

### Supplementary Information (SI):

#### Vortex fluidics mediated non-covalent crosslinking of tannic acid and gelatin for entrapment of nutrients

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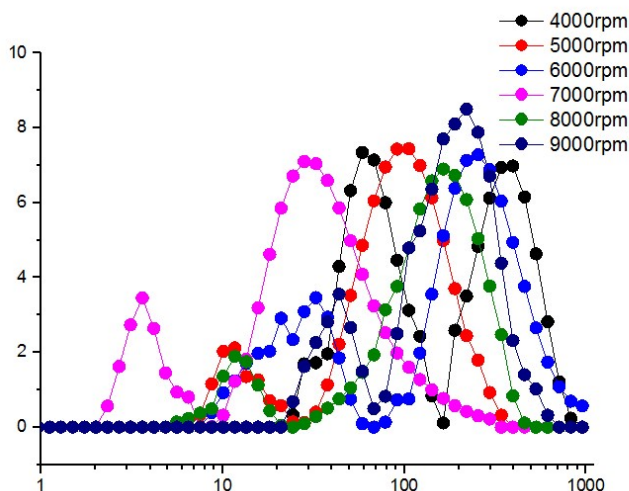
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#### Optimization of the rotational speed, flow-rate and tilt angle for preparing cross-linked gel

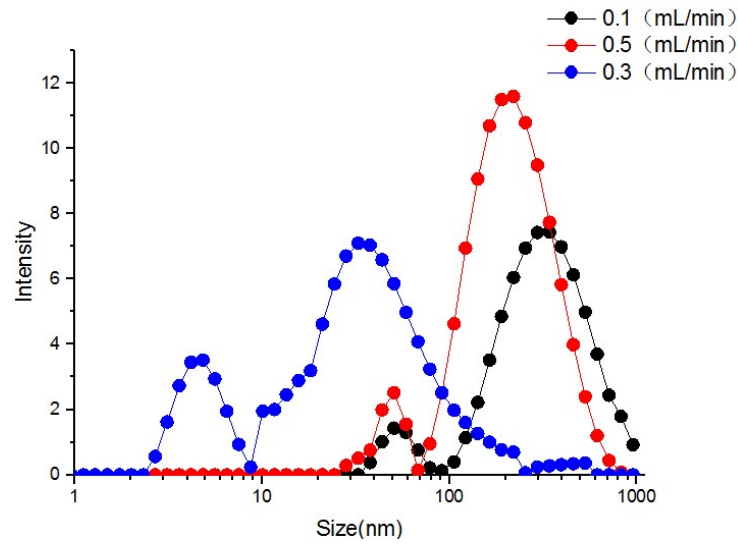
Gels were formulated using gelatin and tannic acid. At the optimized condition, gelatin and tannic acid were mixed with a pH of 6. Briefly, the mixed solution was introduced into the borosilicate glass tube (20 mm OD, 17 mm ID) in the VFD through a jet-feed, with the tube rotating at 7000 rpm, at a flow-rate of 0.3 mL/min, with the tilt angle of the tube at 45°, and the device operating at room temperature. The data for optimizing the rotating speed, flow-rate and tilt angle are shown below:

#### Speed optimization:



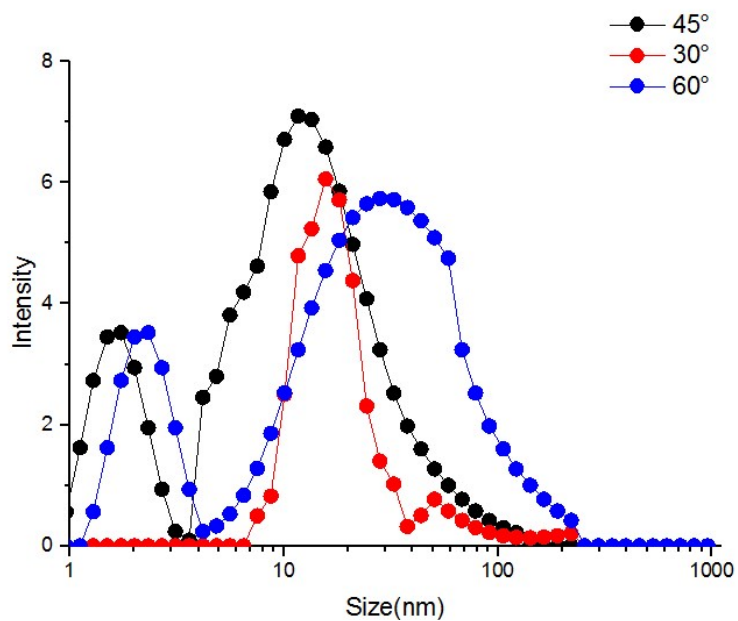
**Figure S1.** Dynamic light scattering (DLS) data for cross-linked gels prepared using a vortex fluidic device (VFD) operating at different rotating speeds, for a fixed tilt angle (45°) and flow rate (0.3 mL/min).

### Flow-rate optimization:



**Figure S2.** Dynamic light scattering (DLS) data for cross-linked gels prepared using a vortex fluidic device (VFD) operating at different flow rate, with a fixed rotational speed (7000 rpm) and tilt angle (45°).

**Angle optimization:**



**Figure S3.** Dynamic light scattering (DLS) data for cross-linked gels using a vortex fluidic device (VFD) operating at different tilt angles, with a fixed rotational speed (7000 rpm) and fixed flow rates (0.3 mL/min).