



# $\mu$ TAS 2015

## GYEONGJU KOREA

The 19<sup>th</sup> International Conference on  
Miniaturized Systems for Chemistry and Life Sciences  
October 25~29, 2015



### The 19th International Conference on Miniaturized Systems for Chemistry and Life Sciences

Papers have been printed without editing as received from the authors. All opinions expressed in this proceeding are those of the authors and are not binding on the Chemical and Biological Microsystems Society.

Copyright and Reprint Permission: Abstracting of items in this volume is permitted with credit to the source. Authorization to photocopy items in this volume that carry a code at the bottom of the first page is granted by the Chemical and Biological Microsystems Society for internal or personal use, or the internal or personal use of specific clients, provided that the base fee of \$20.00 is paid directly to the Chemical and Biological Microsystems Society. Instructors are permitted to photocopy isolated articles for educational classroom use without fee. For other forms of copying, reprint, or replication permission, write to the MicroTAS 2015 Conference, 194 Yulgok-ro, Jongro-gu, Seoul, KOREA. Please contact the MicroTAS 2015 Conference at [microtas2015@hdasan.com](mailto:microtas2015@hdasan.com). All rights reserved. Copyright © 2015 by the Chemical and Biological Microsystems Society.

CBMS CATALOG NUMBER : 15CBMS-0001

ISBN : 978-0-9798064-8-3

ISSN : 1556-5904 (Electronic)

LIBRARY OF CONGRESS CONTROL NUMBER : 2015916599

Copies of this volume are available for purchase. Please contact MicroTAS 2015 Conference, 194 Yulgok-ro, Jongro-gu, Seoul, KOREA. Please contact the MicroTAS 2015 Conference at [microtas2015@hdasan.com](mailto:microtas2015@hdasan.com) for ordering information.

This product contains Adobe Acrobat software. Copying this product's instructions and/or designs for use on future CDRoms or digital products is prohibited without written permission from The Printing House and Adobe Systems Incorporated.

The Printing House or its suppliers are not liable for any direct, indirect, special, incidental, or consequential damages to your hardware or other software arising out of the use—or the inability to use—the material on this CD-ROM. This includes, but is not limited to, the loss of data or loss of profit. Adobe, Acrobat and the Acrobat logo are trademarks of Adobe Systems Incorporated or its subsidiaries and may be registered in certain jurisdictions.

MAIN