

Supporting information for:

Response Time Dynamics of a Membrane-Based Microfluidic Gas Sensor

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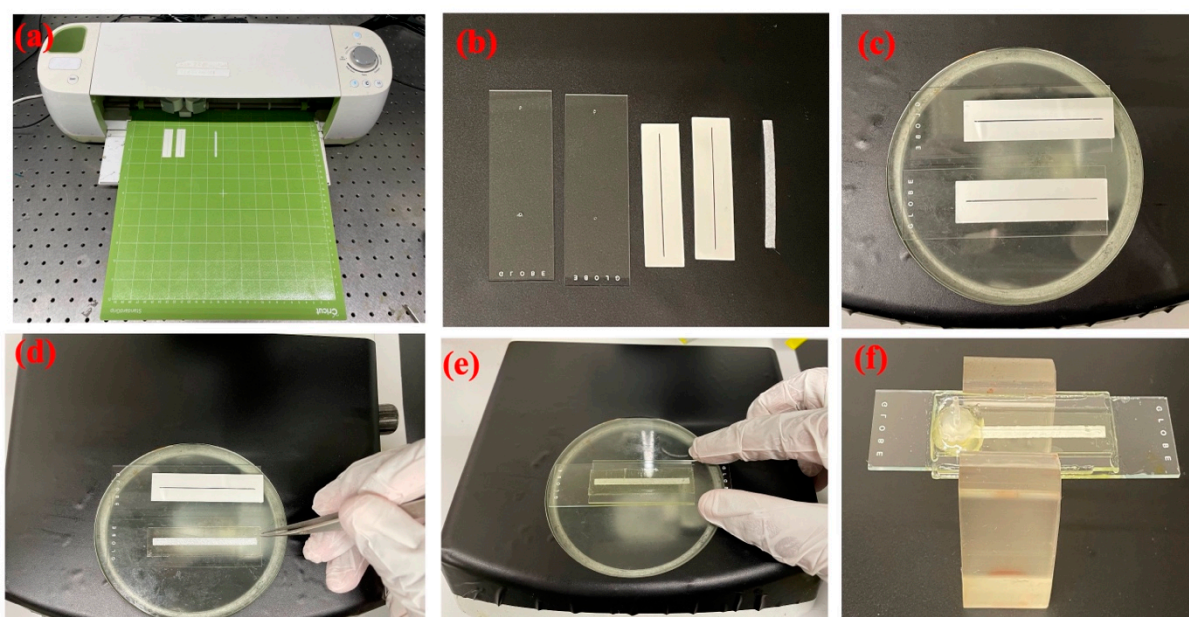


Figure S1. Image sequence describing the assembly of the membrane-based microfluidic platform (a) Cutting the Microchannels in double-sided tape using a Cricut machine (b) Cleaned glass slides (with holes for inlet and outlet), double-sided tapes, and hydrophobic PTFE membrane (c) Double sided tapes stuck to the glass slides. One acts as a microchannel for gas flow. The other microchannel is used to contain the liquid (d) PTFE membrane (with the smooth side facing the liquid microchannel) is stuck to the double-sided tape with the liquid microchannel (e) Glass slide containing the gas microchannel is aligned with the liquid microchannel and stuck together (f) Flow ports are placed in the inlets and completely sealed using epoxy.

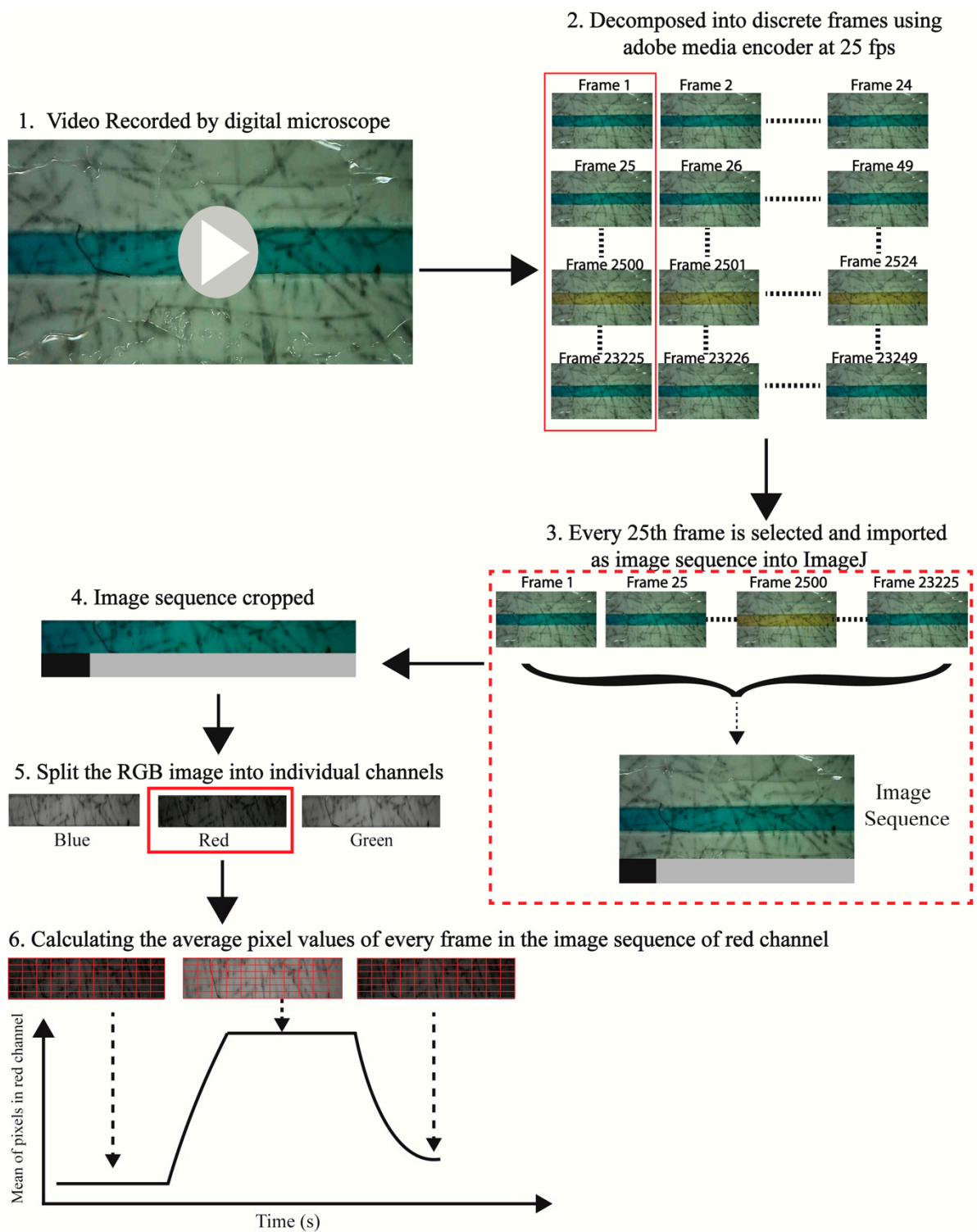


Figure S1: Schematic of image analysis

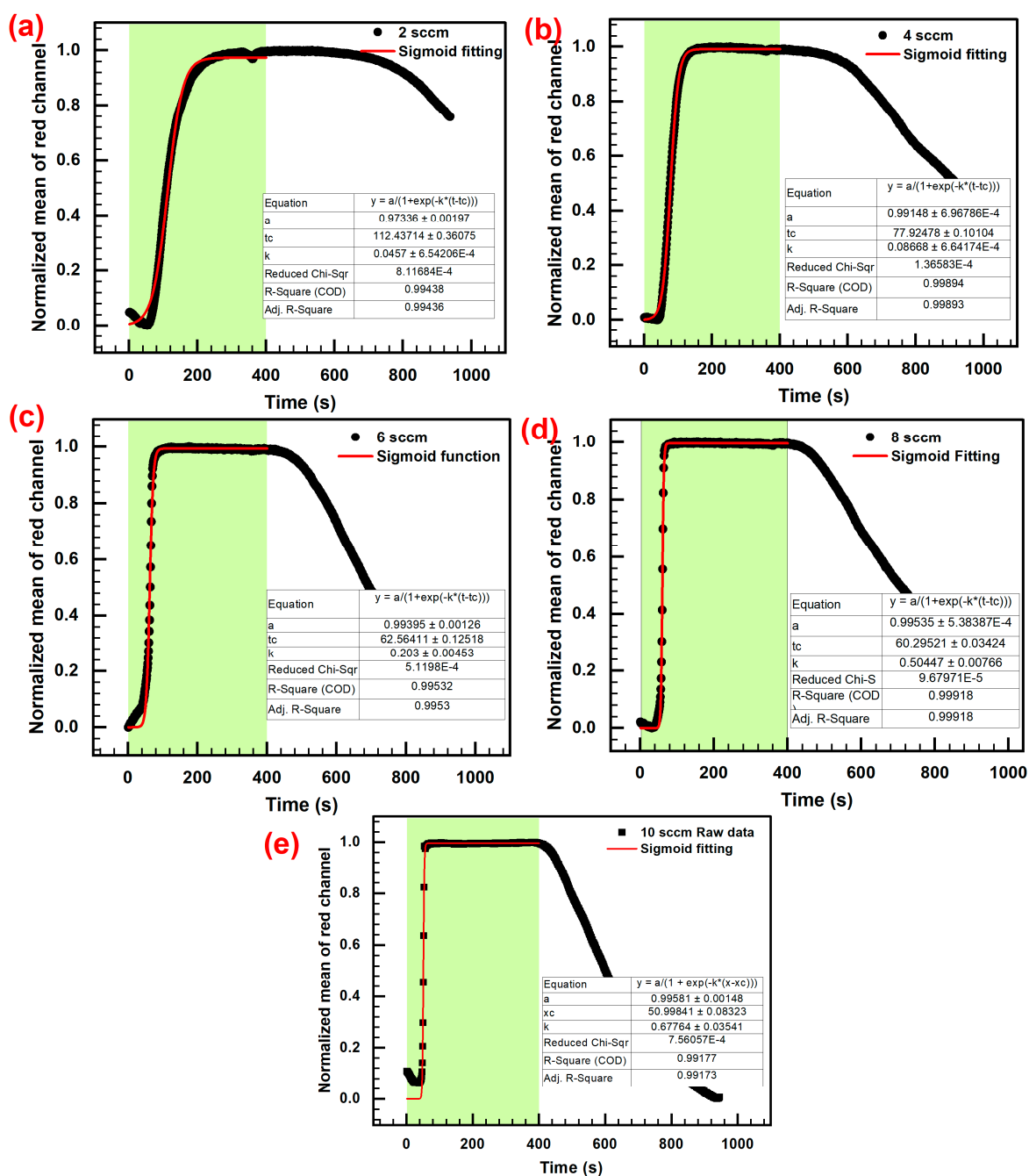


Figure S3. Results from fitting (with sigmoid function) the saturation part of the response produced by flow rate (a) 2 sccm (b) 4 sccm (c) 6 sccm (d) 8 sccm (e) 10 sccm.

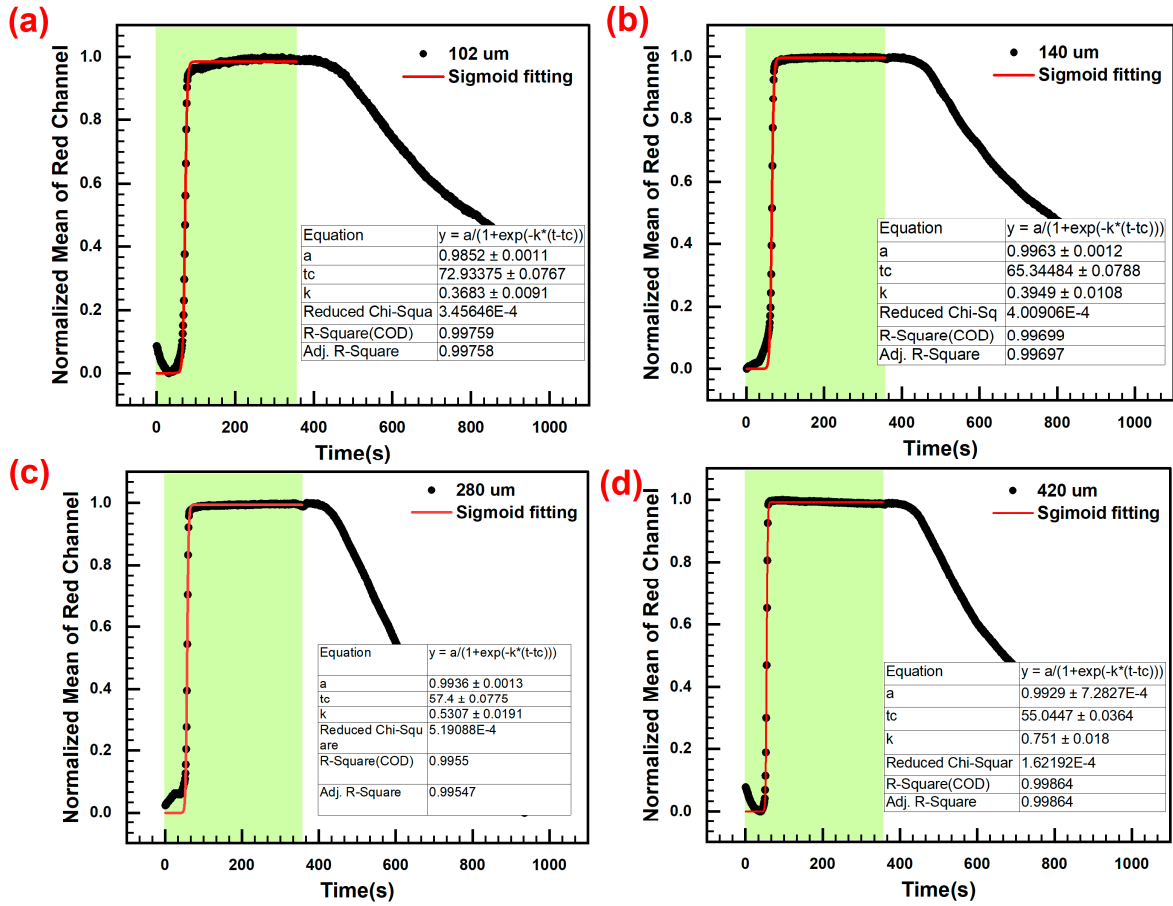


Figure S4. Results from fitting (with sigmoid function) the saturation part of the response produced by a device with gas microchannel thickness (a) 102 μm (b) 140 μm (c) 280 μm (d) 420 μm .

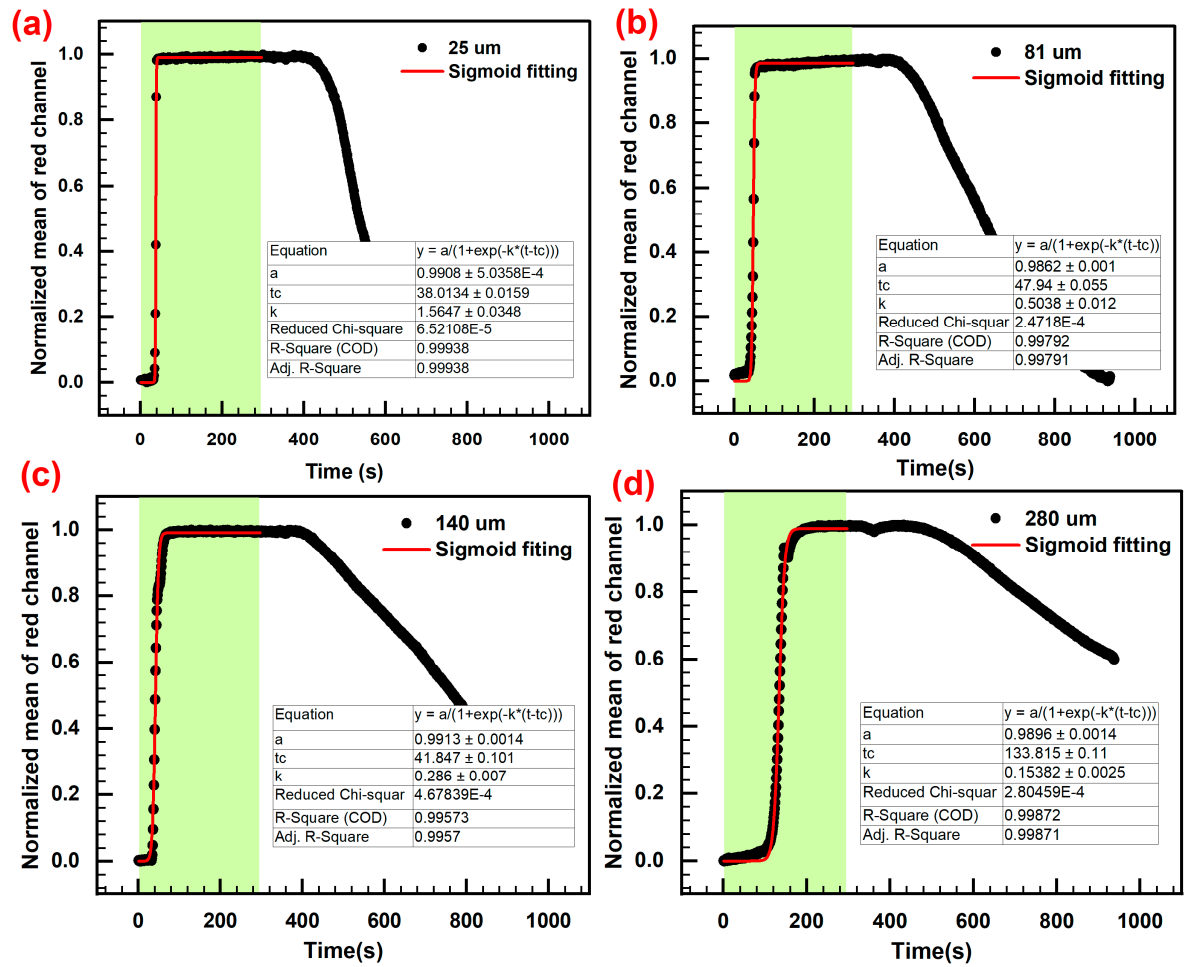


Figure S5. Results from fitting (with sigmoid function) the saturation part of the response produced by a device with liquid microchannel thickness (a) 25 μm (b) 81 μm (c) 140 μm (d) 280 μm .