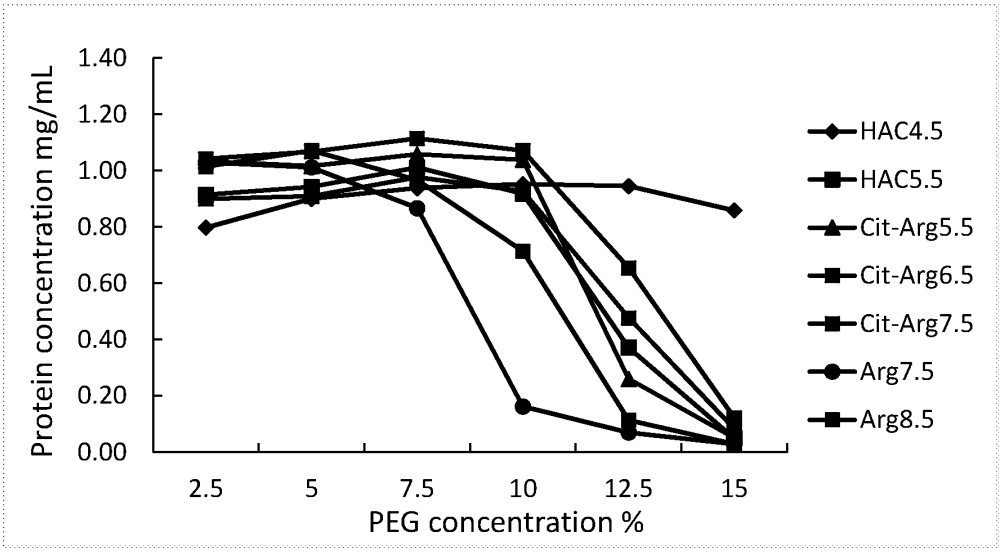

Protein concentration mg/mL
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
2.5
5
7.5
10
12.5
15
PEG concentration %
HAC4.5
HAC5.5
Cit-Arg5.5
Cit-Arg6.5
Cit-Arg7.5
Arg7.5
Arg8.5

FIG. 1

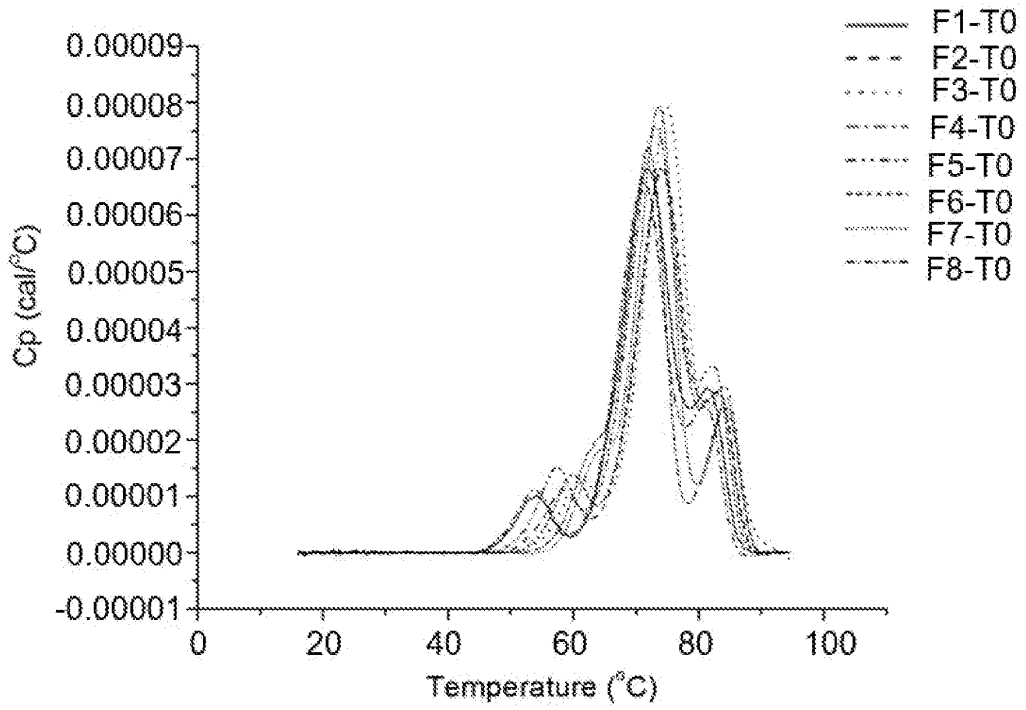

Cp (cal/°C)
0.00009
0.00008
0.00007
0.00006
0.00005
0.00004
0.00003
0.00002
0.00001
0.00000
-0.00001
0
20
40
60
80
100
Temperature (°C)
F1-T0
F2-T0
F3-T0
F4-T0
F5-T0
F6-T0
F7-T0
F8-T0

FIG. 2

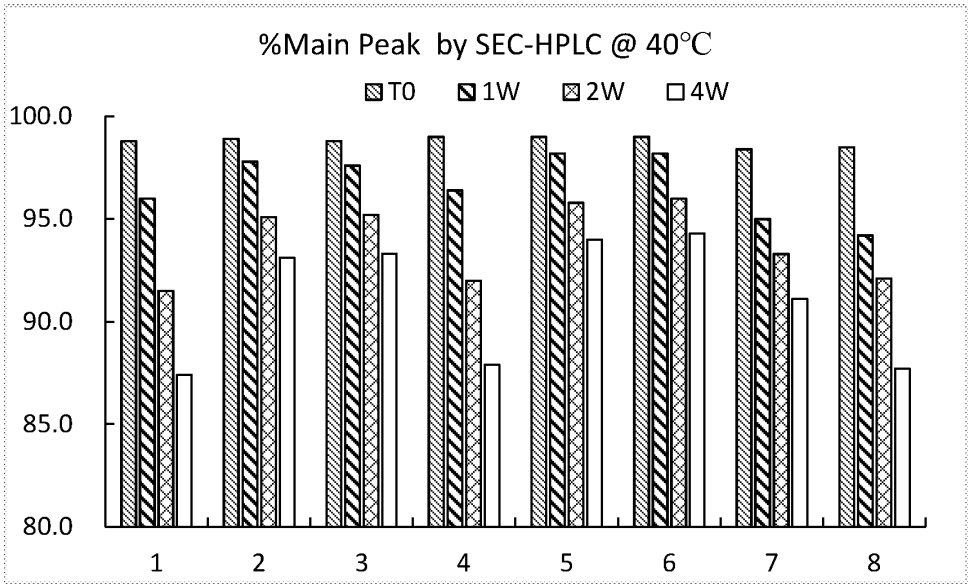

%Main Peak by SEC-HPLC @ 40°C
T0
1W
2W
4W
100.0
95.0
90.0
85.0
80.0
1
2
3
4
5
6
7
8

FIG. 3

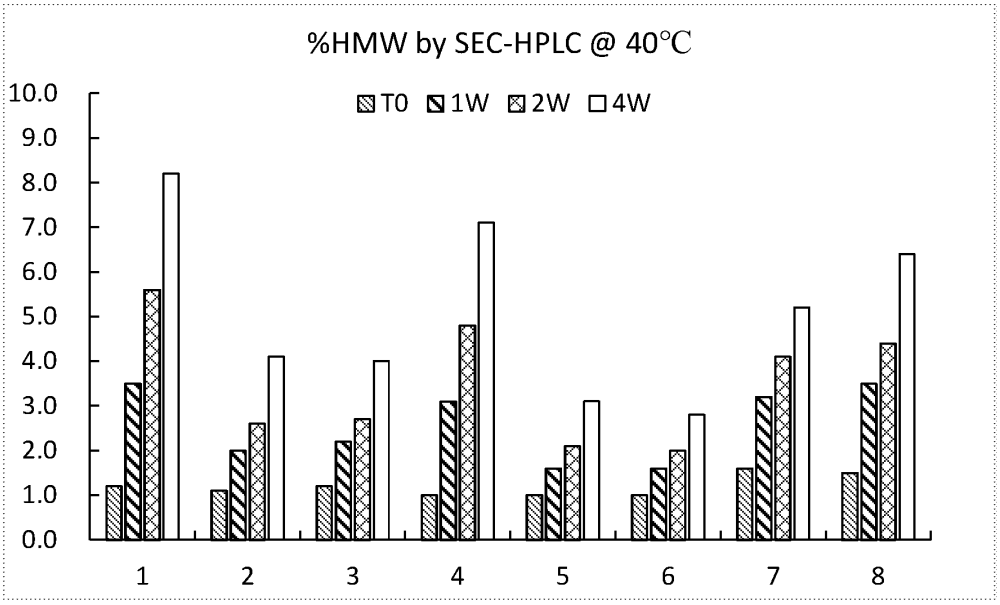

%HMW by SEC-HPLC @ 40°C
T0
1W
2W
4W
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1
2
3
4
5
6
7
8

FIG. 4

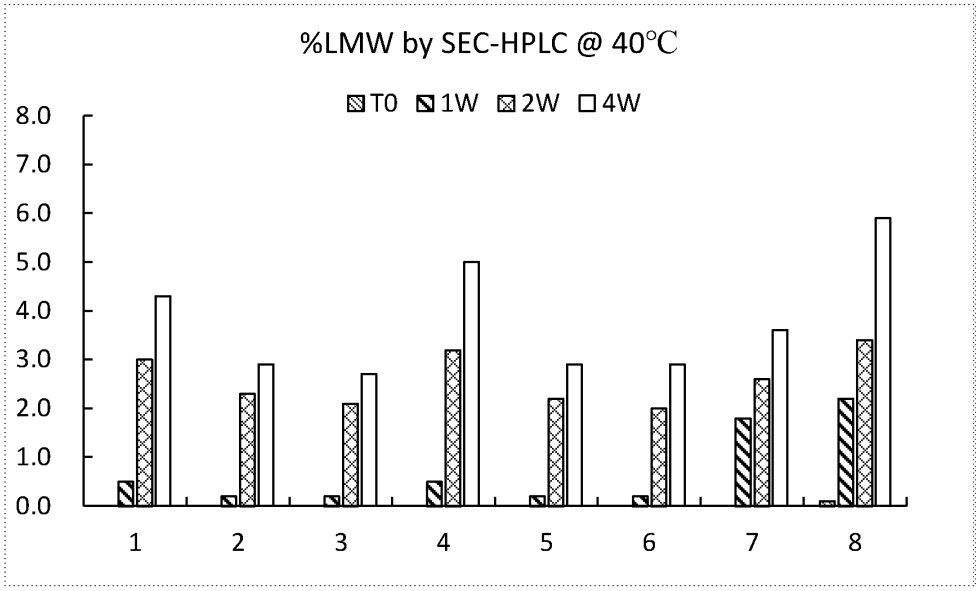

%LMW by SEC-HPLC @ 40℃
T0 1W 2W 4W
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1
2
3
4
5
6
7
8

FIG. 5

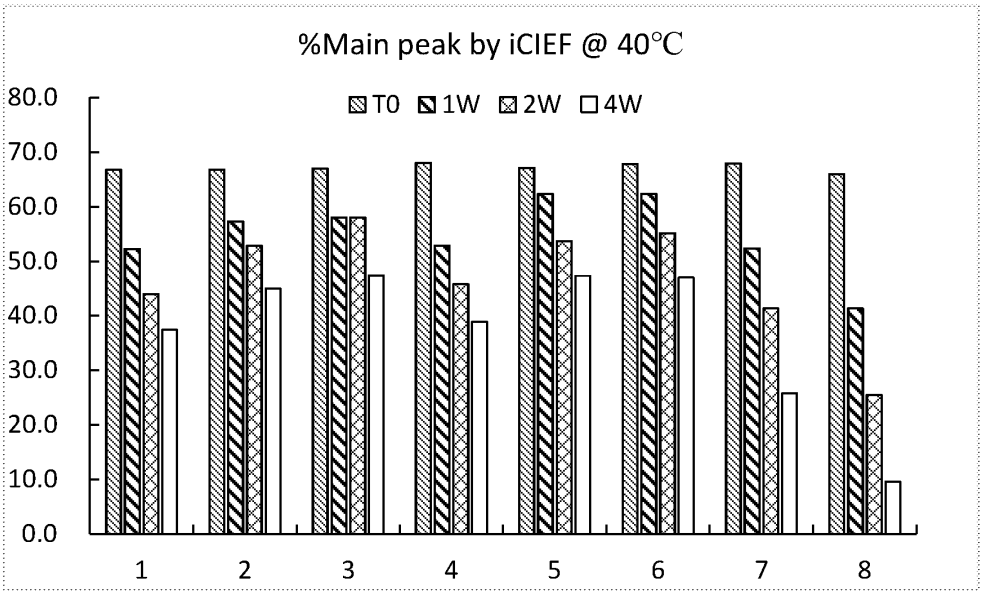

%Main peak by iCIEF @ 40℃
T0 1W 2W 4W
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1
2
3
4
5
6
7
8

FIG. 6

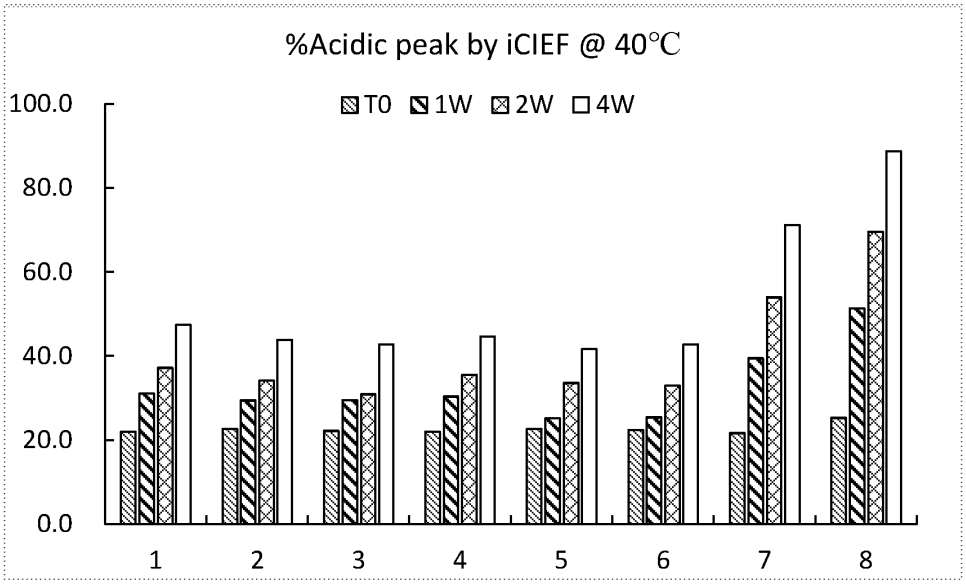

%Acidic peak by iCIEF @ 40℃
T0 1W 2W 4W
100.0
80.0
60.0
40.0
20.0
0.0
1 2 3 4 5 6 7 8

FIG. 7

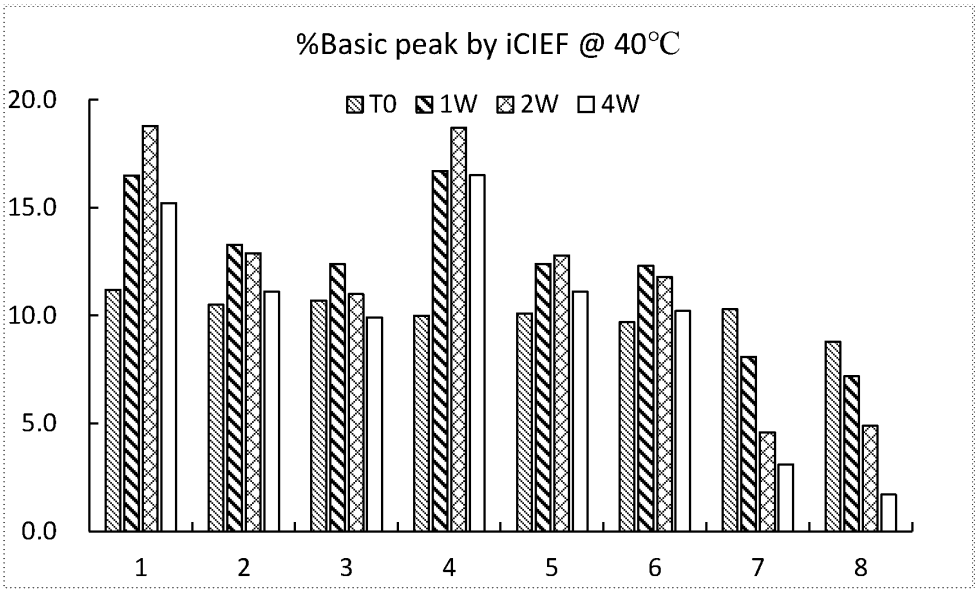

%Basic peak by iCIEF @ 40℃
T0 1W 2W 4W
20.0
15.0
10.0
5.0
0.0
1 2 3 4 5 6 7 8

FIG. 8

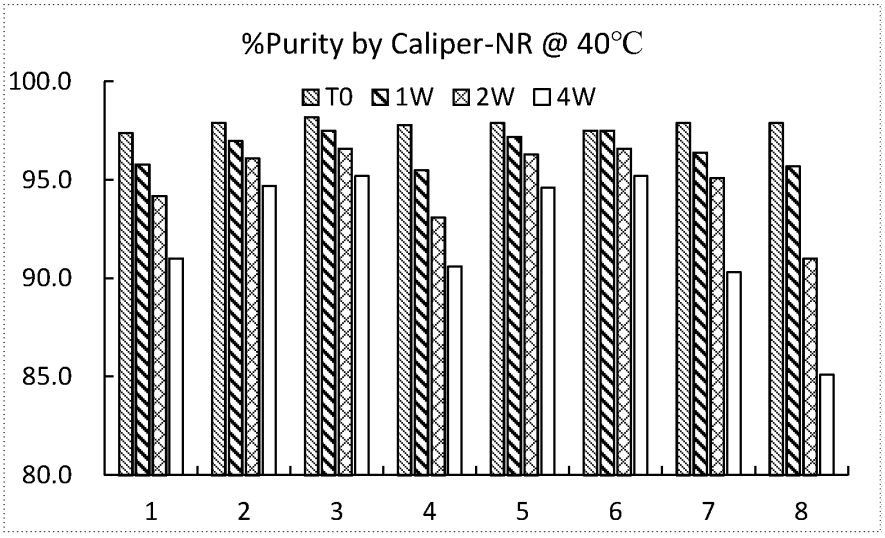

%Purity by Caliper-NR @ 40℃
T0
1W
2W
4W
100.0
95.0
90.0
85.0
80.0
1
2
3
4
5
6
7
8

FIG. 9

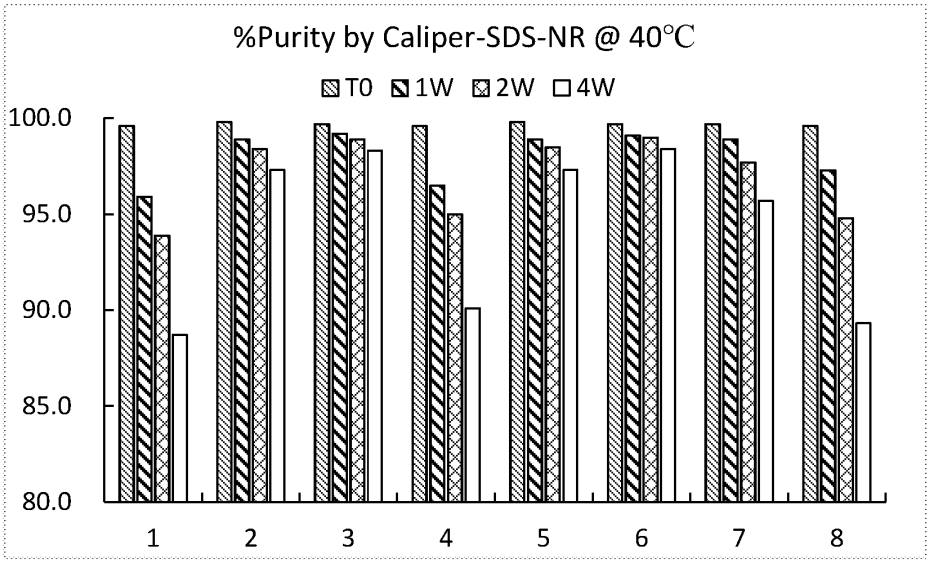

%Purity by Caliper-SDS-NR @ 40℃
T0
1W
2W
4W
100.0
95.0
90.0
85.0
80.0
1
2
3
4
5
6
7
8

FIG. 10

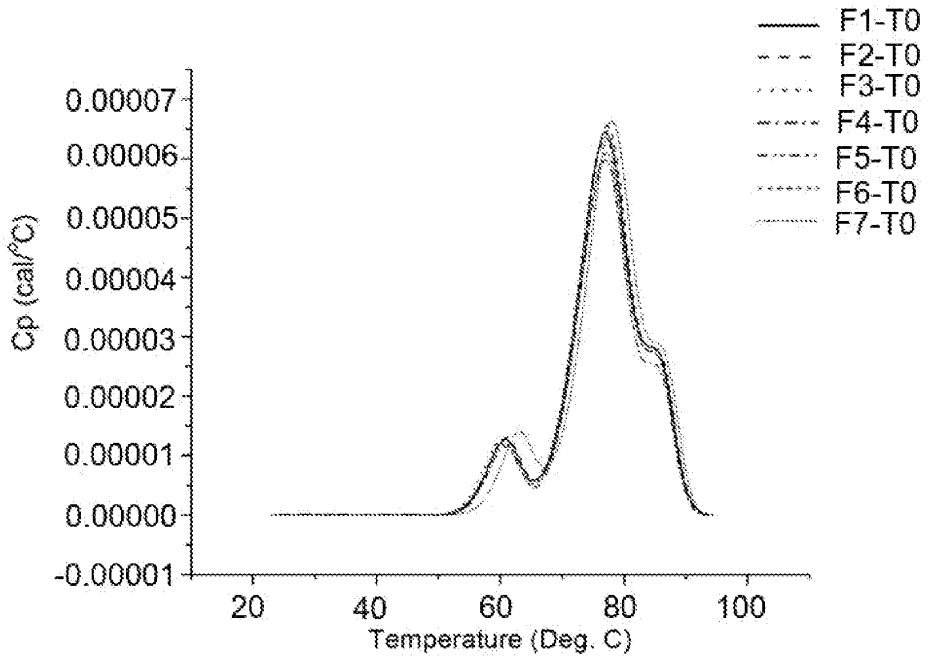

F1-T0
F2-T0
F3-T0
F4-T0
F5-T0
F6-T0
F7-T0
Cp (cal/°C)
0.00007
0.00006
0.00005
0.00004
0.00003
0.00002
0.00001
0.00000
-0.00001
20
40
60
80
100
Temperature (Deg. C)

FIG. 11

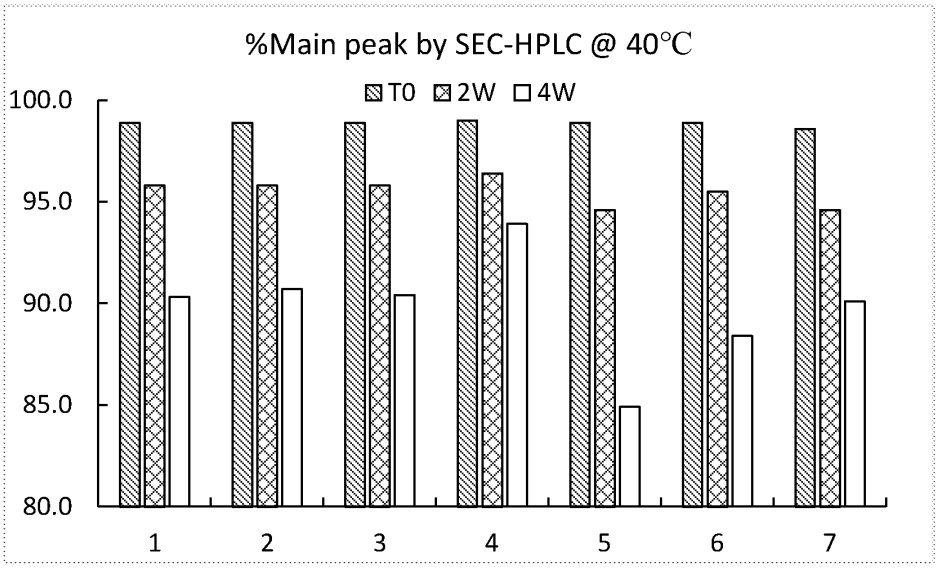

%Main peak by SEC-HPLC @ 40℃
T0
2W
4W
100.0
95.0
90.0
85.0
80.0
1
2
3
4
5
6
7

FIG. 12

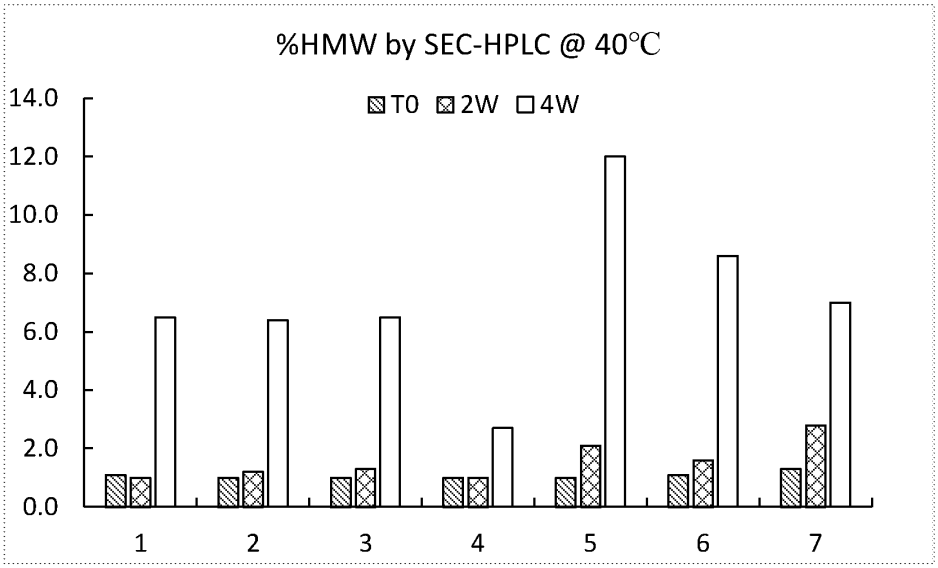

%HMW by SEC-HPLC @ 40℃
T0
2W
4W
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
1
2
3
4
5
6
7

FIG. 13

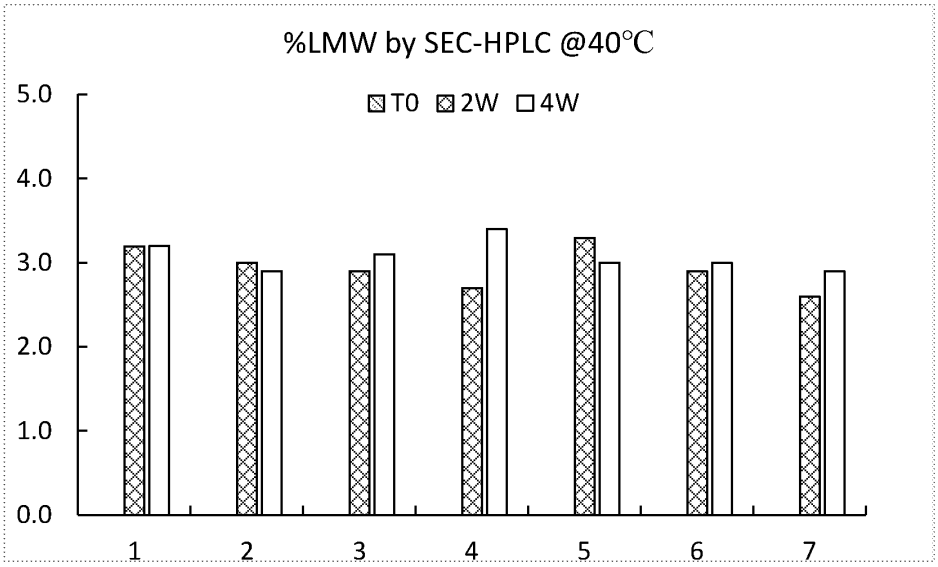

%LMW by SEC-HPLC @40℃
T0
2W
4W
5.0
4.0
3.0
2.0
1.0
0.0
1
2
3
4
5
6
7

FIG. 14

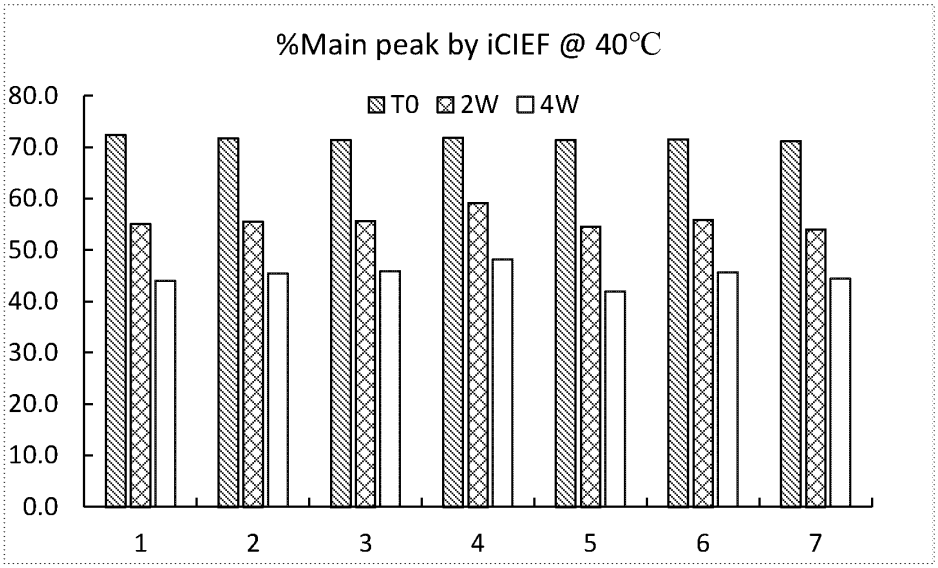

%Main peak by iCIEF @ 40℃
T0
2W
4W
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1
2
3
4
5
6
7

FIG. 15

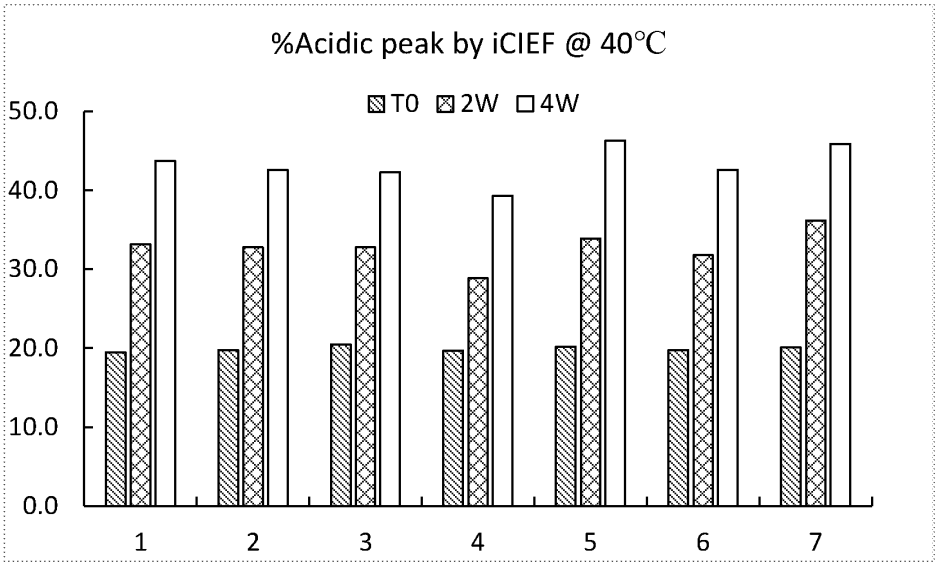

%Acidic peak by iCIEF @ 40℃
T0
2W
4W
50.0
40.0
30.0
20.0
10.0
0.0
1
2
3
4
5
6
7

FIG. 16

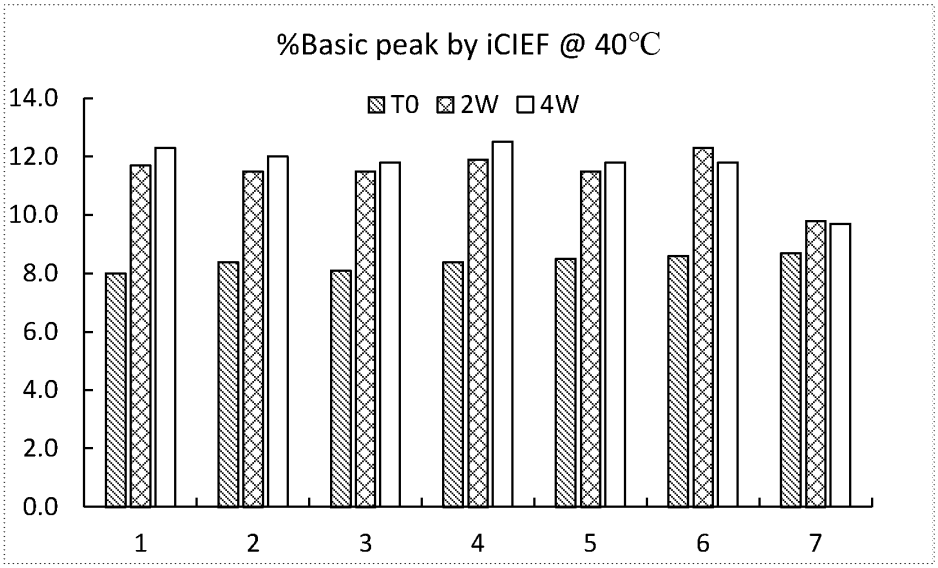

%Basic peak by iCIEF @ 40℃
T0
2W
4W
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
1
2
3
4
5
6
7

FIG. 17

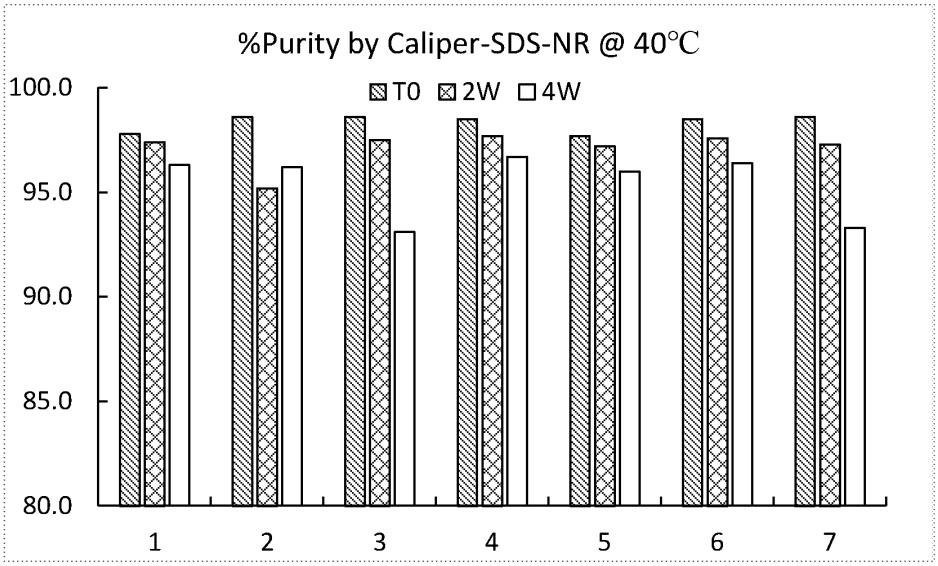

%Purity by Caliper-SDS-NR @ 40℃
T0
2W
4W
100.0
95.0
90.0
85.0
80.0
1
2
3
4
5
6
7

FIG. 18

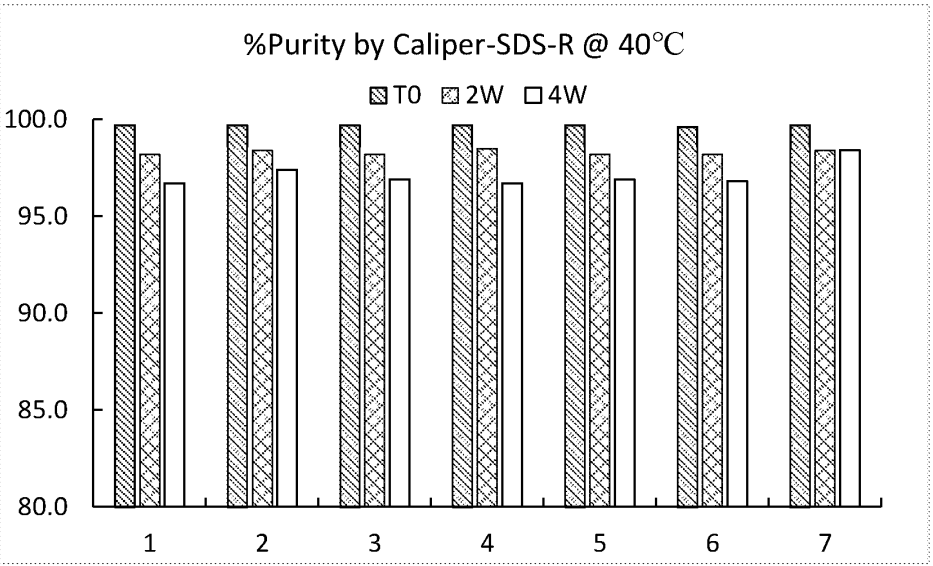

%Purity by Caliper-SDS-R @ 40°C
T0
2W
4W
100.0
95.0
90.0
85.0
80.0
1
2
3
4
5
6
7

FIG. 19