

## Supporting information

# Room-Temperature Synthesis of Hexagonal Boron Nitride under Pressure

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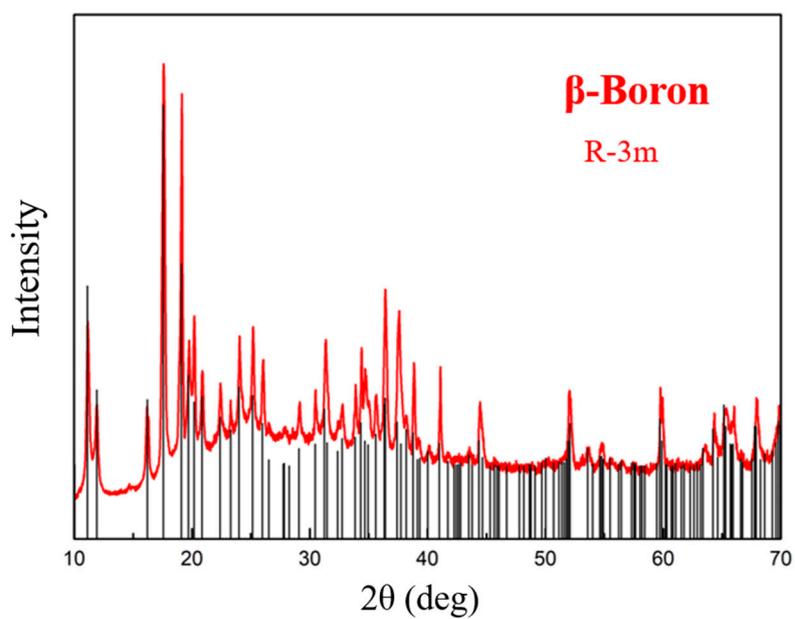


Figure S1. XRD pattern of nano boron powder.

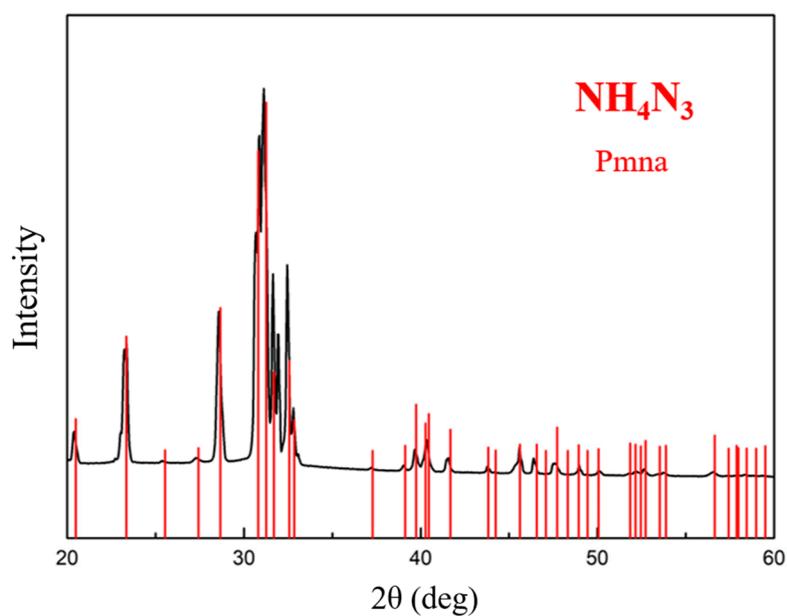
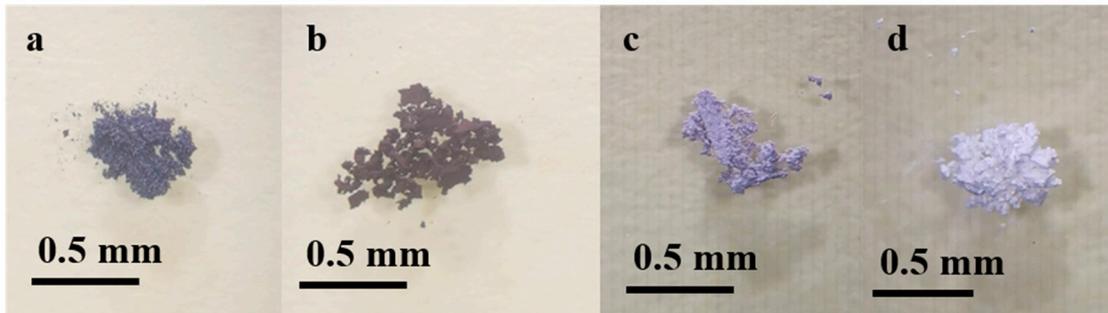
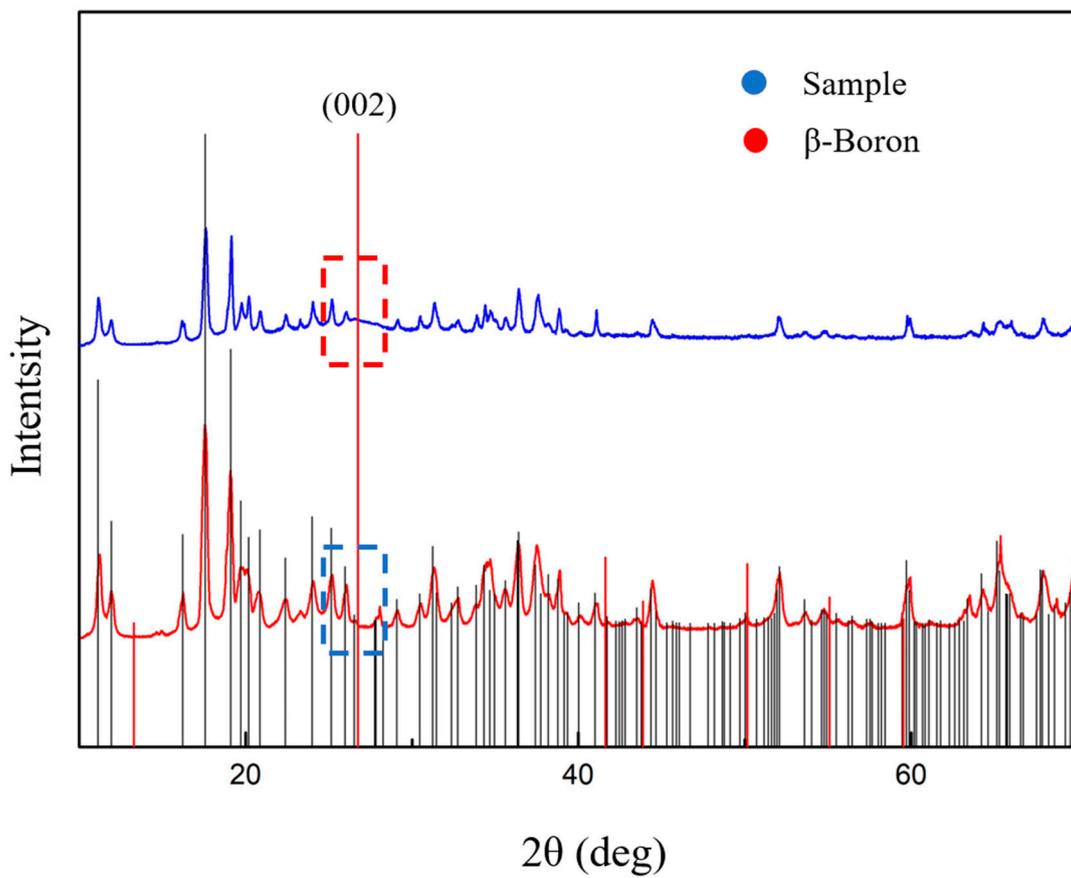


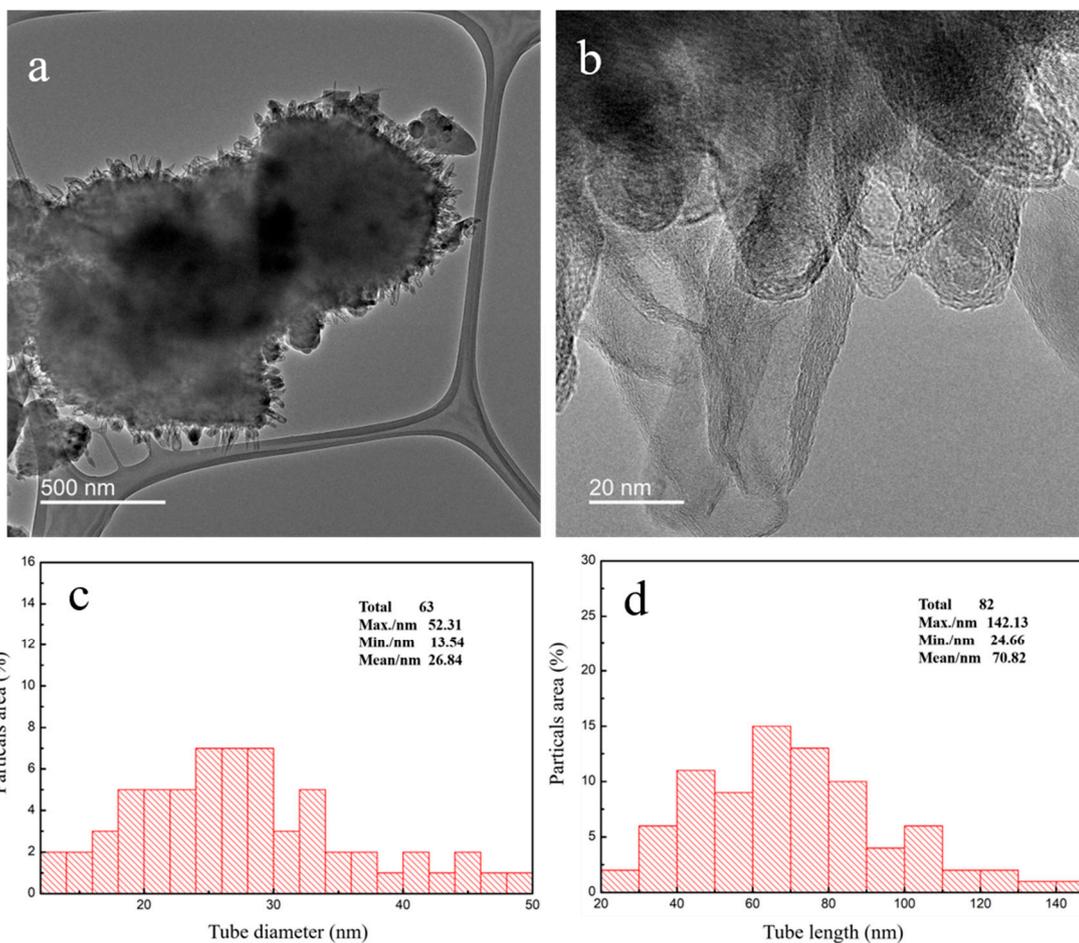
Figure S2. XRD pattern of ammonium azide.



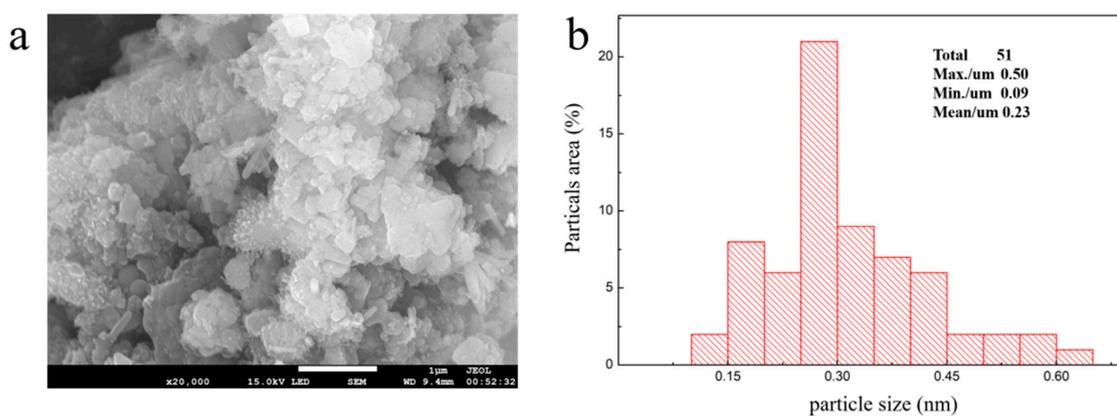
**Figure S3.** optical photos of samples and precursors. (a) nano boron powder; (b) sample obtained at 28 GPa and room temperature; (c) sample obtained at 28 GPa and 200 °C; (d) commercial h-BN.



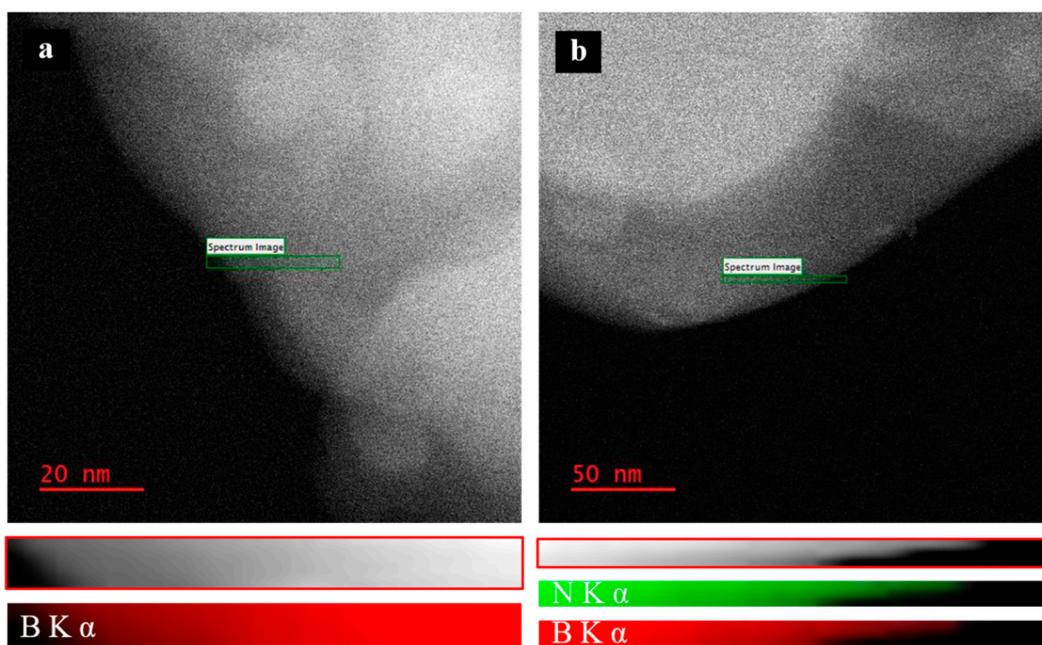
**Figure S4.** XRD pattern of the sample obtained at 28 GPa room temperature.



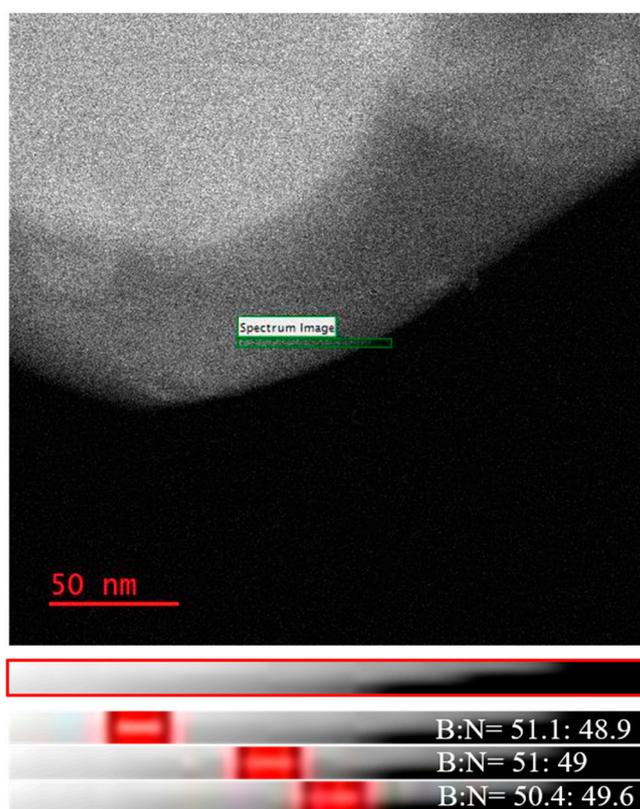
**Figure S5.** (a, b) TEM images and size statistics (c, d) of tube-shaped h-BN for the sample obtained from 28 GPa and room temperature.



**Figure S6.** (a) SEM images and size statistics (b) of boron particles for the sample obtained from 28 GPa and room temperature.



**Figure S7.** (a) Electron energy loss spectrum (EELS) mapping of nano boron powder and (b) commercial h-BN.



**Figure S8.** Quantitative analysis of EELS in different segments of commercial h-BN.

**Table S1.**TEM-EDS results at different areas of sample obtained from 28 GPa and room temperature.

Different positions	Atomic ratio (B)	Atomic ratio (N)
1	46.1%	53.9%
2	47.7%	52.3%
3	46.9%	53.1%
4	90.7%	9.3%
5	89.3%	10.7%
6	91.1%	8.9%