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

3D-printed glycerol microfluidic fuel cell

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Section I: Printing parameters and microfluidic fuel cell

Table S1. Printing parameters of the microfluidic fuel cell

Piece	*BT/min*	*FL/cm*	*PW/g*	*MC/US$*	*Resolution (Slice thickness)/ mm*
µFC (PLA)	16	~85.00	2.54	0.38	0.1
Bottom part	6	~52.00	1.34	1.47	0.1

BT = Building time; FL=Filament length; PW=Plastic weight; MC=Material cost.

Section II: Performance of the 3D-printed direct glycerol microfluidic fuel cells

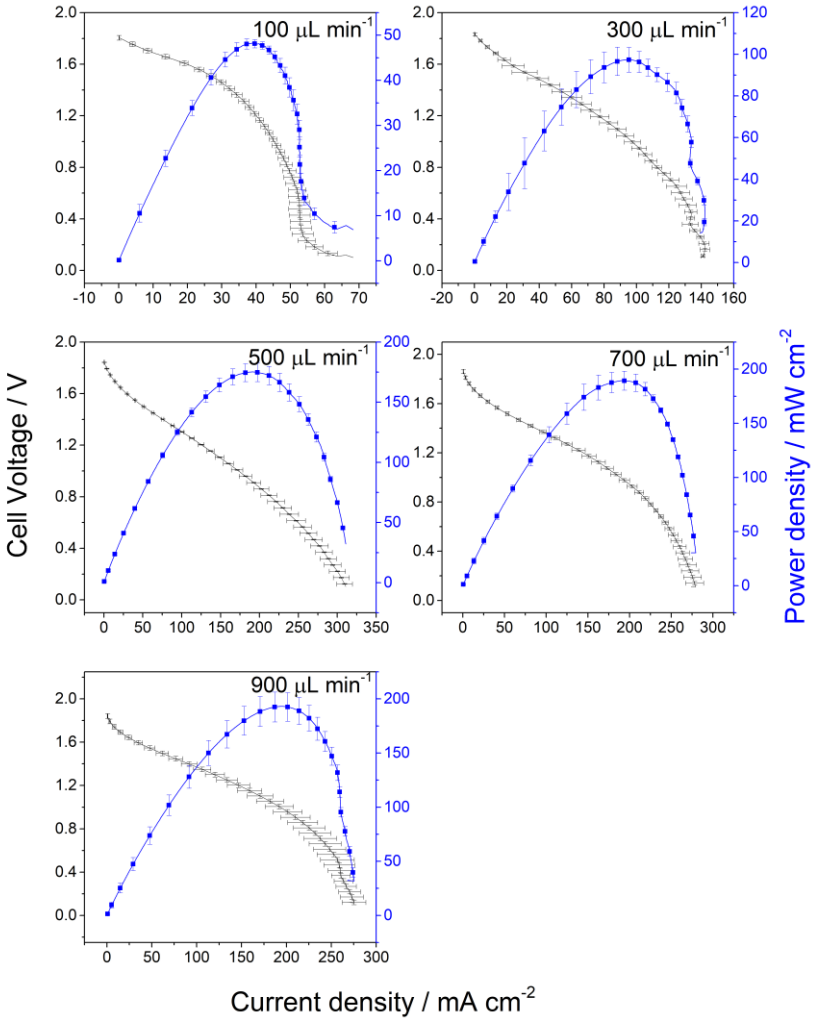

Figure S1. Polarization and power density curves for the 3D-printed direct glycerol mixed-media microfluidic fuel cell with Pt/C/CP as anode and cathode in the flow-through configuration. Microfluidic fuel cells were fed by N_2-saturaded 1 M of glycerol in 1 M KOH and 1 M H2SO4 6% HClO. Polarization

curves were measured from open-circuit voltage to 0.1 V at 0.01 V s^{-1}. The different flow rates are annotated in the figure.

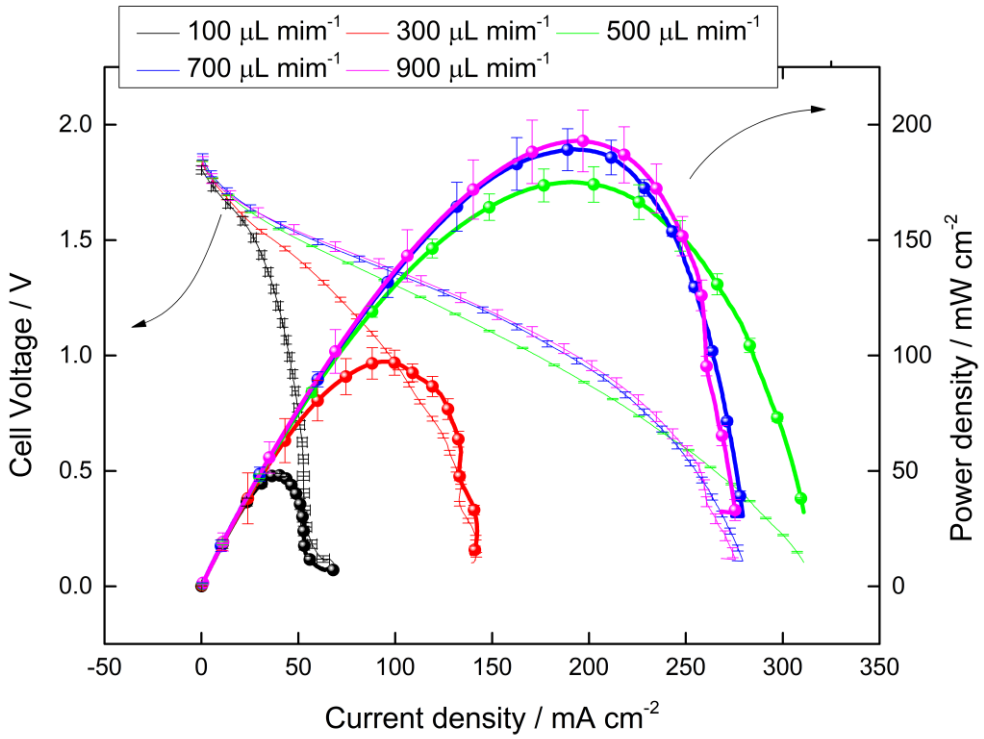

Figure S2. Polarization and power density curves for the mixed-media direct glycerol 3D-printed microfluidic fuel cell with electrodes in a flow-through configuration. Polarization curves were measured from open-circuit voltage to 0.1 V at 0.01 V s-1 for N_2-saturated 1 M glycerol in 1 M KOH and 1 M H_2SO_4 in 6% NaClO. All measurements performed in triplicate at flow rates indicated in the Figure.