

**SYNTHESIS AND CHARACTERISATION OF POLYANILINE /
CETYLTRIMETHYL BROMIDE / CAMPHORSULFONIC
ACID IN AMMONIA DETECTION**

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ABSTRACT

SYNTHESIS AND CHARACTERIZATION OF POLYANILINE/CETYLTRIMETHYL BROMIDE/CAMPHORSULFONIC ACID IN AMMONIA DETECTION

Polyaniline (PANI) was synthesized by chemical oxidative polymerization of aniline by using ammonium persulfate in a solvent. Then, PANI was doped with camphor sulfonic acid (CSA) in the presence of cetyltrimethyl ammonium bromide (CTAB) as a surfactant. Next the PANI/CTAB/CSA film was cast to be used for characterization. The functional group present in the PANI/CTAB/CSA was observed using fourier transform infrared (FTIR) and structural properties of PANI as conductive polymer was studied using ultraviolet visible (UV-vis). Moreover, the morphology of the PANI/CSA/CTAB film was observed using optical microscope. The fibrillar or rod-like structure was obtained. In addition, conductivity of the PANI/CTAB/CSA was carried at room temperature using mutimeter to investigate the enhancement in conductivity value. The ammonia gas-sensing characteristics of the prepared PANI/CTAB/CSA film were studied by measure the change in electrical conductivity on exposure to ammonia gas. The PANI salt was converted to base form by treatment with ammonia. Therefore, at minute 4th, it shows high response.