Vol. 307
JOURNAL OF CONTROLLED RELEASE
10 AUGUST 2019

CONTENTS
Cited in: BIOSIS/Biological Abstracts; CAB Abstracts; Chemical Abstracts Services; Current Contents (Life Sciences); EMBASE/Excerpta Medica; International Pharmaceutical Abstracts; PUBMED/MEDLINE/Index Medicus; Polymer Contents; Science Citation Index. Also covered in the abstract and citation database Scopus®. Full text available in ScienceDirect®

COVER STORY
423–423
Shape-dependent bioavailability of lovastatin nanocrystals

EDITORIAL
424–424
Fresh Air in the JCR Editorial Team

REVIEWS
16–31
Graphene-based nanomaterials: the promising active agents for antibiotics-independent antibacterial applications
Meng-Ying Xiaa, Yu Xiea, Chen-Hao Yu1, Ge-Yun Chen1, Yuan-Hong L1, Ying Zhang1, Qiang Peng1
aState Key Laboratory of Oral Diseases, National Clinical Research Center for Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu 610041, China
bDepartment of Pharmacy, West China Hospital, Sichuan University, Chengdu 610041, China

98–107
Chemical modulation of siRNA lipophilicity for efficient delivery
Wanyi Taia,b
aKey Laboratory of Combinatorial Biosynthesis and Drug Discovery (Wuhan University), Ministry of Education, China
bWuhan University School of Pharmaceutical Sciences, Wuhan, Hubei 430071, China

Additional material available online.
The Journal of Controlled Release (JCR) publishes high-quality research articles in the broad field of delivery science and technology. This includes drug delivery systems and all aspects of formulations, such as physicochemical and biological properties of drugs, design and characterization of dosage forms, release mechanisms, in vivo testing, and formulation research and development in the disciplines of pharmaceutical, diagnostic, agricultural, environmental, cosmetic, and food industries. Manuscripts that advance fundamental understanding of principles and/or demonstrate advantages of novel technologies in safety and efficacy over current clinical standards will be given priority. Each issue has the cover story highlighting the significance of a selected article published in the issue. At the end of each quarter, the JCR editors select “The Editors’ Choice” from the published research articles.

© 2019 Elsevier B.V. All rights reserved. This journal and the individual contributions contained in it are protected under copyright by Elsevier B.V., and the following terms and conditions apply to their use.

Photocopying Single photocopies of single articles may be made for personal use as allowed by national copyright laws. Permission of the Publisher is required to store or use electronically, including compilations and translations (please consult www.elsevier.com/permissions), any material contained in this journal, including any article or part of an article. Permission of the Publisher is required to make derivatives or special copies for non-profit educational classroom use. For information see: http://www.elsevier.com/permissions.

Photocopying is permitted by law and the copying fee paid to the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA, on behalf of Elsevier Science Publishers Ltd. for: (i) customers in the USA: for internal use only; provided the copier pays the stated fee via the Copyright Clearance Center, Inc.; or (ii) customers elsewhere: for internal use only; provided the copier pays the stated fee directly to Elsevier Science Publishers Ltd. The fee code for users of the Transactional Access Service is 6117/09.

Electronic Storage or Usage Permission of the Publisher is required to store or use electronically, any material contained in this journal, including any article or part of an article (please consult www.elsevier.com/permissions). Except as outlined above, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the Publisher.


Language (usage and editing services) Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the English Language Editing service available from Elsevier’s WebShop http://webshop.elsevier.com/language/editing or visit our customer support site http://service.elsevier.com for more information.

Illustration services Elsevier’s WebShop http://webshop.elsevier.com/illustrationservices offers Illustration Services to authors preparing to submit a manuscript but concerned about the quality of the images accompanying their article. Elsevier’s expert illustrators can produce scientific, technical and medical-style images, as well as full ranges of charts, tables and graphs. Image polishing is also available, where our illustrators take your images and improve them to a professional standard. Please visit the website to find out more.

Publication information: Journal of Controlled Release (ISSN 0168-3659). For 2019, volumes 0-226-0 are scheduled for publication. Subscription prices are available upon request from the Publisher or from Elsevier Customer Service Department, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK; phone: (+44) (1865) 843454; facsimile: (+44) (1865) 843330; e-mail: ElsevierCustomerServiceEM.EA@elsevier.com.

Editor in Chief: Julia César Cuggia

Executive Editors: Marketa Vaculovicka, Amitava Moulick, Zbynek Heger, Pawan Kumar Mishra, Aninda Mazumder, Zuzana Koudelková, Vojtech Adam, Milad Shamsi, Mohammad Manshad, Mohammad K.D. Manshad, Mohammad K.D. Manshad

Editorial Office: 3251 Riverport Lane, Maryland Heights, MO 63043, USA; phone: (877) 8937218 toll free within the USA; (+1) (314) 4478678 (outside the USA); fax: (+1) (314) 4478677; e-mail: JournalCustomerService-usa@elsevier.com.

Elsevier Customer Service Department, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK; phone: (+44) (1865) 843454; facsimile: (+44) (1865) 843330; e-mail: ElsevierCustomerServiceEM.EA@elsevier.com.

Tokyo: Elsevier Customer Service Department, 4F Hijishita-Azabu, 1-Chome Bldg, 1-15 Hijishita-Azabu, Minato-ku, Tokyo 106-0044, Japan; phone: (+81) (3) 5517 5047; fax: (+81) (3) 5517 5010; e-mail: ElsevierCustomerServiceJapan@elsevier.com.

The Philippines: Elsevier Customer Service Department, 2nd Floor Building H, UP-Ayalaan Technologies, Commonwealth Avenue, Diliman, Quezon City, Philippines; phone: (+63) 2 6350020; fax: (+63) 2 352 1934; e-mail: ElsevierCustomerServiceAPAC@Elsevier.com.

Sponsored Supplements and/or Commercial Reprints: For more information please contact Elsevier Life Sciences Commercial Sales, Radaraadweg 29, 1043 NX Amsterdam, The Netherlands; phone: (+31) (20) 485 2039/2039; e-mail: LSCS@elsevier.com.

Advertising information: If you are interested in advertising in this journal, or in Commercial supplements to it, please email to CommercialSales@elsevier.com and your enquiry will be passed to the correct person who will respond to you within 48 hours.

USA mailing notice: Journal of Controlled Release (ISSN 0168-3659) is published semimonthly by Elsevier B.V., Radaraadweg 29, 1043 NX Amsterdam, The Netherlands. Periodical postage paid at Jamaica, NY 11431 and additional mailing offices.

USA POSTMASTER: Send change of address to Journal of Controlled Release, Elsevier Customer Service Department, 3251 Riverport Lane, Maryland Heights, MO 63043, USA.

AIRFREIGHT AND MAILING IN USA by Air Business Ltd., c/o Worldnet Distribution Services Inc., 153-165, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA.

Notice No responsibility is assumed by the Publisher or the Controlled Release Society for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, procedures, instructions or ideas contained in the material herein. Because of rapid advances in the medical sciences, in particular, independent verification of diagnosis and drug dosages should be made.

Although all advertising material is expected to conform to ethical (medical) standards, we reserve the right to reject any advertisement that, in our judicious opinion, does not provide a guarantee or endorsement of the quality or value of such product or of the claims made of it by its manufacturer.

© The paper used in this publication meets the requirements of ANSI/NSI Z94.48-1992 (Permanence of Paper)

For a complete and full Guide for Authors, please go to http://www.elsevier.com/localscope/jcr1/