

Development of Chitosan Films Capable of Sustained-Release of Heparin and Their Applications in Biocompatible Sensors

A Thesis

"Submitted for the degree of master of science as a partial fulfillment for requirements of the master of science"

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Thesis Submitted by

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To

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<u>Dedication</u>

To my first tutor ever, to my beloved father, may Allah bless his soul

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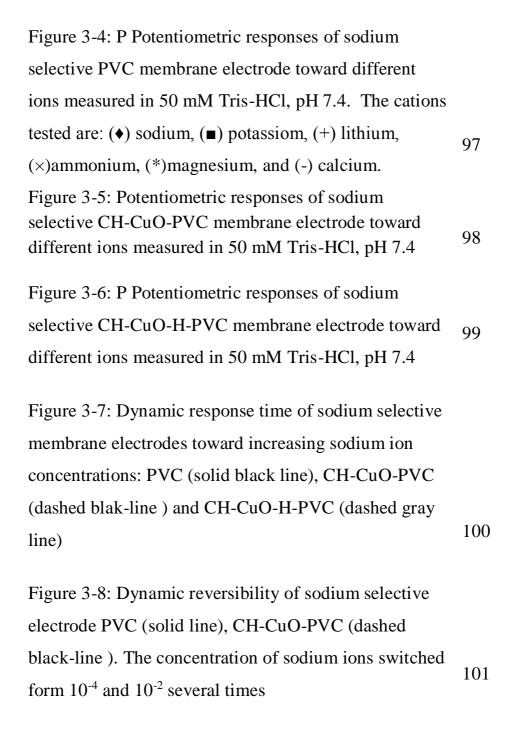


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List of abbreviations

IUPAC International Union of Pure and Applied

Chemistry

ISEs Ion selective electrodes

EMF Electromotive force

 K_{ij}^{pot} Selectivity coefficient

CH Chitosan membrane

THF Tetrahydrofuran

CPDA-1 Citrate phosphate dextrose adenine

PVC Polyvinyl chloride

CuONPs Copper oxide nanoparticles

CH-CuO Chitosan-CuO nanoparticles mambrane

CH-CuO-H Chitosan-CuO heparin

KTCIPB Potassium tetrakis(chlorophenyl)borate

TDMAC Tridodecyl methyl ammonium chloride

DOS Dioctyl sebacate

Tris Tris (hydroxymethyl) aminomethane

NA Not applicable.

SD Standard deviation

SEM Scanning electron microscopy

TEM Transmission electron microscopy

PRP Platelet-rich plasma

PBS Phosphate-buffered saline

NPOE o-nitrophenyl octy ether

CTA Cellulose triacetate