

New Processes and Materials Based on Electrochemical Concepts at the Microscopic Level Symposium (MicroEchem 2013)

Procedia Chemistry Volume 12

Amealco, Mexico
16 - 19 September 2013

Editors:

Carlos Eduardo Frontana Vazquez

ISBN: 978-1-5108-1605-3

Printed from e-media with permission by:

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



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© by Elsevier B.V.
All rights reserved.

Printed by Curran Associates, Inc. (2015)

For permission requests, please contact Elsevier B.V.
at the address below.

Elsevier B.V.
Radarweg 29
Amsterdam 1043 NX
The Netherlands

Phone: +31 20 485 3911
Fax: +31 20 485 2457

<http://www.elsevierpublishingsolutions.com/contact.asp>

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

PREFACE	1
<i>Carlos Frontana</i>	
MODIFICATION OF CARBON ELECTRODES BY ANODIC OXIDATION OF ORGANIC ANIONS	3
<i>Dulce M. Hernández, Miguel A. González, Pablo D. Astudillo, Lindsay S. Hernández, Felipe J. González</i>	
PD NANOSTRUCTURES WITH HIGH TOLERANCE TO CO POISONING IN THE FORMIC ACID ELECTROOXIDATION REACTION	9
<i>E. Ortiz-Ortega, R. Carrera-Cerritos, N. Arjona, M. Guerra-Balcázar, F. M. Cuevas-Muñiz, L. G. Arriaga, J. Ledesma-García</i>	
SYNTHESIS OF PD-CU BIMETALLIC ELECTROCATALYST FOR ETHYLENE GLYCOL AND GLYCEROL OXIDATIONS IN ALKALINE MEDIA	19
<i>J. Maya-Cornejo, N. Arjona, M. Guerra-Balcázar, L. Álvarez-Contreras, J. Ledesma-García, L. G. Arriaga</i>	
ON THE MODEL DESCRIBING POTENTIOSTATIC CURRENT TRANSIENTS RECORDED DURING THE MASS TRANSPORT-CONTROLLED NUCLEATION OF HEMISPHERES IN THE PRESENCE OF FORCED CONVECTION	27
<i>M. G. Montes De Oca, M. Palomar-Pardavé, J. Mostany, M. Romero-Romo, J. Aldana-González, B. R. Scharifker</i>	
RELATION BETWEEN MORPHOLOGY AND PHOTOELECTROCHEMICAL PERFORMANCE OF TiO₂ NANOTUBES ARRAYS GROWN IN ETHYLENE GLYCOL/WATER	34
<i>Próspero Acevedo-Peña, Ignacio González</i>	
ELECTROCHEMICAL CHARACTERIZATION OF SPIROPYRAN STRUCTURES	41
<i>Georgina Armendáriz-Vidales, Eduardo Martínez-González, Denhy Hernández-Melo, Jorge Tiburcio, Carlos Frontana</i>	
SANDWICH-TYPE ELISA IMPEDIMETRIC IMMUNOSENSOR FOR EARLY DETECTION OF PROSTATE-SPECIFIC ANTIGEN (PSA) IN HUMAN SERUM	47
<i>Gabriela Guadalupe Gutiérrez-Zúñiga, José Luis Hernández-López</i>	
CONSTRUCTION OF SUPRAMOLECULAR SYSTEMS FOR THE SELECTIVE AND QUANTITATIVE DETERMINATION OF DOPAMINE IN THE PRESENCE OF ASCORBIC ACID	55
<i>M. T. Ramírez-Silva, S. Corona-Avenidaño, G. Alarcón-Angeles, M. Palomar-Pardavé, M. Romero-Romo, A. Rojas-Hernández</i>	
ELECTROCHEMICAL METHOD TO QUANTIFY ANTIOXIDANTS EMPLOYING CUPRIC REDUCING ANTIOXIDANT CAPACITY, CUPRAC	62
<i>Arely Cárdenas, Martín Gomez, Carlos Frontana</i>	
CURRENT DENSITY AS A MASTER VARIABLE IN DESIGNING REACTORS	66
<i>Silva Lucila Gelover Santiago, Sara Pérez Castrejón, Alejandra Martín Domínguez, Agustín Montes Brito, Iván Emmanuel Villegas Mendoza</i>	
MICROBIAL BIOELECTROCHEMICAL REACTOR FOR WASTEWATER TREATMENT APPLICATIONS	73
<i>Linda Gonzalez-Gutierrez, Carlos Frontana, Eduardo Martínez, Arely Cardenas-Robles</i>	
HIGH TEMPERATURE CORROSION RESISTANCE OF COATINGS DEPOSITED BY HVOF FOR APPLICATION IN STEAM TURBINES	80
<i>J. Morales-Hernández, A. Mandujano-Ruiz, F. Castañeda-Zaldivar, R. Antaño-López, J. Torres- González</i>	
CONTROL OF THICKNESS OF PEDOT ELECTRODEPOSITS ON GLASS/ITO ELECTRODES FROM ORGANIC SOLUTIONS AND ITS USE AS ANODE IN ORGANIC SOLAR CELLS	92
<i>Alex U. Palma-Cando, Bernardo A. Frontana-Uribe, José Luis Maldonado, Margarita Rivera Hernández</i>	
FUNDAMENTALS AND APPLICATIONS IN ELECTROCHEMISTRY OF LIQUID-LIQUID INTERFACES	100
<i>Miguel Velázquez-Manzanares</i>	
INFLUENCE OF THE ELECTRON TRANSFER RATE ON ELECTROCHEMICALLY CONTROLLED HYDROGEN BONDING	108
<i>Eduardo Martínez-González, Carlos Frontana</i>	
ELECTROCHEMICAL BEHAVIOR OF METAL COMPLEXES WITH A N₂S₂ LIGAND	115
<i>Vanessa Ramírez-Delgado, Mayra Manzanera-Estarda, Juan Carlos García-Ramos, Luis Felipe Hernández-Ayala, Marcos Flores-Alamo, Lena Ruíz-Azuara, Luis Ortiz-Frade</i>	

RELEVANCE BETWEEN THE CHEMICAL STRUCTURE MODIFICATIONS AND PHYSICOCHEMICAL DESCRIPTORS OF CHEMICAL REACTIVITY FOR SERIES OF NITROXIDE RADICALS	121
---	-----

Rutely C. Burgos-Castillo, Carlos Frontana

Author Index