

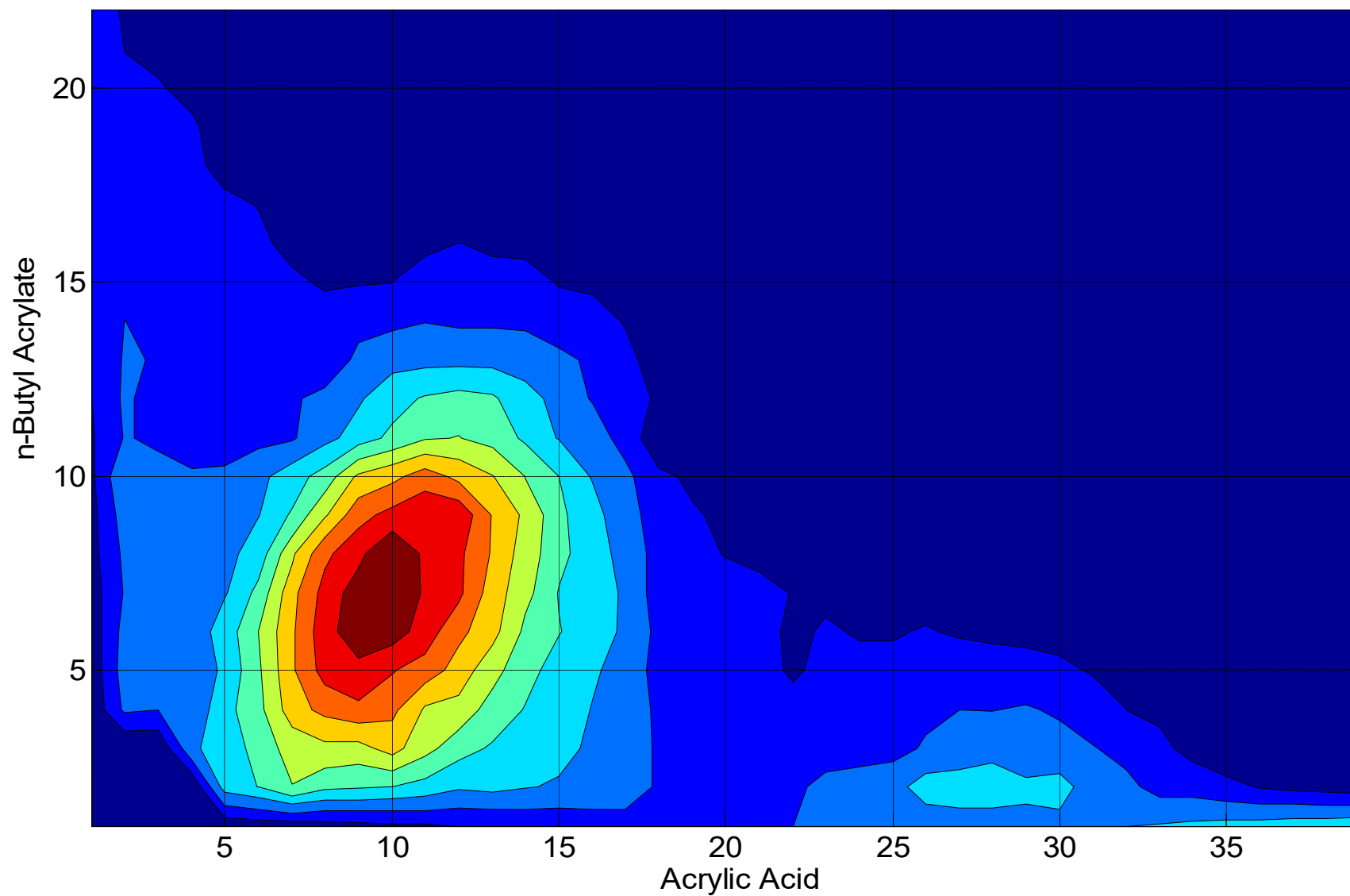


Figure S1. Composition of **Oligo 2D** synthesized in bulk (BA/AA) from MALDI-ToF MS analysis showing the number of acrylic acid units (x-axis) and butyl acrylate units (y-axis).

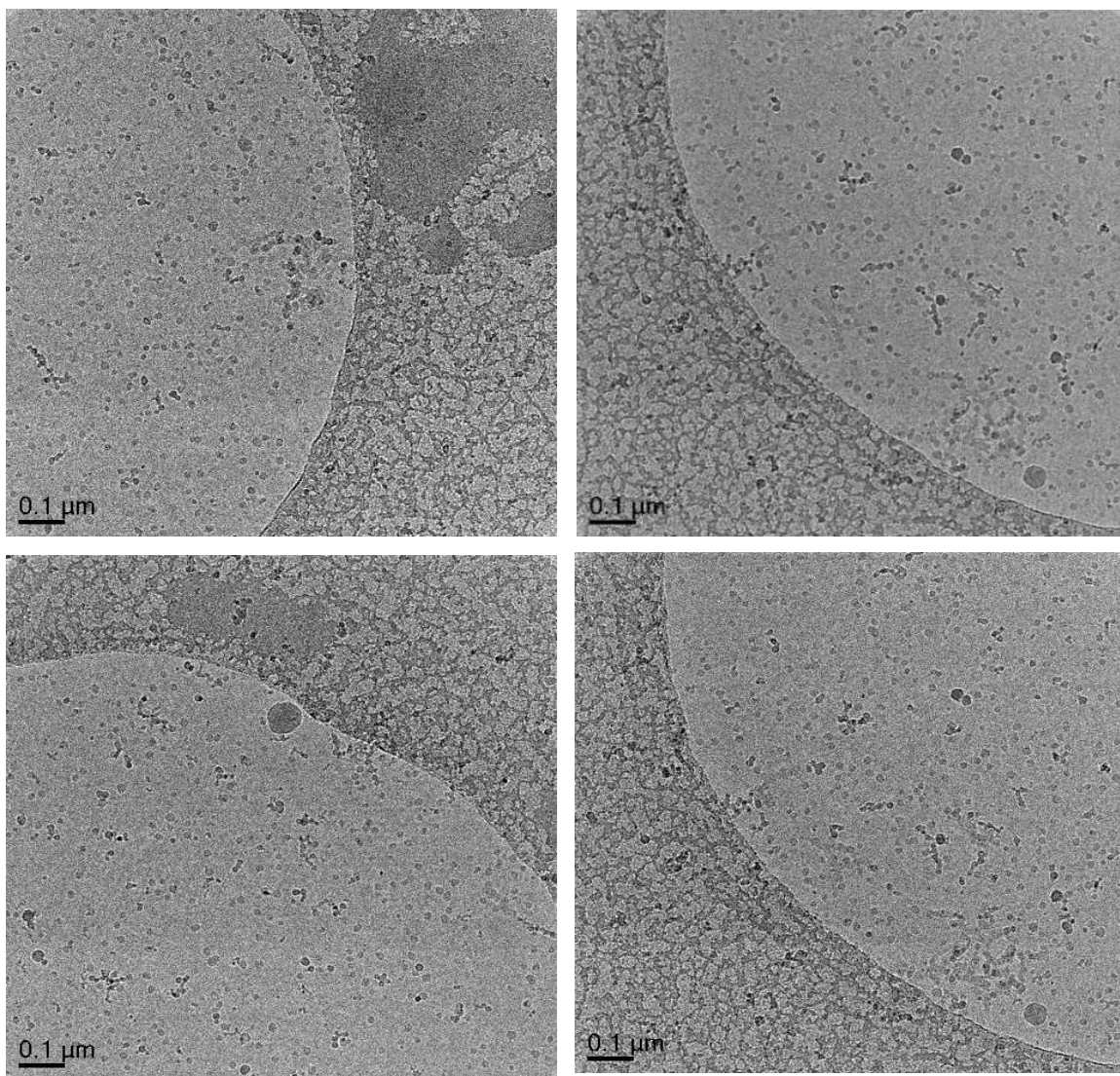


Figure S2. Cryo-TEM micrograph of Exp 2. Polymerization of MA/EGDA with **Oligo 1** without DODAB vesicle.

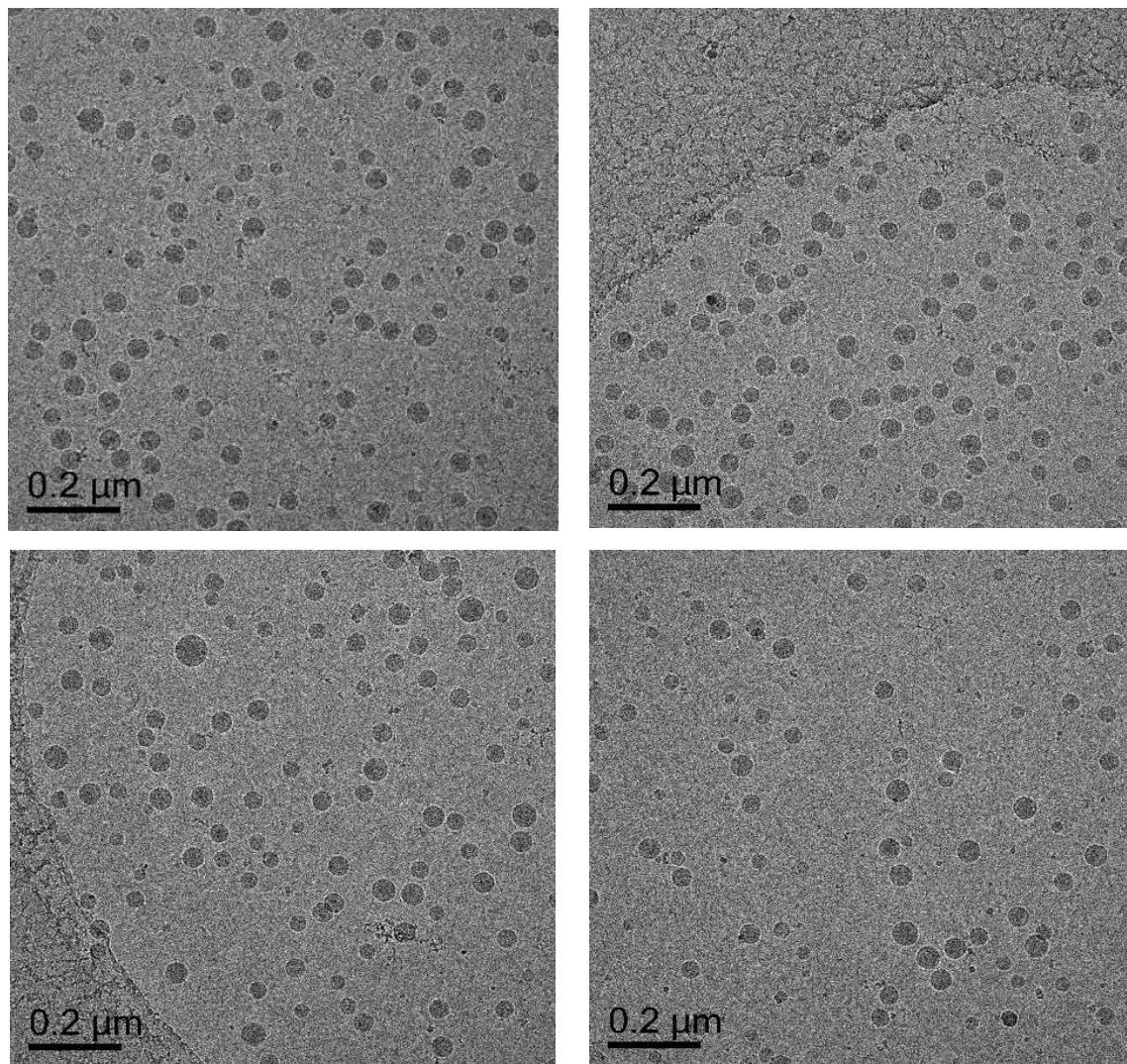


Figure S3. Cryo-TEM micrograph of Exp 4. Polymerization of MA/EGDA with **Oligo 3** without DODAB vesicle.

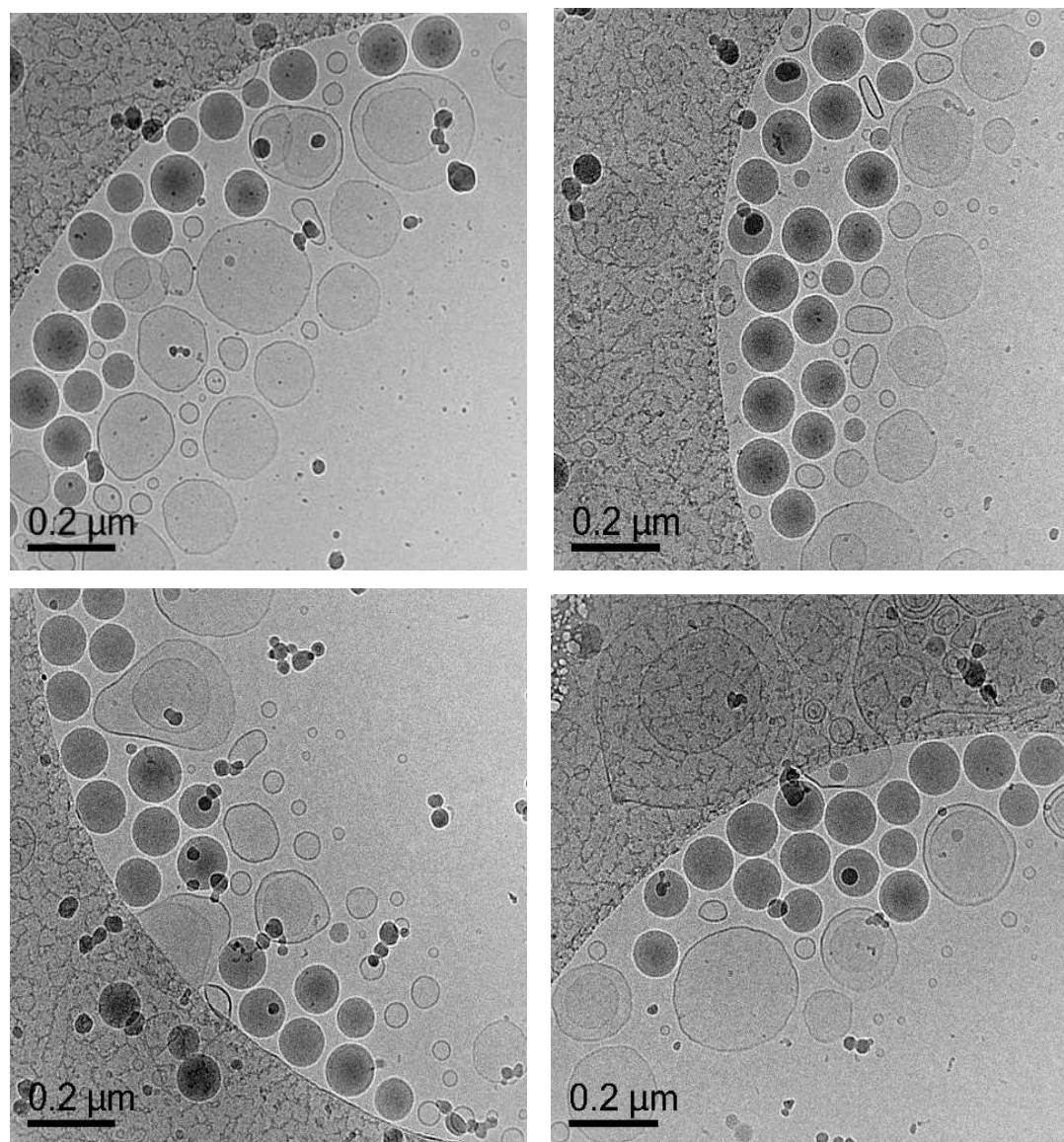


Figure S4. Cryo-TEM micrographs of Exp 5. Polymerization of MA/EGDA with **Oligo 3** and DODAB vesicle.

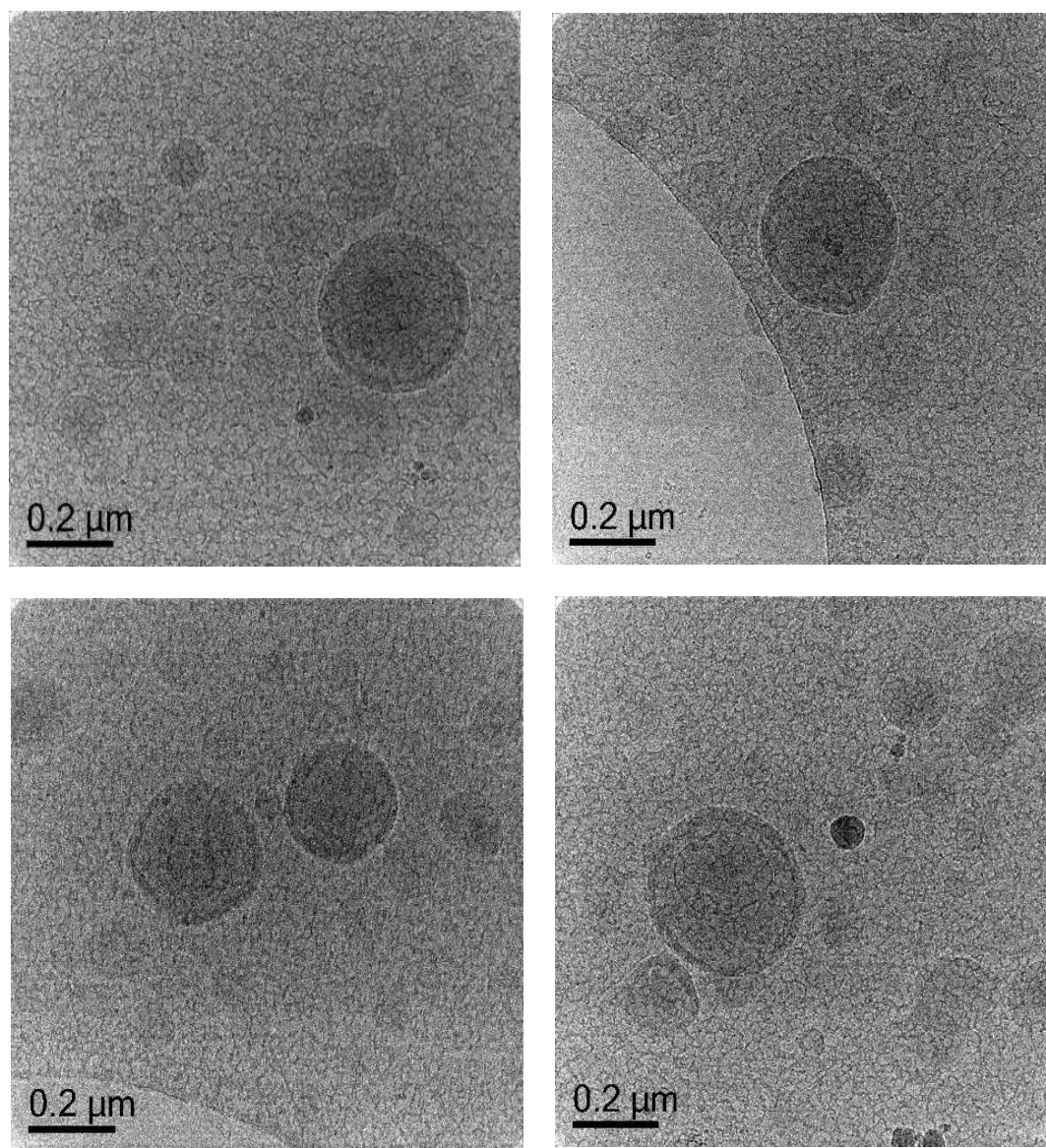


Figure S5. Cryo-TEM micrographs of Exp 6. Polymerization of DODAB-Oligo **1** with MA.

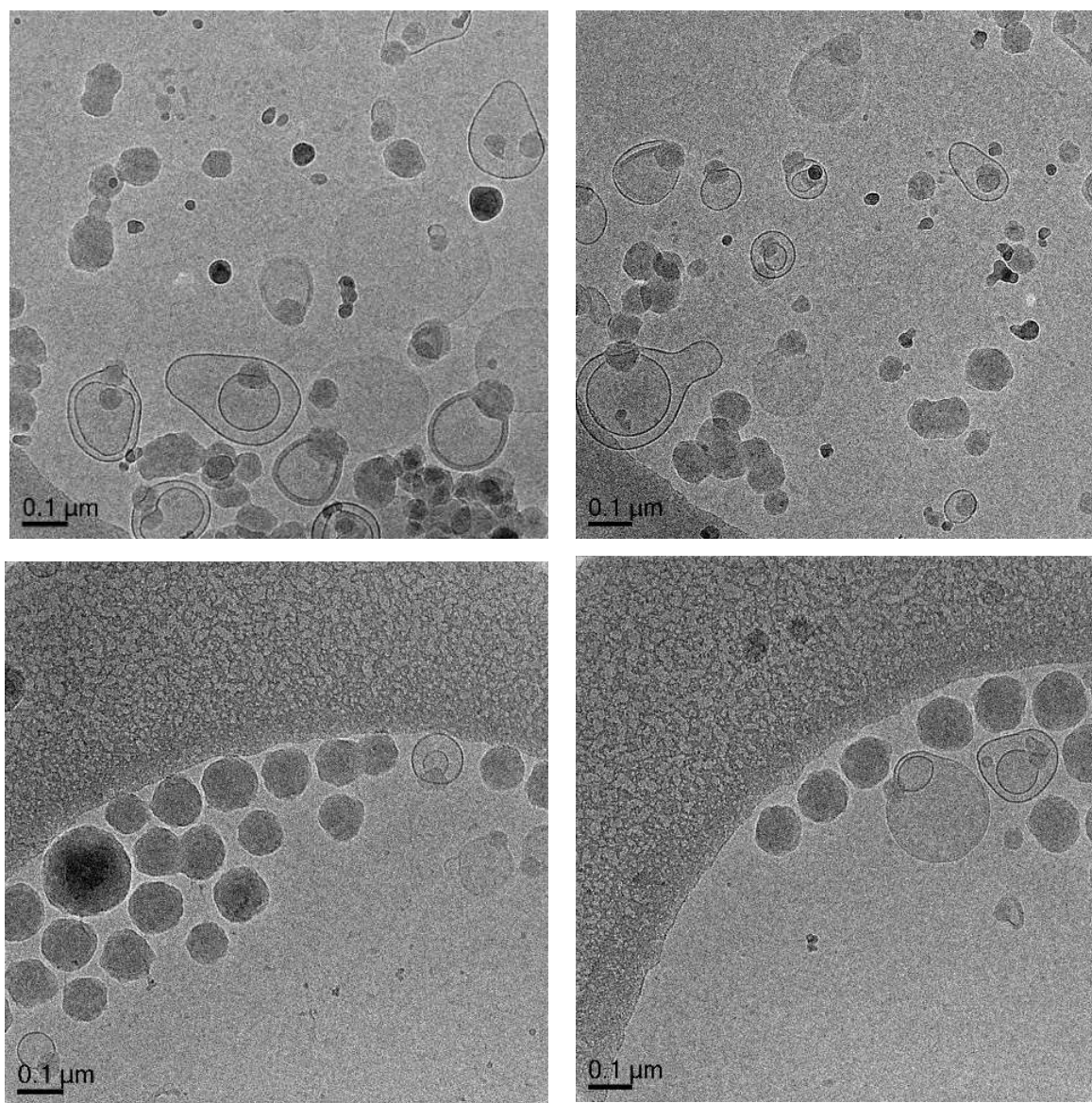


Figure S6. Cryo-TEM micrographs of Exp 7. Polymerization of DODAB-Oligo 1 with MMA.

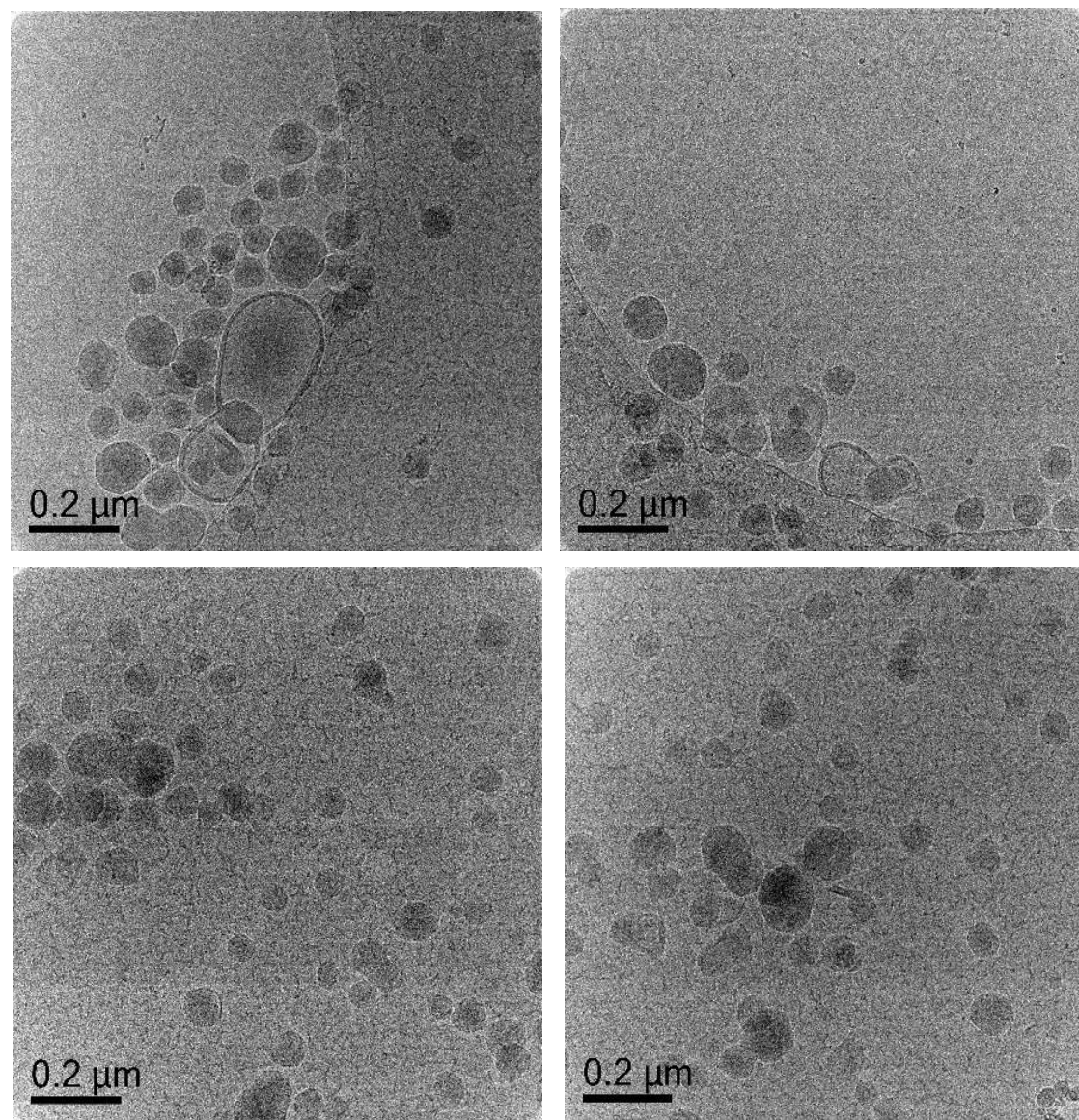


Figure S7. Cryo-TEM micrographs of Exp 8. Polymerization of (DODAB-Oligo 1) MMA/EGDMA.

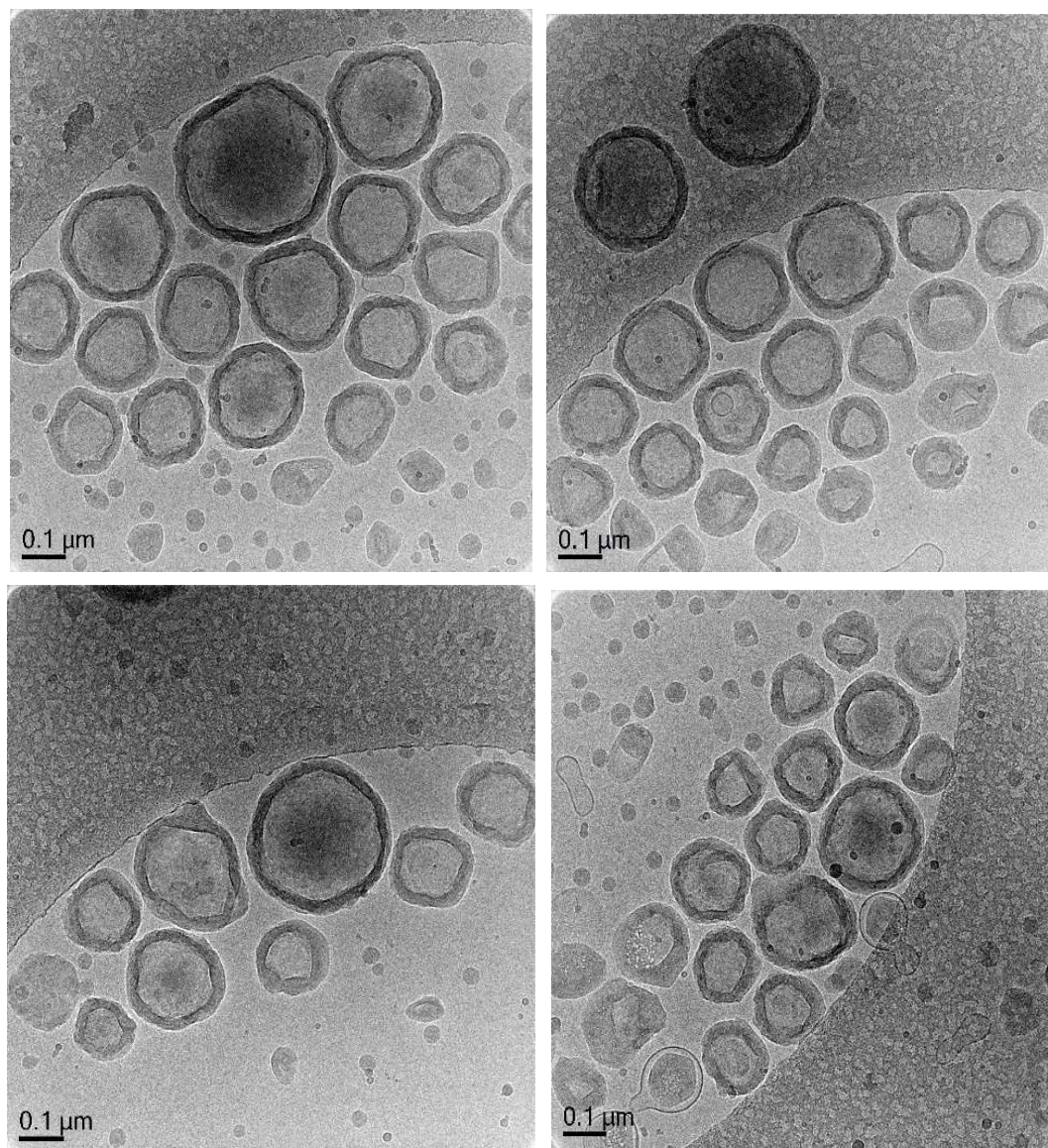


Figure S8. Cryo-TEM micrographs of Exp 9. Polymerization of (DODAB-Oligo 1) with MA/EGDA (11.6/0.59)mmol.

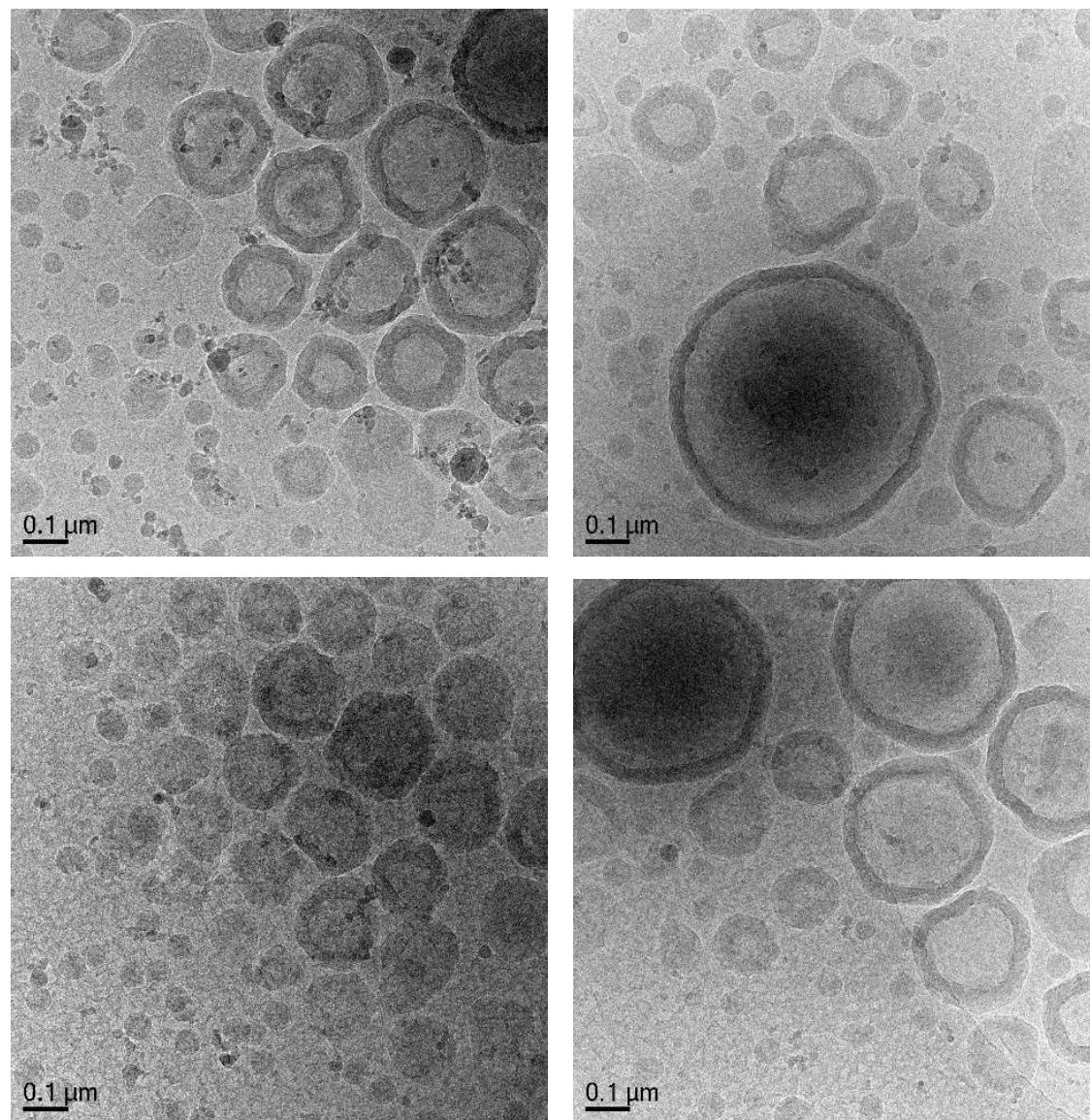


Figure S9. Cryo-TEM micrographs of Exp 12. Polymerization of (DODAB-Oligo **1**) with MA/EGDA (23.2/1.18)mmol.

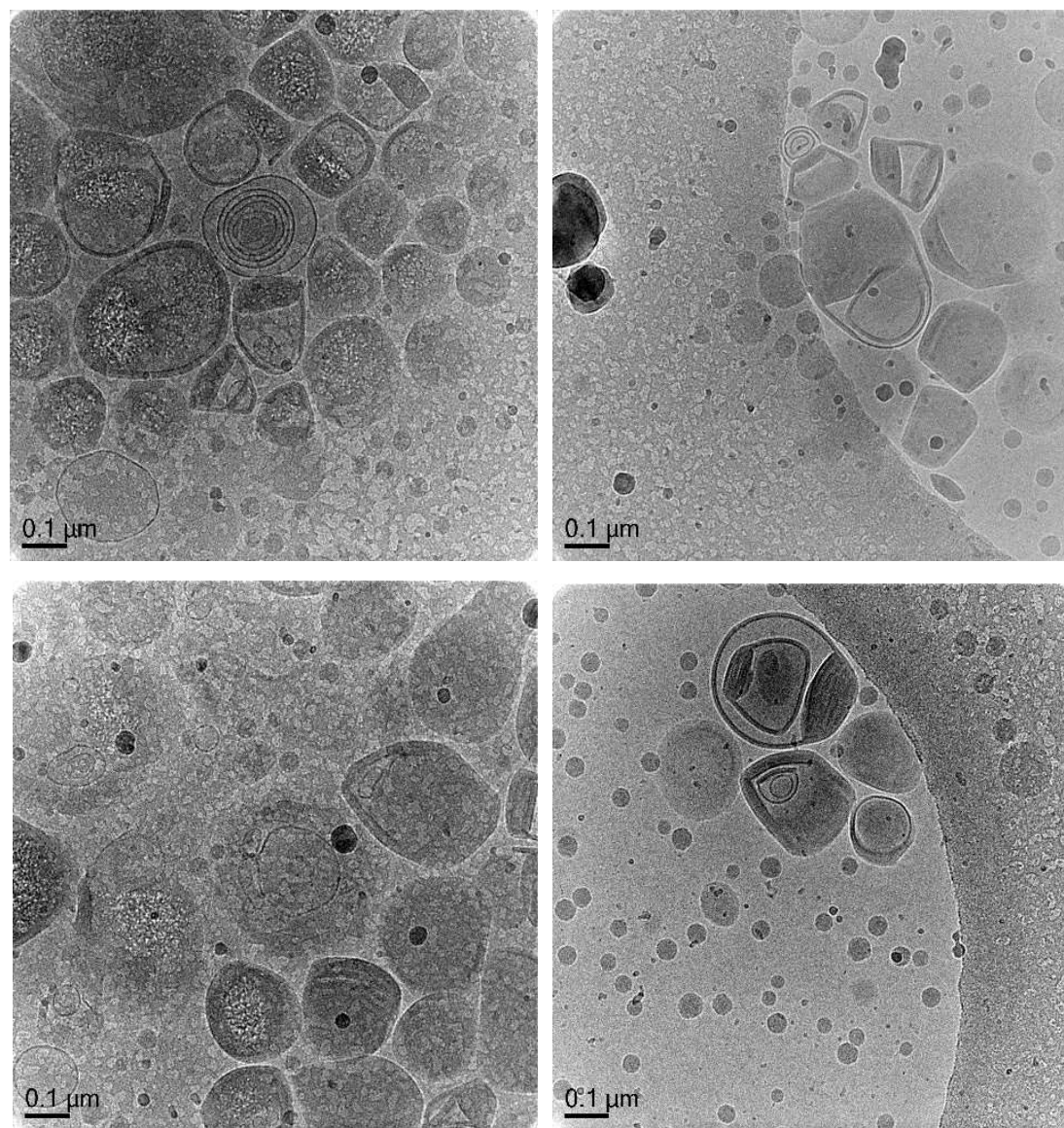


Figure S10. Cryo-TEM micrographs of Exp 13. Polymerization of (DODAB-Oligo 1) with MA/BA (10/1 wt).

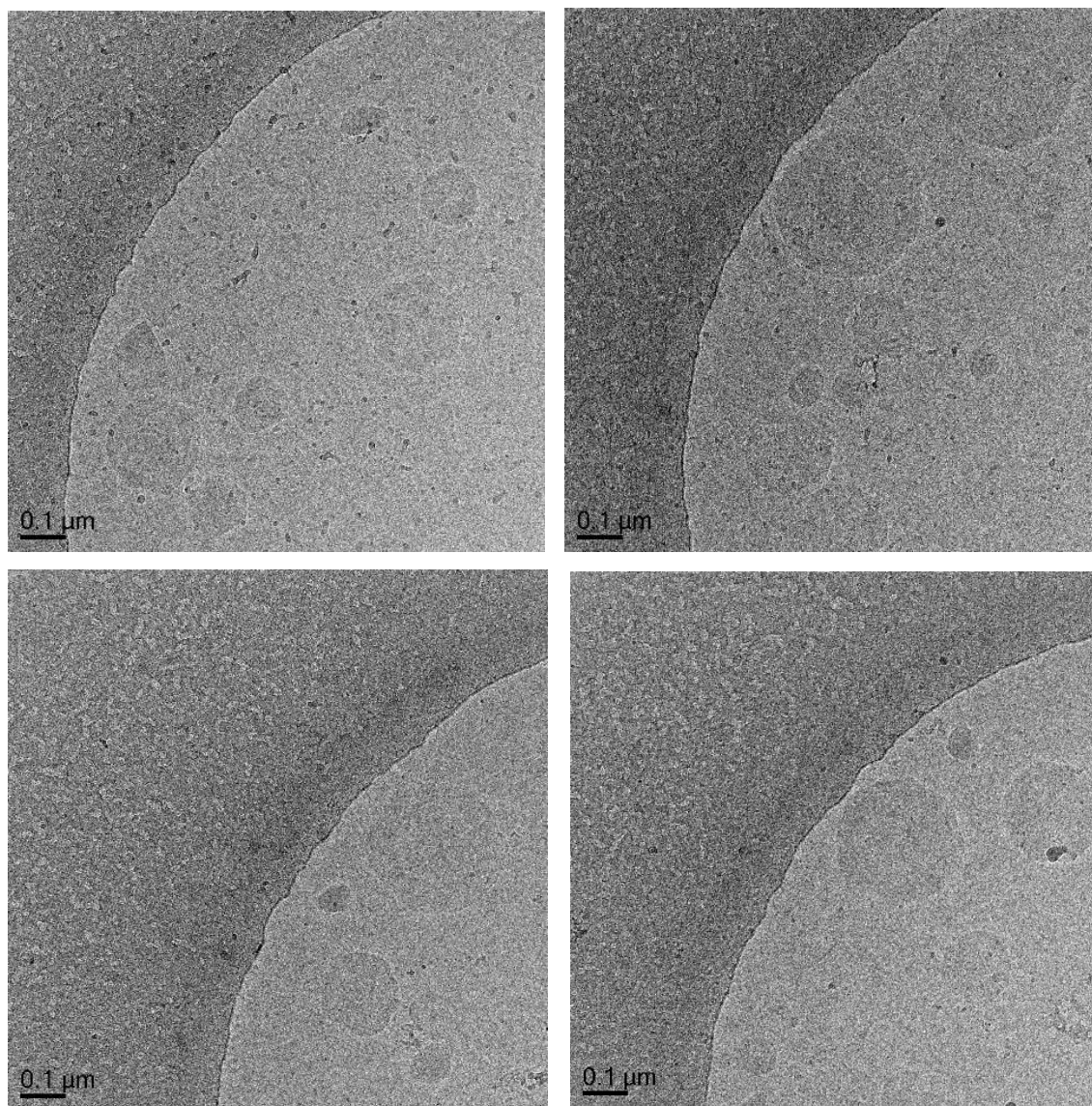


Figure S11. Cryo-TEM micrographs of Exp 17. Polymerization of (DODAB-Oligo 2A) with MA.

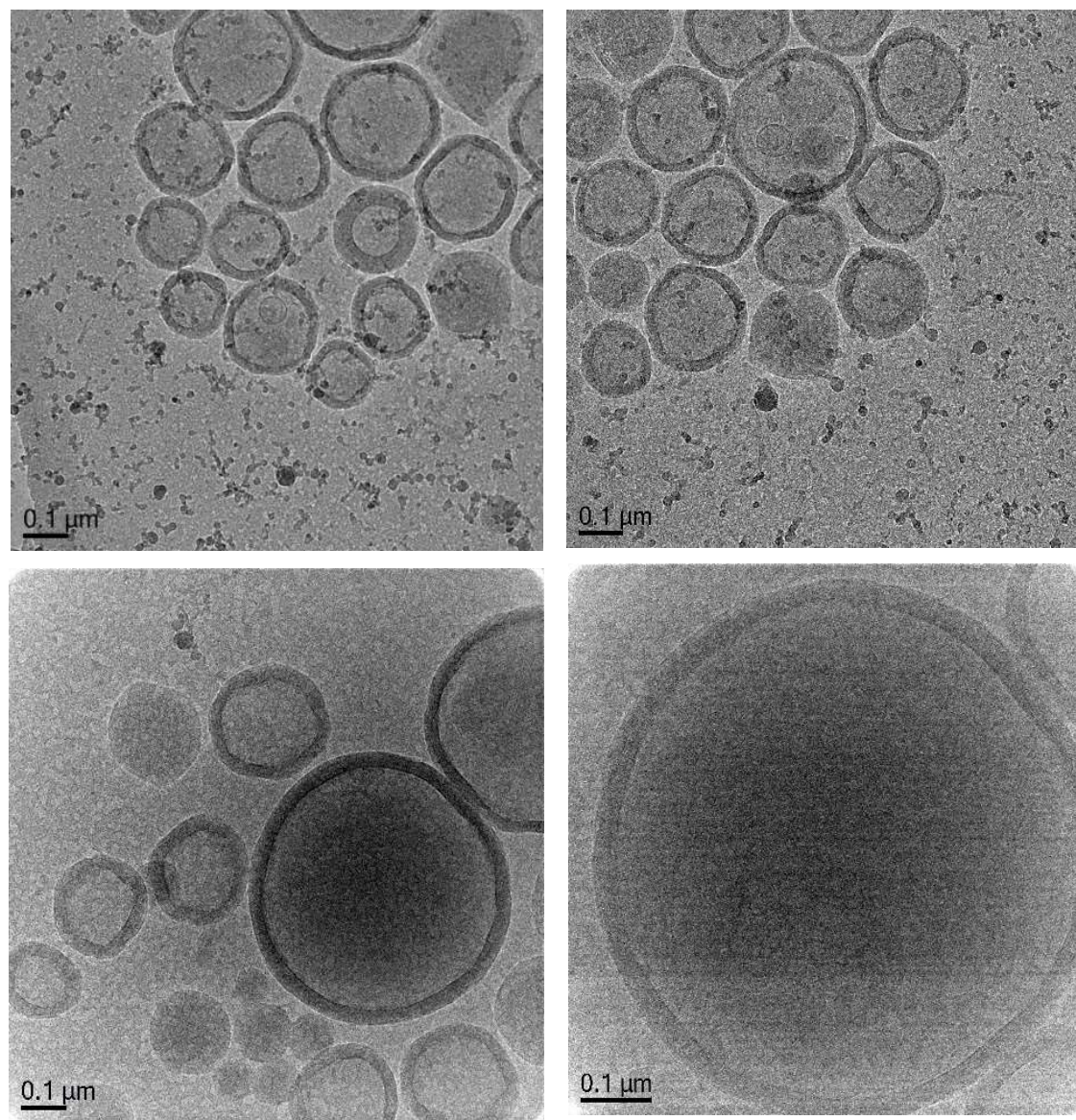


Figure S12. Cryo-TEM micrographs of Exp 18. Polymerization of (DODAB-Oligo 2A) with MA/EGDA.