

Electronic Supplementary Information

**Enhanced Light Sensing Performance of a Hybrid Device
Developed Using As-grown Vertically Aligned Multiwalled
Carbon Nanotubes on TCO Substrate**

Mahananda Baro, Amreen A. Hussain, Arup R. Pal

Physical Sciences Division, Institute of Advanced Study in Science and Technology, Guwahati,
Assam, India

Email: arpal@iasst.gov.in

Raman analysis of multiwalled carbon nanotubes

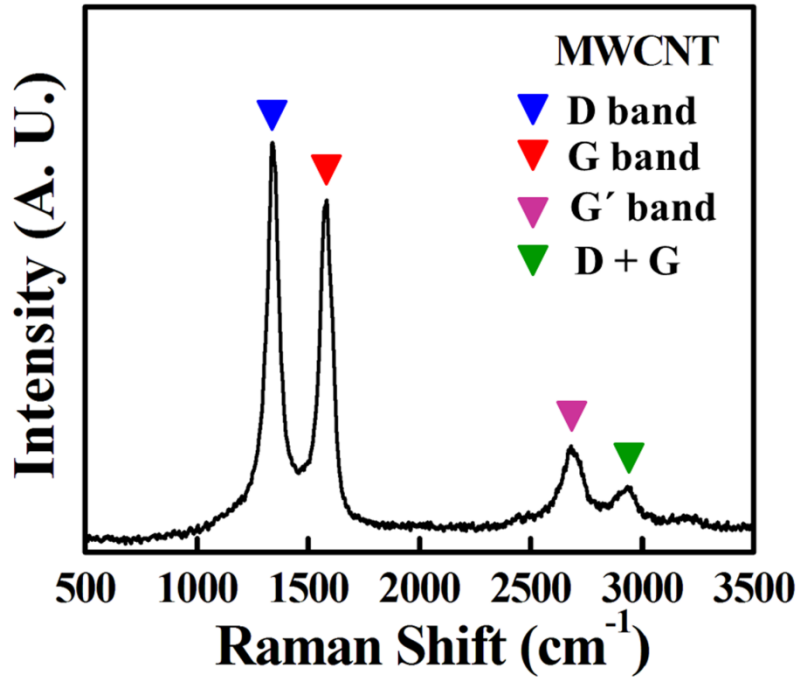


Figure S1: Raman spectrum of MWCNTs grown on ITO substrate.

Raman analysis has been performed using a STR micro Raman spectrometer (Model: STR300) equipped with a 532 nm laser source. Figure S1 presents the Raman spectrum of MWCNTs grown on ITO substrate. The spectrum shows two main peaks at 1340 cm⁻¹ attributed to D-band and 1585 cm⁻¹ attributed to G-band.^{1, 2} The additional peaks at 2690 cm⁻¹ corresponds to G'-band and the peak at 2940 cm⁻¹ is due the combination of D-band and G-band.³ Moreover, the I_D/I_G ratio is calculated which has value 1.24. This suggested the presence of some defects on MWCNTs. Therefore, there might be small amount of amorphous carbon like material present on the walls of CNTs which are not observable in FESEM and HRTEM micrographs. Further, the Raman spectra of titanium dioxide (TiO₂) and plasma polymerized aniline (PPani) are individually studied and are presented in our previous publications.⁴

References

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