

## **Polyaniline/multi-walled carbon nanotube composite sensor for detection of arene vapors**

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In this paper, we report the preparation of polyaniline/multi-walled carbon nanotube (MWNT) composite sensor for the detection of arene vapors. The composite was fabricated by in-situ polymerizing aniline on MWNT surface. SEM, FTIR, and Raman techniques were used to characterize the composite. FTIR results indicated that polyaniline was highly doped by HCl, and SEM image showed that MWNT was fully wrapped by polyaniline. The sensor response to arene vapors was investigated in several hundreds ppm ranges. The sensor showed an increase in conductivity, and the maximum response measured at 1000 ppm was several tens of percent.