Monday, 5 September 2022 (Athens Summer Time Zone, EEST)

9:00 Installations *(Zappeion Megaron)*

14:00 Registrations *(Hall 1, Zappeion Megaron)*

18:00 **Welcome by the Chair**
Prof. Konstantinos Triantafyllidis, Aristotle University of Thessaloniki
(Hall 4, Zappeion Megaron)

18:15 ***PL1: "Circular Chemistry: Catalyzing the Green Economy"***
Javier García Martinez, University of Alicante, Spain
President of the International Union of Pure and Applied Chemistry, IUPAC
(Hall 4, Zappeion Megaron)

19:00 ***PL2: "Reaction Mechanisms and Energy Profiles: How Green Chemistry Complies with Them. The Case of Dimethyl Carbonate"***
Pietro Tundo, Ca' Foscari University of Venice, Italy
Standing Committee Secretary, IUPAC Interdivisional Committee on Green Chemistry for Sustainable Development (ICGCSD) *(Hall 4, Zappeion Megaron)*

19:45 ***Honorary Award Ceremony to Professor Pietro Tundo, by the Association of Greek Chemists, for "Lifetime Achievements and Outstanding Contribution to Green and Sustainable Chemistry"***
(Hall 4, Zappeion Megaron)

2022 IUPAC-CHEMRAWN VII PRIZE FOR GREEN CHEMISTRY to Professor Vivek Polshettiwar *(Hall 4, Zappeion Megaron)*

20:00 **Welcome Reception**
(Zappeion Megaron, Peristilio)

Tuesday, 6 September 2022 (Athens, Summer Time Zone, EEST)

08:00 Registrations *(Hall 1, Zappeion Megaron)*

09:00 **Opening Ceremony - Welcome addresses**

09:30 ***PL3: Paul Anastas, "Green Chemistry, "…to solve most of the world's problems" (Hall 4)***

	Session 1: Green solvents & sustainable synthesis (I) *(Hall 4)*	**Session 2: Biomass and renewables valorization (I)** *(Hall 6)*	**Session 3: (Bio)Waste Valorization & Circular economy** *(Hall 3)*	**Session 4: Green Chemistry and Sustainable industrial processes, Metrics, LCA** *(Hall 2)*
10:15	***KN1: Chao-Jun Li***		***KN2: Rafael Luque***	
10:30				
10:45	O-1	O-8	O-15	O-22

11:00	O-2	O-9	O-16	O-23
11:15	**Coffee break**			
11:45	O-3	O-10	O-17	O-24
12:00	O-4	O-11	O-18	O-25
12:15	O-5	O-12	O-19	O-26
12:30	O-6	O-13	O-20	O-27
12:45	O-7	O-14	O-21	O-28
13:00	**Lunch & Poster Session (I)**			
14:30	***PL4: Philip G. Jessop, "How CO2-Switchable Materials can Help in Biomass Conversion and Greener Coatings" (Hall 4)***			
	Session 5: Green solvents & sustainable synthesis (II) *(Hall 4)*	**Session 6: Biomass and renewables valorization (II)** *(Hall 6)*	**Session 7: Pollution prevention and remediation** *(Hall 3)*	**Session 8: Education, Society, UN Sustainable Development Goals** *(Hall 2)*
15:15	***KN3: Isabel M. Marrucho***	***KN4: Audrey Moores***		***KN5: Jane Wissinger***
15:30				
15:45	O-29	O-36	O-43	O-50
16:00	O-30	O-37	O-44	O-51
16:15	**Coffee break & visit to posters**			
17:00	O-31	O-38	O-45	O-52
17:15	O-32	O-39	O-46	O-53
17:30	O-33	O-40	O-47	O-54
17:45	O-34	O-41	O-48	O-55
18:00	O-35	O-42	O-49	
18:15		O-210	O-219	
18:30		O-216	O-220	

	Wednesday, 7 September 2022 (Athens, Summer Time Zone, EEST)			
08:00	Registrations *(Hall 1)*			
09:00	***PL5: Buxing Han, "Conversion of CO2 and Biomass into Chemicals and Fuels" (Hall 4)***			
	Session 9: CO_2 utilization *(Hall 4)*	**Session 10: Catalysis for biomass** *(Hall 6)*	**Session 11: Biobased monomers, polymers & composites (I)** *(Hall 3)*	**Session 12: Environmental catalysis** *(Hall 2)*
09:45	***KN6: Jorge Gascon***	***KN7: Bert Sels***	***KN8: Dimitrios Bikiaris***	
10:00				
10:15	O-57	O-65	O-73	O-80

10:30	O-58	O-66	O-74	O-81
10:45	O-59	O-67	O-75	O-82
11:00	**Coffee break**			
11:30	O-60	O-68	O-76	O-83
11:45	O-61	O-69	O-77	O-84
12:00	O-62	O-70	O-78	O-85
12:15	O-63	O-71	O-79	O-86
12:30	O-64	O-72	O-56	O-87
12:45	**Lunch & Poster Session (II)**			
14:30	***PL6: Maria Georgiadou, "EU perspective for biofuels and bioenergy under the European Green Deal and REPowerEU" (Hall 4)***			
	Session 13: Alternative fuels & biofuels – Green energy *(Hall 4)*	**Session 14: Green catalysis & synthesis** *(Hall 6)*	**Session 15: Biomass to chemicals** *(Hall 3)*	**Session 16: Bio-waste valorization** *(Hall 2)*
15.15		***2022 CHEMRAWN VII Prize Keynote: Vivek Polshettiwar***	***KN9: Fabio Aricò***	***KN10: Daniel C.W. Tsang***
15:30				
15:45	O-88	O-95	O-102	O-109
16:00	O-89	O-96	O-103	O-110
16:15	**Coffee break & visit to posters**			
17:00	O-90	O-97	O-104	O-111
17:15	O-91	O-98	O-105	O-112
17:30	O-92	O-99	O-106	O-113
17:45	O-93	O-100	O-107	O-114
18:00	O-94	O-101	O-108	O-115
18:15	O-217	O-213		O-200
18:30	O-218	O-214		
21:00	**Gala Dinner**			

	Thursday, 8 September 2022 (Athens, Summer Time Zone, EEST)			
08:00	Registrations *(Hall 1)*			
09:00	***PL7: Solange I. Mussatto, "Emerging technologies for a sustainable conversion of lignocellulosic biomass into biobased products" (Hall 4)***			
	Session 17: Catalysis for biomass & sustainable synthesis *(Hall 4)*	**Session 18: Alternative & benign chemical processes** *(Hall 6)*	**Session 19: Plastic waste recycle and valorization** *(Hall 3)*	**Session 20: Nanomaterials & Ionic liquids for advanced applications** *(Hall 2)*
09:45	***KN11: François Jérome***	***KN12: Jinlong Gong***		
10:00				

10:15	O-116	O-124	O-132	O-140
10:30	O-117	O-125	O-133	O-141
10:45	O-118	O-126	O-134	O-142
11:00	**Coffee break**			
11:30	O-119	O-127	O-135	O-143
11:45	O-120	O-128	O-136	O-144
12:00	O-121	O-129	O-137	O-145
12:15	O-122	O-130	O-138	O-146
12:30	O-123	O-131	O-139	O-147
12:45	**Lunch & Poster Session (III)**			
14:30	***PL8: Supawan Tantayanon, "Green Synthesis of Metal Nanoparticle Embedded Soft Hybrid Gel from Plant-based materials" (Hall 4)***			
	Session 21: Nanomaterials for energy & environment *(Hall 4)*	**Session 22: Biobased monomers, polymers & composites (II)** *(Hall 6)*	**Session 23: Bio-catalysis & bio-processes** *(Hall 3)*	**Session 24: Alternative fuels, biofuels, Green Energy** *(Hall 2)*
15.15		***KN13: Andreia F. Sousa***	***KN14: Lorena Betancor***	
15:30				
15:45	O-148	O-155	O-162	O-169
16:00	O-149	O-156	O-163	O-170
16:15	**Coffee break & visit to posters**			
17:00	O-150	O-157	O-164	O-171
17:15	O-151	O-158	O-165	O-172
17:30	O-152	O-159	O-166	O-173
17:45	O-153	O-160	O-167	O-174
18:00	O-154	O-161	O-168	O-175
18:15	O-208	O-211		
18:30		O-212		

Friday, 9 September 2022 (Athens, Summer Time Zone, EEST)

08:00	Registrations *(Hall 1)*			
09:00	***PL9: Despo Fatta-Kassinos, "Enhancing the Circular Economy in the Water Sector by Addressing the Chemical Contaminants of Concern Present in Wastewater " (Hall 4)***			
	Session 25: Green Analytical Chemistry - (Eco)Toxicology *(Hall 4)*	**Session 26: Pollution prevention & remediation** *(Hall 6)*	**Session 27: Computational chemistry** *(Hall 3)*	**Session 28: Sponsors & Publishers** *(Hall 2)*
09:45	***KN15: Vânia G. Zuin Zeidler***		***KN16: Liliana Mammino***	

10:00			
10:15	O-176	O-184	O-193
10:30	O-177	O-185	O-194
10:45	O-178	O-186	O-195
11:00	**Coffee break**		
11:30	O-179	O-187	O-196
11:45	O-180	O-188	O-197
12:00	O-181	O-189	
12:15	O-182	O-190	
12:30	O-183	O-191	
12:45	O-215	O-192	
13:00	**Closing session – Poster awards ceremony**		
13.15	**Lunch**		

List of Plenary, Keynote and Oral presentations

Monday 5th September 2022

PL1: Circular Chemistry: Catalyzing the Green Economy
Javier García-Martínez
University of Alicante, Spain

PL2: Reaction mechanisms and energy profiles: how green chemistry complies with them. The case of dimethyl carbonate
Pietro Tundo
Ca' Foscari University of Venice, Italy

Tuesday 6th September 2022

PL3: "Green Chemistry, "…to solve most of the world's problems"
Paul T. Anastas
Yale University, USA

PL4: How CO_2-Switchable Materials can Help in Biomass Conversion and Greener Coatings
Philip G. Jessop and Michael F. Cunningham
Queen's University, Canada

KN1: Sustainable Cross-Couplings: Demetallation of Organometallic Reactions

Chao-Jun Li
McGill University, Canada

KN2: Biowaste valorisation: the waste-to-wealth concept
Rafael Luque
Universidad de Córdoba, Spain

KN3: DES, ES and ILs: TAILORING SOLVENTS FOR SUSTAINABLE APPLICATIONS
João Afonso, Bruna F. Soares, Gabriela Caetano, Isabel M. Marrucho
Universidade de Lisboa, Portugal

KN4: Unlocking the potential of crustacean waste: solvent-free, mechanochemical pathways to added-value materials
Tony Jin,[1] Juliana L. Vidal,[1] Faezeh Hajiali,[1] Tracy Liu,[1] Edmond Lam,[2] Audrey Moores[1,3]
[1]Centre in Green Chemistry and Catalysis, Dept. of Chemistry, Canada
[2]Aquatic and Crop Resource Development Research Centre, National Research Council of Canada, Canada
[3]Department of Materials Engineering, McGill University, Canada

KN5: Teaching global perspectives: Connecting Green Chemistry, the UN SDGs, and Sustainable Polymers
Jane E. Wissinger
University of Minnesota, USA

Session 1: Green solvents & sustainable synthesis (I)

O-1: A new synthetic approach to dialkyl carbonates and their use as green solvents for the preparation of PVDF membranes
G. Trapasso[1*], C. Salaris[2], M. Reich[3], E. Logunova[3], C. Salata[2], K. Kümmerer[3], F. Galiano[4], F. Russo[4], C. R. McElroy[5], J. Sherwood[5], A. Figoli[4], F. Aricò[1]
[1] Department of Environmental Sciences, Informatics and Statistics, Ca' Foscari University, Scientific Campus Via Torino 155, 30170 Venezia Mestre, Italy.
[2] Department of Molecular Medicine; Padua University, via Gabelli 63, 35121 Padova (IT).
[3] Institute for Sustainable and Environmental Chemistry, Leuphana University Lüneburg, Universitätsallee 1/C13.311b, 21335 Lüneburg, Germany.
[4] Institute on Membrane Technology, ITM-CNR, Via P. Bucci 17c, Rende (CS), 87036, Italy.
[5] Green Chemistry Centre of Excellence, Department of Chemistry, University of York, Heslington, York YO10 5DD, UK.

O-2: Waste minimized Copper Catalyzed Alkyne-Azide Cycleaddition with heterogeneous metallic Copper(0) and azeotrope CH_3CN:H_2O under batch and continuous flow condition
Gabriele Rossini,[1] Giulia Brufani, [1] Federica Valentini,[1] Luigi Vaccaro*[1]
Università degli Studi di Perugia, Dipartimento di Chimica, Biologia e Biotecnologie, Via Elce di Sotto 8, 06123 Perugia (PG), Italia

O-3: Enabling nucleophilic fluorination in water
K. Sharma1*, B. N. Nguyen2, J. Blacker3 and N. Kapur4

School of Chemistry, University of Leeds, Leeds LS2 9JT, U.K.

O-4: Preparation of aminals (and thioaminals) in aqueous media and their remarkable applications

Juliana G. Pereira,[1)] Lídia A. S. Cavaca [1)], Rafael F. A. Gomes,[1)*] Carlos A. M. Afonso [1)**]
Research Institute for Medicines (iMed.ULisboa), Faculty of Pharmacy, Universidade de Lisboa, Av. Prof. Gama Pinto, 1649-003, Lisboa, Portugal

O-5: Synthesis of podophyllotoxin-glycosyl triazoles mediated by Silver(I)-N-heterocyclic carbenes and their anti-cancer evaluation

Srinivas Nerella[*1,2], Shravankumar Kankala [2], Brahmeshwari Gavaji [2]
[1]Department of Chemistry, Pingle Government College for Women (Autonomous), Kakatiya University, Warangal, India-
[2]Department of Chemistry, Kakatiya University, Warangal, India

O-6: Synthesis and characterization of new BPA-free polycarbonates based on dimethyl carbonate and diphenylmethane derivatives

Krystyna Wnuczek[1]* and Beata Podkościelna[1], Andrzej Puszka[1]
[1]Maria Curie-Sklodowska University, Institute of Chemical Sciences, Faculty of Chemistry, Department of Polymer Chemistry, Gliniana 33, 20-614, Lublin, Poland

O-7: Amino Acid-Functionalized Metal-Organic Frameworks for Sustainable Asymmetric Catalysis

Kuntal Manna[1*], Rajashree Newar[1] and Naved Akhtar[1]
[1]Department of Chemistry, Indian Institute of Technology Delhi, Hauz Khas, New Delhi, 110016, India

Session 2: Biomass and renewables valorization (I)

O-8: The Use of Cellulose Nanocrystals as Scaffolds for Nanodevices, Photoreversible and Antimicrobial Self Assemblies

Supramolecular Chemistry Using Nature's Most Abundant Template

Dimitris S. Argyropoulos; Reza Ghiladi, Frank Scholle, I. Fillponnen, H. Sadeghifar,
Departments of Chemistry & Forest Biomaterials, North Carolina State University, Raleigh, NC, 27695-8005, USA

O-9: Crosslinking of Sugar-Derived Polyethers and Boronic Acids: Synthesis of Functional Films and Organogels

Emma L. Daniels[1], Dr. Antoine P. Buchard*[1,3], Dr Hannah S. Leese*[2,3], and Prof Steve Parker[1,3]
[1] Department of Chemistry, University of Bath, Claverton Down, Bath, BA2 7AY, UK
[2] Department of Chemical Engineering, University of Bath, Claverton Down, Bath, BA2 7AY, UK
[2] Centre for Sustainable and Circular Technology, CSCT, University of Bath, Claverton Down, Bath, BA2 7AY, UK

O-10: Green dual crosslinking treatments to produce chitosan microspheres based on tripolyphosphate and vanillin: a comparative study of two strategies

Rodolpho F. Correa[1,2], Giovana Colucci[1], Noureddine Halla[3], João A. Pinto[1], Arantzazu Santamaria-Echart[1,*], Silvia P. Blanco[2], Isabel P. Fernandes[1], Maria-Filomena Barreiro[1,*]
[1]Centro de Investigação de Montanha (CIMO), Campus de Santa Apolónia, Instituto Politécnico de Bragança, 5300-253 Bragança, Portugal
[2]Universidade Tecnológica Federal do Paraná, Av. Dos Pioneiros, 3131-Jardim Morumbi, Londrina 86036-370, Brazil
[3]Laboratory of Biotoxicology, Pharmacognosy and Biological Recovery of Plants, Department of Biology, Faculty of Sciences, University of Saida, Saïda 20000, Algeria

O-11: Biocomposite Films derived from Durian Rind and Pineapple Leaf

Patiparn Boonruam[1], Settakorn Uppasen[1], Soipatta Soisuwan[1], Christian Antonio[2], and Piyachat Wattanachai[1]*
[1]Department of Chemcial Enginnering, Faculty of Engineering, Burapha University, Muang, Chonburi, Thailand 20131

[2]JKMRC, University of Queensland, Brisbane, 4068, Australia

O-12: Optimization of oil-in-water cosmetic formulation with bacterial Extracellular Polysaccharide FucopoL: bio-physical evaluation, rheological and texture assessments
Sílvia BAPTISTA[1,2,3,*], Filomena FREITAS[1,2]
[1] Associate Laboratory i4HB - Institute for Health and Bioeconomy, School of Science and Technology, NOVA University Lisbon, Caparica, Portugal;
[2] UCIBIO – Applied Molecular Biosciences Unit, Department of Chemistry, School of Science and Technology, NOVA University Lisbon, 2819-516 Caparica, Portugal
[3] 73100, Lda. Edifício Arcis, Rua Ivone Silva, 6, 4º piso, 1050-124 Lisboa, Portugal

O-13: Media manipulation for polyketides and other natural products isolation: an investigation of the metabolites of the marine-derived fungus Paraconiothyrium cyclothyrioides
Oneiro K. Cherrington[1], Denton K. Fearon, Garren R. Nelson and Paul B. Reese*
[1]Department of Chemistry, The University of the West Indies, Mona, Kingston 7, Jamaica

O-14: One-Pot and Biomass-Agnostic Syntheses of Biodegradable and Non-Ecotoxic Surfactants from Algal Polysaccharides and Pectins
Durand L.[1], Wong T.[1], Perocheau Arnaud S.[1], Noirbent G.[1], Renault L.[1], Wang Y.[1], Benvegnu T.[1], Pessel F.[2], Boyere C.[2]
[1]Ecole Nationale Supérieur de Chimie de Rennes, 11 allée de Beaulieu, 35708 Rennes
[2]SurfactGreen, 11 allée de Beaulieu, 35708 Rennes

Session 3: (Bio)Waste Valorization & Circular economy

O-15: Influence of supercritical CO_2 pretreatment of spent coffee grounds on the yield and composition of polar molecules extracted by subcritical H_2O extraction under microwave irradiation
Alexandre VANDEPONSEELE, Manon MAILLET, Philippe FANGET, Micheline DRAYE, Christine PIOT and Gregory CHATEL*
Univ. Savoie Mont Blanc, CNRS, EDYTEM, F-73000 Chambéry, France

O-16: Biphasic green solvents system for a fast “one-pot” simultaneous extraction at room temperature of valuable compounds from tomato pomace waste
F.Contillo[1], M. Marone[1], P. Marasco[1], D. Racca[1], M. Monteleone[1], M Caroprese[2], M. Francavilla[1]*
[1]STAR*Research Group, Department of Agriculture, Food, Natural Resources and Engineering (DAFNE), University of Foggia, Via Napoli 25, 71122 Foggia, Italy
[2]Department of Agriculture, Food, Natural Resources and Engineering (DAFNE), University of Foggia, Via Napoli 25, 71122 Foggia, Italy

O-17: Re-circulation of spent coffee grounds for ‘awaking’ epoxy resins cross-linking and stimulating properties
Jonathan Tellers[1], Mona Jamali[1], Philippe Willems[2], Bôke Tjeerdsma[2], Nicolas Sbirrazzuoli[1], and Nathanael Guigo[1]*
[1]Institut de Chimie de Nice, Université Côte d'Azur, CNRS, UMR 7272, 06108 Nice, France
[2]ORINEO – original renewables, Acaciastraat 14, B-3071 Erps-Kwerps, Belgium

O-18: Biovalorization of by-products from olive leaf and olive pomace obtained through green extraction methodology
Isabel M. Martins[1,2*], Yaidelin A. Manrique[1,2], Rharyne França[1,2], Ricardo C. Calhelha[3], Lillian Barros[3] and Madalena M. Dias[1,2]
[1]LSRE-LCM - Laboratory of Separation and Reaction Engineering – Laboratory of Catalysis and Materials, Faculty of Engineering, University of Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal
[2]ALiCE - Associate Laboratory in Chemical Engineering, Faculty of Engineering, University of Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal
[3]Centro de Investigação da Montanha (CIMO), Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal

O-19: High-performance or Functional Plant oil-based UV-curable Materials: Green Synthesis, properties, and applications
Chengguo Liu*, Qianqian Shang, Yun Hu, Yonghong Zhou
Institute of Chemical Industry of Forest Products, Chinese Academy of Forestry, Nanjing 210042, P. R. China

O-20: From agro-wastes to valuable biopolymers, polyhydroxyalkanoate and exopolysaccharide, simultaneously produced by Virgibacillus halodenitrificans

Samia AZABOU[1], Ichrak JOULAK[1], Filomena FREITAS[2], Annarita POLI[3], Hamadi ATTIA[1]
[1]Université de Sfax, ENIS, Laboratoire Analyses, Valorisation et Sécurité des Aliments, Sfax, 3038, Tunisia
[2]UCIBIO-REQUIMTE, Chemistry Department, Faculty of Sciences and Technology, Universidade NOVA de Lisboa, Campus da Caparica, Caparica, Portugal
[3]Consiglio Nazionale delle Ricerche C.N.R., Institute of Biomolecular Chemistry (ICB), via Campi Flegrei 34, 80078 Pozzuoli (Na), Italy

O-21: The effects of hydrogen peroxide and bleach on cellulose in oxidised sugar beet pulp

Christian Donohoe[1*], Stephen C. Fry[1], Eric Whale[2]
[1]The Edinburgh Cell Wall Group, Institute of Molecular Plant Sciences, The University of Edinburgh, Daniel Rutherford Building, Edinburgh EH9 3BF, United Kingdom
[2]CelluComp, Unit 3 West Docks KY3 9DW, United Kingdom

Session 4: Green Chemistry and Sustainable industrial processes, Metrics, LCA

O-22: Green assessment of polymer microparticles production

Hassan El Itawi,*[1] Sami Fadlallah,*[2] Florent Allais[2], Patrick Perré[1]
[1] Université Paris-Saclay, CentraleSupélec, Laboratoire de Génie des Procédés et Matériaux, SFR Condorcet FR CNRS 3417, Centre Européen de Biotechnologie et de Bioéconomie (CEBB), 3 rue des Rouges Terres, Pomacle 51110, France
[2] URD Agro-Biotechnologies Industrielles (ABI), CEBB, AgroParisTech, 51100, Pomacle, France

O-23: Use of bio-based resists derived from renewable monomers for sustainable 3D fabrication of automotive components through two photon polymerization

F. Gontad[1]*, M. Rostagno[2] and T. Robert[3]
[1]AIMEN Laser Technology Centre, Polígono Industrial de Cataboi SUR-PPI-2 (Sector) 2, Parcela 3 - O Porriño, Spain
[2]DIAD, Via Nicola Fabrizi 136, Torino 10145, Italy
[3]Fraunhofer WKI, Bienroder Weg 54E, 38108 Braunschweig , Germany

O-24: Are Lignin-Derived Monomers and Polymers truly sustainable? An In-Depth Green Metrics Calculations Approach

Sami Fadlallah,*[1] Pallabi Sinha Roy,[2,3] Gil Garnier,[1,2] Kei Saito,*[2,3,4] Florent Allais*[1,2]
[1] URD Agro-Biotechnologies Industrielles (ABI), CEBB, AgroParisTech, 51100, Pomacle, France
[2] BioPRIA, Department of Chemical Engineering, Monash University, Clayton 3800, VIC, Australia
[3] School of Chemistry, Monash University, Clayton 3800, VIC, Australia
[4] Graduate School of Advanced Integrated Studies in Human Survivability, Kyoto University, Higashi-Ichijo-Kan, Yoshida-nakaadachicho 1, Sakyo-ku, Kyoto, 606-8306, Japan

O-25: Life cycle costing for the production of lignin-based adhesives from softwood kraft lignin via base-catalysed depolymerization

Dimitrios Ladakis[1*], Sofia Maria Ioannidou[1], Ioannis K. Kookos[2], Christina P. Pappa[3], Konstantinos S. Triantafyllidis[3], Apostolis Koutinas[1]
[1]Department of Food Science and Human Nutrition, Agricultural University of Athens, Iera Odos 75, 11855, Athens, Greece [2]Department of Chemical Engineering, University of Patras, Rio, Patras, 26504, Greece
[3]Department of Chemistry, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece

O-26: Mistra SafeChem – A research programme targeting green chemistry with a holistic approach to chemicals

Richard Lihammar[1]*
[1]IVL Swedish Environmental institute, Complete address, Sweden

O-27: Fruit waste to wealth: Life cycle and Techno economic analysis to develop a sustainable pectin production process

Cresha Gracy Nadar[1,2,3*], Yogendra Shastri[4], Amit Arora[2], Antonio Patti[3], and Victoria Haritos[5]
[1]IITB-Monash Research Academy, Mumbai, Maharashtra 400076, India
[2]Bioprocessing Laboratory, CTARA, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India
[3]School of Chemistry, Monash University, Wellington Road, Clayton, Victoria, 3800, Australia
[4]Department of Chemical Engineering, Indian Institute of Technology Bombay, Mumbai, Maharashtra, India
[5]Department of Chemical Engineering, Monash University, Wellington Road, Clayton, Victoria, 3800, Australia

O-28: Greenometrics assessment of Production and Characterization of Biodiesel from Coconut (*Cocos nucifera*) Oil

Verla Andrew Wirnkor1*, Verla Evelyn Ngozi2 and Ihejiako Chibuzo Emmanuel3
1Green Researchers in Analytical Chemistry, Environment and Climate Change (GRACE & CC), Department of Chemistry, Imo State University Owerri, P. M. B 2000, Imo State, NIGERIA.
3Department of Environmental Technology, Federal University of Technology Owerri, Imo State, P. M. B. 1526, NIGERIA

Session 5: Green solvents & sustainable synthesis (II)

O-29: Green Synthesis Promoted by Ionic Liquids

Zhimin Liu *
Institute of Chemistry, Chinese Academy of Sciences (CAS), Beijing 100190, P. R. China

O-30: Natural Deep Eutectic Solvents as Versatile Tools for the Development of Green Processes

Andromachi Tzani and Anastasia Detsi*
Laboratory of Organic Chemistry, School of Chemical Engineering, National Technical University of Athens,
Zografou Campus, 15780 Athens, Greece

O-31: A New Example of Natural Deep Eutectic Solvents as A Green Approach to the Solubilization and Stabilization of Biomolecules

Lamya Al Fuhaid1*, Arwa Alghuneim1, Imed Gallouzi1, Young H. Choi2, Robert Verpoorte2, Geert-Jan Witkamp1 and Andreia Farinha1
1King Abdullah University of Science and Technology, Division of Biologicaland Environmental Science and Engineering, Thuwal, Saudi Arabia
2Natural Products Laboratory, Leiden University, Leiden, The Netherlands

O-32: Affordable Ionic Liquids: A Thermal Investigation

Maariyah Y. Suleman[1]*, C.J.Clarke[2] and A. Brandt-Talbot[1]*
[1]Department of Chemistry, Imperial College London, White City, London, W12 0BZ, UK
[2]Department of Chemical Engineering, Imperial College London, South Kensington, London, SW7 2AZ, UK

O-33: Bio-derived ionic liquids: synthesis and biological activity

Marina M. Seitkalieva, [1,*] Anna V. Vavina, [1] Ksenia S. Egorova, [1] Valentine P. Ananikov V.P.[1]
[1] N.D. Zelinsky Institute of Organic Chemistry Russian Academy of Sciences

O-34: Optimization of a green extraction method for the recovery of bioactives from cornelian cherry (Cornus mas L.) fruits using β-cyclodextrin as an extraction enhancer

Anastasia Loukri*, Anastasia Kyriakoudi, Ioannis Mourtzinos
Laboratory of Food Chemistry and Biochemistry, Department of Food Science and Technology, School of Agriculture, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece

O-35: Sorption of CO_2 in Composite Cellulose Acetate – Ionic Liquid Membranes

Giannis Kontos, Costas Tsioptsias and Ioannis Tsivintzelis*
Department of Chemical Engineering, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece

Session 6: Biomass and renewables valorization (II)

O-36: Pretreatment of brewers' spent grains via non-thermal plasma for poly(3-hydroxybutyrate) production

Chrysanthi Argeiti[1]*, Eleni Stylianou[1], Dimitrios Ladakis[1], Apostolis Koutinas[1]
[1] Agricultural University of Athens, Department of Food Science and Human Nutrition, Iera Odos 75, Athens, Greece

O-37: Antibacterial activity of porous hydrogel films from renewable raw materials and their carrier ability for controlled release of flavoring compounds

Irina E. Raschip* and Maria V. Dinu
"Petru Poni" Institute of Macromolecular Chemistry, Grigore Ghica Voda Alley 41A, Iasi 700487, Romania

O-38: Strategies for the production of biorefinery enzymes by the valorisation of lignocellulosic waste

Vladimir Elisashvili*, Mikheil D. Asatiani, and Eva Kachlishvili
Institute of Microbial Biotechnology, Agricultural University of Georgia, 240 Aghmashenebeli alley, Tbilisi, Georgia

O-39: Lactic and succinic acid production from lignocellulosic biomass

Agata Olszewska-Widdrat[1]*, Roland Schneider[1] and Joachim Venus[1]
[1]Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB), Max-Eyth-Allee 100 14469 Potsdam, Germany

O-40: Free-standing Transparent Films from Plant-derived Protein Polymers

Amit Kumar Sarkar and Nadav Amdursky*
Schulich Faculty of Chemistry, Technion – Israel Institute of Technology, Haifa, 3200003, Israel

O-41: Indigenous plants as a source for discovery and synthesis of pharmaceutical products and industrial materials

Upenyu Guyo*, Pimpernel Garanganga, Evelyn Mariwowo, Blessing Nyamukuta, Fidelis Chigondo
Department of Chemical Sciences, Midlands State University, P. Bag 9055, Gweru, Zimbabwe South Africa.

O-42: BlueBio mass valorization through analytical techniques for the quest of biostimulants in plant growth

Matsia, S.[1*] Maroulis, M.[1,2] Perikli, M.[1,2] Parvulescu, O.C.[3] Ion, V.A.[4] Løes, A.-K.[5] Cabell, J.[5] Salifoglou, A.[1]
[1] Laboratory of Inorganic Chemistry and Advanced Materials, School of Chemical Engineering, Aristotle University of Thessaloniki, Thessaloniki 54124, Greece
[2] Modern Analytics Testing Laboratories, Thermi 57500, Thessaloniki, Greece
[3]Chemical and Biochemical Engineering Department, University Politehnica of Bucharest, 1-3 Gheorghe Polizu, Bucharest, Romania
[4] Research Center for Studies of Food Quality and Agricultural Products, USAMV, 59, Marasti Blvd., Bucharest 011464, Romania
[5] Norwegian Centre for Organic Agriculture (NORSØK), Gunnars veg 6, Tingvoll N-6630, Norway

O-210: Solid dispersions as food colorant solutions: a systematic study adressing different natural polymers

Stephany C. de Rezende[1,2,3], Arantzazu Santamaria-Echart[1], Olga Ferreira[1], Madalena M. Dias[2,3] and Maria Filomena Barreiro[1]*

[1]Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal
[2]LSRE-LCM - Laboratory of Separation and Reaction Engineering - Laboratory of Catalysis and Materials
Faculdade de Engenharia, Universidade do Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal
[3]ALiCE - Associate Laboratory in Chemical Engineering Faculdade de Engenharia, Universidade do Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal

O-216: Electrochemical C-H Functionalization of Quinolizidine Alkaloids

Raquel M. Durão[a]*, Jaime A. S. Coelho[b], Svilen. P. Simeonov[a], Carlos A. M. Afonso[a]
[a]Instituto de Investigação do Medicamento (iMed.ULisboa), Faculty of Pharmacy, University of Lisbon, Av. Prof. Gama Pinto, 1649-003 Lisboa, Portugal. [b]Centro de Química Estrutural, Insitute of Molecular Sciences, Faculty of Sciences, University of Lisbon, Campo Grande, 1749-016 Lisboa, Portugal

Session 7: Pollution prevention and remediation

O-43: Sustainable Water Purification Processes using Ionic and Porous Materials

Luis C. Branco[1], K. Zalewska[1], S. Freitas[1,2], L.Rodrigues[2], I.Matos[1], M.Bernardo[1], M. J. Nunes[1], P.Esteves[2]
[1]LAQV-REQUIMTE, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Campus de Caparica, 2829-516 Caparica, Portugal.
[2]Instituto de Química, Universidade Federal do Rio de Janeiro, Av. Athos da Silveira Ramos, 149, CT, Bl. A-622, Cid. Universitária, Rio de Janeiro, RJ, 21941-909, Brazil.

O-44: Bisphenol A adsorption on Hydrophobic Activated Carbon

Samia M. Al-Madhari, El-Said I. El-Shafey*
Chemistry Department, College of Science P.O. Box 36, Sultan Qaboos University, PC 123, Muscat, Oman

O-45: The Influence of the Support and the Synthesis Method on the Activity of Pt-Catalysts for the Hydrogenation of Cl-Pollutants in Water

Antonio E. Palomares[1]* and Adrián Pla-Hernández[1]
[1]Instituto de Tecnología Química, Universidad Politécnica de Valencia - Consejo Superior Investigaciones Científicas, Avenida de los Naranjos s/n, 46022, Valencia, España

O-46: Nitrogen doped graphene efficiently promotes the reduction of vinyl chloride by nano zero-valent iron

Qiong Ouyang*, Dominique J. Tobler and Hans Christian Bruun Hansen
Department of Plant and Environmental Sciences, University of Copenhagen, Thorvaldsensvej 40, DK-1871 Frederiksberg C, Denmark

O-47: Photocatalytic removal of methylene blue and thiabendazole by reduced ZnO: influence of oxygen vacancies on adsorption and photocatalytic degradation

Alireza Ranjbari[1,2], Ju Ho Kim[1], Jiyun Kim[1], Jihee Yu[1], Mireu Park[1], Nayoung Kim[1], Kristof Demeestere[2], Philippe M. Heynderickx[1,2,*]
[1] Center for Environmental and Energy Research (CEER), Ghent University Global Campus, Songdo, Incheon, South Korea; [2] Department of Green Chemistry and Technology, Faculty of Bioscience Engineering, Ghent University, Ghent, Belgium

O-48: Landfill leachate treatment by using fixed bed columns packed with WWTP sludge porous carbons

I. Oliveira[1]*, D. Vicente[1], M. Bernardo[1], I. Matos[1], N. Lapa[1] and I. Fonseca
[1] LAQV/REQUIMTE, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, 2829-516 Caparica, Portugal

O-49: Biochar and Activated Carbon Derived from Oil Palm Kernel Shell as a Framework for the Preparation of Sustainable Controlled Release Urea Fertilizer

Pravin Vejan*[1], Rosazlin Abdullah[1,2], Noraini Ahmad[3] and Tumirah Khadiran[4]
[1] Institute of Biological Sciences, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia

[2] Centre for Research in Biotechnology for Agriculture (CEBAR), Institute of Biological Sciences, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia
[3] Department of Chemistry, Faculty of Science, University of Malaya, 50603 Kuala Lumpur, Malaysia.
[4] Forest Products Division, Forest Research Institute Malaysia, 52109, Kepong, Selangor, Malaysia.

O-219: Effect of water to biomass ratio of hydrothermal carbonization on the adsorption properties of hydrochar from waste seaweed

Sepideh Soroush[1,2], Frederik Ronsse[2], Philippe M. Heynderickx[1,2,*]
[1]Center for Environmental and Energy Research (CEER) – Engineering of Materials via Catalysis and Characterization, Ghent University Global Campus, 119-5 Songdomunhwa-Ro, Yeonsu-Gu, Incheon, 406-840 South Korea,
[2]Department of Green Chemistry and Technology, Faculty of Bioscience Engineering, Ghent University, 653 Coupure Links, Ghent, B-9000, Belgium

O-220: Biochemical and antioxidant response modulation by plant growth promoting Bacillus spp strains to improve drought tolerance in maize

Sadia Javed[1]* and Muhammad Azeem[1]
[1]Department of Biochemistry, Government College University, Faisalabad, 38000, Pakistan

Session 8: Education, Society, UN Sustainable Development Goals

O-50: Sustainability in undergraduate practical classes: From green chemistry metrics to environmentally friendly process design

Thomas A. Logothetis[1*]
[1]University of Southampton, Chemistry, Highfield, Southampton, SO17 1BJ, United Kingdom

O-51: A rational dimension of Green chemistry and ethical education towards Sustainability

Mani Omprakash Srivastava , Chemistry Educator
Tilak College and DAV Kharghar , Navi Mumbai , India

O-52: Pedagogic applications of systems-oriented concept map extension (SOCME) in the education of community college students for a green environment

Wang-Kin Chiu[1]*, Ben Y.F. Fong[1] and Wing-Yi Ho[2]
[1]Division of Science, Engineering and Health Studies, College of Professional and Continuing Education, The Hong Kong Polytechnic University, Hong Kong, China
[2]School of Professional Education and Executive Development, The Hong Kong Polytechnic University, Hong Kong, China

O-53: Green Chemistry in Secondary Education: Views of Greek Chemistry Teachers

Katerina Paschalidou[1], Dionysios Koulougliotis[2], and Katerina Salta[1]*
[1]National and Kapodistrian University of Athens, Greece, [2]Ionian University, Greece

O-54: Green Chemistry Education and Promotion in Taiwan

Pao-Kuei Hsiao[1*], Yu-Chun Wang[2], Yu-Kai Lin[3], Yi-Kuen Liu[1], Chun-Sheng Wu[1], Yen-Ju Hsieh[1]
[1] Toxic and Chemical Substances Bureau, No.1, Aly. 35, Ln. 132, Sec. 2, Da'an Rd., Da'an Dist., Taipei City 10667, Taiwan (R.O.C.)
[2] Chung Yuan Christian University, No. 200, Zhongbei Rd., Zhongli Dist., Taoyuan City 320314, Taiwan (R.O.C.)
[3] University of Taipei Tian-Mu Campus, No.101, Sec. 2, Zhongcheng Rd., Shilin Dist., Taipei City 111036, Taiwan (R.O.C.)

O-55: Green Audit & Green Campus: Need of the hour

N. Bhojak*, H.S. Bhandari, Uma Rathore, S.N. Jatolia, Raja Ram and S.K. Verma

GCRC, P.G. Department of Chemistry,
Govt. Dungar College (NAAC 'A' Grade),
MGS University, Bikaner 334001, India

Wednesday 7th September 2022

PL5: Conversion of CO2 and Biomass into Chemicals and Fuels

Buxing Han[1,2]
[1]Institute of Chemistry, Chinese Academy of Sciences, China
[2]Shanghai Key Laboratory of Green Chemistry and Chemical Processes, East China Normal University, China

PL6: EU perspective for biofuels and bioenergy under the European Green Deal and REPowerEU

Maria Georgiadou
European Commission, Directorate General Research and Innovation, Belgium

KN6: On the efficient transformation of CO_2 to chemicals and fuels

Jorge Gascon
King Abdullah University of Science and Technology, KAUST Catalysis Center (KCC), Saudi Arabia

KN7: Chemicals from lignin: feasible, safe and sustainable

Bert F. Sels
CSCE/KULeuven, Chem&Tech Celestijnenlaan 200F 3001 Leuven, Belgium

KN-8: European Sustainable Biobased Nanomaterials Community (BIOMAC), From biomass pretreatment for monomers and additives extraction to the synthesis of biobased composites

Dimitrios Bikiaris
Aristotle University of Thessaloniki, Greece

2022 IUPAC-CHEMRAWN VII Prize Keynote: Storing Solar Energy into Carbon Dioxide: Tale of Hot Electrons in Black Gold as Green Nanocatalyst

Vivek Polshettiwar
Tata Institute of Fundamental Research (TIFR), Mumbai, India

KN9: Towards Scalable Synthesis of Furanics: Products Purification and Comparative Environmental Assessment

Fabio Aricò
Ca' Foscari University of Venice, Italy

KN10: Design of Biomass Waste-Derived Biochar Catalyst for Glucose Oxidation

Qiaozhi Zhang [1], Yang Cao [1], Daniel C.W. Tsang [1, 2, *]

[1]Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University, China.
[2]Research Institute for Future Food, The Hong Kong Polytechnic University, China

Session 9: CO_2 utilization

O-57: Effect of Ni particle size in the low-temperature CO_2 hydrogenation over highly active Ni/CeO_2-nanorods

[1] Georgios Varvoutis, [2] Maria Lykaki, [2] Sofia Stefa, [1,3] George E. Marnellos, [2] Michalis Konsolakis
[1] Department of Mechanical Engineering, University of Western Macedonia, Kozani, Greece
[2] School of Production Engineering and Management, Technical University of Crete, Chania, Greece
[3] Chemical Process & Energy Resources Institute, Centre for Research & Technology Hellas, Thessaloniki, Greece

O-58: Low temperature CO_2-assisted ethane dehydrogenation for ethylene production: chemical looping vs cofeeding

Stavros A. Theofanidis[1*], Emmanuelle de Clermont Gallerande[2], Anastasia Christodoulou[1], Alessandro Longo[2,3*], Maria Tasioula[1], Christoph Sahle[2], Angeliki A. Lemonidou[1,
[1]Department of Chemical Engineering, Aristotle University of Thessaloniki, University Campus, 54124 Thessaloniki, Greece
[2]ID20 beamline, European Synchrotron Radiation Facility, 71, avenue des Martyrs, CS 40220, 38043 Grenoble Cedex 9, France
[3]Istituto per lo Studio dei Materiali Nanostrutturati (ISMN)-CNR, UOS Palermo, Via Ugo La Malfa, 153, 90146 Palermo, Italy

O-59: Reducing Energy Demand by Capturing Carbon in Green Solvents

Jochem J. B. van Duin[1], Pieter C. A. Bruijnincx[1]*
[1] Organic Chemistry & Catalysis, Debye Institute for Nanomaterials Science, Utrecht University, Universiteitsweg 99, 3584CG Utrecht, The Netherlands

O-60: Multi-enzyme co-immobilization on Hierarchical Porous Carbon Nanoparticles (HPCs) for the bioconversion of CO_2 to Formic Acid

Archontoula Giannakopoulou[1] , Christos Gakis[1], Konstantinos Spyrou[2], Dimitrios Gournis[2] and Haralambos Stamatis[1*]
[1]Biotechnology Laboratory, Department of Biological Applications and Technologies, University of Ioannina, 45110 Ioannina, Greece
[2]Department of Materials Science & Engineering, University of Ioannina, 45110 Ioannina, Greece

O-61: Solid Oxide Electrolysis for the production of green-energy carriers

N. Bimpiri[1,2]*, A. Konstantinidou[1,2], M.E. Farmaki[2], K.M. Papazisi[2], S. Balomenou[2], D. Tsiplakides[1,2]
[1]Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki 54124, Greece
[2]Centre for Research and Technology Hellas, 6th km Charilaou-Thermi road, Thessaloniki 57001, Greece

O-62: Electrochemical reduction of uncaptured flue gas in a membrane electrode assembly electrolyzer

Ung Lee[1*] Yun Jeong Hwang[2] and Da Hye Won[1]
[1]Clean Energy Research Center, Korea Institute of Science and Technology, Hwarang Ro 14 Gil 5 Seong Buk Gu Seoul, Republic of Korea
[2] Department of Chemistry, Seoul National University, Seoul 08826, Republic of Korea

O-63: Capture and reuse of CO_2: from ionic liquids to structured 3DP printed devices

Marcileia Zanatta[1*], Eduardo Garcia-Verdugo,[2] David Valverde, [2] Victor Sans[1]
[1]Institute of Advanced Materials (INAM), Universitat Jaume I, Avda Sos Baynat s/n, 12071, Castellón, Spain
[2]Departamento de Química Inorgánica y Orgánica, Jaume I, E-12071 Castellón, Spain

O-64: POSS-porhyrin-imidazolium crosslinked network as catalytic bifunctional platform for the conversion of CO_2 with epoxides

A. Morena[1,2], F. Giacalone[2]*, M. Gruttadauria[2]*, C. Aprile[1]*
[1]Unit of Nanomaterials Chemistry, Department of Chemistry, NISM, University of Namur, 61 rue de Bruxelles, 5000 Namur, Belgium
[2]Department of Biological, Chemical and Pharmaceutical Sciences and Technologies, University of Palermo, Viale delle Scienze, Ed. 17, 90128, Palermo, Italy

Session 10: Catalysis for biomass

O-65: Recovery of monoaromatic compounds from Kraft lignin toward the production of a potential green bisphenol A replacer

Omar Y. Abdelaziz[1,2]*, Elson D. Gomes[2], Smita V. Mankar[3], Carina A. E. Costa[2], Baozhong Zhang[3], Alírio E. Rodrigues[2] and Christian P. Hulteberg[1]
[1]Department of Chemical Engineering, Lund University, P.O. Box 124, SE-221 00 Lund, Sweden
[2]Laboratory of Separation and Reaction Engineering–Laboratory of Catalysis and Materials (LSRE-LCM), Department of Chemical Engineering, Faculty of Engineering, University of Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal
[3]Centre for Analysis and Synthesis, Department of Chemistry, Lund University, P.O. Box 124, SE-221 00 Lund, Sweden

O-66: From biomass-derived furans to aromatic compounds catalyzed by WNb-O mixed oxides with controlled acid properties

Madalina G. Idriceanu[1], Jaime Mazarío[1], Daniel Delgado[1], José M. López Nieto[1] and Marcelo E. Domine[1]*
[1]Instituto de Tecnología Química (UPV – CSIC). Universitat Politècnica de València. Consejo Superior de Investigaciones Científicas. Avda. Los Naranjos S/N, 46022, Valencia, Spain

O-67: Heterogeneous catalytic conversion of 5-Hydroxymethyl furfural to Methoxymethylfurfural

P. Diaz-Maizkurrena*, J. Requies , A, Iriondo, P.L. Arias
Faculty of Engineering of Bilbao (UPV/EHU), Plaza Ingeniero Torres Quevedo, Bilbao (Spain)

O-68: Catalytic conversion of tetroses to methionine hydroxy analogues

Sergio Calderon-Ardila[1*], Joost Matthijssen[1], Olivier Péruch[2], Didier Morvan[2], Virginie Bellière-Baca[2], Michiel Dusselier[1*], Bert Sels [1*]
[1] Center for sustainable catalysis and engineering (CSCE). KU Leuven, Celestijnenlaan 200F, 3001 Heverlee, Belgium
[2] Adisseo France SAS, 10 Place du Général de Gaulle, Antony, France

O-69: Synthesis of semi-aromatic polyamides based on renewable 2,5-furandicarboxylic acid (FDCA)

Muhammad Kamran[1*], Matthew G. Davidson[1], Sicco De Vos[2]
[1] Centre for Sustainable and Circular Technologies, University of Bath, Claverton Down, BA2 7AY, UK
[2] Corbion Biochem B.V., Gorinchem, The Netherlands

O-70: Conversion of biomass derived levulinic acid into γ-valerolactone using methanesulfonic acid: An optimization study using response surface methodology

Lethiwe D. Mthembu[1]*, David Lokhat,[2]Rishi Gupta,[3] and Nirmala Deenadayalu[1]
[1]Department of Chemistry, Durban University of Technology, Steve Biko Road, Berea, Durban, 4001, South Africa
[2]Discipline of Chemical Engineering, University of KwaZulu-Natal, Durban 4041, South Africa
[3]Anton Paar India Pvt Ltd., Udyog Vihar, Gurugram, Haryana, India

O-71: Promotion of hydroxy bond hydrogenolysis versus aromatic ring hydrogenation by selective poisoning with chlorine of heterogeneous Cu-Co catalysts

Alberto Barranca[1], Iker Agirrezabal-Tellería[1], Pedro L. Arias[1], Marcos Rellán-Piñeiro[2], Manuel A. Ortuño[2], I. Gandarias[1*]

[1]Faculty of Engineering Bilbao. University of the Basque Country (UPV/EHU). Plaza Ingeniero Torres Quevedo 1. 48013 Bilbao (Spain). [2]Centro Singular de Investigación en Química Biolóxica e Materiais Moleculares (CIQUS), Universidade de Santiago de Compostela, 15782 Santiago de Compostela, Spain

O-72: Kinetic modeling for the hydrolytic hydrogenation of inulin to mannitol over magnetically recoverable Ru-containing catalyst

Oleg V. Manaenkov[1]*, Ekaterina A. Ratkevich, Olga V. Kislitsa, Yuriy Yu. Kosivtsov, Valentina G. Matveeva
Tver state technical university, Af. Nikitina, 26, Tver, Russia

Session 11: Biobased monomers, polymers & composites (I)

O-73: UV degradation of poly(lactic acid) materials through copolymerisation with a sugar-derived cyclic xanthate

Craig Hardy[1] and Antoine Buchard[1]*
[1]Centre for Sustainable and Circular Technologies, Department of Chemistry, University of Bath, Bath, BA2 7AY, UK

O-74: Itaconic acid as renewable building block for UV-curing polymer resins

Tobias Robert[1], Sacha Pérocheau Arnaud[1], Natalia Malitowski[1], Marcel Kluge[1], Rim Ouhichi[2], Lazaros Papadopoulus[3]
[1]Fraunhofer Institute for Wood Research, Bienroder Weg 54E, 38108 Braunschweig, Germany
[2]Laboratoire de Chimie Appliquée H.C.G.P., Faculté des Sciences de Sfax, Université de Sfax, Bp 1171, 3000 Sfax, Tunisia
[3]Department of Chemistry, Laboratory of Polymer Chemistry and Technology, Aristotle University of Thessaloniki, GR-541 24, Thessaloniki, Greece

O-75: Recyclable, degradable, and high Tg bio-based Polybenzoxazine vitrimers

A. Adjaoud[1,2], L. Puchot[1], P. Verge[1]*
[1] Luxembourg Institute of Science and Technology, Esch-sur-Alzette, Luxembourg
[2] University of Luxembourg, Esch-sur-Alzette, Luxembourg

O-76: Lignin as a renewable resource – a deep dive into structure-property relationship

Ola Aleksandra Wróblewska[*1], Panagiotis Falireas[1], Viviana Polizzi[1], Karolien Vanbroekhoven[1], Jaime Gracia Vitoria[1], Elias Feghali[1,2], Walter Eevers[1,3] and Richard Vendamme[1]*
[1]VITO, Boeretang 200, 2400 Mol, Belgium
[2]Chemical Engineering Program, Notre Dame University-Louaize, PO Box: 72, Zouk Mosbeh, Lebanon,
[3]Department of Chemistry, University of Antwerp, Groenenborgerlaan 171, 2020 Antwerp, Belgium

O-77: Epoxy - Organosolv lignin composites with enhanced properties

Christina P. Pappa1,2, Stylianos A. Torofias1,2, Konstantinos S. Triantafyllidis1,2,*
1 Department of Chemistry, Aristotle University of Thessaloniki (AUTH), 54124 Thessaloniki, Greece
2 Center for Interdisciplinary Research and Innovation (CIRI-AUTH), Balkan Center, 10th km Thessaloniki-Thermi Rd,
P.O. Box 8318, 57001 Thessaloniki, Greece

O-78: Preparation of lignin-based vinylogous urethane vitrimer materials and their potential use for removable adhesives

Jian Liu, Andrij Pich, Katrien V. Bernaerts*

Maastricht University, Faculty of Science and Engineering, Brightlands Chemelot Campus, Aachen-Maastricht Institute for Biobased Materials (AMIBM), Urmonderbaan 22, 6167 RD Geleen, The Netherlands

O-79: Lipase-catalyzed selective (meth)acrylation of lignin-derived monomers for the protection-group free synthesis of polymers with strong antioxidant properties

M.Rubens[1,*], W. Van Hecke[1], R. Vendamme[1] and K. Vanbroekhoven[1]
[1]Flemish Institute for Technological Research (Vito N.V.), Boeretang 200, Mol 2400, Belgium

O-56: Innovative Structural Modification Process of Kraft Lignin Using Flow System Approach

Sílvio Vaz Jr.*, Carlos Eduardo Salvador
Brazilian Agricultural Research Corporation (Embrapa), Parque Estação Biológica, s/n, Av. W3 Norte, Asa Norte, 70770-901, Brasília, DF, Brazil

Session 12: Environmental catalysis

O-80: Efficient visible light driven photocatalytic degradation of perfluorooctanoic acid by $Bi_7O_9I_3$ catalyst

Jhimli Paul Guin[1,*], K. Ravindranathan Thampi[1], James A. Sullivan[2]
[1]School of Chemical and Bioprocess Engineering, University College Dublin, Belfield, Dublin 4, Ireland
[2]School of Chemistry, University College Dublin, Belfield, Dublin 4, Ireland

O-81: Photocatalytic degradation of Ciprofloxacin antibiotic by doped $LaFeO_3$ nanopowders

Renato Pelosato[1]*, Isabella Bolognino[1], G. Marcì[2] , Isabella Natali Sora[1]
[1]Department of Engineering and Applied Sciences, University of Bergamo, Viale Marconi 5, 24044 Dalmine (BG), Italy
[2]"Schiavello-Grillone" Photocatalysis Group, Department of Engineering, University of Palermo, Viale delle Scienze, 90128 Palermo, Italy

O-82: Catalysis on demand for greening up the battle against agrochemicals: fast, sustainable and versatile

Valmir B. Silva, Yane H. Santos, André H. G. Martinez, Renata Hellinger, Alex R. Teixeira, Patrícia Soares, José G. L. Ferreira, Willian Takarada, Mariana H. Nazareno, Aldo J. G. Zarbin and Elisa S. Orth*
Departamento de Química, Universidade Federal do Paraná (UFPR), CP 19032, CEP 81531-980, Curitiba, PR, Brasil

O-83: A Critical Revisit of Zeolites for CO_2 Desorption in Primary Amine Solution Argues its Genuine Catalytic Function

Cheng Zhou[1], Ibrahim Khalil[1], Ekaterina Makshina[1], Michiel Dusselier*[1], Yuhe Liao*[2], Bert F Sels*[1]
[1]Center for Sustainable Catalysis and Engineering, KU Leuven, Celestijnenlaan 200F, 3001 Heverlee, Belgium
[2]Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences, 510640 Guangzhou, P. R. China

O-84: Rational Design of Manganese Dioxide Catalyst for the Preferential Oxidation of CO in Hydrogen Stream: from Theory to Practice

F. Arena[1,*], F. Ferrante[2], G. Bonura[3], A. Prestianni[2], S. Todaro[3], F. Frusteri[3], D. Duca[2]
[1]Dip.to di Ingegneria, Università di Messina, C.da Di Dio 1, 98765 Messina, Italy
[2]Dip.to di Chimica e Fisica "Emilio Segré", Università di Palermo, V.le delle Scienze Ed. 17, I-90128 Palermo, Italy
[3]Istituto CNR-ITAE "Nicola Giordano", Salita S. Lucia 39, I-98126 S. Lucia, Messina, Italy Italy

O-85: Nickel catalysts modified with TiC derived from organic precursor for resource recovery via dry reforming of waste plastics

Ewelina Pawelczyk*, Izabela Wysocka, Jacek Gębicki

[1] Department of Process Engineering and Chemical Technology, Faculty of Chemistry, Gdansk University of Technology, Narutowicza 11/12 St., 80-233 Gdansk, Poland

O-86: Carbonized bone waste for photothermal desalination

Muhammad Shajih Zafar[1,2], Athanassia Athanassiou[1], Despina Fragouli[1]

[1]Smart Materials, Istituto Italiano di Tecnologia, via Morego 30, 16163 Genoa, Italy

[2]Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Università degli Studi di Genova, Via Opera Pia 13, 16145 Genoa, Italy

O-87: Studies of different ionic liquids as electrolytes for electrochemical reduction of CO_2

S. Messias[1], C.M. Rangel[2], V. Paz[1], L. C. Branco[1], A. S. Reis Machado*[1]

[1]LAQV, REQUIMTE, Departamento de Química, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Caparica, 2829-516, Portugal

[2]Laboratório Nacional de Energia e Geologia, Estrada do Paço do Lumiar, 22 Lisboa, 1649-038, Portugal

Session 13: Alternative fuels & biofuels - Green energy

O-88: Light-induced production of biobased fuels and lubricant oils from conjugated dienes

Leandro Cid Gomes,[1] Anup Rana,[1] Per Wiklund[2] and Henrik Ottosson[1]*

[1]Department of Chemistry—Ångström Laboratory, Box 523, 751 20 Uppsala, Sweden

[2]Biobase Sweden AB, Götlundagatan 3, 124 71 Bandhagen, Stockholm, Sweden

O-89: Bio-crude oil production via hydrothermal liquefaction of agricultural biomass

D. Liakos[1,2], K. Triantafyllidis[2], N. Tourlakidis[1], V.M. Vasdekis[1], T. Kokkalis[3], L. Ntoufas[3], S. Bezergianni[1]*

[1]Centre for Research & Technology Hellas (CERTH), Chemical Process & Energy Resources Institute (CPERI), Thessaloniki, 6km Charilaou-Thermi, 57001, Greece

[2]Aristotle University of Thessaloniki (AUTH), Department of Chemistry, University Campus, 54124 Thessaloniki, Greece

[3]Green Innovative Company (GRINCO), 17th km Larissa-Thessaloniki Rd, Industrial Area, 41004, Greece

O-90: Continuous hydroprocessing of nitrogen-rich biocrudes from municipal solid wastes in a graded catalyst bed: Synergetic effect of oxygenates and nitrogenates

Muhammad Salman Haider[1*], Daniele Castello[1], and Lasse Rosendahl[1]

[1] Department of AAU Energy, Aalborg University, Aalborg, Denmark

O-91: Catalytic hydrodeoxygenation of lignin pyrolysis bio-oil towards transportation fuels

Antigoni Margellou1,*, Foteini Zormpa1, Stylianos Torofias1, Evangelia Delli1,2, Ana Correa de Araujo3, Axel Funke3, Leonidas Matsakas4, Ulrika Rova4, Paul Christakopoulos4, Konstantinos Triantafyllidis1,*

1Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki, Greece

2 Department of Physics, Aristotle University of Thessaloniki, Thessaloniki, Greece

3Karlsruhe Institute of Technology, Institute of Catalysis Research & Technology, Eggenstein - Leopoldshafen, Germany

4Department of Civil, Environmental and Natural Resources Engineering, Luleå University of Technology, Luleå, Sweden

O-92: Biomass to hydrogen: Understanding the factors affecting hydrogen production rate via reforming of bio-oil

Vasileia-Loukia Yfanti[1]*, Areti Moutsiou[1] and Angeliki A. Lemonidou[1,2]
[1]Department of Chemical Engineering, Aristotle University of Thessaloniki, University campus, Thessaloniki, 54124, Greece [2]Chemical Process & Energy Resources Institute (CERTH/CPERI), Thessaloniki, 57001, Greece

O-93: A flexible and integrated process for treating multiple waste biomass to produce high-value bioproducts and advanced transportation fuel

Tanmay Chaturvedi[1]* and Mette H. Thomsen[2]
[1]AAU Energy, Aalborg University, Niels Bohrs Vej 8 6700 Esbjerg, Denmark

O-94: Transformation of natural triglycerides into green diesel over Ni-Mo catalysts supported on titania

George Petropoulos[1], John Zafeiropoulos[1], Eleana Kordouli[1,2], Christos Kordulis[1,2], Alexis Lycourghiotis[2] and Kyriakos Bourikas[1]*
[1]Hellenic Open University, Parodos Aristotelous 18, GR26335, Greece
[2]Department of Chemistry, University of Patras, GR26500, Greece

O-217: Heterotrophic production of biofuels in marine diatoms

Giuliana d'Ippolito[1,*], Adelaide Cupo[1], Salvatore Morra[1], Simone Landi[2], Genoveffa Nuzzo[1], Carmela Gallo[1], Emiliano Manzo[1] and Angelo Fontana[1,2]
[1]Institute of Biomolecular Chemistry CNR, Via Campi Flegrei 34, 80078, Pozzuoli, Napoli, Italy
[2] Department of Biology, University of Naples "Federico II", Via Cinthia, I-80126 Napoli, Italy

O-218: A comparative study on lipid accumulation by six microalgal-bacterial associations during distillery wastewater treatment

Namita Talapatra[1] and U K Ghosh[2]*
IIT Roorkee Saharanpur Campus, Saharanpur – 247001, India

Session 14: Green catalysis & synthesis

O-95: Connecting sonication with photocatalysis to intensify a continuous flow photocatalytic processes: A disruptive alternative for lignin valorization

Juan Carlos Colmenares[1*], Marta Paszkiewicz-Gawron[1], Swaraj R. Pradhan[1], Dariusz Łomot[1], Abdul Qayyum[1]
1Insitute of Physical Chemistry, Polish Academy of Sciences, Kasprzaka 44/52 01-224 Warsaw, Poland

O-96: Key role of ultrasound on the synthesis of TiO_2 nanomaterials and catalytic performance

Abdul Qayyum[1,*], Dimitrios A. Giannakoudakis[1], Darius Lomot[1], Juan Carlos Colmenares[1,*]
[1]Institute of Physical Chemistry, Polish Academy of Sciences, Kasprzaka 44/52, 01-224 Warsaw, Poland

O-97: Metal Nanoparticles and Metal-based Polymeric Materials as vehicles for Green Organic Synthetic Methodologies

Ioannis N. Lykakis[1]* and George E. Kostakis[2]

[1]Department of Chemistry, Aristotle University of Thessaloniki, University Campus, GR-54124 Thessaloniki, Greece
[2]Department of Chemistry, School of Life Sciences, University of Sussex, Brighton BN1 9QJ, UK

O-98: Alkene formation by rhenium catalyzed deoxydehydration of polyols in ionic liquids

Nicola d'Alessandro,1* Lucia Tonucci,2 Andrea Mascitti,1 Pietro Di Profio3 and Francesca Coccia2
1 Department of Engineering and Geology, University G. d'Annunzio of Chieti-Pescara, Via dei Vestini, 31, I-66100 Chieti, Italy
2 Department of Philosophical, Educational and Economic Sciences, University G. d'Annunzio of Chieti-Pescara, Via dei Vestini, 31, I-66100 Chieti, Italy
3 Department of Pharmacy, University G. d'Annunzio of Chieti-Pescara, Via dei Vestini, 31, I-66100 Chieti, Italy

O-99: Tailor-made POLITAG-Pd^0 catalyst for the low-loading Heck cross-coupling in γ-valerolactone as safe reaction medium

Luigi Carpisassi, Federica Valentini, Adrien Comès, Carmela Aprile and Luigi Vaccaro*
[1]Laboratory of Green Synthetic Organic Chemistry (Green S.O.C.) Department of Chemistry, Biology and Biotechnology Università Degli Studi di Perugia, Via Elce Di Sotto 8 06123-Perugia, Italy

O-100: The road to intrinsically dynamic materials: disulfide chemistry as a solution

Qi Zhang*
Stratingh Institute for Chemistry, University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands

O-101: Chiral iron(II)-catalysts within valinol-grafted metal-organic frameworks for enantioselective reduction of ketones

Naved Akhtar[1] and Kuntal Manna[1]*
[1]Department of Chemistry, Indian Institute of Technology, New Delhi, India

O-213: An expedient route to tricyanovinylindoles and indolylmaleimides from o-alkynylanilines utilising DMSO as a one-carbon synthon

Nikita Chakraborty[1] and Bhisma K. Patel[1]*
[1]Department of Chemistry, Indian Institute of Technology Guwahati, Assam, India

O-214: Copper oxide supported on red-mud as catalyst for organic conversion reactions: model reactions employing H_2O_2 as an oxidizing agent in liquid phase oxidation: Selectivity and structure-activity relationship

Subhashree Mishra[1], Rajaram Bal[2], Ratan Kumar Dey[1]*
[1]Department of Chemistry, Central University of Jharkhand, Ranchi – 835 205, India
[2]CSIR-Indian Institute of Petroleum, Dehradun – 248 005, India

Session 15: Biomass to chemicals

O-102: Metal free heterogeneous catalyst for one pot conversion of fructose/carbohydrate feedstocks into 2,5-diformylfuran

Arvind Singh Chauhan1,2 and Pralay Das1,2,*
1Chemical Technology Division, CSIR-Institute of Himalayan Bioresource Technology, Palampur-176061, H.P., India.
2Academy of scientific and innovative research (AcSIR), Ghaziabad- 201002, India.

O-103: Predictive model of the biocatalytic synthesis of butyl levulinate from levulinic acid in a continuous flow microreactor

Cordier A.[1,2] Legros J.[1], Held C.[3], Leveneur S.[2]*,
[1]Lab COBRA, CNRS, University of Rouen, 76000 Rouen, France
[2] Normandie Univ, INSA Rouen, UNIROUEN, LSPC, EA4704, 76000 Rouen, France
[3] TU Dortmund University, EMIL-FIGGE-STR. 70, Dortmund, Deutschland

O-104: Butyl-5-(Dibutoxymethyl)-2-Furoate (BDMF): a New Bio-sourced Furanic Platform Molecule for the Green Production of Biodegradable Surfactants and Industrial Chemicals

Pérocheau Arnaud S.[1], Wong T.[1], Noirbent G.[1], Durand L.[1], Renault L.[1], Roussel X.[2], Benvegnu T.[1,*].
[1]Ecole Nationale Supérieure de Chimie de Rennes, 11 Allée de Beaulieu, 35708 Rennes, France
[2]SurfactGreen, 11 Allée de Beaulieu, 35708 Rennes, France

O-105: Selective condensation of small sugars by reconstructed Hydrotalcite towards the synthesis of polyol-based flame retardants

Fatima R.[1], Ibrahim K.[1], Ward L.[1], Ivan S.[1], Beau V.-V.[2], Bert D.- S.[2], Ekaterina M.[1], Bert S.[1]*
[1] CSCE, Katholieke Universiteit Leuven, Celestijnenlaan 200F, Leuven 3001, Belgium
2 Oleon NV, Assenedestraat 2, Evergem 9940, Belgium

O-106: Efficient conversion of sucrose to methyl lactate with Sn-USY: the role of water

Jose M. Jimenez-Martin, Maia Montaña, María Linares, Alicia García, Jose Iglesias*
Chemical & Environmental Engineering Group. Universidad Rey Juan Carlos, C/ Tulipan s/n, 28933, Madrid, Spain

O-107: Castor oil methyl ester catalytic cracking for the generation of added-value castor derivatives

Sagarkumar Yogesh Dhanuskar[12], Kamal Kishore Pant[1*], Satya Narayan Naik[2]
[1]Department of Chemical Engineering, Indian Institute of Technology Delhi, New Delhi, India
[2]Centre for Rural Development and Technology, Indian Institute of Technology Delhi, New Delhi, India

O-108:

Session 16: Bio-waste valorization

O-109: How the physio-chemical properties of char from the pyrolysis of Automotive Shredder Residue (ASR) influences its future uses

Peter Bentley[1], Karl Williams[1]* and Ala Khodier[2]*
[1]University of Central Lancashire, School of Engineering, Preston, Lancashire, PR12HE, UK
[2]Recycling Lives Ltd, Longridge Road, Preston, Lancashire, PR25BX, UK

O-110: The effect of electrokinetic pre-treatment on phosphorus availability and heavy metal content of sludge-derived biochar

Xutong Wang[1, 2], Xiaoqiang Cui[1], Beibei Yan[1], Ondřej Mašek[2, *], Guanyi Chen[1, 3, 4, *]
[1] School of Environmental Science and Engineering, Tianjin University, Tianjin, China; [2] UK Biochar Research Centre, School of Geosciences, University of Edinburgh, Edinburgh, UK; [3] School of Science, Tibet University, Lhasa, China; [4] School of Mechanical Engineering, Tianjin University of Commerce, Tianjin, China

O-111: Nitrogen-rich waste step gasification: evolution of fuel-nitrogen during the different stages

Fernando Léo[1,2], Noemí Gil-Lalaguna[1], Zainab Afailal[1], Rubenildo Andrade[2], Electo Lora[2], Isabel Fonts[1*]
[1]Thermochemical Processes Group, Aragon Institute for Engineering Research (I3A), Chemical and Environmental Engineering Department, University of Zaragoza, C/ Mariano Esquillor s/n, 50.018 Zaragoza, Spain
[2]Center for Excellence in Thermal and Distributed Generation (NEST), Institute of Mechanical Engineering, Federal University of Itajubá, Av. BPS, 1303, Block L7, 37500-903 Itajubá, Brazil

O-112: Simultaneous nutrient ions recovery from anaerobic digestates of different origin by using Selective Electrodialysis

Vera Proskynitopoulou[1,2] Souzana Lorentzou[1], Konstantinos Plakas[1], Panagiotis Kougias[3], Kyriakos D. Panopoulos[1,*] and Anastasios Zouboulis[2]
[1] Chemical Process and Energy Resources Institute (CPERI), Centre for Research and Technology Hellas (CERTH),
6th km Charilaou-Thermi Road, Thessaloniki, 57001, Greece
[2]Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki, 54124, Greece
[3] Hellenic Agricultural Organisation- DEMETER, Soil and Water Resources Institute, Thessaloniki, 57001, Greece

O-113: Hydrolysis of poly(ethylene terephthalate) using a wide range of Low-Cost Ionic Liquids for chemical plastic recycling

Maariyah Y Suleman[1], Panos Bexis[1] and Agnieszka Brandt-Talbot[1]*
[1]Department of Chemistry, Imperial College London, 80 Wood Lane, W12 0BZ, UK

O-114: Optimization of ultrasound-assisted extraction of natural antioxidants from rapeseed cake using deep eutectic solvents

Alicja Tymczewska[1]*, Karolina Gajewska[1] and Aleksandra Szydłowska-Czerniak[1]
[1]Nicolaus Copernicus University, Faculty of Chemistry, Department of Analytical and Applied Spectroscopy, Gagarina Street 7, Torun, Poland

O-115: Extraction of bioactive compounds from fisheries waste streams using natural deep eutectic solvent systems for their therapeutic application

Maha Abdallah[1,2], Inês Leonardo[1,2], Luna Krstić[3], Frédéric B. Gaspar[1,2], Amalia Enríquez-de-Salamanca[3,4], Yolanda Diebold[3,4], Maria González-García[3,4], Ana A. Matias[2], Maria R. Bronze[1,2,5], Naiara Fernández[2]*
[1]Instituto de Tecnologia Química e Biológica António Xavier, Universidade Nova de Lisboa, Av. da República, 2780-157 Oeiras, Portugal
[2]iBET, Instituto de Biologia Experimental e Tecnológica, Apartado 12, 2781-901 Oeiras, Portugal
[3]Institute of Applied Ophthalmobiology (IOBA), University of Valladolid, Valladolid, Spain
[4]Biomedical Research Networking Center in Bioengineering, Biomaterials and Nanomedicine (CIBER-BBN), Av. Monforte de Lemos, 3-5, 28029, Madrid, Spain
[5]Faculdade de Farmácia da Universidade de Lisboa, Av. Prof. Gama Pinto, 1649-003 Lisboa, Portugal

O-200: Adsorption from the liquid and gas phase on biocarbons obtained from residue after supercritical extraction of raw plants

Aleksandra Bazan-Wozniak* and Robert Pietrzak
Adam Mickiewicz University in Poznań, Faculty of Chemistry,Uniwersytetu Poznańskiego 8, 61-614 Poznań, Poland

Thursday 8th September 2022

PL7: Emerging technologies for a sustainable conversion of lignocellulosic biomass into biobased products

Solange I. Mussato
Department of Biotechnology and Biomedicine, Technical University of Denmark, Kongens Lyngby, Denmark

PL8: Green Synthesis of Metal Nanoparticle Embedded Soft Hybrid Gel from Plant-based materials

Supawan Tantayanon

Department of Chemistry, Faculty of Science, Chulalongkorn University, Thailand

KN11: Alternative technologies for the selective conversion of bio-based feedstocks to specialty chemicals

François Jérôme,[1] Karine De Oliveira Vigier,[1] Prince N. Amaniampong[1]
[1]University of Poitiers, CNRS, Institut de Chimie des Milieux et Matériaux de Poitiers, France

KN12: Solar Fuels: from Mechanistic Understanding to Device Engineering

Jinlong Gong
School of Chemical Engineering and Technology, Tianjin University, China
Key Laboratory for Green Chemical Technology of Ministry of Education, Tianjin University, China
Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), China

KN13: The quest to a circular approach to (furanic) polymers

Andreia F. Sousa[1,2]*
[1]CICECO – Aveiro Institute of Materials University of Aveiro, Portugal
[2]Centre for Mechanical Engineering, Materials and Processes, Department of Chemical Engineering, University of Coimbra Rua Sílvio Lima – Polo II, Portugal

KN14: Biocatalytic solutions for industrial waste glycerol valorization

Magdalena Ripoll[1,2] and Lorena Betancor[1*]
[1]Department of Biotechnology, Universidad ORT Uruguay, Uruguay
[2]Graduate Program in Chemistry, Facultad de Química, Universidad de la República, Uruguay

Session 17: Catalysis for biomass & sustainable synthesis

O-116: Selective photo-catalytic oxidation of 5-hydroxymethylfurfural (HMF) to 2,5-Diformylfuran (DFF) over reduced graphite oxide-titanate nanotubes composites

Dimitrios A. Giannakoudakis1,*, Zoi-Lina Koutsogianni1, Ioanna Ntekouli1, Teresa J. Bandosz2, Juan Carlos Colmenares3, Konstantinos S. Triantafyllidis1,4,*
1 Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki, Greece
2 Department of Chemistry and Biochemistry, The City College of New York, New York, NY 10031, USA
3 Institute of Physical Chemistry, Polish Academy of Sciences, Kasprzaka 44/52, Warsaw, Poland
4 Center for Interdisciplinary Research and Innovation (CIRI-AUTH), Balkan Center, 57001 Thessaloniki, Greece

O-117: Sustainable one-pot syntheses of functional dyes based on 5-(hydroxymethyl)furfural

Anita Vißers* and Thomas J. J. Müller
Heinrich-Heine-Universität, Universitätsstr. 1, 40225 Düsseldorf, Germany

O-118: Catalytic conversion of biomass-derived compounds to high added value products using an acid treated natural mordenite

Dimitra Makarouni[1,2], Chara Dimitriadi Evgenidi[2], Christos Kordulis [1,3,4] and Vassilios Dourtoglou[2]*

[1]Department of Chemistry, University of Patras, GR-26504, Patras, Greece
[2]VIORYL, Chemical and Agricultural industry, Scientific Research S.A., 28th km. Athens-Lamia national road, GR-19014, Afidnes, Greece
[3]School of Science and Technology, Hellenic Open University, Tsamadou 13-15, GR-26222, Patras, Greece
[4]Foundation of Research and Technology-Institute of Chemical Engineering Science (FORTH/ICE-HT) Stadiou Str. Platani, P.O. Box 1414, GR-26500, Patras, Greece

O-119: A green chemistry approach to catalytic synthesis of ethyl levulinate

Małgorzata E. Zakrzewska[1]*, Martina Jakovljević Kovač[2], Ana R.C. Duarte[1] and Maja Molnar[2]
[1] LAQV, REQUIMTE, Departamento de Química, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, 2829-516 Caparica, Portugal
[2] Faculty of Food Technology Osijek, Josip Juraj Strossmayer University of Osijek, Franje Kuhača 18, 31000 Osijek, Croatia

O-120: Application of copper-containing minerals in preparative organic chemical reactions as catalysts.

Gábor Györke, Balázs Volk and Mátyás Milen
Egis Pharmaceuticals PLC, P. O. Box 100, H-1475 Budapest, Hungary

O-121: A Comparison of In-situ Reduction of Copper and Nickel-rich Mixed Oxides for Effective Organosolv Lignin Fractionation

Iqra Zubair Awan[1,2,3]*, Olinda Gimello[2], Thomas Cacciaguerra[2], Nathalie Tanchoux[2], Stefania Albonetti[1], Fabrizio Cavani[1] and Francesco Di Renzo[2]
[1]Department of Industrial Chemistry, Alma Mater Studiorum Università di Bologna, Via Zamboni, 40126 Bologna, Italy
[2]ICGM, University of Montpellier - CNRS - ENSCM, 641 Av. du Doyen Gaston Giraud, 34000 Montpellier, France
[3]Department of Chemistry, Lahore Garrison University, DHA Phase VI, Lahore, Pakistan

O-122: Development of Cr-free hydrogenolysis catalysts

Jaroslav Aubrecht[1]* and David Kubička[1]
[1]Department of Petroleum Technology and Alternative Fuels, University of Chemistry and Technology Prague, Technická 5, Prague 6, Czech Republic

O-123: Mesoporous metal phosphates and zeolites as solid acid catalysts: Stability and catalytic performance in oleic acid esterification

S.A. Karakoulia[1*], A.A. Marianou[1], C.M. Michailof[1], M. Sountourlis[2], E.F. Iliopoulou[1], A.A. Lappas[1]
[1]Chemical Process and Energy Resources Institute, Centre for Research and Technology Hellas, Thessaloniki, 6th km. Charilaou – Thermi Road, GR-570 01 Thermi, Greece
[2]Newenergy S.A., Paralimni, GR 62100, Serres, Greece

Session 18: Alternative & benign chemical processes

O-124: Organic Synthetic Photochemistry: Embracing the Needs of Green and Sustainable Chemistry

Christoforos G. Kokotos[1]*
[1]Laboratory of Organic Chemistry, Department of Chemistry, National and Kapodistrian University of Athens, Panepistimiopolis 15771, Athens, Greece

O-125: Photocatalytic clevage of lignin C–C bonds by Z-scheme nanocomposite

Xuejiao Wu,[1] Shunji Xie,[2] Ye Wang[2] and Bert F. Sels[1]*
[1]Center for Sustainable Catalysis and Engineering, Faculty of Bioscience Engineering, KU Leuven, Heverlee 3001, Belgium

[2]State Key Laboratory of Physical Chemistry of Solid Surfaces, Collaborative Innovation Center of Chemistry for Energy Materials, National Engineering Laboratory for Green Chemical Productions of Alcohols, Ethers and Esters, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

O-126:

O-127: Reduction of alkenes to alkanes by ammonia under high frequency ultrasound

Anaelle Humblot[*1] and François Jérôme[1]
[1]Institut de Chimie des Milieux et Matériaux de Poitiers, University of Poitiers-CNRS, 1 rue Marcel Doré, TSA 41105, 86073 Poitiers, France.

O-128: A new concept for the sustainable coupling of catalysis processes: {2-phases 2-reactions 1-catalyst}[†]

Philipp Schmid[1]*, Olivier Diat[2], Arno Pfitzner[1] and Pierre Bauduin[2]*
[1]Institute of Inorganic Chemistry, University of Regensburg, Universitätsstraße 31, 93053 Regensburg, Germany
[2]ICSM, CEA, CNRS, ENSCM, Univ Montpellier, 34199 Marcoule, France

O-129: Merging photoflow and Pd-catalysis to synthesized new aminocyclopentenes

João A. C. Oliveira,[1,2] Milene A. G. Fortunato,[2] Gredy Kiala,[1,2] Julie Oble,[1] Giovanni Poli,[1] Filipa Siopa,[1,2]* and Carlos A. M. Afonso[2]
[1]Sorbonne Université, Faculté des Sciences et Ingénierie, CNRS, Institut Parisien de Chimie Moléculaire, IPCM, 4 place Jussieu, 75005 Paris, France; [2]Research Institute for Medicines (iMed.ULisboa), Faculty of Pharmacy, Universidade de Lisboa, Av. Prof. Gama Pinto, 1649-003 Lisboa, Portugal

O-130: Chiral metal organic frameworks for electrocatalytic water splitting

Rufaro Kawondera[1], Wilbert Mtangi[1*], Stephen Nyoni[2], Gift Mehlana[3]
[1]Institute of Materials Science, Processing and Engineering Technology, Chinhoyi University of Technology
[2]Department of Chemistry, School of Natural Sciences and Mathematics, Chinhoyi University of Technology
[3]Department of Chemical Technology, Midlands State University

O-131: A roadmap towards the development of a scalable continuous flow process for the synthesis of a Raf kinase inhibitor, BAY 43-9006

Faith M Akwi[1]* and Paul Watts[1]
[1.]Department of Chemistry, Nelson Mandela University, University way, Port Elizabeth, 6031, South Africa

Session 19: Plastic waste recycle and valorization

O-132: Chemical recycling of plastic waste towards waxes and lubricants

Jonathan Van Waeyenberg and Bert F. Sels*
Center for Sustainable Catalysis and Engineering, Faculty of Bioscience Engineering, KU Leuven, Heverlee 3001, Belgium

O-133: Valorization of Polyhydroxyalkanoates as Circular Carbon Feedstock Beyond Bioplastics

Joel B. Mensah[1*], Minka C. Snoek[1], Pieter C. A. Bruijnincx[1*]
[1]Organic Chemistry and Catalysis, Debye Institute for Nanomaterials Science, Utrecht University, Universiteitsweg 99, 3584 CG Utrecht, The Netherlands

O-134: Delamination of polyamide/polyolefin multilayer films by selective glycolysis of polyurethane adhesive

G. O'Rourke[1] and D. De Vos[1]*

[1] Centre for Membrane Separations, Adsorption, Catalysis and Spectroscopy for Sustainable Solutions (cMACS) , KU Leuven, 3001 Leuven, Belgium

O-135: Back-to-monomer recycling of polycondensation polymers: opportunities for chemicals and enzymes

Shanmugam Thiyagarajan,* Evelien Maaskant-Reilink, Tom A. Ewing, Mattijs K. Julsing, Jacco van Haveren

Wageningen Food & Biobased Research, Wageningen, P. O. Box 17, 6700 AA, The Netherlands

O-136: Debromination by soxhlet extraction and chemical recycling (pyrolysis) of various plastics collected from waste electric and electronic equipment

Charitopoulou M.A.[1*] and Achilias D.[1]

[1]Department of Chemistry, Aristotle University of Thessaloniki (AUTH), 54124 Thessaloniki, Greece

O-137: Pre-treatment to remove additives from plastic waste based on the use of biosolvents

Ana M. Ferreira[1,*], Isa Sucena[1], Mariana I. S. Aguiar[1], Vanessa Otero[2,3], Eva Mariasole Angelin[2,4], Maria João Melo[2] and João A.P. Coutinho[1]

[1]CICECO - Aveiro Institute of Materials, Department of Chemistry, University of Aveiro, 3810-193 Aveiro, Portugal

[2]LAQV-REQUIMTE, Department of Conservation and Restoration, Faculdade de Ciências e Tecnologia, Universidade NOVA de Lisboa, 2829-516 Monte da Caparica, Portugal

[3]VICARTE, Department of Conservation and Restoration, Faculdade de Ciências e Tecnologia, Universidade NOVA de Lisboa, 2829-516 Monte da Caparica, Portugal

[4]Conservation Science Department, Deutsches Museum, Museumsinsel 1, 80538, Munich, Germany

O-138: Reductive Depolymerization of Polyesters and Polycarbonates with Hydroboranes by Using a Lanthanum(III) Tris(amide) Catalyst

Marie Kobylarski, Jean-Claude Berthet* and Thibault Cantat*

LCMCE/IRAMIS/NIMBE/CEA, CNRS, Université Paris-Saclay, CEA Saclay, 91191 Gif-sur-Yvette, France.

O-139: Poly(ethyleneterphtalate) and polyethylene targeted solubilization and recovery with green solvents

J. Afonso [1], S. Aparício and I.M. Marrucho[1,*]

[1]Centro de Química Estrutural and Departamento de Engenharia Química, Instituto Superior Técnico, Universidade de Lisboa, Avenida Rovisco Pais, 1049-001 Lisboa, Portugal

Session 20: Nanomaterials & Ionic liquids for advanced applications

O-140: Electroless plating on 3D printed photocurable resin artifacts without the use of chromium and palladium solutions

Antonios Bairamis[1]*, Katerina Mavronasou[1], Alexios Grigoropoulos[1], Evangelos Papaioannou[1], Ioanna Deligkiozi[1] and Alexandros Zoikis Karathanasis[1]

[1]Creative Nano PC, 4 Leventi Street, Peristeri, 12132 Athens, Greece

O-141: Robust flow synthesis of defect-incorporated ZnO quantum dots and investigation of their structure-property interlink

Sayoni Sarkar[1*], Ajit R. Kulkarni[2], and Rohit Srivastava[3]

[1]Centre for Research in Nanotechnology and Science, [2]Department of Metallurgical Engineering and Materials Science, [3]Department of Biosciences and Bioengineering, Indian Institute of Technology Bombay, Mumbai, 400076, India

O-142: Spatial Tracking of Li-ion Concentration using a Novel Fluorescent Optode for Applications in Li-ion Batteries

Haydn Francis [1,2] , Dr. Zachary Ruff[1,2], Dr. Zenon Toprakcioglu[1], Prof. Clare Grey[1,2], Prof. Hugo Bronstein[1,2,3]

[1]Yusuf Hamied Department of Chemistry, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom

[2]The Faraday Institution, Didcot, England, United Kingdom
[3]Cavendish Laboratory, Department of Physics, University of Cambridge, Cambridge, Cambridgeshire, United Kingdom

O-143: Development and Application of Chromogenic Ionic Liquid Crystals
Andreia F. M. Santos[1], Maria H. Godinho[2], J. L. Figueirinhas[3], Madalena Dionísio[1] and Luis C. Branco[1]*
[1]LAQV-REQUIMTE, Department of Chemistry, and [2]i3N/CENIMAT, Department of Materials Science, NOVA School of Science and Technology, NOVA University of Lisbon, Campus de Caparica, 2829-516 Caparica, Portugal; [3]CeFEMA and Department of Physics, Instituto Superior Técnico, University of Lisbon, Av. Rovisco Pais, 1, 1049-001 Lisbon, Portugal

O-144: Ionic Liquids-modified Metal Organic Frameworks: Preparation and Application in Adsorption
Aurelia Visa[1*], Bianca Maranescu[1,2] and Lavinia Lupa[3]
[1]"Coriolan Dragulescu" Institute of Chemistry, 24 Mihai Viteazul Blv, 300223 Timisoara, Romania
[2] Department of Biology-Chemistry, Faculty of Chemistry, Biology, Geography, West University Timisoara,16 Pestalozzi Street, 300115 Timisoara, Romania
[3] Faculty of Industrial Chemistry and Environmental Engineering, Politehnica University Timisoara,6 Vasile Parvan Blv, 300223 Timisoara, Romania

O-145: Bioinspired Dendritic Polymer Composites Combining Adsorption and Catalysis for Water Purification
Michael Arkas[1]*, Konstantinos Giannakopoulos[1], Nafsica Mouti[1], Marina Arvanitopoulou[1], Rafael Panagiotopoulos[1], Paraskevi Gkomoza[2], and Michail Vardavoulias[2]
[1]Institute of Nanoscience Nanotechnology, NCSR "Demokritos", Patriarchou Gregoriou Street, 15310 Athens, Greece
[2] PyroGenesis SA, Technological Park of Lavrion, 1 Athens-Lavrion Ave., 195 00 Lavrion, Greece

O-146: Tuning the surface chemistry of nanoporous activated carbons towards diesel fuel desulfurization
Eleni D. Salonikidou1, Dimitrios A. Giannakoudakis1, Margaritis Kostoglou1, Eleni A. Deliyanni1, Konstantinos S. Triantafyllidis1,2
1 Department of Chemistry, Aristotle University of Thessaloniki, University Campus, Thessaloniki, Greece
2 Center for Interdisciplinary Research and Innovation (CIRI-AUTH), Balkan Center, 10th km Thessaloniki-Thermi Rd, P.O. Box 8318, 57001 Thessaloniki, Greece

O-147: Plant based fabrication of CuO/NiO Nanocomposite: A Green Approach for Low-Level Quantification of Vanillin in Food Samples
Amber R. Solangi1*, Arfana Mallah2, Iqleem H.Taqvi3
1National Centre of Excellence in Analytical Chemistry, University of Sindh, 76080 Jamshoro, Pakistan
2M.A.Kazi Institute of Chemistry, University of Sindh, 76080 Jamshoro, Pakistan
3Dept. of Chemistry, Govt. College University Hyderabad, Pakistan

Session 21: Nanomaterials for energy & environment

O-148: Perovskite $BaTaO_2N$: A Promising Candidate for Solar Water Splitting
Mirabbos Hojamberdiev*
Institut für Chemie, Technische Universität Berlin, 10623 Berlin, Germany

O-149: Natural mineral lintisite as the base for the new range of functional materials

Galina O. Kalashnikova[1], Elena S. Zhitova[2], Ekaterina A. Selivanova[1], Yakov A. Pakhomovsky[1], Victor N. Yakovenchuk[1], Aiia V. Bazai[1], Taras L. Panikorovskii,Victor N. Korovin[1], Maria N. Timofeeva[3,4],
Anatoliy I. Nikolaev[1]
[1]Federal Research Center «Kola Science Center» RAS, 14 Fersman Street, 184209, Apatity, Russian Federation;
[2]Department of Crystallography, Faculty of Geology, St. Petersburg State University, 7–9 University Emb. Street,199034, St. Petersburg, Russian Federation;
[3]Boreskov Institute of Catalysis SB RAS, Prospekt Akad. Lavrentieva 5, 630090, Novosibirsk, Russian Federation;
[4]Novosibirsk State Technical University, Prospekt K. Marksa 20, 630092, Novosibirsk, Russian Federation

O-150: Green synthesis of nanosized energy storage electrode materials for lithium-ion batteries

Ahmed M. Hashem*
Inorganic Chemistry Department, National Research Centre, 33 El Bohouth St., (former El Tahrir St.), Dokki-Giza 12622, Egypt

O-151: Strengthing electrochemical performance of $LiNi_{0.8}Co_{0.1}Mn_{0.1}O_2$ cathode at ambient to elevated temperature by Hybride lithiated tin oxide ($Li_xSn_yO_z$) surface coating through Atomic layer deposition

Arka Saha[a*] , Malachi Noked [a*]
[a] Bar-Ilan Institute of Nanotechnology and Advanced Materials (BINA),Bar Ilan University, Ramat Gan, Israel

O-152: Galvanic-Replacement Enabled Synthesis of $In(OH)_3$/Au/C Nanocomposite and Its Photocatalytic Degradation of Methylene Blue

P. M. Wong[1], R. D. Tilley[2], J. C. Juan[3], J. C. Lai[4], T. H. Lim[1*],
[1]Faculty of Applied Sciences, Tunku Abdul Rahman University College, 53300, Kuala Lumpur, Malaysia
[2]School of Chemistry, University of New South Wales, Sydney, 2052 Australia
[3]Nanotechnology & Catalysis Research Centre, University of Malaya, 50603, Kuala Lumpur, Malaysia
[4]Biopolymer Research Group, School of Chemical and Energy Engineering, Universiti Teknologi Malaysia, Skudai 81310, Malaysia

O-153: Au-Cu_{2-x}Te disk-on-dot Hetero-nanostructure Photoelectrocatalysts

Suvodeep Sen and Narayan Pradhan*
School of Materials Sciences, Indian Association for the Cultivation of Science, Kolkata, West Bengal, India

O-154: Synergistic Effect of Metal Complex and Dual Doped Graphitic Carbon Nitride for Superior Photocatalytic Hydrogen Evolution

Bishal Das, Meghali Devi, Siddhartha Sankar Dhar[1]
Department of Chemistry, National Institute of Technology, Silchar

O-208: Anchoring of Chiral Nematic Photonic Films of Organic Acid Doped Cellulose Nanocrystals in Biocomposites laminates

Chhavi Verma[1] and Pradip K Maji*
Department of Polymer and Process Engineering, Indian Institute of Technology Roorkee, Saharanpur Campus, Saharanpur, 247001, U.P., India

Session 22: Biobased monomers, polymers & composites (II)

O-155: Synthesis of biobased polymers based on isohexide building blocks

Antonios Vasileiadis Vasileiou [1], Valerio Zullo[2], Christopher – Peter Kelevendjiev [1], Mitchell Glas [1,3,4], Katja Loos [1]
[1] Department of Macromolecular Chemistry and New Polymeric Materials, Zernike Institute of Advanced Materials, University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands
[2] University of Pisa – Department of Chemistry and Industrial Chemistry, Va Moruzzi 13, 56124 Pisa, Italy

[3] Van Hall Larenstein University of Applied Sciences, Agora 1, 8934 CJ Leeuwarden, The Netherlands
[4] NHL Stenden University of Applied Sciences, Rengerslaan 8, 8917 DD Leeuwarden, The Netherlands

O-156: Fully lignocellulose-based PET analogues for the circular economy

Xianyuan Wu[1] and Katalin Barta*
[1]Stratingh Institute for Chemistry, University of Groningen, Groningen, The Netherlands

O-157: Greener Enzymatic Synthesis of Levoglucosenone-based Polymers

Cicely M. Warne[1]*, Sami Fadlallah[2], Florent Allais[2], Georg M. Guebitz[1, 3], Alessandro Pellis[3, 4]
[1]Austrian Centre of Industrial Biotechnology (ACIB), Konrad-Lorenz-Strasse 20, 3430 Tulln an der Donau, Austria.
[2]URD Agro-Biotechnologies Industrielles (ABI), CEBB, AgroParisTech, Pomacle 51110 France
[3]Institute of Environmental Biotechnology, University of Natural Resources and Life Sciences Vienna, Konrad-Lorenz-Strasse 20, 3430 Tulln an der Donau, Austria.
[4]Universitá di Genova, Dipartimento di Chimica e Chimica Industriale, via Dodecaneso 31, 16146, Genova (GE), Italy

O-158: Degradable Cross-linked Polyesters: Resins to be Cheerful

Theona Şucu[1,2] and Michael P. Shaver[1,2]*
[1]Department of Materials, School of Natural Sciences, University of Manchester, Manchester, M1 3BB, United Kingdom
[2]Henry Royce Institute, University of Manchester, Sustainable Materials Innovation Hub, Manchester, M13 9BL, United Kingdom

O-159: D-xylose for a versatile class of bioplastics with tunable properties

Marco Piccini* and Antoine Buchard
Centre for Sustainable and Circular Technologies, Dept. of Chemistry, University of Bath, Bath BA2 7AY, United Kingdom

O-160: Synthesis, aging and antibacterial tests of di(meth)acrylate composites

Karolina Młynarczyk[1]*, Beata Podkościelna[1] and Magdalena Jaszek[2]
[1] Department of Polymer Chemistry, Maria Curie-Skłodowska University in Lublin, Gliniana 33, Pl-20614 Lublin, Poland
[2] Department of Biochemistry and Biotechnology, Maria Curie-Skłodowska University in Lublin, Akademicka 19, Pl-20033 Lublin, Poland

O-161: Biobased monomers and polymers from lignin and cellulose

Kei. Saito*
Graduate School of Advanced Integrated Studies in Human Survivability
Kyoto University
Higashi-Ichijo-Kan, Yoshida-nakaadachicho 1, Sakyo-ku, Kyoto, 606-8306, Japan

O-211: Synthesis of renewable diblock copolymers by aqueous RAFT polymerisation induced self-assembly of lactic acid-based monomers

Sarah E. Woods[1], James D.Tinkler[1], Nabil Bensabeh[2], Marc Palà[2], Simon. J. Martin[1], Gerard Lligadas[2*] and Fiona L. Hatton[1*]
[1]Department of MATERIALS, Loughborough University, Epinal Way, Loughborough, Leicestershire, UK, LE11 3TU

[2]Laboratory of Sustainable Polymers, Department of Analytical Chemistry and Organic Chemistry, University Rovira i Virgili, C/ Marcel.lí Domingo 1, 43007 Tarragona, Spain

O-212: Biobased Boronic Ester Vitrimer Resin from Epoxidized Linseed Oil for Recyclable Carbon Fiber Composites

Davide Sangaletti[a], Arkadiusz Zych[a], Luca Ceseracciu[a,b], Lara Marini[a], Athanassia Athanassiou[a]
[a]Smart Materials, Istituto Italiano di Tecnologia (IIT), via Morego 30, 16163 Genoa, Italy
[b]Materials Characterization Facility, Istituto Italiano di Tecnologia (IIT), via Morego 30, 16163 Genoa, Italy

Session 23: Bio-catalysis & bio-processes

O-162: Silymarin derivatization using biocatalytic system based on cold-active lipase biocatalyst

Gheorghita G.R.[1], Ion S.[1], Ftodiev A.[1], Paun I.[2], Purcarea C.[2], Tudorache M.[1]*
[a] Department of Organic Chemistry, Biochemistry and Catalysis, Faculty of Chemistry, University of Bucharest, Romania
[b] Institute of Biology Bucharest of the Romanian Academy, Bucharest, Romania

O-163: Immobilised pyridoxal for enzyme mimetic chemical transformation

Shakeela Sayed, Thaakirah Phillips and Anwar Jardine[1]
[1]University of Cape Town, Department of Chemistry, Rondebosch, South Africa

O-164: Enzymatic Preparation of Lipophilic Derivatives of Hydroxytyrosol with Enhanced Oxidative Stability

Renia Fotiadou, Dimitrios C. Lefas, Stamatia Spyrou, Angeliki C. Polydera, Haralambos Stamatis*.
Laboratory of Biotechnology, Department of Biological Applications and Technologies, University of Ioannina, 45110 Ioannina, Greece

O-165: Synthesis of novel rearranged stemodane diterpenoids and their biotransformation by Exophiala lecanii-corni

Ricaldo K. Pryce[1] and Paul B. Reese[2*]
Department of Chemistry, The University of the West Indies, Mona, Kingston 7, Jamaica.

O-166: DES-based biocatalysis for menthol derivatization

Ciorici A.M., Sabina I., Parvulescu V.I., Tudorache M.*
Department of Organic Chemistry, Biochemistry and Catalysis, Faculty of Chemistry, University of Bucharest, Sos. Panduri, No. 90-92, sector 5, Bucharest, Romania

O-167: Magnetic nanoparticles in the synthesis of biocatalysts based on enzymes from vegetable raw materials

Grebennikova O.V.*, Sulman A.M., Matveeva V.G.
Tver State Technical University, Dept. of biotechnology chemistry and standartization, A. Nikitin str., 22, Tver, 170026, Russia

O-168: Reactive natural deep eutectic solvents as essential reaction media for lipase catalyzed carbohydrate esterification

Carmen Gabriela Boeriu[1,2*], Alina Ramona Buzatu[1,3], Ioan Bîtcan[1], Diana Maria Dreavă[1], Anamaria Todea[1], Francisc Peter[1]
[1] Faculty of Industrial Chemistry and Environmental Engineering, Polytechnic University Timisoara, Romania
[2]Wageningen Food & Biobased Research, Wageningen, The Netherlands
[3]Department of Biochemistry and Pharmacology,"Victor Babes" University of Medicine and Pharmacy, Timisoara, Romania

Session 24: Alternative fuels, biofuels, Green Energy

O-169: Fluidized bed gasification of solid digestate from anaerobic digestion plants – The THERMODIGESTATE project

Markos Charsoulas[1], Dimitrios Mertzis[1]*, Stefanos Tsiakmakis[1], Zissis Samaras[2]
[1]Bio-based Energy Technologies PC, Ant. Tritsi 21, 55535 Thessaloniki Greece
[2]Lab of Applied Thermodynamics, Faculty of Engineering, Mech. Eng. Dpt., Aristotle University Thessaloniki, Greece

O-170: Design approaches and mechanistic insights of molecular metal chalcogenides as H_2 evolution catalysts

Alexander Elliott[1], James McAllister[1], Alexey Ganin[1], Nuno A. G. Bandeira,[3] Carles Bo[2], and Haralampos N. Miras[1*]
[1] WestCHEM, School of Chemistry, The University of Glasgow, Glasgow G12 8QQ (UK). [2] Institute of Chemical Research of Catalonia (ICIQ), The Barcelona Institute of Science and Technology, Avgda. Països Catalans 16, 43007 Tarragona, Spain. [3] BioISI – BioSystems and Integrative Sciences Institute, Faculdade de Ciências da Universidade de Lisboa, Campo Grande, 1749-016 Lisboa, Portugal

O-171: Flame Spray Pyrolysis as a Synthesis Platform to Assess Metal Promotion in In_2O_3-Catalyzed CO_2 Hydrogenation

Thaylan Pinheiro Araújo[1], Jordi Morales-Vidal[2], Tangsheng Zou[1], Rodrigo García-Muelas[2], Patrik O. Willi[1], Konstantin M. Engel[1], Olga V. Safonova[3], Dario Faust Akl[1], Frank Krumeich[1], Robert N. Grass[1], Cecilia Mondelli[1], Núria López[2]*, Javier Pérez-Ramírez[1]*
[1]Institute of Chemical and Bioengineering, Department of Chemistry and Applied Biosciences, ETH Zurich, Vladimir-Prelog-Weg 1, 8093 Zurich, Switzerland
[2]Institute of Chemical Research of Catalonia (ICIQ), The Barcelona Institute of Science and Technology, Av. Països Catalans 16, 43007 Tarragona, Spain
[3]Paul Scherrer Institute, Forschungsstrasse 111, 5232 Villigen, Switzerland

O-172: Combustion induced multicomponent Cu based catalysts for CO/CO_2 hydrogenation to methanol in three-phase system: Experimental and Theoretical Insights

Vaibhav Pandey[1], K.K. Pant[2]*, Sreedevi Upadhyayula
Department of Chemical Engineering, Indian Institute of Technology Delhi, 110016, India

O-173: Plasma assisted conversion of CO_2 and CH_4 over promoted catalysts: Comprehension of surface effects

Shengfei Wang[1] Vandad Rohani [1*], Tongqi Ye [2], Paul Dupont [1], Sylvain Pagnon [1], Laurent Fulcheri [1]
[1]MINES ParisTech, PSL University, Centre Procédés Energies Renouvelables et Systèmes Energétiques (PERSEE), 06904 Sophia Antipolis, France
[2]Anhui Province Key Laboratory of Advanced Catalytic Materials and Reaction Engineering, School of Chemistry and Chemical Engineering, Hefei University of Technology, Hefei, Anhui, 230009 P.R. China

O-174: Tuning the structural and catalytic active sites of TiO_2/CeO_2 for CO_2 conversion to synthesize a green fuel additive

Praveen Kumar[1,*], Urška Lavrenčič Štangar
[1]Faculty of Chemistry and Chemical Technology, University of Ljubljana, 1000 Ljubljana, Slovenia

O-175: Single step synthesis of bio-inspired NiO/C as Pd support catalyst for direct ethanol fuel cell application

Xolile Fuku [*a,] Mmalewane Modibedi[b,] Nolubabalo Matinise[c], Mkhulu Mathe[a]
[a]Institute of Nanotechnology and Water Sustainability, College of Science, Engineering and Technology, University of South Africa, Florida Science Campus, 1710, South Africa

[b]CSIR Energy Materials, PO Box 395, Pretoria 0001, South Africa
[c]Nanosciences African Network (NANOAFNET), Materials Research Department, iThemba LABS-National Research Foundation of South Africa, Old Faure Road, South Africa

Friday 9th September 2022

PL9: Enhancing the Circular Economy in the Water Sector by Addressing the Chemical Contaminants of Concern Present in Wastewater
Despo Fatta-Kassinos
University of Cyprus, Cyprus

KN15: Green Analytical Chemistry and Circularity: towards more sustainable processes, materials and outcomes
Vânia G. Zuin Zeidler[1-3]
[1]Institute of Sustainable Chemistry, Leuphana University Lüneburg, Germany
[2]Green Chemistry Centre of Excellence, University of York, UK
[3]Department of Chemistry, Federal University of São Carlos, Brazil

KN16: Green chemistry and computational chemistry: a wealth of promising synergies
Liliana Mammino*
*University of Venda, University Road, Thohoyandou 0950, South Africa

Session 25: Green Analytical Chemistry - (Eco)Toxicology

O-176: Green extraction and quantification of zeaxanthin and lutein in corn grains and their associated by-products
Ariadne M. Carneiro,[1] Bruna R. Lima,[1] Lucas A. Chibli,[1] Renato L. Carneiro[2] and Cristiano S. Funari[1]*
[1]Green Biotech Network, São Paulo State University, Av. Universitária, 3780, CEP 18605-525, Botucatu, São Paulo, Brazil
[2]Department of Chemistry, Federal University of São Carlos, Rod. Washington Luiz, s/n, CEP 13565-905, São Carlos, São Paulo, Brazil

O-177: A green analytical method to characterize unsaturated hydrocarbons in waste polyolefin pyrolysis oil using FTIR
Trang Thi Bui, Sven Janssens, Pieter Billen, Christophe Vande Velde, and Serge M.F. Tavernier*
iPRACS group, Faculty of Applied Engineering, University of Antwerp, Antwerp, Belgium

O-178: Insights into ecotoxicity of flavonoids and their mixtures
Lena Schnarr[1]*, Oliver Olsson[1] and Klaus Kümmerer[1]
[1]Institute of Sustainable Chemistry, Leuphana University Lüneburg, Universitätsallee 1, 21335 Lüneburg, Germany

O-179: bio-Profiles of Chemical Reactions
Ksenia S. Egorova[1]* and Valentine P. Ananikov[1]*
[1] N.D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, Leninsky prospect 47, Moscow, Russia 119991

O-180: Transformation Products of Sulfonamides in aquatic Systems: What can we learn from available environmental Fate and Behaviour data?
Neele Puhlmann[1], Oliver Olsson[1], and Klaus Kümmerer[1]*
[1]Leuphana University Lüneburg, Universitätsallee 1, 21335 Lüneburg, Germany

O-181: Determination of olive oil aroma profile using Hisorb-TD-GC/MS
Panagiota Fella, Marinos Stylianou, Agapios Agapiou*
Department of Chemistry, University of Cyprus, P.O.Box 20537, 1678 Nicosia, Cyprus

O-182: Mapping VOCs from different soils of Cyprus vineyards using HS-SPME-GC/MS analysis
Kyriaki Kaikiti[1], Michalis Omirou[2], Savvas Savvides[2], Ioannis M. Ioannides[2], Agapios Agapiou*[1]
[1] Department of Chemistry, University of Cyprus, P.O.Box 20537, 1678 Nicosia, Cyprus
[2] Department of Agrobiotechnology, Agricultural Research Institute, P.O.Box 22016, Nicosia 1516, Cyprus

O-183: Evaluation of efficacy of ZnO nanoparticles as nanofertilizers: An alternative agriculture approach
Arfana Mallah*1,2 , Bindia Junejo3 , Amber R. Solangi3 , Iqleem H.Taqvi4
1 Department of Chemistry, Norwegian University of Science and Technology (NTNU), Trondheim, Norway
2 Dr. M.A. Kazi Institute of Chemistry, University of Sindh Jamshoro
3 National Centre of Excellence in Analytical Chemistry, University of Sindh, Jamshoro, 7608, Pakistan
4 Department of Chemistry ,Government College University Hyderabad, Pakistan

O-215: Spatial variation of heavy metals and pathogenic enteric bacterial isolated in coastal surface waters of Davao city and Igacos: an evaluation of its source, environmental impact and risks to human health
Venchie C. Badong; Adorico M. Aya-ay; Maria Cleofe N. Badang; Valerie L. Fernandez; Rachel C. Duarte; Maria Theresa C. Baslot
University of the Immaculate Conception

Session 26: Pollution prevention & remediation

O-184: Asymmetric poly(ionic liquid)–ionic liquid membranes for gas separation
Bruna F. Soares[1] and Isabel M. Marrucho[1,]*
[1]Centro de Química Estrutural and Departamento de Engenharia Química, Instituto Superior Técnico, Universidade de Lisboa, Avenida Rovisco Pais, 1049-001 Lisboa, Portugal

O-185: Fast peroxydisulfate oxidation of the antibiotic Norfloxacin catalyzed by cyanobacterial biochar
Chen Wang[1*], Hans Christian Bruun Hansen[1], Mogens Larsen Andersen[2], Bjarne W. Strobel[1], Hui Ma[1], Nadia Dodge[2], Poul Erik Jensen[2], Peter E. Holm[1]
[1]Department of Plant and Environmental Sciences, University of Copenhagen, Thorvaldsensvej 40, DK-1871 Frederiksberg C, Denmark
[2]Department of Food Science, University of Copenhagen, Rolighedsvej 26, DK-1958 Frederiksberg C, Denmark

O-186: New biodegradable metal complex for photo-Fenton like processes at neutral pH
P. Prete [1*], A. Fiorentino[1], L. Rizzo[2], A. Proto[1], R. Cucciniello[1]
[1] Dep. Chemistry and Biology, University of Salerno, Via Giovanni Paolo II, 132 – 84084 Fisciano (SA), Italy
[2] Dep. Civil Engineering, University of Salerno, Via Giovanni Paolo II, 132 – 84084 Fisciano (SA), Italy

O-187: Reduce greenhouse gas emissions by optimizing wastewater treatment plants

Maria Cristina Collivignarelli [1,2], Marco Carnevale Miino [1]*, Vincenzo Torretta [3], Elena Cristina Rada [3], Ioannis A. Katsoyiannis [4], Lucian-Ionel Cioca [5] and Sabrina Sorlini [6]
[1] Department of Civil Engineering and Architecture, University of Pavia, via Ferrata 3, 27100 Pavia, Italy
[2] Interdepartmental Centre for Water Research, University of Pavia, Via Ferrata 3, 27100 Pavia, Italy
[3] Department of Theoretical and Applied Sciences, Insubria University of Varese, Via G.B. Vico 46, 21100 Varese, Italy
[4] Laboratory of Chemical and Environmental Technology, Department of Chemistry, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece
[5] Industrial Engineering and Management Department, Faculty of Engineering, Lucian Blaga University of Sibiu, 10 Victoriei Blv., 550024 Sibiu, Romania
[6] Department of Civil, Environmental, Architectural Engineering and Mathematics, University of Brescia, via Branze 43, 25123 Brescia, Italy

O-188: Designing of thiourea-functionalized chitosan aerogels for deep cleaning of wastewaters containing heavy metal ions

Claudiu-Augustin Ghiorghita*, Maria Marinela Lazar, Ioana Victoria Platon, Maria Valentina Dinu
”Petru Poni” Institute of Macromolecular Chemistry, Grigore Ghica Vodă Alley. 41A, Iasi 700487, Romania

O-189: A potential biotechnological approach to recover technology-critical elements from complex aqueous mixtures

Thainara Viana[1*], Bruno Henriques[1], Nicole Ferreira[1], João Pinto[1], Daniela Tavares[1], João Colónia[1], Jéssica Jacinto[1], and Eduarda Pereira[1,2]
[1] Departament of Chemistry, LAQV-REQUIMTE, University of Aveiro, 3810-193 Aveiro, Portugal
[2] LCA, Department of Chemistry, University of Aveiro, Aveiro, Portugal

O-190: Continuous Adsorption Process for Cr(VI) on Hydrothermally Treated Chitosan/Polyvinyl Alcohol Beads

Eylul Kosoglu[1] and Yasar A.Aydin[1]*
[1]Marmara University,Faculty of Engineering, Chemical Engineering Dpt., Basibuyuk, 34854 Maltepe, Istanbul, Turkey

O-191: Effect of Blending Methanol with Gasoline on the Exhaust Emissions

S.Safwat[1], Manal Amine[2], V.Ibrahim*[2], and Y.barakat[2]
[1]Faculty of science, Alexandria University, Egypt
[2]Egyptian Petroleum Research Institute, Nasr City, Cairo, Egypt

O-192: One-pot solvent-free synthesis of renewable plasticizer alcohols/bio-oil from wastewater grown microalgal biomass via. in-situ crystallization of hydroxyapatite

Vivek Suresh Dalvi*, Farah Naaz, Anushree Malik
Applied Microbiology Lab, Centre for Rural Development and Technology, Indian Institute of Technology, Delhi, 110016

Session 27: Computational chemistry

O-193: A Computational and Testing Toolbox Towards Safe and Sustainable by Design Chemicals

Denis A. Sarigiannis[1,2,3*], Spyros P. Karakitsios[1,2,4] and Antonios Gypakis[5]
[1]HERACLES Research Center on the Exposome and Health, Center for Interdisciplinary Research and Innovation, Aristotle University of Thessaloniki, 10 km Thessaloniki-Thermi Road, Greece
[2]Environmental Engineering Laboratory, Department of Chemical Engineering, Aristotle University of Thessaloniki, University Campus, Thessaloniki, Greece
[3]Environmental Health Engineering Laboratory, Science, Technology and Society Department, Institute for Advanced Study IUSS, Pavia, Italy
[4]ENVE.X P.C., Kalamaria, Greece
[5]Ministry of Development and Investments, General Secretariat for Research and Innovation, Athens, Greece

O-194: Experiment-based parameter estimation of an amine solvent for CO_2 hydrogenation using hybrid Gaussian Process Bayesian Optimization

Changsoo Kim[1], Hee Won Lee[1], and Ung Lee[1]*
[1]Korea Institute of Science and Technology, Seoul 02792, Republic of Korea

O-195: Machine Learning Assisted Modeling of Interfacial Tension in the System N_2/Brine

G. Reza Vakili-Nezhaad[1*], Adel Al Ajmi[1], Ahmed Al Shaaili[1], Farzaneh Mohammadi[2], and Alireza Kazemi[1]
[1]Petroulum & Chemical Engineering Department, College of Engineering, Sultan Qaboos University, Muscat 123, Oman
[2]Department of Environmental Health Engineering, School of Health, Isfahan University of Medical Sciences (MUI), Isfahan, Iran

O-196: Computational eco-design and screening of biodegradable renewable polyesters

Anamaria Todea[1*], Danilo Di Stefano,[2] Sara Fortuna[1], Fioretta Asaro[1], Federico Zappaterra[1], Lucia Gardossi[1]
[1]Dipartimento di Scienze Chimiche e Farmaceutiche, Universita' degli Studi di Trieste, Piazzale Europa 1, 34127, Trieste, Italy
[2]ESTECO SpA, Trieste, Italy

O-197: Developing Machine Learning Coupled with Group Contribution Models for the Prediction of Densities of Deep Eutectic Solvents

Reza Haghbakhsh[1,2], AhmadReza Roosta[3], Ana Rita C. Duarte[2] and Sona Raeissi[3]*
[1] Department of Chemical Engineering, Faculty of Engineering, University of Isfahan, 81746-73441, Isfahan, Iran
[2] LAQV, REQUIMTE, Departamento de Química da Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, 2829-516 Caparica, Portugal
[3] School of Chemical and Petroleum Engineering, Shiraz University, Shiraz 71345-51154, Iran

Session 28: Sponsors & Publishers

List of posters

Tuesday 6th September 2022 (Poster Session I)

Green solvents – Safe reagents and chemicals – Sustainable organic synthesis

Development of a biographene-polylactic acid hybrid material as support for enzyme immobilization
Gkantzou E.[1], Alatzoglou Ch.[1], Patila M.[1], Polydera A.C.[1], Spyrou K.[2], Gournis D.[2], Stamatis H.[1*].
[1]Laboratory of Biotechnology, Department of Biological Applications and Technologies, University of Ioannina, Ioannina, Greece
[2]Department of Materials Science and Engineering, University of Ioannina, Ioannina,
Greece

Dimethyl isosorbide via dimethyl carbonate chemistry: scaling-up, purification and concurrent reaction pathways
Mattia Annatelli,[a*] Davide Dalla Torre,[a] Fabio Aricò[a]
[a] Department of Environmental Science, Informatics and Statistics, Ca' Foscari University of Venice (IT).

Acidic deep eutectic solvents-based efficient oxidative extractive desulfurization of fuel oil
Boyeon Bae[1] ,Seulgi Kang[1] , Ke Li[1] , Yua Kang[1] , Danbi Won[1] , Jeongmi Lee[1]*
[1]School of Pharmacy, Sungkyunkwan University, Suwon, 16419, Republic of Korea

An Eco-Friendly Preparations of Pyridoxal Oxime Quaternary Salts in Deep Eutectic Solvents
Valentina Bušić, Dajana Gašo-Sokač, Mario Komar and Maja Molnar
Faculty of Food Technology Osijek, Franje Kuhača 18, 31000 Osijek, Josip Juraj Strossmayer University of Osijek, Croatia

Multi gram scale synthesis of HMF and comparative environmental evaluation
Beatriz Chícharo*, Giacomo Trapasso, Mattia Annatelli, Davide Dalla Torre, Giovanna Mazzi, Fabio Aricò
[1]Department of Environmental Science, Informatics and Statistic/Ca'Foscari University, Venice

Nanoarchitectonics of phosphorylated graphitic carbon nitride for sustainable, selective and metal-free synthesis of primary amides
Priyanka Choudhary, Ajay Kumar and Venkata Krishnan*
School of Basic Sciences and Advanced Materials Research Center, Indian Institute of Technology Mandi, Kamand, Mandi 175075, H.P., India.

A greener approach towards coumarin analogues via Natural Deep Eutectic Solvent-mediated Suzuki-Miyaura coupling

Annita Katopodi[1] and Anastasia Detsi[1]*
[1]Laboratory of Organic Chemistry, School of Chemical Engineering, National Technical University of Athens, Zografou Campus, Athens, Greece

Development of bioactive chitosan-based hydrogels using Natural Deep Eutectic Solvents (NADES) as dissolution and gelating agents
Pitterou I.[1], Ntirogianni A.[1], Tzani A.[1], Tsiantas K.[2], Batrinou A.[2], Zoumpoulakis P.[2], Detsi A.[1]*
[1]Laboratory of Organic Chemistry, School of Chemical Engineering, National Technical University of Athens, Zografou Campus, 15780, Athens, Greece
[2]Laboratory of Chemistry, Analysis and Design of Food Processes, Department of Food Science and Technology, University of West Attica, Ag. Spyridonos, 12243 Egaleo, Athens, Greece

Natural Deep Eutectic Solvents (NADES) as green alternative solvents for the extraction of bioactive compounds from Greek wild rose (Rosa canina L.) rosehip shells (hypanthia)
Tzani A.[1], Kalafateli S.[1], Karadendrou M.A.[1], Katopodi A.[1], Kostopoulou I.[1], Bobolou D.[1], Bon A.[1],
Nanou D.[1], Kalantzi S.[2], Lemoni, Z.[2], Mamma D.[2], Maloupa E.[3], Papanastasi K.[3], Grigoriadou K.[3], Krigas N.[3], Papadopoulou A.[4], Kletsas D.[4], Samanidis I.[5], Aggeli K.[5], Stavropoulos G.[5], Detsi A.[1]*
[1]Laboratory of Organic Chemistry, School of Chemical Engineering, National Technical University of Athens, Zografou Campus, 15780 Athens, Greece
[2] Biotechnology Laboratory, School of Chemical Engineering, National Technical University of Athens, Zografou Campus, 15780 Athens, Greece
[3] Institute of Plant Breeding and Genetic Resourses, Balkan Botanic Garden of Kroussia, HAO-DEMETER, Leoforos Georgikis Sxolis, 570 01,Thermi, Thessaloniki, Greece
[4] Laboratory of Cell Proliferation and Ageing, Institute of Biosciences and Applications, National Centre for Scientific Research “Demokritos”, 15341 Athens, Greece
[5] KORRES SA-NATURAL PRODUCTS , 57th Km Athens- Lamia Road, Oinofita Viotia

Visible Light-Mediated In Situ Generation of δ,δ-Disubstituted p-Quinone Methides: Construction of a Sterically Congested Quaternary Stereocenter
Vikas Dixit, Nidhi Jain*
*Department of Chemistry, Indian Institute of Technology, Delhi, India

Bioactive chemical space exploration via greener multicomponent reactions
Mariana Ingold[1], Victoria de la Sovera[1,2], Rosina Dapueto[3], Paola Hernández[4], Williams Porcal[1,2*], Gloria V. López[1,2*].
[1]Laboratorio de Desarrollo de Fármacos y Biología Vascular, Institut Pasteur Montevideo, Mataojo 2020, 11400, Montevideo, Uruguay.
[2]Departamento de Química Orgánica, Facultad de Química, Universidad de la República, Av. General Flores 2124, 11800, Montevideo, Uruguay.
[3]I+D Biomédico, Centro Uruguayo de Imagenología Molecular, Montevideo, Uruguay.
[4] Departamento de Genética, Instituto de Investigaciones Biológicas Clemente Estable, Montevideo, Uruguay.

A Comprehensive Screening Investigation on using Group Contribution Models for Estimation of the Critical Properties of Deep Eutectic Solvents
Reza Haghbakhsh[1,2], Mohammad Reza Izadi[3], Ana Rita C. Duarte[2] and Sona Raeissi[3]*
[1]Department of Chemical Engineering, Faculty of Engineering, University of Isfahan, 81746-73441, Isfahan, Iran
[2]LAQV, REQUIMTE, Departamento de Química da Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, 2829-516 Caparica, Portugal
[3]School of Chemical and Petroleum Engineering, Shiraz University, Shiraz 71345-51154, Iran

In situ generated chloride, bromide and iodide as catalysts for the oxidation of benzyl halides to benzoic acids in alkaline water using TBHP as oxidant
Parul Saini[1].and Anil J Elias[1] *
[1]Department of Chemistry, Indian Institute of Technology, Delhi, Hauz Khas, New Delhi, 110016, India.

Nickel Phosphide Supported on Graphitic Carbon Nitride as Non-Noble Metal Catalyst for Reductive Amination of Carbonyl Compounds by Transfer Hydrogenation

Devendra Sharma, Priyanka Choudhary and Venkata Krishnan*
School of Basic Sciences and Advanced Materials Research Center, Indian Institute of Technology Mandi, Kamand, Mandi 175075, H.P., India.

CO_2/CH_4 selective hollow fiber and flat sheet membranes based on green solvent

George V. Theodorakopoulos[1,2,*], Dionysios S. Karoussos[1], Andreas A. Sapalidis[1] and Evangelos P. Favvas[1]
[1]Institute of Nanoscience and Nanotechnology, National Center for Scientific Research "Demokritos", Aghia Paraskevi 15341, Athens, Greece
[2]School of Chemical Engineering, National Technical University of Athens,9 Iroon Polytechniou street, 15780 Zografou, Athens, Greece

'On-Water' directing groups assisted C–H bond functionalization of ferrocene derivatives

Ashutosh Verma[1] and Anil J. Elias[1]*
[1]Department of Chemistry, Indian Institute of Technology Delhi, Hauz Khas, New Delhi, India

Aerobic and Catalyst-free Oxidation of Aldehydes to Acids Promoted by Sunlight or UVA-light

*Charikleia S. Batsika,[1] Charalampos Koutsilieris,[1] Giorgos S. Koutoulogenis,[1] Maroula G. Kokotou,[2] Christoforos G. Kokotos[1] and George Kokotos[1]**
[1]Department of Chemistry, National and Kapodistrian University of Athens, Panepistimiopolis, Athens 15771, Greece
[2]Department of Food Science and Human Nutrition, Agricultural University of Athens, Iera Odos 75, Athens 11855, Greece

Novel phosphate-containing imidazoles as potential green biologically active substrates

Valentina K. Yu[1], Altynay B. Kaldybayeva[1,2], Aigul Ye. Malmakova[1], Kaldybai D. Praliyev[1], Malika D. Khaiitova[3]*
[1]JSC «A.B. Bekturov Institute of Chemical Sciences», 106 Ualikhanov St., Almaty, Kazakhstan
[2]Al-Farabi Kazakh National University, 71 al-Farabi Ave, Almaty, Kazakhstan
[3]C.D.Asfendiyarov Kazakh National Medical University; 94 Tole Bi St., Almaty, Kazakhstan

DMAP-catalyzed synthesis of quinazolinedione and derivatives via alpha-chloroaldoxime O-methanesulfonates and 2-(benzylamino)benzoic acids

Kaewman W.[1], Kaeobamrung J.[2]*
Division of Physical Science and Center of Excellence for Innovation in Chemistry, Prince of Songkla University, 15 Kanjanavanit Road, Kohong, Hat-Yai, Songkhla 90112, Thailand

Solubility of *Moringa oleifera* L. seed in SFE-CO_2: a response surface methodology analysis

Júlia C. Kessler[1,2,3], Isabel M. Martins[1,2], Yaidelin A. Manrique[1,2], Alírio E. Rodrigues[1,2], Maria Filomena Barreiro[3], Madalena M. Dias[1,2]*
[1] LSRE-LCM - Laboratory of Separation and Reaction Engineering - Laboratory of Catalysis and Materials
Faculdade de Engenharia, Universidade do Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal
[2]ALiCE - Associate Laboratory in Chemical Engineering Faculdade de Engenharia, Universidade do Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal
[3]Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal

Natural product derivatives through organic synthesis as enhanced antioxidant agents

Matsia S.[1*] Hatzidimitriou A.[2] Salifoglou A.[1]

[1]Laboratory of Inorganic Chemistry and Advanced Materials, School of Chemical Engineering, Aristotle University of Thessaloniki, Thessaloniki 54124, Greece

[2]Laboratory of Inorganic Chemistry, Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki 54124, Greece

Synthesis of new succinimide derivatives with potential anticonvulsant activity

Szymon Jarzyński1, Anna Rapacz2, Elżbieta Pękała2, Bogna Rudolf1*

1Faculty of Chemistry, University of Lodz, Tamka 12, 91403 Łódź, Poland

2Faculty of Pharmacy, Jagiellonian University, Medyczna 9, 30688 Kraków, Poland

Aerobic waste-minimized Pd-catalysed C–H alkenylation in GVL using a tube-in-tube heterogeneous flow reactor

Luigi Carpisassi[1], Francesco Ferlin, Ioannis Anastasiou and Luigi Vaccaro*

[1]Laboratory of Green Synthetic Organic Chemistry (Green S.O.C.) Department of Chemistry, Biology and Biotechnology Università Degli Studi di Perugia, Via Elce Di Sotto 8 06123-Perugia, Italy

Waste Minimized β-Azidation reaction of α,β-unsaturated carbonyl compounds catalyzed by POLITAG-M-F in azeotrope CH_3CN:H_2O under batch and continuous flow condition.

Gabriele Rossini [1] Giulia Brufani, [1] Federica Valentini, [1] Lucia Rosignoli [1] Luigi Vaccaro*[1]

Laboratory of Green Synthetic Organic Chemistry (Green SOC), Università degli Studi di Perugia, Dipartimento di Chimica, Biologia e Biotecnologie, Via Elce di Sotto 8, 06123 Perugia (PG), Italia

Density and Refractive Index of Binary Ionic Liquid Mixtures with Common Cations/Anions: Measurement and Modelling

G. Reza Vakili-Nezhaad[1*], M. Mohammadzaheri[2,3], F. Mohammadi[4], and Mohammed Humaid[1]

[1]Petroulum & Chemical Engineering Department, College of Engineering, Sultan Qaboos University, Muscat 123, Oman

[2]Department of Mechanical & Industrial Engineering, College of Engineering, Sultan Qaboos University, Muscat 123, Oman

[3]Birmingham City University, Birmingham, United Kingdom

[4]School of Health, Isfahan University of Medical Sciences (MUI), Isfahan, Iran

A novel approach towards expanding the utility of Deep eutectic solvents as a biocompatible co-solvent for α-chymotrypsin.

Niketa Yadav, Pannuru Venkatesu*

Department of Chemistry, University of Delhi, Delhi, India.

Total synthesis of (-)-agelastatin A via photochemical transformation of pyridinium salt and early-stage enzymatic resolution

João R. Vale[1,2*] Milene Fortunato[1], Filipa Siopa[1] and Carlos A. M. Afonso[1]

[1]iMed.ULisboa, Faculty of Pharmacy, University of Lisbon, Av. Prof. Gama Pinto, 1649-003 Lisbon, Portugal; [2]Faculty of Engineering and Natural Sciences, Tampere University, Korkeakoulunkatu 8, 33101 Tampere, Finland

Green Synthetic Transformation of Benzimidoyl-cyanides to the Valuable Intermediates Alkyl-N-pyridin-2-yl-benzimidates

Andriani G. Chaidali and Ioannis N. Lykakis

Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki, Greece

Valorization of renewable and natural resources

Phenol-formaldehyde resins based on lignin functionalized with succinic anhydride
Emanuela Bellinetto[1*] and Gianmarco Griffini[1]
[1]Department of Chemistry, Materials and Chemical Engineering “Giulio Natta”, Politecnico di Milano, Piazza Leonardo da Vinci 32, 20133 Milano, Italy

Polyolefin-lignin blends: Assessing lignin properties on post-consumer recycled polypropylene
Emanuela Bellinetto[1*], Oussama Boumezgane[1] and Gianmarco Griffini[1]
[1]Department of Chemistry, Materials and Chemical Engineering “Giulio Natta”, Politecnico di Milano, Piazza Leonardo da Vinci 32, 20133 Milano, Italy

Reinforcement and protection of marbles with composite epoxy-based adhesives using cellulose micro/nano-particles
Dimitris Gkiliopoulos1,2, Eleni Psochia1, Konstantinos Simeonidis3, Filippos Boukas4, Doukas Efstathiadis4, Ioannis Polychroniadis4, Gian Raska4, and Konstantinos Triantafyllidis1, 2, *
1 Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki, GR-54124, Greece
2 Center for Interdisciplinary Research and Innovation (CIRI-AUTH), Balkan Center, 10th km Thessaloniki-Thermi Rd, P.O. Box 8318, 57001 Thessaloniki, Greece
3 Department of Physics, Aristotle University of Thessaloniki, Thessaloniki, GR-54124, Greece
4 Stone Group International, Thessaloniki, Kavalari, GR-57200, Greece

Valorization of limonene in the presence of heterogenous catalysts
Madalena Frade[1], PA. Mourão[1], I. Cansado[1,2] and José E. Castanheiro[1]*
[1]MED, Departamento de Química e Bioquímica, Escola de Ciências e Tecnologia, Universidade de Évora/, Portugal
[1]LAQV-REQUIMTE, Departamento de Química e Bioquímica, Escola de Ciências e Tecnologia,

Fate of heavy metals in vertical flow constructed wetlands treating industrial wastewater of Algiers petroleum refinery
Katia Ghezali[1]* and Narcis Barsn[2]
[1]1 Hydrocarbon technology laboratory, University Mhamed Bougara of Boumerdes, Avenue of Independence, 35000 Boumerdes, Algeria
[2]Faculty of Engineering, Vasile Alexandri University of Bacau, Calea Marasesti, no. 157, 600115 Bacau, Romania

Lignin-containing polymer coatings – synthesis and characterization
Beata Podkościelna[1], Marta Goliszek[2*] and Olena Sevastyanova[3]*
[1]Maria Curie-Skłodowska University, Faculty of Chemistry, Institute of Chemical Science, Department of Polymer Chemistry, M. Curie-Skłodowska Sq. 5, 20-031 Lublin, Poland;
[2]Maria Curie-Skłodowska University, Faculty of Chemistry, Institute of Chemical Science, Analytical Laboratory, M. Curie-Skłodowska Sq. 3, 20-031 Lublin, Poland;
[3]KTH Royal Institute of Technology, Department of Fibre and Polymer Technology, Teknikringen 56-58, SE-10044, Stockholm, Sweden

Glycerol-based UV-curable resins for synthesis of vitrimers
Sigita Grauželienė* and Jolita Ostrauskaitė

Department of Polymer Chemistry and Technology, Kaunas University of Technology, Radvilenu Rd. 19, LT-50254 Kaunas, Lithuania

From ferulic acid and lignin to vanillin and other platform chemicals by hydrogen peroxide
Monika Horvat and Jernej Iskra*
University of Ljubljana, Faculty of Chemistry and Chemical Technology, Večna pot 113, Ljubljana, Slovenia

Rice husk residues into bioactive phenolics obtained through solid fermentation combined with enzymatic treatment
M.I. Dias[1], R. Calhelha[1], M.F. Barreiro[1], L. Barros[1], I.C.F.R. Ferreira[1], M. Lopretti[2,*]
[1]Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal.
[2]Departamento de Técnicas Nucleares Aplicadas en Bioquímica y Biotecnología, CIN, Facultad de Ciencias, Universidad de la República, Montevideo, Uruguay

pH indicator films based on renewable biodegradable polymers for food packaging applications
Iulia Păușescu*[1], Diana Maria Dreavă[1], Ioan Bîtcan[1], Diana Dăescu[1], Mihai Medeleanu[1]
[1]Politehnica University Timisoara, Faculty of Industrial Chemistry and Environmental Engineering, 6 Vasile Parvan Bvd, 300223, Timisoara, Romania

Thermally insulating air- and ice-templated plant-based foams
Carina Schiele, Tamara L. Church, Lennart Bergström*
Department of Materials and Environmental Chemistry, Stockholm University, Stockholm, 10691 Sweden

Synthesis and characterization of poly(lactic acid)/poly(ethylene adipate) copolymers for paclitaxel controlled delivery
Alexandra Zamboulis[1*], Evi Christodoulou[1], Konstantinos Tsachouridis[1], Dimitrios N. Bikiaris[1]
[1]Laboratory of Polymer Chemistry and Technology, Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki, Greece

Structural and morphological characterization of xerogels based on agar and gelatin.
Marta Goliszek[1*] and Artur Chabros[1*]
[1]Maria Curie-Sklodowska University, Faculty of Chemistry, Institute of Chemical Science, Analytical Laboratory, M. Curie-Sklodowska Sq. 3, 20-031 Lublin, Poland

Green Synthesis of Nano-Metal Oxides for Agricultural and Environmental Applications.
Lahur Mani Verma[1*], Anita Raj Sanwaria[1] Pravin P. Ingole[2], Satyawati Sharma[1]
[1]Center for Rural Development and Technology, IIT Delhi, New Delhi, India
[2]Department of Chemistry, Indian Institute of Technology Delhi, New Delhi, India

Synthesis and characterization of polysaccharide- and protein-based edible films and modification with zein bilayer coatings
Evmorfia Athanasopoulou[1]*, Francesco Bigi[2], Enrico Maurizzi[3], Andrea Quartieri[2], Theofania Tsironi[1]
[1]Department of Food Science and Human Nutrition, Agricultural University of Athens, Iera Odos 75, Athens 11855, Greece
[2]Packtin, Via Del Chionso, 14/I Reggio Emilia (RE), 42122, Italy
[3]Department of Life Sciences, University of Modena and Reggio Emilia, Via John Fitzgerald Kennedy 17/I, Reggio Emilia (RE), Italy

Valorization of ruminant animal dung fiber: A sustainable natural resource of non-wood material for various applications.

Vinayak Fasake[1*] and Kavya Dashora[2]

[1]Research scholar, Agri-Nano Technology Laboratory, Centre for Rural Development and Technology, Indian Institute of Technology, Delhi Hauz Khas, New Delhi 110016, India.

[2]Associate professor, Agri-Nano Technology Laboratory, Centre for Rural Development and Technology, Indian Institute of Technology, Delhi Hauz Khas, New Delhi 110016, India.

Phytochemical, Proximate Elemental and Anti-diabetic Studies of the Methanol Rhizome Extract of Curcuma Longa and its column fractions on normal and diabetic rats

1Aisha B. Zanna , Mustapha A. Tijjani, 2Kaka kyari Abba Sanda,

1*Department of Pure and Applied Chemistry, Faculty of Science, University of Maiduguri, P.M.B 1069, Maiduguri, Borno State, Nigeria. West Africa

2Department of Veterinary Pharmacology and Toxicology, Faculty of Veterinary Medicine, University of Maiduguri, Borno state. Nigeria. West Africa

Synthetic valorization of olive leaf crude extract promoted by organocatalysts

Késsia H. S. Andrade[1]*, Lídia Cavaca[1], Rafael F. A. Gomes[1], Ruben Ramos[2], Andreia F. Peixoto[2] and Carlos A. M. Afonso[1]

[1]Institute for Medicines (iMed.ULisboa), University of Lisbon, Av. Prof. Gama Pinto, 1649-003 Lisboa, Portugal;

[2]LAQV-Requimte, Department of Chemistry and Biochemistry, University of Porto, R. Campo Alegre, 4169-007 Porto, Portugal

Photocatalytic transformations of quinic acid derivatives

Antunes, M.B,[1,2,*] Candeias, N.R.,[3] Afonso, C.A.M.,[1] Gualandi,A.,[2], Cozzi, P.G.,[2]

[1]Research Institute for Medicines (iMed.Ulisboa), Faculty of Pharmacy University of Lisbon, Avenida Professor Gama Pinto, 1649-003, Lisbon, Portugal.

[2]Dipartimento di Chimica “G. Ciamician”, Alma Mater Studiorum – Università di Bologna Via Selmi 2, 40126, Bologna, Italy

[3]LAQV-REMQUIMTE, Department of Chemistry, University of Aveiro, 3810-193 Aveiro, Portugal.

Augmenting the performance of eco-friendly greases using synergistic natural resources

Ankit Saxena [1], Deepak Kumar [1*], Naresh Tandon [1]

[1]Centre for Automotive Research and Tribology (CART), Indian Institute of Technology Delhi, New Delhi, India

Waste recycle and valorization – Circular economy (food waste, hazardous waste, municipal waste, plastic waste)

Effect of a compatibilizer on the structural and mechanical properties of recycled HDPE/hemp composite materials

Nina Maria Ainali [1], Eleftheria Xanthopoulou [1], Georgia Michailidou [1], Iouliana Chrysafi [2], Alexandra Zamboulis [1], Dimitrios N. Bikiaris [1*]

[1]Department of Chemistry, Laboratory of Polymer Chemistry and Technology, Aristotle University of Thessaloniki, GR-541 24 Thessaloniki, Greece

[2]School of Physics, Aristotle University of Thessaloniki, GR-541 24 Thessaloniki, Greece

Laccases catalyzed dephenolization of raw wine lees and wine lees extract

Panagiotis E. Athanasiou, Michaela Patila, Angelos Papanikolaou, Theodora Bompotsiari, Angeliki C. Polydera, and Haralambos Stamatis*

Laboratory of Biotechnology, Department of Biological Applications and Technologies, University of Ioannina, Ioannina, Greece

Laccase production using wine lees by submerged cultivation of *Pleurotus ostreatus*

Georgios Bakratsas, Kyriakos Antoniadis, Panagiotis E. Athanasiou, Angeliki C. Polydera, Petros Katapodis*, Haralambos Stamatis*
Biotechnology Laboratory, Department of Biological Applications and Technologies, University of Ioannina, 45110 Ioannina, Greece

Lab-scale production of grid-grade biomethane via supercritical water gasification of biowastes and sequential gas phase conversion according to a catalytic tandem approach

F. Frusteri, C. Cannilla, G. Giacoppo, S. Todaro, A. Cajumi and G. Bonura*
CNR-ITAE, Via S. Lucia sopra Contesse 5, 98126, Messina, Italy

Supercritical fluid extraction as a tool to isolate phytochemicals from rice (Oryza sativa L.) by-products

João P. Baixinho[1,2], Andreia Bento-Silva[3,4], Ana Maria Carvalho Partidário[5], Maria do Rosário Bronze[1,2,3],
Naiara Fernández[2]*
[1]Instituto de Tecnologia Química e Biológica António Xavier, Universidade Nova de Lisboa, Av. da República, 2780-157 Oeiras, Portugal
[2]iBET, Instituto de Biologia Experimental e Tecnológica, Apartado 12, 2781-901 Oeiras, Portugal
[3]Faculdade de Farmácia da Universidade de Lisboa, Av. Prof. Gama Pinto, 1649-003 Lisboa, Portugal
[4]FCT NOVA, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Campus da Caparica, Caparica, Portugal
[5]Instituto Nacional de Investigação Agrária e Veterinária, I.P., Unidade de Tecnologia e Inovação, Av. da República, Quinta do Marquês, 2780-157 Oeiras, Portugal

Tertiary treatment of municipal wastewater by microalgae technology for utilization in cooling towers of thermal power plants

Rahul J [1*], Anushree M [1], Rajeev S[2]
[1]Applied Microbiology Laboratory, Centre for Rural Development and Technology, Indian Institute of Technology Delhi, New Delhi, India
[2]The NTPC Energy Technology Research Alliance (NETRA), Greater Noida, Uttar Pradesh, India

Circular Economy Electrochemistry: Utilizing recycled materials for the development of 3D-printed electrochemical devices

Cristiane Kalinke[1,2]*, Robert D. Crapnell[2], Evelyn Sigley[2], Matthew J. Whittingham[2], Paulo R. de Oliveira[3], Bruno C. Janegitz[3], Craig E. Banks[2] and Juliano A. Bonacin[1]
[1]Institute of Chemistry, University of Campinas (Unicamp), 13083-859, Campinas, São Paulo, Brazil.
[2]Manchester Metropolitan University (MMU), Manchester, M1 5GD, United Kingdom.
[3]Federal University of São Carlos (UFSCar), 13600-970, Araras, São Paulo, Brazil.

Recycling Waste Finger Batteries for Renewable Energy Production

Kalagbor, Ihesinachi A.
Department of Chemistry, Faculty of Science, Rivers State University, Nkpolu-Oroworukwo P.M.B. 5080 Port Harcourt, Rivers State Nigeria

Catalytic upgrading of end-of-life tyre pyrolysis vapours for the production of highly aromatic pyrolysis oils

Stefanidis S.D.[1], Karakoulia S.A.[1], Pachatouridou E.[1], Heracleous E.[1,2] and Lappas A.A.[1]*
[1]Chemical Process and Energy Resources Institute (CPERI), Centre for Research and Technology Hellas (CERTH), Thessaloniki, Greece
[2]School of Science and Technology, International Hellenic University, Thessaloniki, Greece

Use of mining waste and slate processing
Luciana B. Palhares[1]
[1]Federal Centre for Technological Education Of Minas Gerais - CEFET

Development of sustainable and biomimetic methodology for extraction and analysis of high value-added compounds in almond hulls
Gabriela Cremasco[1], Adam Sutton[2], Cristiano S. Funari[3], Dario Arrua[2], Emily F. Hilder[2] and Daniel Rinaldo[1,4*]
[1]São Paulo State University (UNESP), Institute of Chemistry, R. Prof. Francisco Degni 55, Araraquara, SP, 14800-900, Brazil
[2]University of South Australia (UniSA), Future Industries Institute, X Building, Mawson Lakes, SA, 5095, Australia
[3]São Paulo State University (UNESP), School of Agricultural Sciences, Av. Universitária 3780, Botucatu, SP, 18610-034, Brazil
[4]São Paulo State University (UNESP), School of Sciences, Av. Eng. Luiz Edmundo Carrijo Coube 14-01, Bauru, SP, 17033-360, Brazil

Regulation of lignin-modifying enzymes production in lignocellulose fermentation by new white-rot basidiomycete Trametes lactinea
Mariam Rusitashvili*, Vladimir Elisashvili
Institute of Microbial Biotechnology, Agricultural University of Georgia, 240 Aghmashenebeli alley, Tbilisi, Georgia

Bio-based thermoset derived from epoxidized soybean oil and agri-waste
M. Safarpour[1,2], A. Zych[1], M. Najafi[1,2], L. Bertolacci[1], L. Ceseracciu[3], A. Athanassiou[1]
[1]Smart Materials, Istituto Italiano di Tecnologia, Via Morego 30, Genova 16163, Italy
[2]DIBRIS, University of Genoa, via Opera Pia 13, Genoa, Italy
[3]Materials Characterization Facility, Istituto Italiano di Tecnologia, Via Morego 30, Genova 16163, Italy

Harnessing the potential of seaweed Sargassum spp. by treatment in acidic medium and anaerobic digestion
Luis Felipe Jiménez-Contreras[1] and María A. Fernández-Herrera.[1]*
[1]Departamento de física aplicada, Cinvestav Mérida, 97310, Mérida, Yucatán; México

Modified cross-linked pectin hydro-films for biomedical applications
Arkasubhro Chatterjee[1,3]*, Antonio Patti[2], Phil Andrews[2], Amit Arora[1,3]
[1]IITB – Monash Research Academy, Indian Institute of Technology, Bombay, Powai, Mumbai 400076, India
[2]School of Chemistry, Monash University, Clayton, Victoria 3800, Australia
[3]Centre for Technology Alternatives for Rural Areas (CTARA), Indian Institute of Technology, Bombay, Powai, Mumbai 400076

Techno-economic evaluation and life cycle assessment for sustainable production of bio-based polyurethanes from the organic fraction of municipal solid waste
S.M. Ioannidou[1], D. Ladakis[1], A. Koutinas[1,*]
[1]Department of Food Science and Human Nutrition, Agricultural University of Athens, Iera Odos 75, 118 55 Athens, Greece

Resource recovery from discarded COVID-19 PPE kit through Catalytic Fast Pyrolysis

Nikhilkumar Panchal[1*] and R. Vinu[1]
[1]Department of Chemical Engineering and National Centre for Combustion Research and Development, Indian Institute of Technology Madras, Chennai – 600036

From water for the water: food-waste based hydrogels for adsorption and photo-degradation of pollutants.
Marina Maddaloni[1,2], Irene Vassalini[2,3,4]*, Giammarco Roini[1,4], Alessandra Gianoncelli[2,5], Giovanni Ribaudo[5], Alice de Villi and Ivano Alessandri[2,3,4]*
[1]Chemistry for Technologies Laboratory, Department of Mechanical and Industrial Engineering, University of Brescia, via Branze 38, 25123 Brescia, Italy.
[2]National Interuniversity Consortium of Materials Science and Technology (INSTM), Florence, Italy
University of Brescia, via Branze 38, 25123 Brescia, Italy
[3]National Institute of Optics-Italian National Research Council (CNR-INO), University of Brescia, via Branze 38, 25123 Brescia, Italy
[4]Department of Information Engineering, University of Brescia, via Branze 38, 25123 Brescia, Italy
[5]Department of Molecular and Translational Medicine, University of Brescia, Viale Europa 11, 25123, Brescia, Italy

New Compatibilizers from PET Residues
Hugo F. Gonçalves [1*], Pedro E. C. Nunes[1], Rui Peneda[2] Ana C. Fonseca[1] and Arménio C. Serra[1]
[1]CEMMPRE, Department of Chemical Engineering, University of Coimbra, 3030-790, Coimbra, Portugal
[2]GEPACK- Empresa Transformadora De Plásticos, S.A., Rua 1 de Abril Ed Gepack, 2050-182 Aveiras de Cima, Portugal

Optimization of enzymatic hydrolysis for utilization of food waste
Lisanne Krail, Tanmay Chaturvedi[1]*, Eva Mie Lang Spedtsberg[1], Jakob Lykke Stein[1] and Mette H. Thomsen[1]
[1]AAU Energy, Aalborg University, Niels Bohrs Vej 8 6700 Esbjerg, Denmark

Investigation and optimization of heat and enzymatic pretreatments of OFMSW and its combination with beechwood pulp
Stanislav Rudnyckyj[1], Tanmay Chaturvedi[1]*, and Mette H. Thomsen[1]
[1]AAU Energy, Aalborg University, Niels Bohrs Vej 8 6700 Esbjerg, Denmark

Assessment of the H_2S adsorption capacity of carbonaceous solids produced by pyrolysis of the major organic components of manure digestate
Á. Navarro-Gil*, N. Gil-Lalaguna, I. Fonts, J. Ruiz, J. Ceamanos, J. Ábrego, G.Gea
Thermochemical Processes Group (GPT), Aragon Institute for Engineering Research (I3A) University of Zaragoza, C/ Mariano Esquillor s/n, 50018 Zaragoza, Spain

Bio-based PLA/PHB plasticized blend films with eugenol for active food packaging applications
Aikaterini Spanou[1]*, Francesco Bigi[2], Enrico Maurizzi[3], Andrea Quartieri[2] and Theofania Tsironi[1]
[1]Agricultural University of Athens, 75 Iera Odos 11855, Greece
[2]Packtin, Via Del Chionso, 14/I Reggio Emilia (RE), 42122, Italy
[3]Department of Life Sciences, University of Modena and Reggio Emilia, Via John Fitzgerald Kennedy 17/I, Reggio Emilia (RE), Italy

Thermogravimetric Kinetic Study of Co-pyrolysis of Car Fluff,
Corn Stover and Sub-Bituminous Coal

Federica Dessì[1]*, Mauro Mureddu[1], Francesca Ferrara[1], Alberto Pettinau[1] and Alessandro Orsini[1]
[1]Sotacarbo S.p.A., Grande Miniera Serbariu 09013 Carbonia (CI), Italy,

A new HPLC method for the detection and quantification of chemically recycled PET monomers in protic ionic liquids
Harriet Louise Judah[1*], Maariyah Suleman[1] and Agnieszka Brandt-Talbot[1]
[1]Imperial College London, Department of Chemistry, 82 Wood Ln, W12 0BZ, London, United Kingdom.

Towards a kiwi waste valorization: optimization of extraction of phenolic compounds assisted by green chemistry tools
Sandra S. Silva[1], Marina Justi[1], Jean-Baptiste Chagnoleau[2], Nicolas Papaiconomou[2], Xavier Fernandez[2], Sónia A. O. Santos[1], Helena Passos[1], Ana M. Ferreira[1,*] and João A.P. Coutinho[1]
[1]CICECO – Aveiro Institute of Materials, Department of Chemistry, University of Aveiro, 3810-193, Aveiro, Portugal.
[2]Université Côte d'Azur, CNRS, Institut de Chimie de Nice, UMR 7272, 06108 Nice, France.

Valorization of lignocellulosic biomass by Novosphingobium sp. isolated from the rainforest area of NE-India
Kongkana Goswami[1*], Ratul Saikia[2]
[1]The Assam Kaziranga University, Jorhat-785006, Assam, India
[2]CSIR-North East Institute of Science & Technology, Jorhat-785006, Assam, India

Recovery of rare earths from discarded lamps: influence of operational parameters on sorption by living seaweed
Bruno Henriques[1*], João Colónia[1], Thainara Viana[1], Daniela Tavares[1], João Pinto[1], Jéssica Jacinto[1], Nicole Ferreira[1], Eduarda Pereira[1,2]
[1]LAQV-REQUIMTE, Department of Chemistry, University of Aveiro, 3810-193 Aveiro, Portugal
[2]LCA, Department of Chemistry, University of Aveiro, Aveiro, Portugal

Valorization of agro-waste for laccase production for successive remediation of textile effluents
Shweta Kalia*[1], Anushree Malik[1]
[1]Applied Microbiology Lab, Centre for Rural Development and Technology, IIT, Delhi, New Delhi- 110016, India

Synthesis, ageing tests and flammability characterization of composites based on epoxy resin with different curing agents and flame retardant compounds
Krystyna Wnuczek[1], Karolina Sowa[1], Beata Podkościelna[1], Tomasz Klepka[2*]
[1]Department of Polymer Chemistry, Faculty of Chemistry, Institute of Chemical Sciences,
Maria Curie-Skłodowska University, Gliniana 33, 20-614, Lublin, Poland
[2]Department of Technology and Polymer Processing, Faculty of Mechanical Engineering,
Lublin University of Technology, Nadbystrzycka 36, 20-618 Lublin, Poland

Determining antibacterial effect of liquid soaps from recycled cooking oil and distinct essential oils
Mira I.[1], Zeynep O.[2] and Ceren O.[3]
[1,2] Hisar School, Istanbul, Turkey;
[3]Boğaziçi University, Istanbul, Turkey

Sustainable resource recovery from waste printed circuit boards using green solvents
Snigdha Mishra[1,2], K.K. Pant[1]*, David Harbottle[2], Bhoopesh Mishra[3]
[1]Green and Sustainable Engineering lab
Department of Chemical Engineering, Indian Institute of Technology Delhi, India
[2]School of Chemical and Process Engineering, University of Leeds, Leeds, UK
[3]Illinois Institute of Technology, Chicago, IL

Optimization of production, antioxidant activity and stability of plant-based emulsions
Katarzyna Włodarczyk[1]*, Karolina Stępińska[1], Aleksandra Szydłowska-Czerniak[1]
[1]Department of Analytical Chemistry and Applied Spectroscopy, Faculty of Chemistry, Nicolaus Copernicus University in Toruń, Gagarina 7, 87-100 Toruń, Poland

Education and societal awareness – UN Sustainable Developments Goals

Green Chemistry for high school: methoxylation of alpha-pinene over ionic resins
Madalena Frade[1], PA. Mourão[1], I. Cansado[1,2] and José E. Castanheiro[1]*
[1]MED, Departamento de Química e Bioquímica, Escola de Ciências e Tecnologia, Universidade de Évora/, Portugal [1]LAQV-REQUIMTE, Departamento de Química e Bioquímica, Escola de Ciências e Tecnologia, Universidade de Évora/, Portugal

How green chemistry education can empower chemistry students to be promoters of sustainable substances-handling practices in their communities
Liliana Mammino*
*University of Venda, University Road, Thohoyandou 0950, South Africa

Green Chemistry & UN Sustainable Developments Goals

Chemistry in the question of human survival
Marcos Aurélio Gomes da Silva, Ufjf

Wednesday 7th September 2022 (Poster Session II)

Biomass derived platform & fine chemicals, pharmaceuticals, monomers, polymers, materials.

Lignin model compounds hydrogenolysis over base metal catalysts
Raphaël Abolivier* and James A. Sullivan
UDC School of Chemistry, Belfield, Dublin 4, Ireland

Comparative analysis of the biological activity of proanthocyanidins from fruit and non-fruit trees and shrubs of Northern Europe
Andersone A.[1]*, Janceva S.[1], Lauberte L.[1], Zaharova N.[1], Senkovs M.[2], Ramata-Stunda A.[2], Telysheva G.[1], Rieksts G.[1]
[1]Latvian State Institute of Wood Chemistry, Dzerbenes Street 27, LV-1006, Riga, Latvia
[2]Latvia University of Latvia, Faculty of Biology, Jelgavas Street 1, LV-1004, Riga, Latvia

Degradation and environmental impact of biodegradable plastics.
Fannie Burgevin, University of Bath

Durability in Sea Water of 3D Printed Materials based on Polyhydroxyalkanoate / Polybutylene Succinate Blends
Gerda Gaidukova[1]* and Sergejs Gaidukovs[2]
[1]Latvian Maritime Academy, Flotes 3-7, Riga LV-1016, Latvia
[2]Institute of Polymer Materials, Faculty of Materials Science and Applied Chemistry, Riga Technical University, P. Valdena 3/7, LV-1048 Riga, Latvia

Enzymatic modification of biopolymers with phenolic antioxidants
Archontoula Giannakopoulou[1], Renia Fotiadou[1], Georgia Tsapara[1], Angeliki C. Polydera[1], Alexandra V. Chatzikonstantinou[1], Stamatia Spyrou[1] and Haralambos Stamatis[1]*
[1]Biotechnology Laboratory, Department of Biological Applications and Technologies, University of Ioannina, 45110 Ioannina, Greece

Green synthesis and characterization of novel furan-based oligoesters for organogel applications
Ioan Bîtcan[1], Anamaria Todea[1], Diana Dreavă[1], Iulia Păușescu[1*], Francisc Peter[1], Lajos Nagy[2*] and Sándor Kéki[2]
[1]Politehnica University Timisoara, Faculty of Industrial Chemistry and Environmental Engineering, 6 Vasile Parvan Bvd, 300223, Timisoara, Romania;
[2]Department of Applied Chemistry, Faculty of Science and Technology, University of Debrecen, H-4032 Egyetem tér 1, 4032 Debrecen, Hungary

Use of V_2O_5 Sheets as an Efficient Catalyst for the Hydroxyalkylation Alkylation Reaction for the Production of Biofuel Precursors
Sahil Kumar, Tripti Chhabra, and Venkata Krishnan*
School of Basic Sciences and Advanced Materials Research Center, Indian Institute of Technology Mandi, Kamand, Mandi 175075, H.P., India.

Metabolic engineering of Methylotuvimicrobium alcaliphilum 20Z for production of ectoine from methane and lignocellulosic sugars
Eun Yeol Lee*, Diep Ngoc Pham

Department of Chemical Engineering, Kyung Hee University, Yongin-si,
Gyeonggi-do 17104, South Korea

Tailored pretreatment/fractionation of forest and agricultural biomass towards selective isolation of lignin, hemicellulose and cellulose
Antigoni G. Margellou, Eleni A. Psochia, Stylianos Torofias and Konstantinos S. Triantafyllidis
1Department of Chemistry, Aristotle University of Thessaloniki (AUTH), Thessaloniki, Greece

Solid-catalyst assisted OxiOrganosolv pre-treatment of wheat straw for enzymatic and microbial conversion to bioactive food additives
Stefanidis S.D.[1], Kalogiannis K.G.[1], Karakoulia S.A.[1], Marianou A.[1], Staikos S.[2], Karnaouri A.[2], Topakas E.[2] and Lappas A.A.[1]*
[1]Chemical Process and Energy Resources Institute, Centre for Research and Technology Hellas, 57001 Thessaloniki, Greece
[2]Industrial Biotechnology & Biocatalysis Group, Biotechnology Laboratory, School of Chemical Engineering, National Technical University of Athens, 15780 Athens, Greece

Production of bio-based gluconic acid from agro-industrial residues: Experimental analysis, process design and technoeconomic evaluation
Marianou A., Kaldis S., Michailof C., Lappas A., Karakoulia S.*
[1]Chemical Process and Energy Resources Institute, Centre for Research and Technology Hellas, Thessaloniki, 6th km. Charilaou – Thermi Road, GR-570 01 Thermi, Greece

Synthesis and color reduction of Lignin nanoparticles encapsulating CeO2 for safe, anti-oxidant and high SPF sunscreen
Sadaf Mearaj [1] and Joon Weon Choi [2]*
[1]Seoul National University, GSIAT, South Korea

Hybridization of chemically modified cellulose and hydroxyapatite applicable to tough biomass materials
Kohei Okuda* and Tadashi Mizutani
Graduate School Science and Engineering, Doshisha University

Synthesis and Characterization of Unsaturated Polyester Resins Based on Adipic Acid
L. Papadopoulos[1,*], Alexandra Zamboulis[1], Christina Kyriakou-Tziamtzi[2], S. Tsompanidis[3], N. Athanasopoulos[3], Electra Papadopoulou[4], Konstantinos Chrissafis[2] and Dimitrios N. Bikiaris[1,*]
[1]Laboratory of Organic Chemical Technology, Department of Chemistry, Aristotle University of Thessaloniki, GR-54124, Thessaloniki, Greece
[2]Solid State Physics Section, Physics Department, Aristotle University of Thessaloniki, GR-541 24 Thessaloniki, Greece
[3]Phee, 17 Kolokotroni Str., Rio, Patras, GR-26504, Tel : 2613023239, www.phee.gr
[4]CHIMAR HELLAS SA, 15km National Road Thessaloniki-Polygyros, GR-57001 Thessaloniki, Greece

The effect of organic acids on the degradation of PLA/PBAT blends
Marta Pinero*[3], Luís P. C. Gonçalves[1], Rafael Rebelo[1], Ana C. Fonseca[1], Josefa Fonseca[2], Manuel Rola[2], Jorge F. J. Coelho[1], Filipe Rola[2], Arménio C. Serra*
[1] CEMMPRE, Department of Chemical Engineering, University of Coimbra, Rua Sílvio Lima-Pólo II, 3030-790 Coimbra, Portugal
[2]SICOR-Sociedade Industrial de Cordoaria, S.A., Rua 13 de Maio 1533, Ap.10, 3889-852 Cortegaça, Portugal
[3]Chemistry Department, University of Coimbra, Rua Larga, 3030-790 Coimbra, Portuga[l]

Use of tosylated glycerol carbonate for the preparation of new functionalized pyrazole compounds

Inesa Zagorskytė[1], Eglė Arbačiauskienė[1], Aurimas Bieliauskas[2], Patrick Rollin[3] and Algirdas Šačkus[1,2]*

[1]Department of Organic Chemistry, Kaunas University of Technology, Radvilėnų pl. 19, LT-50254 Kaunas, Lithuania

[2]Institute of Synthetic Chemistry, Kaunas University of Technology, K. Baršausko g. 59, Kaunas LT-51423, Lithuania

[3]Université d'Orléans et CNRS, ICOA-UMR 7311, BP 6759, F-45067 Orléans, France

Degradation Studies of PLA/PBAT Blends in Marine Environments

Maria Elisa Serra*[3], Rafael Rebelo[1], Luís P. C. Gonçalves[1], Ana C. Fonseca[1], Josefa Fonseca[2], Manuel Rola[2], Jorge F. J. Coelho[1], Filipe Rola[2], Arménio C. Serra[1]

[1] CEMMPRE, Department of Chemical Engineering, University of Coimbra, Rua Sílvio Lima-Pólo II, 3030-790 Coimbra, Portugal

[2]SICOR-Sociedade Industrial de Cordoaria, S.A., Rua 13 de Maio 1533, Ap.10, 3889-852 Cortegaça, Portugal

[3]CQC and Chemistry Department, University of Coimbra, Rua Larga, 3030-790 Coimbra, Portugal

Enzymatic modification of a polysaccharides-rich extract from green marine macroalgae Ulva sp. for the enrichment of its biological activity

Stamatia Spyrou[1], Alexandra V. Chatzikonstantinou[1], Renia Fotiadou[1], Petros Katapodis[1], Epaminondas Voutsas[2], Haralambos Stamatis[1]*

[1]Laboratory of Biotechnology, Department of Biological Applications and Technologies, University of Ioannina, 45110 Ioannina, Greece

[2]Thermodynamics and Transport Phenomena Laboratory, Department of Chemical Engineering - Section II, National Technical University of Athens, Heroon Polytechniou 9, Zographos, 15780 Athens, Greece

Synthesis of profluorescent nitroxide-alginate bioconjugate for biocompatible scavenging and detection of ROS in bone tissue culture

Nattawut Decha[1], Jirut Meesane[2] and Chittreeya Tansakul[1]*

[1]Division of Physical Science and Center of Excellence for Innovation in Chemistry, Prince of Songkla University

15 Kanchanavanich Road, Hat Yai, Songkhla 90110, Thailand

[2]Institute of Biomedical Engineering, Faculty of Medicine, Prince of Songkla University

15 Kanchanavanich Road, Hat Yai, Songkhla 90110, Thailand

European Sustainable BIO-based nanoMAterials Community (BIOMAC)

Zoe Terzopoulou1, Konstantinos S. Triantafyllidis1,2, Dimitrios Bikiaris1

1 Department of Chemistry, Aristotle University of Thessaloniki, University Campus, Thessaloniki, Greece

2 Center for Interdisciplinary Research and Innovation (CIRI-AUTH), Balkan Center, 10th km Thessaloniki-Thermi Rd, P.O. Box 8318, 57001 Thessaloniki, Greece

Towards sustainability: Exploring the properties of novel vanillic acid-based polyesters

Eleftheria Xanthopoulou[1,2], , Alexandra Zamboulis[2], Zoi Terzopoulou[1,2], Dimitrios N. Bikiaris[2],* and George Z. Papageorgiou[1,4*]

[1]Department of Chemistry, University of Ioannina, P.O. Box 1186, GR-45110 Ioannina, Greece

[2]Laboratory of Polymer Chemistry and Technology, Department of Chemistry, Aristotle University of Thessaloniki, GR-54124 Thessaloniki, Greece

[3]Digital Manufacturing and Materials Characterization Laboratory, School of Science and Technology, International Hellenic University, 14km Thessaloniki, 57001 N. Moudania, Greece

[4]Institute of Materials Science and Computing, University Research Center of Ioannina (URCI), GR-45110, Ioannina, Greece

FDCA-based copolyesters modulate the properties of PLA-based blends

Zoi Terzopoulou[a,b], Alexandra Zamboulis[a*], Lazaros Papadopoulos[a], Dimitrios N. Bikiaris[a], George Z. Papageorgiou[b]

[a]Laboratory of Chemistry and Technology of Polymers and Dyes, Department of Chemistry, Aristotle University of Thessaloniki, GR-541 24 Thessaloniki, Greece

[b]Department of Chemistry, University of Ioannina, P.O. Box 1186, GR-45110 Ioannina, Greece

Synthesis and properties of poly(glycerol pimelate), a hyperbranched polyester for ocular drug delivery

Eirini Nakiou[1], Alexandra Zamboulis[1] and Dimitrios Bikiaris[1]*

[1]Laboratory of Polymer Chemistry & Technology, Department of Chemistry, Aristotle University of Thessaloniki, Greece

Synthesis and analysis of bio-based epoxy resin from native lignin derived oligomers

Yingtuan Zhang[1] and Bert F. Sels[2]*

[1]Center for Sustainable Catalysis and Engineering, Faculty of Bioscience Engineering, KU Leuven, Heverlee 3001, Belgium.

Bio-based P-F resins for wood-based panels by substituting phenol and formaldehyde with biomass-derived phenolics and furfural

Christina P. Pappa1,2, Stylianos A. Torofias1,2 Antigoni G. Margellou1,2, Electra Papadopoulou3, Charles Markessini3, Konstantinos S. Triantafyllidis1,2,*

1 Department of Chemistry, Aristotle University of Thessaloniki (AUTH), 54124 Thessaloniki, Greece

2 Center for Interdisciplinary Research and Innovation (CIRI-AUTH), Balkan Center, 10th km Thessaloniki-Thermi Rd,
P.O. Box 8318, 57001 Thessaloniki, Greece

3 CHIMAR HELLAS SA, 15km NR Thessaloniki-Polygyros, 57001 Thermi, Thessaloniki, Greece

Flow chemistry synthesis of a potential new class of biorenewable monomers, fuel oxygenates and bio-based lubricants

Martin Ravutsov,[1] Miroslav Dangalov,[1] Maya Marinova[1] and Svilen Simeonov[1]*

[1]Institute of Organic Chemistry with Centre of Phytochemistry, Bulgarian Academy of Sciences,
Acad. G Bonchev str. Block 9, 1113 Sofia, Bulgaria

Exploration of sulphur incorporation within sugar-derived cyclic monomers
to predict reactivity and polymer properties

Craig Hardy[1] and Antoine Buchard[1]*

[1]Centre for Sustainable and Circular Technologies, Department of Chemistry, University of Bath, Bath, BA2 7AY, UK.

Cellulose nanocrystal modification with subberin fatty acids and apllication in additive manufacturing resins reinforcement

Anda BARKANE,[a,*] Sergejs GAIDUKOVS[a]

[a] Institute of Polymer Materials, Faculty of Materials Science and Applied Chemistry, Riga Technical University, P. Valdena 3/7, LV-1048 Riga, Latvia

Cellulose micro/nanoparticles as green polymer reinforcing agents

Eleni Psochia1, Dimitra Brenda1 and Konstantinos S. Triantafyllidis1,2*

1Department of Chemistry, Aristotle University of Thessaloniki, 54214 Thessaloniki, Greece
2 Center for Interdisciplinary Research and Innovation (CIRI-AUTH), Balkan Center, 10th km Thessaloniki-Thermi Rd, P.O. Box 8318, 57001 Thessaloniki, Greece

Reinforcement and protection of marbles with composite epoxy-based adhesives using cellulose micro/nano-particles

Dimitris Gkiliopoulos1,2, Eleni Psochia1, Konstantinos Simeonidis3, Filippos Boukas4, Doukas Efstathiadis4, Ioannis Polychroniadis4, Gian Raska4, and Konstantinos Triantafyllidis1, 2, *
1 Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki, GR-54124, Greece
2 Center for Interdisciplinary Research and Innovation (CIRI-AUTH), Balkan Center, 10th km Thessaloniki-Thermi Rd, P.O. Box 8318, 57001 Thessaloniki, Greece
3 Department of Physics, Aristotle University of Thessaloniki, Thessaloniki, GR-54124, Greece
4 Stone Group International, Thessaloniki, Kavalari, GR-57200, Greece

Study of the modification of chitosan structure with 2-methoxy-4-vinylphenol for enhanced antioxidant activity

Georgia Michailidou[1*], Alexandra Zamboulis[1], Dimitrios Bikiaris[1*]
[1] Laboratory of Polymer Chemistry and Technology, Department of Chemistry, Aristotle University of Thessaloniki, GR-541 24 Thessaloniki, Macedonia, Greece

Development of an engineered methanotroph-based platform for methane-to-indole 3-acetic acid bioconversion for sustainable agriculture

Diep Ngoc Pham[1], Dung Hoang Anh Mai[1], Anh Duc Nguyen[1], Tin Hoang Trung Chau[1] and Eun Yeol Lee[1,*]
[1]Department of Chemical Engineering, Kyung Hee University, Yongin-si,
Gyeonggi-do 17104, South Korea

Exploring the potential of itaconic acid based unsaturated polyester resins as high performance green materials for UV 3D printing applications

Lazaros Papadopoulos[1], Tobias Robert[2] and Dimitrios Bikiaris[1]*
[1]Department of Chemistry, Aristotle University of Thessaloniki, GR-541 24 Thessaloniki, Greece
[2]Fraunhhofer Institute for Wood Research—Wilhelm-Klauditz-Institut WKI, Bienroder Weg 54E, 38108 Braunschweig, Germany

A biorefinery approach for integrated recovery of anthocyanins and pectin from blueberry pomace

Kusumika Sinha Roy[1,2,3]*, Amit Arora[1,3], Antonio F. Patti[2], Kellie Tuck[2]
[1]IITB – Monash Research Academy, Indian Institute of Technology, Bombay, Powai, Mumbai 400076, India
[2]School of Chemistry, Monash University, Clayton, Victoria 3800, Australia
[3]Centre for Technology Alternatives for Rural Areas (CTARA), Indian Institute of Technology, Bombay, Powai, Mumbai 400076

Synthesis and closed-loop recycling of plant oil-based polyamides

Maximilian Rist[1] and Andreas Greiner[1]*
[1]Macromlecular Chemistry and Bavarian Polymer Institute, University of Bayreuth, Universitaetsstrasse 30, 95440 Bayreuth, Germany

The study of a natural antioxidant interaction with a biomaterial substrate

Raluca M. Visan[1*], Anca R. Leonties[1], Ludmila Aricov[1], Mihai Anastasescu[1] and Daniel G. Angelescu[1]

[1] "“Ilie Murgulescu" Institute of Physical Chemistry, Romanian Academy, 202 Splaiul Independentei st., 060021, Bucharest

Laccase immobilization onto polymeric supports for synthetic dyes degradation

Anca Leonties*[1], Ludmila Aricov[1], Raluca Visan[1], Aurica Precupas[1], Alexandru Neculae[1], Catalina Gifu[2], Adina Raducan[3]
[1]Department of Colloid Chemistry, “Ilie Murgulescu” Institute of Physical Chemistry, Romanian Academy, Spl. Independentei 202, 060021 Bucharest, Romania;
[2]Department of Polymer, National Institute for Research and Development in Chemistry and Petrochemistry - ICECHIM, Spl. Independentei 202, 060021 Bucharest, Romania;
[3]Department of Physical Chemistry, Faculty of Chemistry, University of Bucharest, Bd. Elisabeta 4-12, 030018, Bucharest, Romania.

Physicochemical changes of alginate/polyacrylic acid mixture induced by host-guest interactions of the appended units

Ludmila Aricov*, Anca Leonties, Raluca Visan, Rodica Baratoiu, Elena Hristea, Iulia Matei, Alexandru Neculae, Sorin Mocanu and Gabriela Ionita
“Ilie Murgulescu” Institute of Physical Chemistry, Romanian Academy, Spl. Independentei 202, 060021 Bucharest, Romania

Lignin-based benzoxazines: a tunable key-precursor for various applications

A. Adjaoud[1,2], L. Puchot[1], P. Verge[1*]
[1]Luxembourg Institute of Science and Technology, Esch-sur-Alzette, Luxembourg
[2]University of Luxembourg, Esch-sur-Alzette, Luxembourg

Development of olive oil and α-tocopherol containing emulsions stabilized by FucoPol: Rheological and textural analyses

Sílvia BAPTISTA[1,2,3,*], João R. PEREIRA[1,2], Cátia GIL[1,2], Cristiana A.V. TORRES[1,2], Maria A.M. REIS[1,2], Filomena FREITAS[1,2]
[1]Associate Laboratory i4HB - Institute for Health and Bioeconomy, School of Science and Technology, NOVA University Lisbon, Caparica, Portugal;
[2]UCIBIO – Applied Molecular Biosciences Unit, Department of Chemistry, School of Science and Technology, NOVA University Lisbon, 2819-516 Caparica, Portugal
[3]73100, Lda. Edifício Arcis, Rua Ivone Silva, 6, 4º piso, 1050-124 Lisboa, Portugal

Bioproduction of 2-Phenylethanol by Acinetobacter soli

Ana. R. S. Bernardino[1,2,3], Cristiana A. V. Torres[1,2 *], Filipa Grosso[4,5], Luísa Peixe[4,5,6], Maria A. M. Reis[1,2]
[1]Laboratory i4HB - Institute for Health and Bioeconomy, School of Science and Technology, NOVA University Lisbon, Caparica, Portugal
[2]UCIBIO – Applied Molecular Biosciences Unit, Department of Chemistry, School of Science and Technology, NOVA University Lisbon, Caparica, Portugal
[3]LAQV-REQUIMTE, Chemistry Department, FCT/Universidade NOVA de Lisboa, 2829-516 Caparica, Portugal
[4]UCIBIO – Applied Molecular Biosciences Unit, REQUIMTE, Faculty of Pharmacy, Department of Biological Sciences, Laboratory of Microbiology, University of Porto, Porto, Portugal
[5]Associate Laboratory i4HB - Institute for Health and Bioeconomy, Faculty of Pharmacy, University of Porto, Porto, Portugal
[6]CCP – Culture Collection of Porto-Faculty of Pharmacy, University of Porto, Porto, Portugal

Sustainable high-performing hybrid eco-thermoset matrix blended from non-phosphorylated epoxidised corn oil and vinyl ester resin

Maurelio C. Cabo Jr.[1], Jung-Il Song[2]*
[1]Department of Smart Manufacturing Engineering, Changwon National University, Republic of Korea
[2]Department of Mechanical Engineering, Changwon National University, Republic of Korea

Xylose and hemicellulose sugar steams dehydration to furfural in aqueous and biphasic media
S. P. Ioannidou1, A. G. Margellou1, and K. S. Triantafyllidis1,2,*
1 Department of Chemistry, Aristotle University of Thessaloniki, Greece
2Center for Interdisciplinary Research and Innovation (CIRI), AUTH, Thessaloniki, Greece

Production of value-added furanic compounds via photocatalytic selective oxidation of 5-hydroxymethylfurfural
Zoi-Lina Koutsogianni1, Dimitrios A. Giannakoudakis1,* Kyriazis Rekos1, Sophia Tsoumachidou1, Konstantinos S. Triantafyllidis1,2 *
1 Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki, Greece
2 Center for Interdisciplinary Research and Innovation (CIRI-AUTH), Balkan Center, 57001 Thessaloniki, Greece

How to Design Single Atom Alloy Catalysts towards High-efficient Biomass Conversion
Guoqing Cui[1]*, Min Wei[2], Guiyuan Jiang[1], Chunming Xu[1]
[1]State Key Laboratory of Heavy Oil Processing/China University of Petroleum, Beijing, China
[1]State Key Laboratory of Chemical Resource Engineering, Beijing University of Chemical Technology, Beijing, China

Development of Sugar-Derived Bioconjugates: A More Sustainable Alternative to PEGylation
Emma L. Daniels[1], Dr. Antoine P. Buchard*[1,3], Dr Hannah S. Leese*[2,3], and Prof Steve Parker[1,3]
[1] Department of Chemistry, University of Bath, Claverton Down, Bath, BA2 7AY, UK
[2] Department of Chemical Engineering, University of Bath, Claverton Down, Bath, BA2 7AY, UK
[2] Centre for Sustainable and Circular Technology, CSCT, University of Bath, Claverton Down, Bath, BA2 7AY, UK

Lignocellulose Sustainable Material Preparation Strategy from Biomass Waste
Sergejs Gaidukovs[1]* and Sergejs Beluns[2]
[1]Institute of Polymer Materials, Faculty of Materials Science and Applied Chemistry, Riga Technical University, P. Valdena 3/7, LV-1048 Riga, Latvia

Biochars and activated carbons obtained from herbs as low-cost and regenerable adsorbents of polymers
Marlena Gęca[1]*, Małgorzata Wiśniewska[1] and Piotr Nowicki[2]
[1]Department of Radiochemistry and Environmental Chemistry, Institute of Chemical Sciences, Faculty of Chemistry, Maria Curie-Sklodowska University in Lublin, M. Curie-Sklodowska Sq. 3, 20-031 Lublin, Poland,
[2]Department of Applied Chemistry, Faculty of Chemistry, Adam Mickiewicz University in Poznań, Uniwersytetu Poznańskiego 8, 61-614 Poznań, Poland.

Novel cyclopentenone scaffolds from renewable furanic platforms
Rafael F A Gomes[1],*, Jaime A S Coelho[1], Kessia Andrade[1], Carlos A M Afonso[1]
[1]1Research Institute for Medicines (iMed.ULisboa), Faculty of Pharmacy, Universidade de Lisboa, Av. Prof. Gama Pinto, 1649-003, Lisboa, Portugal;

Depolymerisation of lignin in sugarcane bagasse by hydrothermal liquefaction to optimize catechol formation
Kwanele B. Mazibuko[1], Nirmala Deenadayalu[1] and Lethiwe D. Mthembu[1]
[1]Durban University of Technology, PO Box 1334, Durban, 4000, South Africa

Cardio Protective Role of Novel Gemmo Therapeutically Treated *Glycyrrhiza glabra* Against Isoproterenol Induced Myocardial Injury
Munazzah Meraj, Rao Irfan, Sadia Javed, Amees Akhtar
[1]IPRS, PUMHS, Pakistan
[2]IPS, PUMHS, Pakistam
[3]GC University Faisalabad
[4]University of Agriculture Faisalabad

Recyclable polymers from biomass and calcium carbide
Konstantin S. Rodygin,* Kristina A. Lotsman, Dmitriy E. Samoylenko and Svetlana A. Metlyaeva
Saint Petersburg State University, Saint Petersburg, Universitetsky pr., 26, Russia

Enzyme-induced crosslinking to tailor chitosan/gelatin-based encapsulation carriers
Danillo Y. Namba[1,2], Samara C. Silva[1], Eliane Colla[3], Pricila Marin[2], Maria-Filomena Barreiro[1,*], Arantzazu Santamaria-Echart[1,*]
[1]Centro de Investigação de Montanha (CIMO), Campus de Santa Apolónia, Instituto Politécnico de Bragança, 5300-253 Bragança, Portugal
[2]Universidade Tecnológica Federal do Paraná, Av. Dos Pioneiros, 3131-Jardim Morumbi, Londrina 86036-370, Brazil
[3]Departamento Acadêmico de Alimentos (DAALM) – Programa de Pós-graduação em Tecnologia de Alimentos (PPGTA) – Universidade Tecnológica Federal do Paraná, Câmpus Medianeira, 85884-000, Paraná, Brazil

Biobased vitrimers - novel dynamic materials from vegetable oils and their applications
A. Zych[1*], D. Sangaletti[1, 2], G. Spallanzani[1, 3], J.Tellers[4], L. Bertolacci[1], L. Ceseracciu[5], A. Athanassiou[1]
[1]Smart Materials, Istituto Italiano di Tecnologia, Via Morego 30, Genova 16163, Italy
[2]DIBRIS, University of Genoa, via Opera Pia 13, Genoa, Italy
[3]Dipartimento di fisica, Politecnico di Milano, Piazza Leonardo da Vinci 32, 20133, Milano, Italy
[4]Institut de Chimie de Nice, Université Côte d'Azur CNRS, UMR 7272, Nice 06108, France
[5]Materials Characterization Facility, Istituto Italiano di Tecnologia, Via Morego 30, Genova 16163, Italy

Hydrothermal upgradation and mineralization strategies for synthesis of platform chemicals, pharmaceuticals and biomaterials-The ultimate wastewater grown algal biorefinery approach
Farah Naaz[1], Arghya Bhattacharya[1], Kamal Kishore Pant[2], Anushree Malik[1],
[1]Applied Microbiology Laboratory, Centre for Rural Development and Technology, IIT Delhi, Delhi-110016, India
[2]Catalytic Reaction Engineering Laboratory, Department of Chemical Engineering, IIT Delhi, Delhi- 110016, India

Taking advantage of side reactions: the example of furfuryl alcohol polymerization
Pierre Delliere[1] Lucie Quinquet[1] and Nathanael Guigo[1*]

[1]Institut de Chimie de Nice, Université Côte d'Azur, CNRS, UMR 7272, 06108 Nice, France.

Alternative fossil fuels and biofuels, green bio-energy

Spent coffee grounds conversion to bio-crude oil via hydrothermal liquefaction
D. Liakos[1,2], K. Triantafyllidis[2], L. Chrysikou[1], N. Tourlakidis[1], V.M. Vasdekis[1], S. Bezergianni[1]*
[1]Centre for Research & Technology Hellas (CERTH), Chemical Process & Energy Resources Institute (CPERI), Thessaloniki, 6km Charilaou-Thermi, 57001, Greece
[2]Aristotle University of Thessaloniki (AUTH), Department of Chemistry, University Campus, 54124 Thessaloniki, Greece

The effect of kaolin and hectorite clay on the Fischer-Tropsch synthesis condensed hydrocarbon products
Agija Stanke[1]*
[1]Riga Technical University, Institute of Applied Chemistry, Paula Valdena 3, Riga, LV-1048, Latvia

Photochemical dimerization of volatile conjugated dienes produced photobiologically
Sindhujaa Vajravel, Anup Rana, Leandro Cid Gomes, Henrik Ottosson*
Department of Chemistry –Ångström Laboratory, Uppsala University, Box 523, 751 20, Uppsala, Sweden

Energy Generation through Wastewater - A panacea for Sustainable Cities: A Case Study of the City of Lagos, Nigeria
Ajayi Timothy O.[1] Aremo Bayode D.[2] Shodipe Muyiwa.[3]
[1,2,3]Department of Science Laboratory Technology, Ogun State Institute of Technology, Igbesa, Nigeria

Catalytic Conversion of Bioethanol over Nickel and Cobalt-Doped HZSM-5 Catalysts
Smarte Anekwe and Yusuf Isa
University of the Witwatersrand, South Africa

Pretreatment of nitrogen-rich hydrothermal liquefaction biocrudes by demetallization: Recalcitrant effect of basic nitrogenates and metalloporphyrins
Muhammad Salman Haider[1*], Daniele Castello[1], Thomas Helmer Pedersen[1], and Lasse Rosendahl[1]
[1]Department of AAU Energy, Aalborg University, Aalborg, Denmark

Bio-based production of hydrogen and CO2 utilization
Mariamichela Lanzilli[1,*], Nunzia Esercizio[1], Simone Landi[2], Genoveffa Nuzzo[1], Carmela Gallo[1], Emiliano Manzo[1], Angelo Fontana[1,2] and Giuliana d'Ippolito[1]
[1]Institute of Biomolecular Chemistry CNR, Via Campi Flegrei 34, 80078, Pozzuoli, Napoli, Italy.
[2]Department of Biology, University of Naples "Federico II", Via Cinthia, I-80126 Napoli, Italy.

Green hydrogen generation in continuous anaerobic hybrid sludge blanket reactor by dark fermentation
*Mullai P.[1], Dharmalingam K.[2] and Yogeswari MK.[1]

[1]Department of Chemical Engineering, Faculty of Engineering and Technology, Annamalai University, Annamalai Nagar – 608 002, Tamil Nadu, India.
[2]Department of Biotechnology, CBIT, Hyderabad-500075, Telangana, India

A Comparison Study of Trace Metal Profiles of Biodiesel and Bioglycerol Produced From Heated and Unheated Canola Oil Using High Performance ICP-MS
Mirella Elkadi[1]*, Rukayat Bojesomo, Abhijeet Raj, Mohamed Ibrahim and Sasi Stephen
[1]Department of Chemistry, College of Arts and Sciences, Khalifa University, P.O Box: 127788, Abu Dhabi, UAE

Phycoremediation of different wastewaters and producing biodiesel using microalgae through nanocatalytic transesterification process
Vaishali Mittal[1] and Uttam Kumar Ghosh[1]*
[1]Department of Polymer and Process Engineering, IIT Roorkee Saharanpur Campus, Saharanpur, India

CO_2 utilization

The effect of reaction conditions on CO2 Hydrogenation with Cu/ZnO/SBA-15 catalyst
Zane Abelniece[1]
[1]Riga Technical University, Institute of Applied Chemistry, Paula Valdena Str. 3, Riga LV-1048, Latvia

Cu||Ag tandem-operation for highly efficient CO2 conversion toward C2-3 products
Joo Yeon Kim[1] and Hyun S. Ahn[1]*
[1]Depoartment of Chemistry, YONSEI University, Seoul, 50 Yonsei-ro, Seodaemun-gu, Seoul, Republic of Korea

Electrochemical *In-situ* Analysis of CO_2 Reduction Reaction on Gold Grain Boundary
Yunwoo Nam and Hyun S. Ahn*
Department of Chemistry, Yonsei University, 50 Yonsei-ro, Seodaemun-gu, Seoul, Republic of Korea

Nanosheets of lithium silicate with excellent CO_2 capture kinetics and extraordinary stability at high temperatures
Rajesh Belgamwar and Vivek Polshettiwar*
Department of Chemical Sciences, Tata Institute of Fundamental Research

Plasma Catalytic Dry Reforming of Methane: How Material Properties Influence Conversion and Kinetics – The PlasMaCatDESIGN Project
Sander Bossier,[a] Bram Seynnaeve,[b] Jeroen Lauwaert,[b] An Verberckmoes,[b] Vera Meynen[a,*]
[a] *LADCA, Department of Chemistry, University of Antwerp, Wilrijk, 2610, Belgium*
[b] *INCAT, Department of Materials, Textiles and Chemical Engineering, Ghent University, Ghent, 9000, Belgium*

CO_2 valorization by sorption-enhanced reverse water-gas shift reaction for low-temperature CO synthesis: a kinetic study of the reaction and water adsorption
Alex Desgagnés and Maria-Cornélia Iliuta*

Université Laval, Département de génie chimique, 2325 Rue de l'Université, Québec, QC, Canada

Nickel-NHC-complexes for CO_2 Photoreduction using the Cooperative Effect of Ionic Liquids
Lisa Eisele[1]*, Dominik Eder[2] and Katharina Bica-Schröder[1]
[1]TU Wien, Institute for Applied Synthetic Chemistry, Getreidemarkt 9/163, 1060 Vienna, Austria
[2]TU Wien, Institute of Materials Chemistry, Getreidemarkt 9/163, 1060 Vienna, Austria

New photocatalytic materials for carbon dioxide valorization in carbonylation chemistry using the cooperative effect of ionic liquids
Bletë Hulaj[1]*, Lisa Eisele[1] and Katharina Bica-Schröder[1]
[1]Technische Universität Wien, Getreidemarkt 9/163, 1060 Vienna, Austria

Development of $Cu_2O/BiVO_4$ heterojunction photocatalysts for sustainable artificial photosynthesis.
Eva Naughton*, James A. Sullivan, and Ravindranathan Thampi.
UCD School of Chemistry, Belfield, Dublin 4, Ireland.

Design and application of catalytically active hollow-fiber membrane reactors
Julia A. Piotrowska[1]*, Katharina Bica-Schröder[1]** and Michael Harasek[2]
[1]Technische Universität Wien, Institute for Applied Synthetic Chemistry, Getreidemarkt 9/E163, Austria
[2]Technische Universität Wien, Institute of Chemical, Environmental and Bioscience Engineering,
Getreidemarkt 9/E166, Austria

Utilization of CO/CO2-containing industrial process gas into valuable polyurethane building blocks
Deepika Tyagi[a], Suresh Raju [a], Martin R. Machat,*[ab], Christoph Guertler,*[ab] Walter Leitner*[ac]
[a]RWTH-Aachen University, CAT Catalytic Center, Worringer Weg 2, 52074 Aachen, Germany
[b]Covestro Deutschland AG, Kaiser-Wilhelm-Allee 60, 51368 Leverkusen, Germany.
[c]Max-Planck-Institut für Chemische Energiekonversion, Stiftstraße 34-36, 45470 Mülheim an der Ruhr, Germany

Carbon Nanostructures Obtained through CO_2 Utilization
Michail Vagenas[1,2]*, Niki Plakantonaki[1], Tatiana Giannakopoulou[1], Nadia Todorova[1], Ilias Papailias[1],
Christos Argirusis[2] and Christos Trapalis[1]
[1]Institute of Nanoscience and Nanotechnology, National Centre for Scientific Research "Demokritos", Patriarhou Grigoriou E & Neapoleos 9, 15341, Attika, Greece
[2]School of Chemical Engineering, National Technical University of Athens, *Heroon Polytechniou 9, 15773 Zografou*, Greece

Hybrid energy storage based on CO_2 capture and renewable energy sources (RES); Construction and operation of a novel flue gas storage and supply system
Petros Gkotsis[1], Manassis Mitrakas[2] and Anastasios Zouboulis[1,]*
[1]Laboratory of Chemical and Environmental Technology, Department of Chemistry, Faculty of Sciences, Aristotle University of Thessaloniki, 54124, Thessaloniki, Greece
[2]Analytic Chemistry Laboratory, Department of Chemical Engineering, School of Engineering, Aristotle University of Thessaloniki, 54124, Thessaloniki, Greece

Dynamic simulation of biogenic CO_2 methanation in fixed and structured catalytic reactors for decentralized Power-to-Gas applications

Dimitrios Mertzis[1]* Grigorios Koltsakis[1] and Zissis Samaras[1]

[1]Lab of Applied Thermodynamics, Faculty of Engineering, Mech. Eng. Dpt., Aristotle University of Thessaloniki

Preparation of CO_2 sorption pellets from polyaniline using microwave heating

Milena Šetka [1]*, Albert Behner [1] and Miroslav Šooš [1]

[1]Department of Chemical Engineering, University of Chemistry and Technology, Technická 3, 166 28 Prague 6 – Dejvice, Czech Republic

Coupling Reaction of CO_2 with Epoxides by Highly Nucleophile 4-Aminipyridines

Wuttichai Natongchai,[1] Jesús Antonio Luque-Urrutia,[2] Chalida Phungpanya,[1] Miquel Solà,[2] Valerio D'Elia,[1]* Albert Poater,[2]* and Hendrik Zipse[3]

[1]Department of Materials Science and Engineering, School of Molecular Science and Engineering, Vidyasirimedhi Institute of Science and Technology (VISTEC), 555 Moo 1, 21210, Payupnai, WangChan, Rayong, Thailand.

[2]Institut de Química Computacional i Catàlisi and Departament de Química, Universitat de Girona, C/M. Aurèlia Capmany, 69, 17003 Girona, Catalonia, Spain.

[3]Department Chemie, Ludwig-Maximilians-Universität München, Butenandtstraße 5–13, Haus F, 81377 München, Germany.

Conversion of glycidol to glycerol carbonate using Halogen-free bio-based organic salts

Jitpisut Poolwong[1], Vatcharaporn Aomchad[1], Silvano Del Gobbo[1], Arjan W. Kleij[2,3]* and Valerio D' Elia[1]*

[1]Department of Materials Science and Engineering, School of Molecular Science and Engineering, Vidyasirimedhi Institute of Science and Technology (VISTEC), 555 Moo 1, 21210, Payupnai, Wangchan, Rayong, Thailand.

[2]Institute of Chemical Research of Catalonia (ICIQ), Barcelona Institute of Science & Technology (BIST), Av. Països Catalans 16, 43007 - Tarragona (Spain).

[3]Catalan Institute for Research and Advanced Studies (ICREA), Pg. Lluis Companys 23, 08010 - Barcelona (spain)

Effect of Interaction between Ru and N dopant in N-doped Titanium Oxide supported Heterogeneous catalyst over CO_2 Hydrogenation to Formate

Kwangho Park

Clean Energy Research Center, Korea Institute of Science and Technology 5, Hwarang-ro 14-gil, Seongbuk-gu, Seoul, 02792, Republic of Korea

Enhanced catalytic stability of migrated Ru atom on the carbon for CO_2 hydrogenation validated by experimental and theoretical investigation

K. R. Lee[1], K. Park and K.-D. Jung[2]*

[1]Clean Energy Research Center, Korea Institute of Science and Technology 5, Hwarang-ro 14-gil, Seongbuk-gu, Seoul, 02792, Republic of Korea

Boosting interfacial electric field in $ZnS/ZnIn_2S_4$ heterostructure for highly efficient photocatalytic CO_2 reduction

Amr Sabbah[1], Indrajit Shown[2]*, Kuei-Hsien Chen[1]*, Li-Chyong Chen[3]*

[1]Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei 10617, Taiwan

[2]Department of Chemistry, Hindustan Institute of Technology and Science, Chennai, 603103, India

[3]Center for Condensed Matter Sciences, National Taiwan University, Taipei 10617, Taiwan

Syngas Production by Carbon Dioxide Conversion of Methane over Co-based Catalyst with High Stable Activity
Sholpan S. Itkulova[1*], Yerzhan A. Boleubayev[1], Kirill A. Valishevskiy[1], Akbope K. Borangazieva[1],
and Zhuldyz U. Ibraimova[1]
[1]D.V.Sokolsky Institute of Fuel, Catalysis, and Electrochemistry, 142, Kunaev str., Almaty, 050010, Republic of Kazakhstan;

Upgrading biogas, produced from the anaerobic digestion of municipal wastewater treatment sludge, to biomethane by applying membrane gas separation
Chrysovalantou Koutsiantzi*[,1], Anastasios Zouboulis[2], Manassis Mitrakas[1], Eustathios S. Kikkinides[1]
[1]Department of Chemical Engineering, Aristotle University of Thessaloniki
[2]Department of Chemistry, Aristotle University of Thessaloniki

Pollution prevention and remediation

Nutritional content, microbial, and toxicity assay of homemade seed flour from locally grown Durian (Durio zibethinus), Jackfruit (Artocarpus heterophyllus) and Marang (Artocarpus odoratissimus)
Venchie Badong and Lorena B. Alcanzar
University of the Immaculate Conception, Philippines

Effect of competing anions on chromate and arsenate adsorption by polyethylenimine functionalized silica-based material
Maria Xanthopoulou, Dimitrios Gkiliopoulos, Konstantinos Triantafyllidis, Margaritis Kostoglou,
and Ioannis A. Katsoyiannis*
Laboratory of Chemical and Environmental Technology, Department of Chemistry, Aristotle University of Thessaloniki, Box 116, 54124 Thessaloniki, Greece

Oxidation and removal of As(III) and organic contaminants from wastewaters and groundwaters using nano-modified biochar
Ioannis Katsoyiannis*,Stella Chatzimichailidou, Margaritis Kostoglou, Georgios Kizas, Dimitris Giannakoudakis, Konstantinos Triantafyllidids, Ioannis Katsoyiannis,
Department of Chemistry/Aristotle University of Thessaloniki/Thessaloniki/54124/Greece

Endocrine Disruptors -(estrone and β-estradiol) removal from water by Nutshell activated carbon: Kinetic, Isotherms and Thermodynamic studies
Khotha D. Elias[1] ,Ikechukwu P. Ejidike[2] and Fanyana M. Mtunzi[3]
[1]Department of Chemistry, Faculty of Applied and Computer Sciences, Vaal University of Technology, Vanderbijlpark, 1911, South Africa

Visible light-driven degradation Trichloroethylene in aqueous phase with Vanadium-doped TiO_2 photocatalysts
Duc Manh Nguyen[1,2], Thi Thuong Nghiem[2], Van Anh Nguyen[2]* and Esteban Mejía[1]*
[1]Leibniz Institute for Catalysis (LIKAT), Albert-Einstein-Str. 29a, 18059, Rostock, Germany
[2]School of Chemical Engineering, Hanoi University of Science and Technology, No.1 Dai Co Viet Hanoi, Vietnam

Pilot scale continuous photocatalytic reactor for removal of emerging contaminants from leachates

Panagiotis Kouvatsis1,2, Eleni Evgenidou1,2, Christina Nannou1,2, Dimitris Bikiaris3, Dimitra Lambropoulou1,2
1Department of Chemistry, Aristotle University of Thessaloniki, GR 54124, Thessaloniki, Greece 2Centre for Interdisciplinary Research and Innovation (CIRI-AUTH), Balkan Center, Thessaloniki, 10th km Thessaloniki-Thermi Rd, GR 57001, Greece 3Laboratory of Polymer Chemistry and Technology, Department of Chemistry, Aristotle University of Thessaloniki, GR-541 24 Thessaloniki, Greece

Uranyl (UO_2^{2+}) Ion Speciation and Coordination using Guanidine-based
Schiff Base: A way towards Sustainable Future Energy
Preeti Mishra[1] and Jai Deo Singh[1]*
[1]Department of Chemistry, Indian Institute of Technology, New Delhi, India

Investigation of the degradation of trace substances by combined oxidative-enzymatic wastewater treatment
D. Schmiemann[1,2]*, L. Hohenschon[1], J. Grey[1], I. Bartels[1,2], J. Schneider[3], K. Opwis[3], M. Jaeger[1], A. Cordes[4],
F. Zhang[5], G. Müller-Czygan[6], J.S. Gutmann[2,3] and K. Hoffmann-Jacobsen[1]
[1]Hochschule Niederrhein, Adlerstr. 32, 47798 Krefeld, Germany
[2]Universitaet Duisburg-Essen, Universitaetsstr. 1, 45141 Essen, Germany
[3]Deutsches Textilforschungszentrum Nord-West gGmbH (DTNW), Adlerstr. 1, 47798 Krefeld, Germany
[4]ASA Spezialenzyme GmbH, Am Exer 19 C, 38302 Wolfenbuettel, Germany
[5]HST Systemtechnik GmbH & Co. KG, Heinrichsthaler Str. 8, 59872 Meschede, Germany
[6]Hochschule Hof, Alfons-Goppel-Platz 1, 95028 Hof, Germany

Methane combustion over Pd-MeOx/Al_2O_3 (Me= Co, Ni or Ce) catalysts
Silviya Zh. Todorova[1*], Anton Il. Naydenov[2], Ralitsa G. Velinova[2], Yordanka G. Karakirova[1], Hristo G. Kolev[1]
[1]Institute of Catalysis, Bulgarian Academy of Sciences, Acad. G. Bonchev St., Block 11,1113 Sofia, Bulgaria
[2]Institute of General and Inorganic Chemistry, Bulgarian Academy of Sciences, Acad. G. Bonchev St., Block 11,1113 Sofia, Bulgaria

Synthesis and Characterization of Environment friendly $Na_{0.4}K_{0.1}Bi_{0.5}TiO_3$ Ceramics for Multifunctional Applications
Pravin Varade[1*], N. Shara Sowmya[1], Adityanarayan H. Pandey[1], N. Venkataramani[1], Ajit R. Kulkarni[1]
[1]Department of Metallurgical Engineering and Materials Science, Indian Institute of Technology-Bombay, Mumbai-400076, India.

Removing Sulfur Dioxide (SO_2) by Nanoparticle Piperine Extracted From Piper Nigrum L.
C. Tabag[1] and E. Yıldırım[2]
[1,2]Hisar School, Istanbul, Turkey

Absorption of Pollutants by $CsPbBr_3$ Perovskite
G. Roini[1*], M. Maddaloni[2, 3], I. Vassalini[1, 3, 4], A. Vinattieri[5, 6, 7] and I. Alessandri[1, 3, 4]
[1]Department of Information Engineering, University of Brescia, via Branze 38, 25123, Brescia, Italy.
[2]Chemistry for Technologies Laboratory, Department of Mechanical and Industrial Engineering, University of Brescia, via Branze 38, 25123, Brescia, Italy.

[3]National Interuniversity Consortium of Materials Science and Technology (INSTM), Florence, Italy, University of Brescia, via Branze 38, 25123, Brescia, Italy.
[4]National Institute of Optics-Italian National Research Council (CNR-INO), University of Brescia, via Branze 38, 25123, Brescia, Italy.
[5]Department of Physics and Astronomy, University of Florence, via G. Sansone 1, Sesto F.no, Italy.
[6]INFN-Firenze, via G. Sansone 1, Sesto F.no, Italy
[7]LENS, via N.Carrara 1, Sesto F.no, Italy

Fatty acids-based Eutectic Solvents Liquid Membranes for Removal of Sodium Diclofenac from Water
J. Afonso [1] and I.M. Marrucho[1,*]
[1]Centro de Química Estrutural and Departamento de Engenharia Química, Instituto Superior Técnico, Universidade de Lisboa, Avenida Rovisco Pais, 1049-001 Lisboa, Portugal

Energy balance of a thermophilic biological fluidized bed reactor during exothermic reactions of sludge minimization
Maria Cristina Collivignarelli [1,2], Marco Carnevale Miino [1*], Giacomo Cillari [3], Stefano Bellazzi [1], Francesca Maria Caccamo [1], Alessandro Abbà [4] and Giorgio Bertanza [4]
[1]Department of Civil Engineering and Architecture, University of Pavia, via Ferrata 3, 27100 Pavia, Italy
[2]Interdepartmental Centre for Water Research, University of Pavia, Via Ferrata 3, 27100 Pavia, Italy
[3]Department of Energy, Systems, Territory and Constructions Engineering, University of Pisa, Largo Lucio Lazzarino, 56122 Pisa, Italy
[4]Department of Civil, Environmental, Architectural Engineering and Mathematics, University of Brescia, via Branze 43, 25123 Brescia, Italy

Green synthesis of aerogel derived from “agro waste-natural rubber” for effective oil water separation
Monika Chhajed[1] and Pradip K Maji*
Department of Polymer and Process Engineering, Indian Institute of Technology Roorkee, Saharanpur Campus, Saharanpur, 247001, U.P., India

Removal of pharmaceuticals on functionalized activated carbons
El-Said I. El-Shafey, Syeda N. F. Ali
Chemistry Department, College of Science, Sultan Qaboos University, PC 123, Muscat , Oman

Novel diketopyrrolopyrrole-rhodamine conjugates with sensing ability
Andreia Leite,[1*] Carla Queirós,[1] Vítor A. S. Almodôvar,[2] Fábio Martins,[1] Augusto C. Tomé,[2] Ana M. G. Silva[1]
[1]REQUIMTE-LAQV, Department of Chemistry and Biochemistry, University of Porto, 4169-007 Porto, Portugal
[2]REQUIMTE-LAQV, Department of Chemistry, University of Aveiro, 3810-193 Aveiro, Portugal

Poly(ionic liquid)s as efficient adsorbents for dyes removal from water streams
Bruna F. Soares[1] and Isabel M. Marrucho[1,*]
[1]Centro de Química Estrutural and Departamento de Engenharia Química, Instituto Superior Técnico, Universidade de Lisboa, Avenida Rovisco Pais, 1049-001 Lisboa, Portugal

Synthesis and Characterization of Environment friendly $Na_{0.4}K_{0.1}Bi_{0.5}TiO_3$ Ceramics for Multifunctional Applications
Pravin Varade[1*], N. Shara Sowmya[1], Adityanarayan H. Pandey[1], N. Venkataramani[1], A. R. Kulkarni[1]
[1]Department of Metallurgical Engineering and Materials Science, Indian Institute of Technology-Bombay, Mumbai-400076, India.

Green Chemistry and entrepreneurship – Sustainable industrial processes

Effect of NaCl concentration on protein production by submerged cultivation of *Pleurotus ostreatus*
Georgios Bakratsas, Elena Gkantzou, Michaela Patila, Angeliki C. Polydera, Petros Katapodis*, Haralambos Stamatis*
Biotechnology Laboratory, Department of Biological Applications and Technologies, University of Ioannina, 45110 Ioannina, Greece

A novel device for the carbonate determination, as carbon dioxide, during petroleum and natural gas exploration
Sofia Mylona[1] and Vasilios Koulos[1]
[1]BD INVENTIONS PC, Giannitson 31,54627 Thessaloniki

Renewable Reagents for Nucleophilic Fluorination
Griša Prinčič[1], Jan Jelen[2], Evelin Gruden, Jan Hočevar[1], Blaž Omahen[1], Gašper Tavčar[2], Jernej Iskra*[1]
[1]Faculty of Chemistry and Chemical Technology, University of Ljubljana Večna pot 113, 1000 Ljubljana [2]Department of Inorganic Chemistry and Technology, Jožef Stefan Institute, Jamova 39, 1000, Ljubljana, Slovenia

Greenchemical biotechnology: an innovative concept theory and practice for herbal formulations
N. Bhojak,*H.S. Bhandari, Raja Ram, S.N. Jatolia and Uma Rathore
Green Chemistry Research Centre, P.G. Department of Chemistry,
Govt Dungar College (A-Grade), MGS University, Bikaner 334 003, India.

Food / agriculture is neither a risky, nor an uncertain/impossible business since 1975 at liaqat corp (pvt) ltd, by field-based mobile commercial innovative industrialization for zero food waste at profit-loss/ppp/turn-key basis
Ali Liaqat[1] and Dr. Aftab Arslan[2]
[1]Liaqat Corporation Private Limited, Gujranwala, Pakistan

Curcumin solid dispersion particles as novel Pickering stabilizers
Larissa C. Ghirro[1,2], Stephany C. de Rezende[1,3,4], Andreia S. Ribeiro[3,4], Bogdan Demczuk, Jr.[2], Maria Filomena Barreiro[1]* and Arantzazu Santamaria-Echart[1]*
[1]Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal
[2]Campus Campo Mourão, Universidade Tecnológica Federal do Paraná (UTFPR), P.O. Box 271,
Campo Mourao 87301-899, Brazil, [3]LSRE-LCM - Laboratory of Separation and Reaction Engineering - Laboratory of Catalysis and Materials
Faculdade de Engenharia, Universidade do Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal
[4]ALiCE - Associate Laboratory in Chemical Engineering Faculdade de Engenharia, Universidade do Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal

Thursday 8th September 2022 (Poster Session III)

Alternative and benign chemical processes (microwaves, ultrasounds, photochemistry, electrochemistry, flow chemistry, etc.)

Electrochemical synthesis as alternative synthetic strategies for the Manganese phthalocyanine and its graphene quantum dot conjugate
Douaa AlMarzouq [1*], Shereen A. Majeed [2], ¨Ozlem Budak [3] and Atıf Koca [3*]
[1]Department of Environmental Health, College of Health Sciences, The Public Authority of Applied Education and Training, P.O. Box 1428, Faiha 72853, Kuwait

Pre-treatment of beech wood using choline chloride-based deep eutectic solvents
Pierre-Alann Cablé[1*], Fabrice Mutelet[1], Yann Le Brech[1]
[1]Universite de Lorraine, Ecole Nationale Superieure des Industries Chimiques, Laboratoire Reactions et Genie des Procedes (UMR CNRS 7274), 1 rue Grandville, 54000 NANCY, France.

Steroidal fused pyrroles: an environmentally friendly alternative to the synthesis of plant growth promoters
María G. De los Santos,[1] Esaú Ruiz-Sánchez,[2] Adolfo López-Torres[3] and María A. Fernández-Herrera.[1]*
[1]Departamento de Física Aplicada, Cinvestav Mérida, 97310, Mérida, Yucatán; México.
[2]Tecnológico Nacional de México, Instituto Tecnológico de Conkal, Avenida Tecnológico s/n, C.P. 97345, Conkal, Yucatán, México.
[3]Instituto de Biotecnología, Universidad Del Papaloapan. Circuito Central Num. 200, Col. Parque Industrial, 68301, Tuxtepec, Oaxaca, México.

The radiation chemistry as a green alternative for the synthesis of graphene-supported gold nanoparticles
Dejan P. Kepić[1*], Andjela M. Stefanović[1,2], Jovana R. Prekodravac[1], Milica D. Budimir[1], Vladimir B. Pavlović[3], and Biljana M. Todorović Marković[1]
[1]Vinča Institute of Nuclear Sciences - National Institute of the Republic of Serbia, University of Belgrade, P.O.B. 522, 11001 Belgrade, Serbia
[2]Faculty of Chemistry, University of Belgrade, Studentski trg 12-16, 11158 Belgrade, Serbia
[3]Faculty of Agriculture, Department of Agricultural Engineering, University of Belgrade, Nemanjina 6, 11080 Belgrade, Serbia

Electrochemical Synthesis of Aryl Alcohols in Continuous-Flow
Anni Kooli and Maksim Ošeka*
Tallinn University of Technology, School of Science, Akadeemia tee 15, 12618, Tallinn, Estonia

Direct electrochemical oxidation of abietanes
Inês S. Martins*, Jaime A. S. Coelho[b], Carlos A. M. Afonso[a]
[a]Instituto de Investigação do Medicamento (iMed.ULisboa), Faculty of Pharmacy, University of Lisbon, Av. Prof. Gama Pinto, 1649-003 Lisboa, Portugal. [b]Centro de Química Estrutural, Insitute of Molecular Sciences, Faculty of Sciences, University of Lisbon, Campo Grande, 1749-016 Lisboa, Portugal

Using various ionic liquids to regulate hydrogen evolution and the role of halides ions on H2 production during aluminum dissolution in alkaline solutions

Mohamed A. Deyab1*
1Egyptian Petroleum Research Institute (EPRI), Nasr City, Cairo, Egypt

Continuous Formation of Bioderived Cyclic Carbonates using Supported Ionic Liquid Based Catalysts and Supercritical Carbon Dioxide ($scCO_2$) as Solvent and Reagent
Philipp Mikšovsky[1]*, Elias N. Horn[1], Michael Schnürch[1] and Katharina Bica-Schröder[1]
[1]TU Wien, Institute of Applied Synthetic Chemistry, Getreidemarkt 9/E163, Austria

Advancing flow chemistry through continuous API manufacturing: A Process route towards Celecoxib
Nicole C Neyt-Galetti[1], Chris van der Westhuizen[1], Darren L. Riley and Jenny-Lee Panayides[1*]
[1]Pharmaceutical Technologies, Council for Scientific and Industrial Research Future Production: Chemicals, Meiring Naudé Road, Pretoria, South Africa, 0184
[2]Department of Chemistry, Natural and Agricultural Sciences, University of Pretoria, Pretoria, 0028, South Africa.

A multistep microflow process towards Selective Serotonin Reuptake Inhibitor (SSRI), Fluoxetine.
Lorinda T. van Wyk[1] and Darren L. Riley[1]*
[1]Department Chemistry, University of Pretoria, Pretoria, 0028, South Africa.

Microreactor based on TiO_2 nanotubes for photocatalytic degradation of organic compounds in water
Vasilyev A.S.[1*], Morozov A.N.[1], Gartman T.N.[1], Pochitalkina I.A.[1] and Sovetin F.S.[1]
[1]Mendeleev University of Chemical Technology of Russia, 125047, Moscow, Miusskaya square, 9, Russia

Microwave assisted one-pot synthesis of bridgehead bicyclo[4.4.0]boron heterocycles as DNA visible light photo-interacting molecules with possible theranostic applications
Polinikis Paisidis,[1] George Psomas,[2] Antigoni Kotali[3] and Konstantina C. Fylaktakidou[1]*
[1]Lab of Organic Chemistry/Aristotle University of Thessaloniki/Chemistry Dept, 54124 Thessaloniki, Greece,
[2]Lab of Inorganic Chemistry/Aristotle University of Thessaloniki/Chemistry Dept, 54124 Thessaloniki, Greece,
[3]Lab of Organic Chemistry/Aristotle University of Thessaloniki/Dept of Chemical Engineering, 54124 Thessaloniki, Greece

Microwave- and ultrasound-promoted greener synthesis of tolperisone derivatives and their biological evaluation
Yelizaveta Belyankova[1,2,*], Saniya Tursynbek[1,2], Anuar Dauletbakov[1,2], Zhuldyz Bazhikova[1,2], Assel Ten[1], Alexey Zazybin[1,2]
[1]Departament of Chemical Engineering/Kazakh-British Technical University, 050000, Almaty, Kazakhstan
[2]Institute of Chemical & Biological Technologies/ Satbayev University Satbayev University, 050013, Almaty, Kazakhstan

Cocrystallization through green mechanochemical synthesis: An approach to improve solubility of drugs
Amanda C. de Almeida[1]*, Patricia O. Ferreira[1], Giovanna de P. Costa[1], Laura T. Ferreira[2] and Flávio J. Caires[1,2]
[1]School of Sciences, São Paulo State University, 17033-360, Bauru, Brazil
[1]Institute of Chemistry, São Paulo State University, 14800-060, Araraquara, Brazil

Chalcones as alkyne surrogates for the synthesis of pyrazoles through sequential mechanochemical (3+2)-cycloaddition with nitrile imines and deacylative oxidation

Greta Utecht-Jarzyńska[1], Anna Kowalczyk[1,2] and Marcin Jasiński[1]*
[1]Faculty of Chemistry, University of Lodz, Tamka 12, 91403 Łódź, Poland
[2]The University of Lodz Doctoral School of Exact and Natural Sciences, Banacha 12/16, 90237 Łódź, Poland

Visible Light-Mediated In Situ Generation of δ,δ-Disubstituted p-Quinone Methides: Construction of a Sterically Congested Quaternary Stereocenter
Vikas Dixit, Nidhi Jain*
*Department of Chemistry, Indian Institute of Technology, Delhi, India

Catalytic processes (homogeneous, heterogeneous and bio-catalysis)

Catalytic dehydration of 1,3-Butanediol into 1,3-Butadiene
G. Fayad , E.V. Makshina , B. Lagrain , B.F. Sels *
Center for Sustainable Catalysis and Engineering (CSCE), KU Leuven, Celestijnenlaan 200F,
3001, Leuven-Belgium

Catalytic hydrodeoxygenation (HDO) of lignin-derived phenolic compounds over zeolite-supported nickel catalysts
Foteini F. Zormpa1, Antigoni G. Margellou1, Vasileia-Loukia Yfanti1,2 and Konstantinos S. Triantafyllidis1,3*
1Department of Chemistry, Aristotle University of Thessaloniki (AUTH), Thessaloniki, Greece
2Department of Chemical Engineering, Aristotle University of Thessaloniki (AUTH), Thessaloniki, Greece
3Center for Interdisciplinary Research and Innovation (CIRI), AUTH, Thessaloniki, Greece

Design of noble-metal-free molecular catalysts and photosensitizers for photocatalytic hydrogen production
Dimitra Gioftsidou,[1] Charikleia Tzatza,[1] Georgios Landrou,[2] Antonios Hatzidimitriou,[1] Athanasios G. Coutsolelos,[2] and Panagiotis A. Angaridis[1]*
[1]Aristotle University of Thessaloniki, Department of Chemistry, Thessaloniki, Greece
[2]University of Crete, Department of Chemistry, Heraklion, Crete, Greece

Feruloyl esterase-catalyzed synthesis of a bioactive sugar ester based on phenolic compounds derived from the halophyte Salicornia spp.
Io Antonopoulou*, Ulrika Rova, Paul Christakopoulos
Biochemical Process Engineering, Division of Chemical Engineering, Department of Civil, Environmental and Natural Resources Engineering, Luleå University of Technology, SE-97187 Luleå, Sweden

Utilization of industrial residues as co-capturing agents for enzyme-accelerated CO_2 capture
Ayanne De Oliveira Maciel, Paul Christakopoulos, Ulrika Rova, Io Antonopoulou*
Biochemical Process Engineering, Division of Chemical Engineering, Department of Civil, Environmental and Natural Resources Engineering, Luleå University of Technology, SE-97187 Luleå, Sweden

Use of Magnetic Cross-Linked Tyrosinase Aggregates for Biocatalytic Processes in Deep Eutectic Solvents
Myrto G. Bellou, Renia Fotiadou, Archontoula Giannakopoulou, Angeliki C. Polydera, Haralambos Stamatis*
Department of Biological Applications and Technologies, University of Ioannina, Ioannina, Greece

Suitability of volcanic materials as green catalysts for environmental purposes
María Emma Borges Chinea[1]*, Héctor de Paz Carmona[1] and Pedro Esparza Ferrera[2]
[1]Chemical Engineering Department, University of La Laguna, Tenerife, Canary Islands 38200, Spain
[2]Chemistry Department, University of La Laguna, Tenerife, Canary Islands 38200, Spain

Green chemicals from dehydration and partial dehydrogenation of sugar cane fusel oil
Livia Padilha de Lima, Gustavo Metzker, Mauricio Boscolo*
Sao Paulo State University (UNESP), Sao Jose do Rio Preto, SP, Brazil

Optimization of furan-based oligoester enzymatic synthesis by design of experiments
Diana Maria Dreavă[1], Ioan Bîtcan[1], Andreea Petrovici[1], Iulia Păușescu[1*], Francisc Peter[1], Anamaria Todea[1]
[1]Politehnica University Timisoara, Faculty of Industrial Chemistry and Environmental Engineering, 6 Vasile Parvan Bvd, 300223, Timisoara, Romania

Effect of Aqueous Choline Chloride-Based DES Solutions on the Biocatalytic Performance of Immobilized Hydrolases
Renia Fotiadou, Myrto G. Bellou, Elena Gkantzou, Angeliki C. Polydera and Haralambos Stamatis*.
Laboratory of Biotechnology, Department of Biological Applications and Technologies, University of Ioannina, Ioannina, Greece

Dry Reforming of Methane over Fe-Co Based Alumina Supported Catalysts
Sholpan S. Itkulova[1,2*], Yerzhan A. Boleubayev[1], Kirill A. Valishevskiy[1], Alexander R. Brodsky[1,2],
Nurlygul K. Orazova[2], and Perizat I. Komekbayeva[2]
[1]D.V.Sokolsky Institute of Fuel, Catalysis, and Electrochemistry, 142, Kunaev str., Almaty, 050010, Republic of Kazakhstan;
[2]Kazakh-British Technical University, 59, Tole bi, Almaty, 050000, Republic of Kazakhstan

Catalytic properties of Ni-Cu mixed oxides deposited on stainless steel meshes by plasma jet sputtering
Květa Jirátová[1]*, Petr Soukal[2], Timur Babii[3], Jana Balabánová[1], Martin Koštejn[1], Martin Čada[2], Jaroslav Maixner[4], Pavel Topka[1], Zdeněk Hubička[2], František Kovanda[3]
[1]Institute of Chemical Process Fundamentals of the Czech Academy of Sciences, Prague, Czech Republic;
[2]Institute of Physics, Academy of Sciences of the Czech Republic, Prague, Czech Republic
[3]Department of Solid State Chemistry, University of Chemistry and Technology, Prague, Czech Republic
[4]Central Laboratories, University of Chemistry and Technology, Prague, Czech Republic

Bioconversion of daidzin and genistin in seed and roots extracts of Korean wild soybean into daidzein and genistein by β-galactosidase from Thermoproteus uzoniensis
Kyung-Chul Shin[1], Su-Hwan Kang[2], Deok-Kun Oh[2], Dae Wook Kim[3], Sae Hyun Kim[3], Chae Sun Na[3,*] and Yeong-Su Kim[3,*]
[1]Department of Integrative Bioscience and Biotechnology, Konkuk University, Seoul 05029, Republic of Korea

[2]Department of Bioscience and Biotechnology, Konkuk University, Seoul 05029, Republic of Korea
[3]Department of Wild Plants and Seeds Conservation, Baekdudaegan National Arboretum, Bonghwa 36209, Republic of Korea

Cobalt-copper oxide catalysts and their performance in total oxidation of ethanol
Květa Kupková[1], Jana Balabánová[2], Květa Jirátová[2], Jean-Marc Giraudon[3], Jean-Francois Lamonier[3],
František Kovanda[1]*
[1]Department of Solid State Chemistry, University of Chemistry and Technology, Prague, Technická 5, 166 28 Prague, Czech Republic
[2]Institute of Chemical Process Fundamentals of the CAS, Rozvojová 135, 165 02 Prague, Czech Republic
[3]University of Lille, Unité de Catalyse et Chimie du Solide, UMR CNRS 8181, Cité Scientifique, Bâtiment C3, 59650 Villeneuve d'Ascq Cedex, France

Alternative and greener microwave assisted alkyl levulinate production.
Susana O. Ribeiro[1], Andreia F. Peixoto[1], Andreia Leite[1*]
[1]REQUIMTE-LAQV, Department of Chemistry and Biochemistry, University of Porto, 4169-007 Porto, Portugal

Manganese-Catalyzed Hydrogenation of Sclareolide to Ambradiol
Nadja E. Niggli[1], Viktoriia Zubar[1], Niels Lichtenberger[1], Mathias Schelwies[2], Thomas Oeser[3], A. Stephen K. Hashmi[1,3], and Thomas Schaub*[1,2]
[1]Catalysis Research Laboratory (CaRLa), Im Neuenheimer Feld 584, 69120 Heidelberg, Germany
[2]BASF SE, Carl-Bosch-Straße 38, 67056 Ludwigshafen, Germany
[3]Organisch-Chemisches Institut, University of Heidelberg, Im Neuenheimer Feld 270, 69120 Heidelberg, Germany

Hydrogenative Depolymerization of Polyurethanes Catalyzed by a Manganese Pincer Complex
Edward Ocansey[1], Viktoriia Zubar[1], Andreas T. Haedler[2], Markus Schütte[3], Stephen K. Hashmi[1,4], Thomas Schaub[1,2]
[1]Catalysis Research Laboratory (CaRLa), University of Heidelberg, Heidelberg, Germany
[2]BASF SE, Carl-Bosch-Straße 38, 67056 Ludwigshafen, Germany
[3]BASF Polyurethanes GmbH, Elastogranstr. 60, 49448 Lemfoerde, Germany
[4]Organisch-Chemisches Institut, Heidelberg University, Im Neuenheimer Feld 270, 69120 Heidelberg, Germany

Diffusion and Adsorption Effects in TS-1/SAC Composites Catalysts for the Green Epoxidation of Methyl Oleate with H_2O_2
Adrián Osorio, Michael Goepel, David Poppitz, Muslim Dvoyashkin and Roger Gläser*
Institute of Chemical Technology, Universität Leipzig, Linnéstr. 3, 04103 Leipzig, Germany

Photocatalytic degradation of RB5 with modified graphitic carbon nitride (g-C_3N_4) as catalyst.
Papamichail P.,[1*] Deliyanni E.[1]
[1]Laboratory of Chemical and Environmental Technology, Department of Chemistry, Aristotle University of Thessaloniki, 54124, Greece

Photocatalytic Degradation of Ceftazidime in Wastewaters and Landfill Leachate using Manganese Oxides Supported on TiO2–Graphene Nanocomposite Catalysts
Eleni Evgenidou1,2, Panagiotis Pavlidis1, Efthymia Ioannidou3, Dimitrios Trikkaliotis3, Christina Nannou1,2, George Kyzas3, Dimitris Bikiaris4, Dimitra Lambropoulou1,2

1 Department of Chemistry, Aristotle University of Thessaloniki, GR 54124, Thessaloniki, Greece 2 Centre for Interdisciplinary Research and Innovation (CIRI-AUTH), Balkan Center, Thessaloniki, 10th km Thessaloniki-Thermi Rd, GR 57001, Greece, dlambro@chem.auth.gr
3 Department of Chemistry, International Hellenic University, Kavala, Greece, kyzas@chem.ihu.gr
4 Laboratory of Polymer Chemistry and Technology, Department of Chemistry, Aristotle University of Thessaloniki, GR-541 24 Thessaloniki, Greece, dbic@chem.auth.gr

Catalytic Fast Pyrolysis of JP-10 and 3-Carene Using Analytical Curie point pyrolyzer -GC/MS for the Production of Low Molecular Weight Hydrocarbons
Satya Priyadarshi[1]* and R. Vinu[1]
[1]Department of Chemical Engineering and National Centre for Combustion Research and Development, Indian Institute of Technology Madras, Chennai – 600036

Sustainable N-doped basic carbon catalysts for the synthesis of nitrogen heterocycles
Marina Godino-Ojer[1], Vanessa Ripoll Morales[1], Luisa M. Pastrana-Martínez[2], Francisco J. Maldonado-Hódar[2], Elena Pérez-Mayoral[3]*
[1]Facultad de Ciencias Experimentales, Universidad Francisco de Vitoria, UFV, Ctra. Pozuelo-Majadahonda km 1.800, 28223Pozuelo de Alarcón, Madrid, Spain
[2]Departamento de Química Inorgánica, Facultad de Ciencias, Universidad de Granada, Avenida de Fuente Nueva, 18071 Granada, Spain
[3]Departamento de Química Inorgánica y Química Técnica, Universidad Nacional de Educación a Distancia, UNED, Urbanización Monte Rozas, Avenida Esparta s/n, Ctra. de Las Rozas al Escorial Km 5, 28232 Las Rozas-Madrid, Spain

New Strategies for the Conversion of Biobased Furanics into High-value Added Synthons
Ekaterina Vakareslka Martin Ravutsov,[1] Miroslav Dangalov,[1] Maya Marinova[1] and Svilen Simeonov[1]*
[1] Institute of Organic Chemistry with Centre of Phytochemistry, Bulgarian Academy of Sciences, Acad. G Bonchev str. Bl9, Bulgaria

Development of Transition-Metal-Free Lewis Acid-Initiated Double Arylation of Aldehyde: A Sustainable Approach Towards the Total Synthesis of Anti-breast Cancer Agent
Sanjay Singh[1] and Chinmoy Kumar Hazra[1]*
[1]Department of Chemistry, Indian Institute of Technology, Delhi, India

Towards an artificial metalloprotein-controlled enantioselective allylic substitution reaction
Maria Logotheti1, Paul Hünemörder2, Esteban Meija2 *, Matthias Höhne1 *
1. Institute for Biochemistry, University of Greifswald, Felix-Hausdorff-Straße 4, 17487 Greifswald, Germany
2. Leibniz Institute for Catalysis, Albert-Einstein-Straße 29A, 18059 Rostock, Germany

Fabrication of Au nanoparticles supported on one-dimensional (1D) La2O3 nanorods for selective Esterification of Methacrolein to Methyl Methacrylate with Molecular Oxygen
Bappi Paul1
1National Institute of Technology Nagaland Dimapur, Nagaland India 797103

A study on the multicycle redox characteristic of La-Fe-oxide for chemical looping CO_2 conversion to CO
Hyun Seok Kang[1], Seung Hun Baek[2], Roosse Lee[2], Jong Heon Chong[2], Young Soo Ko[3], Jung Min Sohn[1, 2, *]
[1]Department of Energy Storage & Conversion Engineering, Jeonbuk National University, Jeonju, Jeollabuk-do, 54896, Republic of Korea

[2]Department of Mineral Resources & Energy Engineering, Jeonbuk National University, Jeonju, Jeollabuk-do, 54896, Republic of Korea
[3]Department of Chemical Engineering, Kongju National University, 1223-24 Cheonan-daero, Seobuk-gu, Cheonan 31080, Korea

Co-Ce supported SiO_2 for preferential CO oxidation in hydrogen reach gases -influence of the preparation method
Silviya Zh. Todorova [1*], Bozhidar K. Grahovski, Diana G. Filkova, Iliyana Hristova, Hristo G. Kolev, Daniela B. Karashanova[2]
[1]Institute of Catalysis, Bulgarian Academy of Sciences, Acad. G. Bonchev St., Bldg. 11, 1113 Sofia, Bulgaria
[2]Institute of Optical Materials and Technologies "Acad. Jordan Malinowski", Bulgarian Academy of Sciences, Acad. G. Bonchev St., Bldg. 109, 1113 Sofia, Bulgaria

Polyethylene Biodegradation by Bacillus Species from a Landfill Site
Seung-Do Yun[1], Min-Ju Seo[2] and Soo-Jin Yeom[1,2]*
[1]School of Biological Sciences and Biotechnology, Graduate School, Chonnam National University, Yongbong-ro 77, Gwangju 61186, South Korea
[2]School of Biological Sciences and Technology, Chonnam National University, Yongbong-ro 77, Gwangju 61186, South Korea

Biodegradation of polystyrene by bacteria from the soil in common environments
Ye-Bin Kim[1], Min-Ju Seo[1] and Soo-Jin Yeom[1,2]*
[1]School of Biological Sciences and Biotechnology, Graduate School, Chonnam National University, Yongbong-ro 77, Gwangju 61186, South Korea
[2]School of Biological Sciences and Technology, Chonnam National University, Yongbong-ro 77, Gwangju 61186, South Korea

Green and clean alumina supported iron catalysts for one pot Biginelli reaction
Chahinaz K.[1 *] and Tassadit[1]
[1]Applied chemistry and chemical engineering laboratory, Mouloud Mammeri of Tizi-Ouzou University. Algeria

A comparative study of the CO_2 methanation efficiency of dispersed Rh, Ru and Ir nanoparticles: Effect of metal nature and supporting material
Georgia Botzolaki, Anatoli Rontogianni, Grammatiki Goula, Ersi Nikolaraki, Sotiris Fanourgiakis, Ioannis V. Yentekakis*
Laboratory of Physical Chemistry & Chemical Processes, School of Chemical & Environmental Engineering, Technical University of Crete, 73100 Chania, Crete, Greece.

Turning Green Ideas into Industrial Success
Nikki Man, Fritz Schoemberg, Alexandre Vieira Silva, Raphael Fritsche, Henriette Nowothnick, Sonja Jost
DUDE CHEM GmbH, Köpenicker Str. 325, 12555 Berlin, Germany

Catalytic Activity of Cobalt Schiff-Base Complexes in Hydrosilylation of Alkynes
Skrodzki Maciej,[1,2] Ortega Garrido Victor,[2,3] Csáky Aurelio G.,[3] Patroniak Violetta,[2] Pawluć Piotr[1,2]
Faculty of Chemistry, Uniwersytetu Poznańskiego 8, 61-614 Poznań, Adam Mickiewicz University in Poznań, Poland
[2]Center for Advanced Technology, Uniwersytetu Poznańskiego 10, 61-614 Poznań, Adam Mickiewicz University in Poznań, Poland
[3]Catedrático de Química Orgánica, Grupo de Síntesis Orgánica y Bioevaluación, Instituto Pluridisciplinar, Universidad Complutense, Paseo de Juan XXIII, 1, 28040-Madrid

Catalytic oxidation of propane and n-hexane over cobalt loaded hierarchical ZSM-5 zeolite

Bozhidar K. Grahovski1, Ralitsa G. Velinova2, Iliyana D. Yordanova1*, Hristo G. Kolev1, Anton B. Naydenov2, Silviya Zh. Todorova1
1 Institute of Catalysis, Bulgarian Academy of Sciences, Acad. G. Bonchev St., Bldg. 11, 1113 Sofia, Bulgaria
2Institute of General and Inorganic Chemistry, Bulgarian Academy of Sciences, Acad. G. Bonchev St., Bldg. 11, 1113 Sofia, Bulgaria

Computational Chemistry towards greener chemical processes

Temporal heterogeneities of aromatic hydrocarbons dynamics in in ionic liquid
N. O. Atamas[1,2*], K. S. Yablochkova[1], M. M. Lazarenko[1]
[1]Taras Shevchenko National University of Kyiv, Kyiv 01601, Ukraine
[2] Institute of Physical Chemistry, Polish Academy of Sciences, 01-224 Warsaw, Poland

Betanidin zwitterionic and nonionic dimer conformers towards DSSCs application: A DFT investigation to optoelectronic and charge transfer properties
Rene Costa[* 1,2,3] Ohoud S. Al-Qurashi[4] Nuha Wazzan[5] Alexander Pogrebnoi[1] Tatiana Pogrebnaya[1]
[1]Department of Materials and Energy Science and Engineering, School of Materials, Energy, Water and Environmental Sciences, The Nelson Mandela African Institution of Science and Technology, P. O. Box 447 Arusha, Tanzania
[2]Department of Physical and Environmental Sciences, Faculty of Science, Technology and Environmental Studies, The Open University of Tanzania, P. O. Box 23409 Dar es Salaam, Tanzania
[3]Tabora Regional Centre, The Open University of Tanzania, P. O. Box 1204 Tabora, Tanzania
[4]Department of Chemistry, Faculty of Science, University of Jeddah, Jeddah 21959, Saudia Arabia
[5]Department of Chemistry, Faculty of Science, King Abdulaziz University, Jeddah 21589, Saudia Arabia

Development of bioplastic disposable food packaging from starch and cellulose
Lidya Hailu[1], Ramesh Duraisamy[2], Masood Akhtar Khan[2] and Belete Yilma[2]
[1]Department of chemistry, Debre Tabor University, Ethiopia
[2]Department of chemistry, Arba Minch University, Ethiopia

New bismuth titanates based photocatalysts: a comprehensive DFT and experimental insight
Aleksei G. Krasnov[1*], Mariia S. Koroleva[1], Igor R. Shein[2], Irina V. Piir[1]
[1]Institute of Chemistry, Federal Research Center Komi Science Center UB RAS, 48 Pervomaiskaya st., Syktyvkar, 167982, Russia.
[2]Institute of Solid State Chemistry, UB RAS, 91 Pervomaiskaya st., Ekaterinburg, 620990, Russia.

Pd-catalyzed allylic substitution between C-based nucleophiles and Bicyclic Aziridines
João Oliveira*[1,2], Gredy Kiala[2], Filipa Siopa[1,2], Carlos Afonso[2], Julie Oble[2], and Giovanni Poli[2].
[1]Research Institute for Medicines (iMed.ULisboa), Faculty of Pharmacy, Universidade de Lisboa,
Av. Prof. Gama Pinto,1649-003 Lisbon, Portugal.
[2]Sorbonne Université, Faculté des Sciences et Ingénierie, CNRS, Institut Parisien de Chimie Moléculaire (IPCM),
4 place Jussieu 75252 Paris Cedex 05 France.

Phisiological Regulation of Antifungal Properties of Agaricomycetes Mushroom Schizophyllum commune
Tamar Khardziani*, Violeta Berikashvili, Eka Metreveli, Aza Kobakhidze, Eva Kachlishvili, Vladimir Elisashvili, Mikheil Asatiani
The Institute of Microbial Biotechnology, Agricultural University of Georgia, Tbilisi, Georgia

Synthesis of new class dual functionalized ionic liquids and their performance for effective CO_2 capture: Properties and interaction mechanism analysis
Surya Chandra Tiwari, Sreedevi Upadhyayula, and K. K. Pant
Indian Institute of Technology, Delhi, 110016 India

Characterization of Giant Reed as a Potential Feedstock for Fast Catalytic Pyrolysis
Mangoba S.[1], Sammy L.K[2] and Yusuf M.I[3]
[1]Durban University of Technology, 121 Steve Biko Rd., Musgrave, Berea, Durban, 4001
[2]Vaal University of Technology, Andries Potgieter Blvd, Vanderbijllpark, 1900
[3]University of Witwatersrand, Jorissen St., Braamfontein, 2050

Green analytical chemistry

Impact of UV-B Exposure on Physicochemical Properties of Poly(ethylene terephthalate): On the way to microplastics formation
Nina Maria Ainali [1,2], Dimitrios N. Bikiaris [1*], Dimitra A. Lambropoulou [2,3]
[1]Department of Chemistry, Laboratory of Polymer Chemistry and Technology, Aristotle University of Thessaloniki, GR-541 24 Thessaloniki, Greece
[2]Laboratory of Environmental Pollution Control, Department of Chemistry, Aristotle University of Thessaloniki, GR-541 24 Thessaloniki, Greece
[3]Center for Interdisciplinary Research and Innovation (CIRI-AUTH), Balkan Center, Thessaloniki, GR-57001, Greece

A novel device for on-line determination of ammonia/ammonium in ambient air
Lukas Alexa* and Pavel Mikuska
Department of Environmental Analytical Chemistry, Institute of Analytical Chemistry of the Czech Academy of Sciences, Brno, 60200, Czech Republic

Application of green solvents and procedures for analysis of pharmaceuticals in environmental samples
Vasil Andruch[1]*, Elena Kupcová[2], and Barbora Benická[2]
[1]Department of Analytical Chemistry, Institute of Chemistry, Faculty of Science, P. J. Safarik University, Kosice, Slovakia
[2]Department of Chemistry, Faculty of Natural Sciences, Matej Bel University, Banska Bystrica, Slovakia

Biochar as a green modifier for the development of electrochemical biosensors
Cristiane Kalinke[1,3]*, Paulo R. de Oliveira[2], Luiz H. Marcolino-Junior[3] and Márcio F. Bergamini[3]
[1]Institute of Chemistry, University of Campinas (Unicamp), 13083-859, Campinas, São Paulo, Brazil.
[2]Federal University of São Carlos (UFSCar), 13600-970, Araras, São Paulo, Brazil

[3]Department of Chemistry, Federal University of Paraná (UFPR), 81531-980, Curitiba, Paraná, Brazil.

A protein-based free-standing transparent elastomer and its potential applications
Ramesh Nandi and Nadav Amdursky
Schulich Faculty of Chemistry, Technion – Israel Institute of Technology, Haifa, 3200003, Israel

Beeswax-based waterproof paper as a sustainable substrate for electrochemical sensing platforms
Paulo R. de Oliveira [1]*, Alejandro G.M. Ferrari[2], Cristiane Kalinke [3], Juliano A. Bonacin [3], Craig E. Banks[2] and Bruno C. Janegitz [1]
[1]Federal University of São Carlos (UFSCar), 13600-970, Araras, São Paulo, Brazil.
[2] Manchester Metropolitan University (MMU), Manchester, M1 5GD, United Kingdom.
[3]Institute of Chemistry, University of Campinas (Unicamp), 13083-859, Campinas, São Paulo, Brazil.

Application of the SPA analytical method for the determination of tar in pyrolytic gases in the tyres pyrolysis process
Sergejs D. Osipovs[1]* and Aleksandrs I. Pučkins[2]
[1]Department of Applied Chemistry, Daugavpils University, Parādes 1A street, Daugavpils, Latvia

A new environmentally friendly method for the determination of mercury
Andrea Gajdošová[1], Jana Šandrejová[1]*, Vasil Andruch[1]
[1]Department of Analytical Chemistry, Institute of Chemistry, Faculty of Science, P. J. Šafárik University in Košice, Moyzesova 11, SK-041 54 Košice, Slovakia

Opto-electrochemical sensing of SARS-CoV-2 nucleoprotein by antibody-conjugated red fluorescent Bio-gold nanoclusters
Saravanan Govindaraju [b*], Kyusik Yun [a*]
Gachon University

Green Analytical method for the assay of some selected drugs
SafwanFraihat
The unviversity of Jordan

Determination of air pollutants in confined crowded places
Chrystalla Kaikiti, Marinos Stylianou, Agapios Agapiou*
Department of Chemistry, University of Cyprus, P.O.Box 20537, 1678 Nicosia, Cyprus

Nano-materials for energy and environmental applications

Ecological Treatment Processes for Leathers Intended for Medical Applications
Ariadne Athanasiou[1#], Konstantinos Giannakopoulos[2], Nafsica Mouti[2], Marina Arvanitopoulou[2], Michael Arkas[2] Sara M. Soto[3] and Georgia Kythreoti[1]*
[1]Institute of Biosciences and Applications, NCSR “Demokritos”, Patriarchou Gregoriou Street, 15310 Athens, Greece

[2]Institute of Nanoscience Nanotechnology, NCSR "Demokritos", Patriarchou Gregoriou Street, 15310 Athens, Greece
[3]ISGlobal, Hospital Clinic - Universitat de Barcelona, 08036 Barcelona, Spain
[#] Current address: School of Liberal Arts and Sciences, The American College of Greece, 6 Gravias Street, 15342 Athens, Greece

Mixed metal oxide nanoparticles for organic solar cell applications
Manar Mostafa[1], Fathy El-Shahat[2], Moritz Riede[3] and Ghada Bassioni[1*]
[1]Chemistry Division, Faculty of Engineering, Ain shams University, Cairo, Egypt
[2]Chemistry Department, Faculty of Science, Ain shams University, Cairo, Egypt
[3]Department of Physics, University of Oxford, Oxford, OX13PU, UK

Green synthesis of tin sulfide films and effect of annealing
A. Bronusiene[1], I. Barauskiene[1], A. Popov[2] and I. Ancutiene[1]
[1] Department of Physical and Inorganic Chemistry, Kaunas University of Technology, Radvilenu str. 19, LT-50254 Kaunas, Lithuania
[2]NanoTechnas – Center of Nanotechnology and Materials Science, Faculty of Chemistry and Geosciences, Vilnius University, Naugarduko st. 24, LT-03225, Vilnius, Lithuania

Surface functionality role in the conductivity of microwave synthesized CQDs thin films
Jovana R Prekodravac[1]*, Milica Budimir[1]*, Bojana R Vasiljević[1], Dejan Kepić[1], and Biljana Todorović Marković[1]
1 Institute of the Nuclear Sciences Vinča – National Institute of the Republic of Serbia, University of Belgrade, P.O.B. 522, Belgrade, Serbia

Effect of Surface Functionalization and Doping of Graphitic Carbon Nitrides on Carbon Dioxide Fixation to Cyclic Carbonates at Atmospheric pressure under Solvent-Free Conditions
Hushan Chand and Venkata Krishnan*
School of Basic Sciences and Advanced Materials Research Center, Indian Institute of Technology Mandi, Kamand, Mandi 175005, Himachal Pradesh, India.

Portable paper sensing platform using novel histidine-stabilized gold nanoclusters for fast naked-eye detection of Fe ions from water
Markus Zetes[1,2], Alexandru-Milentie Hada[1,2], Monica Focsan[1], Simion Aștilean[1,2], Ana-Maria Craciun[1,*]
[1]Nanobiophotonics and Laser Microspectroscopy Center, Interdisciplinary Research Institute in Bio-Nano-Sciences, Babes-[2] Bolyai University, 42 T. Laurian Str., 400271, Cluj-Napoca, Romania
[2]Faculty of Physics, Babes-Bolyai University, 1 M. Kogalniceanu str., 400084, Cluj-Napoca, Romania

Synthesis and Applications of Cu_2O Nanoparticle Functionalized TiO_2 for Photocatalyzed Glaser Coupling
Geniece L. Hallett-Tapley[1]*and Elvin Girineza
[1]Department of Chemistry, Saint Francis Xavier University, PO Box 5000, B2G 2W5, Antigonish, Nova Scotia Canada

Synthesis and effect of calcination temperature on the physicochemical properties of porous clay heterostructures (PCH) material
Muhammad Kashif[1,2], JeongMin Kim[1,2], Soyeon Back[1,2], Yoohyun Song[1,2], Jaehyun Koo[1,2], Philippe M. Heynderickx[1,2]*
[1]Center for Environmental and Energy Research (CEER) – Engineering of Materials via Catalysis and Characterization, Ghent University Global Campus, 119-5 Songdo munhwa-Ro, Yeonsu-Gu, Incheon, 406-840 South Korea.
[2]Department of Green Chemistry and Technology, Faculty of Bioscience Engineering, Ghent University, 653 Coupure Links, Ghent, B-9000, Belgium.

Size and shape-controlled synthesis of well-defined iron oxide nanocrystals by investigation of the reaction path mechanism

Agnes Weimer*†,∞, Artur Feld,†,∞, Andreas Kornowski†, Naomi Winckelmans‖, Jan-Philip Merkl†,∞, Hauke Kloust†, Robert Zierold⊥, Christian Schmidtke†, Theo Schotten∇, Maria Riedner#, Sara Bals‖ and Horst Weller,†,∞,∇,§

† Institute of Physical Chemistry, Hamburg University, Grindelallee 117, D-20146 Hamburg, Germany.

∞ The Hamburg Center for Ultrafast Imaging, Hamburg University, Luruper Chaussee 149, D-22761 Hamburg, Germany.

∇ Fraunhofer-CAN, Grindelallee 117, D-20146 Hamburg, Germany.

§ Department of Chemistry, Faculty of Science, King Abdulaziz University, P.O BOX 80203 Jeddah 21589, Saudi Arabia.

Department of Chemistry, Hamburg University, Martin-Luther-King-Platz 6, D-20146 Hamburg, Germany.

‖ Electron Microscopy for Materials Science (EMAT), Department Physics, University of Antwerp, Groenenborgerlaan 171, B-2020 Antwerp, Belgium.

⊥ Center for Hybrid Nanostructures, University Hamburg, Luruper Chaussee 149, 22761 Hamburg, Germany.

Nature-inspired nanocomposites with exceptional isotropic mechanical and magneto-responsive properties

Artur Feld1,2*, Axel Dreyer3, Agnes Weimer1,2, Andreas Kornowski1, Rieke Koll1, Heshmat Noei4, Tobias Krekeler5, Lisa Sarah Fruhner6, Andreas Stierle4,7, Volker Abetz1,8, Horst Weller1,2,9 and Gerold A. Schneider3

1Institute of Physical Chemistry, Hamburg University, Grindelallee 117, D-20146 Hamburg, Germany

2The Hamburg Center for Ultrafast Imaging, University of Hamburg, Luruper Chaussee 149, 22761 Hamburg, Germany

3Institute of Advanced Ceramics, Hamburg University of Technology, Denickestrasse 15, D-21073 Hamburg, Germany

4DESY NanoLab, Deutsches Elektronensynchrotron DESY, Notkestrasse 85, D-22607 Hamburg, Germany

5Electron Microscopy Unit, Hamburg University of Technology, Eißendorfer Str. 42, D-21073 Hamburg

6JCNS-1 and ICS-1, Forschungszentrum Jülich GmbH, Leo-Brandt-Straße, 52425 Jülich, Germany

7Physics Department, Hamburg University, Jungiusstrasse 11, D-20355 Hamburg, Germany

8Institute of Polymer Research, Helmholtz-Zentrum Geesthacht, Max-Planck-Strasse 1, 21502 Geesthacht, Germany

9Center for Applied Nanotechnology, Grindelallee 117, D-20146 Hamburg

Facets Directed Connecting Perovskite Nanocrystals

Biswajit Hudait and Narayan Pradhan*

School of Materials Sciences, Indian Association for the Cultivation of Science, Kolkata- 700032, India

Iron-based catalytic materials as energy carriers for carbon dioxide valorization

Alexandra Bakratsa[1], Georgia Kastrinaki[2], Vasiliki Zacharopoulou[2], Maria Karani[2]*, George Karagiannakis[2] and Vasilis Zaspalis[1, 2]

[1]Department of Chemical Engineering, Aristotle University of Thessaloniki, University campus, Thessaloniki, 54124, Greece

[2]Chemical Process & Energy Resources Institute, CERTH, 6th km. Harilaou-Thermi Rd, Thessaloniki, 57001, Greece

Lignocellulose-based membranes for lithium-ion battery separators

Huisi Li[1], Kunshan Yu[1], Sadegh Askari[1], Artem Kulachenko[3], Mikael E. Lindström[1], Olena Sevastyanova[1,2]

[1]KTH-Royal Institute of Technology, Department of Fibre and Polymer Technology, Teknikringen 56-58, Stockholm, Sweden
[2]Wallenberg Wood Science Center – WWSC, Department of Fibre and Polymer Technology, Teknikringen 56-58, Stockholm, Sweden
[3]KTH-Royal Institute of Technology, Department of Solid Mechanics, SE-100 44 Stockholm, Sweden

Phosphonated Polyetheramine-Coated Magnetic Nanoparticles: A Sustainable Approach for Oilfield scale Management
Ali H. Alkaraly[1] and Mohamed F. Mady[1]*
[1]Department of Chemistry, Bioscience and Environmental Engineering, Faculty of Science and Technology, University of Stavanger, N-4036 Stavanger, Norway

Recyclable Magnetic Nanoparticles Coated-Poly(4-styrenesulfonic acid-co-maleic acid) for Oilfield Scale Control
Abdelrahman Abdelaal[1] and Mohamed F. Mady[1]*
[1]Department of Chemistry, Bioscience and Environmental Engineering, Faculty of Science and Technology, University of Stavanger, N-4036 Stavanger, Norway

Synthesis and characterization of Metal-organic framework of Zn (II) modified by magnetic nanoparticles and multi-walls carbon nanotubes for dispersive solid phase extraction of some benzophenones in water samples
Shereen A. Majeed[1]* and Douaa AlMarzouq[2]*
[1]Department of Chemistry, Kuwait University, P.O. Box 5969, Safat 13060, Kuwait
[2]Department of Environmental Health, College of Health Sciences, The Public Authority of Applied Education and Training, P.O. Box 1428, Faiha 72853, Kuwait

Environmentally friendly, electrically conductive, and versatile emulsion-based ink of carbon nanotubes and silver flakes for distributed tactile sensing
M. Najafi[1,2], M. Safarpour[1,2], L. Ceseracciu[3], L. Bertolacci[1], A. Athanassiou[1], I. Bayer[1]
[1]Smart Materials, Istituto Italiano di Tecnologia, Via Morego 30, Genova 16163, Italy
[2]DIBRIS, University of Genoa, via Opera Pia 13, Genoa, Italy
[3]Materials Characterization Facility, Istituto Italiano di Tecnologia, Via Morego 30, Genova 16163, Italy

Photocatalytic properties of micro/nano Ag_2SeO_x (x = 3 and 4) materials obtained by green methodologies
Ivo M. Pinatti[1]* Ana C. M. Tello [2], Marcio D. Teodoro [3], Ieda L. V. Rosa [2], Elson Longo [2], Juan Andres [4], and Alexandre Z. Simões [1]
[1]Faculty of Engineering of Guaratinguetá, São Paulo State University (UNESP), Brazil
[2]CDMF, LIEC, Federal University of São Carlos (UFSCar), Brazil
[2]Department of Analytical and Physical Chemistry, University Jaume I, Castelló, Spain
[4]Physics Department, Federal University of São Carlos (UFSCar), Brazil

A novel Green-Chemistry-inspired approach for lignin-based model compounds valorization by exploiting photocatalytic-microflow reactor
Swaraj R. Pradhan[1]*, Lisovytskiy Dmytro[1] and Juan C. Colmenares[1]*
[1] Institute of Physical Chemistry, Polish Academy of Sciences, Kasprzaka 44/52, 01-224 Warsaw, Poland

Surface chemistry of new CQDs produced using a microwave-assisted approach as an effective organic pollution removal agent in water medium
Jovana R Prekodravac[1]*, Bojana R Vasiljević[1], Dejan Kepić[1], Milica Budimir[1] and Biljana Todorović Marković[1]

[1]Institute of the Nuclear Sciences Vinča – National Institute of the Republic of Serbia, University of Belgrade, P.O.B. 522, Belgrade, Serbia

Synthesis of zinc oxide nanoparticles using Japanese knotweed extract

Miha Ravbar[a*], Andraž Šuligoj[a,b]

[a] Faculty of chemistry and chemical technology, *University of Ljubljana, Večna pot 113, 1000 Ljubljana, Slovenia*

[b] *National institute of chemistry, Hajdrihova 19, 1001 Ljubljana, Slovenia*

Synthesis of Ag/Ag_2O nanoparticles on cellulose paper and cotton fabric using Eucalyptus globulus leaf extracts: toward the clarification of formation mechanism

1. Pablo Salgado, Universidad Católica de la Santísima Concepción, Chile
2. Luis Bustamante, Universidad de Concepción, Chile
3. Danilo J. Carmona, Universidad de Chile, Chile
4. Manuel Melendrez, Universidad de Concepción, Chile
5. Olga Rubilar, Universidad de La Frontera, Chile
6. Claudio Salazar, Universidad Católica de la Santísima Concepción, Chile
7. Andy J. Pérez, Universidad de Concepción, Chile
8. Gladys Vidal, Universidad de Concepción, Chile

Investigation of photocatalytic properties of titanium dioxide nanoparticles onto ceramic roof tiles

M. Kouroutzi[1], A. K. Stratidakis[2], M. Kermenidou[1,3], S. P. Karakitsios[1,3], D. A. Sarigiannis[1,2,3*]

[1]Aristotle University of Thessaloniki, Department of Chemical Engineering, University Campus, 54124 Thessaloniki, Greece

[2]Environmental Health Engineering, Institute for Advanced Study IUSS, Pavia, Italy

[3]HERACLES Research Center on the Exposome and Health, Center for Interdisciplinary Research and Innovation, Balkan Center, Bldg. B, 10th km Thessaloniki-Thermi Road, 57001, Greece

Photocatalytic degradation of organic pollutants using bimetalic magnetic nanocomposite

Hanna Abbo[1,2], Isaiah Johnson[3], Chiemeziem Oguayo[3], Salam Titinchi[1*]

[1]Department of Chemistry, University of the Western Cape, Cape Town, South Africa

[2]Department of Chemistry, College of Science, University of Basrah, Basrah, Iraq

[3]College of Science and Art, Howard University, Washington DC, USA

Versatile synthesis of graphene materials for the removal of copper ions from aqueous solutions

Dimitrios G. Trikkaliotis[1], Dimitra A. Lambropoulou[2,3], Athanasios C. Mitropoulos[1], George Z. Kyzas[1]*

[1]Department of Chemistry, International Hellenic University, Kavala, Greece

[2]Laboratory of Environmental Pollution Control, Department of Chemistry, Aristotle University of Thessaloniki, GR–541 24 Thessaloniki, Greece,

Synthesis and characterization of modified TiO_2 nanoparticles with enhanced visible-light photocatalytic properties

P. Tzevelekidis[1], E. Charalampous[1] and C. A. Mitsopoulou[1]*

[1]Laboratory of Inorganic Chemistry, Department of Chemistry, National and Kapodistrian University of Athens, Panepistimiopolis, Zografou 15771, Greece.

Synthesis of film Cu,F-TiO_2 NTs photocatalysts with a highly ordered structure for wastewater treatment
Vasil`ev A.S.[1*], Morozov A.N.[1], Gartman T.N.[1], Pochitalkina I.A.[1] and Sovetin F.S.[1]
[1]Mendeleev University of Chemical Technology of Russia, 125047, Moscow, Miusskaya square, 9, Russia

Green Synthesis of ZnS nanoparticles and Fabrication of ZnS-Chitosan Nanocomposites for the Removal of Cr(VI) ion from Wastewater
Xaba T. Author[1]
[1]Department of Chemistry, Vaal University of Technology, P/Bag X021, Vanderbijlpark, South Africa

Investigating the structural and mechanical properties of innovative polypropylene/nanoadditive composites for heating/cooling pipe systems
Eleftheria Xanthopoulou[1], Evangelia Delli[2], Dimitrios Gkiliopoulos[3], Dimitra Kourtidou[2], Konstantinos Chrissafis[2] and Dimitrios N. Bikiaris[1]
[1]Laboratory of Polymer Chemistry and Technology, Department of Chemistry, Aristotle University of Thessaloniki, Greece
[2]School of Physics, Laboratory of Advanced Materials and Devices, Aristotle University of Thessaloniki, GR-541 24, Thessaloniki, Greece
[3]Laboratory of Chemical and Environmental Technology, Department of Chemistry, Aristotle University of Thessaloniki, Greece

Catalyst nanoparticles stabilization and/or redispersion: A new anti-sintering strategy based on the effect of the $O^{\delta-}$ electric double layer account of metal-support interactions.
Ioannis V. Yentekakis[1,*]
[1]Laboratory of Physical Chemistry & Chemical Processes, School of Environmental Engineering, Technical University of Crete, 73100 Chania, Crete, Greece; *

Engineering of Au/p-C_3N_4 nanosheets with Enhanced Charge Separation for Photocatalytic Hydrogen Evolution
Hung Giap Van[1,2], Shuoping Ding[1], Mai Nguyen Thi Tuyet[2], Norbert Steinfeldt[1*]
[1]Leibniz Institute for Catalysis e.V., Albert-Einstein-Straße 29a, 18059 Rostock, Germany
[2]Hanoi University of Science and Technology, 100000 Hanoi, Vietnam

Cobalt-manganese catalysts supported on ion exchanged clinoptilolite for n-hexane oxidation
Iliyana D. Yordanova* and Silviya Zh. Todorova
Institute of Catalysis Bulgarian Academy of Sciences, Acad. G. Bonchev St., Bldg. 11, Sofia 1113, Bulgaria

Metabolic response of Murine Fibroblast cells exposed to Green synthesis mediated Silver Nanoparticles
Isha Gupta[1,2], Sonia Gandhi[1,*], Abhishek Kumar[1], Vijayakumar Chinnadurai[1], Anant Narayan Bhatt[1], Sameer Sapra[2]
[1]Institute of Nuclear Medicine and Allied Sciences (INMAS), Defence Research and Development Organization (DRDO), Delhi, India
[2]Department of Chemistry, Indian Institute of Technology Delhi (IITD), India

Green Nanopesticides: An approach for the control of Tea pest, Oligonychus coffeae
[*]Mansi Mishra[a], Kavya Dashora[a], Somnath Roy[b], Zoya Javed[a], Gyan Datta Tripathi[a], Meghana Gattupalli[a]
[a]Centre for Rural Development & Technology, Indian Institute of Technology Delhi, New Delhi.

[b]Entomology Department, Tocklai Tea Research Institute, Jorhat, Assam.

Synthesis and Characterization of Reduced Graphene Oxide Supported Ag/PANI Nanocomposite Electrochemical Sensor for the Detection of Selected Toxic Heavy Metals
Abayneh Ersumo, Abebaw Adgo (PhD), Abi Taddesse (PhD)
Haramaya University Department of Chemistry, College of Natural and Computational Sciences

The Role of Morphology on the Controlled Crazing of Biopolymer Systems
Ramin Hosseinnezhad[1], Iurii Vozniak[1], and Andrzej Galeski[1]
[1]Centre of Molecular and Macromolecular Studies, Polish Academy of Sciences, Lodz, Poland

Synthesis, Characterization and UVC-activated Photocatalytic Activity of Superparamagnetic Iron Oxide Decorated Indium Hydroxide Nanocomposite
C.Y. Chong [1], J.C. Juan [2], Mohd Rafie Johan[2], C.F. Loke[1], K.H. Ng[1], Y. F. Ngeow[3], T.H. Lim[1]*
[1]Department of Physical Science, Faculty of Applied Sciences, Tunku Abdul Rahman University College, Kuala Lumpur 53300, Malaysia.
[2]Nanotechnology & Catalysis Research Centre, Institute of Advanced Studies, University of Malaya, Jalan Universiti, Kuala Lumpur 50603, Malaysia.
[3]Centre for Research on Communicable Diseases (CRCD), Faculty of Medicine and Health Sciences, University Tunku Abdul Rahman, Jalan Sungai Long, 43000, Kajang, Selangor, Malaysia.

Magnetic graphene@iron oxide composites for the adsorption of polycyclic aromatic hydrocarbons from water
Joana Vaz-Ramos[1,2*], Dominique Bégin[2], Stéphane Le Calvé[2] and Sylvie Bégin-Colin[1]
[1]Institut de Physique et Chimie des Matériaux de Strasbourg (IPCMS), UMR-7504 CNRS-Université de Strasbourg, 23 rue du Lœss, 67034 Strasbourg Cedex 2, France
[2]Institut de Chimie et Procédés pour l'Energie, l'Environnement et la Santé (ICPEES), UMR-7515 CNRS-Université de Strasbourg, 25 rue Becquerel, 67087 Strasbourg, France

Biomass derived nanoporous carbons for diesel deep desulfurization
Dimitrios A. Giannakoudakis1, Eleni D. Salonikidou1, Eleni A. Deliyanni1, Svetlana Bashkova2, Konstantinos S. Triantafyllidis1,3
1 Department of Chemistry, Aristotle University of Thessaloniki, University Campus, Thessaloniki, Greece
2 Department of Chemistry, Biochemistry, and Physics, Fairleigh Dickinson University, Madison, NJ 07940, USA
3 Center for Interdisciplinary Research and Innovation (CIRI-AUTH), Balkan Center, 10th km Thessaloniki-Thermi Rd, P.O. Box 8318, 57001 Thessaloniki, Greece

Photocatalytic removal of persistent organic pollutants using immobilized titanium dioxide
Boštjan Žener[1*], Lev Matoh[1] and Urška Lavrenčič Štangar[1]
[1]Faculty of Chemistry and Chemical Technology, University of Ljubljana, Večna pot 113, 1000 Ljubljana, Slovenia,

An Electrochemical Oxidation of Wastewaters through Graphene Oxide Coated Electrode
Dominika Marcin Behunová[1]* and Miroslava Václavíková[1]
[1]Institute of Geotechnics, Slovak Academy of Sciences, Watsonova 45, 040 01 Kosice, Slovakia

Harvesting of hot holes and hot electrons generated on plasmonic nanostructures for amine photooxidation reaction
Swathi Swaminathan[1*], Vishal Govind Rao[1], Jitendra K. Bera[1], Manabendra Chandra[1]

[1]Department of Chemistry, Indian Institute of Technology, Kanpur, Uttar Pradesh-208016, India

Bimetallic sulfides derived from bi-metal–organic frameworks as sodium anode material with long-term cycling stability
Jiajia Wang[1], Abuliti Abudula[1], and Guoqing Guan[1,2]*
[1]Graduate School of Science and Technology, Hirosaki University, 1-Bunkyocho, Hirosaki 036-8560, Japan
[2]Institute of Regional Innovation (IRI), Hirosaki University, 3 bunkyo-cho, Hirosaki, Aomori 036-8560, Japan

Protic Ionic Liquids as Sustainable Lubricants for NEMs and MEMs
Mariana T. Donato[1,2], Rogério Colaço[3], Luís C. Branco[*1] and Benilde Saramago[*2]
[1]Centro de Química Estrutural, Instituto Superior Técnico, Universidade de Lisboa, Av. Rovisco Pais, 1049-001 Lisbon, Portugal
[2]LAQV-REQUIMTE, Departamento de Química, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Campus da Caparica, 2829-516 Caparica, Portugal
[3]IDMEC-Instituto de Engenharia Mecânica, Departamento de Engenharia Mecânica, Instituto Superior Técnico, Universidade de Lisboa, Av. Rovisco Pais, 1049-001 Lisbon, Portugal

Bimetallic sulfides derived from bi-metal–organic frameworks as sodium anode material with long-term cycling stability
Jiajia Wang[1], Abuliti Abudula[1], and Guoqing Guan[1,2]*
[1]Graduate School of Science and Technology, Hirosaki University, 1-Bunkyocho, Hirosaki 036-8560, Japan
[2]Institute of Regional Innovation (IRI), Hirosaki University, 3 bunkyo-cho, Hirosaki, Aomori 036-8560, Japan

Role of Monovalent Cation in the Dielectric Relaxation Processes and Correlation of Defects with the Thermal Stability of Hybrid Metal Halide Perovskite Solar cells
Kashimul Hossain[1], Shivam Singh[2], Dinesh Kabra[1]
[1]IIT Bombay, India
[2]Karlstad University, Sweden

Investigating the growth profile of different microalgae strains in nanoemulsion based growth media
Harshita Nigam[1*], Anushree Malik[1], Vikram Singh[2]
[1]Applied Microbiology Laboratory, Centre for Rural Development and Technology, [2]Department of Chemical Engineering, Indian Institute of Technology Delhi, New Delhi, India

Toxicology and Ecotoxicology of Chemicals and Products

Regulating and assessing risks of pesticides poisoning
Raafat Abdeldayem
Mansoura University, Egypt

Heavy metal contamination and potential health risk assessment of Pleistocene-Holocene groundwater aquifers at Tangail district, Bangladesh: An anthropogenic contamination and ecological risk appraisal
Md Moniruzzaman[1]*, Hafiz Al- Asad[2], Ashis Kumar sarker[2], Md. Abdul Quaiyum Bhuyian[1], Md. Ariful Ahsan[1], Farhana Islam[1], Abdul Hadi Al Nafi Khan[1], Ratan Kumar Majumder[1]
[1]Institute of Nuclear Science and Technology, Bangladesh Atomic Energy Commission, Bangladesh
[2]Department of chemistry, Mawlama Bhasani Science & Technology University, Santosh, Tangail-1902

Inventory of pesticides used by farmers on paddy fields in peatland area: A case study in Indonesia

Indra Purnama1,4*, Syafrani1, Amalia2, Anisa Mutamima3,4
1Universitas Lancang Kuning, Department of Agrotechnology, Faculty of Agriculture, Pekanbaru, Indonesia
2Universitas Lancang Kuning, Department of Agribusiness, Faculty of Agriculture, Pekanbaru, Indonesia
3Universitas Riau, Department of Chemical Engineering, Faculty of Engineering,, Pekanbaru, Indonesia
4Research Center of Sustainable Indonesia, Pekanbaru, Indonesia