URN etd-0407109-183713-1077
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Statistics This thesis had been viewed 45 times. Download 0 times.
Department
Year 2003
Semester 1
Degree Master
Type of Document Master's Thesis
Language zh-TW.Big5 Chinese
Title Preparation and Characterization of Polyaniline and Its Blend
Date of Defense 0000-00-00
Page Count 94

Keyword
conductive
polyaniline
chemical oxidization
doped
co-doped
blend

Abstract

The application of conductive polyaniline (PANI) on the related electronic industry has become more and more interesting and popular. In this research,can separate from three section:

(1)The chemical oxidization method was used to prepare emeraldine salt (ES) type PANI doped with dodecyl benzene sulfonic acid (DBSA). Influences of synthetic conditions on the yield and conductivity of the ES type PANDB were studied. These synthetic conditions included the mole ratio of DBSA/AN, and synthetic temperature. In order to obtain higher conductivity, the optimal mole ratio of DBSA/AN is 0.8/1 at the synthetic temperature of 0~5℃. Although the conductivities of synthetic products is lower than that at synthetic temperature of 0℃,the yield is slightly higher at higher synthetic temperature.

(2)The chemical oxidization method was used to form emeraldine salt (ES) type PANI co-doped with HNO3 and dodecyl benzene sulfonic acid (DBSA). Influences of synthetic conditions on the yield and conductivity of the ES type PANI were studied. These synthetic conditions included the mole ratio of HNO3/DBSA, and synthetic temperature. In order to obtain higher conductivity, the optimal mole ratio of HNO3/DBSA is 0.3/7 at the synthetic temperature of 0~5℃. Although the yield is slightly higher at higher synthetic temperature, the conductivities of synthetic products is lower than that at synthetic temperature of 0℃.

(3)The chemical oxidization method was used to prepare emeraldine salt (ES) type PANI doped with dodecyl benzene sulfonic acid (DBSA). Moreover, in this study, we dissolved PANDB and ABS soluble in chloroform and prepared ABS/PANDB

blend films with various blend ratios by solution blend method. Thermogravimetric analysis (TGA) was used for the thermal degradation analyses of ABS/PANDB blend films with various blend ratios. The surface electronic resistance (RT－1000) was also determined. Also, the dispersions of PANDB in the blend film were examined by optical microscope. By using the TGA analysis, the thermal degradation onset temperature (TOnset 2) of the ABS/PANDB blend films is increased with the weight percent of the PANDB is increased. By using the surface electronic resistance (RT－1000), it is found that the surface electronic resistance of the ABS/PANDB blend films is increased with the weight percent of the PANDB is decreased.
Advisory Committee Cheng-Ho Chen - advisor

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Date of Submission 2004-08-11