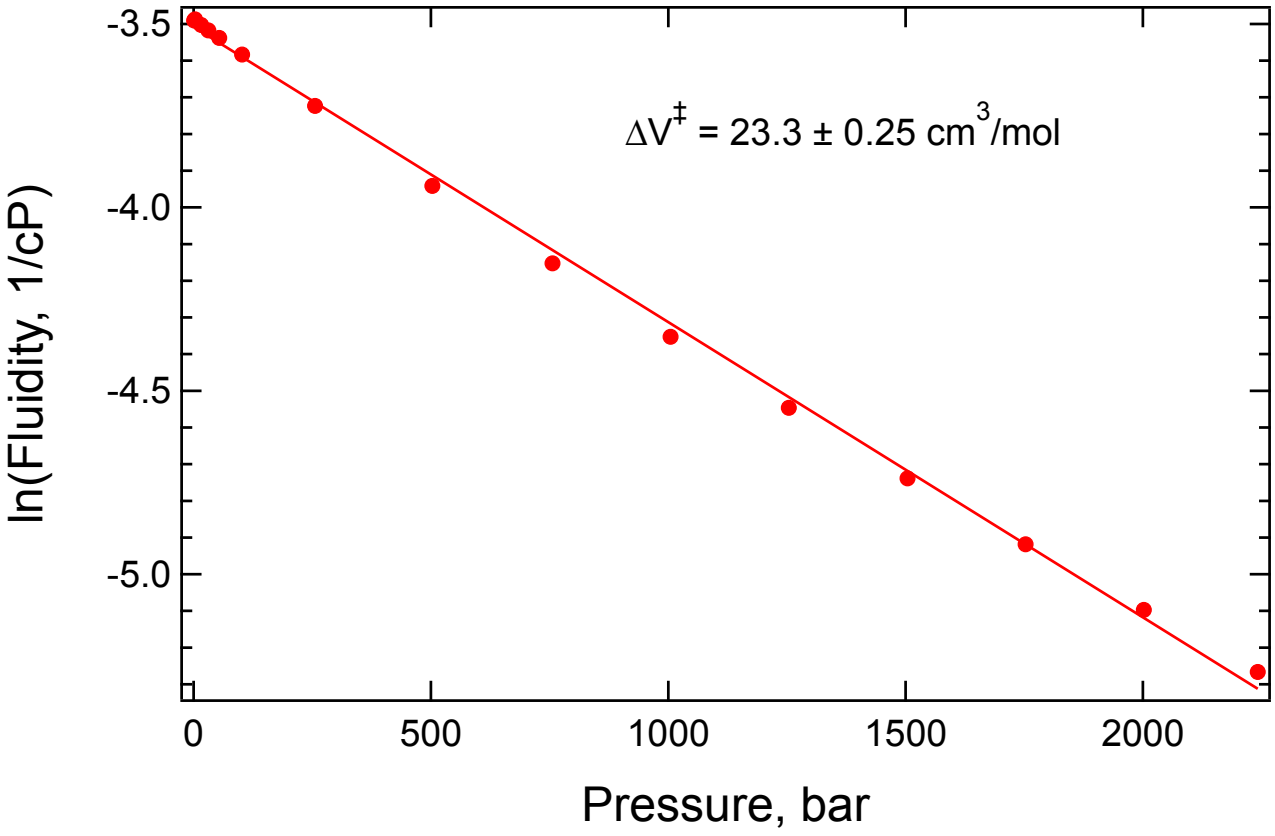
Data from Harris et al. 10.1021/je060082s



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	57.8	-4.057
1	1	57.8	-4.057
2	108	64.4	-4.165
3	257	74.6	-4.312
4	503	94.3	-4.546
5	756	118.7	-4.777
6	1005	147.7	-4.995
7	1253	182.5	-5.207
8	1502	224.3	-5.413
9	1751	274.4	-5.615
10	2000	334.1	-5.811

1/Viscosity vs. Pressure Plot for OMIM BF_4 at 75 °C

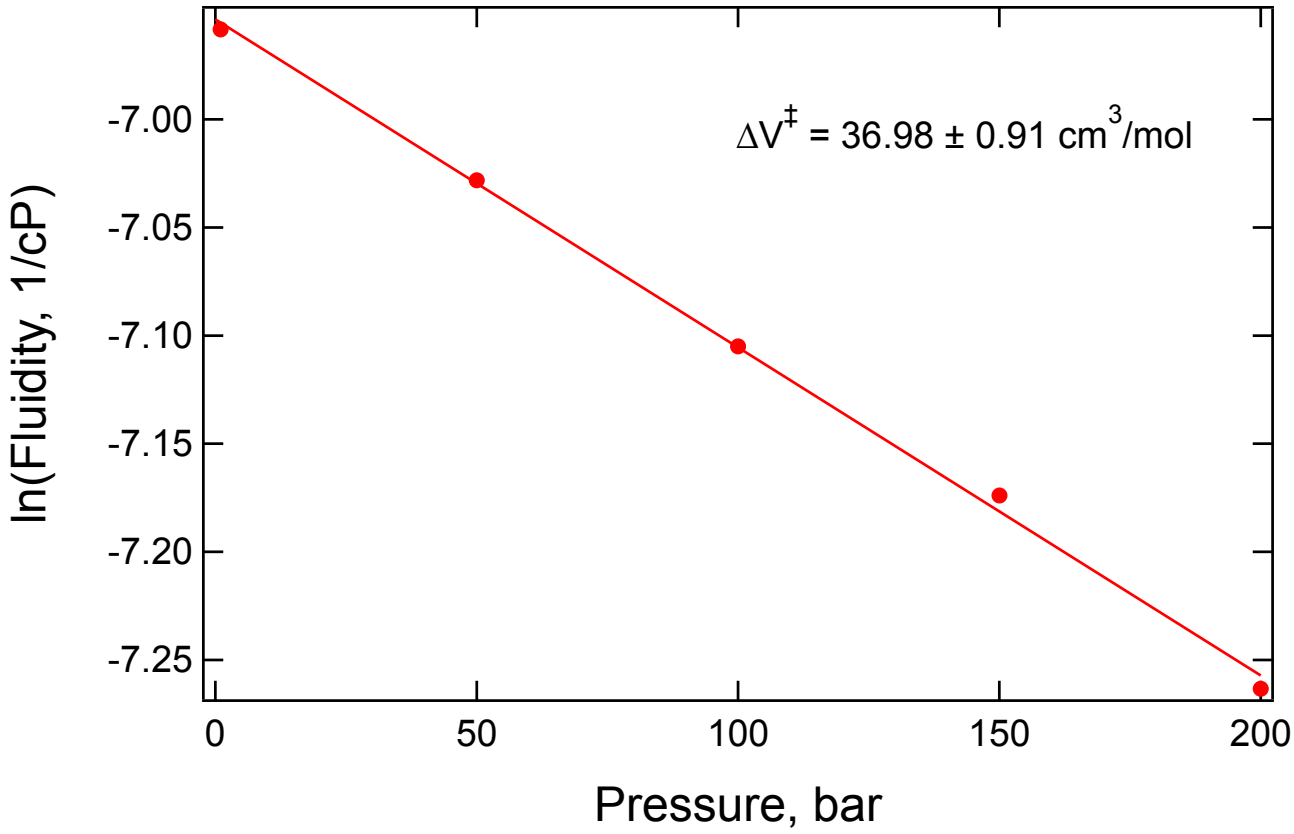
Data from Harris et al. 10.1021/je060082s



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	32.8	-3.490
1	3	32.7	-3.487
2	16	33.2	-3.503
3	31	33.7	-3.517
4	54	34.4	-3.538
5	102	36	-3.584
6	256	41.4	-3.723
7	503	51.5	-3.942
8	756	63.6	-4.153
9	1005	77.7	-4.353
10	1254	94.3	-4.546
11	1504	114.3	-4.739
12	1753	136.8	-4.919
13	2002	163.6	-5.097
14	2242	193.7	-5.266

1/Viscosity vs. Pressure Plot for OMIM PF_6 at 20 °C

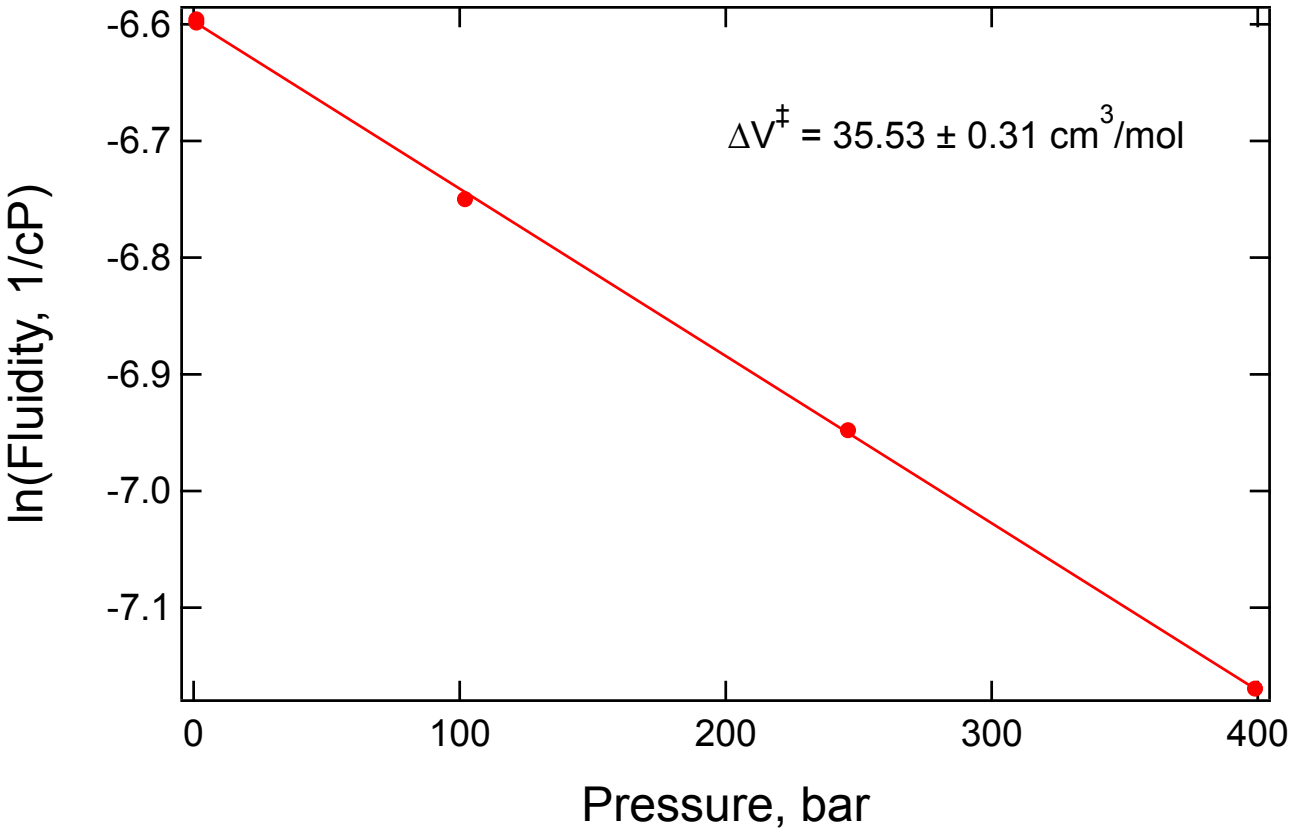
Data from Tomida et al. 10.1021/je060464y
J. Chem. Eng. Data 2007, 52, 577-579



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	1052	-6.958
1	50	1128	-7.028
2	100	1218	-7.105
3	150	1305	-7.174
4	200	1427	-7.263

1/Viscosity vs. Pressure Plot for OMIM PF_6 at 25 °C

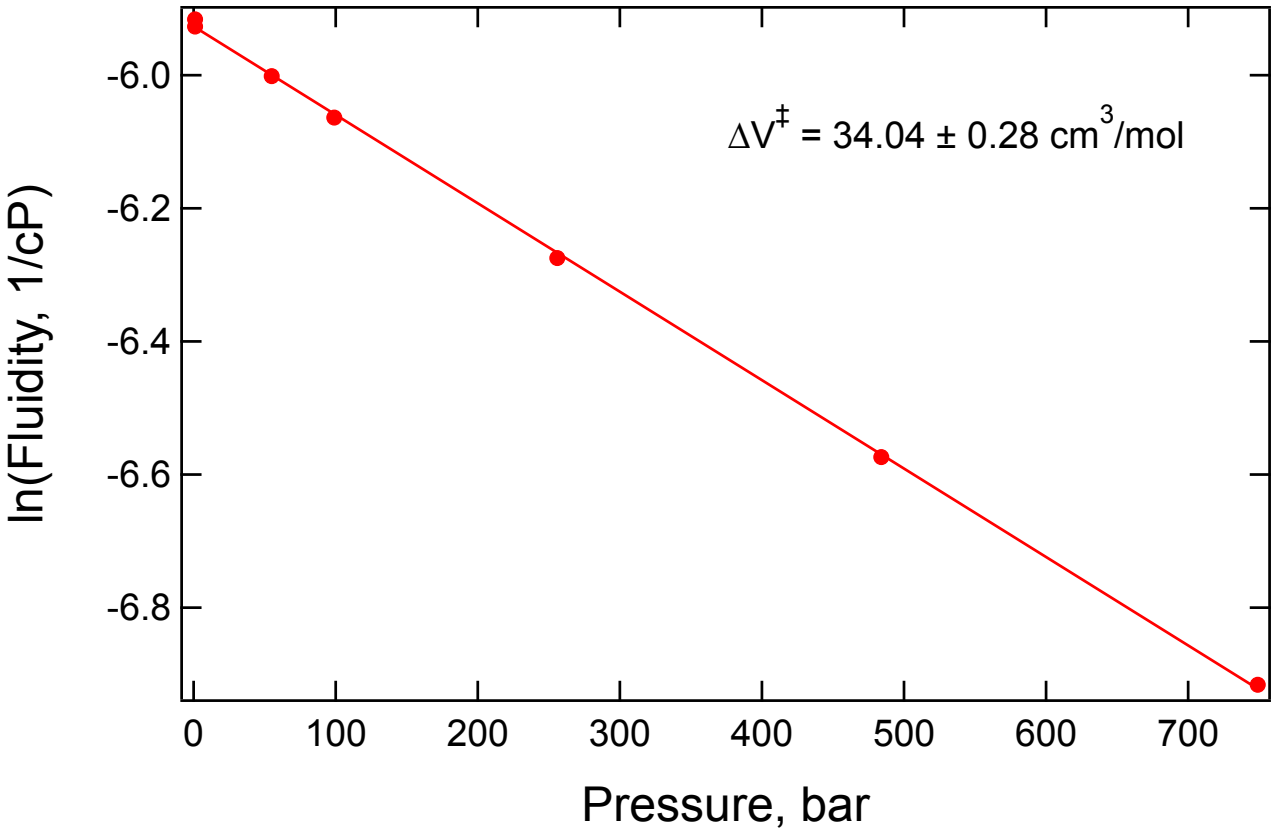
Data from Harris et al. 10.1021/je060082s
J. Chem. Eng. Data 2006, 51, 1161-1167



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	734	-6.599
1	1	732	-6.596
2	102	854	-6.750
3	246	1041	-6.948
4	399	1299	-7.169

1/Viscosity vs. Pressure Plot for OMIM PF_6 at 35 °C

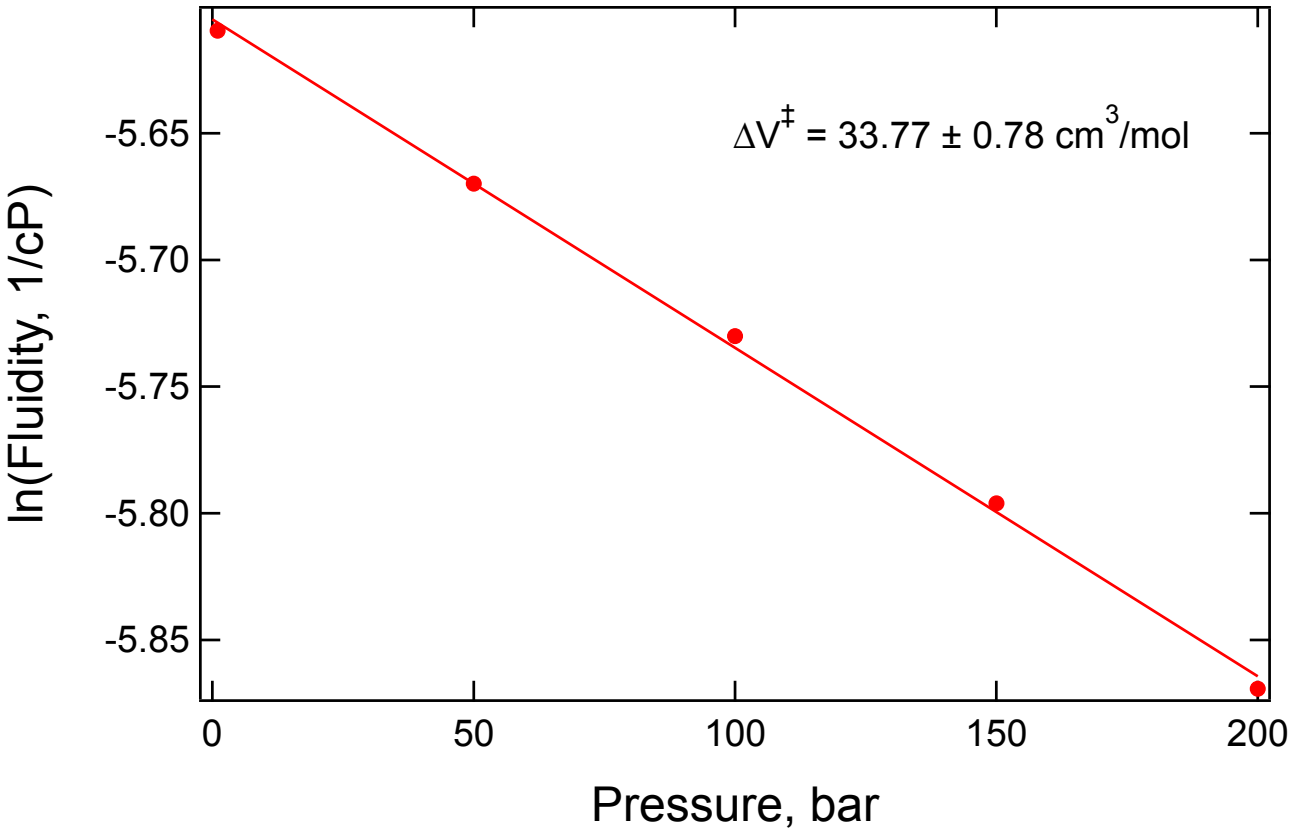
Data from Harris et al. 10.1021/je060082s
J. Chem. Eng. Data 2006, 51, 1161-1167



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	375	-5.927
1	1	371	-5.916
2	55	404	-6.001
3	99	430	-6.064
4	256	531	-6.275
5	484	716	-6.574
6	749	1008	-6.916

1/Viscosity vs. Pressure Plot for OMIM PF_6 at 40 °C

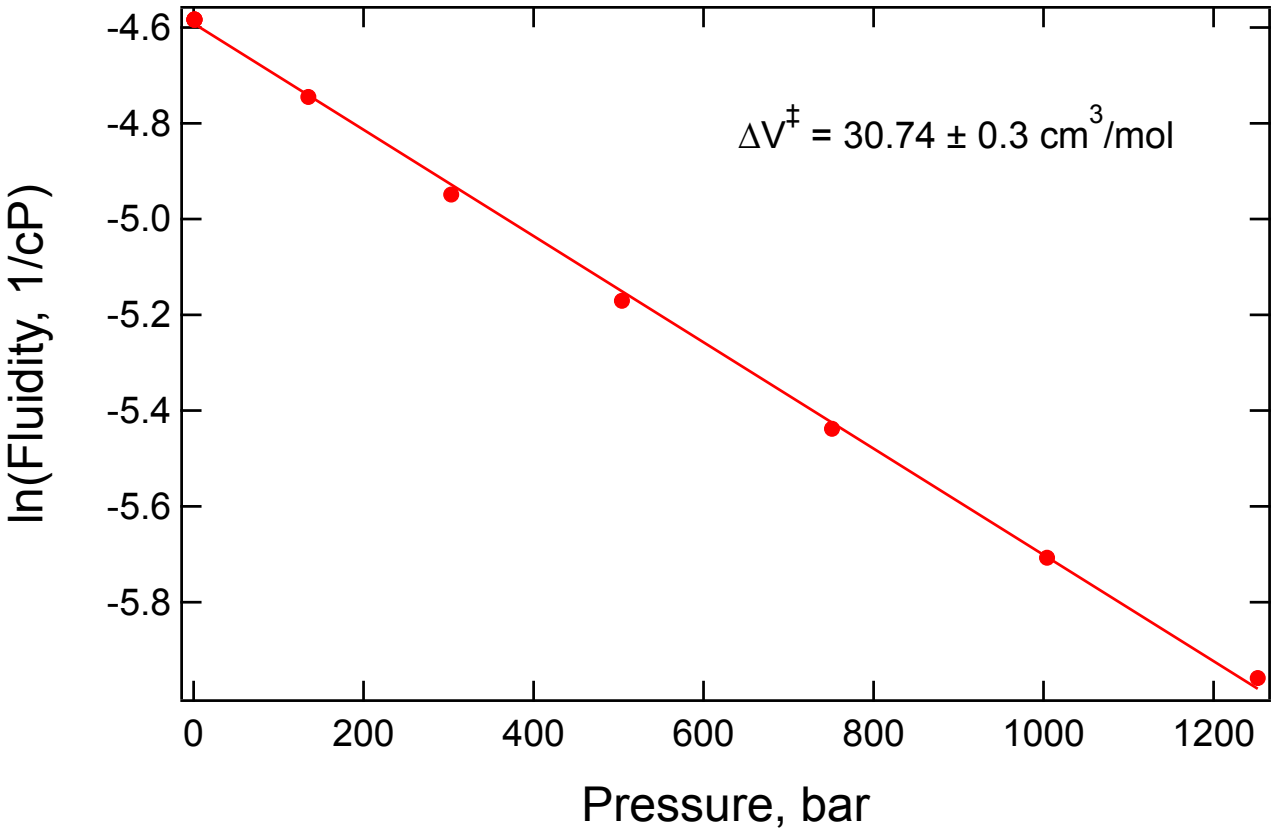
Data from Tomida et al. 10.1021/je060464y
J. Chem. Eng. Data 2007, 52, 577-579



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	273	-5.609
1	50	290	-5.670
2	100	308	-5.730
3	150	329	-5.796
4	200	354	-5.869

1/Viscosity vs. Pressure Plot for OMIM PF_6 at 60 °C

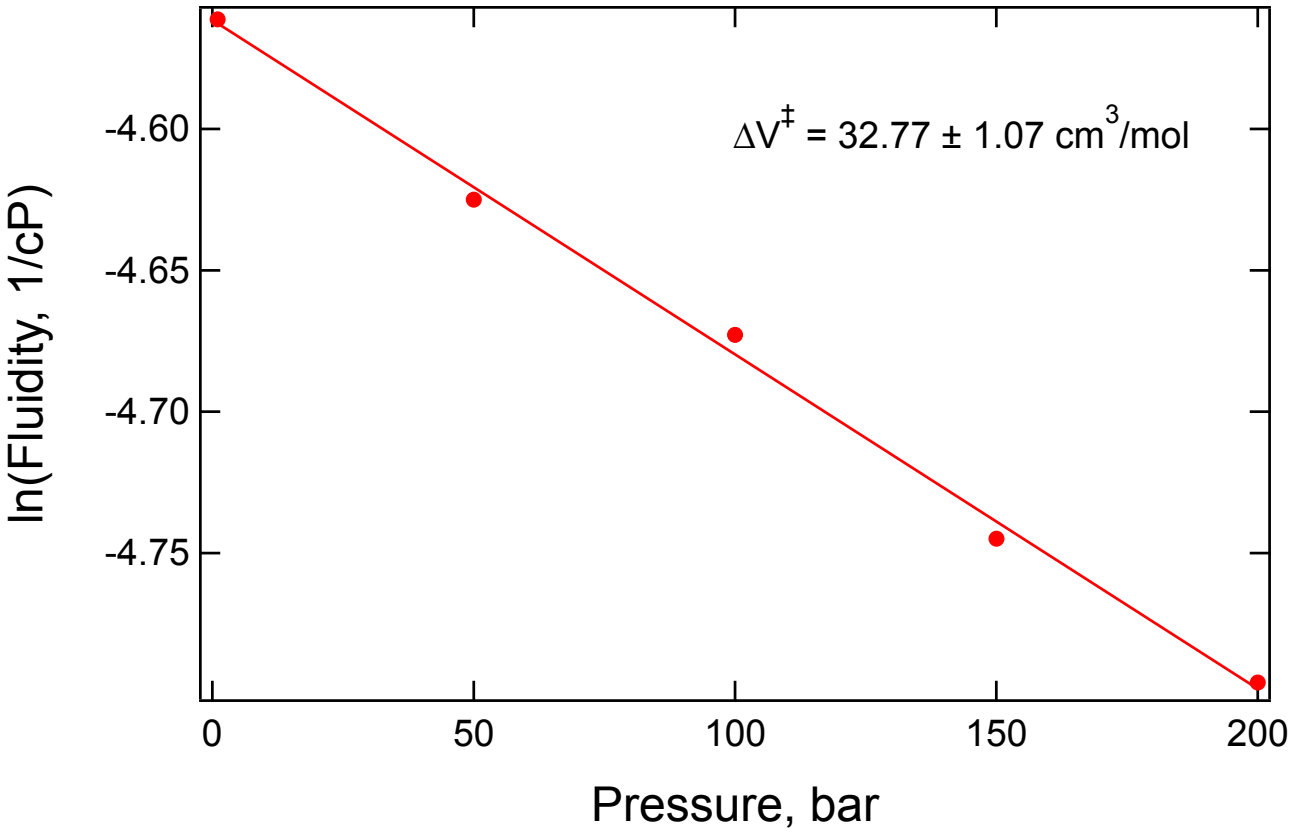
Data from Harris et al. 10.1021/je060082s
J. Chem. Eng. Data 2006, 51, 1161-1167



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	97.9	-4.584
1	1	97.8	-4.583
2	1	97.9	-4.584
3	1	97.8	-4.583
4	135	115	-4.745
5	303	141	-4.949
6	504	176	-5.170
7	751	230	-5.438
8	1004	301	-5.707
9	1252	387	-5.958

1/Viscosity vs. Pressure Plot for OMIM PF_6 at 60 °C

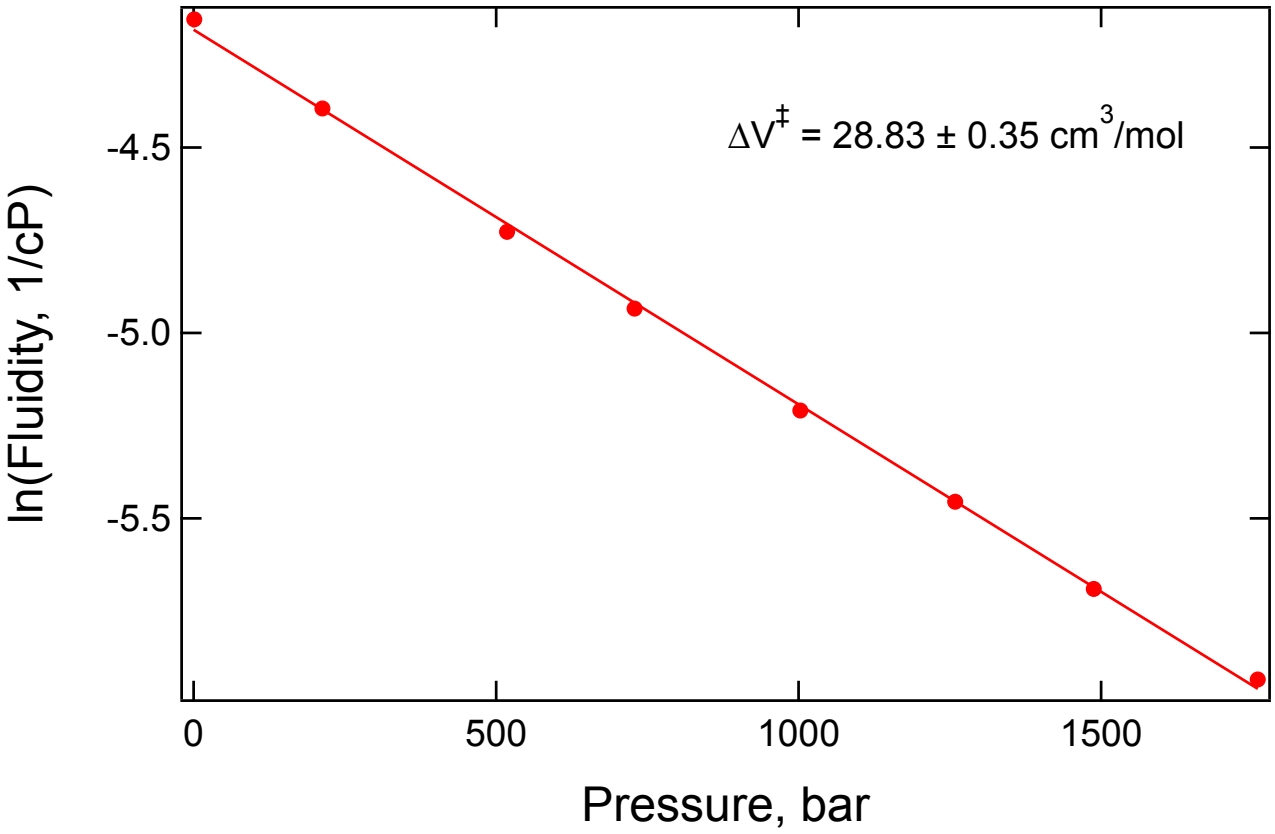
Data from Tomida et al. 10.1021/je060464y
J. Chem. Eng. Data 2007, 52, 577-579



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	95.7	-4.561
1	50	102	-4.625
2	100	107	-4.673
3	150	115	-4.745
4	200	121	-4.796

1/Viscosity vs. Pressure Plot for OMIM PF_6 at 70 °C

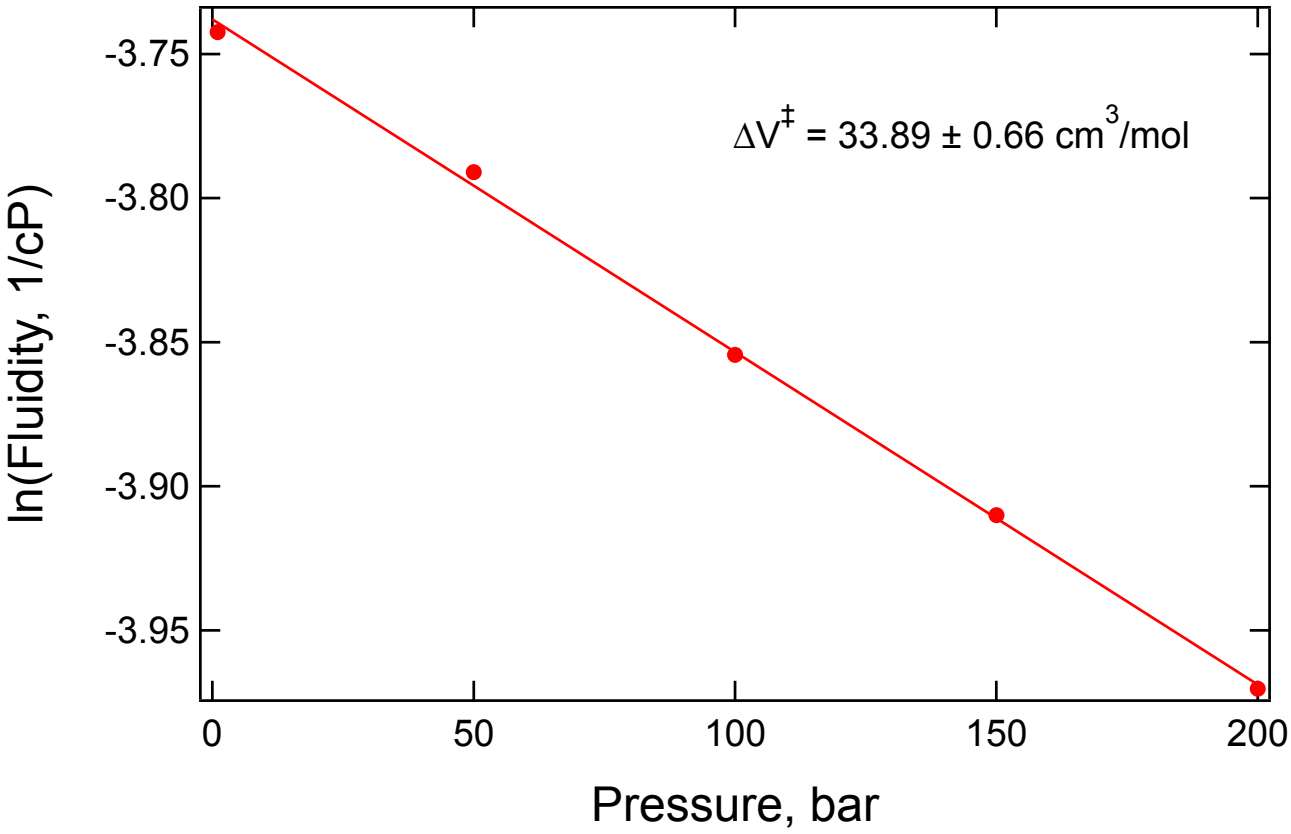
Data from Harris et al. 10.1021/je060082s
J. Chem. Eng. Data 2006, 51, 1161-1167



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	63.7	-4.154
1	213	81	-4.394
2	518	113	-4.727
3	729	139	-4.934
4	1003	183	-5.209
5	1259	234	-5.455
6	1488	296	-5.690
7	1759	378	-5.935

1/Viscosity vs. Pressure Plot for OMIM PF_6 at 80 °C

Data from Tomida et al. 10.1021/je060464y
J. Chem. Eng. Data 2007, 52, 577-579



Point	Pressure	Visc, cP	ln(Fluidity)
0	1	42.2	-3.742
1	50	44.3	-3.791
2	100	47.2	-3.854
3	150	49.9	-3.910
4	200	53	-3.970