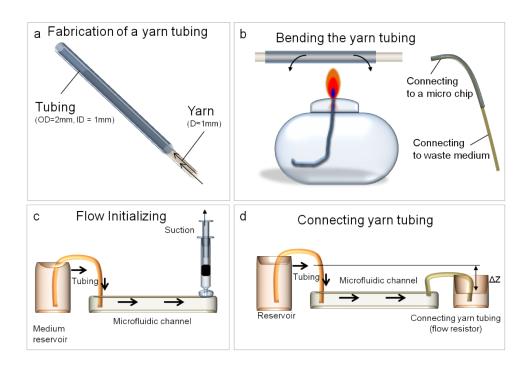
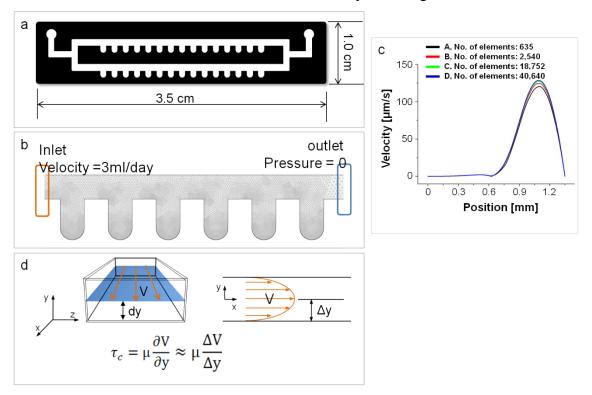
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Supplementary Fig. 1 Fabrication and flow initialization through the YFR integrated into the microflow control system.



Supplementary Fig. 2

Dimensions of the microfluidic channel and CFD analysis setting.



Supplementary Fig. 3

Optical microscopy images of the endothelial cell alignment under flow or static conditions at day 5 of culturing.

Flow condition day 5

Non-flow condition day 5