## Supplementary material for

## Fabrication of Fine-Pored Polydimethylsiloxane using Isopropyl Alcohol and Water

## Mixture for Adjustable Mechanical, Optical, and Thermal Properties

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**Fig. S1** Cross-sectional SEM images of PDMS obtained using only (a) chloroform, (b) acetone, (c) ethanol, and (d) isopropanol (scale bar: 50 μm).



Fig. S2 Cross-sectional SEM images of porous PDMS obtained using the added weight ratio of water (5:100) and IPA ((a) 0, (b) 1:100, (c) 5:100, and (d) 10:100).



**Fig. S3** Pore size distribution of porous PDMS in the relatively small range from Fig. 3 (e). Red lines indicate Gaussian distribution of the pore size.

PDMS/Water/IPA	Sample	Average pore size (µm)	Standard deviation
	-		of pore size
100/5/0	#1	2.08	1.68
	#2	2.12	3.29
	#3	2.50	2.38
100/5/1	#1	2.05	2.00
	#2	2.08	1.68
	#3	2.64	2.14
100/5/5	#1	1.87	1.45
	#2	1.68	0.96
	#3	1.69	1.09
100/5/10	#1	1.66	1.37
	#2	1.37	0.67
	#3	1.64	1.58

 Table S1. Average size and its standard deviation of pores presented in Fig. 3e



Fig. S4 (a) Cross-sectional SEM images of porous PDMS obtained using the added weight ratio of water (5:100) and IPA (10:100) (scale bar: 10  $\mu$ m). (b) Magnified image of (a) with measured pore sizes. (c) Measured pore sizes from (b).



Fig. S5 Vertical cross-sectional SEM image of porous PDMS showing self-stratifying structure with skin layer (scale bar: 50 and

10 µm)



Fig. S6 Compressive stress-strain curve of porous PDMS obtained using the added weight ratio of water (5:100) and IPA (10:100).



Fig. S7 Optical transmittance spectra of porous PDMS with the thickness of (a) 4 and (b) 5 mm.



Fig. S8 Optical transmittance spectra of PDMS and porous PDMS prepared using water and different chemicals.



Fig. S9. Thermal diffusivity of porous PDMS in a two-dimensional view.