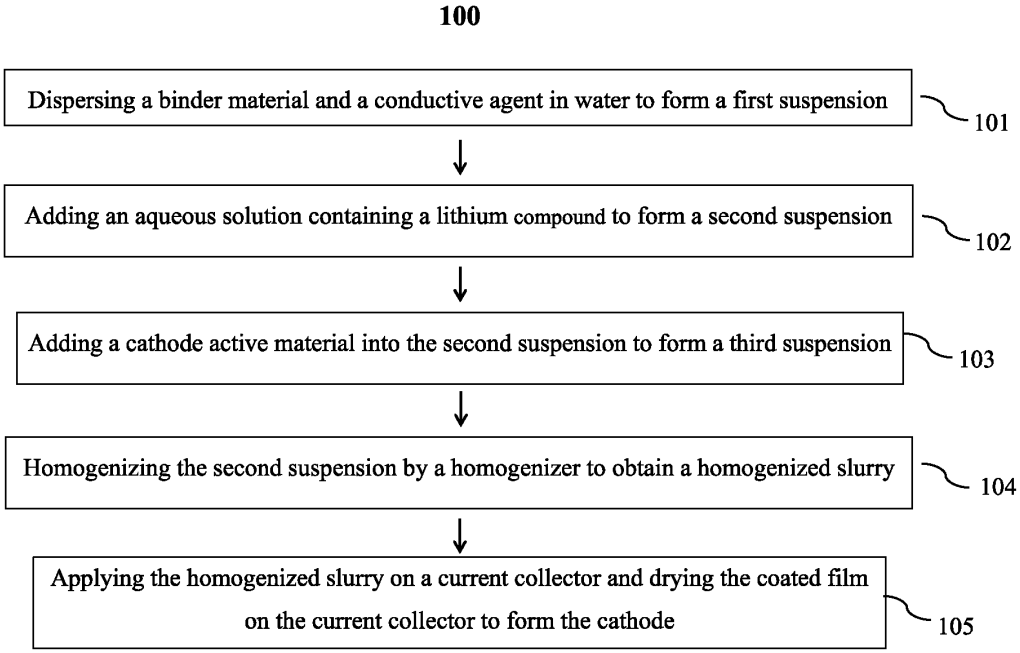
100
Dispersing a binder material and a conductive agent in water to form a first suspension
101
Adding an aqueous solution containing a lithium compound to form a second suspension
102
Adding a cathode active material into the second suspension to form a third suspension
103
Homogenizing the second suspension by a homogenizer to obtain a homogenized slurry
104
Applying the homogenized slurry on a current collector and drying the coated film on the current collector to form the cathode
105

FIG. 1

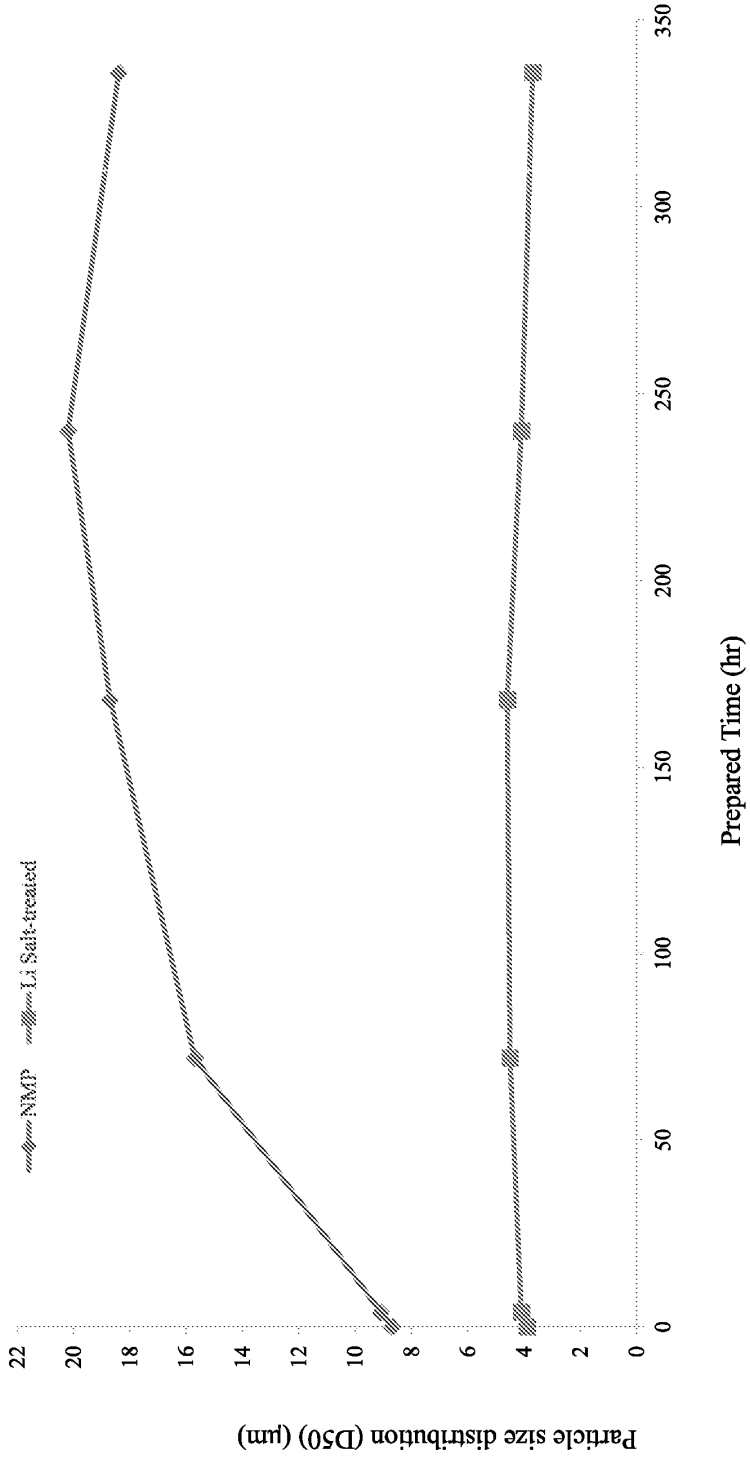
NMP
Li Salt-treated
Particle size distribution (D50) (μm)
Prepared Time (hr)
0
2
4
6
8
10
12
14
16
18
20
22
0
50
100
150
200
250
300
350

FIG. 2

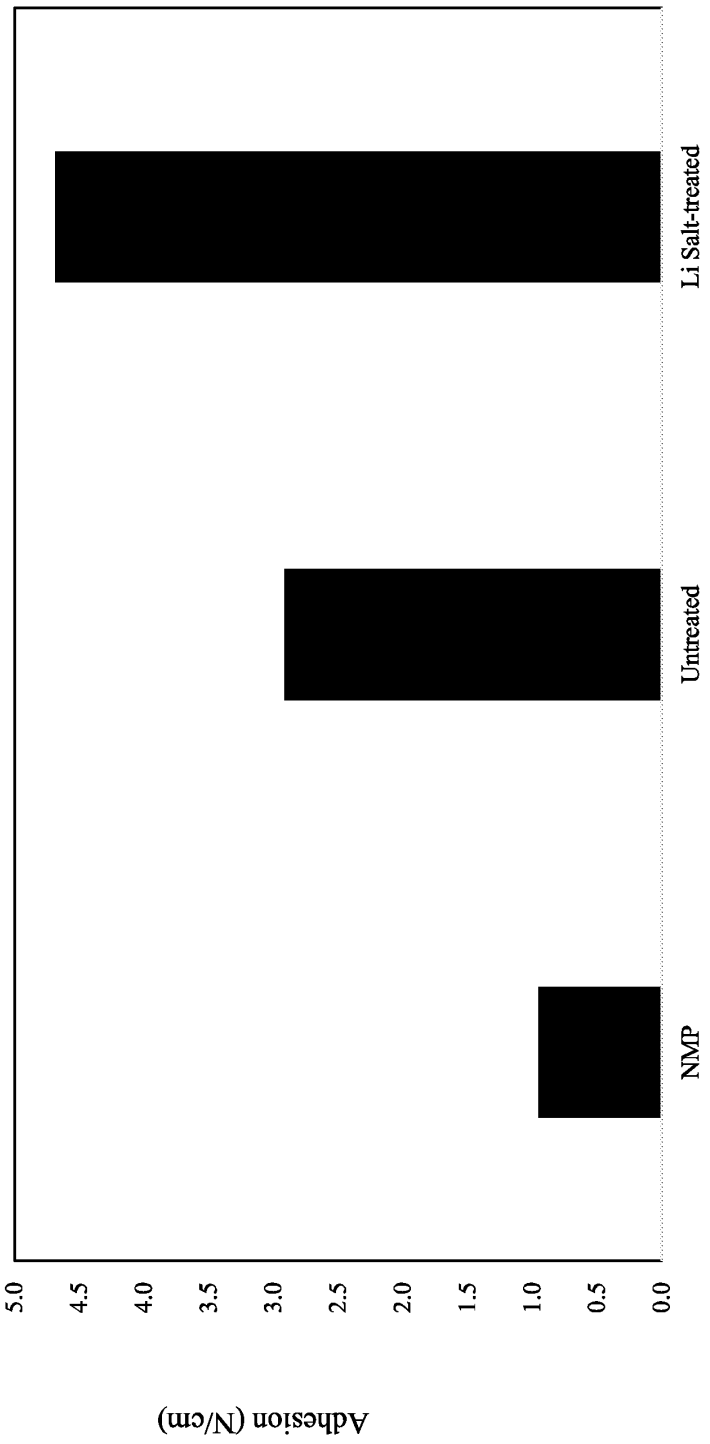
Adhesion (N/cm)
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
NMP
Untreated
Li Salt-treated

FIG. 3

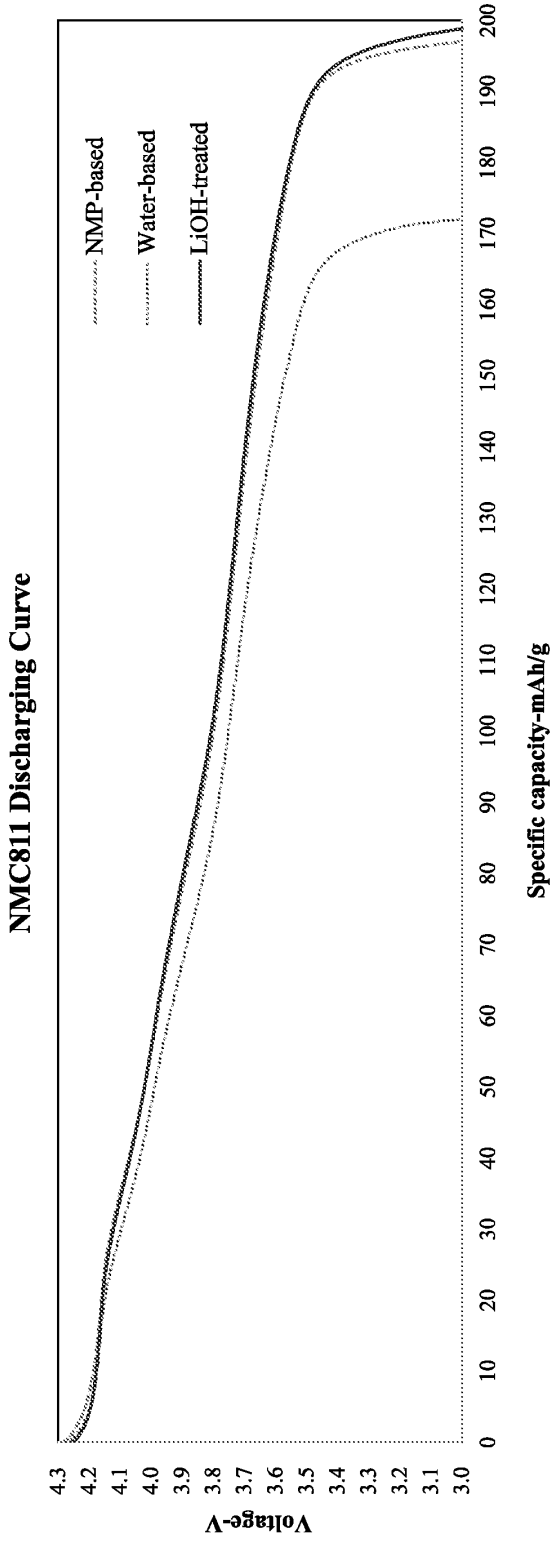
NMC811 Discharging Curve
NMP-based
Water-based
LiOH-treated
Voltage-V
4.3
4.2
4.1
4.0
3.9
3.8
3.7
3.6
3.5
3.4
3.3
3.2
3.1
3.0
Specific capacity-mAh/g
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200

FIG. 4

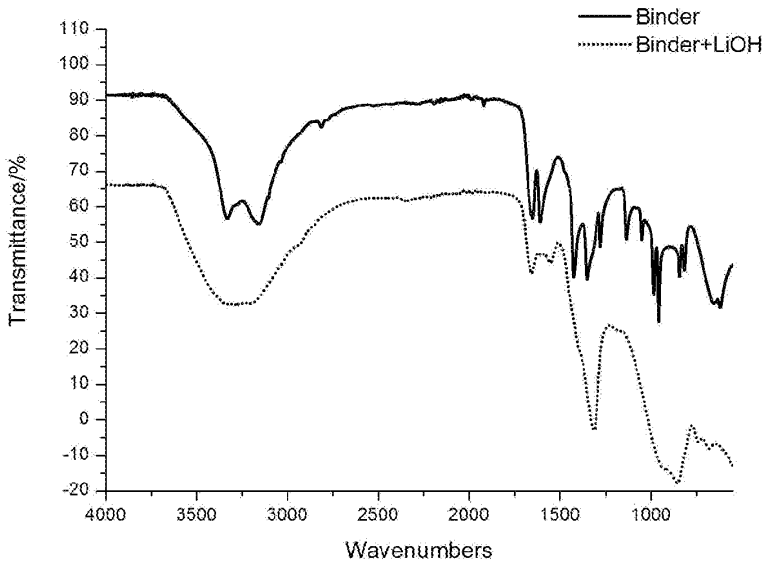
Binder
Binder+LiOH
Transmittance/%
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
4000
3500
3000
2500
2000
1500
1000
Wavenumbers

FIG. 5

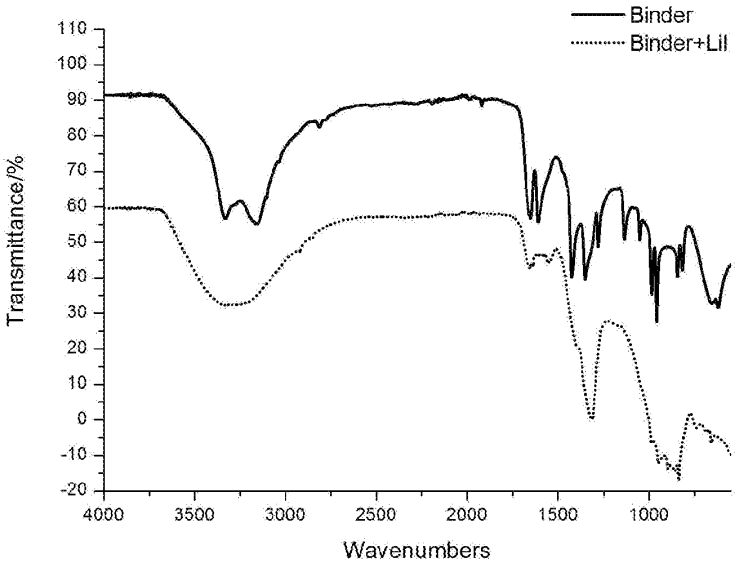
Binder
Binder+LiI
Transmittance/%
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
4000
3500
3000
2500
2000
1500
1000
Wavenumbers

FIG. 6