



SUPPLEMENTARY FIG. S3. Cell orientation and spatial correlation length. **(a)** A large mosaic image of the cell colony was divided into smaller subimages. Scale bar: $500\mu\text{m}$. In each subimage, the principal orientation (*red arrows*) of the cells was found using an orientation algorithm described in the Methods section. Then, the directional autocorrelation between any two subimages was calculated. If the orientation is parallel, $DA(R)=1$, while if it is orthogonal, $DA(R)=-1$. **(b)** The directional autocorrelation was then plotted in terms of the distance between the two subimages, R . If the average value of $DA(R)$ is 0, and the standard deviation of $DA(R)$ is large, then at a distance R , cell orientation is the most uncorrelated since $DA(R)$ is randomly distributed.