PROCEEDINGS OF SPIE

Molecular Machines

Zouheir Sekkat Editor

20 and 23 August 2018 San Diego, California, United States

Sponsored and Published by SPIE

Volume 10740

Proceedings of SPIE 0277-786X, V. 10740

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

The papers in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. Additional papers and presentation recordings may be available online in the SPIE Digital Library at SPIEDigitalLibrary.org.

The papers reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

Please use the following format to cite material from these proceedings:

Author(s), "Title of Paper," in *Molecular Machines*, edited by Zouheir Sekkat, Proceedings of SPIE Vol. 10740 (SPIE, Bellingham, WA, 2018) Seven-digit Article CID Number.

ISSN: 0277-786X ISSN: 1996-756X (electronic)

ISBN: 9781510620513 ISBN: 9781510620520 (electronic)

Published by **SPIE** P.O. Box 10, Bellingham, Washington 98227-0010 USA Telephone +1 360 676 3290 (Pacific Time)· Fax +1 360 647 1445 SPIE.org Copyright © 2018, Society of Photo-Optical Instrumentation Engineers.

Copying of material in this book for internal or personal use, or for the internal or personal use of specific clients, beyond the fair use provisions granted by the U.S. Copyright Law is authorized by SPIE subject to payment of copying fees. The Transactional Reporting Service base fee for this volume is \$18.00 per article (or portion thereof), which should be paid directly to the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923. Payment may also be made electronically through CCC Online at copyright.com. Other copying for republication, resale, advertising or promotion, or any form of systematic or multiple reproduction of any material in this book is prohibited except with permission in writing from the publisher. The CCC fee code is 0277-786X/18/\$18.00.

Printed in the United States of America Vm7 i ffUb 5ggc WUHY gž & Wži bXYf "WY bgY Zfca GD-9.

Publication of record for individual papers is online in the SPIE Digital Library.



Paper Numbering: Proceedings of SPIE follow an e-First publication model. A unique citation identifier (CID) number is assigned to each article at the time of publication. Utilization of CIDs allows articles to be fully citable as soon as they are published online, and connects the same identifier to all online and print versions of the publication. SPIE uses a seven-digit CID article numbering system structured as follows:

• The first five digits correspond to the SPIE volume number.

• The last two digits indicate publication order within the volume using a Base 36 numbering system employing both numerals and letters. These two-number sets start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B ... 0Z, followed by 10-1Z, 20-2Z, etc. The CID Number appears on each page of the manuscript.

Contents

| V | Authors |
|---|---------|
| | |

vii Conference Committee

MOLECULAR SWITCHES AND PHOTOCHEMICAL TWEEZING

10740 07 Motion of matter induced by light fueled molecular machines [10740-7]

PHOTOSOFTENING AND PHOTOSTRUCTURING OF MATERIALS

10740 0A On surface relief gratings in azo-polymers [10740-10]

BIO-MOLECULAR MACHINES

10740 0C Photo-stimuli responsive supramolecular materials using supramolecular machine (Invited Paper) [10740-13]

PHOTO-ROBOTICS AND TWO-PHOTON MICRO/NANOFABRICATION

10740 OE Light-fueled polymeric machines: multiple actions at the microscale (Invited Paper) [10740-15]

POSTER SESSION

10740 0G Laser nanofabrication in photoresists by two-photon absorption [10740-17]