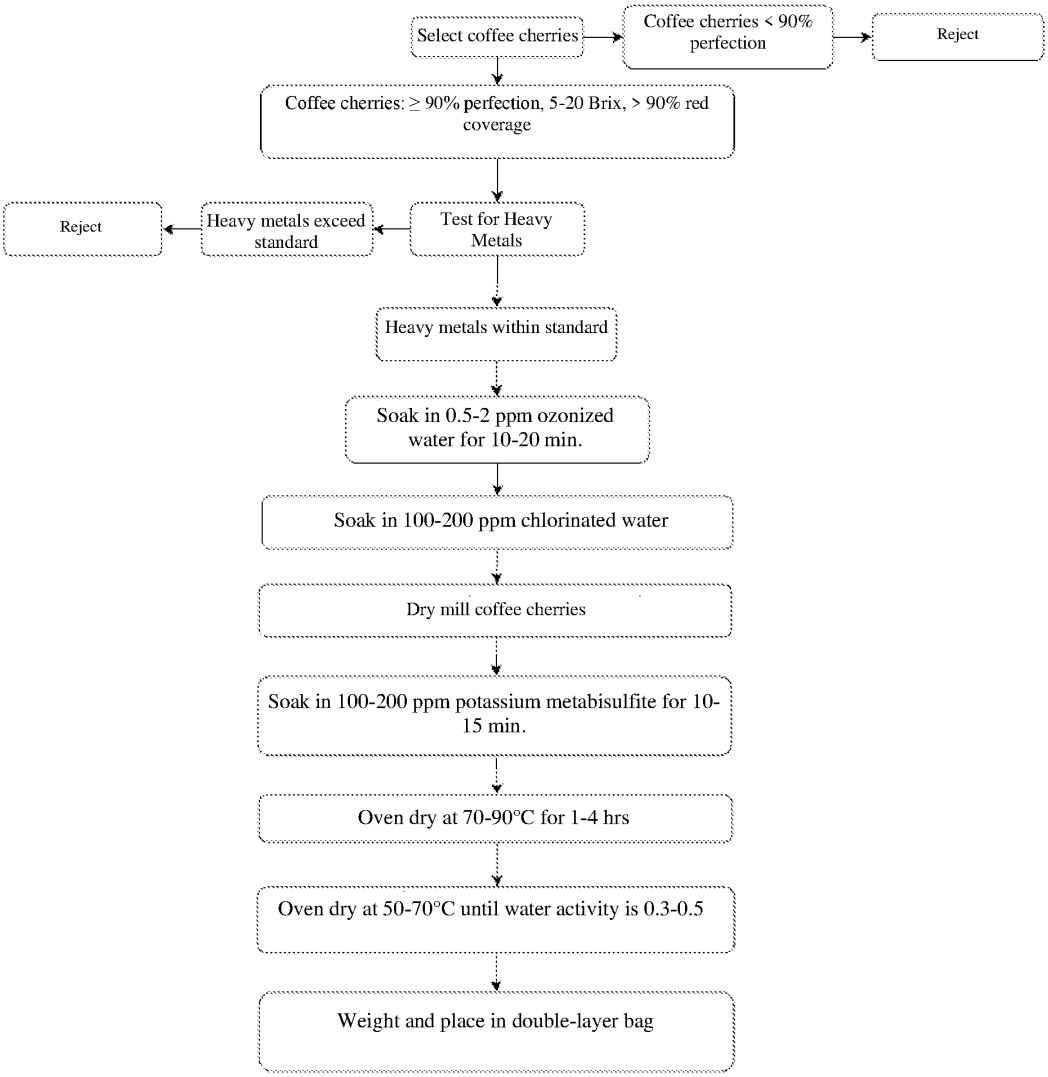

Select coffee cherries
Coffee cherries < 90% perfection
Reject
Coffee cherries: ≥ 90% perfection, 5-20 Brix, > 90% red coverage
Reject
Heavy metals exceed standard
Test for Heavy Metals
Heavy metals within standard
Soak in 0.5-2 ppm ozonized water for 10-20 min.
Soak in 100-200 ppm chlorinated water
Dry mill coffee cherries
Soak in 100-200 ppm potassium metabisulfite for 10-15 min.
Oven dry at 70-90°C for 1-4 hrs
Oven dry at 50-70°C until water activity is 0.3-0.5
Weight and place in double-layer bag

Figure 1

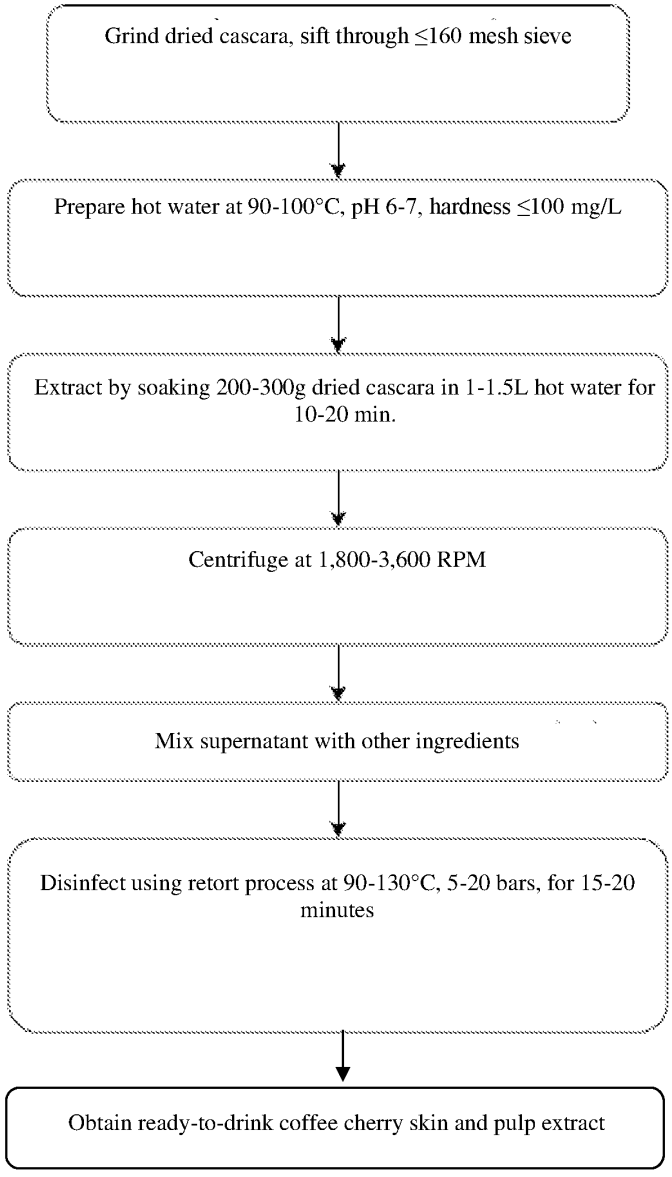

Grind dried cascara, sift through ≤160 mesh sieve
Prepare hot water at 90-100°C, pH 6-7, hardness ≤100 mg/L
Extract by soaking 200-300g dried cascara in 1-1.5L hot water for 10-20 min.
Centrifuge at 1,800-3,600 RPM
Mix supernatant with other ingredients
Disinfect using retort process at 90-130°C, 5-20 bars, for 15-20 minutes
Obtain ready-to-drink coffee cherry skin and pulp extract

Figure 2

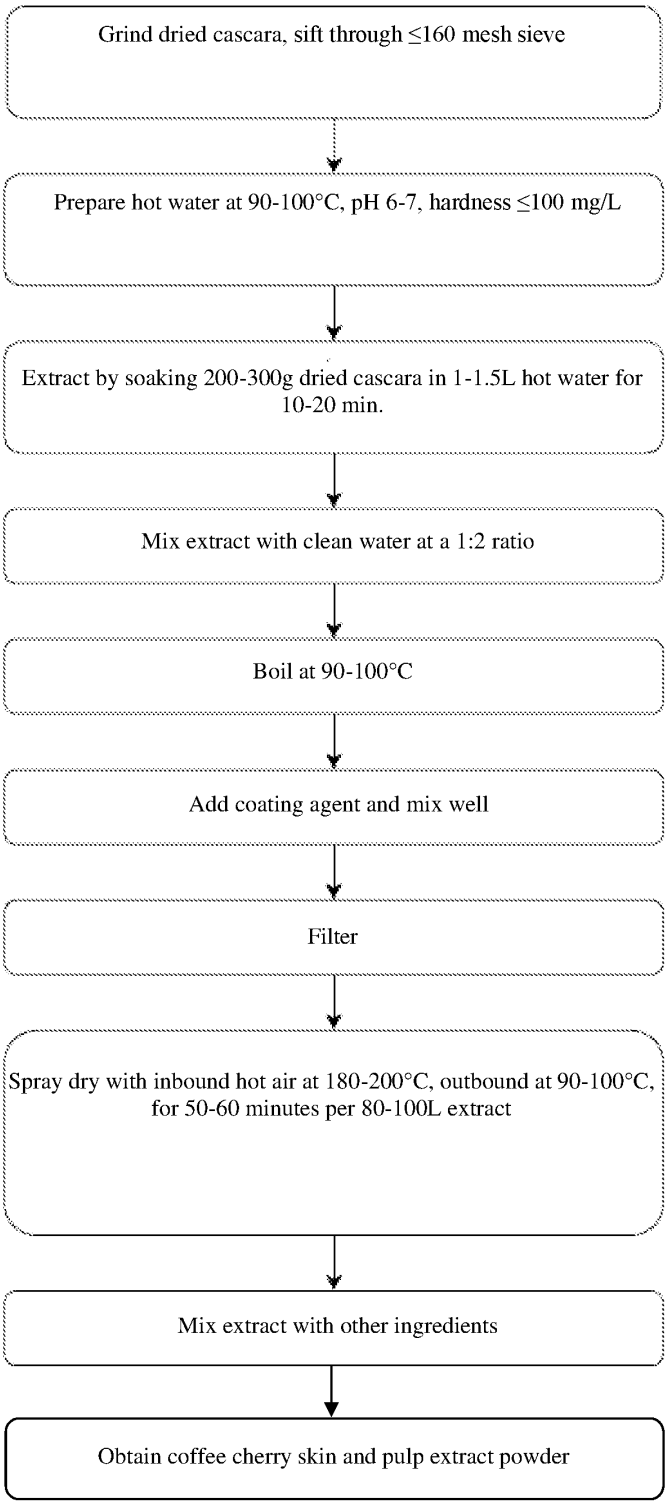

Grind dried cascara, sift through ≤160 mesh sieve
Prepare hot water at 90-100°C, pH 6-7, hardness ≤100 mg/L
Extract by soaking 200-300g dried cascara in 1-1.5L hot water for 10-20 min.
Mix extract with clean water at a 1:2 ratio
Boil at 90-100°C
Add coating agent and mix well
Filter
Spray dry with inbound hot air at 180-200°C, outbound at 90-100°C, for 50-60 minutes per 80-100L extract
Mix extract with other ingredients
Obtain coffee cherry skin and pulp extract powder

Figure 3

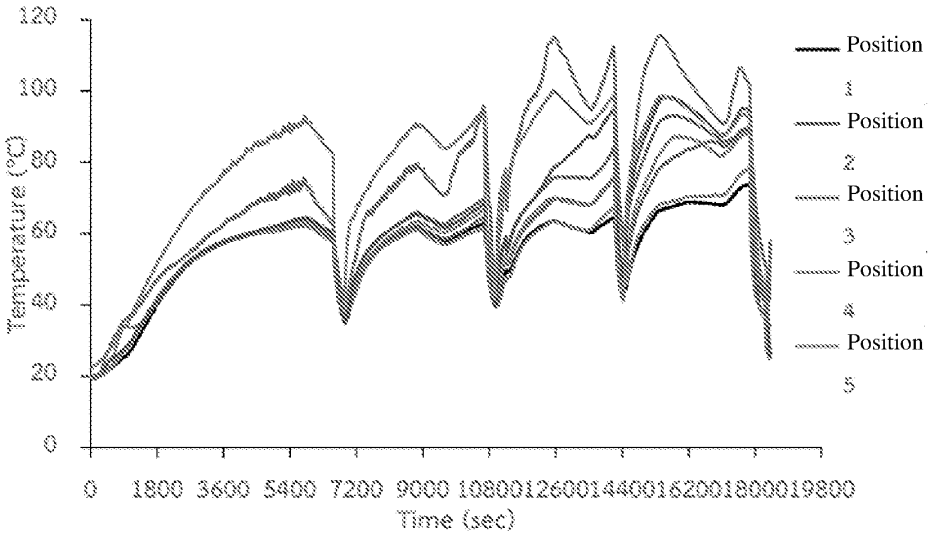

120
100
80
60
40
20
0
Temperature (°C)
0
1800
3600
5400
7200
9000
10800
12600
14400
16200
18000
19800
Time (sec)
Position 1
Position 2
Position 3
Position 4
Position 5

Figure 4