

## **Description of Additional Supplementary Files**

**Supplementary Movie 1: Volume acquisition of vitrified *E.gracilis*.** Vitrified *E.gracilis* imaged at 52° with respect to the FIB milled sample plane using 100 ns dwell time x100 repetitions. A 1600  $\mu\text{m}^3$  volume in focus was aligned and manually segmented for the region of interest.

**Supplementary Movie 2: Volume acquisition of vitrified mouse brain cortex.** A 118-day old mice corte imaged at 90° with respect to the FIB milled sample plane using 100 ns dwell time x100 repetitions. A 1334  $\mu\text{m}^3$  volume in focus was aligned and manually segmented for the region of interest.