## Supporting Information

## Under-oil open microfluidic systems for rapid phenotypic antimicrobial susceptibility testing

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**Fig. S1** Atomic force microscopy (AFM) characterization of a glass surface before and after PDMS-silane RT-CVD treatment and oxygen plasma treatment for surface patterning.













P. aeruginosa (Gentamicin – 5 μg/mL) 4 0 4 h. 5 h, 1 h , н 9 7 h 3 h













Fig. S2 Bright-field image (60× magnification) sequence from the time lapse in Fig. 2.



**Fig. S3** The CytoSmart Omni system in a standard  $CO_2$  incubator and the graphic user interface (GUI) for image thresholding and object identification in the confluency analysis.

Movie S1 Time lapse (12 h, 60× magnification)\_P. aeruginosa (PA 01)\_Control no drug (3600× accelerated)

**Movie S2** Time lapse (12 h, 60× magnification)\_*P. aeruginosa* (PA 01)\_Ciprofloxacin 0.125 µg/mL (3600× accelerated)

Movie S3 Time lapse (12 h, 60× magnification)\_P. aeruginosa (PA 01)\_Getamicin 1 µg/mL (3600× accelerated)

Movie S4 Time lapse (12 h, 60× magnification)\_P. aeruginosa (PA 01)\_Colistin 0.25 µg/mL (3600× accelerated)

Movie S5 Time lapse (12 h, 60× magnification)\_P. aeruginosa (PA 01)\_Meropenem 0.5 µg/mL (3600× accelerated)