FIG. 1

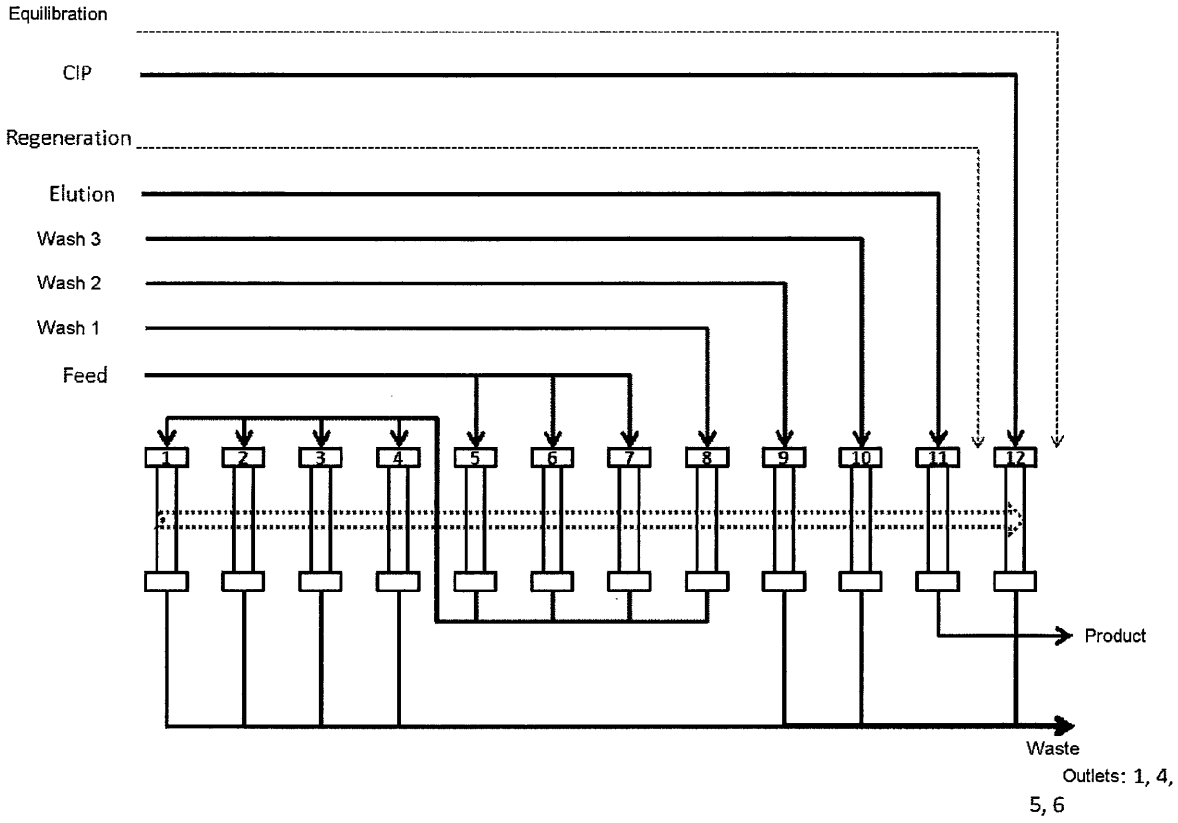

Equilibration
CIP
Regeneration
Elution
Wash 3
Wash 2
Wash 1
Feed
1
2
3
4
5
6
7
8
9
10
11
12
Product
Waste
Outlets: 1, 4, 5, 6

FIG. 2

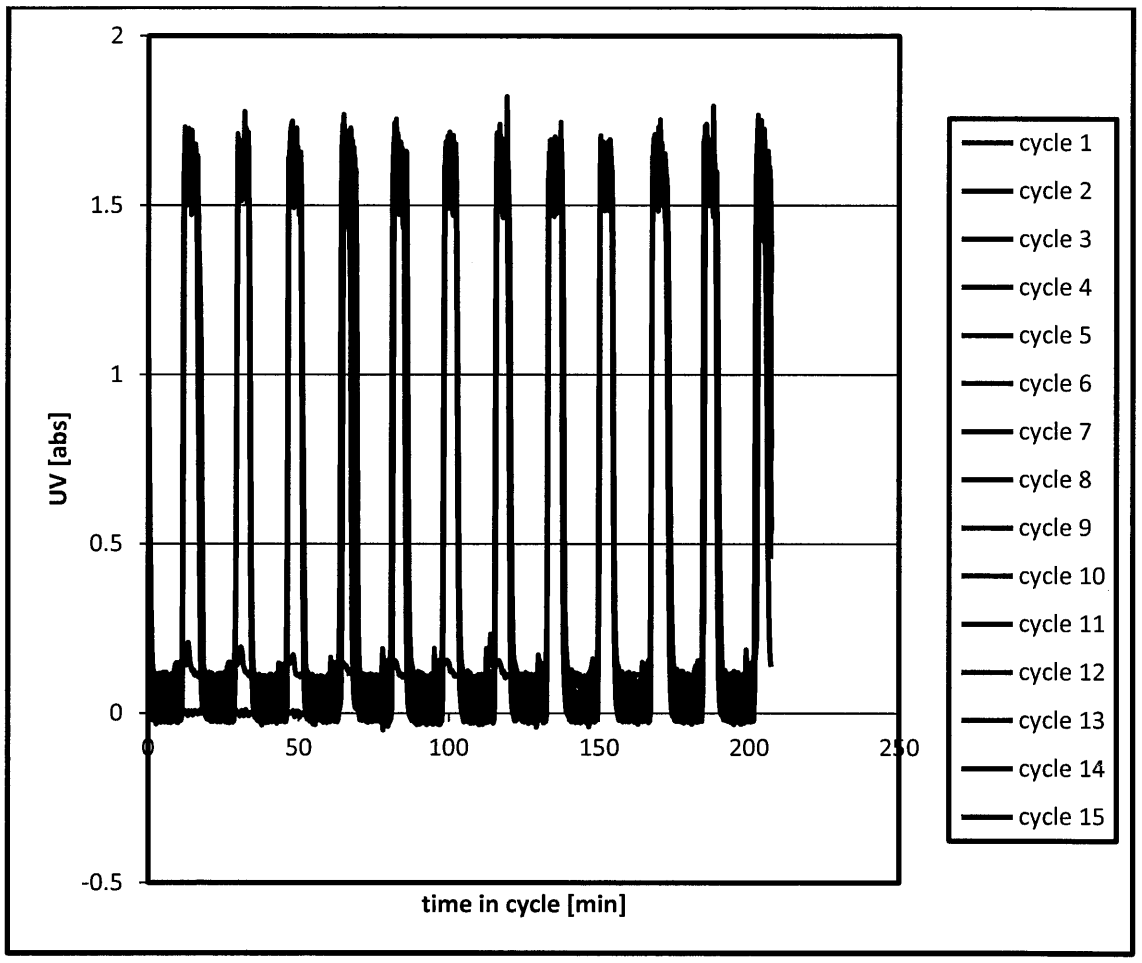

2
1.5
1
0.5
0
-0.5
UV [abs]
0
50
100
150
200
250
time in cycle [min]
cycle 1
cycle 2
cycle 3
cycle 4
cycle 5
cycle 6
cycle 7
cycle 8
cycle 9
cycle 10
cycle 11
cycle 12
cycle 13
cycle 14
cycle 15

FIG. 3

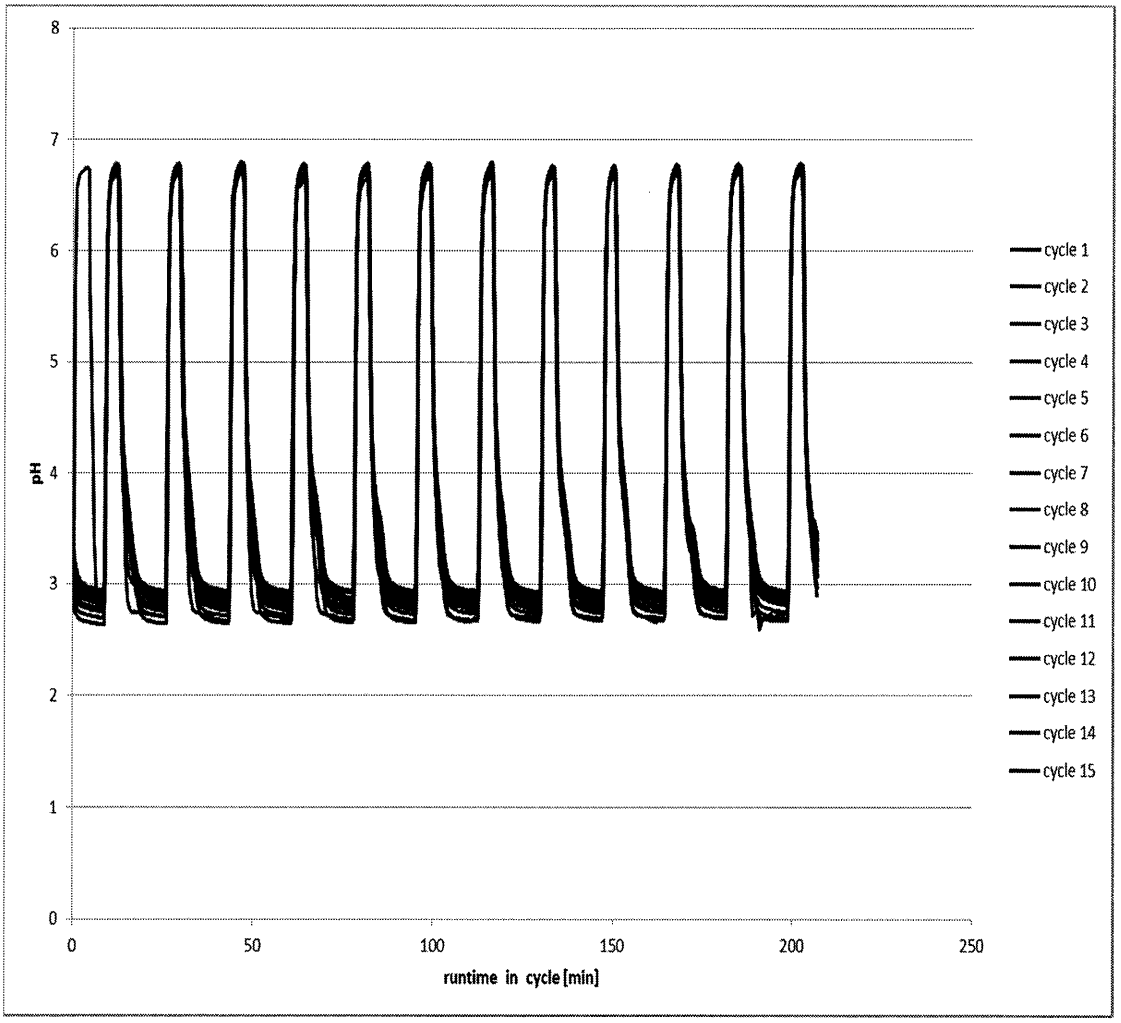
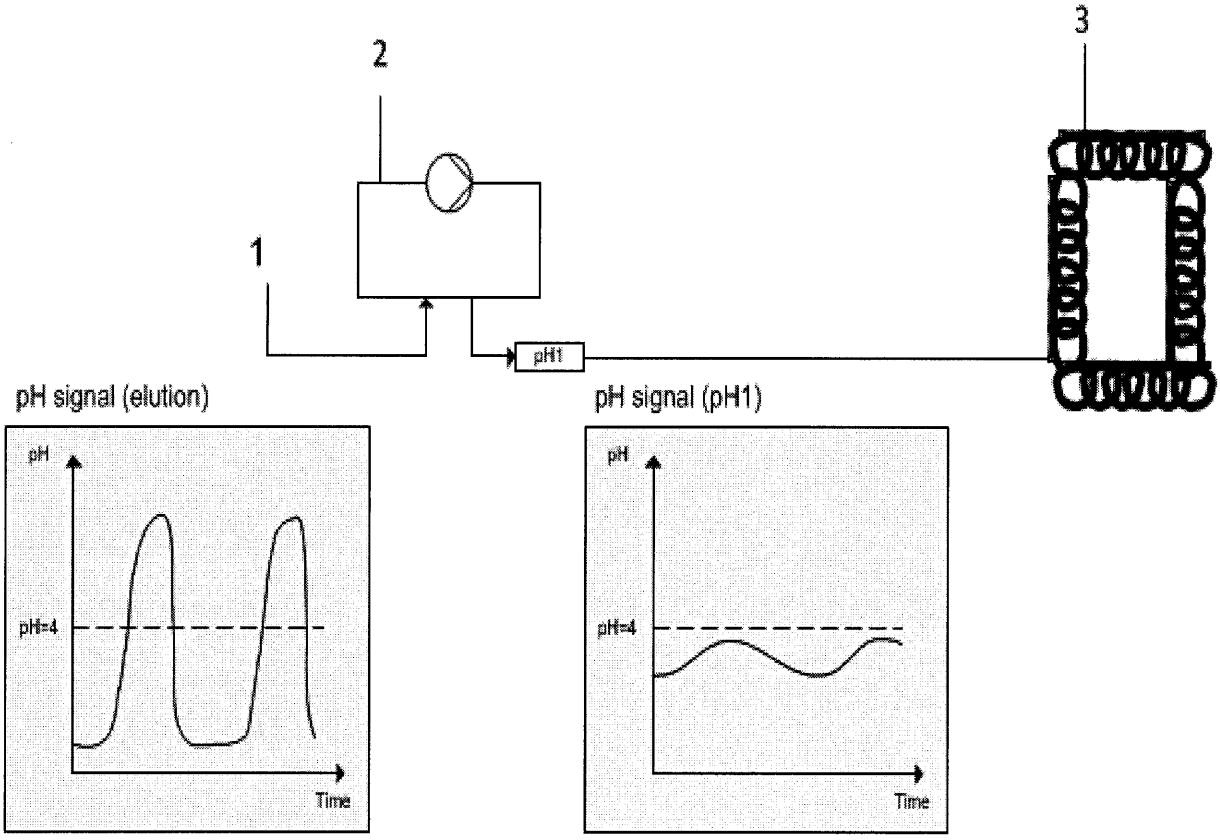

8
7
6
5
4
3
2
1
0
pH
0
50
100
150
200
250
runtime in cycle [min]
cycle 1
cycle 2
cycle 3
cycle 4
cycle 5
cycle 6
cycle 7
cycle 8
cycle 9
cycle 10
cycle 11
cycle 12
cycle 13
cycle 14
cycle 15

Figure 4


1
2
3
pH1
pH signal (elution)
pH
pH=4
Time
pH signal (pH1)
pH
pH=4
Time