SUPPLEMENTARY FIGURES

Fig. S1. DIC imaging analysis of GUVs obtained from *E. coli* inner membranes (see Fig. 1).

Fig. S2. Spatial distribution of Alexa 647 labelled FtsZ inside GUIMVs formed in the presence of 0.1 mM GDP. Panel A: DIC image. Panel B: stack projection of the whole cross-sectional images. Panel C: Sequential cross-sectional images taken every 1 μm. The image series begins on the outer wall of the GUV and progressively moves in the Z-axis towards the opposite side of the vesicle through the GUV equator. The scale bar marks 10 μm.

Fig. S3. Spatial distribution of Alexa 647 labelled FtsZ inside GUIMVs formed in the presence of 0.5 mM caged GTP. Panel A: DIC image. Panel B: stack projection of the whole cross-sectional images. Panel C: Sequential cross-sectional images (taken every 1 μm) of Alexa 647 labelled FtsZ polymers inside GUIMVs. The image series begins on the outer wall of the GUV and progressively moves in the Z-axis towards the opposite side of the vesicle through the GUV equator. The scale bar marks 10 μm.

Fig. S4. Spatial localization of Alexa 647 labelled FtsA inside GUIMVs in the absence of FtsZ. Panel A: DIC image. Panel B: stack projection of the whole cross-sectional images. Panel C: Sequential cross-sectional images taken every 1 μm. Each section represents a 1micron shift and the whole collection of images comprises the total volume of the spherical vesicle. The scale bar marks 10 μm.

Fig. S5. Image analysis of Ficoll-induced (non labelled) FtsZ polymer bundles in the presence of Alexa 647 labelled FtsA. Panel A: DIC image. Panel B: Stack projection of cross-sectional images.

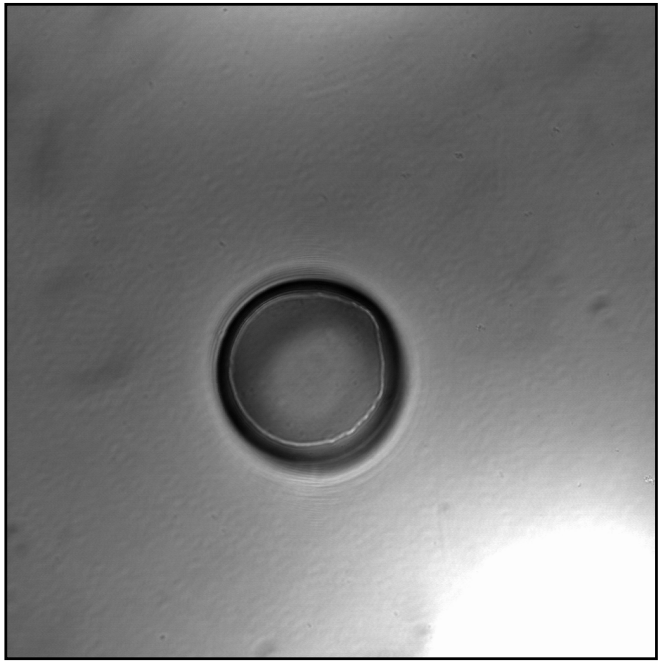
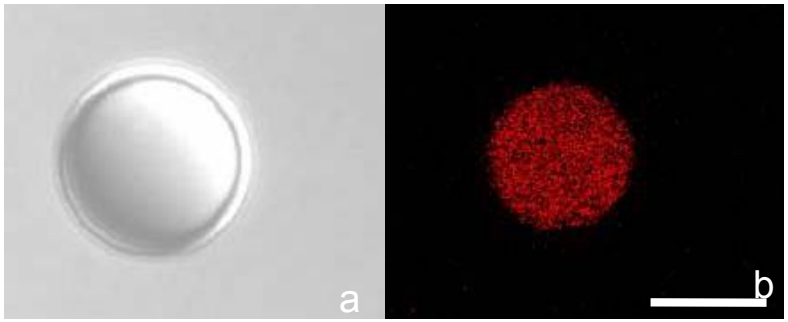


Figure S1



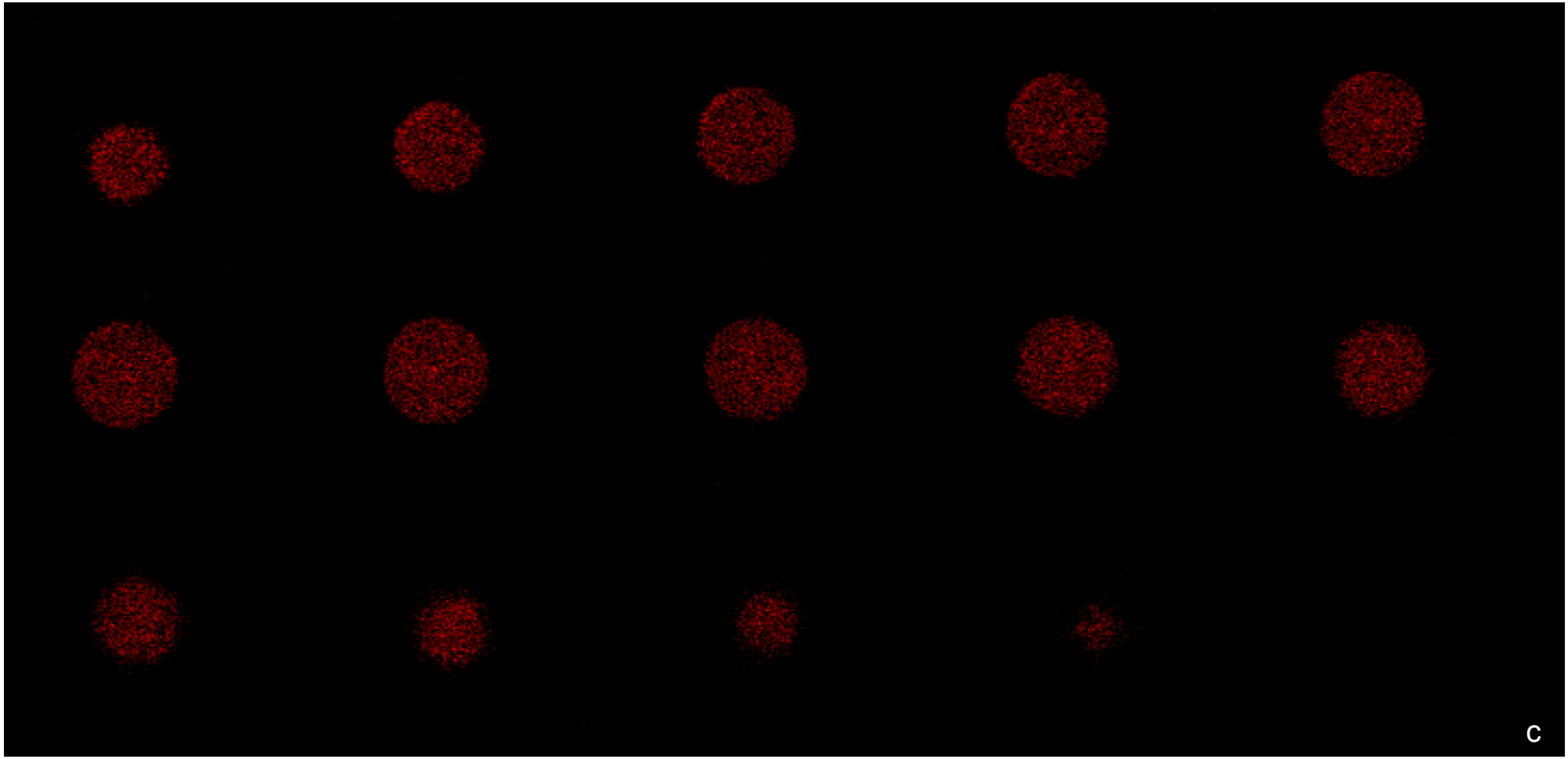


Figure S2

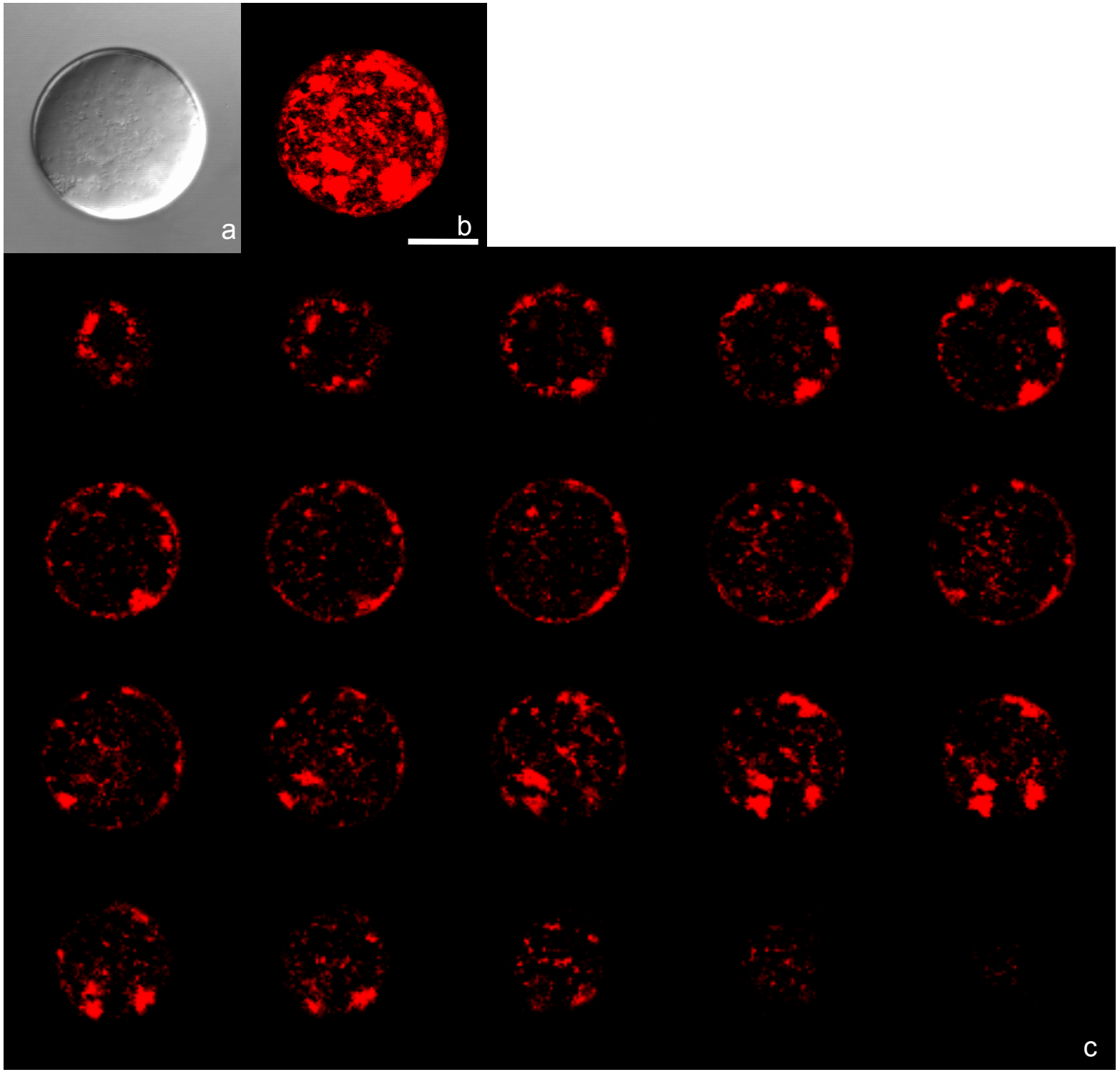


Figure S3

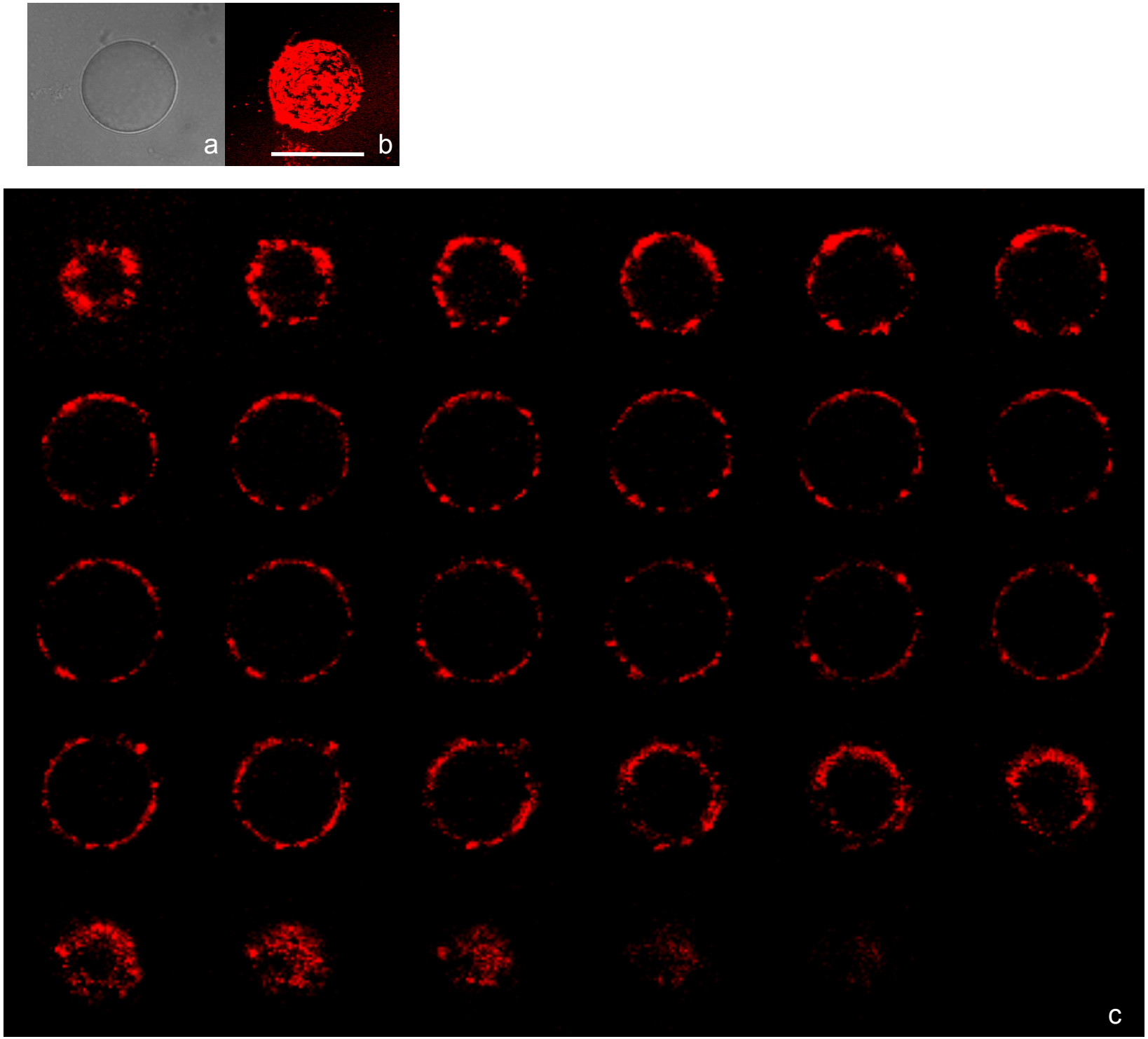


Figure S4

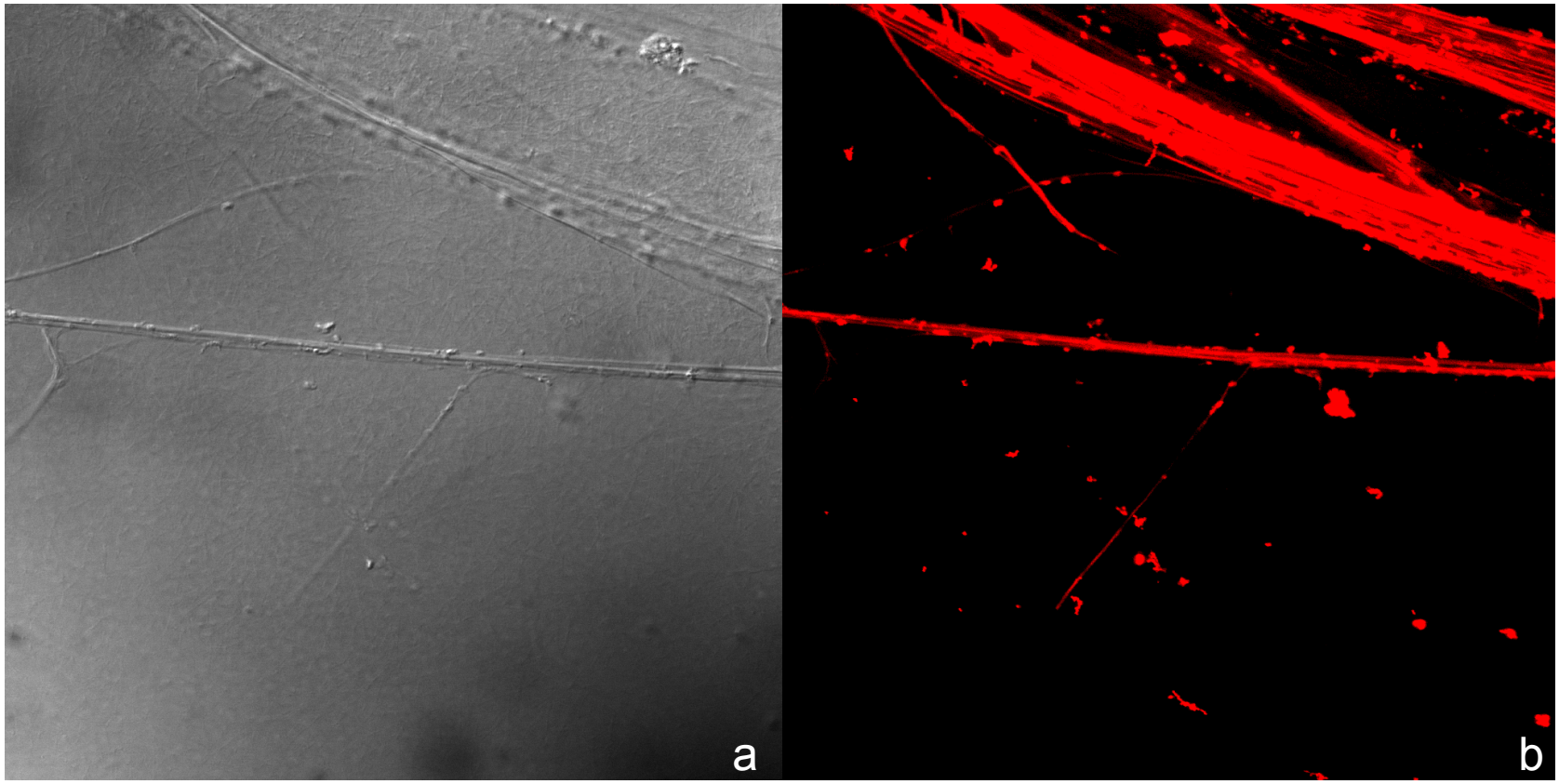


Figure S5