

Supplementary information for Synthesis and characterization of a robust quillaja saponin stabilized oil-in-water phytocannabinoid nanoemulsion

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Table S1: Cannabinoid composition of CD_{CBD}

| Phytocannabinoid | Concentration (mg/g) |
|----------------------------------|----------------------|
| Δ^9 -Tetrahydrocannabinol | 69.0 |
| Cannabidiol | 632 |
| Cannabigerol | 7.0 |
| Cannabinol | 5.3 |
| Cannabichromene | 22.3 |

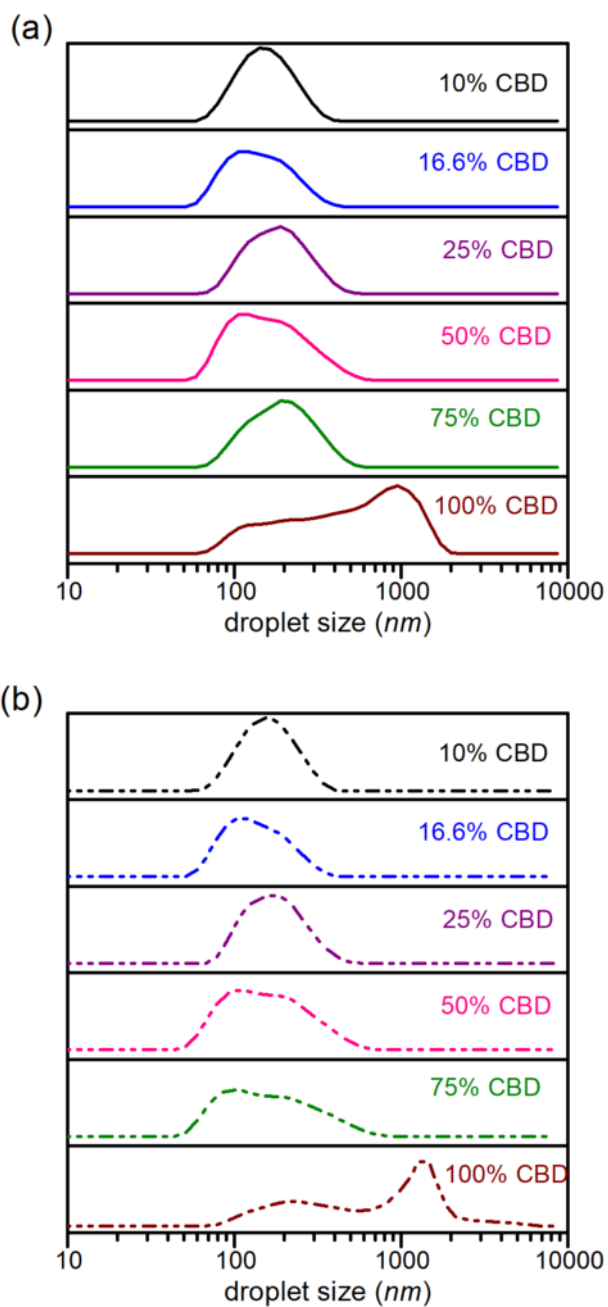


Figure S1: Droplet size distribution profile of a mixture of CD_{CBD} and soybean oil dispersed in water - (a) as-produced and (b) after one week of storage. Total lipid phase was 10 wt%, and 10 wt% QNaturale[®] was used as emulsifier.

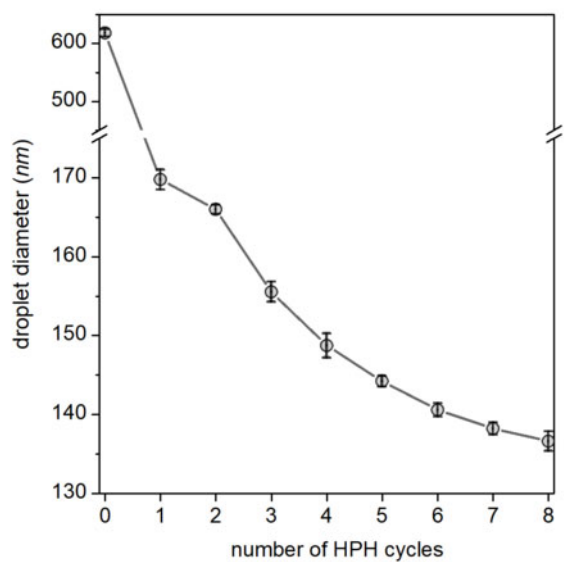


Figure S2: Variation of d_z of the optimized CD_{CBD} nanoemulsion with the number of homogenization cycles.

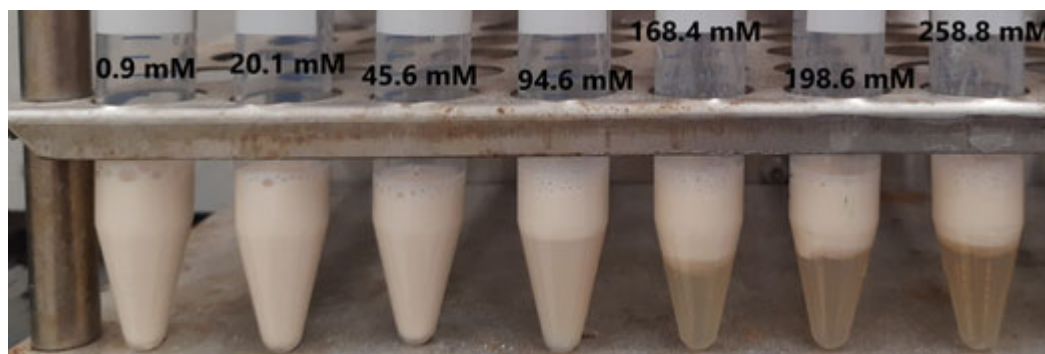


Figure S3: Optimized nanoemulsion with varying concentrations of $CaCl_2 \cdot 2H_2O$ from ~ 1 mM to ~ 250 mM; after 18 h incubation. Exact concentrations are mentioned in the figure.

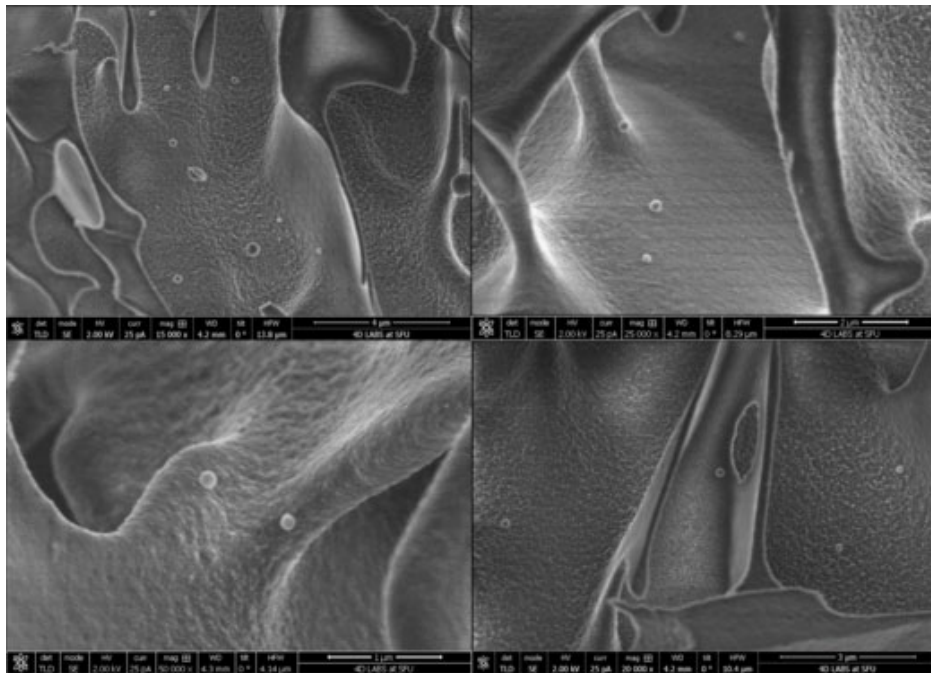


Figure S4: Optimized nanoemulsion with varying concentrations of $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$ from ~ 1 mM to ~ 250 mM; after 18 h incubation. Exact concentrations are mentioned in the figure.

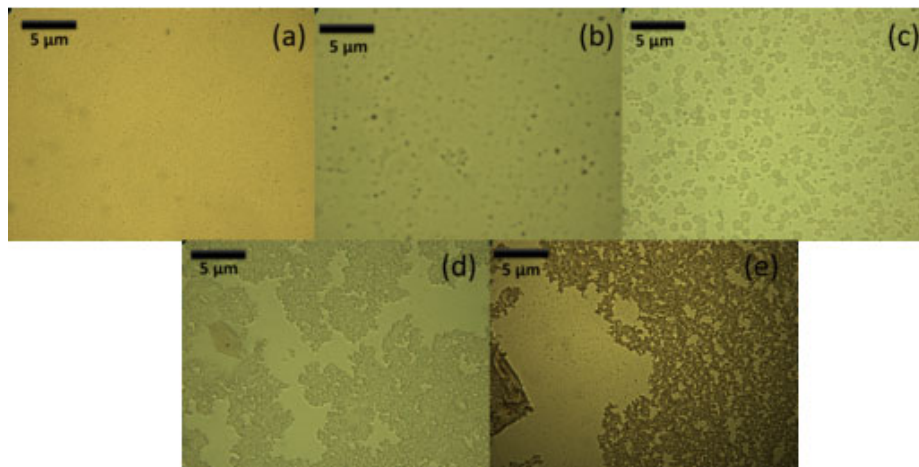


Figure S5: Optical micrographs of optimized nanoemulsion (a) as-prepared, at pH 3.8, without additives; (b) in the presence of 400 mM sucrose; (c) in the presence of 100 mM $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$; (d) in the presence of 200 mM $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$; (e) at pH 1.6.

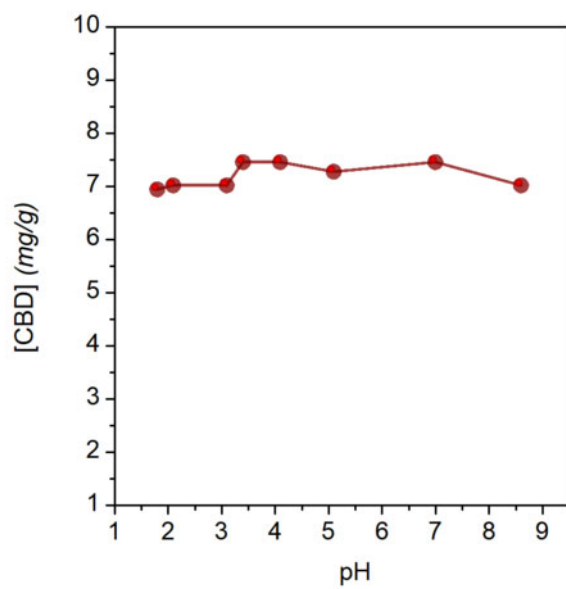


Figure S6: Variation in CBD concentration in optimized nanoemulsion as a function of pH.