

Fig. 1

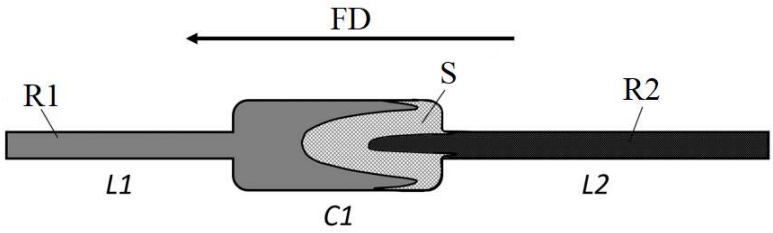


Fig. 2

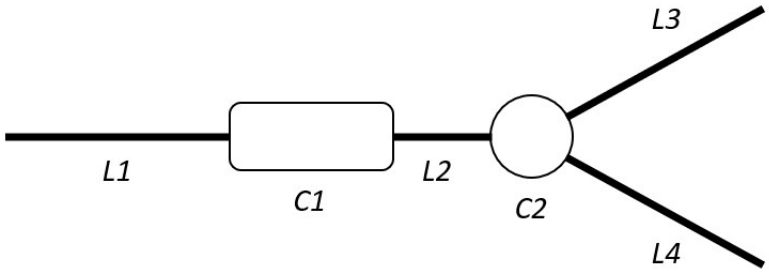


Fig. 3

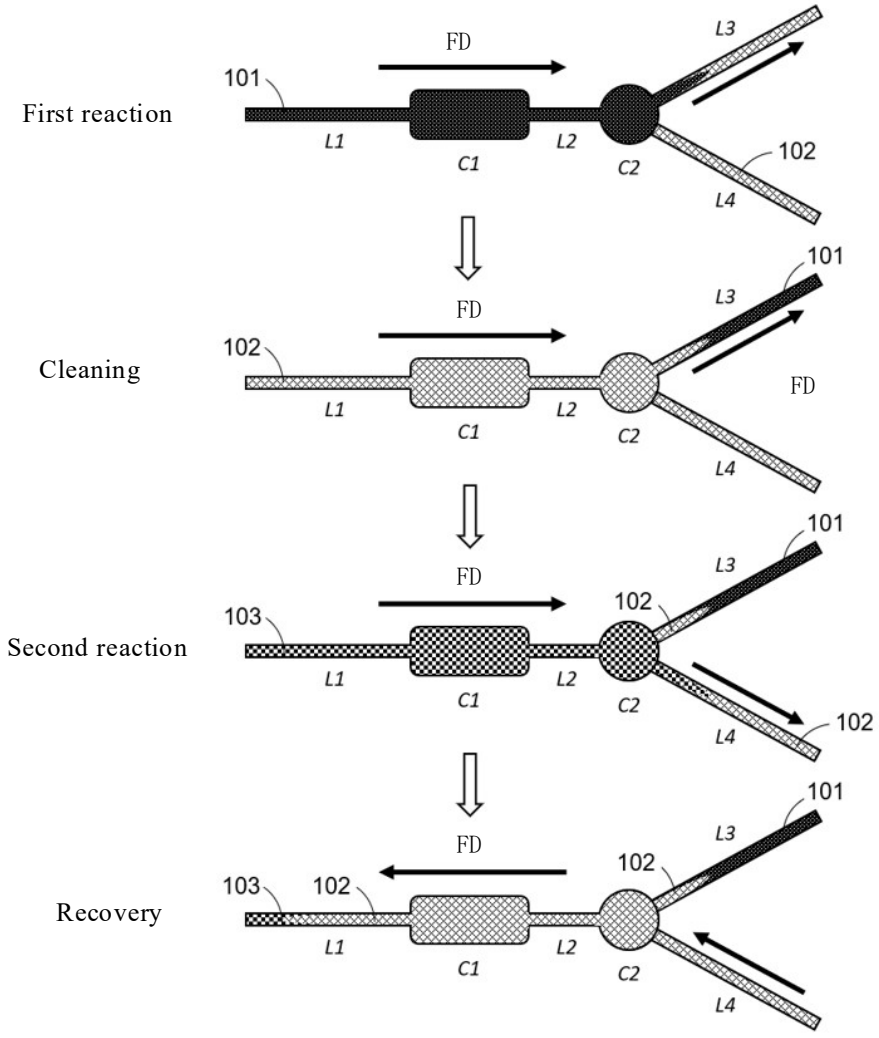

First reaction
FD
101
L1
C1
L2
C2
L3
L4
102
Cleaning
FD
102
101
FD
Second reaction
FD
103
102
101
102
Recovery
FD
103
102
101

Fig. 4

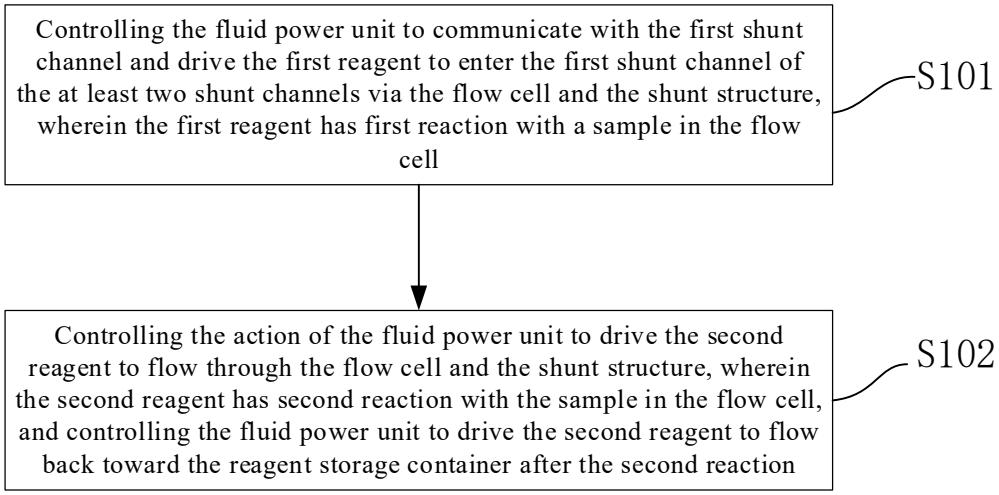

Controlling the fluid power unit to communicate with the first shunt channel and drive the first reagent to enter the first shunt channel of the at least two shunt channels via the flow cell and the shunt structure, wherein the first reagent has first reaction with a sample in the flow cell
S101
Controlling the action of the fluid power unit to drive the second reagent to flow through the flow cell and the shunt structure, wherein the second reagent has second reaction with the sample in the flow cell, and controlling the fluid power unit to drive the second reagent to flow back toward the reagent storage container after the second reaction
S102

Fig. 5

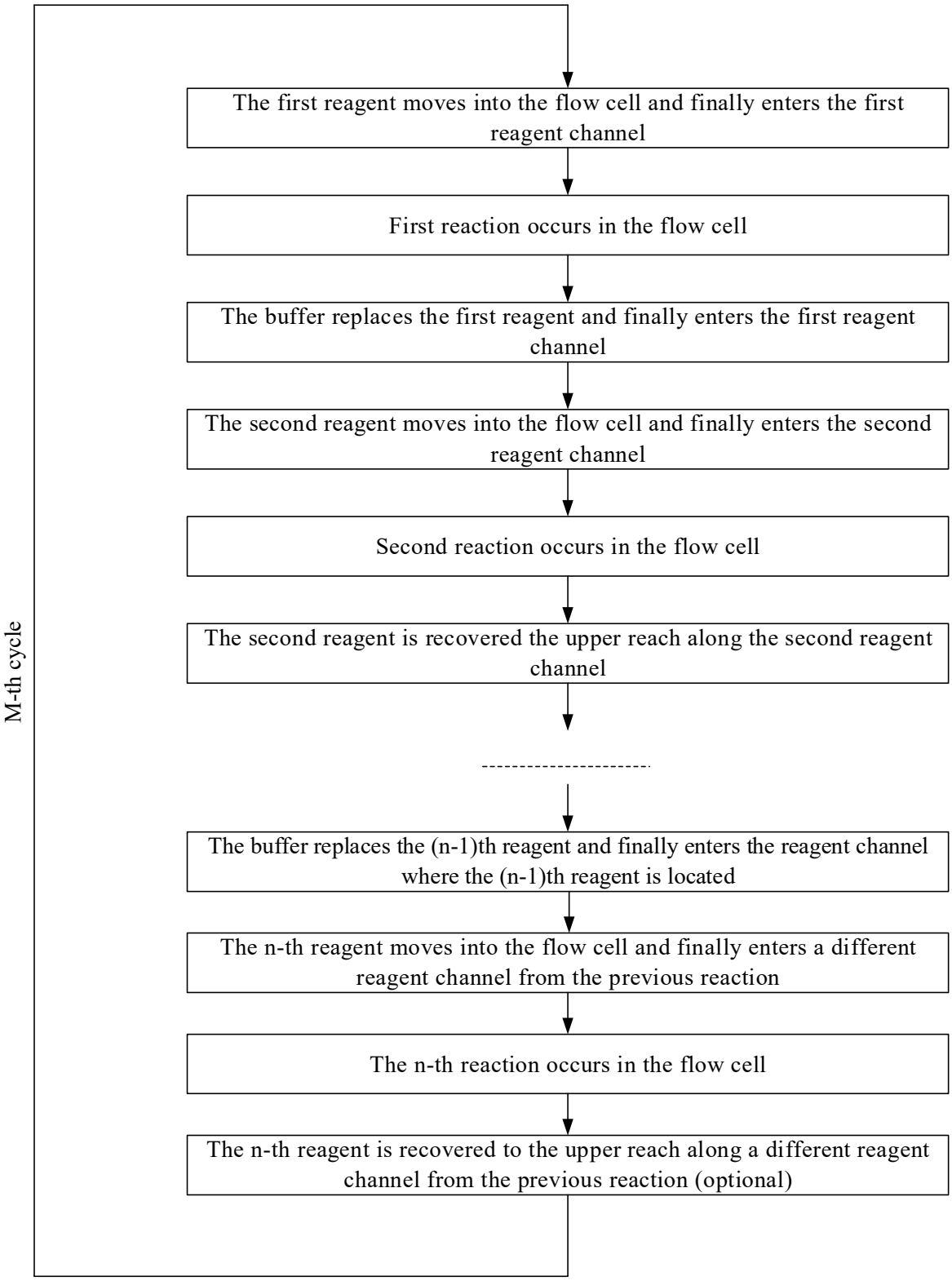

M-th cycle
The first reagent moves into the flow cell and finally enters the first reagent channel
First reaction occurs in the flow cell
The buffer replaces the first reagent and finally enters the first reagent channel
The second reagent moves into the flow cell and finally enters the second reagent channel
Second reaction occurs in the flow cell
The second reagent is recovered the upper reach along the second reagent channel
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The buffer replaces the (n-1)th reagent and finally enters the reagent channel where the (n-1)th reagent is located
The n-th reagent moves into the flow cell and finally enters a different reagent channel from the previous reaction
The n-th reaction occurs in the flow cell
The n-th reagent is recovered to the upper reach along a different reagent channel from the previous reaction (optional)

Fig. 6

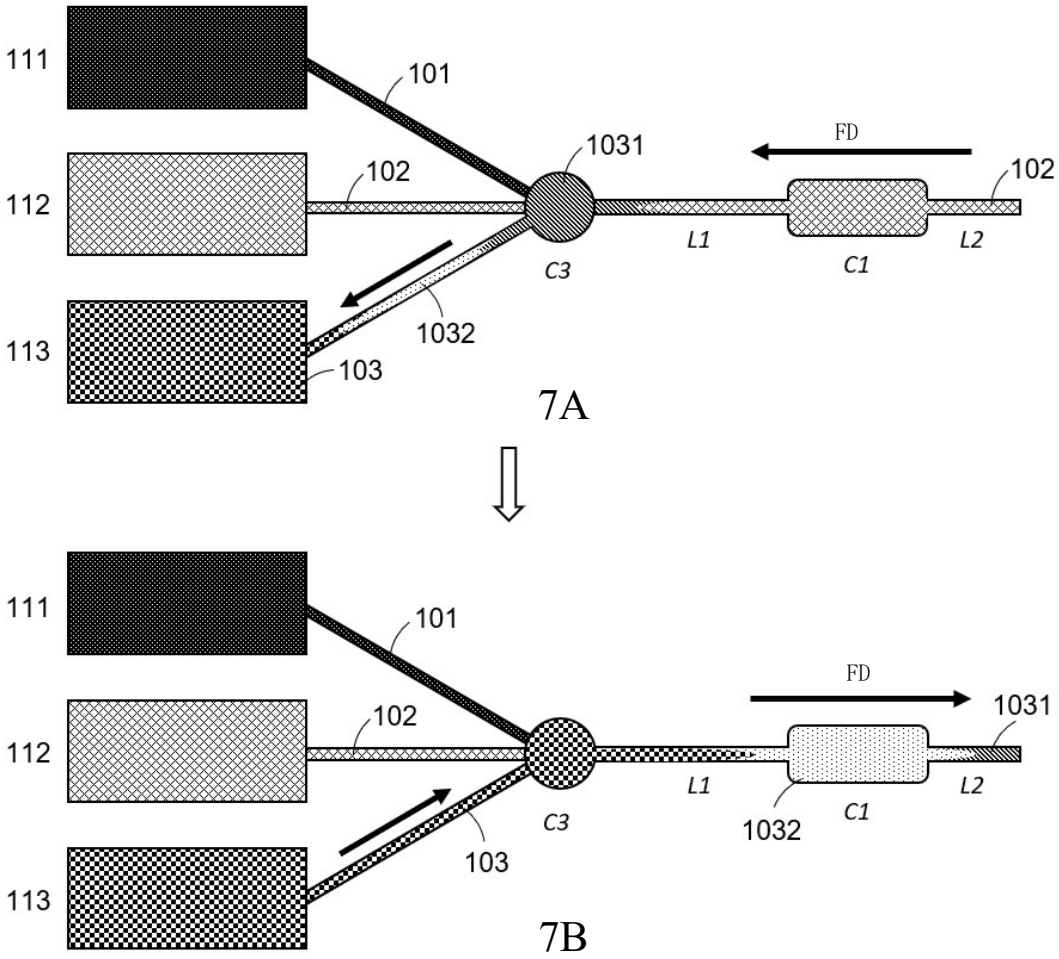

111
101
1031
FD
102
112
102
C3
L1
C1
L2
1032
113
103
7A
111
101
FD
1031
102
112
L1
L2
C3
C1
1032
103
113
7B

Fig. 7

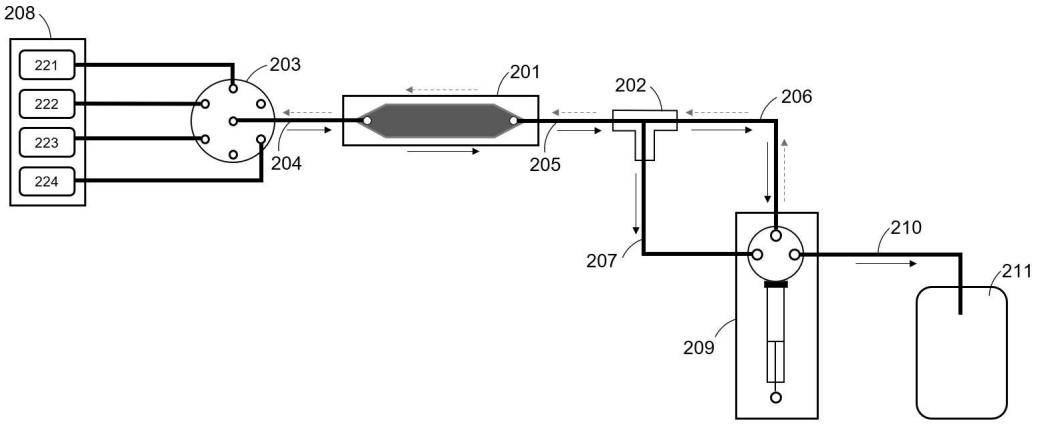

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Fig. 8

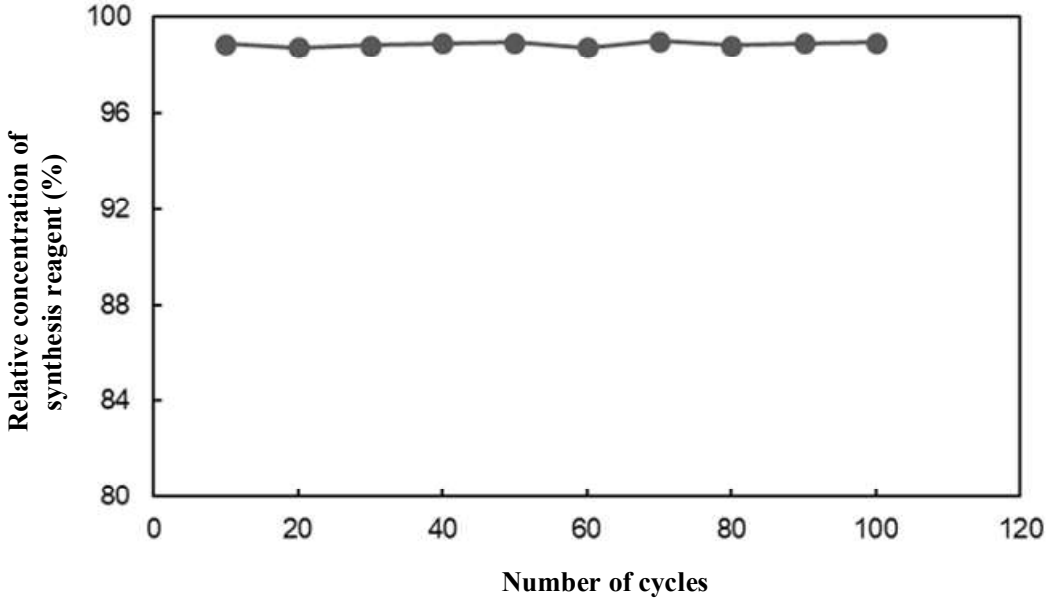


Fig. 9

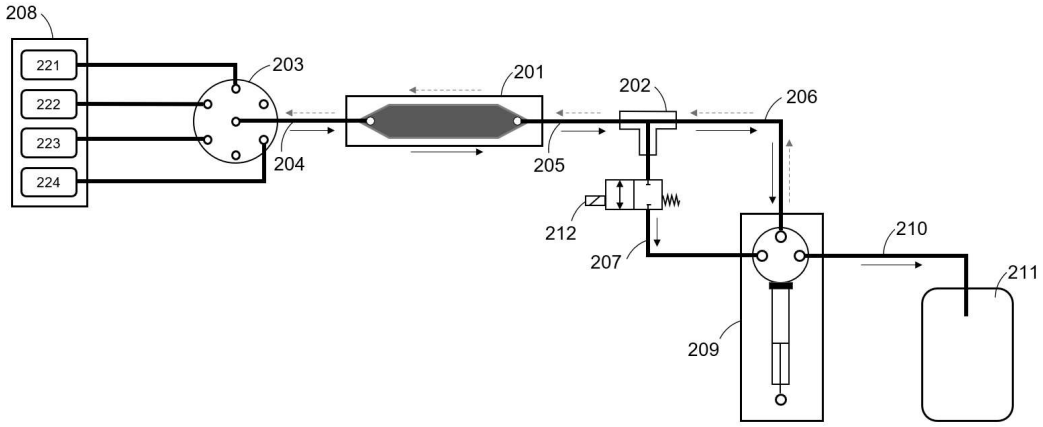


Fig. 10

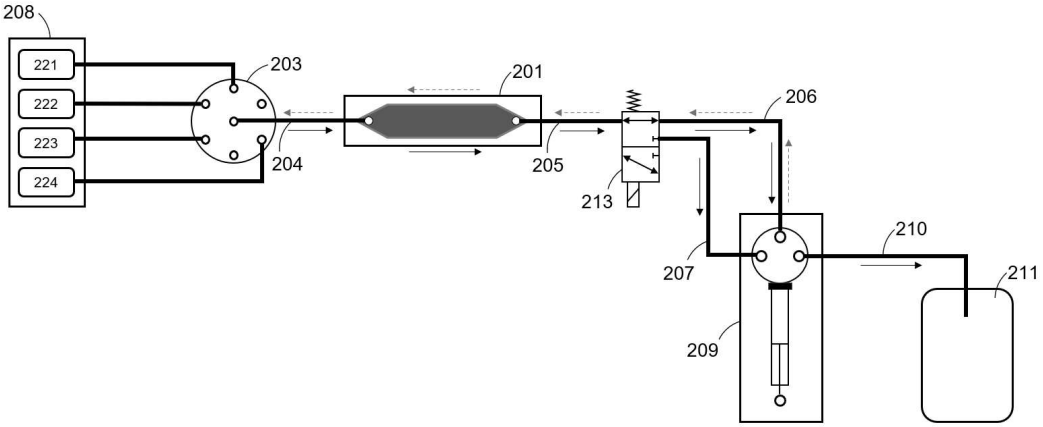


Fig. 11

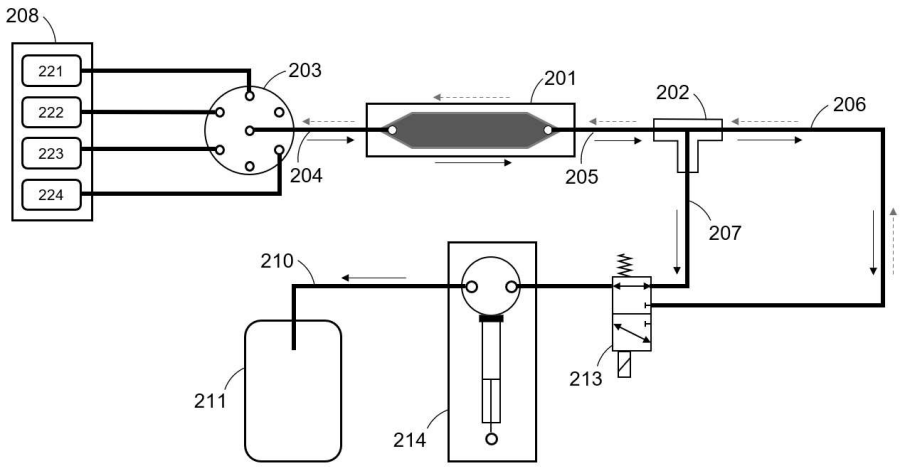


Fig. 12

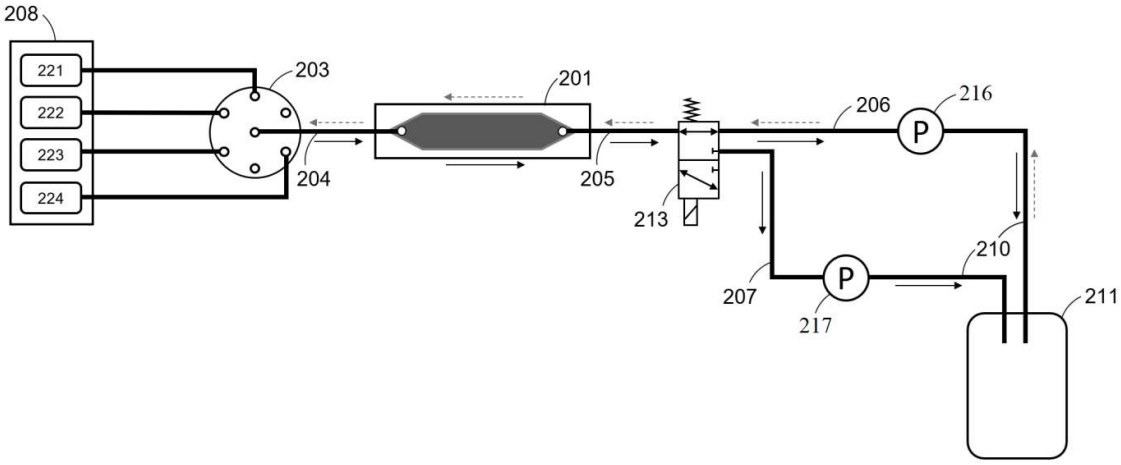


Fig. 13

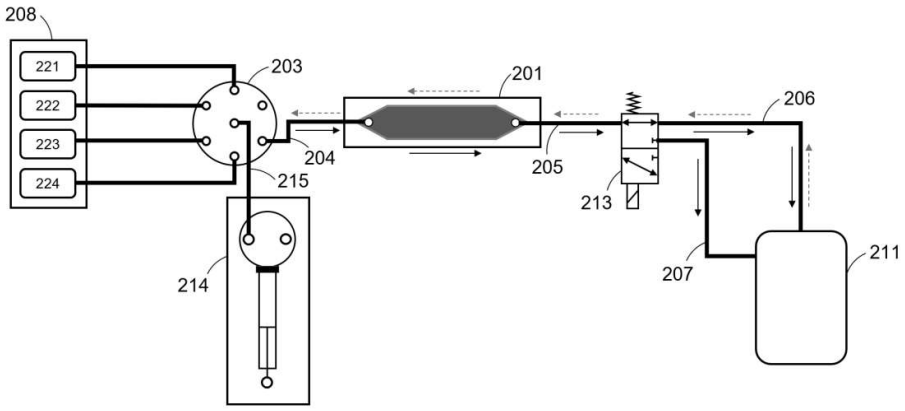


Fig. 14