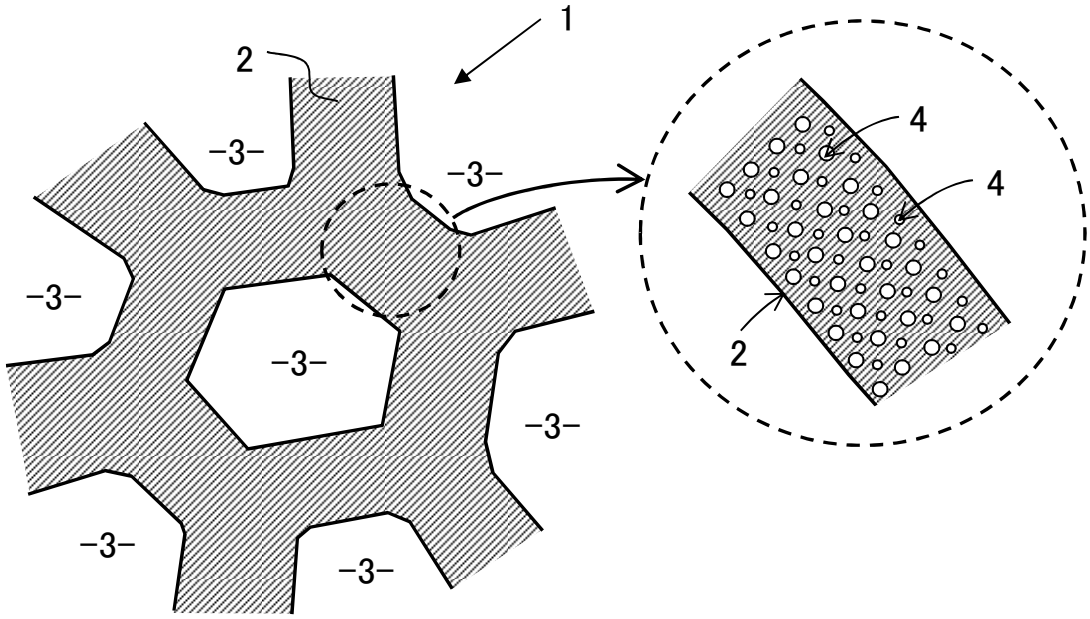


Fig. 1

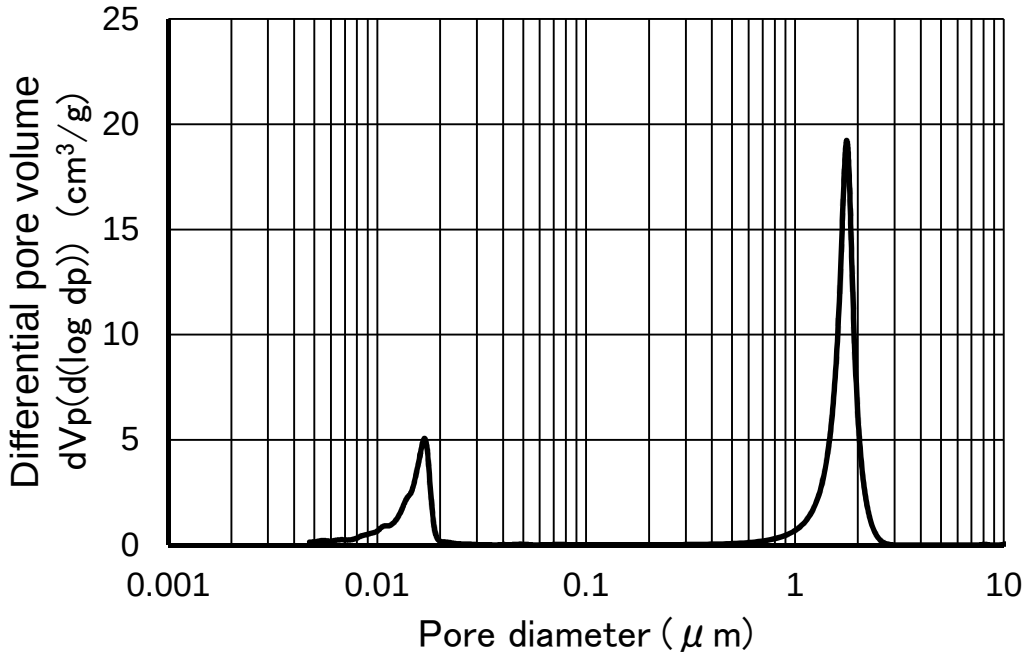

Differential pore volume
dVp(d(log dp)) (cm³/g)
25
20
15
10
5
0
0.001
0.01
0.1
1
10
Pore diameter (μm)

Fig. 2

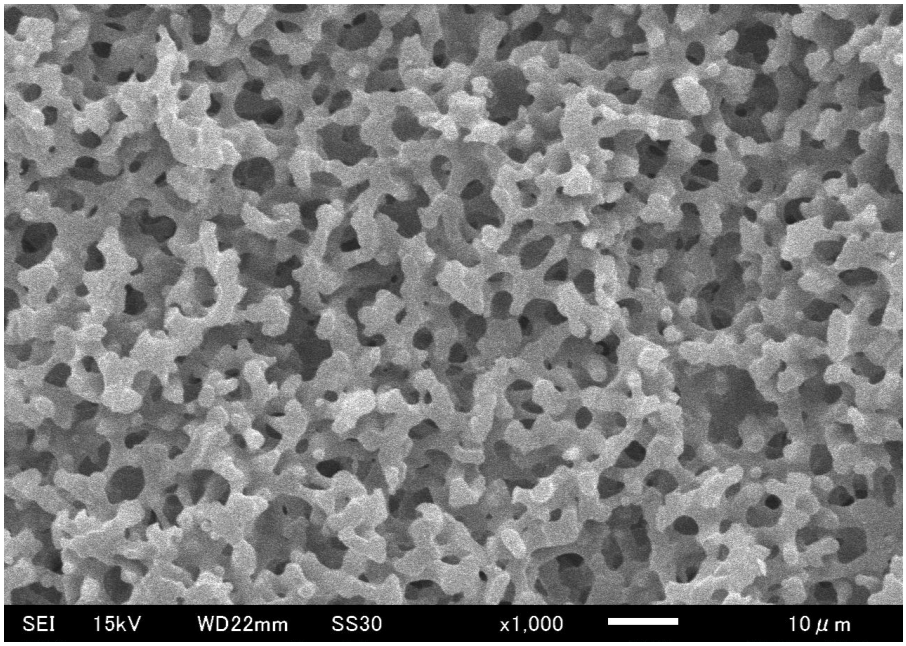
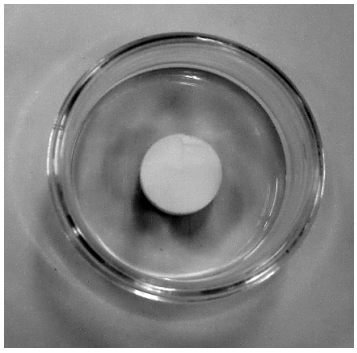
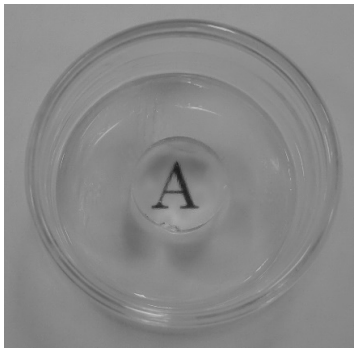


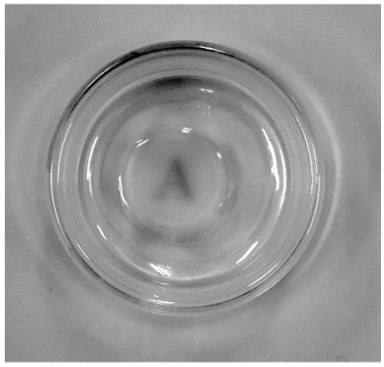
Fig. 3



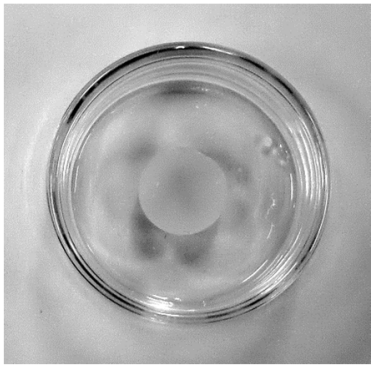
Initial state (opaque)
Fig. 4(A)



Transparent
Fig. 4(B)



Semitransparent
Fig. 4(C)



Opaque
Fig. 4(D)

Name of slow-release liquid	Refractive index	Through-hole diameter (μm)						
		10	5	2	1	0.6	0.3	0.1
Water	1.333	×	×		×	×	×	△
Isopropanol	1.375	×	×		×	×	△	○
Dichloromethane	1.424	×	×	×	×	△	○	○
N,N-Dimethylformamide	1.4305	△	△	△	△	△		
Chloroform	1.442	○	○	○	○	○		
Coconut oil (essential oil)	1.45	○	○	○				
Lavender (essential oil)	1.46			○				
Hinoki (essential oil)	1.47			○				
Lemon (essential oil)	1.472			○				
Glycerin	1.473	○	○	○	○	○	○	○
Melissa (essential oil)	1.48	△	△	△	△	○		
Toluene	1.49			×	×	○		
Ylang-ylang (essential oil)	1.496			×	×	△		
Benzene	1.5012	×	×	×	×	△	○	○
Benzonitrile	1.528	×	×	×	×	×	○	○

Fig. 5

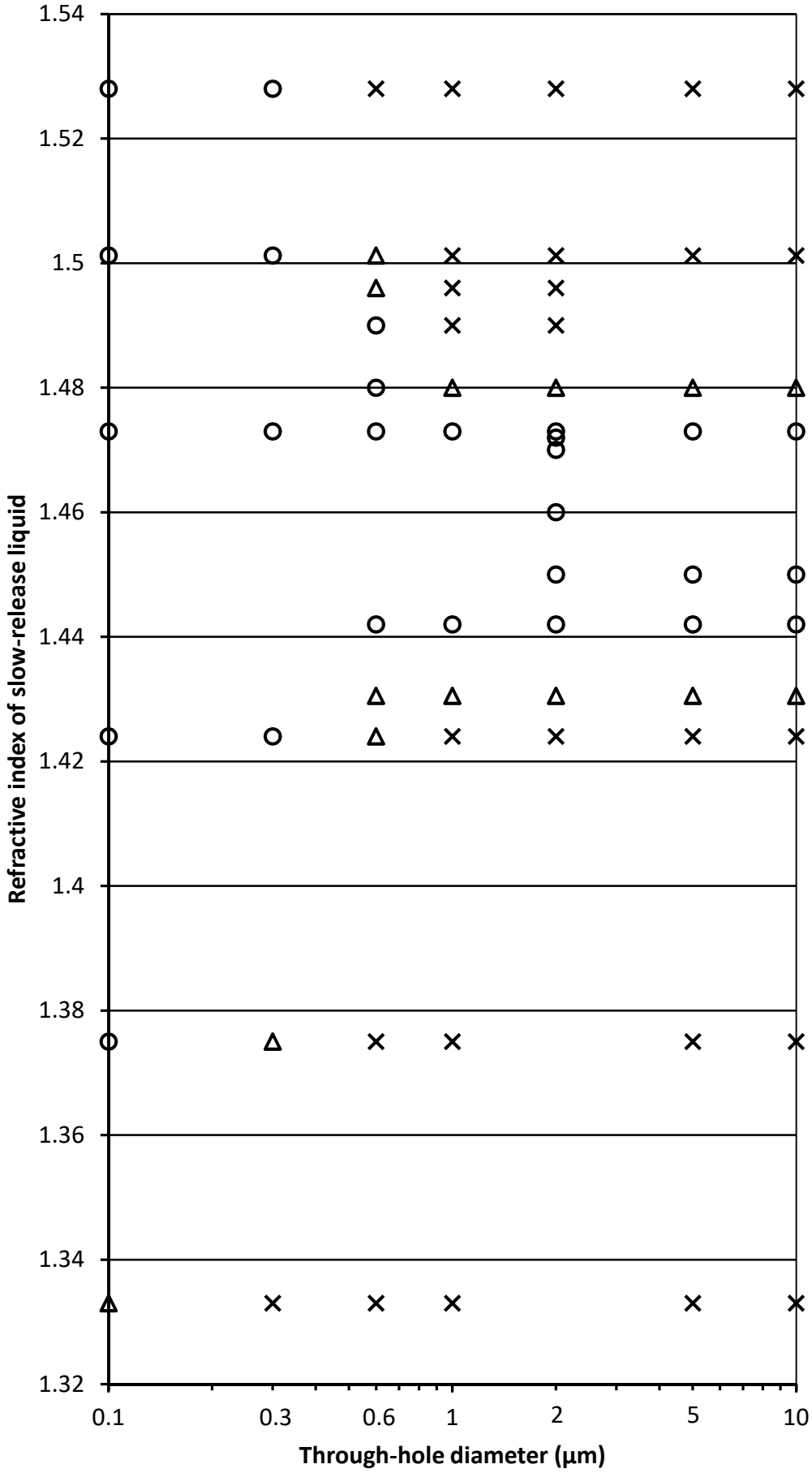

1.54
1.52
1.5
1.48
1.46
1.44
1.42
1.4
1.38
1.36
1.34
1.32
Refractive index of slow-release liquid
0.1
0.3
0.6
1
2
5
10
Through-hole diameter (μm)

Fig. 6

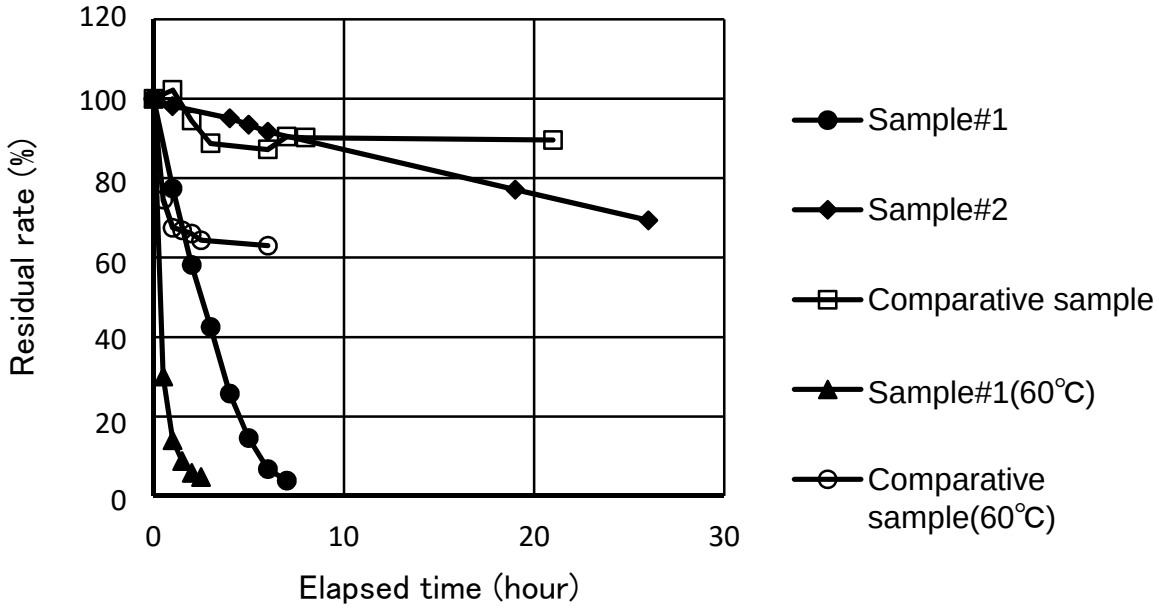

120
100
80
60
40
20
0
Residual rate (%)
0
10
20
30
Elapsed time (hour)
Sample#1
Sample#2
Comparative sample
Sample#1(60℃)
Comparative sample(60℃)

Fig. 7

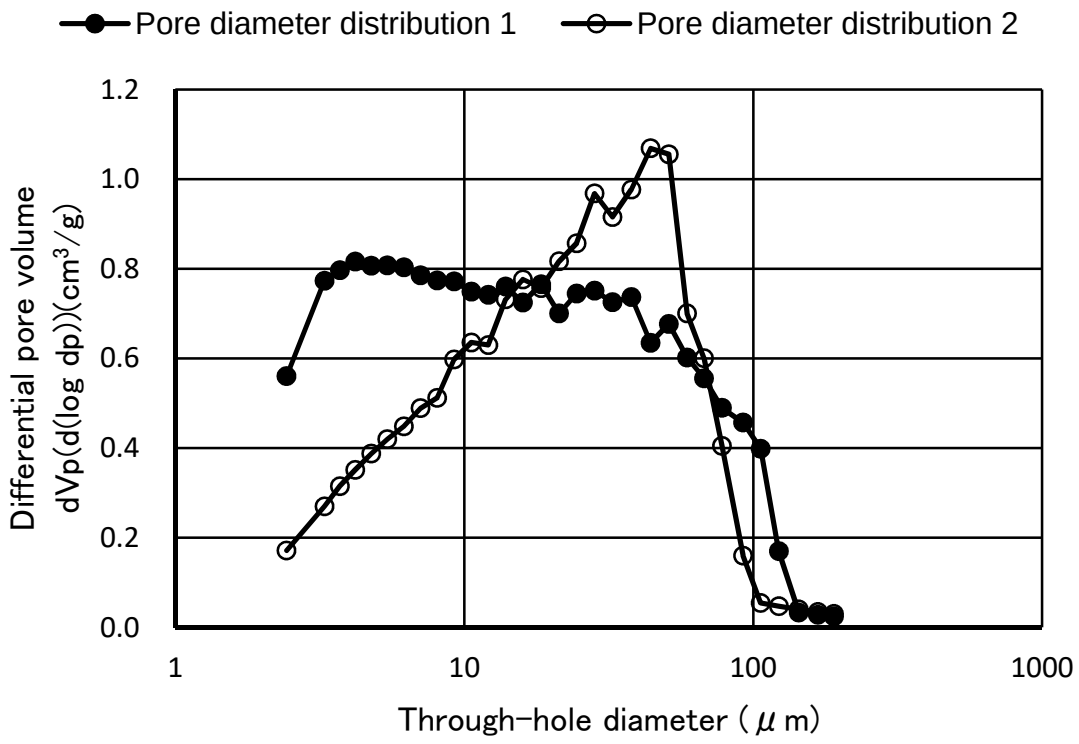

Pore diameter distribution 1
Pore diameter distribution 2
Differential pore volume dVp(d(log dp))(cm³/g)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
1
10
100
1000
Through-hole diameter (μm)

Fig. 8

Name of slow-release liquid	Refractive index	Through-hole diameter				
		0.6 μm	0.3 μm	0.1 μm	40nm	4nm
Water	1.333	×	×	△	○	△
Isopropanol	1.375	×	△	○	○	○
Dichloromethane	1.424	×	○	○	○	○
Glycerin	1.473	○	○	○	○	○
Benzene	1.5012	×	○	○	○	○
Benzonitrile	1.528	×	△	○	○	○

Fig. 9

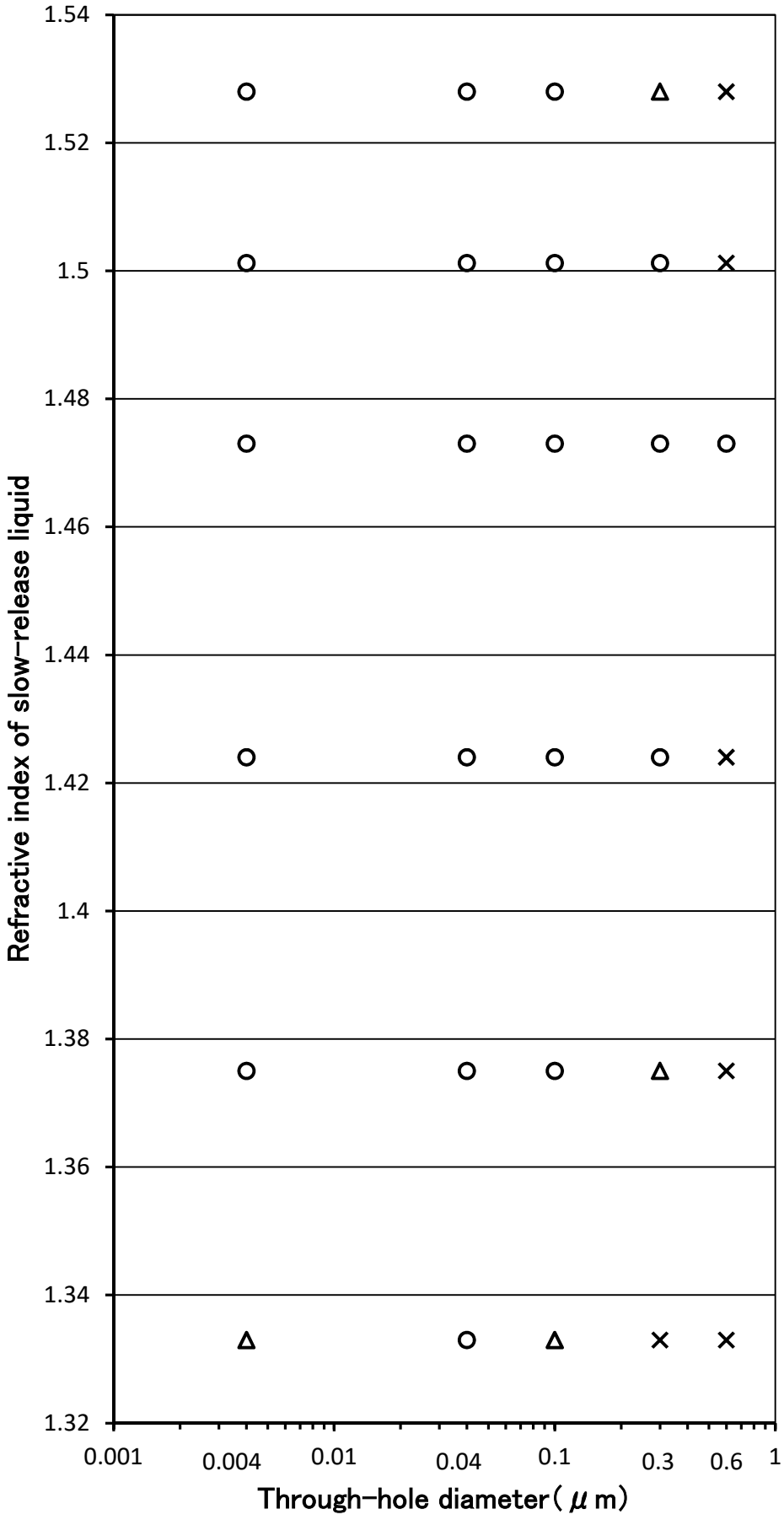

1.54
1.52
1.5
1.48
1.46
1.44
1.42
1.4
1.38
1.36
1.34
1.32
Refractive index of slow-release liquid
0.001
0.004
0.01
0.04
0.1
0.3
0.6
1
Through-hole diameter(μm)

Fig. 10

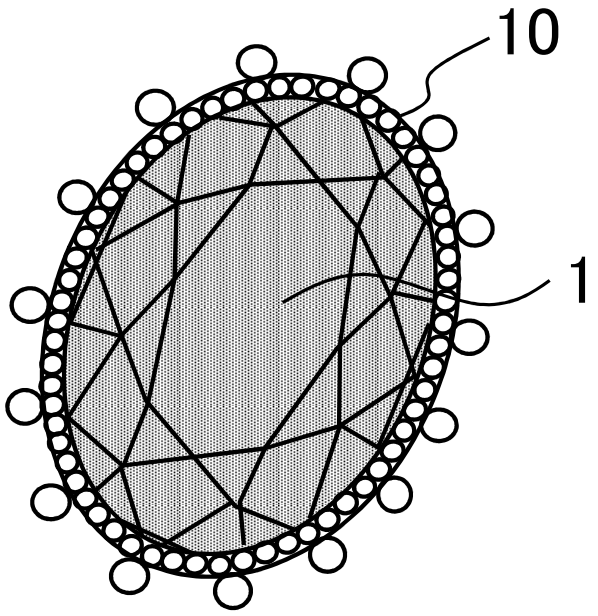


Fig. 11

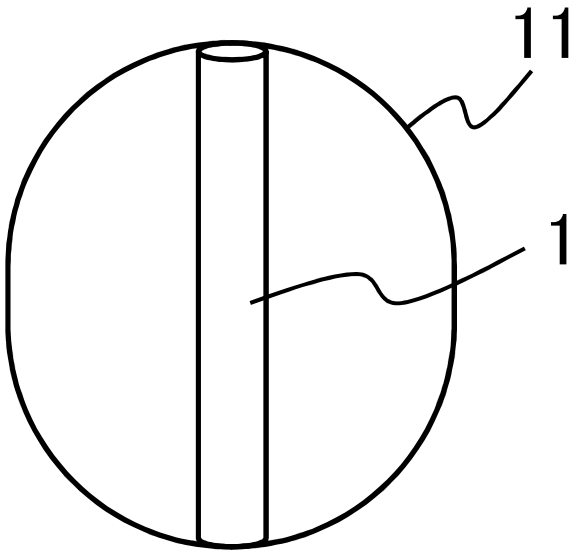


Fig. 12

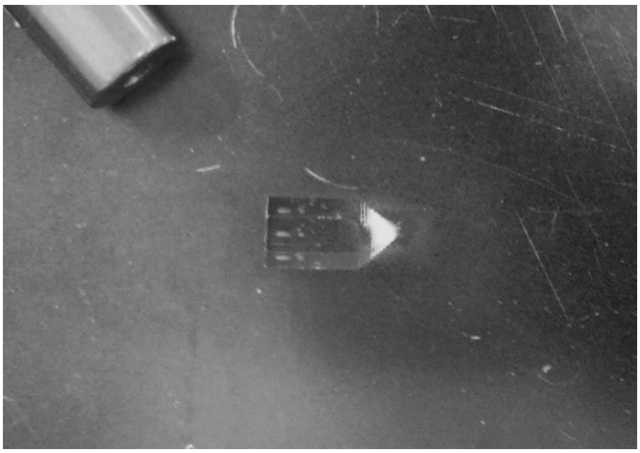


Fig. 13(A)

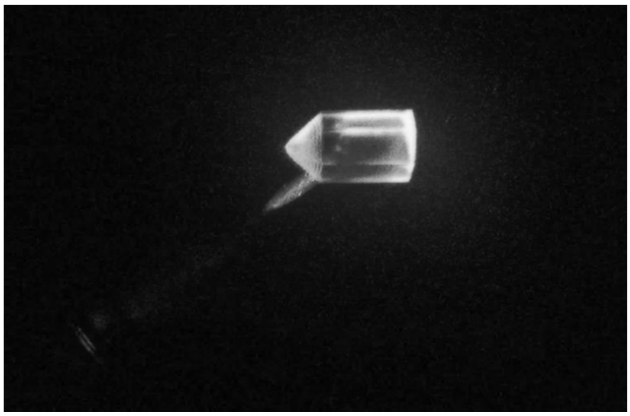


Fig. 13(B)