Electronic Supplementary Material (ESI) for Analyst.

SUPPLEMENTAL INFORMATION

Real-time imaging of cancer cell chemotaxis in paper-based scaffolds

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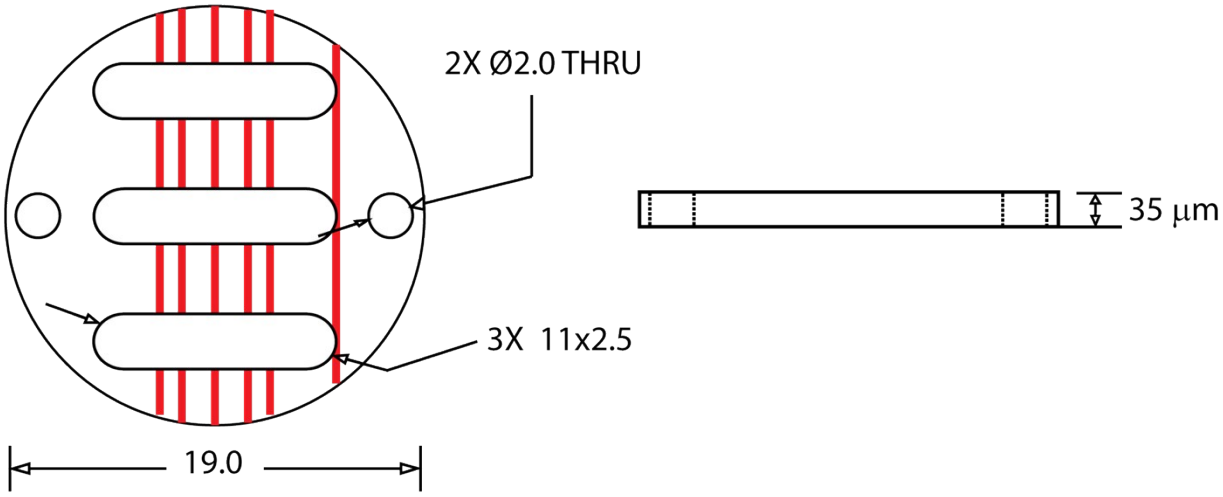
A



B

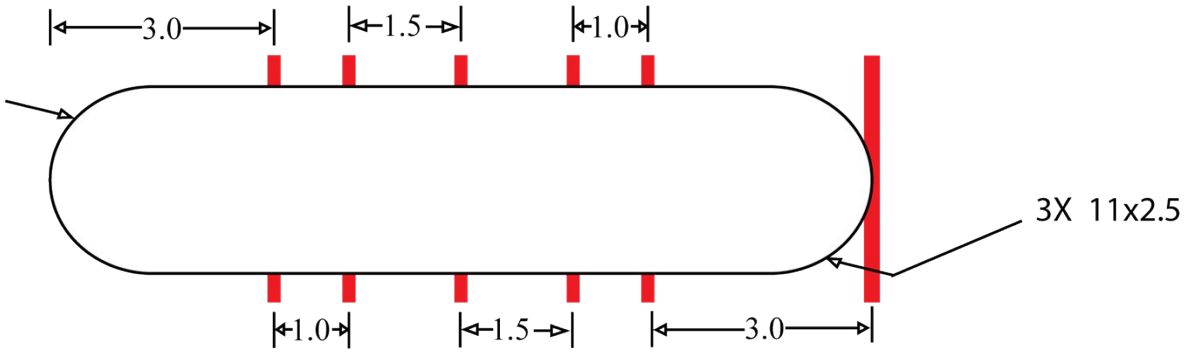


Figure S1. Schematic of a paper-based scaffold, designed in Adobe Illustrator: A) entire scaffold, and B) a single channel from the scaffold. The 2 mm holes on each side of the scaffold are present for assembling purposes and the red lines, which are wax printed, guide seeding and image alignment. All values are in units of millimeters.

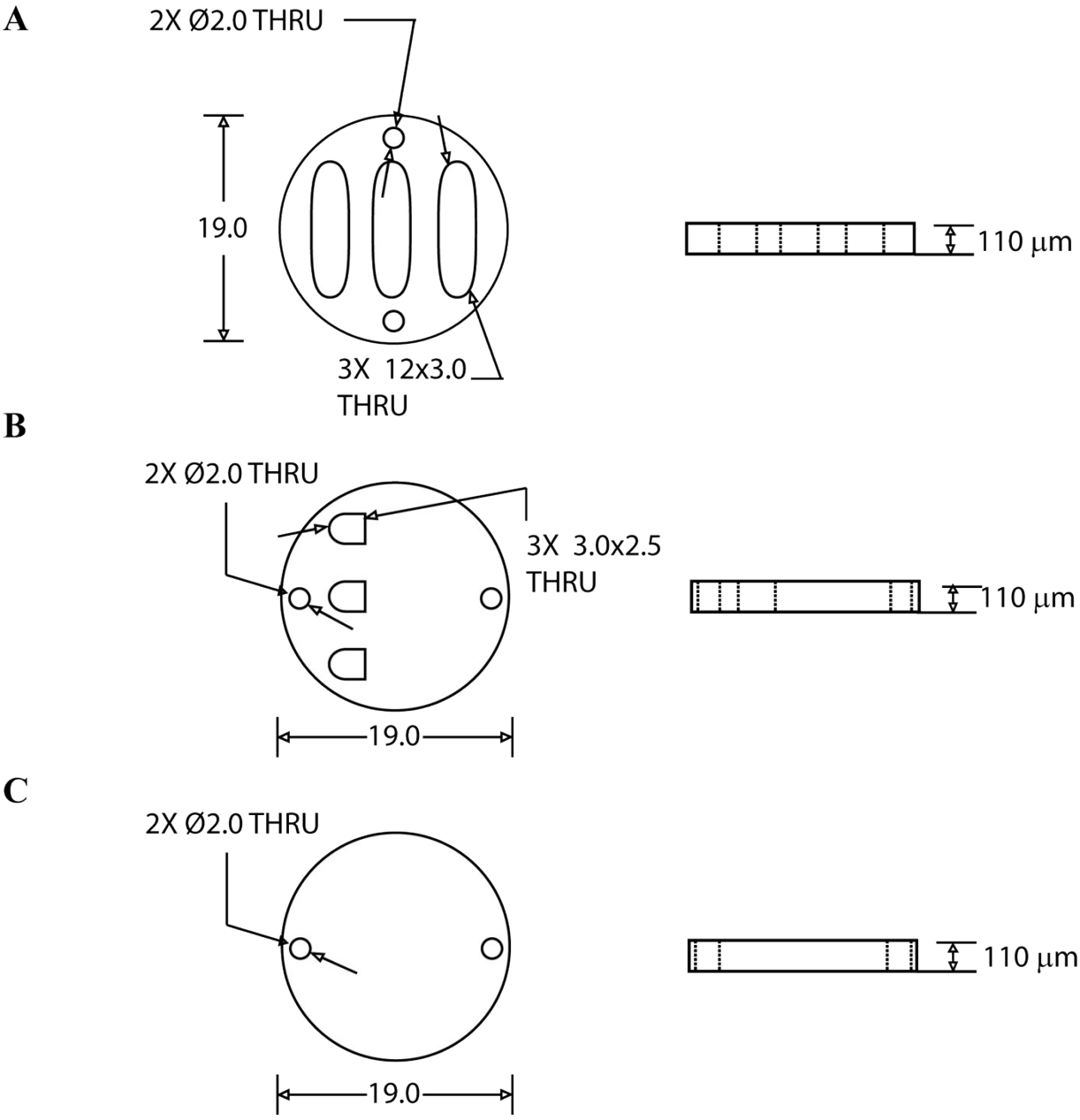


Figure S2. Schematic of cellulose acetate transparency films, designed in Adobe Illustrator: A) open design, B) partially open design (oxygen gradient), and C) closed design. The 2 mm holes on each side of the scaffold are present for assembling purposes. All values are in units of millimeters.

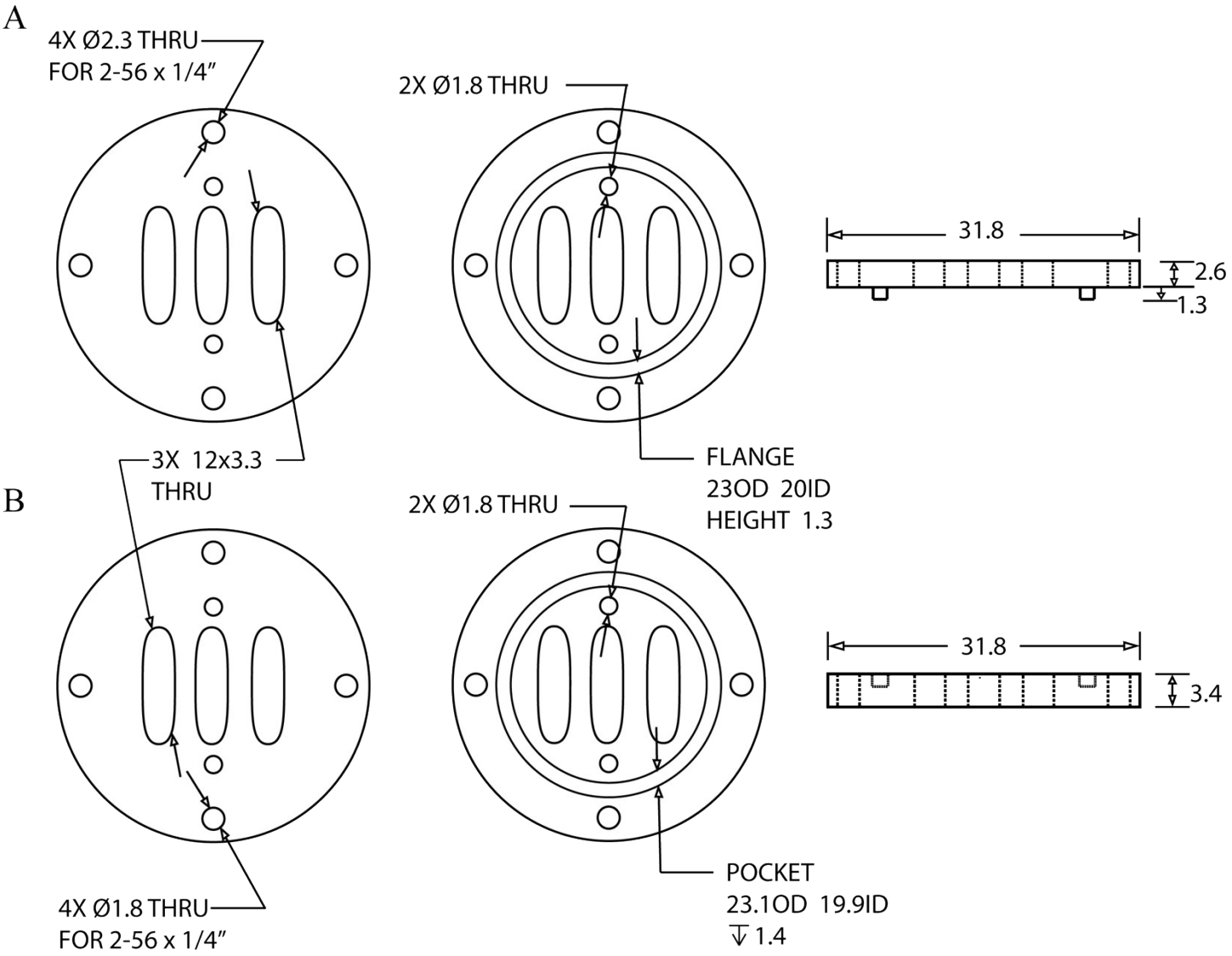


Figure S3. Detailed schematic showing each side of the A) top and B) bottom halves of the stainless steel holder used in the paper-based chemotaxis assay. Each holder contained three 12 x 3.3 mm channels, four (2.3 mm) holes for combining both halves with four (2-56 x 1/4 in.) screws, and two (1.8 mm) holes for alignment purposes during assay assembly. All values are in units of millimeters unless otherwise indicated.

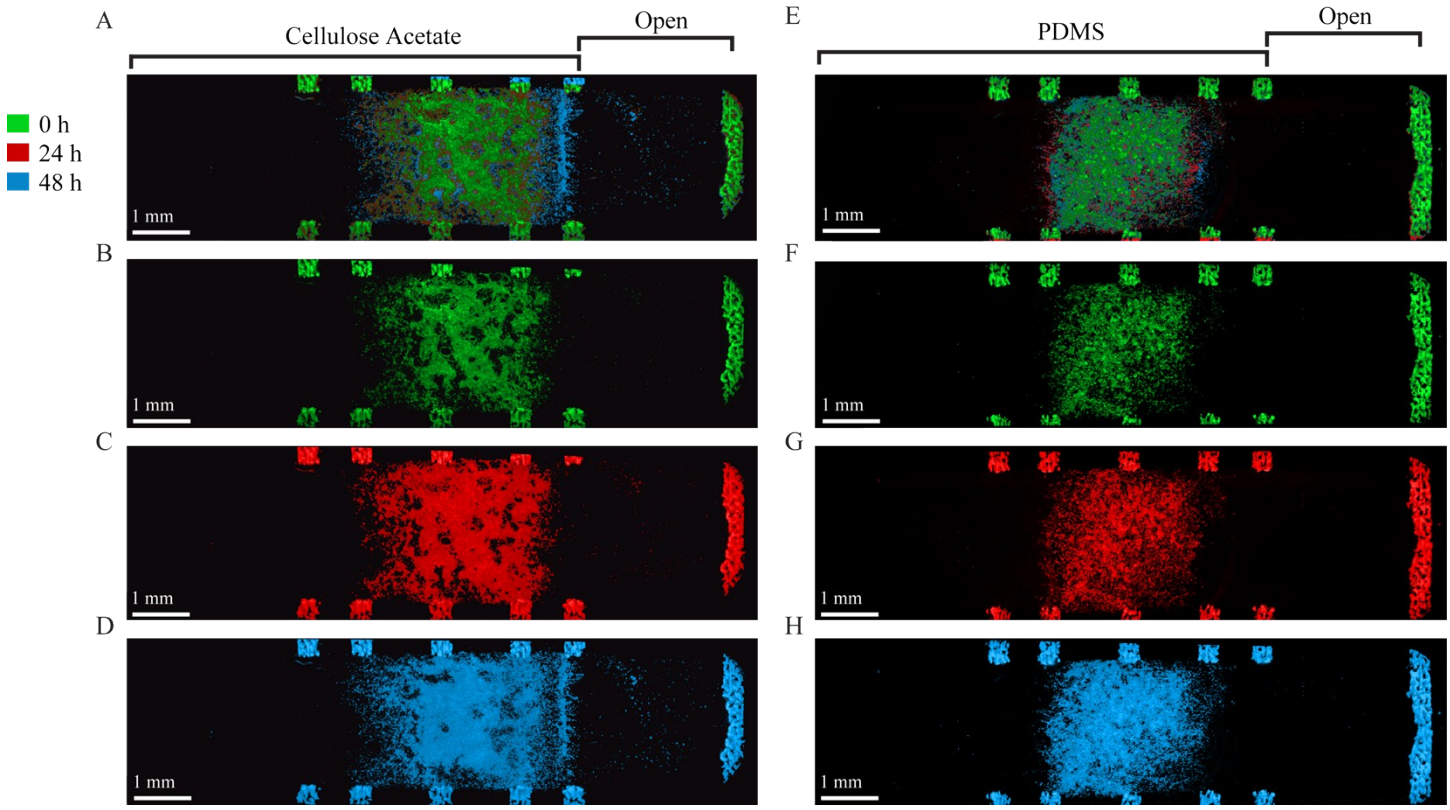


Figure S4. Representative images of a single invasion channel at the beginning of the experiment (t = 0 hours, green), after 24 hours (red), and 48 hours (blue) of incubation in the A) presence and B) absence of an oxygen gradient. Each image is a series of three images, stacked to show cellular movement in the channel as a function of culture time. Individual images of cells distributed in the channel at 0, 24, and 48 hours, in the B – D) presence and F – H) absence of the oxygen gradient.