THE PREPARATION AND CHARACTERIZATION OF POLYMER/CNTs OF NANOCOMPOSITES

MUHAMMAD SALLEH BIN SHAMSUDIN

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The Final Year Project report entitled "**The Preparation and Characterization of Polymer/CNTs of Nanocomposites**" was submitted by Muhammad Salleh Bin Shamsudin, in partial fulfillment of the requirements for the degree of Bachelor of Science (HONS.) Physics, in the Faculty of Applied Sciences, and was approved by

Dr. Syed Yusainee Syed Yahya
Supervisor
Faculty of Applied Sciences
Universiti Teknologi MARA Malaysia
40450 Shah Alam
Selangor

Prof. Dr. Saifollah Abdullah
Co-Supervisor
Faculty of Applied Sciences
Universiti Teknologi MARA Malaysia
40450 Shah Alam
Selangor

10/5/2010

PM. Dr. Mohamed Rusop Mahmood
Co-Supervisor
NANO-SciTech Center, IOS
Universiti Teknologi MARA Malaysia
40450 Shah Alam
Selangor

Dr. Ab Malik Marwan Ali
Head of program of Physics
Faculty of Applied Sciences
Universiti Teknologi MARA Malaysia
40450 Shah Alam
Selangor

PM. Yusof Tehran
Project Coordinator
Faculty of Applied Sciences
Universiti Teknologi MARA Malaysia
40450 Shah Alam
Selangor

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MUHAMMMAD SALLEH BIN SHAMSUDIN

2007280188

Faculty Of Applied Sciences

Universiti Teknologi Mara Malaysia (UiTM)

Shah Alam, Selangor Darul Ehsan

Malaysia

ABSTRACT

Carbon nanotubes were promising additives to polymeric material to the potential for their enhancement of the electrical, optical and thermal properties of the resulting nanocomposites. The improvement in the properties were by no means guaranteed and the results are often sensitive to the particular polymer chosen, also to the quantity and quality of CNTs used in nanocomposites. Poly [2-methoxy, 5ethyl (2'hexyloxy) paraphenylenevinylene]/Carbon nanotubes (MEH-PPV/CNTs) nanocomposites with different contents have been prepared successfully by Spray Pyrolysis System by using Chemical Vapor Deposition (CVD) induced by ferrocene, $Fe(C_5H_5)_2$ catalyst precursor. In this paper, palm oil were used as a carbon source and MEH-PPV solution as a conjugated polymer source. MEH-PPV/CNTs were characterized by Thermogravimetric Anaysis (TGA), Ultraviolet-Visible Spectroscopy (UV-Vis) and I-V characterizer and Field Emission Scanning Electron Microscopy (FESEM).

Keyword: MEH-PPV; palm oil; TGA; UV-Vis; FESEM; I-V characterizer; spray pyrolysis system

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