

**SYNTHESIS AND CHARACTERIZATION OF
POLYANILINE/MUSSEL SHELL COMPOSITES**

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ABSTRACT

SYNTHESIS AND CHARACTERIZATION OF POLYANILINE/MUSSEL SHELLS COMPOSITES

Polyaniline/Mussel shells composites (PANI/MS) was prepared by using the ex-situ polymerization technique and investigated by using Fourier Transform Infrared (FTIR), Ultraviolet-Visible (UV-Vis) and Electrical Conductivity Analysis. PANI was composed from the reaction of aniline, ammonium persulfate (APS) and dodecylbenzenesulfonic acid (DBSA) at fixed ratio of 1:1:1.4, respectively. The addition of the MS powder in the PANI system at the different ratio which were 1:0.5, 1:1, 1:2 in order to prepare the different ratio of PANI/MS composites and mixed it by using the sonication process. The FTIR spectrum shows frequency variation and provides a functional group that conforms to the PANI/MS composites presence. The formation of PANI/MS composites were confirmed by the observation of the shifting of the peaks at the wavenumber of 3400-3450 cm^{-1} (hydroxyl peaks) and 1450-1470 cm^{-1} for different ratio of composites. The absorption spectra of the different ratio of PANI/MS were observed through UV-Vis. The absorption peaks at the wavelength of 700-800 nm has been suppressed when the addition of the MS for the different ratio of composites. Based on the electrical conductivity result by using FLUKE Multimeter shows that the PANI/MS with the ratio (1:0) give the highest value compare to the others PANI/MS composites.