

Table of Contents

Preface_PST

Preface_ICETAT

Chapter 1: Pharmaceutical and Biomedical Materials and Technology

<i>In Silico</i>, Design, and Development: Molecular Modeling towards B-RAF and VEGFR-2 of Novel Sorafenib Derivatives for Targeted Hepatocellular Carcinoma Cancer Inhibitors J. Sirirak, S. Suttayasorranakhom, P. Limpachayaporn and S. Oekchuae	3
The Potential Use of <i>Borassus flabellifer</i> Linn. Color Extract as a Natural Dye A. Petchsomrit, N. Jiangseubchatveera, N. Leelakanok and T. Sirirak	9
Anticancer Activities of <i>Phlogacanthus pulcherrimus</i> T. Anderson Leaves Extract on MCF-7 Breast Cancer Cells S. Boontha, B. Buranrat, P. Temkitthawon and T. Pitaksuteepong	16
An Evaluation of <i>Dictyophora indusiata</i> Mucilage as a Binder in Tablet Formulations K. Burapapadh, N. Changsan, C. Sinsuebpol and P. Saokham	22
Formulation of Chewable Toothtablets Containing Mangosteen Rind Extract and Market Feasibility Study in Capital District of Nakhon Pathom Province N. Nattapulwat, P. Wetwitayaklung and B.T. Sriwong	28
Development of Nifedipine Amorphous Solid Dispersion Composed of Surface-Active Agents S. Tubtimsri and Y. Weerapol	35
Development of Aqueous Formulation Containing the Extracted Mangiferin C. Tessiri, S. Channarong and P. Wongtrakul	40
Development of Oral Cleansing Products Containing Green Tea and <i>Centella asiatica</i> Extracts N. Amornopparattanakul, N. Waranuch, S. Lamlertthon, W. Wisuitiprot and K. Ingkaninan	48
Fabrication and Characterization of Azithromycin-Loaded Niosomes for Periodontitis Treatment K. Kerdmanee and S. Limsitthichaikoon	55
Development and Characterization of Oral <i>Mucuna pruriens</i> Seed Extract Jelly C. Chittasupho and N. Kamkaen	61
Lamellar Lyotropic Liquid Crystal Phases as a Carrier for Skin Delivery of <i>Morus alba</i> Stem Extract C. Yhirayha, S. Wittaya-Areekul and T. Pitaksuteepong	67
Formulation Optimization and Characterization of Spray-Dried Medium Chain Triglycerides-Rich Oil W. Kriangkrai, P. Sararuk, T. Tothong, N. Khumpirapang and S. Wittaya-Areekul	73
High-Performance Liquid Chromatography Quantitative Determination of Oxyresveratrol and Morin Contained in <i>Maclura cochinchinensis</i> Extract and Gel Formulation A. Petchsomrit and B. Vongsak	79
Preparation and Characterization of Orodispersible Films Loaded Diclofenac Sodium/β-Cyclodextrin Inclusion Complexes P. Saokham, K. Burapapadh, N. Changsan and C. Sinsuebpol	86
Development of Triphala Extract-Loaded Mucoadhesive Films for Aphthous Ulcers S. Panomsuk, S. Kamolporn, C. Natnaree, B. Paroch and N. Nopparat	92
Development of Curcumin-Loaded Polymeric Mixed Micelle for Skin Moisturizing Antioxidant Formulation S. Channarong, P. Sobharaksha, C. Sardseangjun and P. Vasvid	98
Development of Mucoadhesive Film-Forming Systems Containing Black Ginger Extract for Aphthous Ulcers N. Wattanaphraya, S. Manchun, S. Taokaew and W. Kriangkrai	104
Factors Affecting Gelation of Lidocaine Hydrochloride-Loaded Polyelectrolyte Complex Thermosensitivity Gel for Dry Socket Treatment N. Supachawaroj and S. Limsitthichaikoon	111

Formulation, Physical and Chemical Stability of <i>Ocimum gratissimum</i> L. Leaf Oil Nanoemulsion	
N. Ontao, S. Athikomkulchai, S. Tadtong, P. Leesawat and C. Chittasupho	117
Effect of Cisplatin/Curcumin-Loaded Polycaprolactone Nanoparticles on Oral Carcinoma Cells	
C. Pornpitchanarong, S. Panomsuk and T. Taesotikul	123
Preparation of Nanostructured Lipid Carriers (NLCs) Loading Violacein Extract for Anti-Acne Products	
P. Leelaudomlipi, S. Manchun, P. Supakdamrongkul and P. Sobharaksha	129
Optimization of Diclofenac Sodium-Loaded Nanostructured Lipid Carriers (NLCs) Using the Box-Behnken Design	
P. Kraisit and N. Sarisuta	137
Development of Personalized Colonic Drug Delivery Systems Prepared by 3D-Printing Technology	
T. Sangnim, A. Tangpanithanon, M. Khamtheantong, J. Charoenwai and K. Huanbutta	144

Chapter 2: Engineering Tribology and Applied Technology

Metallurgical Behavior of Amorphous Alloy during Annealing at Different Temperatures via Molecular Dynamics Simulation	
Y.C. Lin, S.C. Lu and P.H. Teng	153
Evaluation of Sulfides as Solid Lubricant: Lubricity of Compounded Sulfides	
T. Sato, S. Ishikawa, K. Saitoh, M. Takuma and Y. Takahashi	164
Study on Stamping Process of 304 Stainless Steel Bipolar Plate	
T.S. Yang, T.F. Zhang, T.W. Lin and C.X. Zhang	170
Forging Process Analysis of 6061 Aluminum Alloy Motorcycle Brake Parts	
T.S. Yang, C. Chang and T.F. Zhang	176
Friction, Scuffing and Transfer Layer Formation in Lubricated Sliding of EN31 Steel and Tungsten Carbide (WC): Surface Topography Effects	
V. Edachery, V. Swamybabu, H. Rajneesh and S.V. Kailas	182
Effects of Temperature Rise of Grease on Lubricating Performance of Drive Elements under the Extreme Pressure	
Y.P. Chang, L.M. Chu, H.Y. Wang, C.T. Liu and Q.W. Chen	187
Effects of the Rolling Directions on Wear of the Aluminum Alloys	
Y.P. Chang, L.M. Chu, C.T. Liu, J.C. Wang and G.W. Chen	193
Surface Topography Evolution of Engineered Surfaces during Sliding Wear	
D.K. Prajaapti	199
Tribological Properties and Corrosion Resistance Properties of NbN/TiN Multilayer, TiNb-N_x Single-Layer and Coatings that are Doped with Carbon	
K.L. Kuo, Y.L. Su, W.H. Kao, Y.H. Mao and T.W. Liang	208
Evolution of the Mechanical Properties of the Surface Layers of Aluminum Alloys under the Conditions of Sliding Friction	
E.V. Torskaya and A.M. Mezrin	219