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4th Euro Asia Zeolite Conference

27- 30th January 2019, Taormina (ME) - ITALY

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	Sunday January 27th		
14:30	REGISTRATION		
16:15 - 16:55	"Metal-Organic Frameworks: What is unique?" Prof. Stefan KASKEL - Plenary Lecture		
16:55 - 17:25	"Fabrication of nanosized and hierarchical single crystalline zeolite crystals" Prof. Jihong YU - Keynote Lecture		
17:25 - 17:40	Coffee Break		
17:40 - 18:40	**Characterisation #1**		
17:40 - 18:00	WEAK/MEDIUM STRENGTH INTERACTIONS IN GAS-ZEOLITE SYSTEMS AS STUDIED BY VARIABLE TEMPERATURE IR (VT-IR) SPECTROSCOPY, A TECHNIQUE ALLOWING THE DETERMINATION OF RELEVANT THERMODYNAMIC QUANTITIES	Barbara BONELLI	Politecnico di Torino
18:00 - 18:20	CHARACTERIZATION OF BASICITY OF LATTICE OXYGEN ON PROTON-FORM ZEOLITES USING FT-IR WITH CO2 PROBE METHOD	Ryota OSUGA	Tokyo Institute of Technology
18:20 - 18:40	STUDYING NON-PERIODIC MOTIFS IN METAL-ORGANIC FRAMEWORKS WITH SOLID-STATE NMR	Gregor MALI	National Institute of Chemistry
18:45 - 19:35	**Synthesis #1**		
18:45 - 19:05	NEW APPROACH IN STUDIES OF AL ORGANIZATION IN SSZ-13 ZEOLITE	Kinga MLEKODAJ	J. Heyrovský Institute of Physical Chemistry
19:05 - 19:25	NOVEL SMALL PORE ZEOLITE ITQ-52: SYNTHESIS AND ACID PROPERTIES	Raquel SIMANCAS	Tokyo Institute of Technology
19:25 - 19:35	CONTROL OF PORE VOLUME IN EMBRYONIC ZEOLITES	Mariame AKOUCHE	LC&S Normandie University, ENSICAEN
19:45	WELCOME PARTY		

	Monday January 28th MORNING		
08:15 - 08:30	OPENING CERIMONY		
08:30 - 09:10	"Zeolites as nano reactors. Going beyond the active sites" Prof. Avelino CORMA - Plenary Lecture		
09:10 - 10:10	**Synthesis #2**		
09:10 - 09:30	ULTRAFAST AND CONTINUOUS FLOW SYNTHESIS OF ZEOLITES WITH AN EMULSION METHOD	Zhendong LIU	The University of Tokyo
09:30 - 09:50	IMPACT OF AL DISTRIBUTION IN THE CU-EXCHANGED ZEOLITE ON THE CATALYTIC PERFORMANCE IN CH4 CONVERSION	Toshiyuki YOKOI	Tokyo Institute of Technology
09:50 - 10:10	A PHOTOLUMINESCENCE STUDY OF Zn-CONTAINING FERRIERITE	Joanna Elzbieta OLSZÓWKA	J. Heyrovský Institute of Physical Chemistry
10:10 - 10:25	Coffee Break		
10:25 - 11:25	**Catalysis #1**		
10:25-10:45	IMPROVING THE MTO PERFORMANCE BY CONTROLLING THE AL DISTRIBUTION WITHIN NANOSIZED CHA-TYPE CATALYSTS	Manuel MOLINER	Instituto Tecnologia Quimica (UPV-CSIC)
10:45-11:05	PECULIARITIES OF SAPO-34 CATALYST DEACTIVATION IN THE COURSE OF MTO CONVERSION IN SLURRY REACTOR	Stanislav KONNOV	LC&S Normandie University, ENSICAEN
11:05-11:25	HYBRIDIZED CATALYTIC CRACKING FOR LIGHT OLEFIN PRODUCTION: CONSIDERATION IN CATALYST AND PROCESS DESIGN	Yong-Ki PARK	Korea Research Institute of Chemical Technology - KRICT
11:30-12:30	**Separation & Purification #1**		
11:30 - 11:50	STUDY OF THE N2O DECOMPOSITION OVER COPPER-CONTAINING ZSM-5 CATALYSTS PREPARED BY DIFFERENT TECHNIQUES	Marco PIUMETTI	Politecnico di Torino
11:50 - 12:10	SYNERGY BETWEEN ZEOLITE AND ENCAPSULATED SULFUR FOR ENHANCED ION-EXCHANGE SELECTIVITY TO RADIOACTIVE CESIUM	Minkee CHOI	Korea Advanced Institute of Science and Technology - KAIST
12:10 - 12:30	QUANTITATIVE EVALUATION OF CO2/CH4 SEPARATION ON A DDR ZEOLITE SYNTHESIZED WITHOUT SDA BY COMBINATION OF GRAVIMETRIC AND VOLUMETRIC BINARY ADSORPTION ISOTHERM MEASUREMENTS	Eduardo PEREZ-BOTELLA	Instituto Tecnologia Quimica (UPV-CSIC)
12:35 - 13:35	**Synthesis #3**		
12:35 - 12:55	SYNTHESIS AND STRUCTURE DETERMINATION OF LARGE-PORE ZEOLITE SCM-14	Yi LUO	Stockholm University
12:55 - 13:15	EVALUATION OF SURFACE BARRIER EFFECT FOR KINETIC SEPARATION OF HYDROCARBONS IN CARBON MOLECULAR SIEVE AND ZEOLITE USING ZERO LENGTH COLUMN TECHNIQUE	Mladen EIC	University of New Brunswick
13:15 - 13:35	TIME-RESOLVED IN -SITU MAS NMR MONITORING OFHYDROTHERMAL SYNTHESIS OF ZEOLITES	Irina IVANOVA	Lomonosov Moscow State University
13:35 - 15:00	Lunch		

	Monday January 28th AFTERNOON		
15:00 - 15:30	"Capture of Bad Guys from Our Environment with Zeolite" Prof. Kyung Byung YOON - Keynote Lecture		
15:30 - 16:30	**Hierarchical #1**		
15:30-15:50	DIRECT OBSERVATION OF USY SURFACTANT-TEMPLATING	Javier GARCIA-MARTINEZ	University of Alicante
15:50 - 16:10	FERROELASTICITY OF ZSM-5: A POSSIBLE TOOL TO TAILOR ITS HIERARCHICAL POROUS STRUCTURE	Giuseppe CRUCIANI	University of Ferrara
16:10- 16:30	SYNTHETIC ZEOLITES WITH SUPERIOR MESOPOROSITY BY A POST-SYNTHETIC MICROWAVE METHOD	Xiaolei FAN	University of Manchester
16:30 - 16:45	Coffee Break		
16:45 - 17:55	**Catalysis #2**		
16:45 - 17:05	SELECTIVE FORMATION OF ACTIVE COBALT SPECIES FOR METHYLATION OF BENZENE WITH METHANE ON MFI ZEOLITE BY LOADING OF COBALT IN THE PRESENCE OF DIVALENT TYPICAL ELEMENT IONS	Etsushi TSUJI	Tottori University
17:05 - 17:25	SULFAMIC ACID- FUNCTIONALIZED ZEOLITE, A MICRO-MESO STRUCTURE CATALYST TO FORMYLATION OF AMINES	Mojgan ZENDEHDEL	Arak University
17:25 - 17:45	PHOTOCATALYTIC CONVERSION OF CO2 INTO VALUABLE ORGANICS UPON VISIBLE-LIGHT IRRADIATION	Weidong ZHU	Zhejiang Normal University
17:45 - 17:55	SELECTIVITY MODULATION OF ENCAPSULATED PALLADIUM CLUSTERS BY ZEOLITE MICROENVIRONMENT FOR BIOMASS CATALYTIC UPGRADING	Yuchao CHAI	Nankai University
18:00 - 20:00	**Poster Session and finger food**		

Tuesday January 29th MORNING			
08:30 - 09:10	"Replacement Strategy: Synthesis of Complex Zeolites with Simple OSDAs" Prof. Tatsuya OKUBO - Plenary Lecture		
09:10 - 10:30	Hierarchical #2		
09:10 - 09:30	HIGHLY HIERARCHICAL LAYERED STRUCTURE CONSISTING OF TITANATE NANOSHEETS, TUNGSTATE NANOSHEETS, $RU(BPY)_3^{2+}$ AND PT(TERPY) FOR ARTIFICIAL PHOTOSYNTHESIS	Fuminao KISHIMOTO	The University of Tokyo
09:30 - 09:50	NEW METHOD FOR EASY QUANTIFICATION OF REAL MICROPOROUS VOLUME IN HIERARCHICAL ZEOLITES	Isabelle BATONNEAU-GENER	University of Poitiers
09:50 - 10:10	ORGANICS-Controlled post-treatment for producing hierarchically porous zeolites	Rino R. MUKTI	Institut Teknologi Bandung
10: 10 - 10:30	CATALYTIC IMPACT OF ZEOLITE HIERARCHIZATION	Hussein ISSA	University of Poitiers
10:30 - 10:45	Coffee Break		
10:45 - 13:25	**Industrial SESSION (Chair Prof. J-P. GILSON, EnsiCaen FRANCE)**		
2 hours conference	TITLE TO BE ANNOUNCED	Nicolas BATS	Johnson Matthey
	DISCOVERY AND COMMERCIALIZATION OF SURFACTANT-TEMPLATING ZEOLITES ON CATALYTIC CRACKING AND BEYOND	Javier GARCIA MARTINEZ	Rive Technology
	OPPORTUNITIES AND CHALLENGES FOR ZEOLITES IN THE ENERGY TRANSITION	Nikolai NESTERENKO	Total
	TITLE TO BE ANNOUNCED	Giuseppe MURITANO	UOP - Honeywell
12:45 - 13:25	**ROUND TABLE**		
13:25 - 15:00	Lunch		

	Tuesday January 29th AFTERNOON						
15:00 - 15:30	"Zeolitic materials in the twilight zone between amorphous and crystalline" Prof. Valentin VALTCHEV - Keynote Lecture						
15:35 - 16:35	**Separation & Purification #2**			**15:35 - 16:35**	**Synthesis #4**		
15:35 - 15:55	CONTROLLING CO2 ADSORPTION PROPERTIES OF ZEOLITE L BY INTERNAL ION EXCHANGE	Magdalena M.LOZINSKA	University of St. Andrews	15:35 - 15:55	SELECTIVE CATALYSIS WITH METAL NANOPARTICLES ENCAPSULATED IN ZEOLITES	Søren KEGNÆS	Technical University of Denmark
15:55 - 16:15	TAILORING STRUCTURAL PROPERTIES OF MICROPOROUS MATERIALS FOR ADVANCED GAS SEPARATIONS	Tae-Hyun BAE	Nanyang Technological University	15:55 - 16:15	NITRIDATION OF DELAMINATED MWW-TYPE ZEOLITE AND ITS BASE CATALYTIC PROPERTY IN KNOEVENAGEL CONDENSATION	Aisa KAWANO	The University of Tokyo
16:15 - 17:35	WATER/ETHANOL ADSORPTION IN SI-CHABAZITE UNDER HIGH PRESSURE: A ROUTE FOR ETHANOL DEHYDRATION	Giorgia CONFALONIERI	University of Torino	16:15 - 17:35	KNOEVENAGEL CONDENSATION REACTIONS OVER LOW Si/Al RATIO BETA ZEOLITE PREPARED BY OSDA-FREE APPROACH	Takahiko MOTEKI	The University of Tokyo
16:35 - 16:50	Coffee Break						
16:50 - 17:50	**Catalysis #3**			**16:50 - 17:50**	**Separation & Purification #3**		
16:50 - 17:10	NANO-FERRIERITE FOR OLIGOMERIZATION OF LIGHT OLEFINS TO LIQUID FUELS: INFLUENCE OF CRYSTAL SIZE AND MORPHOLOGY	Cristina MARTÍNEZ	Instituto Tecnologia Quimica (UPV-CSIC)	16:50 - 17:10	VOCs OXIDATION AND CO2 ADSORPTION ON DUAL ADSORPTION/CATALYTIC SYSTEM BASED OF FLY ASH ZEOLITES	Margarita POPOVA	Bulgarian Academy of Sciences
17:10 - 17:30	HEXADIENE POLYMERIZATION INSIDE PURE SILICA MORDENITE	Rossella ARLETTI	University of Torino	17:10 - 17:30	Effect of cation on the performance of ZSM-5 foam catalysts in the NH3-SCR of NOx	Stefano CIMINO	University of Naples Federico II
17:30 - 17:40	INCREASING THE LIGHT OLEFINS SELECTIVITY IN THE MTO REACTION BY ENHANCING DIFFUSION LIMITATION IN SAPO-34 CATALYST	Jingfeng HAN	Dalian Institute of Chemical Physics	17:30 - 17:40	CAPTURE AND SEPARATION OF XENON WITH A SILVER DOPED ZEOLITE	Arnaud MONPEZAT	CEA/DAM/DIF, Arpajon
17: 40 - 17:50	FLUID CATALYTIC CRACKING CATALYSTS BASED ON ZEOLITES USY/ZSM-5 SYNTHESIZED ON KAOLIN	Joaquin MARTINEZ TRIGUERO	Instituto Tecnologia Quimica (UPV-CSIC)	17:40 - 17:50	STRUCTURE OF CHEMISORBED CO 2 SPECIES IN AMINEMODIFIED SBA15 STUDIED BY NMR AND COMPUTATIONAL METHODS	Tomaž ČENDAK	National Institute of Chemistry
17:55-18:55	**Characterization #2**			**17:55-18:55**	**Synthesis #5**		
17:55-18:15	SPECTROSCOPIC EVIDENCE OF MOLYBDENUM INCORPORATION IN MFI FRAMEWORK	Florent DUBRAY	LC&S Normandie University, ENSICAEN	17:55-18:15	DIVERSIFIED STRATEGIES TO CONSTRUCT ZEOLITE-LIKE POROUS COORDINATION POLYMERS	Yunling LIU	Jilin University
18:15 - 18:25	INVESTIGATION ON FRAMEWORK ALUMINUM DISTRIBUTION OF TiCl4 -MODIFITED ZSM-5 ZEOLITE	Satoshi INAGAKI	Yokohama National University	18:15 - 18:35	NANOSIZED ZEOLITE AS POTENTIAL AGENT FOR EXTENDING LUBRICANT LIFETIME	Moussa ZAAROUR	LC&S Normandie University, ENSICAEN
18:25 - 18:35	The role of preparation way of Zeolite Beta crystals on their acid places content	Josip BRONIĆ	Ruder Boskovic Institute	18:35 - 18:55	KINETIC ANALYSIS ON THE SYNTHESIS OF UNSATURATED CYCLIC CARBONATE OVER METHYLATED NITROGEN-SUBSTITUTED SBA-15	Kiyoyuki YAMAZAKI	The University of Tokyo
18:35 - 18:45	SYNTHETIC ZEOLITES AND ENCAPSULATION OF BIOACTIVE CURCUMIN FOR DRUG DELIVERY APPPLICATIONS	Zahra AHALI ABADEH	Sapienza University of Rome				
18:45 - 18:55	CARBON DOTS-IN-ZEOLITE BOOSTING INTRIGUING LUMINESCENCE PROPERTIES	Jiyang LI	Jilin University				
19:00 - 19:30	Vote for the Next EAZC 5						
20:00	Banquet						

	Wednesday January 30th MORNING		
08:30 - 09:10	Mechanism understanding of methanol to hydrocarbon reaction and its application to processes Prof. Zhong-Min LIU - Plenary Lecture		
09:15 - 10:25	**Catalysis #4**		
09:15 - 09:35	BINUCLEAR METAL ION SITES IN ZEOLITES AS ACTIVE CENTRES FOR METHANE OXIDATION	Edyta TABOR	J. Heyrovský Institute of Physical Chemistry
09:35 - 09:55	MULTI-FUNCTIONAL CATALYSIS AS A MODULAR APPROACH FOR PRODUCTION OF VALUE ADDED CHEMICALS FROM CO2	Abhay DOKANIA	King Abdullah University of Science and Technology (KAUST)
09:55 - 10:05	CLINOPTILOLITE AS A SOLID CATALYST FOR THE ESTERIFICATION OF LEVULINIC ACID TO OCTYL LEVULINATE	Jelena PAVLOVIC	University of Belgrade
10:05 - 10:15	CONTINUOUS PRODUCTION OF METHANOL FROM METHANE AND STEAM OVER CU-ZEOLITE	Eun Duck PARK	Ajou University
10:15 - 10:25	MESOPOROUS ZEOLITE-BASED ORGANIC-INORGANIC HYBRID CATALYST FOR CO2 COUPLING WITH PROPYLENE OXIDE TO PROPYLENE CARBONATE	Kyungsu NA	Chonnam National University
10:25 - 10:40	Coffee Break		
10:40 - 12:00	**Synthesis #6**		
10:40 - 11:00	SYNTHESIS OF GIS, LTA, AND FAU-TYPE ZEOLITES FROM PEAT ASH	Ifeoma V. JOSEPH	Manchester Metropolitan University
11:00 - 11:20	ONE-POT CONVERSION OF PHENOL INTO CYCLOHEXYLPHENOL CATALYZED BY BIFUNCTIONAL CoP/BETA	Santiago GUTIÉRREZ	IMDEA Energy
11:20 - 11:40	HIGH-THROUGHPUT ZEOLITE STRUCTURE PREDICTION	Yi LI	Jilin University
11:40 - 12:00	AB INITIO INVESTIGATION OF THE RESPECTIVE STABILITY OF SILICOGERMANATES AND THEIR (ALUMINO)SILICATE COUNTERPART	Elsy EL HAYEK	Institut Français de Petrole Energies Nouvelles
12:05-13:05	**Separation & Purification #4**		
12:05 - 12:25	NEW APPROACH FOR THE DESIGN OF ZEOLITE@CARBON MONOLITH WITH HIGH CO2 CAPTURE PERFOMANCES	Matjaž MAZAJ	National Institute of Chemistry
12:25 - 12:45	STUDY OF NATURAL ZEOLITES FOR CO2 ADSORPTION	Elahe DAVARPANAH	Polytechnic of Torino
12:45 - 13:05	THEORETICAL AND SPECTROSCOPIC STUDY OF THE MECHANISM OF THE SELECTIVE CATALYTIC REDUCTION OF NITROGEN OXIDES IN CU-CHA CATALYSTS	Mercedes BORONAT	Instituto Tecnologia Quimica (UPV-CSIC)
13:05 - 14:35	Lunch		

	Wednesday January 30th AFTERNOON		
14:35 - 15:05	Weakly Brönsted acid zeolites: nature and tailoring of the active sites Prof. Gabriele CENTI - Keynote Lecture		
15:10 - 16:10	**Catalysis #5**		
15:10 - 15:30	A DECISIVE STEP IN BIOMASS CATALYTIC PYROLYSIS: EFFECT OF CLAY BINDERS ON THE PERFORMANCE OF ZSM-5 BASED MATERIALS	Héctor HERNANDO	Rey Juan Carlos University
15:30 - 15:50	TOWARDS RATIONALIZING MOLECULAR SHAPE SELECTIVITY AND CONFINEMENT IN ZEOLITES FOR LIQUID PHASE CATALYSIS	Ludovic PINARD	University of Poitiers
15:50 - 16:10	HOW SURFACE AND STRUCTURAL PROPERTIES OF DIFFERENT ZEOLITES AFFECTS THE DIRECT CONVERSION OF CO2 TO DME	Giuseppe BONURA	CNR-ITAE
16:10 - 16:30	HIERARCHICAL MULTIFUNCTIONAL ZEOLITE NANOSHEETS AND ZEOLITE/MOF HYBRID CATALYSTS FOR ALDOL CONDENSATION OF RENEWABLE COMPOUNDS	Chularat WATTANAKIT	Vidyasirimedhi Institute of Science and Technology
16:30	**Final remarks**		

POSTER SESSION

January 28th 2019 h. 18:00

18:00 - 20:00	POSTER SESSION Monday 28th Afternoon		
P.1	N-HETEROCYCLIC CARBENE-BASED POROUS AROMATIC POLYMER GRAFTED WITH ZN2+FOR CO2 ADSORPTION AND CONVERSION INTO CYCLIC CARBONATES	Wha-Seung AHN	Inha University, Incheon
P.2	IMPROVED PRODUCTION OF JET-FUEL RANGE HYDROCARBONS FROM ETHYLENE CONVERSION BY ONE-POT CASCADE CATALYSIS	Min Bum PARK	Incheon National University
P.3	CO2 ADSORPTION/DESORPTION IN FAU NANOSIZED ZEOLITES	Maria Giovanna VEZZALINI	University of Modena e Reggio Emilia
P.4	GLYCINE/MORDENITE HYBRID MATERIAL: SYNTHESIS AND HIGH PRESSURE SYNCHROTRON XRPD STRUCTURAL STUDY	Simona QUARTIERI	University of Messina
P.5	BENEFITS OF MECHANOCHEMICAL PRE-TREATMENT IN SYNTHESIS OF SSZ-13 ZEOLITE	Mariia LEMISHKA	J. Heyrovský Institute of Physical Chemistry
P.6	THE PREPARATION OF ZSM-12 ZEOLITE BASED BIFUNCTIONAL CATALYSTS BY DIFFERENT METHODS AND THEIR CATALYTIC PERFORMANCES FOR THE N-ALKANE HYDROISOMERIZATION	Wei WANG	Heilongjiang University
P.7	MICROWAVE-ASSISTED SYNTHESIS OF NANOSIZED GAZSM-5 ZEOLITES WITH REGULATED LOCATION OF ACTIVE GAO+ SPECIES AND THEIR CATALYTIC PERFORMANCE IN 1-HEXENE AROMATIZATION	Wei WU	Heilongjiang University
P.8	TITIANUM -DOPED PALLADIUM-GOLD CATALYSTS FOR ONE-POT HYDROGENATION AND RING OPENINGOF FURFURAL	Nandan S. DATE	CSIR-National Chemical Laboratory
P.9	THE RESEARCH ON THE IMPACT OF DESILICATION PROCESS ON THE STRUCTURE AND PROPERTIES OF ZEOLITES OF DIFFERENT STRUCTURAL GROUPS	Agata LADA	State Higher Vocational School in Tarnow
P.10	FACILE SYNTHESIS OF HIRARCHICALLY NANOSPHERICAL ZSM-5 NANOSHEETS USING ALUMINOSILICATE NANOBEADS FOR ALKYLATION OF BENZENE WITH ETHANOL	Kachaporn SAENLUANG	Vidyasirimedhi Institute of Science and Technology
P.11	PERMEATION OF GAS MIXTURES THROUGH ZEOLITE MEMBRANES	Pasquale F. ZITO	CNR-ITM
P.12	PHOTOCATALYTIC DEGRADATION OF ETHYLENE ONTO TRANSITION METAL MODIFIED NATURAL ZEOLITES: THE EFFECT OF SURFACE ACTIVE SITES	Hector VALDES	Universidad Católica de la Santísima Concepción
P.13	COMPARATIVE STUDY OF ZEOLITE L ETCHING WITH AMMONIUM FLUORIDE AND AMMONIUM BIFLUORIDE SOLUTIONS	Viktoria BABIĆ	LC&S Normandie University, ENSICAEN
P.14	SCM-23, A NOVEL ALUMINOSILICATE ZEOLITE WITH ATS STRUCTURE	Zhendong WANG	Sinopec Shanghai Research Institute of Petrochemical Technology
P.15	DISSOLUTION BEHAVIOUR OF ZSM-5 IN NH4F AND NH4HF2 AQUEOUS SOLUTIONS	Viktoria BABIĆ	LC&S Normandie University, ENSICAEN
P.16	CONFORMATION OF INTRAZEOLITIC CHOLINE IONS AND THE FRAMEWORK TOPOLOGY OF ZEOLITE HOSTS	Suk Bong HONG	POSTECH
P.17	SYNTHESIS OF ORGANOSILANE MODIFIED SBA-15 WITH THE ASSISTANCE OF MICROWAVE RADIATION	Dorota KRYSZAK	Adam Mickiewicz University
P.18	THE EFFECT OF VARIOUS TREATMENTS OF BIMETALLIC AuAg-ZnO AND AuAg-SBA-15 MATERIALS ON THEIR SURFACE PROPERTIES AND CATALYTIC ACTIVITY IN METHANOL OXIDATION	Iveta KASKOW	Adam Mickiewicz University
P.19	CRYSTALLIZATION OF GERMANOSILICATE ECNU-16 PROVIDES INSIGHTS INTO THE SPACE-FILLING EFFECTS ON ZEOLITE CRYSTAL SYMMETRY	Le XU	The University of Tokyo
P.20	Al AND SO3H MODIFIED SBA-15 MESOPOROUS SILICAS AS DRUG DELIVERY CARRIERS OF VERAPAMIL HYDROCHLORIDE AND DICLOFENAC SODIUM: SOLID STATE NMR CHARACTERIZATION	Margarita POPOVA	Bulgarian Academy of Sciences

18:00 - 20:00	**POSTER SESSION Monday 28th Afternoon**		
P.21	TRAPDOOR ZEOLITES: A MOLECULAR SIMULATION STUDY OF CATION CONTROLLED CO_2 SELECTIVITY	Claire HOBDAY	University of Bath
P.22	EXTENSION OF THE ULTRAFAST SYNTHESIS METHOD TO MOR, ERI AND *BEA TYPE ZEOLITES	Jie ZHU	The University of Tokyo
P.23	COMPARATIVE STUDY OF THE CATALYTIC PERFORMANCE IN 1,3,5-TRIISOPROPYLBENZENE CONVERSION OF EMBRYONIC AND NANOSHEET-LIKE ZSM-5	Mariame AKOUCHE	LC&S Normandie University, ENSICAEN
P.24	A FACILE SYNTHESIS OF PERFORATED HOLLOW ZEOLITE X WITH TEMPLATE–FREE THROUGH CO-SOLVENT SYSTEM OF ETHANOL AND WATER	Nawee JANTARIT	Suranaree University of Technology
P.25	ORGANIC-FREE SYNTHESIS OF SILICOALUMINOPHOSPHATE MOLECULAR SIEVES	Suk Bong HONG	POSTECH
P.26	SYNTHESIS OF ZEOLITE Y FROM ACIDIC ROUTE	Wachiraya RATTANAWONGSA	Suranaree University of Technology
P.27	ONE POT PREPARATION OF FE/ZSM-5 CATALYSTS WITH GRINDING SYNTHESIS METHOD	Yu GU	China University of Petroleum
P.28	A STABLE PILLARED METAL-ORGANIC FRAMEWORK CONSTRUCTED BY H4TCPP LIGAND AS LUMINESCENT SENSOR FOR SELECTIVE DETECTION OF PA AND Fe3+ IONS	Zhiqiang LIANG	Jilin University
P.29	MODELING OF FE-CONTAINING SPECIES IN ZSM-5 ZEOLITE: A DFT STUDY	Rositca NIKOLOVA	University of Sofia
P.30	ZEOLITES FROM DIFFERENT FRACTION OF FLY ASH AS POTENTIAL SORBENTS OF HYDROGEN	Dorota Czarna-Juszkiewicz	Polish Academy of Sciences
P.31	THE IMPORTANCE OF ADSORBATE LATERAL INTERACTIONS IN HALOGENATED ANESTHETIC ADSORPTION ON METAL-ORGANIC FRAMEWORKS	Domenico CAPUTO	University of Naples Federico II
P.32	SYNERGY BETWEEN A SULFUR-TOLERANT PT/AL2O3@SODALITE CORE–SHELL CATALYST AND A COMO/AL2O3 CATALYST	Hailing GUO	China University of Petroleum
P.33	ATOMICALLY DISPERSED PALLADIUM IN SMALL-PORE ZEOLITE SSZ-13 FOR NO AND CO ADSORPTION	Georgi VAYSSILOV	University of Sofia
P.34	A STUDY BASICITY OF POTASSIUM SUPPORTED ON COATED SBA-15 WITH ALUMINA-LANTHANA	Nopphawan BUNTHIAM	Suranaree University of Technology
P.35	DESIGN OF HIERARCHICAL CATALYSTS FOR ENVIRONMENTAL APPLICATIONS: SYNTHESIS AND CHARACTERIZATION	Melodj DOSA	Polytechnic of Torino
P.36	THE POST-SYNTHESIS APPROACH TO THE PREPARATION OF HIERARCHICAL SAPO-34 ZEOLITES VIA ALKALINE ETCHING WITH IMPROVED MTO CATALYTIC ACTIVITY	Xiaoxin CHEN	Jilin University
P.37	EFFECTS OF STARTING MATERIALS IN THE CHA-TYPE ZEOLITE SYNTHESIZED WITHOUT ORGANIC STRUCTURE DIRECTING AGENTS ON THEIR AL DISTRIBUTION AND CATALYTIC PERFORMANCE	Toshiki NISHITOBA	Tokyo Institute of Technology
P.38	SELECTIVE OXIDATION OF METHANE TO METHANOL WITH H_2O_2 OVER Fe-SILICALITE-1 ZEOLITE CATALYST USING SULFOLANE SOLVENT	Peipei XIAO	Tokyo Institute of Technology
P.39	STRUCTURAL CHARACTERIZATION OF BIMETALLIC Ag/Fe AND Fe/Ag MORDENITE ZEOLITES	Fernando Chavez-Rivas	Instituto Politecnico Nacional-Mexico
P.40	CONTROL OF Ti DISTRIBUTION IN THE ZEOLITE FRAMEWORK AND ITS IMPACT ON THE CATALYTIC PROPERTIES	Xinyi JI	Tokyo Institute of Technology

18:00 - 20:00	POSTER SESSION Monday 28th Afternoon		
P.41	SELECTIVE OXIDATION OF BULKY SULFIDES TO SULFOXIDES WITH TI-CONTAINING MESOPOROUS SILICA NANOSPHERES UNDER ORGANIC SOLVENT-FREE CONDITIONS	Yunan WANG	Tokyo Institute of Technology
P.42	DETERMINATION OF THE DISTRIBUTION OF AL ON T-SITES IN MFI-TYPE MATERIALS SYNTHESIZED USING PROCEDURES TO DIRECT THE SI-AL DISTRIBUTION	Hermann GIES	Ruhr-University Bochum
P.43	The role of preparation way of Zeolite ZSM-5 crystals on their acid places	Glorija MEDAK	Ruder Boskovic Institute
P.44	SYNTHESIS OF ZEOLITE β-TEMPLATED CARBON FOR SUPERCAPACITOR APPLICATIONS	Enrico CATIZZONE	University of Calabria
P.45	EFFECT OF ISOMORPHOUS SUBSTITUTION OF Al, Fe AND B IN MFI FRAMEWORK ON THE CONVERSION OF HMF TO BIODIESEL COMPONENTS	Georgia PAPANIKOLAOU	University of Messina
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CLINOPTILOLITE AS A SOLID CATALYST FOR THE ESTERIFICATION OF LEVULINIC ACID TO OCTYL LEVULINATE

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Introduction

Levulinic acid (LA) is a sustainable platform chemical that can be derived from biomass and converted to products with high added value such as levulinate esters (LE). The esters have various applications such as flavors, fuel additives or biolubricants[1, 2]. The most applied method for the synthesis of the LE is the direct esterification of the LA with an alcohol in the presence of a strong mineral acid (usually sulfuric acid). Since this method is not environmental friendly, heterogeneous catalysts are acceptable as less corrosive, easy for separation and reusable. Nowadays, different solids have been studied for the esterification of the LA such as heteropoly acids (HPA)[3], sulfated oxides (SO_4-ZrO_2, SO_4-Nb_2O_5, SO_4-TiO_2, SO_4-SnO_2)[4], ion-exchange resins[5], etc. Moreover, different synthetic zeolites (HUSY, HBEA, HMOR, HZSM-5, HMCM-22) were also tested in the LA esterification[6,7]. The most of them suffer from a loss of catalytic activity during the catalytic process, a low conversion rate, or from non-recyclability. The use of natural zeolites in the esterification of LA has not been reported until now.
The aim of the present work is preparation of an efficient catalyst for the esterification of LA to octyl levulinate (OLE) based on natural clinoptilolite (CLI) and SnO_2 or SO_4-SnO_2.

Experimental

The zeolitic tuff from the Slanci deposit (Belgrade, Serbia) with about 80 wt.% of CLI was used as the starting material. Firstly, CLI was converted into H-form by a procedure includes: 1) an ion-exchange with 2 M NH_4NO_3 at 50 °C, 2) calcination at 600 °C in air, and 3) a successive treatment with 1 M HCl and 0.5 M NH_4OH. The obtained HCLI was then converted to SnO_2-containing HCLI (TOHCLI), and finally to sulfated SnO_2-containing catalyst (STOHCLI) by a slightly modified method described by Matsuhashi[8] and Sowmiya[9]. The prepared catalysts (with 5-12 wt.% SnO_2) were characterized in detail by XRD, SEM/EDS, XPS, solid state ^{27}Al NMR, BET and acidity measurements.
Esterification of LA to OLE was carried out in a batch reactor with magnetic stirrer. Prior to the catalytic experiments, the catalysts were pretreated *ex-situ* at 200 °C for 1 h. Then, the reactor was charged with 1.0 cm^3 of LA and octanol using the LA:octanol weight ratio of 1:7, and with about 0.2 g of the catalyst heated at 200 °C. The reactor was placed in an oil bath and heated for 5 h at 100 °C. The products of the esterification

were taken at desired time intervals and analyzed using GC with with a flame ionization detector equipped with a WCOT FUSED SILICA 25m x 0.25mm COATING CP-SIL 43CB column.

Results and Discussion

All SnO_2-containing samples were catalytic active showing that the catalytic activity is not influenced by the SnO_2 content. Furthermore, crystallinity of CLI was preserved after all modification steps; specific surface area of CLI was increased by the modifications; both 6- and 5-coordinated extra-framework Al were formed in the lattice of the HCLI; SnO_2 particles were detected at the HCLI surface and also inside the HCLI lattice; the modifications led to the formation of both Lewis and Brönsted acid sites.
Total conversion of LA to OLE was obtained for all STOHCLI samples and all TOHCLI samples exhibited 55% conversion rate after 5 h. The catalytic activity remained stable during five repeated reaction cycles.

Conclusions

The results clearly show that the catalysts prepared using natural clinoptilolite and SnO_2 or SO_4-SnO_2 are catalytic active in the esterification of LA with octanol. Total conversion of LA into OLE was achieved by SO_4-SnO_2–containing HCLI indicating that natural clinoptiloite is perspective precursor for the preparation of catalysts for production of octyl levulinate.

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"Levulinic acid (LA) is a sustainable platform chemical that can be easily derived from biomass and converted to products with high added value such as levulinate esters. They have versatile applications as flavors, fuel additives or biolubricants. Esterification of LA usually proceeds in the presence of a strong mineral acid, which is not environmental friendly and reusable. Accordingly, a heterogeneous catalyst is more desirable as less corrosive, easily separable and recyclable. The aim of the present work was preparation of an efficient catalyst for the esterification of LA to octyl levulinate based on natural clinoptilolite and SnO_2 or SO_4-SnO_2. The catalytic results show that all SnO_2-containing samples are catalytically active. A total conversion of LA was achieved in the presence of sulfated SnO_2-containing clinoptilolite."