



Supplementary Item 3. Stereographic projections to poles of crystallographic axes of a section of the San Carlos olivine crucible used in the experiment. The projection was calculated from over 30 000 orientations using the harmonic series expansion method, with $L = 16$ and $WW = 5.0$, and Gaussian Smoothing of 2.0° . Note, the data indicate a single orientation for the olivine crystal.