Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Formation of Lipid-Based Nanodiscs and Their Dependence of Temperature and Chemical Composition[1] YING LIU, YONGKUN YANG, MU-PING NIEH, UNIVESITY OF CONNECTICUT — Phospholipid mixtures composed of *1,2-dipalmitoyl-sn-glycero-3-phosphocholine* (DPPC), *1,2-dihexanoyl-sn-glycero-3-phosphocholine* (DHPC) and *1,2-dipalmitoyl-sn-glycero-3-phospho-(1'-rac-glycerol) (sodium salt)*(DPPG) and *1,2-distearoyl-sn-glycero-3-phosphoethanolamine-N-[methoxy(polyethylene glycol)-2000] (ammonium salt)* (PE-Gylated DSPE) and cholestrol were found to form nanodiscs (bicelles) in both non-ionic and phosphate buffer solutions . The structure of the aggregates is resolved using dynamic light scattering, transmission electron microscopy and small angle neutron scattering. The effects of temperature and chemical composition (e.g., PE-Gylated DSPE and cholesterol) on the structural variation and polydispersity will be discussed in this presentation. These nanodiscs have the potential of serving as a model delivery carrier for hydrophobic molecules for their biological compatibility and capability of incorporating with targeting molecules.

[1]Thanks NSF - CMMI 1131589

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Date submitted: 11 Nov 2011 Electronic form version 1.4