

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Development of PEDOT-PSS/Zeolite Composites as a Gas Sensor POJJAWAN CHANTHAANONT, ANUVAT SIRIVAT, The Petroleum and Petrochemical College — Polymer-based gas sensors have received considerable interest in recent years, due to the gas sensing ability through the electrical conductivity changes when exposed to a particular gas. In our work, poly(3,4-ethylenedioxythiophene) doped with poly(styrene sulfonic acid), PEDOT-PSS, was synthesized via an oxidative polymerization and zeolites were used as selective microporous adsorbent to improve selectivity and electrical conductivity sensitivity of the sensors. PEDOT-PSS were fabricated with zeolites by dry mixing and compressed to form PEDOT-PSS/zeolite composites. Zeolite ZSM-5 of various Si/Al mole ratios were chosen. The composites of zeolite ZSM-5 with different Si/Al mole ratios were investigated for the effect of Si/Al mole ratio on the electrical conductivity sensitivity response when exposed to CO and H₂.

Anuvat Sirivat
The Petroleum and Petrochemical College

Date submitted: 01 Dec 2007

Electronic form version 1.4