

Supporting information

In situ insight on the unconventional Ruthenium catalyzed growth of carbon nanostructures

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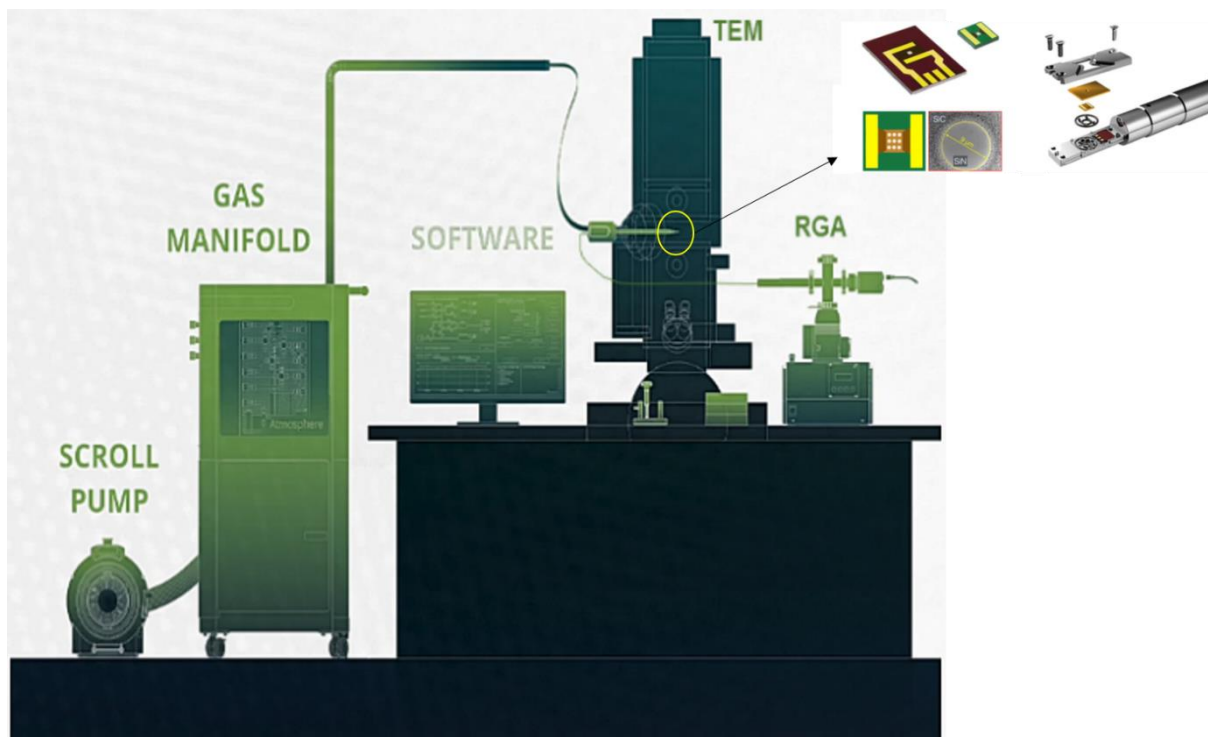


Figure S1. Schematic representation of the E-Cell system produced by Protochips Company. The gas is controlled by a gas manifold before to be inserted in the sample holder; a residual gas analyzer is connected at the exhaust line. © Protochips company.

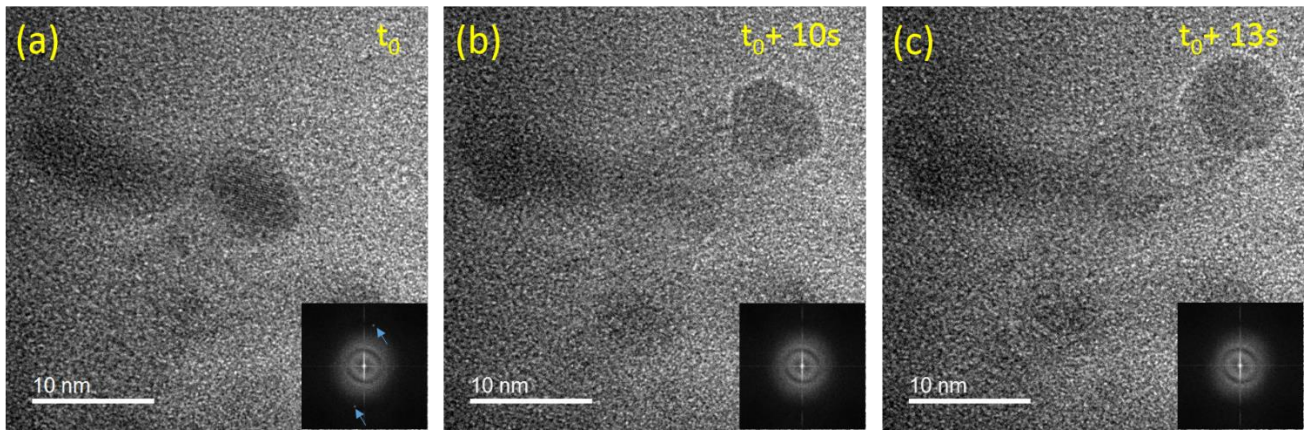


Figure S2. TEM images showing the particle shape fluctuation from a quasi-spherical shape (a) to a more faceted one (b) and finally to a spherical one (c). Inset images: Fast Fourier transforms on which blue arrows in (a) highlighted the presence of a crystallographic plane with the distance $d = 0.208$ nm.

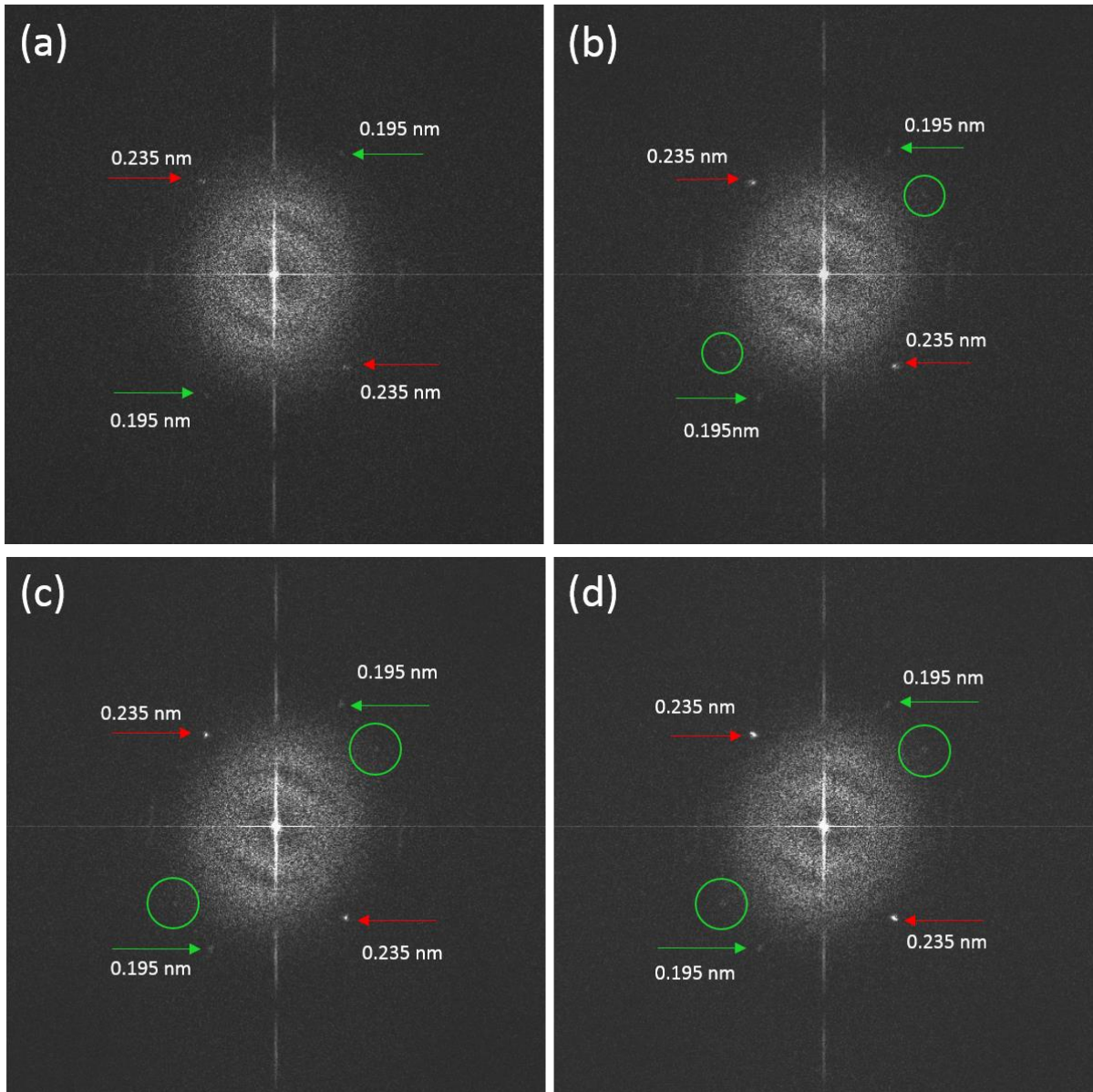


Figure S3: Zooms of the four FFTs shown in Figure 5 in order to better evidence the presence of the Ru_2C planes. The part (a) corresponds to 5 (h), (b) to 5 (j), (c) to 5 (l) and (d) to 5 (m).

Dynamical visualization of the carbon nanotubes growth process.

Video S1: Raw video from which the sequence shown on figure 2 was extracted.

Video S2: Video highlighting the shape and size fluctuations of the Ru particles.

Video S3: Raw video from which the sequence shown on figure 5 was extracted, in relation with the wave reconstruction method.