

Green Biomaterials in Tissue Engineering

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571

Email: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984. | ISBN 9798331314040 (pod)

Copyright © 2025 American Chemical Society

All Rights Reserved. Reprographic copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Act is allowed for internal use only, provided that a per-chapter fee of \$40.25 plus \$0.75 per page is paid to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA. Republication or reproduction for sale of pages in this book is permitted only under license from ACS. Direct these and other permission requests to ACS Copyright Office, Publications Division, 1155 16th Street, N.W., Washington, DC 20036.

The citation of trade names and/or names of manufacturers in this publication is not to be construed as an endorsement or as approval by ACS of the commercial products or services referenced herein; nor should the mere reference herein to any drawing, specification, chemical process, or other data be regarded as a license or as a conveyance of any right or permission to the holder, reader, or any other person or corporation, to manufacture, reproduce, use, or sell any patented invention or copyrighted work that may in any way be related thereto. Registered names, trademarks, etc., used in this publication, even without specific indication thereof, are not to be considered unprotected by law.

PRINTED IN THE UNITED STATES OF AMERICA

Contents

Preface	ix
1. Nature-Inspired Chemical Methods.....	1
Mohammad Saeed Beyki, Elahe Mashhadi, Jonas Rashidi, Amir Hossein Cheshme Khavar, and Javad Safaei-Ghomi	
2. Physicochemical and Mechanical Properties of Green Biomaterials.....	55
Bahareh Farasati Far, Parsa Taromi, Edris Jamshidi, and Mahdieh Deheshjoo	
3. Fabrication and Morphology of Biomaterials Based on the Used Synthesis Methods ..	89
Reyhaneh Hosseini, Jonas Rashidi, Mostafa Mokhtariyan, and Amir Landarani-Isfahani	
4. Antimicrobial Properties of Green Biomaterials	141
Bableen Flora, Anurag Kumar Singh, Rohit Kumar, Kalpana Balakrishnan, Anjuvan Singh, and Piyush Kumar Gupta	
5. Cytotoxicity and Biocompatibility of Green Biomaterials	175
Seyedeh Najibeh Nasiri, Behrouz Aghajanloo, Noushin Nasiri, and Simin Nazarnezhad	
6. Antioxidant Activity of Green Biomaterials	207
Muddenahalli S. Sudhanva, Shivapura M. Anush, Kothanahally S. Sharathkumar, Shobith Rangappa, and Yarabahally R. Girish	
7. Cardiac Regeneration	229
Bahareh Farasati Far, Leila Jameie, Parsa Taromi, Iman Bhia, and Ali Pourmolaei	
8. Advances and Challenges in Neural Engineering	263
Bahareh Farasati Far, Asefeh Shojaei Abari, Parsa Taromi, and Ali Pourmolaei	
9. Dermal and Oral Wound Healing.....	297
Bahareh Farasati Far, Leila Jameie, Parsa Taromi, Reza Nahavndi, and Edris Jamshidi	
10. Bone Regeneration.....	331
Bahareh Farasati Far, Asefeh Shojaei Abari, Parsa Taromi, and Reza Nahavndi	
11. Green Biomaterials in Biomedical Applications: A Focus on CRISPR.....	371
Navid Rabiee	
Editors' Biographies	383

Indexes

Author Index..... 387
Subject Index 389