PENNSYLVANIA CONVENTION CENTER

CONTROLLED RELEASE SOCIETY

CRS 2025

ANNUAL MEETING & EXPOSITION

PHILADELPHIA, PA
JULY 14-18, 2025

NEXT-GENERATION DELIVERY INNOVATIONS

ABSTRACT GUIDE

#CRS2025

XGen

Empowering Today's Breakthroughs In Nucleic Acid Delivery For Tomorrow !

Market Overview

350+ Customers

28+ Clinical Trial Authorizations

100+ Case Studies

40+ Publications

Product Presentation

INano™ L+

Discovery-Scale Formulation

INano™ HT-Smart

Fully Automated High-Throughput LNP Formulation & Screening

INano™ Optimux

Medium-Scale Formulation (Re-usable System & GMP Compliant)

INano™ S

Late-Stage-Clinical & Commercial-Scale Formulation

XNano™ PCV

Medium-Scale Formulation (Single-use Tubing & Cartridge; GMP Compliant)

XGen Bio Inc.

Address: 299 Washington Street, Woburn, MA, 01801, USA

Tel. No.: +1 617-865-0118
Website: www.xgenfuture.com

* The final interpretation right belongs to XGen

Welcome to CRS 2025

Annual Meeting & Exposition in Philadelphia, PA, USA!

On behalf of the CRS Annual Meeting Program Committee (AMPC) and the CRS Board of Directors, I am pleased to invite you to the ***CRS 2025 Annual Meeting & Exposition*** at the ***Pennsylvania Convention Center*** in the historic city of ***Philadelphia, PA, USA***, taking place ***July 14-18, 2025.***

This year's theme, "***Next-Generation Delivery Innovations,***" highlights the exciting advancements shaping the future of controlled release science. In addition, this year's meeting will also focus on our ***CRS Connecting People*** initiative, offering multiple opportunities to discuss, interact, and build lasting collaborations. Whether you're a seasoned expert or new to the field, our diverse program is designed to help you connect, learn, collaborate, and have fun!

Philadelphia, renowned for its rich history and vibrant culture, provides the perfect setting to spark innovation and collaboration. Explore iconic landmarks like the Liberty Bell, take on the famous "Rocky steps" at the Philadelphia Museum of Art, and indulge in the city's beloved Philly cheesesteak. This dynamic city offers endless opportunities to connect, engage, and be inspired, making it the ideal backdrop for shaping the future of transformative therapies.

We look forward to welcoming you for an unforgettable experience of science, networking, and discovery!

Warm regards,
On behalf of CRS 2025 Annual Meeting Program Committee,

Assaf Zinger, Ph.D.
Chemical Engineering Department
Technion Israel Institute of Technology
AMPC Chair

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CRS headquarters team members value current members, future members, partners and programs & meetings attendees. Our goal is to consistently provide you with outstanding service, products, and programs. Use the following quick reference list to reach the appropriate persons in areas in which you may need assistance. Please call the general number for assistance Monday through Friday during the office hours of 08:30 AM - 5:00 PM Eastern Time (13:30 to 22:00 GMT/UTC). You can leave a voice mail or e-mail message at any time. We look forward to hearing from you!

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Meetings Coordinator
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GENERAL MEETING INFORMATION

ALL EVENTS WILL TAKE PLACE AT THE PENNSYLVANIA CONVENTION CENTER IN PHILADELPHIA, PA, USA, JULY 14-18, 2025.

**All times listed in Eastern Daylight Time*

REGISTRATION HOURS

The registration desk will be open daily from 7:00 AM – 7:00 PM

USE OF CRS SCIENTIFIC PROGRAM CONTENT

Information presented during the 2025 CRS Annual Meeting & Exposition is the property of CRS and the presenter. Information may not be recorded, photographed, copied, photocopied, transferred to electronic format, reproduced, or distributed without the written permission of CRS and the presenter. Any use of the program content, which includes, but is not limited to oral presentations, audiovisual materials used by speakers, and program handouts, without the written consent of CRS is prohibited.

SPEAKER READY ROOM HOURS:

Monday, July 14:	7:00 am – 7:00 pm
Tuesday, July 15:	7:00 am – 7:00 pm
Wednesday, July 16:	7:00 am – 7:00 pm
Thursday, July 17:	7:00 am – 7:00 pm

The Speaker Ready Room is located in the **120 A room**. All speakers are requested to check in at least 2 hours prior to their presentation (schedule permitting). Verification of proper performance in the Speakers' Ready Room is essential, particularly if video and animation is included in the presentation.

ACCESS THE ABSTRACTS

CRS annual meeting abstracts can easily be accessed on the CRS Meeting Mobile App. Within the app, click on the Posters icon to begin viewing poster abstracts. You can search by abstract category, presenter, & poster number. You can view podium abstracts directly from the full schedule by speaker, session track, time, and day.

ELECTRONIC DEVICES

As a courtesy to other meeting attendees, please turn off or silence all electronic devices during all workshops, sessions, and presentations.

PHOTOGRAPHY

Photography is not permitted in the session rooms, exhibit hall, or poster sessions.

PHOTO RELEASE

By virtue of your attendance, you agree to the Controlled Release Society's use of your likeness in promotional media.

CHILDREN AND THE CRS ANNUAL MEETING & EXPOSITION

The CRS Annual Meeting & Exposition is a professional, scientific meeting. CRS does not permit anyone under the age of 18 to attend the scientific sessions, poster sessions, exposition, and social events. For safety reasons, only registered exhibitors and poster presenters are permitted in the exposition/poster hall during set-up and take-down hours. Anyone 18+ must register and buy applicable individual tickets if not attending/registering as a student.

CRS will be offering on-site childcare services, provided by Jovie Nannies & Sitters, for the 2025 Annual Meeting from Monday, July 14, to Friday, July 18, 2025. Childcare service packages are available to attendees for purchase. All children found present at the Annual Meeting and un-badged will automatically be enrolled in childcare services and the associated fees will be billed accordingly. For further information please stop by the registration desk to speak with a CRS representative.

CRS ANTITRUST POLICY

It is the undeviating policy of the Controlled Release Society (CRS) to comply strictly with the letter and spirit of all U.S.A. federal laws, as well as state, and applicable international trade regulations and antitrust laws. Any activities of CRS or related actions of its staff, officers, trustees, or members that violate these laws and regulations are detrimental to the interests of CRS and are unequivocally contrary to CRS' policy. The implementation of the antitrust compliance policy of CRS shall include, but not be limited to the following:

a. All the association activities or discussions shall be avoided that might be construed as tending to: (1) raise, lower, or stabilize prices; (2) allocate markets; (3) encourage boycotts, (4) foster unfair trade practices; or (5) in any way violate U.S.A. federal, state, or applicable international trade regulations and antitrust laws.

b. No officer, director, or member of CRS shall make any representation in public or in private, orally or in writing, that states, or appears to state, an official policy or position of CRS without specific authorization to do so.

c. CRS members, officers, or directors who participate in conduct that the Board of Directors, by a two-thirds majority vote, determine to be contrary to the CRS. Antitrust Policy shall be subject to disciplinary measures up to, and including, termination.

EXHIBITS

The exhibits are an integral part of the complete education experience and will feature the latest research products in the field of controlled release. The Exhibit Hall will be open Daily at 8:00 AM and will close after the last event each day. The main times to expect activity in the Exhibit Hall are below. Please make time during the meeting to visit the exhibits during their open hours.

Installation:

MONDAY, JULY 14: 2:00 pm –4:30 pm
TUESDAY, JULY 15: 8:00 am – 4:00 pm

Exhibit Hours

TUESDAY, JULY 15
Welcome Reception / Exhibit Hall & Posters
6:30 pm to 8:00 pm

WEDNESDAY, JULY 16
Breakfast /Exhibit Hall & Posters
8:00 am – 9:00 am *(coffee/tea & lite bites provided)*

Lunch Break /Exhibit Hall & Posters
1:00 pm – 2:00 pm *(boxed lunch provided)*

Afternoon Break /Exhibit Hall & Posters
4:00 pm – 4:30 pm *(coffee/tea provided)*

GENERAL INFORMATION (CONTINUED)

Networking Break - Exhibit Hall & Postes
6:00 pm – 8:00 pm *(food & beverages provided)*

THURSDAY, JULY 17

Breakfast /Exhibit Hall & Posters
8:00 am – 9:00 am *(coffee/tea & lite bites provided)*

Lunch Break /Exhibit Hall & Posters
1:00 pm – 2:00 pm *(boxed lunch provided)*

Afternoon Break /Exhibit Hall & Posters
4:00 pm – 4:30 pm *(coffee/tea provided)*

Networking Break - Exhibit Hall & Posters
6:30 pm – 8:00 pm

Dismantle: ***THURSDAY, JULY 17:*** 8:00 pm – 10:00 pm
FRIDAY, JULY 18: 8:00 am – 12:00 pm

POSTER SESSIONS

Posters are located in the Exhibit Hall. All posters must be removed during Poster Breakdown or they will be discarded. The poster viewing area will be secured overnight. Photographing posters is not permitted. The Posters Sessions are an important educational event of this meeting. We hope you support and attend these scientific presentations.

Poster Installation: **Tuesday, July 15**
4:30 pm – 6:00 pm
(installation must be complete by 6:00 pm)

Presentation Times: ***WELCOME RECEPTION***
Tuesday, July 15
6:30 pm – 8:00 pm

EXHIBIT HALL & POSTERS

Wednesday, July 16	**Thursday, July 17**
8:00 am – 9:00 am	8:00 am – 9:00 am
1:00 pm – 2:00 pm	1:00 pm – 2:00 pm
4:00 pm – 4:30 pm	4:00 pm – 4:30 pm
6:00 pm – 8:00 pm	6:30 pm – 8:00 pm

Dismantle: **Thursday, July 117** 8:00 pm – 10:00 pm; **Friday, July 18** 10:30 am – 12:00 pm

(IF YOUR POSTER IS NOT COLLECTED BY 12:00 PM ON FRIDAY, JULY 18, IT WILL BE DISCARDED)

2025 CRS Awards & Recognition

Congratulations to the 2025 Award Winners! CRS proudly announces the recipients of Awards that honor those who have contributed to the CRS society and science. Awards will be presented during the 2025 CRS Annual Meeting.

DISTINGUISHED SERVICE AWARD

Claus-Michael Lehr, Ph.D.
Helmholtz Institute for Pharmaceutical Research Saarland (HIPS)

EXCEPTIONAL LEADERSHIP AWARD - BY THE YOUNG SCIENTIST COMMITTEE

Twan Lammers, Ph.D.
RWTH Aachen University

FOUNDERS AWARD

Samir Mitragotri, Ph.D.
Harvard University

MEMBER OF THE YEAR AWARD

Maria Vivero-Lopez, Ph.D.
University of Nottingham

SAMYANG AWARD IN HONOR OF SUNG WAN KIM

Ronit Satchi-Fainaro, Ph.D.
Tel Aviv University

TRANSDERMAL DELIVERY KYDONIEUS FOUNDATION AWARD

Ana Melero, Ph.D.
University of Valencia

RISING WOMEN IN SCIENCE AWARD

Hagar Labouta, Ph.D.
University of Toronto

WOMEN IN SCIENCE AWARD

Soumya Rahima Benhabbour, Ph.D.
The University of North Carolina at Chapel Hill

YOUNG INVESTIGATOR AWARD

Assaf Zinger, Ph.D.
Technion - Israel Institute of Technology

JOURNAL OF CONTROLLED RELEASE BEST PAPER AWARD

Janin Germer, Ph.D.
Cytiva
"Lipo-Xenopeptide Polyplexes for CRISPR/Cas9 based Gene editing at ultra-low dose"

PhD THESIS AWARD

Anshuman Dasgupta
Massachusetts Institute of Technology

David Klein Cerrejon
ETH Zürich

DRUG DELIVERY AND TRANSLATIONAL RESEARCH JOURNAL BEST PAPER AWARD

Christopher McConville, Ph.D.
University of Birmingham
"Local administration of irinotecan using an implantable drug delivery device stops high-grade glioma tumor recurrence in a glioblastoma tumor model"

CRS COMMITTEE MEETINGS

(Dates & times subject to change)

MONDAY, JULY 14	TIME	ROOM
GMEC Meeting	12:00 PM – 1:00 PM	121 A
FG Leadership Meeting	2:00 PM – 3:00 PM	122 A
TUESDAY, JULY 15	**TIME**	**ROOM**
DDTR Meeting	8:30 AM – 9:30 AM	121 A
FG Chat & Chews	1:00 PM – 2:00 PM	119 A/B, 120 B/C, 121 B/C, 123, 124, 125
WEDNESDAY, JULY 16	**TIME**	**ROOM**
International Chapters Meeting	1:00 PM – 2:00 PM	122 A
ADDR Editorial Meeting	1:00 PM – 2:00 PM	121 A
THURSDAY, JULY 17	**TIME**	**ROOM**
JCR Editorial Meeting	11:30 AM – 1:00 PM	121 A
YSC & Industry Foresight Council Meeting	1:00 PM – 2:00 PM	122 B
JCR Board Meeting	1:00 PM – 2:00 PM	121 A
C&DP Board Meeting	2:00 PM – 3:00 PM	121 A

CONNECT @ THE EXPO

EXPOSITION HALL

The CRS Exposition is the place to CONNECT and discover the latest delivery science and technology trends! Meet face-to- face with leading companies from around the world—learn about new products, discuss industry challenges, and build your network. 2025 Exhibitors as of (6/27/2025)

Detailed description of current Exhibitors and the schedule of Exposition hours can be found in the CRS AM&E Mobile App.

EXHIBIT HALL HOURS

Tuesday, July 15

Welcome Reception / Exhibit Hall & Posters
6:30 pm – 8:00 pm

Wednesday, July 16

Breakfast /Exhibit Hall & Posters
8:00 am – 9:00 am (coffee/tea & lite bites provided)
Lunch Break /Exhibit Hall & Posters
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4:00 pm – 4:30 pm (coffee/tea provided)
Networking Break - Exhibit Hall & Posters
6:30 pm – 8:00 pm

COMPANY NAME	BOOTH NUMBER
Ashland	312
Bezwada Biomedicals, LLC	401
Cayman Chemical Company	200
Certest	102
Colorcon	201
Corbion	109
CRS AMPC	410
Curapath	301
digiM solution	211
Dionamix Scientific	409
Dolomite Microfluidics	311
Early Career Scientist Meet-up Station	412
Elsevier	TT2
Erweka, part of Verder Scientific	203
Evonik Corporation	213
Exodus Bio	407
Glatt Pharmaceutical Services - CDMO Unlimited	115
Helix Biotech	206
InnoGI Technologies	303
Inside Therapeutics	308
International Pharmaceutical Excipients Council of the Americas	300
IOI Oleochemical	408
Izon Science	405
Lipoid, Inc.	204
Logan Instruments	313
Lonza Capsules & Health Ingredients	215
Lubrizol	104
Marama Labs	105

COMPANY NAME	BOOTH NUMBER
MDPI	202
MeltPrep	212
NanoFCM Inc.	101
Nisso America Inc.	210
NOF Corporation	306
Oakwood Labs	309
PharmaCircle	107
Pion Inc	205
PolyMicrospheres	106
Precigenome LLC	406
ProMed Pharma	304
Royal Society of Chemistry	114
Sartorius BIA Separations	310
Schrödinger	302
SEQENS	112
Shin-Etsu Chemical Company	207
Simulations Plus	103
SOTAX	111
Southwest Research Institute	307
Spectradyne	113
Surface Measurement Systems	110
Teledyne LABS	209
Tenshi Kaisen Private Limited	402
Thermo Fisher Scientific, Inc.	214
Thermo Fisher Scientific, Inc.	305
Waters | Wyatt Technology	208
XGen Bio	100
Yokogawa Fluid Imaging Technologies (FlowCam)	108

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ABSTRACTS

Exceptional Abstracts

All exceptional abstracts are listed alphabetically. First by abstract category. Second by abstract title.

Alternative Methods to Animal Testing

3D(Bio)printed infection models of human lung cells and skin hair follicles to study nanoantibiotics

Claus-Michael Lehr, PhD, *HIPS - Helmholtz Institute for Pharmaceutical Research Saarland & Saarland University, Saarbrücken*

Co-Authors: Samy Aliyazdi - PhD student, HIPS-Helmholtz Institute for Pharmaceutical Research Saarland; Brigitta Loretz - Senior Scientist, HIPS-Helmholtz Institute for Pharmaceutical Research Saarland; Nicole Schneider-Daum - Senior Scientist, HIPS-Helmholtz Institute for Pharmaceutical Research Saarland

Identification of Functional Biomarkers for Personalized Nanomedicine in Breast Cancer 3D Models

Maria Vicent, PhD, *CIPF*

Co-Authors: Ana Armiñan de Benito - Researcher, CIPF; Paz Boix-Montesinos - PhD, CIPF; Paula Carrascosa - Technician, CIPF

Reconstructed Human Patient Dynamic Models for Engineering Targeted Therapeutics for Aneurysms

Netanel Korin, PhD, *Technion IIT*

Co-Authors: Mark Epshtein - Post Doc, University of Massachusetts Medical School; Meinrad Gawaz - Professor, Eberhard Karls Universität Tübingen; Matthew Gounis - Professor, University of Massachusetts Medical School; Maria Khoury - Research associate, Technion IIT; Moran Levi - PhD student, Technion IIT

Artificial Intelligence and Predictive Models

3D-bioprinted cancer models for prediction of nanomedicine response driven by H&E-based AI algorithm

Ronit Satchi-Fainaro, PhD, *Tel Aviv University*

Co-Authors: Ranit Aharonov - CTO, Pangea Biomed; Opal Avramoff - PhD Student, Tel Aviv University; Tuvik Beker - CEO, Pangea Biomed; Gal Dinstag - Researcher, Pangea Biomed; Anshika Katyal - PhD Student, Tel Aviv University; Anne Krinsky - MD/PhD student, Tel Aviv University; Yulia Liubomirski - Research Associate, Tel Aviv University; Ronnie Shapira-Frommer - Oncologist, Sheba Medical Center; Omer Tirosh - Researcher, Pangea Biomed

Delivery Technologies for Diversified Products

Organic nanocarriers encapsulating streptomycin for managing citrus greening disease

Kurt Ristroph, PhD, *Purdue University*

Co-Authors: Riley Jones - Graduate student, University of California Riverside; Hagai Kohay - Postdoc, Carnegie Mellon University; Gregory Lowry - Professor, Carnegie Mellon University; Luiza Oliveira - Graduate student, Purdue University; Philippe Rolshausen - Professor, University of California Riverside; Kenedy Sanchez - Graduate student, Carnegie Mellon University; Arnold Schumann - Professor, University of Florida

Bioengineering

In vitro assessment of cell-based drug delivery systems

Michael Dunne, PhD, *Moffitt Cancer Center*

Co-Authors: Shirin Changizi - Postdoctoral Fellow, Moffitt Cancer Center; Jacob Hensley - Research Associate, Moffitt Cancer Center; Victor Madubueze - PhD Student, Moffitt Cancer Center; Andrew Mayts - Research Associate, Moffitt Cancer Center; Duy Nguyen - Assistant Professor, Moffitt Cancer Center; Diego Pedro - Research Engineer, Moffitt Cancer Center; Alfonso Pepe - Research Scientist, Moffitt Cancer Center; W. Gregory Sawyer - Professor, Moffitt Cancer Center; Jose Serrano-Velez - BioImaging Director, Moffitt Cancer Center; Sanem Yilmaz - PhD Student, Moffitt Cancer Center

Leveraging a pulsatile delivery platform to create a single-injection rabies vaccine

Kevin McHugh, PhD, *Rice University*

Co-Authors: Alyssa Kunkel - Graduate Research Assistant, Rice University; Tyler Graf - Graduate Research Assistant, Rice University

Delivery to the Nervous System

Breaking Barriers: Gold Nanoparticle-Based Strategies for Delivering Biologics to the Brain

Rachela Popovtzer, *Bar Ilan University*

Co-Authors: Osher Badur - MSc student, Bar Ilan University; Oshra Betzer - COO, Nanocarry Therapeutics; Menachem Motiei - Lab Manager, Bar Ilan University; Tamar Sadan - Research Associate, Bar Ilan University; Revital Stolov - MSc student, Bar Ilan University; Ayelet Zefran - Head of Biology, Nanocarry Therapeutics

Empowering the Blood-Brain Barrier: VCAM Targeted Nanocarriers in Neuroinflammatory Diseases.

Oscar Marcos-Contreras, *University of Pennsylvania*

Co-Authors: Jia Nong - Research Associate, UPenn; Patrick Glassman - Assistant Professor, Temple University; Sahily Reyes-Esteves - Intructor, UPenn; Soomin Jeong - Postdoc, UPenn; Hamideh Parihz - Assistant Prof, UPenn; Michel Zaleski - PhD, UPenn; Scott Kasner - Professor, UPenn; Jacob Myerson - Research Assistant Professor, UPenn; Drew Weissman - Professor, UPenn; Vladimir Muzykantov - Professor, UPenn; Jacob Brenner - Assistant Professor, UPenn

Intracerebral Delivery of Cytokine Immunotherapy with Hydrogel Accelerates Recovery Post-ICH in Rats
John Clegg, PhD, *University of Oklahoma*
Co-Authors: Harsh Joshi - Postdoctoral Research Associate, University of Oklahoma; Christopher Pierce - Graduate Student, University of Oklahoma; Kar-Ming Fung - Professor, University of Oklahoma Health Sciences Center; Andrew Bauer - Assistant Professor, University of Oklahoma Health Sciences Center

Modulating the Response of Neurons and Glia Cells for Spinal Cord Injury Recovery
Roberta Censi, *University of Camerino*
Co-Authors: Cristina Casadidio - Post doc researcher, University of Camerino; Piera Di Martino - Professor, University of Chieti; Sofia Figoli - PhD student, Leeds University; Nikita Gamper - Professor, Leeds University; Maria Rosa Gigliobianco - Post doc researcher, University of Chieti; Ronaldo Ichiyama - Professor, Leeds University; Saniya Salathia - PhD student, University of Camerino

Gene Delivery and Gene Editing

Development of SORT lipid nanoparticles (LNPs) for genome correction of disease-causing mutations
Daniel Siegwart, PhD, *University of Texas Southwestern Medical Center*

DNA-loaded lipid nanoparticles (DNA-LNPs): a platform technology to treat common chronic diseases
Jacob Brenner, MD, PhD, *University of Pennsylvania*

Engineer Lipid Nanoparticle Surface Hydrophobicity to Modulate Nano-Bio Interface and Enable Tissue-Selective mRNA Delivery
Fan Zhang, PhD, *University of Florida*

Enhanced pDNA Delivery Mediated by Backbone-Degradable RAFT Copolymers
Adam Gormley, PhD, *Rutgers University*
Co-Authors: Chris Radford - Postdoctoral Associate, Rutgers University

Evaluating the effects of PEGylated lipid shedding on targeted nanomedicines
Lisa Volpatti, PhD, *Northwestern University*
Co-Authors: Ethan Cisneros - Graduate Student, Northwestern University; Aadya Wijesekera - Undergraduate Student, Northwestern University

Nature-inspired nanotechnology for RNA delivery to myeloid cells and bone marrow progenitors
Roy van der Meel, PhD, *Eindhoven University of Technology*

Imaging in Drug Delivery

Multimodal Immunoimaging of CCR2-Driven Inflammation in Metabolically Stressed Myocardial Infarction
Katrien Vandoorne, PhD, DVM, *Technion, Institute of Technology*
Co-Authors: Betsalel Elgrably - MSc student, Technion, Israel Institute of Technology; Maya Rom - MSc student, Technion, Israel Institute of Technology; Galit Saar - Staff Scientist, Technion, Israel Institute of Technology

Immuno Delivery

'Naked' liposomal delivery to heal a broken heart
Vincent Venditto, PhD, *University of Kentucky*

Dendritic Cell-Targeted Nanoparticles to Enhance T Cell Activation and Immune Checkpoint Modulation
Ayelet David, *Ben-Gurion University of the Negev*
Co-Authors: Marie Ruetter - Postdoc, Ben-Gurion University of the Negev; Yvonne Ventura - Postdoc, Ben-Gurion University of the Negev; Prateek Srivastava - Postdoc, Ben-Gurion University of the Negev

Multidirectional Nano-Immunotherapy to Re-educate Host Immunity against Breast Brain Metastases
Helena Florindo, PhD, *University of Lisbon*
Co-Authors: Rita Acúrcio Acúrcio - Postdoctoral Researcher, Faculty of Pharmacy, University of Lisbon; Bárbara Carreira - Postdoctoral Researcher, Faculty of Pharmacy, University of Lisbon; Margarida Ferreira - Postdoctoral Researcher, Faculty of Pharmacy, University of Lisbon; Cláudio Ferro - PhD student, Faculty of Pharmacy, University of Lisbon; Ana Matos - Postdoctoral Researcher, Faculty of Pharmacy, University of Lisbon; Ronit Satchi-Fainaro - Full Professor, Tel Aviv University

Poly(beta aminoester) – extracellular vesicles hybrids for Antitumor Nucleic Acid Vaccination
Cristina Fornaguera, *Institut Químic de Sarrià (IQS) - Universitat Ramon Llull (URL)*
Co-Authors: Salvador Borrós - Full professor, Institut Químic de Sarrià (IQS) - Universitat Ramon Llull (URL)

Virus-inspired self-assembled vaccine to elicit B and T cell immunity against cancer
Yang Shi, PhD, *RWTH Aachen University*
Co-Authors: Dirk Baumjohann - Prof. Dr., Bonn University Clinic; Maximilian Moll - PhD student, Bonn University Clinic; Bi Wang - Postdoc, RWTH Aachen University

ABSTRACTS

Exceptional Abstracts

Nanomedicine and Nanoscale Delivery (Focus: Gene)

Characterizing CRISPR-Cas ribonucleoprotein delivery with bioreducible polymer nanoparticles
Christopher Grigsby, PhD, *Queen's University Belfast*
Co-Authors: Miina Ojansivu - Postdoctoral Researcher, Karolinska Institutet; Bernhard Schmierer - Head of Unit, Karolinska Institutet; Molly Stevens - Professor, University of Oxford

Gold Nanoparticles as Carriers of MicroRNA Mimics for Cancer Immunotherapy and Muscular Diseases
Álvaro Somoza, PhD, *IMDEA Nanociencia*
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mRNA Vaccine Delivery Using Lipid Nanoparticles: Focus on Muscle Cell Involvement
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Peptide-Lipid Conjugates for Enhancing mRNA-LNP Delivery and Colon Cancer Vaccines
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Polymeric Mesoscale Nanoparticles Selectively Target Gene Therapies to the Kidneys
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Rational design of mRNA folding architecture to enhance protein production
Qianqian Ni, *National University of Singapore*

Nanomedicine and Nanoscale Delivery (Focus: Imaging)

Toolbox of self-propelled nanomotors for bladder cancer therapy
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Nanomedicine and Nanoscale Delivery (Focus: Immuno)

Subcutaneous administration of antibody-drug-conjugates
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Elastin-like polypeptide (ELP) antibody fusions targeting IL-6: pharmacokinetic modeling
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Nanomedicine and Nanoscale Delivery (Focus: Nano)

Overcoming Fungal Cell Barriers: Nanoparticle-Mediated Photoporation for Effective RNA Delivery
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ABSTRACTS

Exceptional Abstracts

Nanomedicine and Nanoscale Delivery (Focus: Nervous)

SARS-CoV-2 clearance in the brain and lungs of K18-hACE2 mice after intranasal liposomal remdesivir
Frédéric Frézard, PhD, *Universidade Federal de Minas Gerais*
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Nanomedicine and Nanoscale Delivery (Focus: Oral)

NAC-based Ionic Liquids for GLP-1 Delivery: A Mechanistic Understanding of In Vivo Performance
Zhigao Niu, *Novo Nordisk*
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Nanomedicine and Nanoscale Delivery (Focus: Skin / Mucosal)

Polymersome assay for point-of-care blood urea diagnostics in dialysis patients
Simon Matoori, *Université de Montréal*

Ocular Delivery

Evaluation of the effects of TiO2 Nanoparticles conjugated with fluorescein on retinal angiography
Silvia Fialho, PhD, *Ezequiel Dias Foundation*
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Oral Delivery

Development of a Novel Antibody-Based Oral Factor VIII Mimetic Drug Candidate (Inno8)
Philip Jonas Sassene, PhD, *Novo Nordisk*

Hemi-porous Janus microparticles as a muco-adhesive enteral delivery system for BCS Class III drugs
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Skin and Mucosal Delivery

3D-Printed Acyclovir Nanocrystals: An Advanced Approach to Herpes Simplex Treatment
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Chitosan nanobubbles as a combined chemo-immunotherapy strategy against melanoma
Monica Argenziano, *University of Turin*
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Development of a new modality of transdermal platform based on nanofibers for the delivery of APIs
Jose M. Lagaron, *CSIC*
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Women's Health

Breaking barriers in endometriosis: from 3D microphysiological models to combination therapies
Paola Luciani, Credentials, *University of Bern*

All oral abstracts are listed alphabetically. First by abstract category. Second by abstract title.

Alternative Methods to Animal Testing

3D Cell assemblies to evaluate inflammatory response to dual-agent delivery platforms targeting BV

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Blood-brain barrier/glioblastoma interplay 3D in vitro model for (nano-)therapeutic screening

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Collagen Microgel 3D Organoid Culture and Extracellular Vesicle Production for Drug Development

Samantha Ali, PhD, Credentials, *University of Florida*

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Development of innovative 3D colorectal cancer models as preclinical tools for drug screening

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Elucidation of Lipid Nanoparticle Fusion Mechanisms Using Artificial Membranes

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Exploring the Impact of Ion-Releasing Fabrics on Inflammatory Pathways by 3D In-RED In Vitro Model

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Genomic Instability and Shear Stress Influence Nanoparticle-Induced Endothelial Cell Responses

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mRNA-LNPs Microneedle Delivery in 3D Human Dermal Equivalent Model for Preliminary In-Vitro Testing

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Stimuli-responsive bioengineered biomaterials: 3D in vitro models & regenerative medicine therapies

Silvia Panseri, *National Research Council of Italy*

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The Aβ42:Aβ40 ratio in amyloid plaques and its role in blood-brain barrier dysfunction

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The SCISSOR technology: Investigating Biopharmaceutics of Subcutaneously Delivered Oligonucleotides

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Transport of Red Blood Cell Carriers Through Microfluidic Model Mimicking Human Pulmonary Capillary

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Artificial Intelligence and Predictive Models

3D-bioprinted cancer models for prediction of nanomedicine response driven by H&E-based AI algorithm
Yuchen Fan, *Genentech*

Machine Learning-driven rational design of exosome-mimic nanoparticles
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Multiphysics modeling towards a digital twin platform for drug-loaded polyester-based implants
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Nanocarrier imaging at single-cell resolution across entire mouse bodies with deep learning
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Physics Informed One-stop AI Preformulation Prediction Platform
Nannan Wang, *University of Macau, Macau, People's Republic of China*
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Proton sponge or membrane fusion? – Endosomal escape of siRNA polyplexes unveiled by MD simulations
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Bioengineering

"Affinity cocktails" of alpha-particle radionuclide antibody-conjugates for solid tumors
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Albubody platform for enhanced anti-tumor efficacy of scfv-based drug conjugates
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Antibody drug-loaded unimicelle conjugates (ADUCs): a novel platform enabling ultra-high DAR
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Biophysical State-Driven Regulation of Biomimetic Nanoparticles: Nanomedicine Applications
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Development of Hybrid Cell Membrane Nanovesicles for Enhanced Pancreatic Cancer Treatment
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Efficient Vascular Handoff: Rapid Cargo Transfer from Carrier RBCs to Downstream Vasculature
Jing Lu, *UPENN*
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Engineering Human PEG10-based Nanoparticles for RNA Self-packaging, Delivery and Cancer Therapy
Yu-Chen Hu, *National Tsing Hua University*

Engineering narrow band gap nanotherapeutics for multimodal treatments of colon cancer
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Evaluation of a Collagen Type II-Targeted Peptide-Drug Conjugate for Rheumatoid Arthritis Treatment
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Gas-entrapping materials to improve HIPEC for ovarian cancer
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High resolution solution biophysics for identifying lipid nanoparticle trends in vivo and ex vivo

Marshall Padilla, PhD, *University of Pennsylvania*

Injectable devices as cell factory implants for therapeutic antibody production

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Isolation and Focal Treatment of Brain Aneurysms using Interfacial Fluid Trapping

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Low-dose chemotherapy Empowers alpha-Particle Radionuclide Therapy Against Metastatic Breast Cancer

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Physics-Informed Predictive Modeling of Bacterial Vaginosis Pathogen Dynamics

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Poly(β-amino ester) Backpacks for Adoptive Macrophage Transfers in High-Grade Serous Carcinoma

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Silicon Nanoneedles A Breakthrough Platform for Controlled, Sustained Macular Degeneration Treatment

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Stretching cell stimulation enhances nonviral genedelivery: internalization pathways and YAP dynamic

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Delivery Technologies for Diversified Products

Advancing RNAi Delivery in Plants through Guanidinylated Polymer System

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Delivery systems for efficacy improvement of volatile herbicides

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Environmentally Biodegradable Core/Shell Capsules Containing Hydrophobic Actives

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Medicine to Agriculture: Microfluidic-Produced N-Loaded Liposomes as Enhanced Efficiency Fertilizer

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Sustainable and Environmentally Friendly Biological Bird Repellent Formulation for Seed Treatment

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Delivery to the Nervous System

AI-Validated Brain Targeting mRNA Lipid Nanoparticles with High Neuronal Specificity

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Development of neuron-derived, mitochondria-containing extracellular vesicles for ALS treatment

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Engineering of mitochondria-enriched brain endothelial cell-derived extracellular vesicles

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Nanoparticle Functionalization to Target the Circadian Clock in Alzheimer's Disease

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Nose-to-Brain Delivery of Novel Fingolimod-Ibuprofen Salt for Pain Relief in Multiple Sclerosis

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Novel Biodegradable NanoArtemisinin to Treat Leukemia in Blood and Brain

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Novel triple-drug cocktail for glioblastoma exhibits potent synergistic antitumoral effects

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Peptide-Functionalized Lipid Nanoparticles for Targeted Systemic mRNA Delivery to the Brain

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Targeted glucose dendrimer ketamine therapy protects against refractory status epilepticus in mice.

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Targeting Axonal Pathways: Advancing Nanoparticle Delivery Strategies for Neuronal Therapeutics

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Gene Delivery and Gene Editing

Advancing T cell therapy: mRNA nanocarriers optimization for ex vivo and in vivo T cell engineering

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ABSTRACTS

ORAL ABSTRACTS

An Optimized Polymeric Delivery Platform for Pulmonary mRNA Vaccines

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Antibody-conjugated lipid nanoparticles to enhance extrahepatic nucleic acid delivery

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Boosting CAR T cells with Advanced Adjuvant Cancer Nanovaccines

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Breaking Barriers: Stabilized Lipid Nanoparticles Transform Oral Nucleic Acid Delivery

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Cardiac-tropic Lipid Nanoparticles Provide Selective Vascularization After Myocardial Infarction

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Degradable cyclic amino alcohol ionizable lipids as vectors for potent influenza mRNA vaccines

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Enhancing mRNA-lipid nanoparticle prediction via the language model and multi-task learning

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In vivo nucleic acid targeted delivery in bone-marrow via antibody conjugated lipid nanoparticles

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Lipid Nanoparticle Delivery for CRISPR Gene Editing in Primary Human T-cells

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Lipid nanoparticle-mediated metabolic reprogramming of dendritic cells for mRNA vaccines

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Microrobot-Assisted Delivery of Circular RNA-Lipid Nanoparticles to Treat Lung-Associated Diseases

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Multi-stage mixing creates high-efficiency core-then-shell DNA lipid nanoparticles

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One-component Janus dendrimers: a novel platform for efficient mRNA vaccine delivery

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Optimization of Nanoparticle Delivery of Nucleic Acids to Cells using Poly(glycerol esters)

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Optimized lipid nanoparticles for CRISPR/Cas9 delivery: advancing gene editing in lung tumor cells

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PBAE-Based Pulmonary siRNA Delivery to T-Cells: A Potential Approach for Asthma Therapy

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Polymer lipids reduce anti-PEG antibody binding for repeated administration of mRNA therapeutics

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RNA Nanotherapeutics with Fibrosis Overexpression and Retention for MASH Treatment

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Targeting NEBL via a siRNA-loaded nanocarrier for advanced non-small cell lung cancer treatment

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The lipid nanoparticle shape and morphology affect the efficiency and duration of mRNA transfection

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Unraveling endosomal escape: mechanistic insights into lipid nanoparticle-mediated RNA delivery

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Virus-Mimicking Nanoparticles for Precise Intracellular siRNA Delivery

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Imaging in Drug Delivery

Charge-Reversed Lipid Nanoparticles Containing Metal-Organic Cages for In Vivo Anti-Cancer Treatment

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High-resolution screening of barcoded lipid nanoparticles in tissue cleared mice

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Nanomedicine for Brain Delivery of Monoclonal Antibodies: The Impact of Nanocarrier Structure

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Optimizing the Biodistribution and Pharmacokinetics of Polysarcosine-based Star Dendrimers by PET/CT

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Size-tunable theranostics micelles for subcutaneous drug delivery and sentinel lymph node targeting

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Vascular Pre-Treatment for Augmented Focused Ultrasound Mediated Drug Delivery

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Immuno Delivery

A DC-targeted nano-vaccine to overcome immune suppression and enhance the SoC efficacy for PDAC

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Anti-tumor activity of an RNA-encoded antibody combining T-cell engagement and checkpoint inhibition

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Aromatic mRNA-LNP platform confers vaccine protection with reduced off-target delivery

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CD44v6-Driven Nanoparticles Combined with Immune Therapy for Colorectal Cancer

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CD47-Targeted Antibody Polymer-Drug Conjugates: Immune Checkpoint Blockade and Targeted Cytotoxicity

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Dendrimer-Antibody Conjugates: An Innovative Approach for Targeted Intracellular Antibody Delivery

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Immunomodulatory nano-in-microgel to prevent extrahepatic islet graft rejection in type 1 diabetes

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Impact of Nanofiber Physical and Chemical Properties on Immune Response

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ABSTRACTS

ORAL ABSTRACTS

Inhalable Icariin-Loaded Micelle-in-Microparticles Targeted IL-4 Signal Pathway for COPD Treatment

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Intradermal administration of immune modulating Spherical Nucleic Acids as anti-glioma therapy

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Nanoparticle Metalloimmunotherapy for Cancer Eradication: Comprehensive Evaluation From Mice to NHPs

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Nanoparticle-based immunometabolism approach to mitigate allergic airway inflammation

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Nanoparticles in Microparticles: A Potential Immunomodulatory Therapeutic System for Osteoarthritis

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Nanoparticles-mediated Inhibition of DPP4 for Improved Cancer Immunochemotherapy

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Oral nanotherapeutics for precision targeting of antigen presenting cells in type 1 diabetes

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Platelet-Drug Conjugates Engineered via One-step Fusion Approach for Cancer Treatment

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Prodrug-tethered lipid nanoparticles for synergistic mRNA cancer immunotherapy

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Sequential delivery of macrophage activators and checkpoint inhibitors reduces mice melanoma burden

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Targeted STING agonism modulates saRNA vaccine immunogenicity

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Thermal focused ultrasound ablation combined with vascular normalization drives anti-tumor immunity

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Timely administration of drug combination improves chemoimmunotherapy of an immune-cold tumor

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Treatment of acute lung injury using one-component LNP to deliver TGFβ mRNA to the lower lung

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Lyophilized lymph nodes improved CAR T cell delivery

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Manufacturing and Process Scale-Up

Effect of formulation strategy and polymer grade on hydration and dissolution of Push Pull OROS

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Effects of Polymer Morphology on PLGA degradation kinetics

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Molecular dynamics simulations uncover drying-induced lipid nanoparticle–excipient interactions.

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Optimizing Lyophilized Cake Appearance: Case Studies in Monoclonal Antibody Formulations

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Spray drying siRNA-polymeric nanoparticles for dry powder pulmonary delivery.

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Sustainable Waste Silk: Sericin-Hyaluronic Acid Conjugates for Advanced Drug Delivery

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MERCK GRADS Award Finals

Therapeutic Genome Editing of Gliomas via Focused Ultrasound-Mediated Ribonucleoprotein Delivery

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Embedding Hyaluronic Acid-Doxorubicin in Hemostatic Paste for the Treatment of Resected Glioblastoma

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Probing the Role of Lipid Nanoparticle Elasticity on mRNA Delivery to the Placenta

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Nanomedicine and Nanoscale Delivery (Focus: Bioengineering)

Advancing PROTAC Delivery: Liposomal, NAB, and Cyclodextrin-Based Formulations of ACBI2

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Chiral Quantum Dots Enhanced Small Extracellular Vesicles for Gene Delivery

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Fabrication and evaluation of calcium polyphosphate-based graft materials for spinal fusion

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Leveraging Cell-Penetrating Peptides and Liposomes to Enhance Nanobody Therapy in Breast Cancer

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Lipid Nanoparticles Comprising Poly-phosphocholine Conjugates for Nucleic Acid Delivery

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Novel glucose dendrimer approach to target hyperactive neurons in vivo: mechanistic insights

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Programmably Degradable Oxanorbornadiene Hydrogels for Functional Biomolecular Release

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Short-Chain Brushed PEGylation Evades Anti-PEG Immunity to Enhance Nanomedicine Safety and Efficacy

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Single-Administration Self-Boosting Microneedle Patch for The Treatment of Obesity

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Tendon-derived ECM enables percutaneous delivery of iMSC-SCX+ for tendon defect healing

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Extracellular Vesicle Lipid Rafts Profiling as a Blueprint for Targeted EV-Mimetic Therapies

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Sweet Encounters:Studying nanoparticle-glycan interactions by metabolic labeling and click chemistry

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Nanomedicine and Nanoscale Delivery (Focus: Gene)

Dual Centrifugation: A Novel Perspective on LNP Formulation Development

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Dual Zn2+/Cu2+ Chelation-Engineered Nanotherapeutics for DNA-Mitochondrial Disruption in TNBC

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Dual-Shielding Approach for TNFα Silencing in Inflammatory Bowel Disease via Bioadhesive Microbeads

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High-throughput screening of lipid nanoparticles for lung delivery of mRNA

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Hybrid LNP prime dendritic cells for nucleotide delivery

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Hybrid polymer-lipid nanoparticles as innovative transfection vectors for microRNA delivery

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Lipid stereochemistry of lipid nanoparticles significantly influences mRNA expression levels in vivo

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Lipid-siRNA Organization Modulates the Intracellular Dynamics of Lipid Nanoparticles

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Novel Biodegradable Lipids for the Delivery of mRNA to Liver and Genome Editing in Lung Epithelia

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Overcoming Chemoresistance in Colorectal Cancer by FcRn-Driven Nucleic Acid Delivery

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Precision Attack: GD2-Directed siRNA-Lipid Nanoparticles to Target Neuroblastoma's Weak Spots

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Pulmonary delivery of circular RNA therapeutics for cystic fibrosis

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Targeted-LNPs capable of functional DNA delivery to T cells enable in vivo CAR-T generation

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Targeting the lower regions of the lung; a novel platform for pulmonary mRNA delivery

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The modular platform to deliver bio-orthogonal macromolecular conjugates (BMCs) for therapeutic gene editing

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Towards vascularized bone tissue engineering: siRNA Delivery via Cross-Linked Gelatin Microparticles

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Tunable surface charge on polymer nanoparticles and the effect on endothelial cellular drug delivery

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Xkr8 Knockdown Enhances Chemotherapy Efficacy Through Modulating Tumor Immune Microenvironment

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Nanomedicine and Nanoscale Delivery (Focus: Imaging)

A DNA-Guided Lipid Nanoparticle Platform for Targeted Drug Delivery Beyond the Liver

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Auger electron-emitting theranostic micelles for image-guided radio-chemotherapy

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Evaluation of Long-Acting Injectable In-Situ Forming Gels through in vivo and in vitro MRI

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Theranostic Targeted pH-sensitive Liposomes for Breast Cancer Bone Metastasis

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Tumor microenvironment is a key driver for drug delivery and efficacy in HER2+ breast cancer
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uSPIO-5D3-DM1 Nano-conjugates as Optical-MRI Theranostics for PSMA-Positive Prostate Cancer Therapy
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Nanomedicine and Nanoscale Delivery (Focus: Immuno)

Engineering Neutrophil-Targeted Antibiotic Nanoparticles to Prevent Lung Injury in Sepsis
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Localized antitumor therapy via mitochondrial apoptosis with siRNA-loaded metallo-alginate hydrogels
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Micro-to-nano oncolytic microbial therapy for spatiotemporal targeting of tumors and TDLNs
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Self-Assembling Multi-Antigen T Cell Hybridizers for Precision Immunotherapy in Multiple Myeloma
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Triazine lipids as a platform for subunit vaccine development
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Understanding the inflammatory targeting of Lipid nanoparticles to deliver therapeutic RNAs
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Nanomedicine and Nanoscale Delivery (Focus: Nano)

A designer transcytotic Paclitaxel nanovesicle for TNBC and pancreatic cancer combination therapies
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Engineering of Crystalline-Based Formulations for Controlled Release of Antifibrotic Drugs for Long-term Therapies and Complexed Implants Rejection Prevention Applications
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Functional Personalized Complex Combination Nano Therapy for Osteosarcoma
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Improving Tumor-Specific Drug Delivery: The Role of ADAM17 Inhibition in CD44-Targeted Nanoparticles
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Innovative nanocarrier-enabled chemo-photothermal combination therapy for targeting acidic tumors
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Integrating MD simulations in the design and preparation of Ibrutinib (IBR)-loaded liposomes
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Localized delivery Antibacterial Gallium-based Nanoparticles to Treat Lung Infections

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Lysine-acetylated human serum albumin: enhanced uptake by cancer stem cells and application

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Lysosomal Drug Entrapment Enables Laser-induced Vapor Nanobubble Formation for Tumor Cell Ablation

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Membrane dynamics modulate the functional activity of biomimetic nanoparticles

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MUC4-Targeted Nanoparticles Deliver MRTX1133 and MDP5 to Overcome Pancreatic Cancer Chemoresistance

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Poly (β-amino ester) particles with programmable shape, stiffness, and degradation for drug release

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Pulmonary surfactant-based pirfenidone-loaded nanovesicles for inhalation in pulmonary fibrosis

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Staying alive (and neurologically intact): liposomal adrenaline for cardiopulmonary resuscitation

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Sustained heme-albumin release as a potential therapy for dry age-related macular degeneration

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Sustained-Release of Novel Therapies for Treating Opioid Use Disorder

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TGX-1214 - A Nanoemulsion Formulation of a Novel Taxoid for Treating Pancreatic Adenocarcinoma

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Nanomedicine and Nanoscale Delivery (Focus: Nervous)

Blood-brain barrier targeted nanoparticles for peptide delivery to glioblastoma.

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Dopamine-Modified Exosome: Autophagy Induction and Therapeutic Potential in Parkinson's Disease

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Glucose Dendrimer-Cannabidiol Conjugates :Safe and Effective Treatment of Pain and Epilepsy

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H-bonded organic frameworks as ultrasound-programmable delivery platform

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NLC for Intranasal Delivery in Alzheimer's disease- Pharmacokinetic, Biodistribution and PD study

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Rapid Cooling and Neuroprotection: Intranasal Vanilloid Nanodrugs for Acute Brain Injuries

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Nanomedicine and Nanoscale Delivery (Focus: Oral)

Intestinal Fc receptor-targeted nanomedicines boost semaglutide effect in type 2 diabetes

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Improving bioavailability of poorly soluble oral drugs

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Oral delivery of MSC-EVs as a novel approach to treat inflammatory bowel disease

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Predicting Drug Delivery of Push Pull OROS: A Biorelevant Dissolution and PK Simulation Strategy

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Transforming Healthcare: Treatment of Inflammatory Bowel Disease with Biocatalytic Nanobots

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Development and characterization of abuse-deterrent tablets

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Nanomedicine and Nanoscale Delivery (Focus: Skin / Mucosal)

Enhancing transmucosal uptake of GLP-1RA: Ionic lipidation and Self-Nanoemulsifying Delivery system

Muhammad Ijaz, *University College Dublin*
Co-Authors: David Brayden - Professor, University College Dublin; Sandeep Karki - Research Assistant, University College Dublin

Gel-based high-permeation vesicles for localized fulvestrant delivery to treat breast cancer

Junia Akhtar, M. Pharm, *National Institute of Pharmaceutical Education and Research (NIPER) - SAS Nagar*
Co-Authors: Sanyog Jain - Professor, National Institute of Pharmaceutical Education and Research, SAS Nagar

Impact of DNA origami shape, ligand, and ligand density on diffusion through intestinal mucus

Matteo Tollemeto, *Technical University of Denmark*
Co-Authors: Lars Paffen - PhD student, TU/e; Aimilia Nousi - Facility Manager, University of Copenhagen; Lasse Thamdrup - Senior Consultant, DTU Health Tech; Nikos Hatzakis - Professor, University of Copenhagen; Anja Boisen - Professor, DTU Health Tech; Jan van Hest - Professor, TU/e; Tania Patino Padial - Assistant Professor, TU/e

Is transdermal delivery achievable for levodopa? Microarray patch for Parkinson's disease treatment

Yaocun Li, PhD, *The Queen's University of Belfast*
Co-Authors: Ryan Donnelly - Professor, The Queen's University of Belfast; Andrew Graham - Postgraduate Researcher, The Queen's University of Belfast; Akmal Sabri - Postdoctoral Research Fellow, University of Nottingham; Lalitkumar Vora - Lecturer, The Queen's University of Belfast; Jiawen Wang - Research Fellow, The Queen's University of Belfast

Nano meets micro: Enhanced dermal delivery of lipophilic tocotrienol nanoemulsion using microneedles

Jing Yi Estee LEE, *Universiti Sains Malaysia*
Co-Authors: Choon Fu Goh - Senior Lecturer, Universiti Sains Malaysia; Keng Wooi Ng - Senior Lecturer, Newcastle University

Novel Solid Lipid Nanoparticles-Enriched Hydrogels for Topical Delivery of Anti-Ageing Glutathione

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Ocular Delivery

Breaking Corneal Barriers: GelMA-Based Hybrid Microneedles for Enhanced Intrastromal Drug Delivery

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CRISPR-Cas Delivery Using Lipid-Polymer Nanoplexes in Microneedle Patches for Corneal Dystrophy

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Intravitreal Delivery of A190 loaded Microparticles in a Model of Age-related Macular Degeneration

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Mucoadhesive Micelle Nanoparticles: A New Dosing Paradigm for Glaucoma Treatment

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Nanoscale activated carbons for intrastromal controlled drug release

Tejabhiram Yadavalli, PhD, *University of Illinois Chicago*

Rational Design of Medicated Contact Lenses Using ToF-SIMS for Ocular Drug Delivery

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Oral Delivery

3D Printed Ileum Targeted Tablet for the Treatment of IgA Nephropathy

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ABSTRACTS

ORAL ABSTRACTS

A successful application of high-loading amorphous solid dispersions in HME & Additive Manufacturing

Carolina Alva, *Research Center Pharmaceutical Engineering*
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AI-Driven Optimization of Self-Emulsifying Drug Delivery Systems for a Peptide

Anita Goren, *University of Toronto*
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An antioxidant MOF with functional coatings for oral antibody delivery in inflammatory bowel disease

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An innovative inflammation-targeting platform for ulcerative colitis treatment

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Elucidation of Tablet Dissolution and Functional Excipient Behavior with In Situ Exposure Imaging

Andrew Clark, *digiM Solution*
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Evaluation of Acid-Base Supersolubilization Principle on Telmisartan to Lower HME Temperature

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Fabrication of 3D-printed chewable tablets using hot melt extrusion coupled with direct extrusion

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Formulating Biologics for Buccal Delivery: An Investigation of Feasibility and Stability

Anthony Rajabi, *Aston University*
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Increasing Efficacy - Decreasing Toxicity for a Given Dose Via Controlled Delivery

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Lipid Formulations in Customized Enteric Capsules Show Promising Results For Oral GLP-1 RA Delivery

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Mitochondria-targeted nitric oxide releasing graphene oxide for cardiovascular therapeutics

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Optimizing Leuprorelin-Permeability Enhancer Complexes for Oral Release

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Oral Protein Delivery: Nanoassemblies for Targeted Treatment of Intestinal Diseases

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Orally administered macrophage targeted dendrimer-Tesaglitazar for obesity and atherosclerosis

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Precision nanomedicine for pediatric oral drug delivery in infectious diseases

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Reduced griseofulvin permeation across a hollow fiber membrane due to drug micellization

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Tips and tricks for increasing oral drug absorption from nanoemulsions

Anette Müllertz, *University of Copenhagen*

Skin and Mucosal Delivery

Biocatalytic Nanobots: Modulating Oxidative Stress in Cellular Models of Inflammatory Bowel Disease

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Boosting buccal absorption: Bilosomes for effective therapeutic delivery

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Branched PEGylation as a strategy to overcome the mucus barrier to aerosolized nanomedicine

Alexa Stern, *University of Maryland*

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Combination of liposomes and ultrasound for noninvasive rapid transdermal cosmeceutical delivery

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Development and assessment of mucus penetrating lipoparticles for mRNA vaccine delivery

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Integrated Fiber Microneeedles in the Oral Mucosa Prime Antigen-Specific Immunity

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Nasal Delivery Redefines Immunity: Fighting Melanoma Brain Metastases with a Cancer Nanovaccine

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Non-covalent lipidation and self nanoemulsions: Ex-vivo porcine buccal mucosal permeation of GLP-1RA

Muhammad Ijaz, *University College Dublin*

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Nonspecific Binding of Biotherapeutics and the Extracellular Matrix: Implications for Drug Delivery

Evelyn Nonamaker, *Purdue University*

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Novel Dissolving and Hydrogel-Forming Microarray Patches for Transdermal Delivery of Apomorphine HCl

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Pharmacokinetics and Skin Permeation of Psychedelic Drugs Delivered by Hydrogel-Forming Microneedles

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QbD-guided development of hydrogel-forming microneedles with reservoir for enfuvirtide delivery

Huanhuan Li, *Queen's University Belfast*
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Quantifying the impact of the mucin protein corona on nanoparticles in the female reproductive tract

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Rapid In Situ Forming PEG Hydrogels for Mucosal Drug Delivery

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Safety evaluation of repeated microarray patch applications using a miniature pig model

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Thermal Stabilization and Immunogenicity of mRNA Vaccine Delivered by Single-Use Microneedle Patches

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Thermo-reactive In-situ forming Liposome Depot (TILD): From computational design to in-vivo efficacy

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Thermostabilization of a Model Viral-Vectored Oral Thin Film Vaccine using DoE Approach

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Women's Health

Development of a gel-forming vaginal estradiol formulation for treatment of post-menopausal atrophy

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Enabling the rational development of long-Acting contraceptive levonorgestrel intrauterine systems

Ashwin Abhang, *University of Connecticut*
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Engineering protein-conjugated lipid nanoparticles for targeted mRNA delivery to the placenta

Hannah Geisler, MSE, *University of Pennsylvania*
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Genetic modification of bacterial extracellular vesicles for vaginal drug delivery

Varunaa Sri Hemanth Kumar, *University of Maryland*
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Impact of Cream Composition on Critical Quality Attributes of Miconazole Nitrate Vaginal Creams

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Long-acting multipurpose prevention technology (MPT) implants to prevent HIV & unintended pregnancy

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Next generation 3D printed intravaginal rings for prevention of HIV and unintended pregnancy

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Pregnancy-Associated Disease Organ-on-a-Chip Models to Pioneer Targeted Therapies

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Six-Month Contraception with Microneedle Patches

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Spatiotemporal targeting of mRNA LNPs to the endometrium for the treatment of infertility

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Ultra-long-acting biodegradable polymeric solid implants for HIV treatment maintenance

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Young Scientist Committee (YSC) Scientific Workshop

A novel vaginal film for HIV prevention achieves one-month drug release in pigtail macaques

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Advancing Personalized Breast Cancer Vaccine with Multiepitope Antigens and Biomimetic Nanoparticles

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Developing and validating imaging methods for lipid nanoparticle-based gene delivery

Melissa Hendrén, *University of Helsinki*

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Development and Evaluation of Polymeric In-Situ Implant of PROTACs for NSCLC with IVIVC Integration

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Liquid Crystalline Nanoparticles as a versatile platform for mRNA delivery

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Optimizing In-Situ Forming Implants for Controlled Drug Release in Parkinson's Disease Treatment

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Sweetener-mediated conversion of albendazole into ionic liquid for improved oral bioavailability

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Targeted Delivery of Rosiglitazone for Traumatic Brain Injury Using 2DG-Functionalized Dendrimer

Shamila Gopalakrishnan, *Washington State University*

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All poster abstracts are listed alphabetically. First by poster number. Second by abstract category.

Alternative Methods to Animal Testing

100: Incorporating enzymatic activity into in vitro analysis of biotransformable drugs
Imogen Anastasiou, Ph.D., *Pion Inc.*
Co-Authors: Conor Gomes, Pion Inc.; Karl Box - Chief Scientific Officer, Pion Inc.; Balint Sinko - Vice President of Research & Development, Pion Inc.

101: Microstructural Analysis of In Situ Formed Depots for Universal In Vitro Assessment
Melissa Rooney, *DigiM Solution, LLC*
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102: Local Inflammation Response of Salbutamol Formulations on ex-vivo Mouse Skin
Annina Hahn, Credentials, *University of Bonn*
Co-Authors: Alf Lamprecht - University of Bonn

102-A: Pulmonary Fibrosis Modeling with Tyramine-Modified Silk Hydrogels
Mariah Arral, *Tufts University*
Co-Authors: Thomas Falcucci - Researcher, Tufts University; Jing-Jie Huang - Researcher, Tufts University; David Kaplan - Principal Investigator, Tufts University; Sabrina Madiedo-Podvrsan - Researcher, Tufts University; Jugal Sahoo - Researcher, Tufts University; Aria Yang - Researcher, Tufts University

Artificial Intelligence and Predictive Models in Pharmaceutical Technologies

103: Machine learning driven web-based app platform for the designing of monoamine oxidase B inhibitors
Sunil Kumar, M.Pharm, *Amrita School of Pharmacy, Amrita Institute of Medical Science, Amrita Vishwa Vidyapeetham, Kochi, Kerala, India*
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104: Scaling Rules for Designing Intra-vaginal Rings and PK Studies in Animals vs. Humans
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105: Mathematical Modeling Explains the Strain-Dependence of Monoclonal Antibody Pharmacokinetics in Mice
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106: 3D In Vitro Models of Osteosarcoma: A Novel Hydrogel-Scaffold System for Therapeutic Research
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107: Long-Acting Injectable Dose Prediction: Where Are We Really?
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108: Novel Integrated PBPK-IVIVC Framework for Predicting Human PK of Sustained-Release Formulations
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109: Target-mediated drug disposition modeling of nonlinear pharmacokinetics in GLP-1 receptor agonists
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110: Unmanned Aerial Vehicle-Mediated Drug Delivery for First Aid
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111: Machine Learning-Driven Insights into Nanoparticle Delivery Efficiency for Cancer Therapy
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112: TuNa-AI: A Hybrid Kernel Machine to Design Tunable Nanoparticles for Drug Delivery
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113: Physiologically Based Pharmacokinetic Modeling and IVIVC for Long-Acting Injectable Suspensions
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114: A Method to Quantify Protein Binding Kinetics and Supersaturated Solutions Precipitation Kinetics
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Bioengineering

115: Membrane dynamics modulate the functional activity of biomimetic nanoparticles
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116: Exploiting Metabolite-Presenting Molecules for Targeted Therapies
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117: Efficient and controlled drug release from PEDOT synthesised via surface-tethered dopant templating
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118: Biomimetic RBC-Liposomes: Impact of Membrane Properties on Protein Corona and Stability
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119: Unveiling the Role of Lipid Composition on Stability and Fusion of Biomimetic Liposomes
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120: Cluster differentiation-modified liposomes for lung targeted anti-inflammatory therapy
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121: Synthesis of exosome-mimicking exosomal nanoparticles using a microfluidic chip
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122: Bioinspired lipoprotein-mimetic nanocarriers: Tackling drug solubility and permeability challenges
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123: Endoplasmic reticulum stress-based approach for reprogramming tumor-derived exosome
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124: Microfluidic Fabrication of Alginate-PEGDGE Hydrogel Microspheres for Drug Delivery and Cell Therapy
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125: Macrophage-Mediated Delivery of Focused Ultrasound-Activated Nanocarriers for Triggered Drug Release
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126: Novel Intravenous Anticoagulant: Development and Testing for Safe, Effective Thrombosis Prevention
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127: Interactions of biomimetic liposomes with enterocytes explored by 3D Raman imaging
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128: Development of a microfluidic chip for efficient lipid formulation discovery of lipid nanoparticles
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129: Engineering Metal-Organic Framework-biopolymer-based Hydrogels for Controlled Therapeutic Delivery
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130: Development of TransMIT, nanocapsules for mitochondria-mediated cell function modulation
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131: Development of a solid-phase synthetic approach for triazine-based lipids
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132: Multimodal evaluation of a porous HA/β-TCP scaffold for bone repair and localized therapy in rats.
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133: Anticancer activity of extended release loperamide from styrene-isoprene-styrene polymer in vitro
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134: Cryoshocked T Lymphocytes (CSTLs) for Enhanced Delivery of Chemotherapeutics to the Lymph Node
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135: Responsive Silk Protein Plastics for Controlled Drug Release
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137: Dendritic particles with nanostructured tendrils for adhesion and drug release to bladder cancers
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138: Kidnapper SA-Biosomes for alveolar macrophages targeting for managing pulmonary inflammation.
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139: Rheology-driven development of bioinks for advanced 3D-bioprinting in drug discovery
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140: Mesenchymal stem cells as gene delivering vehicles for activating prodrug around tumor cells
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141: Ultrasonic stimulation in a 3D HA hydrogel accelerates cellular reprogramming for iPS generation
Minju Lee, *Dongguk University*

142: Erythrocyte membrane biomimetic nanoparticles for Dapagliflozin delivery in the fibrotic heart
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143: Synthesis and its HTS of Antibody conjugated quantum dots functionalized Palbociclib nanocarriers
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Delivery Technologies for Diversified Products

147: GPNMB as an Orthobiologic for Bone Regeneration and Spinal Fusion for an Osteoporotic Rat Model
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148: Green formulations of benzalkonium chloride with enhanced antibacterial properties.
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149: Manufacturing near monodispersed solvent free complex coacervation microcapsules at industrial scale
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Delivery to the Nervous System

150: Sustained Release Implant Delivery of BDNF Upregulating Oligonucleotide in Parkinson's Disease
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151: Microglia-targeting nanocarriers reduce hypothalamic inflammation in cancer-related cachexia
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152: Harnessing cannabidiol and lipid nanocapsules to modulate P-glycoprotein in glioma
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153: Two to tango: chemotherapy "speed-dating" for cannabidiol in lipid nanocapsules against glioblastoma
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155: In-Vivo Study on Nose-to-Brain Delivery of Liposomal siRNA/Drug Combination for Alzheimer's Disease
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156: A new technology for photo-controlled release of bioactive molecules in the brain.
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157: Microfluidic formulations of Non Ionic Surfactant Vesicles
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Gene Delivery and Gene Editing

158: Lipid Polymer Hybrid Nanoparticles for pulmonary mRNA delivery
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159: Exploring Substrate Stiffness and YAP/TAZ Pathways in Non-Viral Gene Delivery Applications
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160: Targeted Lipid Nanoparticles for Delivery of Gene Editing Technology to the Pulmonary Vasculature
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161: A dive into optimization of novel ionizable lipid nanoparticles for enhanced siRNA delivery
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162: Branched Copolymer Nanogels Synthesized by RAFT Polymerization for Gene Delivery Vehicles
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163: Nanoparticle-mediated E-selectin siRNA Delivery Reduces Inflammation in MHV-3 Infected Mice
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164: mRNA-Lipid Nanoparticle Formulations for Targeted Drug Delivery as Cancer Vaccines
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165: Lung editing via inhalation of base editors delivered by amino acid-derived lipid nanoparticles
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166: Iterative High-throughput Screening Identifies Nanoparticles with Improved Delivery Efficiency
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167: Surf-LNPs: Lung surfactant-doped lipid nanoparticles for enhanced RNA pulmonary delivery
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168: Advanced lentiviral vector engineering with polymer surface modification for CAR-T cell therapy
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169: Development of a Cationic Light-Responsive Polymer for Enhanced Intranasal Gene Delivery
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170: Tailoring Ionizable Lipid Composition for better immune response
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171: Tracking Endosomal Escape of Tunable Polymer Nanoparticles for Inhibition of Inflammatory Pathways
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172: Substituting PEG-Lipid with Amphiphilic Polycarbonates in mRNA-Loaded Lipid Nanoparticles
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173: Synthetic bacterial spores for mRNA targeting and delivery
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174: Preparation of PAMAM Dendrimer-based Nanoclusters for Enhanced Gene Delivery Application
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175: Microfluidic Erythrocyte-Camouflaged Chitosan Nanoparticles for Nucleic Acid Delivery
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176: Preliminary Development of "Decoy" Oligodeoxynucleotide-LNPs for NF-κB Inhibition
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177: Effect of ionizable lipid source on the quality attributes of siRNA lipid nanoparticle therapeutics
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178: Hybrid vesicles for enhancing intracellular uptake of siRNA
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179: PEGylated siRNA loaded LNPs with enhanced cytosolic release
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180: Real-Time Label-free study of spherical nucleic acids for delivery of antisense TAUoligonucleoutides
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181: Multi-engineered selenium nanoparticles: a smart shuttle for gene therapy of BRAF-mutated melanoma
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183: Formulation of Mesoscale Lipid Nanoparticles for Targeted Nucleic Acid Delivery to the Kidneys
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184: Novel lipid nanoparticles for pulmonary delivery of circRNA vaccines
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185: An End-to-End High-Throughput Formulation Device Platform for mRNA & LNP Screening
Rui Zhang, PhD, *XGen Bio*

186: An alternative method to RNA lipid nanoparticle (LNP) production
Mitchell Beattie, *Acuitas Therapeutics*
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187: Layered F-PEI Nanoparticles for Targeted Delivery of TXNDC5 Silencing for Pulmonary Fibrosis
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188: DoE-driven formulation development of multi-miRNA-loaded lipid nanoparticles
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189: Design of improved and safer ionizable lipids for next-generation nanomedicines
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190: Development of polymer-lipid hybrid Hepa-SENS platform technology for the treatment of liver disease
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191: VLP-mediated CRISPR/Cas9 gene editing of islets to inhibit IBMIR in islet transplantation
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192: LafB-mRNA LNP: Advancing S. pneumoniae Vaccination
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193: Optimization of mRNA structure for the enhancement of stability and translational activity
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194: The introduction of Ligand for Enhanced Nuclear Delivery of Antisense Oligonucleotide
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195: Layered Lipid Nanoparticles for Ovarian Tumor-Targeted Gene Delivery
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196: Development of a Targeting Strategy to Enable Selective Photoporation of The Nuclear Envelope
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197: Development of ionizable lipids for gene delivery to the lung using an Ugi four component reaction
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198: Liver-targeting oral lipid nanoparticle for CRISPR/Cas9 therapy in MASLD
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199: Systematic Optimization of Cationic Liposomes for Stable and Efficient mRNA Delivery
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200: LNP-Exosome Hybrid System for Targeted KRASG12D siRNA Delivery in Pancreatic Cancer Therapy
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201: Formulation strategies for stable lipid nanoparticles: insights and implications
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202: Design of PD-L1-Targeted Lipid Nanoparticles to Turn on PTEN for Efficient Cancer Immunotherapy
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203: Quaternary amine-based helical polypeptides prime anticancer immunity and facilitate gene delivery
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204: Non-Inflammatory mRNA-LNP Formulation for the Treatment of Type 1 Diabetes
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205: Myeloid Targeted Disulfide Lipid Nanoparticle with Enhanced Endosomal Escape Improves HIV-1 Excision
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206: Designing of nanostructured lipid carrier for topical gene silence therapy in chronic wound healing
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207: MMP9 gene silencing by siRNA delivery using hybrid nanoparticles reduced the migration of TNBC cells
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208: Red-light Accelerated Photoactivation of Melittin-mRNA lipid nanoparticles Enhances mRNA Delivery
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209: Advanced Functionalization Strategies for Lipid Nanoparticles: Expanding Delivery Beyond the Liver
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210: Acoustic mRNA delivery via 19F MRI–trackable ultrasound-responsive nanodroplets
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211: APC-Mimetic Lipid Nanoparticles delivering mTOR siRNA for Regulatory T cell Induction
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212: AI-Empowered LNP Discovery for Organ-Targeted RNA Delivery
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213: Surface-Capped Protein Nanoparticles for Non-Viral Gene Delivery
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214: Novel Ether-Ionizable Lipids Complexed into Lipid Nanoparticles Enhance mRNA Delivery Efficiency
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Global Health, Special Population, and Women's Health

215: Acid-cleavable Tobramycin cross-linked nanogels for antibiotic delivery to P. aeruginosa biofilms
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216: Enhancing PARP inhibitors efficacy in BRCA1-deficient tumors with radiation-guided nanoparticles
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217: Understanding Depot Formation of Long-Acting Injectable Suspensions: A Physicochemical Perspective
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218: Development of dissolvable microneedles for scalp drug delivery in traction alopecia treatment
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219: Interventions to reduce CAUTIs in primary care settings: A systematic review
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220: Amphotericin B Nanocrystals-in-Nanofibers Films for the Topical Treatment of Cutaneous Leishmaniasis
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221: Electrospun Nanofibers for Dual Probiotic and Antibiotic Delivery Targeting Bacterial Vaginosis
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222: Revolutionizing Abuse Deterrence: Caffeine as a Model for Innovative Formulation Technology
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223: Polypeptide Based Conjugates for Precision Theranostics: Integrating Drug Delivery-Real Time Imaging
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224: Enzyme-activated MRI contrast agent for tumor-specific gadolinium delivery
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225: Advancing Cancer Imaging and Therapy Through Peptide PET Tracers Targeting c-Met
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226: System of fluorescent nanogels functionalized with glucosamine capable of crossing the BBB
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227: Trehalose Enhanced Cold Atmospheric Plasma-Mediated Cancer Treatment
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228: Programming antitumor gamma delta T cells via a phosphoantigen nanoparticle delivery vehicle
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229: A Cryogel-Based Dendritic Cell Vaccine Enhances Breast Cancer Post-Surgical Immunotherapy
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230: Metabolite induced Treg expansion restores immune homeostasis in multiple autoimmune murine models
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231: Metformin-loaded rod-shaped iron(III) carboxylate biomimetic MOFs for antibacterial immunotherapy
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232: pH-Responsive Peptides for Enhanced Chemotherapy and Anti-tumor Immunity
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233: Development of TAM-targeted nanoparticles for immunotherapy in pancreatic cancer
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234: Sustained Delivery Of Immunoglobulin (IgG) Through Biodegradable Poly(Orthoester) Solid Implant
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235: Mesoporous Silica Based Radionuclide Therapy shows Immunomodulatory Effects & Enhanced Outcome
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236: pH-Sensitive Zinc-Zoledronate Inhalation Therapy for Macrophage Modulation in Lung Cancer
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237: A shared neoantigen melanoma vaccine formulated with a novel biodegradable liquid polymer
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238: Steroid-containing lipid NPs enable mRNA delivery while reducing inflammation in autoimmune disease
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239: LNP-RNA-mediated antigen presentation leverages SARS-CoV-2-specific immunity for cancer treatment
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240: Proteolysis-targeting vaccines (PROTAVs) for robust combination immunotherapy of melanoma
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241: Development of subcutaneous In Situ gelling formulation of anti-PD-L1 peptide for cancer treatment
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242: PEGylated peptide therapeutics for inducing immunosuppressive cells to treat autoimmune diseases
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243: Roles of metabolite polymers regulating immune responses in Rheumatoid Arthritis
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244: Particle shape modulates macrophage phenotype: Insights for cell-mediated drug delivery systems
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245: mRNA formulation development: Looking Beyond the Pandemic
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246: Design of experiments-based development and in vitro evaluation of a triple adjuvanted nanovaccine
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247: Development of mRNA nanoparticles to produce CAR - T cells to treat Diffuse Intrinsic Pontine Glioma
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Manufacturing and Process Scale-Up

248: Polymorphism and crystallinity variation of loratadine in polymeric delivery systems
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249: Microfluidic methods for fabrication of W/O/W microspheres using ultra-stable primary emulsion
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251: Twin Screw Extrusion Process Design and Die Modeling for Directly Extruded Implants.
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252: Enlighting the black box: Nanocarrier formation inside microfluidic mixing devices
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253: A manufacturing method of semaglutide-loaded PLGA microspheres using microfluidics
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254: Preparation and evaluation of inhalable nintedanib microparticles using mechanofusion technique
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255: Biocalorimetry to predict bacterial extracellular vesicle production to improve biomanufacturing
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256: Monoliths for a novel selective and high recovering purification process of RNA-LNP pharmaceuticals
Tristan Kovačič, *Sartorius BIA Separations*

257: Impact of Processing Induced Mesophases on Dexamethasone Release in Polycaprolactone Matrices
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258: Manufacturing Process Design: Scaling up studies for success
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259: Engineering the structural and optical properties of gold nanostars with microfluidics
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260: Reproducible and scalable polymer nanoparticle manufacturing facilitates clinical translation
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261: 3D-Printed Antimicrobial Wound Dressing with Argan-Shell Lignin & EssentialOils for Advanced Healing
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262: Preparation of Rivaroxaban Dry Powder for Inhalation Using a Two-Step Milling Process
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263: Development of a new spray drying method for sustained release of VEGF from marine biopolymers
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264: Revolutionizing Nanovesicle Production for Continuous Manufacturing with In-Line Homogenization
Ankita Yawalkar, *Institute of Chemical Technology, Mumbai*
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265: How to make robust a commercial peptide-based lyophilized formulation .
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266: Effect of freezing conditions, cryoprotectant concentrations, and PVP on crystallization
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267: Nano vs. Micro: Impact of Drug Particle Size in Extrusion-based 3D Printing on Tablet Performance
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268: Special challenges for developing sterile biological drug product for intravitreal injection.
Tuo Meng, *Merck & Co., Inc.*

269: Optimizing PAT: Refractometer in Continuous Manufacturing of Lipid-Based Therapeutics
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270: End-To-End Process for Improved Purity, Combined With Innovative Analytics of LNP-Based Therapeutics
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271: DoE-Optimized Process for Residual Ethanol Reduction in Codaewon-S Syrup
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272: Impact of Polymer Concentration on Metformin HCl Tablet Properties and Extended-Release Profiles
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273: Next-Generation Lipid Nanoparticles: Advancing Ionizable and PEG-Free Shielding Lipids
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274: Microstructural and compositional analysis of dexamethasone-loaded poly(lactide-co-glycolide) rods
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275: Pharmacokinetics of a Liposomal Amphotericin B Prepared using Simplified Thin Film Hydration Method
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276: Development of SiRNA-loaded nanobubble formulation with Nova™ Benchtop turbulent mixing system
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277: Astrocyte Membrane-Coated Nanoparticles: A Targeted Therapeutic Strategy for Glioblastoma Treatment
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278: Melting the Iceberg – Nanomedicines-driven Matrix Remodeling and Immune Recruitment in PDAC
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279: Creating a novel implant for controlled release to improve radiation sensitivity in prostate cancer
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280: Hyaluronic Acid-Functionalised pH-Responsive Nano-cocktails Targeting Breast Cancer Stem Cells
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281: Lyotropic liquid crystalline mesophases for restoring glutathione peroxidase after oxidative stress
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282: Aggregation Behavior of Sodium Caprate: Insights from Coarse-Grained Simulations and SAS Techniques
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283: Liposomal Delivery of Caffeine and Cafestol for Enhanced Skin Absorption
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284: Evaluation of Vaccine Induced Antitumor Response of Cationic Nanoparticles in Colorectal Cancer
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285: Investigating the Cellular Internalization and Endosomal Escape of Polymeric Mesoscale Nanoparticles
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286: In vivo metabolism of cholesterol-containing nanoparticles generates immune modulatory oxysterols
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287: Inhalable TPGS/DPPC Micelles Co-Loaded with Curcumin and Icariin for Targeted Lung Cancer Therapy
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288: Investigating the potential of Dual-drug-loaded Electrospun Nanofibers for Breast Cancer Treatment
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289: Peptide-Guided Nanoparticles for Targeted Temozolomide Delivery in Glioblastoma
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290: Precision-Activated Masked Antibodies Reduce Immune Toxicities in Checkpoint blockade Cancer Therapy
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291: Biological evaluation of lycopene-loaded silica-based nanoparticle for vulvovaginal candidiasis
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292: The Development of Long-acting Teriparatide Formulations to Treat Osteoporosis
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293: Advancing Idiopathic Pulmonary Fibrosis treatment with PROTAC Nanomedicine
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294: A biomimetic redox-responsive hybrid lipid polymer antibiotic-nanocarrier against bacterial sepsis
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295: Inducing Mucosal Immunity in IPV Immunization Using Retinoid Derivative-Encapsulated Nanoparticles
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296: Enhancing mRNA-LNP Efficacy: Investigating the Role of Ionisable and Cationic Lipid Combinations
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297: Urease-powered nanomotors for enhancing bladder cancer chemotherapy
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298: Behavior of Lipid Nanoparticles in Aqueous Formulations
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299: The potential effect of L-carnosine loaded hyalurosomes as a novel anti-aging nano-cosmeceutical gel
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300: Optimization of amiloride-loaded nanoparticles for podocyte injury in glomerular disease.
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301: Drug-loaded cyclodextrin-based polymers to treat pulmonary infections
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302: PLGA Nanobots for therapeutic siRNA delivery: A novel strategy for bladder cancer therapy
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303: Optimizing LNP-RNA Formulations: Key Insights into Size, Zeta Potential, and Stability
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304: Targeted mRNA delivery to metastatic tumors using functionalized nanoparticles
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305: Ratiometric coloaded human serum albumin nanoparticles for effective breast cancer treatment
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306: Polyelectrolyte Complexes as Versatile Vehicles for the Controlled Release of Cefazolin.
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307: Enhancing Mucosal Diffusion of Polymeric Nanoparticles Using Novel Coating Methods
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308: Machine Learning-derived Insights in Design of Small Polymeric Nanoparticles for Gene Delivery
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309: A Two-component Two-step Transformable Nanoplatform against Cancers Based on Bioorthogonal Chemistry
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310: Conventional vs PEG-modified PLGA nanoparticles for sodium channel blockade in neuropathic pain
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311: LinTT1 peptide-functionalized Camptothesome enhances tumor delivery, boosting anti-cancer efficacy.
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312: Biodistribution, Pharmacokinetics and Acute Toxicity of Disulfide Crosslinked P(AAm-co-MAA) Nanogels
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313: Tiny Particles, Big Plans: Nanoparticles for Controlling Drug Transfer through the Placental Barrier
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314: Enhanced anti-sarcopenic activity of perindopril erbumine using ultradeformable liposomes
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315: Self-Immolative Polymeric Prodrug for Targeted Cancer Therapy through Disturbing the Redox Balance
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316: Lipidic Nanoparticle for Brain-targeted Treatment in Bacterial Meningitis
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317: Novel Non-Aqueous Emulsification-based Microsphere Platform for Sustained Delivery of Proteins
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318: Phenylboronic acid functionalized poly (lactic-co-glycolic acid) nanoparticles towards lung cancer
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319: Multifunctional nanoparticles to fight hormone-resistant prostate cancer
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320: Engineered Nanobubbles for Inducing Unprogrammed Necrosis in Cancer Immunortherapy
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321: Biodynamers, dynamic protein nanorods, potentiate antibiotics via membrane interactions
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322: pH-dependent Zinc Ion and Photosensitizer Release Nanoparticles for Cancer Targeting Treatment
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323: Electrospinning of nanofibers and the perspectives for dermatological application
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324: pH-sensitive Ionizable Lipid-based Nanoparticles for siRNA delivery to Liver
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325: Enhanced Solubility & Anti-Dilution Properties of Lipophilic Drugs with Solid Micellar Nanoparticles
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326: Nanoparticles-mediated codelivery of cell cycle blockers for the treatment of prostate cancer
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327: Sphingomyelin-derived nanovesicles for the delivery epacadostat enhance melanoma immunotherapy
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328: Engineering Extended-Release Profiles for Biologics via Crosslinking of Poloxamer 407 Hydrogels
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329: Mannosylated Lipid Nanoparticles for Targeted in Vivo mRNA Delivery
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330: Immunoliposomes as a targeted delivery system for enzyme replacement therapy in Fabry disease
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331: 1-Min Nanocrystals: A Fast, Cost-Effective and Efficient Technique to Mill Drugs Using Speed Mixer
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332: Controlled Release of Fluticasone Propionate after Intra-Articular Injection of EP-104IAR in Sheep
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333: Targeted IL-10 mRNA Lipid Nanoparticles Improve Outcomes in Experimental Intracerebral Hemorrhage
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334: Immunomodulatory effects of cholesterol oxidation and their implications in liposomal drug delivery
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335: Endoscopic Delivery of Regorafenib-Curcumin Microparticles to Locally Treat Colorectal Cancer
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336: Targeting Serpinb9 via Gemcitabine-based SiRNA/Drug Nanocarrier to Improve Pancreatic Cancer Therapy
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337: Use of gamma-alumina for acyclovir release
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338: Inhaled lipid nanocarriers for the eradication of pseudomonal biofilms in cystic fibrotic lungs
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339: Lipophilization as a design strategy to tune the release of Tofacitinib from lipid nanoparticles
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340: Thermoresponsive GPNMB-Hydrogels as an Innovative Therapeutic Strategy for Bone Regeneration
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341: Liposome-Encapsulated Bacteriophage Therapy for Drug-Resistant Mycobacterium abscessus
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342: Development of PLGA-Based Nanoparticles for a novel therapeutic peptide in Cardiovascular Diseases
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343: In vitro release testing system development for buprenorphine in situ forming implant
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344: Local Extended-Release Colchicine for Intra-Articular Treatment of Gout Flares
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345: Optimized HPLC Method for TX & FV Estimation in Plasma & Brain: Pharmacokinetics & Biodistribution
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346: Nano-in-micro particles for the pulmonary delivery of remdesivir
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347: An Ultra-long-acting Atovaquone Prodrug Formulation for Malaria Chemoprophylaxis
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348: Effective screening of LNP formulations with centrifugal microfluidics devices
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349: Ginsenoside-Gemcitabine Nanocomplex-based Delivery System for Enhanced Cancer Therapy
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350: Targeting alveolar macrophages with sialic acid-decorated liposomes
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351: An ultra-long-acting prodrug of buprenorphine for opioid dependence
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352: Ionic liquid-based nanoemulsion to improve sorafenib oral absorption & repurposing it in AML therapy
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353: Controlled Release of Gemcitabine with Partially Molecular Imprinted Microspheres for Cancer Therapy
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354: Microneedle enabled dual drug delivery system for vaginal infections using magnetic hyperthermia
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355: Evaluation of Apisolex™ for Parenteral Use: Solubilizing Poorly Soluble Small Molecules and PROTACs
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356: Rational development of donepezil-curcumin intranasal nanotherapies for Alzheimer's disease
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357: Microfluidics Manufacturing of Liposomal Adjuvants
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358: Marginated Neutrophils Compete for Pulmonary Endothelial-targeted Nanoparticles, part of the RES
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359: Exosome-Liposome Fusion System for Targeted Treatment of MCAO-Induced Brain Injury
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360: Hybrid nanoparticles with TGFβ1 EVs and cartilage-targeting liposomes for osteoarthritis treatment
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361: Infection-Responsive Theranostic System for Preventing & Monitoring Surgical & Wound Site Infections
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362: Bioinspired Polymer-Membrane Insulin Crystal Enables Long-Term, Self-Regulated Release
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363: The Extended Potentiated Anticoagulant Effect of Novel Warfarin-α-Tocopherol–Chitosan Nanoparticles
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364: Evaluation of triazine-based lipid nanoparticle (LNP) formulation for mRNA delivery in a mouse model
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365: Hybrid nanoparticles leveraging cell-cell interactions for immunotherapy & metabolic Modulation
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366: Effect of Pegylayion on liposomal adhesion on breast cancer tumor
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367: Insulin-Gold Nanoplatform: Boosting Antibody-Drug Conjugate Efficacy
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368: Refining peptide-functionalized LNPs for enhanced tumor-targeted mRNA delivery
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369: Nanoparticles enhance gemcitabine efficacy by overcoming fibroblast barriers in pancreatic cancer
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370: Lyophilization approach to improve long-term stability of LGA-PEI nanoparticles for drug delivery
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371: Development of a High-Concentration Fulvestrant Depot Formulation with Sustained Release Properties
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372: Surface modification of sustainably-formulated bacterial cellulose nanoparticles for drug delivery
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373: Biodegradable silica-based ultra long-acting tirzepatide formulations for the treatment of obesity
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374: Advancements in Lyophilized Exosomes for Enhanced Stability and Therapeutic Applications
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375: Exploring the Impact of Iron Availability on Antibiotic Resistance in Mycobacterium Species
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376: Design and Screening of Ionizable Lipids for Precision mRNA Delivery to Extrahepatic Organs
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377: Highly Porous Microparticles with TLR7 Agonist-3 Liposomes and siTGF-β LNPs for Pulmonary Fibrosis
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378: Dextran-based T-cell expansion nanoparticles for ex vivo generation of efficacious CAR T cells
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379: Actively targeting colorectal cancer using nanoparticles co-loaded with small molecule inhibitors
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380: Synthesis and non-covalent interaction investigation of metformin-conjugated poly(methyl acrylate)
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381: Towards Understanding LAI Suspensions: Impact of Size Reduction Techniques and Aggregation State
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382: Development of EGFR-Targeted Dual-Loaded Polymeric Nanoparticles for Triple Negative Breast Cancer
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383: Physically Crosslinked Nanocomposite Hydrogels for Sustained Subcutaneous Delivery of Peptides
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384: Development of a solid lipid nanoparticle platform for the delivery of vancomycin
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385: Impact of nanomaterials on the anti-Candida activity of cysteine-modified amidated decoralin
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386: Evaluation of the biocidal activity of Origanum vulgare L. essential oil in nanoemulsion
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387: Polymer-lipid hybrid nanoparticles for sonographic monitoring of subcutaneous fat reduction
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388: Multi-Functional Polymer Nanoparticles for Localized Fat Reduction
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389: Green Propolis-loaded Lipid Nanostructure Reduce SARS-CoV-2 Replication and Inflammation
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390: Gas-Driven Fat Reduction with PEG-Based Nanocarriers
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391: Engineered Nanovaccines for STING-Activated Antigen Cross-Presentation in Cancer Immunotherapy
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392: In Vitro Evaluation of Ionizable Lipids in Lipid Nanoparticle (LNP) Formulations.
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393: Budesonide- nanoparticles based inhaled therapy for potential treatment of COPD
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394: Optimizing supramolecular and chemical stability to enhance the design of self-assembling prodrugs
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395: Quantification of Payloads in Lipid Nanoparticles by Scatter-Free UV/Visible Absorption Spectroscopy
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396: Development an injectable in situ formulation of targeted liposomal cisplatin for chemoradiotherapy
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397: Polymeric nanoparticles delivering bevacizumab and avoiding hyperglycolysis in glioblastoma therapy
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398: Metabolism regulating metal phenolic networks reverse the immunosuppressive tumor microenvironment
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399: Paclitaxel-Based Prodrug Hydrogelators
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400: Plasmonic enhanced femtosecond laser anticancer drug delivery using gold-lipid nanoparticles
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401: Design of Supramolecular Hydrogelators for Enhanced Drug Loading and Sustained Therapeutic Release
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402: CD44-Targeted Antibody-Drug Conjugates with Cathepsin B-Cleavable Linker for Ovarian Cancer Therapy
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403: Nicotinamide-loaded Peptoid Nanotubes for Energy Regeneration in Brain Injury
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404: Design, Optimization and Evaluation of Tazarotene Loaded Emulgel Formulation for Treatment of Acne
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405: Antiretroviral Supramolecular Prodrug Hydrogelators as Long-Acting Injectables
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406: Co-delivery of TLR7/8 agonist and Dox using targeted liposome nanocarrier for bladder cancer therapy
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407: AI and Human Based Design of High-Complexity Nano-Therapies for KRAS-Driven Cancer
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408: Development and assessment of a BCS class II drug in the form of solid lipid nanoparticle
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409: Directed discovery of high-loading nanoaggregates enabled by drug-matched oligo-peptide excipients
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410: Investigation of nifedipine and piperine loaded Bio-SNEDDS for the treatment of hypertension
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411: Disruption of the airway mucus barrier enhances nebulized RNA delivery to reverse pulmonary fibrosis
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412: Preparation and characterization of Eudragit S 100 nanoparticles
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413: Antioxidative HABN Targeting Activated Hepatic Stellate Cells for Anti-Hepatic-Fibrosis Therapy
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414: pH-Responsive Doxorubicin Dimeric Nanoassemblies with High Loading, Stability, and Tumor Selectivity
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415: Development of an EZH2 PROTAC-Nanoparticle targeting Breast Cancer Brain Metastases
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416: VCAM-Targeted Delivery of MFSD2A mRNA Mitigates Blood-Brain Barrier Dysfunction in Ischemic Stroke
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417: Developing LNPs for Pediatric Acute Myeloid Leukemia through Two Biological Mechanisms
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418: A 3D Co-Culture Model of Lipid Nanoparticle Uptake in Senescent Pancreatic Cancer
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419: Immuno-Nanoparticles Co-Delivering Rifampicin and Vit D3 for Macrophage-Targeted TB Treatment
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420: Towards Clinical Translation of Autophagy Inhibitor BAQ13 LNP (TR002) for Cancer Therapy
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421: A Novel Long-acting Injectable Formulation Enabling Sustained Release of Dutasteride over 3 months
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422: Self-Assembly of Peptide–Drug Conjugates into Supramolecular Polymers Enhances Immunogenic Cell Death in Glioblastoma Cells
Tian Wu, *Johns Hopkins University*

423: A novel one month long acting injection (LAI) technology for prolonged release of leuprorelin
Suhwan Kim, *Chong Kun Dang pharmaceutical Corp.*

424: Breaking the Endosomal Barrier: Polymer-Enhanced Lipid Nanoparticles for Potent & Safe RNA Delivery
Ramya Kannan, *University of British Columbia*

424-A: Cubic Liquid Crystalline Nanoparticles for Co-Delivery of siRNA and Drugs in Alzheimer's Therapy.
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Ocular Delivery

425: Biocompatibility assessment of Dexamethasone-Loaded Hydrogel ocular Implants
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426: Developing ciprofloxacin-loaded HEMA contact lenses for sustained release.
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427: Apatinib-loaded polymeric micelles for ophthalmic delivery to the posterior segment
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428: Fenofibrate Eyedrop: A Novel Therapeutic Approach for Mustard Gas-Induced Corneal Injuries
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429: Development of PEG and VE containing block copolymer to form nanomicelles for ocular drug delivery
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430: Inspection of Ocular Drug Delivery Implants
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431: Cationic mucoadhesive Posaconazole NioTherms:A potential approach for management of Fungal Keratitis
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432: Mucoadhesive micelle for anterior segment ocular drug delivery
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433: DECON- a novel platform for Sustained Ocular Delivery of Corticosteroids
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434: Mucoadhesive Polymer-Drug Conjugate and Nanoparticle for Anterior Ophthalmic Drug Delivery
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435: Development of a Polymeric Nanofiber Device for the Prevention of Post-Surgical Secondary Cataracts
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436: Muco-penetrating nanoparticles to sustain drug release for ophthalmic drug delivery
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437: CBD Niosomes as an Innovative Strategy for the Treatment of Retinal Degenerative Diseases
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438: Autologous Serum ocular inserts for treatment of Dry Eye Disease
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439: Loteprednol etabonate-loaded nanoemulsion: anti-inflammatory effect
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440: A dissolvable gel-based in vitro dissolution method for in situ-forming implants
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441: Development of an in situ gelling ocular vehicle: A design of experiments (DOE) approach
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442: In vitro enzymatic degradation of PLGA microparticles
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443: Flavonoid loaded solid lipid nanoparticles in Pluronic gel for combating dry eye disease
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444: Synchronized Codelivery of Dexamethasone and Propranolol for the treatment of Macular Degeneration
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Oral Delivery

445: Dual-Responsive HEMA-Based Hydrogels for Targeted Colonic Delivery of Metronidazole.
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446: Targeted LNPs for Improved In Vivo mRNA Delivery and Immune Responses
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447: Ticagrelor Amorphous Solid Dispersion tablets: formulation with Gelucire® 48/16
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448: Direct Compression of Co-Processed Mannitol-HPMC for Controlled Release Tablets
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449: Triple-strengthened formulation for oral delivery of liraglutide-loaded nanoparticles
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450: Klucel™ Xtend hydroxypropylcellulose (HPC) for Dual Active Diabetic Controlled Release Dosages
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451: Advancing Oral Delivery of Biologic Drugs: Overcome Formulation Challenges with Permeation Enhancers
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452: Designing MELTSOFT: User-Centric Dosage via Hot Melt Extrusion
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453: A190, a new PPARα agonist loaded microemulsion for chemotherapy-induced peripheral neuropathy
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454: Development of pH-responsive Hydrogel in Gastro-Resistant Capsules for Colon Targeted Drug Delivery
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455: Dissolution of Sodium Oxybate ER Drug Product (LUMRYZ) in Different Reconstitution Liquid Vehicles
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456: 3D Printed Bioinspired Mucoadhesive Oral Patch for Long-acting Naltrexone Delivery
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457: Efficient Manufacturing of Delayed Release Minitablets using a Seal and Enteric Coating Approach
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458: Alternative Reconstitution Soft Foods Vehicles for Sodium Oxybate Extended-Release Drug Product
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459: Early Phase Selection of a Controlled Release Amorphous Dispersion Formulation
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460: Harnessing the Power of Human Breast Milk to Boost Intestinal Permeability for Nanoparticles
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461: Identifying optimal process and formulation parameters for the TSWG of acetaminophen using L-HPC
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462: Enteric-coated spherical granules for dual delivery of orlistat & acarbose with diverging properties
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463: Exploring Orodispersible Films Containing the PROTAC ARV-110 in Solvent Casting using PVA
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464: 3D molded carbidopa stoppers for fix dose levodopa gastro retentive tube delivery system
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465: The influence of PEGylated surfactants on the colonic absorption of celecoxib from nano-emulsion
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466: Enabling Oral Delivery of Salmon Calcitonin via SNEDDS: Impact on Protection and Activity
Anette Müllertz, *Københavns Universitet*
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467: Zero-Order Drug Release from Push-Pull Osmotic Tablets in Varying Dissolution Media
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468: In-Vitro Evaluation of Different Marketed Brands of Metformin Tablets Using Quality Control Tests
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469: Nanoparticle-stabilized Pickering emulsion for oral vaccine delivery
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470: Effect of Hydroxypropyl Cellulose Grade on the Tablet Characteristics in Continuous Granulation
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471: Enhancing pH-responsive drug release in gastrointestinal environment by alginate–CMC/CAP microbeads
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471-A: Impact of HPMC and formulation parameters on the dissolution profiles of modified release tablets
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471-B: Formulation and Process Parameters Optimization in Chewable Tablet.
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471-C: Complex coacervation as a strategy of semaglutide-cationic polymer complex formation
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Skin and Mucosal Delivery

472: Hydrogel-Forming Microneedles For Vancomycin Delivery To Combat Antimicrobial Resistance
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473: Enhancing Therapeutic Efficacy and Immune Response with Bispecific Gold Nanoparticles in Cancer
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474: Controlled-Release Surface Coating to Prevent Ventilator-Associated Pneumonia on Endotracheal Tubes
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475: Design and Characterization of Long-acting Subcutaneous Implants Developed Using Hot-Melt Extrusion
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476: Mechanical analysis of pharmaceutical films containing Soluplus for topical delivery of copaiba oil
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477: Characterization of physical properties and design of delivery systems for a chlorin e6 derivative
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478: Formulation and Screening of Ionic Liquid APIs for Transdermal Delivery
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479: Carboxymethyl cellulose dissolving microneedles containing tetracycline for acne vulgaris treatment
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480: In-Situ Forming Implant: Impact of PLGA-Grade and Drug Load on the Drug Release and PLGA Degradation
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481: Microneedle for Rapid and Sustained Delivery of Acetaminophen and Caffeine for Migraine Therapy
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482: Enhancing the storage stability and delivery of extracellular vesicles by using microneedles
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483: SCISSOR for in vitro evaluation and modeling of high concentration mAb formulation SC absorption
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486: Dissolving Microneedle Patch for Localized Photodynamic Therapy in Oral Carcinoma
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487: Redox responsive nanogels for mucosal drug delivery
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488: Development of a Novel Dry Powder Inhaler for Semaglutide: Freeze-Drying Micronization and PK study
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489: Impact of quantitative differences in carbomer on drug release from diclofenac sodium topical gels
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490: In situ forming implants: effect of drug-polymer-solvent interplay on PLGA degradation
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492: Antimicrobial Chitosan-PVA Cryogels with Tailored Nanosilver for Treating Infected Wounds
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493: Lidocaine and Pelubiprofen Eutectic Mixture for Enhanced Endodermal Delivery in Topical Formulations
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494: Developing Long-Term Drug Delivery Systems Using Polyethylene Vinyl Acetate and Loratadine
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495: Enhanced Transdermal Permeation of Diclofenac Sodium using Mango Seed Kernel Starch Nanoparticles
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496: Molecular Dynamics Investigation of Poloxamer/Alginate Hydrogel with Neomycin Sulfate
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497: Development of a transdermal Edaravone patch as a novel parenteral therapeutic system for ALS
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498: Modulation of hair growth by topical drug delivery enhanced by STAR particles
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499: Innovations in Hollow Tube Implants for Targeted Drug Delivery Systems
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500: Unlocking the Potential of Needle-Free Jet Injectors for Intradermal Delivery of Nanoparticles
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501: Amplifying Dual-Drug Microspheres Capacity via Formulation Optimization and Computational Simulation
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503: Finite Element Modelling of Hollow Microneedle Insertion and Intradermal Drug Delivery
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504: An emulsion-based microneedle formulation for transdermal delivery of peptide therapeutics.
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505: Development and Evaluation of a Terbinafine Hydrochloride Film Forming Solution for Athlete's Foot
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506: Electrosprayed Dry Powder Inhaler (DPI) Formulations of Bevacizumab for the Treatment of NSCLC
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507: Insights from Drug Development: Surveying Challenges & Outcomes for Large-Volume Subcutaneous Drugs
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508: Impact of Gelling Agent on Physicochemical and Q3 Properties of Clobetasol Propionate Gels

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509: Ex vivo platform using viable human skin to study subcutaneous administration of macromolecules

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510: Comparative ex vivo permeability through healthy and inflamed skin hydrophilic and hydrophobic > 500 Da drugs using lipid-based nanovesicles

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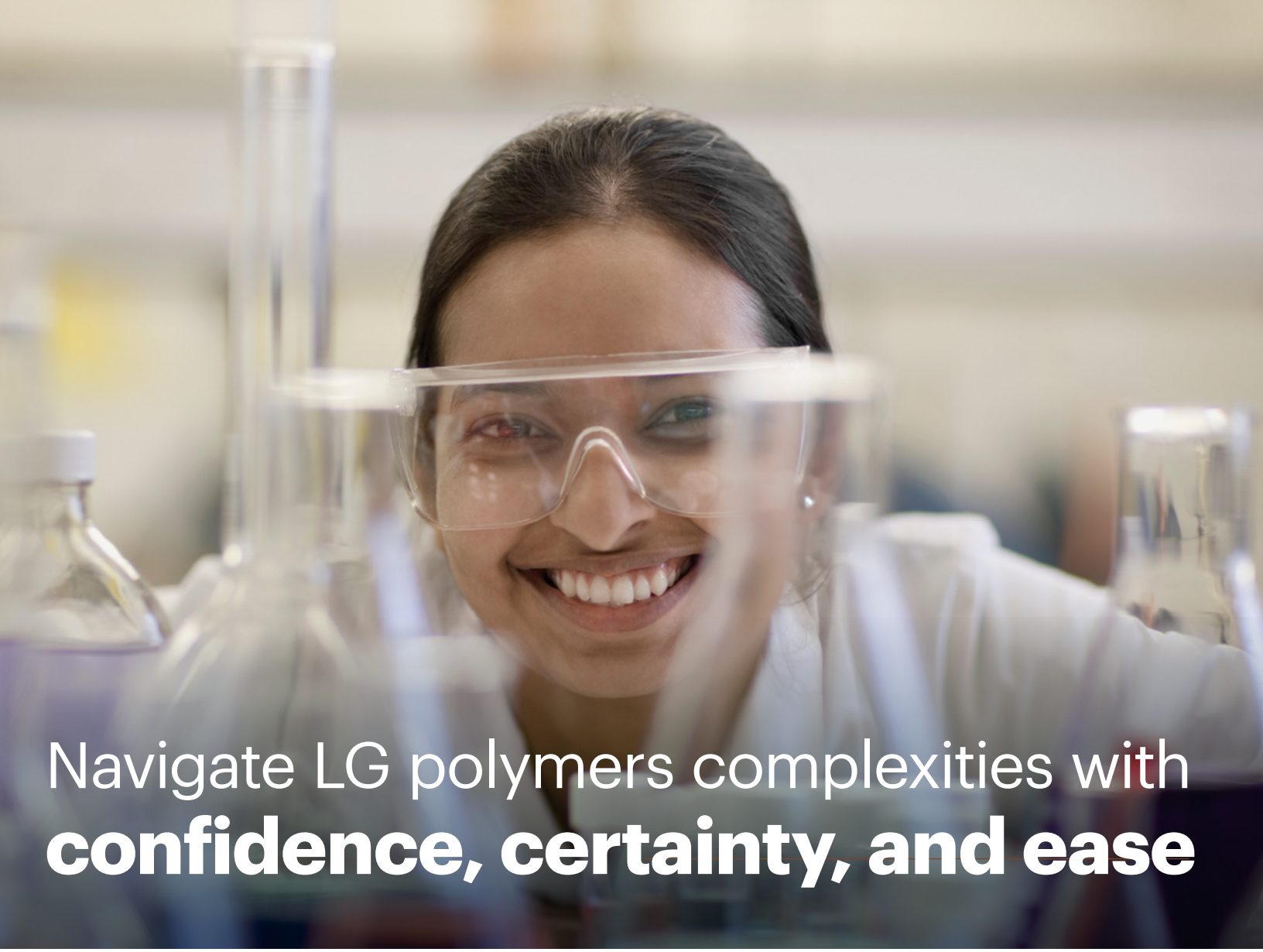

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