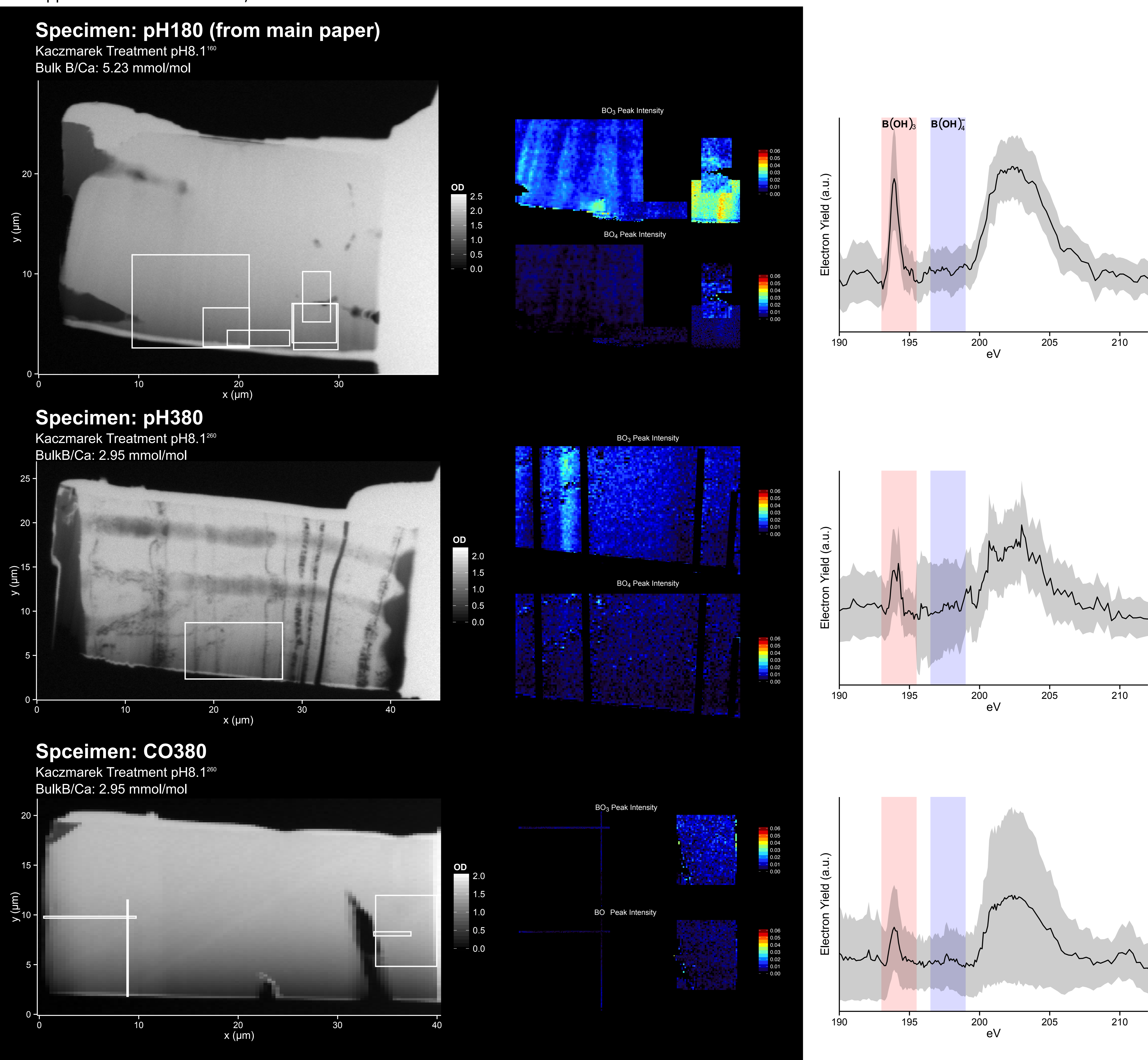


Figure S1: A summary of B NEXAFS data collected from three foraminiferal specimens.

In supplement to Branson et al, 2015.



The left images are off-peak optical density image of the entire of each specimen, with areas where spectral image stacks were collected marked. The middle images show normalised maximum peak intensity maps of trigonal and tetrahedral B from the marked spectral image stack regions. The right hand panel presents the mean spectra each sample. Specimen pH180 produced the highest quality data, and was presented in the main manuscript. This data quality derived from a combination of specimen condition, relatively high B/Ca and a higher volume of collected data.

Specimen Structure and Measurement: pH180 and CO380 were of similar quality. Specimen pH380 was highly heterogeneous, which complicated the analysis of image stacks by increasing the sensitivity of spectra to sample drift artefacts. Few measurements were taken from this specimen for this reason. While specimen CO380 was of high quality, few measurements were taken because of instrument time time limitations.

B Maps: In both pH180 and pH380, where large regions were mapped, distinct BO₃ banding was observed. No significant heterogeneity was observed in the BO₄ peak beyond background noise in any specimen. The dark striation in specimen pH380 is the result of masking necessary to remove sample drift artefacts from the analysis. Specimens pH380 and CO380- produced a weaker B signal, related to their lower B content.

B Spectra: The mean spectra from all samples show a similar absence of tetrahedral B. Only trigonal B was observed in all specimens.