Effect of Random Fiber Network on the Bubble Growth in Gelatin Hydrogel

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Supplemental Document

S1. Gel Sample Preparation and SEM Imaging

Methodology: Samples are prepared with ASTM grade II standard deionized water. We have prepared 3 %, 5%, and 7% (W/V) edible grade (Knox Original Gelatin, Unflavored, Kraft Foods, Northfield, IL) gelatin sample. The gelatin solution is mixed at 60^oC, 100 rpm for 30 min on a stir plate. This heated mixing step is essential for obtaining a homogeneously mixed solution and erasing thermal memory in the gelatin. Next, 4ml of the pre-mixed solution is pipetted into individual cuvettes and cured at 4^oC for 3 hours. After that, we have cut cuvettes to take out the cured sample and immediately drop the sample in a liquid nitrogen bath at -210^oC to freeze the water content. Just after freezing, the samples were transferred to a drying chamber where temperature and pressure were maintained at water sublimation temperature (-60^oC) and pressure (8 mTorr) for 24 hours for complete removal of liquid water. The freeze-dried sample is preserved in an airtight bottle to perform the SEM analysis for imaging (see Fig. S1 to Fig. S3). We have coated the samples with silver in the CrC 100 sputtering system prior to SEM/FIB analysis. Sectional SEM/FIB high-resolution image at 0.2 micron thickness was conducted in FEI Strata 400 Dual Beam FIB imaging setup (see Fig. S4). We have used 5KV power for imaging at 20000 magnification.

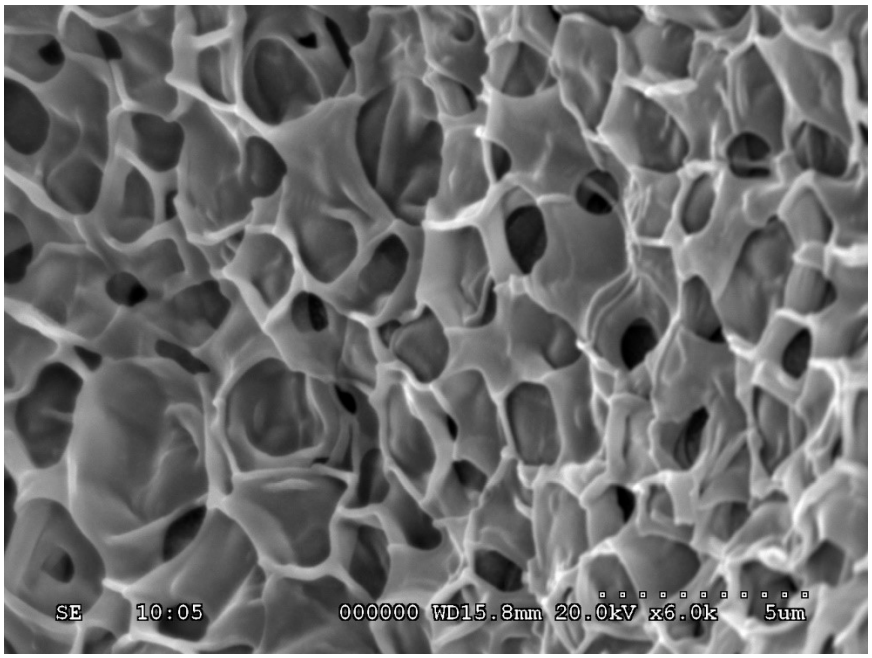


Fig. S1. SEM image of 3% [w/v] gel

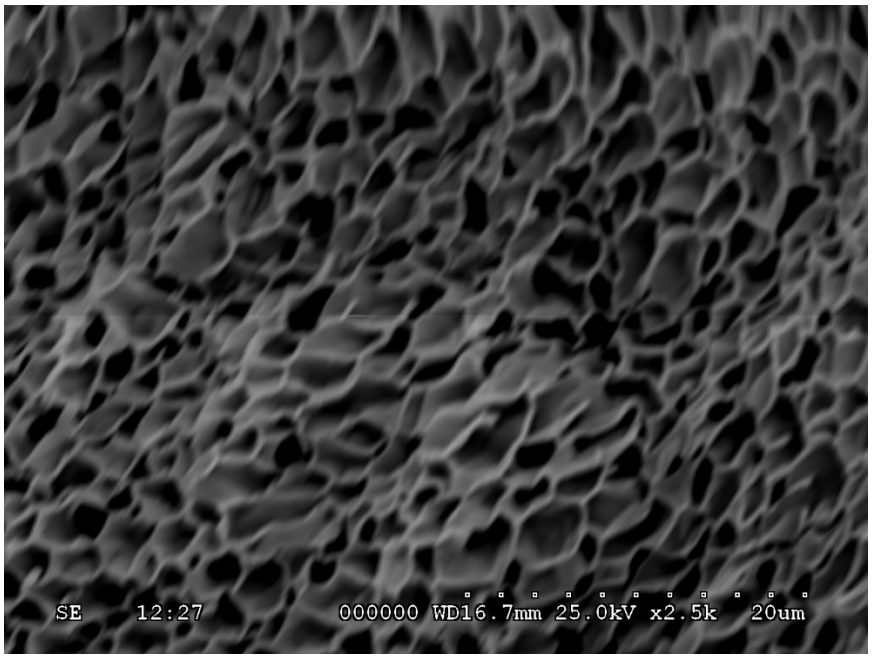


Fig. S2. SEM image of 5% [w/v] gel

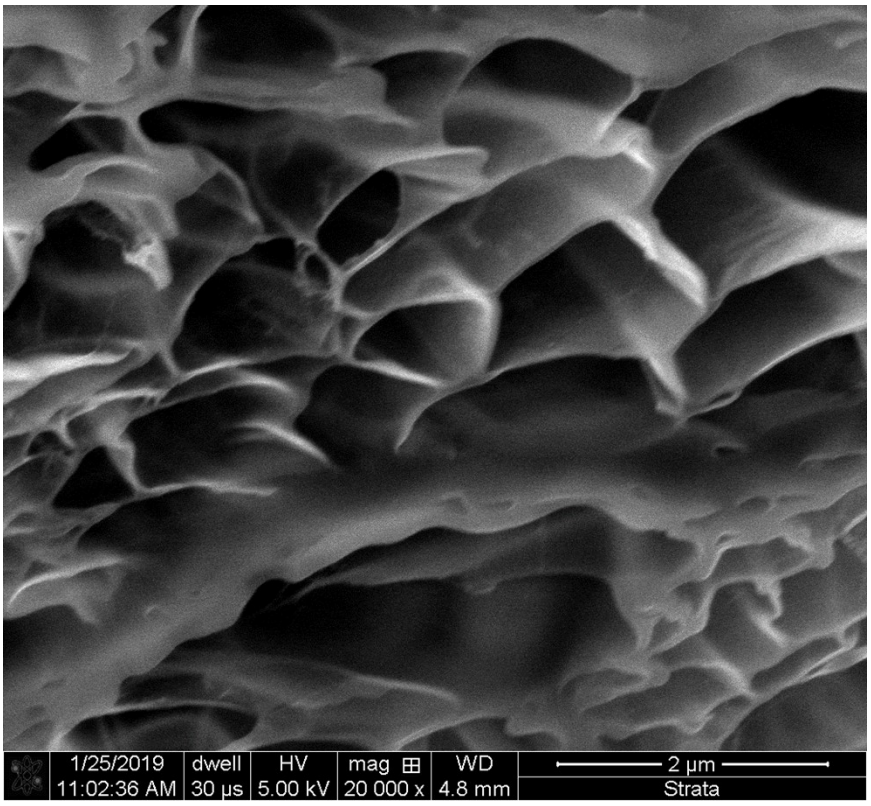
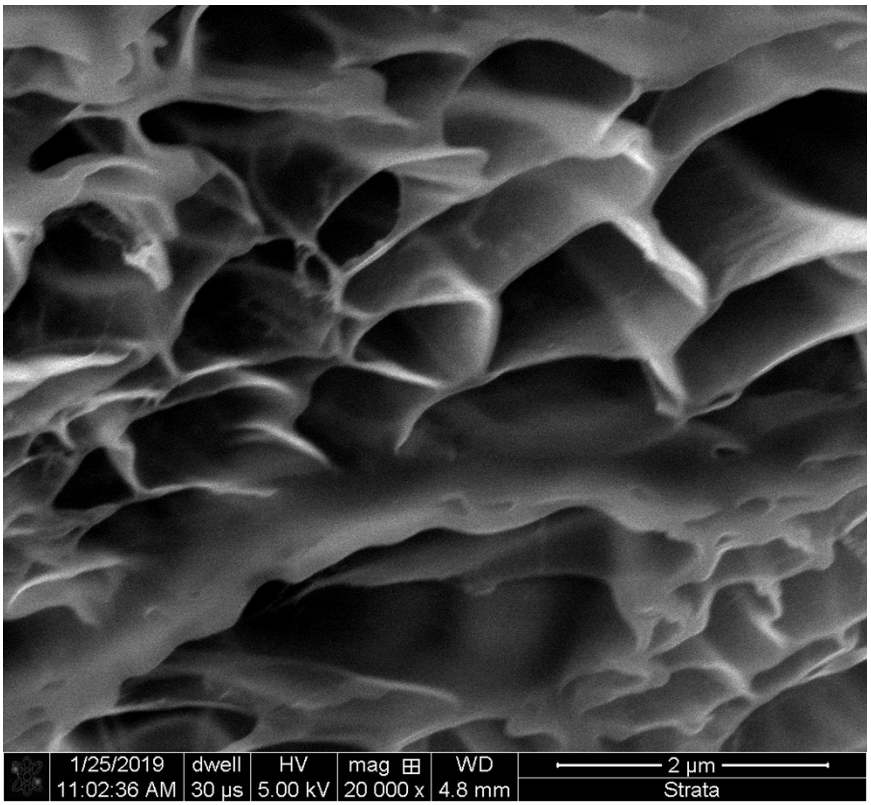
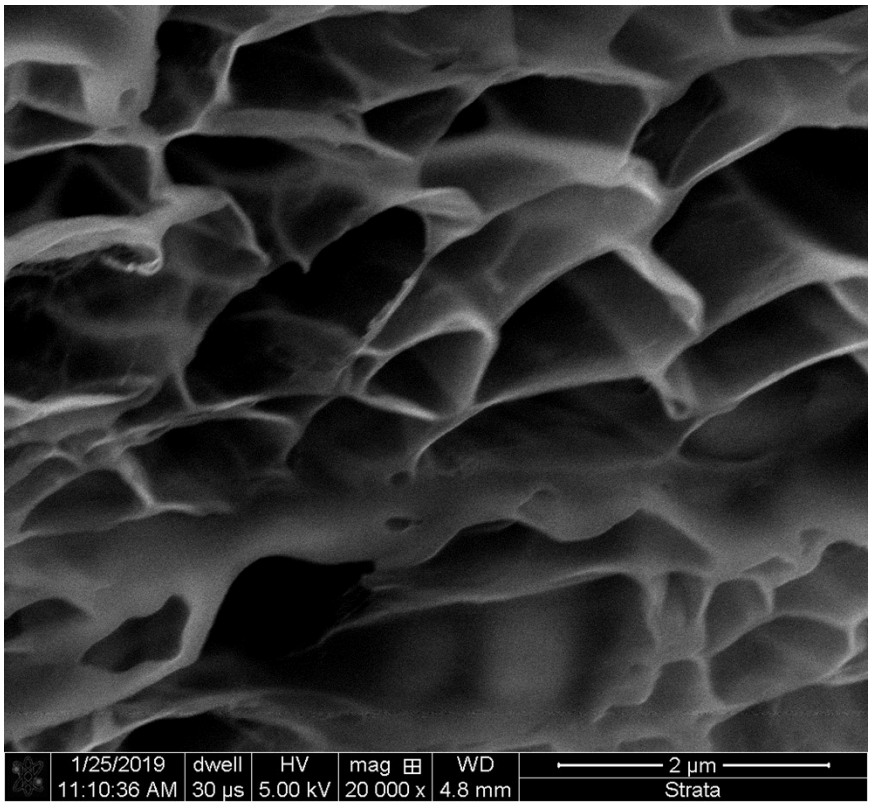


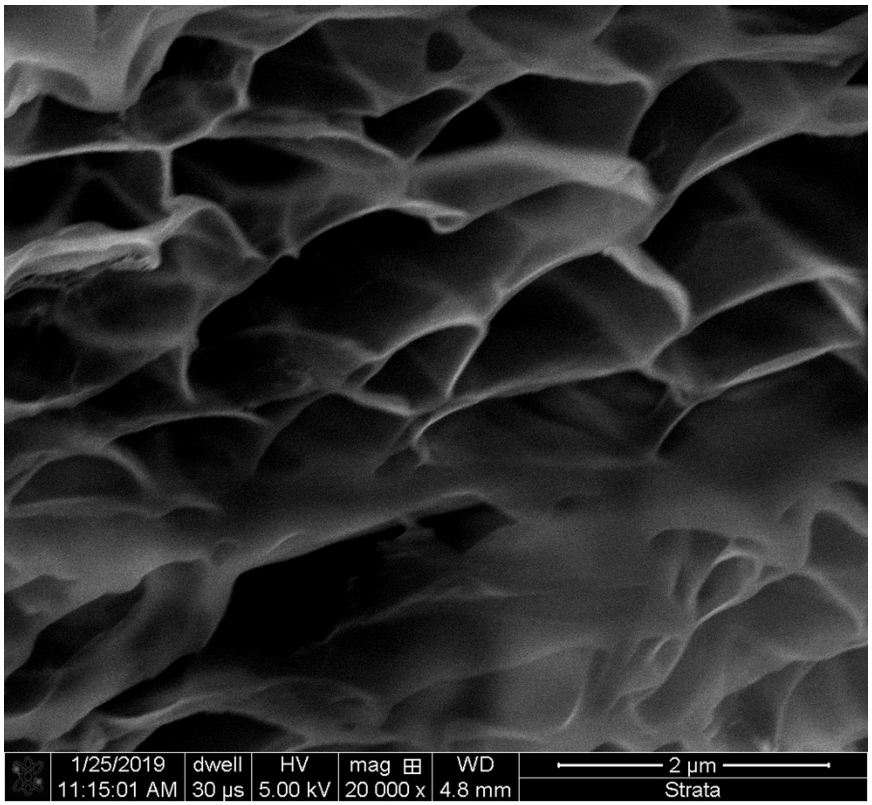
Fig. S3. SEM image of 7% gel



(a)


1/25/2019
11:10:36 AM
dwell
30 µs
HV
5.00 kV
mag
20 000 x
WD
4.8 mm
2 µm
Strata

(b)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mag
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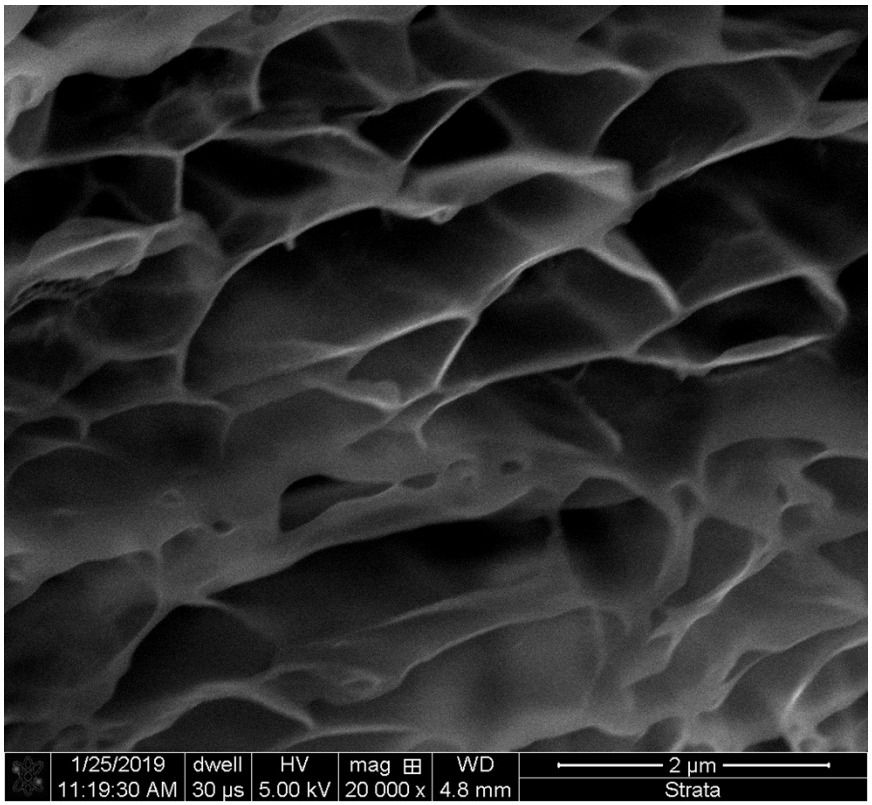
WD
4.8 mm
2 µm
Strata

(c)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mag
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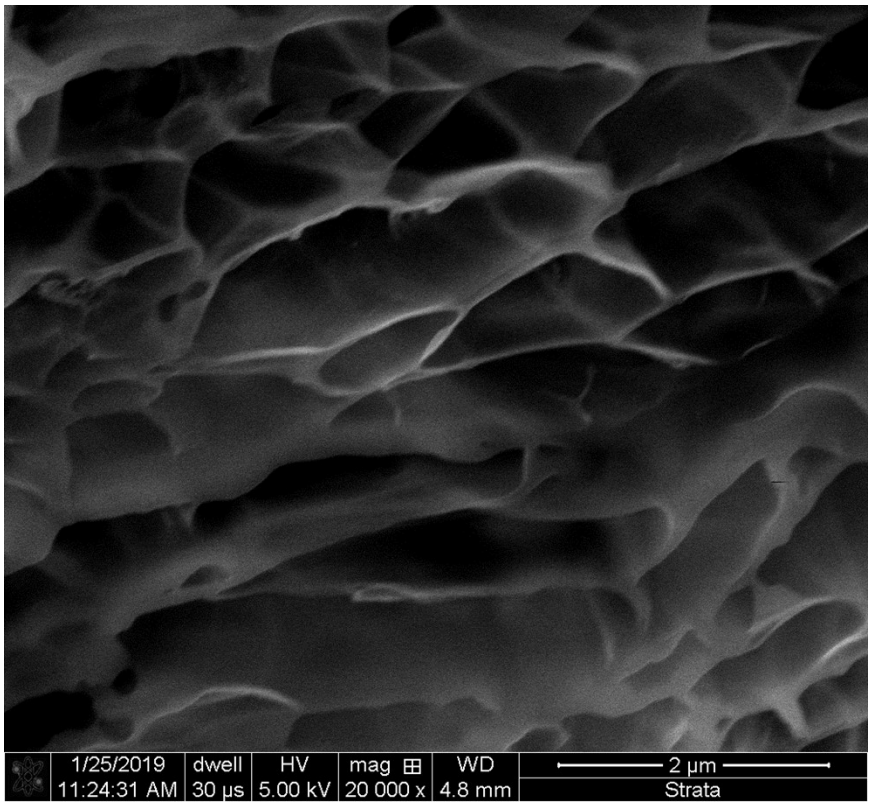
WD
4.8 mm
2 µm
Strata

(d)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mag
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WD
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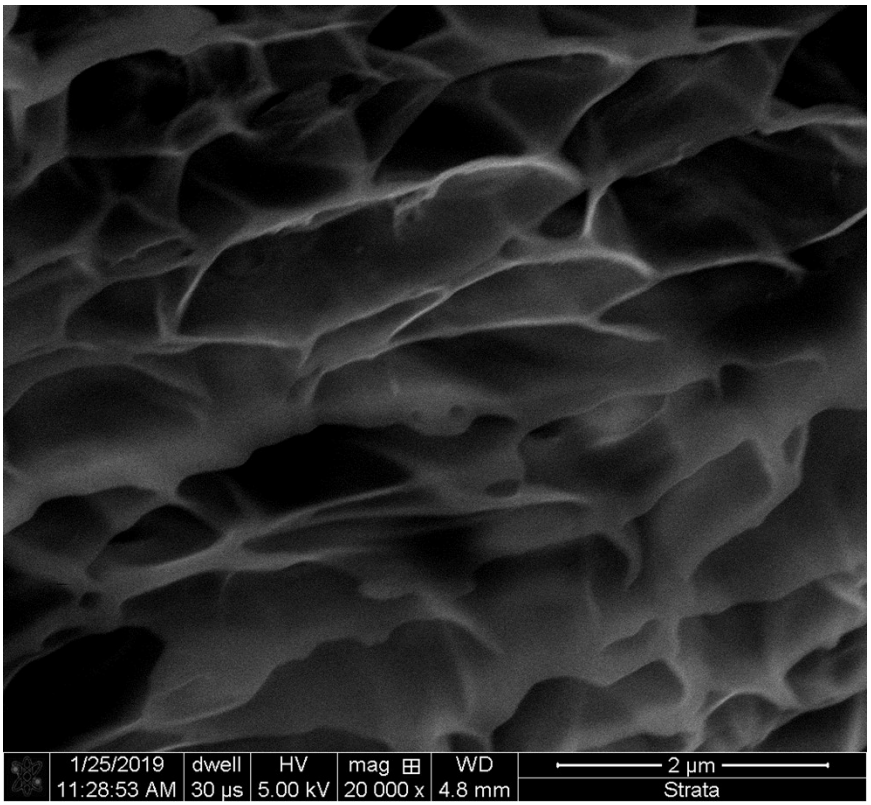
2 µm
Strata

(e)


1/25/2019
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dwell
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HV
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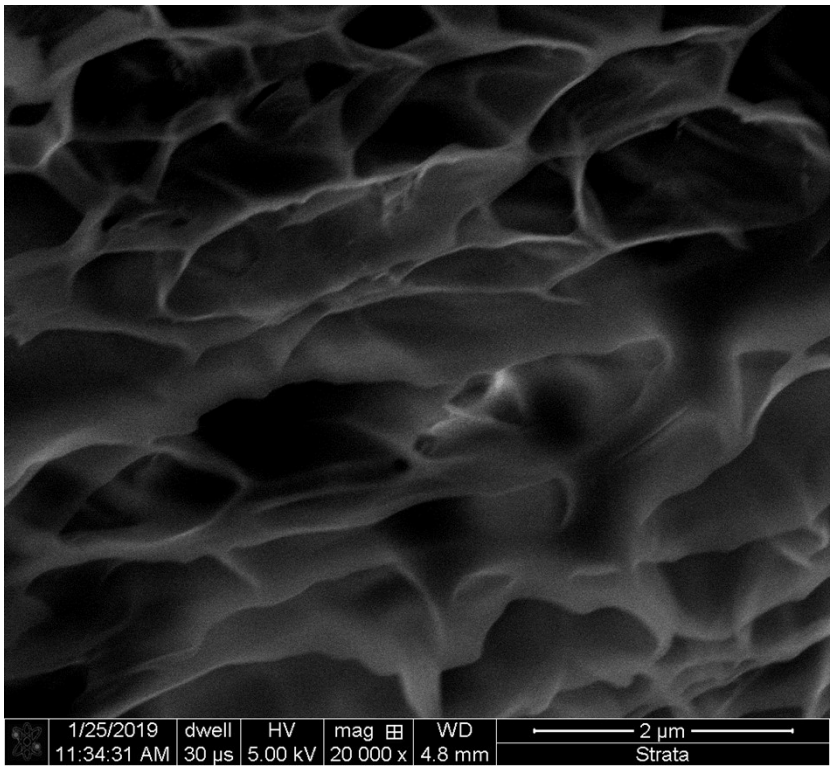
mag
20 000 x
WD
4.8 mm
2 µm
Strata

(f)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dwell
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HV
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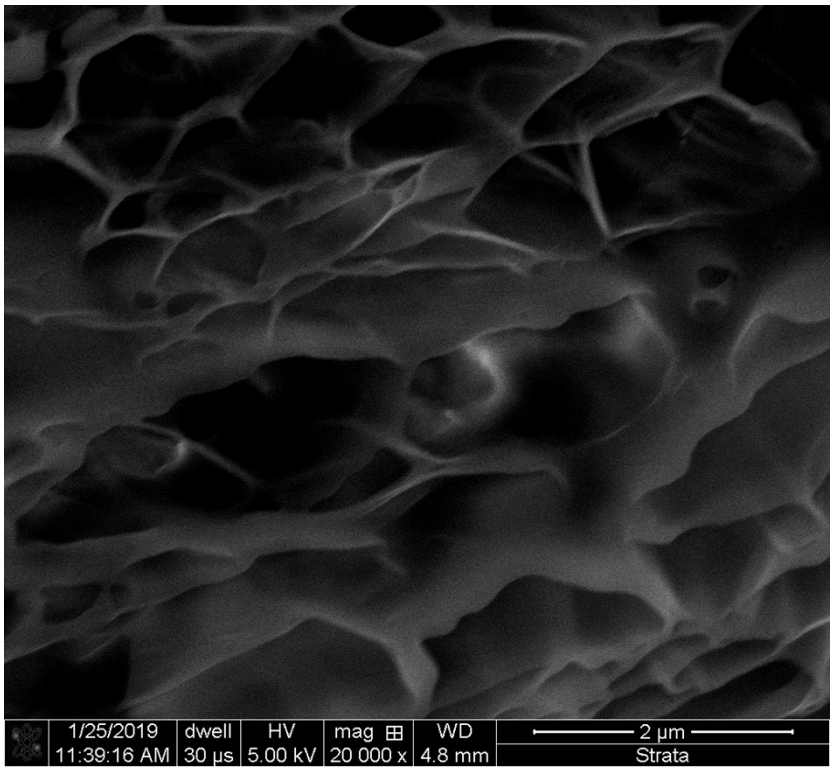
mag
20 000 x
WD
4.8 mm
2 µm
Strata

(g)

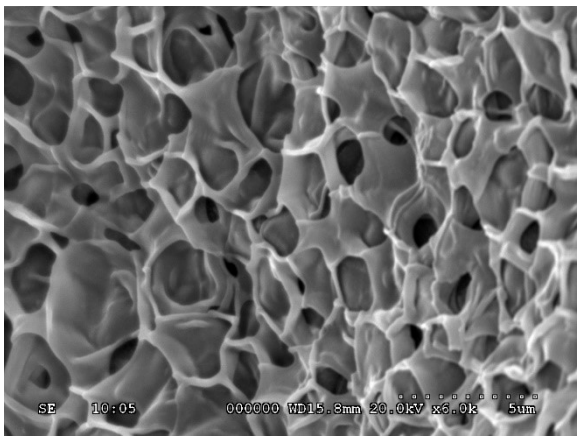


(h)

Fig. S4. The sequence (a to h) of the sectional SEM images of 5% gel at 0.2 micron thickness

S2. Mesh Size and Pore Size Measurement using the Fiji Software

Step 1: Convert the SEM image to an 8-bit binary image [1], [2]



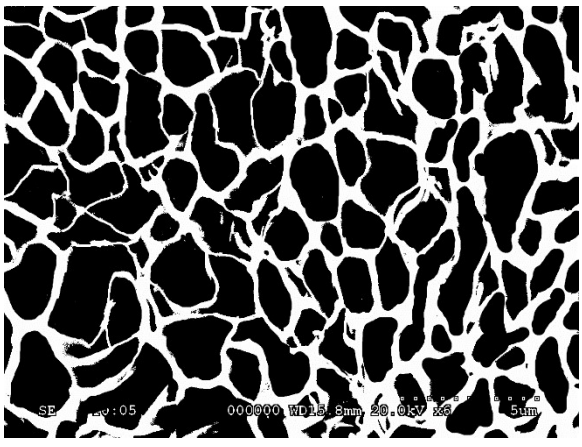
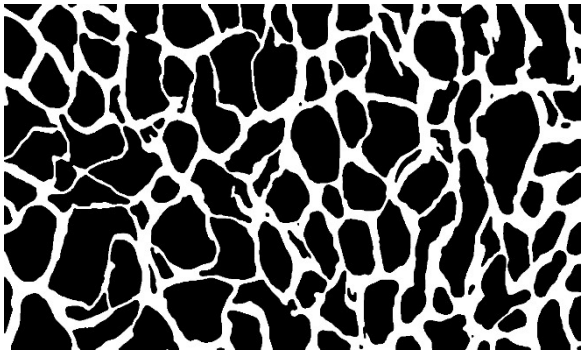
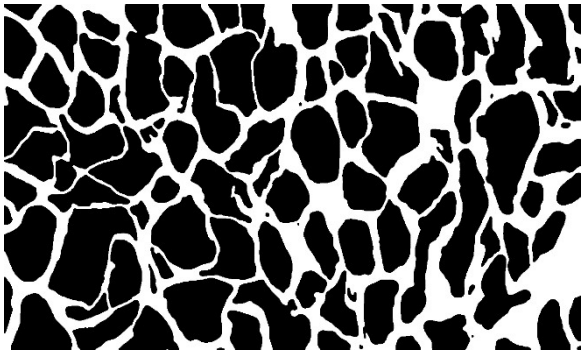


Fig. S5. SEM to 8-bit binary conversion (3% gel)

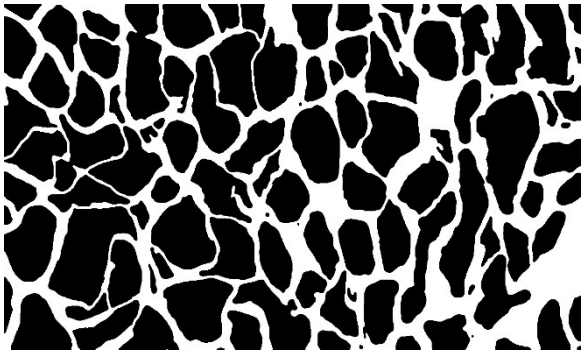
Step 2: Segmentation done by 16 different algorithms



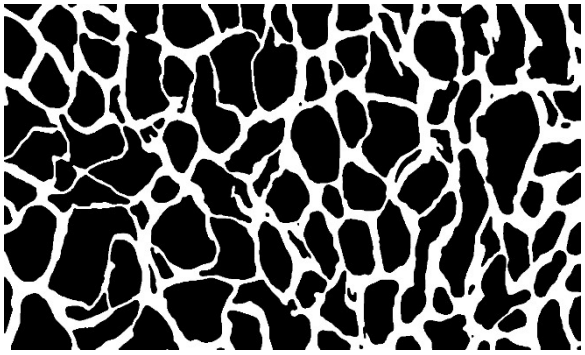
(a) M1 algorithm



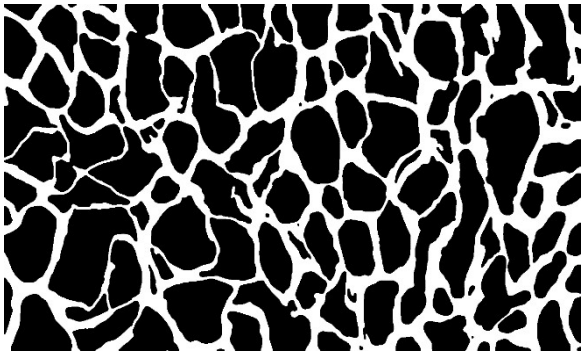
(b) M2 algorithm



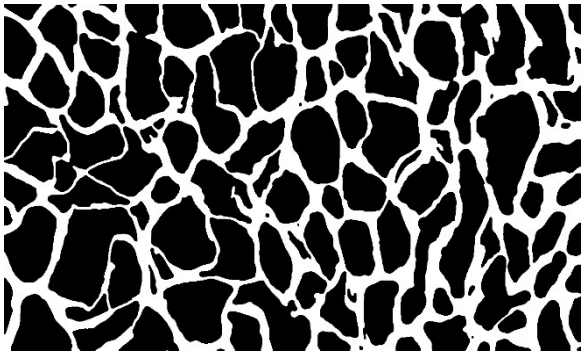
I M3 algorithm



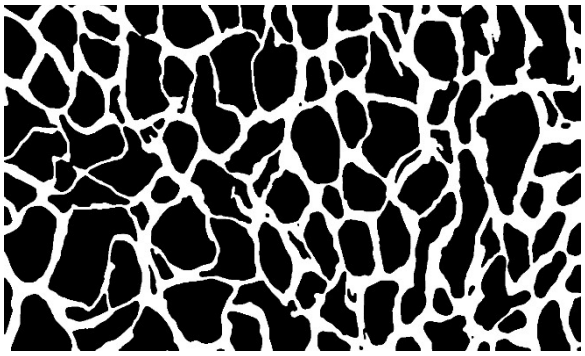
(d) M4 algorithm



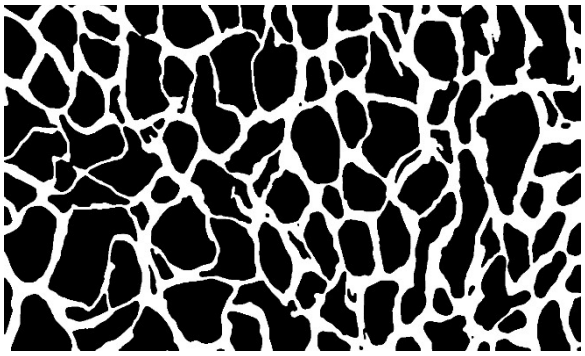
I M5 algorithm



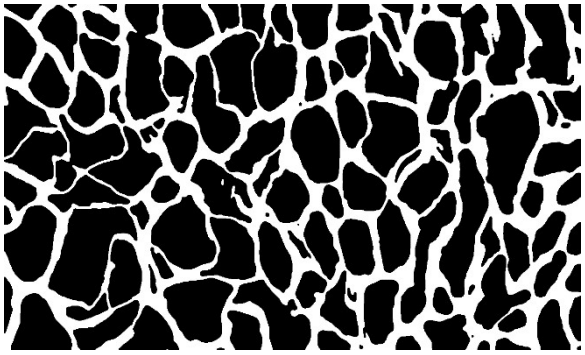
(f) M6 algorithm



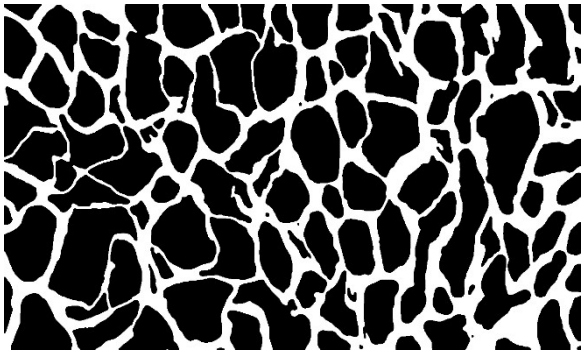
(g) M7 algorithm



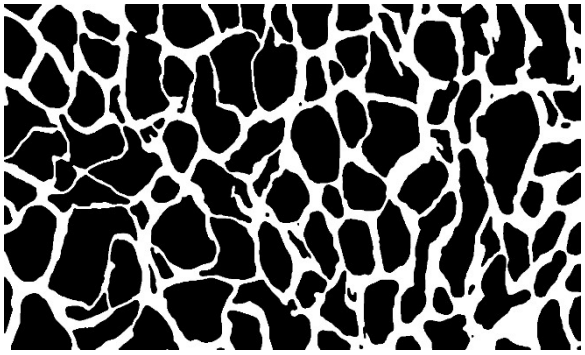
(h) M8 algorithm



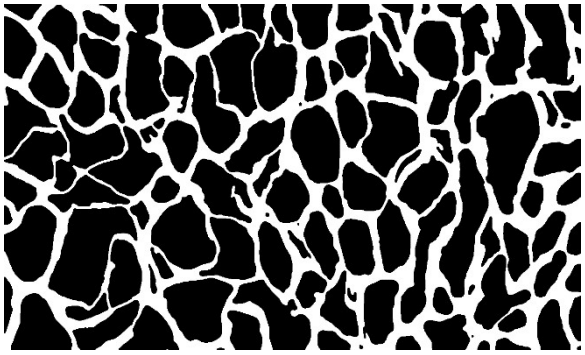
(i) S1 algorithm



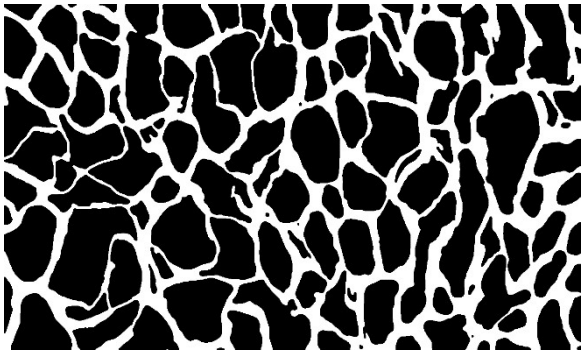
(j) S2 algorithm

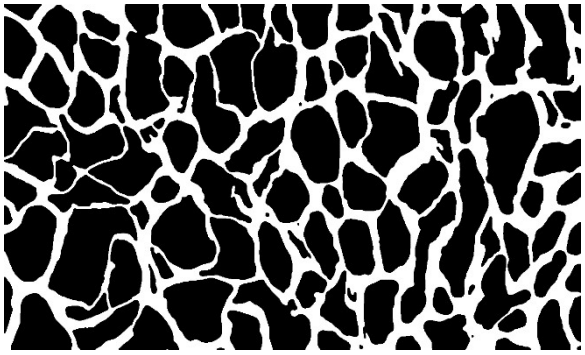


(k) S3 algorithm

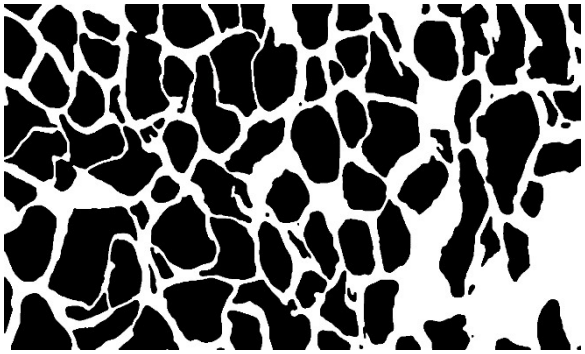


(l) S4 algorithm

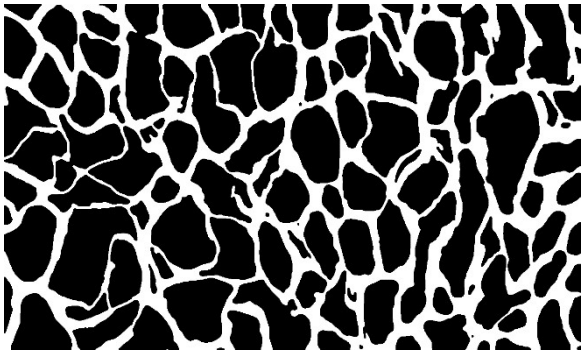




(m) S5 algorithm



(n) S6 algorithm



(o) S7 algorithm

(p) S8 algorithm

Fig. S6. Segmentation of 3% gel

Step 3: Mesh size (fiber length) is reported in Fig. 6b of the main manuscript, and measurements are given in table S1 to S3.

Table S1: Mesh size (fiber length) measurement of 3% gel

	Length (x_i)	μ	$(x_i - \mu)^2$
1	2.7424	2.774163	0.001009
2	2.9951	2.774163	0.048813
3	3.6146	2.774163	0.706334
4	2.1343	2.774163	0.409425
5	2.8608	2.774163	0.007506
6	1.7802	2.774163	0.987963
7	1.6397	2.774163	1.287007
8	2.9465	2.774163	0.0297
9	1.9886	2.774163	0.61711
10	1.6192	2.774163	1.33394
11	2.8097	2.774163	0.001263
12	2.6517	2.774163	0.014997
13	2.9582	2.774163	0.033869
14	2.0301	2.774163	0.55363
15	2.1984	2.774163	0.331503
16	2.1728	2.774163	0.361638
17	2.2343	2.774163	0.291452
18	4.1865	2.774163	1.994695
19	2.9303	2.774163	0.024379
20	3.5408	2.774163	0.587732
21	2.3065	2.774163	0.218709
22	3.0979	2.774163	0.104805
23	2.6647	2.774163	0.011982

24	2.8392	2.774163	0.00423
25	3.8478	2.774163	1.152696
26	3.8647	2.774163	1.18927
27	3.0021	2.774163	0.051955
28	3.7112	2.774163	0.878038
29	2.9353	2.774163	0.025965
30	2.9213	2.774163	0.021649
Mean	$\mu =$ **2.7741**		$\eta =$ **0.442776**
SD*			$\sqrt{\eta}$**=0.665414**

* Standard Deviation

Table S2: Mesh size (fiber length) measurement of 5% gel

	Length (x_i)	μ	$(x_i - \mu)^2$
1	6.6105	2.464296	17.19100761
2	3.3809	2.464296	0.840162893
3	2.8664	2.464296	0.161687627
4	2.6896	2.464296	0.050761892
5	1.4781	2.464296	0.97258255
6	1.9021	2.464296	0.316064342
7	1.8222	2.464296	0.412287273
8	2.8456	2.464296	0.14539274
9	2.8008	2.464296	0.113234942
10	2.6599	2.464296	0.038260925
11	4.1012	2.464296	2.679454705
12	3.4466	2.464296	0.964921148
13	1.349	2.464296	1.243885168
14	2.1292	2.464296	0.112289329
15	2.1306	2.464296	0.11135302
16	2.5978	2.464296	0.017823318
17	2.2544	2.464296	0.044056331
18	1.6422	2.464296	0.675841833
19	2.9235	2.464296	0.210868314
20	2.999	2.464296	0.285908368
21	2.5085	2.464296	0.001953994
22	3.1974	2.464296	0.537441475
23	2.1332	2.464296	0.109624561
24	2.2988	2.464296	0.027388926
25	1.7142	2.464296	0.562644009
26	1.7362	2.464296	0.530123785
Mean	$\mu =$ **2.464296**		$\eta =$ **0.446641**
SD*			$\sqrt{\eta}$**=0.668312**

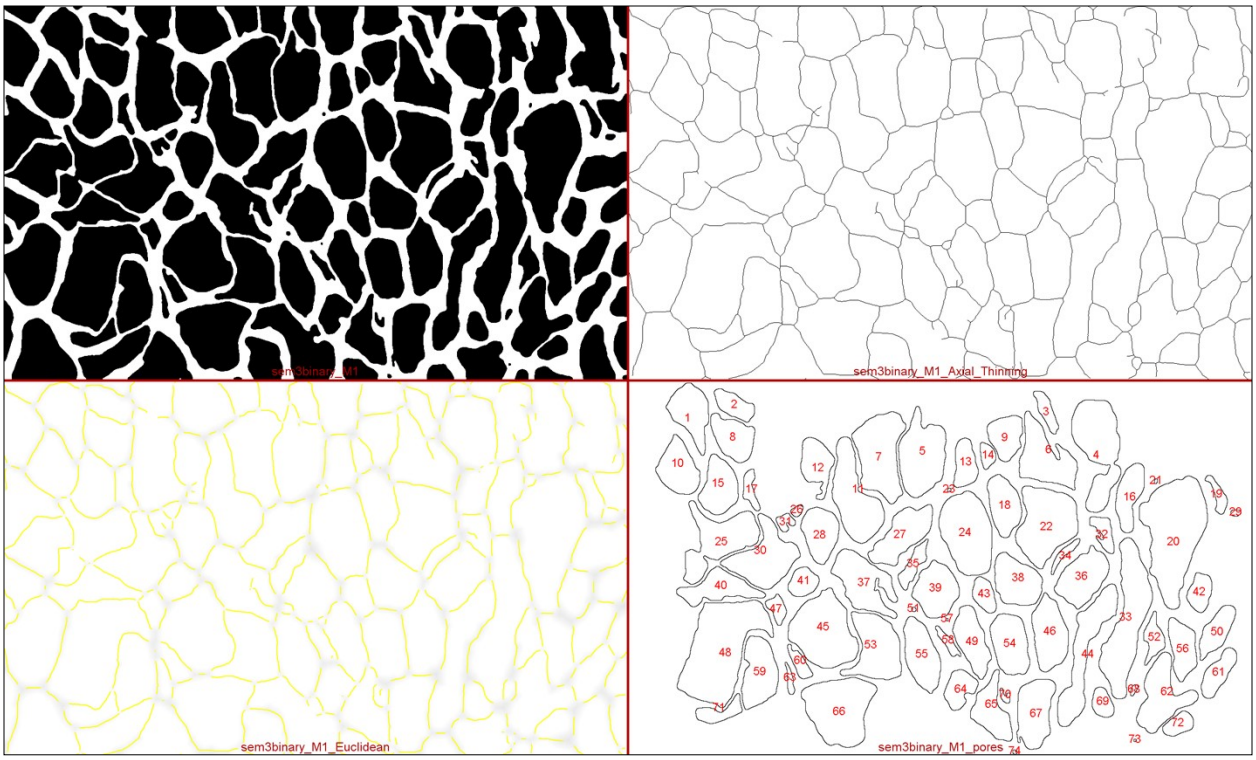
* Standard Deviation

Table S2: Mesh size (fiber length) measurement of 7% gel

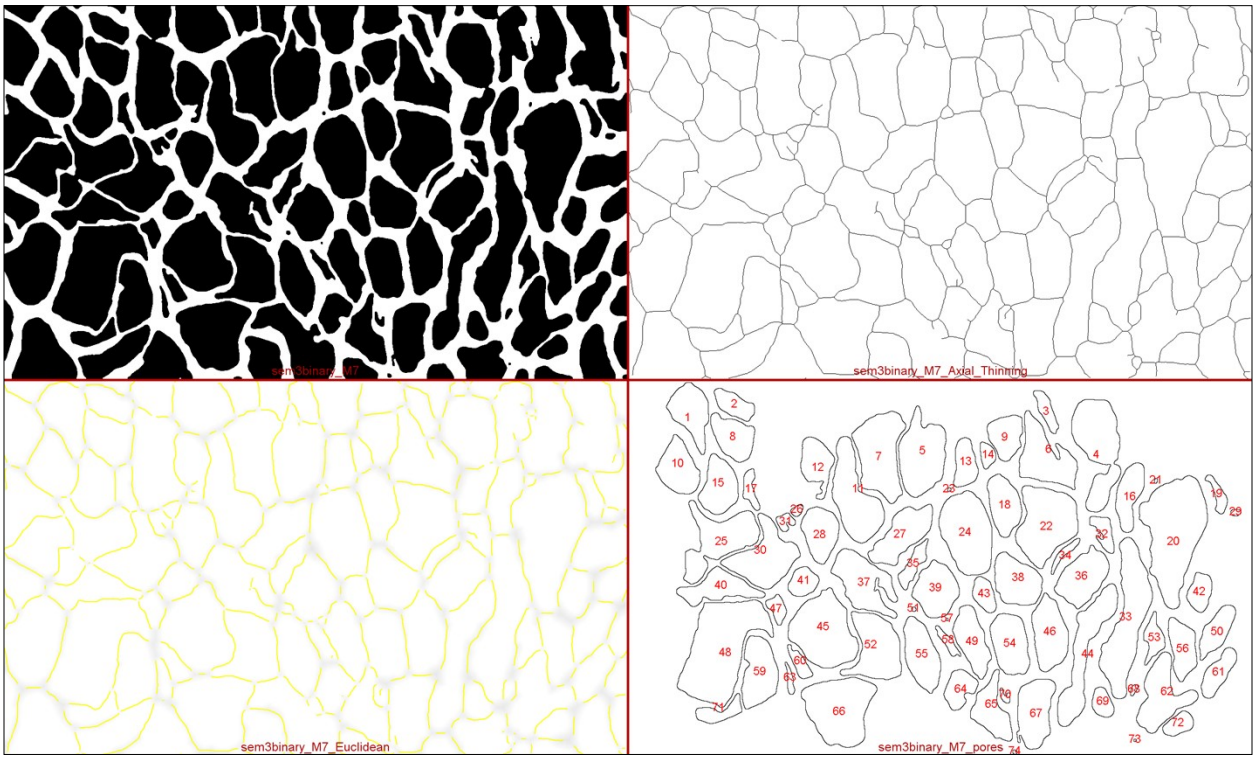
	Length (x_i)	μ	$(x_i - \mu)^2$
1	1.3209	1.588129	0.071411
2	1.6115	1.588129	0.000546
3	1.6563	1.588129	0.004647
4	2.4735	1.588129	0.783883
5	1.6578	1.588129	0.004854
6	1.4201	1.588129	0.028234
7	1.2414	1.588129	0.120221
8	2.0126	1.588129	0.180176
9	1.2077	1.588129	0.144726
10	1.895	1.588129	0.09417
11	1.7013	1.588129	0.012808
12	1.0177	1.588129	0.325389
13	1.9655	1.588129	0.142409
14	1.0525	1.588129	0.286898
Mean	$\mu =$ **1.588129**		$\eta =$ **0.157169**
SD*			$\sqrt{\eta}$**=0.396446**

* Standard Deviation

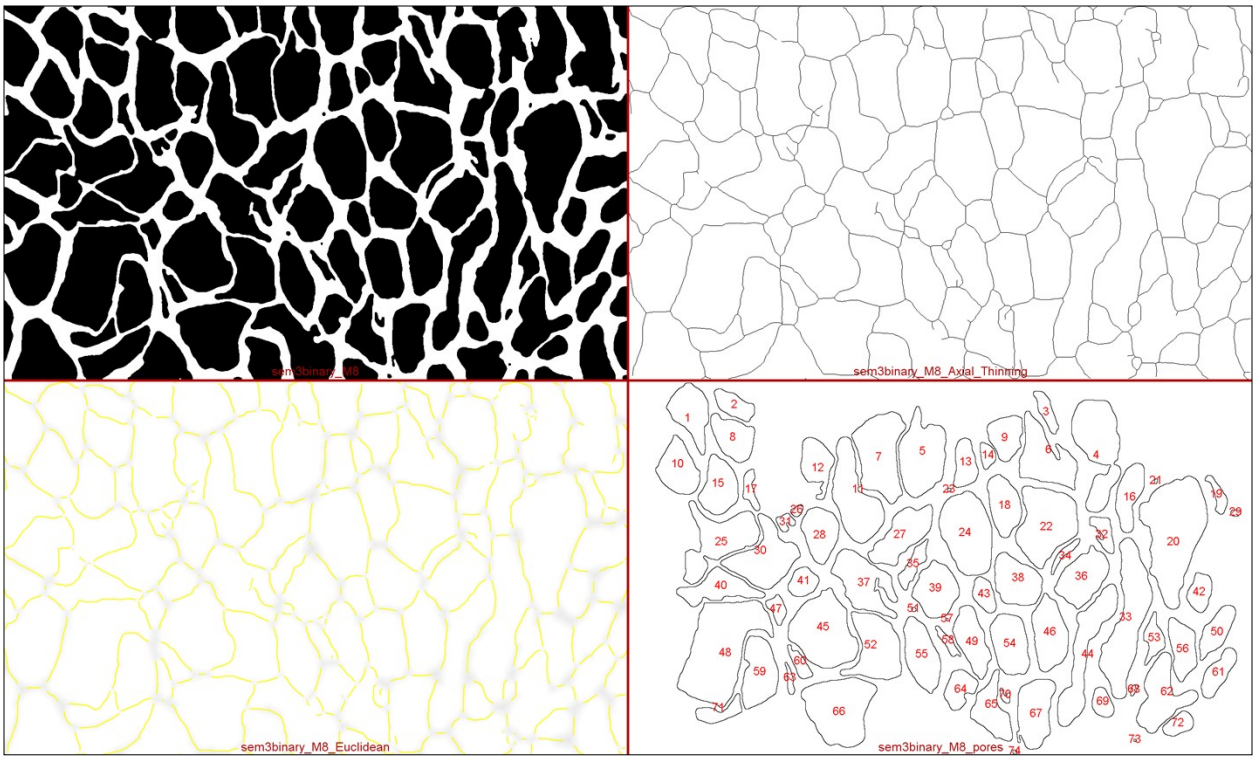
Step 4: Pore size measurement from 4 different segmentation images (M1, M7, M8, and S8) for 3% gel. Both pore size and minor axis length are reported in Fig. 8 and 9 in the main manuscript and measurements are tabulated in table S4 to S6.



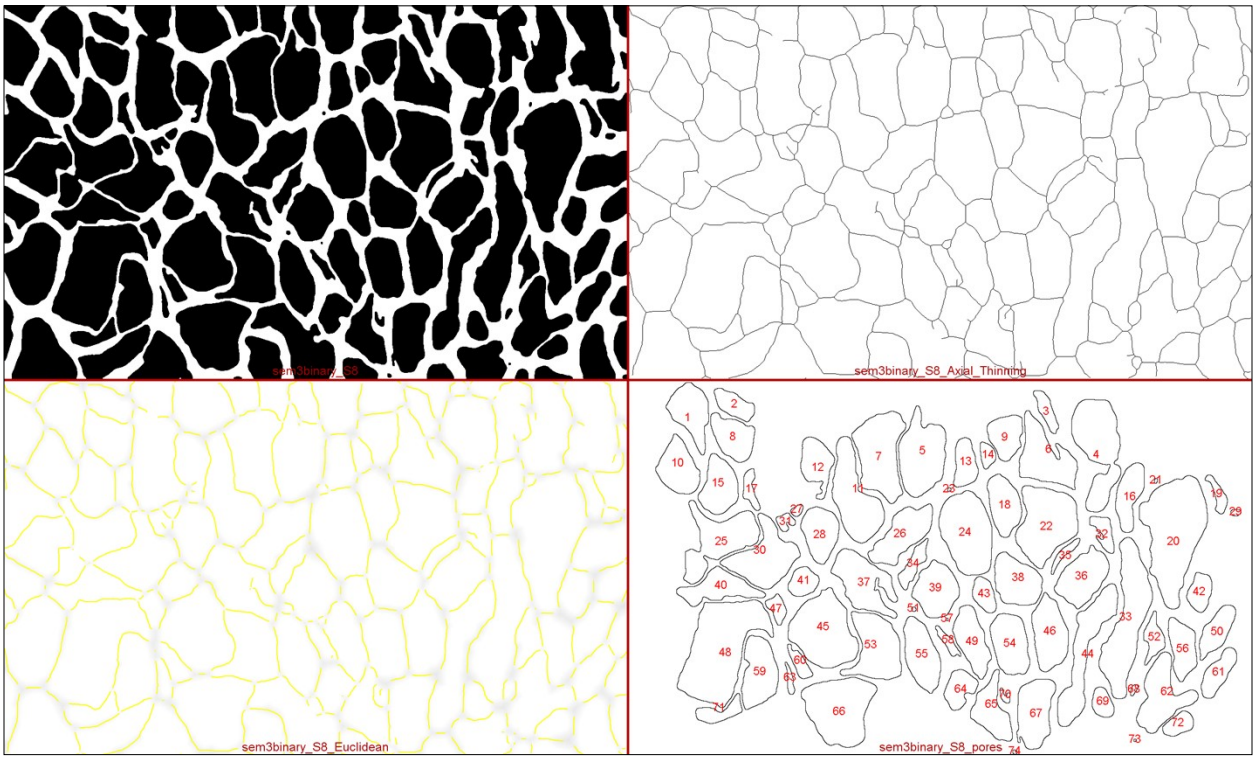
(a) M1 segmented image analysis using Diameterj



(b) M7 segmented image analysis using Diameterj



(c) M8 segmented image analysis using Diameterj



(d) S8 segmented image analysis using Diameterj

Fig. S7. Pore size measurement using Diameterj plug-in for Fiji software

Table S4: Pore size and minor axis measurement for 3% gel

	Pore Area (x_i)	μ	$(x_i-\mu)^2$	Minor Pore Axis (y_i)	μ	$(y_i-\mu)^2$	File Name
1	1.9936	1.735813	0.066454	1.1962	0.948155	0.061526	sem3binary_M1_Pore Data2.csv
2	0.9064	1.735813	0.687925	0.7234	0.948155	0.050515	sem3binary_M1_Pore Data2.csv
3	0.5714	1.735813	1.355856	0.4428	0.948155	0.255384	sem3binary_M1_Pore Data2.csv
4	3.9542	1.735813	4.921243	1.3648	0.948155	0.173593	sem3binary_M1_Pore Data2.csv
5	3.4214	1.735813	2.841205	1.6004	0.948155	0.425423	sem3binary_M1_Pore Data2.csv
6	2.8206	1.735813	1.176764	1.4671	0.948155	0.269304	sem3binary_M1_Pore Data2.csv
7	3.7583	1.735813	4.090456	1.5687	0.948155	0.385076	sem3binary_M1_Pore Data2.csv
8	1.6706	1.735813	0.004253	1.1842	0.948155	0.055717	sem3binary_M1_Pore Data2.csv
9	1.3872	1.735813	0.121531	1.16	0.948155	0.044878	sem3binary_M1_Pore Data2.csv
10	1.9481	1.735813	0.045066	1.2981	0.948155	0.122461	sem3binary_M1_Pore Data2.csv
11	3.4658	1.735813	2.992857	1.2768	0.948155	0.108007	sem3binary_M1_Pore Data2.csv
12	1.4786	1.735813	0.066158	1.0256	0.948155	0.005998	sem3binary_M1_Pore Data2.csv
13	1.0492	1.735813	0.471437	0.7778	0.948155	0.029021	sem3binary_M1_Pore Data2.csv
14	0.3525	1.735813	1.913553	0.5144	0.948155	0.188143	sem3binary_M1_Pore Data2.csv
15	1.9103	1.735813	0.030446	1.233	0.948155	0.081137	sem3binary_M1_Pore Data2.csv
16	1.4858	1.735813	0.062506	0.791	0.948155	0.024698	sem3binary_M1_Pore Data2.csv
17	0.4372	1.735813	1.686394	0.4148	0.948155	0.284468	sem3binary_M1_Pore Data2.csv
18	1.7583	1.735813	0.000506	1.0625	0.948155	0.013075	sem3binary_M1_Pore Data2.csv
19	0.3969	1.735813	1.792687	0.3774	0.948155	0.325761	sem3binary_M1_Pore Data2.csv
20	6.4106	1.735813	21.85364	1.9367	0.948155	0.977221	sem3binary_M1_Pore Data2.csv
21	0.0139	1.735813	2.964983	0.101	0.948155	0.717672	sem3binary_M1_Pore Data2.csv
22	4.0639	1.735813	5.419991	1.9615	0.948155	1.026868	sem3binary_M1_Pore Data2.csv
23	0.0128	1.735813	2.968772	0.1185	0.948155	0.688328	sem3binary_M1_Pore Data2.csv
24	3.9792	1.735813	5.032787	1.7092	0.948155	0.579189	sem3binary_M1_Pore Data2.csv
25	3.3258	1.735813	2.52806	1.5957	0.948155	0.419314	sem3binary_M1_Pore Data2.csv
26	0.1183	1.735813	2.616347	0.3188	0.948155	0.396088	sem3binary_M1_Pore Data2.csv
27	2.3814	1.735813	0.416783	1.1165	0.948155	0.02834	sem3binary_M1_Pore Data2.csv
28	1.8003	1.735813	0.004159	1.2141	0.948155	0.070727	sem3binary_M1_Pore Data2.csv
29	0.0642	1.735813	2.794288	0.2249	0.948155	0.523098	sem3binary_M1_Pore Data2.csv
30	3.1719	1.735813	2.062347	1.8132	0.948155	0.748303	sem3binary_M1_Pore Data2.csv
31	0.2531	1.735813	2.198436	0.5424	0.948155	0.164637	sem3binary_M1_Pore Data2.csv
32	0.5889	1.735813	1.315408	0.5542	0.948155	0.155201	sem3binary_M1_Pore Data2.csv
33	4.655	1.735813	8.521656	1.1292	0.948155	0.032777	sem3binary_M1_Pore Data2.csv
34	0.2864	1.735813	2.100797	0.262	0.948155	0.470809	sem3binary_M1_Pore Data2.csv
35	0.6825	1.735813	1.109467	0.4719	0.948155	0.226819	sem3binary_M1_Pore Data2.csv
36	2.3447	1.735813	0.370744	1.3714	0.948155	0.179136	sem3binary_M1_Pore Data2.csv

37	2.8878	1.735813	1.327075	1.4261	0.948155	0.228431	sem3binary_M1_Pore Data2.csv
38	2.2047	1.735813	0.219855	1.4329	0.948155	0.234978	sem3binary_M1_Pore Data2.csv
39	2.1797	1.735813	0.197036	1.4873	0.948155	0.290677	sem3binary_M1_Pore Data2.csv
40	1.9039	1.735813	0.028253	0.9688	0.948155	0.000426	sem3binary_M1_Pore Data2.csv
41	0.78	1.735813	0.913578	0.9212	0.948155	0.000727	sem3binary_M1_Pore Data2.csv
42	0.83	1.735813	0.820496	0.7864	0.948155	0.026165	sem3binary_M1_Pore Data2.csv
43	0.7061	1.735813	1.060308	0.6974	0.948155	0.062878	sem3binary_M1_Pore Data2.csv
44	3.2389	1.735813	2.259272	0.8263	0.948155	0.014849	sem3binary_M1_Pore Data2.csv
45	4.3197	1.735813	6.676475	2.1035	0.948155	1.334822	sem3binary_M1_Pore Data2.csv
46	2.3603	1.735813	0.389985	1.1766	0.948155	0.052187	sem3binary_M1_Pore Data2.csv
47	0.4253	1.735813	1.717443	0.5591	0.948155	0.151364	sem3binary_M1_Pore Data2.csv
48	6.7167	1.735813	24.80924	2.1198	0.948155	1.372752	sem3binary_M1_Pore Data2.csv
49	1.8744	1.735813	0.019206	0.9547	0.948155	4.28E-05	sem3binary_M1_Pore Data2.csv
50	1.2283	1.735813	0.257569	0.7724	0.948155	0.03089	sem3binary_M1_Pore Data2.csv
51	0.0192	1.735813	2.946758	0.1485	0.948155	0.639448	sem3binary_M1_Pore Data2.csv
52	0.7014	1.735813	1.070009	0.6213	0.948155	0.106834	sem3binary_M1_Pore Data2.csv
53	3.0564	1.735813	1.743951	1.6341	0.948155	0.47052	sem3binary_M1_Pore Data2.csv
54	2.1947	1.735813	0.210578	1.2455	0.948155	0.088414	sem3binary_M1_Pore Data2.csv
55	2.2086	1.735813	0.223528	1.0729	0.948155	0.015561	sem3binary_M1_Pore Data2.csv
56	1.4633	1.735813	0.074263	0.8931	0.948155	0.003031	sem3binary_M1_Pore Data2.csv
57	0.0053	1.735813	2.994674	0.0726	0.948155	0.766597	sem3binary_M1_Pore Data2.csv
58	0.3039	1.735813	2.050373	0.3017	0.948155	0.417904	sem3binary_M1_Pore Data2.csv
59	2.3436	1.735813	0.369406	1.2036	0.948155	0.065252	sem3binary_M1_Pore Data2.csv
60	0.4381	1.735813	1.684058	0.4279	0.948155	0.270665	sem3binary_M1_Pore Data2.csv
61	1.075	1.735813	0.436673	0.6971	0.948155	0.063029	sem3binary_M1_Pore Data2.csv
62	2.66	1.735813	0.854123	1.4808	0.948155	0.283711	sem3binary_M1_Pore Data2.csv
63	0.18	1.735813	2.420553	0.2067	0.948155	0.549756	sem3binary_M1_Pore Data2.csv
64	1.0222	1.735813	0.509243	0.9456	0.948155	6.53E-06	sem3binary_M1_Pore Data2.csv
65	1.7467	1.735813	0.000119	1.0875	0.948155	0.019417	sem3binary_M1_Pore Data2.csv
66	4.3097	1.735813	6.624897	2.2893	0.948155	1.79867	sem3binary_M1_Pore Data2.csv
67	2.4092	1.735813	0.453451	1.2165	0.948155	0.072009	sem3binary_M1_Pore Data2.csv
68	0.0608	1.735813	2.805667	0.1842	0.948155	0.583627	sem3binary_M1_Pore Data2.csv
69	0.5764	1.735813	1.344237	0.6806	0.948155	0.071586	sem3binary_M1_Pore Data2.csv
70	0.1022	1.735813	2.66869	0.2652	0.948155	0.466428	sem3binary_M1_Pore Data2.csv
71	0.7164	1.735813	1.039202	0.5652	0.948155	0.146655	sem3binary_M1_Pore Data2.csv
72	0.5953	1.735813	1.300769	0.6627	0.948155	0.081485	sem3binary_M1_Pore Data2.csv
73	0.0064	1.735813	2.990868	0.0898	0.948155	0.736773	sem3binary_M1_Pore Data2.csv
74	0.0186	1.735813	2.948819	0.1391	0.948155	0.65457	sem3binary_M1_Pore Data2.csv
75	1.9683	1.735813	0.05405	1.1873	0.948155	0.05719	sem3binary_M7_Pore Data2.csv
76	0.8956	1.735813	0.705957	0.7176	0.948155	0.053156	sem3binary_M7_Pore Data2.csv
77	0.5675	1.735813	1.364954	0.4396	0.948155	0.258628	sem3binary_M7_Pore Data2.csv
78	3.9214	1.735813	4.776793	1.3571	0.948155	0.167236	sem3binary_M7_Pore Data2.csv
79	3.4075	1.735813	2.794539	1.5992	0.948155	0.42386	sem3binary_M7_Pore Data2.csv

80	2.815	1.735813	1.164646	1.467	0.948155	0.2692	sem3binary_M7_Pore Data2.csv
81	3.7406	1.735813	4.019173	1.5612	0.948155	0.375824	sem3binary_M7_Pore Data2.csv
82	1.6467	1.735813	0.007941	1.1743	0.948155	0.051142	sem3binary_M7_Pore Data2.csv
83	1.3808	1.735813	0.126034	1.1572	0.948155	0.0437	sem3binary_M7_Pore Data2.csv
84	1.9256	1.735813	0.036019	1.2935	0.948155	0.119263	sem3binary_M7_Pore Data2.csv
85	3.4567	1.735813	2.961454	1.2767	0.948155	0.107942	sem3binary_M7_Pore Data2.csv
86	1.4736	1.735813	0.068755	1.0221	0.948155	0.005468	sem3binary_M7_Pore Data2.csv
87	1.0442	1.735813	0.478328	0.7748	0.948155	0.030052	sem3binary_M7_Pore Data2.csv
88	0.3525	1.735813	1.913553	0.5144	0.948155	0.188143	sem3binary_M7_Pore Data2.csv
89	1.905	1.735813	0.028624	1.2323	0.948155	0.080738	sem3binary_M7_Pore Data2.csv
90	1.4744	1.735813	0.068336	0.7867	0.948155	0.026068	sem3binary_M7_Pore Data2.csv
91	0.4347	1.735813	1.692894	0.4141	0.948155	0.285215	sem3binary_M7_Pore Data2.csv
92	1.7583	1.735813	0.000506	1.0625	0.948155	0.013075	sem3binary_M7_Pore Data2.csv
93	0.3969	1.735813	1.792687	0.3774	0.948155	0.325761	sem3binary_M7_Pore Data2.csv
94	6.3681	1.735813	21.45809	1.9298	0.948155	0.963627	sem3binary_M7_Pore Data2.csv
95	0.0139	1.735813	2.964983	0.101	0.948155	0.717672	sem3binary_M7_Pore Data2.csv
96	4.0603	1.735813	5.403242	1.9613	0.948155	1.026463	sem3binary_M7_Pore Data2.csv
97	0.0128	1.735813	2.968772	0.1185	0.948155	0.688328	sem3binary_M7_Pore Data2.csv
98	3.9511	1.735813	4.907499	1.7006	0.948155	0.566173	sem3binary_M7_Pore Data2.csv
99	3.3086	1.735813	2.473661	1.5894	0.948155	0.411195	sem3binary_M7_Pore Data2.csv
100	0.1183	1.735813	2.616347	0.3188	0.948155	0.396088	sem3binary_M7_Pore Data2.csv
101	2.3678	1.735813	0.399408	1.1097	0.948155	0.026097	sem3binary_M7_Pore Data2.csv
102	1.7808	1.735813	0.002024	1.2072	0.948155	0.067104	sem3binary_M7_Pore Data2.csv
103	0.0642	1.735813	2.794288	0.2249	0.948155	0.523098	sem3binary_M7_Pore Data2.csv
104	3.1567	1.735813	2.018921	1.8114	0.948155	0.745192	sem3binary_M7_Pore Data2.csv
105	0.2531	1.735813	2.198436	0.5424	0.948155	0.164637	sem3binary_M7_Pore Data2.csv
106	0.5889	1.735813	1.315408	0.5542	0.948155	0.155201	sem3binary_M7_Pore Data2.csv
107	4.6183	1.735813	8.308734	1.1215	0.948155	0.030048	sem3binary_M7_Pore Data2.csv
108	0.2803	1.735813	2.118517	0.2576	0.948155	0.476866	sem3binary_M7_Pore Data2.csv
109	0.6792	1.735813	1.11643	0.4697	0.948155	0.228919	sem3binary_M7_Pore Data2.csv
110	2.3353	1.735813	0.359385	1.3653	0.948155	0.17401	sem3binary_M7_Pore Data2.csv
111	2.8847	1.735813	1.319942	1.4258	0.948155	0.228145	sem3binary_M7_Pore Data2.csv
112	2.1978	1.735813	0.213432	1.4293	0.948155	0.2315	sem3binary_M7_Pore Data2.csv
113	2.1628	1.735813	0.182318	1.4804	0.948155	0.283285	sem3binary_M7_Pore Data2.csv
114	1.8878	1.735813	0.0231	0.9623	0.948155	0.0002	sem3binary_M7_Pore Data2.csv
115	0.7717	1.735813	0.929513	0.913	0.948155	0.001236	sem3binary_M7_Pore Data2.csv
116	0.83	1.735813	0.820496	0.7864	0.948155	0.026165	sem3binary_M7_Pore Data2.csv
117	0.6947	1.735813	1.083915	0.6879	0.948155	0.067733	sem3binary_M7_Pore Data2.csv
118	3.2006	1.735813	2.145602	0.8179	0.948155	0.016966	sem3binary_M7_Pore Data2.csv
119	4.2994	1.735813	6.571981	2.0955	0.948155	1.3164	sem3binary_M7_Pore Data2.csv
120	2.3431	1.735813	0.368798	1.1719	0.948155	0.050062	sem3binary_M7_Pore Data2.csv
121	0.4206	1.735813	1.729784	0.5545	0.948155	0.154964	sem3binary_M7_Pore Data2.csv
122	6.685	1.735813	24.49446	2.114	0.948155	1.359194	sem3binary_M7_Pore Data2.csv

123	1.8664	1.735813	0.017053	0.9505	0.948155	5.50E-06	sem3binary_M7_Pore Data2.csv
124	1.2131	1.735813	0.273228	0.762	0.948155	0.034654	sem3binary_M7_Pore Data2.csv
125	0.0192	1.735813	2.946758	0.1485	0.948155	0.639448	sem3binary_M7_Pore Data2.csv
126	3.0483	1.735813	1.722623	1.6333	0.948155	0.469424	sem3binary_M7_Pore Data2.csv
127	0.6947	1.735813	1.083915	0.6213	0.948155	0.106834	sem3binary_M7_Pore Data2.csv
128	2.1947	1.735813	0.210578	1.2455	0.948155	0.088414	sem3binary_M7_Pore Data2.csv
129	2.1906	1.735813	0.206832	1.067	0.948155	0.014124	sem3binary_M7_Pore Data2.csv
130	1.4633	1.735813	0.074263	0.8931	0.948155	0.003031	sem3binary_M7_Pore Data2.csv
131	0.0053	1.735813	2.994674	0.0726	0.948155	0.766597	sem3binary_M7_Pore Data2.csv
132	0.3003	1.735813	2.060696	0.2989	0.948155	0.421532	sem3binary_M7_Pore Data2.csv
133	2.3267	1.735813	0.349148	1.2	0.948155	0.063426	sem3binary_M7_Pore Data2.csv
134	0.4344	1.735813	1.693674	0.4276	0.948155	0.270978	sem3binary_M7_Pore Data2.csv
135	1.0572	1.735813	0.460515	0.6863	0.948155	0.068568	sem3binary_M7_Pore Data2.csv
136	2.6314	1.735813	0.802077	1.4703	0.948155	0.272635	sem3binary_M7_Pore Data2.csv
137	0.18	1.735813	2.420553	0.2067	0.948155	0.549756	sem3binary_M7_Pore Data2.csv
138	1.0222	1.735813	0.509243	0.9456	0.948155	6.53E-06	sem3binary_M7_Pore Data2.csv
139	1.7264	1.735813	8.86E-05	1.0837	0.948155	0.018372	sem3binary_M7_Pore Data2.csv
140	4.3025	1.735813	6.587885	2.2862	0.948155	1.790364	sem3binary_M7_Pore Data2.csv
141	2.3844	1.735813	0.420666	1.2079	0.948155	0.067467	sem3binary_M7_Pore Data2.csv
142	0.0608	1.735813	2.805667	0.1842	0.948155	0.583627	sem3binary_M7_Pore Data2.csv
143	0.5658	1.735813	1.368929	0.6724	0.948155	0.076041	sem3binary_M7_Pore Data2.csv
144	0.1022	1.735813	2.66869	0.2652	0.948155	0.466428	sem3binary_M7_Pore Data2.csv
145	0.7106	1.735813	1.051061	0.5634	0.948155	0.148036	sem3binary_M7_Pore Data2.csv
146	0.5892	1.735813	1.31472	0.6586	0.948155	0.083842	sem3binary_M7_Pore Data2.csv
147	0.0064	1.735813	2.990868	0.0898	0.948155	0.736773	sem3binary_M7_Pore Data2.csv
148	0.0186	1.735813	2.948819	0.1391	0.948155	0.65457	sem3binary_M7_Pore Data2.csv
149	1.9683	1.735813	0.05405	1.1873	0.948155	0.05719	sem3binary_M8_Pore Data2.csv
150	0.8956	1.735813	0.705957	0.7176	0.948155	0.053156	sem3binary_M8_Pore Data2.csv
151	0.5675	1.735813	1.364954	0.4396	0.948155	0.258628	sem3binary_M8_Pore Data2.csv
152	3.9214	1.735813	4.776793	1.3571	0.948155	0.167236	sem3binary_M8_Pore Data2.csv
153	3.4075	1.735813	2.794539	1.5992	0.948155	0.42386	sem3binary_M8_Pore Data2.csv
154	2.815	1.735813	1.164646	1.467	0.948155	0.2692	sem3binary_M8_Pore Data2.csv
155	3.7406	1.735813	4.019173	1.5612	0.948155	0.375824	sem3binary_M8_Pore Data2.csv
156	1.6467	1.735813	0.007941	1.1743	0.948155	0.051142	sem3binary_M8_Pore Data2.csv
157	1.3808	1.735813	0.126034	1.1572	0.948155	0.0437	sem3binary_M8_Pore Data2.csv
158	1.9256	1.735813	0.036019	1.2935	0.948155	0.119263	sem3binary_M8_Pore Data2.csv
159	3.4567	1.735813	2.961454	1.2767	0.948155	0.107942	sem3binary_M8_Pore Data2.csv
160	1.4736	1.735813	0.068755	1.0221	0.948155	0.005468	sem3binary_M8_Pore Data2.csv
161	1.0442	1.735813	0.478328	0.7748	0.948155	0.030052	sem3binary_M8_Pore Data2.csv
162	0.3525	1.735813	1.913553	0.5144	0.948155	0.188143	sem3binary_M8_Pore Data2.csv
163	1.905	1.735813	0.028624	1.2323	0.948155	0.080738	sem3binary_M8_Pore Data2.csv
164	1.4744	1.735813	0.068336	0.7867	0.948155	0.026068	sem3binary_M8_Pore Data2.csv
165	0.4347	1.735813	1.692894	0.4141	0.948155	0.285215	sem3binary_M8_Pore Data2.csv

166	1.7583	1.735813	0.000506	1.0625	0.948155	0.013075	sem3binary_M8_Pore Data2.csv
167	0.3969	1.735813	1.792687	0.3774	0.948155	0.325761	sem3binary_M8_Pore Data2.csv
168	6.3681	1.735813	21.45809	1.9298	0.948155	0.963627	sem3binary_M8_Pore Data2.csv
169	0.0139	1.735813	2.964983	0.101	0.948155	0.717672	sem3binary_M8_Pore Data2.csv
170	4.0603	1.735813	5.403242	1.9613	0.948155	1.026463	sem3binary_M8_Pore Data2.csv
171	0.0128	1.735813	2.968772	0.1185	0.948155	0.688328	sem3binary_M8_Pore Data2.csv
172	3.9511	1.735813	4.907499	1.7006	0.948155	0.566173	sem3binary_M8_Pore Data2.csv
173	3.3086	1.735813	2.473661	1.5894	0.948155	0.411195	sem3binary_M8_Pore Data2.csv
174	0.1183	1.735813	2.616347	0.3188	0.948155	0.396088	sem3binary_M8_Pore Data2.csv
175	2.3678	1.735813	0.399408	1.1097	0.948155	0.026097	sem3binary_M8_Pore Data2.csv
176	1.7808	1.735813	0.002024	1.2072	0.948155	0.067104	sem3binary_M8_Pore Data2.csv
177	0.0642	1.735813	2.794288	0.2249	0.948155	0.523098	sem3binary_M8_Pore Data2.csv
178	3.1567	1.735813	2.018921	1.8114	0.948155	0.745192	sem3binary_M8_Pore Data2.csv
179	0.2531	1.735813	2.198436	0.5424	0.948155	0.164637	sem3binary_M8_Pore Data2.csv
180	0.5889	1.735813	1.315408	0.5542	0.948155	0.155201	sem3binary_M8_Pore Data2.csv
181	4.6183	1.735813	8.308734	1.1215	0.948155	0.030048	sem3binary_M8_Pore Data2.csv
182	0.2803	1.735813	2.118517	0.2576	0.948155	0.476866	sem3binary_M8_Pore Data2.csv
183	0.6792	1.735813	1.11643	0.4697	0.948155	0.228919	sem3binary_M8_Pore Data2.csv
184	2.3353	1.735813	0.359385	1.3653	0.948155	0.17401	sem3binary_M8_Pore Data2.csv
185	2.8847	1.735813	1.319942	1.4258	0.948155	0.228145	sem3binary_M8_Pore Data2.csv
186	2.1978	1.735813	0.213432	1.4293	0.948155	0.2315	sem3binary_M8_Pore Data2.csv
187	2.1628	1.735813	0.182318	1.4804	0.948155	0.283285	sem3binary_M8_Pore Data2.csv
188	1.8878	1.735813	0.0231	0.9623	0.948155	0.0002	sem3binary_M8_Pore Data2.csv
189	0.7717	1.735813	0.929513	0.913	0.948155	0.001236	sem3binary_M8_Pore Data2.csv
190	0.83	1.735813	0.820496	0.7864	0.948155	0.026165	sem3binary_M8_Pore Data2.csv
191	0.6947	1.735813	1.083915	0.6879	0.948155	0.067733	sem3binary_M8_Pore Data2.csv
192	3.2006	1.735813	2.145602	0.8179	0.948155	0.016966	sem3binary_M8_Pore Data2.csv
193	4.2994	1.735813	6.571981	2.0955	0.948155	1.3164	sem3binary_M8_Pore Data2.csv
194	2.3431	1.735813	0.368798	1.1719	0.948155	0.050062	sem3binary_M8_Pore Data2.csv
195	0.4206	1.735813	1.729784	0.5545	0.948155	0.154964	sem3binary_M8_Pore Data2.csv
196	6.685	1.735813	24.49446	2.114	0.948155	1.359194	sem3binary_M8_Pore Data2.csv
197	1.8664	1.735813	0.017053	0.9505	0.948155	5.50E-06	sem3binary_M8_Pore Data2.csv
198	1.2131	1.735813	0.273228	0.762	0.948155	0.034654	sem3binary_M8_Pore Data2.csv
199	0.0192	1.735813	2.946758	0.1485	0.948155	0.639448	sem3binary_M8_Pore Data2.csv
200	3.0483	1.735813	1.722623	1.6333	0.948155	0.469424	sem3binary_M8_Pore Data2.csv
201	0.6947	1.735813	1.083915	0.6213	0.948155	0.106834	sem3binary_M8_Pore Data2.csv
202	2.1947	1.735813	0.210578	1.2455	0.948155	0.088414	sem3binary_M8_Pore Data2.csv
203	2.1906	1.735813	0.206832	1.067	0.948155	0.014124	sem3binary_M8_Pore Data2.csv
204	1.4633	1.735813	0.074263	0.8931	0.948155	0.003031	sem3binary_M8_Pore Data2.csv
205	0.0053	1.735813	2.994674	0.0726	0.948155	0.766597	sem3binary_M8_Pore Data2.csv
206	0.3003	1.735813	2.060696	0.2989	0.948155	0.421532	sem3binary_M8_Pore Data2.csv
207	2.3267	1.735813	0.349148	1.2	0.948155	0.063426	sem3binary_M8_Pore Data2.csv
208	0.4344	1.735813	1.693674	0.4276	0.948155	0.270978	sem3binary_M8_Pore Data2.csv

209	1.0572	1.735813	0.460515	0.6863	0.948155	0.068568	sem3binary_M8_Pore Data2.csv
210	2.6314	1.735813	0.802077	1.4703	0.948155	0.272635	sem3binary_M8_Pore Data2.csv
211	0.18	1.735813	2.420553	0.2067	0.948155	0.549756	sem3binary_M8_Pore Data2.csv
212	1.0222	1.735813	0.509243	0.9456	0.948155	6.53E-06	sem3binary_M8_Pore Data2.csv
213	1.7264	1.735813	8.86E-05	1.0837	0.948155	0.018372	sem3binary_M8_Pore Data2.csv
214	4.3025	1.735813	6.587885	2.2862	0.948155	1.790364	sem3binary_M8_Pore Data2.csv
215	2.3844	1.735813	0.420666	1.2079	0.948155	0.067467	sem3binary_M8_Pore Data2.csv
216	0.0608	1.735813	2.805667	0.1842	0.948155	0.583627	sem3binary_M8_Pore Data2.csv
217	0.5658	1.735813	1.368929	0.6724	0.948155	0.076041	sem3binary_M8_Pore Data2.csv
218	0.1022	1.735813	2.66869	0.2652	0.948155	0.466428	sem3binary_M8_Pore Data2.csv
219	0.7106	1.735813	1.051061	0.5634	0.948155	0.148036	sem3binary_M8_Pore Data2.csv
220	0.5892	1.735813	1.31472	0.6586	0.948155	0.083842	sem3binary_M8_Pore Data2.csv
221	0.0064	1.735813	2.990868	0.0898	0.948155	0.736773	sem3binary_M8_Pore Data2.csv
222	0.0186	1.735813	2.948819	0.1391	0.948155	0.65457	sem3binary_M8_Pore Data2.csv
223	1.9994	1.735813	0.069478	1.1994	0.948155	0.063124	sem3binary_S8_Pore Data2.csv
224	0.9092	1.735813	0.683288	0.7238	0.948155	0.050335	sem3binary_S8_Pore Data2.csv
225	0.5714	1.735813	1.355856	0.4428	0.948155	0.255384	sem3binary_S8_Pore Data2.csv
226	3.9694	1.735813	4.988913	1.3672	0.948155	0.175599	sem3binary_S8_Pore Data2.csv
227	3.4283	1.735813	2.864514	1.602	0.948155	0.427513	sem3binary_S8_Pore Data2.csv
228	2.8208	1.735813	1.177198	1.467	0.948155	0.2692	sem3binary_S8_Pore Data2.csv
229	3.7597	1.735813	4.096121	1.5692	0.948155	0.385697	sem3binary_S8_Pore Data2.csv
230	1.6694	1.735813	0.004411	1.1832	0.948155	0.055246	sem3binary_S8_Pore Data2.csv
231	1.3875	1.735813	0.121322	1.1602	0.948155	0.044963	sem3binary_S8_Pore Data2.csv
232	1.9497	1.735813	0.045748	1.2991	0.948155	0.123162	sem3binary_S8_Pore Data2.csv
233	3.4675	1.735813	2.998742	1.2768	0.948155	0.108007	sem3binary_S8_Pore Data2.csv
234	1.4783	1.735813	0.066313	1.0253	0.948155	0.005951	sem3binary_S8_Pore Data2.csv
235	1.0511	1.735813	0.468831	0.7781	0.948155	0.028919	sem3binary_S8_Pore Data2.csv
236	0.3525	1.735813	1.913553	0.5144	0.948155	0.188143	sem3binary_S8_Pore Data2.csv
237	1.9139	1.735813	0.031715	1.2343	0.948155	0.081879	sem3binary_S8_Pore Data2.csv
238	1.4889	1.735813	0.060966	0.792	0.948155	0.024384	sem3binary_S8_Pore Data2.csv
239	0.4372	1.735813	1.686394	0.4148	0.948155	0.284468	sem3binary_S8_Pore Data2.csv
240	1.76	1.735813	0.000585	1.0628	0.948155	0.013143	sem3binary_S8_Pore Data2.csv
241	0.3969	1.735813	1.792687	0.3774	0.948155	0.325761	sem3binary_S8_Pore Data2.csv
242	6.4222	1.735813	21.96223	1.9392	0.948155	0.98217	sem3binary_S8_Pore Data2.csv
243	0.0139	1.735813	2.964983	0.101	0.948155	0.717672	sem3binary_S8_Pore Data2.csv
244	4.0708	1.735813	5.452167	1.9618	0.948155	1.027476	sem3binary_S8_Pore Data2.csv
245	0.0128	1.735813	2.968772	0.1185	0.948155	0.688328	sem3binary_S8_Pore Data2.csv
246	3.9883	1.735813	5.0737	1.7107	0.948155	0.581475	sem3binary_S8_Pore Data2.csv
247	3.3258	1.735813	2.52806	1.5957	0.948155	0.419314	sem3binary_S8_Pore Data2.csv
248	2.3828	1.735813	0.418593	1.1163	0.948155	0.028273	sem3binary_S8_Pore Data2.csv
249	0.1183	1.735813	2.616347	0.3188	0.948155	0.396088	sem3binary_S8_Pore Data2.csv
250	1.8022	1.735813	0.004407	1.2149	0.948155	0.071153	sem3binary_S8_Pore Data2.csv
251	0.0642	1.735813	2.794288	0.2249	0.948155	0.523098	sem3binary_S8_Pore Data2.csv

252	3.1775	1.735813	2.078463	1.8147	0.948155	0.7509	sem3binary_S8_Pore Data2.csv
253	0.2531	1.735813	2.198436	0.5424	0.948155	0.164637	sem3binary_S8_Pore Data2.csv
254	0.5889	1.735813	1.315408	0.5542	0.948155	0.155201	sem3binary_S8_Pore Data2.csv
255	4.6617	1.735813	8.560818	1.1302	0.948155	0.03314	sem3binary_S8_Pore Data2.csv
256	0.6861	1.735813	1.101896	0.4714	0.948155	0.227295	sem3binary_S8_Pore Data2.csv
257	0.2903	1.735813	2.089506	0.2654	0.948155	0.466154	sem3binary_S8_Pore Data2.csv
258	2.3447	1.735813	0.370744	1.3714	0.948155	0.179136	sem3binary_S8_Pore Data2.csv
259	2.8878	1.735813	1.327075	1.4261	0.948155	0.228431	sem3binary_S8_Pore Data2.csv
260	2.2058	1.735813	0.220888	1.4336	0.948155	0.235657	sem3binary_S8_Pore Data2.csv
261	2.1881	1.735813	0.204564	1.4913	0.948155	0.295006	sem3binary_S8_Pore Data2.csv
262	1.9106	1.735813	0.030551	0.9714	0.948155	0.00054	sem3binary_S8_Pore Data2.csv
263	0.7803	1.735813	0.913004	0.9227	0.948155	0.000648	sem3binary_S8_Pore Data2.csv
264	0.83	1.735813	0.820496	0.7864	0.948155	0.026165	sem3binary_S8_Pore Data2.csv
265	0.7094	1.735813	1.053523	0.6985	0.948155	0.062328	sem3binary_S8_Pore Data2.csv
266	3.2508	1.735813	2.295187	0.8292	0.948155	0.01415	sem3binary_S8_Pore Data2.csv
267	4.3231	1.735813	6.694057	2.1035	0.948155	1.334822	sem3binary_S8_Pore Data2.csv
268	2.3611	1.735813	0.390984	1.1768	0.948155	0.052279	sem3binary_S8_Pore Data2.csv
269	0.4272	1.735813	1.712467	0.5592	0.948155	0.151286	sem3binary_S8_Pore Data2.csv
270	6.7183	1.735813	24.82518	2.12	0.948155	1.373221	sem3binary_S8_Pore Data2.csv
271	1.8772	1.735813	0.01999	0.9562	0.948155	6.47E-05	sem3binary_S8_Pore Data2.csv
272	1.2358	1.735813	0.250013	0.7774	0.948155	0.029157	sem3binary_S8_Pore Data2.csv
273	0.0192	1.735813	2.946758	0.1485	0.948155	0.639448	sem3binary_S8_Pore Data2.csv
274	0.7014	1.735813	1.070009	0.6213	0.948155	0.106834	sem3binary_S8_Pore Data2.csv
275	3.0569	1.735813	1.745272	1.6344	0.948155	0.470932	sem3binary_S8_Pore Data2.csv
276	2.1947	1.735813	0.210578	1.2455	0.948155	0.088414	sem3binary_S8_Pore Data2.csv
277	2.2169	1.735813	0.231445	1.0743	0.948155	0.015913	sem3binary_S8_Pore Data2.csv
278	1.4633	1.735813	0.074263	0.8931	0.948155	0.003031	sem3binary_S8_Pore Data2.csv
279	0.0053	1.735813	2.994674	0.0726	0.948155	0.766597	sem3binary_S8_Pore Data2.csv
280	0.3042	1.735813	2.049514	0.3021	0.948155	0.417387	sem3binary_S8_Pore Data2.csv
281	2.3492	1.735813	0.376244	1.2037	0.948155	0.065303	sem3binary_S8_Pore Data2.csv
282	0.4383	1.735813	1.683539	0.4277	0.948155	0.270873	sem3binary_S8_Pore Data2.csv
283	1.0825	1.735813	0.426817	0.6993	0.948155	0.061929	sem3binary_S8_Pore Data2.csv
284	2.6689	1.735813	0.870652	1.4829	0.948155	0.285952	sem3binary_S8_Pore Data2.csv
285	0.18	1.735813	2.420553	0.2067	0.948155	0.549756	sem3binary_S8_Pore Data2.csv
286	1.0222	1.735813	0.509243	0.9456	0.948155	6.53E-06	sem3binary_S8_Pore Data2.csv
287	1.7489	1.735813	0.000171	1.0876	0.948155	0.019445	sem3binary_S8_Pore Data2.csv
288	4.31	1.735813	6.626441	2.2893	0.948155	1.79867	sem3binary_S8_Pore Data2.csv
289	2.4103	1.735813	0.454933	1.2152	0.948155	0.071313	sem3binary_S8_Pore Data2.csv
290	0.0608	1.735813	2.805667	0.1842	0.948155	0.583627	sem3binary_S8_Pore Data2.csv
291	0.5789	1.735813	1.338447	0.6814	0.948155	0.071158	sem3binary_S8_Pore Data2.csv
292	0.1022	1.735813	2.66869	0.2652	0.948155	0.466428	sem3binary_S8_Pore Data2.csv
293	0.7181	1.735813	1.035739	0.566	0.948155	0.146042	sem3binary_S8_Pore Data2.csv
294	0.6028	1.735813	1.283717	0.6668	0.948155	0.079161	sem3binary_S8_Pore Data2.csv

295	0.0064	1.735813	2.990868	0.0898	0.948155	0.736773	sem3binary_S8_Pore Data2.csv
296	0.0186	1.735813	2.948819	0.1391	0.948155	0.65457	sem3binary_S8_Pore Data2.csv
Mean	**1.735813**		**2.274341**	**0.948155**		**0.303121**	
SD*	**1.508092**			**0.550565**			

* Standard Deviation

Table S5: Pore size and minor axis measurement for 5% gel

	Area			Minor		
1	0.4425	0.84293	0.160345	0.5603	0.743852	0.033691
2	1.3037	0.84293	0.212309	1.1939	0.743852	0.202543
3	0.6222	0.84293	0.048722	0.6176	0.743852	0.01594
4	0.6558	0.84293	0.035018	0.6674	0.743852	0.005845
5	0.9047	0.84293	0.003815	0.6611	0.743852	0.006848
6	0.6696	0.84293	0.030043	0.6992	0.743852	0.001994
7	0.798	0.84293	0.002019	0.5851	0.743852	0.025202
8	0.7842	0.84293	0.003449	0.6191	0.743852	0.015563
9	0.5768	0.84293	0.070825	0.6321	0.743852	0.012489
10	1.1081	0.84293	0.070315	0.8055	0.743852	0.0038
11	0.5017	0.84293	0.116438	0.5812	0.743852	0.026456
12	1.1891	0.84293	0.119833	0.9811	0.743852	0.056287
13	0.4484	0.84293	0.155654	0.4948	0.743852	0.062027
14	1.6415	0.84293	0.637713	1.1801	0.743852	0.190312
15	0.8711	0.84293	0.000794	0.6907	0.743852	0.002825
16	0.8553	0.84293	0.000153	0.6121	0.743852	0.017359
17	1.4894	0.84293	0.417923	1.0232	0.743852	0.078035
18	0.7723	0.84293	0.004989	0.834	0.743852	0.008127
19	0.7664	0.84293	0.005857	0.7542	0.743852	0.000107
20	0.6479	0.84293	0.038037	0.7611	0.743852	0.000297
21	0.7328	0.84293	0.012129	0.5985	0.743852	0.021127
22	1.0173	0.84293	0.030405	0.7912	0.743852	0.002242
23	0.5886	0.84293	0.064684	0.7651	0.743852	0.000451
Mean	**0.84293**		**0.097455**	**0.743852**		**0.034329**
SD*	**0.312178**			**0.185281**		

* Standard Deviation

Table S6: Pore size and minor axis measurement for 7% gel

	Pore Area (x_i)	μ	$(x_i - \mu)^2$	Minor Pore Axis (y_i)	μ	$(y_i - \mu)^2$	File Name
1	0.739	0.446811	0.085374	0.702	0.423774	0.07741	sem7binary_M1_Pore Data2.csv
2	0.2229	0.446811	0.050136	0.4318	0.423774	6.44E-05	sem7binary_M1_Pore Data2.csv
3	1.0734	0.446811	0.392614	0.7803	0.423774	0.127111	sem7binary_M1_Pore Data2.csv

4	1.1809	0.446811	0.538887	0.596	0.423774	0.029662	sem7binary_M1_Pore Data2.csv
5	0.4429	0.446811	1.53E-05	0.4221	0.423774	2.80E-06	sem7binary_M1_Pore Data2.csv
6	0.5308	0.446811	0.007054	0.7046	0.423774	0.078863	sem7binary_M1_Pore Data2.csv
7	0.9807	0.446811	0.285037	0.8483	0.423774	0.180222	sem7binary_M1_Pore Data2.csv
8	0.6744	0.446811	0.051797	0.7416	0.423774	0.101013	sem7binary_M1_Pore Data2.csv
9	0.0301	0.446811	0.173648	0.1464	0.423774	0.076936	sem7binary_M1_Pore Data2.csv
10	0.4359	0.446811	0.000119	0.5828	0.423774	0.025289	sem7binary_M1_Pore Data2.csv
11	0.038	0.446811	0.167126	0.193	0.423774	0.053257	sem7binary_M1_Pore Data2.csv
12	0.1014	0.446811	0.119309	0.2189	0.423774	0.041973	sem7binary_M1_Pore Data2.csv
13	1.605	0.446811	1.341402	0.9879	0.423774	0.318238	sem7binary_M1_Pore Data2.csv
14	0.0538	0.446811	0.154458	0.1879	0.423774	0.055637	sem7binary_M1_Pore Data2.csv
15	0.6259	0.446811	0.032073	0.7675	0.423774	0.118148	sem7binary_M1_Pore Data2.csv
16	0.0479	0.446811	0.15913	0.1244	0.423774	0.089625	sem7binary_M1_Pore Data2.csv
17	0.7491	0.446811	0.091379	0.6927	0.423774	0.072321	sem7binary_M1_Pore Data2.csv
18	0.0139	0.446811	0.187412	0.095	0.423774	0.108092	sem7binary_M1_Pore Data2.csv
19	0.029	0.446811	0.174566	0.1789	0.423774	0.059963	sem7binary_M1_Pore Data2.csv
20	0.036	0.446811	0.168766	0.1672	0.423774	0.06583	sem7binary_M1_Pore Data2.csv
21	0.1681	0.446811	0.07768	0.3089	0.423774	0.013196	sem7binary_M1_Pore Data2.csv
22	1.0406	0.446811	0.352585	0.5544	0.423774	0.017063	sem7binary_M1_Pore Data2.csv
23	0.199	0.446811	0.06141	0.3018	0.423774	0.014878	sem7binary_M1_Pore Data2.csv
24	0.1421	0.446811	0.092849	0.344	0.423774	0.006364	sem7binary_M1_Pore Data2.csv
25	0.0334	0.446811	0.170909	0.154	0.423774	0.072778	sem7binary_M1_Pore Data2.csv
26	0.0519	0.446811	0.155955	0.1889	0.423774	0.055166	sem7binary_M1_Pore Data2.csv
27	0.0789	0.446811	0.135359	0.2187	0.423774	0.042055	sem7binary_M1_Pore Data2.csv
28	0.1689	0.446811	0.077235	0.3796	0.423774	0.001951	sem7binary_M1_Pore Data2.csv
29	2.253	0.446811	3.262319	0.7985	0.423774	0.14042	sem7binary_M1_Pore Data2.csv
30	0.1448	0.446811	0.091211	0.2208	0.423774	0.041198	sem7binary_M1_Pore Data2.csv
31	0.3221	0.446811	0.015553	0.371	0.423774	0.002785	sem7binary_M1_Pore Data2.csv
32	0.3386	0.446811	0.01171	0.3333	0.423774	0.008186	sem7binary_M1_Pore Data2.csv
33	0.2878	0.446811	0.025284	0.2905	0.423774	0.017762	sem7binary_M1_Pore Data2.csv
34	0.736	0.446811	0.08363	0.6996	0.423774	0.07608	sem7binary_M7_Pore Data2.csv
35	0.2213	0.446811	0.050855	0.4293	0.423774	3.05E-05	sem7binary_M7_Pore Data2.csv
36	1.0687	0.446811	0.386746	0.7774	0.423774	0.125051	sem7binary_M7_Pore Data2.csv
37	1.1728	0.446811	0.52706	0.5922	0.423774	0.028367	sem7binary_M7_Pore Data2.csv
38	0.4368	0.446811	0.0001	0.4184	0.423774	2.89E-05	sem7binary_M7_Pore Data2.csv
39	0.5261	0.446811	0.006287	0.7012	0.423774	0.076965	sem7binary_M7_Pore Data2.csv
40	0.977	0.446811	0.2811	0.8463	0.423774	0.178528	sem7binary_M7_Pore Data2.csv
41	0.6696	0.446811	0.049635	0.7367	0.423774	0.097923	sem7binary_M7_Pore Data2.csv
42	0.0292	0.446811	0.174399	0.1439	0.423774	0.078329	sem7binary_M7_Pore Data2.csv
43	0.4332	0.446811	0.000185	0.579	0.423774	0.024095	sem7binary_M7_Pore Data2.csv
44	0.037	0.446811	0.167945	0.1892	0.423774	0.055025	sem7binary_M7_Pore Data2.csv

45	0.0988	0.446811	0.121112	0.2145	0.423774	0.043796	sem7binary_M7_Pore Data2.csv
46	1.6026	0.446811	1.335848	0.9876	0.423774	0.3179	sem7binary_M7_Pore Data2.csv
47	0.0525	0.446811	0.155481	0.1862	0.423774	0.056441	sem7binary_M7_Pore Data2.csv
48	0.6231	0.446811	0.031078	0.7662	0.423774	0.117256	sem7binary_M7_Pore Data2.csv
49	0.047	0.446811	0.159849	0.1237	0.423774	0.090044	sem7binary_M7_Pore Data2.csv
50	0.7448	0.446811	0.088797	0.6907	0.423774	0.071249	sem7binary_M7_Pore Data2.csv
51	0.0137	0.446811	0.187585	0.0957	0.423774	0.107633	sem7binary_M7_Pore Data2.csv
52	0.0286	0.446811	0.1749	0.1791	0.423774	0.059865	sem7binary_M7_Pore Data2.csv
53	0.0359	0.446811	0.168848	0.167	0.423774	0.065933	sem7binary_M7_Pore Data2.csv
54	0.2357	0.446811	0.044568	0.3391	0.423774	0.00717	sem7binary_M7_Pore Data2.csv
55	0.1648	0.446811	0.07953	0.3053	0.423774	0.014036	sem7binary_M7_Pore Data2.csv
56	1.0368	0.446811	0.348087	0.553	0.423774	0.016699	sem7binary_M7_Pore Data2.csv
57	0.1954	0.446811	0.063207	0.2976	0.423774	0.01592	sem7binary_M7_Pore Data2.csv
58	0.1397	0.446811	0.094317	0.3401	0.423774	0.007001	sem7binary_M7_Pore Data2.csv
59	0.0319	0.446811	0.172151	0.1499	0.423774	0.075007	sem7binary_M7_Pore Data2.csv
60	0.0502	0.446811	0.1573	0.1851	0.423774	0.056965	sem7binary_M7_Pore Data2.csv
61	0.0767	0.446811	0.136982	0.2143	0.423774	0.043879	sem7binary_M7_Pore Data2.csv
62	0.1673	0.446811	0.078126	0.3768	0.423774	0.002207	sem7binary_M7_Pore Data2.csv
63	2.2466	0.446811	3.23924	0.7975	0.423774	0.139671	sem7binary_M7_Pore Data2.csv
64	0.1415	0.446811	0.093215	0.2167	0.423774	0.04288	sem7binary_M7_Pore Data2.csv
65	0.3183	0.446811	0.016515	0.3685	0.423774	0.003055	sem7binary_M7_Pore Data2.csv
66	0.33	0.446811	0.013645	0.3308	0.423774	0.008644	sem7binary_M7_Pore Data2.csv
67	0.2853	0.446811	0.026086	0.2895	0.423774	0.01803	sem7binary_M7_Pore Data2.csv
68	0.7395	0.446811	0.085667	0.7025	0.423774	0.077688	sem7binary_S5_Pore Data2.csv
69	0.2243	0.446811	0.049511	0.4345	0.423774	0.000115	sem7binary_S5_Pore Data2.csv
70	1.075	0.446811	0.394621	0.7813	0.423774	0.127825	sem7binary_S5_Pore Data2.csv
71	1.183	0.446811	0.541974	0.5968	0.423774	0.029938	sem7binary_S5_Pore Data2.csv
72	0.4445	0.446811	5.34E-06	0.4234	0.423774	1.40E-07	sem7binary_S5_Pore Data2.csv
73	0.5321	0.446811	0.007274	0.7053	0.423774	0.079257	sem7binary_S5_Pore Data2.csv
74	0.9823	0.446811	0.286748	0.8484	0.423774	0.180307	sem7binary_S5_Pore Data2.csv
75	0.6749	0.446811	0.052025	0.7419	0.423774	0.101204	sem7binary_S5_Pore Data2.csv
76	0.0306	0.446811	0.173232	0.1485	0.423774	0.075776	sem7binary_S5_Pore Data2.csv
77	0.4362	0.446811	0.000113	0.5831	0.423774	0.025385	sem7binary_S5_Pore Data2.csv
78	0.0385	0.446811	0.166718	0.1942	0.423774	0.052704	sem7binary_S5_Pore Data2.csv
79	0.102	0.446811	0.118895	0.2199	0.423774	0.041565	sem7binary_S5_Pore Data2.csv
80	1.6058	0.446811	1.343256	0.9879	0.423774	0.318238	sem7binary_S5_Pore Data2.csv
81	0.0538	0.446811	0.154458	0.1879	0.423774	0.055637	sem7binary_S5_Pore Data2.csv
82	0.6263	0.446811	0.032216	0.7675	0.423774	0.118148	sem7binary_S5_Pore Data2.csv
83	0.0485	0.446811	0.158652	0.1246	0.423774	0.089505	sem7binary_S5_Pore Data2.csv
84	0.7493	0.446811	0.0915	0.6927	0.423774	0.072321	sem7binary_S5_Pore Data2.csv
85	0.0139	0.446811	0.187412	0.0952	0.423774	0.107961	sem7binary_S5_Pore Data2.csv

86	0.029	0.446811	0.174566	0.1787	0.423774	0.060061	sem7binary_S5_Pore Data2.csv
87	0.0363	0.446811	0.168519	0.1667	0.423774	0.066087	sem7binary_S5_Pore Data2.csv
88	0.1686	0.446811	0.077401	0.3098	0.423774	0.01299	sem7binary_S5_Pore Data2.csv
89	1.0424	0.446811	0.354726	0.5552	0.423774	0.017273	sem7binary_S5_Pore Data2.csv
90	0.1995	0.446811	0.061163	0.3019	0.423774	0.014853	sem7binary_S5_Pore Data2.csv
91	0.1425	0.446811	0.092605	0.3451	0.423774	0.00619	sem7binary_S5_Pore Data2.csv
92	0.0335	0.446811	0.170826	0.155	0.423774	0.072239	sem7binary_S5_Pore Data2.csv
93	0.0524	0.446811	0.15556	0.1908	0.423774	0.054277	sem7binary_S5_Pore Data2.csv
94	0.0795	0.446811	0.134917	0.2195	0.423774	0.041728	sem7binary_S5_Pore Data2.csv
95	0.1697	0.446811	0.076791	0.3799	0.423774	0.001925	sem7binary_S5_Pore Data2.csv
96	2.2555	0.446811	3.271356	0.7988	0.423774	0.140645	sem7binary_S5_Pore Data2.csv
97	0.1455	0.446811	0.090788	0.2218	0.423774	0.040793	sem7binary_S5_Pore Data2.csv
98	0.3236	0.446811	0.015181	0.3724	0.423774	0.002639	sem7binary_S5_Pore Data2.csv
99	0.3391	0.446811	0.011602	0.3336	0.423774	0.008131	sem7binary_S5_Pore Data2.csv
100	0.2884	0.446811	0.025094	0.2908	0.423774	0.017682	sem7binary_S5_Pore Data2.csv
Mean	**0.446811**		**0.261501**	**0.423774**		**0.063463**	
SD*	**0.511372**			**0.251918**			

* Standard Deviation

References:

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