Electronic Supplementary Information

Phospholipid-based self-assembled mesophase systems for light-activated drug delivery

Joanne D. Du¹, Wye-Khay Fong^{1,2}, Stefan Salentinig¹, Suzanne Caliph¹, Adrian Hawley³ and Ben J. Boyd^{1,4}

¹Drug Delivery, Disposition and Dynamics, Monash Institute of Pharmaceutical Sciences, Monash University (Parkville Campus), 381 Royal Parade, Parkville, VIC, 3052, Australia

²Food and Soft Materials Science, Institute of Food, Nutrition & Health, ETH Zurich, Schmelzbergstrasse 9, 8092 Zürich, Switzerland

³SAXS/WAXS beamline, Australian Synchrotron, 800 Blackburn Rd, Clayton, VIC 3168, Australia

⁴ARC Centre of Excellence in Convergent Bio-Nano Science and Technology, Monash Institute of

Pharmaceutical Sciences, Monash University (Parkville Campus), 381 Royal Parade, Parkville, VIC

3052, Australia

* Corresponding author details:

Postal Address: Monash Institute of Pharmaceutical Sciences, Monash University (Parkville Campus), 381 Royal Parade, Parkville, VIC 3052, Australia

Telephone: +61 3 99039112; Fax: +61 3 99039583; Email: ben.boyd@monash.edu



SI 1 Effect of GNR on equilibrium structure of PHYT bulk system. a) Temperature dependent phase diagram and b) the lattice parameter of the lipid systems in the presence of 0 nM (\circ), 0.3 nM (∇) and 3 nM (\Box) GNR is plotted against thermostat-controlled temperature.

Corresponding phases are indicated as follow: dashed line for H_2 phase and a solid line for V_2 phase.





Effect of NIR laser irradiation on apparent temperature (T_{app}) of the PHYT system containing 0 nM (\bullet) and 0.3 nM (∇) GNR.



SI 3 UV/Vis absorbance of GNR solutions with the maximum SPR peak of 825 nm.