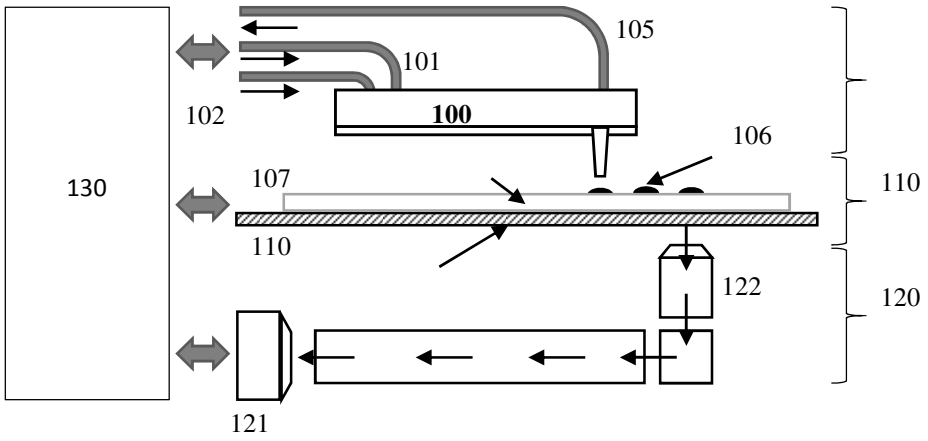


Fig. 1A

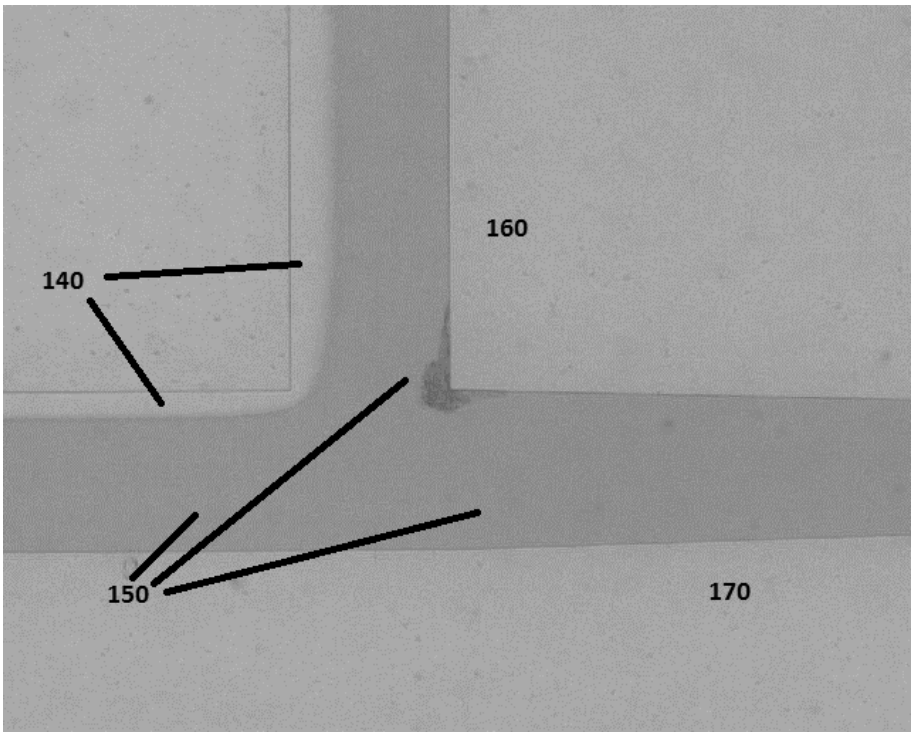
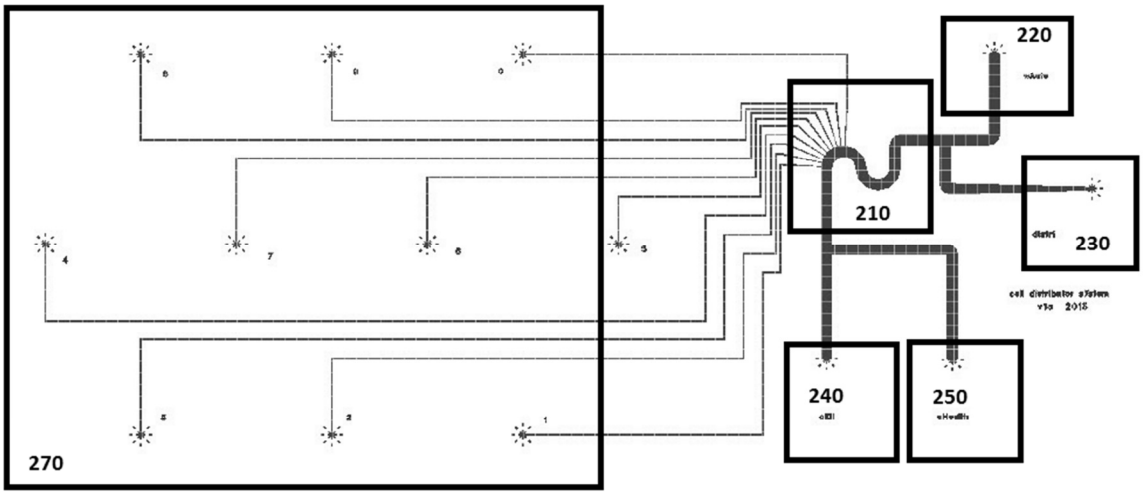
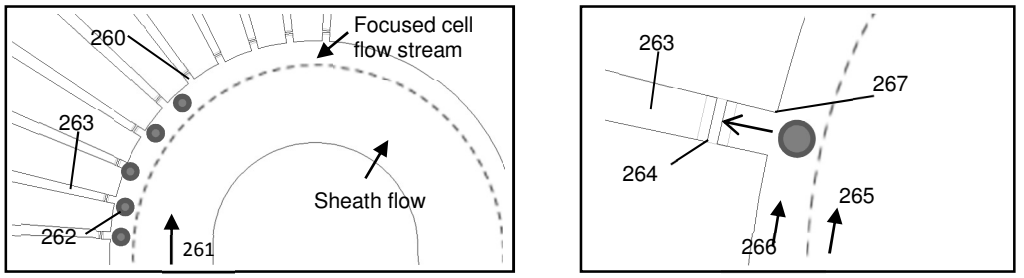


Fig. 1B



(A)



(B) (C)

Fig. 2

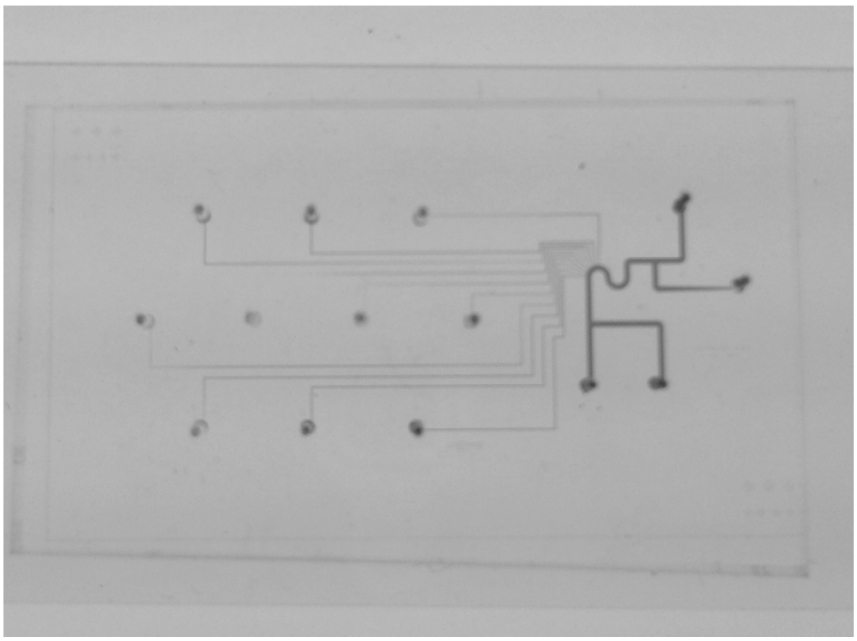


Fig. 3A

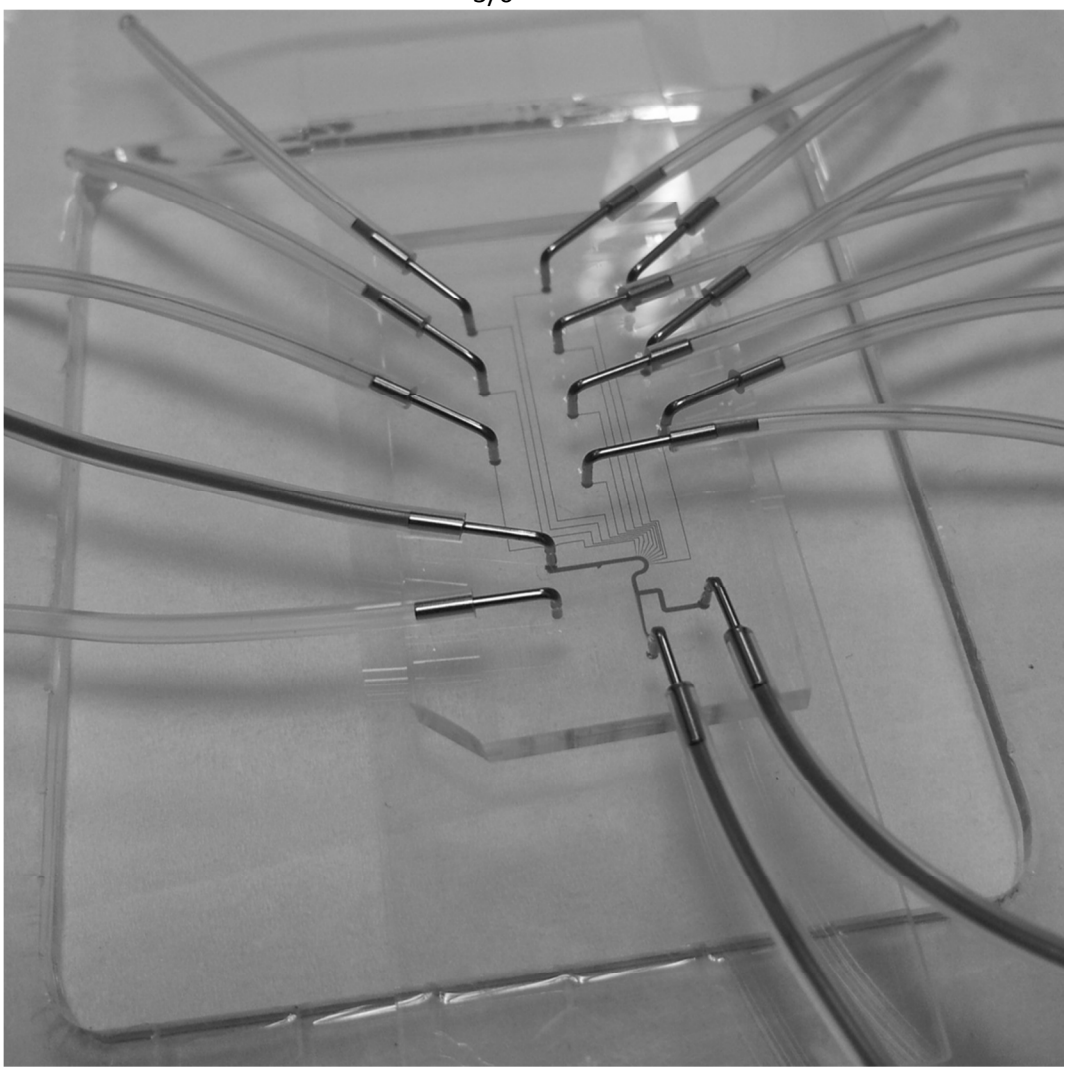


Fig. 3B

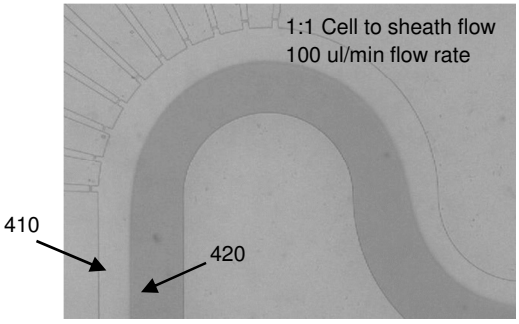


Fig 4A(i)

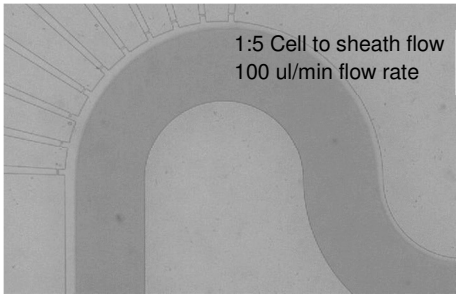


Fig. 4A(ii)

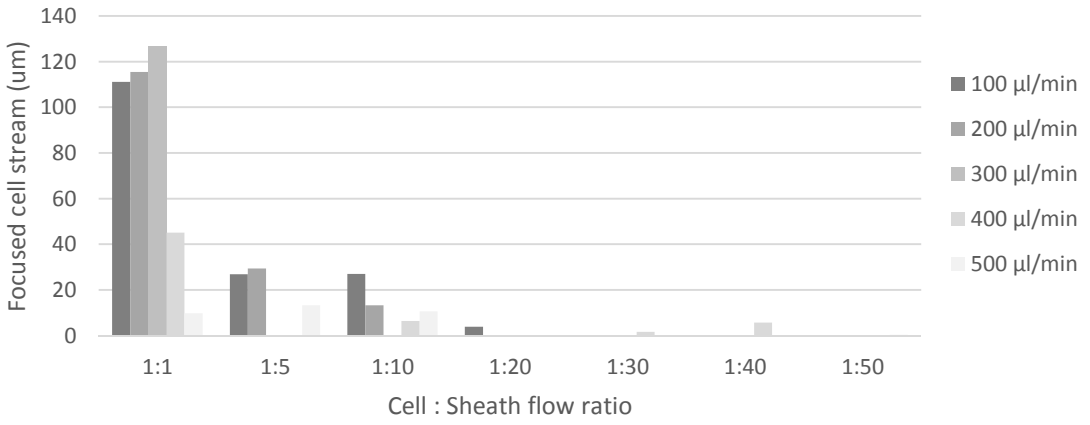

140
120
100
80
60
40
20
0
Focused cell stream (um)
1:1
1:5
1:10
1:20
1:30
1:40
1:50
Cell : Sheath flow ratio
100 µl/min
200 µl/min
300 µl/min
400 µl/min
500 µl/min

Fig. 4B

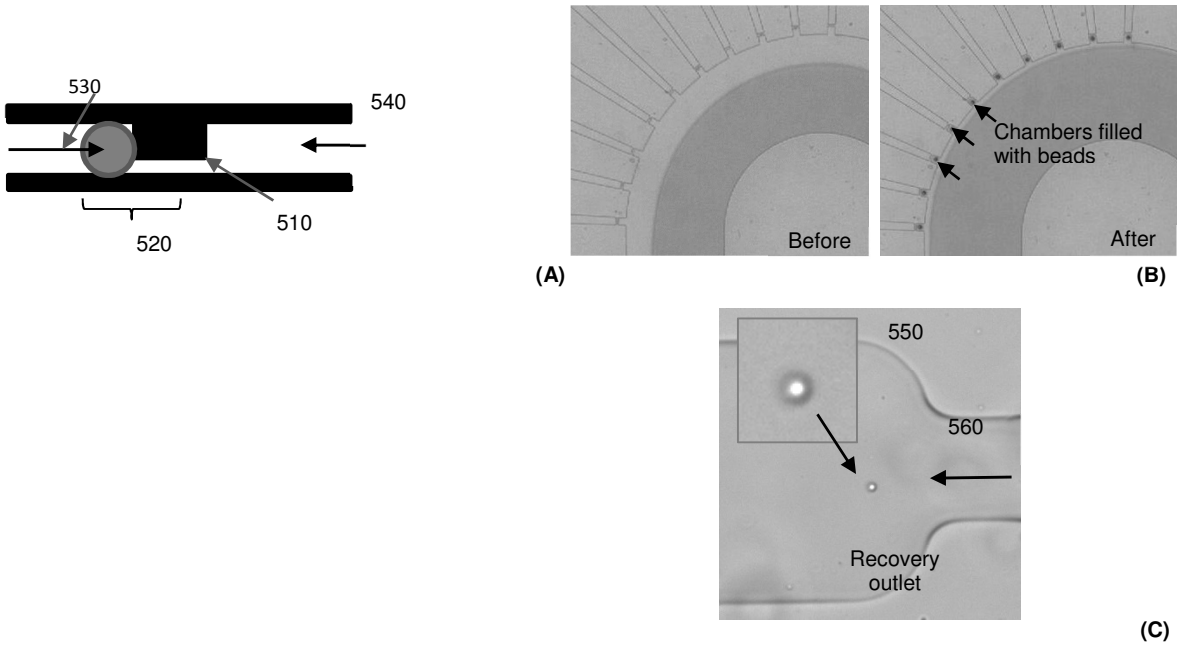

530
540
510
520
Before
Chambers filled with beads
After
(A)
(B)
550
560
Recovery outlet
(C)

Fig 5

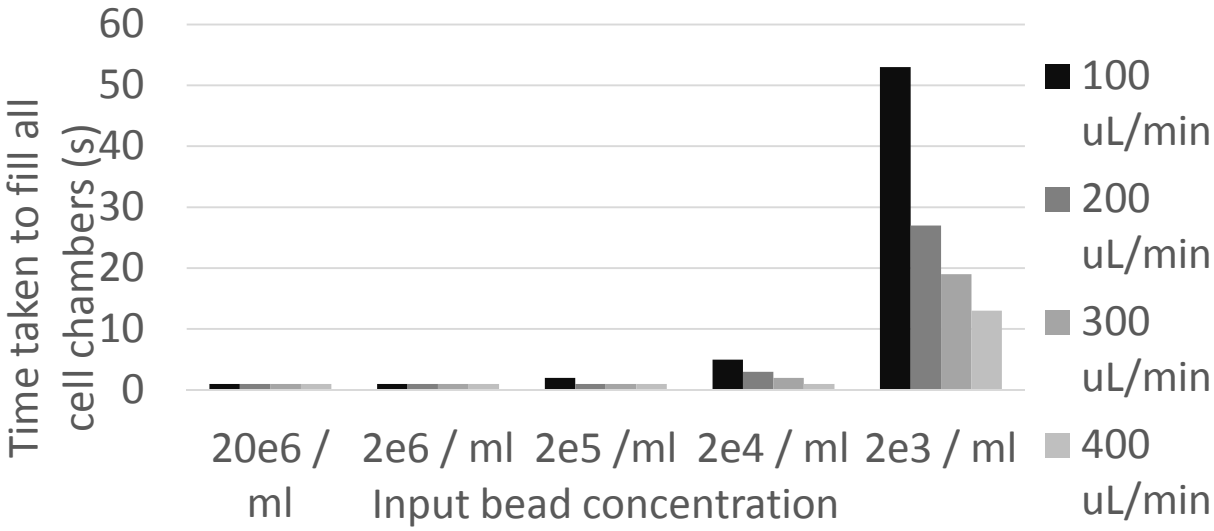

60
50
40
30
20
10
0
Time taken to fill all cell chambers (s)
20e6 / ml
2e6 / ml
2e5 /ml
2e4 / ml
2e3 / ml
Input bead concentration
100 uL/min
200 uL/min
300 uL/min
400 uL/min

Fig. 6

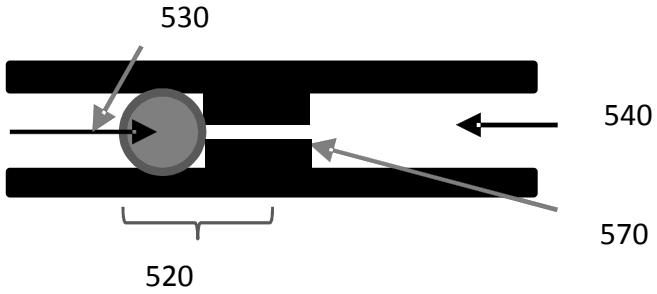

530
540
570
520

Fig. 7

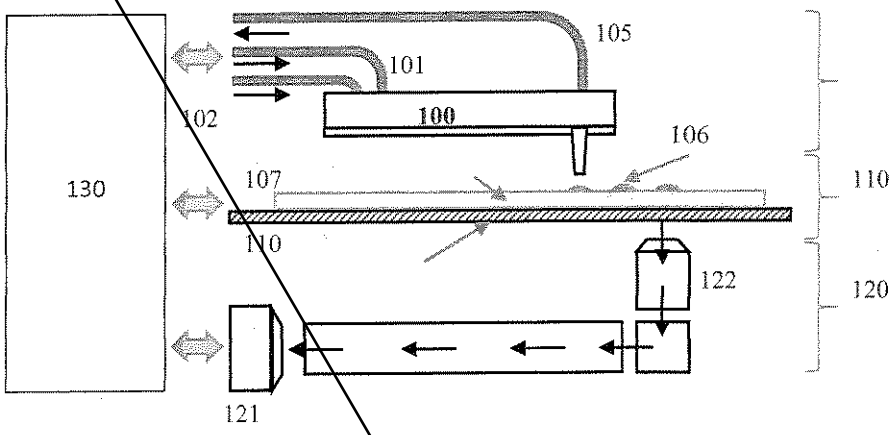


Fig. 1A

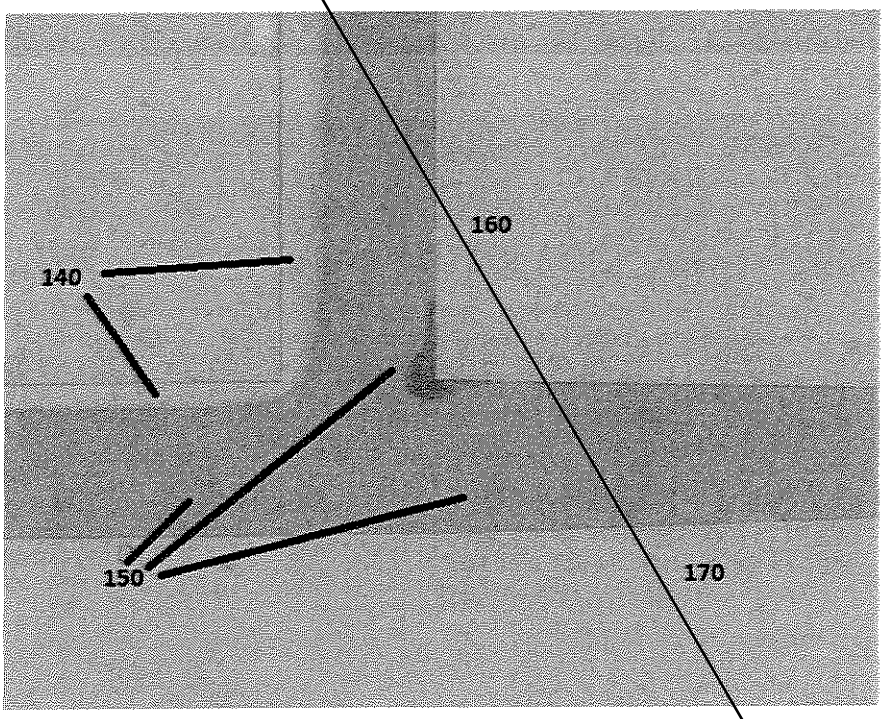


Fig. 1B

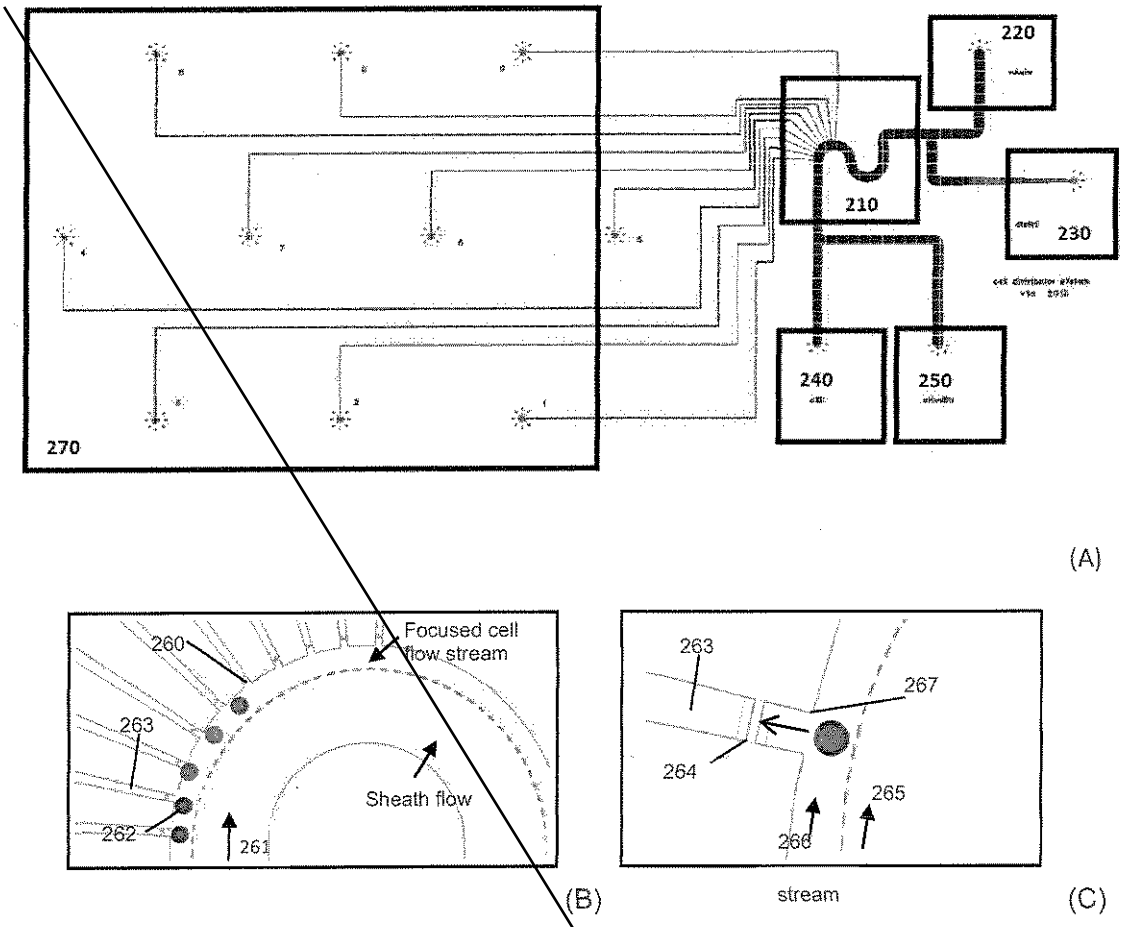

220
210
230
240
250
270
(A)
260
Focused cell flow stream
263
Sheath flow
262
261
(B)
263
267
264
265
266
stream
(C)

Fig. 2

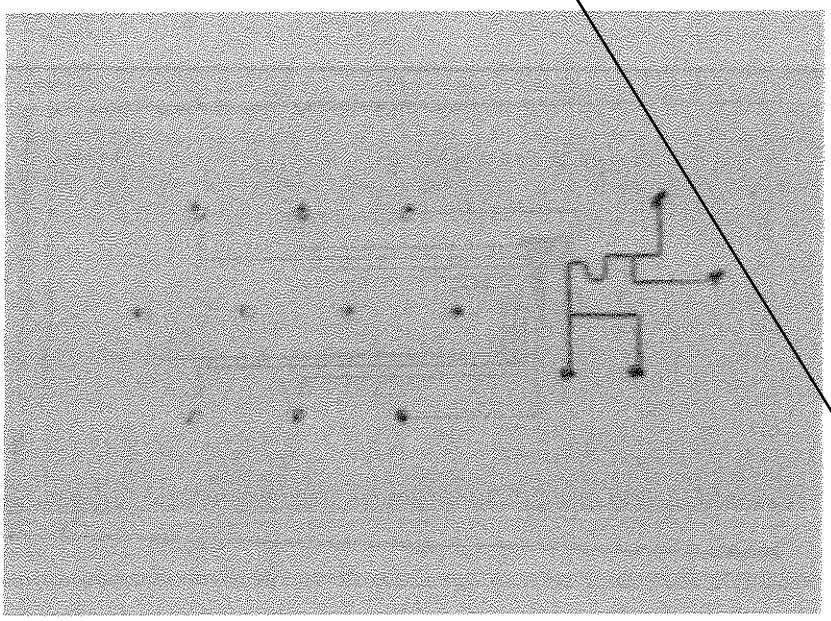


Fig. 3A

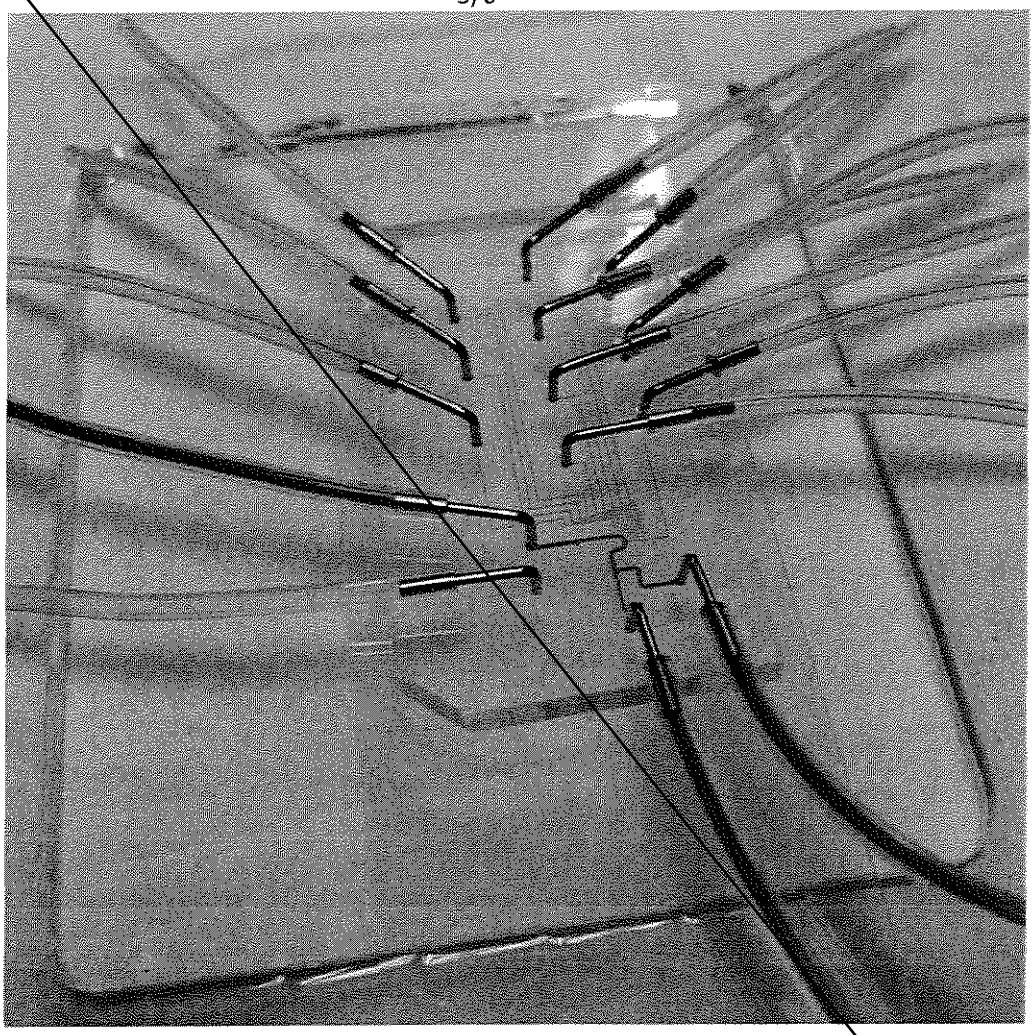


Fig. 3B

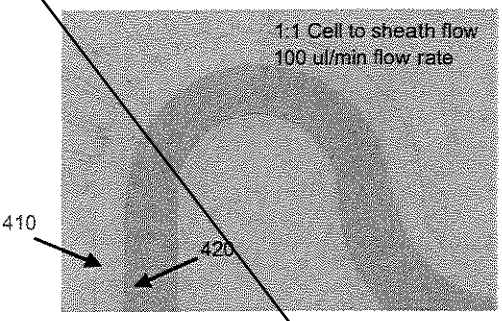


Fig 4A(i)

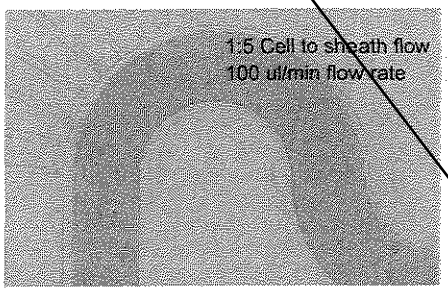


Fig. 4A(ii)

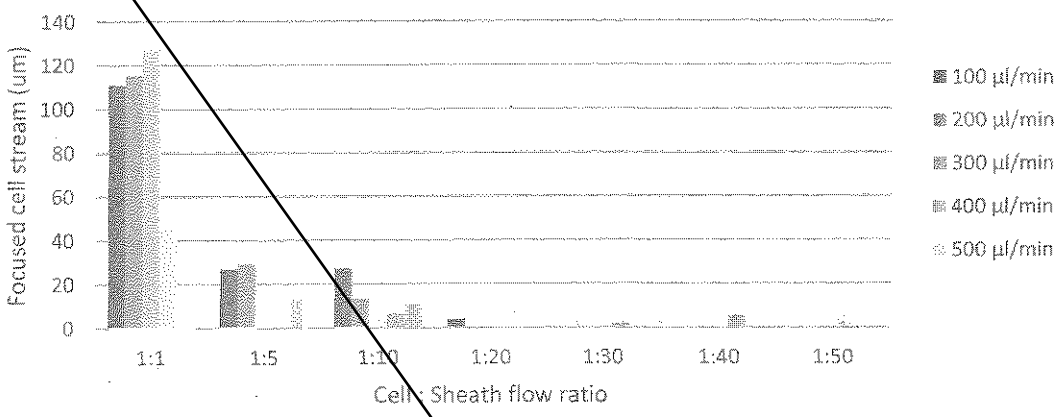
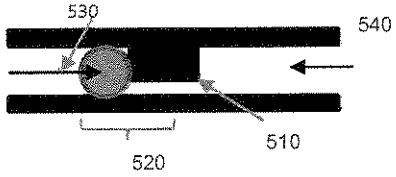
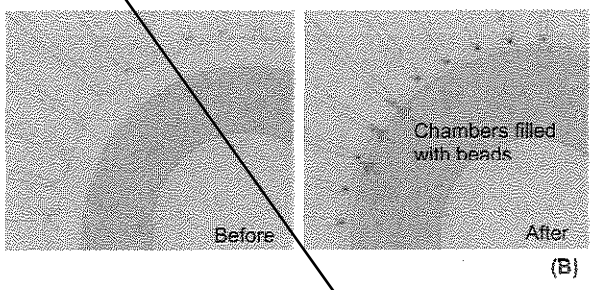

Focused cell stream (um)
140
120
100
80
60
40
20
0
1:1
1:5
1:10
1:20
1:30
1:40
1:50
Cell - Sheath flow ratio
100 µl/min
200 µl/min
300 µl/min
400 µl/min
500 µl/min

Fig. 4B


530
540
510
520


Before
Chambers filled with beads
After
(A)
(B)

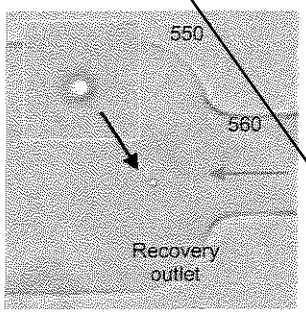

550
560
Recovery outlet
(C)

Fig 5

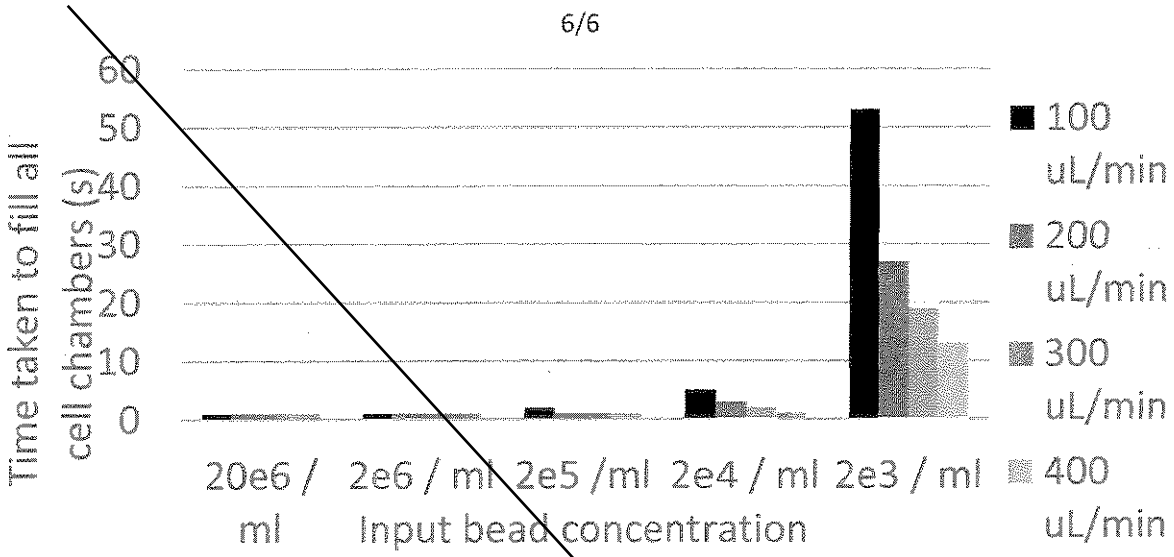

Time taken to fill all cell chambers (s)
60
50
40
30
20
10
0
20e6 / ml
2e6 / ml
2e5 /ml
2e4 / ml
2e3 / ml
Input bead concentration
100 uL/min
200 uL/min
300 uL/min
400 uL/min

Fig. 6

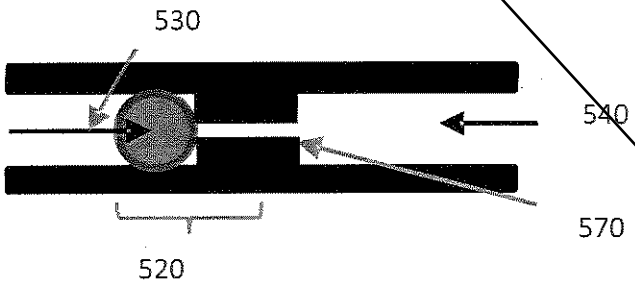

530
540
570
520

Fig. 7