

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Morphology, structure and photoluminescence properties of thin films of a conjugated polymer poly(2,5-dinonyl para phenyleneethynylene) CRAIG SZYMANSKI, YUNFEI JIANG, JASSON MCNILLE, DVORA PERAHIA, Department of Chemistry, Clemson University, Clemson, South Carolina, 29634-0973, UWE H. F. BUNZ, School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta GA — Poly(para phenyleneethynylenes) (PPE), are inherently semiconductor and their electro-optical characteristics depends among other factors on their association mode. PPE molecules were trapped on the surface from molecular solutions, aggregates and gels. When cast from toluene solutions bellow the critical micellar concentration (CMC) of the polymers, small clusters with an average diameter of the molecular length were observed. When cast from gel phases, a supra molecular structure that consists of well defined associating rods were detected. All of these association modes emit at 460nm. Further emissions are detected as the structure evolves from collapsed single molecules to supramolecular structure where for small non interacting rods, feature at 511 in observed and for associating rods it shifts to 550nm. Further studies are currently underway to correlate the fluoresce patterns with the structural features.

Dvora Perahia

Date submitted: 03 Dec 2006

Electronic form version 1.4