Supplementary Material (ESI) for Chemical Communications

Supporting Information

Synthesis of oriented arrays of TiO_2 nanorods via a high temperature conversion of carbon nanotubes

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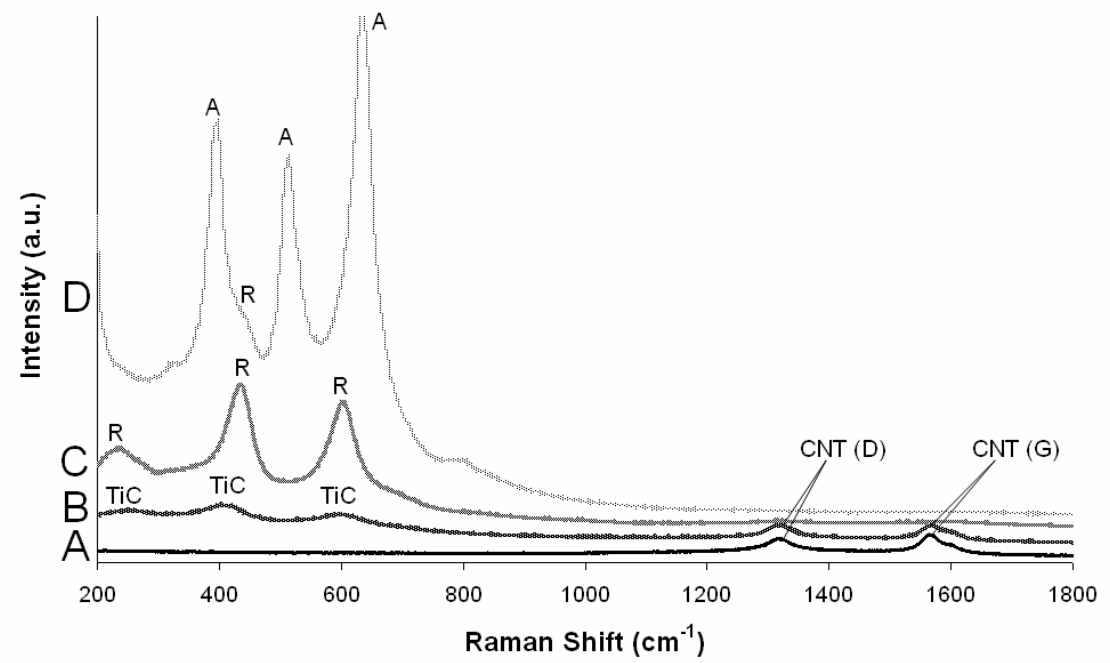

Figure S1. Raman spectra of (a) as-grown CNTs (b) after a conversion to TiC (c) after oxidation at 800 °C and (d) after conversion at 525 °C. 'A' and 'R', respectively, indicate the peaks corresponding to anatase and rutile. 'TiC' indicates peaks corresponding to titanium carbide and CNT-(D) and -(G) correspond to the peaks associated with the defect and graphitic components of CNTs respectively.

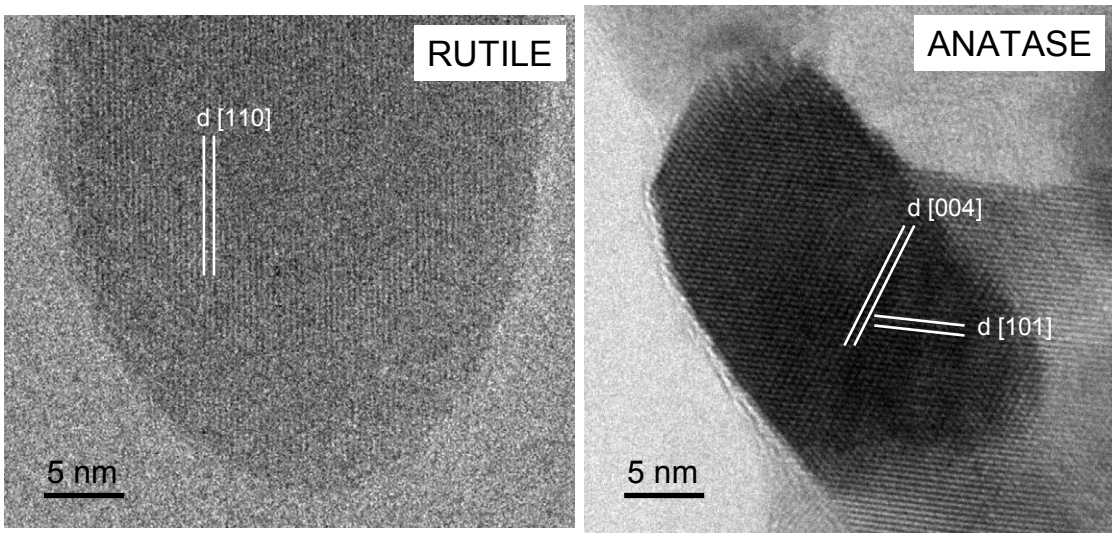

Figure S2. HRTEM images displaying the crystal structure of the final TiO_2 products obtained after oxidation of the TiC nanorods at 800 °C (rutile) and 525 °C (anatase).

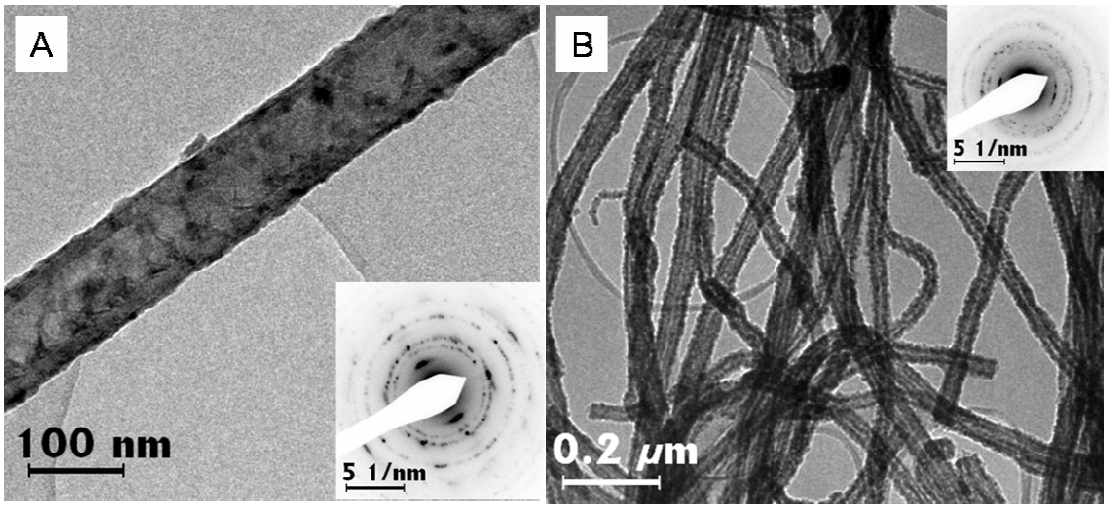

Figure S3. TEM images of (a) nitrogen-doped CNTs and (b) acetylene grown CNTs after conversion to TiC. The presence of graphitic (002) spots in both the SAED patterns indicate that, similarly to a standard conversion, a small proportion of the original CNT is retained after reaction.