Electronic Supplementary Material (ESI) for Nanoscale.

Supplementary Information for

Suspended single-walled carbon nanotube fluidic sensors

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S1. Time traces for a suspended SWNT device at a fixed flow rate

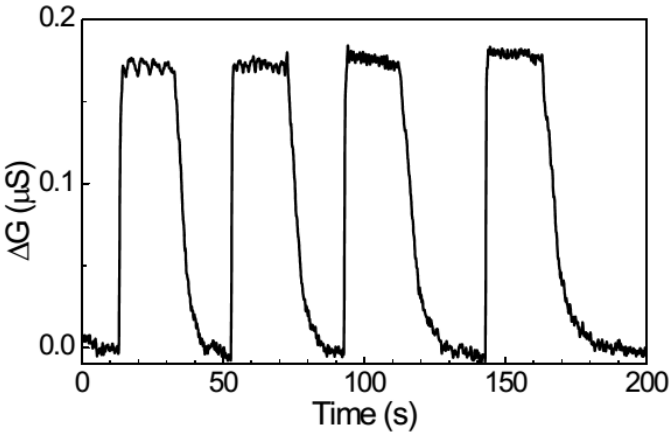

Fig. S1 Conductance were measured for a partially suspended SWNT device at V_{SD} = 10 mV and V_{wg} = 0 V as a function of time with flow switched on and off at a flow rate of 1 μL/min (0.42 mm/s). The source and drain electrodes are passivated by SiO_2 layers. In general, the devices with the passivated electrodes exhibit a fast time-response. The rise time (10%–90%) is measured at 0.5 s, whereas the decay time (90%–10%) is relatively large, yielding 7 s.

S2. Upstream *vs* downstream for suspended SWNT device

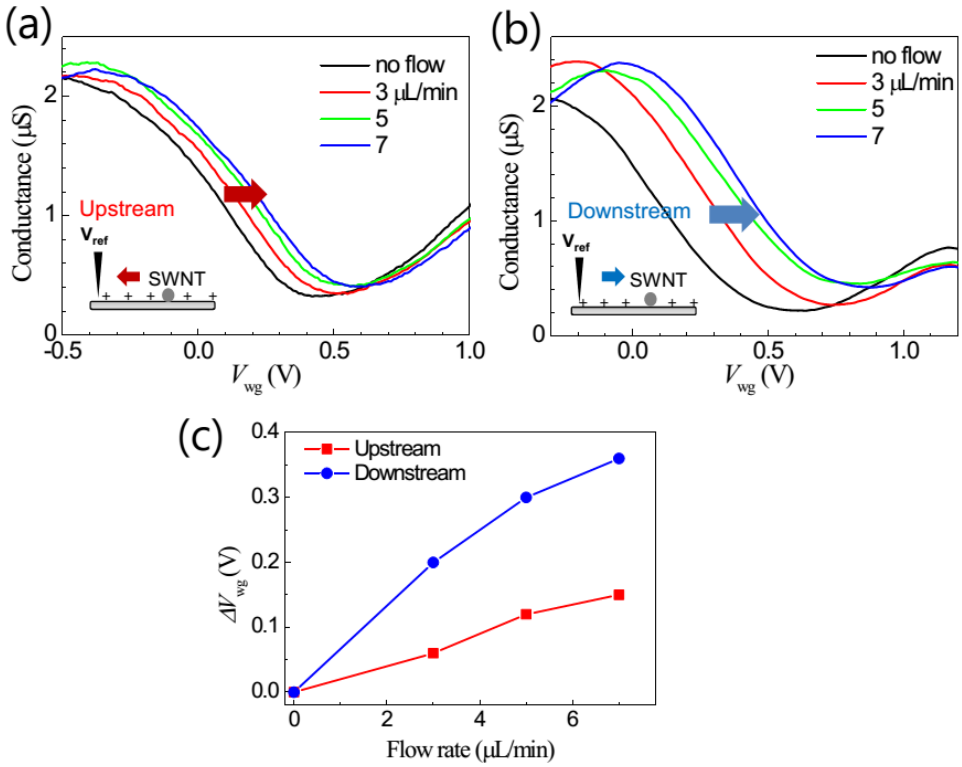

Fig. S2 (a) DC conductance versus gate bias voltage at flow rates of 3, 5, and 7 μL/min for an upstream condition. (b) As in (a) for the downstream condition. (c) Plot of ΔG as a function of flow rate for both upstream (squares) and downstream (circles) conditions.

S3. Gate shift as a function of gate sweep direction

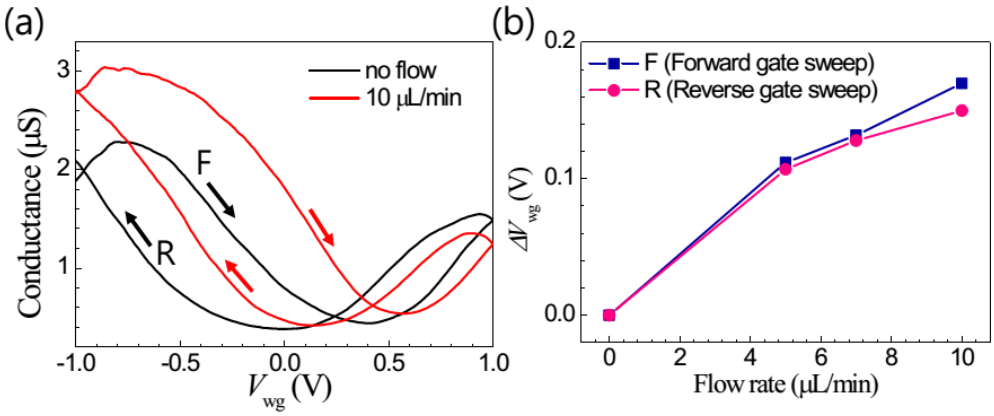

Fig. S3 (a) Conductance as a function of V_{wg} for a partially suspended SWNT device at flow rates 0 μL/min (black line) and 10 μL/min (red line). The sweep speed was at 200 mV/s. F and R represent forward and reverse bias sweep directions, respectively. (b) Plot of ΔV_{wg} as a function of flow rate for forward (squares) and reverse (circles) bias sweep directions.