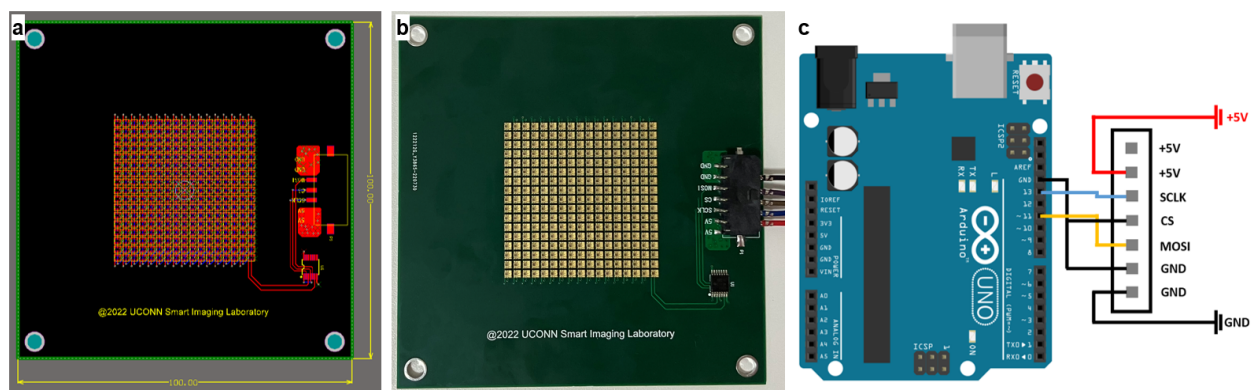
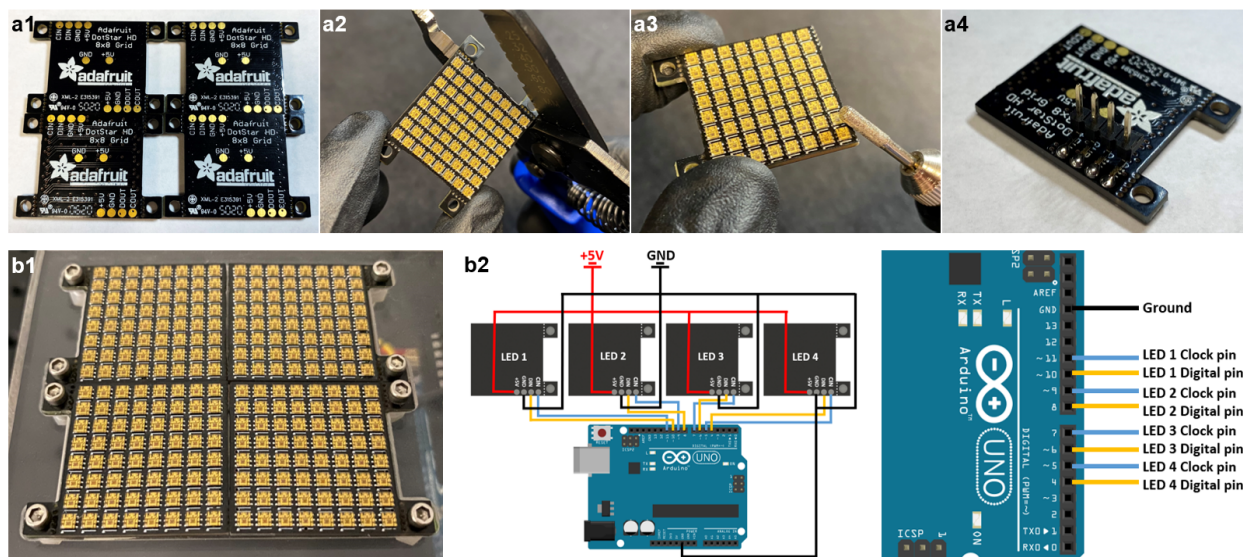

Supplementary information

**Spatial- and Fourier-domain ptychography
for high-throughput bio-imaging**

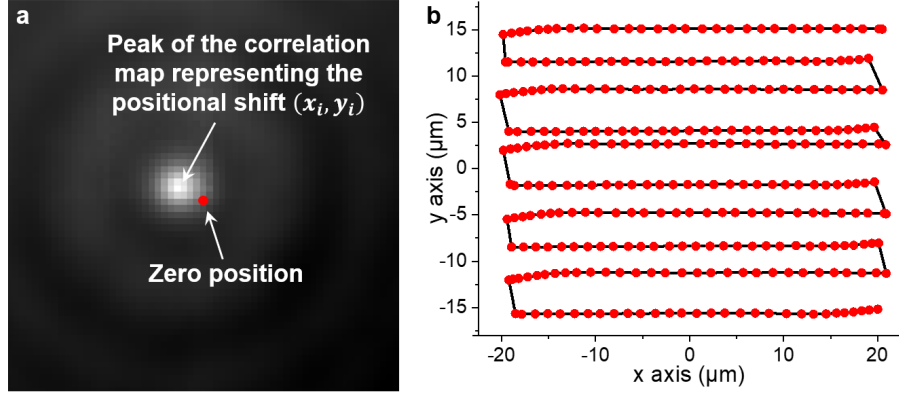
In the format provided by the
authors and unedited



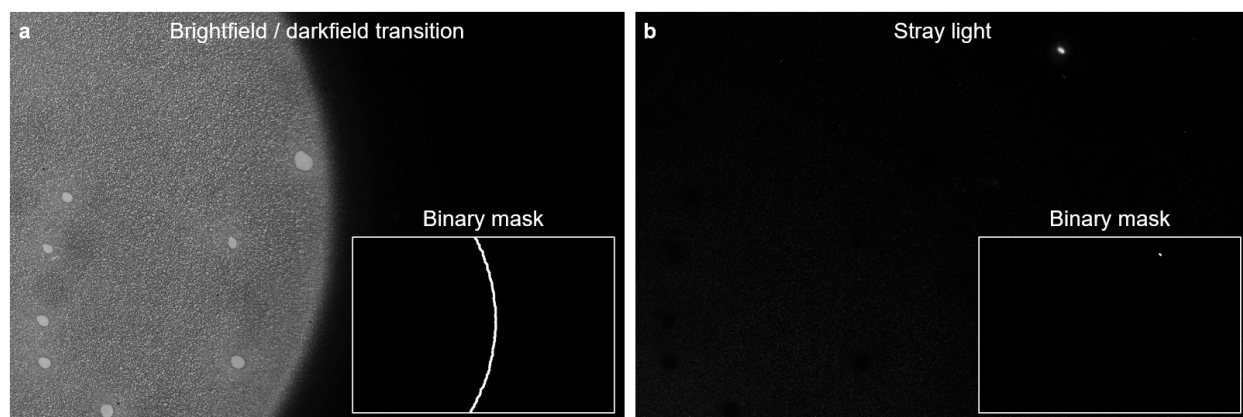
Supplementary Figure 1 | The planar LED array with 17-by-17 LED elements. (a) The design of the LED board. (b) The prototype of the LED array. (c) The wiring diagram of the LED array to the Arduino UNO board.



Supplementary Figure 2 | Illuminator preparation for FP. (a) The procedure for preparing 4 Adafruit Dotstar LED matrixes. (b1) The assembled planar LED array using the 4 LED matrixes. (b2) The wiring diagram of the planar LED array to the Arduino UNO board.



Supplementary Figure 3 | Positional tracking for CP. (a) The magnified view of the correlation map between the reference image and the measurement. (b) The estimated positional shifts of the coded sensor in a typical CP experiment.



Supplementary Figure 4 | Binary masks are generated to exclude certain regions of the captured images for FP reconstruction. (a) A binary mask for excluding the brightfield-to-darkfield transition region. (b) A binary mask for excluding the region exposed to stray light.