## **Supplemental Movie Legends**

Movie S1: 3-D surface rendering of closely packed SMTs, dilated rER and CI. The SMTs are colored yellow, rER sky blue and CI magenta.

Movie S2: 3-D surface rendering of SMTs, intermediate tubular structures and DMTs. The SMTs are colored yellow. The intermediate tubular structures are colored green. The outer membranes of DMTs are colored light blue and inner membranes dark blue.

Movie S3: 3-D reconstruction of enveloped TuMV particles by electron tomography. Tonoplast is colored yellow and dot-like structures are colored red.