

Supplementary Information

***In Vitro* Cell Culture in Hollow Microfibers with Porous Structures**

Vivek Damodar Ranjan ^a, Peiqin Zeng ^b, Boyuan Li ^b, Yilei Zhang ^{b, *}

^a NTU Institute for Health Technologies, Interdisciplinary Graduate School, Nanyang Technological University, Singapore 639798

^b School of Mechanical & Aerospace Engineering, Nanyang Technological University, 50 Nanyang Avenue, Singapore 639798

* Corresponding Author E-mail: ylzhang@ntu.edu.sg

Table 1S: Selected variables and levels for DOE

Factor Name	Factor Letter	Low Setting	Medium Setting	High Setting
Concentration	A	10%	12.5%	15%
Voltage	B	10 kV	12 kV	14 kV
Flow rate	C	30 ml/h	40 ml/h	50 ml/h
Response	Diameter of coaxial fiber (μm)			

Table 2S: ANOVA Table, Diameter of coaxial fiber

Source	Degree of freedom	Seq SS	Adj SS	Adj MS	F	P
A	2	2501.37	2501.37	1250.69	308.66	0
B	2	462.67	462.67	231.34	57.09	0
C	2	660.18	660.18	330.09	81.46	0
A*B	4	188.94	188.94	47.24	11.66	0.002
A*C	4	185.29	185.29	46.32	11.43	0.002
B*C	4	28.14	28.14	7.04	1.74	0.235
Error	8	32.42	32.42	4.05		
Total	26	4059.01				

Table 3S: Design Matrix of Experiment result

Run Order	Concentration (%)	Voltage (kV)	Flow rate (ml/hr)	Diameter 1 (μm)	Diameter 2 (μm)	Diameter 3 (μm)
1	10	10	30	34.37	33.56	34.55
2	10	10	40	35.9	36.1	36.33
3	10	10	50	40.98	39.88	42.14
4	10	12	30	35.65	34.85	35.1
5	10	12	40	37.6	37.03	38.65
6	10	12	50	39.62	37.96	38.69
7	10	14	30	29.95	28.7	30.22
8	10	14	40	35.03	34.87	36.03
9	10	14	50	35.55	35.94	35.33
10	12.5	10	30	41.7	42.65	39.99
11	12.5	10	40	47.83	45.98	46.86
12	12.5	10	50	52.71	51.86	52.33
13	12.5	12	30	33.05	31.98	32.66
14	12.5	12	40	37.91	37.02	38.32
15	12.5	12	50	47.58	47.03	44.76
16	12.5	14	30	33.95	33.43	33.55
17	12.5	14	40	38.6	38.11	38.65
18	12.5	14	50	39.75	39	40.23
19	15	10	30	52.98	53.43	51.96
20	15	10	40	66.7	65.92	66.43
21	15	10	50	77.18	78.14	78.36
22	15	12	30	53.03	52.64	52.88
23	15	12	40	57.93	57.23	57.12
24	15	12	50	72.83	72.03	73.11
25	15	14	30	40.36	40.85	39.77
26	15	14	40	48.62	48.23	47.98
27	15	14	50	57.13	57.77	56.81
Low						
Medium						
High						