Electronic Supplementary Material (ESI) for Lab on a Chip.

Supplementary Information

List of supplementary items

Movie S1: Co-encapsulation of virus and host cells in 100um drops

Movie S2: Re-injection of 100um drops containing virus and cells after 24 hours of incubation at 37C and after heat shock.

Movie S3: Spacing of re-injected drops with oil

Movie S4: Splitting of re-injected drops and fusion of the split drops with RT-PCR mix.

File S1,S2: DetectionAnalysis.m and DetectionAnalysis.fig Matlab GUI code for analyzing text files recording drop size and fluorescence by the drop reader.

File S3: an example of a text file recorded from reading the drops analyzed in figure 3A.

Figure S1. Sensitivity analysis of Drop-based infectivity measurements.

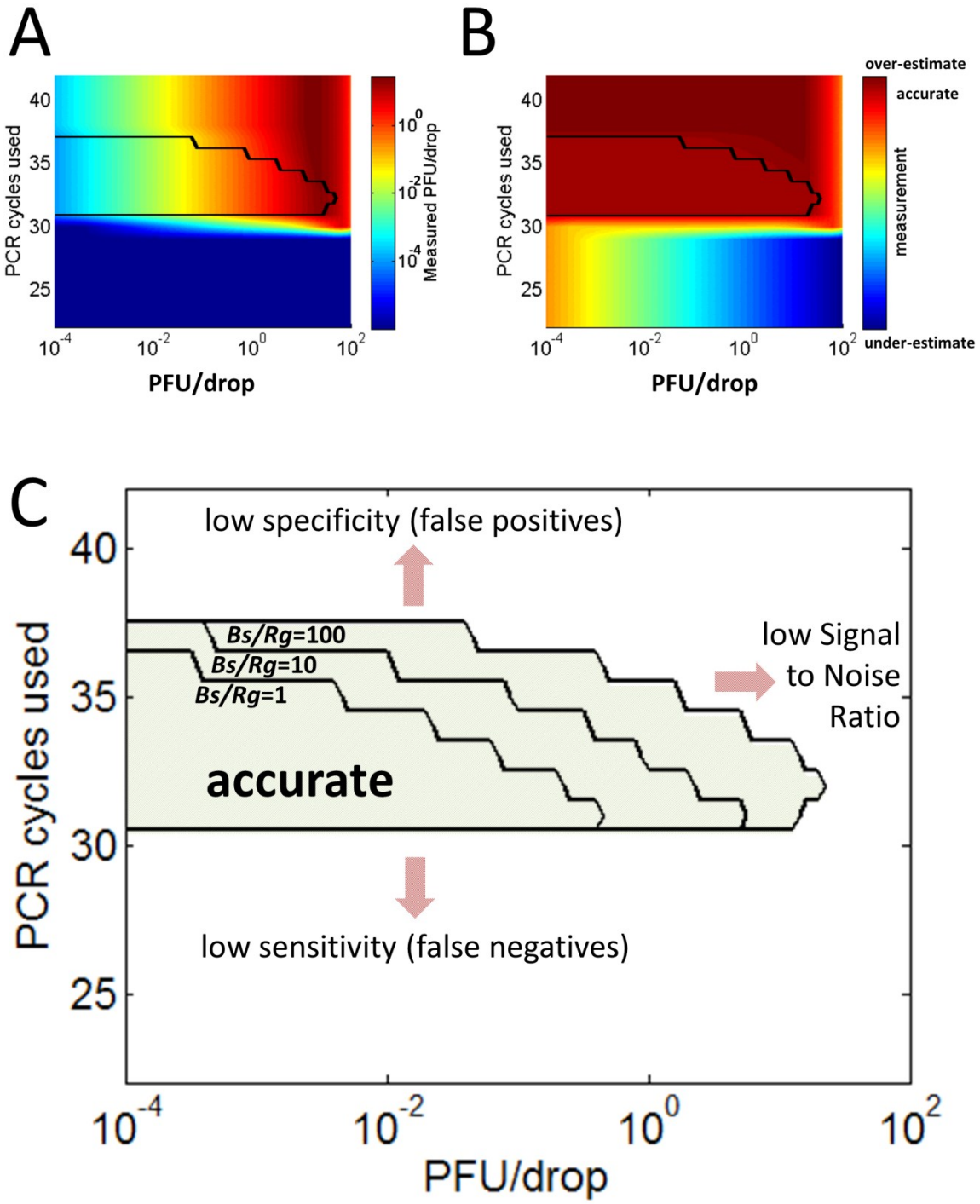

Figure S1. Sensitivity analysis of Drop-based infectivity measurements. A) A heat map showing a simulation of the measured PFU/drop as a function of the input PFU/drop and the number of PCR cycles used; the simulated virus had a burst size to infectivity ratio of *Bs/Rg*=100 and the simulated split-off samples from drops with infected cells each contained 100 genomes. The black border frames a region where the measured PFU concentration is accurate. B) A heat map showing the logarithm of the ratio between the measured PFU/drop from A and the input PFU/drop. C) The region of accurate measurements from A, B is overlaid on similar regions simulated for viruses with Bs/*Rg*=10 and *Bs/Rg*=1. See main text (Page 4) for more details.