



**Supplementary Fig. S3.** Cell displacement in the cell attraction process. **(A)** Schematic illustration of the displacement (gray) of a cell from the course of successful impalement (red) is shown. Gravitation (left), horizontal displacement (middle), and jet streams (right) are the most important factors preventing the cell from being impaled. The axes are chosen in accordance to the illustration of the measuring chamber in *Figure 2A*. **(B)** Possible electrode design for high-throughput devices. The cell tray should allow the impalement of a cell without its displacement to the electrode base. **(C)** The theoretical electric field gradient evoked by cell tray electrodes is shown. Such electrode forms can be realized by 2PP (see the Results and Discussion section). 2PP, two-photon polymerization.