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NANOENCAPSULATION OF CITRONELLAL USING ETHYL CELLULOSE

Miss Orapan Tatipanithep

A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Science Program in Petrochemistry and Polymer Science

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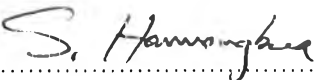
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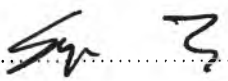
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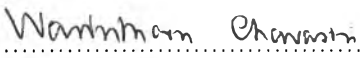
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ทำการศึกษการกักเก็บซิโตรเนลลาลลงในอนุภาคของเอทิลเซลลูโลส โดยเปรียบเทียบ
กระบวนการเตรียมสองวิธีคือ วิธีการกวนและวิธีอัลตราโซนิก ผลการทดลองพบว่าวิธีอัลตรา
โซนิกให้อนุภาคที่กักเก็บซิโตรเนลลาลที่ดีกว่า จากผลการศึกษาความเข้ากันได้พบว่าอนุภาค
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ใช้อนุภาคที่กักเก็บซิโตรเนลลาลแสดงการปลดปล่อยกลิ่นได้ยาวนานกว่าน้ำยาปรับผ้านุ่มที่
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Encapsulation of citronellal into ethyl cellulose spheres was investigated. Two preparation processes, stirring and ultrasonic, were compared and the result indicated that the ultrasonication process gave a better citronellal-encapsulated-sphere. Compatibility study indicated that the particles could be used with Arquad 2HT-75 and Armosoft L. Fabric softener prepared using the citronellal-encapsulated spheres showed better fragrance prolongation than the softener prepared using free citronellal.

Field of Study : Petrochemistry and Polymer Science

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CONTENTS

	Page
ABSTRACT (THAI).....	iv
ABSTRACT (ENGLISH).....	v
ACKNOWLEDGEMENTS.....	vi
CONTENTS.....	vii
LIST OF TABLES.....	x
LIST OF FIGURES.....	xi
LIST OF ABBREVIATIONS.....	xv
CHAPTER I: INTRODUCTION.....	1
Citronellal.....	1
Encapsulation.....	2
Phase separation method.....	3
Solvent displacement method.....	3
Emulsion formation method.....	4
Surfactant.....	4
Anionic surfactant.....	5
Cationic surfactant.....	7
Nonionic surfactant.....	9
Amphoteric/zwitter ionic surfactant.....	11
Controlled release.....	12
Literature reviews on controlled release of essential oil	13
CHAPTER II: EXPERIMENTAL.....	16
2.1 Materials and Chemicals.....	16
2.2 Instruments and Equipment.....	17

2.3 Preparation of essential oil-encapsulated nanoparticles.....	18
2.3.1 Solvent coagulation method under stirring condition.....	18
2.3.2 Solvent coagulation method under ultrasonic condition.....	18
2.4 Compatibility of various surfactants to nanoparticles	19
2.5 Fabric softener formation.....	21
2.5.1 Preparation of fabric softener using free fragrance.....	21
2.5.2 Preparation of fabric softening using encapsulated nanosphere.....	21
2.5.3 Stability study of fabric softening	22
2.6 The release of essential oil from essential oil-encapsulated nanospheres in fabric softener.....	23
2.6.1 Preparation of headspace samples.....	24
2.6.2 Headspace GC-MS.....	24
CHAPTER III: RESULT AND DISCUSSION.....	26
3.1 Preparation of Essential oil-encapsulated nanoparticles.....	26
3.1.1 Solvent coagulation method using stirring process.....	27
3.1.2 Solvent coagulation method using ultrasonic condition.....	30
3.2 Compatibility of various surfactants to nanoparticles	34
3.3 Fabric softener formation.....	40
3.3.1 Preparation of fabric softener using free fragrance.....	40
3.3.2 Preparation of fabric softening using encapsulated nanosphere.....	40
3.3.3 Stability study of fabric softening	41
3.4 The release of essential oil from essential oil-encapsulated nanospheres in fabric softener.....	45
CHAPTER IV: CONCLUSION.....	47
REFERENCES.....	48

APPENDIX.....	52
VITA.....	55

LIST OF TABLES

Table		Page
2.1	Mixtures between encapsulated nanospheres and various surfactants.....	20
2.2	Amount of surfactant, encapsulated sphere (20,000 ppm stock) and free citronellal oil used for 200 ml of mixture.....	22
3.1	Sizes, shapes, and zeta potentials of the obtained suspensions prepared at polymer concentration of 10,000 ppm, using stirring process and sonication process.....	33
3.2	Turbidity value of the obtained citronellal-encapsulated suspension using stirring process and sonication at beginning and after 6 months.....	34
3.3	Physical appearances of the mixtures between citronellal-encapsulated spheres and various surfactants.....	39

LIST OF FIGURES

Figure		Page
1.1	Chemical structure of citronellal	2
1.2	Chemical structure of typical anionic surfactants.....	6
1.3	Chemical structure of sodium laureth sulphate.....	6
1.4	Chemical structure of ammonium dodecyl sulfate.....	7
1.5	Chemical structure of typical cationic surfactants	8
1.6	Chemical structure of Di(hydrogenated tallow)dimethyl ammonium chloride.....	8
1.7	Chemical structure of Ditallow dimethyl ammonium chloride.....	9
1.8	Chemical structure of typical non ionic surfactant	9
1.9	Chemical structure of nonylphenol ethoxylate.....	10
1.10	Chemical structure of polyoxyethylene (20) sorbitan monooleate.....	10
1.11	Chemical structure of typical amphoteric/zwitterionic surfactant.....	11
1.12	Scanning electro microscopy (SEM) photographs of melamine resin microcapsules with Migrin oil.....	13
1.13	The particle size distribution of microcapsules prepared at different stirring rate.....	14
3.1	The obtained suspension from self-assembly of polymer using stirring condition.....	28
3.2	SEM micrographs at 15 kV of the suspension obtained under stirring condition, at polymer concentration of 10,000 ppm: a) at 5,000 x magnification, b) 10,000 x magnification.....	28
3.3	TEM photographs of the suspension obtained at polymer concentration of 10,000 ppm, with stirring: a) single particle, b) multi particles.....	29
3.4	The particle size distribution of the suspension prepared under stirring condition, at polymer concentration of 10,000 ppm.....	29

Figure	Page
3.5	The obtained suspension from self-assembly of polymer using ultrasonication process 30
3.6	SEM micrographs at 15 kV of the suspension obtained from the ultrasonic process, at polymer concentration of 10,000 ppm: a) at 5,000 x magnification, b) 10,000 x magnification c) 20,000 x magnification..... 31
3.7	TEM photographs of the suspension obtained from the ultrasonic process, at polymer concentration of 10,000 ppm: a) single particle, b) multi particles..... 32
3.8	The particle size distribution of the suspension prepared under sonication condition, at polymer concentration of 10,000 ppm with ultrasonic condition..... 32
3.9	The mixture between nanoparticles and 0, 3, 5, 7 and 10 % w/v of Arquad 2HT-75 (left to right): a) initial time, b) first week and c) fifth week..... 36
3.10	The mixture between nanoparticles and 0, 3, 5, 7 and 10 % w/v of Armosoft L (left to right): a) initial time, b) first week and c) fifth week.... 36
3.11	The mixture between nanoparticles and 0, 3, 5, 7 and 10 % w/v of Texapon N 8000 (left to right): a) initial time, b) first week and c) fifth week..... 36
3.12	The mixture between nanoparticles and 0, 3, 5, 7 and 10 % w/v of Texapon N 70 (left to right): a) initial time, b) first week and c) fifth week..... 37
3.13	The mixture between nanoparticles and 0, 3, 5, 7 and 10 % w/v of EMAL AD-25 (left to right): a) initial time, b) first week and c) fifth week. 37
3.14	The mixture between nanoparticles and 0, 3, 5, 7 and 10 % w/v of ECOLAT NP 6 (left to right): a) initial time, b) first week and c) fifth week..... 37

Figure	Page	
3.15	The mixture and nanoparticles and 0, 3, 5, 7 and 10 % w/v of Tween 80 (left to right): a) initial time, b) first week and c) fifth week.....	38
3.16	The various fabric softeners formulated with free citronellal using two surfactants at two percentages: a) 5% Arquad 2HT-75, b) 7% Arquad-2HT-75, c) 5% Armosoft L and d) 7% Armosoft L.....	40
3.17	The various fabric softeners formulated with citronellal-encapsulated-spheres using two surfactants at two percentages: a) 5% Arquad 2HT-75, b) 7% Arquad-2HT-75, c) 5% Armosoft L and d) 7% Armosoft L.....	41
3.18	The pictures of fabric softeners prepared with different surfactants using free citronellal (left) and encapsulated citronellal (right) kept at 25 °C: a) 5% Arquad-2HT-75, b) 7% Arquad 2HT-75, c) 5% Armosoft L, d) 7% Armosoft L e) 5% Arquad-2HT-75, f) 7% Arquad 2HT-75, g) 5% Armosoft L and h) 7% Armosoft L.....	42
3.19	The pictures of fabric softeners prepared with different surfactants using free citronellal (left) and encapsulated citronellal (right) kept at 30 °C: a) 5% Arquad-2HT-75, b) 7% Arquad 2HT-75, c) 5% Armosoft L, d) 7% Armosoft L e) 5% Arquad-2HT-75, f) 7% Arquad 2HT-75, g) 5% Armosoft L and h) 7% Armosoft L.....	43
3.20	The pictures of fabric softeners prepared with different surfactants using free citronellal (left) and encapsulated citronellal (right) kept at 40 °C : a) 5% Arquad-2HT-75, b) 7% Arquad 2HT-75, c) 5% Armosoft L, d) 7% Armosoft L e) 5% Arquad-2HT-75, f) 7% Arquad 2HT-75, g) 5% Armosoft L and h) 7% Armosoft L.....	44

Figure	Page	
3.21	The pictures of fabric softeners prepared with different surfactants using free citronellal (left) and encapsulated citronellal (right) kept under freeze/thaw: a) 5% Arquad-2HT-75, b) 7% Arquad 2HT-75, c) 5% Armosoft L, d) 7% Armosoft L e) 5% Arquad-2HT-75, f) 7% Arquad 2HT-75, g) 5% Armosoft L and h) 7% Armosoft L.....	45
3.22	Release profiles of fabric softeners formulated with Armosoft L.....	46
3.23	Release profiles of fabric softeners formulated with Arquad 2HT-75.....	46
A1	Calibration curve of Citronellal.....	53
A2	Gas Chromatogram of citronellal.....	54
A3	Mass spectrum of citronellal.....	55

LIST OF ABBREVIATIONS

°C	Degree Celsius
DLS	dynamic light scattering
mg	milligram
g	gram
min	minute
hrs	hours
mL	milliliter
mV	millivoltage
kHz	kilohertz
kV	kilovolts
cps	centipoise
MW	molecular weight
µm	micrometer
nm	nanometer
m	meter
%	Percent
RH	relative humidity
ppm	parts per million
SEM	scanning electron microscope
TEM	transmission electron microscope
GC/MS	gas chromatography/mass spectroscopy detector
PDI	polydispersity index
NTU	Nephelometric Turbidity unit