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B4I-P-TH-PS2-5 **Inclusion of transition metal cations into RhoZMOF structure**
Jose Antonio Villajos / *Rey Juan Carlos University*
GUILLERMO CALLEJA • CARMEN MARTOS • JUAN ÁNGEL BOTAS • GISELA ORCAJO

B4I-P-TH-PS2-7 **New porous M4+ (Zr, Ti) based MOFs: from poly-carboxylate to naturally occurring -carboxyphenolate ligands**
Thomas de Vic / *Institut Lavoisier, CNRS - Universite de Versailles*
FLORENCE RAGON • LUCY COOPER • LAURA PARDO • ANA LAGO • NATHALIE GUILLOU • CHARLOTTE MARTINEAU • CHRISTIAN SERRE • GUILLAUME CLET • ALEXANDRE VIMONT

B4I-P-TH-PS2-8 **Covalent functionalization of carbon nanotubes with iridium-NHC complexes for catalisys applications**
Patricia Alvarez Rodriguez / *Instituto Nacional de I Carbón, CSIC*
MATIAS BLANCO • CLARA BLANCO • VICTORIA JIMENEZ • JAVIER FERNANDEZ TORNOS • JESUS PEREZ TORRENTE • LUIS ORO • ROSA MENENDEZ

B4I-P-TH-PS2-9 **Thin films of acridine-based compounds grown by laser techniques**
Ileana Cristina Vasiliu / *INOE 2000 - National Institute for Optoelectronics*
ANDREEA MATEI • CATALIN CONSTANTINESCU • ION IONITA • MARIA MARINESCU • V. ION • MARIA DINESCU • MIHAI ELISA • RALUCA IORDANESCU • ANA EMANDI

B4I-P-TH-PS2-10 **Uncovering the Elasticity of a Prototypical Imidazole-Based MOF Material: An Experimental and Computational Study**
Jin-Chong Tan / *University of Oxford, UK*
BARTOLOMEO CIVALLERI • CC LIN • LOREDANA VALENZANO • TONY CHEETHAM • THOMAS BENNETT • CAROLINE MELLOT-DRAZNIEKS • RAIMONDAS GALVELIS • CM ZICOVICH-WILSON

B4I-P-TH-PS2-11 **Adsorption of N/S heterocycles in the flexible metal-organic framework MIL-53(FeIII) studied by in situ energy dispersive X-ray diffraction**
Ben Van de Voorde / *Centre for Surface Chemistry and Catalysis, Katholieke Universiteit Leuven*
ALEXIS S. MUNN • NATHALIE GUILLOU • FRANCK MILLANGE • DIRK DE VOS • RICHARD I. WALTON

B4I-P-TH-PS2-12 **CO2 adsorption on Mixed Ligand Zr-MOFs**
Jayashree Ethiraj / *University of Torino*
SACHIN CHAVAN • FRANCESCA BONINO • JENNY G. VITILLO • STIAN SVELLE • KARL PETTER LILLERUD • SILVIA BORDIGA

B4I-P-TH-PS2-13 **Kinetic study of the thermal decomposition of the diethanolamine (DEA) free and incorporated in solid matrices of mesoporous ordered silica**
Simone Avila / *Instituto de Quimica-USP*
JIVALDO MATOS

B4I-P-TH-PS2-14 **MOFs for the capture and catalytic decomposition of warefare agents**
Elena López-Maya / *Universidad de Granada. Departamento de Química Inorganica*

B4I-P-TH-PS2-15 **Isoreticular metal-organic framework series based on Ni8-hydroxo clusters and pyrazolate ligands: control of hydrophobicity**
Elsa Quartapelle Procopio / *Universidad de Granada. Granada, Spain*
NATALIA MUÑOZ • CARMEN MONTORO CANO • ELENA LÓPEZ MAYA • ENRIQUE OLTRA • VALENTINA COLOMBO • NORBERTO MASCIOCCHI • STEFAN KASKEL • ELISA BAREA MARTÍNEZ • JORGE RODRÍGUEZ NAVARRO

B4I-P-TH-PS2-16 **Photocatalytic behavior of phosphonate-based hybrid materials on dyes and phenols degradation**
Antonia Montserrat Bazaga García / *de partamento de Química Inorgánica*
ROSARIO MERCEDES PEREZ COLODRERO • PASCUAL OLIVERA PASTOR • ISABEL SANTACRUZ MUÑOZ • AURELIO CABEZA DIAZ • MIGUEL ÁNGEL GARCÍA ARANDA

B4I-P-TH-PS2-17 **Investigating the structural changes of Sc-based metal-organic frameworks upon adsorption of different guest molecules**
Jorge Sotelo / *University of Edinburgh*
SCOTT MCKELLAR • STEPHEN MOGGACH • JOHN MOWAT • PAUL WRIGHT

B4I-P-TH-PS2-18 **Luminescent mechanochromic and thermochromic materials based on copper iodide clusters**
Sandrine Perruchas / *Laboratoire PMC - CNRS UMR 7643*
QUENTIN BENITO • XAVIER LEGOFF • ALAIN GARCIA • THIERRY GACOIN • JEAN-PIERRE BOILOT

B4I-P-TH-PS2-19 **Molecular Simulations for separation of carbon dioxide in Room Temperature Ionic Liquid/ Metal-Organic Frameworks Composite**
Jose Manuel Vicent-Luna / *University Pablo de Olavide*
JUAN JOSE GUTIÉRREZ-SEVILLANO • JUAN ANTONIO ANTA • SOFÍA CALERO

B4I-P-TH-PS2-20 **Dielectric properties of Co-MOF74**
Claudia Gómez-Aguirre / *Universidad de A Coruña*
SUSANA YÁÑEZ-VILAR • BREOGÁN PATO-DOLDÁN • MANUEL SÁNCHEZ-ANDÚJAR • SOCORRO CASTRO-GARCÍA • MARIA-ANTONIA SEÑARÍS-RODRÍGUEZ

Photocatalytic behavior of phosphonate-based hybrid materials on dyes and phenols degradation

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There is increasing interest in using heterogeneous catalysis for mineralization of organic pollutants. Within Advanced Oxidation Processes (AOPs), Photo-Fenton reaction is one of the most efficient methodologies. To date, most of heterogeneous iron catalysts studied was based on oxides or hydroxides. We extend here our previous studies on phenol photodegradation [1] by exploring the photocatalytic activity of various hybrid M^{II} phosphonates (M^{II} = Mn, Fe, Cu) for several organic pollutants. Synthesis conditions, pre-activation, H_2O_2 concentration, and surface characteristic have been studied/optimized. For dyes, decolouring and mineralization degrees up to 90% and 45%, respectively, were attained. Chemical analysis and X-ray photoelectron spectroscopy revealed the dynamic character of the photocatalyst surface upon reaction.

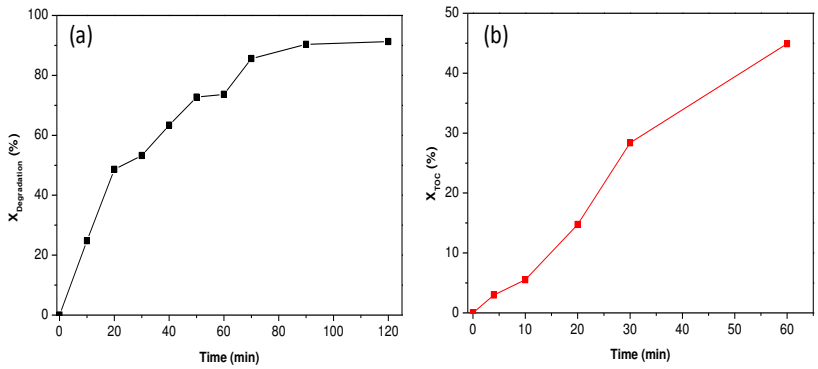

Figure 1. (a) Degradation degrees of orange methyl; **(b)** Mineralization degrees of orange methyl.

References

[1] Bazaga-Garcia M.; Cabeza A.; Olivera-Pastor P.; Santacruz I.; P. Colodrero R. M.; G. Aranda M. A. J. Phys. Chem. C. **2012**, 116, 14526−14533.