

THE COMPLEXITY OF THE PROBLEM OF CONSTRUCTING
A LINEAR ORDERING OF THE REAL NUMBERS
IN THE QUANTUM CASE

BY

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THE SYNTHESIS AND CHARACTERIZATION OF CONDUCTING POLYANILINE
USING VARIOUS DOPANTS IN AQUEOUS PHASE.

By

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PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

The synthesis and characterization of conducting polyaniline using various dopants in aqueous phase oleh **Siti Hajar Binti Junaidi**, No. Matrik **UK6970** telah diperiksa dan semua pembedaan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Kimia sebagai memenuhi sebahagian daripada keperluan memperolehi ijazah Sarjana Muda Sains (**Kimia Analisis dan Persekitaran**), Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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LIST OF ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
PAni	Polyaniline
AMPSA	2-Acrylamido-2-methoxy-1-propanesulfonic acid
CSA	10- camphorsulfonic acid
DBSA	Dodecyl benzene sulfonic acid
NMP	1-methyl-2-pyrrolidinone
FTIR	Fourier Transform Infrared Spectrometers
UV-Vis	Ultraviolet-Visible spectroscopy
TGA	Thermogravimetry Analysis

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ABSTRACT

THE SYNTHESIS AND CHARACTERIZATION OF POLYANILINE USING VARIOUS DOPANTS IN THE AQUEOUS PHASE.

This research aim to determine the conductivity effect on various dopant agents, for synthesis of polyaniline. The dopants used were 10-camphorsulfonic acid (CSA), and Dodecyl benzene sulfonic acid (DBSA). While the surfactant used were, 2-Acrylamido-2-methethyl-1-propanesulfonic acid (AMPSA) as an ionic surfactant, and Triton-X 100 as anionic surfactant. Aniline will be oxidized to polyaniline using ammonium peroxydisulfate as an oxidizing agent in the present of toluene. Each polymer sample will be characterized using TGA, UV- VIS spectroscopy, and FTIR while the analyses of the conductivity material have be performed by electric conductivity measurement, which is galvanometer.

ABSTRAK

SINTESIS DAN PENCIRIAN POLYANILINA DENGAN MENGGUNAKAN BEBERAPA DOPAN DIDALAM FASA AKUEUS.

Kajian ini bertujuan untuk melihat kesan konduktiviti beberapa pendopan keatas PANi. Dopan yang dikaji adalah 10- kamphorsulfonik asid (CSA), dan Dodekil benzene sulfonik asid (DBSA). Manakala Surfaktan digunakan terdiri daripada 2-akrilamido-2-metil-1propanasulfonik asid (APMSA) sebagai surfaktan ionik, dan Triton X 100 sebagai surfaktan tidak ionik. Anilina akan dioksidakan kepada polianilina dengan menggunakan ammonium perokdisulfat sebagai agen pengoksidaan dengan kehadiran toulena. Setiap sampel polimer dicirikan dengan menggunakan TGA, UV- VIS spec. , dan FTIR . Sementara analisis untuk bahan konduktiviti dilaksanakan dengan menggunakan pengukuran konduktiviti elektrik, iaitu galvanometer.