

83 - Poster Session: Fuels and Petrochemicals Division*Wednesday, November 08, 2023 3:30 PM - 5:00 PM**Regency Ballroom R/S, Hyatt Regency Orlando*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
147	Evolving Robust and Interpretable Enzymes for the Bioethanol Industry	Anni	Li	83a
148	In-house Developed Resilient and Sustainable Material for Enhanced Oil Recovery	Syed Muhammad Shakil	Hussain	83b
146	Assessing the Technical Feasibility of Steam Hydrogasification of Agriculture-Derived Wastes for Renewable Fuel Production in the Leading Agriculture Region	Zhongzhe	Liu	83c
149	Multiphase Particle in Cell Simulation Study of Ammonia Co-Combustion in a Circulating Fluidized Bed Combustor	See Hoon	Lee	83d
150	Hydrogen Production By Oxidation of Aluminum Nanopowder in Water Under the Action of Laser Pulses	Yaroslav	Kraft	83e
151	Performance Targets for Oxidative Coupling of Methane from Techno-Economic Profiling	Faisal	Ashour	83f

84 - General Poster Session*Wednesday, November 08, 2023 3:30 PM - 5:00 PM**Regency Ballroom R/S, Hyatt Regency Orlando*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
190	Machine Learning with Weighted-Soap to Efficiently Predict Electron Densities	Siddarth	Achar	84a
222	Rapid Microfluidic Methods for Development of the Chemicals for More Efficient CO ₂ Utilization and Sequestration	Ayrat	Gizzatov	84b
223	Confined Fluid Phase Behavior of Carbon Dioxide in Nanoporous Media	Omer	Salim	84c
224	Revitalize Conventional Legacy OIL Fields in North Dakota with Waterflooding and CO ₂ EOR	Xincheng	Wan	84e
221	Development of Machine Learning [ML] Based Model for Predicting CO ₂ Hydrate Formation Kinetics in Porous Media	Praveen	Linga	84f
221	Development of Machine Learning [ML] Based Model for Predicting CO ₂ Hydrate Formation Kinetics in Porous Media	Vikas	Dhamu	84f
221	Development of Machine Learning [ML] Based Model for Predicting CO ₂ Hydrate Formation Kinetics in Porous Media	M Fahed	Qureshi	84f
225	A Model Selection Workflow for Assimilating Time-Lapse Seismic Data in Models for Point Bar Geologic System	Ismael	Dawuda	84h
226	Expanding the Adsorbate Binding Energy Correlation from Pt Surface Site Stabilities to the Surface Site Stabilities of Other Metals	Shyama Charan	Mandal	84i
227	Predicting Surface Coverage Effects in Heterogeneous Catalysis Via an Interaction-Counting Approach	Deep	Patel	84j
228	Quantification of Self-Interaction Errors in Selective Catalytic Reduction of NO _x in Zeolites	Priyanka Bholanath	Shukla	84k
229	An efficient and universal solar interfacial photothermal reactor toward liquid phase oxidation	Chen	Wu	84m
230	Optimization of Trickle Bed Reactor Distribution: A Computational Fluid Dynamic Approach	Madison	Holly	84n
230	Optimization of Trickle Bed Reactor Distribution: A Computational Fluid Dynamic Approach	Carly	Fox	84n
231	The Design, Preparation of Metal-Organic Materials and Their Applications in Green Synthesis of API	Yajing	Shen	84o
232	Engineering Bio-MOF-1 Derived Single-Atom Catalyst with a Hierarchical Porous Nanostructure for Highly Selective CO ₂ Electroreduction	Yechan	Lee	84p
30	Strategies to Control the Microenvironment in Electrochemical CO ₂ Reduction	Andrew	Wong	84q
233	Effect of Synthesis Method on Performance of Hybrid Catalyst for Direct DME Synthesis: Flame Synthesis and Co-Precipitation.	Onochie	Okonkwo	84r
234	A Modeling of Flow Cell eCO ₂ r System for Elucidating the Phenomena of Local Reaction Environment Using Multi-Physics Simulation.	Hyeonggeon	Lee	84t
235	CO ₂ Upgradation By Methane Coupling on Metal Ion-Exchanged Zeolites	Sundar Raam	Swaminathan	84u
236	A Structure-Guided Design of an Oligomeric Hydrophobin Bundle Using Coiled Coils	Mohamad	Mahmoud	84v
237	Single Particle Cryo-EM Structure of Ferritin Biomineralization Showing the Protein-Nanoparticle Conjugate	Sagnik	Sen	84w
238	Investigating the Potential of TMS-EDTA Modified Silica for Valuable Element Adsorption from Produced Water	Saeed	Azizi	84x
239	Treatment of Domestic Wastewater By Coagulation, Adsorption, and Filtration for Reusing in the Production of Concrete Mixtures	Mohamed	Mostafa	84y
240	High-Efficiency Solar Evaporator System for Treating Brackish and Produced Water.	Mounika	Chevula	84z

BOARD NUMBER	Title	First Name	Last Name	Paper Number
241	Demonstration of a Batch Electrochemical System for Phosphorus Recovery from a Real Municipal Wastewater Recycle Stream	Syed Asad	Abbas	84aa
242	Enhanced Electro-Activity of Nickel Phosphide By Pre-Treatment for Efficient Hydrogen Sulfide Elimination	Xin	Zhang	84ab
243	Modified Donnan Dialysis Process for Selective Nutrient Removal from Agricultural Liquid Waste	Amir	Akbari	84ac
244	A Stochastic Optimization and Machine Learning-Based Framework for Evaluating Ammonia Utilization As a Hydrogen Carrier	Dongjun	Lim	84ad
245	Electrochemical Capacitance Tuning of Carbon Nanosheets Using a Salt-Template Process	Devapriya	Basu	84ae
246	Developmental Pb Exposure Increases AD Risk Via Altered Intracellular Ca ²⁺ Homeostasis in hiPSC-Derived Cortical Neurons	Junkai	Xie	84af
247	Analysis of Internal Flow Phenomena in a High Speed Rotating Cylinder Using Double Parabolic Axial Flow Model	Dr. Sahadev	Pradhan	84ag
248	Soiling Impacts on Hydrophobic Coating with and Without Dew Suppression	Chinmay	Ghoro	84ah
249	Effect of Water-Gas Seepage and Salt Ions on Hydrate Phase Transition in Porous Media	Huru	Sun	84ai
250	Persistence of <i>Phi6</i> , a Sars-Cov-2 Surrogate, in Simulated Indoor Environments: Effects of Humidity and Material Moisture Adsorption	Eloise	Parry-Nweye	84aj
251	Multi-Objective Optimization for Work-Integrated Heat Exchange Network	Yu	Zhuang	84ak
252	Pre-Differentiation Pfas Exposure and Its Effect in Human Dopaminergic-like Neurons	Shichen	Wu	84al
253	Sustainable Detection of Oil at Well Site: High Contrast UV Fluorescence Imaging System for Pixel-Level Detection of Oil-Bearing Rock Cuttings	Richa	Sharma	84am
254	A Novel Approach to Develop Industrial Facility's Life-Time Energy Efficient Design Zeeshan <i>Farooq & Abdulrahman Hazazi, Energy System Division, P&csd Saudi Aramco, Dhahran</i>	Zeeshan	Farooq	84ao
255	Economic and Environmental Assessment of Plastic Sorting and Recycling: A Multi-Period Approach	Cheon	JaePil	84ap
256	Maximizing Cost Savings and Reducing CO2 Emission in NCC Process with Heat Exchanger Networks: An Integrated Analysis	Subin	Jung	84aq
257	Techno-Economic Assessment of Biomass to Valuable Pyrolyzed Hydrochar Via Hydrothermal Carbonization and Pyrolysis.	Cadianne	Chambers	84ar
258	Application of a Developed Techno-Economic Analysis Framework to CO2 Electrochemical Reduction Processes	Claudemi	Alves Nascimento	84as
259	Asset Intensification: Application of Modelling Tools and Methodologies from a Cdm Perspective	Filipe	Ataide	84at
260	Developing Efficient and Sustainable Packaging Processes in the Downstream Operations of the Oil and Gas Sector	Swapana	Jerpoth	84au
261	Economic Comparison of Nano-Porous Silica Production Processes from Rice Husk and Sand	Semie	Kim	84av
20	Optimizing Reformer Performance for Integrated Blue Hydrogen-Methanol Production: A Multi-Objective Optimization and Techno-Economic Study	Preeti	Aghalayam	84aw
20	Optimizing Reformer Performance for Integrated Blue Hydrogen-Methanol Production: A Multi-Objective Optimization and Techno-Economic Study	Achyuta	Krishnan	84aw
262	Life Cycle Assessment of Biodiesel Production Processes from Waste Animal Fats with Pretreatment Process	Pyeong-Gon	Jung	84ax
263	Catalytic Performance Promotion of Pd Cluster Towards H ₂ O ₂ Production By Potential-Driven Coordination Adjustment	Zhiping	Deng	84ay
264	Stability and Redox Kinetics of Ti ⁴⁺ /Ti ³⁺ for Flow Battery Applications	Maria	Bruce	84az

BOARD NUMBER	Title	First Name	Last Name	Paper Number
265	Highly Efficient Redox Flow Batteries Using Low Cost Materials	Abena	Williams	84ba
266	Understanding the Role of Calcium Zincate ($\text{CaZn}_2(\text{OH})_6 \cdot 2\text{H}_2\text{O}$) in Improving Cycle Life of Rechargeable Alkaline Zinc Batteries	Patrick K.	Yang	84bb
267	Effects of Composite Sulfur Electrode Structures and Electrolyte Compositions on Rechargeable Aluminum-Sulfur Batteries	Snehal	Bhalekar	84bc
268	Efficient Scalable Hydrothermal Synthesis of MnO_2 with Controlled Polymorphs and Morphologies for Enhanced Battery Cathodes	Shifeng	Hong	84be
268	Efficient Scalable Hydrothermal Synthesis of MnO_2 with Controlled Polymorphs and Morphologies for Enhanced Battery Cathodes	Shuo	Jin	84be
269	Imidazole-Based Concentrated Hydrogen-Bonded Electrolytes for Energy Storage Applications	Miguel	Muñoz Sánchez	84bf
270	Effect of Cathode Precursor Particle Size Distribution on Cobalt-Free Lithium-Nickel-Manganese-Oxide Battery Performance	Sunuk	Kim	84bg
271	High-Throughput Screening of Electrosynthetic Reactions Enabled By Wireless Electrochemical Cell	Yiming	Mo	84bh
272	Increasing Data Collection Efficiency through Incorporation of Derivative and Uncertainty Information into Gaussian Process Regression	Jacob	Monroe	84bi
273	Data-Driven Design of Selective Partial Agonist for Cannabinoid Receptors	Soumajit	Dutta	84bj
274	Removal of Insecticides from Wastewater Using Ionic Liquids: A Computational Study	Mustafa	Nasser	84bk
275	Understanding Proton-Coupled Electron Transfer on Polyoxovanadate Nanoclusters	Giannis	Mpourmpakis	84bl
276	First-Principles Mechanistic Study of Oxidative Degradation of Aqueous Amine Solvents for Carbon Dioxide Capture	Jiwon	Yu	84bm
277	A DFT Analysis of Optimal Solvents for High-Throughput Processing of Imine-Linked Covalent Organic Frameworks	Obioma	Uche	84bn
278	Investigation of Catalytic Activity of Fecunc Catalysts for Oxygen Reduction Reaction in Alkaline Medium with Gas Diffusion Electrode Half-Cell System	Chanho	Pak	244f
279	Transport of Pseudomonas Aeruginosa in Native Respiratory Mucus	Riley	Dickson	84bo

85 - Poster Session: Process Development*Wednesday, November 08, 2023 3:30 PM - 5:00 PM**Regency Ballroom R/S, Hyatt Regency Orlando*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
153	Internally Heat-Integrated Pressure-Swing Distillation for Non-Ideal Separation Using Computational Fluid Dynamics	Minyong	Lee	85a
154	An Energy-Efficient Double Annular Column for Azeotropic Separation	Minyong	Lee	85b
155	Efficient Cleaning Methods for Gas Supply Systems in Semiconductor Manufacture Using CFD	Rakyoung	Jeon	85d
156	Amine Blending Optimization for Maximizing CO ₂ Absorption Capacity in a MEA - Mdea -Water System Using the Thermodynamic Model	Jinyoung	CHA	85e
157	Techno-Economic and Environmental Assessment of Onsite Green Hydrogen Production By Ammonia Cracking	Sijan	Devkota	85f

86 - Poster Session: Sustainability Science and Engineering, Biorefineries, and Energy

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
158	Selective and Efficient Valorization of Industrial Wastes Via Carbon Mineralization	Ning	Zhang	86a
159	Unique Synergies between Carbon Mineralization and Biomass Conversion: Alkaline Thermal Treatment for Combined Carbon Capture and Hydrogen Production	Jonah	Williams	86b
160	Evaluation of Bioenergy Production from Advanced MFC-Fermentation Technology	Kundan	Kumar	86c
161	<i>Chemical Sector Risk Management Agency Resources in Support of a Sustainable and Resilient Chemical Sector</i>	Ashley	Pennington	86e
161	<i>Chemical Sector Risk Management Agency Resources in Support of a Sustainable and Resilient Chemical Sector</i>	Janine	Mason	86e
162	Landfill Gas Converted into Renewable Natural Gas: A Case Study in Texas	Helen	Lou	86g
163	Synthesis and Tribological Properties of Bio-Based Lubricants from Vegetable Oils	Celio	Cavalcante	86h
164	Materials for Direct Air Capture of CO ₂ Via Particle Molecular Layer Deposition	Hailey	Loehde-Woolard	86i
165	Integration of Sustainable Extraction and Recovery of Energy-Relevant Metals Using Aldoxime-Based Ligands Systems from Unconventional Resources	Amanda Whai Shin	Ooi	86j
166	Guidelines for Designing Amine-Based CO ₂ Capture Systems Onboard LNG Fuelled Ships	Preethi	Sridhar	86k
167	A Novel Integration of Solar Chimney Power Plant with Wind Farm for Green Hydrogen and Distilled Water Production	Fares	Almomani	86m
168	Electrochemical Performance of Hybrid Ferrite/(Mn, Ti)-Oxide Electrode for Asymmetric Supercapacitor	Khang	Huynh	86n
169	System Level Analysis of Intermitent Photocatalytic Processes for the Production of Liquid Fuels	Luisdomingo	Guzman	243c

87 - Poster Session: Transport and Energy Processes Division*Wednesday, November 08, 2023 3:30 PM - 5:00 PM**Regency Ballroom R/S, Hyatt Regency Orlando*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
181	Steam Reforming of Model Biomass Gasification Tar over Ni-Based Carbon Supported Catalyst	Sung Jin	Park	87a
182	Effects on Ammonia Injection Directions for Coal-Ammonia Co-Firing in a Circulating Fluidized Bed Combustion Test Rig	Seong-Ju	Kim	87b
183	Techno Feasibility Analysis for Steam-to-Hot Water Conversion for West Virginia University, Morgantown Campus.	Sai Kiran	Yerravally	87c
184	Numerical Investigations of Spontaneous Imbibition in Porous Media	Akshit	Agarwal	87d
185	Stabilizing Sodium Ion Transfer at the Nasicon Solid-State Electrolyte and Metallic Na Anode Interface By Nanoscale Metal Oxide Coating	Baiheng	Li	87e
186	Biogas Production from Co-Digesting House Hold Vegetable Waste with the Industrial Waste Water Using Expanded Granular Sludge Bed Anaerobic Digestion (AD) System	Jackson	Oglesby	87f
187	Insight into Electrochemical Batch Reactor for Phosphorus Recovery Using Mathematical Modeling	Ardavan	Zanganeh	87g
188	Optimization of Capacitance in Supercapacitors By Constructing an Experimentally Validated Hybrid Artificial Neural Networks-Genetic Algorithm Framework	Betul	Uralcan	87h
189	In silico Demonstration of Fast Anhydrous Proton Conduction on Graphanol	Siddarth	Achar	87i
191	Ageing Effects of Catalyst Ink for Polymer Electrolyte Membrane Fuel Cells	Mario	Kircher	87j
192	Electrode Development in Alkaline Direct Ethanol Fuel Cells	Michaela	Roschger	87k
193	Multi-Physics Simulations and Bayesian Optimisation of Flow in Alkaline Water Electrolyzers	Morgan	Kerhouant	87l
194	Ion and Water Transport in Polynorbornene-Based Thin Film Membranes	Ge	Sun	87m
195	Understanding Water Absorption, Percolation, and Ion Transport in an Anion Exchange Membrane	Zhongyang	Wang	87n
196	Development of High-Power and Durable MEA for Polymer Electrolyte Membrane Fuel Cells Using Structured Carbon Nanofiber Matrix	Yunseong	Ji	87o
197	Computational High-Throughput Study of Hydrogen Permeation through Two-Dimensional Structures for Use As Proton-Conducting Membranes	Yuting	Li	87p
197	Computational High-Throughput Study of Hydrogen Permeation through Two-Dimensional Structures for Use As Proton-Conducting Membranes	Lourdes	Vega	87p

240 - Poster Session: Advances in Forest and Plant Biomass Utilization*Wednesday, November 08, 2023 3:30 PM - 5:00 PM**Regency Ballroom R/S, Hyatt Regency Orlando*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
170	Metal Ion Modification Enabled Hydrophobic and Dimensionally Stable Wood	R.M.	Oshani Nayanathara	240a
171	Impact of Methoxy Group Component of Lignin-Derived Deep Eutectic Solvents on the Biomass Pretreatment Performance	Jiae	Ryu	240b
172	Effects of Lignin Properties on the Performance of Lignin-Based Polyurethane Foam for Eco-Friendly Thermal Insulation	Soyeon	Jeong	240c
173	Use of UV Irradiation on Photo Isomers to Enhance the Removal of Lignin from Woody Biomass Hydrolysate	Dipesh	Karki	240d
174	Application of VBA and Excel to Develop Ternary Diagram of Brine, Oil, Green Corrosion Inhibitor from Lignocellulosic Resource	Tianxing	Cai	240e
175	Fused Deposition Modeling (FDM) 3D Printing of Industrial Hemp Waste Polymer Composites	Anqi	Ji	240f
176	Biomass to Energy	Aidin	Panahi	240g
177	On the Effects of Chaotropic Promoters on Enzyme Hydrolysis	Timothy	Woodard	240h
178	Mechano-Chemical Analyses of Plant Cell Walls at Nanoscale Using Atomic Force Microscopy Coupled with Infrared Spectroscopy	Huiyong	Li	240i

303 - Poster Session: Particle Technology Forum*Wednesday, November 08, 2023 3:30 PM - 5:00 PM**Regency Ballroom R/S, Hyatt Regency Orlando*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
201	Investigating the Applicable Range of the Coarse-Grained Method for Granular Shear Flow	Shota	Yokokawa	303a
202	Continuous Synthesis of Drug Particles through Spray-Drying of Nano-Emulsion	Atsushi	Oshiro	303b
203	Dry Granulation of Cathode Active Material and Solid Electrolyte Powders for All-Solid-State Batteries	Shota	Miyake	303c
204	Generation of Amorphous Dispersions through a Continuous Manufacturing Train to Enable Direct Compression of Reduced Tablet Size Amorphous Dosage Units	Anagha	Chandra	303d
205	Numerical Analysis on Interparticle Adhesion Reduction Mechanism By Surface Modification	Yo	Kajiwara	303e
206	Flowability Improvement of Metal-Organic Framework (MOF) Particles Via Pressure Swing Granulation with Small Amount of Binder	Shintaro	Yamada	303f
207	Nanoparticles in Motion: The Effect of Gastrointestinal Fluid Chemical Composition on Nanoparticle Stability and Aggregation	Yael del Carmen	Suárez López	303g
208	Hydrogen Production from Acid Gas: Structural Changes for Enhanced Reactivity in FeS-Based Hydrogen Sulfide Decomposition Systems	Sonu	Kumar	303i
209	Mitigation of Tribocharging in Pharmaceutical Powders Using Surface Modified V-Blenders	Tanu	Mehta	303h
210	Double-Inverse-Opal Structured Assemblies of Titania-Based Photocatalytic Particles Towards Continuous Water Purification Process	Hikaru	Namigata	303j
211	Periodontal Biofilm Eradication By Doxycycline Loaded Magnetic Microfibers.	Shaquib Rahman	Ansari	303k
212	On the Relationship of Interparticle Force and Bonding Number: Predicting Breaking Force of Pharmaceutical Powders and Blends	Zhixing	Lin	303l
213	Heat Transfer and Flow Characteristics in Internally Circulating Fluidized Bed Lab-Scale and Pilot Scale Facilities	Shungo	Hashioka	303m
214	Advancements in the OSU Moving Bed Chemical Looping Biomass Gasification: >700hrs Sub-Pilot (15kWth) Operation, Modularization, and Cross Current Reactor Design	Rushikesh	Joshi	303n
215	Exploring Magnetically Stabilized Fluidized Bed Reactor for Enhanced Point Source CO ₂ Capture Using Alkali Metal Carbonate-Based Solid Sorbents	Ashin	Sunny	303o
216	Catalytic Methane Pyrolysis for Hydrogen and Carbon Nanofiber Co-Product	Jessica	Hauck	303p
217	A Comparative Analysis of the Influence of Macromolecular Templates on the Growth of Calcium Carbonate Crystals Using a Droplet-Based Microfluidic System	Eun-Hye	Jang	303q
218	Integrating Three-Fluid Nozzle Technology as a QbD Tool for Enhancing Advanced Respiratory Drug Delivery Formulations: A Statistical Modeling Approach	João	Pires	303r

521 - Poster Session: Catalysis and Reaction Engineering (CRE) Division*Wednesday, November 08, 2023 3:30 PM - 5:00 PM**Regency Ballroom R/S, Hyatt Regency Orlando*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
1	Continuous 5-HMF Production in a Biphasic System Using Mesoporous Aluminosilicate Functionalized with Acid	Gunwoo	Kim	521a
2	Red Mud As a Catalyst and Oxygen Carrier in Biomass Gasification: A Route to Recover Iron from Bauxite Residue	Frederico	Penha	521b
3	Transition-Metal-Phosphide-Decorated De-Aluminated Zeolites As Regenerable and Deactivation-Resistant Biomass Pyrolysis Catalysts.	David	Ojo	521c
145	Biochar Catalyst Screening for Enhancing Energy Recovery from Pyrolysis	Zhongzhe	Liu	521e
4	Investigating the Effect of Micropore Content on Catalytic Activity and Selectivity for Glucose Isomerization to Fructose	Paul	Neff	521f
5	Selective Hydrogenation of Phenol in Aqueous Phase over Organically Modified Silica Support: Effect of Basic Site Incorporation	Snehal	Patil	521g
6	Stability of Zeolite Y in Aqueous Media: Framework Degradation Under Ambient Temperature and Pressure	Anya	Zornes	521h
7	Optimization of Process Parameters for Solketal Synthesis Using Microwave Reactor: Catalytic Activity and Reactor Energy Model	Mousumi	Chakraborty	521i
8	12-Tricosanone Production from Lauric Acid for the Synthesis of Cellulosic Base Oils	Tejas	Goculdas	680e
9	Reaction Regimes in Interfacial Polyamidation and Their Effect on Film Properties	Preeti	Jha	521j
10	Catalytic Upcycling of Polyolefin Wastes Using W-Based Polyoxometalates	Hongda	Zhu	521eu
11	Non-Enzymatic, Resonance-Promoted Bio-Renewable Polymer Production Under Mild Conditions.	Shayan	Hosseini	521k
12	Molecular Design of Polymer-Modified Catalyst Supports for Improved Bio-Renewable Energy Processes: Theory, Synthesis and Experiments	David	Moses	521m
13	Selective Reduction of Alkyl-Substituted Phenols to Alkyl-Substituted Cyclohexanone over a Pd/Al ₂ O ₃ Catalyst Using a Three-Phase Flow Reactor	Jimmy	Soeherman	521n
14	Understanding the Adsorptive Behavior of Polymeric Materials to Catalyst Surfaces Using Various X-Ray Methods	Erin	Dunphy	521o
15	Mechanistic Understanding of the Efficient Hydrocracking of Waste Polyethylene on Two-Dimensional Pt/WO ₃ .	Qimin	Zhou	521p
16	Computer Aided Molecular Design Coupled to Deep Learning Techniques As a Less-Expensive Approach to Design Organic Photoredox Catalysts	Alan	Aguirre-Soto	521q
17	Regulating the Reaction Zone of Electrochemical CO ₂ Conversion on Gas-diffusion Electrodes	Hesamoddin	Rabiee	521r
19	Structure - Activity Relationship of Ni-Ru/ γ -Al ₂ O ₃ Catalyst for CO ₂ Methanation Reaction.	Preeti	Aghalayam	521s
21	Tuning Product Selectivity of Electrochemical CO ₂ Reduction in Acid Electrolyte Using Cu Nanoparticles on Surfactant-Treated Carbon	Hwiyeon	Noh	521t
23	Kinetic Mechanisms of M-N-C Electrocatalysts	Yuanyue	Liu	521v
22	Characterization of CO ₂ Binding and Reaction Mechanisms on Alkaline Dual Function Materials (DFMs) for Reactive Carbon Capture to Useful C1 Products	Chae	Jeong-Potter	521w
25	Density Functional Theory Study for Ethylene Production from CO ₂ on Cu/TiO ₂ Photocatalyst	Hayoung	Jeong	521x
26	Continuous Production of Ethylene Via Integrated Electrochemical Carbon Capture and Conversion.	Rohan	Sartape	521y

BOARD NUMBER	Title	First Name	Last Name	Paper Number
27	CO ₂ cycloaddition with Epoxide into Cyclic Carbonates Using Zeolitic Imidazolate Frameworks: Effects of Defect Centres, Surface Sites and Ionic Liquids	Jithin John	Varghese	521z
27	CO ₂ cycloaddition with Epoxide into Cyclic Carbonates Using Zeolitic Imidazolate Frameworks: Effects of Defect Centres, Surface Sites and Ionic Liquids	Athira	Kelothum Kandi	521z
29	Towards Controlling the Morphology of Nanostructured Carbons Via CO ₂ Electroreduction in Molten Salt Electrolyte	Andrew	Wong	521aa
31	Investigating Corrosion Dynamics during CO ₂ Reduction Using Inductively-Coupled Plasma Mass Spectrometry	Katherine	Yan	521ab
32	Molecular Catalyst-Functionalized Silicon Photocathode for Aqueous Photoelectrocatalytic CO ₂ Reduction to Methanol	Bo	Shang	521ac
33	Mechanistic Insights into the CO ₂ and CO Electroreduction Beyond Two-Electron Transfer	Jing	Li	521ad
34	Development of High-Efficiency Catalysts for Light Olefin Production through CO ₂ Hydrogenation over Fe-Based Catalysts	Haewon	Jung	521ae
35	Tuning Oxygen Vacancies in Ni/CeO ₂ for CO ₂ Methanation	Miguel	Sepulveda	521af
36	System-Informed Architecture Design for Electrochemical CO ₂ Reduction	Tristan	Gilbert	521ag
37	Magnetically Enhanced Electrochemical Reduction of CO ₂ to Syngas	Jenifer	Gomez Pastora	655g
38	Electrode Design Parameters Optimization of NCM622 Cathode in Lithium-Ion Battery for High Energythe Electrode Design	Mohammed	Atwair	521ah
39	Diversity of Platinum-Sites at Platinum/Fullerene Interface Accelerates Alkaline Hydrogenevolution	Jiayi	Chen	521ai
40	Thermodynamic and Electronic Properties of MoSi ₂ N ₄ Edges	Atharva	Burte	521aj
41	Impact of Electrolytes on the Adsorption of Phenol on a Platinum Electrode	Ankit	Mathanker	521ak
18	Flow-through Cu-based Microtubular Gas-Diffusion Electrode for High-Efficiency Carbon Monoxide (CO) Electroreduction to C ₂ +Products	Hesamoddin	Rabiee	521al
42	Selective Water Oxidation to H ₂ O ₂ on Mn-Alloyed TiO ₂ Surfaces	Devan	Solanki	521am
43	High Throughput Workflow for Electrocatalysis in Single Atom 2D Materials	Richard	Tran	521an
44	<i>In-Situ</i> Analysis of Electrocatalytic Conversion of 5-Hydroxymethylfurfural (HMF) By Scanning Electrochemical Microscopy (SECM)	Seokjun	Han	521ap
45	Bifunctional Fe/Co 2D Metal Organic Framework for Enhanced ORR and Oer Activity	Naomi	Helsel	521aq
47	Electrocatalyst for Enhancing the Ce(III)/Ce(IV) Redox Reaction Kinetics in a Ti-Ce Redox Flow Battery	Mingyan	Liu	521ar
48	Carbon Quantum Dots for Sustainable Energy Conversion: Investigating Electrocatalytic and Photoelectrochemical Properties of Carbon Quantum Dots	Zhikui	Wang	521as
49	Controllable Photocatalytic Molecular Oxygen Oxidation Based on Sulfur-Containing Photosensitizers in Continuous Flow	Jingnan	Zhao	521at
50	Excellent Anion Exchange Membrane Electrolyser with Highly Active Oxygen Evolution Reaction Nife-LDH Self-Support Electrode	Yingjie	Feng	521au
51	Advanced Catalysts for Clean Hydrogen Technologies	Gang	Wu	521av
52	Electrochemically Assisted Activation of Light Alkanes at Ambient Conditions	Wenxuan	Liu	521aw
53	Reaction Pathways for the Electrochemical Oxidation of Cyclohexane to KA Oil	Tana	Siboonruang	521ax
54	Understanding the Acid Electrolyte Anion Adsorption Effects for Oxygen Electrocatalysis	G. T. Kasun Kalhara	Gunasooriya	521ay

BOARD NUMBER	Title	First Name	Last Name	Paper Number
55	Local pH Change during Alkaline HER Electrolysis with Electrodeposited Co-Mo-Based Titania Composite Electrocatalysts	Elizabeth	Podlaha-Murphy	521az
56	High-Resolution Kinetic Analysis of Photocatalytic Water Splitting for Hydrogen Production Using Covalent Organic Framework Catalyst and Ascorbic Acid	Konstantinos	Kakosimos	521ba
56	High-Resolution Kinetic Analysis of Photocatalytic Water Splitting for Hydrogen Production Using Covalent Organic Framework Catalyst and Ascorbic Acid	Shohda	Makki	521ba
57	Experimental and Theoretical Investigation on Surface Microenvironment Engineered Novel Black Vanadia Towards Visible Light Photodegradation	Ahmed	Badreldin	521bb
58	A Novel Inexpensive High-Performance Pt-Free Catalyst for Sustainable Hydrogen Fuel Cell	Tahmidul	Islam	521bd
59	Direct Comparisons of Hydrogen Transfer Electrocatalysis across Molecular and Extended Oxides	Shreya	Thakkar	521be
60	Efficient Hydrogen Production Via Surface Reconstruction on Nickel-Molybdenum Electrocatalyst: A DFT Study	Hye Bin	Yun	521bf
61	A Deep Dive into Dynamic Catalysis: The Impact of Potential Modulation on Formic Acid Electro-Oxidation Efficiency	Faviola	Villariny-Rosado	521bg
62	Manipulating Inner and Outer Sphere Environments in Zeolites to Control Regioselectivity of Epoxide Methanolysis	David	Potts	521bh
63	Modeling Active Site Formation of Atomically Dispersed Tungsten Oxide on Silica during Olefin Metathesis	Oluwatosin	Ohiro	521bi
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