Supplementary Information

Rubik's Cube as Reconfigurable Microfluidic Platform for Rapid Setup and Switching of Analytical Devices

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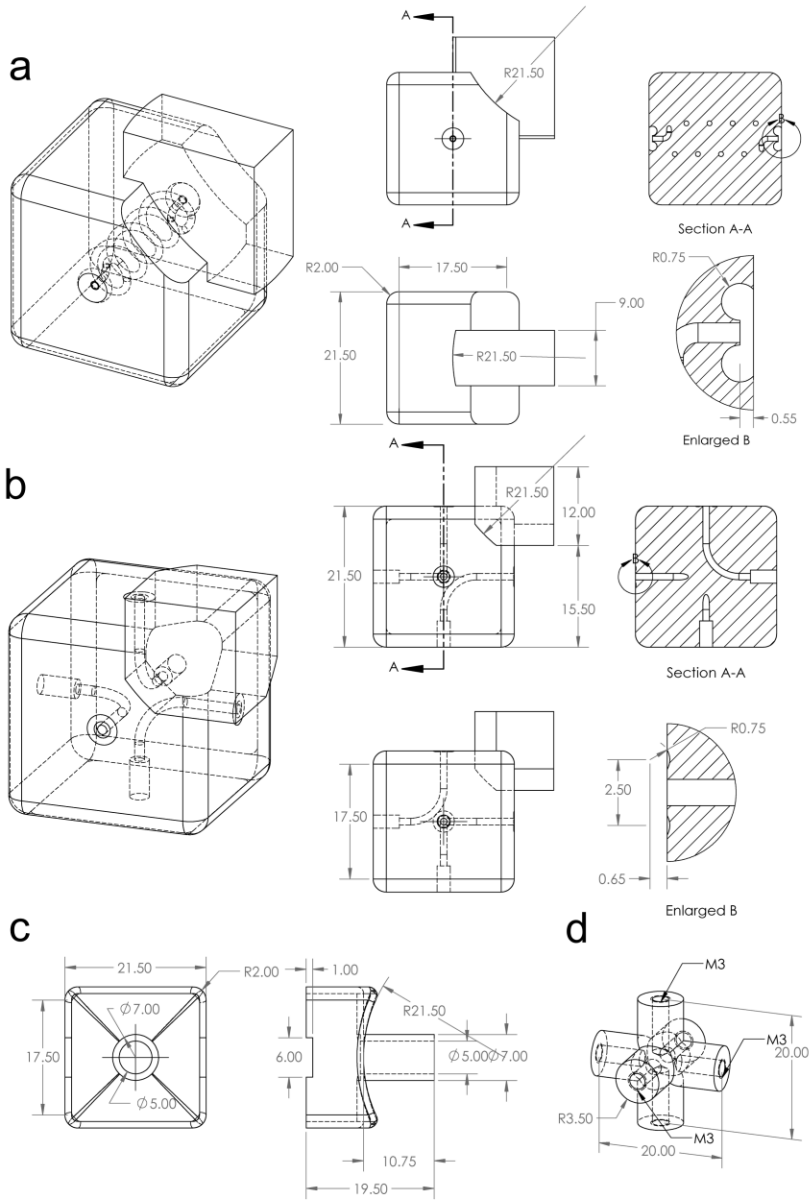

Figure S1 Dimensions of the major components of the microfluidic cube. (**a**)**.** An edge block with a spiral channel. Right bottom: enlarged view of the O-ring embedding torus concave. (**b**)**.** A corner block of 3-way inlets/outlets. Right bottom: enlarged view of the O-ring fitting torus concave. (**c**)**.** A central block. (**d**)**.**The cube core. All values are in mm.

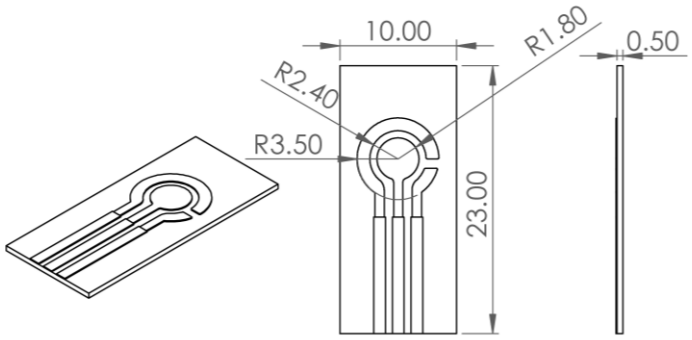

Figure S2. Dimensions of the three-electrode electrochemical sensor. Unit: mm.

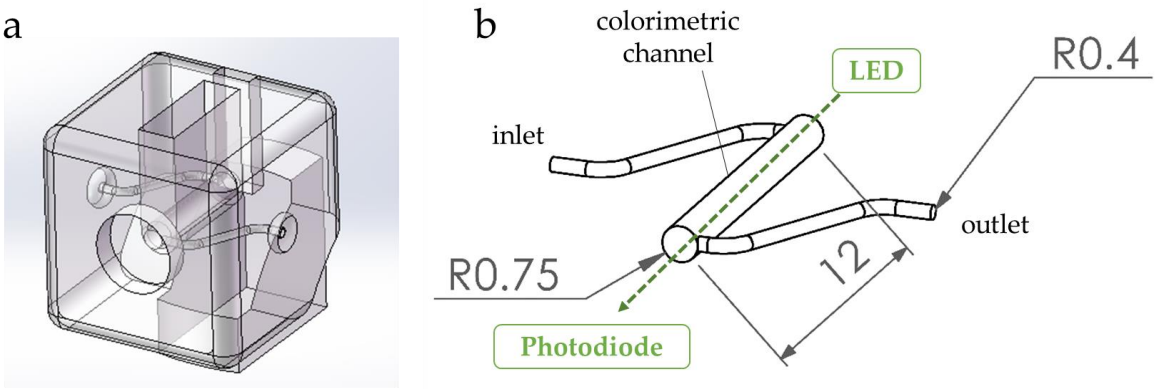

Figure S3. Dimensions of the colorimetric module. (**a**)**.** A transparent illustration of the colorimetric module frame (without black epoxy resin, LED, and photodiode). (**b**)**.** Geometry and dimensions of the actual fluid channel inside the module. Unit:mm.

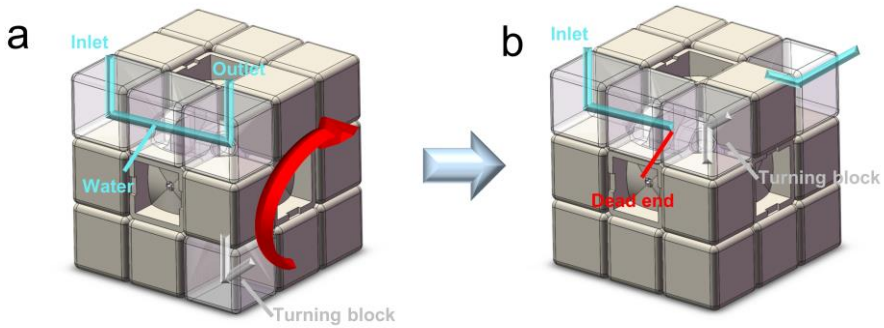

Figure S4. Experimental setup of the pressure resistance test of the microfluidic cube. (**a**)**.** At first, The microfluidic cube is configured to have 3 blocks: Inlet, straight channel and outlet. Water is injected into the cube to fill the channel. (**b**)**.** Afterward, turn a turning corner block to replace the outlet block to form a dead end for the microchannel. Then, the pressure generated by an air compressor and a pressure relief valve is applied to the inlet to verify the pressure resistance.