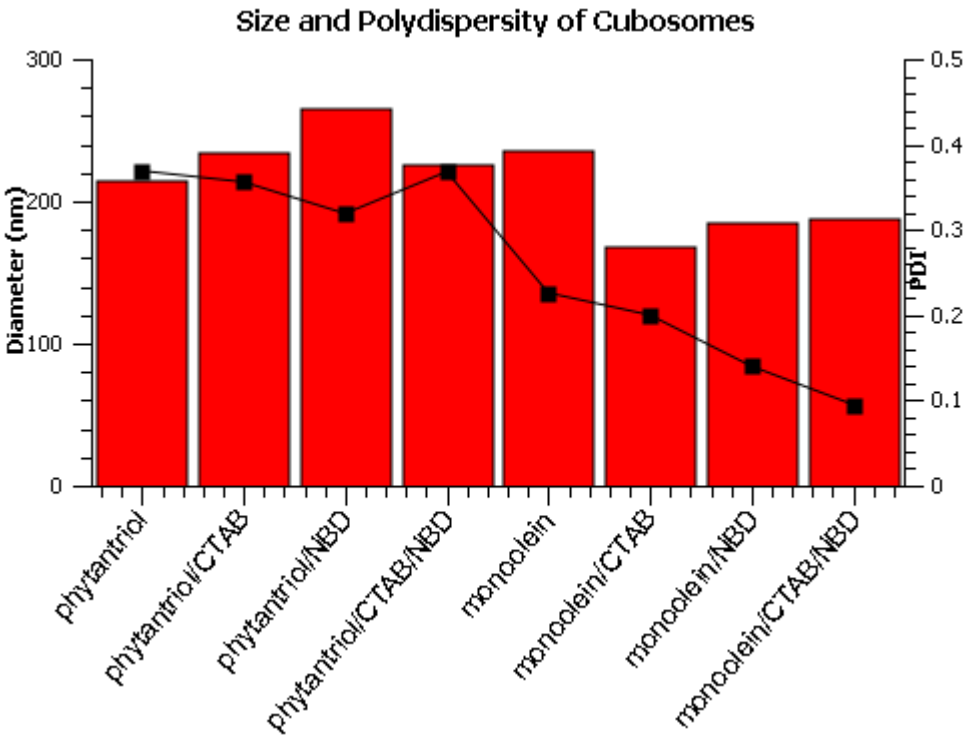

Figure S1. Comparison of diameter (left axis, bar graph) and PDI (right axis, line graph) of phytantriol and monoolein cubosomes with additives CTAB, NBD or both.

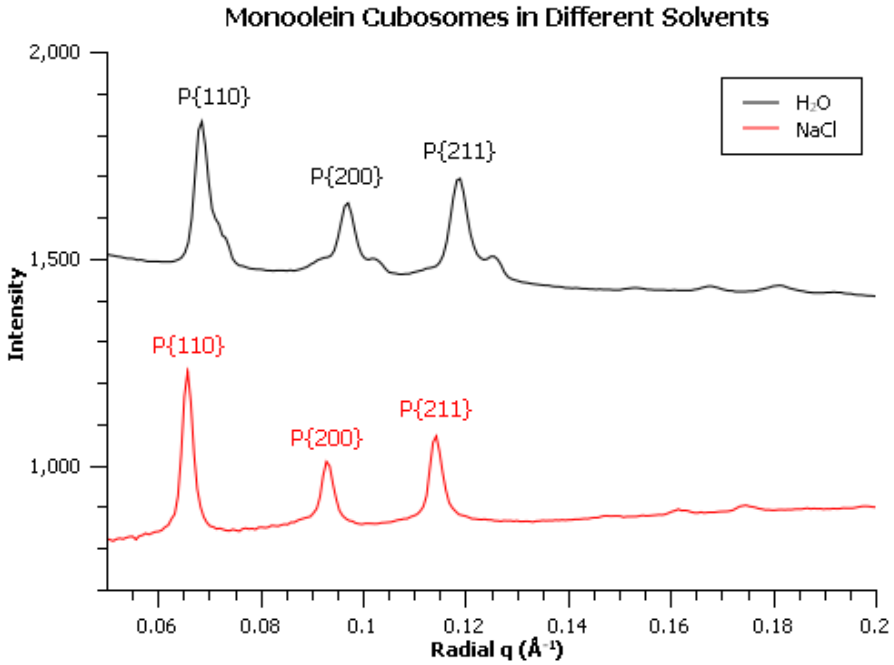

Figure S2. Comparing 1-D SAXS patterns of Monoolein cubosomes (with no additives) prepared in water or 0.5M NaCl. No phase change occurs.

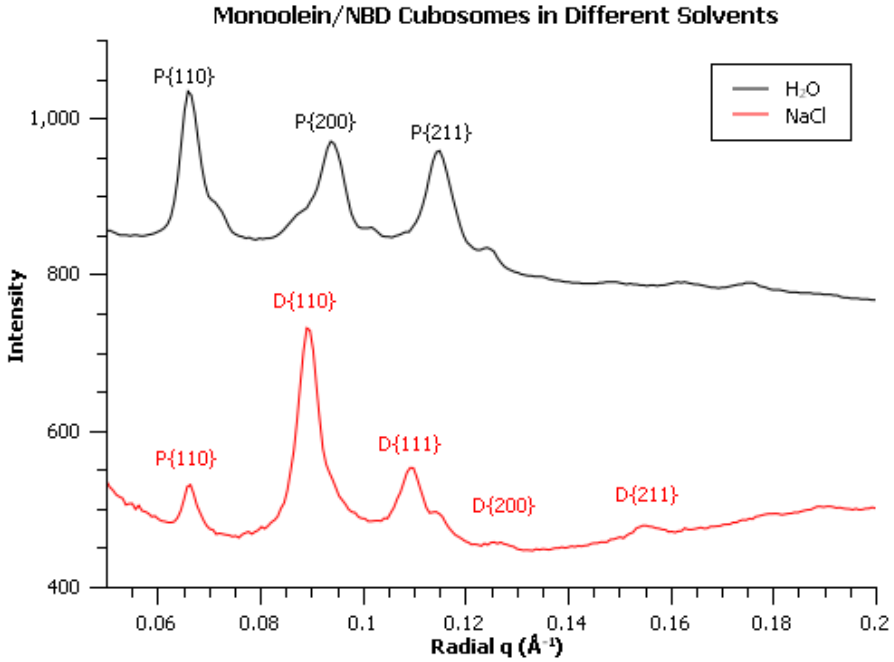

Figure S3. Comparing 1-D SAXS patterns of Monoolein cubosomes (with added fluorescent lipid NBD) prepared in water or 0.5M NaCl. A phase change occurs from D-type cubic in water to P-type cubic (with some mixed phase) in NaCl.

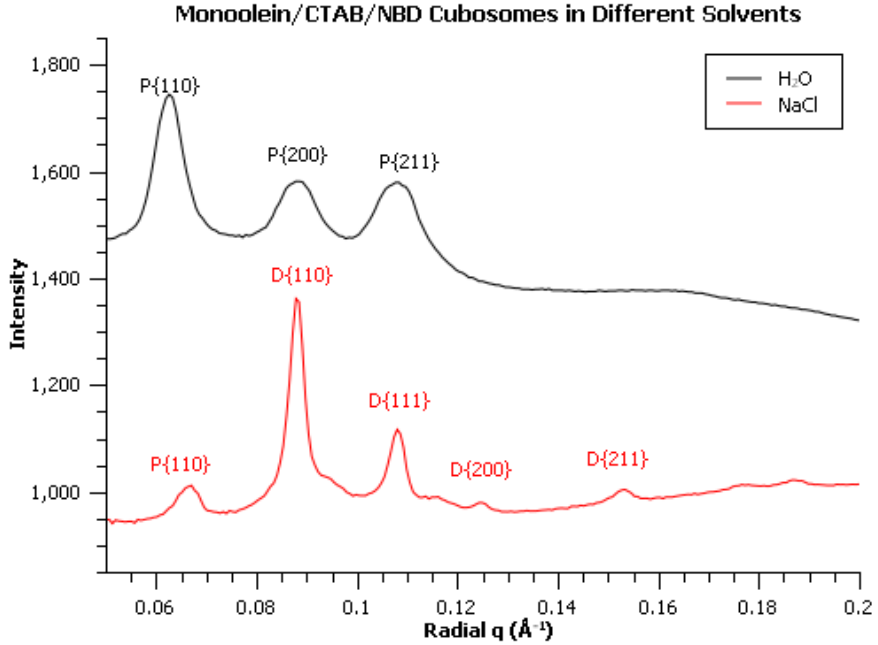

Figure S4. Comparing 1-D SAXS patterns of Monoolein cubosomes (with added fluorescent lipid NBD and positively charged surfactant CTAB) prepared in water or 0.5M NaCl. A phase change occurs from D-type cubic in water to P-type cubic (with some mixed phase) in NaCl.

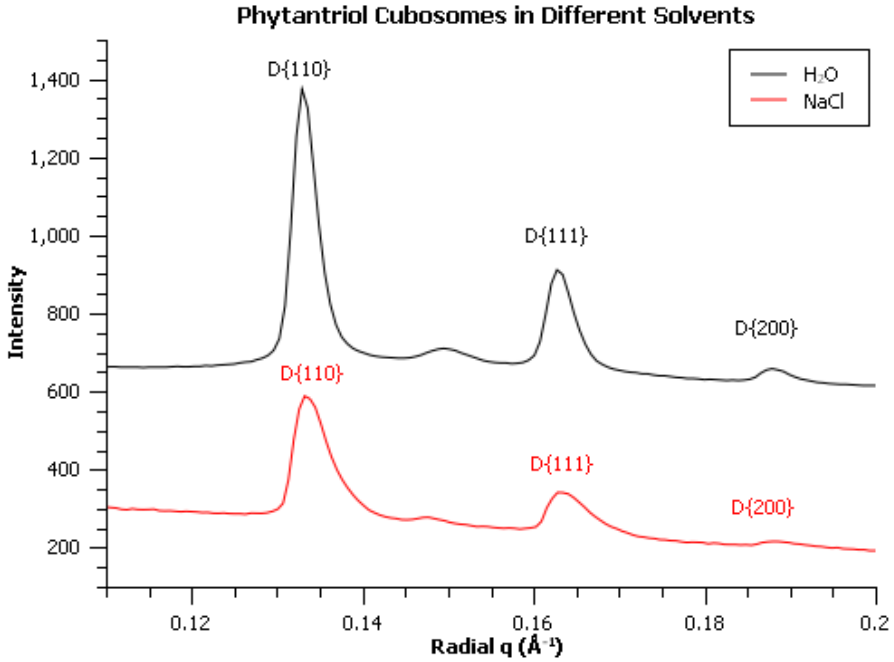

Figure S5. Comparing 1-D SAXS patterns of Phytantriol cubosomes (with no additives) prepared in water or 0.5M NaCl. No phase change occurs. The single very low intensity peak between D[110] and D[111] may be attributed to the presence of vesicle which are sometimes observed during cryo-TEM experiments for dispersions of phytantriol.

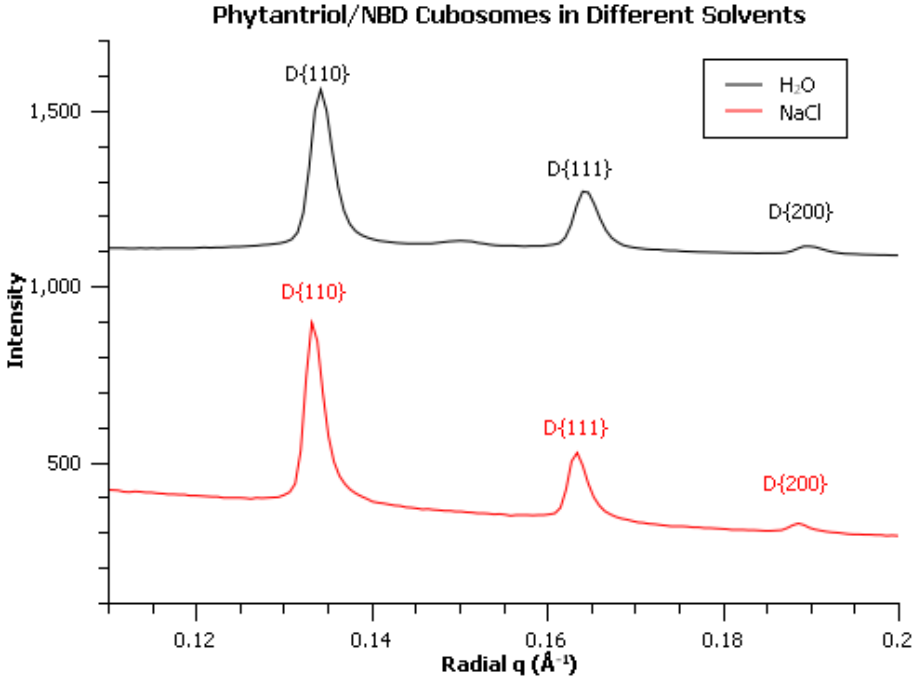

Figure S6. Comparing 1-D SAXS patterns of Phytantriol cubosomes (with added fluorescent lipid NBD) prepared in water or 0.5M NaCl. No phase change occurs.

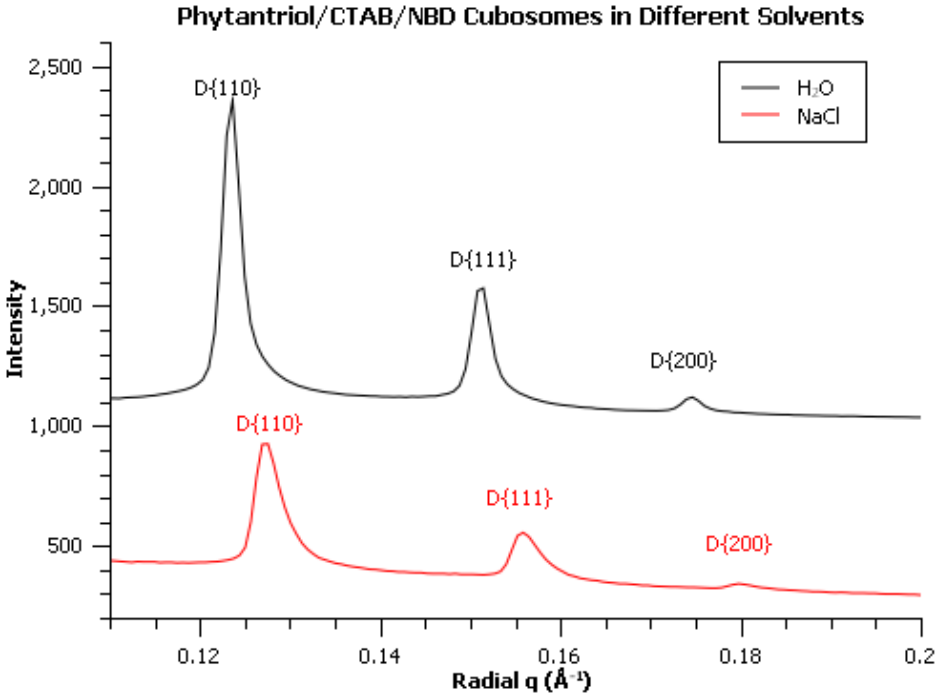

Figure S7. Comparing 1-D SAXS patterns of Phytantriol cubosomes (with added fluorescent lipid NBD and positively charged surfactant CTAB) prepared in water or 0.5M NaCl. No phase change occurs.

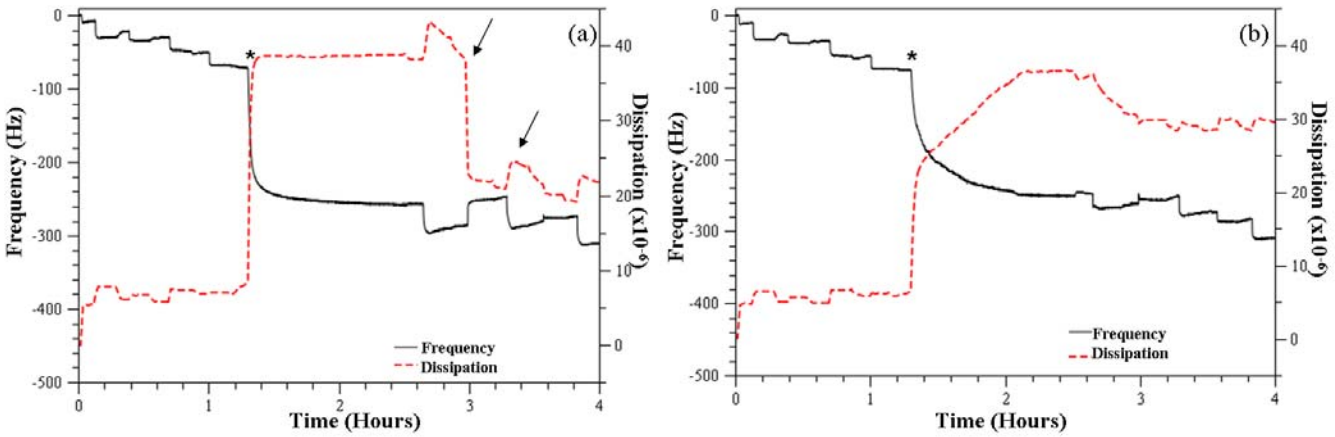

Figure S8. Real-time QCM frequency (black solid line) and dissipation (red dashed line) monitoring of polyelectrolyte layers, followed by cubosome deposition (denoted by *) and further polyelectrolyte layers where (a) the first PAH layer after MO/CTAB/NBD deposition causes a disproportionally large decrease in dissipation (left arrow) with a small increase in frequency. The second PAH layer (right arrow) exhibits a very small increase in frequency and decrease in dissipation. (b) Following Phyt/CTAB/NBD deposition (*), the polyelectrolyte layers show a stepwise decrease in frequency and proportionally small change in dissipation.

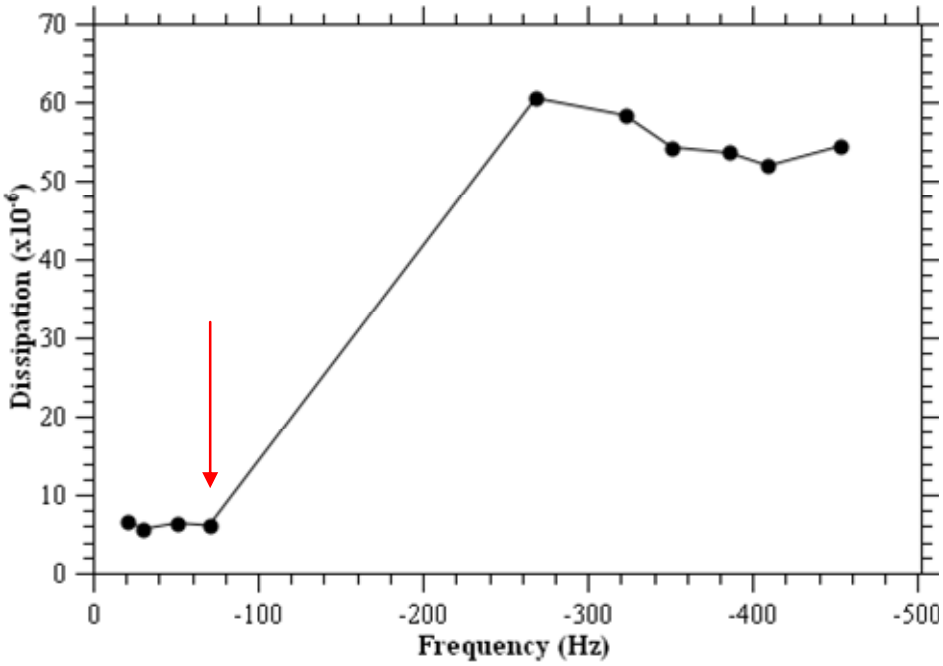

Figure S9.QCM correlation plot of dissipation as a function of frequency for polymer layers and phytantriol/NBD cubosomes. Polymer layers (●) show little change in dissipation as each layer is deposited, indicating a rigid layer. Cubosomes deposition (arrow) shows a very large shift in dissipation due to the nanoparticle viscoelasticity. Further polymer layers again indicate rigid surface structure due to little change in dissipation at each layer.

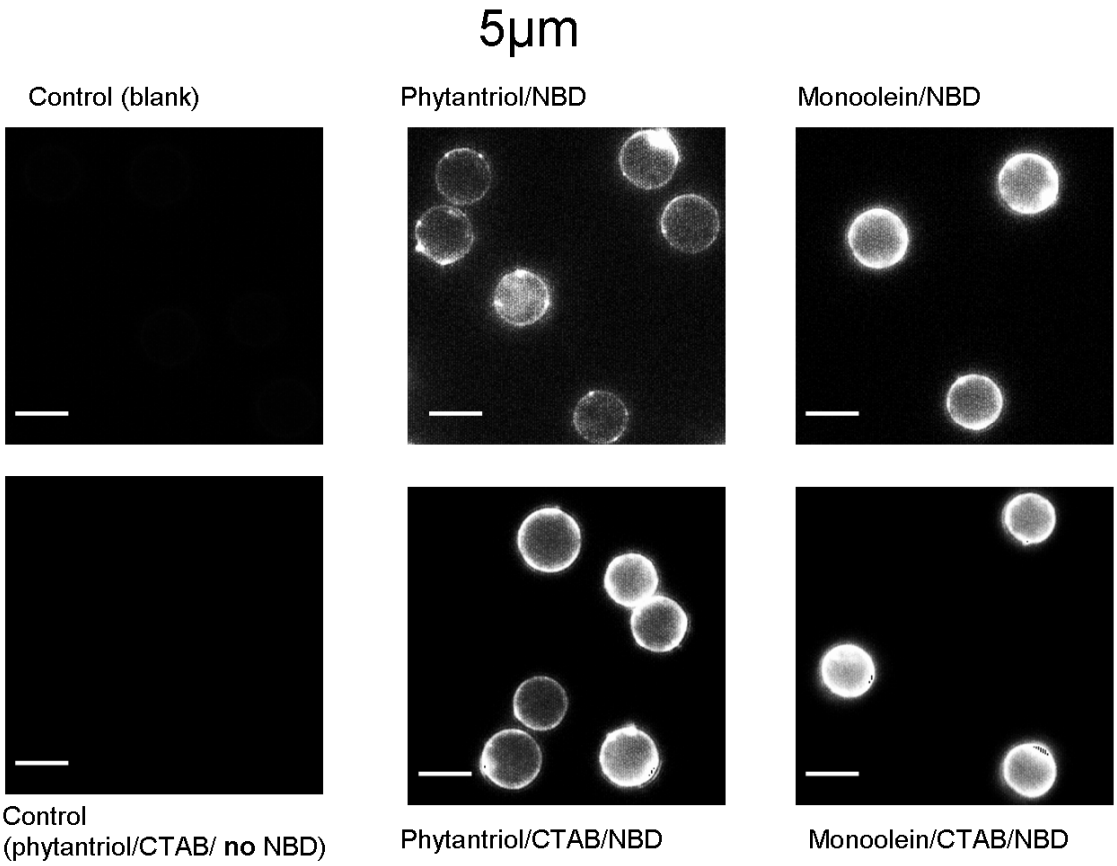

Figure S10. Fluorescent images of cubosomes coated on 5µm silica particles. Control samples contained no cubosomes and no fluorescent lipid. Scale bar = 5µm

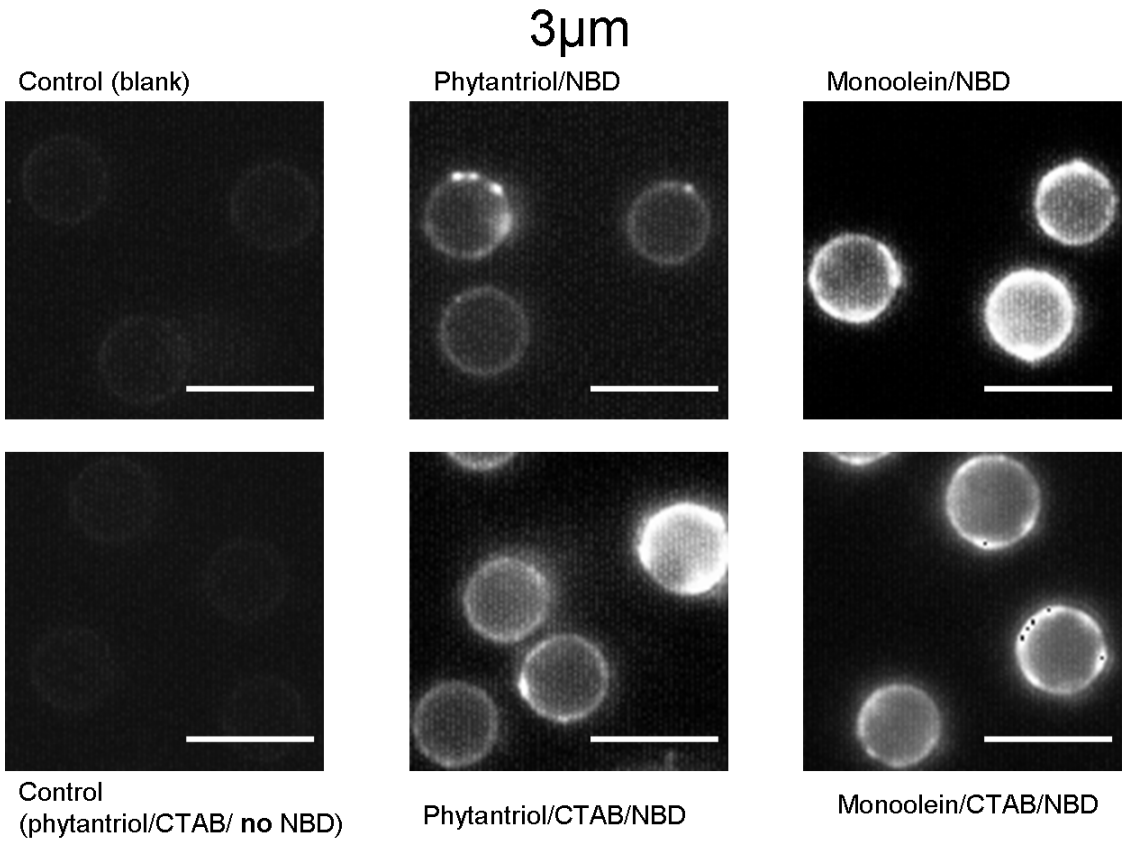

Figure S11. Fluorescent images of cubosomes coated on 3µm silica particles. Control samples contained no cubosomes and no fluorescent lipid. Scale bar = 5µm