Figure S2: TEM brightfield images of the wedge-shaped foraminiferal calcite wafer analysed in the STXM instrument. Two low-magnification images are overlayed on an X-ray absorption STXM image (at 213 eV, above the B edge). These images reveal a complex internal structure within the wafer, indicating that the FIB preparation process did not cause extensive sample damage. Signs of FIB damage are evident along the lower edge of the sample wedge, manifest as a diffuse, featureless darker band of material, shown in greater detail in two higher-magnification images. Electron diffraction patterns from this rim (A) and a region just inside the rim (B) reveal a transition from amorphous to crystalline material over 250 nm. Given sample geometry (1000 nm thick, thinning to extinction over 20 μm), this gives a conservative estimate of 7.5 nm of amorphous damage on either side of the sample.