

LIST OF PUBLICATIONS

1. K-Promoted Pt-Hydrotalcite catalyst for production of H₂ by Aqueous phase reforming of Glycerol
Chandrashekar Pendem, Bipul Sarkar, Nazia Siddiqui, L. N. Sivakumar Konathala, Chinnappan Baskar, **Rajaram Bal***
ACS Sustainable Chemistry & Engineering (Accepted) (IF: 5.267)
2. Selective hydrogenation of 5- hydroxymethyl furfural to the liquid fuel 2, 5- dimethylfuran over nickel supported tungsten oxide nanostructured catalyst
Nazia Siddiqui, Anupam Singha Roy, Reena Goyal, Rubina Khatun, Chandrashekar Pendem, Appala Naidu Chokkapu, Ankur Bordoloi **Rajaram Bal***
Sustainable Energy & Fuels, 2017, DOI: 10.1039/C7SE00363C
3. Pt-CeO₂ nanoporous spheres - an excellent catalyst for partial oxidation of methane: Effect of bimodal pore structure
Rajib Kumar Singha, Astha Shukla, A. Sandupatla, Gautam Deo, **Rajaram Bal***
Cat. Sci. & Tech.(Accepted) DOI: 10.1039/C7CY01493G (IF: 5.426).
4. Synthesis and catalytic activity of Pd doped Ni-MgO catalyst for dry reforming of methane
Rajib Kumar Singha, Astha Shukla, A. Sandupatla, Gautam Deo, **Rajaram Bal***
J. Mat. Chem. A 5 (2017) 15688 (IF: 8.867).
5. MoO₃ Nanoclusters Decorated on TiO₂ Nanorods for Oxidative dehydrogenation of ethane to ethylene
Bipul Sarkar, Reena Goyal, Chandrashekar Pendem, Takehiko Sasaki, **Rajaram Bal***
Applied Catal B: Env. 217 (2017) 637 (IF: 9.446).
6. Highly selective transfer hydrogenation of α,β -unsaturated carbonyl compounds using Cu based nanocatalysts
Nazia Siddiqui, Bipul Sarkar, Chandrashekar Pendem, Rubina khatun, L.N. Sivakumar Konathala, Takehiko Sasaki, Ankur Bordoloi, **Rajaram Bal***
Cat. Sci. & Tech. 7 (2017) 2828 (IF: 5.426).
7. Effect of Metal-Support interaction on activity and stability of Ni-CeO₂ catalyst for Partial Oxidation of methane
Rajib Kumar Singha, Astha Shukla, Aditya Yadav, L. N. Sivakumar Konathala, **Rajaram Bal***
Applied Catal B: Env. 202 (2017) 473 (IF: 9.446).
8. Low temperature dry reforming of methane over Pd-CeO₂ nanocatalyst
Rajib Kumar Singha, Astha Shukla, Aditya Yadav, **Rajaram Bal***
Catal. Comm. 92 (2017) 19 (IF: 3.699)
9. Synthesis effects on activity and stability of Pt-CeO₂ catalysts for partial oxidation of methane
Rajib Kumar Singha, Astha Shukla, Aditya Yadav, **Rajaram Bal***
Molecular Catalysis 432 (2017) 19 (IF: 3.98)
10. *In situ* generated CuI nanoparticles as a recyclable heterogeneous catalyst for C-N bond formation reactions

Manoranjan Kumar, Vinod Bhatt, Onkar S. Nayal, Sushila Sharma, Vishal Kumar, Maheshwar S. Thakur, Neeraj Kumar, **Rajaram Bal***, Bikram Singh*, Upendra Sharma*

Cat. Sci. & Tech. 7 (2017) 2857 (IF: 5.426).

11. Plain and CeO₂ – Supported LaNiO_y catalysts for partial oxidation of CH₄
Valeria La Parola , Giuseppe Pantaleo , Francesca Deganello , **Rajaram Bal**, Anna Maria Venezia*

Catalysis Today (Accepted) DOI: 10.1016/J.Cattod.2017.04.045 (IF: 3.789).

12. Energy efficient methane tri-reforming for synthesis gas production over highly coke resistant nanocrystalline Ni-ZrO₂ catalyst

Rajib Kumar Singha, Astha Shukla, Aditya Yadav, Shubhadeep Adak, Zafar Iqbal, Nazia Siddiqui, **Rajaram Bal***

Applied Energy 178 (2016) 110 (IF: 5.746).

13. Synthesis of Highly Coke Resistant Ni Nanoparticles Supported MgO/ZnO Catalyst for Reforming of Methane with Carbon dioxide

Rajib Kumar Singha, Aditya Yadav, Ayush Agrawal, Astha Shukla, Shubhadeep Adak, Takehiko Sasaki, **Rajaram Bal***

Applied Catal B: Env. 191 (2016) 165 (IF: 9.446).

14. Fabrication of Ag/Mn₃O₄ nano-architectures for the one-step selective oxidation of 3-picoline to niacin: a key to vitamin B₃ production

Shilpi Ghosh, Shankha, Shubhra Acharyya, Sachin Sharma, **Rajaram Bal***

Catalysis Science & Technology 6 (2016) 4644 (IF: 5.426).

15. Partial Oxidation of Methane to Synthesis Gas over Pt Nanoparticles Supported on Nanocrystalline CeO₂ Catalyst

Rajib K Singha, Shilpi Ghosh, Shankha Subhra Acharyya, Aditya Yadav, Astha Shukla, Takehiko Sasaki, Anna Maria Venezia, Chandrashekar Pendem Takehiko Sasaki, and **Rajaram Bal***

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16. Ni/CeO₂ catalysts for methane partial oxidation: synthesis driven structural and catalytic effects

G. Pantaleo, V. La Parola, F. Deganello, R.K. Singha, **R. Bal**, A.M. Venezia

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17. Highly Nanodispersed Gd-Doped Ni/ZSM-5 Catalyst for Enhanced Carbon-Resistant Dry Reforming of Methane

Bipul Sarkar, Reena Goyal, Chandrashekar Pendem, Takehiko Sasaki, **Rajaram Bal***

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18. Promoting effect of CeO₂ and MgO for CO₂ reforming of methane over Ni-ZnO catalyst

Rajib Kumar Singha, Aditya Yadav, Astha Shukla, Zafar Iqbal, Chandrashekar Pendem, Konathala Sivakumar, **Rajaram Bal***

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19. Ni nanocluster on modified CeO₂-ZrO₂ nanoporous composite for tri-reforming of methane

Rajib K Singha, Subhasis Das, Monica Pandey, Sachin Kumar, **Rajaram Bal**, Ankur Bordoloi

Catalysis Science & Technology 6 (2016) 7122. (IF: 5.426).

20. Chloride Promoted Room Temperature Preparation of Silver Nanoparticles on Two Dimensional Tungsten Oxide Nanoarchitectures and their Catalytic Application in Oxidation of Tertiary Amines to N-oxides
Shilpi Ghosh, Shankha Shubhra Acharyya, Malika Kumari, [Rajaram Bal*](#)
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21. Nanoclusters of Cu (II) Supported on Nanocrystalline W (VI) Oxide: A Potential Catalyst for Single-Step Conversion of Cyclohexane to Adipic Acid
Shankha Shubhra Acharyya, Shilpi Ghosh, [Rajaram Bal*](#)
Green Chemistry 17 (2015) 3490 (Hot Article) (IF: 9.125).
22. Synergistic Effect between Ultrasmall Cu (II) Oxide and CuCr₂O₄ Spinel nanoparticles in Selective Hydroxylation of Benzene to Phenol with Air as Oxidant
Shankha Shubhra Acharyya, Shilpi Ghosh, Ritesh Tiwari, Chandrashekhar Pendem, Takehiko Sasaki, [Rajaram Bal*](#)
ACS Catalysis 5 (2015) 2850 (IF: 10.614).
23. Fabrication of three dimensional (3D) hierarchical Ag/WO₃ flower-like catalyst materials for the selective oxidation of m-xylene to isophthalic acid
Shankha Shubhra Acharyya, Shilpi Ghosh, [Rajaram Bal*](#)
Chem. Commun. 51 (2015) 5998 (IF: 6.834).
24. Room Temperature Selective Oxidation of Aniline to Azoxybenzene over Silver supported Tungsten Oxide Nanostructured Catalyst
Shilpi Ghosh, Shankha Shubhra Acharyya, Takehiko Sasaki, [Rajaram Bal*](#)
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25. Nanocrystalline Pt-CeO₂ as an efficient catalyst for room temperature selective reduction of nitroarenes
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26. Fabrication of Ag/WO₃ Nanobars Catalyst for Baeyer-Villiger Oxidation Using Hydrogen Peroxide
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27. Fabrication of Silver-Tungsten Wafer-like Nanoarchitectures for Selective Epoxidation of Alkenes
Shilpi Ghosh, Shankha Shubhra Acharyya, Takehiko Sasaki, [Rajaram Bal*](#)
ACS Sustainable Chemistry & Engineering 3 (2015) 2823 (IF: 5.267).
28. Cetyl alcohol mediated fabrication of forest of Ag/Mn₃O₄ nanowhiskers catalyst for the selective oxidation of styrene with molecular oxygen
Shankha, Shubhra Acharyya, Shilpi Ghosh, Sachin Sharma, [Rajaram Bal*](#)
RSC Advances 5 (2015) 89879 (IF: 3.840).
29. Catalytic oxidation of aromatic amines to azoxy compounds over Cu-CeO₂ Catalyst using H₂O₂ as an oxidant
Astha Shukla, Rajib Kumar Singha, L.N. KonathalaTakehiko Sasaki, [Rajaram Bal*](#)
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30. Fabrication of Ag Nanoparticles Supported on One-Dimensional (1D) Mn₃O₄ Spinel Nanorods for Selective Oxidation of Cyclohexane at Room Temperature
Shankha, Shubhra Acharyya, Shilpi Ghosh, Sachin Sharma, [Rajaram Bal*](#)
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31. Highly Efficient Cu²⁺/CuCr₂O₄ Nanoparticles Catalyst for Liquid phase Selective Oxidation of Ethanol

- Shankha Shubhra Acharyya, Shubhadeep Adak, [Rajaram Bal*](#)
Science Letters, 4 (2015) 153 (IF: NA).
32. Preparation of Silver Supported on Tungsten Oxide Nanoparticles for Selective Oxidation of Ethylbenzene
Shilpi Ghosh, Shubhadeep Adak, [Rajaram Bal*](#)
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34. Defect Induced Efficient Partial Oxidation of Methane Over Non-stoichiometric Ni/CeO₂ Nano Crystals
Provas Pal; Rajib K. Singha; Arka Saha; [Rajaram Bal*](#); Asit B. Panda*
J. Phys. Chem. C 119 (2015) 13610 (IF: 4.483).
35. Preparation of One-dimensional (1D) Cu-WO₃ Nanorods Catalyst for the Selective Oxidation of Ethylbenzene
Shankha Shubhra Acharyya, Peetam Mandal, [Rajaram Bal*](#)
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36. Morphology-Controlled Synthesis of TiO₂ Nanostructures for Environmental Application Catalysis Communications
Bipul Sarkar, Reena Goyal, Nikita Singhal, Umesh KUMar, Ankur Bordoloi, Chandrashekar Pendem, [Rajaram Bal*](#)
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37. Cetyl Alcohol Mediated Synthesis of CuCr₂O₄ Spinel Nanoparticles: A Green Catalyst for Selective Oxidation of Aromatic C-H Bonds with Hydrogen Peroxide
Shankha Shubhra Acharyya, Shilpi Ghosh, Nazia Siddiqui, L. N. Sivakumar Konathala, [Rajaram Bal*](#)
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38. Synthesis and support composition effects on CH₄ partial oxidation over Ni-CeLa oxides
G. Pantaleo, V. La parola, F. Deganello, P. Calatizzo, [R. Bal](#), A.M. Venezia
Appl. Catal. B: Env. 164 (2015) 135 (IF: 9.446).
39. Pt nanoparticle supported on nanocrystalline CeO₂: Highly selective catalyst for up-gradation of phenolic derivatives present in bio-oil
Bipul Sarkar, Chandrashekar Pendem, L. N. Sivakumar Konathala, Takehiko Sasaki, [Rajaram Bal*](#)
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Shankha Shubhra Acharyya, Shilpi Ghosh, [Rajaram Bal*](#)
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41. Preparation of silver-tungsten nanostructure materials for selective oxidation of toluene to benzaldehyde with hydrogen peroxide
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42. Cu-nanoclusters supported on nanocrystalline SiO₂-MnO₂: a bifunctional catalyst for one step conversion of glycerol to acrylic acid
Bipul Sarkar, Chandrashekar Pendem, L. N. Sivakumar Konathala, Ritesh Tiwari, Takehiko Sasaki, [Rajaram Bal*](#)

- Chem. Commun. 50 (2014) 9707 (IF: 6.834).**
43. Direct Oxyamination of Benzene to Aniline over Cu(II) nanoclusters supported on CuCr₂O₄ Spinel Nanoparticles Catalyst via simultaneous activation of C-H and N-H bonds
Shankha, Shubhra Acharyya, Shilpi Ghosh, **Rajaram Bal***
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45. Facile synthesis of CuCr₂O₄ Spinel Nanoparticles: A Recyclable Heterogeneous Catalyst for One Pot Hydroxylation of Benzene
Shankha, Shubhra Acharyya, Shilpi Ghosh, Shubhadeep Adak, Takehiko Sasaki
Rajaram Bal*
Catalysis Science & Technology 4 (2014) 4232 (IF: 5.426).
46. Selective Oxidation of Cyclohexene to Adipic Acid over Silver supported Tungsten Oxide nanostructure catalyst
Shilpi Ghosh, Shankha, Shubhra Acharyya, Shubhadeep Adak, L. N. Sivakumar Konathala, Takehiko Sasaki, **Rajaram Bal***
Green Chemistry, 16 (2014) 2826 (IF: 9.125).
47. Preparation of CuCr₂O₄ Spinel Nanoparticles Catalyst for Selective Oxidation of Toluene to Benzaldehyde
Shankha Shubhra Acharyya, Shilpi Ghosh, Ritesh Tiwari, Bipul Sarkar, Rajib Kumar Singha, Chandrashekar Pendem, Takehiko Sasaki, **Rajaram Bal***
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48. Surfactant Promoted Synthesis of CuCr₂O₄ Spinel Nanoparticles: A Recyclable Catalyst for One-Pot Synthesis of Acetophenone from Ethylbenzene
Shankha Shubhra Acharyya, Shilpi Ghosh, **Rajaram Bal***
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49. Catalytic cracking of jatropha-derived fast pyrolysis oils with VGO and their NMR characterization
D.V. Naik, V. Kumar, B. Prasad, M.K. Poddar, B. Behera, **R. Bal**, O.P. Khatri, D.K. Adhikari, M.O. Garg
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50. Preparation of Cu-Cr Oxide Nanoparticles Catalyst and Their Catalytic Applications in Selective Oxidation Reactions
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51. Fabrication of CuCr₂O₄ Spinel Nanoparticles: A Potential Catalyst for the Selective Oxidation of Cycloalkanes via activation of Csp³-H Bond
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52. CuCr₂O₄ Spinel Nanoparticles: An efficient Catalyst for the Liquid Phase Oxidation of Cyclohexene using H₂O₂ as Oxidant
Shankha Shubhra Acharyya, Shilpi Ghosh, Astha Shukla, **Rajaram Bal***
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53. Selective Oxidation of Styrene using H₂O₂ as Oxidant over Silver Nanoparticles Supported on Tungsten Oxide Nanorod Catalyst

- Shilpi Ghosh, Shankha Shubhra Acharyya, L.N. Sivakumar Konathala, **Rajaram Bal***
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54. Preparation of CeO₂ Nanoparticles Supported on 1-D silica Nanostructures for Room Temperature Selective Oxidation of Styrene
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Shilpi Ghosh, Shankha Shubhra Acharyya, Deependra Tripathi, **Rajaram Bal***
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60. Oxidation of Cyclohexane over Nanocrystals of Cu (II) supported on Nanocrystalline Tungsten Oxide with H₂O₂ as Oxidant
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63. Aqueous phase reforming of glycerol to 1, 2-propanediol over Pt-nanoparticles supported Hydrotalcite in absence of hydrogen
Chandrashekar Pendem, Piyush Gupta, Nisha Choudhary, Sarbjit Singh, Jagdish Kumar, Takehiko Sasaki, Arunabha Datta, **Rajaram Bal***
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64. Pt nanoparticles supported on mesoporous ZSM-5: a potential catalyst for reforming of methane with carbon dioxide
Bipul Sarkar, Shashank Suman, Ritesh Tiwari, Rajib Kumar Singha, Shilpi Ghosh, Shankha, Shubhra Acharyya, L. N. Sivakumar Konathala, Chandrashekar Pendem, Kshudiram Mantri, [Rajaram Bal](#)^{*}
Indian Journal of Chemistry 51A (2012) 1348 (Invited article) (IF: 0.628).
65. Room temperature selective oxidation of cyclohexane over Cu-nanoclusters supported on nanocrystalline Cr₂O₃
Bipul Sarkar, Pragati Prajapati, Rahul Tiwari, Ritesh Tiwari, Shilpi Ghosh, Shankha Shubhra Acharyya, Chandrashekar Pendem, Rajib Kumar Singha, L. N. Sivakumar Konathala, Jagdish Kumar, Takehiko Sasaki, [Rajaram Bal](#)^{*}
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Patents

1. An improved process for the preparation of Cu-Cr oxides for selective oxidation reactions
[Rajaram Bal](#), Bipul Sarkar, Shankha Shubhra Acharyya, Shilpi Ghosh, Chandrashekar Pendem, Jagdish Kumar
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2. An improved process for the selective hydroxylation of benzene with molecular oxygen (air) over solid catalysts
[Rajaram Bal](#), Shankha Shubhra Acharyya, Shilpi Ghosh, Bipul Sarkar, Karan Singh Rawat, Chandrasekhar Pendem
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3. An improved process and catalyst for the selective oxidation of propyne to propylene oxide with molecular oxygen over solid catalysts
[Rajaram Bal](#), Shankha Shubhra Acharyya, Shilpi Ghosh, Bipul Sarkar, Karan Singh Rawat, Chandrasekhar Pendem
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4. An improved process and catalyst for the selective dehydrodegeneration / oxidative dehydrogenation of ethane to ethylene over solid catalyst
[Rajaram Bal](#), Bipul Sarkar, Rajib Kumar Singha, Chandrasekhar Pendem, Shankha Shubhra Acharyya, Shilpi Ghosh
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5. An improved coke resistant solid catalyst and process for the dry reforming of methane with carbon di-oxide
[Rajaram Bal](#), Bipul Sarkar, Rajib Kumar Singha, Chandrasekhar Pendem, Shankha Shubhra Acharyya, Shilpi Ghosh
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[Rajaram Bal](#), Rajib Kumar Singha, Bipul Sarkar, Chandrasekhar Pendem, Shankha Shubhra Acharyya, Shilpi Ghosh, Reena Goyal, Shubasish Das, L.N. Sivakumar Konthala
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10. Ni-MgO-ZnO catalyst for activation of methane and a process for the preparation thereof
[Rajaram Bal](#), Rajib Kumar Singha, Bipul Sarkar, Chandrasekhar Pendem, Ankur Bordoloi
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11. Nano Ni-CeO₂ catalyst for syngas production and its preparation thereof
[Rajaram Bal](#), Rajib Kumar Singha, Bipul Sarkar, Chandrasekhar Pendem, Ankur Bordoloi
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12. An improved process for the production of syngas by combining oxy- and dry reforming of natural gas over solid catalyst
[Rajaram Bal](#), Bipul Sarkar, Reena Goyal, Ankur Bordoloi, Chandrashekar Pendem, L. N. Sivakumar Konathala
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[Rajaram Bal](#), Rajib Kumar Singha, Ankur Bordoloi, Chandrashekar Pendem & L.N. Konathala Sivakumar
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14. An improved process for the production of δ -valerolactone by hydrogenation of levulinic acid over Pt-hydroxalcalite catalyst
[Rajaram Bal](#), Chandrashekar Pendem, Nazia Siddiqui, Ankur Bordoloi, L.N. Sivakumar Konathala, Manoj Kumar, Sandeep Saran
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[Rajaram Bal](#), Shubhadeep Adak, Chandrashekar Pendem, Ankur Bordoloi
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