250-300 bar for 2 min, and at 1350-1400bar for 24 min. After homogenization, 150 mL of homogeneous solution was measured with a measuring cylinder, 15 g trehalose was added, shaken well to be dissolved, and filtered with a 0.45μm microporous membrane to obtain a solution of elemene albumin nanoparticles. The particle size was 132.4 nm detected by particle size analyzer, PDI was 0.133. The homogeneous solution added with trehalose was lyophilized, and after lyophilization, the lyophilized powder was reconstituted with sterilized ultrapure water. The particle size was 123.68 nm detected by a particle size analyzer, PDI was 0.144. The loss rate of elemene content after lyophilization was 1.58%.

Preparation and stability investigation of sample 6

1 g of β-elemene and 2 g of egg yolk lecithin were weighed, 50 mL of ultrapure water was added, and the mixer was used for shearing at 5000 rpm for 1 min, and shearing at 10,000 rpm for 5 min. Then the lecithin adhered to the bottle wall was scraped into the solution, and sheared at 15,000rpm for 3 min again until no obvious undispersed lecithin was found, and a primary emulsion was obtained. The primary emulsion was transferred to a high-pressure homogenizer for high-pressure homogenization at a homogenization pressure of 250-300 bar for 2 min, and at 1300-1350 bar for 12 min. After homogenization, the homogeneous solution was filtered with a 0.45 μm filter membrane, and 50 mL of 2% HSA solution (containing 1 g of HSA) was added to the filtered homogeneous solution, and homogenized at 280 bar for 1 cycle; and the homogeneous solution was discharged, 40 mL was measured with a measuring cylinder, 4 g trehalose was added, shaken well to be dissolved, and filtered with a 0.45 μm microporous membrane to obtain a solution of albumin nanoparticles. The particle size was 150.86 nm detected by a particle size analyzer, PDI was 0.114. The homogeneous solution added with trehalose was lyophilized, and after lyophilization, the lyophilized powder was reconstituted with sterilized ultrapure water. The particle size was 181.56 nm detected by a particle size analyzer, PDI was 0.251. The loss rate of elemene content after lyophilization was 16.47%.

Preparation and stability investigation of sample 7

1 g of β-elemene, 2 g of egg yolk lecithin and 0.5g of TPGS were weighed, 50 mL of ultrapure water was added, and the mixer was used for shearing at 5000 rpm for 1 min, and shearing at 10,000 rpm for 5 min. Then the lecithin adhered to the bottle wall was scraped into the solution, and sheared at 15,000rpm for 3 min again until no obvious undispersed lecithin was found, and a primary emulsion was obtained. The primary emulsion was transferred to a high-pressure homogenizer for high-pressure homogenization at a homogenization pressure of 250-300 bar for 2 min, and at 1300-1350 bar for 12 min. After