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Supplementary Information

Elastomeric Free-Form Blood Vessels for Interconnecting Multiple Organs on Chip Systems†

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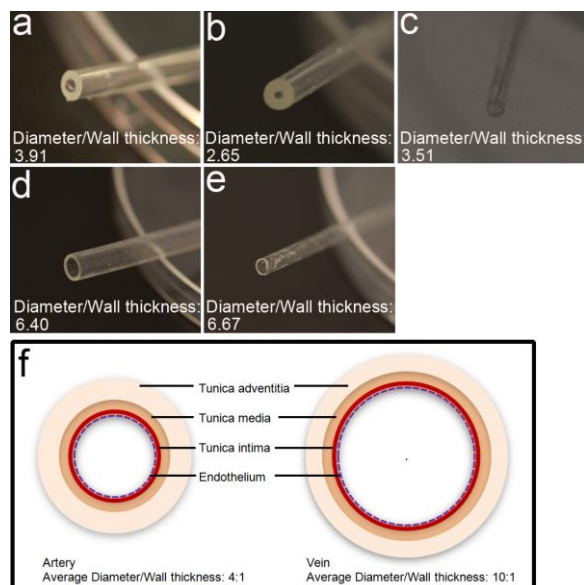
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Supplementary Table. S1 Elastic moduli of Elastin, PDMS, and selected commercial polymer-based materials.

Materials	Young's Modulus (kPa)
Elastic fiber in blood vessel	280—500* ²⁵⁻²⁸
PDMS (20:1 to 3.3:1 ratio of monomer to curing agent, 70 to 190°C curing temperature)	Approx. 200—4000 ^{†32}
Polytetrafluoroethylene (PTFE)	500
Polycarbonate	2,600
Polyvinyl chloride	2,900

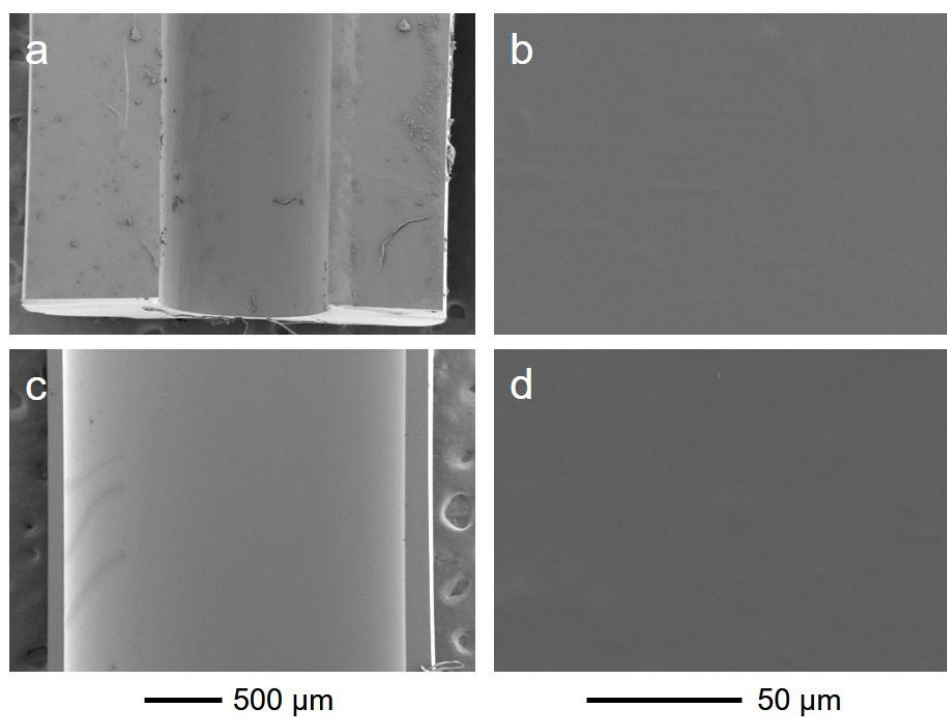
*†see the reference paper list in the main text

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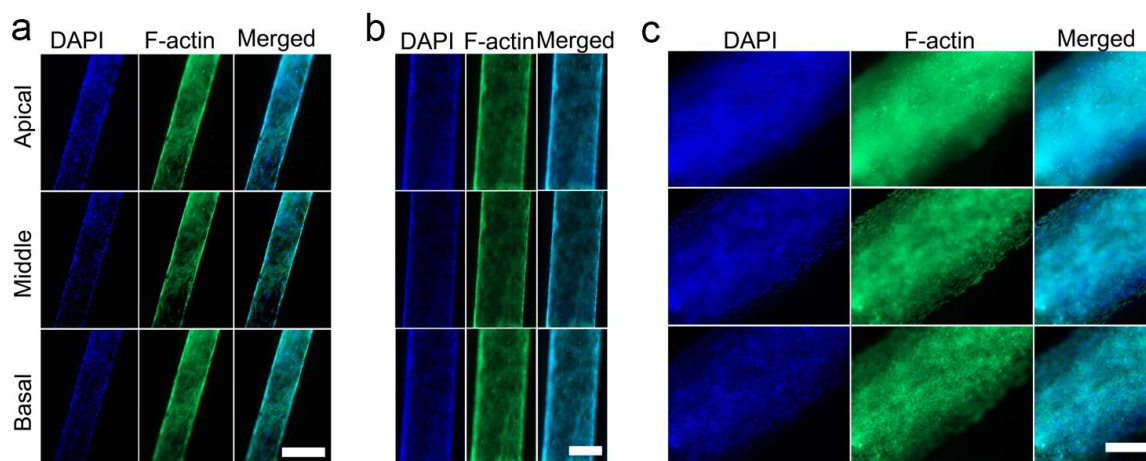
Supplementary Fig. S1 (a-e) PDMS tubes with a range of different ratios of diameter to wall thickness. (f) Ratio range of diameter to wall thickness of human blood arteries and veins.

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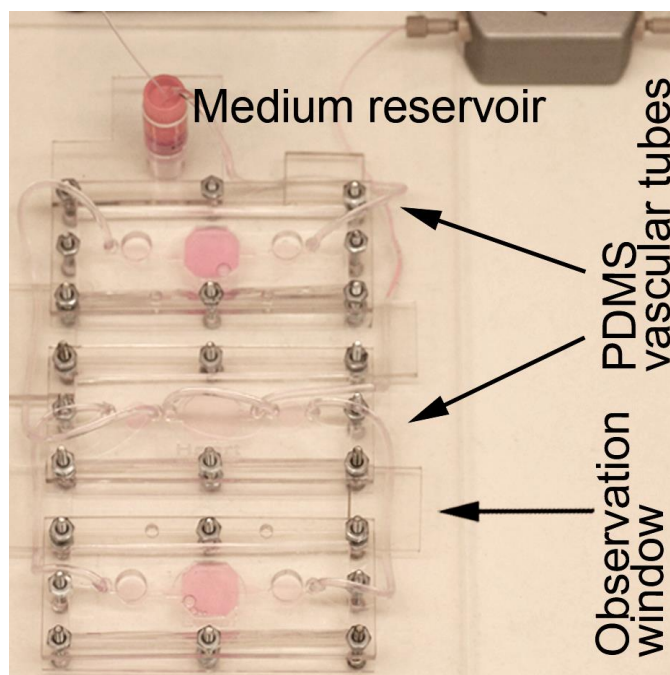


Supplementary Fig. S2 SEM images showing the inner surface of PDMS tubes fabricated from (a, b) hard templating and (c, d) soft templating.

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Supplementary Fig. S3 (a-c) Fluorescence micrographs showing the endothelialized PDMS tubes with diameters of (a) 0.28 mm, (b) 0.64 mm, and (c) 1.27 mm, at the apical, middle, and basal planes, indicating the complete lumen structures.



Supplementary Fig. S4 Top view of the integrated multiple organs on chips platform.