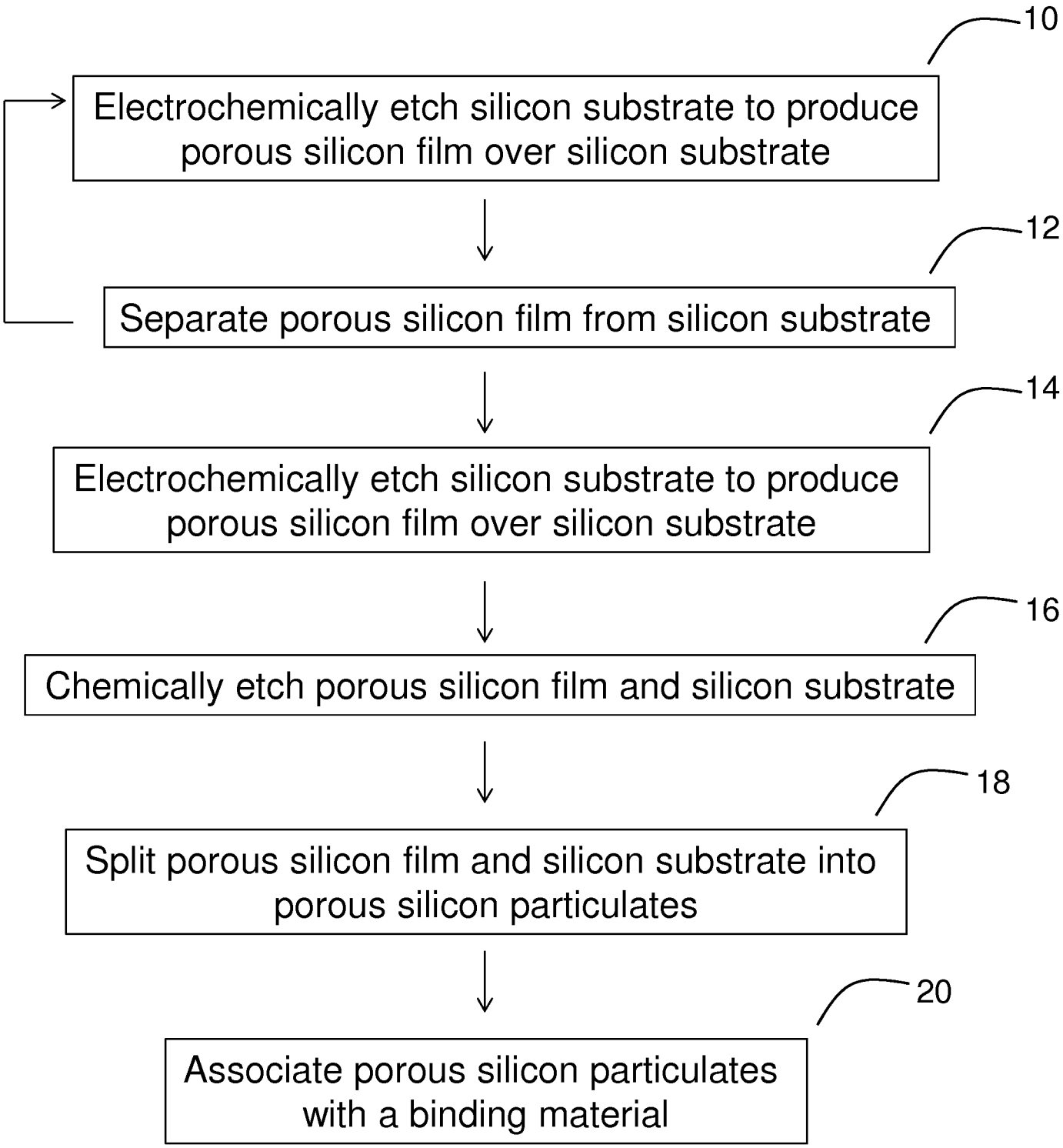

10
Electrochemically etch silicon substrate to produce porous silicon film over silicon substrate
12
Separate porous silicon film from silicon substrate
14
Electrochemically etch silicon substrate to produce porous silicon film over silicon substrate
16
Chemically etch porous silicon film and silicon substrate
18
Split porous silicon film and silicon substrate into porous silicon particulates
20
Associate porous silicon particulates with a binding material

FIG. 1

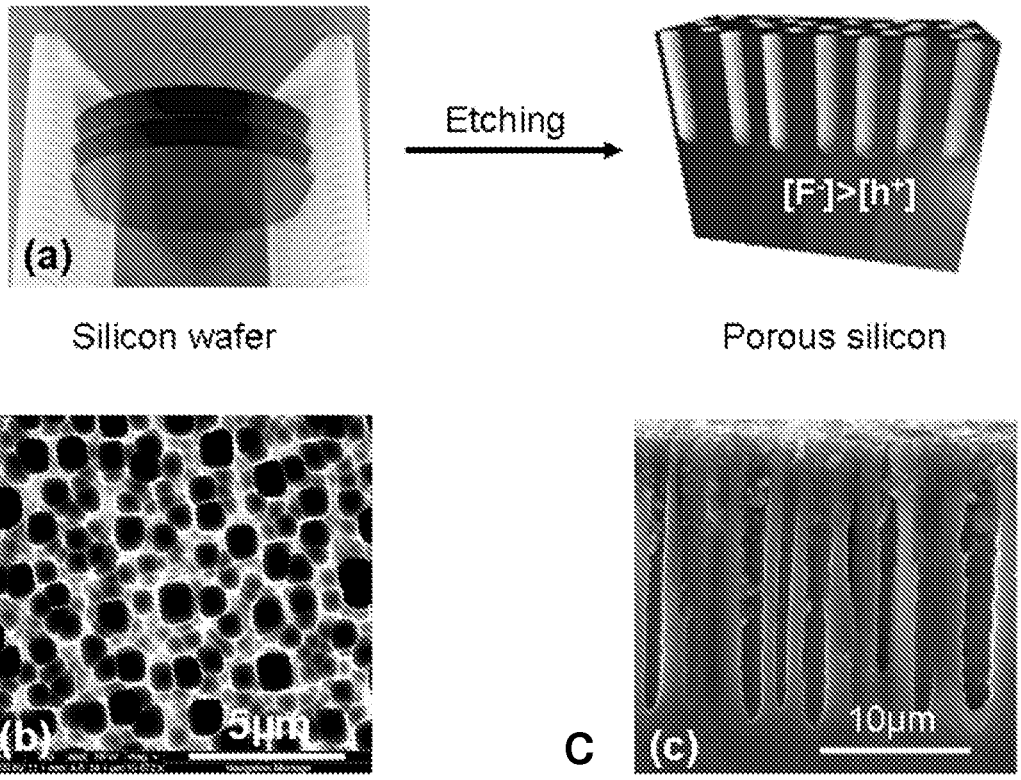
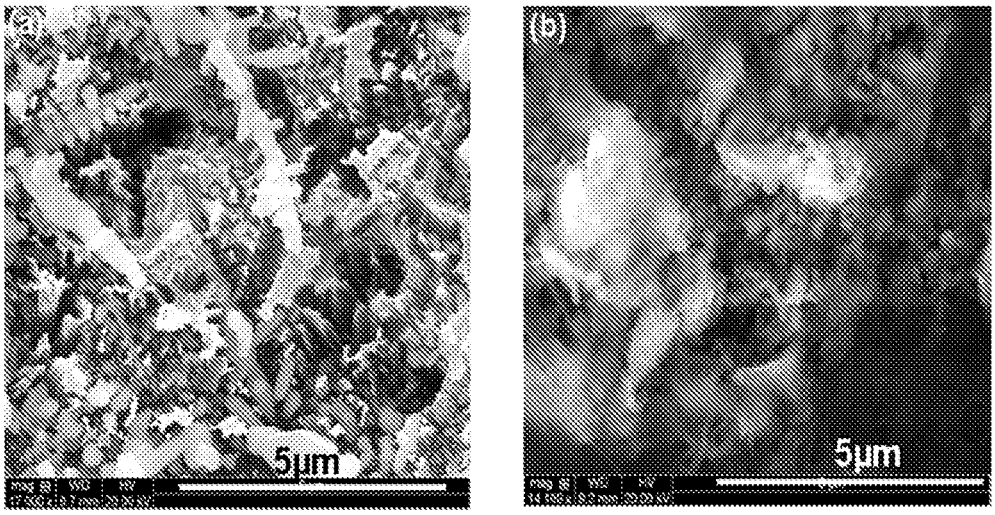
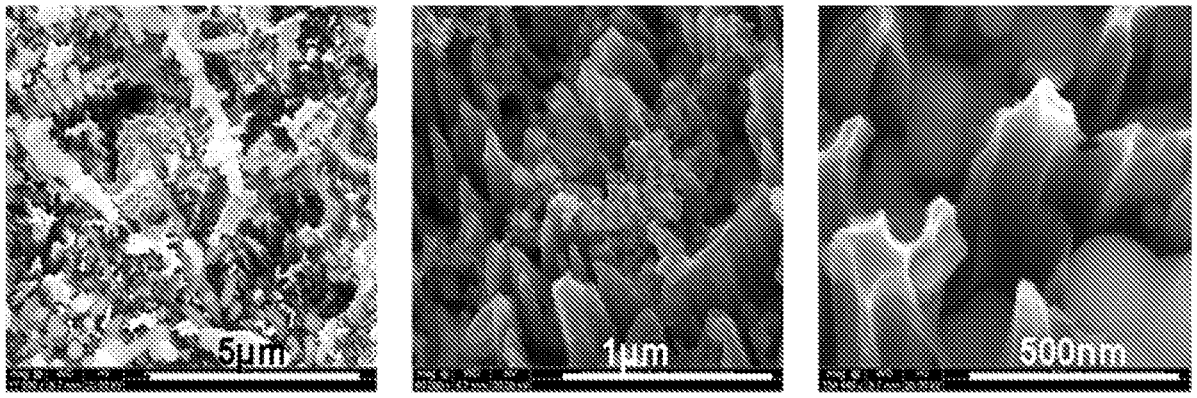


FIG. 2



A B



C D E

FIG. 3

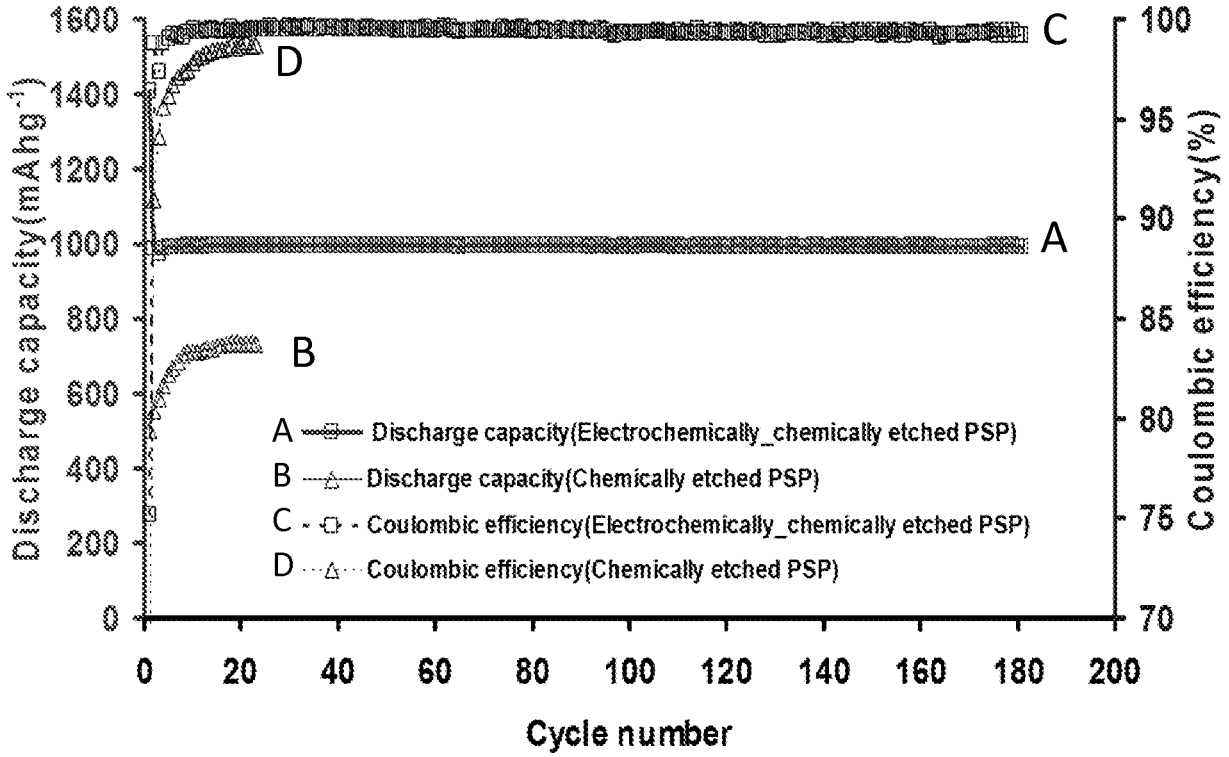

Discharge capacity(mAhg-1)
Coulombic efficiency(%)
Cycle number
A
B
C
D
A Discharge capacity(Electrochemically_chemically etched PSP)
B Discharge capacity(Chemically etched PSP)
C Coulombic efficiency(Electrochemically_chemically etched PSP)
D Coulombic efficiency(Chemically etched PSP)
0
200
400
600
800
1000
1200
1400
1600
70
75
80
85
90
95
100
0
20
40
60
80
100
120
140
160
180
200

FIG. 4

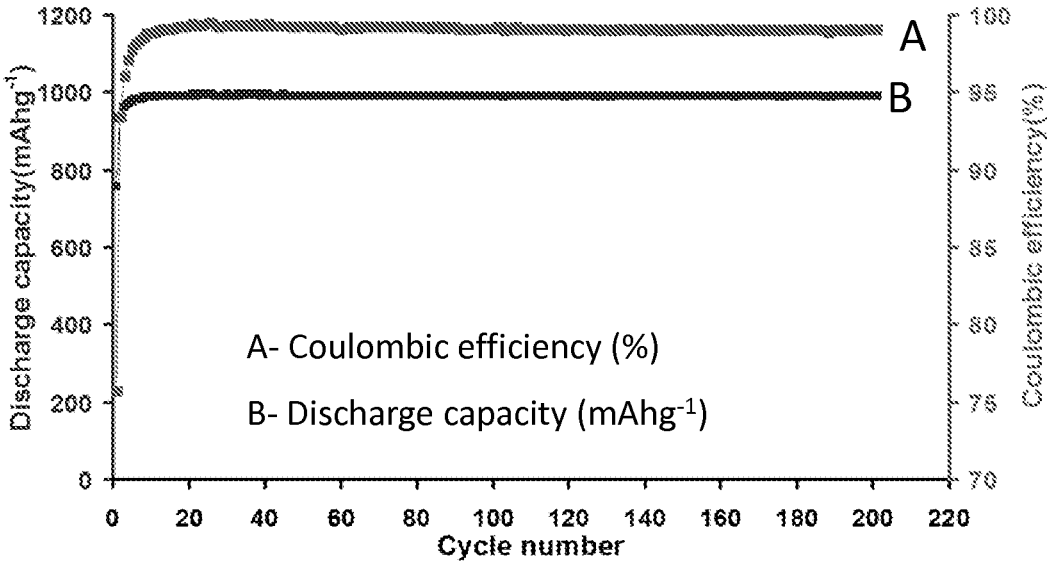

Discharge capacity(mAhg-1)
Coulombic efficiency(%)
Cycle number
A
B
A- Coulombic efficiency (%)
B- Discharge capacity (mAhg-1)
0
200
400
600
800
1000
1200
70
75
80
85
90
95
100
0
20
40
60
80
100
120
140
160
180
200
220

FIG. 5