Electronic Supplementary Material (ESI) for Food & Function.

Supporting information

Nutraceutical potential of industrial hemp (Cannabis sativa L.) extracts: physicochemical, and bioaccessibility of cannabidiol (CBD) nanoemulsions

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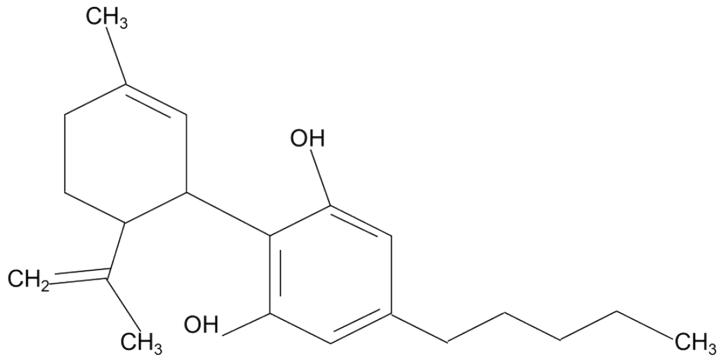
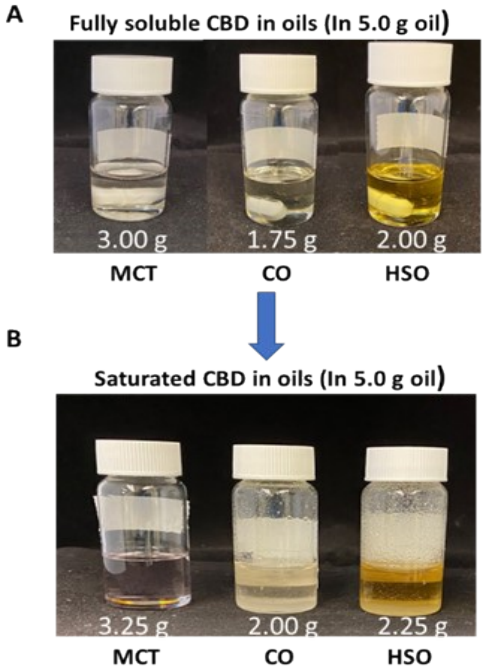


Fig. S1. Molecular structure of cannabidiol (CBD)



Solubility of CBD in oils (CBD: oil)		
MCT	Canola oil (CO)	Hemp seed oil (HSO)
> 6.5: 10	3.5: 10	4.0: 10

Figure S2. Solubility test of CBD in different types of carrier oil. **(A)** Soluble concentrations of CBD in varietal oils; **(B)** Saturated concentrations of CBD in carrier oils.

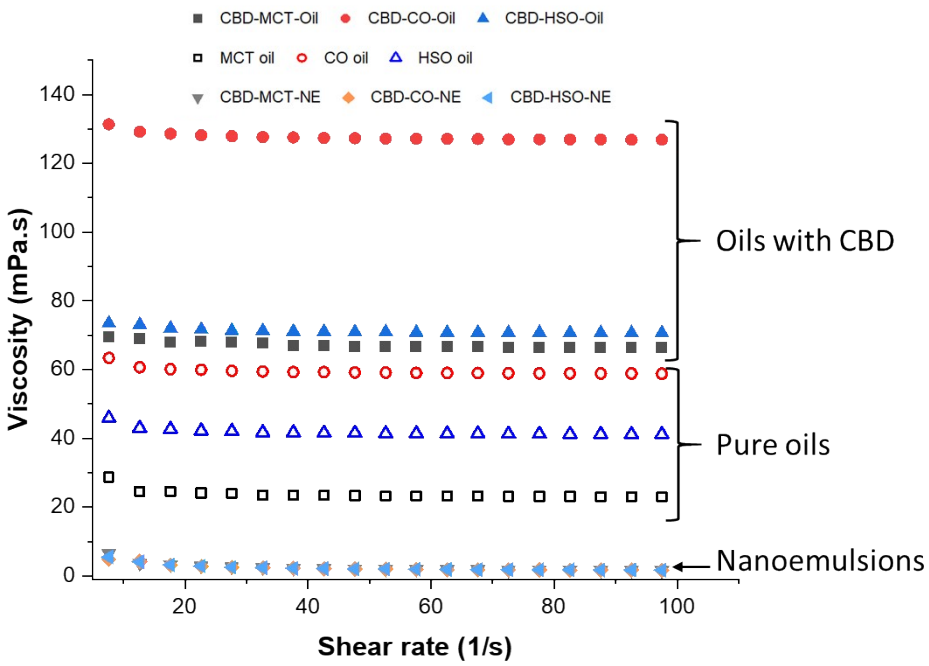


Figure S3. Viscosity of carrier oils, dispersed phases of nanoemulsions and nanoemulsions: pure oils, oils with CBD dissolved, and nanoemulsions.

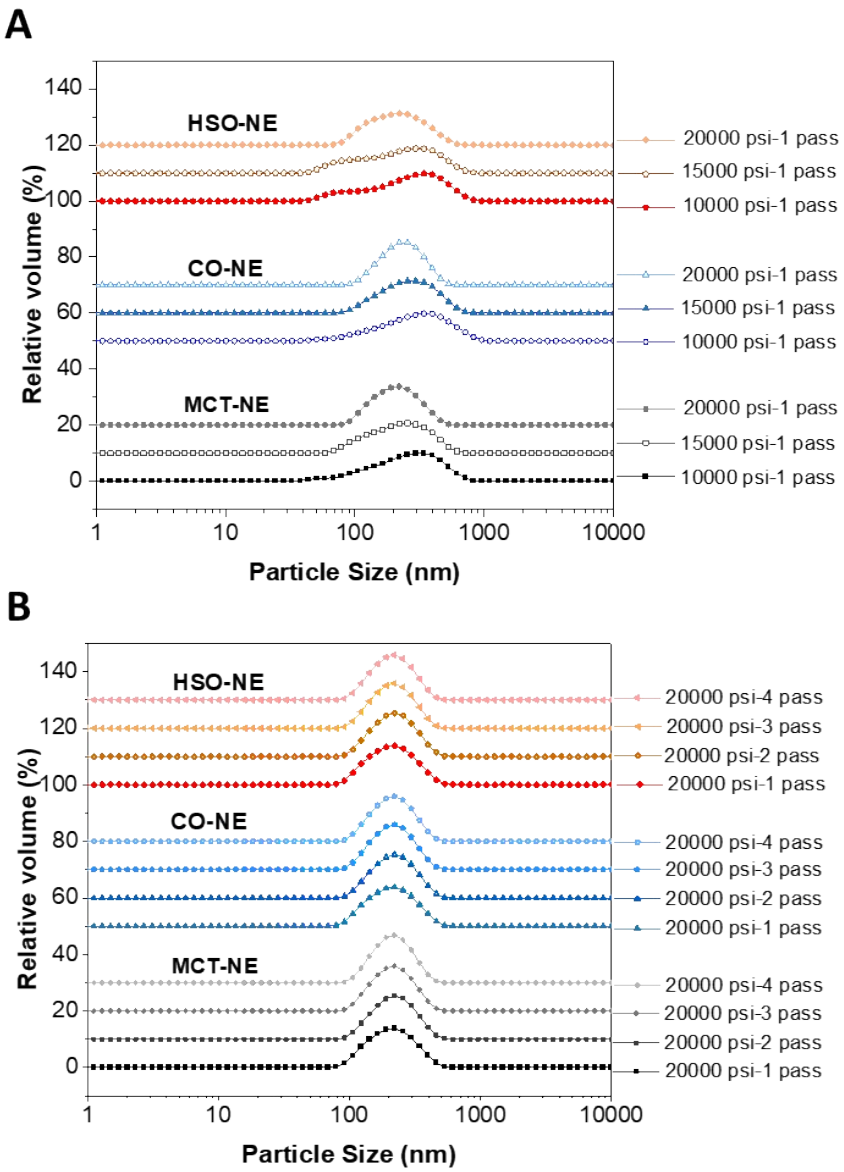


Figure S4. Particle size distribution of CBD nanoemulsions as affected by: (A) Different pressures (10000, 150000 and 20000 psi with 1 pass); (B) Number of passes (20,000 psi at 1, 2, 3 and 4 passes. MCT, CO, HSO and NE is short for medium chain triacylglycerides, canola oil, hemp seed oil and nanoemulsion, respectively. Note: The volume fraction was stacked up the y-axis for comparison (using an increment of 10%).

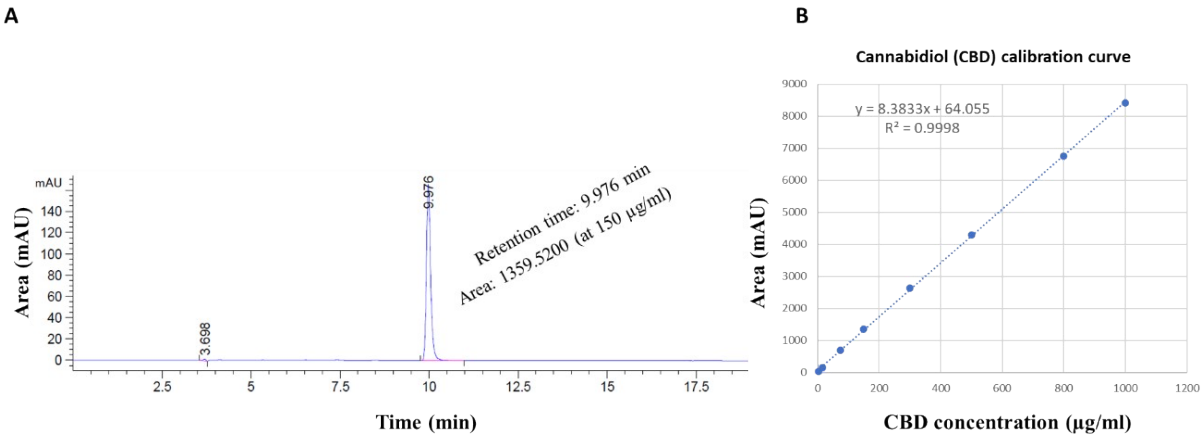


Figure S5. (A) Chromatogram of CBD solution of 150 µg/ml; **(B)** Calibration curve of CBD (3-1000 µg/ml) by HPLC