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Supporting information

Influence of nanosecond-pulse plasma on the non-enzymatic pathway for the generation of nitric oxide from L-Arginine and modifiying the graphite oxide to increase the solar cell efficiency

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Fig. S1. (a) NO and (b) H_2O_2, concentration changes in physiological solutions exposed to point and plane electrodes in water different number of discharges.

Fig. S2. The change in pH and temperature after different number of discharges using point and plane electrodes.

Fig. S3. Liquid Chromatograph /Capillary Electrophoresis- Mass Spectrometer (LC/CE-MS) based qualitative bioanalysis of L-arginine control.

Fig. S4. NMR spectra of L-citrulline.

Fig. S5. Carbon 1s spectra from (a) synthesised GO, (b) GO treated with point electrode plasma and (c) GO treated with plane electrode plasma.

Fig. S6. (a) Raman Spectra of GO; (b) SEM image of synthesized GO sheets; (c) TEM image of GO sheets

Fig. S7. *J–V* characteristics of the PSCs fabricated.

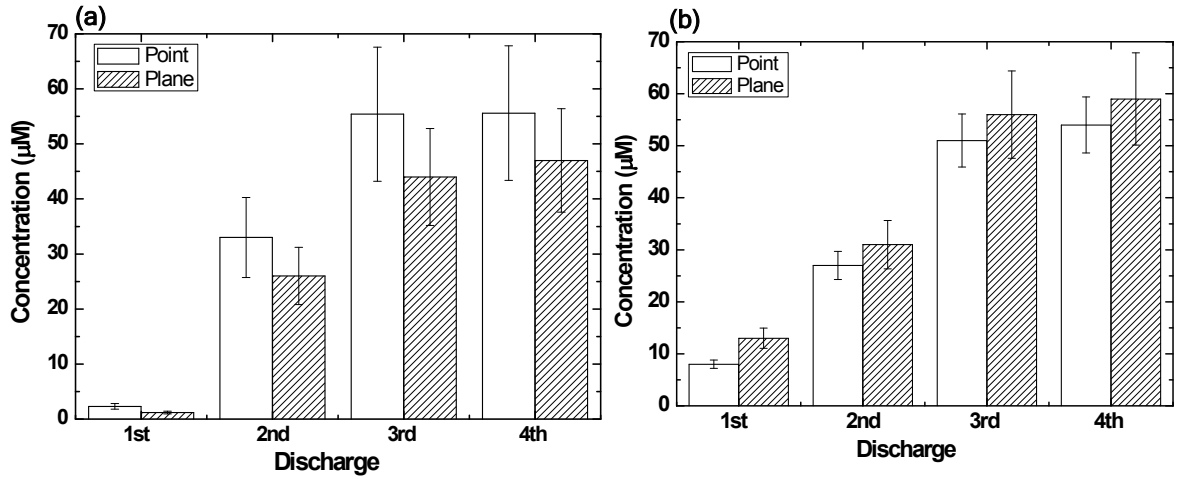
(a)
(b)
Point
Plane
Concentration (μM)
Discharge
1st
2nd
3rd
4th
0
10
20
30
40
50
60
70

Fig. S1.

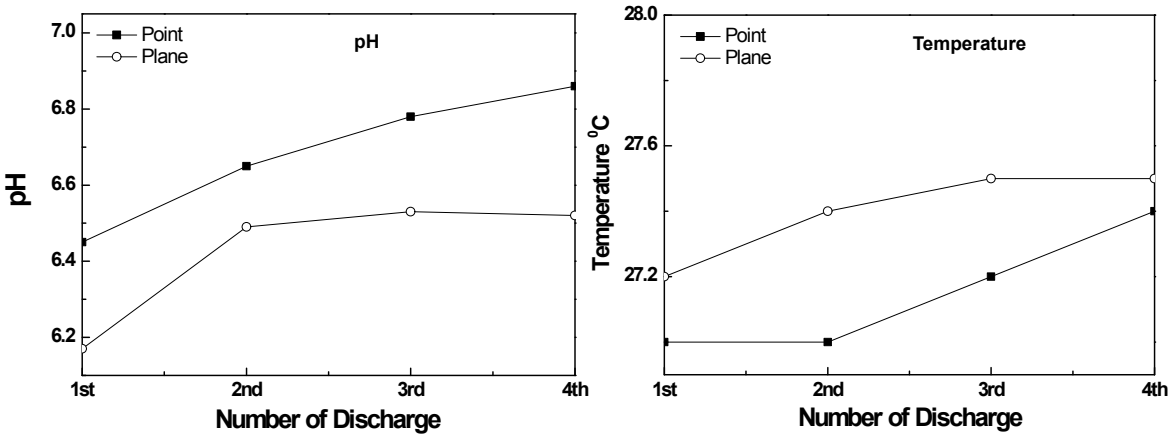
pH
Point
Plane
Number of Discharge
6.2
6.4
6.6
6.8
7.0
Temperature
Temperature ^{0}C
27.2
27.6
28.0

Fig. S2.

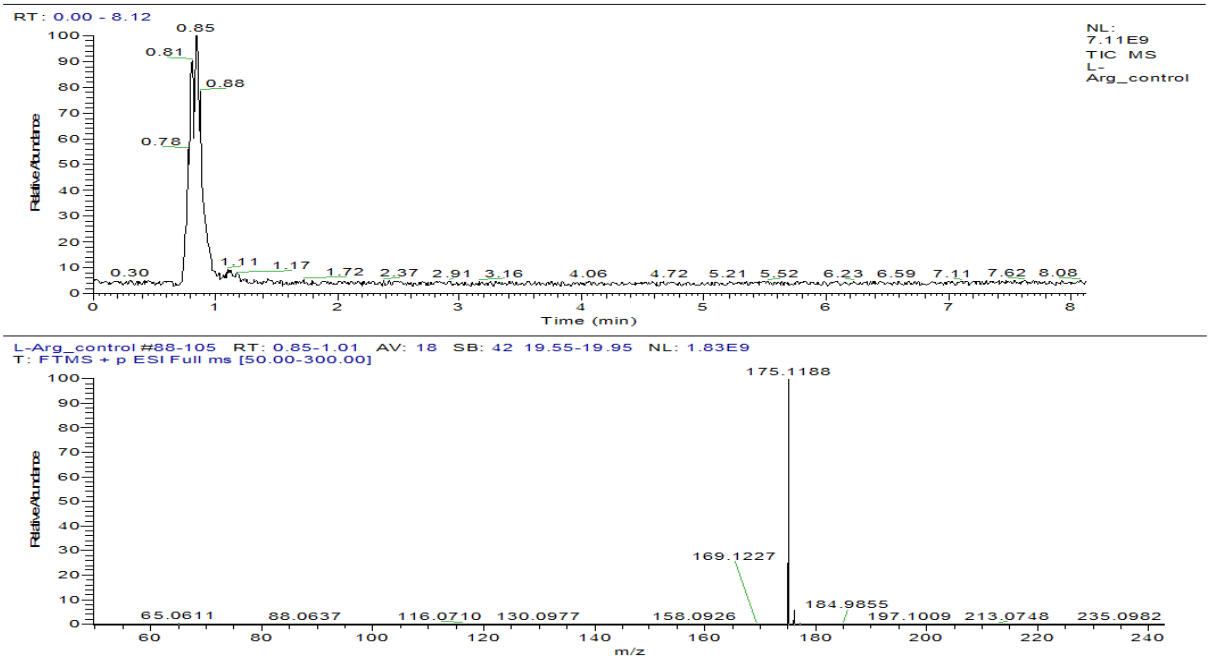
RT: 0.00 - 8.12
NL:
7.11E9
TIC MS
L-
Arg_control
Relative Abundance
Time (min)
L-Arg_control #88-105 RT: 0.85-1.01 AV: 18 SB: 42 19.55-19.95 NL: 1.83E9
T: FTMS + p ESI Full ms [50.00-300.00]
175.1188
169.1227
184.9855
m/z

Fig. S3

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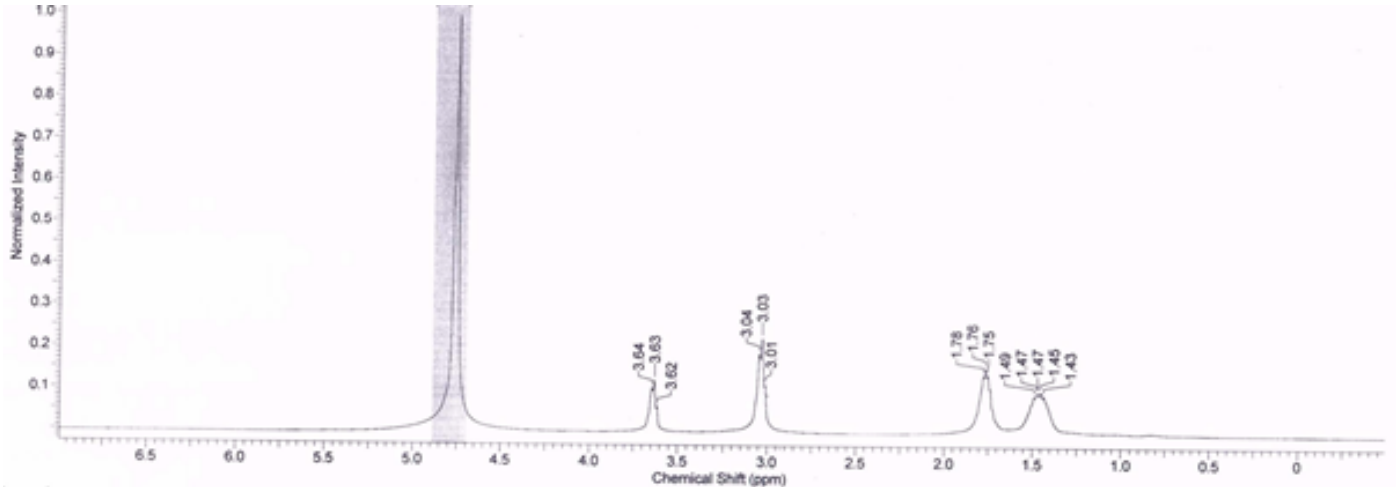
Normalized Intensity
Chemical Shift (ppm)

Fig. S4.

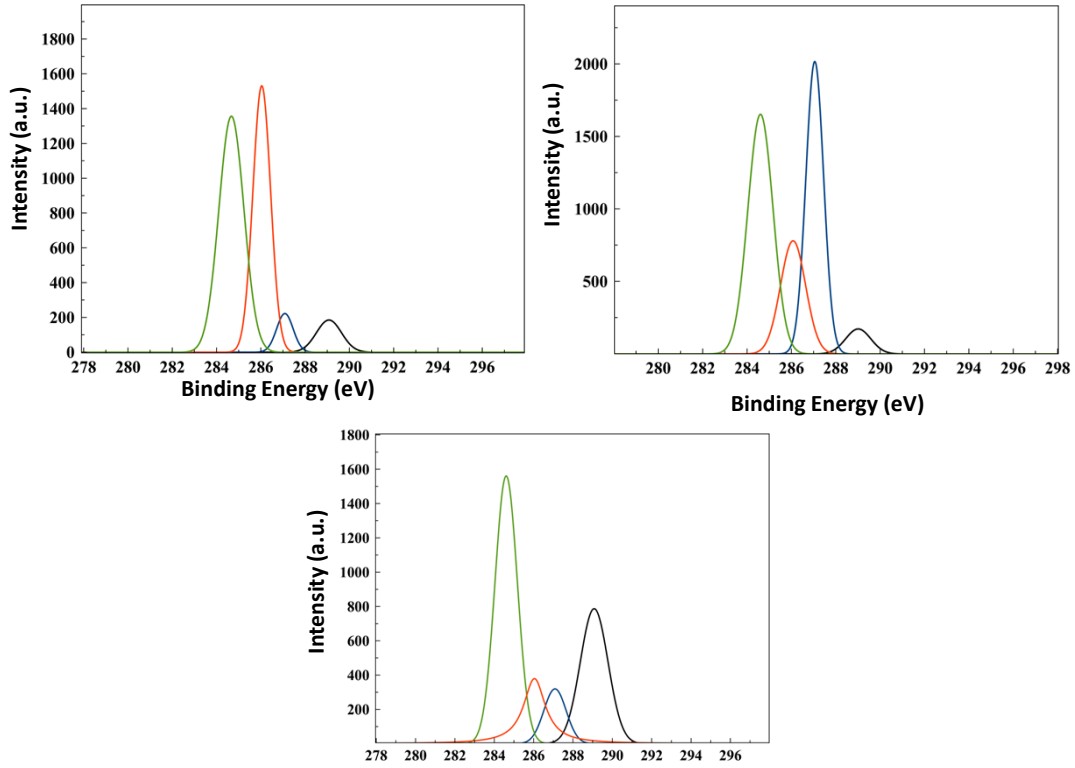
Intensity (a.u.)
Binding Energy (eV)
Intensity (a.u.)
Binding Energy (eV)
Intensity (a.u.)

Fig. S5.

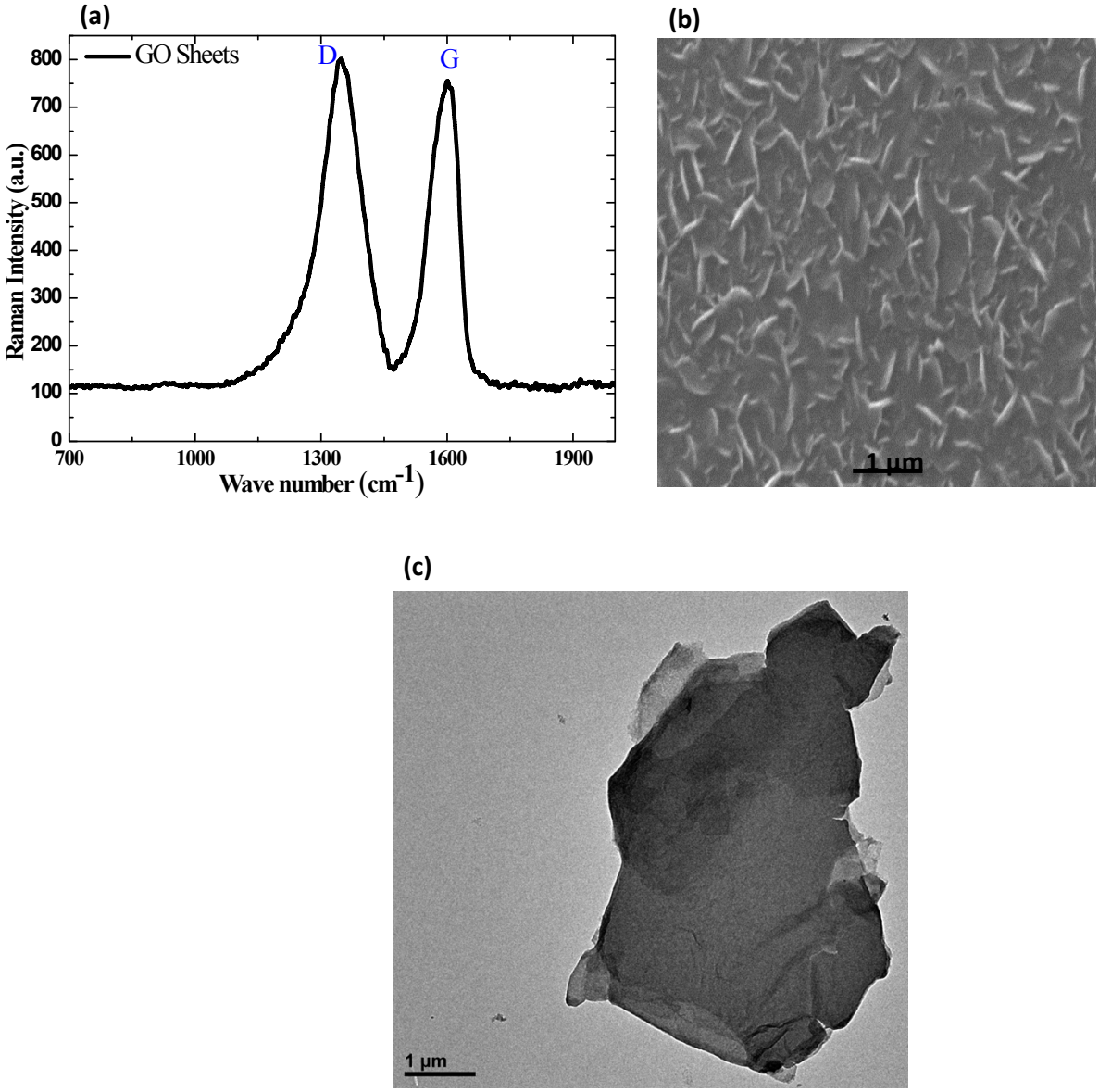

Fig. S6.

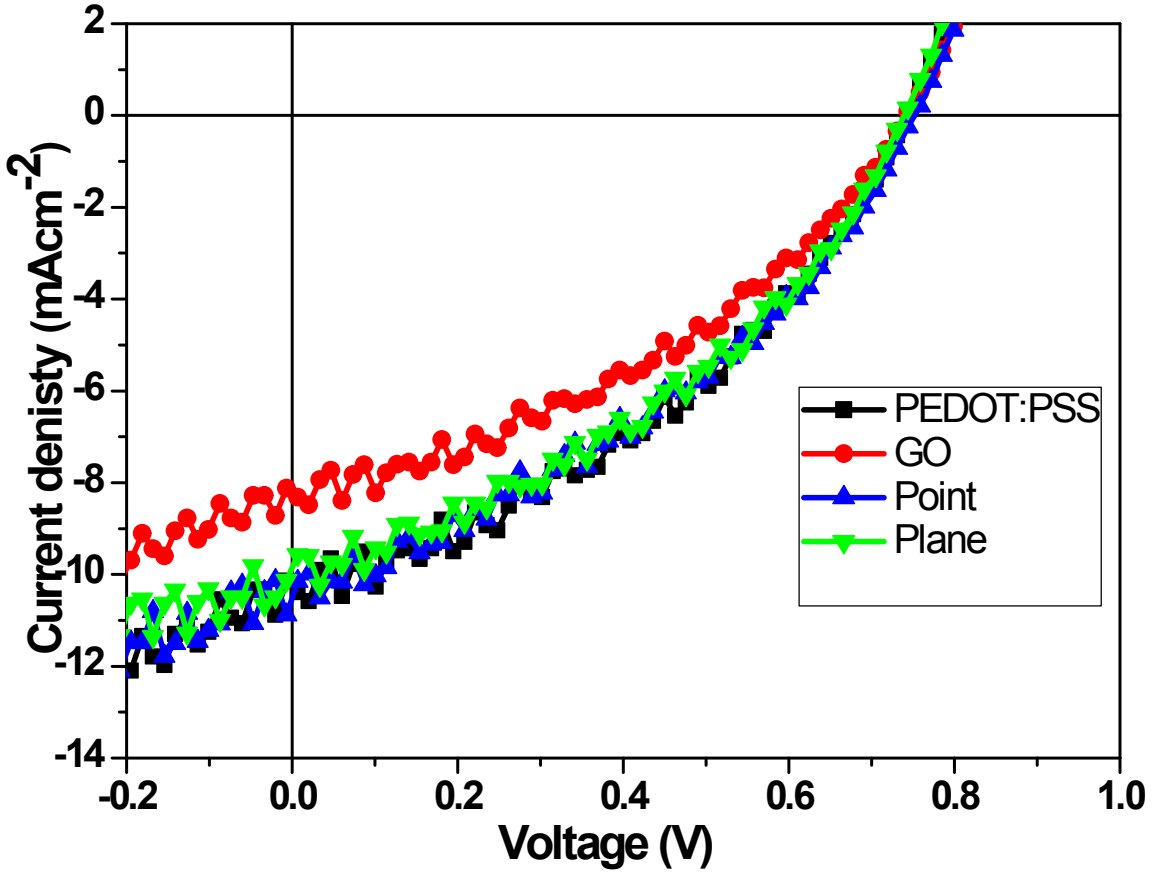

Fig. S7.

Table S1. Evaluation of a LC/CE-MS method for quantitative amino acid (L-Arginine) analysis before and after the NPP treatment using different electrodes.

Sample	Control (µg/ml)	Point (µg/ml)	Plane (µg/ml)
L-Arginine	164.200	167.814	165.379

Table S2. Work function of GO before and after treatment

	Control	Point-point	Plane-plane
Work function	10.63 eV	8.56 eV	9.21 eV