Supplementary Information for

Layer Speciation and Electronic Structure Investigation of Freestanding Hexagonal Boron Nitride Nanosheets

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Contents (supplementary figures)

Fig. S1: Normalized STXM spatially-resolved XANES spectra of hBN nanosheets at the B and N K-edges.

Fig. S2: STXM spatially-resolved absolute optical density XANES spectra of hBN nanosheets at the C and O K-edges.
**Fig. S1** Normalized STXM spatially-resolved XANES spectra of hBN nanosheets, (a) and (b) normalized XANES spectra at the B and N K-edge respectively from the selected regions of interest in Fig. 3 (a) in the main text with the normal incidence of the X-ray beam, (c) amplified spectral region from 191 to 197 eV of (a), all vertical dashed lines and letters in the spectra indicate the spectral regions of interest; (d) intensity ratio of $\sigma^*/\pi^*$ for the first and the second $\sigma^*$ features as a function of hBN nanosheet layers.
Fig. S2 STXM spatially-resolved absolute optical density XANES spectra of hBN nanosheets at (a) the C K-edge and (b) the O K-edge from the selected regions of interest in Fig. 3 (a) in the main text with the normal incidence of the X-ray beam.