Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Water Soluble Conducting Polymer Field Effect Transistor for Sensor Application SWANAND VAIDYA, G.S. KHARA, JAEWU CHOI, Wayne State University, WAYNE STATE UNIVERSITY TEAM — We studied the water soluble polythiophene based conducting polymer field effect transistor for chemical and biosensors at nanoscale. Sodium poly [2-3(thienyl) ethoxy-4-butylsulphonate)] (SPBS) is a water soluble polymer. Electrical transport property as a function of gate voltage was investigated using a home-built nanomanipulator with four nanoprobes, which is connected to a picoammeter and an impedance analyzer. In conjunction with this, we studied molecular and electronic structures by a scanning tunneling microscope. The interface between electrodes and polymer play an important role in the charge transport properties.

Swanand Vaidya
Wayne State University

Date submitted: 07 Dec 2004 Electronic form version 1.4