

Analysis of Small angle neutron scattering from Phospholipid-Assisted Assembly of
Conjugated Polymer Nanoparticles for Photothermal Therapy

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In previous study, we provide a new methodology for preparing such nanoparticles based on the formation of phase-separated films of conjugated polymers and phospholipids, followed by shattering the films in aqueous media. We used HANARO 40m Small-angle neutron scattering (SANS) in KAERI which has world top-class SANS Q-range to obtain more information about its nanostructure. In this study, we used DOPE with acetic acid-d4 and DOPE with deuterated steroid (5 β -Dihydroprogesterone) instead of DOPE to obtain neutron contained lipid. And steroid also can affect nanoparticles absorption spectrum because it reduce phospholipid movement. our results suggest more information about nanoparticles based on the formation of phase-separated films of conjugated polymers and phospholipids. Further more, we showed possibility for more application with nanoparticles of conjugated polymer with phospholipid. This work was funded by the Ministry of Science, ICT and Future Planning(2014M2B2A4031389).