Liquid phase high shear exfoliated few-layered graphene for highly sensitive Ascorbic Acid electrochemical sensors

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Smart Instruments Co P Ltd (a)			Smart Instruments Co P Ltd			(h)
Surface Area Analyser	Model: Smart Sorb 92/93	(a)	Surface Area Analyser	D	Model: Smart Sorb 92/93	(0)
Run Time:12:32 pm	Date:February 1 2009	_	Run Time:09:10 am	.Pvt.Lta	Date:July 21 2008	100
% of N2 :29.97 Sample Mane :	Room temp.in Deg.C:24		% of N2 :29.57		Room temp.in Deg.C:24	
Wt of Tube (gms) :23.5153 Sample Wt (gms) :.6647	Wt of Tube+Sample (gms) :24.18 Sample Wt after Reg. (gms) :.6979		Wt of Tube (gms) :24.1292 Sample Wt (gms) :.0577		Wt of Tube+Sample (gms) :24.1869 Sample Wt after Reg. (gms) : .0501	
Sample Loss : -5.0 % Regeneration Temp.(deg.C) : 150 Time for regeneration (min.) :80	Pristine Graphite		Sample Loss : 13.2 % Regeneration Temp.(deg.C) : 1 Time for regeneration (min.) :50	50 0	HSE-FLG	
Desorption count : 7824.762 Injection count : 4966.451 Injected volume (cc) : 0.5		_	Desorption count : 24967.77 Injection count : 15884 Injected volume (cc) : 1.5			
Surface Area in Remarks:	(Sq.m/gm) : 12.18		Surface . Remarks:	Area in (Sq	1.m/gm) : 133.45	
Graph For Sample : Ram-Graphite-10	0		Graph For Sample : S191-R	GO		
Adsorb Desort	nject		Adsorb	Desorb	Inject	
			0	Λ	٨	
\wedge \wedge	Λ			1	Λ	

Figure S 1: - BET Specific surface area of pristine graphite and exfoliated graphene.



Figure S 2: - Square root of scan rate vs current linearity graphs for, (a) Blank GCE, (b) Pristine Graphite, and (c) HSE-FLG.



Figure S 3: - Equivalent circuits for the simulated EIS plots of modified GCEs.



Figure S 4: - Calibration plots of LSVs for HSE-FLG based AA sensor at higher concentrations of AA.



Figure S 5: - LSV plots for (a) repeatability and (b) reproducibility results.

Table S 1: - Real	samples analysis	of HSE-FLG base	ed AA sensor for	Vitamin C supplement.
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Concentration of AA (µM)	Output Current Density in PBS (µA.mm ⁻²)	Output Current Density in Vitamin C Supplement (μA.mm ⁻²)	Percentage of recovery (%)	% RCD
20	0.0965	0.1036	107.3	7.1
30	0.3161	0.3061	96.8	3.3
50	0.5931	0.5579	94.1	5.8