FIG. 1A

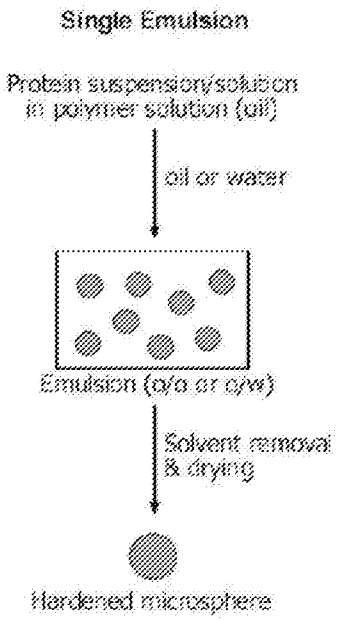
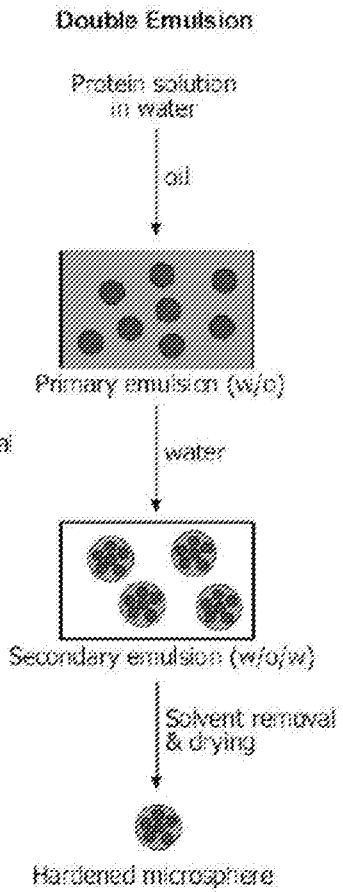
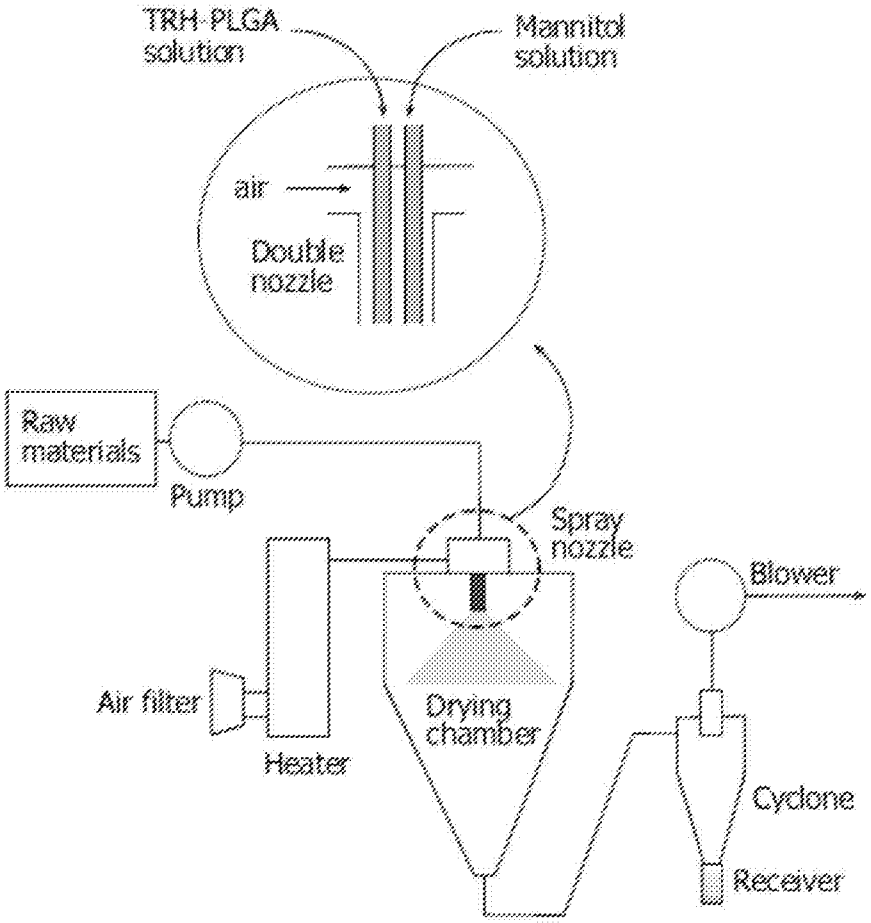


FIG. 1B



PRIOR ART

FIG. 1C



PRIOR ART

FIG. 1D

Microspheres

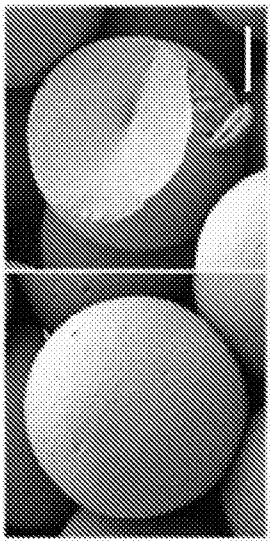


FIG. 1E

Microparticles

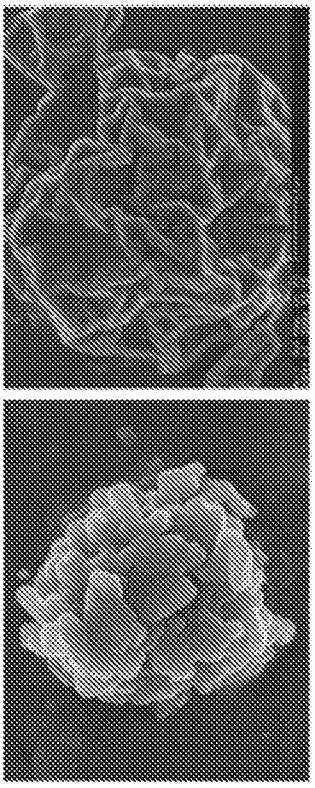


FIG. 1F

Microcapsules

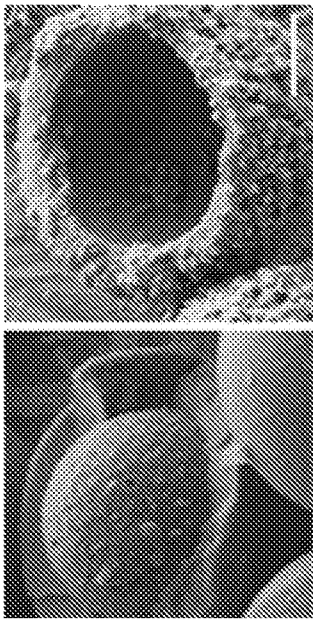
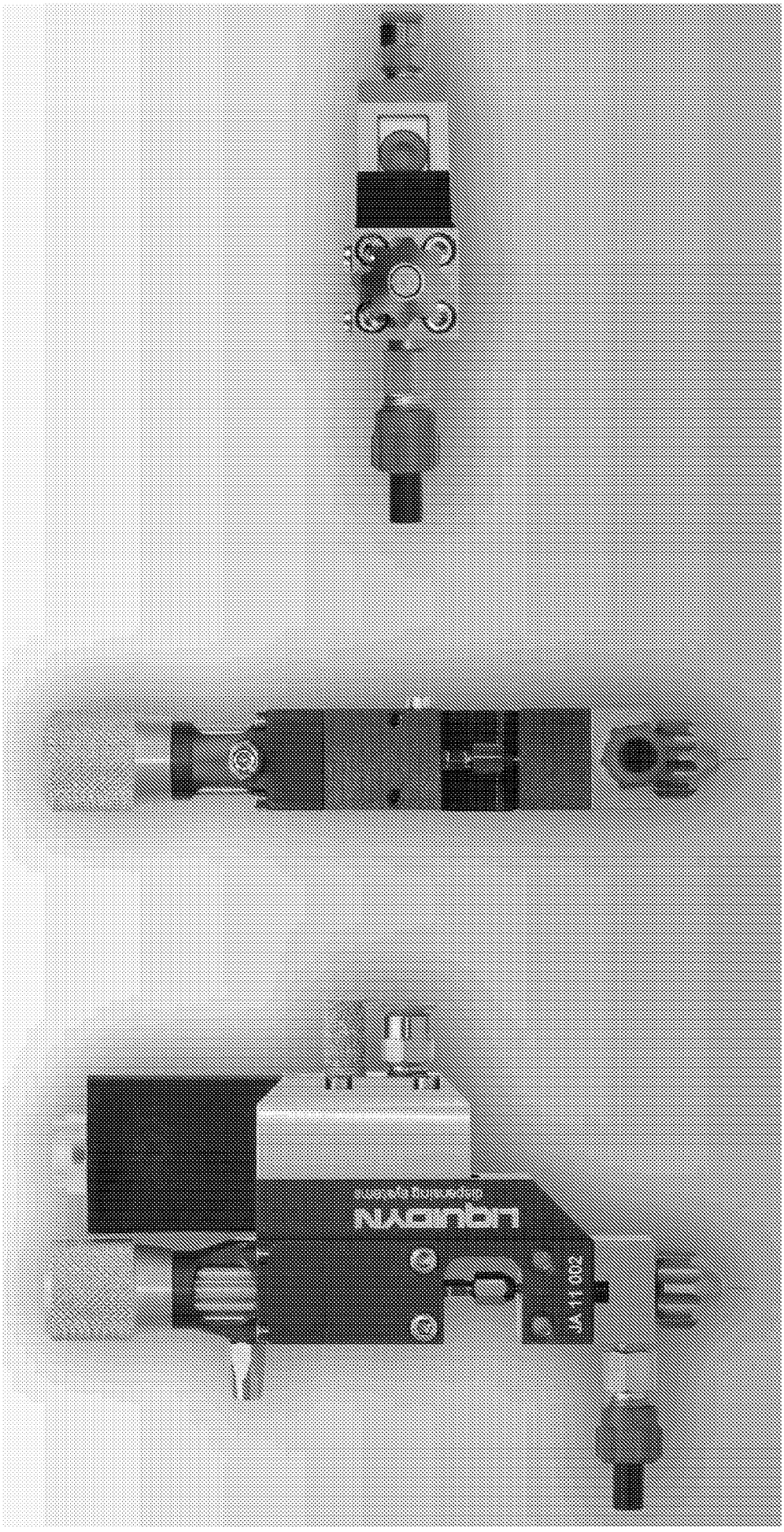


FIG. 2A

FIG. 2B

FIG. 2C



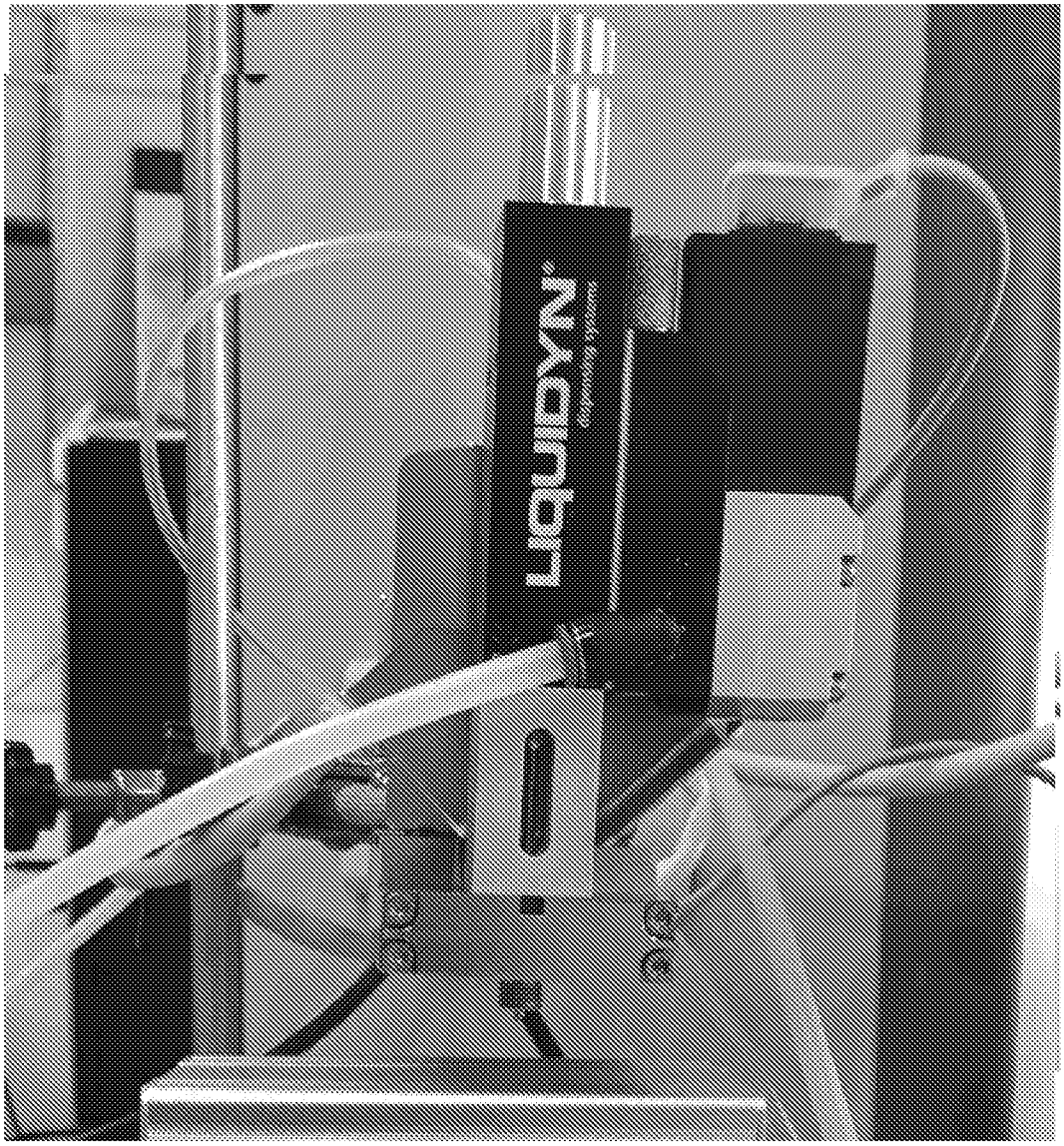


FIG. 2D

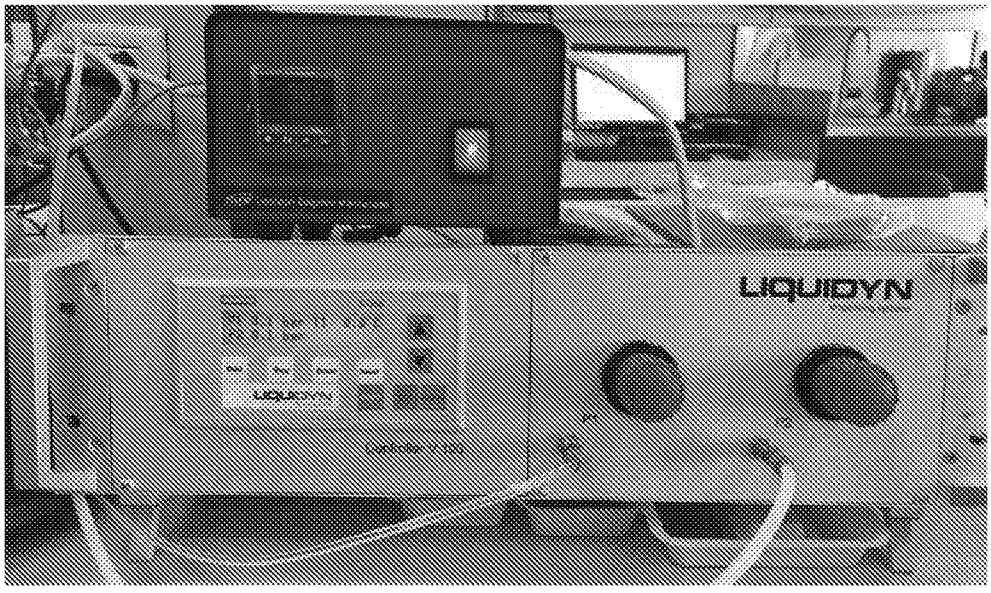


FIG. 2E

FIG. 3A

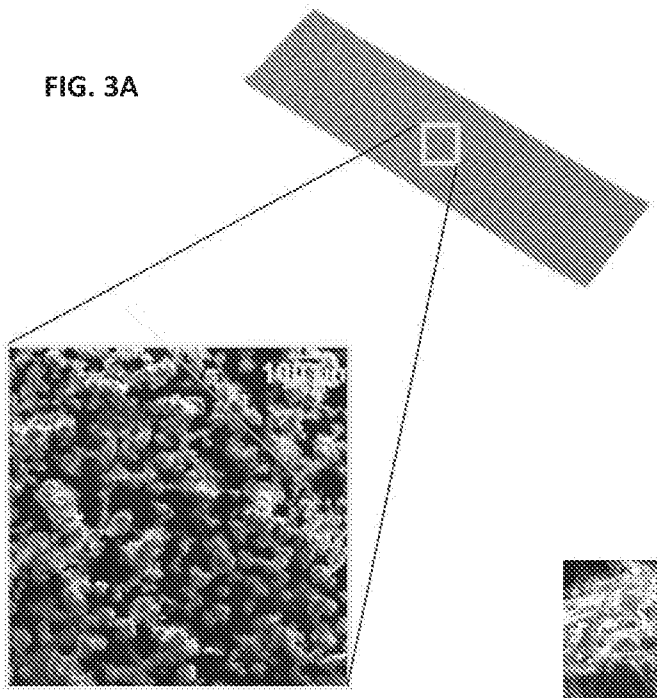


FIG. 3B

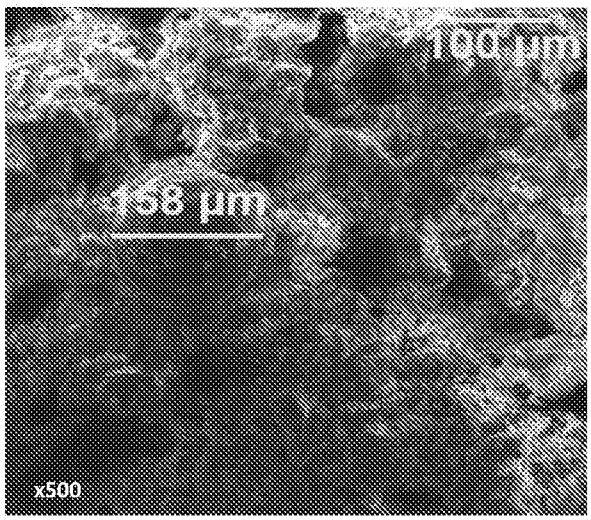


FIG. 3C

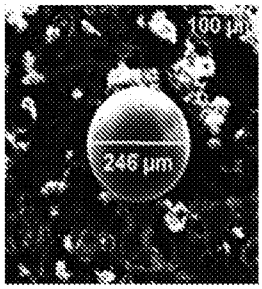


FIG. 3D

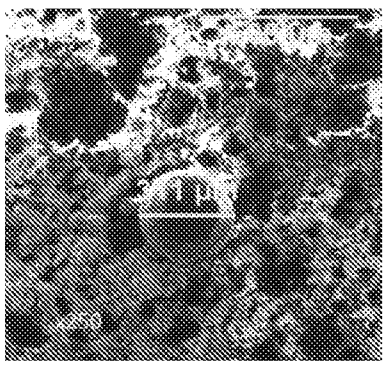


FIG. 4B

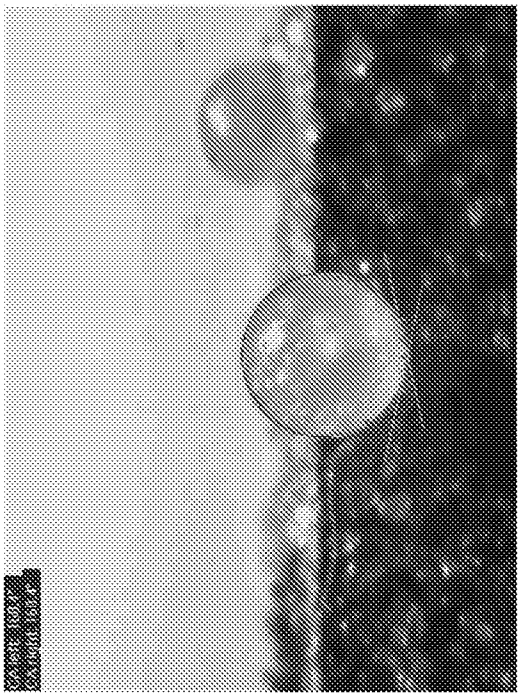
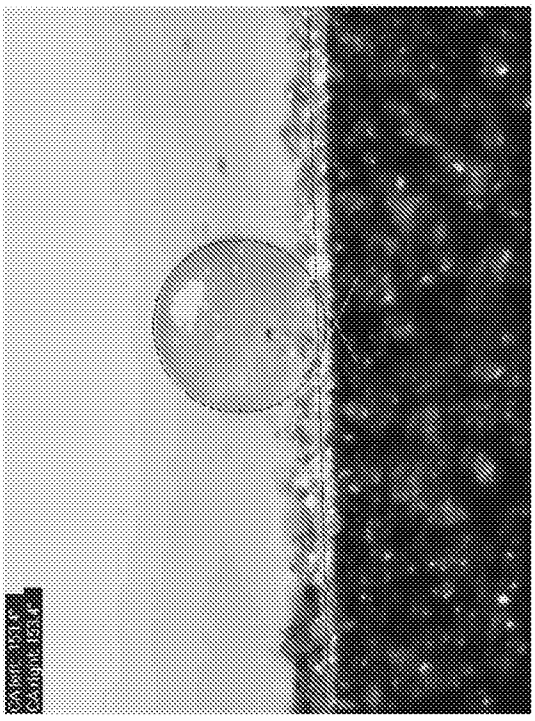


FIG. 4A



	Solvent evaporation (literature)	Printed microspheres on superoleophobic surfaces
	30%IBU-PCL	30%IBU-PCL (-20)
EE (%)	67.3	95.3 ± 2.7

FIG. 5

FIG. 6

Paraffin wax

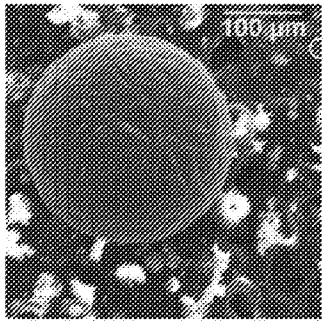


FIG. 6A

Oxidized PE wax

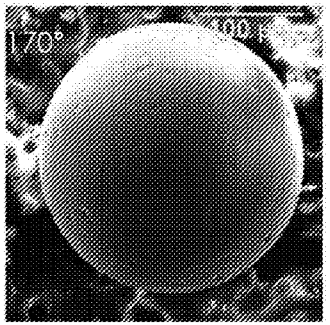


FIG. 6B

90% IBU- Cetyl alcohol

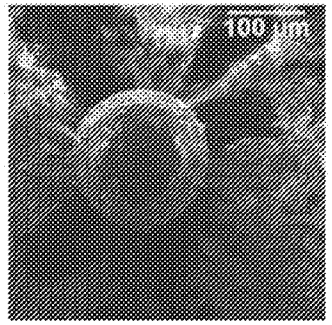


FIG. 6C

30% IBU-PLGA

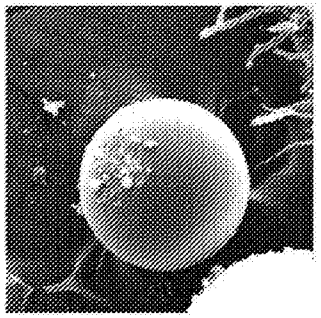


FIG. 6D

50% IBU-PCL

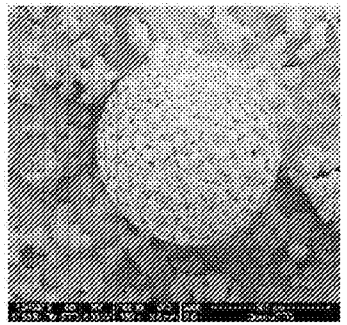


FIG. 6E

FIG. 7D.1

FIG. 7D.2

FIG. 7D.3

FIG. 7D.4

FIG. 7D.5

FIG. 7D.6

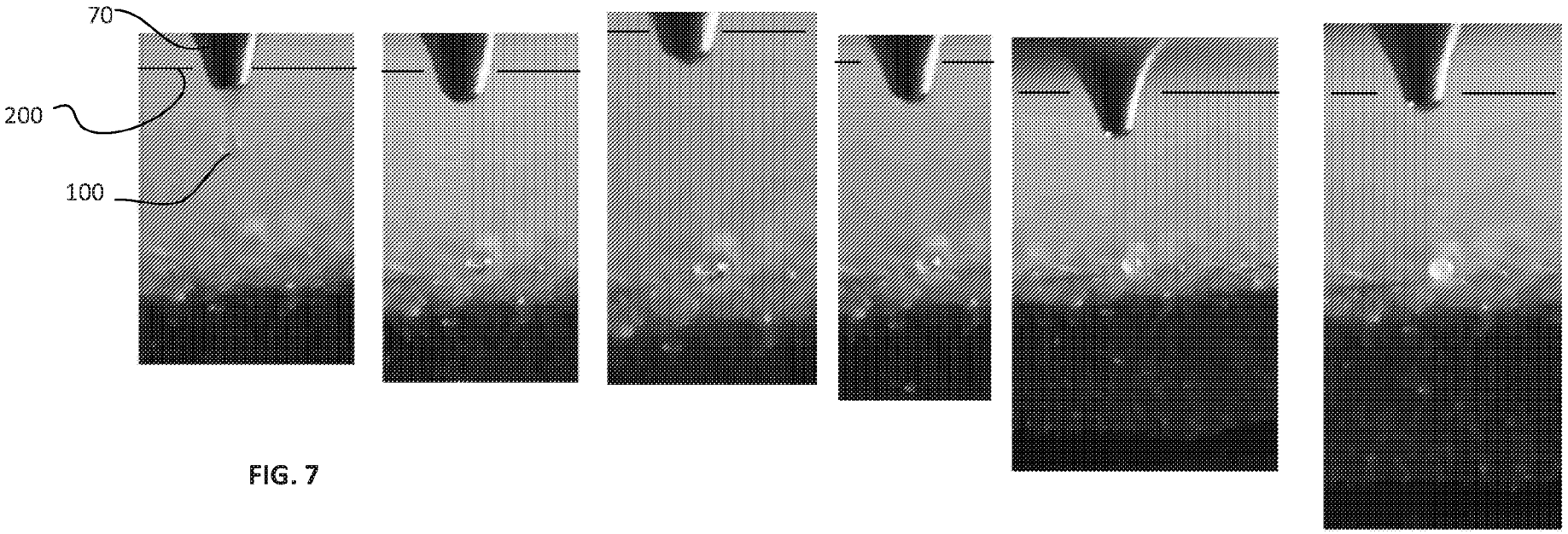


FIG. 7

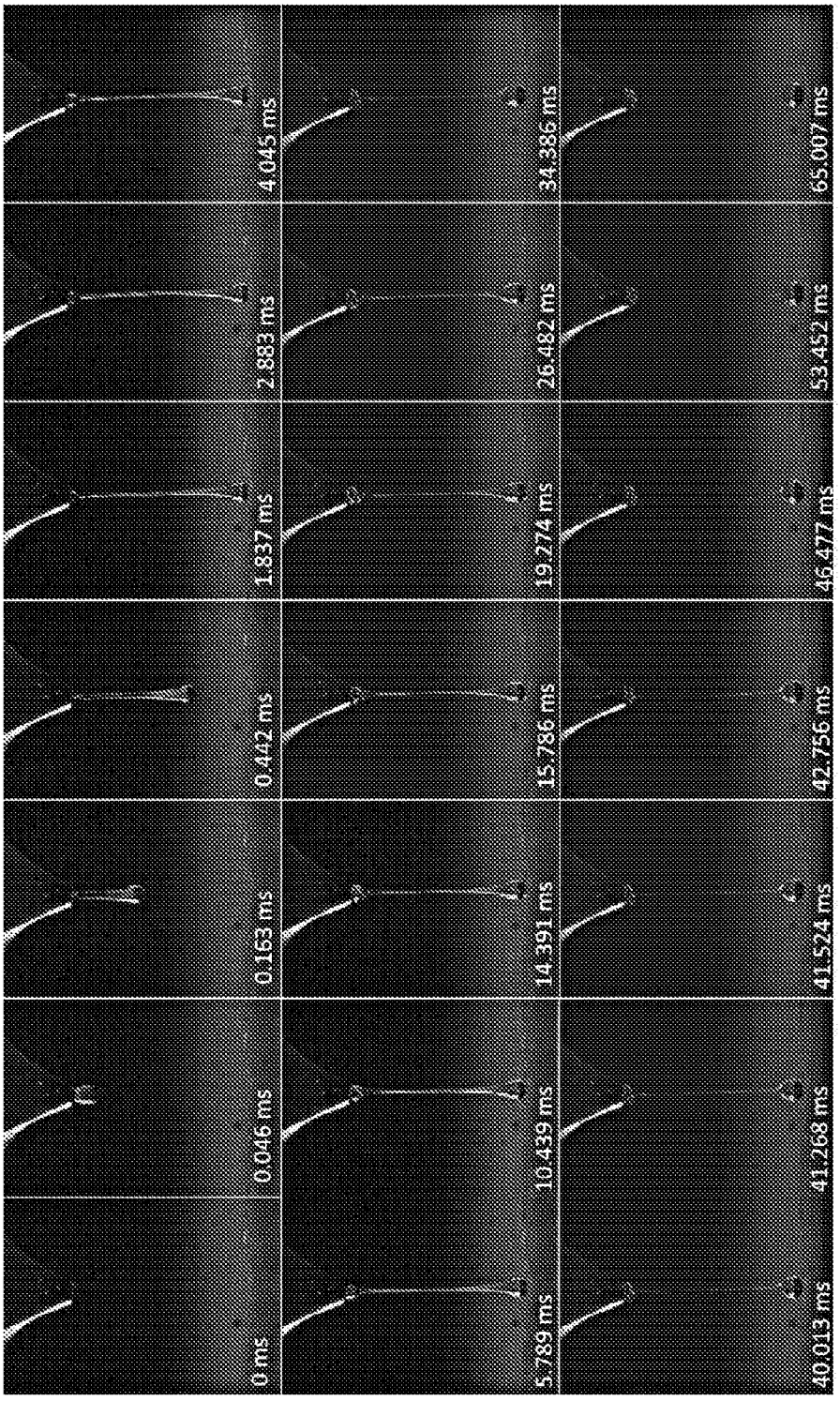


FIG. 7 **A**

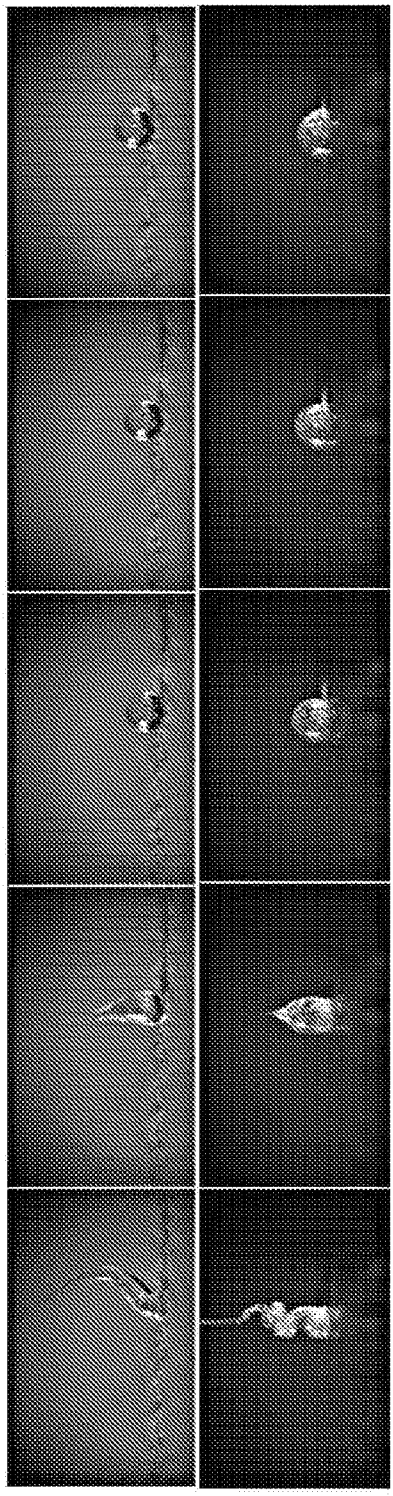


FIG. 7 **B**

FIG. 7C

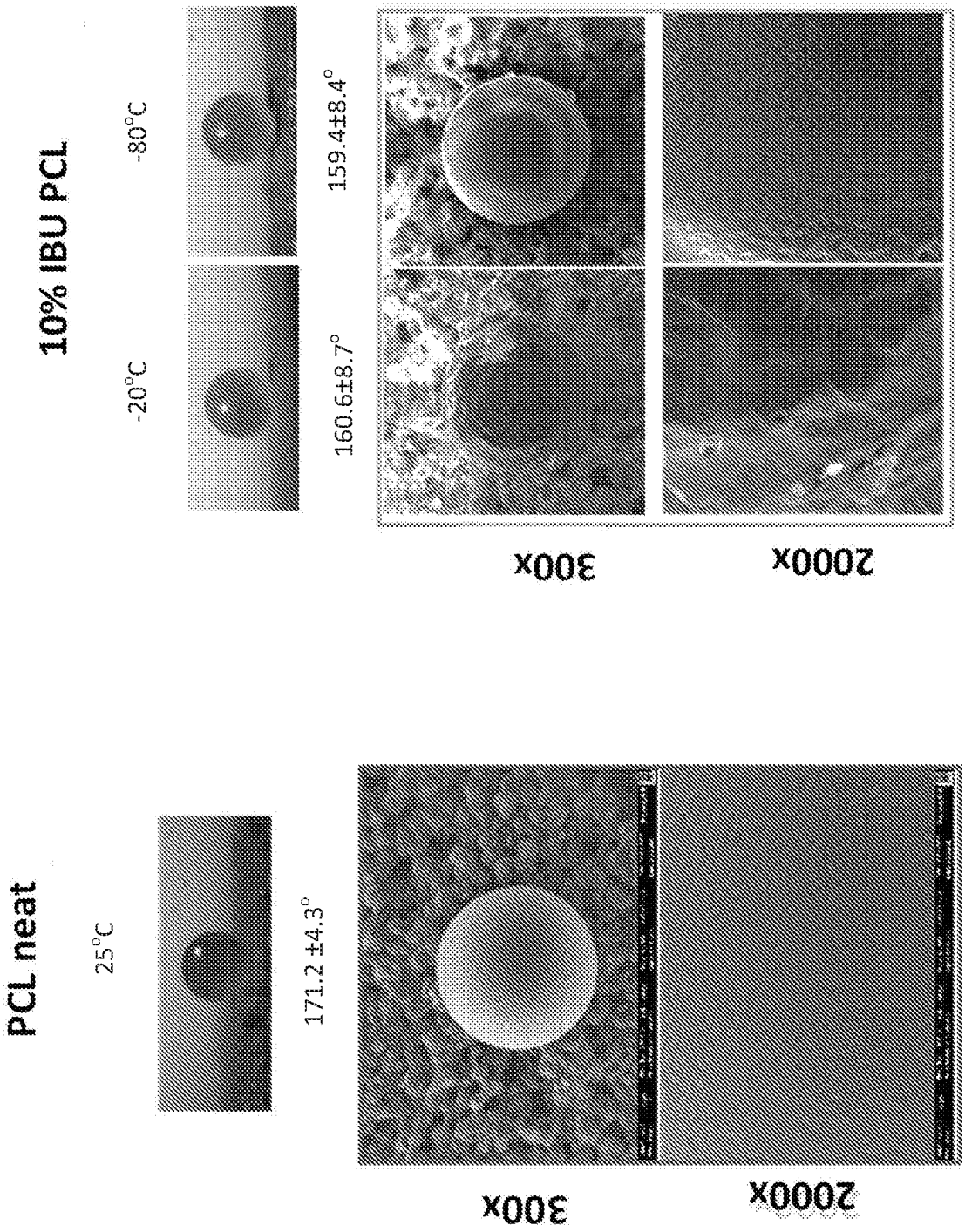


FIG. 8B FIG. 8C

FIG. 8A

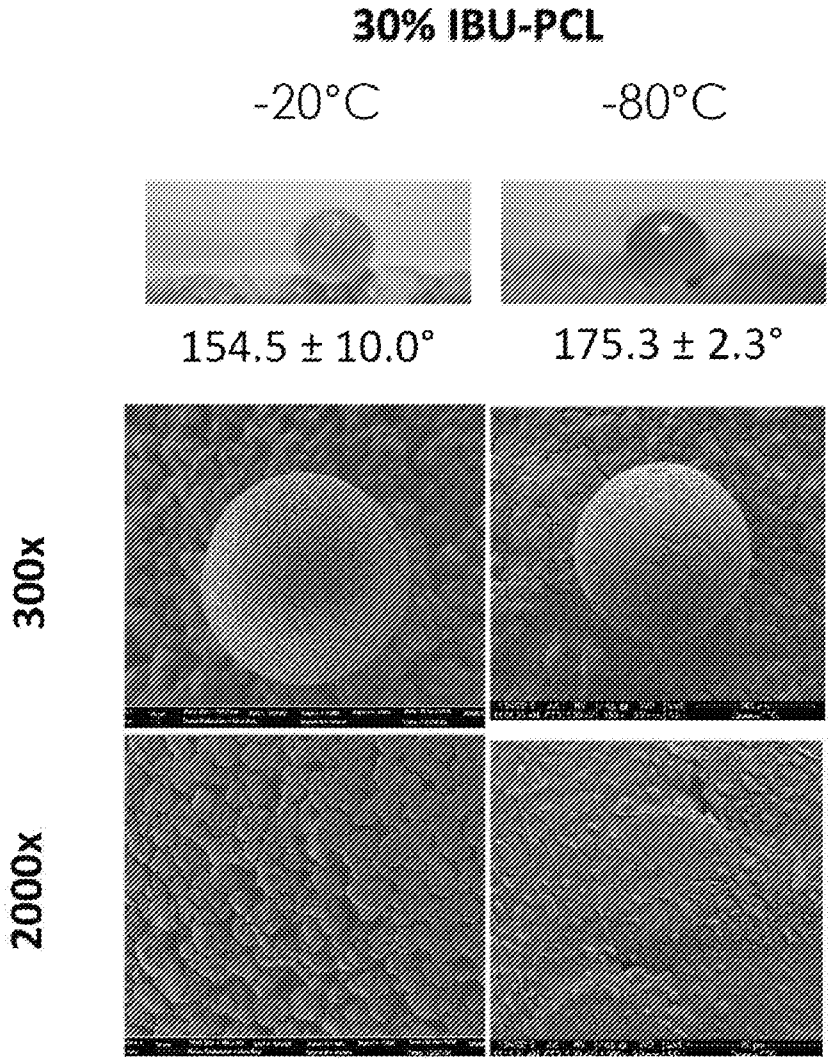


FIG. 8D

FIG. 8E

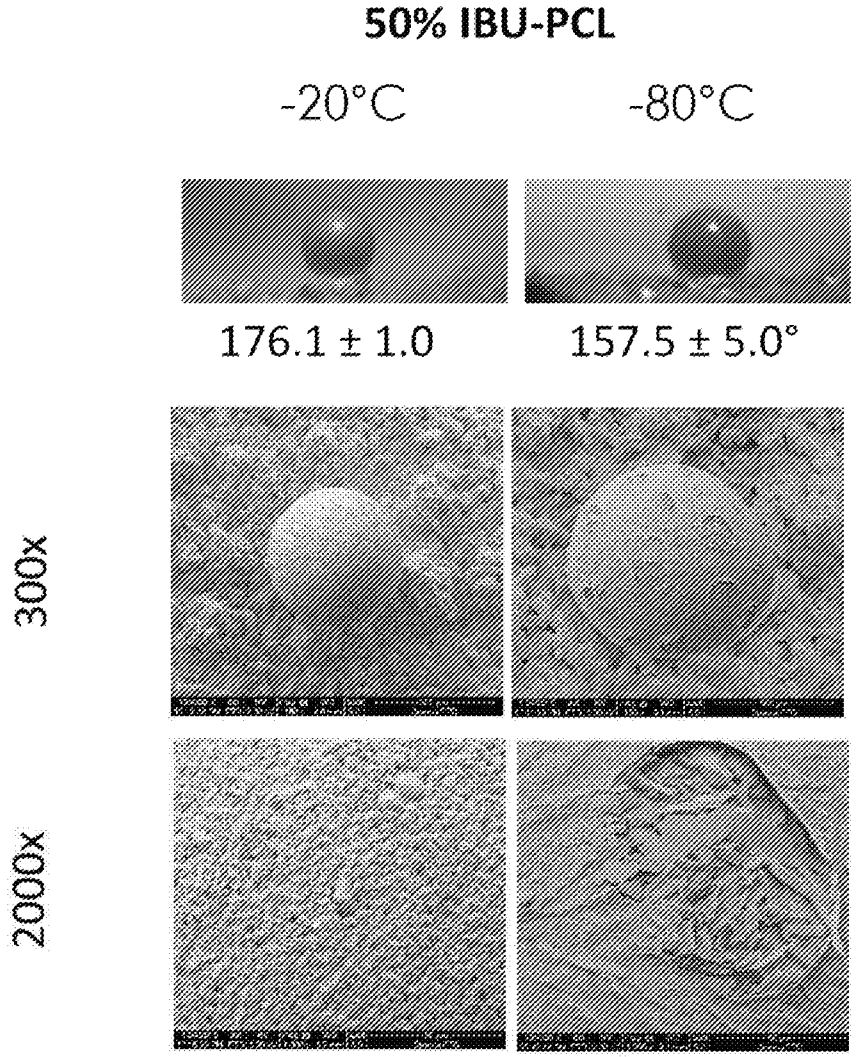
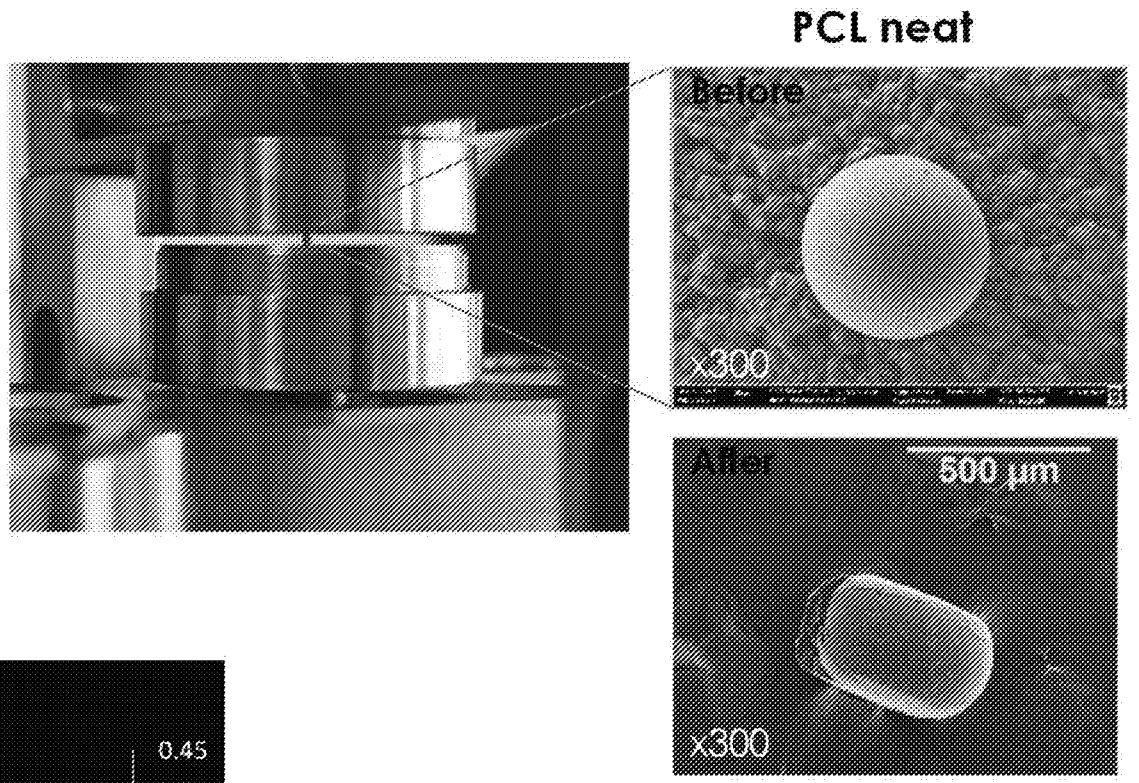


FIG. 8F

FIG. 8G

FIG. 9A


PCL neat
Before
x300
After
500 µm
x300

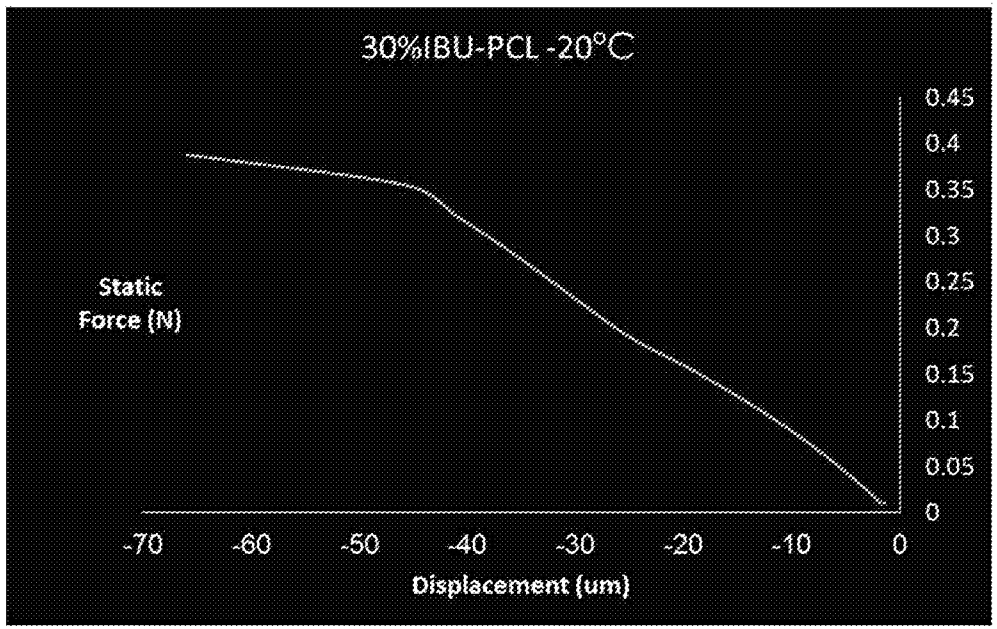

30%IBU-PCL -20°C
Static Force (N)
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
-70
-60
-50
-40
-30
-20
-10
0
Displacement (um)

FIG. 9B

FIG. 9C

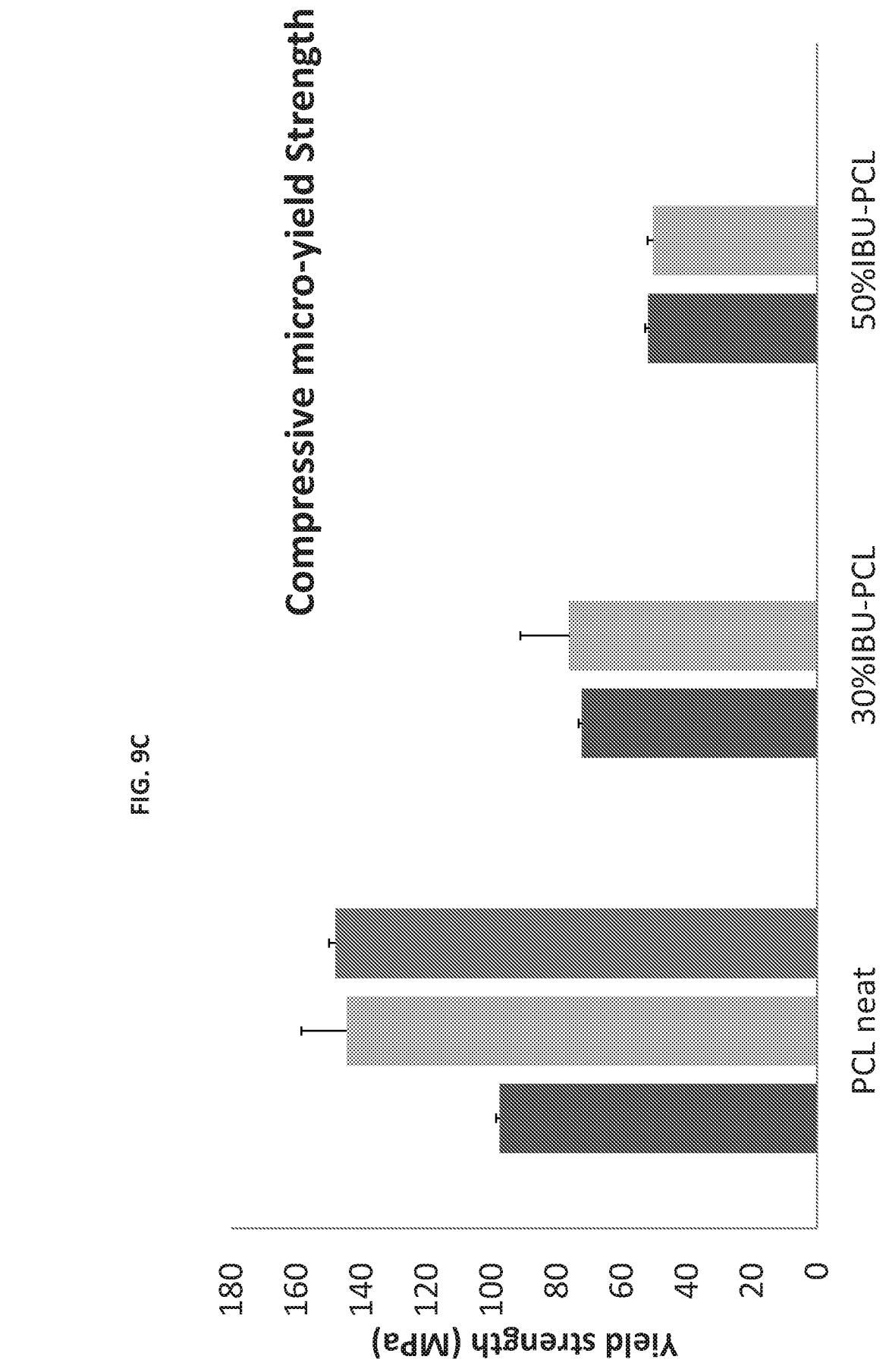

Compressive micro-yield Strength
Yield strength (MPa)
180
160
140
120
100
80
60
40
20
0
PCL neat
30%IBU-PCL
50%IBU-PCL
-20 degrees
-80 degrees
Literature

FIG. 10A

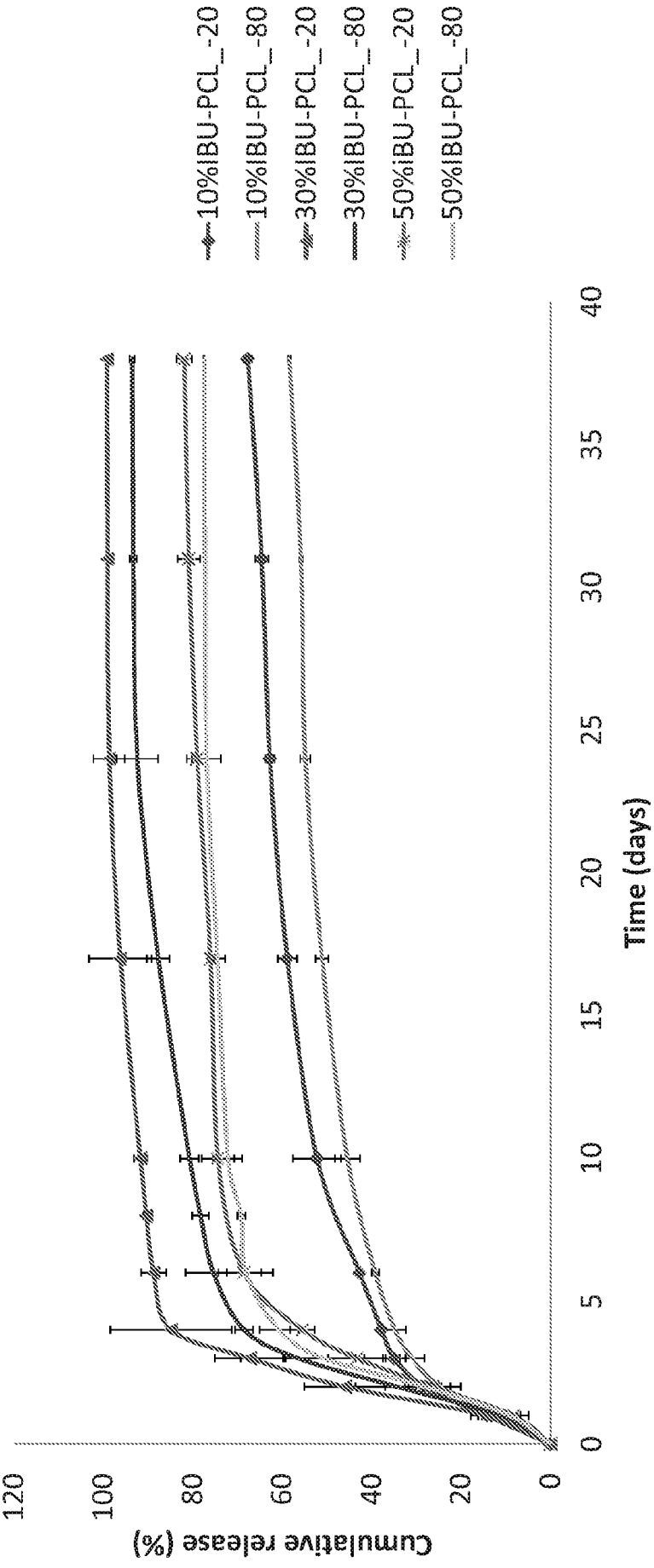

Cumulative % IBU released
Cumulative release (%)
Time (days)
0
20
40
60
80
100
120
0
5
10
15
20
25
30
35
40
10%IBU-PCL_-20
10%IBU-PCL_-80
30%IBU-PCL_-20
30%IBU-PCL_-80
50%IBU-PCL_-20
50%IBU-PCL_-80

FIG. 10B

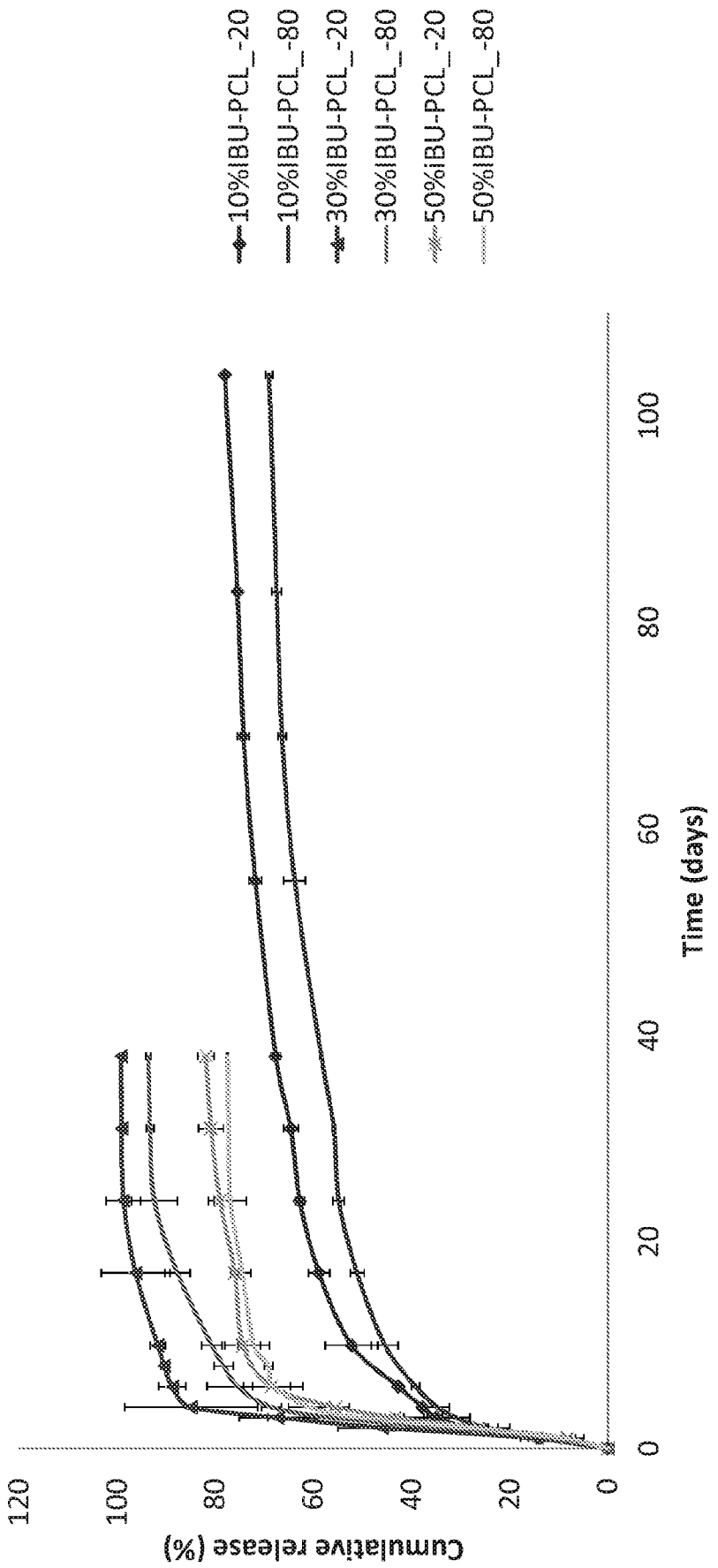

10%IBU-PCL_-20
10%IBU-PCL_-80
30%IBU-PCL_-20
30%IBU-PCL_-80
50%IBU-PCL_-20
50%IBU-PCL_-80
Cumulative release (%)
0
20
40
60
80
100
120
Time (days)
0
20
40
60
80
100

FIG. 10C

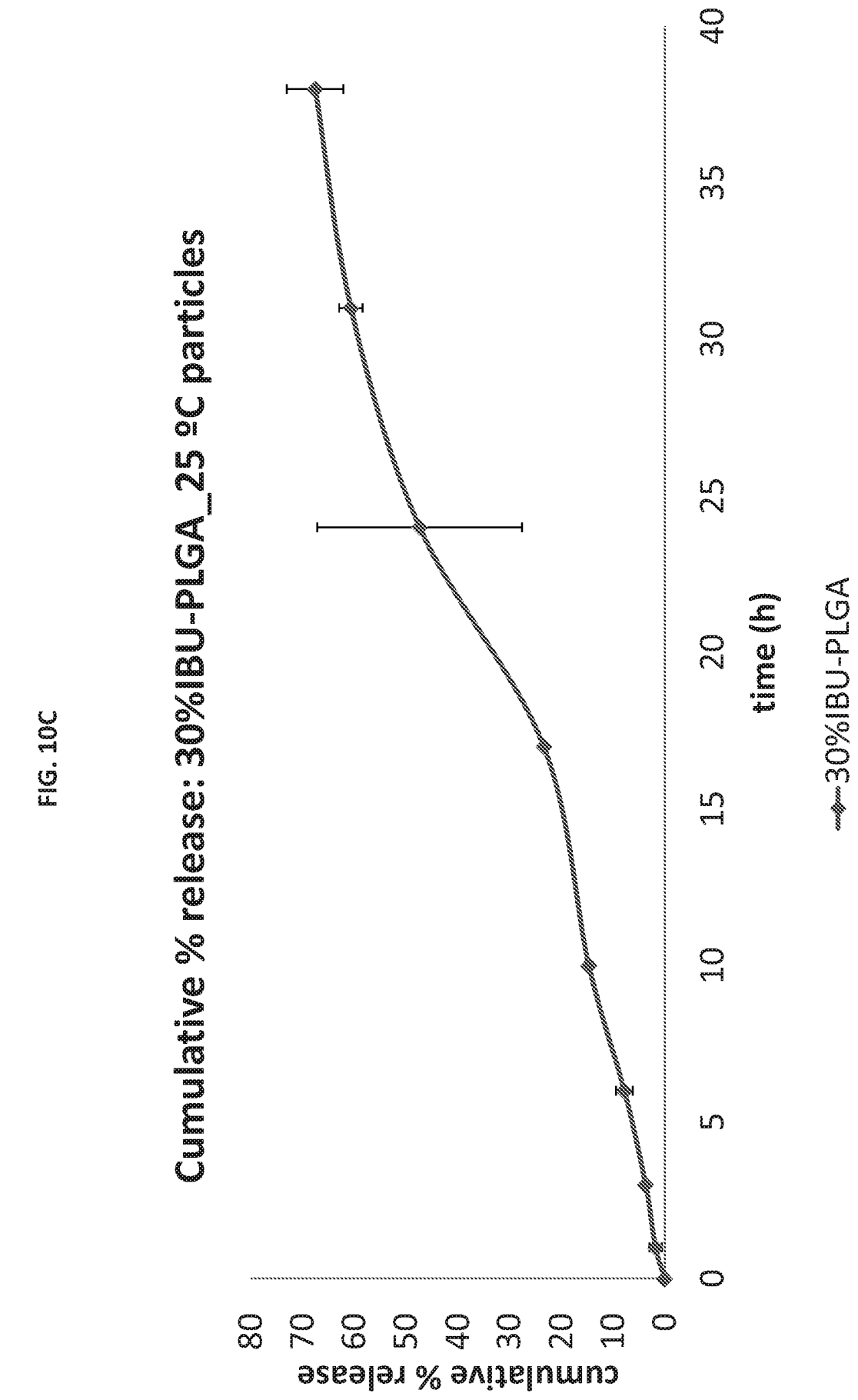
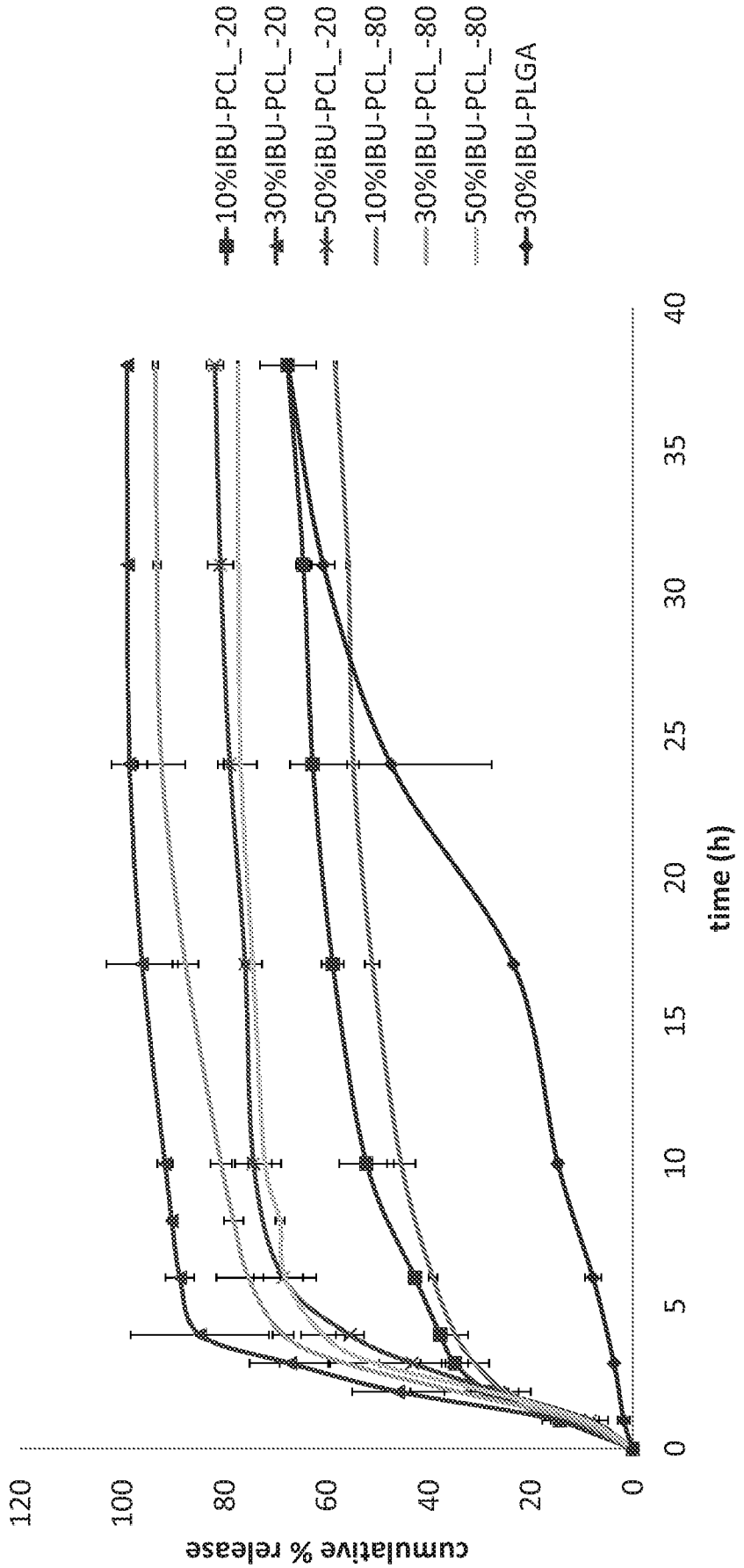

Cumulative % release: 30%IBU-PLGA_25 ºC particles
cumulative % release
0
10
20
30
40
50
60
70
80
0
5
10
15
20
25
30
35
40
time (h)
30%IBU-PLGA

FIG. 10D


10%IBU-PCL_-20
30%IBU-PCL_-20
50%iBU-PCL_-20
10%IBU-PCL_-80
30%IBU-PCL_-80
50%IBU-PCL_-80
30%IBU-PLGA
cumulative % release
time (h)
0
20
40
60
80
100
120
0
5
10
15
20
25
30
35
40