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4,4'-ไดไฮดรอกซีซาลิไซลิกแอซิด



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ศูนย์วิทยทรัพยากร

จุฬาลงกรณ์มหาวิทยาลัย

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**SYNTHESIS OF METAL-CONTAINING POLYURETHANE-UREAS FROM
4,4'-DIHYDROXYSALTRIEN METAL COMPLEXES**



Miss Nittaya Khamma

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

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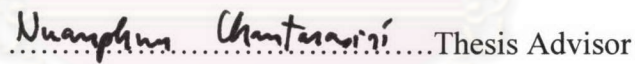


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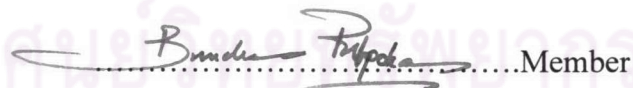
THESIS COMMITTEE



.....Chairman
(Professor Udom Kokpol, Ph.D.)



.....Thesis Advisor
(Associate Professor Nuanphun Chantarasiri, Ph.D.)



.....Member
(Assistant Professor Buncha Pulpoka, Ph.D.)



.....Member
(Assistant Professor Nongnuj Muangsin, Ph.D.)

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4,4'-Dihydroxysaltrien metal complexes (ML, where M = Zn and Ni) were synthesized and used for the synthesis of polyurethane-ureas and copolyurethane-ureas containing 4,4'-dihydroxysaltrien metal complexes in polymer chain. The metal complexes were synthesized from the reaction between 2,4-dihydroxybenzaldehyde, triethylenetetramine and metal acetates (Zn and Ni). The metal complexes were then subjected to polymerization reaction with prepolymers, namely poly(1,4-butanediol)toluene-2,4-diisocyanate terminated prepolymer (MW 900, PB900) and poly(propylene glycol)toluene-2,4-diisocyanate terminated prepolymer (MW 1000, PP1000). The progress of polymerization reaction was monitored using infrared spectroscopy. The disappearance of isocyanate peak at 2270 cm^{-1} was observed when the polymerization was completed. Copolyurethane-ureas were synthesized by polymerization between ML, PB900 or PP1000 and xylylenediamine. Characterizations of polymers were carried out using FTIR spectroscopy and solubility. The polymers property investigated was their thermal stability which was studied by thermogravimetric analysis (TGA). It was found that nickel-containing polymers show higher thermal stability than zinc-containing polymers. The ML content was found to have influence on thermal property of metal-containing copolyurethane-ureas.

Department..... Chemistry Student's signature..... *Nittaya Khamma* ...
 Field of study..... Chemistry Advisor's signature..... *Nuanphun Chantarasiri* ...
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ศูนย์วิจัยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

CONTENTS

	Page
Abstract in Thai.....	iv
Abstract in English.....	v
Acknowledgements.....	vi
Contents.....	vii
List of Figures.....	xi
List of Tables.....	xii
List of Schemes.....	xiii
List of Symbols and Abbreviations.....	xiv
CHAPTER I INTRODUCTION.....	1
Metal-containing polymers.....	1
Objective and Scope of the Research.....	7
CHAPTER II EXPERIMENTS.....	10
2.1 Materials.....	10
2.2 Analytical procedures.....	10
2.3 Synthetic procedures.....	11
2.3.1 Synthesis of hexadentate Schiff base metal complexes (ML)	11
2.3.1.1 Synthesis of 4,4'-dihydroxysaltrien zinc complex (ZnL)	11
2.3.1.2 Synthesis of 4, 4'-dihydroxysaltrien nickel complex (NiL)	13
2.3.1.3 Synthesis of 4, 4'-dihydroxysaltrien cobalt complex (CoL)	15
2.3.1.4 Synthesis of 4, 4'-dihydroxysaltrien manganese complex (MnL).....	17

CONTENTS (CONTINUED)

	Page
2.3.2. Investigation of the polymerization reaction of polyurethane-urea and copolyurethane-ureas.....	19
2.3.2.1 Differential Scanning Calorimetry (DSC) of polymerization reaction of PB900 and ZnL.....	19
2.3.2.2 Infrared Spectroscopy (IR) of polymerization reaction of prepolymer and ML.....	19
2.3.3. Synthesis of metal-containing polyurethane-ureas and copolyurethane-ureas.....	21
2.3.3.1 Synthesis of metal-containing polyurethane-ureas from ML and prepolymer.....	21
2.3.3.2 Synthesis of metal-containing copolyurethane-ureas from ML, prepolymers and xylylenediamines.....	23
CHAPTER III RESULTS AND DISCUSSIONS.....	26
3.1 Synthesis of 4,4'-dihydroxysaltrien metal complexes (ML).....	27
3.1.1 4,4'-Dihydroxysaltrien zinc complex (ZnL).....	27
3.1.2 4,4'-Dihydroxysaltrien nickel complex (NiL).....	32
3.1.3 4,4'-Dihydroxysaltrien cobalt complex (CoL).....	33
3.1.4 4,4'-Dihydroxysaltrien Manganese complex (MnL).....	34
3.2 Synthesis of metal-containing polyurethane-ureas.....	36
3.2.1 Investigation of the reaction between ZnL and prepolymer	36
3.2.2 Synthesis of zinc-containing polyurethane-ureas from the reaction between ZnL and PB900.....	37
3.2.3 Synthesis of zinc-containing polyurethane-ureas from the reaction between ZnL and PP1000.....	43
3.2.4 Synthesis of nickel-containing polyurethane-ureas from the reaction between NiL and PB900.....	44

CONTENTS (CONTINUED)

	Page
3.2.5 Synthesis of nickel-containing polyurethane-ureas from the reaction between NiL and PP1000.....	44
3.2.6 Characterization of metal-containing polyurethane-ureas using Infrared spectroscopy.....	45
3.3 Synthesis of metal-containing copolyurethane-ureas.....	47
3.3.1 Synthesis of metal-containing copolyurethane-ureas from ML , prepolymer and xylylenediamine.....	47
3.3.2 Characterization of metal-containing copolyurethane-ureas	50
3.3.2.1 Infrared spectroscopy.....	
3.3.2.2 Solubility.....	52
3.3.2.3 Thermal stability.....	53
 CHAPTER IV CONCLUSIONS AND SUGGESTIONS FOR FUTURE WORKS.....	 57
4.1 Conclusions.....	57
4.2 Suggestions for future works.....	57
 REFERENCES.....	 58
 APENDICES.....	 60
 VITAE.....	 69

LIST OF FIGURES

	Page
Figure 3.1 ¹ H NMR spectra of (a) the yellow crystals (ZnL), (b) the pink solids (mixture of ligand salt and ZnL salt).....	28
Figure 3.2 Structure of ligand salt and ZnL salt.....	29
Figure 3.3 DSC thermogram of ZnL:PB900 mixture at the mole ratio of 1: 1	
Figure 3.4 IR spectra of a reaction mixture of ZnL:PB900 at the mole ratio of 1:1 when the reaction was done at 120 °C: (a) before heating; (b) after 1 h; (c) after 2 h; and (d) after 4 h.....	39
Figure 3.5 IR spectra of a reaction mixture of ZnL: PB900 at the mole ratio of 1: 2 when the reaction was done at 120 °C: (a) before heating; (b) after 1 h; (c) after 2 h and (d) after 4 h	40
Figure 3.6 IR spectra of a reaction mixture of ZnL:PB900 at the mole ratio of 1:3 when the reaction was done at 120 °C: (a) before heating; (b) after 3 h; (c) after 5 h and (d) after 8 h	42
Figure 3.7 IR spectra of a reaction mixture of ZnL:PP1000 at the mole ratio of 1:2 when the reaction was done at 120 °C: (a) before heating; (b) after 1 h; (c) after 3 and (d) after 5 h.....	43
Figure 3.8 IR spectra of metal-containing polyurethane-ureas: (a) Zn-PB; (b) Ni-PB; (c) Zn-PP and (d) Ni-PP.....	46
Figure 3.9 IR spectra of a reaction mixture of ZnL:PB900:xylylenediamine at a mole ratio of 1:3:1 when the reaction was done at 120 °C: (a) before heating; (b) after 1 h; (c) after 2 h and (d) after 3 h.....	48
Figure 3.10 IR spectra of: (a) Zn-PB-D-153; (b) Zn-PB-D-131; (c) Zn-PB-D-371; (d) PB-D-11 and (e) PP-D-11.....	51
Figure 3.11 TGA thermogram of Ni-PB-D-131	55
Figure A.1 ¹ H NMR spectrum of salts.....	61
Figure A.2 IR spectrum of ZnL.....	61
Figure A.3 MALDI-TOF MS of ZnL.....	62

LIST OF FIGURES (CONTINUED)

	Page
Figure A.4 IR spectrum of NiL.....	62
Figure A.5 MALDI-TOF MS of NiL.....	63
Figure A.6 IR spectrum of CoL.....	63
Figure A.7 IR spectrum of MnL.....	64
Figure A.8 IR spectra of a reaction mixture of NiL: PB900 at a mole ratio of 1:1 when the reaction was done at 120 °C: (a) before heating; (b) after 1 h; (c) after 2 h and (d) after 3 h	65
Figure A.9 IR spectra of a reaction mixture of NiL:PB900 at a mole ratio as 1:2 when the reaction was done at 120 °C: (a) before heating; (b) after 1 h; (c) after 2 h and (d) after 3 h	66
Figure A.10 IR spectra of a reaction mixture of NiL:PB900 at a mole ratio of 1:3 when the reaction was done at 120 °C: (a) before heating; (b) after 3 h; (c) after 5 h and (d) after 8 h	67
Figure A.11 IR spectra of a reaction mixture of ZnL:PP1000 at a mole ratio of 1:2 when the reaction was done at 120 °C: (a) before heating; (b) after 1 h; (c) after 3 h and (d) after 5 h	68

LIST OF TABLES

	Page
Table 2.1 Composition of starting materials in the synthesis of 4,4'-dihydroxy-saltrien zinc complex (ZnL).....	12
Table 2.2 Composition of starting materials in the synthesis of 4, 4'-dihydroxy-saltrien nickel complex (NiL)	14
Table 2.3 Composition of starting materials in the synthesis of 4, 4'-dihydroxy-saltrien cobalt complex (CoL)	16
Table 2.4 Composition of starting materials in the synthesis of 4, 4'-dihydroxy-saltrien manganese complex (MnL)	18
Table 2.5 Composition of starting materials of the polymerization reaction between ML, xylylenediamine and prepolymer.....	20
Table 2.6 Composition of starting materials in the synthesis of metal-containing polyurethanes-ureas	22
Table 2.7 Composition of starting materials in the synthesis of metal-containing copolyurethanes-ureas	24
Table 3.1 Composition of starting materials in the synthesis of ZnL.....	31
Table 3.2 Composition of starting materials in the synthesis of NiL.....	32
Table 3.3 Composition of starting materials in the synthesis of CoL.....	34
Table 3.4 Composition of starting materials in the synthesis of MnL.....	36
Table 3.5 Wt% of metal complex and yield of the obtained polymer.....	
Table 3.6 Solubility of metal-containing polyurethane-ureas.....	52
Table 3.7 Thermal stability of metal-containing polyurethane-ureas determined by weight loss measurement at 170 °C for 8 h.....	53
Table 3.8 Thermal stability of metal-containing copolyurethane-ureas determined by weight loss measurement at 170 °C for 8 h.....	54
Table 3.9 TGA data of Ni-PB-D-131	55

LIST OF SCHEMES

	Page
Scheme 1.1 Synthesis of metal-containing polyureas from TDI, 4,4'-diaminodiphenylmethane and ASA.....	1
Scheme 1.2 Synthesis of Ni-containing polyurethane	2
Scheme 1.3 Synthesis of metal containing copolyurethanes.....	3
Scheme 1.4 Synthesis of zinc-containing polyurethane-ureas.....	3
Scheme 1.5 Synthesis of metal containing copolyurethanes from M(HPP) ₂ and HMDI or TDI.....	4
Scheme 1.6 Synthesis of metal-containing polyurethanes from M(HBH) ₂ and HMDI.....	5
Scheme 1.7 Synthesis of metal-containing polyurethane-ureas from M(HBH) ₂ , HMDI and HBHMPU or TBHMPU.....	5
Scheme 1.8 Synthesis hexadentate Schiff base metal complexes (MSal ₂ trien)	6
Scheme 1.9 Synthesis of metal-containing polyurethane-ureas from MSal ₂ trien and PB or PP prepolymer.....	7
Scheme 1.10 Synthesis of hexadentate Schiff base metal complexes (ML)..	8
Scheme 1.11 Synthesis of metal-containing polyurethane-ureas.....	9
Scheme 1.12 Synthesis of metal-containing copolyurethane-ureas.....	10
Scheme 3.1 Synthesis of 4,4'-dihydroxysaltrien metal complexes.....	26
Scheme 3.2 Formation of Schiff base ligand salt.....	32
Scheme 3.3 Possible mechanism of the reaction between metal complex and Prepolymers.....	38
Scheme 3.4 Synthesis of metal-containing copolyurethane-ureas.....	49
Scheme 3.5 Initial thermal degradation of metal-containing copolyurethane-ureas	56