

## Supplementary Materials

# Synthesis of Nanoscale Liposomes via Low-Cost Microfluidic Systems

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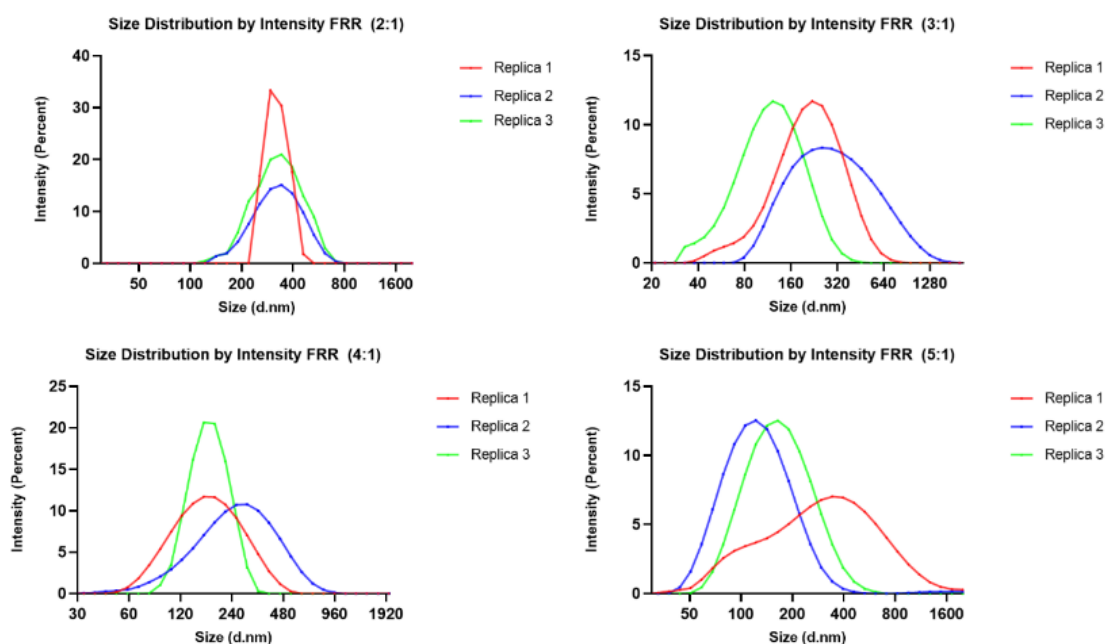
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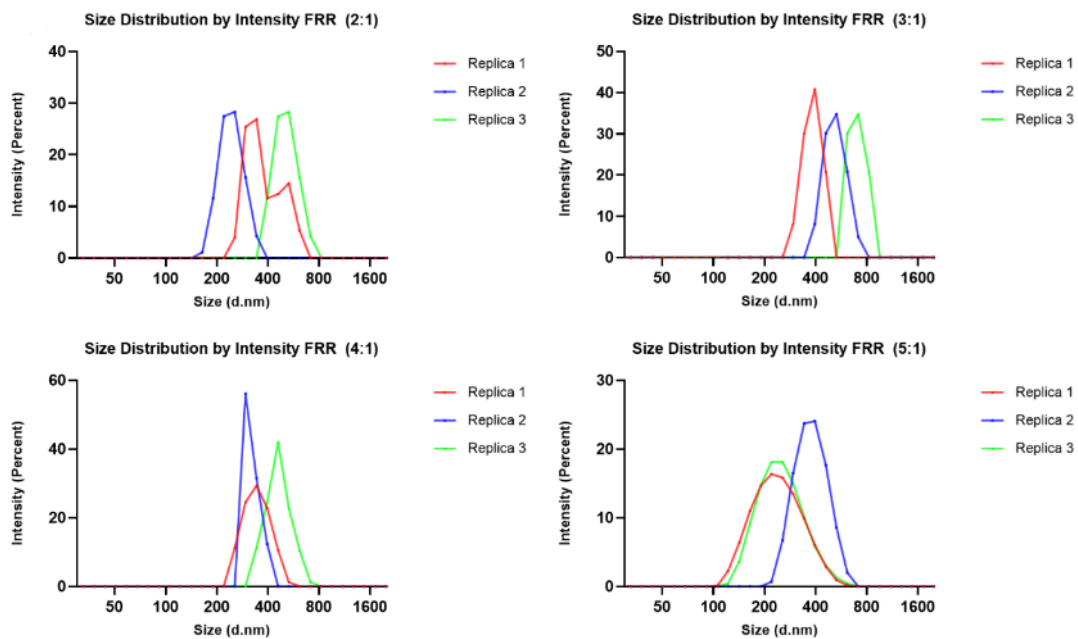
† These authors contributed equally.

### SI1. Dynamic light scattering (DLS) measurements of liposomes samples synthesized by the microfluidic system proposed

Each experiment was performed in triplicate ( $n = 3$ ) and the analyses for liposome characterization were also performed in triplicate. This is indicated as the labeled replicas in Figure S1 and Figure S2

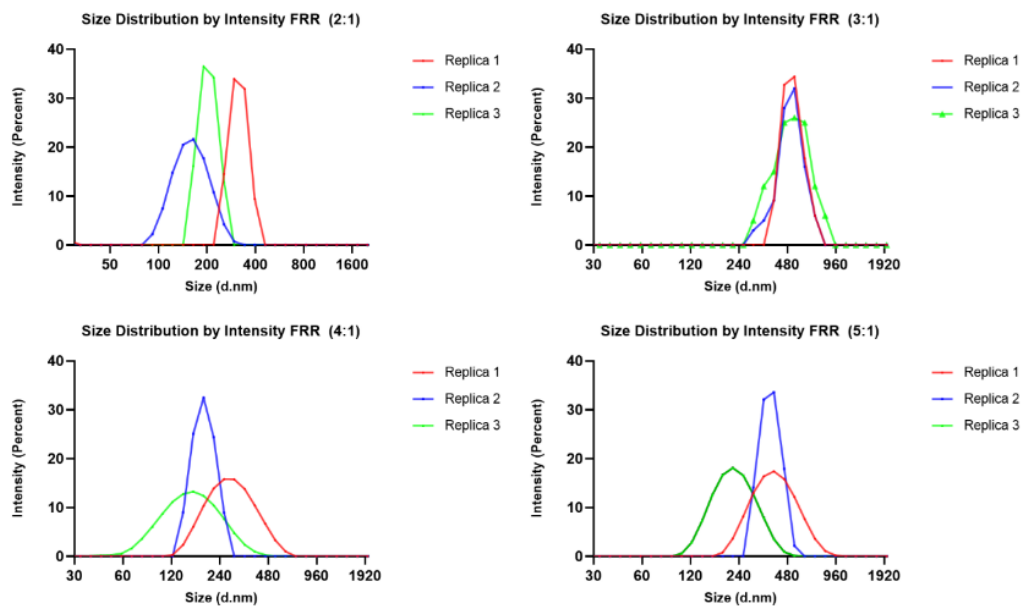


(a)

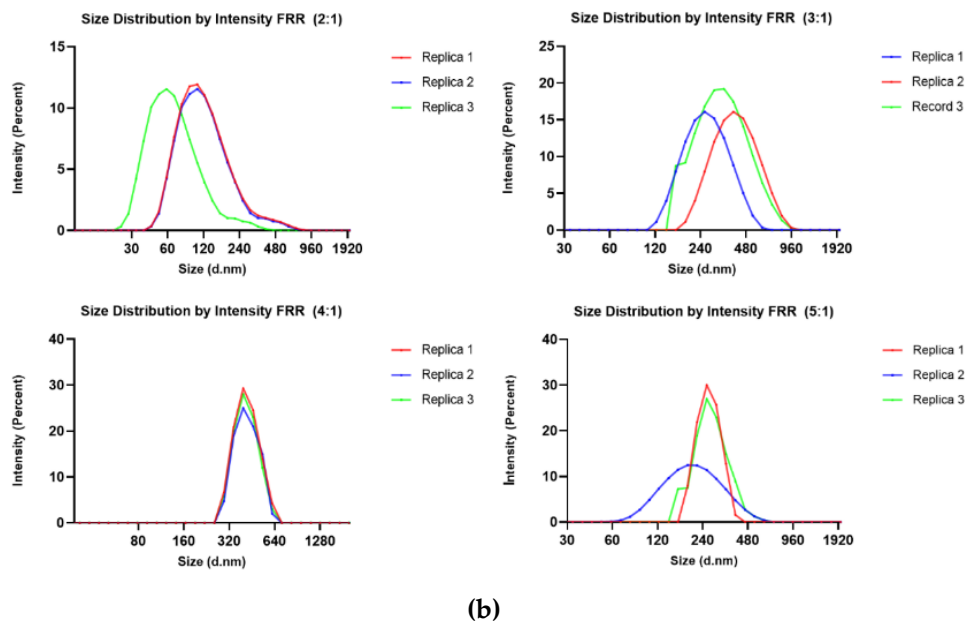


(b)

**Figure S1.** DLS measurements of liposomes samples synthesized by changing the flow rate ratio (FRR) between aqueous and solvent phase using the two-layer microfluidic device; (a) Two-layer device with PBS as aqueous phase; (b) Two-layer device with NaCl solution (0.05 M) as aqueous phase.



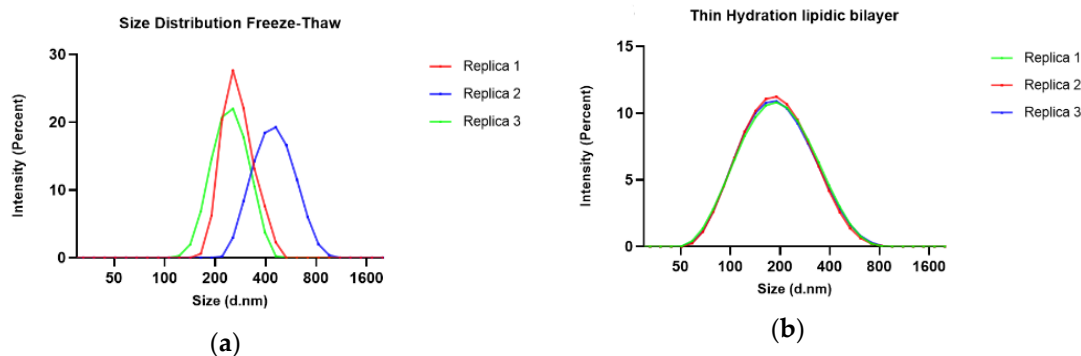
(a)



**Figure S2.** DLS measurements of liposomes samples synthesized by changing the flow rate ratio (FRR) between aqueous and solvent phase using the three-layer microfluidic device. A. Three-layer device with PBS solution as aqueous phase. B. Three-layer device with NaCl solution (0.05 M) as aqueous phase.

### SI2. Dynamic light scattering (DLS) measurements of liposomes samples synthesized by the traditional methods

Each experiment was performed in triplicate ( $n = 3$ ) and the analyses for liposome characterization were also performed in triplicate.



**Figure S3.** DLS measurements. A. Freeze thaw method. B. Thin Hydration bilayer method.

### SI3. Parameters used in the simulations implemented in COMSOL Multiphysics®

The table S1 summarizes the parameters used in the Laminar flow and the transport of diluted species physics.

**Table S1.** Parameters of FEM simulation

Parameter	Value	Units
$\mu_{Water}$	1.00E-3	Pa.s
$\rho_{Water}$	997	kg/m <sup>3</sup>
$\mu_{IPA}$	2.38E-3	Pa.s
$\rho_{IPA}$	783	kg/m <sup>3</sup>
$D_{LP}$	1.64E-9	m <sup>2</sup> /s

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$C_{LP}$	1.73E6	mol/m <sup>3</sup>
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