

Table of Contents

Editorial

Chapter 1: Formulation, Manufacture and Fabrication, Characterization and Evaluation of Materials and Dosage Forms

Cholic Acid-Modified Polyethylenimine for Gene Delivery into Human Carcinoma Cells W. Weecharangsan, O. Paecharoenchai, N. Ni-yomtham, P. Opanasopit, B.E. Yingyongnarongkul and R.J. Lee	3
Polymeric Micelles for Enhanced Solubility of Meloxicam in Oral Drug Delivery T. Woraphatphadung, W. Sajomsang, T. Rojanarata, T. Ngawhirunpat and P. Opanasopit	7
Effect of Various Nonionic Surfactants Incorporated in Liposomes on Dermal Delivery of Hydrophilic Compound W. Rangsimawong, P. Opanasopit, T. Rojanarata and T. Ngawhirunpat	12
Quaternized Chitosans as Gene Delivery Carriers: Effect of Degree of Quaternization L. Leksantikul, W. Sajomsang, T. Rojanarata, T. Ngawhirunpat and P. Opanasopit	17
Development and Evaluation of Tamarind Seed Xyloglucan for Transdermal Patch of Clindamycin S. Duangjit, P. Buacheen, P. Priebprom, S. Limpanichkul, P. Asavapichayont, P. Chaimanee and T. Ngawhirunpat	21
Evaluation of Curcuminoids Effervescent Floating Tablets S. Treesinchai, S. Puttipipatkachorn, T. Pitaksuteepong and S. Sungthongjeen	25
Azelaic Acid Dry Emulsion S. Kongmuang, K. Tepsukon, P. Yodwadee and P. Laovanichkul	29
Borneol as Sublimable Agent in Floating Matrix Tablet W. Kriangkrai, S. Puttipipatkachorn, P. Srimornsak and S. Sungthongjeen	33
Effect of Lipophilicity of Drugs on Dissolution Profiles of Self-Nanoemulsifying Drug Delivery System Y. Weerapol, S. Limmatvapirat and P. Srimornsak	37
Development of Oral Microemulsions of <i>Morus alba</i> Extract for Osteoarthritis T. Noi-Ang, A. Charoensin, A. Warangkanagool, A. Kulkong, N. Soonthornsit and T. Pitaksuteepong	41
Pectin-Chitosan Multilayer Coated Microbeads of Diclofenac Sodium Prepared by Layer-by-Layer Technique K. Cheewatanakornkool and P. Srimornsak	45
Fabrication of Shellac-Zein Based Matrix Tablet as a Carrier for Controlling of Drug Release N. Chongcherdsak, D. Aekthammarat, T. Prathumchat, C. Limmatvapirat and S. Limmatvapirat	50
Preparation of Centella Extracts Loaded Aloe Vera Transdermal Patches for Wound Healing Purpose P. Puttarak, W. Pichayakorn, K. Sripoka, K. Chaimud and P. Panichayupakaranant	54
Modification of Starch Extracted from Black Glutinous Rice (<i>Oryza sativa</i> L, Variety Leum Pua) as Tablet Filler V. Patomchaiviat, S. Piriyaprasath, B. Chaisomboonphan, C. Limpoemwuttiorn and P. Nuamnoi	58
Effect of Solid Lipid and Liquid Oil Ratios on Properties of Nanostructured Lipid Carriers for Oral Curcumin Delivery Y. Sangsen, P. Laochai, P. Chotsathidchai and R. Wiwattanapatapee	62
Development of <i>In Situ</i> Gel for Oral Application S. Panomsuk, P. Nakprasong, S.O. Tanpichai and S. Chin-Aramrungruang	66
Decylglucoside Microemulsion Systems Containing Coenzyme Q10: Formulation, Physicochemical Characterization and Stability N. Pakpayat and P. Boonme	70
Preparation Process and Properties of Crosslinked Gelatin Beads for Drug Loading W. Pichayakorn, S. Wannaphatchaiyong and W. Saisin	74

Preparation of Eudragit® L Beads for Intragastric Floating Drug Delivery T. Nernplod, P. Akkaramongkolporn and P. Sriamornsak	79
Lysozyme Release from Lipid-Based Implants J. Portugal Mota, A. Campos, D. Shuwisitkul, N. Saraiva and M. Nicolai	83
Lipid-Based Implants: Impact of Formulation Parameters M. Nicolai, V. Amaral, C. Antunes, D. Shuwisitkul and J. Portugal Mota	87
Formulation of Cold Pressed-Coconut Oil Dry Emulsion P. Chomto, G. Chansiri, K. Tepsukon, P. Yodwande, P. Laovanichkul and S. Kongmuang	91
Formulation and Physicochemical Evaluation of Topical Preparations Containing Extract of <i>Clerodendrum disparifolium</i> N. Chinatangkul, N. Phosrithong, N. Nuchtavorn, T. Rattanapit, C. Mongkol and P. Chutipanyaboot	95
Preparation of Virgin Coconut Oil Nanoemulsions by Phase Inversion Temperature Method H.M. Hasan, J. Leanpolchareanchai and A. Jintapattanakit	99
Factors Affecting Physical Properties of Prednisolone Loaded Nanoparticles Fabricated by Electrohydrodynamic Atomization Technique K. Huanbutta, T. Sangnim, S. Limmatvapirat, J. Nunthanid and P. Sriamornsak	103
Effect of Various Types of Hydroxypropyl Methylcellulose (HPMC) Films on Surface Free Energy and Contact Angle P. Kraisit, M. Luangtana-Anan and N. Sarisuta	107
<i>In Vitro</i> Antioxidant Activity of Electrospun Chitosan Aqueous Salts Based Nanofiber Mats N. Charernsriwilaiwat, T. Rojanarata, T. Ngawhirunpat and P. Opanasopit	111
Preparation and Characterization of Hydrocolloid Stabilized Silver Nanoparticles H. Tamiyakul, S.T. Dubas and W. Warisnoicharoen	115
Enhanced Mechanical Properties of Shellac Films by Incorporation of Modified Coconut Oil P. Sittipaisankul, M. Luangtana-Anan, C. Limmatvapirat and S. Limmatvapirat	119
Comparative Molecular Similarity Indices Analysis Studies on Chromone Derivatives as Topoisomerase I Inhibitors N. Phosrithong, P. Songmuang, C. Prapaipak and H. Khawsuk	124
Effect of Glycerol on Properties of Tapioca Starch-Based Films P. Piyawatakarn, C. Limmatvapirat, P. Sriamornsak, M. Luangtana-Anan, J. Nunthanid and S. Limmatvapirat	128
Chemometric and Experimental Investigations of Organogelation Based on β-Cyclodextrin A. Klaewklod, V. Tantishaiyakul, T. Sangfai, N. Hirun and S. Rugmai	133
Swelling Behaviour of Carboxymethylated Tamarind Gum B. Ponnikornkit, C. Ngamsalak, K. Huanbutta and W. Sittikijyothin	137
A New Approach for Study of pH- Solubility Profile of Bleached Shellac Film by Drop Shape Analysis S. Saengsod and M. Luangtana-Anan	141
Application of Artificial Neural Networks for Prediction of Ibuprofen Yield from Ultrasound-Assisted Anti-Solvent Crystallization R. Minphimai, S. Piriaprasarth and P. Sriamornsak	145

Chapter 2: Drug and Material Design, Synthesis and Process Technologies

Comparison of Solvent Miscibility of Coconut Oil and its Modified Forms S. Pengon, J. Ponphaiboon, A. Chaidedgumjorn, C. Limmatvapirat, P. Sriamornsak and S. Limmatvapirat	151
Comparison of <i>In Vitro</i> Binding of Various Bile Salts by Coconut Fibers P. Sriamornsak, S. Limmatvapirat, P. Asavapichayont and S. Konthong	155
<i>N</i>-Benzyl Chitosan <i>In Situ</i> Forming Antimicrobial Gel for Periodontitis Treatment J. Mahadlek, W. Sajomsang and T. Phaechamud	159
Chemometrics-Assisted UV Spectrophotometric Method for Determination of Metformin Hydrochloride and Glyburide in Pharmaceutical Tablets L. Sratthaphut and K. Ruttanakorn	164

Tablet Disintegrant Derived from Crosslinked Methacrylic Acid and Divinylbenzene Copolymers	
S. Chansatidkosol, P. Opanasopit and P. Akkaramongkolporn	168
Determination of Required Hydrophile-Lipophile Balance Value of Modified Coconut Oil	
S. Tubtimsri, C. Limmatvapirat, P. Sriamornsak and S. Limmatvapirat	172
Effect of Drug Loading and Process Temperature on Physicochemical Properties of Manidipine Hydrochloride Solid Dispersion	
B. Chamsai and P. Sriamornsak	176
Solid-State Grafting of Poly(ethylene glycol) onto Alginic Acid	
S.S. Mohamad Ismail, C.C. Han and T.W. Wong	180
Role of Temperature Change on Poly(DL-lactic acid) Porous Matrix Film Fabrication by Solvent Casting Method	
S. Chitrattha and T. Phaechemud	184
Application of Eutectic Solvent to Preparation of Ibuprofen Suspension by Emulsion Evaporation Method	
S. Tuntarawongsa and T. Phaechemud	188
Thermally Crosslinked Chitosan-EDTA/PVA Electrospun Nanofiber Mats: Crosslinking Conditions	
P. Tonglairoum, W. Sutananta, T. Rojanarata, T. Ngawhirunpat and P. Opanasopit	192

Chapter 3: Biomedical and Health Applications

Determination of Heavy Metals in Herbal Drinks Using ICP-MS	
C. Limmatvapirat, S. Limmatvapirat, J. Charoenteeraboon, C. Wessapan, A. Kumsum, S. Jenwithayaamornwech and P. Luangthuwapanit	199
Determination of Monolaurin in Solution Preparations Composed of Modified Coconut Oil Using GC-FID	
J. Ponphai boon, S. Pengon, A. Chaideedgumjorn, S. Limmatvapirat and C. Limmatvapirat	203
Bioherbicidal Activity of <i>Annona squamosa</i> L. against <i>Lactuca sativa</i> L. and <i>Mimosa pigra</i>	
P. Phuagphong, S. Nawanopparatsakul and N. Kitcharoen	207
Effect of <i>Azadirachta indica</i> A. Juss var <i>indica</i>, <i>Nicotiana tabacum</i> L., and <i>Derris elliptica</i> (Roxb.) on Growth of Duckweed	
P. Phuagphong, S. Nawanopparatsakul and N. Kitcharoen	211
<i>In Vitro</i> Comparison of Probiotic Properties of <i>Lactobacillus fermentum</i> SK54 Isolated from New Born Baby with <i>Lactobacillus rhamnosus</i> GG ATCC 53103	
K. Kaewiad, S. Kaewnopparat and N. Kaewnopparat	215
Exploring DNA Barcode Information of Selected Thai Medicinal Plants	
S. Rungpragayphan, P. Pamonsinlapatham, B. Powthongchin, W. Prommanee and P. Wongakson	219
Anti-Bacterial from <i>Moringa oleifera</i> Lamk Crude Extracts	
P. Pamonsinlapatham	223
Cytotoxicity of pH-Responsive Dextrin Nanogels against Human Osteosarcoma 143B Cells	
S. Manchun, C.R. Dass and P. Sriamornsak	227
Determination of Heavy Metals in <i>Moringa oleifera</i> Capsules by ICP-MS	
C. Limmatvapirat, S. Limmatvapirat, J. Charoenteeraboon and T. Phaechemud	231
Validated UV-VIS Spectrophotometric Method and Stability Assessment of Extemporaneously Prepared Ceftazidime Ophthalmic Solution for Hospital Use	
D. Panchapornpon, N. Chongcherdsak, N. Nuchtavorn, C. Burimart, N. Simmasut and S. Karnlaong	235