

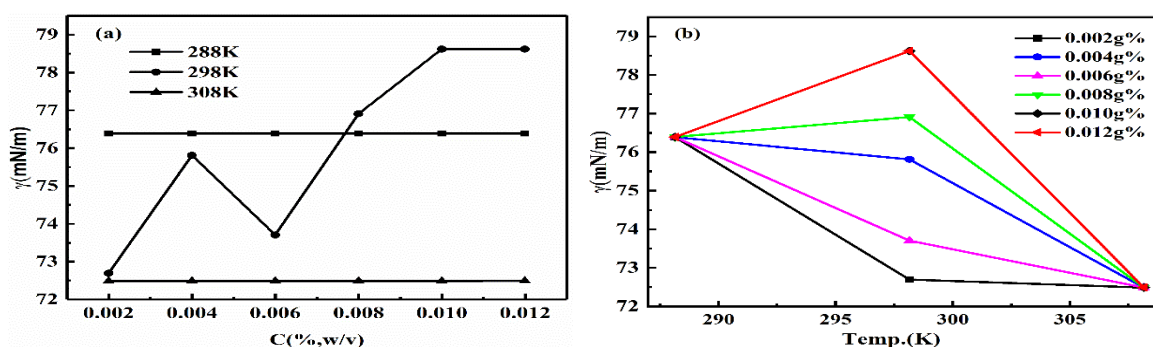
Study of molar properties of GO and doping with transition metals for photodegradation of fluorescent dyes

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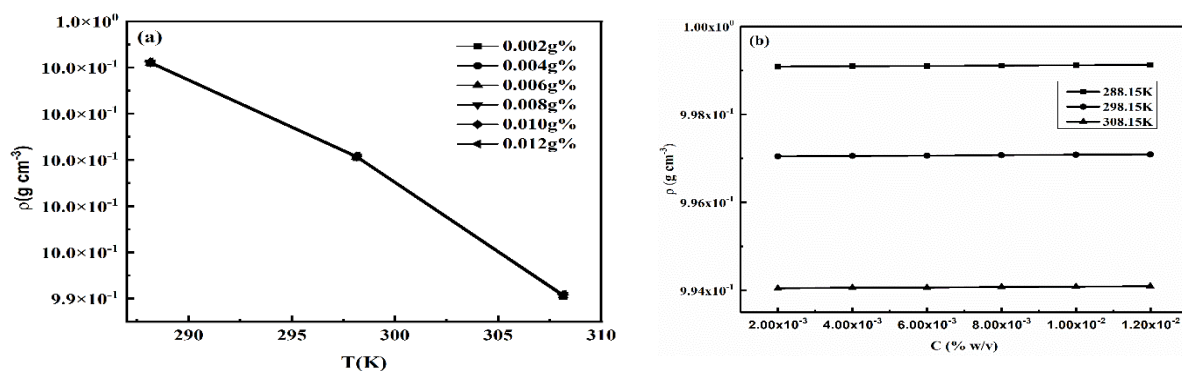
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Krishan8053649040@gmail.com, riddhidave15@outlook.com, sachin.dev708@gmail.com,

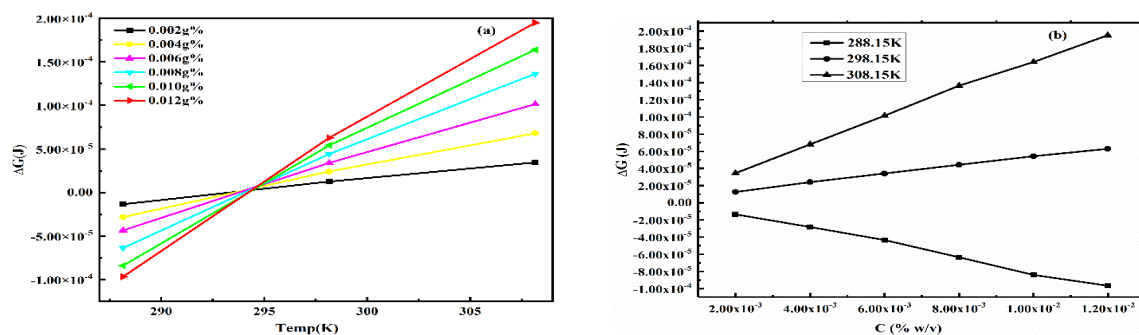
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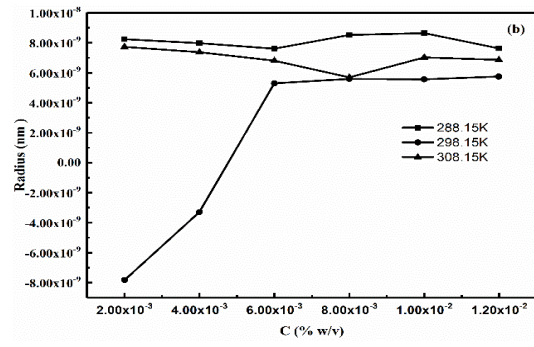
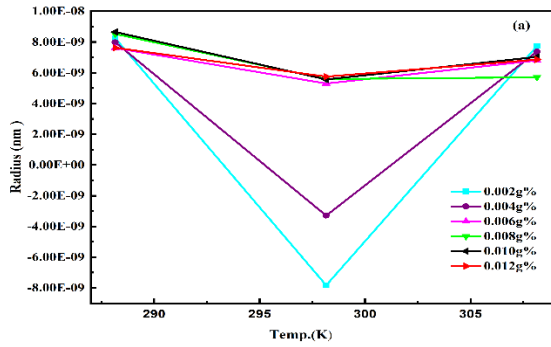
SI Figs. 1.0. γ vs (a) T/K, (b) conc. of aq-GO.



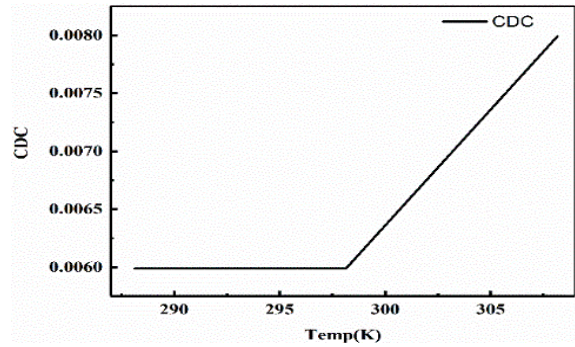
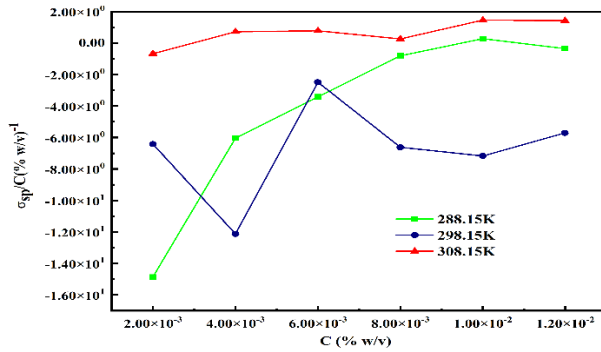
SI Figs.1.1 ρ vs (a) T/K, (b) conc. of aq-GO.



SI Figs.1.2 ΔG vs (a) T/K, (b) conc. of aq-GO.

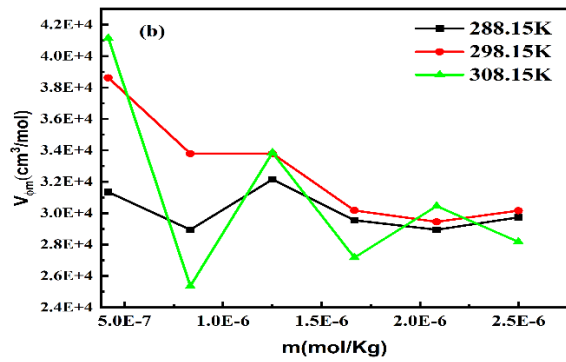
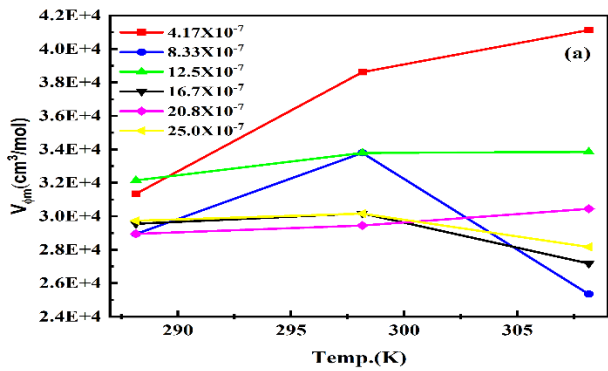


SI Figs.1.3. Radius vs (a) T/K, (b) conc. of aq-GO.

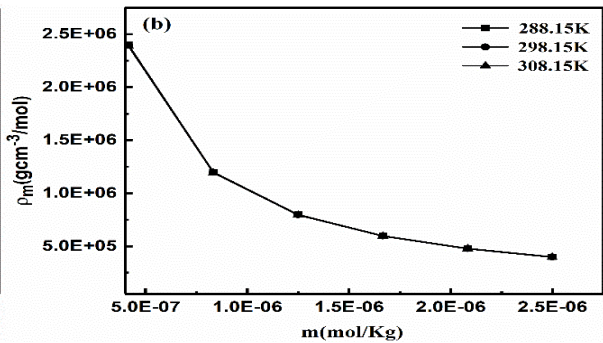
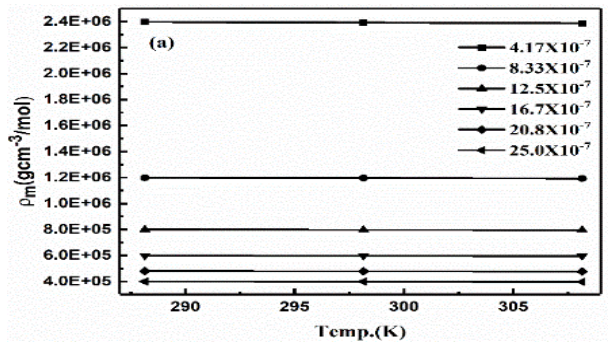


SI Figs.1.4 σ_{sp}/c vs onc. of aq-GO.

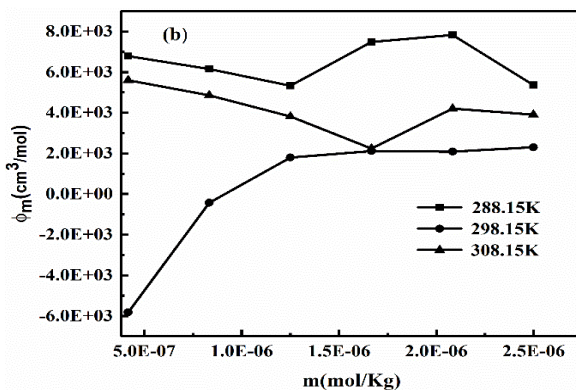
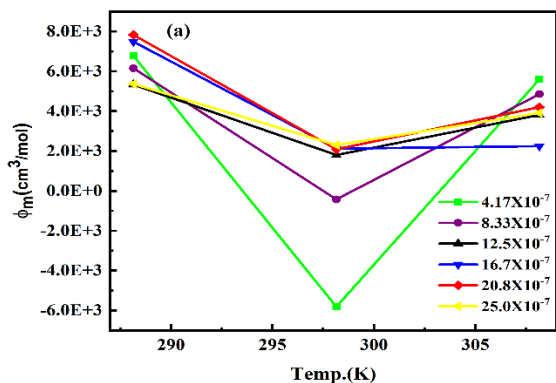
ESI fig.1.5 CDC vs T/K of aq-GO.



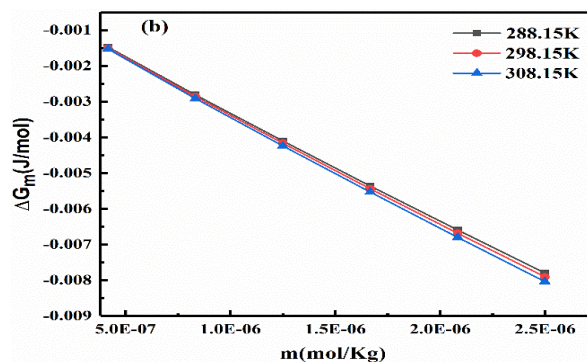
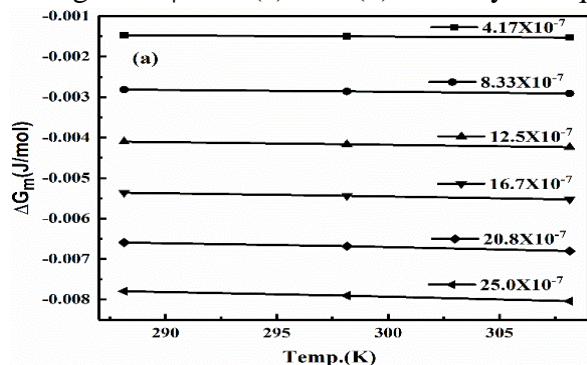
SI Figs.1.6. v_{fm} vs (a) T/K (b) molality of aq-GO.



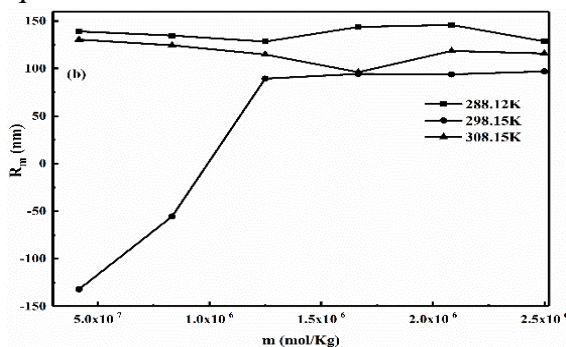
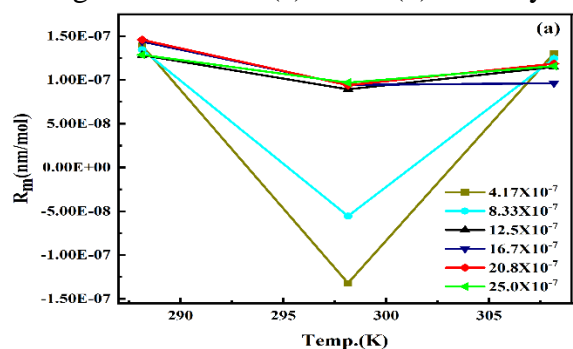
SI Figs.1.7 ρ_m vs (a) T/K (b) molality of aq-GO.



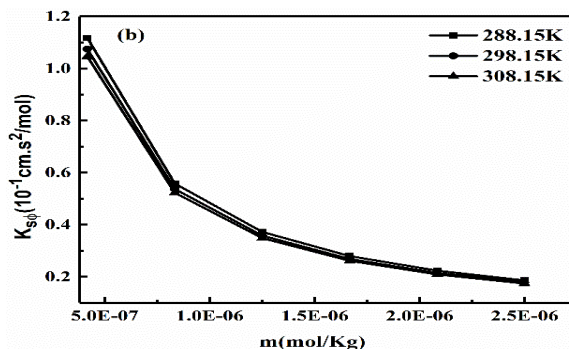
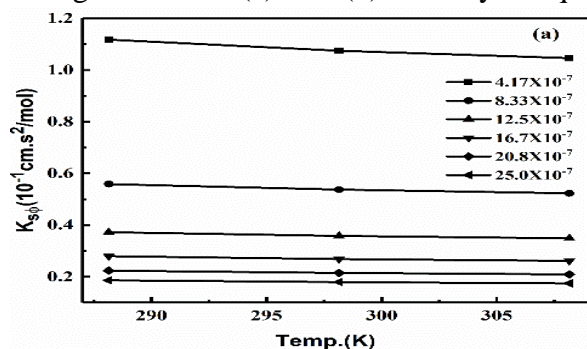
SI Figs. 1.8 ϕ_m vs (a) T/K (b) molality of aq-GO.



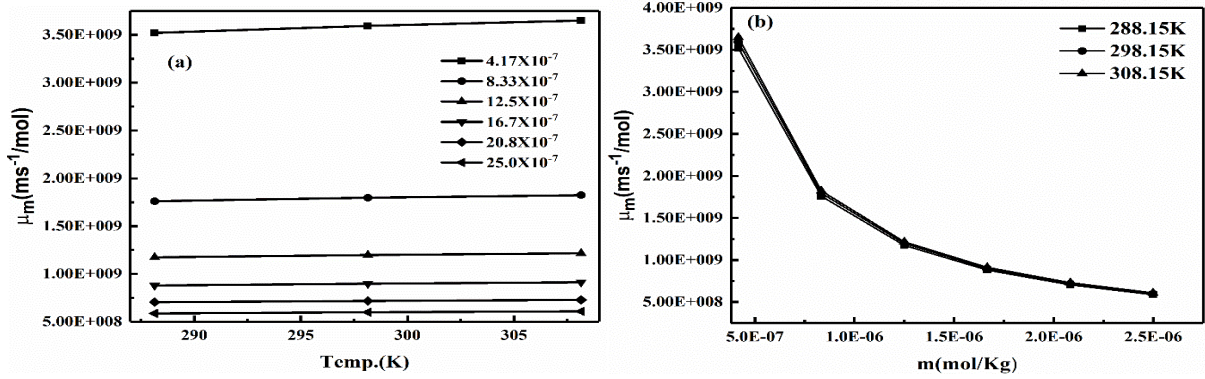
SI Figs.1.9 ΔG_m vs (a) T/K s (b) molality of aq-GO.



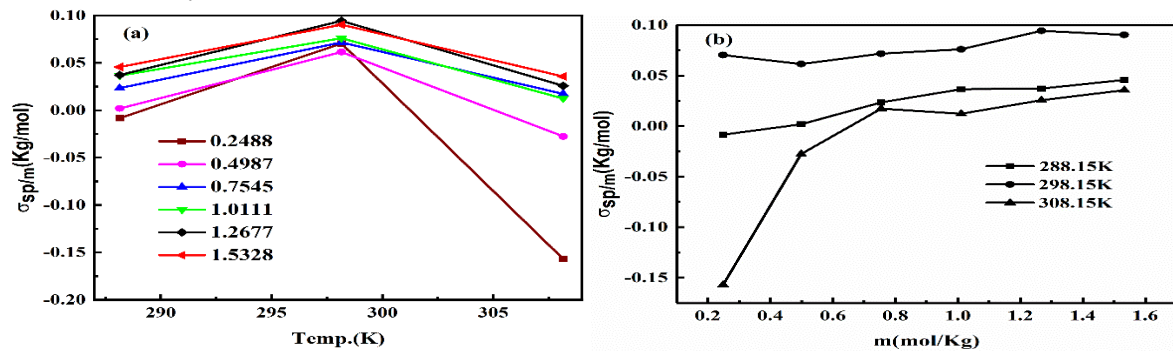
SI Figs.2.0 R_m vs (a) T/K (b) molality of aq-GO.



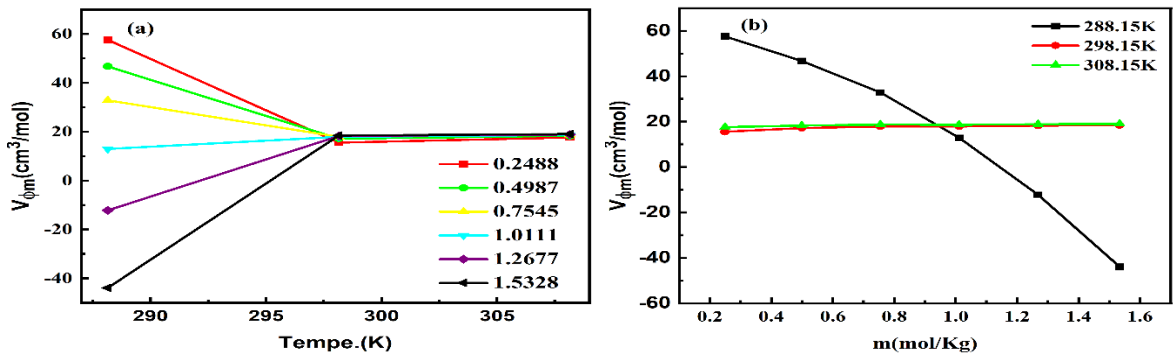
SI Figs.2.1 $K_{S\phi m}$ vs (a) T/K (b) molality of aq-GO.



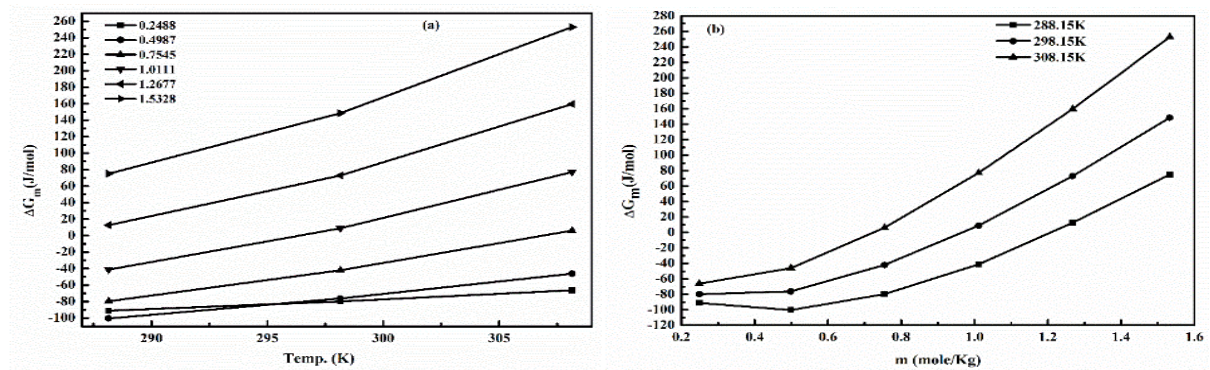
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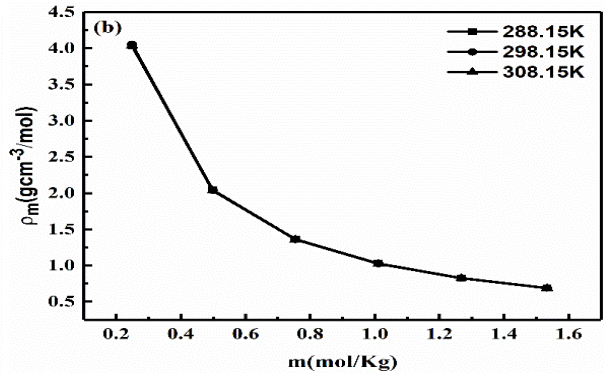
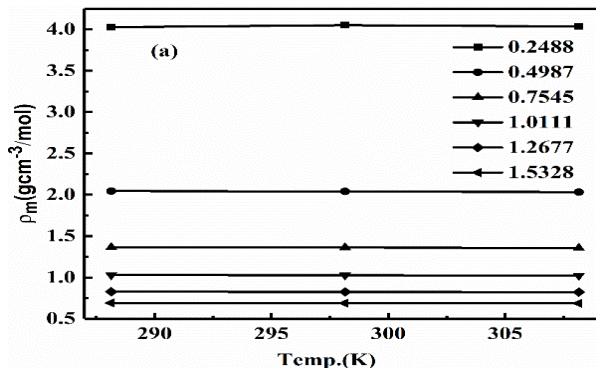
SI Figs.2.3 $\sigma_{sp/m}$ vs (a) T/K (b) molality, aq-NaCl.



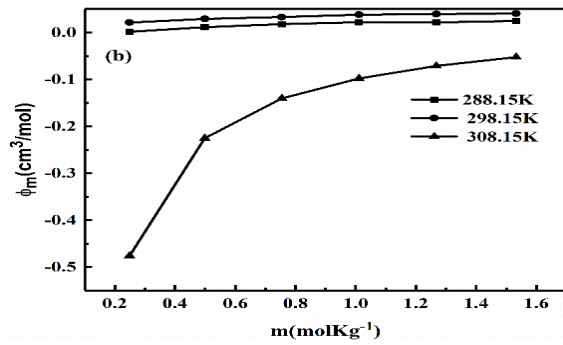
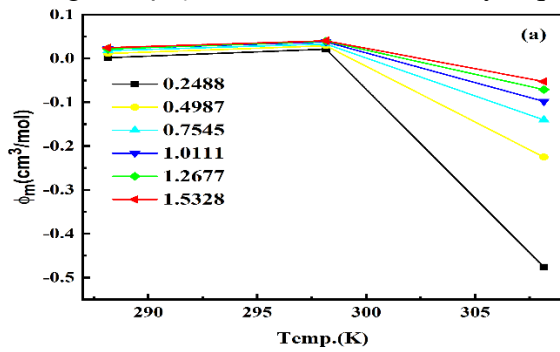
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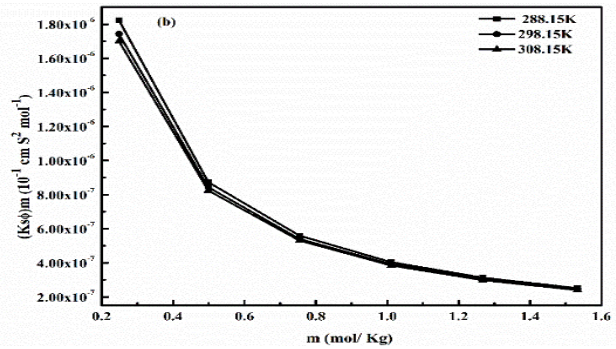
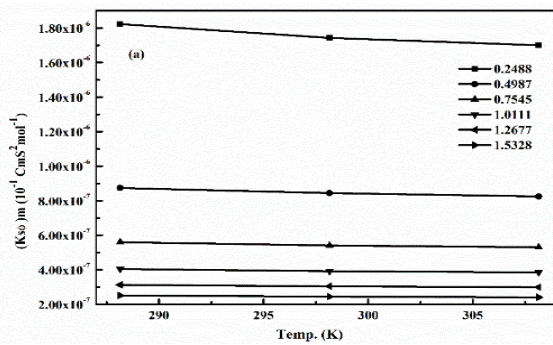
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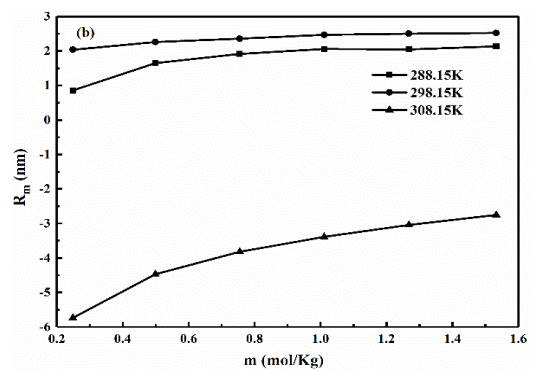
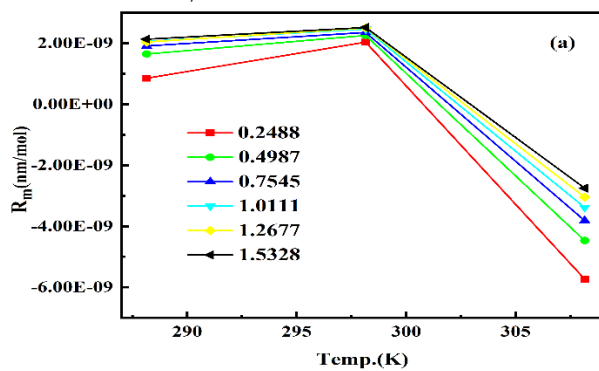
SI Figs.2.6 ρ_m vs (a) T/K (b) molality, aq-NaCl.



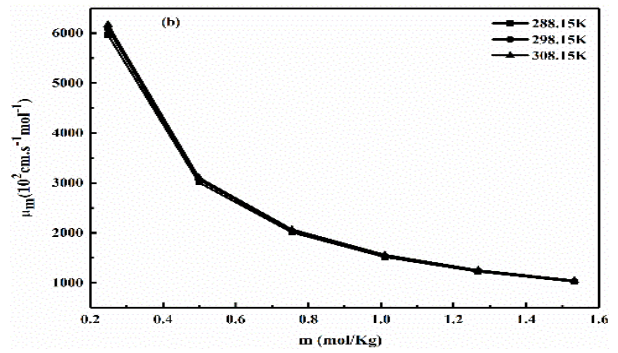
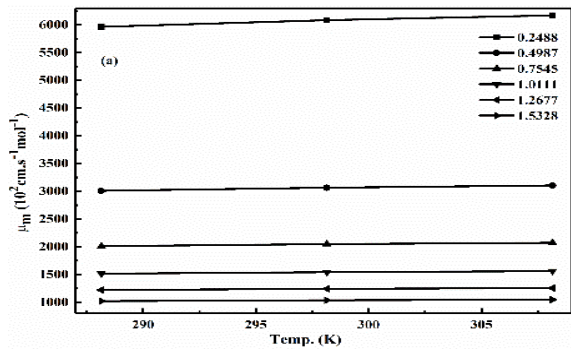
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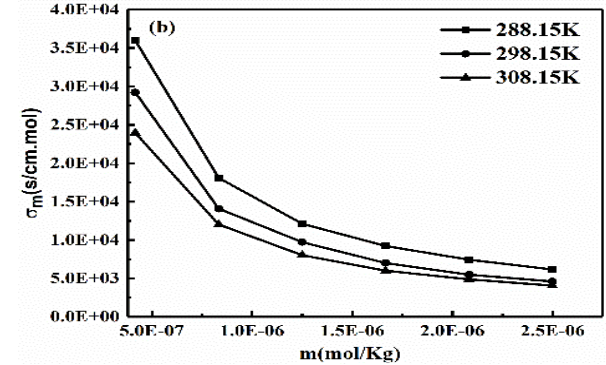
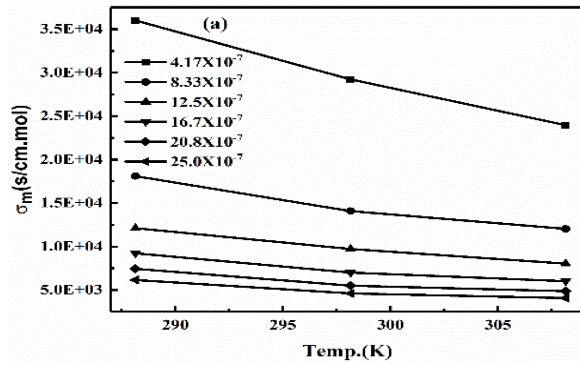
SI Figs.2.8 $K_{S\phi m}$ vs (a) T/K (b) molality, aq-NaCl.



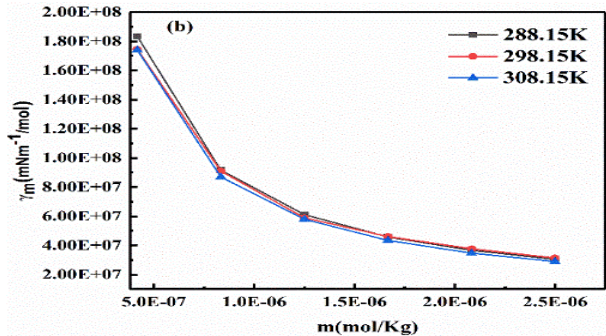
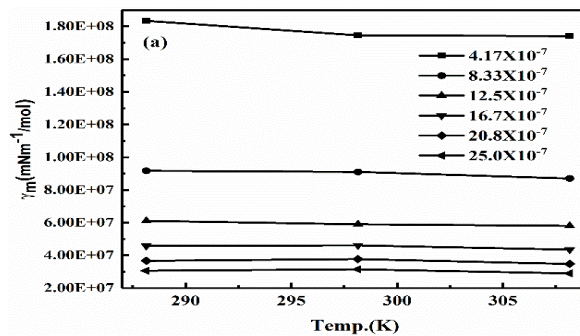
SI Figs.2.9 R_m vs (a) T/K (b) molality, aq-NaCl.



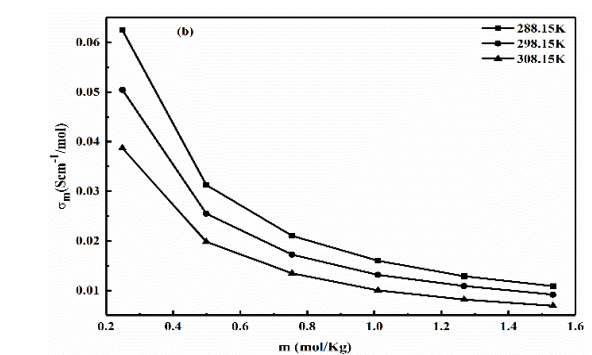
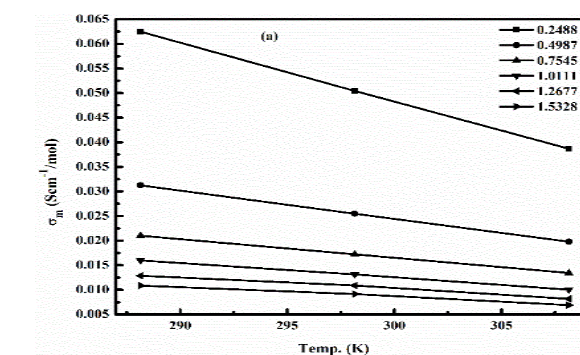
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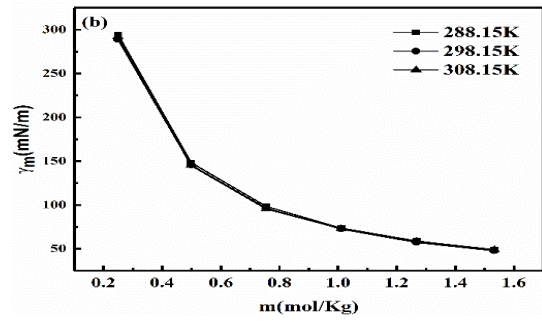
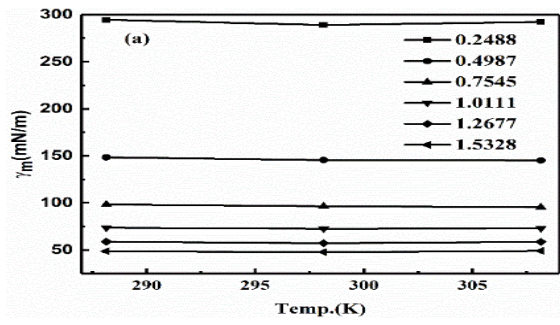
SI Figs.3.1 σ_m vs (a) T/K (b) molality of aq-GO.



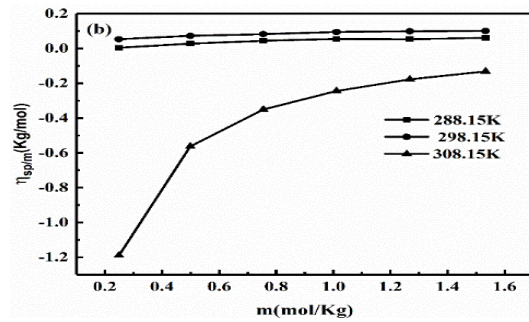
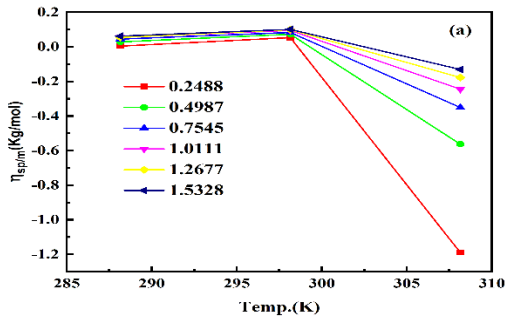
SI Figs.3.2 γ vs (a) T/K (b) molality of aq-GO.



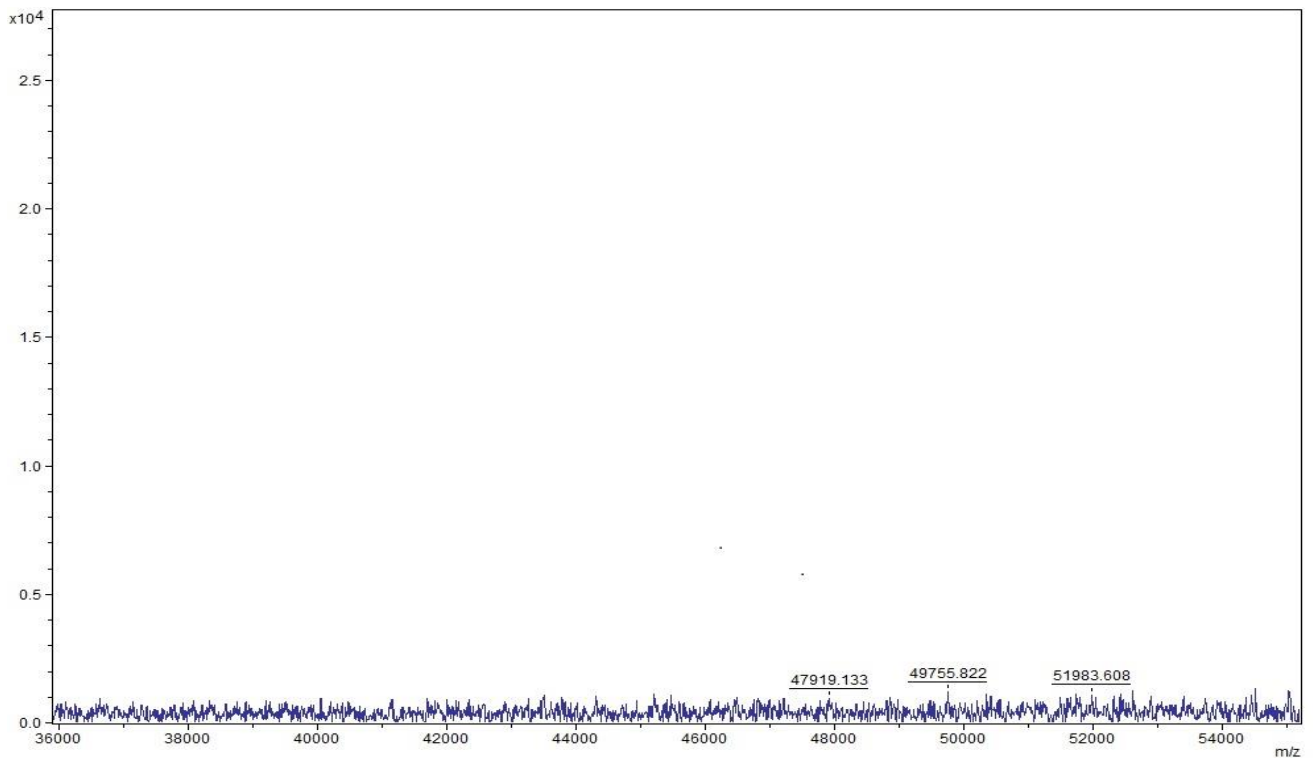
SI Figs.3.3 σ_m vs (a) T/K (b) molality, aq-NaCl.

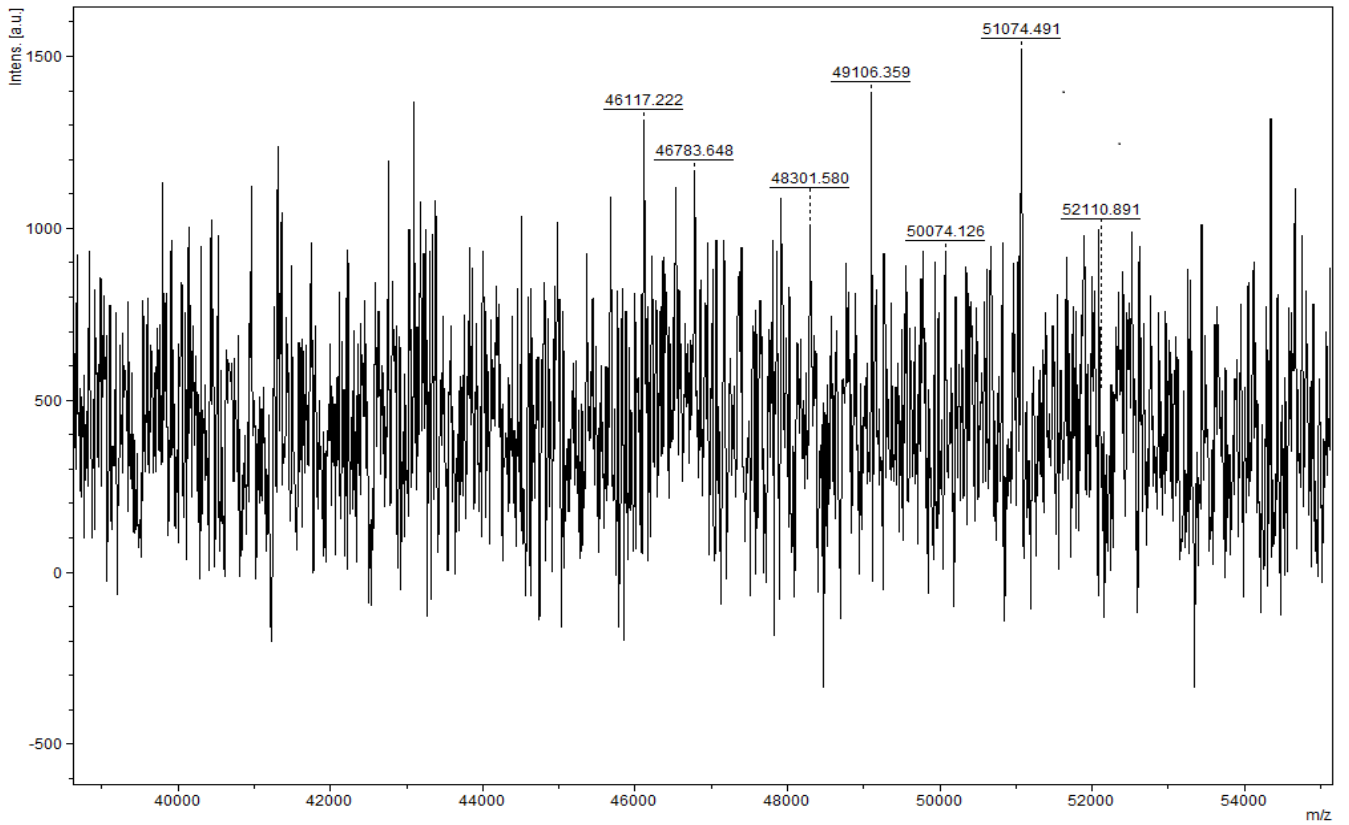


SI Figs.3.4. γ_m vs (a) T/K (b) molality, aq-NaCl.

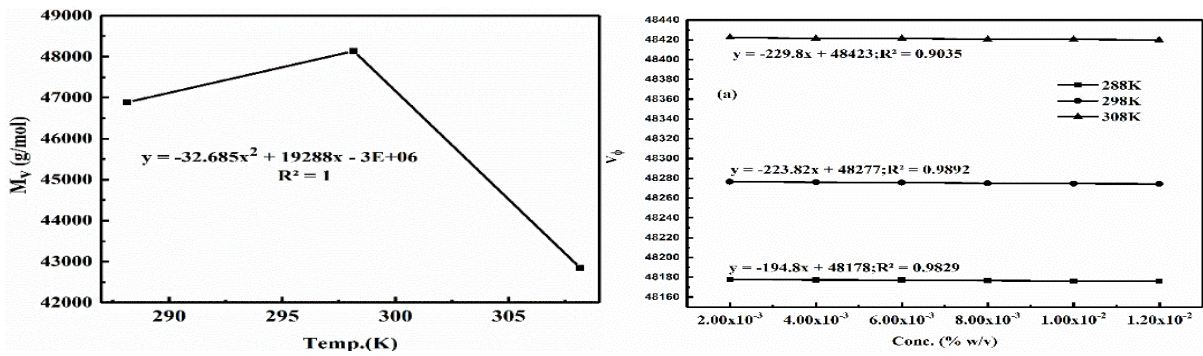


SI Figs.3.5 η_{sp}/m vs (a) T/K (b) molality, aq-NaCl.



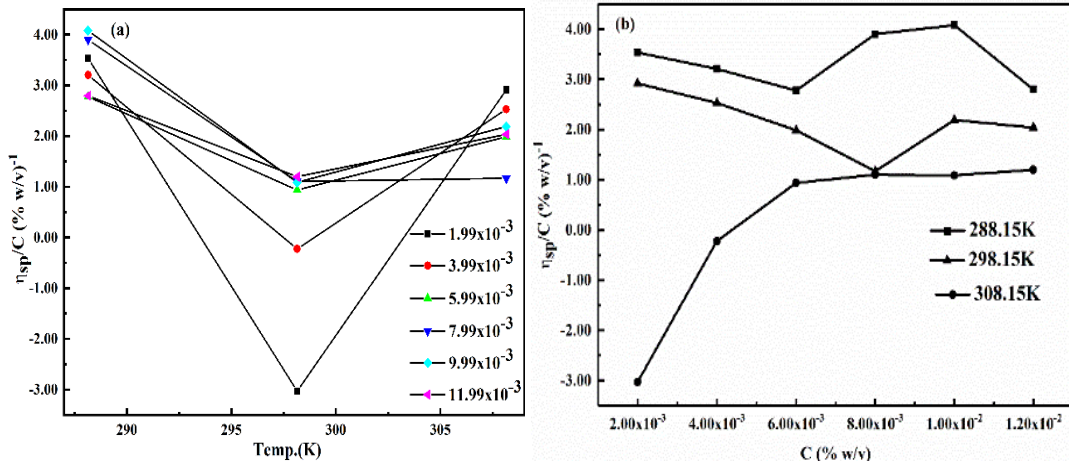


SI Figs.3.6. MALDI-TOF plots for M_v determination of aq-GO.

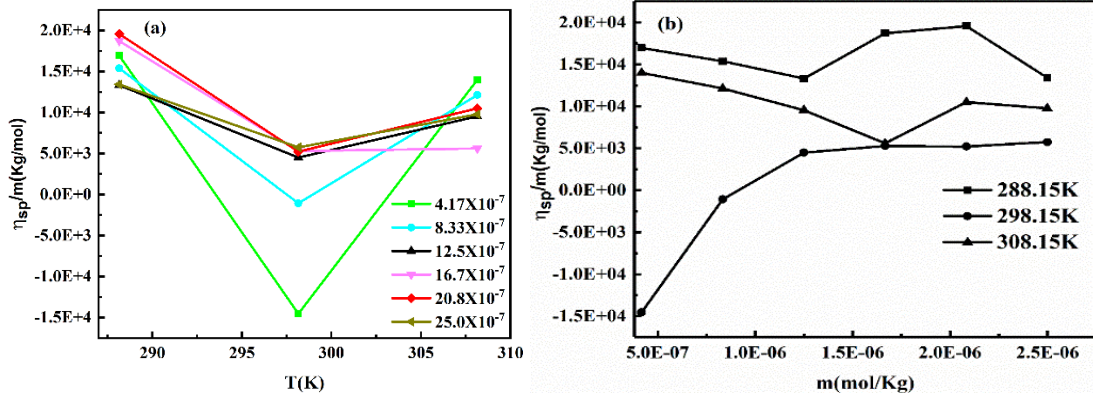


SI Figs.3.7. M_v vs T/K of aq-GO

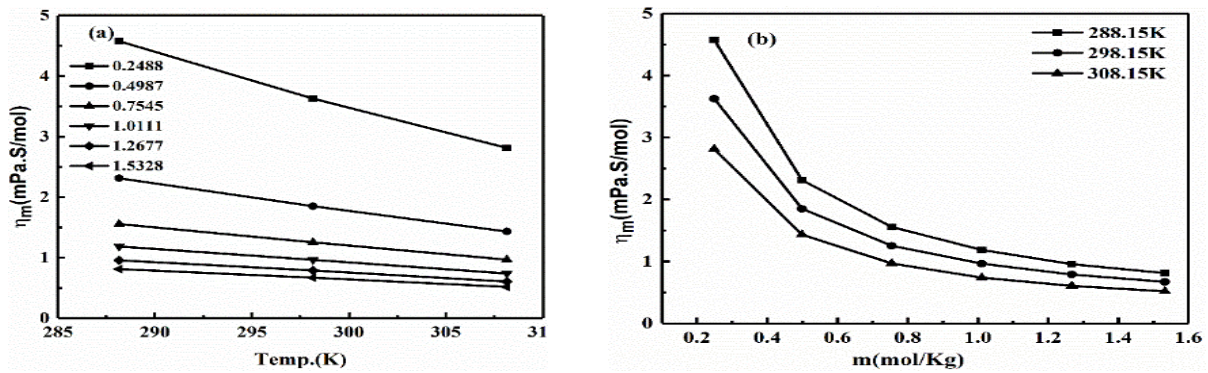
ESI Figs.3.8 (a) V_ϕ vs concentration.



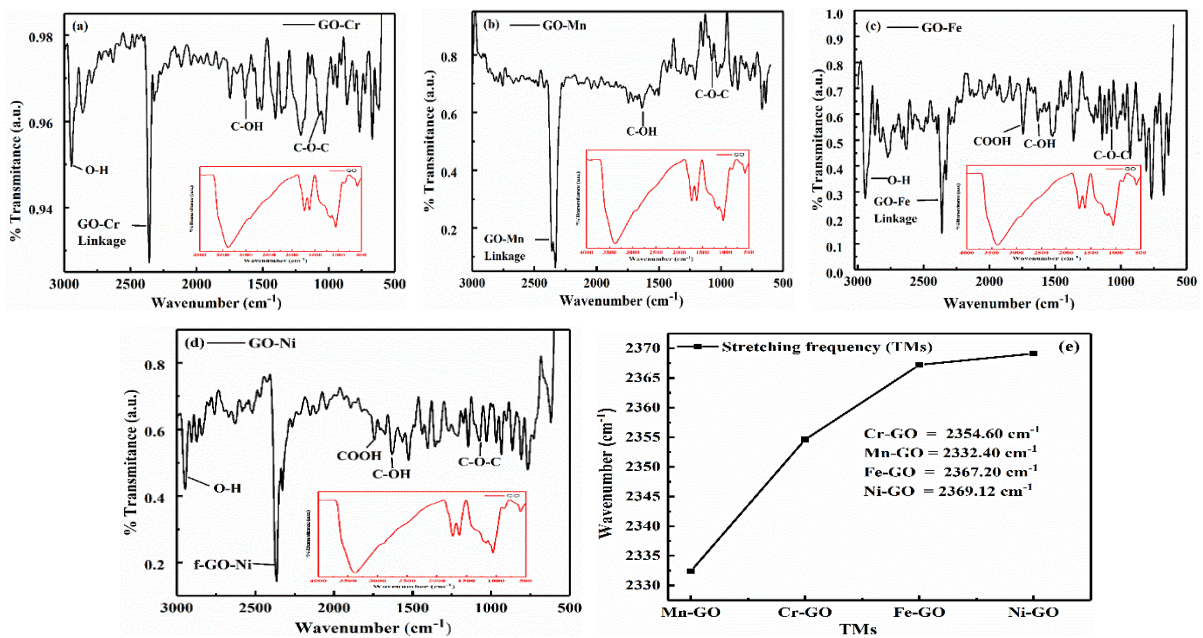
SI Figs.3.9. η_{sp}/c vs (a) temperature and, (b) conc. of aq-GO.



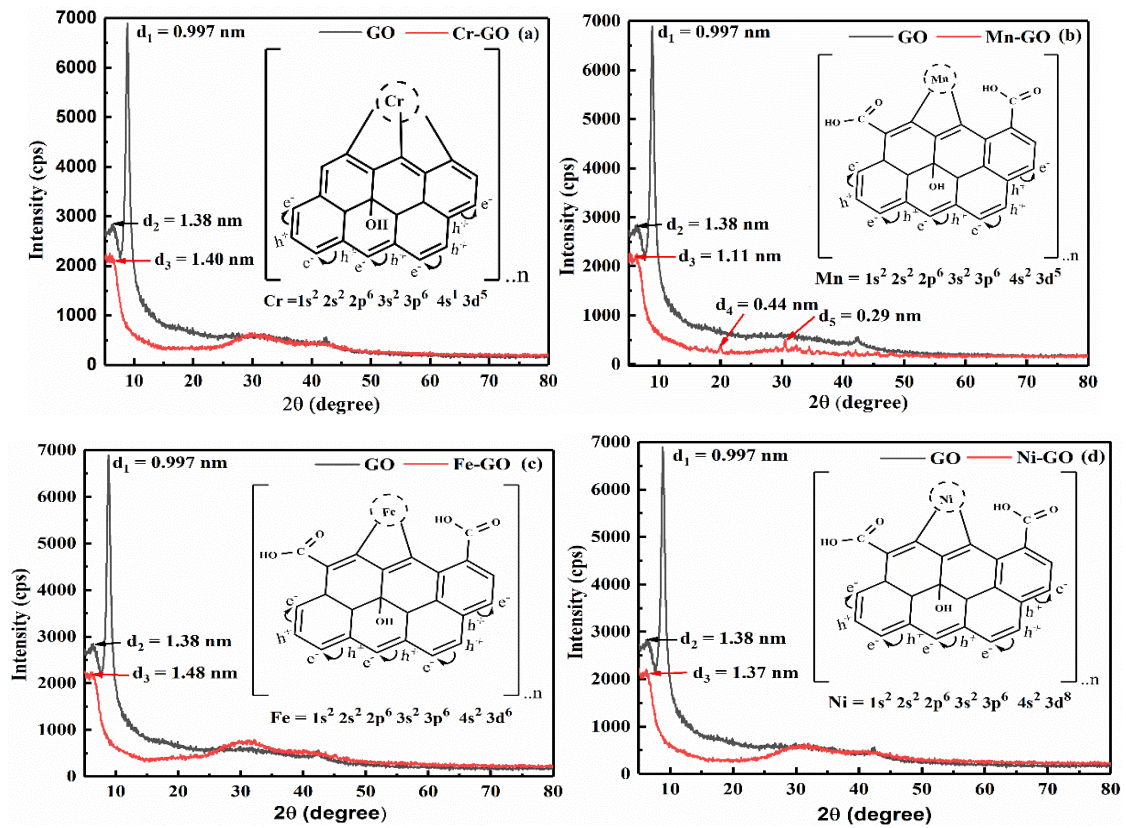
SI Figs.4.0. (a) The η_{sp}/m vs temperature and (b) η_{sp}/m vs molality of aq-GO.



SI Figs.4.1. (a) Molar viscosity vs temperature and (b) Molar viscosity vs molality of aq-NaCl.



SI Figs.4.2. FT-IR spectra of TMIs-GO and compared with GO insite.



SI Figs.4.3. XRD, TMIs-GO compared with GO.

Tables

SI, table 1.0. The constant (a) γ vs T/K, (b) γ vs conc. of aq-GO (SI, Fig.1.0).

Fig. (a) γ vs T/K				Fig. (b) γ vs conc.		
Sr.no.	Conc. (g%)	Intercept	Slope	T(K)	Intercept	Slope
1	0.002	1,680.60	- 10.59	288.15	76.39	0.28
2	0.004	-1,085.48	7.98	298.15	71.89	607.38
3	0.006	784.10	- 4.57	308.15	72.49	0.33
4	0.008	-2,061.26	14.54			
5	0.010	-3,579.11	24.73			
6	0.012	-3,578.91	24.73			

Units: Intercepts (m N/m), slope: a (m N/m K), b (m N cm³/m g).

SI, table 1.1. The constant of (a) ρ vs T/K (b) ρ vs conc. of aq-GO (SI, Fig.1.1).

Fig. (a) ρ vs T/K				Fig. (b) ρ vs conc.		
Sr.no.	Conc. (g%)	Intercept	Slope	T(K)	Intercept	Slope
1	0.002	0.648508	0.002590	288.15	0.999080	0.003648
2	0.004	0.644604	0.002616	298.15	0.997039	0.004121
3	0.006	0.644589	0.002616	308.15	0.994040	0.004552
4	0.008	0.646289	0.002605			
5	0.010	0.643291	0.002625			

6	0.012	0.646304	0.002605		
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Units: Intercepts (g/cm^3), slope: a ($\text{g}/\text{cm}^3 \text{K}$).

SI, table 1.2. The constant (a) ΔG vs T/K (b) ΔG vs conc. of aq-GO (SI, Fig.1.2).

Fig. (a) ΔG vs T/K				Fig. (b) ΔG vs conc.		
Sr.no.	Conc. (g%)	Intercept (10^{-3})	Slope (10^{-5})	T(K)	Intercept (10^{-6})	Slope (10^{-3})
1	0.002	-2.57	1.49	288.15	3.60	-7.93
2	0.004	-5.11	2.96	298.15	1.12	5.92
3	0.006	-6.64	3.75	308.15	-1.93	18.30
4	0.008	-9.82	5.62			
5	0.010	-16.30	9.72			
6	0.012	-6.40	9.59			

Units: Intercepts (J), slope: a (J/K), b ($\text{J cm}^3/\text{g}$).

SI, table 1.3. The constant (a) radius vs T/K (b) radius vs conc. of aq-GO (SI, Fig.1.3).

Fig. (a) radius vs T/K				Fig. (b) radius vs conc.		
Sr.no.	Conc. (g%)	Intercept (10^{-6})	Slope (10^{-8})	T(K)	Intercept (10^{-9})	Slope (10^{-7})
1	0.002	14.10	-9.44	288.15	7.83	1.08
2	0.004	9.76	-6.54	298.15	-17.00	48.70
3	0.006	1.71	-1.14	308.15	8.99	-6.28
4	0.008	1.40	-0.92			
5	0.010	2.05	-1.36			
6	0.012	1.35	-0.90			

Units: Intercepts (nm), slope: a (nm/K), b ($\text{nm cm}^3/\text{g}$).

SI, table 1.6. The constant of (a) $v_{\phi m}$ vs T/K (b) $v_{\phi m}$ vs molality of aq-GO (SI, Fig.1.6).

Fig. (a) $v_{\phi m}$ vs T/K				Fig. (b) $v_{\phi m}$ vs m		
Sr.no.	Molality (10^{-7})	Intercept (10^5)	Slope (10^3)	T(K)	Intercept (10^4)	Slope (10^8)
1	4.17	-22.20	14.70	288.15	3.13	-9.38
2	8.33	-58.20	39.50	298.15	4.27	-115.00
3	12.5	-6.96	4.81	308.15	4.44	-179.00
4	16.7	-15.50	10.70			
5	20.8	2.30	-1.42			
6	25.0	-10.20	7.12			

Units: Intercepts (cm^3/mol), slope: a ($\text{cm}^3/\text{mol K}$), b ($10^3 \text{g cm}^3/\text{mol}^2$).

SI, table 1.7. The constant of (a) ρ_m vs T/K (b) ρ_m vs molality of aq-GO (SI, Fig.1.7).

Fig. (a) ρ_m vs T/K				Fig. (b) ρ_m vs m		
Sr.no.	Molality (10^{-7})	Intercept (10^5)	Slope (10^3)	T(K)	Intercept (10^6)	Slope (10^{12})
1	4.17	15.475390	6.280868	288.15	3.334620	-2.863902

2	8.33	7.782514	3.107829	298.15	3.327813	-2.858055
3	12.5	5.156558	2.092981	308.15	3.317799	-2.849449
4	16.7	3.877371	1.562660			
5	20.8	3.087397	1.259931			
6	25.0	2.586741	1.042485			

Units: Intercepts ($\text{g}/\text{cm}^3 \text{ mol}$), slope: a ($\text{g}/\text{cm}^3 \text{ mol K}$), b ($10^3 \text{g}^2 / \text{cm}^3 \text{ mol}^2$).

SI, table 1.8. The constant (a) ϕ_m vs T/K (b) ϕ_m vs molality of aq-GO (SI, Fig.1.8).

Fig. (a) ϕ_m vs T/K				Fig. (b) ϕ_m vs m		
Sr.n o.	Molality (10^{-7})	Intercept (10^6)	Slope (10^4)	T(K)	Intercept (10^3)	Slope(10^9)
1	4.17	10.70	- 7.17	288.15	5.74	1.34
2	8.33	5.29	- 3.55	298.15	-10.30	13.80
3	12.5	2.49	- 1.66	308.15	7.67	-5.10
4	16.7	2.52	- 1.66			
5	20.8	3.55	- 2.36			
6	25.0	2.10	- 1.40			

Units: Intercepts (cm^3/mol), slope: a ($\text{cm}^3/\text{mol K}$), b ($10^3 \text{g cm}^3/\text{mol}^2$).

SI, table 1.9. The constant (a) ΔG_m vs T/K (b) ΔG_m vs molality of aq-GO (SI, Fig.1.9).

Fig. (a) ΔG_m vs T/K				Fig. (b) ΔG_m vs m		
Sr.no.	Molality (10^{-7})	Intercept (10^{-3})	Slope(10^{-5})	T(K)	Intercept (10^{-4})	Slope (10^3)
1	4.17	- 2.57	0.99	288.15	- 1.00	- 3.30
2	8.33	- 5.11	1.99	298.15	- 1.29	- 3.34
3	12.5	- 6.64	2.34	308.15	- 1.37	- 3.40
4	16.7	- 9.82	3.78			
5	20.8	- 16.30	7.46			
6	25.0	- 16.40	6.92			

Units: Intercepts (J/mol), slope: a ($\text{J}/\text{mol K}$), b ($10^3 \text{g J}/\text{mol}^2$).

SI, table 2.0. The constant of (a) R_m vs T/K (b) R_m vs molality of aq-GO (SI, Fig.2.0).

Fig. (a) R_m vs T/K				Fig. (b) R_m vs m		
Sr.no.	Molality (10^{-7})	Intercept (10^4)	Slope (10^2)	T(K)	Intercept (10^2)	Slope (10^6)
1	4.17	23.72	-15.92	288.15	1.32	8.77
2	8.33	16.46	-11.04	298.15	-2.87	394.36
3	12.5	2.89	-1.93	308.15	1.52	- 50.80
4	16.7	2.36	-1.55			
5	20.8	3.46	-2.30			
6	25.0	2.27	-1.51			

Units: Intercepts (nm/mol), slope: a (nm/K), b (10^3 nm g/mol).

SI, table 2.1. The constant (a) $K_{S\phi m}$ vs T/K (b) $K_{S\phi m}$ vs molality of aq-GO (SI, Fig.2.1).

Fig. (a) $K_{S\phi m}$ vs T/K				Fig. (b) $K_{S\phi m}$ vs m		
Sr.no.	Molality (10^{-7})	Intercept	Slope (10^{-2})	T(K)	Intercept	Slope (10^6)
1	4.17	8.15	- 4.39	288.15	1.55	- 1.33
2	8.33	4.15	- 2.24	298.15	1.49	- 1.28
3	12.5	2.67	- 1.43	308.15	1.45	- 1.25
4	16.7	2.08	- 1.12			
5	20.8	1.60	- 0.86			
6	25.0	1.36	- 0.73			

Units: Intercepts (10^{-1} cm s²/mol), slope: a (10^{-1} cm s²/mol K), b (10^2 g cm s²/mol²).

SI, table 2.2. The constant of (a) μ_m vs T/K (b) μ_m vs molality of aq-GO (SI, Fig.2.2).

Fig. (a) μ_m vs T/K				Fig. (b) μ_m vs m		
Sr.no.	Molality (10^{-7})	Intercept(10^9)	Slope(10^7)	T(K)	Intercept (10^9)	Slope (10^{15})
1	4.17	- 6.15	5.90	288.15	4.89	- 4.20
2	8.33	- 3.21	3.04	298.15	5.00	- 4.29
3	12.5	- 1.97	1.92	308.15	5.07	- 4.36
4	16.7	- 1.60	1.52			
5	20.8	- 1.18	1.14			
6	25.0	- 1.03	0.98			

Units: Intercepts (10^2 cm /s mol), slope: a (10^2 cm/s mol K), b (10^5 g cm/ s mol²).

SI, table 2.3. The constant of (a) $\sigma_{sp/m}$ vs T/K (b) $\sigma_{sp/m}$ vs molality of aq-NaCl (SI, Fig.2.3).

Fig. (a) $\sigma_{sp/m}$ vs T/K				Fig. (b) $\sigma_{sp/m}$ vs m		
Sr.no.	Molality	Intercept	Slope	T(K)	Intercept (10^{-2})	Slope (10^{-3})
1	0.2488	- 133.74	0.91	288.15	-3.12	89.60
2	0.4987	- 65.59	0.44	298.15	6.59	- 2.74
3	0.7545	- 45.48	0.31	308.15	-24.30	473.00
4	1.0111	- 45.44	0.31			
5	1.2677	- 55.64	0.37			
6	1.5328	- 43.84	0.30			

Units: Intercepts (10^3 g /mol), slope: a (10^3 g /mol K), b (10^6 g² /mol²).

SI, table 2.4. The constant of (a) $V_{\phi m}$ vs T/K (b) $V_{\phi m}$ vs molality of aq-NaCl (SI, Fig.2.4).

Fig. (a) $V_{\phi m}$ vs T/K				Fig. (b) $V_{\phi m}$ vs m		
Sr.no.	Molality	Intercept	Slope	T(K)	Intercept	Slope
1	0.2488	20225.00	-133.57	288.15	61.87	-9.44

2	0.4987	14078.03	-92.90	298.15	14.31	6.33
3	0.7545	7245.01	-47.78	308.15	17.14	2.58
4	1.0111	-1987.06	13.16			
5	1.2677	-13688.87	90.39			
6	1.5328	-28352.61	187.17			

Units: Intercepts (cm^3/mol), slope: a ($\text{cm}^3/\text{mol K}$), b ($10^3 \text{g cm}^3/\text{mol}^2$).

SI, table 2.5. The constant of (a) ΔG_m vs T/K (b) ΔG_m vs molality of aq-NaCl (SI, Fig.2.5).

Fig. (a) ΔG_m vs T/K				Fig. (b) ΔG_m vs m		
Sr.no.	Molality	Intercept	Slope	T(K)	Intercept	Slope
1	0.2488	584.01	-5.70	288.15	-79.24	-95.56
2	0.4987	1761.69	-15.05	298.15	-81.40	-40.33
3	0.7545	3341.42	-26.99	308.15	-86.13	30.74
4	1.0111	6393.41	-48.75			
5	1.2677	9670.63	-71.73			
6	1.5328	11248.03	-83.36			

Units: Intercepts (J/mol), slope: a (J/mol K), b (10^3g J/mol^2).

SI, table 2.6. The constant of (a) ρ_m vs T/K (b) ρ_m vs molality of aq-NaCl (SI, Fig.2.6).

Fig. (a) ρ_m vs T/K				Fig. (b) ρ_m vs m		
Sr.no.	Molality	Intercept	Slope	T(K)	Intercept	Slope
1	0.2488	-12.246802	0.108929	288.15	5.521341	-7.712194
2	0.4987	1.202354	0.006226	298.15	5.555010	-7.788611
3	0.7545	0.877406	0.003668	308.15	5.535535	-7.761448
4	1.0111	0.773624	0.002026			
5	1.2677	0.682788	0.001239			
6	1.5328	0.563312	0.001087			

Units: Intercepts ($\text{g/cm}^3 \text{ mol}$), slope: a ($\text{g/cm}^3 \text{ mol K}$), b ($10^3 \text{g}^2 / \text{cm}^3 \text{ mol}^2$).

SI, table 2.7. The constant of (a) ϕ_m vs T/K (b) ϕ_m v/s molality of aq-NaCl (SI, Fig.2.7).

Fig. (a) ϕ_m vs T/K				Fig. (b) ϕ_m v/s m		
Sr.no.	Molality	Intercept	Slope	T(K)	Intercept	Slope
1	0.2488	- 222.56	1.52	288.15	-0.01	0.05
2	0.4987	- 117.39	0.80	298.15	0.01	0.04
3	0.7545	- 81.44	0.55	308.15	-0.66	0.97
4	1.0111	- 65.58	0.45			
5	1.2677	- 55.72	0.38			
6	1.5328	- 47.19	0.32			

Units: Intercepts (cm^3/mol), slope: a ($\text{cm}^3/\text{mol K}$), b ($10^3 \text{g cm}^3/\text{mol}^2$).

SI, table 2.8. The constant of (a) $K_{S\phi m}$ vs T/K (b) $K_{S\phi m}$ vs molality of aq-NaCl (SI, Fig.2.8).

Fig. (a) $K_{S\phi m}$ vs T/K				Fig. (b) $K_{S\phi m}$ vs m		
Sr.no.	Molality	Intercept (10^{-6})	Slope (10^{-8})	T(K)	Intercept (10^{-6})	Slope (10^{-6})
1	0.2488	20.30	- 11.80	288.15	2.53	- 3.66
2	0.4987	6.17	- 3.33	298.15	2.42	- 3.48
3	0.7545	5.20	- 2.98	308.15	2.35	- 3.39
4	1.0111	2.99	- 1.64			
5	1.2677	1.88	- 0.99			
6	1.5328	1.41	- 0.73			

Units: Intercepts (10^{-1} cm s^2 /mol), slope: a (10^{-1} cm s^2 /mol K), b (10^2 g cm s^2 /mol 2).

SI, table 2.9. The constant of (a) R_m vs T/K (b) R_m vs molality of aq-NaCl (SI, Fig.2.9).

Fig. (a) R_m vs T/K				Fig. (b) R_m vs m		
Sr.no.	Molality	Intercept	Slope	T(K)	Intercept	Slope
1	0.2488	- 3,878.08	26.36	288.15	0.2569	3.1098
2	0.4987	- 3,168.89	21.58	298.15	1.8238	0.9896
3	0.7545	- 2,851.94	19.43	308.15	- 6.8117	5.1878
4	1.0111	- 2,699.36	18.40			
5	1.2677	- 2,590.00	17.64			
6	1.5328	- 2,439.94	16.63			

Units: Intercepts (nm/mol), slope: a (nm/K), b (10^3 nm g/mol).

SI, table 3.0 The constant of (a) μ_m vs T/K (b) μ_m vs molality of aq-NaCl (SI, Fig.3.0).

Fig. (a) μ_m vs T/K				Fig. (b) μ_m vs m		
Sr.no.	Molality	Intercept (10^3)	Slope (10^1)	T(K)	Intercept (10^3)	Slope (10^4)
1	0.2488	- 11.30	10.70	288.15	8.18	- 1.15
2	0.4987	- 5.01	4.93	298.15	8.34	- 1.17
3	0.7545	- 5.83	4.98	308.15	8.46	- 1.19
4	1.0111	- 3.00	2.83			
5	1.2677	- 1.61	1.75			
6	1.5328	- 1.16	1.34			

Units: Intercepts (10^2 cm /s mol, slope: a (10^2 cm/s mol K), b (10^5 g cm/ s mol 2).

SI, table 3.1. The constant (a) viscosity vs T/K (b) viscosity vs conc. of aq-GO (Fig. 2.6).

Fig. (a) η vs T/K				Fig. (b) η vs conc.		
Sr.no.	Conc. (g%)	Intercept	Slope	T(K)	Intercept	Slope

1	0.002	51.0982	-0.3157	288.15	1.1303	6.7220
2	0.004	51.3502	-0.3172	298.15	0.8789	3.2459
3	0.006	48.7570	-0.2996	308.15	0.7242	-0.2495
4	0.008	53.0288	-0.3273			
5	0.010	60.2932	-0.3760			
6	0.012	54.5243	-0.3377			

Units: Intercepts (mPa.S), slope: a (mPa.S/K), b (m Pa.S.cm³/g).

SI, table 3.2. The constant of (a) ρ_m vs T/K (b) ρ_m vs molality of aq-GO (Fig. 3.0)

Fig. (a) ρ_m vs T/K				Fig. (b) ρ_m vs m		
Sr.no.	Molality (10^{-7})	Intercept (10^5)	Slope (10^3)	T(K)	Intercept (10^6)	Slope(10^{12})
1	4.17	15.475390	6.280868	288.15	3.334620	-2.863902
2	8.33	7.782514	3.107829	298.15	3.327813	-2.858055
3	12.5	5.156558	2.092981	308.15	3.317799	-2.849449
4	16.7	3.877371	1.562660			
5	20.8	3.087397	1.259931			
6	25.0	2.586741	1.042485			

Units: Intercepts (g/cm³ mol), slope: a (g/cm³ mol K), b (10^3 g²/cm³ mol²).

SI, table 3.3 The constant of (a) σ_m vs T/K (b) σ_m vs molality of aq-GO (SI, Fig.3.3).

Fig. (a) σ_m vs T/K				Fig. (b) σ_m vs m		
Sr.no.	Molality (10^{-7})	Intercept (10^5)	Slope (10^3)	T(K)	Intercept (10^4)	Slope(10^{10})
1	4.17	8.77	- 5.09	288.15	4.99	- 4.26
2	8.33	9.76	- 6.15	298.15	4.06	- 3.52
3	12.5	3.84	- 2.31	308.15	3.33	- 2.86
4	16.7	5.91	- 3.76			
5	20.8	6.28	- 4.05			
6	25.0	4.94	- 3.18			

Units: Intercepts (s/cm mol), slope: a (s /cm mol K), b (10^3 g s /cm mol²).

SI, table 3.4. The constant of (a) γ vs T/K (b) γ vs molality of aq-GO.

Fig. (a) γ vs T/K				Fig. (b) γ vs m		
Sr.no.	Molality (10^{-7})	Intercept(10^9)	Slope (10^6)	T(K)	Intercept (10^8)	Slope (10^{14})
1	4.17	4.03	-25.4	288.15	2.55	-2.19
2	8.33	-1.30	9.58	298.15	2.42	-2.05
3	12.5	0.63	-3.66	308.15	2.42	-2.08
4	16.7	-1.24	8.72			
5	20.8	-1.72	11.90			

6	25.0	-1.43	9.90			
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Units: Intercepts (m N/m mol), slope: a (m N/m mol K), b (10^3 g m N/ m mol²).

SI, table 3.5. The constant of (a) $\eta_{sp/m}$ vs T/K (b) $\eta_{sp/m}$ vs molality of aq-GO.

Fig. (a) $\eta_{sp/m}$ vs T/K				Fig. (b) $\eta_{sp/m}$ vs m		
Sr.no.	Molality (10^{-7})	Intercept(10^6)	Slope (10^4)	T(K)	Intercept (10^4)	Slope(10^{10})
1	4.17	26.711	- 17.9130	288.15	1.4343	0. 3359
2	8.33	13.237	- 8.8640	298.15	-2.5811	3.4506
3	12.5	6.2216	- 4.1515	308.15	1.9181	-1.2742
4	16.7	6.3050	- 4.1603			
5	20.8	8.8710	- 5.9019			
6	25.0	5.2575	- 3.5047			

Units: Intercepts (10^3 g/ mol), slope: a (10^3 g /mol K), b (10^6 g² /mol²).

SI, table 3.6. The constant of (a) η_m vs T/K (b) η_m vs molality of aq-GO (Fig. 2.6).

Fig. (a) η_m vs T/K				Fig. (b) η_m vs m		
Sr.no.	Molality (10^{-7})	Intercept (10^7)	Slope (10^5)	T(K)	Intercept (10^6)	Slope(10^{12})
1	4.17	12.2670	- 7.5797	288.15	3.8129	- 3.2569
2	8.33	6.1624	- 3.8067	298.15	2.9489	- 2.5216
3	12.5	3.9004	- 2.3969	308.15	2.4139	- 2.0705
4	16.7	3.1814	- 1.9638			
5	20.8	2.8937	- 1.8044			
6	25.0	2.1823	- 1.3518			

Units: Intercepts (mPa.S/ mol), slope: a (m Pa. S/mol K), b (10^3 g m Pa. S /mol²).

SI, table 3.7. The constant of (a) $\eta_{sp/m}$ vs T/K (b) $\eta_{sp/m}$ vs molality of aq-NaCl.

Fig. (a) $\eta_{sp/m}$ vs T/K				Fig. (b) $\eta_{sp/m}$ vs m		
Sr.no.	Molality	Intercept	Slope	T(K)	Intercept	Slope
1	0.2488	- 556.3950	3.7924	288.15	- 0.0210	0.1165
2	0.4987	- 293.4847	1.9988	298.15	0.0331	0.0907
3	0.7545	- 203.6030	1.3861	308.15	- 1.6570	2.4191
4	1.0111	- 163.9443	1.1154			
5	1.2677	- 139.2984	0.9467			
6	1.5328	- 117.9688	0.8016			

Units: Intercepts (10^3 g/ mol), slope: a (10^3 g /mol K), b (10^6 g² /mol²).

SI, table 3.8. The constant of (a) γ_m vs T/K (b) γ_m vs molality for aq-NaCl (SI figs.3.4).

Fig. (a) γ_m vs T/K				Fig. (b) γ_m vs m		
Sr.no.	Molality	Intercept	Slope	T(K)	Intercept	Slope
1	0.2488	4208.69	-26.18	288.15	404.50	-568.17
2	0.4987	1238.75	-7.17	298.15	396.76	-556.94
3	0.7545	536.51	-2.81	308.15	401.68	-568.68
4	1.0111	601.62	-3.52			
5	1.2677	1401.38	-9.01			
6	1.5328	1004.86	-6.43			

Units: Intercepts (m N/m mol), slope: a (m N/m mol K), b (10^3 g m N/ m mol²).

SI, table 3.9. The constant of (a) σ_m vs T/K (b) σ_m vs molality for aq-NaCl (SI, Fig.3.9).

Fig. (a) σ_m vs T/K				Fig. (b) σ_m vs m		
Sr.no.	Molality	Intercept (10^{-1})	Slope (10^{-3})	T(K)	Intercept	Slope
1	0.2488	5.31	-2.04	288.15	0.09	- 0.12
2	0.4987	2.37	-0.85	298.15	0.07	- 0.10
3	0.7545	1.29	-0.37	308.15	0.05	- 0.07
4	1.0111	-0.17	0.50			
5	1.2677	-2.57	2.03			
6	1.5328	-1.78	1.45			

Units: Intercepts (s/cm mol), slope: a (s/cm mol K), b (10^3 g s /cm mol²).

SI, table 4.0. The constant of (a) η_m vs T/K (b) η_m vs molality for aq-NaCl (SI, Fig.4.0).

Fig. (a) η_m vs T/K				Fig. (b) η_m vs m		
Sr.no.	Molality	Intercept	Slope	T(K)	Intercept	Slope
1	0.2488	90.8001	-0.4966	288.15	6.2634	-8.7453
2	0.4987	35.3858	-0.1810	298.15	4.9512	-6.8688
3	0.7545	18.6949	-0.0875	308.15	3.8473	-5.3535
4	1.0111	6.5160	-0.0149			
5	1.2677	-0.5214	0.0263			
6	1.5328	-0.2962	0.0212			

Units: Intercepts (mPa.S/ mol), slope: a (m Pa. S/mol K), b (10^3 g m Pa. S /mol²).

SI, table-4.1 PVP at 298.15K.

Conc.(g/100ml)	M wt = 29K		M wt = 40K		M wt = 55K		[η], (100ml/g)
	ρ , (g/cm ³)	η , (mPa.S)	ρ , (g/cm ³)	η , (mPa.S)	ρ , (g/cm ³)	η , (mPa.S)	
0.005	0.999099	1.1421	0.999089	1.1478	0.999089	1.1543	0.9212
0.010	0.999106	1.1449	0.999099	1.1505	0.999097	1.1624	2.8275
0.015	0.999109	1.1473	0.999105	1.1367	0.999106	1.1636	3.6502

SI, table 4.2, PVP at 298.15K.

Conc.(g/100ml)	M wt = 29K		M wt = 40K		M wt = 55K		[η], (100ml/g)
	ρ , (g/cm ³)	η , (mPa.S)	ρ , (g/cm ³)	η , (mPa.S)	ρ , (g/cm ³)	η , (mPa.S)	
0.005	0.997062	0.8435	0.997051	0.8700	0.997052	0.8753	-13.6397
0.010	0.997069	0.8465	0.997062	0.8635	0.997058	0.8787	-6.6166
0.015	0.997076	0.8494	0.997069	0.8801	0.997067	0.8818	-4.5205

SI, table 4.3, PVP at 308.15K.

Conc.(g/100ml)	M wt = 29K		M wt = 40K		M wt = 55K		[η], (100ml/g)
	ρ , (g/cm ³)	η , (mPa.S)	ρ , (g/cm ³)	η , (mPa.S)	ρ , (g/cm ³)	η , (mPa.S)	
0.005	0.994064	0.7278	0.994052	0.7294	0.994089	0.7337	2.9711
0.010	0.994067	0.7350	0.993916	0.7300	0.994070	0.7357	3.5292
0.015	0.994075	0.7352	0.994033	0.7321	0.994017	0.7366	5.1094

SI, table:4.4 Primary data in terms of conc. of aq-GO.

Conc. (g%)	288.15K		298.15K		308.15K	
	VFT	PDN	VFT	PDN	VFT	PDN
0.002	270.68	132.00	214.24	146.00	177.38	139.00
0.004	272.22	132.00	215.35	140.00	178.13	139.00
0.006	273.25	132.00	216.76	144.00	178.45	139.00
0.008	277.15	132.00	217.44	138.00	177.99	139.00
0.010	279.73	132.00	217.88	135.00	180.20	139.00
0.012	277.78	132.00	218.63	135.00	180.64	139.00

Symbol: Conc.= concentration (g%, w/v), VFT= viscous flow time, PDN= pendant drop no.

SI, table:4.5 Primary data in terms of conc. of aq-GO.

288.15K		298.15K		308.15K	
ρ	μ	ρ	μ	ρ	μ
0.999087	1466.53	0.997048	1496.82	0.994047	1519.76
0.999096	1466.55	0.997056	1496.93	0.994063	1519.71
0.999100	1466.67	0.997062	1496.79	0.994062	1519.77
0.999111	1466.55	0.997074	1496.95	0.994079	1519.75

0.999120	1466.67	0.997083	1496.77	0.994081	1519.76
0.999126	1466.77	0.997089	1496.95	0.994094	1519.77

Symbol: ρ = Density (g/cm^3), μ = Sound velocity (m/s).

SI, table:4.6 Primary data NaCl.

Molality	288.15K		298.15K		308.15K	
	VFT	PDN	VFT	PDN	VFT	PDN
0.2488	279.96	132	217.35	136	182.51	138
0.4987	278.69	133	220.16	136	184.63	140
0.7545	281.25	134	223.52	137	186.97	142
1.0111	284.44	135	228.36	137	189.54	140
1.2677	285.10	136	232.32	140	193.31	140
1.5328	289.22	137	236.21	140	197.44	140

SI, table:4.7 Primary data NaCl.

288.15K		298.15K		308.15K	
ρ	μ	ρ	μ	ρ	μ
1.002144	1483.61	1.007658	1513.06	1.004117	1534.46
1.019878	1500.08	1.017422	1528.00	1.013823	1548.48
1.029851	1516.21	1.027188	1545.23	1.023490	1562.43
1.040184	1533.03	1.037212	1559.39	1.033440	1576.90
1.049988	1549.00	1.046759	1573.12	1.042884	1590.51
1.059989	1565.30	1.056628	1588.05	1.052584	1604.55

SI, table 4.8. Molal radius at 3T of aq-GO.

Molality (10^{-6})	Radius (nm) 288.15K	Radius (nm) 298.15K	Radius (nm) 308.15K
0.41654	139.06	-132.12	130.40
0.83329	134.60	-55.54	124.39
1.25003	128.31	89.31	114.74
1.66682	143.69	94.30	96.12
2.08360	145.85	93.86	118.54
2.49852	128.61	96.93	115.69

Units: (nm/mol).

SI, table 4.9. Molal radius at 3T of aq-NaCl.

Molality	Radius (nm) 288.15K	Radius (nm) 298.15K	Radius (nm) 308.15K
0.2488	0.8535	2.0345	-5.7353
0.4987	1.6476	2.2589	-4.4697

0.7545	1.9145	2.3553	-3.8180
1.0111	2.0583	2.4670	-3.3857
1.2677	2.0417	2.5006	-3.0439
1.5328	2.1328	2.5197	-2.7525

Units: (nm/mol).

SI, table 5.0. parameters of aq-GO.

T(K)	M_v	Surface Area (10^3)	$E_a(10^{-3})$	$\Delta G(10^{-5})$	$\Delta H(10^3)$	ΔS
288.15	46886.03	-219.81075	1.914714	-5.487077	-5.517247	-19.147135
298.15	48134.19	-0.14860	1.151758	3.868957	-5.708719	-19.147138
308.15	42845.25	-287.81426	1.219807	11.660280	-5.900191	-19.147138

SI, table 5.1: The parameters related to Φ for reduction of f-GO-TMIs.

$TMI_s - GO$	λ_{abs} (nm)	λ_{em} (nm)	E_{abs} (10^{-19}) J	E_{em} (10^{-19}) J	n_a (10^{15}) s $^{-1}$	n_e (10^{15}) s $^{-1}$	Φ_{QA} (%)
<i>Cr - GO</i>	223	212	8.9139	9.3764	1.3465	1.4151	105.09
<i>Mn - GO</i>	200	200	9.9390	9.939	1.5000	1.5000	100
<i>Fe - GO</i>	220	201	9.0354	9.8895	1.3636	1.4925	109.43
<i>Ni - GO</i>	200	200	9.939	9.939	1.5000	1.5000	100

Abs wavelength (λ_{abs}), em wavelength (λ_{em}), abs energy (E_{abs}), em energy (E_{em}), number of abs photons (n_a), number of em photons (n_e) and quantum yield (Φ).

SI, table 5.2. Primary data of aq-GO.

288.15K		298.15K		308.15K	
η	γ	η	γ	η	γ
1.1455	76.38841	0.8850	72.69481	0.7233	72.48799
1.1521	76.38910	0.896	75.81091	0.7264	72.48916
1.1564	76.38941	0.8954	73.70550	0.7277	72.48908
1.1730	76.39025	0.8982	76.91101	0.7258	72.49032
1.1839	76.39094	0.9001	78.62085	0.7348	72.49047
1.1756	76.39140	0.9032	78.62133	0.7366	72.49142

Viscosity = (η , mPa.S), Surface tension = (γ , m N/m).

SI, table 5.3. Molal parameter of NaCl at 288.15K.

Molality	η_m	γ_m	$\sigma_m(10^{-2})$	ρ_m	$\phi_m(10^{-2})$	$KS\phi_m(10^{-7})$	$V_{\phi m}$	μ_m
0.2488	4.5773	294.54	6.2474	4.028703	15.6810	18.220	57.5505	5964.24
0.4987	2.3128	148.38	3.1253	2.044913	1.1282	8.737	46.7123	3007.75

0.7545	1.5580	98.30	2.1006	1.364969	1.7702	5.598	32.8147	2009.59
1.0111	1.1876	73.54	1.5972	1.028813	2.1996	4.045	12.9143	1516.27
1.2677	0.9584	58.78	1.2863	0.828295	2.1469	3.131	-12.1640	1221.95
1.5328	0.8117	48.71	1.0871	0.691536	2.4471	2.512	-43.9207	1021.20

Symbol: η_m = molar viscosity (mPa.S/mol), γ_m = molar surface tension (mNm⁻¹/mol), ρ_m = molar density (g cm⁻³/mol), ϕ_m = molar fractional volume (cm³/mol) $KS_{\phi m}$ = molar isentropic compressibility (10⁻¹cms²/mol), μ_m = molar sound velocity (ms⁻¹/mol), $V_{\phi m}$ = Apparent molar volume (cm³/mol), σ_m = molar friccohesity (s.cm⁻¹/mol).

SI, table 5.4. Molal parameter of NaCl at 298.15K.

Molality	η_m	γ_m	$\sigma_m(10^{-2})$	ρ_m	$\phi_m(10^{-2})$	$KS_{\phi m}(10^{-7})$	$V_{\phi m}$	μ_m
0.2488	3.6269	289.03	5.0446	4.0509	2.1241	17.426	15.5254	6082.63
0.4987	1.8501	145.55	2.5486	2.0400	2.9076	8.441	17.1608	3063.73
0.7545	1.2536	96.43	1.7230	1.3614	3.2958	5.404	17.8824	2048.05
1.0111	0.9650	72.66	1.3136	1.0259	3.7874	3.921	17.9263	1542.34
1.2677	0.7902	57.23	1.0892	0.8257	3.9441	3.045	18.2520	1240.97
1.5328	0.6708	47.78	0.9159	0.6893	4.0355	2.448	18.4097	1036.04

SI, table 5.5. Molal parameter of NaCl at 308.15K.

Molality	η_m	γ_m	$\sigma_m(10^{-2})$	ρ_m	$\phi_m(10^{-2})$	$KS_{\phi m}(10^{-7})$	$V_{\phi m}$	μ_m
0.2488	2.8135	292.26	3.8701	4.036635	-47.588	17.004	17.6305	6168.65
0.4987	1.4333	145.07	1.9810	2.032773	-22.525	8.248	18.2915	3104.79
0.7545	0.9686	95.45	1.3450	1.356538	-14.040	5.305	18.7382	2070.85
1.0111	0.7399	72.95	1.0032	1.022142	-9.790	3.848	18.6186	1559.66
1.2677	0.6074	58.71	0.8161	0.822691	-7.114	2.990	18.8719	1254.69
1.5328	0.5178	49.00	0.6893	0.686705	-5.260	2.407	19.0196	1046.81

SI, table 5.6. Hydrodynamic volumes.

T(K)	$HDV(\% w/v)_{GO} (10^5)$	$HDV(molal)_{GO} (10^8)$	$HDV(molal)_{NaCl}$
288.15	1.4386	6.9039	-1.2272
298.15	-2.5888	-12.4239	1.9344
308.15	1.9239	9.2326	-96.8351

Units: cm³(%w/v) and cm³/mol (molal).

SI, table 5.7. Number of H₂O in aq-GO and aq-NaCl.

T(K)	Aq-GO (10 ⁸)	Aq-NaCl
288.15	-6.9036	63
298.15	12.4243	12
308.15	-9.2322	114

SI Table5.8. The constant of (a) η_{sp}/c vs T (b) η_{sp}/c vs conc. for aq-GO of SI Fig 3.9.

Fig. (a) η_{sp}/c vs T				Fig. (b) η_{sp}/c vs conc.		
Sr.no.	Conc. (g%)	Intercept (10^3)	Slope	T(K)	Intercept	Slope (10^2)
1	0.002	5.5658	-37.3250	288.15	2.9887	1.4584
2	0.004	2.7583	-18.4700	298.15	-5.3784	14.9830
3	0.006	1.2964	-8.6506	308.15	3.9969	-5.5328
4	0.008	1.3138	-8.6693			
5	0.010	1.8485	-12.2980			
6	0.012	1.0956	-7.3031			

Units: Intercepts (ml/g), slope: a ($\text{cm}^3/\text{g K}$), b (cm^6/g^2).

SI, table 5.9. ICP-OES analysis for TMs-GO.

ID: Calib Blank		Seq. No.: 1			A/S Pos:	
Sample Qty Analyte:	Corr. Intensity (g)	Prep. Volume Conc., (Calib.)	Dilution: Std. Dev. Calib Units	Conc. (Sample) Std. Dev.	Sample Units	RSD
As 188.979	2.3	[0.00]	mg/L			%
Be 313.107	-53.8	[0.00]	mg/L			%
Ca 317.933	4133.6	[0.00]	mg/L			%
Cd 228.802	17.7	[0.00]	mg/L			%
Co 228.616	-2.2	[0.00]	mg/L			%
Cr 267.716	38.4	[0.00]	mg/L			%
Cu 327.393	-30.2	[0.00]	mg/L			%
Fe 238.204	125.7	[0.00]	mg/L			%
Li 670.784	22.7	[0.00]	mg/L			%
Mg 285.213	3554.1	[0.00]	mg/L			%
Mn 257.610	38.6	[0.00]	mg/L			%
Mo 202.031	0.8	[0.00]	mg/L			%
Ni 231.604	5.4	[0.00]	mg/L			%
Pb 220.353	0.3	[0.00]	mg/L			%
Sb 206.836	-1.0	[0.00]	mg/L			%
Se 196.026	-3.1	[0.00]	mg/L			%
Sr 407.771	6600.1	[0.00]	mg/L			%
Ti 334.940	-3.3	[0.00]	mg/L			%
Tl 190.801	-1.5	[0.00]	mg/L			%
V 290.880	41.8	[0.00]	mg/L			%
Zn 206.200	34.0	[0.00]	mg/L			%

ID: Std 100		Seq. No.: 2			A/S Pos:	

Sample Qty Analyte:	Corr. Intensity (g)	Prep. Volume Conc., (Calib.)	Dilution: Std. Dev. Calib Units	Conc. (Sample) Std. Dev.	Sample Units	RSD
As 188.979	7879.8	93.52	mg/L	93.52	mg/L	%
Be 313.107	9.4	0.028	mg/L	0.028	mg/L	%
Ca 317.933	-3731.3	-0.346	mg/L	-0.346	mg/L	%
Cd 228.802	186920.2	46.18	mg/L	46.18	mg/L	%
Co 228.616	3.7	-0.003	mg/L	-0.003	mg/L	%
Cr 267.716	-61.3	-0.037	mg/L	-0.037	mg/L	%
Cu 327.393	35.5	-0.021	mg/L	-0.021	mg/L	%
Fe 238.204	-52.0	-0.034	mg/L	-0.034	mg/L	%
Li 670.784	25.0	-0.004	mg/L	-0.004	mg/L	%
Mg 285.213	-3442.3	-0.084	mg/L	-0.084	mg/L	%
Mn 257.610	-21.0	-0.004	mg/L	-0.004	mg/L	%
Mo 202.031	6.2	0.009	mg/L	0.009	mg/L	%
Ni 231.604	88.7	0.058	mg/L	0.058	mg/L	%
Pb 220.353	12040.3	50.17	mg/L	50.17	mg/L	%
Sb 206.836	-1.5	-0.022	mg/L	-0.022	mg/L	%
Se 196.026	4142.4	44.66	mg/L	44.66	mg/L	%
Sr 407.771	-6307.9	-0.023	mg/L	-0.023	mg/L	%
Ti 334.940	189.1	0.018	mg/L	0.018	mg/L	%
Tl 190.801	8353.7	98.75	mg/L	98.75	mg/L	%
V 290.880	-11.6	-0.033	mg/L	-0.033	mg/L	%
Zn 206.200	3.4	-0.002	mg/L	-0.002	mg/L	%

ID: Graphene Oxide

Seq. No.: 3

A/S Pos:

Sample Qty Analyte:	Corr. Intensity (g)	Prep. Volume Conc., (Calib.)	Dilution: Std. Dev. Calib Units	Conc. (Sample) Std. Dev.	Sample Units	RSD
As 188.979	0.1	0.009	mg/L	0.009	mg/L	%
Be 313.107	-10.9	0.028	mg/L	0.028	mg/L	%
Ca 317.933	5287.3	1.792	mg/L	1.792	mg/L	%
Cd 228.802	-2.8	-0.036	mg/L	-0.036	mg/L	%
Co 228.616	-6.7	-0.008	mg/L	-0.008	mg/L	%
Cr 267.716	-2.7	-0.023	mg/L	-0.023	mg/L	%
Cu 327.393	653.9	0.055	mg/L	0.055	mg/L	%
Fe 238.204	580.7	0.093	mg/L	0.093	mg/L	%
Li 670.784	45.1	-0.004	mg/L	-0.004	mg/L	%
Mg 285.213	6239.3	0.435	mg/L	0.435	mg/L	%
Mn 257.610	19933.4	0.728	mg/L	0.728	mg/L	%
Mo 202.031	-1.7	-0.003	mg/L	-0.003	mg/L	%
Ni 231.604	234.9	0.176	mg/L	0.176	mg/L	%
Pb 220.353	8.6	0.061	mg/L	0.061	mg/L	%
Sb 206.836	-8.2	-0.061	mg/L	-0.061	mg/L	%
Se 196.026	1.5	-0.000	mg/L	-0.000	mg/L	%
Sr 407.771	2546.8	-0.016	mg/L	-0.016	mg/L	%
Ti 334.940	-15.5	0.008	mg/L	0.008	mg/L	%
Tl 190.801	-0.7	-0.038	mg/L	-0.038	mg/L	%
V 290.880	3.6	-0.029	mg/L	-0.029	mg/L	%
Zn 206.200	187.1	0.101	mg/L	0.101	mg/L	%

ID: Cr-GO

Seq. No.: 4

A/S Pos:

Sample Qty Analyte:	Corr. Intensity (g)	Prep. Volume Conc., (Calib.)	Dilution: Std. Dev. Calib Units	Conc. (Sample) Std. Dev.	Sample Units	RSD
As 188.979	1.0	0.020	mg/L	0.020	mg/L	%
Be 313.107	-4.4	0.028	mg/L	0.028	mg/L	%
Ca 317.933	-184.5	0.495	mg/L	0.495	mg/L	%
Cd 228.802	-4.4	-0.036	mg/L	-0.036	mg/L	%
Co 228.616	11.0	0.000	mg/L	0.000	mg/L	%
Cr 267.716	6416.2	1.584	mg/L	1.584	mg/L	%
Cu 327.393	548.2	0.042	mg/L	0.042	mg/L	%
Fe 238.204	100.0	-0.003	mg/L	-0.003	mg/L	%
Li 670.784	5.6	-0.004	mg/L	-0.004	mg/L	%
Mg 285.213	12.9	0.102	mg/L	0.102	mg/L	%
Mn 257.610	1999.6	0.070	mg/L	0.070	mg/L	%
Mo 202.031	-4.3	-0.007	mg/L	-0.007	mg/L	%
Ni 231.604	29.4	0.010	mg/L	0.010	mg/L	%
Pb 220.353	1.5	0.032	mg/L	0.032	mg/L	%
Sb 206.836	5.7	0.021	mg/L	0.021	mg/L	%
Se 196.026	-2.4	-0.042	mg/L	-0.042	mg/L	%
Sr 407.771	-2427.9	-0.020	mg/L	-0.020	mg/L	%
Ti 334.940	27.9	0.010	mg/L	0.010	mg/L	%
Tl 190.801	-2.9	-0.063	mg/L	-0.063	mg/L	%
V 290.880	-27.4	-0.036	mg/L	-0.036	mg/L	%
Zn 206.200	14.4	0.004	mg/L	0.004	mg/L	%
ID: Mn-GO		Seq. No.: 5			A/S Pos:	
Sample Qty Analyte:	Corr. Intensity (g)	Prep. Volume Conc., (Calib.)	Dilution: Std. Dev. Calib Units	Conc. (Sample) Std. Dev.	Sample Units	RSD
As 188.979	-0.5	0.002	mg/L	0.002	mg/L	%
Be 313.107	8.1	0.028	mg/L	0.028	mg/L	%
Ca 317.933	3263.1	1.312	mg/L	1.312	mg/L	%
Cd 228.802	-4.4	-0.036	mg/L	-0.036	mg/L	%
Co 228.616	17.6	0.003	mg/L	0.003	mg/L	%
Cr 267.716	63.4	-0.006	mg/L	-0.006	mg/L	%
Cu 327.393	210.4	0.000	mg/L	0.000	mg/L	%
Fe 238.204	337.7	0.044	mg/L	0.044	mg/L	%
Li 670.784	7.9	-0.004	mg/L	-0.004	mg/L	%
Mg 285.213	4986.6	0.368	mg/L	0.368	mg/L	%
Mn 257.610	833906.2	30.57	mg/L	30.57	mg/L	%
Mo 202.031	4.8	0.007	mg/L	0.007	mg/L	%
Ni 231.604	30.5	0.011	mg/L	0.011	mg/L	%
Pb 220.353	2.2	0.035	mg/L	0.035	mg/L	%
Sb 206.836	1.7	-0.003	mg/L	-0.003	mg/L	%
Se 196.026	2.3	0.009	mg/L	0.009	mg/L	%
Sr 407.771	2947.8	-0.016	mg/L	-0.016	mg/L	%
Ti 334.940	22.0	0.009	mg/L	0.009	mg/L	%
Tl 190.801	-5.1	-0.090	mg/L	-0.090	mg/L	%
V 290.880	6.9	-0.029	mg/L	-0.029	mg/L	%
Zn 206.200	139.6	0.075	mg/L	0.075	mg/L	%

ID: Fe-GO		Seq. No.: 7			A/S Pos:	
Sample Qty Analyte:	Corr. Intensity (g)	Prep. Volume Conc., (Calib.)	Dilution: Std. Dev. Calib Units	Conc. (Sample) Std. Dev.	Sample Units	RSD
As 188.979	0.3	0.012	mg/L	0.012	mg/L	%
Be 313.107	-6.7	0.028	mg/L	0.028	mg/L	%
Ca 317.933	8662.9	2.593	mg/L	2.593	mg/L	%
Cd 228.802	-12.1	-0.038	mg/L	-0.038	mg/L	%
Co 228.616	4.9	-0.003	mg/L	-0.003	mg/L	%
Cr 267.716	7.7	-0.020	mg/L	-0.020	mg/L	%
Cu 327.393	489.1	0.034	mg/L	0.034	mg/L	%
Fe 238.204	16539.7	3.295	mg/L	3.295	mg/L	%
Li 670.784	-58.8	-0.005	mg/L	-0.005	mg/L	%
Mg 285.213	9465.6	0.608	mg/L	0.608	mg/L	%
Mn 257.610	3505.4	0.125	mg/L	0.125	mg/L	%
Mo 202.031	2.2	0.003	mg/L	0.003	mg/L	%
Ni 231.604	160.2	0.116	mg/L	0.116	mg/L	%
Pb 220.353	-5.2	0.004	mg/L	0.004	mg/L	%
Sb 206.836	8.9	0.040	mg/L	0.040	mg/L	%
Se 196.026	7.4	0.064	mg/L	0.064	mg/L	%
Sr 407.771	6294.7	-0.013	mg/L	-0.013	mg/L	%
Ti 334.940	19.9	0.009	mg/L	0.009	mg/L	%
Tl 190.801	4.9	0.029	mg/L	0.029	mg/L	%
V 290.880	17.2	-0.026	mg/L	-0.026	mg/L	%
Zn 206.200	250.8	0.137	mg/L	0.137	mg/L	%

ID: Ni-GO		Seq. No.: 8			A/S Pos:	
Sample Qty Analyte:	Corr. Intensity (g)	Prep. Volume Conc., (Calib.)	Dilution: Std. Dev. Calib Units	Conc. (Sample) Std. Dev.	Sample Units	RSD
As 188.979	4.3	0.060	mg/L	0.060	mg/L	%
Be 313.107	-5.0	0.028	mg/L	0.028	mg/L	%
Ca 317.933	3212.0	1.300	mg/L	1.300	mg/L	%
Cd 228.802	-6.4	-0.037	mg/L	-0.037	mg/L	%
Co 228.616	5.5	-0.002	mg/L	-0.002	mg/L	%
Cr 267.716	-13.7	-0.025	mg/L	-0.025	mg/L	%
Cu 327.393	410.0	0.025	mg/L	0.025	mg/L	%
Fe 238.204	335.4	0.044	mg/L	0.044	mg/L	%
Li 670.784	-14.5	-0.005	mg/L	-0.005	mg/L	%
Mg 285.213	5453.3	0.393	mg/L	0.393	mg/L	%
Mn 257.610	21567.1	0.787	mg/L	0.787	mg/L	%
Mo 202.031	-7.8	-0.012	mg/L	-0.012	mg/L	%
Ni 231.604	34206.2	27.53	mg/L	27.53	mg/L	%
Pb 220.353	9.3	0.064	mg/L	0.064	mg/L	%
Sb 206.836	-1.7	-0.023	mg/L	-0.023	mg/L	%
Se 196.026	2.7	0.014	mg/L	0.014	mg/L	%
Sr 407.771	1712.4	-0.016	mg/L	-0.016	mg/L	%
Ti 334.940	18.7	0.009	mg/L	0.009	mg/L	%
Tl 190.801	0.4	-0.024	mg/L	-0.024	mg/L	%
V 290.880	10.1	-0.028	mg/L	-0.028	mg/L	%
Zn 206.200	170.9	0.092	mg/L	0.092	mg/L	%

