Electronic Supplementary Material (ESI) for Nanoscale.

Supplemental Information

Catalytic Synthesis of Few-layer Graphene on Titania Nanowires

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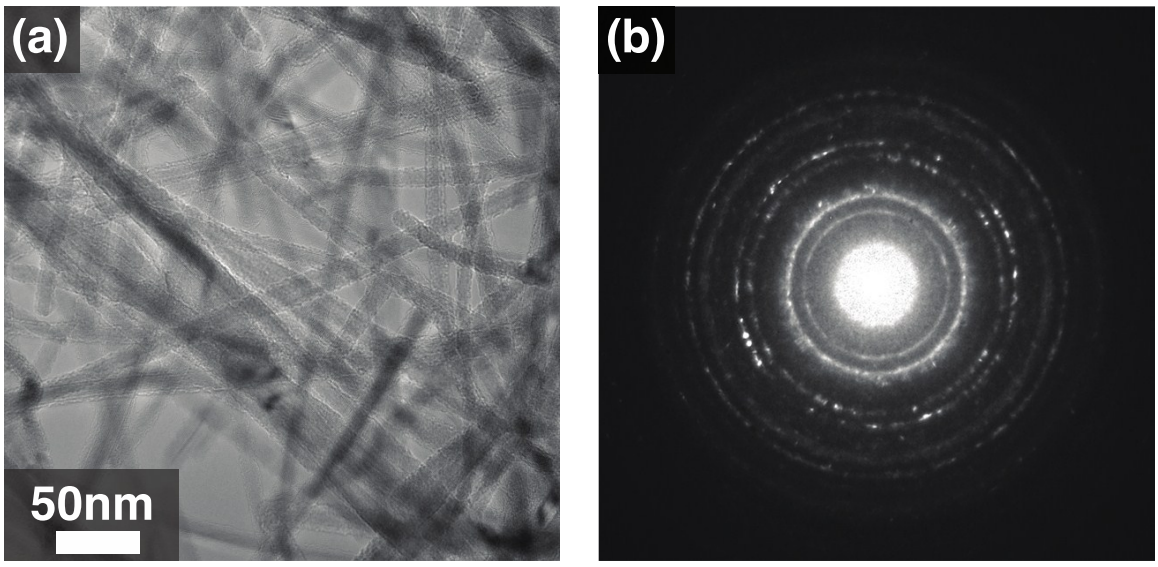

Figure S1. A TEM image and the corresponding selected area diffraction pattern from NWAG after 1350 sec CVD. (a) Titania nanowires deposited with graphitic layers. (b) The selected area diffraction pattern from the area that includes (a). Observed diffraction rings are from titania nanowires, a mixture of anatase and rutile phases.[1]

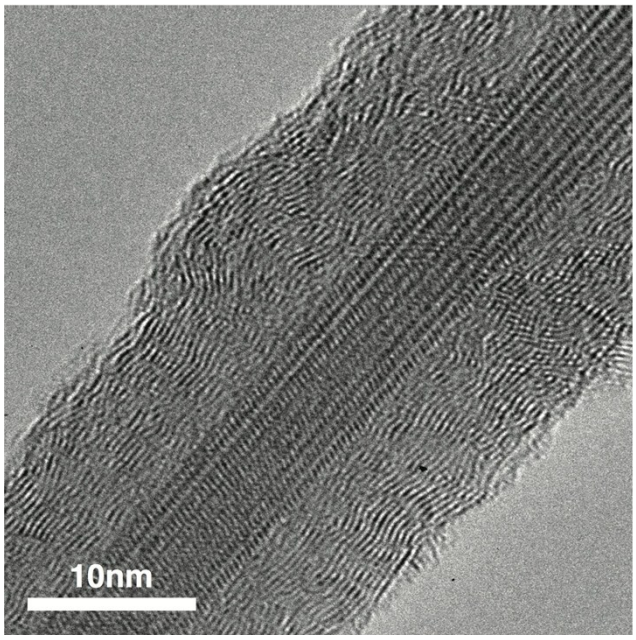

Figure S2. A HRTEM image of a titania nanowire deposited with pyrolytic carbon via gas phase pyrolysis during CVD at 850°C. The other CVD parameters are the same as 900 sec CVD at 750°C. The thickness of deposited soot on a titania nanowire is comparable to the diameter of the nanowire itself, yielding a distinctly different morphology as compared to catalytically converted graphitic layers during CVD at 750˚C (see Figures 2 and 3).

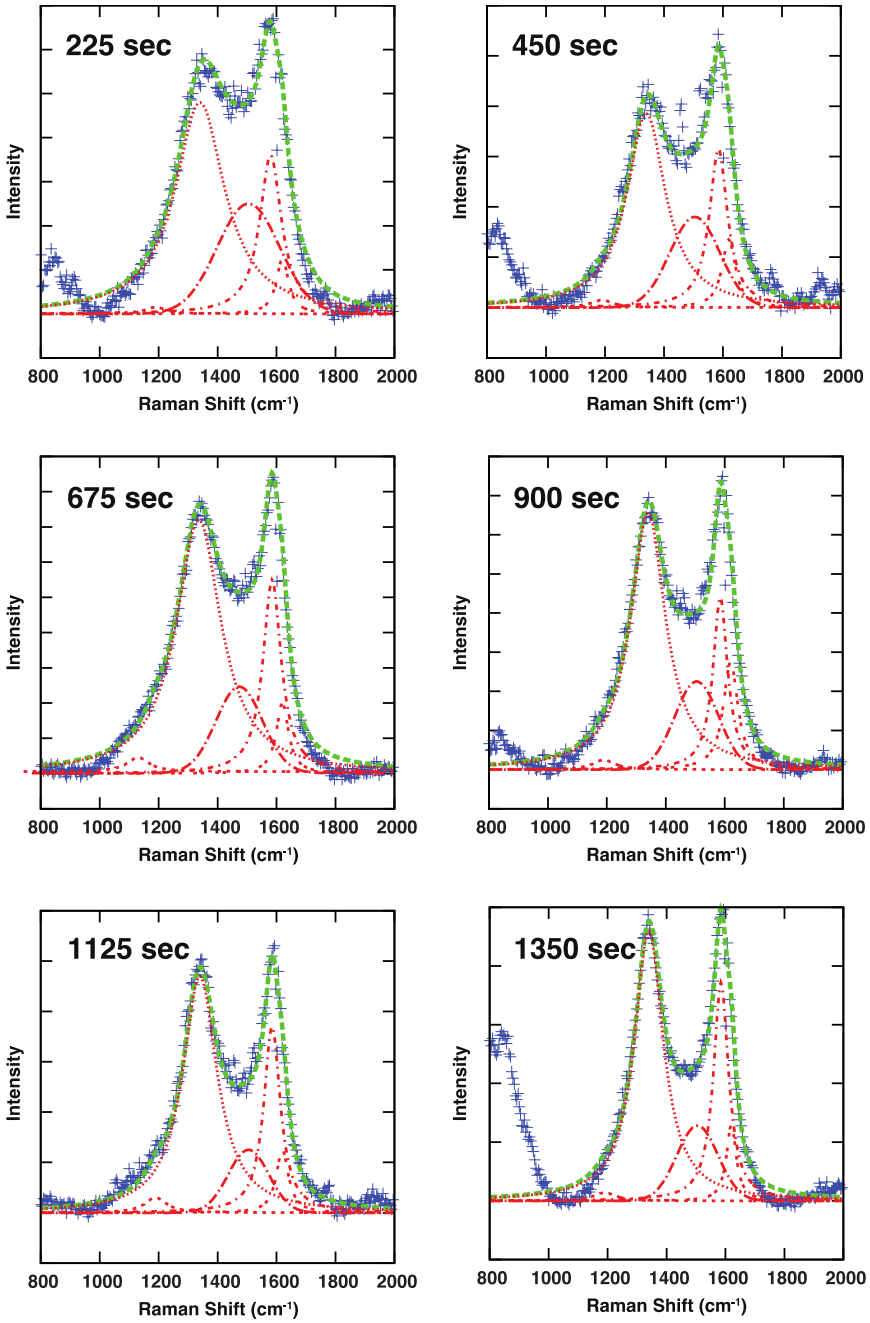

Figure S3. Raman spectra taken from the samples after CVD. Raw data of each spectrum is shown in blue and separated into 5 peaks plotted in red. Green dashed lines are the fitting curve (the sum of all the red plots). Fitting for each component is manually implemented, and the goodness of fitting is evaluated by normal probability plots for the difference between the fitting curve and the raw data.

REFERENCES

1 N. Umetsu, S. Sado, K. Ueda, K. Tajima and T. Narushima, *Mater. Trans.*, 2013, **54**, 1302–1307.