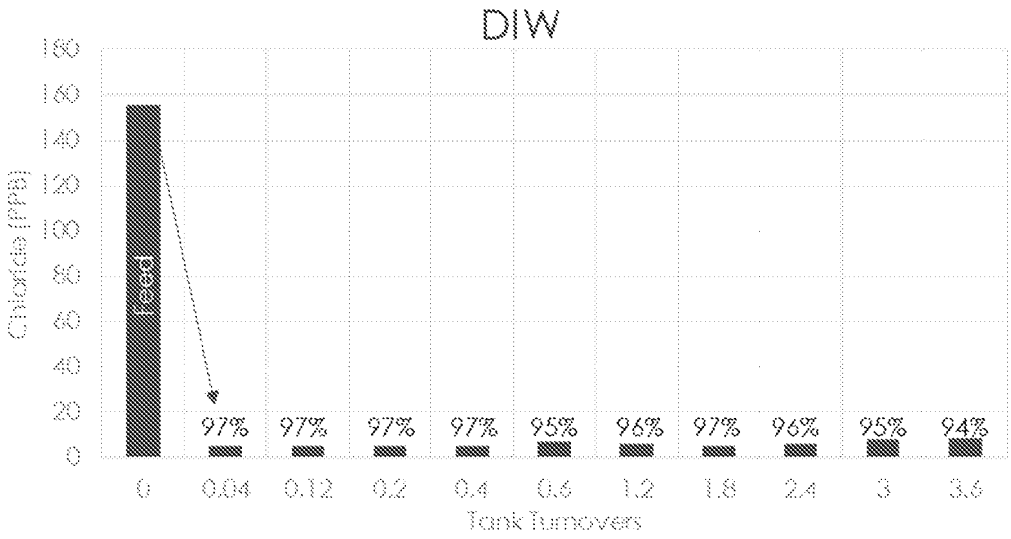

DIW
Cluster (nM)
160
140
120
100
80
60
40
20
0
feed
97%
97%
97%
97%
95%
96%
97%
96%
95%
94%
0
0.04
0.12
0.2
0.4
0.6
1.2
1.8
2.4
3
3.6
Tank Turnovers

Figure 1

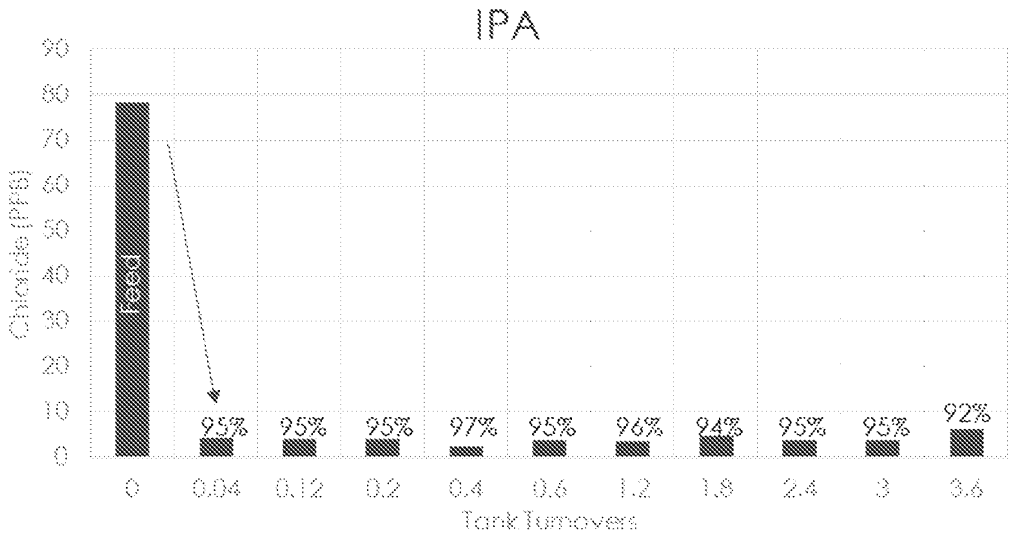

IPA
Chloride (PPB)
90
80
70
60
50
40
30
20
10
0
1650
95%
95%
95%
97%
95%
96%
94%
95%
95%
92%
0
0.04
0.12
0.2
0.4
0.6
1.2
1.8
2.4
3
3.6
Tank Turnovers

Figure 2

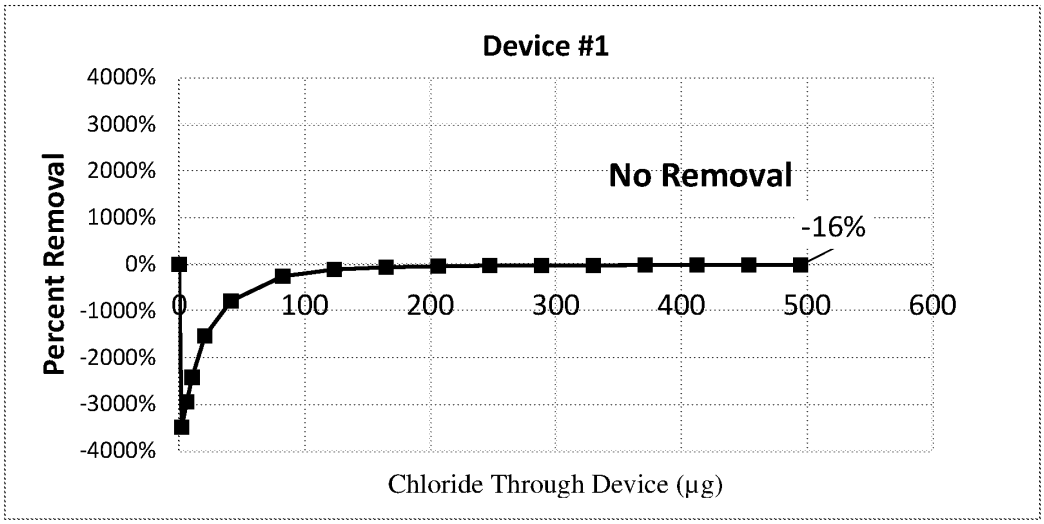

Device #1
Percent Removal
4000%
3000%
2000%
1000%
0%
-1000%
-2000%
-3000%
-4000%
No Removal
-16%
0
100
200
300
400
500
600
Chloride Through Device (µg)

Figure 3

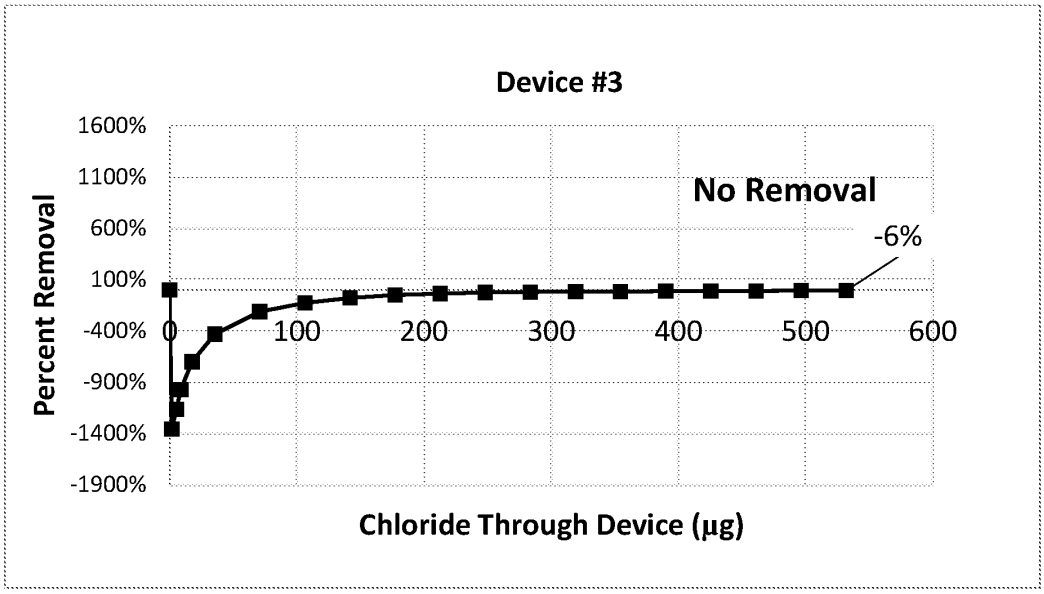

Device #3
1600%
1100%
600%
100%
-400%
-900%
-1400%
-1900%
Percent Removal
No Removal
-6%
0
100
200
300
400
500
600
Chloride Through Device (µg)

Figure 4

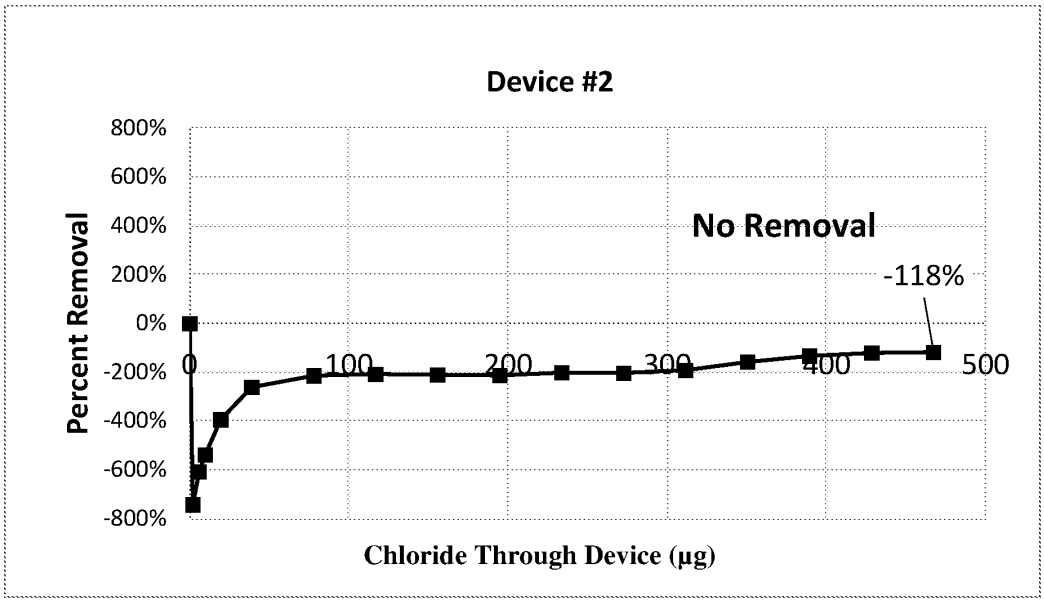

Device #2
800%
600%
400%
200%
0%
-200%
-400%
-600%
-800%
Percent Removal
No Removal
-118%
0
100
200
300
400
500
Chloride Through Device (µg)

Figure 5

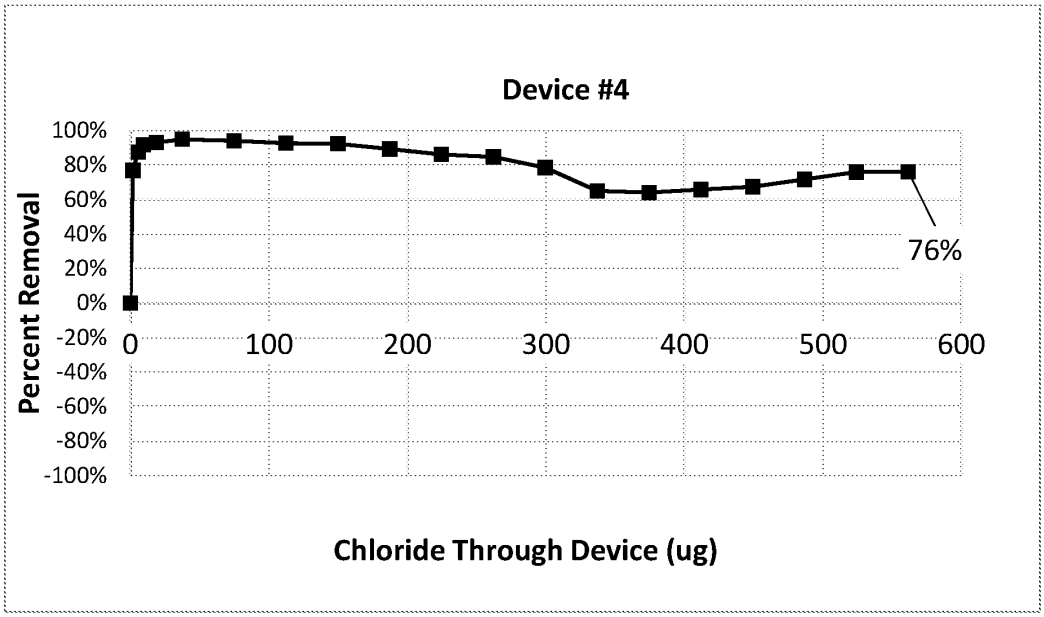

Device #4
Percent Removal
100%
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
-100%
0
100
200
300
400
500
600
76%
Chloride Through Device (ug)

Figure 6

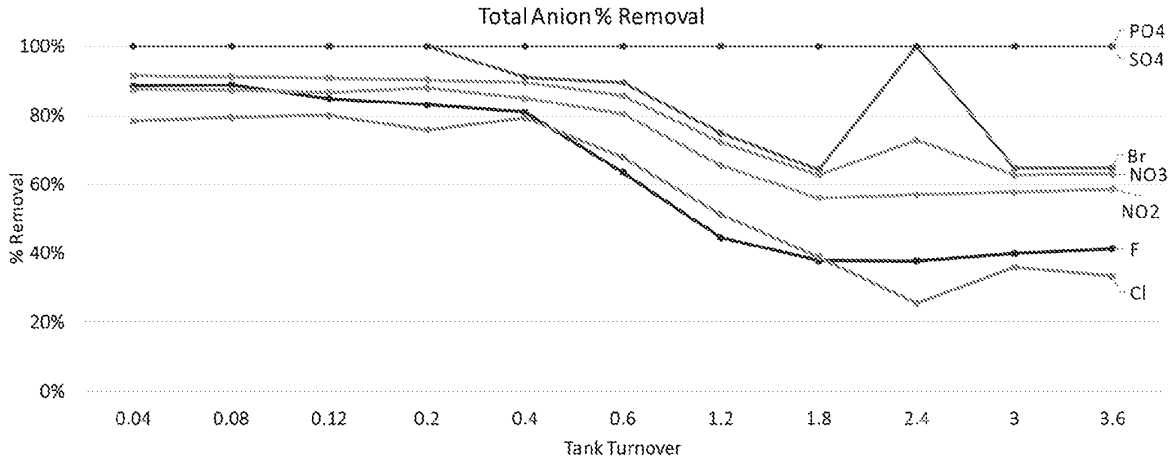

Total Anion % Removal
100%
80%
60%
40%
20%
0%
% Removal
0.04
0.08
0.12
0.2
0.4
0.6
1.2
1.8
2.4
3
3.6
Tank Turnover
PO4
SO4
Br
NO3
NO2
F
Cl

Figure 7

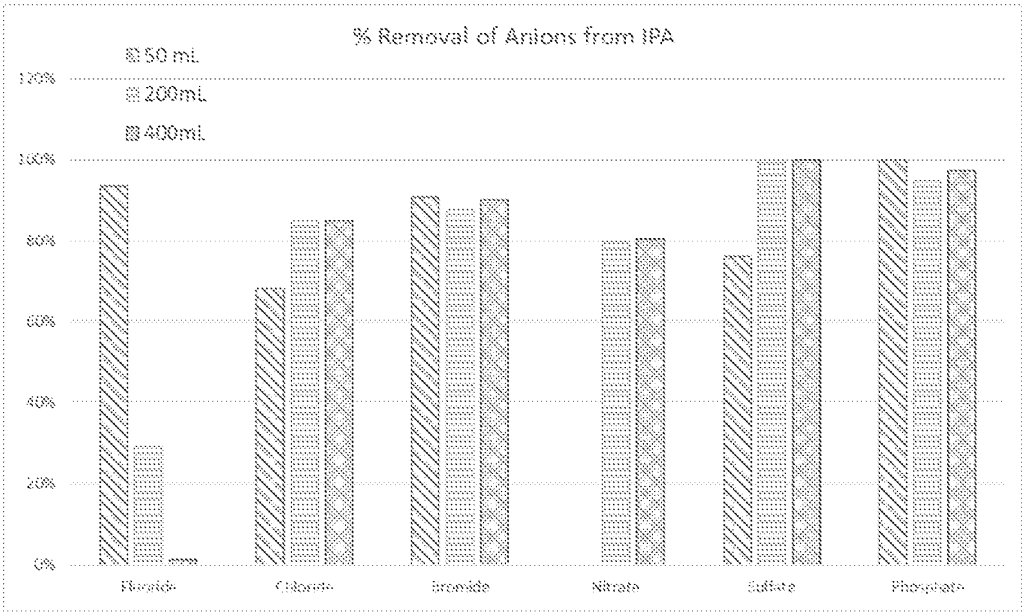

% Removal of Anions from IPA
50 mL
200mL
400mL
100%
80%
60%
40%
20%
0%
Fluoride
Chloride
Bromide
Nitrate
Sulfate
Phosphate

Figure 8

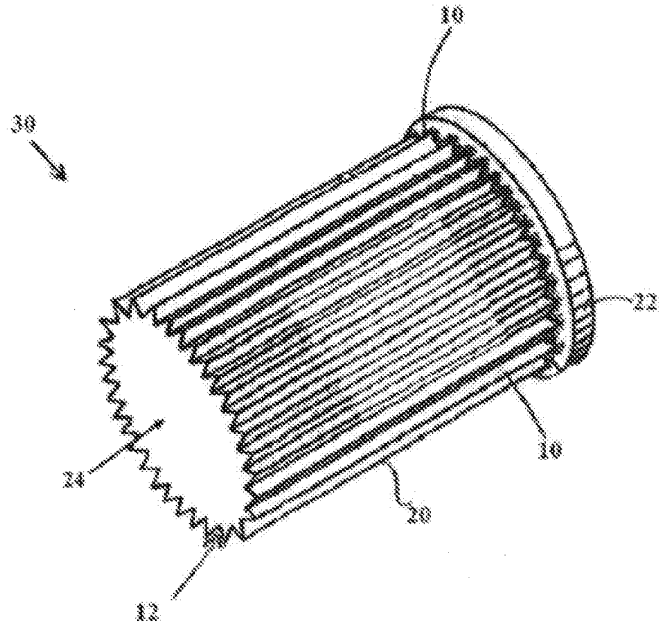


Figure 9

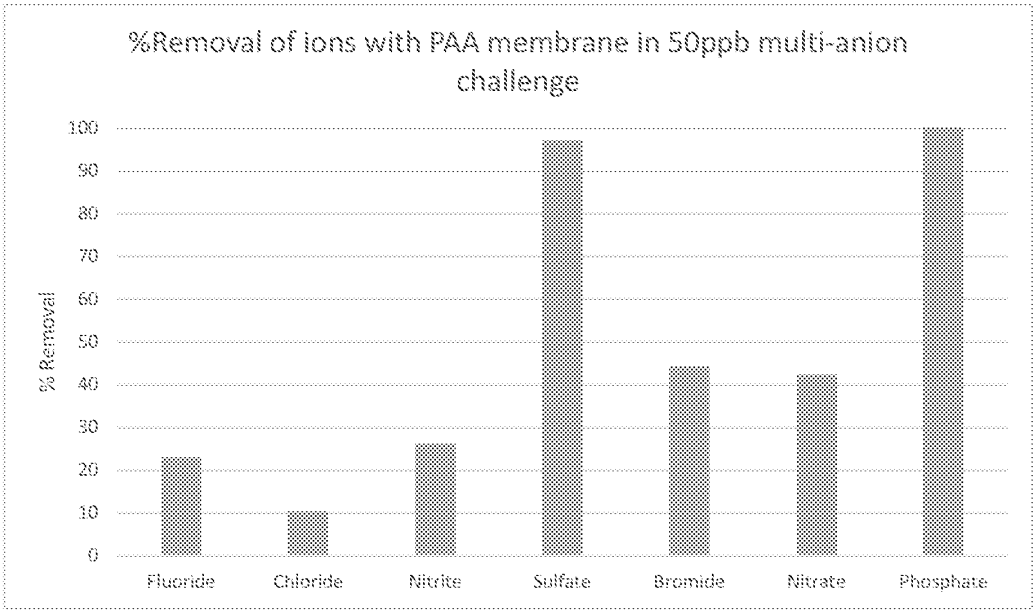

%Removal of ions with PAA membrane in 50ppb multi-anion challenge
% Removal
100
90
80
70
60
50
40
30
20
10
0
Fluoride
Chloride
Nitrite
Sulfate
Bromide
Nitrate
Phosphate

Figure 10

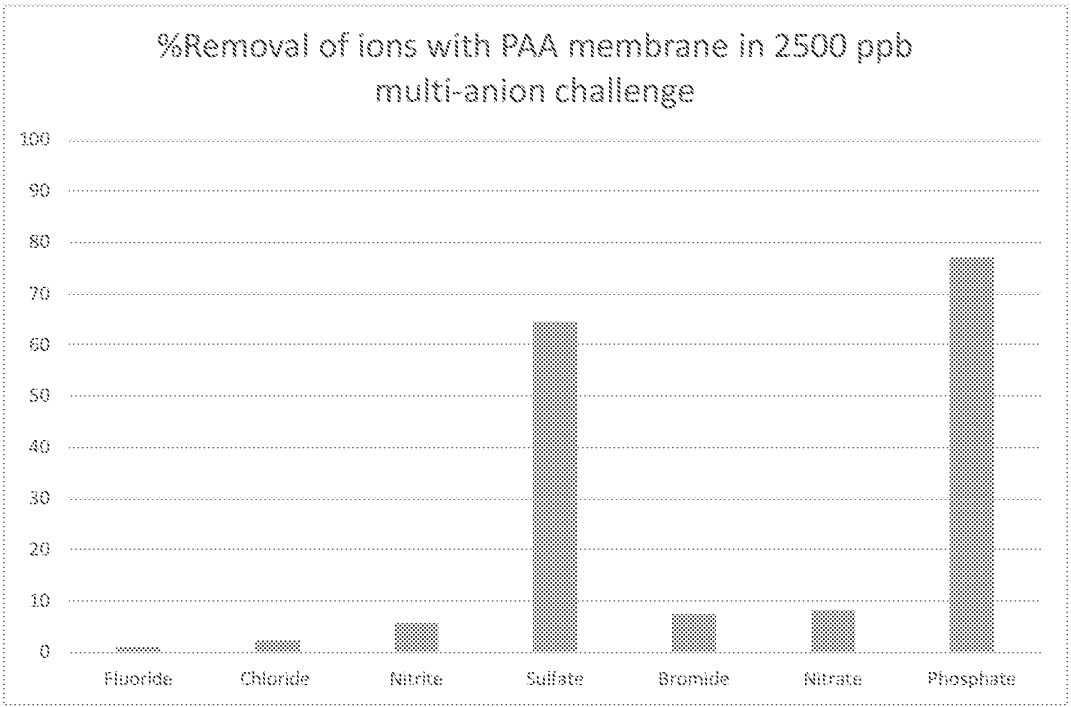

%Removal of ions with PAA membrane in 2500 ppb multi-anion challenge
100
90
80
70
60
50
40
30
20
10
0
Fluoride
Chloride
Nitrite
Sulfate
Bromide
Nitrate
Phosphate

Figure 11