

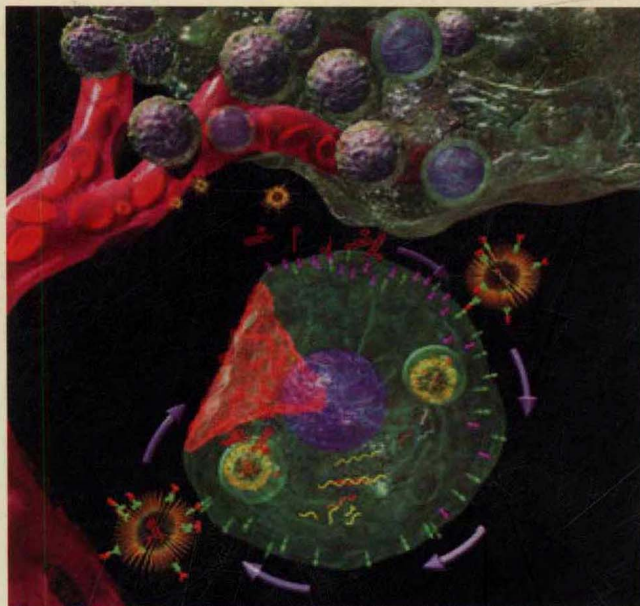


SIPCD 2010

Symposium on
Innovative Polymers
for Controlled Delivery

ABSTRACT BOOK

EDITORS: Jan Feijen Zhiyuan Zhong



14-17 September 2010
Suzhou • China



SOOCHOW UNIVERSITY PRESS

Symposium on Innovative Polymers for Controlled Delivery

SIPCD 2010

ABSTRACT BOOK

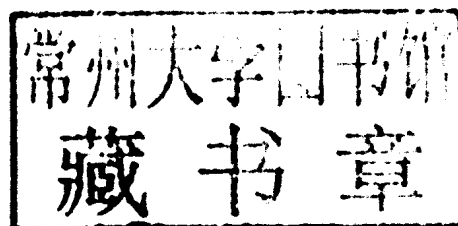


14-17 September 2010

Suzhou · China

EDITORS

Prof. Dr. Jan Feijen
Prof. Dr. Zhiyuan Zhong



PUBLISHER

Soochow University Press

图书在版编目(CIP)数据

新型高分子材料与控制释放国际会议论文集=
Abstract Book Symposium on Innovative Polymers for
Controlled Delivery: 英文/(荷)费扬(Feijen, J.)
, 钟志远主编. —苏州: 苏州大学出版社, 2010. 9
ISBN 978-7-81137-581-7

I. ①新… II. ①费… ②钟… III. ①生物材料—医
用高分子材料—国际学术会议—文集—英文 IV.
①R318.08-53

中国版本图书馆 CIP 数据核字(2010)第 173543 号

©Soochow University Biomedical Polymers Laboratory

新型高分子材料与控制释放国际会议论文集

费 扬 钟志远 主编
责任编辑 徐 来

苏州大学出版社出版发行
(地址: 苏州市十梓街 1 号 邮编: 215006)
丹阳市教育印刷厂印装
(地址: 丹阳市西门外 邮编: 212300)

开本 787mm×1 092mm 1/16 印张 39.25 插页 4 字数 1 434 千
2010 年 9 月第 1 版 2010 年 9 月第 1 次印刷
ISBN 978-7-81137-581-7 定价: 360.00 元

苏州大学版图书若有印装错误, 本社负责调换
苏州大学出版社营销部 电话: 0512-65225020
苏州大学出版社网址 <http://www.sudapress.com>

SIPCD 2010 SYMPOSIUM ORGANIZATION

ORGANIZERS

Soochow University
Changchun Institute of Applied Chemistry, Chinese Academy of Sciences

INTERNATIONAL ORGANIZING COMMITTEE

Jan Feijen	Soochow University, China / Chair
Wim E. Hennink	Utrecht University, The Netherlands
Sung Wan Kim	University of Utah, USA
Thomas Kissel	Philipps-University of Marburg, Germany
Teruo Okano	Tokyo Women's Medical University, Japan
Kinam Park	Purdue University, USA
Tae Gwan Park	Korea Advanced Institute of Science and Technology, Korea
Chulwoong Sohn	Samyang Corporation, Korea
David Williams	University of Liverpool, UK

CHINESE ORGANIZING COMMITTEE

Renxi Zhuo	Wuhan University / Chair
Xiulin Zhu	Soochow University / Co-Chair
Lijia An	Chinese Academy of Sciences / Co-Chair
Xuesi Chen	Chinese Academy of Sciences
Jianhua Dong	National Natural Science Foundation of China
Zhihua Gan	Chinese Academy of Sciences
Zhongwei Gu	Sichuan University
Ming Jiang	Fudan University
Xiabin Jing	Chinese Academy of Sciences
Jin Ma	National Natural Science Foundation of China
Jiacong Shen	Zhejiang University
Chi Wu	The Chinese University of Hong Kong
Xi Zhang	Tsinghua University

EXECUTIVE ORGANIZING COMMITTEE

Zhiyuan Zhong	Soochow University / Chair
Jan Feijen	Soochow University / Co-Chair
Xuesi Chen	Chinese Academy of Sciences / Co-Chair
Ru Cheng	Soochow University / Treasurer
Chao Deng	Soochow University / Liaison
Fenghua Meng	Soochow University / Secretariat
Hong Chen	Soochow University
Zhenping Cheng	Soochow University
Zhuang Liu	Soochow University
Peihong Ni	Soochow University
Zhengbiao Zhang	Soochow University
Xiuli Zhuang	Chinese Academy of Sciences

The first Symposium on Innovative Polymers for Controlled Delivery (SIPCD 2010) could not have been successfully organized without the supports of our sponsors:

National Natural Science Foundation of China

Dutch Program for Tissue Engineering

Suzhou Industrial Park

Samyang Corporation

Purac Biomaterials

Angiotech

Roche

Elsevier

Ssens B.V.

Sympatec GmbH

Thermo Scientific

The First Affiliated Hospital of Soochow University

Changchun Institute of Applied Chemistry of the Chinese Academy of Sciences

Soochow University

biomat.net

polymer.cn

PREFACE

Dear Participant,

We are very happy to welcome you to the first Symposium on Innovative Polymers for Controlled Delivery (SIPCD 2010) in Suzhou, China.

Based on the suggestions of the members of the International and Chinese Organizing Committees we have been able to prepare a program in which many aspects of Controlled Delivery are covered:

- Innovative polymers for drug delivery
- Novel hydrogels for protein and cell delivery
- Multifunctional gene delivery systems
- Innovative polymer-based diagnostic systems
- Advanced polymers for tissue engineering

The symposium is organized in one single session, thus offering you the possibility to be present at all invited lectures (31) with ample opportunities to participate in the lively discussions. A very important part of the symposium will be the poster session (182 posters), which will give you an ideal opportunity to learn about the latest developments in various scientific disciplines and to discuss ideas for innovative delivery systems with fellow participants from industry and academia.

Besides abstracts of the invited lectures and poster presentations, this book contains also biosketches of all the invited speakers. In addition, an author index has been added at the end of this book for your convenience.

No such perfect ambience for this symposium could have been created nor could the special low registration fee for PhD students have been offered, without the enthusiastic cooperation and support of our sponsors (see the back-cover of this book and the SIPCD symposium homepage <http://www.sipcd.cn>).

As Organizing Committees we have selected a wonderful hotel, a challenging program, a series of very interesting posters, and a vivid social program. Now it is up to you to make this symposium a success by your enthusiastic participation.

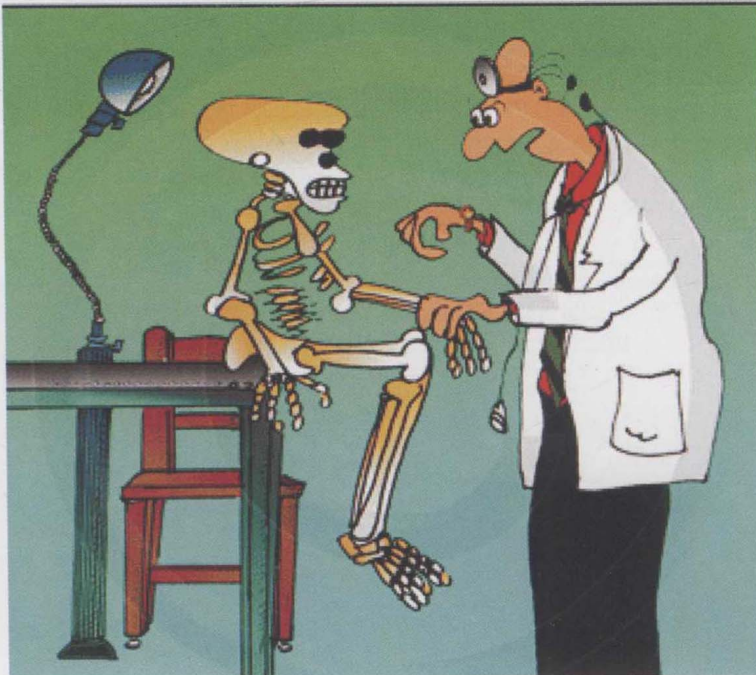
We wish you a very fruitful symposium.

On behalf of the SIPCD 2010 Organizing Committee

Prof. Jan Feijen	Soochow University / University of Twente
Prof. Xiulin Zhu	Soochow University
Prof. Zhiyuan Zhong	Soochow University
Prof. Lijia An	Chinese Academy of Sciences
Prof. Xuesi Chen	Chinese Academy of Sciences
Prof. Renxi Zhuo	Wuhan University

CHAPTER ONE

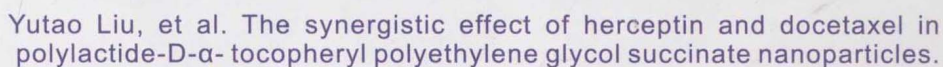
ABSTRACTS OF INVITED LECTURES AND BIOGRAPHIES OF INVITEES



Don't worry. We still have a few more treatment options available.

ABSTRACTS OF POSTER PRESENTATIONS

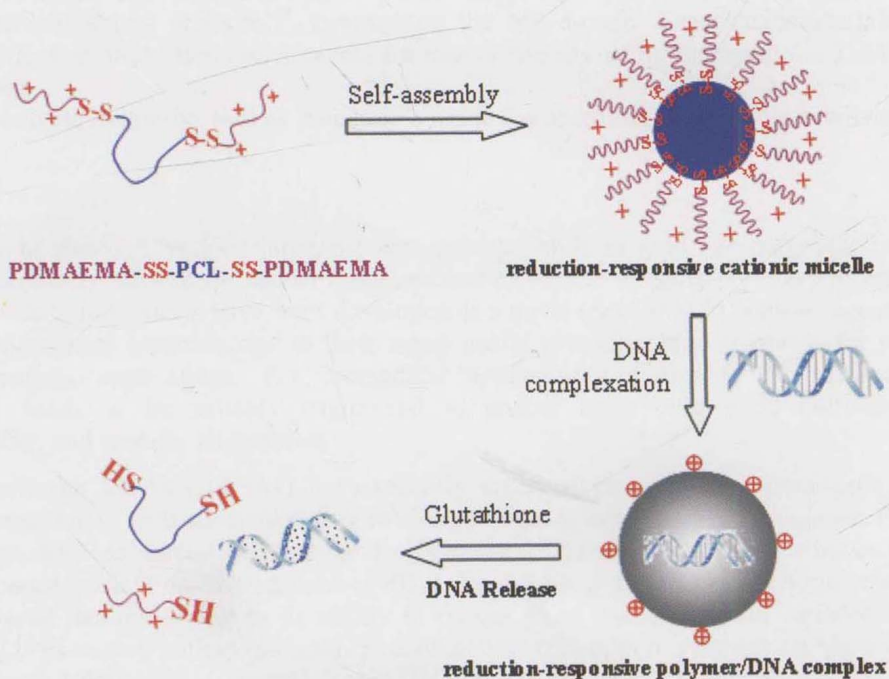
DRUG DELIVERY



CHAPTER THREE

ABSTRACTS OF POSTER PRESENTATIONS

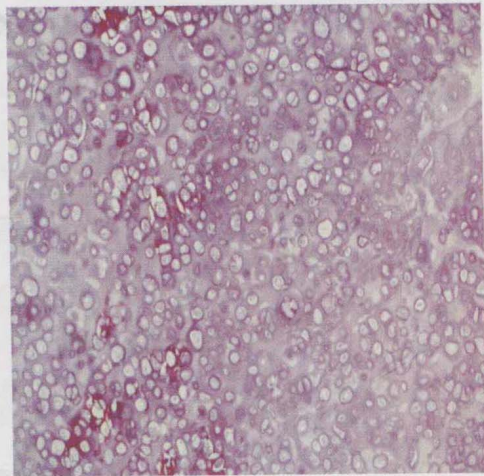
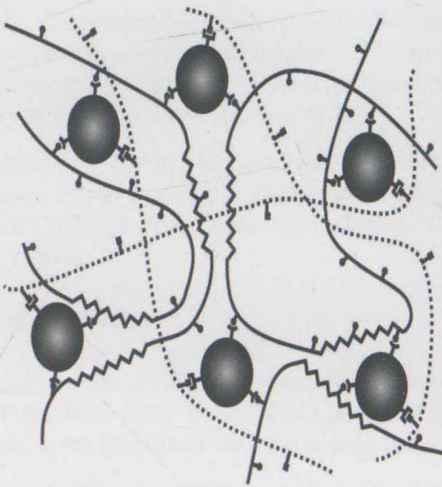
GENE & PROTEIN DELIVERY



Caihong Zhu, et al. Reduction-responsive cationic biodegradable micelles based on PDMAEMA-SS-PCL-SS-PDMAEMA triblock copolymers for gene delivery.

CHAPTER FOUR

ABSTRACTS OF POSTER PRESENTATIONS BIOMATERIALS & TISSUE ENGINEERING



Honghyun Park, et al. Alginate/hyaluronate hydrogels for cartilage regeneration.

TABLE OF CONTENTS

Chapter One: Abstracts of Invited Lectures and Biographies of Invitees

Biocompatibility issues of polymeric drug-delivery systems <i>James M. Anderson</i>	1
pH-Responsive nanosystems towards multidrug resistance and tumor cell heterogeneity <i>You Han Bae</i>	3
Complex tissue <i>Clemens A. van Blitterswijk</i>	5
Preparation, characterization of polyethylenimine derivatives as nonviral gene carriers <i>Xuesi Chen, Huayu Tian, Feifan Li, and Xiuli Zhuang</i>	6
Enzymatically crosslinked polysaccharide based hydrogels as an extracellular matrix for cartilage tissue engineering <i>Pieter J. Dijkstra, Rong Jin, Jan Feijen, Liliana S. Moreira Teixeira, and Marcel Karperien</i>	8
Barriers and carriers for intracellular drug delivery <i>Johan F.J. Engbersen</i>	10
New bioinspired macromolecules for biomedical applications: multifunctional peptide dendrimers <i>Zhongwei Gu</i>	12
Multifunctional envelope-type nano device for non-viral gene delivery <i>Hideyoshi Harashima</i>	14
Preparation and characterization of protein loaded microparticles based on hydroxylated aliphatic polyesters <i>Amir Ghassemi and Wim E. Hennink</i>	16
Intracellular delivery of biomolecular drugs <i>Allan S. Hoffman, Patrick Stayton, Anthony Convertine, Craig Duvall, and Danielle Benoit</i>	18
Macromolecular engineering to the service of advanced drug delivery systems <i>Christine Jérôme</i>	20
Therapeutic polymeric gene delivery systems <i>Sung Wan Kim</i>	22
Smart cytoplasm-sensitive carrier for gene delivery <i>Young-Wook Won and Yong-Hee Kim</i>	24
Polymer conjugates containing coiled coils: innovative linkers and innovative therapies <i>Bojana Apostolovic, Samuel P. E. Deacon, Ruth Duncan, and Harm-Anton Klok</i>	26
Biorecognition—a bridge from smart biomaterials to drug-free macromolecular therapeutics <i>Jindřich Kopeček and Jiyuan Yang</i>	28
<i>In vivo</i> cancer imaging and photodynamic therapy with glycol chitosan nanoparticle <i>So Jin Lee, Ha Young Jung, Kwangmeyung Kim, and Ick Chan Kwon</i>	30
Nucleic acid nanocarriers based on alkylmethacrylic acid copolymers <i>Arnaud E. Felber, Bastien Castagner, Masad J. Damha, and Jean-Christophe Leroux</i>	32
Acid-labile thermoresponsive polymers and their applications in drug delivery <i>Xiao-Nan Huang, Zeng-Ying Qiao, Fu-Sheng Du, and Zi-Chen Li</i>	34



Supramolecular biomaterials: a modular approach to bioactivity <i>E.W. Meijer</i>	36
Advancing biomaterial strategies for musculoskeletal tissue engineering <i>Antonios G. Mikos</i>	38
Combination drug/gene delivery by mesoporous silica nanoparticles <i>David Oupicky</i>	40
Drug targeting: myth, reality, and possibility <i>Sungwon Kim and Kinam Park</i>	42
Reducible multi-siRNA conjugates for efficient gene silencing <i>Tae Gwan Park</i>	44
Chemically programmed polymers for DNA and RNA based targeted cancer therapy <i>Ernst Wagner</i>	46
Electrochemically switchable nanosystems for control release of bioactive molecules <i>Yen Wei</i>	48
Nanosopic polymer objects of unique shapes and morphologies and well-defined structures and dimensions as controlled drug delivery devices <i>Nam S. Lee, Ang Li, Lily Yun Lin, Sandani Samarajeewa, Ritu Shrestha, and Karen L. Wooley</i>	50
How chains free in mixture of PEI and DNA promote gene transfection <i>Yanan Yue, Fan Jin, Rui Deng, Jing Cai, Yangchao Chen, Marie C. M. Lin, Hsiang-Fu Kung, and Chi Wu</i>	52
MRI-guided pharmacological intervention of brain tumours <i>Victor C. Yang</i>	54
Self-assembled polymeric nanostructures for delivery of therapeutics <i>Yi-Yan Yang, Chuan Yang, Jeremy P. K. Tan, Shrinivas Venkataraman, Zhan Yui Ong, Ashlynn Lee, Ying Zhang, Sung Ho Kim, Kazuki Fukushima, and James L. Hedrick</i>	56
Self-assembled micelles and their biomedical applications <i>Xian-Zheng Zhang</i>	58
Reduction-responsive nano-carriers for targeted intracellular anti-cancer drug delivery <i>Huanli Sun, Yuling Li, Haifei Xu, Yanmin Xu, Ru Cheng, Fenghua Meng, and Zhiyuan Zhong</i>	60

Chapter Two: Abstracts of Poster Presentations – Drug Delivery

Tailor-made copolymers for responsive drug delivery nanosystems <i>Sébastien Cajot and Christine Jérôme</i>	63
Preparation and evaluation of zanamivir-loaded solid lipid nanoparticles <i>Qingri Cao, Haining Wu, Li Zhu, Dan Wu, Yunfeng Zhu, Zhixin Zhu, and Jinghao Cui</i>	66
A smart polymer for drug delivery sensitive to tumor extracellular pH <i>Guangtao Chang, Lin Yu, and Jiandong Ding</i>	69
Effect of resistant starch film properties on the colon-targeting release of drug from coated pellets <i>Xiaoxi Li, Peng Liu, Ling Chen, and Long Yu</i>	72
Rapidly pH-responsive degradable polymersomes for triggered release of hydrophilic and hydrophobic anticancer drugs <i>Wei Chen, Fenghua Meng, Ru Cheng, and Zhiyuan Zhong</i>	75



Single chain variable fragment CD7 antibody conjugated PLGA/HDAC inhibitor immuno-nanoparticles: developing human T cell-specific nano-technology for delivery of therapeutic drugs targeting latent HIV	78
<i>Sunmi Choi, Jangwook Lee, Priti Kumar, Kuen Yong Lee, and Sang-Kyung Lee</i>	
Amino acid based polyesteramides and polyesterurethanes: cell responsive matrices for drug delivery	81
<i>Aylvin A. Dias, Bart. Plum, G. Mihov, and Bill Turnell</i>	
pH and dual redox responsive nanogel based on poly(L-glutamic acid) as potential intracellular drug carrier	84
<i>Jianxun Ding, Chunsheng Xiao, Lesan Yan, Zhaozhui Tang, Xiuli Zhuang, Xuesi Chen, and Xiabin Jing</i>	
Stimuli-responsive polypeptide-based reverse micellar hydrogel	87
<i>Chang-Ming Dong and Yi Chen</i>	
Preparation and characterization of targeted DOX-PLGA-PEG micelles decorated with bivalent fragment HAb18 F(ab') ₂ for treatment of hepatocellular carcinoma	90
<i>Cheng Jin, Wenqing Yang, Ling Bai, Junqing Wang, and Kefeng Dou</i>	
pH-Sensitive biocompatible block copolymer vesicles for drug delivery	93
<i>Jianzhong Du, Yiqing Tang, Andrew L. Lewis, and Steven P. Armes</i>	
New superamolecular polymer micelles of α -cyclodextrin and poly(L-lactide), poly (L-lactide) /poly (ϵ -caprolactone) copolymer	96
<i>Jiaojiao Du, Haiqing Dong, Liqiong Liao, and Lijian Liu</i>	
Synthesis and controlled release of mitomycin C from a chitosan-based polymeric prodrug	99
<i>Lihong Duan, Qiongjuan Zheng, Xiaoning Li, Daping Quan, and Jian Ge</i>	
Drug release from biodegradable polyesterurethanes with shape-memory effect	102
<i>Yakai Feng, Shifeng Zhang, Heyun Wang, Haiyang Zhao, Jian Lu, Jintang Guo, Marc Behl, and Andreas Lendlein</i>	
Biodegradable polyesterurethanes with shape-memory properties for dexamethasone and aspirin controlled release	105
<i>Yakai Feng, Shifeng Zhang, Heyun Wang, Haiyang Zhao, Jian Lu, Jintang Guo, Marc Behl, and Andreas Lendlein</i>	
Crosslinked biomimetic random copolymer micelles as potential anti-cancer drug delivery vehicle	109
<i>Jing Zhang, Ming Gong, Shan Yang, and Yong-kuan Gong</i>	
Preparation and pharmacokinetics of solid lipid nanoparticles loaded with pueraria flavones	112
<i>Qingxiang Guan, Qingtao Guan, Tianmu Lin, and Jianyuan Yin</i>	
Studies on pH-sensitive micellar structures for sustained drug delivery: experiments and computer simulations	115
<i>Xin Dong Guo, Li Juan Zhang, Zhi Min Wu, and Yu Qian</i>	
Controlled heparin release from electrospun gelatin fibers	118
<i>Heyun Wang, Yakai Feng, Haiyang Zhao, Jian Lu, Jintang Guo, Marc Behl, and Andreas Lendlein</i>	
PEGylated liposomes modified with LHRH analogs for tumor targeting	121
<i>Yingna He, Linhua Zhang, and Cunxian Song</i>	
Controlled release of hydrogel modified textile products	124
<i>Jinlian Hu</i>	
Photosensitizer-loaded dendrimer-modified multi-walled carbon nanotubes for photodynamic therapy	127
<i>Peng Huang, Jing Lin, Dapeng Yang, Chuilei Zhang, Zhiming Li, and Daxiang Cui</i>	
<i>In vitro</i> evaluation of Konjac glucomannan as novel excipients for floating systems	130
<i>Yuanyuan Ji and Yulin Deng</i>	



Reduction-responsive polymeric micelles for anticancer drug delivery <i>Xulin Jiang, Lihua Li, Jia Liu, and Renxi Zhuo</i>	133
Synthesis of novel mesoporous silica nanoparticles for loading and release of ibuprofen <i>Haijiao Zhang, Zhiyong Li, Panpan Xu, Ruofei Wu, Lin Wang, Yuewen Xiang, and Zheng Jiao</i>	136
Preparation and characterization of aspirin/chitosan nanoparticles by nucleation and ionic crosslinking in micro emulsions <i>Shuping Jin, Lei Feng, and Xinghai Yu</i>	139
Experimental study on biodegradable polymer-paclitaxel conjugate micelles for chemotherapy of C6 glioma <i>Zhanfeng Wang, Xiuli Hu, Jun Yue, and Xiabin Jing</i>	142
Tailoring the PLATMC chain microstructure for stable cyclosporine A release <i>Janusz Kasperczyk, Katarzyna Jelonek, Katarzyna Gębarowska, Piotr Dobrzyński, and Anna Smola</i>	145
Anti-cancer effects of docetaxel loaded thermo-reversible hydrogels in a tumor xenograft mice model <i>Jang-Kyoung Kim, Young-Wook Won, Kwang Suk Lim, Eun Jeong Park, and Yong-Hee Kim</i>	148
Formation of concentric multi-layer chitosan hydrogel loaded with isoniazid <i>Baoqiang Li, Yongsheng Gao, Yujie Feng, Bing Ma, Renxian Zhu, and Yu Zhou</i>	151
Chitosan hydrogels with 3D Liesegang ring structure for rifampicin release <i>Baoqiang Li, Yongsheng Gao, Xin Li, Yujie Feng, and Yu Zhou</i>	154
Functionalized dextran-coated liposomes for doxorubicin loading <i>Shunhua Ning, Qiyu Huang, Juan Li, Yi Zhang, and You-Nian Liu</i>	157
A novel oral colon-targeting drug delivery system based on resistant starch acetate <i>Ling Chen, Huayin Pu, Xiaoxi Li, and Long Yu</i>	160
Supramolecular polymer micelles self-assembled from α -cyclodextrin and PLLA-PCL based copolymers <i>Haiqing Dong, Yongyong Li, Huiyun Wen, and Donglu Shi</i>	163
Reversibly crosslinked poly(vinyl alcohol) nanoparticles for triggered release of doxorubicin <i>Yuling Li, Rongran Wei, Shunjun Ji, Fenghua Meng, and Zhiyuan Zhong</i>	166
Injectable hybrid laponite/alginate hydrogels for sustained release of methylene blue <i>Yulin Li, José Luis Santos, Dina Maciel, Helena Tomás, and João Rodrigues</i>	169
Novel hyaluronan based biodegradable hydrogel and its drug release behavior <i>Changjiang Fan, Chao Zhang, Liqiong Liao, and Lijian Liu</i>	172
Multifunctional polyethylenimine-conjugated superparamagnetic nanoparticles for drug delivery and imaging <i>Chao Lin and Jianping Ge</i>	175
Poly(L-glutamic acid)-based star-block copolymers as pH-responsive release systems <i>Yunsong Yan, Lihui Liao, and Daojun Liu</i>	178
Controlled acid hydrolysis and acetylation of glucomannans as drug carriers with designed pharmacokinetic behaviors <i>Jiangyun Liu, Yan Zhang, Yin Yin, Fang Peng, Peilie Cai, and Shilin Yang</i>	181
Hydrogel integrated with liposome: a two-stage drug delivery system <i>Yun Liu and Dehai Liang</i>	184
The synergistic effect of herceptin and docetaxel in polylactide-D- α -tocopheryl polyethylene glycol succinate (PLA-TPGS) nanoparticles <i>Yutao Liu and Si-Shen Feng</i>	187



Synthesis and characterisation of silica-polymer hybrid core-shell and hollow spheres for drug delivery applications	190
<i>Xia Lou, Thomas Schumacher, Hong Yang, and Ailin Ding</i>	
pH-Responsive polymeric-cargo encapsulated magnetic nanoparticles for selective release and imaging	193
<i>Dongyun Chen, Najun Li, Xuwei Xia, Qingfeng Xu, Jianfeng Ge, Yonggang Li, Jianmei Lu, and Hongwei Gu</i>	
A novel dual stimuli-responsive drug carrier biomaterial based on BSA/PVP polymers	196
<i>Chong-Wu Mao, Rong-Min Wang, Hui-Fang Zhang, Yu-Feng He, Ji-De Tao, and Xiao-Chun Ying</i>	
Preparation and <i>in vitro</i> release of spray-dried chitosan microspheres for levofloxacin delivery	199
<i>Jiayu Cai, Yin Zhang, Wennan Du, and Kaihui Nan</i>	
Investigation on the preparation and application of chitosan/alginate microcapsules	202
<i>Dongzhi Yang, Shuang Guo, Jing Qiao, and Jun Nie</i>	
Hydrogel-based drug carriers for controlled release of hydrophobic drugs and proteins	205
<i>Ke Peng, Itsuro Tomatsu, and Alexander Kros</i>	
Radiopaque microspheres for improved transarterial chemical embolisation (TACE)	208
<i>Ketie Saralidze, Menno L.W. Knetsch, Robbert G.M. van Berkel, Charlotte Mostert, and Leo H. Koole</i>	
Thermosensitive, biocompatible and antifouling nanogels prepared via aqueous RAFT dispersion polymerization for targeted drug delivery	211
<i>Wenqing Shen, Yanli Chang, Haifang Wang, Guangyao Liu, Aoneng Cao, and Zesheng An</i>	
Degradable water soluble hyperbranched polymers for drug delivery	214
<i>Xingping Wang, Jianbin Tang, Meihua Sui, Xinpeng Wang, Jinxia Xu, and Youqing Shen</i>	
Microencapsulation of vitamin C by interfacial/emulsion reaction: characterization of release properties of microcapsules	217
<i>Haixia Wang, Haifeng Shi, Agnes C. Cheung, and John H. Xin</i>	
Biomaterialized hydrophobically modified alginate membrane for sustained drug delivery	220
<i>Ximeng Sun, Jun Shi, Zhengzheng Zhang, and Shaokui Cao</i>	
Nanogated vessel based on polypseudorotaxane-capped mesoporous silica via a highly acid-labile benzoic-imine linker	223
<i>Yaohua Gao, Rujiang Ma, Yingli An, and Linqi Shi</i>	
Dual drug release from coaxial electrospun nanofibers	226
<i>Yan Su and Xiumei Mo</i>	
Reduction-responsive shell-sheddable biodegradable micelles for intracellular doxorubicin delivery	229
<i>Huanli Sun, Bingnan Guo, Ru Cheng, Fenghua Meng, Haiyan Liu, and Zhiyuan Zhong</i>	
Novel reduction-sensitive micelles for triggered intracellular drug release	232
<i>Peijian Sun, Danhua Zhou, and Zhihua Gan</i>	
Nontoxic gemini cationic biodegradable polyurethane drug carriers: synthesis, self-assembly and <i>in vitro</i> cytotoxicity	235
<i>Mingming Ding, Xueling He, Lijuan Zhou, Jiehua Li, Hong Tan, Xiaoting Fu, and Qiang Fu</i>	
β -Cyclodextrin-based biodegradable dendrimers for drug delivery	238
<i>Jianbin Tang, Xingping Wang, Xinpeng Wang, Meihua Sui, Weiwei Mao, and Youqing Shen</i>	
Preparation and characterization of camptothecin (CPT)-loaded folate-conjugated dextran nanoparticles for tumor-targeted drug delivery using supercritical antisolvent method	241
<i>Xiuhua Zhao, Dan Wang, Yuangang Zu, Ru Jiang, Dongmei Zhao, Yong Li, Baishi Zu, Zhiqiang Sun, and Qi Zhang</i>	



Keratin films from chicken feathers for controlled drug release <i>Fang-Ying Li, Rong-Min Wang, Yu-Feng He, Xiao-Xiao Li, Peng-Fei Song, Xiao-Chun Ying, and Chong-Wu Mao</i>	244
Novel pH-sensitive zwitterionic poly(amino acid) derivatives for drug delivery <i>Xiaojuan Wang, Guolin Wu, Tao He, Yong Wang, Yinong Wang, Yunge Fan, Hui Gao, and Jianbiao Ma</i>	246
Biocompatible hydrogels based on chitosan and poly(<i>p</i> -dioxanone) <i>Yanli Zhai, Xiuli Wang, Xiaoyu Li, and Yuzhong Wang</i>	249
Tumor-targeted drug carriers and their enhanced intracellular delivery by pH-sensitivity <i>Kun Zhang, Wenming Yang, Dawei Wang, Congcong Liu, Linshuang Qi, and Yongjian Wang</i>	252
Synthesis of amphiphilic hyperbranched polymers for the controlled release of double-guest molecules <i>Wei Tian, Xiaoying Wei, Guang Yang, and Xiaodong Fan</i>	255
<i>In vitro</i> and <i>in vivo</i> evaluation of ibuprofen-paeonol conjugate <i>Dan Wu, Guizhen Ao, Qingri Cao, Dawei Chen, and Jinghao Cui</i>	258
pH-Sensitive sandwich poly(amino acid) micelles <i>Guolin Wu, Zheng Wang, Shufang Yu, Yinong Wang, Yunge Fan, Hui Gao, and Jianbiao Ma</i>	261
Tunable release of biomacromolecules from reductive-responsive multilayered hollow microcapsules <i>Xi-Ming Xia, Ping Yu, Na Peng, Yang Zhang, Ya-Nan Xue, Ren-Xi Zhuo, and Shi-Wen Huang</i>	264
New polymer–platinum (II) antitumor conjugates <i>Haihua Xiao, Yanyan Fan, Shi Liu, Xuesi Chen, Yubin Huang, and Xiabin Jing</i>	267
Synthesis of azobenzene functionalized dendritic block copolymer based on hyperbranched PDMAEMA and investigation of its drug release properties <i>Minying Xing, Weihua Guo, Zhenping Cheng, Zhengbiao Zhang, Jian Zhu, and Xiulin Zhu</i>	270
Photo-crosslinked biodegradable micelles for paclitaxel release <i>Juan Xiong, Fenghua Meng, and Zhiyuan Zhong</i>	273
A novel heparin release system based on blends of biomedical polyurethane and native silk fibroin powder <i>Hongjun Yang, Haiye Xu, Hongtao Liu, Chenxi Ouyang, and Weilin Xu</i>	276
Platinum (IV)-coordinate polymers for cancer drug delivery <i>Jun Yang, Weiwei Mao, Meihua Sui, Jianbin Tang, and Youqing Shen</i>	279
Functional surface modification of PE film by dopamine- β -cyclodextrin conjugate <i>Liming Yang, Yilei Shi, Jie Chen, Liang Rong, and Wei Yang</i>	282
Antitumor activity of drug loaded glycyrhethinic acid modified alginate nanoparticles on mice bearing orthotopic liver tumor <i>Chuangnian Zhang, Yukun Wu, Tong Liu, Yue Zhao, Xiuhua Wang, Wei Wang, and Zhi Yuan</i>	285
Light and electron microscopy characterization of a collagen-liposomes-entrapped chondroitin sulphate composite as intra-articular drug delivery system <i>Otilia Zarnescu, Lucia Moldovan, Mihaela Trif, Magda Moisei, and Oana Craciunescu</i>	288
Paclitaxel-loaded polymeric nanoparticles based on PCL-PEG-PCL: preparation, <i>in vitro</i> and <i>in vivo</i> evaluation <i>Linhua Zhang, Yingna He, Mei Yu, and Cunxian Song</i>	291
Formation and controlled release of the inclusion complex of water soluble model drug neutral red with β -cyclodextrin grafted sodium alginate <i>Shiping Zhang, Xuemei Qiao, Bihuang Hu, and Yongkuan Gong</i>	294



Amphiphilic linear-hyperbranched block copolymers bearing one poly(ethylene glycol) chain and several linear poly(ϵ -caprolactone) chains <i>Xiaojin Zhang, Zhenlin Zhong, and Renxi Zhuo</i>	297
Preparation and properties of multi-responsive semi-IPN hydrogel modified magnetic nanoparticles as drug carrier <i>Fen He, Yi Zhang, Ji Li, Siwei Liu, Zhenguo Chi, and Jiarui Xu</i>	300
Drug carriers based on cyclodextrin inclusion complexes for the controlled release of hydrophobic drugs <i>Leyan Xiong, Longzhen Zheng, Kui Han, Qiang Liu, Yindi Li, Wen Liu, Jian Xia, and Wei Wang</i>	303
Composite micelles consisting of paclitaxel- and folic acid-carrying copolymers for treatment of Lewis lung cancer <i>Yonghui Zheng, Yanhui Wan, Xiangfu Song, Xiuli Hu, Shi Liu, and Xiabin Jing</i>	306
Synthesis and characterization of amphiphilic chitosan derivatives as a nano-carrier for paclitaxel delivery <i>Huofei Zhou, Xiudong Liu, Xin Guo, Nan Li, Weiting Yu, Ying Zhang, and Xiaojun Ma</i>	309
Thermosensitive pluronic F127-b-poly(ϵ -caprolactone) mixed micelles <i>Qi Zhou, Zhao Zhang, Tao Chen, and Shaobing Zhou</i>	312
One type of novel thermosensitive polymeric micelles <i>Aijun Zhao, Tao Chen, Qi Zhou, and Shaobing Zhou</i>	315
A facile way to fabricate polyester microcapsules <i>Xi Yu and Jintao Zhu</i>	318
Monodisperse PLA/PLGA nanoparticles fabrication through a surfactant-free route <i>Ruijing Liang and Jintao Zhu</i>	321
Preparation and evaluation of injectable sustained-release microspheres of rivastigmine <i>Yunfeng Zhu, Zhixin Zhu, Qingri Cao, Dawei Chen, and Jinghao Cui</i>	324

Chapter Three: Abstracts of Poster Presentations – Gene & Protein Delivery

Surface functionalized hollow manganese oxide nanoparticles for cancer targeted siRNA delivery and magnetic resonance imaging <i>Ki Hyun Bae, Kyuri Lee, Jaewon Lee, In Su Lee, Jung Hee Lee, and Tae Gwan Park</i>	327
<i>In vitro</i> and <i>in vivo</i> gene delivery using polyethylenimine-poly(hydroxyethyl glutamine) as a non-viral carrier <i>Jie Chen, Huayu Tian, Arihiro Kano, Atsushi Maruyama, Xuesi Chen, and Tae Gwan Park</i>	330
Biodegradable chimaeric polymersomes mediate highly efficient delivery of exogenous proteins into cells <i>Ru Cheng, Guijing Liu, Shoubao Ma, Shaoke Li, Fenghua Meng, Haiyan Liu, and Zhiyuan Zhong</i>	333
Dendrimer-modified gold nanorods as efficient controlled gene delivery system under near-infrared light irradiation <i>Daxiang Cui, Peng Huang, Chuilei Zhang, Cengiz S. Ozkan, Bifeng Pan, and Ping Xu</i>	336
Preparation of novel biodegradable ternary copolymers mPEG- <i>b</i> -P(MCC- <i>g</i> -OEI) and their gene delivery <i>Xuan Dong, Lei Chen, Huayu Tian, Jie Chen, Xuesi Chen, Yen Wei, Atsushi Maruyama, and Tae Gwan Park</i>	339
Supramolecular assembly of cyclodextrin-based nanospheres for gene delivery <i>Min-min Fan, Xi-Zhang, Bang-jing Li, Xun Sun, and Sheng Zhang</i>	342