

Description of Additional Supplementary Files:

Supplementary Movie 1: Microscopic water streams at the surface of ice grains

Supplementary Movie 2: Red snow X-ray tomography

Supplementary Movie 3: FIB-SEM stack of chemically-fixed *Sanguina nivaloides* cysts

Supplementary Movie 4: Overview of chemically fixed red snow sample

Supplementary Movie 5: FIB-SEM stack of cryo-fixed *Sanguina nivaloides* cysts

Supplementary Movie 6: Overview of cryo-fixed red snow sample

Supplementary Movie 7: *Sanguina* and bacteria 3D segmentation

Supplementary Movie 8: Cryo-fixed *Sanguina nivaloides* cell 2 used for volumetric study

Supplementary Movie 9: *Sanguina nivaloides* lipid droplet nano-structure

Supplementary Movie 10: Whole cell architecture of *Sanguina nivaloides* cyst highlighting mitochondria proximity to chloroplastic starch