

List of Publications

1. **Borah, B. J.**, Saikia, H., Goswami, C., Hazarika, K. K., Yamada, Y., and Bharali, P. Unique half embedded/exposed PdFeCu/C interfacial nanoalloy as high-performance electrocatalyst for oxygen reduction reaction. *ChemCatChem*, 11: 3522-3529, 2019.
2. Deka, P., **Borah, B. J.**, Saikia, H., and Bharali, P. Cu-based nanoparticles as emerging environmental catalysts, *The Chemical Record*, 19:462 – 473,2019.
3. Hazarika, K. K., Goswami, C., Saikia, H., **Borah, B. J.**, and Bharali, P. Cubic Mn₂O₃ nanoparticles on carbon as bifunctional electrocatalyst for oxygen reduction and oxygen evolution reactions. *Molecular Catalysis*, 451:153–160, 2018.
4. **Borah, B. J.**, Mahanta, A, Mondal, M, Gogoi, H, Yamada, Y., and Bharali, P. Cobalt-copper nanoparticles catalyzed selective oxidation reactions: efficient catalysis at room temperature, *ChemistrySelect*, 3:9826 – 9832, 2018.
5. Saikia, H., **Borah, B. J.**, Yamada, Y., and Bharali, P. Enhanced catalytic activity of CuPd alloy nanoparticles towards reduction of nitroaromatics and hexavalent chromium, *Journal of Colloid and Interface Science*, 486:46 – 57, 2017.
6. Saikia, H., **Borah, B. J.**, and Bharali, P. Room temperature reduction of nitroaromatics using Pd nanoparticles stabilized on nano-CeO₂, *ChemistrySelect*, 2:10524 – 10530, 2017.
7. **Borah, B. J.**, Saikia, H., and Bharali, P. Reductive conversion of Cr(VI) to Cr(III) over bimetallic CuNi nanocrystals at room temperature, *New Journal of Chemistry*, 38: 2748 – 2751, 2014.
8. **Borah, B. J.**, and Bharali, P. Surfactant-free synthesis of CuNi nanocrystals and their application for catalytic reduction of 4-nitrophenol, *Journal of Molecular Catalysis A: Chemical*, 390:29 – 36, 2014.
9. Mandal, M., Nagaraju, V., Karunakar, G. V., Sarma, B., **Borah, B. J.**, and Bania, K. K. Electronic, conjugation, and confinement effects on structure, redox, and catalytic behavior of oxido-vanadium (IV) and-(V) chiral Schiff base complexes. *The Journal of Physical Chemistry C*, 119(52):28854-28870, 2015.
10. Borgohain, H., Devi, R., Dheer, D., **Borah, B. J.**, Shankar, R., & Das, S. K. Synthesis of Tetrahydroquinoline-Embedded Bridged Benzothioxazepine-1, 1-dioxides. *European Journal of Organic Chemistry*, 2017(45): 671-6679, 2017.
11. Das, J., **Borah, B. J.**, & Das, S. K. Base-mediated intramolecular one-pot double-cyclization of epoxide-tethered 2-fluorobenzenesulfonamides: an avenue to 1,4-benzoxazine-fused benzothioxazepine-1,1-dioxides. *Organic & Biomolecular Chemistry*, 18: 220–224, 2020.

12. **Borah, B. J.**, Goswami, C., Yamada, Y. and Bharali, P. Surfactant free synthesis of Pd₂CuCo/C alloy nano flowers with rich expose (111) facets, twin defects and lattice strain: a class of Pt- free electrocatalysts for bifunctional fuel cell reactions. (*submitted*)
13. **Borah, B. J.**, Yamada, Y. and Bharali, P. Understanding the effects of metallic copper and chemical interaction of hetero atom free carbon matrix on Cu-CuFe₂O₄ to efficient oxygen reduction reaction. (*submitted*)
14. **Borah, B. J.**, Yamada, Y. and Bharali, P. Facile Synthesis of embedded Cu/Fe₂O₃ as magnetically recoverable nanocatalyst for efficient reduction of nitroarenes in aqueous medium at room temperature. (*submitted*)
15. **Borah, B. J.**, and Bharali, P. Non precious magnetically retrievable CuNi alloy Catalyst: reductive coupling of nitroarenes with 2-propanol. (*submitted*)
16. **Borah, B. J.**, Saikia, H., and Bharali, P. Interfacial CuCo/CuO-Co₃O₄/C nanoparticles for Enhanced electrochemical oxygen reduction reaction. (*to be submitted*)
17. **Borah, B. J.**, Yamada, Y. and Bharali, P. PdCuNi/C nanowire network and their oxygen reduction reaction activity. (*to be submitted*)

Book Chapters

1. **Borah, B. J.**, Mondal, M., and Bharali, P. Palladium-based Hybrid Nanocatalysts: Application toward Reduction Reactions, In Noble Metal-Metal Oxide Hybrid Nanoparticles: Fundamentals and Applications, *Elsevier Pub.*, Chap 27, ISBN: 978-0-12-814134-2, eBook ISBN: 978-0-12-814135-9 565 – 583, 2019.
2. **Borah, B. J.**, Saikia, H., and Bharali, P. Transition Metal Based Nanoparticles for the Treatment of Organic and Inorganic Water Pollutants. (*submitted to Springer Pub.*)

List of Conference/Symposium/Seminar Attended

1. **Poster presentation**, Non-noble Cu-CuFe₂O₄/C nanohybrid: A robust electrocatalysts for oxygen reduction reaction, “*Organix-2018*” at Tezpur University, Tezpur, on 20-21 December, 2018.
2. **Oral presentation**, Influence of Cu on PdFe/C nanocatalysts for enhanced catalytic activity for cathodic oxygen reduction reaction, “*7th Asia-Pacific Congress on Catalysis (APCAT-7)*” at the Hotel Lalit, Mumbai, on 17-21 January, 2017.
3. **Poster Presentation**, PdFe/C based nanocatalysts for cathodic oxygen reduction reaction, “*Sophisticated Instruments in Modern Research*” at IIT, Guwahati, 30th June & 1st July, 2017.
4. **Poster presentation**, Design of noble metal-free nanocatalyst for selective oxidation of benzyl alcohol at room temperature, “*National Conference on Contemporary Developments in Chemical Sciences (CDCS)*” at Tezpur University, Tezpur, on 23-24 November, 2015.