

**(List of Publications in Journals, Year wise)**

**Year 2022**

- [155] Ashish Kumar Kar, Arjun Behera, and **Rajendra Srivastava**,\* Pd-Embedded Ti Metal–Organic Framework Nanostructures for Photocatalytic Reductive N-Formylation of Nitroarenes in Water, *ACS Applied Nano Materials* **2022**, DOI: 10.1021/acsanm.1c03310. **(Impact Factor-5.1)**
- [154] Arjun Behera, Ashish Kumar Kar, and **Rajendra Srivastava**\*, Challenges and Prospects in the Selective Photoreduction of CO<sub>2</sub> to C1 and C2 Products with Nanostructured Materials: A Review, *Materials Horizons*, 2022, <https://doi.org/10.1039/D1MH01490K> **(Impact Factor-13.3)**
- [153] Atal Shivhare, Atul Kumar, and **Rajendra Srivastava**\*, The Size-Dependent Catalytic Performances of Supported Metal Nanoparticles and Single Atoms for the Upgrading Biomass-Derived 5-Hydroxymethylfurfural, Furfural, and Levulinic acid, *ChemCatChem*, 2022, <https://doi.org/10.1002/cctc.202101423>. **(Impact Factor-5.7)**

**Year 2021**

- [152] Rajat Ghaltá, Ashish Kumar Kar, and **Rajendra Srivastava**\*, Selective Production of Secondary Amine By the Photocatalytic Cascade Reaction Between Nitrobenzene and Benzyl alcohol over Nanostructured Bi<sub>2</sub>MoO<sub>6</sub> and Pd NPs Decorated Bi<sub>2</sub>MoO<sub>6</sub>, *Chemistry-An Asian Journal*, **2021**, 16, 3790-3803. **(Impact Factor = 4.6) (Featured as the Cover Page)**
- [151] Abhinav Kumar, and **Rajendra Srivastava**\*, Rose-like Bi<sub>2</sub>WO<sub>6</sub> Nanostructure for Visible-Light-Assisted Oxidation of Lignocellulose-Derived 5-Hydroxymethylfurfural and Vanillyl Alcohol, *ACS Applied Nano Materials* **2021**, 4, **9080-9093**. **(Impact Factor-5.1)**
- [150] Ganesh Sunil More and **Rajendra Srivastava**\*, Efficient Activation of CO<sub>2</sub> over Ce-MOF derived CeO<sub>2</sub> for the Synthesis of Cyclic Urea, Urethane, *Industrial & Engineering Chemistry Research*, **2021**, 60, 12492-12504. **(Featured as the Cover Page of the Journal) (Impact Factor-3.7)**
- [149] Abhinav Kumar, Rajaram Bal, and **Rajendra Srivastava**\*, Pd-decorated CePO<sub>4</sub> catalyst for the one-pot two-step cascade reaction to transform biomass-derived

- furanic aldehydes into fuel intermediates, *Energy & Fuels*, 11366-11381, 14, **2021. (Impact Factor-3.6)**
- [148] Abhinav Kumar, Subhajyoti Samanta, and **Rajendra Srivastava\***, Graphitic Carbon Nitride Modified with Zr-Thiamine Complex for Efficient Photocatalytic CO<sub>2</sub> Insertion to Epoxide: Comparison with Traditional Thermal Catalysis, *ACS Applied Nano Materials* 6805-6820, 4, **2021. (Featured as the Cover Page) (Impact Factor-5.1)**
- [147] Abhinav Kumar, Atal Shivhare, Rajaram Bal, and **Rajendra Srivastava\***, Metal and solvent-dependent activity of spinel-based catalysts for the selective hydrogenation and rearrangement of furfural, *Sustainable Energy & Fuels*, 3191-3204, 5, **2021. (Impact Factor-6.4)**
- [146] Abhinav Kumar, Rajaram Bal, and **Rajendra Srivastava\***, Modulation in Ru and Cu nanoparticles contents over CuAlPO-5 in synergistic enhancement in the selective reduction and oxidation of biomass-derived furan-based alcohols and carbonyls, *Catalysis Science & Technology*, 4133-4148, 11, **2021. (Impact Factor-6.1)**
- [145] Atal Shivhare, Abhinav Kumar and **Rajendra Srivastava\***, Metal Phosphate Catalysts to Upgrade Lignocellulose Biomass into Value-Added Chemicals and Bio-Fuels, *Green Chemistry*, 3818-3841, 23, **2021. (Impact Factor-10.2)**
- [144] Ashish Kumar Kar and **Rajendra Srivastava\***, Reductive Formylation of Nitroarenes using HCOOH over Bimetallic C-N Framework Derived from the Integration of MOF and COF, *ChemCatChem*, 3174-3183, 13, **2021. (Impact Factor-5.7)**
- [143] Atal Shivhare, Deshetti Jampaiah, Suresh K. Bhargava, Adam F. Lee,\* **Rajendra Srivastava\***,\* and Karen Wilson\*, Hydrogenolysis of Lignin-Derived Aromatic Ethers over Heterogeneous Catalysts, *ACS Sustainable Chemistry & Engineering* 3379-3407, 9, **2021. (Published as Perspective) (Impact Factor-8.2)**
- [142] Ganesh Sunil More and **Rajendra Srivastava**, Synthesis of Amino Alcohols, Cyclic Urea, Urethanes, Cyclic Carbonates and Tandem One-pot Conversion of Epoxide to Urethanes using Zn-Zr Bimetallic Oxide Catalyst, *Sustainable Energy & Fuels*, 1498-1510, 5, **2021. (Impact Factor-6.4)**

- [141] Atal Shivhare, Abhinav Kumar and **Rajendra Srivastava\***, An Account of the Catalytic Transfer Hydrogenation and Hydrogenolysis of Carbohydrates-Derived Renewable Platform Chemicals over Non-Precious Heterogeneous Metal Catalysts, *ChemCatChem*, 59-80, 13, **2021**. (Impact Factor-5.7)

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- [140] Abhinav Kumar and **Rajendra Srivastava\***, Pd Decorated Magnetic Spinel for Selective Catalytic Reduction of Furfural: Interplay of Framework Substituted Transition Metal and Solvent in Selective Reduction, *ACS Applied Energy Materials*, 9928-9939, 3, **2020**. (Impact Factor-6.0)
- [139] Ashish Kumar Kar, Surinder Pal Kaur, T. J. Dhilip Kumar and **Rajendra Srivastava\***, Efficient hydrogenolysis of aryl ethers over Ce-MOF supported Pd NPs under mild conditions: Mechanistic insight using density functional theoretical calculations, *Catalysis Science and Technology*, 6892-6901, 10, **2020**. (Impact Factor-6.2)
- [138] Abhinav Kumar and **Rajendra Srivastava\***, Bi-Functional Magnesium Silicate Catalyzed Glucose and Furfural Transformations to Renewable Chemicals, *ChemCatChem*, 4807-4816, 12, **2020** (Featured as Cover Page of the Journal) (Impact Factor-5.7)
- [137] Poonam Rani and **Rajendra Srivastava\***, Comprehensive Understanding of the Eco-friendly Synthesis of Zeolites: Needs of 21st Century Sustainable Chemical Industries, *The Chemical Record*, **968-988**, **20**, **2020**. (Impact Factor-6.8)
- [136] Abhinav Kumar and **Rajendra Srivastava\***, Zirconium Phosphate Catalyzed Transformations of Biomass Derived Furfural to Renewable Chemicals, *ACS Sustainable Chemistry & Engineering* 9497-9506, 8, **2020**. (Impact Factor = 8.2)
- [135] Subhajyoti Samanta and **Rajendra Srivastava\***, Catalytic Conversion of CO<sub>2</sub> to Chemicals and Fuels: The Collective Thermocatalytic/Photocatalytic/Electrocatalytic Approach with Graphitic Carbon Nitride, *Materials Advances (RSC)*, 1506-1545, 1, **2020**.
- [134] Aniruddha Mukherji, Rajaram Bal, **Rajendra Srivastava\***, Understanding the Co:Mo Compositional Modulation and Fe-Interplay in Multicomponent Sulfide Electrocatalysts for Oxygen and Hydrogen Evolution Reactions

*ChemElectroChem*, 2740-2751, 7, 2020 (Featured as the Cover Page of the Journal). (Impact Factor-4.6)

- [133] Diksha Srivastava, Poonam Rani and **Rajendra Srivastava\***, ZIF-8-Nanocrystalline Zirconosilicate Integrated Porous Material for the Activation and Utilization of CO<sub>2</sub> in Insertion Reactions, *Chemistry-An Asian Journal*, 1132-1139, 15, 2020. (Impact Factor = 4.6)

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- [132] Subhajyoti Samanta, Rajkumar Yadav, Abhinav Kumar, Anil Kumar Sinha, and **Rajendra Srivastava\***, Surface modified C, O co-doped polymeric g-C<sub>3</sub>N<sub>4</sub> as an efficient photocatalyst for visible light assisted CO<sub>2</sub> reduction and H<sub>2</sub>O<sub>2</sub> production, *Applied Catalysis B: Environmental*, **118054** (1-16), **259**, 2019, (Impact factor = 19.5)
- [131] Poonam Rani and **Rajendra Srivastava\***, Multi-functional metal-organic framework and metal-organic framework-zeolite nanocomposite for the synthesis of carbohydrate derived chemicals via one-pot cascade reaction, *Journal of Colloid and Interface Science*, 144-155, 557, 2019. (Impact factor = 8.1)
- [130] Ashish Kumar Kar and **Rajendra Srivastava\***, Solvent-Dependent, Formic Acid-Mediated, Selective Reduction and Reductive N-Formylation of N-Heterocyclic Arenes with Sustainable Cobalt-Embedded N-Doped Porous Carbon Catalyst, *ACS Sustainable Chemistry & Engineering* 13136-13147, 7, 2019 (Impact Factor = 8.2)
- [129] Abhinav Kumar and **Rajendra Srivastava\***, CePO<sub>4</sub>, a multi-functional catalyst for carbohydrate biomass conversion: production of 5-hydroxymethylfurfural, 2,5-diformylfuran, and  $\gamma$ -valerolactone, *Sustainable Energy and Fuels* 2475-2489, 3, 2019. (HOT Article-2019) (Impact Factor = 6.4)
- [128] Poonam Rani and **Rajendra Srivastava\***, Extra-Framework Aluminum Species of Zeolite that Surrogate the Growth of Metal Organic Framework from Zeolite Matrix, *Chemistry-An Asian Journal*, 2598-2603, 14, 2019. (Impact Factor = 4.6)
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- [126] Poonam Rani and **Rajendra Srivastava\***, Starch coated silica nanospheres parenting the growth of trimodal porous zeolites for catalysis involving large molecules, *ACS Sustainable Chemistry & Engineering* 9822-9833, 7, **2019. Featured as the Cover Page of the Journal (Impact Factor = 8.2)**
- [125] Subhajyoti Samanta, Biswarup Satpati, and **Rajendra Srivastava\***, Unrevealing the impact of Pd nanoparticles@BiVO<sub>4</sub>/S-CN heterostructure on the photo-physical & opto-electronic properties for enhanced catalytic activity in water splitting and one-pot, three-step tandem reaction, *Nanoscale Advances*, 1395-1412, 1, **2019. (Impact Factor = 4.6)**
- [124] Ashish Kumar Kar and **Rajendra Srivastava\***, Selective synthesis of Cu-Cu<sub>2</sub>O/C and CuO-Cu<sub>2</sub>O/C catalysts for Pd free C-C, C-N coupling and oxidation reactions *Inorganic Chemistry Frontiers* 576-589, 6, **2019. (Impact factor = 6.6)**
- [123] Abhinav Kumar and **Rajendra Srivastava\***, FeVO<sub>4</sub> decorated -SO<sub>3</sub>H functionalized polyaniline for direct conversion of sucrose to 2,5-diformylfuran & 5-ethoxymethylfurfural and selective oxidation reaction, *Molecular Catalysis*, 68-79, 465, **2019. (Impact factor = 5.1)**
- [122] Bhaskar Sarmah and **Rajendra Srivastava\***, Selective two-step synthesis of 2,5-diformylfuran from monosaccharide, disaccharide, and polysaccharide using H-Beta and octahedral MnO<sub>2</sub> molecular sieves, *Molecular Catalysis*, 92-103, 462, **2019. (Impact factor = 5.1)**

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- [118] Subhajyoti Samanta, Arpan Nayak, Aniruddha Mukherji, Debabrata Pradhan, Biswarup Satpati, **Rajendra Srivastava\***, Flower-Shaped Self-Assembled Ni<sub>0.5</sub>Cu<sub>0.5</sub>Co<sub>2</sub>O<sub>4</sub> Porous Architecture: A Ternary Metal Oxide as a High-Performance Charge Storage Electrode Material, *ACS Applied Nano Materials*, 5812-5822, 1, 2018. (Impact factor = 5.1)
- [117] Bhaskar Sarmah and **Rajendra Srivastava\***, Selective Oxidation of Biomass-Derived Alcohols and Aromatic and Aliphatic Alcohols to Aldehydes with O<sub>2</sub>/Air Using a RuO<sub>2</sub>-Supported Mn<sub>3</sub>O<sub>4</sub> Catalyst, *ACS Omega*, 7944–7954, 3, 2018. (Impact factor = 3.5)
- [116] Bhaskar Sarmah, Rajkumar kore and **Rajendra Srivastava\***, An efficient halometallate ionic liquid functionalized mesoporous ZSM-5 for the reduction of carbon-carbon multiple bonds, *Inorganic Chemistry Frontiers*, 1618-1621, 5, 2018. (Impact factor = 6.6)
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- [105] **Rajendra Srivastava\***, Synthesis and applications of ordered and disordered mesoporous zeolites: Present and future prospective, *Catalysis Today*, 172-188, 309, **2018**. (Impact factor = 6.8)

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### **Book Chapters**

- [1] Nanoscale Graphitic Carbon Nitride, 1st Edition, Synthesis and Applications  
Chapter 13: Graphitic Carbon Nitride for Organic Transformation  
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### **(List of Granted Patents)**

1. A Process for synthesizing catalytic form of crystalline multi-level porous zeolite  
**Dr. Rajendra Srivastava** and Ms. Poonam Rani  
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**Application number:** 201811041660)
2. Crystalline mesoporous ZSM-5 and mesoporous silicalite zeolites and the process  
for their preparation thereof  
**Dr. Rajendra Srivastava** and Mr. Rajkumar Kore  
**Indian Patent 297724** (Granted: **18<sup>th</sup> June 2018**; Filled date: **16/01/2014**  
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3. Transesterification Catalyst and a process for the preparation thereof  
Darbha Srinivas, **Rajendra Srivastava** and Paul Ratnasamy  
**USA Patent 7,754,643B2** (Granted: 13<sup>th</sup> July 2010; Filling date: 30/03/2006)
4. Process for the preparation of Dialkyl Carbonates  
Darbha Srinivas, **Rajendra Srivastava** and Paul Ratnasamy  
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6. An improved process for the preparation of lubricants by using double metal  
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7. Process for the preparation of carbamates  
Darbha Srinivas, **Rajendra Srivastava** and Paul Ratnasamy  
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