Electronic Supplementary Material (ESI) for Nanoscale.


**Supporting Information for :**

# Synthesis of Hexagonal Boron Nitride Graphene-Like Few Layers

**S. Yuan, B. Toury, C. Journet and A. Brioude**

**Université de Lyon, F-69000, Lyon, France ; Université Lyon 1, F-69622, Villeurbanne, France ; CNRS, UMR 5615, Laboratoire des Multimatériaux et Interfaces, F-69622, Villeurbanne, France.**

**Corresponding author: berangere.toury@univ-lyon1.fr**

**List :**

In this paper, we demonstrate for the first time that free-standing highly crystallized hexagonal boron nitride mono-, bi- or few-layers can be obtained by the PDCs route at relatively low temperature compared to previous works. Moreover, we point out that this innovative process does not need any heavy exfoliation process. The following figures from the sample heated to 1400 °C were simply obtained after1 min ultrasonic treatment.

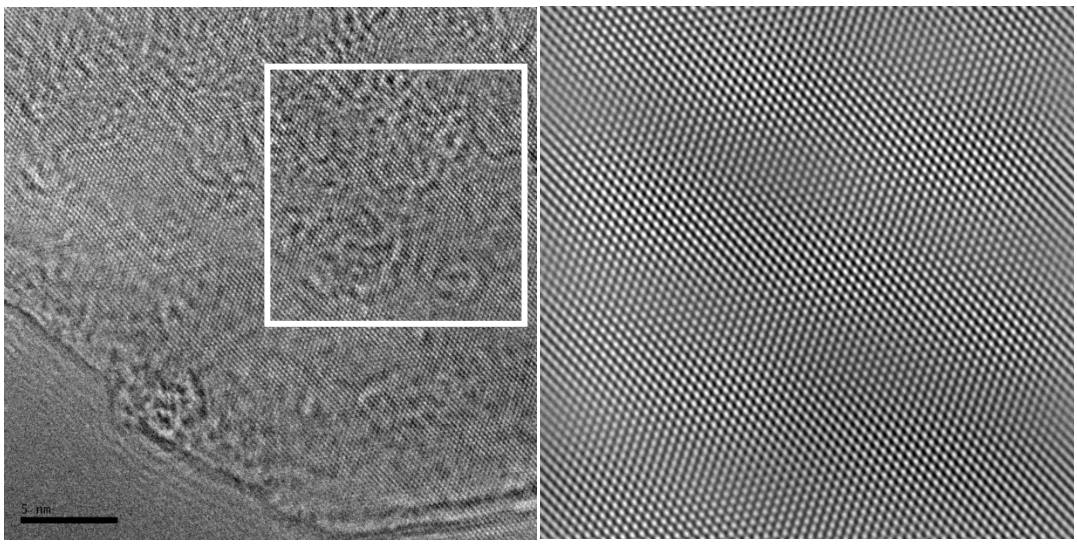


Figure SI-1: HRTEM image (left) of one single layer of h-BN and the inverse FFT (right) of its atomic plane obtained on the zone delimited by the white square.

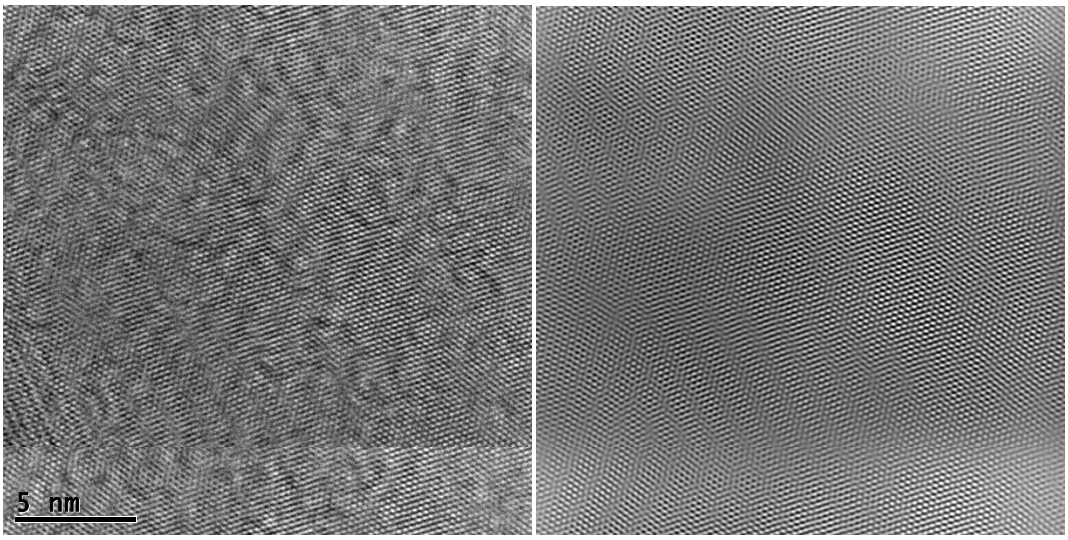


Figure SI-2: HRTEM image (left) of bi-layer nanostructure of h-BN and the inverse FFT (right) of its atomic plane.

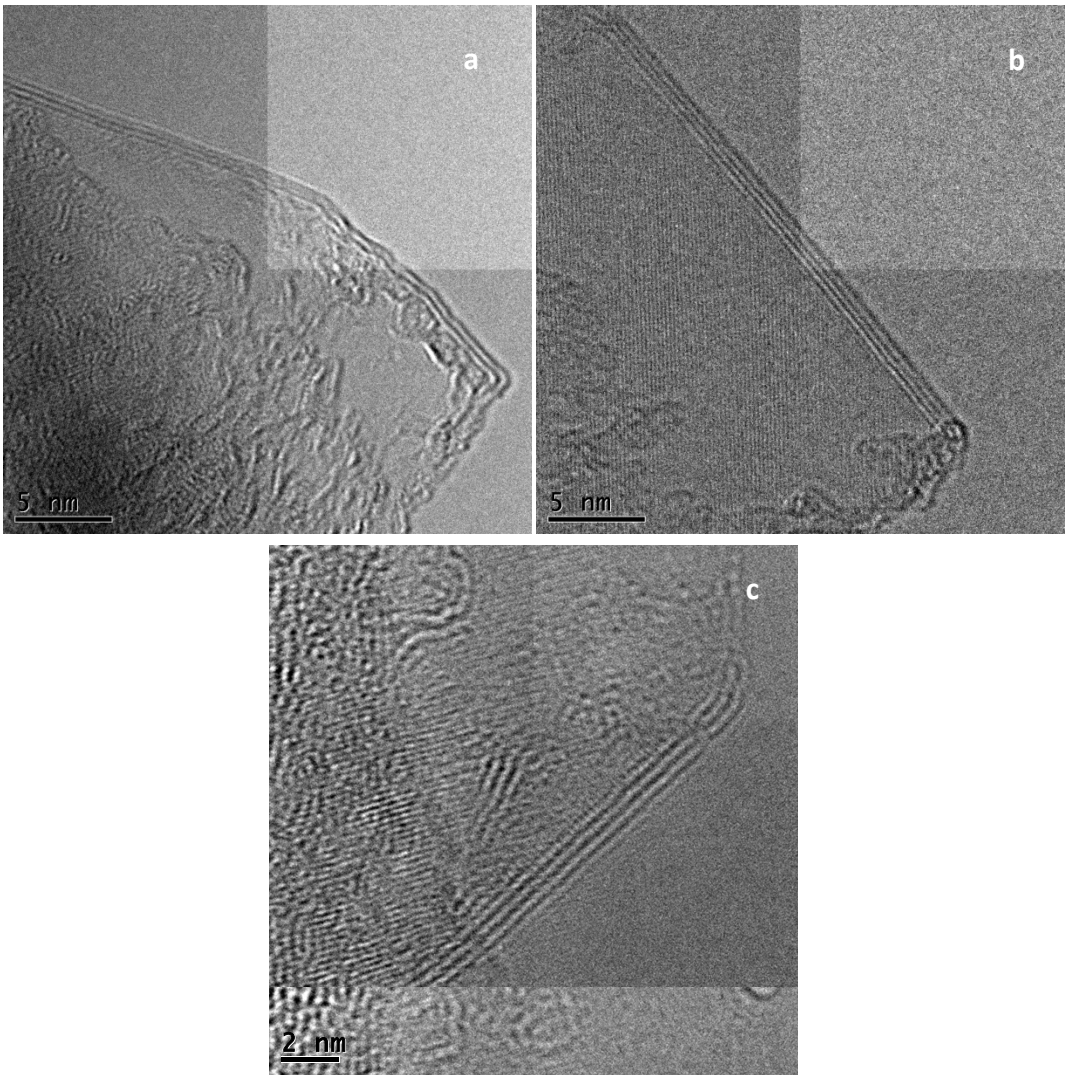


Figure SI-3: HRTEM images of bi-layer (a), 3-layer (b) and 4-layer (c) nanostructures of h-BN.

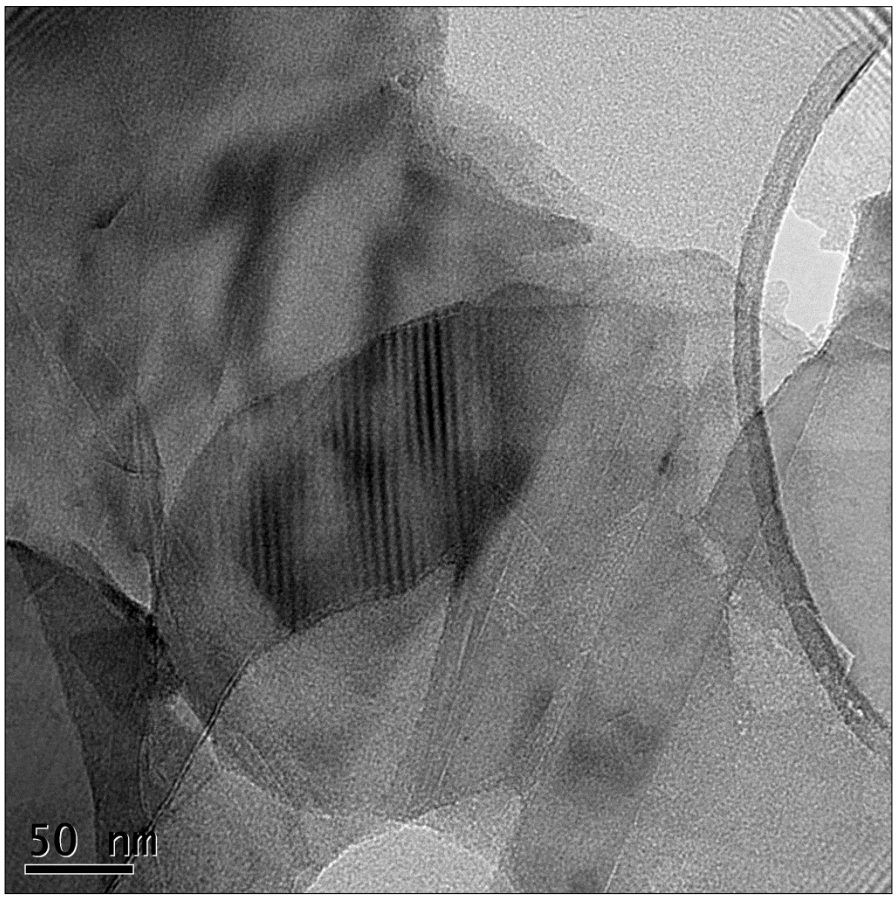


Figure SI-4: HRTEM image of Moiré pattern over a large area (more than 200 nm), indicating the high cristallinity of the sample.