

Poster Presentation

MS074.P07

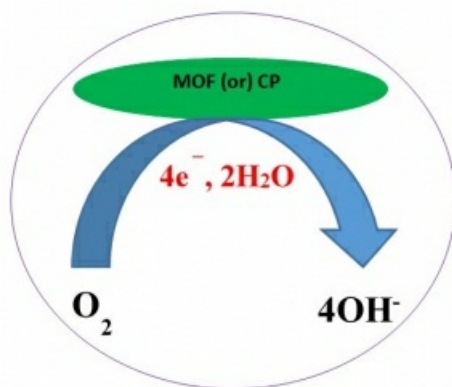
Electrocatalytically active cobalt metal organic framework for oxygen reduction reaction

Prabu M¹, Anjaiah Sheelam², Kothandaraman Ramanujam², Sukhendu Mandal¹

¹School Of Chemistry, Indian Institute Of Science Education And Research Thiruvananthapuram, Trivandrum, India, ²Indian Institute of Technology Madras, Chennai, India
E-mail: prabu.chemist14@iisertvm.ac.in

Metal Organic Frameworks (MOFs) or Coordination Polymers (CPs) are inorganic-organic hybrid crystalline materials with diverse architectures and variable pore size constructed by the linking of metal ions or metal clusters and organic ligands.1 These materials have various field of applications namely gas storage/absorption, sensor, catalysis etc..2 One promising area of research is electrochemical energy conversion in fuel cells using a non-precious-metal catalyst for oxygen reduction reaction (ORR).3 Here, we synthesized a new three-dimensional Cobalt based MOF namely, Co-BTB-BPE this compound functions as a very good oxygen reduction electrocatalyst in alkaline medium. Also this material structurally reminiscent of the long-studied M-N_x ORR electrocatalyst.

1. Yaghi, O. M. et al. (1999). Nature 402, 276-279.
2. Kian Ping Loh et al. (2012). J. Am. Chem. Soc. 134, 6707-6713.
3. Mircea Dinca et al. (2016). Nat. Commun. 7, 10942.



Keywords: [Electrocatalyst](#), [Oxygen reduction](#), [Fuel Cell](#)