Supplementary material to:

Z.N. Tetana, S.D. Mhlanga, G. Bepete, R.W.M. Krause and N.J. Coville, *S. Afr. J. Chem.,* 2012, **65**, 39–49.

Carbon yield calculation:

$$\%\mathbf{yield} = \frac{moles\ of\ carbon\ in\ product}{moles\ of\ carbon\ in\ C_2H_2 - \mathbf{moles\ of\ carbon\ in\ CH_3CN}} \times 100\%$$

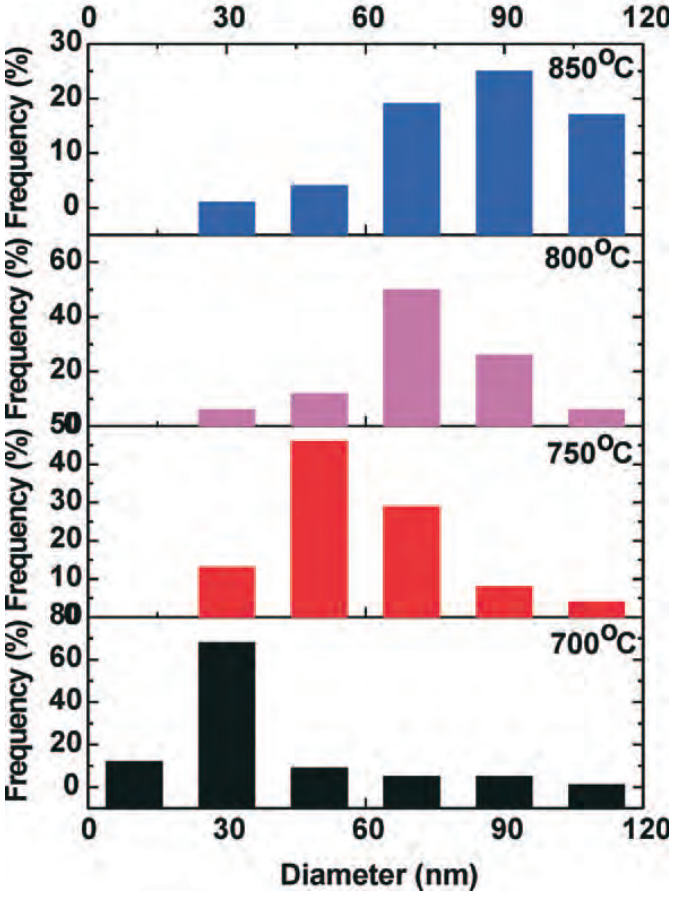

Figure S1a Diameter distributions of the purified N-MWCNTs grown at 700–850 °C using CH_3CN at r.t.

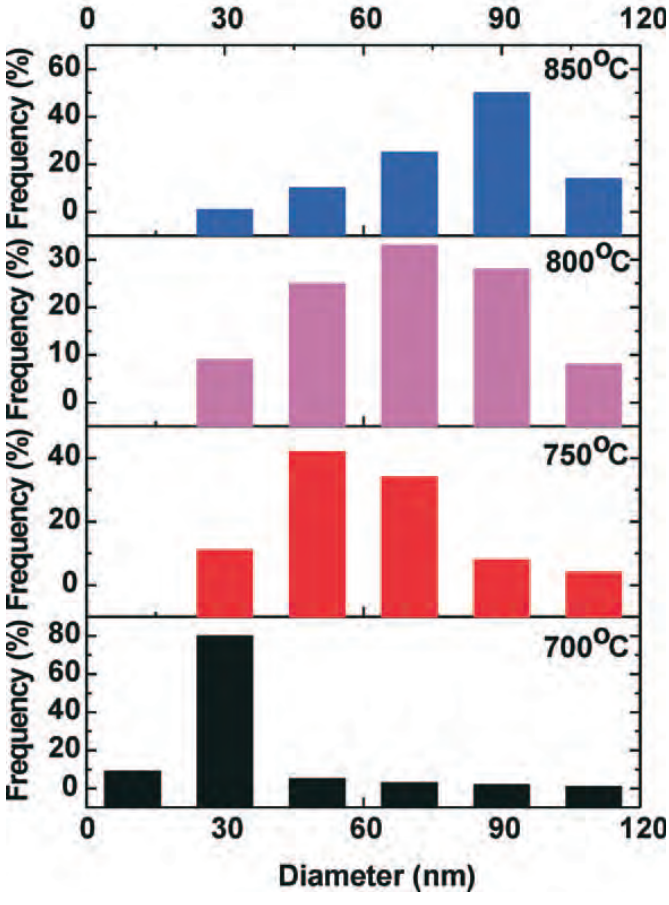

Figure S1b Diameter distributions of the purified N-MWCNTs grown at 700–850 °C using CH_3CN at 50 °C.

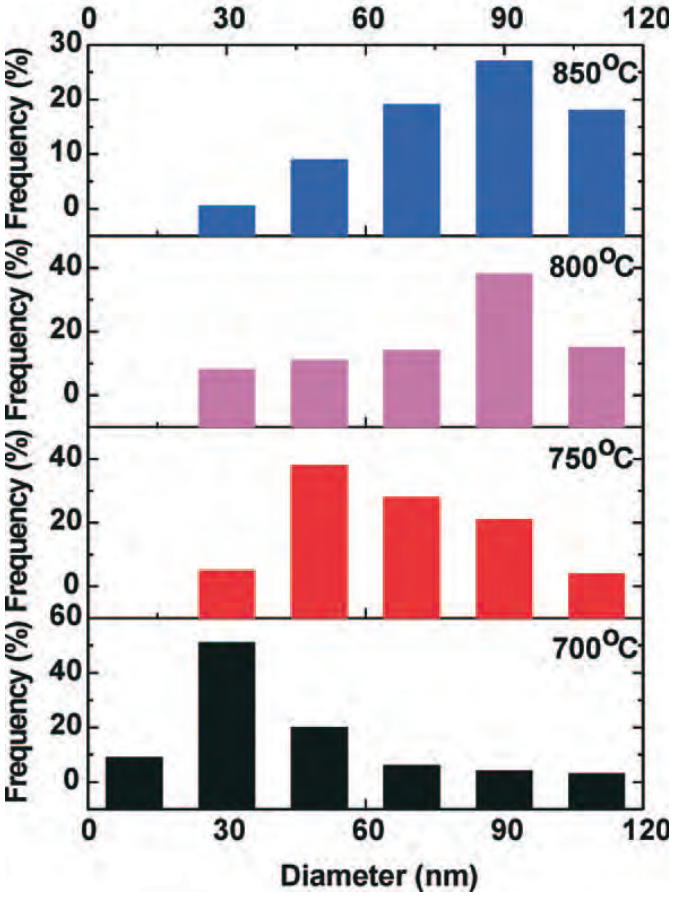

Figure S1c Diameter distributions of the purified N-MWCNTs grown at 700–850 °C using CH_3CN at 80 °C.

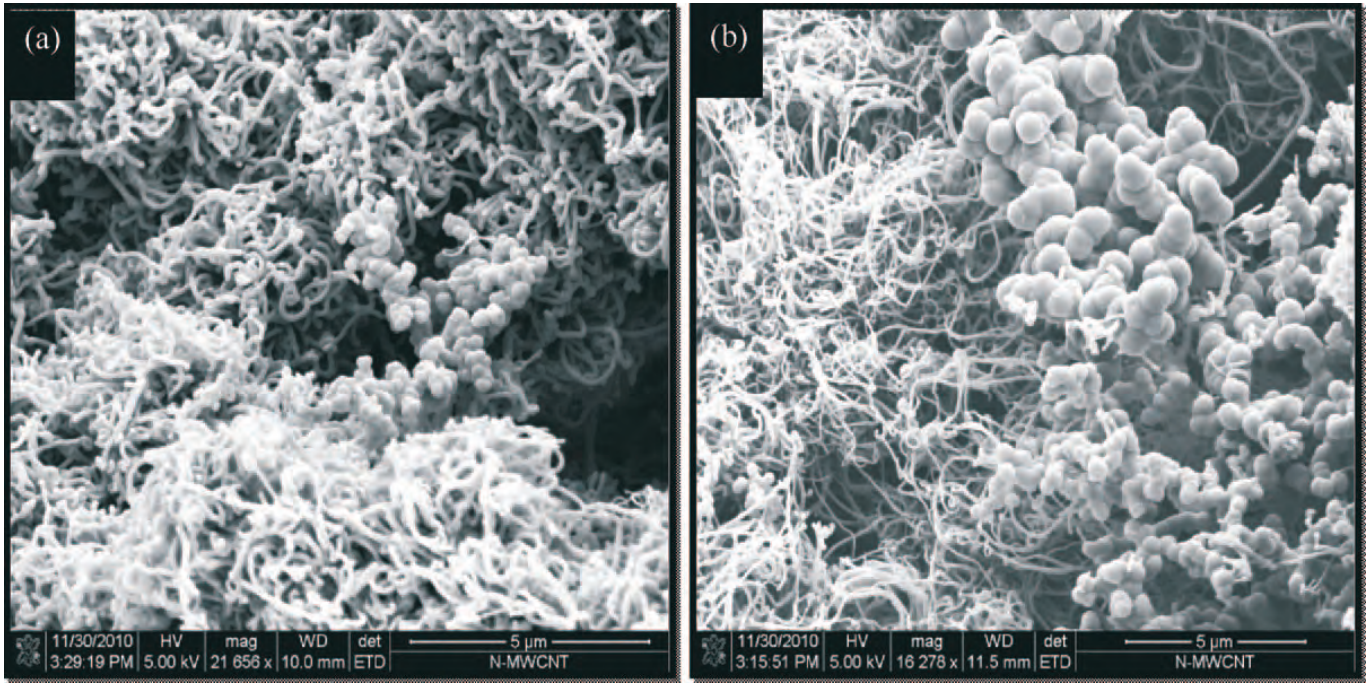

Figure S2 SEM images of the purified N-MWCNTs grown using CH_3CN at 80 °C: (**a**) 800 °C and (**b**) 850 °C.

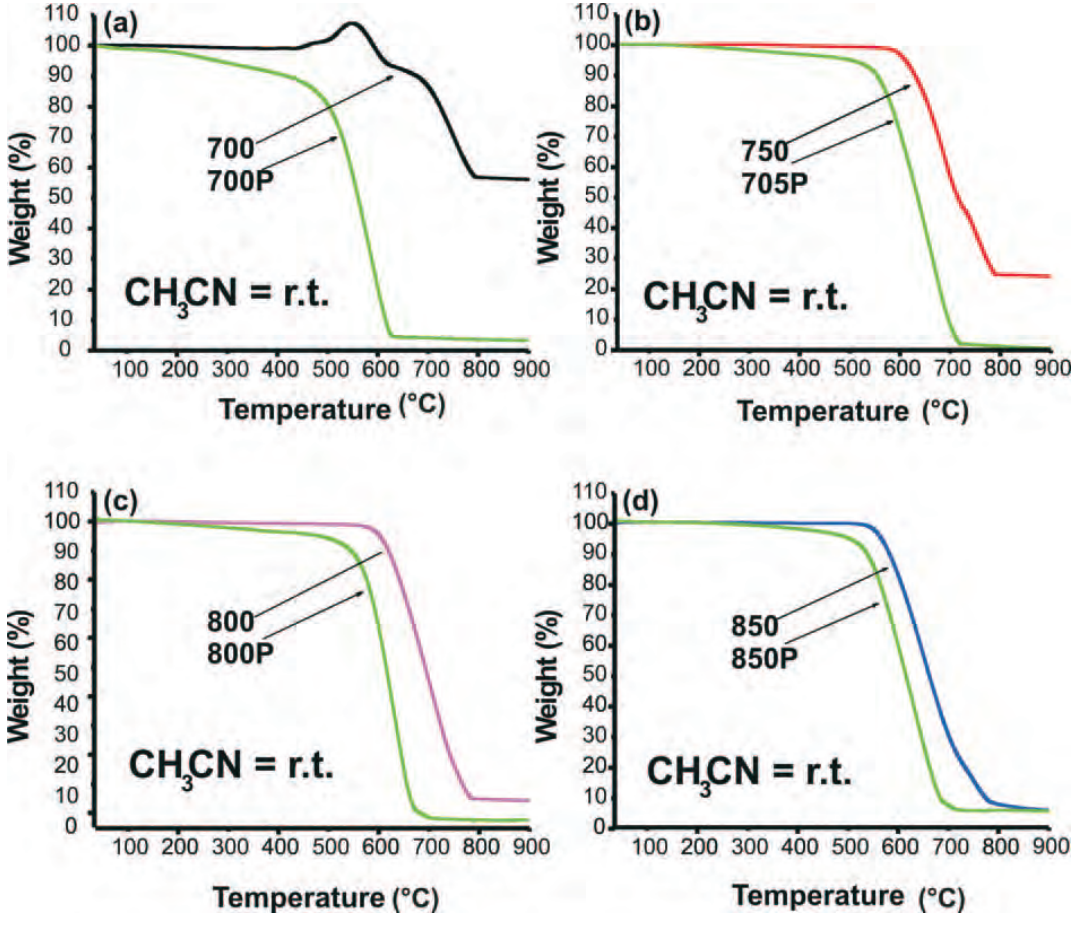

Figure S3 TGA curves of the as-synthesized and purified N-MWCNTs grown at 700–850 °C using CH_3CN at r.t.

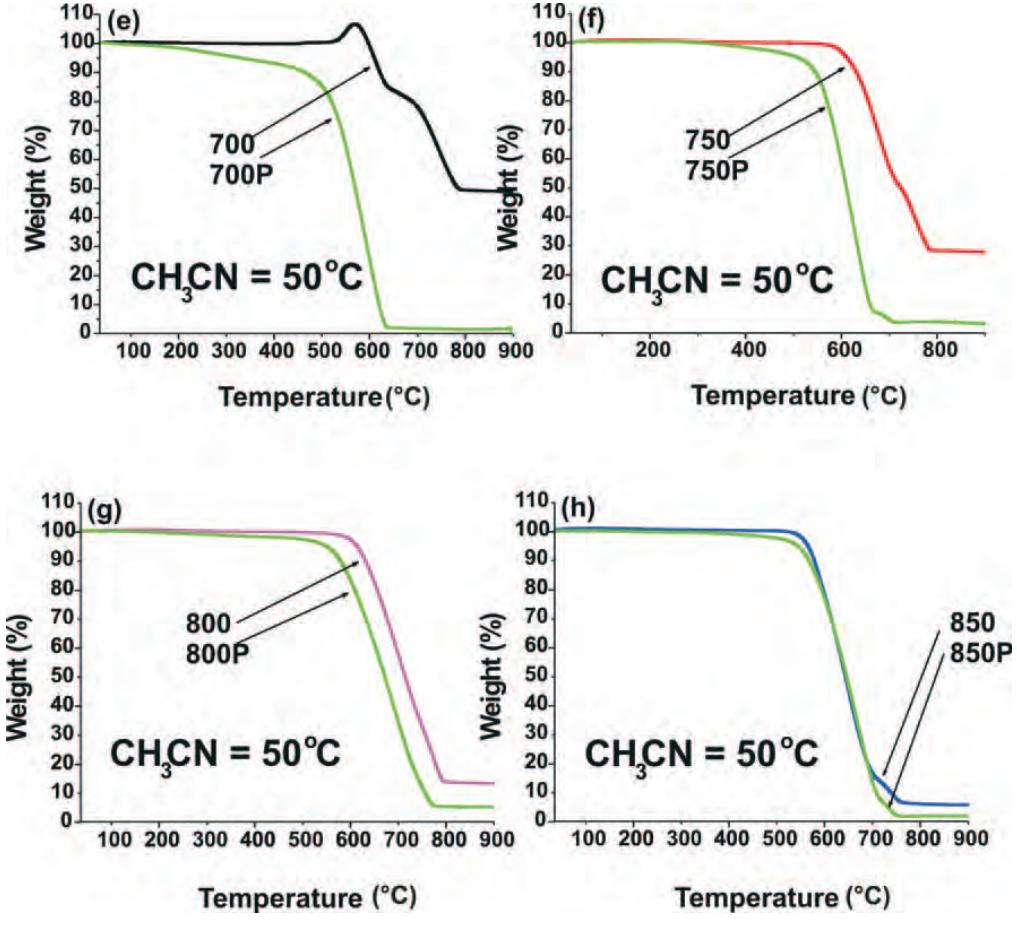

Figure S4 TGA curves of the as-synthesized and purified N-MWCNTs grown at 700–850 °C using CH_3CN at 50 °C.

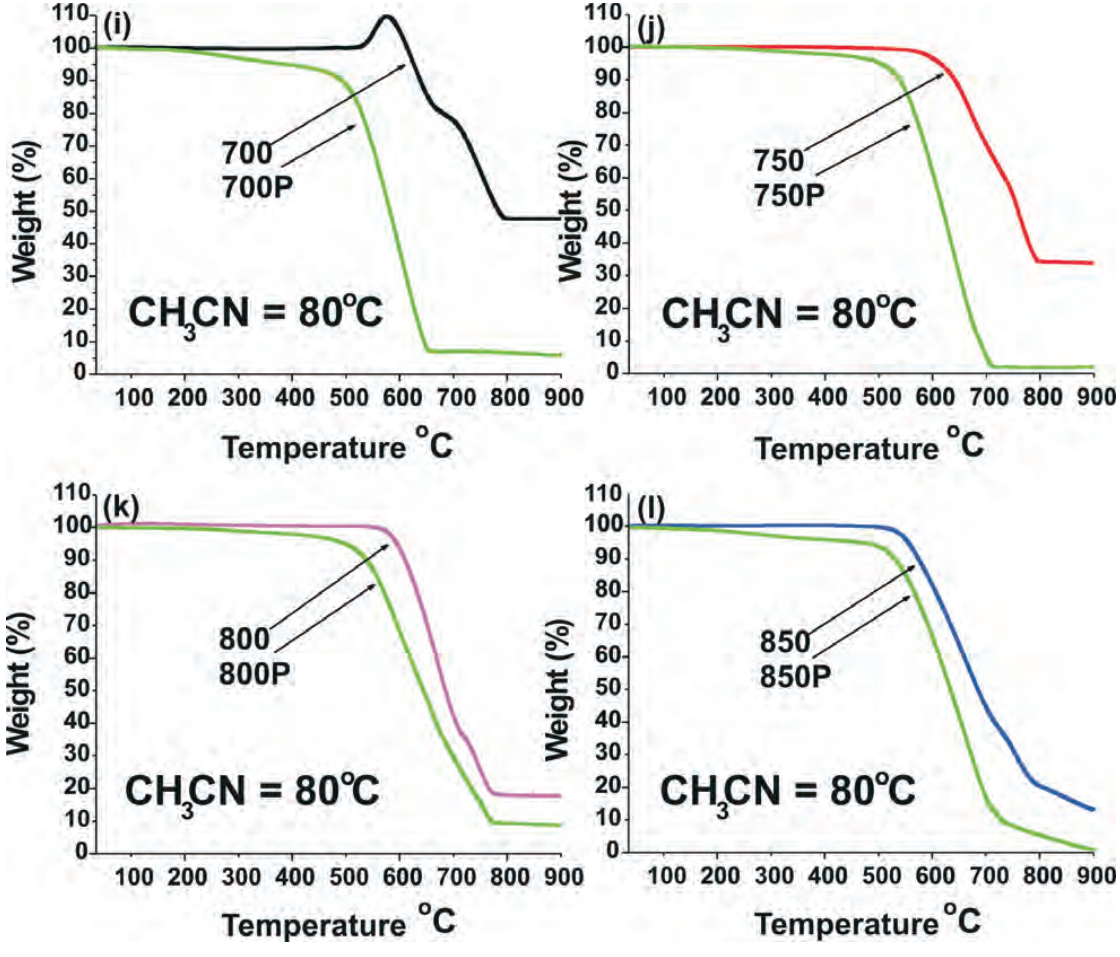

Figure S5 TGA curves of the as-synthesized and purified N-MWCNTs grown at 700–850 °C using CH_3CN at 80 °C.

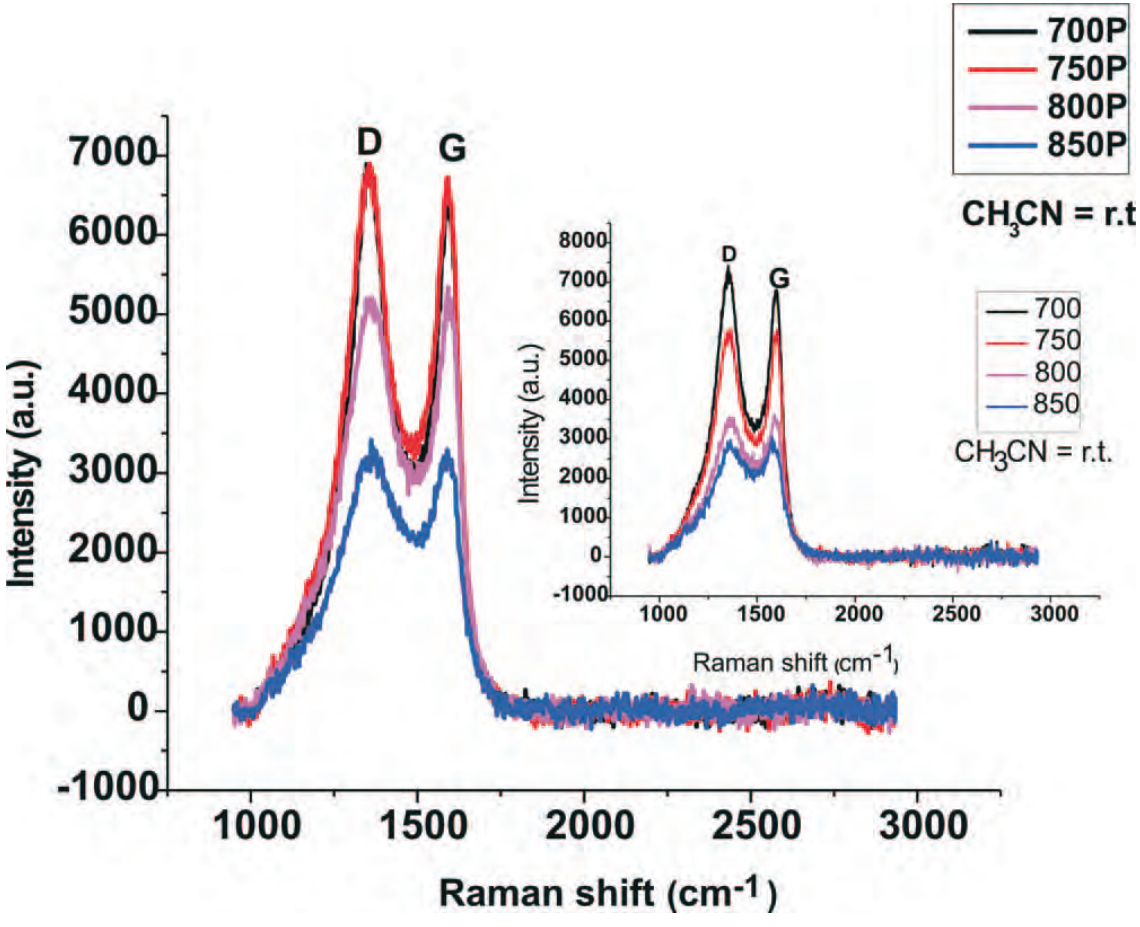

Figure S6 Raman spectra of the purified (700P–850P) and as-synthesized (700–850, inset) N-MWCNTs using CH_3CN at r.t.

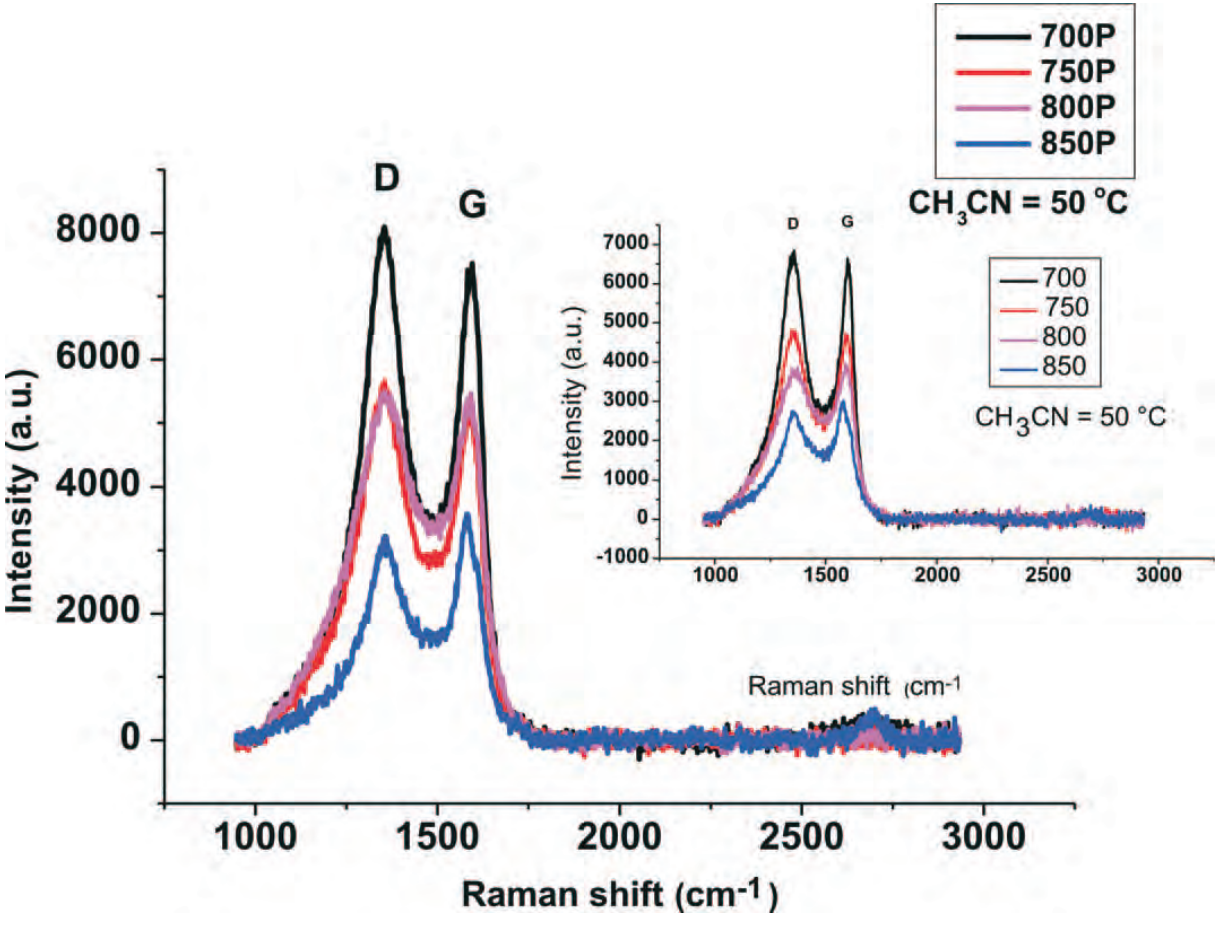

Figure S7 Raman spectra of the purified (700P–850P) and as-synthesized (700–850, inset) N-MWCNTs using CH_3CN at 50 °C.

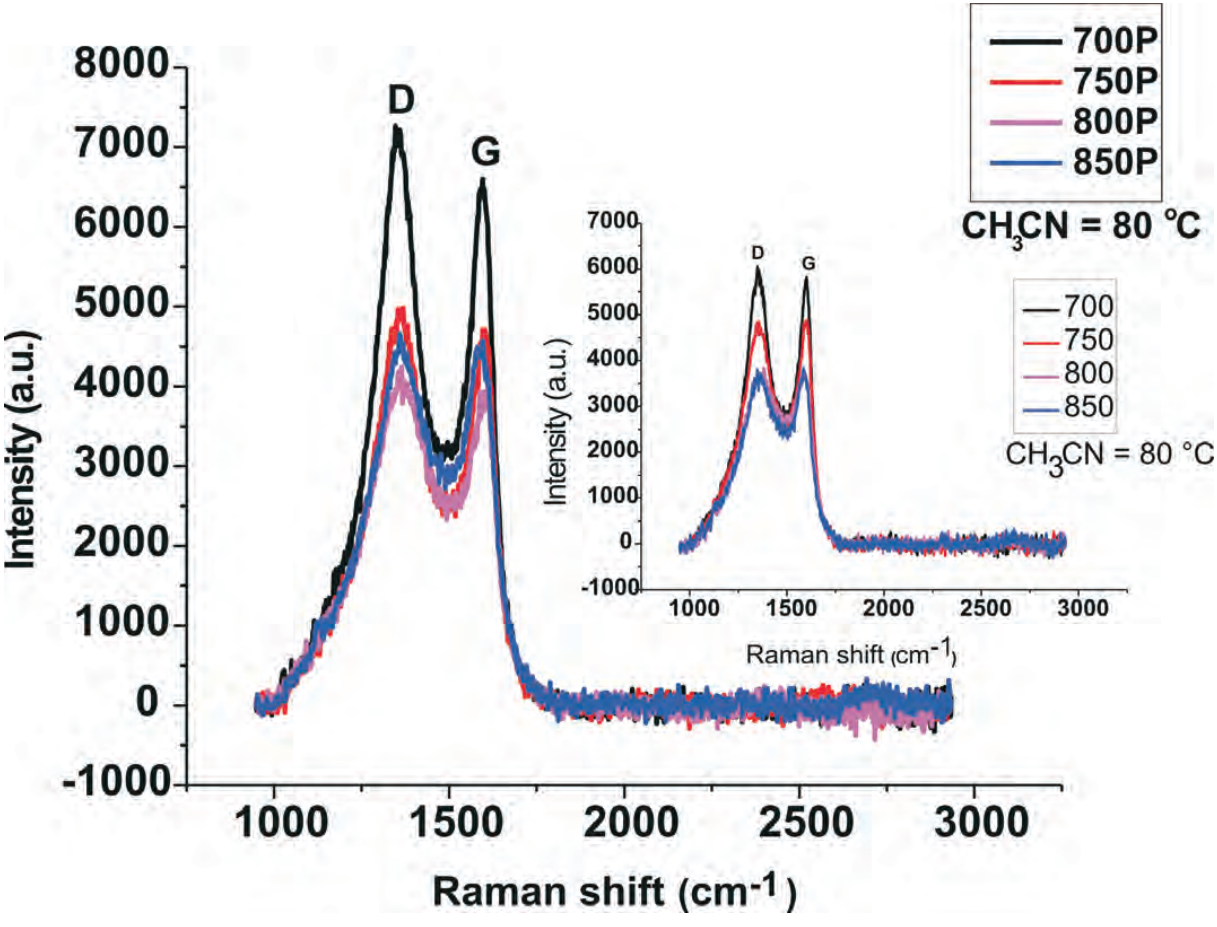

Figure S8 Raman spectra of the purified (700P–850P) and as-synthesized (700–850, inset) N-MWCNTs using CH_3CN at 80 °C.

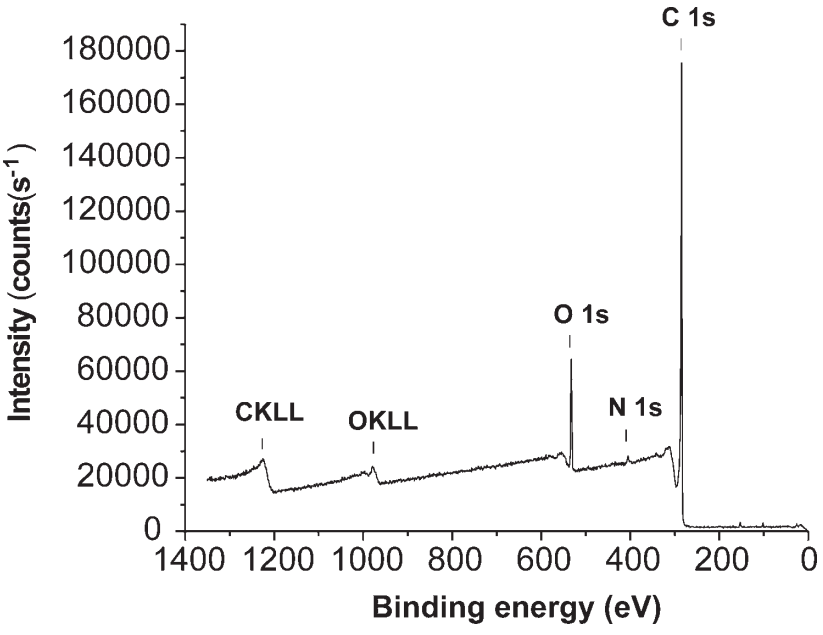

Figure S9 XPS spectra of the purified N-MWCNTs synthesized at 800 °C using CH_3CN at r.t.