## Conjugated Polymer Nanoparticles Having Modified Band Gaps Assembled into Nano- and Micro-Patterned Organic Light Emitting Diodes

Maura Herrera,‡ Mohammad Abdul-Moqueet, † Mahmoud A. Mahmoud, †,†,±\*

Chemical Engineering, Department of Biomedical Engineering, † Department of Chemistry † Department of Physics and Astronomy, † the University of Texas at San Antonio, One UTSA Circle, San Antonio, TX 78249

\*E-mail: mahmoud.abdelwahed@UTSA.edu

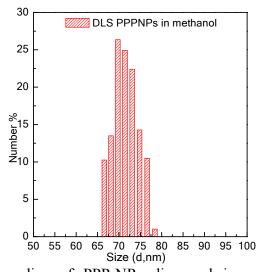


Figure S1: Hydrodynamic radius of PPP-NPs dispersed in methanol measured by DLS technique.

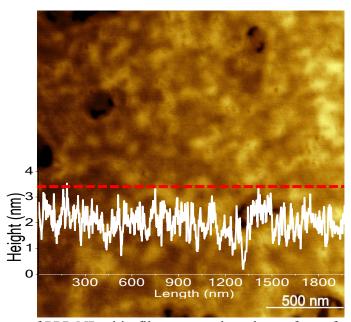


Figure S2: AFM image of PPP-NPs thin film prepared on the surface of a glass substrate by spin coating technique.

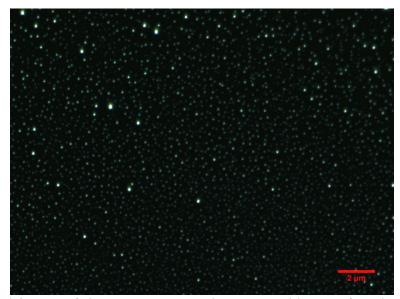


Figure S3: Optical image of the PPP-NPs monolayer assembly transferred to the surface of a glass substrate at surface pressure of 0.07 mN/m

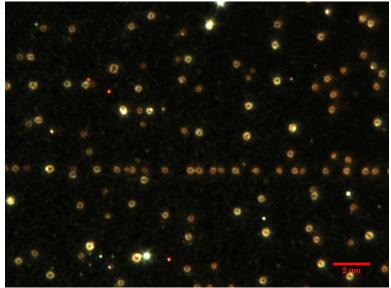


Figure S4: Optical image of the PPP-NPs hierarchically assembly into microdisks by LB technique, the PPP-NPs transferred to the surface of a glass substrate at surface pressure of 2 mN/m.

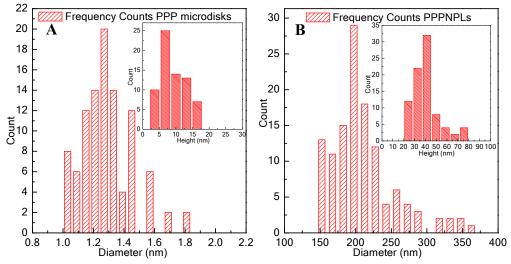


Figure S5: Statistical analysis of the diameter and height (inset) of: A) PPP-MDs, B) PPP-NPLs obtained from AFM images.



Figure S6: Optical image of the PPP nanopillars on the surface of a glass substrate

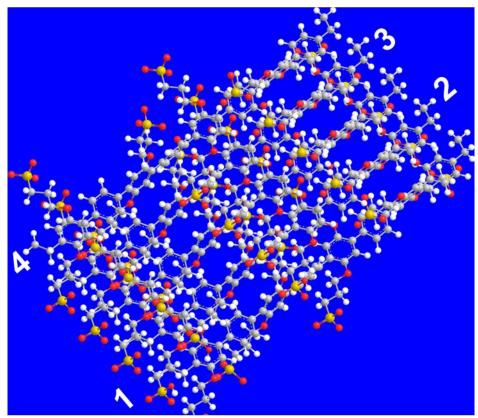


Figure S7: Generated diagram depicting four PPP polymer chains undergoing  $\pi$ - $\pi$  stacking