

## List of publications

### *In journals (Included in the thesis)*

- [1] **Ahmed, S.**, Lahkar, S., Saikia, P., Mohanta, D., Das, J., and Dolui, S. K. Stable and highly luminescent CsPbX<sub>3</sub> (X= Br, Br/Cl) perovskite quantum dot embedded into Zinc (II) imidazole-4, 5-dicarboxylate metal organic framework as a luminescent probe for metal ion detection. *Material Chemistry and Physics*, 295:127093, 2023.
- [2] **Ahmed, S.**, Lahkar, S., Doley, S., Mohanta, D., and Dolui, S. K. A hierarchically porous MOF confined CsPbBr<sub>3</sub> quantum dots: Fluorescence switching probe for detecting Cu (II) and melamine in food samples. *Journal of Photochemistry and Photobiology A: Chemistry*, 443:114821, 2023.
- [3] **Ahmed, S.**, Mohanta, D., Baruah, K., and Dolui, S. K. CsPbBr<sub>3</sub> perovskite quantum dot decorated ZIF-8 MOF: a selective dual recognition fluorometric visual probe for 4-nitroaniline and rhodamine blue. *Analytical Methods*, 15(46):6394-6403, 2023.
- [4] **Ahmed, S.** and Dolui, S. K. Dual emitting CsPbBr<sub>3</sub>/Eu-BDC composite as a ratiometric photoluminescent turn on probe for aliphatic amine sensing. (*Under communication*)

### **Other publications**

- [1] Saikia, P., Sarmah, H. J., **Ahmed, S.**, Lahkar, S., Das, J. P., and Dolui, S. K. Synthesis of Ca<sub>x</sub>Cu<sub>3-x</sub>Ti<sub>4</sub>O<sub>12</sub> Perovskite Materials and House-Hold LED Light Mediated Degradation of Rhodamine Blue Dye. *Journal of Inorganic and Organometallic Polymers and Materials*, 31:2161-2167, 2021.
- [2] Lahkar, S., **Ahmed, S.**, Mohan, K., Saikia, P., Das, J. P., Puzari, P., and Dolui, S. K. Iron doped titania/multiwalled carbon nanotube nanocomposite: A robust electrocatalyst for hydrogen evolution reaction in aqueous acidic medium. *Electrochimica Acta*, 407(139921): 1-10, 2022.
- [3] Lahkar, S., **Ahmed, S.**, Bora, A., Mohan, K., Rohman, S. S., Guha, A. K., and Dolui, S. K. Modulation of electronic density states of carbon atom via multifaceted Cu doped Co<sub>2</sub>P particle for robust and efficient electrocatalytic hydrogen evolution reaction in aqueous acidic medium. *Electrochimica Acta*, 455:142378, 2023.
- [4] Doley, S., Bora, A., Saikia, P., **Ahmed, S.**, and Dolui, S. K. Blending of cyclic carbonate based on soybean oil and glycerol: a non-isocyanate approach towards

the synthesis of polyurethane with high performance. *Journal of Polymer Research*, 28:1-9, 2021.

- [5] Baruah, K., Ahmed, A., Dutta, R., **Ahmed, S.**, Lahkar, S. and Dolui, S. K. Removal of organic solvents from contaminated water surface through a fatty acid grafted polyvinyl alcohol based organogel. *Journal of Applied Polymer Science*, 139(45):53123, 2022.

### ***Book Chapter***

- [1] **Ahmed, S.**, Lahkar, S., and Dolui, S. K. Perovskite Nanomaterials as Advanced Optical Sensor. In Mohanta, D., Chakraborty, P., editors, *Nanoscale Matter and Principles in Sensing and Labeling Applications*, Springer Nature, 2023. ISBN: 978-981-99-7847-2. (Accepted)

### ***In conferences (as abstract)***

#### ***Poster Presentation***

- [1] **Ahmed, S.** and Dolui, S. K. *Fabrication and characterization of planar heterojunction inverted type inorganic-based perovskite solar cell with enhanced stability.* International Conference on Advancement of Science and Technology (ICAST-2018), organized by Visva-Bharati University, Shantiniketan, Kolkata, 3<sup>rd</sup>-4<sup>th</sup> September 2018.
- [1] **Ahmed, S.** Dolui, S. K., and Mohanta, D. *Highly luminescent and stable CsPbBr<sub>3</sub> perovskite quantum dot embedded into Zinc(II) imidazole-4,5-dicarboxylate framework as a luminescent probe for metal ion detection.* National seminar on Research at the interface of chemical, biological and material sciences, organized by the Department of Chemical Sciences, Tezpur University, 10<sup>th</sup> march, 2023.