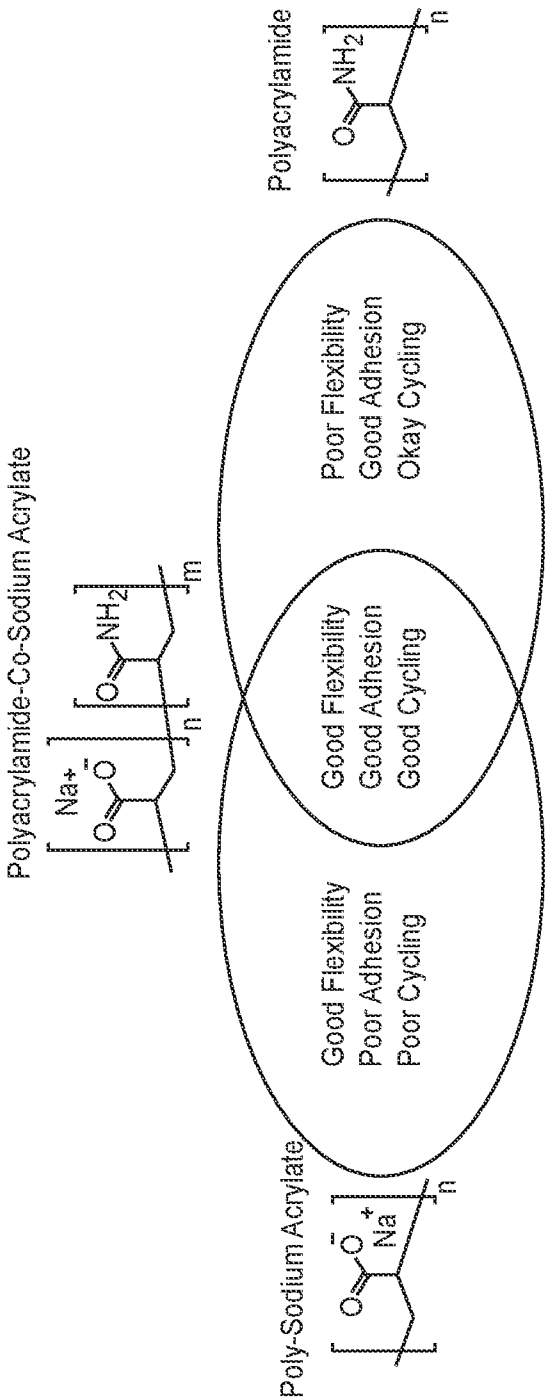

Polyacrylamide-Co-Sodium Acrylate
Polyacrylamide
Poly-Sodium Acrylate
Poor Flexibility
Good Adhesion
Okay Cycling
Good Flexibility
Good Adhesion
Good Cycling
Good Flexibility
Poor Adhesion
Poor Cycling

FIG. 1

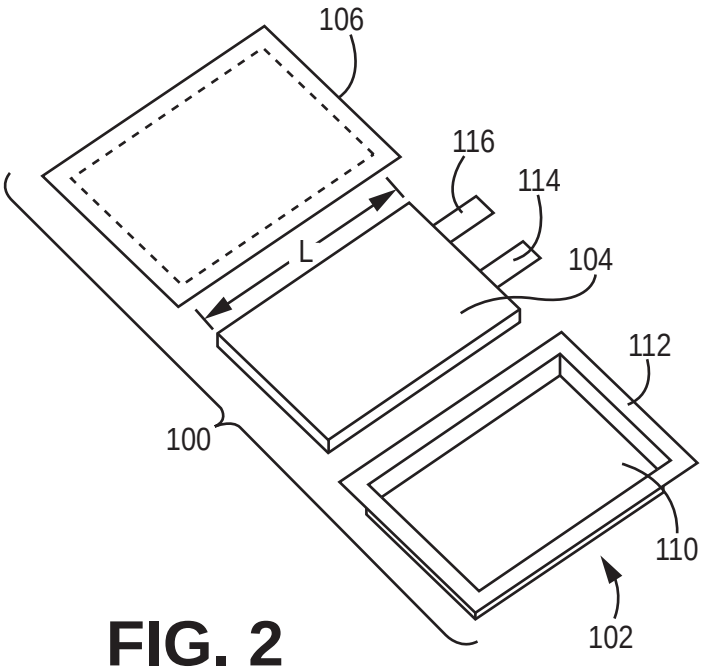


FIG. 2

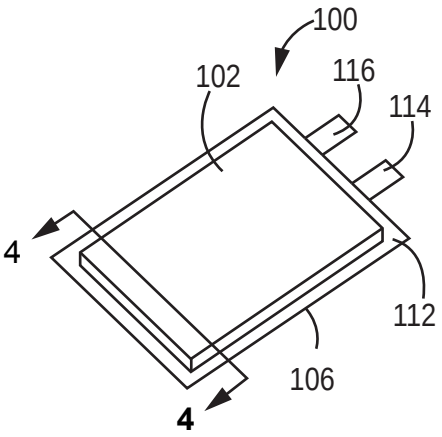


FIG. 3

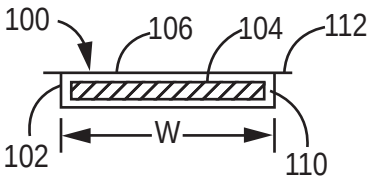


FIG. 4

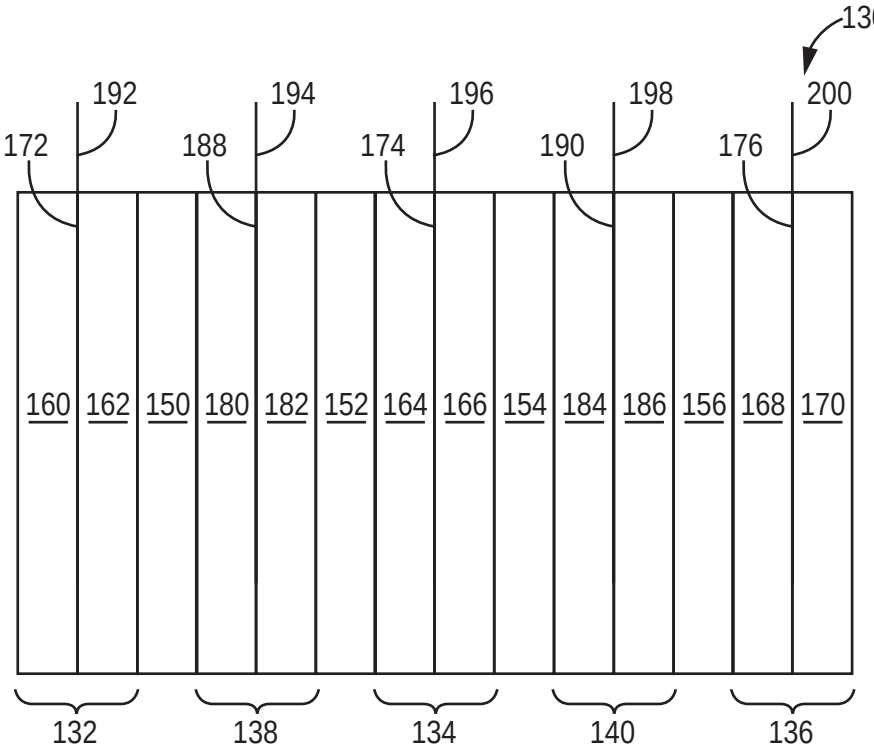


FIG. 5

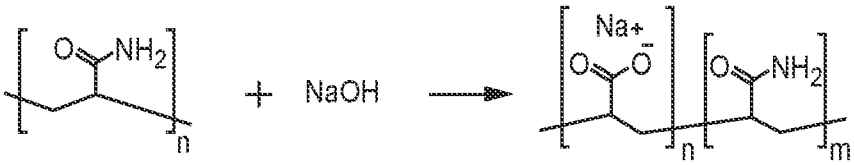

O
NH2
n
+
NaOH
Na+
O
O
n
O
NH2
m

FIG. 6

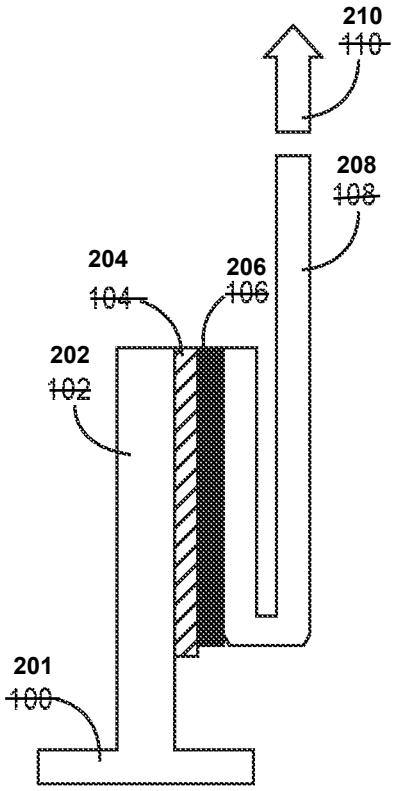

210
110
208
108
204
104
206
106
202
102
201
100

FIG. 7

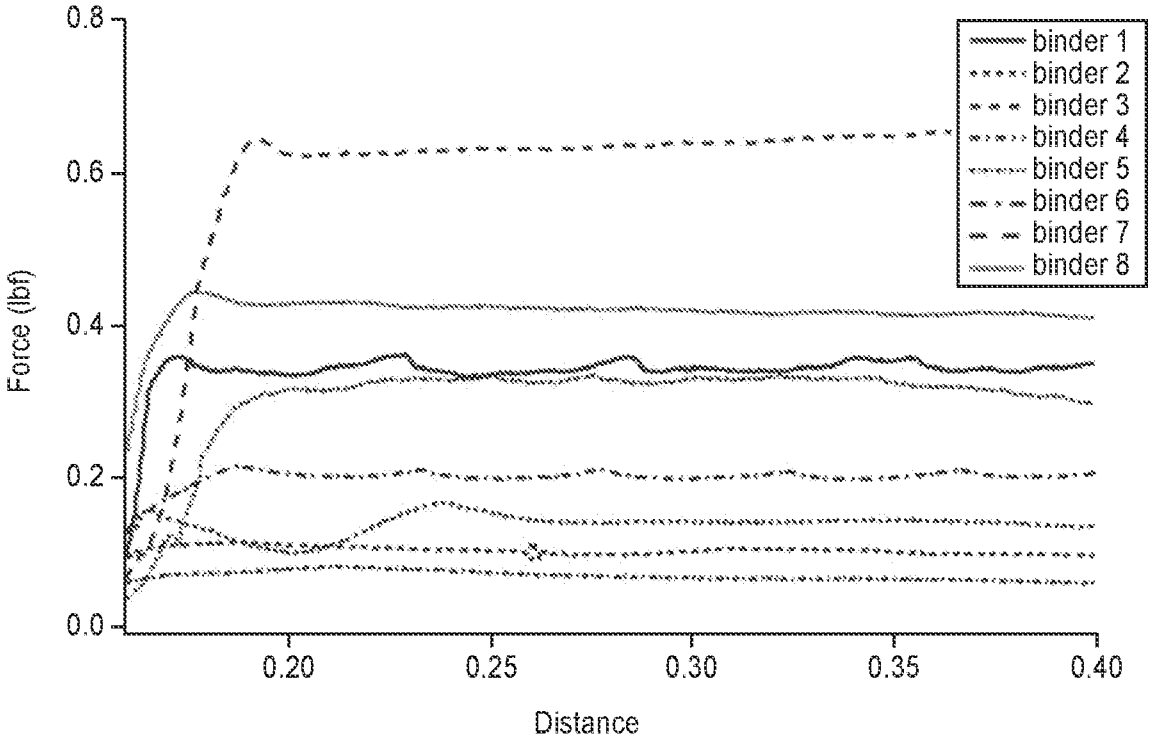

0.8
0.6
0.4
0.2
0.0
Force (lbf)
0.20
0.25
0.30
0.35
0.40
Distance
binder 1
binder 2
binder 3
binder 4
binder 5
binder 6
binder 7
binder 8

FIG. 8

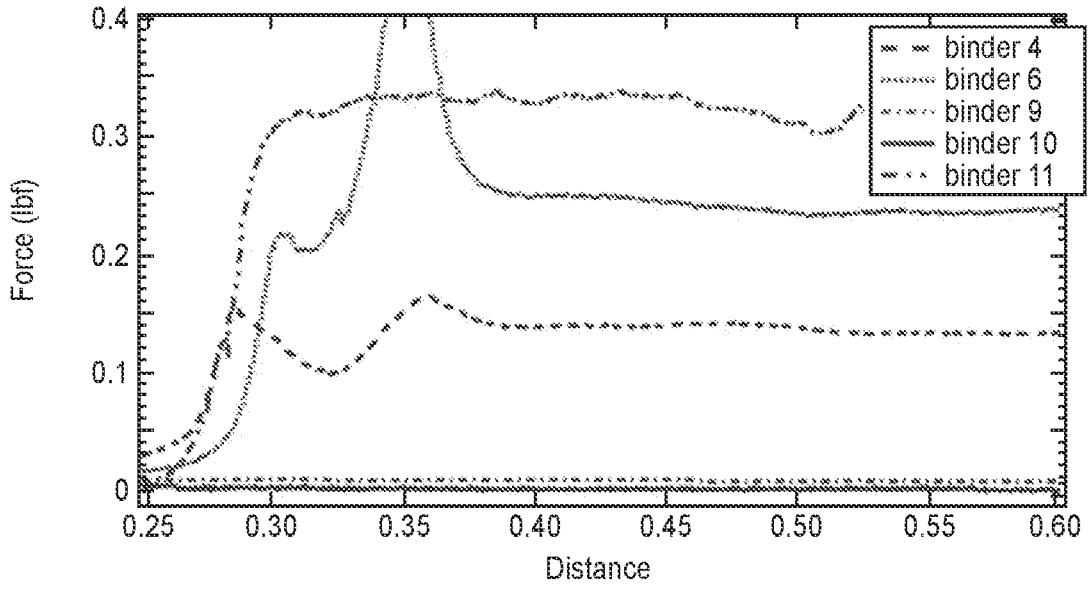

0.4
0.3
0.2
0.1
0
Force (lbf)
0.25
0.30
0.35
0.40
0.45
0.50
0.55
0.60
Distance
binder 4
binder 6
binder 9
binder 10
binder 11

FIG. 9

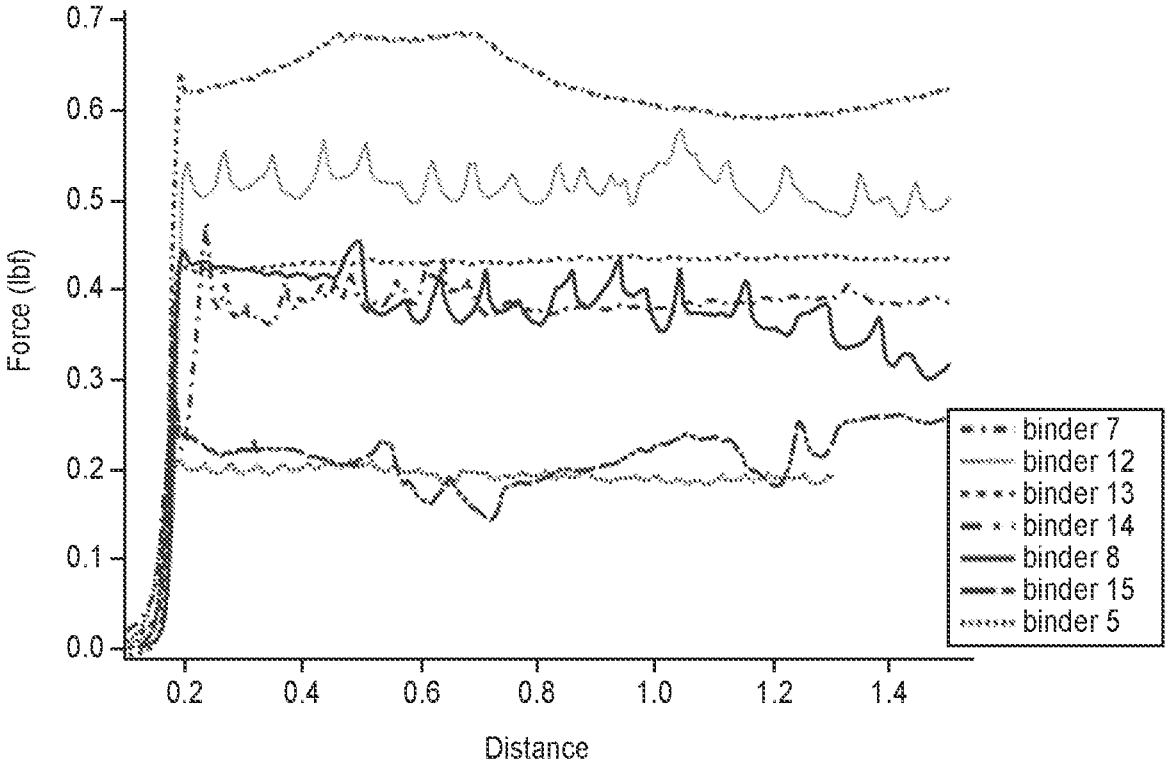

0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Force (lbf)
0.2
0.4
0.6
0.8
1.0
1.2
1.4
Distance
binder 7
binder 12
binder 13
binder 14
binder 8
binder 15
binder 5

FIG. 10

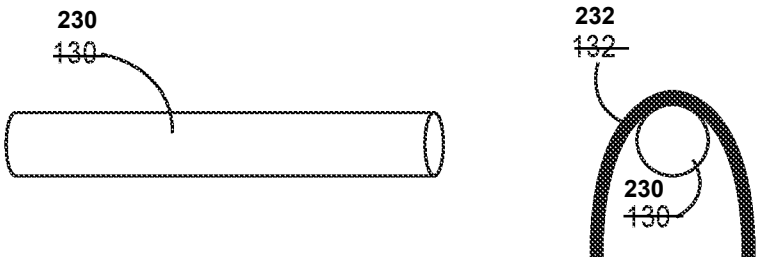

230
130
232
132
230
130

FIG. 11

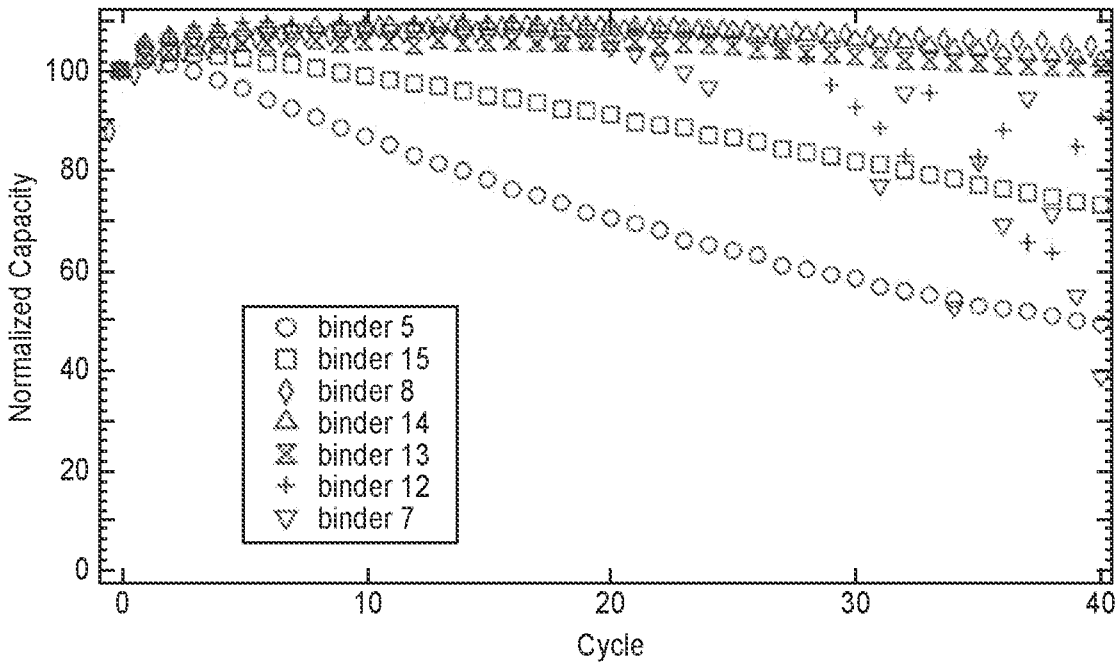

Normalized Capacity
Cycle
0
20
40
60
80
100
0
10
20
30
40
binder 5
binder 15
binder 8
binder 14
binder 13
binder 12
binder 7

FIG. 12

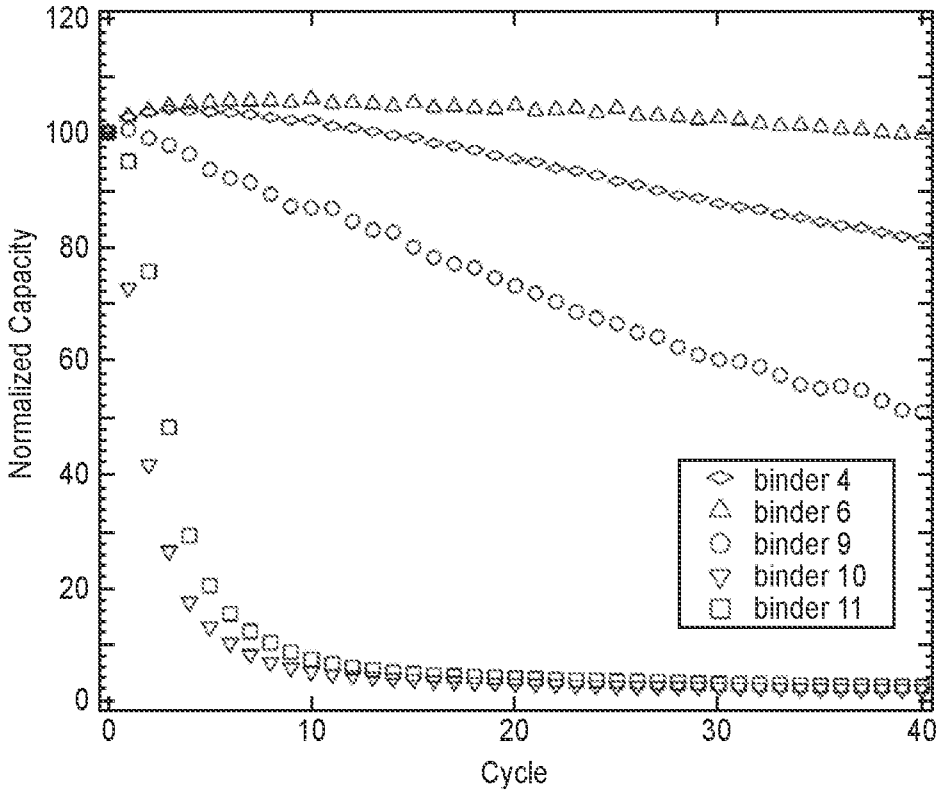

Normalized Capacity
Cycle
0
20
40
60
80
100
120
0
10
20
30
40
binder 4
binder 6
binder 9
binder 10
binder 11

FIG. 13

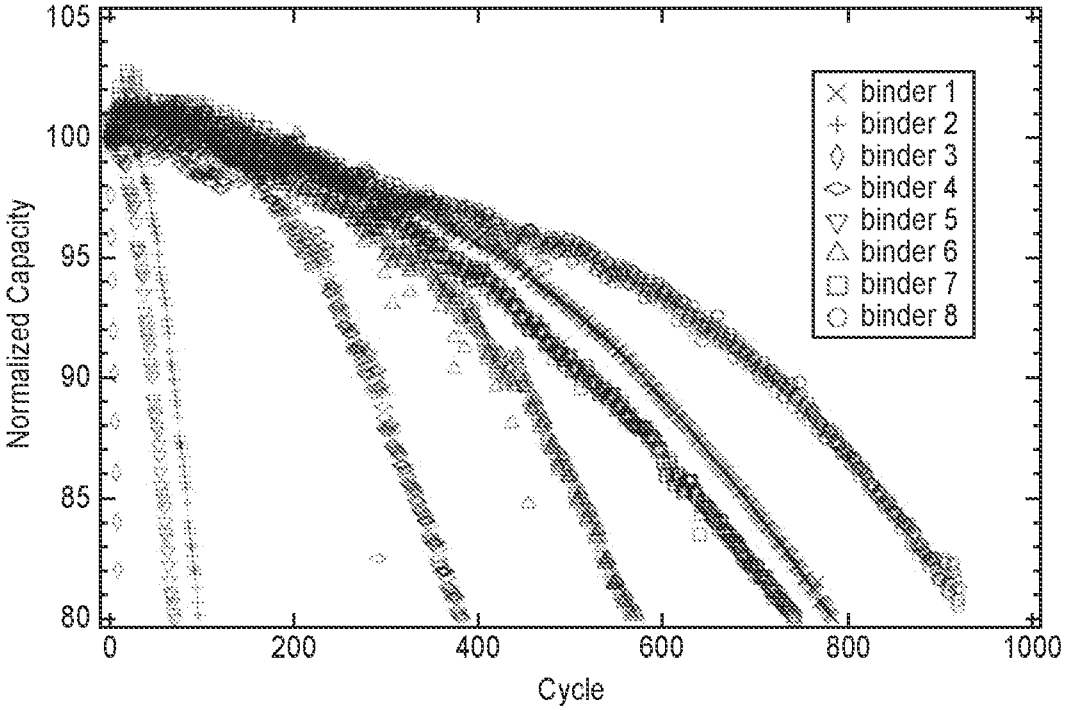

105
100
95
90
85
80
0
200
400
600
800
1000
Normalized Capacity
Cycle
binder 1
binder 2
binder 3
binder 4
binder 5
binder 6
binder 7
binder 8

FIG. 14

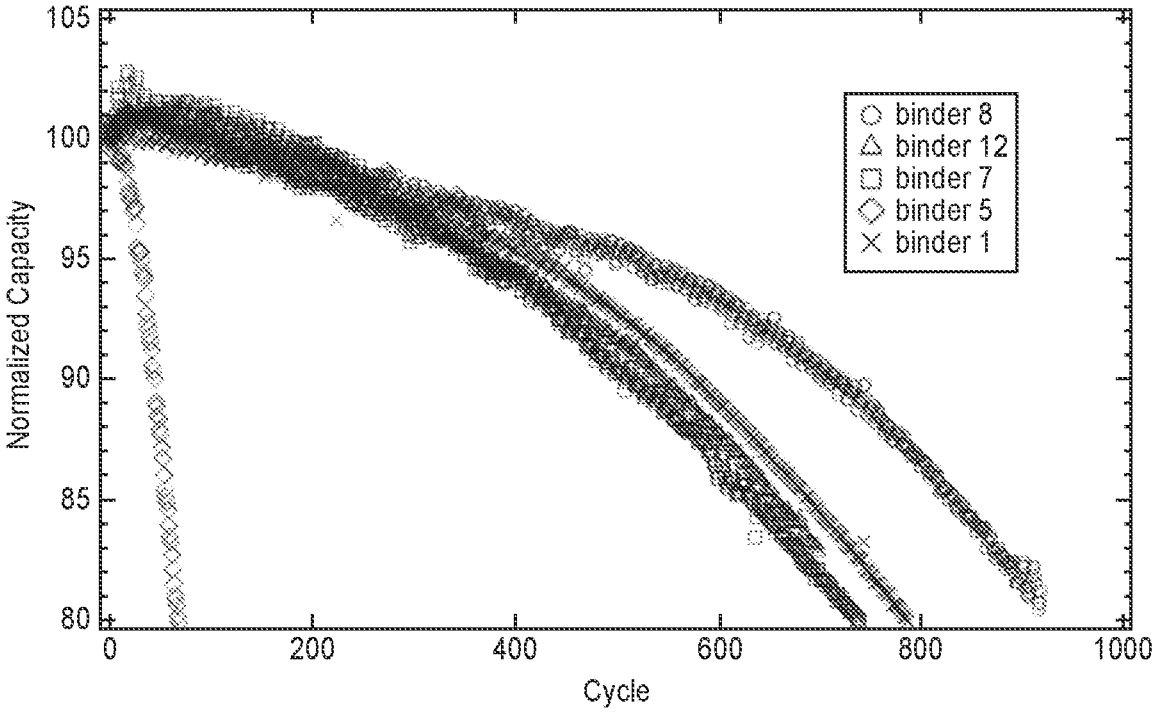

105
100
95
90
85
80
0
200
400
600
800
1000
Normalized Capacity
Cycle
binder 8
binder 12
binder 7
binder 5
binder 1

FIG. 15