**Supplementary Fig. 2** All z-stack images that were used to make three-dimensional surface reconstruction of true-positive Loki- and Heimdallarchaeota cells that are shown in corresponding panels from Fig. 2 (F2) and Supplementary Fig. 1 (SF1). Overlay of FITC, Alexa594, and DAPI are depicted. The scale bar is 1  $\mu$ m.





