NASCRE POSTER SESSIONS

Monday, March 11 – 4:30 pm to 6:30 pm
Tuesday, March 12 – 5:30 pm to 6:30 pm

Woodway II – 4th Level

KINETIC MODELLING OF FENTON’S REACTION OF PRODUCED WATER
Varsha Govindarajan, Debasish Roy, Shikha Sinha, Sirshendu De and Sudarsan Neogi
(Abstract #1)

EPOXIDATION OF STYRENE OVER BARIUM OXIDE USING CUMENE HYDROPEROXIDE AS OXYGEN INDUCING REAGENT
Sudip Das and Sanjay Mahajani
(Abstract #17)

PROCESS DEVELOPMENT FOR METHYL PENTENONE SYNTHESIS USING CATION EXCHANGE RESIN
Sumit Kamal and Sanjay Mahajani
(Abstract #26)

CO2-GASIFICATION MODELING STUDY OF SINGLE GARDEN-WASTE BIOMASS CHAR PELLET
Haseen Siddiqui and Sanjay M. Mahajani
(Abstract #35)

EFFECTIVE HEAT TRANSFER PROPERTIES OF OPEN CELLULAR STRUCTURES AS CATALYST SUPPORTS FOR NON-ADIABATIC APPLICATIONS
Mauro Bracconi, Matteo Ambrosetti, Matteo Maestri, Gianpiero Groppi and Enrico Tronconi
(Abstract #39)

TWO-PHASE, LIQUID-LIQUID MICROREACTOR FOR THE REACTIVE EXTRACTION OF HMF
Pierre Desir, Basudeb Saha and Dionisios G. Vlachos
(Abstract #47)

FAST PYROLYSIS OF MANIHOT ESCULENTA (CASSAVA) PEEL: EFFECTS OF TEMPERATURE, HEATING RATE, AND BIOMASS-TO-CATALYST RATIO ON PYROLYSIS VAPOR COMPOSITION
Adegbola Balogun, Arvind Nanduri and Patrick L. Mills
(Abstract #50)
MODELING OF SO2 OXIDATION FIXED-BED REACTORS USING RING AND MULTI-LOBE COMMERCIAL CATALYST SHAPES
Anuradha Nagaraj and Patrick Mills
(Abstract #55)

ENHANCING THE PRODUCTIVITY OF SUPERCRITICAL WATER FOR ZEOLITE CATALYZED CRACKING OF DODECANE
Azadeh Zaker, Geoffrey A. Tompsett and Michael T. Timko
(Abstract #57)

TOWARDS THE IDENTIFICATION OF INTENSIFIED REACTION CONDITIONS USING RESPONSE SURFACE METHODOLOGY: A CASE STUDY ON 3-METHYLPYRIDINE N-OXIDE SYNTHESIS
Jingyao Wang, Yanyan Huang, Benjamin Wilhite, Maria Papadaki and M. Mannan
(Abstract #73)

MODELING AND OPTIMIZING FUEL PRODUCTION VIA LIGHT ALKENE OLIGOMERIZATION ON NICKEL-EXCHANGED ZEOLITES
Elsa Koninckx, Sergio Vernuccio, Ravi Joshi, Rajamani Gounder and Linda Broadbelt
(Abstract #74)

NANOPHOTONICS ENABLED SOLAR MEMBRANE DISTILLATION REACTOR
Ibrahim Abdallah, Amy Jiang, James Sanders, Johnny Brown and Qilin Li
(Abstract #76)

IDENTIFICATION OF SINGLE ENZYMATIC CASCADE OPERATING REGIME GOVERNING ENSEMBLE LEVEL DATA
Akshay Parundekar, Girija Kalantre, Akshada Khadpekar and Ganesh A. Viswanathan
(Abstract #79)

KINETICS FOR LIQUID PHASE SELECTIVE OXIDATION OF 1,2,3,4-TETRAMETHYLBENZENE TO MELLOPHANIC ACID
Quanming Lyu, Weizhen Sun and Ling Zhao
(Abstract #80)

PORE ENGINEERING OF HYDRODEMETALLIZATION CATALYST PELLETS BASED ON REACTION-DIFFUSION MODEL
Yao Shi, Xue Zhi Duan, Wei Kang Wei and Xing Gui Zhou
(Abstract #82)

CATALYTIC HYDROGENATION OF SHORT CHAIN CARBOXYLIC ACIDS TYPICAL OF MODEL COMPOUND FOUND IN BIO-OILS
Ahmed Mashi Lawal, Abarasi Hart, Helen Daly, Christopher Hardacre and Joseph Wood
(Abstract #83)
EXPERIMENTAL AND MODELING STUDY OF PASSIVE NOX ADSORPTION: PD-EXCHANGED-ZSM-5

*Mugdha Ambast* and *Michael Harold*

(Abstract #87)

EXPERIMENTAL AND MODELING STUDY TO INVESTIGATE NH3 OXIDATION OVER MULTI-STRUCTURED PT AND CU CATALYST

*Pritpal Singh Dhillon*, *Michael Harold*, *Di Wang*, *Saurabh Joshi* and *Ashok Kumar*

(Abstract #88)

MECHANISTIC STUDY OF A PALLADIUM EXCHANGED PASSIVE NOX ADSORBER

*Yuntao Gu*, *Sreshtha Sinha Majumdar*, *Josh Pihl*, *Todd Toops* and *William Epling*

(Abstract #91)

INTENSIFICATION OF THE THERMAL MANAGEMENT IN FISCHER-TROPSCH COMPACT TUBULAR REACTORS USING PACKED-METAL FOAMS

*Laura Fratalocchi*, *Carlo Giorgio Visconti*, *Gianpiero Groppi*, *Luca Lietti* and *Enrico Tronconi*

(Abstract #95)

SHORT CONTACT TIME CATALYTIC PARTIAL OXIDATION OF METHANE OVER RHODIUM SUPPORTED ON CERIA BASED 3-D PRINTED SUPPORTS

*Corey Leclerc* and *Rohan Gudgila*

(Abstract #100)

KINETIC MONTE CARLO STUDY OF THE EFFECTS OF PAIRED ALUMINUM SITES IN ZEOLITE CATALYSTS

*Grant Marsden*, *Philip Kester*, *Rajamani Gounder* and *Linda Broadbelt*

(Abstract #102)

BIFURCATION ANALYSIS OF COUPLED HOMOGENEOUS-HETEROGENEOUS REACTIONS IN MONOLITHS

*Bhaskar Sarkar* and *Vemuri Balakotaiah*

(Abstract #104)

COUPLED NO AND C3H6 TRAPPING, RELEASE AND CONVERSION ON PD-BEA

*Sotirios Malamis*, *Mugdha Ambast*, *Michael Harold* and *William Epling*

(Abstract #106)

A COMMERCIALY-VIABLE ONE-STEP SYNTHESIS METHOD TO PREPARE MWW ZEOLITE NANOSHEETS

*Yunwen Zhou*, *Ming-Feng Hsieh*, *Bernd Kabius*, *Robert Rioux* and *Jeffrey Rimer*

(Abstract #113)

EFFECT OF DIFFUSIONAL CONSTRAINT ON LIFETIME AND SELECTIVITY IN METHANOL-TO-OLEFINS CATALYSIS ON HS-APO-34

*Heng Dai*, *Thuy Le*, *Andrew Hwang*, *Zhichen Shi*, *Aditya Bhan* and *Jeffrey Rimer*

(Abstract #114)
TUNING ZSM-11 CATALYST PERFORMANCE IN THE METHANOL-TO-HYDROCARBON REACTION
_Thuy T. Le, Heng Dai and Jeffrey D. Rimer_
(Abstract #115)

DYNAMICALLY-INTENSIFIED ADSORPTION-REACTION PROCESSES FOR UTILIZING UNCONVENTIONAL GAS RESOURCES
_Akhil Arora, Shachit S. Iyer, Ishan Bajaj and M. M. Faruque Hasan_
(Abstract #117)

AUTOMATED SYSTEM FOR PRESSURE DROP, FLOW REGIME, AND HOLD-UP MEASUREMENTS IN PACKED BEDS WITH SINGLE AND MULTIPHASE GAS-LIQUID FLOW
_Mrudalini Moturu, Patrick Mills and Brian West_
(Abstract #121)

PYROLYSIS STUDY OF LIGNOCELLULOSIC GARDEN WASTE
_Ankita Gupta and Sanjay Mahajani_
(Abstract #135)

CATALYST SCREENING METHOD DEVELOPMENT FOR OPTIMAL PLANT PERFORMANCE
_Eric Hukkanen, Eric Standland, Marvin Tegen, Martin Slominski and Laura Allington_
(Abstract #138)

SELECTIVE OXIDATION OF METHYL-GLUCOSIDE USING PD-DECORATED AU CATALYSTS
_Yiyuan B. Yin, Li Chen, Kimberly N. Heck, Conrad Z. Zhang and Michael S. Wong_
(Abstract #139)

HIGHLY DISPERSED MOLYBDENUM CONTAINING MESOPOROUS SILICATE FOR OLEFIN METATHESIS
_Anoop Uchagawkar, Anand Ramanathan, Yongfeng Hu and Bala Subramaniam_
(Abstract #141)

CATALYTIC CONTROL OF NITRITE REDUCTION CHEMISTRY TOWARDS AMMONIA AND HYDRAZINE
_Chelsea A. Clark, C. Prakash Reddy, Hao Xu, Kimberly N. Heck, Guohua Luo, Thomas P. Senftle and Michael S. Wong_
(Abstract #144)

NITRATE ANIONS DEGRADE RAPIDLY ON INDIUM-DECORATED PALLADIUM NANOCUBES
_Welman Curí Elias, Kimberly Heck, Sujin Guo, Sadegh Yazdi, Ciceron Ayala, Sophia Grossweiler, Josiel Domingos, Emilie Ringe and Michael Wong_
(Abstract #149)
STABLE MAGNETICALLY RECYCLABLE IN-PD CATALYSTS FOR NITRATE DEGRADATION

**Sujin Guo**
(Abstract #152)

NEGATIVE ORDER REACTIONS IN PACKED-BED REACTORS

**Shephali Singh** and **Divesh Bhatia**
(Abstract #154)

EXPLANATORY BIG DATA MODELS FOR PROCESS CONTROL IN CHEMICAL ENGINEERING

**Zelimir Kurtanjek**
(Abstract #156)

MEASURING POLYMERIZATION INDUCTION TIME WITH MICRO REACTION CALORIMETRY

(Abstract #163)

NEW INSIGHTS IN THE EFFECT OF CRYSTALLINITY ON THE CELLULOSE REACTIVITY TOWARDS ACID CATALYZED HYDROLYSIS

**Maksim Tyufekchiev**, **Alex Kolodziejczak**, **James Meyer**, **Pu Duan**, **Frederick Greenaway**, **Marcus Foston**, **Klaus Schmidt-Rohr** and **Michael Timko**
(Abstract #164)