

10°C			25°C			50°C		
P (bar)	Mole Fraction H ₂ O	Mole Fraction Uncertainty	P (bar)	Mole Fraction H ₂ O	Mole Fraction Uncertainty	P (bar)	Mole Fraction H ₂ O	Mole Fraction Uncertainty
2.98E-05	3.22E-07	2.18E-05	5.20E-06	5.34E-08	1.23E-06	8.10E-05	7.68E-07	5.39E-06
1.05E-03	9.43E-03	8.78E-04	9.84E-04	3.97E-03	2.43E-04	-9.00E-05	-2.59E-04	-5.96E-06
1.57E-03	1.61E-02	1.38E-03	1.50E-03	7.18E-03	3.79E-04	-1.40E-04	-2.59E-04	-9.26E-06
2.05E-03	2.26E-02	1.92E-03	1.98E-03	1.03E-02	5.14E-04	8.42E-04	7.87E-04	5.71E-05
2.57E-03	2.94E-02	2.52E-03	2.99E-03	1.66E-02	8.08E-04	1.36E-03	1.83E-03	9.31E-05
3.06E-03	3.62E-02	3.15E-03	3.99E-03	2.32E-02	1.13E-03	1.84E-03	2.86E-03	1.28E-04
3.57E-03	4.34E-02	3.86E-03	4.99E-03	3.01E-02	1.47E-03	2.85E-03	5.06E-03	2.03E-04
4.06E-03	5.05E-02	4.59E-03	6.99E-03	4.34E-02	2.22E-03	3.85E-03	7.42E-03	2.80E-04
4.57E-03	5.81E-02	5.40E-03	8.99E-03	5.79E-02	3.06E-03	4.85E-03	9.85E-03	3.61E-04
5.06E-03	6.55E-02	6.22E-03	1.10E-02	7.26E-02	4.00E-03	6.85E-03	1.47E-02	5.34E-04
5.57E-03	7.33E-02	7.13E-03	1.50E-02	1.03E-01	6.15E-03	8.85E-03	1.96E-02	7.20E-04
6.57E-03	8.82E-02	9.06E-03	2.00E-02	1.46E-01	9.37E-03	1.09E-02	2.47E-02	9.19E-04
7.57E-03	1.05E-01	1.12E-02	2.50E-02	1.94E-01	1.32E-02	1.49E-02	3.50E-02	1.36E-03
8.57E-03	1.23E-01	1.35E-02	2.50E-02	1.94E-01	1.32E-02	1.99E-02	4.79E-02	1.98E-03
9.57E-03	1.42E-01	1.60E-02	2.00E-02	1.51E-01	9.37E-03	2.49E-02	6.14E-02	2.69E-03
9.57E-03	1.42E-01	1.60E-02	1.50E-02	1.08E-01	6.15E-03	2.98E-02	7.47E-02	3.48E-03
8.57E-03	1.29E-01	1.35E-02	1.10E-02	7.68E-02	4.00E-03	3.99E-02	1.03E-01	5.32E-03
7.57E-03	1.13E-01	1.12E-02	8.99E-03	6.16E-02	3.06E-03	4.99E-02	1.32E-01	7.50E-03
6.57E-03	9.63E-02	9.06E-03	4.99E-03	3.43E-02	1.47E-03			
5.57E-03	8.04E-02	7.13E-03	2.99E-03	2.02E-02	8.08E-04			
5.06E-03	7.13E-02	6.22E-03	1.50E-03	1.02E-02	3.79E-04			
4.57E-03	6.37E-02	5.40E-03	1.69E-04	1.30E-03	4.01E-05			
4.06E-03	5.61E-02	4.59E-03						
3.57E-03	4.90E-02	3.86E-03						
3.05E-03	4.18E-02	3.15E-03						
2.57E-03	3.49E-02	2.53E-03						
2.06E-03	2.80E-02	1.92E-03						
1.57E-03	2.13E-02	1.39E-03						
1.05E-03	1.46E-02	8.79E-04						
5.93E-05	3.32E-03	4.36E-05						

10°C			25°C			40°C			50°C		
P (bar)	Mole Fraction C ₆ H ₆	Mole Fraction Uncertainty	P (bar)	Mole Fraction C ₆ H ₆	Mole Fraction Uncertainty	P (bar)	Mole Fraction C ₆ H ₆	Mole Fraction Uncertainty	P (bar)	Mole Fraction C ₆ H ₆	Mole Fraction Uncertainty
6.00E-05	3.71E-07	1.01E-04	0.00E+00	0.00E+00	0.00E+00	5.00E-05	2.89E-07	5.11E-06	1.00E-05	5.64E-08	1.78E-07
5.30E-04	1.55E-03	8.99E-04	5.90E-04	6.57E-04	1.58E-04	6.20E-04	3.03E-04	6.40E-05	2.92E-03	2.15E-03	5.30E-05
1.13E-03	4.73E-03	1.94E-03	1.14E-03	2.15E-03	3.08E-04	1.15E-03	1.17E-03	1.20E-04	3.45E-03	2.97E-03	6.28E-05
5.18E-03	2.45E-02	9.70E-03	5.19E-03	1.16E-02	1.47E-03	5.22E-03	7.84E-03	5.84E-04	7.50E-03	7.46E-03	1.40E-04
1.02E-02	5.60E-02	2.09E-02	9.85E-03	2.57E-02	2.93E-03	1.02E-02	1.67E-02	1.23E-03	1.25E-02	1.34E-02	2.40E-04
1.50E-02	9.38E-02	3.38E-02	1.48E-02	4.32E-02	4.65E-03	1.51E-02	2.60E-02	1.98E-03	1.74E-02	1.96E-02	3.43E-04
3.01E-02	2.12E-01	8.48E-02	2.99E-02	9.47E-02	1.08E-02	3.01E-02	5.42E-02	4.80E-03	2.23E-02	2.59E-02	4.51E-04
5.01E-02	4.30E-01	1.79E-01	5.01E-02	1.74E-01	2.15E-02	6.00E-02	1.12E-01	1.29E-02	3.24E-02	3.81E-02	6.92E-04
5.01E-02	4.30E-01	1.79E-01	6.98E-02	2.60E-01	3.43E-02	6.00E-02	1.12E-01	1.30E-02	5.24E-02	6.24E-02	1.23E-03
4.01E-02	3.52E-01	1.28E-01	9.50E-02	3.79E-01	5.44E-02	5.01E-02	9.56E-02	9.87E-03	7.24E-02	8.84E-02	1.86E-03
2.00E-02	1.80E-01	4.86E-02	9.50E-02	3.79E-01	5.44E-02	2.01E-02	3.86E-02	2.81E-03	1.02E-01	1.27E-01	2.95E-03
3.08E-03	5.24E-02	5.52E-03	8.48E-02	3.37E-01	4.58E-02	1.02E-02	1.96E-02	1.23E-03	1.42E-01	1.81E-01	4.74E-03
8.00E-05	1.46E-02	1.34E-04	5.97E-02	2.29E-01	2.74E-02	4.12E-03	8.24E-03	4.53E-04	2.02E-01	2.65E-01	8.02E-03
			2.49E-02	9.62E-02	8.65E-03	2.30E-04	5.21E-04	2.36E-05			
			9.91E-03	4.00E-02	2.95E-03						
			3.78E-03	1.66E-02	1.05E-03						

Table S3: CO ₂ solubility in [bmim][PF ₆]								
10°C			25°C			50°C		
P (bar)	Mole Fraction CO ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction CO ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction CO ₂	Mole Fraction Uncertainty
1.00E-04	6.58E-06	1.21E-08	3.00E-04	6.44E-06	3.01E-08	0.00E+00	1.19E-291	0.00E+00
4.99E-01	1.16E-02	6.26E-05	5.03E-01	7.56E-03	5.25E-05	4.99E-01	4.09E-03	6.67E-05
1.00E+00	2.44E-02	1.30E-04	1.00E+00	1.68E-02	1.09E-04	1.00E+00	1.01E-02	1.39E-04
1.50E+00	3.71E-02	2.03E-04	1.50E+00	2.65E-02	1.68E-04	1.50E+00	1.73E-02	2.17E-04
2.00E+00	4.96E-02	2.80E-04	2.00E+00	3.55E-02	2.33E-04	2.00E+00	2.22E-02	3.00E-04
2.50E+00	6.18E-02	3.62E-04	2.50E+00	4.46E-02	3.00E-04	2.50E+00	2.99E-02	3.88E-04
3.00E+00	7.37E-02	4.50E-04	3.00E+00	5.34E-02	3.72E-04	3.00E+00	3.52E-02	4.82E-04
3.50E+00	8.51E-02	5.42E-04	3.50E+00	6.19E-02	4.48E-04	3.50E+00	4.12E-02	5.81E-04
4.00E+00	9.62E-02	6.37E-04	4.00E+00	7.03E-02	5.27E-04	4.00E+00	4.68E-02	6.85E-04
4.50E+00	1.07E-01	7.39E-04	4.50E+00	7.94E-02	6.11E-04	4.50E+00	5.28E-02	7.95E-04
4.99E+00	1.18E-01	8.45E-04	5.00E+00	8.78E-02	6.98E-04	5.00E+00	5.83E-02	9.10E-04
5.50E+00	1.28E-01	9.57E-04	5.50E+00	9.58E-02	7.90E-04	5.50E+00	6.43E-02	1.03E-03
6.00E+00	1.39E-01	1.07E-03	6.00E+00	1.03E-01	8.85E-04	6.00E+00	6.89E-02	1.16E-03
6.50E+00	1.48E-01	1.19E-03	6.50E+00	1.10E-01	9.85E-04	6.50E+00	7.47E-02	1.29E-03
7.00E+00	1.58E-01	1.32E-03	7.00E+00	1.19E-01	1.09E-03	6.99E+00	7.98E-02	1.43E-03
7.50E+00	1.68E-01	1.45E-03	7.50E+00	1.26E-01	1.20E-03	7.50E+00	8.45E-02	1.57E-03
7.99E+00	1.77E-01	1.59E-03	7.99E+00	1.34E-01	1.31E-03	8.00E+00	8.95E-02	1.72E-03
8.49E+00	1.86E-01	1.73E-03	8.50E+00	1.41E-01	1.42E-03	8.50E+00	9.42E-02	1.87E-03
9.00E+00	1.96E-01	1.87E-03	9.00E+00	1.47E-01	1.54E-03	9.00E+00	9.88E-02	2.03E-03
9.49E+00	2.05E-01	2.02E-03	9.50E+00	1.54E-01	1.66E-03	9.50E+00	1.04E-01	2.19E-03
1.00E+01	2.13E-01	2.18E-03	1.00E+01	1.61E-01	1.79E-03	9.99E+00	1.08E-01	2.36E-03
1.05E+01	2.21E-01	2.34E-03	1.05E+01	1.68E-01	1.92E-03	1.05E+01	1.13E-01	2.53E-03
1.10E+01	2.30E-01	2.50E-03	1.10E+01	1.75E-01	2.05E-03	1.10E+01	1.17E-01	2.71E-03
1.15E+01	2.38E-01	2.67E-03	1.15E+01	1.81E-01	2.19E-03	1.15E+01	1.21E-01	2.90E-03
1.20E+01	2.46E-01	2.84E-03	1.20E+01	1.87E-01	2.34E-03	1.20E+01	1.26E-01	3.09E-03
1.25E+01	2.54E-01	3.02E-03	1.25E+01	1.93E-01	2.48E-03	1.25E+01	1.30E-01	3.28E-03
1.30E+01	2.62E-01	3.21E-03	1.30E+01	2.00E-01	2.63E-03	1.30E+01	1.34E-01	3.49E-03
1.30E+01	2.62E-01	3.21E-03	1.30E+01	2.00E-01	2.63E-03	1.30E+01	1.34E-01	3.49E-03
1.25E+01	2.54E-01	3.03E-03	1.25E+01	1.94E-01	2.49E-03	1.25E+01	1.29E-01	3.29E-03
1.20E+01	2.46E-01	2.85E-03	1.20E+01	1.86E-01	2.34E-03	1.20E+01	1.25E-01	3.09E-03
1.15E+01	2.38E-01	2.67E-03	1.15E+01	1.81E-01	2.20E-03	1.15E+01	1.21E-01	2.90E-03
1.10E+01	2.30E-01	2.50E-03	1.10E+01	1.74E-01	2.06E-03	1.10E+01	1.17E-01	2.72E-03
1.05E+01	2.22E-01	2.34E-03	1.05E+01	1.67E-01	1.92E-03	1.05E+01	1.12E-01	2.54E-03
1.00E+01	2.14E-01	2.18E-03	1.00E+01	1.60E-01	1.79E-03	1.00E+01	1.08E-01	2.36E-03
9.50E+00	2.05E-01	2.02E-03	9.50E+00	1.54E-01	1.66E-03	9.50E+00	1.03E-01	2.19E-03
9.00E+00	1.96E-01	1.87E-03	9.00E+00	1.47E-01	1.54E-03	9.00E+00	9.83E-02	2.03E-03
8.50E+00	1.87E-01	1.73E-03	8.50E+00	1.40E-01	1.42E-03	8.50E+00	9.34E-02	1.87E-03
8.00E+00	1.78E-01	1.59E-03	8.00E+00	1.33E-01	1.31E-03	8.00E+00	8.86E-02	1.72E-03
7.50E+00	1.68E-01	1.45E-03	7.51E+00	1.25E-01	1.20E-03	7.51E+00	8.33E-02	1.57E-03
7.00E+00	1.59E-01	1.32E-03	7.01E+00	1.18E-01	1.09E-03	7.01E+00	7.87E-02	1.43E-03
6.50E+00	1.49E-01	1.20E-03	6.51E+00	1.10E-01	9.87E-04	6.51E+00	7.37E-02	1.29E-03
6.00E+00	1.39E-01	1.07E-03	6.01E+00	1.03E-01	8.87E-04	6.01E+00	6.85E-02	1.16E-03
5.50E+00	1.29E-01	9.58E-04	5.51E+00	9.51E-02	7.92E-04	5.51E+00	6.26E-02	1.03E-03
5.00E+00	1.18E-01	8.46E-04	5.01E+00	8.74E-02	7.00E-04	5.01E+00	5.77E-02	9.13E-04
4.50E+00	1.08E-01	7.40E-04	4.51E+00	7.94E-02	6.12E-04	4.51E+00	5.22E-02	7.97E-04
4.00E+00	9.71E-02	6.38E-04	4.01E+00	7.11E-02	5.29E-04	4.01E+00	4.56E-02	6.87E-04
3.50E+00	8.60E-02	5.41E-04	3.51E+00	6.28E-02	4.49E-04	3.51E+00	4.01E-02	5.83E-04
3.00E+00	7.47E-02	4.49E-04	3.01E+00	5.45E-02	3.73E-04	3.01E+00	3.40E-02	4.83E-04
2.50E+00	6.31E-02	3.63E-04	2.51E+00	4.58E-02	3.01E-04	2.51E+00	2.93E-02	3.89E-04
2.00E+00	5.12E-02	2.80E-04	2.01E+00	3.69E-02	2.33E-04	2.01E+00	2.41E-02	3.01E-04
1.50E+00	3.93E-02	2.04E-04	1.51E+00	2.80E-02	1.69E-04	1.51E+00	1.75E-02	2.18E-04
9.99E-01	2.67E-02	1.30E-04	1.01E+00	1.89E-02	1.09E-04	1.00E+00	1.12E-02	1.40E-04
4.99E-01	1.39E-02	6.26E-05	5.05E-01	9.82E-03	5.28E-05	5.05E-01	5.45E-03	6.75E-05
3.17E-02	1.79E-03	3.83E-06	3.33E-02	7.01E-04	3.35E-06	3.78E-02	-3.60E-04	4.86E-06

Table S4: CO₂ solubility in [bmim][BF₄]

10°C			25°C			50°C		
P (bar)	Mole Fraction CO ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction CO ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction CO ₂	Mole Fraction Uncertainty
4.25E-04	4.67E-06	5.47E-07	2.88E-04	4.55E-06	2.15E-07	2.88E-04	4.37E-06	6.62E-08
9.91E-03	-1.42E-04	1.28E-05	1.53E-02	4.72E-04	1.14E-05	1.00E-02	1.97E-04	2.31E-06
4.80E-02	5.74E-04	6.20E-05	4.95E-02	3.74E-04	3.72E-05	4.81E-02	6.83E-04	1.11E-05
9.92E-02	1.65E-03	1.29E-04	9.95E-02	1.24E-03	7.51E-05	9.93E-02	1.33E-03	2.30E-05
4.99E-01	8.93E-03	6.72E-04	4.99E-01	7.74E-03	3.90E-04	4.99E-01	5.87E-03	1.20E-04
9.99E-01	1.97E-02	1.40E-03	9.99E-01	1.61E-02	8.14E-04	9.99E-01	1.17E-02	2.50E-04
2.50E+00	5.06E-02	3.96E-03	2.50E+00	4.05E-02	2.29E-03	2.50E+00	2.61E-02	7.04E-04
4.00E+00	8.31E-02	7.05E-03	4.00E+00	6.49E-02	4.07E-03	4.00E+00	4.43E-02	1.25E-03
5.50E+00	1.15E-01	1.07E-02	5.50E+00	8.77E-02	6.15E-03	5.50E+00	5.77E-02	1.89E-03
7.00E+00	1.44E-01	1.48E-02	7.00E+00	1.10E-01	8.54E-03	7.00E+00	7.38E-02	2.63E-03
8.50E+00	1.71E-01	1.95E-02	8.50E+00	1.30E-01	1.12E-02	8.50E+00	8.47E-02	3.46E-03
1.00E+01	1.96E-01	2.47E-02	1.00E+01	1.49E-01	1.42E-02	1.00E+01	1.01E-01	4.39E-03
1.10E+01	2.13E-01	2.85E-02	1.10E+01	1.61E-01	1.64E-02	1.10E+01	1.07E-01	5.05E-03
1.20E+01	2.28E-01	3.25E-02	1.20E+01	1.73E-01	1.87E-02	1.20E+01	1.16E-01	5.76E-03
1.30E+01	2.43E-01	3.68E-02	1.30E+01	1.85E-01	2.11E-02	1.30E+01	1.25E-01	6.51E-03
1.30E+01	2.43E-01	3.68E-02	1.30E+01	1.85E-01	2.11E-02	1.30E+01	1.25E-01	6.51E-03
1.10E+01	2.20E-01	2.85E-02	1.10E+01	1.64E-01	1.64E-02	1.10E+01	1.05E-01	5.05E-03
9.00E+00	1.90E-01	2.12E-02	9.00E+00	1.39E-01	1.22E-02	9.00E+00	9.01E-02	3.76E-03
6.00E+00	1.40E-01	1.20E-02	5.62E-04	2.93E-06	4.20E-07	6.00E+00	6.27E-02	2.13E-03
5.00E+00	1.17E-01	9.40E-03	1.14E-02	-3.19E-04	8.54E-06	4.25E-04	2.90E-06	9.77E-08
			4.82E-02	1.80E-04	3.62E-05	1.11E-02	-7.28E-05	2.56E-06
			1.00E-01	9.95E-04	7.58E-05	4.93E-02	2.75E-04	1.14E-05
			5.02E-01	5.67E-03	3.92E-04	9.91E-02	7.76E-04	2.30E-05
			9.99E-01	1.34E-02	8.14E-04	5.00E-01	4.96E-03	1.20E-04
			2.50E+00	3.50E-02	2.29E-03	9.99E-01	1.04E-02	2.50E-04
			4.00E+00	5.88E-02	4.07E-03	2.50E+00	2.56E-02	7.04E-04
			5.50E+00	8.18E-02	6.15E-03	4.00E+00	4.10E-02	1.25E-03
			7.00E+00	1.04E-01	8.54E-03	5.50E+00	5.73E-02	1.90E-03
			8.50E+00	1.25E-01	1.12E-02	7.00E+00	7.22E-02	2.63E-03
			1.00E+01	1.45E-01	1.42E-02	8.49E+00	8.67E-02	3.46E-03
			1.10E+01	1.58E-01	1.64E-02	9.99E+00	9.92E-02	4.38E-03
			1.20E+01	1.70E-01	1.87E-02	1.10E+01	1.08E-01	5.05E-03
			1.30E+01	1.82E-01	2.11E-02	1.20E+01	1.17E-01	5.76E-03
			1.30E+01	1.82E-01	2.11E-02	1.30E+01	1.23E-01	6.51E-03
			1.10E+01	1.67E-01	1.64E-02	1.30E+01	1.23E-01	6.51E-03
			6.00E+00	1.08E-01	6.91E-03	1.10E+01	1.10E-01	5.05E-03
			5.62E-04	-9.74E-04	4.20E-07	6.00E+00	6.64E-02	2.13E-03

Table S5: CO₂ solubility in [bmim][Tf₂N]

10°C			25°C			50°C		
P (bar)	Mole Fraction CO ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction CO ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction CO ₂	Mole Fraction Uncertainty
2.88E-04	7.26E-06	1.53E-07	4.25E-04	7.51E-06	1.06E-07	2.41E-02	6.93E-05	8.92E-06
1.02E-02	3.58E-04	5.43E-06	1.44E-02	1.82E-06	3.59E-06	4.82E-02	5.58E-04	1.79E-05
4.76E-02	2.08E-03	2.54E-05	5.00E-02	1.39E-03	1.25E-05	9.87E-02	1.72E-03	3.68E-05
9.81E-02	4.35E-03	5.27E-05	1.02E-01	3.19E-03	2.54E-05	4.99E-01	1.01E-02	1.93E-04
4.99E-01	1.96E-02	2.77E-04	4.98E-01	1.55E-02	1.29E-04	9.99E-01	2.04E-02	4.02E-04
1.00E+00	3.97E-02	5.79E-04	9.99E-01	3.08E-02	2.69E-04	2.50E+00	4.83E-02	1.12E-03
2.50E+00	9.41E-02	1.62E-03	2.50E+00	7.34E-02	7.51E-04	4.00E+00	7.81E-02	1.99E-03
4.00E+00	1.46E-01	2.87E-03	4.00E+00	1.13E-01	1.33E-03	5.50E+00	1.04E-01	3.00E-03
5.50E+00	1.93E-01	4.34E-03	5.50E+00	1.49E-01	2.00E-03	7.00E+00	1.28E-01	4.16E-03
7.00E+00	2.35E-01	6.01E-03	7.00E+00	1.83E-01	2.76E-03	8.50E+00	1.49E-01	5.46E-03
8.50E+00	2.74E-01	7.89E-03	8.50E+00	2.14E-01	3.62E-03	1.00E+01	1.69E-01	6.90E-03
1.00E+01	3.09E-01	9.98E-03	1.00E+01	2.44E-01	4.58E-03	1.10E+01	1.83E-01	7.95E-03
1.10E+01	3.31E-01	1.15E-02	1.10E+01	2.62E-01	5.26E-03	1.20E+01	1.96E-01	9.05E-03
1.20E+01	3.52E-01	1.31E-02	1.20E+01	2.79E-01	5.99E-03	1.30E+01	2.08E-01	1.02E-02
1.30E+01	3.72E-01	1.48E-02	1.30E+01	2.96E-01	6.76E-03	1.30E+01	2.08E-01	1.02E-02
1.30E+01	3.72E-01	1.48E-02	1.30E+01	2.96E-01	6.76E-03	1.10E+01	1.83E-01	7.95E-03
1.10E+01	3.32E-01	1.15E-02	1.10E+01	2.62E-01	5.27E-03	6.00E+00	1.10E-01	3.37E-03
6.00E+00	2.10E-01	4.87E-03	6.00E+00	1.61E-01	2.24E-03	2.00E+00	3.78E-02	8.68E-04
2.00E+00	8.23E-02	1.25E-03	2.00E+00	6.01E-02	5.80E-04	1.98E-01	1.82E-03	7.47E-05
1.98E-01	1.13E-02	1.07E-04	1.98E-01	6.37E-03	5.01E-05	7.31E-02	-1.11E-03	2.72E-05
7.30E-02	2.81E-03	3.91E-05	7.50E-02	1.81E-03	1.88E-05	2.13E-02	-1.90E-03	7.90E-06
2.56E-02	-2.37E-05	1.36E-05	2.25E-02	3.41E-04	5.61E-06			
1.11E-02	3.30E-05	5.94E-06	4.25E-04	2.88E-06	1.06E-07			
4.66E-02	1.46E-03	2.49E-05	1.27E-02	1.05E-04	3.15E-06			
9.91E-02	3.48E-03	5.32E-05	4.78E-02	1.20E-03	1.19E-05			
4.99E-01	1.79E-02	2.77E-04	9.91E-02	2.88E-03	2.48E-05			
1.00E+00	3.73E-02	5.79E-04	5.00E-01	1.49E-02	1.29E-04			
2.50E+00	9.01E-02	1.62E-03	9.99E-01	2.99E-02	2.69E-04			
4.00E+00	1.42E-01	2.88E-03	2.50E+00	7.20E-02	7.51E-04			
5.51E+00	1.89E-01	4.34E-03	4.00E+00	1.11E-01	1.33E-03			
7.00E+00	2.32E-01	6.01E-03	5.50E+00	1.49E-01	2.00E-03			
8.50E+00	2.70E-01	7.89E-03	7.00E+00	1.82E-01	2.76E-03			
1.00E+01	3.05E-01	9.98E-03	8.50E+00	2.14E-01	3.62E-03			
1.10E+01	3.27E-01	1.15E-02	1.00E+01	2.42E-01	4.58E-03			
1.20E+01	3.47E-01	1.31E-02	1.10E+01	2.60E-01	5.26E-03			
1.30E+01	3.66E-01	1.48E-02	1.20E+01	2.76E-01	5.99E-03			
1.30E+01	3.66E-01	1.48E-02	1.30E+01	2.92E-01	6.76E-03			
1.10E+01	3.27E-01	1.15E-02	1.30E+01	2.92E-01	6.76E-03			
6.00E+00	2.08E-01	4.87E-03	1.10E+01	2.59E-01	5.26E-03			
2.00E+00	8.18E-02	1.25E-03	6.00E+00	1.59E-01	2.24E-03			
1.99E-01	1.35E-02	1.08E-04	2.00E+00	6.02E-02	5.80E-04			
7.34E-02	3.78E-03	3.93E-05	1.99E-01	8.09E-03	5.02E-05			
2.08E-02	1.49E-04	1.11E-05	7.30E-02	2.81E-03	1.82E-05			
			2.35E-02	1.68E-03	5.85E-06			

25°C		
P (bar)	Mole Fraction CO ₂	Mole Fraction Uncertainty
1.25E-03	1.19E-05	5.46E-07
1.17E-02	-3.41E-05	5.12E-06
4.73E-02	8.83E-04	2.08E-05
9.89E-02	2.12E-03	4.40E-05
4.98E-01	1.12E-02	2.39E-04
9.98E-01	2.27E-02	5.20E-04
2.50E+00	5.47E-02	1.62E-03
4.00E+00	8.55E-02	3.10E-03
5.50E+00	1.14E-01	4.95E-03
5.50E+00	1.14E-01	4.95E-03
4.99E+00	1.05E-01	4.29E-03
2.00E+00	4.44E-02	1.21E-03
1.98E-01	3.73E-03	9.00E-05
7.56E-02	3.97E-04	3.35E-05

10°C			25°C			50°C		
P (bar)	Mole Fraction CO ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction CO ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction CO ₂	Mole Fraction Uncertainty
2.25E-02	1.07E-04	6.47E-05	4.25E-04	4.58E-06	4.06E-07	2.41E-02	1.10E-04	7.42E-06
5.18E-02	5.27E-04	1.49E-04	1.24E-02	-1.61E-04	1.18E-05	4.80E-02	-1.11E-04	1.48E-05
9.89E-02	1.94E-03	2.86E-04	4.81E-02	6.89E-04	4.61E-05	9.92E-02	8.02E-04	3.08E-05
4.99E-01	1.18E-02	1.49E-03	9.89E-02	1.98E-03	9.53E-05	5.00E-01	7.77E-03	1.60E-04
1.00E+00	2.67E-02	3.12E-03	4.99E-01	1.08E-02	4.98E-04	9.99E-01	1.68E-02	3.34E-04
2.50E+00	6.73E-02	8.76E-03	9.99E-01	2.33E-02	1.04E-03	2.50E+00	4.10E-02	9.32E-04
4.00E+00	1.14E-01	1.56E-02	2.50E+00	5.76E-02	2.91E-03	4.00E+00	6.73E-02	1.65E-03
5.50E+00	1.58E-01	2.35E-02	4.00E+00	9.35E-02	5.16E-03	5.50E+00	9.08E-02	2.48E-03
7.00E+00	2.00E-01	3.26E-02	5.50E+00	1.28E-01	7.80E-03	7.00E+00	1.13E-01	3.43E-03
8.50E+00	2.38E-01	4.29E-02	7.00E+00	1.59E-01	1.08E-02	8.50E+00	1.34E-01	4.50E-03
1.00E+01	2.73E-01	5.43E-02	8.50E+00	1.89E-01	1.42E-02	1.00E+01	1.55E-01	5.69E-03
1.10E+01	2.96E-01	6.26E-02	1.00E+01	2.17E-01	1.80E-02	1.10E+01	1.67E-01	6.54E-03
1.20E+01	3.24E-01	7.13E-02	1.10E+01	2.35E-01	2.07E-02	1.20E+01	1.79E-01	7.45E-03
1.30E+01	3.37E-01	8.06E-02	1.20E+01	2.52E-01	2.36E-02	1.30E+01	1.93E-01	8.41E-03
1.30E+01	3.37E-01	8.06E-02	1.30E+01	2.67E-01	2.67E-02	1.30E+01	1.93E-01	8.41E-03
1.10E+01	3.07E-01	6.26E-02	1.30E+01	2.67E-01	2.67E-02	1.10E+01	1.68E-01	6.54E-03
6.00E+00	1.98E-01	2.64E-02	1.10E+01	2.39E-01	2.07E-02	6.00E+00	1.00E-01	2.79E-03
2.00E+00	8.74E-02	6.75E-03	6.00E+00	1.48E-01	8.76E-03	2.00E+00	3.62E-02	7.20E-04
1.98E-01	2.64E-02	5.78E-04	2.00E+00	5.85E-02	2.25E-03	1.99E-01	3.43E-03	6.22E-05
7.31E-02	1.28E-02	2.11E-04	1.99E-01	1.01E-02	1.93E-04	7.34E-02	1.27E-04	2.27E-05
2.35E-02	7.08E-03	6.75E-05	7.31E-02	2.73E-03	7.02E-05	2.25E-02	-8.68E-04	6.96E-06
			2.24E-02	-4.03E-05	2.14E-05			

Table S8: CO₂ solubility in [iBu₃MeP][TOS]

50°C		
P (bar)	Mole Fraction CO ₂	Mole Fraction Uncertainty
2.00E-04	1.10E-05	3.46E-08
1.11E-02	1.22E-04	1.92E-06
4.72E-02	4.69E-04	8.20E-06
1.98E-01	2.00E-03	3.48E-05
5.99E-01	6.11E-03	1.08E-04
1.00E+00	1.05E-02	1.87E-04
2.00E+00	2.22E-02	4.00E-04
3.00E+00	3.29E-02	6.40E-04
4.00E+00	4.11E-02	9.08E-04
5.00E+00	5.04E-02	1.20E-03
6.00E+00	6.13E-02	1.52E-03
7.00E+00	7.13E-02	1.87E-03
8.00E+00	8.08E-02	2.25E-03
9.00E+00	8.89E-02	2.65E-03
1.00E+01	9.77E-02	3.08E-03
1.10E+01	1.05E-01	3.54E-03
1.20E+01	1.12E-01	4.02E-03
1.30E+01	1.21E-01	4.53E-03
1.30E+01	1.21E-01	4.53E-03
1.25E+01	1.16E-01	4.27E-03
1.15E+01	1.08E-01	3.77E-03
1.05E+01	1.01E-01	3.30E-03
9.50E+00	9.26E-02	2.86E-03
8.50E+00	8.32E-02	2.45E-03
7.50E+00	7.48E-02	2.06E-03
6.50E+00	6.55E-02	1.70E-03
5.50E+00	5.59E-02	1.36E-03
4.50E+00	4.67E-02	1.05E-03
3.50E+00	3.80E-02	7.71E-04
2.50E+00	2.82E-02	5.17E-04
1.50E+00	1.73E-02	2.90E-04
5.00E-01	6.14E-03	8.99E-05
9.60E-02	1.73E-03	1.67E-05
3.40E-03	8.45E-04	5.88E-07

Table S9: N₂O solubility in [bmim][Tf₂N]

10°C			25°C			50°C		
P (bar)	Mole Fraction N ₂ O	Mole Fraction Uncertainty	P (bar)	Mole Fraction N ₂ O	Mole Fraction Uncertainty	P (bar)	Mole Fraction N ₂ O	Mole Fraction Uncertainty
1.42E-02	1.20E-04	6.10E-06	2.88E-04	2.37E-06	8.31E-08	5.62E-04	4.40E-06	1.90E-07
4.81E-02	1.89E-03	2.08E-05	9.63E-03	2.49E-04	2.78E-06	1.10E-02	3.31E-04	3.72E-06
9.93E-02	4.02E-03	4.31E-05	4.95E-02	1.34E-03	1.43E-05	4.82E-02	1.16E-03	1.63E-05
4.99E-01	1.86E-02	2.24E-04	9.91E-02	2.79E-03	2.88E-05	9.92E-02	2.22E-03	3.38E-05
9.98E-01	3.79E-02	4.67E-04	4.99E-01	1.45E-02	1.50E-04	5.00E-01	1.05E-02	1.76E-04
2.50E+00	9.06E-02	1.31E-03	9.99E-01	2.92E-02	3.13E-04	9.99E-01	2.05E-02	3.67E-04
4.00E+00	1.41E-01	2.32E-03	2.50E+00	7.05E-02	8.76E-04	2.50E+00	4.90E-02	1.03E-03
5.50E+00	1.86E-01	3.51E-03	4.00E+00	1.09E-01	1.55E-03	4.00E+00	7.55E-02	1.82E-03
7.00E+00	2.27E-01	4.86E-03	5.50E+00	1.44E-01	2.34E-03	5.50E+00	1.01E-01	2.74E-03
8.50E+00	2.64E-01	6.39E-03	7.00E+00	1.77E-01	3.24E-03	7.00E+00	1.23E-01	3.80E-03
1.00E+01	2.99E-01	8.07E-03	8.50E+00	2.08E-01	4.25E-03	8.50E+00	1.43E-01	5.00E-03
1.10E+01	3.20E-01	9.30E-03	1.00E+01	2.36E-01	5.37E-03	1.00E+01	1.67E-01	6.32E-03
1.20E+01	3.41E-01	1.06E-02	1.10E+01	2.54E-01	6.18E-03	1.10E+01	1.80E-01	7.27E-03
1.30E+01	3.60E-01	1.20E-02	1.20E+01	2.71E-01	7.04E-03	1.20E+01	1.92E-01	8.29E-03
1.30E+01	3.60E-01	1.20E-02	1.30E+01	2.88E-01	7.95E-03	1.30E+01	2.04E-01	9.36E-03
1.10E+01	3.21E-01	9.30E-03	1.30E+01	2.88E-01	7.95E-03	1.30E+01	2.04E-01	9.36E-03
9.00E+00	2.78E-01	6.93E-03	1.10E+01	2.55E-01	6.18E-03	1.10E+01	1.81E-01	7.27E-03
6.00E+00	2.03E-01	3.94E-03	9.00E+00	2.19E-01	4.61E-03	9.00E+00	1.53E-01	5.42E-03
5.00E+00	1.74E-01	3.09E-03	6.00E+00	1.58E-01	2.63E-03	6.00E+00	1.07E-01	3.09E-03
3.50E+00	1.29E-01	1.97E-03	5.00E+00	1.35E-01	2.06E-03	5.00E+00	9.07E-02	2.42E-03
2.00E+00	7.87E-02	1.01E-03	3.50E+00	9.95E-02	1.31E-03	3.50E+00	6.53E-02	1.54E-03
4.99E-01	2.27E-02	2.24E-04	2.00E+00	6.09E-02	6.76E-04	2.00E+00	3.86E-02	7.92E-04
1.00E-02	2.29E-03	4.32E-06	4.99E-01	1.85E-02	1.50E-04	4.99E-01	9.56E-03	1.76E-04
2.01E-02	1.44E-05	8.65E-06	1.00E-02	4.09E-03	2.90E-06	1.32E-02	-1.06E-04	4.46E-06
4.47E-02	1.22E-03	1.93E-05	1.11E-03	8.82E-07	3.21E-07	2.53E-02	2.36E-05	8.55E-06
9.87E-02	3.45E-03	4.28E-05	8.37E-04	1.67E-04	2.42E-07	4.48E-02	4.96E-04	1.52E-05
4.99E-01	1.89E-02	2.24E-04	8.26E-03	-1.70E-04	2.38E-06	9.81E-02	1.68E-03	3.34E-05
9.99E-01	3.87E-02	4.67E-04	6.18E-02	1.07E-03	1.79E-05	5.00E-01	1.02E-02	1.76E-04
2.50E+00	9.32E-02	1.31E-03	9.83E-02	2.64E-03	2.86E-05	9.99E-01	2.06E-02	3.67E-04
4.00E+00	1.43E-01	2.32E-03	4.99E-01	1.48E-02	1.50E-04	2.50E+00	4.74E-02	1.03E-03
5.50E+00	1.89E-01	3.50E-03	9.99E-01	2.98E-02	3.13E-04	4.00E+00	7.73E-02	1.82E-03
7.00E+00	2.30E-01	4.86E-03	2.50E+00	7.19E-02	8.76E-04	5.49E+00	1.04E-01	2.74E-03
8.50E+00	2.68E-01	6.38E-03	4.00E+00	1.11E-01	1.55E-03	7.00E+00	1.28E-01	3.80E-03
9.99E+00	3.02E-01	8.07E-03	5.50E+00	1.47E-01	2.34E-03	8.50E+00	1.51E-01	4.99E-03
1.10E+01	3.23E-01	9.30E-03	7.00E+00	1.80E-01	3.24E-03	9.99E+00	1.68E-01	6.31E-03
1.20E+01	3.43E-01	1.06E-02	8.50E+00	2.11E-01	4.25E-03	1.10E+01	1.87E-01	7.28E-03
1.30E+01	3.63E-01	1.20E-02	1.00E+01	2.38E-01	5.37E-03	1.20E+01	1.96E-01	8.29E-03
1.30E+01	3.63E-01	1.20E-02	1.10E+01	2.56E-01	6.18E-03	1.30E+01	2.08E-01	9.37E-03
1.10E+01	3.24E-01	9.30E-03	1.20E+01	2.73E-01	7.04E-03	1.30E+01	2.08E-01	9.37E-03
6.00E+00	2.05E-01	3.94E-03	1.30E+01	2.89E-01	7.95E-03	1.10E+01	1.82E-01	7.28E-03
2.00E+00	8.08E-02	1.01E-03	1.30E+01	2.89E-01	7.95E-03	6.00E+00	1.12E-01	3.09E-03
1.98E-01	1.20E-02	8.68E-05	1.10E+01	2.56E-01	6.18E-03	2.00E+00	3.88E-02	7.92E-04
7.12E-02	4.83E-03	3.08E-05	6.00E+00	1.58E-01	2.62E-03	1.98E-01	3.77E-03	6.81E-05
1.87E-02	2.47E-03	8.05E-06	2.00E+00	5.88E-02	6.76E-04	7.21E-02	1.21E-03	2.45E-05
			1.98E-01	5.47E-03	5.82E-05	2.67E-02	4.72E-04	9.02E-06
			7.59E-02	1.39E-03	2.20E-05			
			3.56E-02	5.98E-05	1.03E-05			

Table S10: C₂H₄ solubility in [bmim][PF₆]

10°C			25°C			50°C		
P (bar)	Mole Fraction C ₂ H ₄	Mole Fraction Uncertainty	P (bar)	Mole Fraction C ₂ H ₄	Mole Fraction Uncertainty	P (bar)	Mole Fraction C ₂ H ₄	Mole Fraction Uncertainty
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1.48E-02	6.21E-05	3.77E-06	1.52E-02	2.12E-04	1.19E-06	6.40E-03	-3.14E-04	9.70E-07
5.30E-02	3.05E-04	1.36E-05	5.16E-02	4.76E-04	4.07E-06	4.71E-02	-1.75E-04	7.16E-06
2.02E-01	1.17E-03	5.23E-05	2.00E-01	1.53E-03	1.60E-05	1.95E-01	2.63E-04	3.01E-05
5.98E-01	3.55E-03	1.60E-04	5.97E-01	3.70E-03	4.95E-05	5.95E-01	1.48E-03	9.51E-05
9.98E-01	6.50E-03	2.77E-04	9.98E-01	6.39E-03	8.58E-05	9.98E-01	3.37E-03	1.65E-04
2.00E+00	1.46E-02	6.02E-04	2.00E+00	1.29E-02	1.87E-04	2.00E+00	8.18E-03	3.60E-04
3.00E+00	2.30E-02	9.68E-04	3.00E+00	2.04E-02	3.02E-04	3.00E+00	1.52E-02	5.83E-04
4.00E+00	3.13E-02	1.38E-03	4.00E+00	2.71E-02	4.35E-04	4.00E+00	1.98E-02	8.35E-04
5.00E+00	3.93E-02	1.84E-03	5.00E+00	3.35E-02	5.81E-04	5.00E+00	2.43E-02	1.12E-03
6.00E+00	4.75E-02	2.35E-03	6.00E+00	3.98E-02	7.42E-04	6.00E+00	3.06E-02	1.42E-03
7.00E+00	5.52E-02	2.90E-03	7.00E+00	4.62E-02	9.18E-04	7.00E+00	3.50E-02	1.76E-03
8.00E+00	6.28E-02	3.50E-03	8.00E+00	5.25E-02	1.11E-03	8.00E+00	4.01E-02	2.13E-03
9.00E+00	7.04E-02	4.14E-03	9.01E+00	5.85E-02	1.32E-03	9.00E+00	4.40E-02	2.52E-03
1.00E+01	7.78E-02	4.83E-03	1.00E+01	6.44E-02	1.54E-03	1.00E+01	4.80E-02	2.95E-03
1.10E+01	8.49E-02	5.56E-03	1.10E+01	7.00E-02	1.77E-03	1.10E+01	5.17E-02	3.40E-03
1.20E+01	9.18E-02	6.34E-03	1.20E+01	7.56E-02	2.02E-03	1.20E+01	5.68E-02	3.88E-03
1.30E+01	9.86E-02	7.16E-03	1.30E+01	8.13E-02	2.29E-03	1.30E+01	6.12E-02	4.39E-03
1.30E+01	9.86E-02	7.16E-03				1.30E+01	6.12E-02	4.39E-03
1.25E+01	9.72E-02	6.74E-03				1.25E+01	5.82E-02	4.13E-03
1.15E+01	9.13E-02	5.94E-03				1.15E+01	5.34E-02	3.64E-03
						1.05E+01	5.00E-02	3.17E-03
						9.50E+00	4.56E-02	2.73E-03
						8.50E+00	4.19E-02	2.32E-03
						7.50E+00	3.79E-02	1.94E-03
						6.50E+00	3.30E-02	1.59E-03
						5.50E+00	2.75E-02	1.27E-03
						4.50E+00	2.26E-02	9.71E-04
						3.50E+00	1.84E-02	7.05E-04
						2.50E+00	1.22E-02	4.68E-04
						1.50E+00	8.08E-03	2.59E-04
						4.98E-01	2.85E-03	7.90E-05
						9.46E-02	4.39E-04	1.45E-05
						2.40E-03	-1.62E-04	3.63E-07

Table S11: C₂H₄ solubility in [bmim][Tf₂N]

10°C			25°C			50°C		
P (bar)	Mole Fraction C ₂ H ₄	Mole Fraction Uncertainty	P (bar)	Mole Fraction C ₂ H ₄	Mole Fraction Uncertainty	P (bar)	Mole Fraction C ₂ H ₄	Mole Fraction Uncertainty
2.16E-02	1.58E-05	2.59E-05	7.00E-04	5.53E-07	5.10E-07	2.16E-02	2.01E-05	1.76E-05
4.74E-02	-6.09E-04	5.71E-05	1.91E-02	-8.80E-04	1.40E-05	4.81E-02	-1.20E-03	3.93E-05
9.95E-02	-5.30E-04	1.20E-04	4.69E-02	-3.45E-04	3.43E-05	9.91E-02	-1.36E-03	8.13E-05
5.00E-01	4.76E-03	6.27E-04	9.89E-02	4.33E-04	7.28E-05	5.00E-01	2.63E-03	4.26E-04
9.99E-01	1.25E-02	1.31E-03	4.99E-01	6.04E-03	3.80E-04	9.99E-01	7.56E-03	8.86E-04
2.50E+00	3.48E-02	3.67E-03	9.99E-01	1.30E-02	7.94E-04	2.50E+00	1.89E-02	2.49E-03
4.00E+00	5.81E-02	6.52E-03	2.50E+00	3.28E-02	2.23E-03	4.00E+00	3.67E-02	4.43E-03
5.50E+00	8.07E-02	9.87E-03	4.00E+00	5.20E-02	3.97E-03	5.49E+00	5.27E-02	6.69E-03
7.00E+00	1.02E-01	1.37E-02	5.50E+00	7.03E-02	6.00E-03	7.00E+00	6.49E-02	9.30E-03
8.50E+00	1.22E-01	1.80E-02	7.00E+00	8.81E-02	8.33E-03	8.50E+00	7.74E-02	1.22E-02
1.00E+01	1.41E-01	2.28E-02	8.50E+00	1.05E-01	1.10E-02	1.00E+01	9.20E-02	1.55E-02
1.10E+01	1.54E-01	2.63E-02	1.00E+01	1.20E-01	1.39E-02	1.10E+01	1.01E-01	1.78E-02
1.20E+01	1.66E-01	3.00E-02	1.10E+01	1.31E-01	1.60E-02	1.20E+01	1.03E-01	2.03E-02
1.30E+01	1.76E-01	3.39E-02	1.20E+01	1.40E-01	1.82E-02	1.30E+01	1.14E-01	2.30E-02
1.30E+01	1.76E-01	3.39E-02	1.30E+01	1.50E-01	2.06E-02	1.30E+01	1.14E-01	2.30E-02
1.10E+01	1.57E-01	2.63E-02	1.30E+01	1.50E-01	2.06E-02	1.10E+01	1.01E-01	1.78E-02
6.00E+00	1.00E-01	1.11E-02	1.10E+01	1.32E-01	1.60E-02	6.00E+00	6.39E-02	7.52E-03
2.00E+00	4.22E-02	2.83E-03	6.00E+00	8.30E-02	6.75E-03	2.00E+00	2.45E-02	1.93E-03
1.98E-01	9.87E-03	2.42E-04	2.00E+00	3.48E-02	1.72E-03	1.98E-01	5.32E-03	1.64E-04
7.32E-02	4.08E-03	8.84E-05	1.98E-01	8.28E-03	1.47E-04	7.31E-02	1.86E-03	5.99E-05
2.14E-02	1.14E-03	2.58E-05	7.34E-02	3.86E-03	5.39E-05	2.20E-02	-1.71E-04	1.79E-05
			2.35E-02	1.56E-03	1.72E-05			

Table S12: C₂H₆ solubility in [bmim][PF₆]

10°C			25°C			50°C		
P (bar)	Mole Fraction C ₂ H ₆	Mole Fraction Uncertainty	P (bar)	Mole Fraction C ₂ H ₆	Mole Fraction Uncertainty	P (bar)	Mole Fraction C ₂ H ₆	Mole Fraction Uncertainty
2.00E-04	1.15E-06	1.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7.40E-03	-5.41E-04	4.83E-06	9.70E-03	-4.21E-04	2.42E-06	9.30E-03	-5.29E-04	2.05E-06
4.83E-02	-4.85E-04	3.16E-05	4.79E-02	-4.25E-04	1.20E-05	4.77E-02	-5.25E-04	1.06E-05
1.97E-01	-6.70E-04	1.31E-04	1.97E-01	-8.98E-04	4.99E-05	1.96E-01	-3.59E-04	4.40E-05
5.98E-01	5.29E-04	4.12E-04	5.98E-01	-4.83E-04	1.58E-04	5.98E-01	8.38E-05	1.39E-04
1.00E+00	1.74E-03	7.12E-04	9.99E-01	6.73E-04	2.73E-04	9.99E-01	1.30E-03	2.40E-04
2.00E+00	4.35E-03	1.55E-03	2.00E+00	3.07E-03	5.96E-04	2.00E+00	3.13E-03	5.18E-04
3.00E+00	7.67E-03	2.50E-03	3.00E+00	6.12E-03	9.69E-04	3.00E+00	6.54E-03	8.37E-04
4.00E+00	1.15E-02	3.57E-03	4.00E+00	9.34E-03	1.39E-03	4.00E+00	1.02E-02	1.19E-03
5.00E+00	1.52E-02	4.76E-03	5.00E+00	1.23E-02	1.86E-03	5.00E+00	1.30E-02	1.59E-03
6.00E+00	1.88E-02	6.08E-03	6.00E+00	1.52E-02	2.39E-03	6.00E+00	1.55E-02	2.02E-03
7.00E+00	2.25E-02	7.52E-03	7.00E+00	1.83E-02	2.96E-03	7.00E+00	1.79E-02	2.50E-03
8.00E+00	2.61E-02	9.07E-03	8.00E+00	2.19E-02	3.58E-03	8.00E+00	2.03E-02	3.01E-03
9.00E+00	2.98E-02	1.07E-02	9.00E+00	2.41E-02	4.25E-03	9.00E+00	2.23E-02	3.56E-03
1.00E+01	3.34E-02	1.25E-02	1.00E+01	2.61E-02	4.97E-03	1.00E+01	2.44E-02	4.15E-03
1.10E+01	3.67E-02	1.45E-02	1.10E+01	2.86E-02	5.74E-03	1.10E+01	2.56E-02	4.78E-03
1.20E+01	3.96E-02	1.65E-02	1.20E+01	3.16E-02	6.56E-03	1.20E+01	2.91E-02	5.45E-03
1.30E+01	4.29E-02	1.87E-02	1.30E+01	3.44E-02	7.43E-03	1.30E+01	2.86E-02	6.16E-03
1.30E+01	4.29E-02	1.87E-02	1.30E+01	3.44E-02	7.43E-03	1.30E+01	2.86E-02	6.16E-03
1.25E+01	4.30E-02	1.76E-02	1.25E+01	3.38E-02	6.99E-03	1.25E+01	2.90E-02	5.80E-03
1.15E+01	4.22E-02	1.55E-02	1.15E+01	3.23E-02	6.15E-03	1.15E+01	2.84E-02	5.11E-03
1.05E+01	4.02E-02	1.35E-02	1.05E+01	3.03E-02	5.35E-03	0.00E+00	0.00E+00	0.00E+00
9.50E+00	3.78E-02	1.16E-02	9.50E+00	2.79E-02	4.61E-03	6.70E-03	-3.66E-04	1.48E-06
8.50E+00	3.50E-02	9.89E-03	8.50E+00	2.49E-02	3.91E-03	4.72E-02	-2.60E-04	1.05E-05
7.50E+00	3.16E-02	8.28E-03	7.50E+00	2.24E-02	3.26E-03	1.95E-01	1.99E-04	4.38E-05
6.50E+00	2.87E-02	6.78E-03	6.50E+00	1.94E-02	2.67E-03	5.98E-01	4.86E-04	1.39E-04
5.50E+00	2.53E-02	5.41E-03	5.50E+00	1.64E-02	2.12E-03	9.99E-01	1.47E-03	2.40E-04
4.50E+00	2.16E-02	4.15E-03	4.50E+00	1.36E-02	1.62E-03	2.00E+00	3.07E-03	5.19E-04
3.50E+00	1.81E-02	3.02E-03	3.50E+00	1.03E-02	1.17E-03	3.00E+00	6.41E-03	8.37E-04
2.50E+00	1.42E-02	2.01E-03	2.50E+00	7.05E-03	7.77E-04	4.00E+00	1.02E-02	1.19E-03
1.50E+00	1.01E-02	1.11E-03	1.50E+00	3.90E-03	4.29E-04	5.00E+00	1.36E-02	1.59E-03
4.99E-01	5.90E-03	3.40E-04	4.99E-01	-1.01E-04	1.30E-04	6.00E+00	1.61E-02	2.02E-03
9.55E-02	3.54E-03	6.28E-05	9.52E-02	-2.35E-03	2.39E-05	7.00E+00	1.88E-02	2.50E-03
			3.20E-03	-2.88E-03	7.96E-07	8.00E+00	2.05E-02	3.01E-03
			3.00E-04	1.98E-06	7.46E-08	9.00E+00	2.38E-02	3.56E-03
			1.62E-02	1.54E-04	4.04E-06	1.00E+01	2.44E-02	4.15E-03
			5.28E-02	3.96E-04	1.32E-05			
			9.00E+00	2.77E-02	4.25E-03			

Table S13: C₂H₆ solubility in [bmim][Tf₂N]

10°C			25°C			50°C		
P (bar)	Mole Fraction C ₂ H ₆	Mole Fraction Uncertainty	P (bar)	Mole Fraction C ₂ H ₆	Mole Fraction Uncertainty	P (bar)	Mole Fraction C ₂ H ₆	Mole Fraction Uncertainty
3.13E-02	2.30E-05	4.20E-05	4.25E-04	3.35E-07	3.12E-07	3.30E-02	3.08E-05	2.42E-05
4.70E-02	-5.40E-04	6.31E-05	1.11E-02	-6.71E-04	8.20E-06	4.84E-02	-1.01E-03	3.56E-05
9.89E-02	-7.86E-04	1.33E-04	4.80E-02	-4.09E-04	3.54E-05	9.88E-02	-1.26E-03	7.30E-05
5.00E-01	2.29E-03	6.98E-04	9.89E-02	2.20E-04	7.34E-05	4.98E-01	1.32E-03	3.81E-04
9.99E-01	7.78E-03	1.45E-03	4.99E-01	3.91E-03	3.83E-04	1.00E+00	4.90E-03	7.97E-04
2.50E+00	2.26E-02	4.08E-03	9.99E-01	9.13E-03	8.01E-04	2.50E+00	1.34E-02	2.23E-03
4.00E+00	3.94E-02	7.26E-03	2.50E+00	2.29E-02	2.26E-03	4.00E+00	2.68E-02	3.97E-03
5.50E+00	5.56E-02	1.10E-02	4.00E+00	3.72E-02	4.02E-03	5.50E+00	3.60E-02	5.99E-03
7.00E+00	7.14E-02	1.52E-02	5.50E+00	5.07E-02	6.07E-03	7.00E+00	4.51E-02	8.31E-03
8.49E+00	8.63E-02	2.00E-02	7.00E+00	6.43E-02	8.44E-03	8.49E+00	5.55E-02	1.09E-02
1.00E+01	9.98E-02	2.53E-02	8.50E+00	7.66E-02	1.11E-02	1.00E+01	6.40E-02	1.38E-02
1.10E+01	1.10E-01	2.91E-02	1.00E+01	8.79E-02	1.41E-02	1.10E+01	7.19E-02	1.59E-02
1.20E+01	1.19E-01	3.32E-02	1.10E+01	9.62E-02	1.62E-02	1.20E+01	8.01E-02	1.82E-02
1.30E+01	1.26E-01	3.76E-02	1.20E+01	1.04E-01	1.85E-02	1.30E+01	8.31E-02	2.05E-02
1.30E+01	1.26E-01	3.76E-02	1.30E+01	1.10E-01	2.09E-02	1.30E+01	8.31E-02	2.05E-02
1.10E+01	1.16E-01	2.91E-02	1.30E+01	1.10E-01	2.09E-02	1.10E+01	7.52E-02	1.59E-02
6.00E+00	7.58E-02	1.23E-02	1.10E+01	1.00E-01	1.62E-02	6.00E+00	4.77E-02	6.73E-03
2.00E+00	3.24E-02	3.15E-03	6.00E+00	6.52E-02	6.83E-03	2.00E+00	1.72E-02	1.72E-03
1.98E-01	8.90E-03	2.70E-04	2.00E+00	2.99E-02	1.74E-03	1.98E-01	4.28E-03	1.48E-04
7.34E-02	3.97E-03	9.88E-05	1.98E-01	1.07E-02	1.48E-04	7.30E-02	1.53E-03	5.38E-05
2.14E-02	1.67E-03	2.87E-05	7.31E-02	7.40E-03	5.41E-05	2.05E-02	1.70E-04	1.50E-05
			2.17E-02	5.52E-03	1.60E-05			
			8.37E-04	6.56E-07	6.15E-07			
			1.14E-02	-9.50E-04	8.40E-06			
			5.43E-02	-5.50E-04	4.01E-05			
			9.87E-02	1.25E-04	7.32E-05			
			4.99E-01	3.74E-03	3.83E-04			
			1.00E+00	9.17E-03	8.03E-04			
			2.50E+00	2.27E-02	2.26E-03			
			4.00E+00	3.70E-02	4.01E-03			
			5.50E+00	5.07E-02	6.08E-03			
			7.00E+00	6.38E-02	8.43E-03			
			8.50E+00	7.63E-02	1.11E-02			
			1.00E+01	8.80E-02	1.41E-02			
			1.10E+01	9.62E-02	1.62E-02			
			1.20E+01	1.04E-01	1.85E-02			

Table S14: O₂ solubility in [bmim][PF₆]

25°C			50°C		
P (bar)	Mole Fraction O ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction O ₂	Mole Fraction Uncertainty
0.00E+00	1.61E-291	0.00E+00	4.00E-04	6.09E-06	3.77E-08
1.07E-02	2.18E-05	6.84E-07	1.08E-02	-2.91E-05	1.02E-06
4.89E-02	-1.79E-05	3.14E-06	4.92E-02	8.43E-05	4.65E-06
1.96E-01	5.42E-05	1.28E-05	1.98E-01	2.70E-04	1.89E-05
5.98E-01	2.16E-04	4.04E-05	5.99E-01	3.95E-04	5.95E-05
1.00E+00	2.86E-04	6.99E-05	1.00E+00	4.76E-04	1.03E-04
2.00E+00	4.62E-04	1.52E-04	2.00E+00	9.07E-04	2.23E-04
3.00E+00	7.00E-04	2.46E-04	3.00E+00	2.35E-03	3.60E-04
4.00E+00	8.91E-04	3.52E-04	4.00E+00	4.60E-03	5.15E-04
5.00E+00	1.19E-03	4.70E-04	5.00E+00	3.69E-03	6.88E-04
6.00E+00	1.36E-03	6.01E-04	6.00E+00	4.99E-03	8.77E-04
7.00E+00	1.26E-03	7.43E-04	7.00E+00	5.81E-03	1.08E-03
8.00E+00	1.16E-03	8.98E-04	8.00E+00	6.43E-03	1.31E-03
9.00E+00	1.34E-03	1.06E-03	9.00E+00	6.92E-03	1.55E-03
1.00E+01	1.57E-03	1.24E-03	1.00E+01	7.14E-03	1.81E-03
1.10E+01	1.51E-03	1.43E-03	1.10E+01	7.79E-03	2.09E-03
1.20E+01	1.44E-03	1.64E-03	1.20E+01	8.38E-03	2.38E-03
1.30E+01	1.70E-03	1.85E-03	1.30E+01	7.13E-03	2.69E-03
1.30E+01	1.70E-03	1.85E-03	1.30E+01	7.18E-03	2.69E-03
1.25E+01	1.47E-03	1.74E-03	1.25E+01	7.06E-03	2.53E-03
1.15E+01	1.25E-03	1.53E-03	1.15E+01	5.83E-03	2.23E-03
1.05E+01	9.28E-04	1.34E-03	1.05E+01	6.79E-03	1.95E-03
9.50E+00	8.47E-04	1.15E-03	9.50E+00	6.90E-03	1.68E-03
8.50E+00	8.47E-04	9.80E-04	8.50E+00	6.02E-03	1.43E-03
7.50E+00	8.54E-04	8.19E-04	7.50E+00	4.98E-03	1.19E-03
6.50E+00	8.02E-04	6.70E-04	6.50E+00	4.37E-03	9.79E-04
5.50E+00	6.09E-04	5.34E-04	5.50E+00	3.45E-03	7.80E-04
4.50E+00	4.47E-04	4.10E-04	4.50E+00	3.05E-03	5.99E-04
3.50E+00	2.04E-04	2.97E-04	3.50E+00	1.81E-03	4.36E-04
2.50E+00	-6.26E-05	1.97E-04	2.50E+00	1.43E-03	2.89E-04
1.50E+00	-3.64E-04	1.09E-04	1.50E+00	8.80E-05	1.60E-04
4.97E-01	-6.04E-04	3.33E-05	4.97E-01	-7.82E-05	4.90E-05
9.61E-02	-7.88E-04	6.19E-06	9.70E-02	-1.50E-04	9.21E-06
3.60E-03	-3.83E-04	2.30E-07	4.40E-03	9.97E-05	4.14E-07
			0.00E+00	1.64E-291	0.00E+00
			7.40E-03	-1.93E-04	6.97E-07
			4.94E-02	-1.76E-04	4.67E-06
			1.98E-01	-8.60E-05	1.89E-05
			5.99E-01	3.90E-05	5.95E-05
			9.99E-01	9.07E-05	1.03E-04
			2.00E+00	5.30E-04	2.23E-04
			3.00E+00	2.06E-03	3.61E-04
			4.00E+00	3.30E-03	5.15E-04
			5.00E+00	2.89E-03	6.88E-04
			6.00E+00	4.48E-03	8.78E-04
			7.00E+00	4.49E-03	1.08E-03
			8.00E+00	6.03E-03	1.31E-03
			9.00E+00	5.02E-03	1.55E-03
			1.00E+01	6.43E-03	1.81E-03
			1.10E+01	7.31E-03	2.09E-03
			1.20E+01	6.97E-03	2.38E-03
			1.30E+01	7.86E-03	2.69E-03
			1.30E+01	7.84E-03	2.69E-03
			1.25E+01	7.64E-03	2.53E-03
			1.15E+01	6.69E-03	2.23E-03

Table S15: O₂ solubility in [bmim][Tf₂N]

10°C			25°C			50°C		
P (bar)	Mole Fraction O ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction O ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction O ₂	Mole Fraction Uncertainty
2.23E-02	6.50E-05	2.32E-06	5.62E-04	1.60E-06	1.01E-07	2.17E-02	6.25E-05	4.22E-06
4.93E-02	2.22E-04	5.14E-06	1.22E-02	-5.70E-04	2.19E-06	4.95E-02	1.15E-04	9.65E-06
1.00E-01	-3.78E-04	1.05E-05	4.84E-02	-5.28E-04	8.69E-06	1.00E-01	2.96E-04	1.97E-05
5.00E-01	6.36E-05	5.39E-05	9.99E-02	-4.65E-04	1.80E-05	5.00E-01	9.53E-04	1.01E-04
1.00E+00	1.38E-04	1.12E-04	5.00E-01	2.82E-05	9.32E-05	1.00E+00	1.40E-03	2.10E-04
2.50E+00	1.13E-03	3.10E-04	9.99E-01	3.35E-04	1.94E-04	2.50E+00	1.96E-03	5.87E-04
4.00E+00	1.37E-03	5.45E-04	2.50E+00	1.68E-03	5.40E-04	4.00E+00	2.54E-03	1.04E-03
5.50E+00	1.71E-03	8.15E-04	4.00E+00	2.36E-03	9.54E-04	5.50E+00	5.52E-03	1.56E-03
7.00E+00	1.54E-03	1.12E-03	5.50E+00	3.22E-03	1.43E-03	7.00E+00	5.76E-03	2.16E-03
8.50E+00	2.17E-03	1.47E-03	7.00E+00	3.66E-03	1.98E-03	8.50E+00	7.52E-03	2.83E-03
1.00E+01	2.08E-03	1.85E-03	8.50E+00	3.70E-03	2.60E-03	1.00E+01	8.05E-03	3.57E-03
1.10E+01	2.49E-03	2.12E-03	1.00E+01	4.17E-03	3.28E-03	1.10E+01	8.47E-03	4.12E-03
1.20E+01	2.26E-03	2.41E-03	1.10E+01	4.99E-03	3.77E-03	1.20E+01	1.01E-02	4.68E-03
1.30E+01	2.98E-03	2.71E-03	1.20E+01	4.59E-03	4.29E-03	1.30E+01	9.05E-03	5.28E-03
1.30E+01	2.98E-03	2.71E-03	1.30E+01	4.97E-03	4.84E-03	1.30E+01	9.05E-03	5.28E-03
1.10E+01	1.65E-03	2.12E-03	1.30E+01	4.97E-03	4.84E-03	1.10E+01	9.43E-03	4.12E-03
6.00E+00	1.02E-03	9.14E-04	1.10E+01	4.04E-03	3.77E-03	6.00E+00	3.48E-03	1.75E-03
2.00E+00	6.29E-04	2.40E-04	6.00E+00	2.73E-03	1.61E-03	2.00E+00	1.73E-03	4.53E-04
1.98E-01	-5.74E-05	2.09E-05	2.00E+00	1.25E-04	4.17E-04	1.98E-01	-1.92E-04	3.92E-05
7.31E-02	-9.67E-05	7.64E-06	1.98E-01	-1.02E-03	3.61E-05	7.64E-02	-2.10E-04	1.49E-05
2.36E-02	-3.54E-04	2.46E-06	7.28E-02	-1.08E-03	1.31E-05	2.39E-02	-1.83E-04	4.65E-06
			2.20E-02	-1.15E-03	3.94E-06			

Table S16: O₂ solubility in [MeBu₃N][Tf₂N]

10°C			25°C			50°C		
P (bar)	Mole Fraction O ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction O ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction O ₂	Mole Fraction Uncertainty
1.20E-02	1.19E-04	1.97E-06	1.11E-03	1.03E-05	2.74E-07	1.39E-03	1.24E-05	7.20E-07
4.89E-02	2.17E-04	8.09E-06	1.13E-02	-4.46E-04	2.78E-06	1.05E-02	-5.73E-04	5.43E-06
9.93E-02	2.73E-04	1.65E-05	4.81E-02	-4.03E-04	1.19E-05	4.80E-02	-4.83E-04	2.50E-05
4.99E-01	8.90E-04	8.56E-05	1.00E-01	-3.32E-04	2.49E-05	1.00E-01	-3.70E-04	5.27E-05
1.00E+00	1.03E-03	1.78E-04	4.99E-01	4.91E-04	1.28E-04	4.99E-01	1.63E-04	2.71E-04
2.50E+00	2.45E-03	4.96E-04	9.99E-01	8.79E-04	2.68E-04	9.99E-01	5.87E-04	5.67E-04
4.00E+00	3.41E-03	8.76E-04	2.50E+00	2.91E-03	7.53E-04	2.50E+00	2.09E-03	1.60E-03
5.50E+00	4.54E-03	1.32E-03	4.00E+00	3.78E-03	1.34E-03	4.00E+00	4.19E-04	2.85E-03
7.00E+00	4.75E-03	1.82E-03	5.50E+00	5.06E-03	2.03E-03	5.50E+00	2.87E-03	4.33E-03
8.50E+00	5.09E-03	2.38E-03	7.00E+00	6.47E-03	2.81E-03	7.00E+00	7.84E-03	6.02E-03
9.99E+00	6.88E-03	3.00E-03	8.49E+00	7.53E-03	3.70E-03	8.49E+00	6.91E-03	7.92E-03
1.15E+01	7.83E-03	3.69E-03	1.00E+01	8.72E-03	4.68E-03	1.00E+01	1.09E-02	1.01E-02
1.16E+00	1.06E-03	2.10E-04	1.15E+01	9.85E-03	5.77E-03	1.15E+01	9.12E-03	1.24E-02
1.20E+00	1.06E-03	2.17E-04	1.25E-03	1.58E-03	3.07E-07	1.15E+01	9.12E-03	1.24E-02
1.20E+00	1.06E-03	2.17E-04				1.10E+01	7.85E-03	1.16E-02
1.98E-01	3.68E-04	3.32E-05				6.00E+00	7.14E-03	4.87E-03
7.34E-02	1.45E-04	1.22E-05				2.00E+00	4.94E-03	1.23E-03
2.39E-02	1.52E-04	3.95E-06				1.98E-01	8.79E-04	1.05E-04
						7.52E-02	1.59E-04	3.93E-05

Table S17: O₂ solubility in [MeBuPyr][Tf₂N]

10°C			25°C			50°C		
P (bar)	Mole Fraction O ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction O ₂	Mole Fraction Uncertainty	P (bar)	Mole Fraction O ₂	Mole Fraction Uncertainty
2.27E-02	1.08E-04	3.32E-06	2.88E-04	4.55E-06	4.92E-08	2.43E-02	1.10E-04	8.61E-06
4.93E-02	1.28E-04	7.23E-06	1.14E-02	-5.10E-04	1.95E-06	4.95E-02	1.64E-04	1.75E-05
1.00E-01	1.19E-04	1.48E-05	4.95E-02	-5.24E-04	8.48E-06	9.99E-02	2.11E-04	3.56E-05
4.99E-01	3.04E-04	7.57E-05	1.00E-01	-4.58E-04	1.73E-05	5.00E-01	8.02E-04	1.84E-04
1.00E+00	3.56E-04	1.58E-04	4.99E-01	-1.07E-04	8.88E-05	9.99E-01	1.33E-03	3.83E-04
2.50E+00	8.51E-04	4.37E-04	1.00E+00	2.22E-04	1.85E-04	2.50E+00	2.22E-03	1.07E-03
4.00E+00	1.16E-03	7.69E-04	2.50E+00	1.39E-03	5.13E-04	4.00E+00	3.59E-03	1.90E-03
5.50E+00	1.65E-03	1.15E-03	4.00E+00	2.26E-03	9.05E-04	5.50E+00	6.00E-03	2.86E-03
7.00E+00	1.89E-03	1.59E-03	5.50E+00	3.12E-03	1.36E-03	7.00E+00	3.53E-03	3.96E-03
8.50E+00	2.13E-03	2.08E-03	7.00E+00	3.74E-03	1.88E-03	8.50E+00	7.32E-03	5.20E-03
1.00E+01	2.71E-03	2.62E-03	8.50E+00	4.64E-03	2.45E-03	1.00E+01	9.13E-03	6.57E-03
1.10E+01	3.22E-03	3.01E-03	1.00E+01	5.10E-03	3.10E-03	1.10E+01	1.22E-02	7.56E-03
1.20E+01	3.04E-03	3.42E-03	1.10E+01	5.88E-03	3.56E-03	1.20E+01	9.85E-03	8.62E-03
1.30E+01	3.41E-03	3.86E-03	1.20E+01	5.92E-03	4.05E-03	1.30E+01	1.08E-02	9.73E-03
1.30E+01	3.41E-03	3.86E-03	1.30E+01	6.20E-03	4.57E-03	1.30E+01	1.08E-02	9.73E-03
1.10E+01	4.24E-03	3.01E-03	1.30E+01	6.20E-03	4.57E-03	1.10E+01	1.28E-02	7.57E-03
6.00E+00	3.16E-03	1.29E-03	1.10E+01	5.78E-03	3.56E-03	6.00E+00	3.91E-03	3.21E-03
2.00E+00	1.56E-03	3.38E-04	6.00E+00	2.83E-03	1.52E-03	2.00E+00	1.79E-03	8.28E-04
1.98E-01	4.95E-04	2.94E-05	2.00E+00	5.25E-04	3.97E-04	1.98E-01	-2.06E-04	7.13E-05
7.31E-02	-4.19E-05	1.07E-05	1.98E-01	-9.38E-04	3.44E-05	7.30E-02	-3.20E-04	2.59E-05
2.35E-02	-1.69E-04	3.44E-06	7.31E-02	-1.17E-03	1.26E-05	2.94E-02	-2.91E-04	1.04E-05
			2.34E-02	-1.24E-03	4.00E-06			

Table S18: O ₂ in [iBu ₃ MeP][TOS]		
50°C		
P (bar)	Mole Fraction O ₂	Mole Fraction Uncertainty
2.00E-04	1.07E-05	5.63E-08
1.14E-02	1.57E-04	3.21E-06
4.97E-02	4.59E-04	1.40E-05
1.97E-01	6.03E-04	5.65E-05
5.99E-01	9.56E-04	1.77E-04
1.00E+00	1.22E-03	3.05E-04
2.00E+00	1.54E-03	6.59E-04
3.00E+00	5.50E-03	1.06E-03
4.00E+00	4.98E-03	1.51E-03
5.00E+00	4.92E-03	2.01E-03
6.00E+00	3.51E-03	2.56E-03
7.00E+00	5.08E-03	3.15E-03
8.00E+00	6.69E-03	3.79E-03
9.00E+00	7.02E-03	4.48E-03
1.00E+01	1.06E-02	5.22E-03
1.10E+01	1.07E-02	6.01E-03
1.20E+01	1.21E-02	6.84E-03
1.30E+01	1.29E-02	7.73E-03
1.30E+01	1.30E-02	7.73E-03
1.25E+01	1.24E-02	7.28E-03
1.15E+01	1.08E-02	6.42E-03
1.05E+01	7.85E-03	5.61E-03
9.50E+00	6.25E-03	4.85E-03
8.50E+00	5.22E-03	4.13E-03
7.50E+00	4.15E-03	3.47E-03
6.50E+00	4.57E-03	2.85E-03
5.50E+00	3.68E-03	2.28E-03
4.50E+00	6.45E-03	1.75E-03
3.50E+00	1.27E-03	1.28E-03
2.50E+00	2.88E-03	8.53E-04
1.50E+00	3.85E-04	4.76E-04
4.97E-01	4.73E-04	1.46E-04
9.57E-02	2.69E-04	2.72E-05
5.20E-03	8.80E-04	1.46E-06

Table S19: Ar solubility in [bmim][PF₆]

25°C			50°C		
P (bar)	Mole Fraction Ar	Mole Fraction Uncertainty	P (bar)	Mole Fraction Ar	Mole Fraction Uncertainty
0.00E+00	1.29E-291	0.00E+00	1.00E-04	6.09E-06	3.02E-08
1.06E-02	-3.13E-04	7.83E-07	1.09E-02	2.74E-05	3.29E-06
4.88E-02	-2.78E-04	3.61E-06	4.90E-02	1.64E-04	1.49E-05
1.96E-01	-2.03E-04	1.47E-05	1.97E-01	3.17E-04	6.07E-05
5.96E-01	-4.29E-05	4.59E-05	5.99E-01	4.30E-04	1.93E-04
9.97E-01	2.47E-05	7.90E-05	9.97E-01	4.24E-04	3.36E-04
2.00E+00	2.03E-04	1.69E-04	2.00E+00	1.10E-03	7.44E-04
3.00E+00	5.27E-04	2.70E-04	3.00E+00	3.49E-03	1.22E-03
4.00E+00	8.18E-04	3.81E-04	4.00E+00	3.45E-03	1.77E-03
5.00E+00	1.15E-03	5.04E-04	5.00E+00	2.02E-03	2.39E-03
6.00E+00	1.17E-03	6.37E-04	6.00E+00	4.42E-03	3.08E-03
7.00E+00	1.22E-03	7.81E-04	7.00E+00	6.06E-03	3.84E-03
8.00E+00	1.22E-03	9.36E-04	8.00E+00	6.63E-03	4.67E-03
9.00E+00	1.46E-03	1.10E-03	9.00E+00	6.24E-03	5.57E-03
1.00E+01	1.77E-03	1.28E-03	1.00E+01	7.22E-03	6.54E-03
1.10E+01	1.40E-03	1.47E-03			
1.20E+01	1.34E-03	1.66E-03			
1.30E+01	1.76E-03	1.87E-03			
1.30E+01	1.76E-03	1.87E-03			
1.25E+01	1.28E-03	1.77E-03			
1.15E+01	1.18E-03	1.56E-03			
1.05E+01	9.72E-04	1.37E-03			
9.50E+00	9.54E-04	1.19E-03			
8.50E+00	1.00E-03	1.02E-03			
7.50E+00	8.53E-04	8.58E-04			
6.50E+00	7.62E-04	7.08E-04			
5.50E+00	5.94E-04	5.69E-04			
4.50E+00	4.19E-04	4.41E-04			
3.50E+00	3.43E-04	3.24E-04			
2.50E+00	1.01E-04	2.18E-04			
1.50E+00	-1.99E-04	1.23E-04			
4.98E-01	-4.11E-04	3.81E-05			
9.54E-02	-6.46E-04	7.09E-06			
4.20E-03	-3.74E-04	3.10E-07			