

## **PUBLICATIONS IN SCIENTIFIC JOURNALS**

- [1] Application of zirconium phosphonate a novel hybrid material as an ion exchanger, *Desalination and Water Treatment*, 38 (2012) 227-235.
- [2] Zirconium tri-ethylenetetra-amine ligand-chelator complex based cross-linked membrane for selective recovery of  $\text{Cu}^{2+}$  by electrodialysis, *Journal of Membrane Science*, 428 (2013) 462–469.
- [3] Cross-linked zirconium tri-ethylene tetramine membrane in aqueous media for selective separation of  $\text{Cu}^{2+}$ , *Separation Science and Technology*, 48 (2013) 2382-2390.
- [4] Synthesis and Characterization of a Novel Hybrid Chelating Ion Exchanger and its Application as an Amphoteric Exchanger, *Separation Science and Technology*, 50 (2015) 1-11.
- [5] Synthesis and Characterization of a Novel Hybrid Material as Amphoteric Ion Exchanger for Simultaneous Removal of Cations and Anions, *Journal of Hazardous materials*, 276(2014)138-148.
- [6] Kinetics, Thermodynamics and Metal Separation Studies Using a Zirconium Phosphonate Based Novel Hybrid Ion Exchanger, *Toxicology and Environmental Chemistry* (communicated).
- [7] Synthesis and Characterization of a Novel Hybrid Material Titanium-Amino tris(methylenephosphonic acid) and its Application as a Cation Exchanger, *Industrial & Engineering Chemistry Research*, 53 (2014)17454-17467.

## PAPERS PRESENTED AT NATIONAL/INTERNATIONAL CONFERENCES

- [1] **“Application of zirconium phosphonate – a novel hybrid material as an ion exchanger”**, Symposium on Emerging Trends in Separation Science and Technology (SESTEC-2010), IGCAR-Chennai, 1<sup>st</sup> - 4<sup>th</sup> March 2010.
- [2] **“Application of A Novel Hybrid Material as an Ion Exchanger”**, 24<sup>th</sup> Gujarat Science Congress, Gujarat University and Gujarat Science Academy, Ahmedabad, 21<sup>st</sup> March 2010.
- [3] **“Synthesis and Characterization of a Novel Hybrid Amphoteric Exchanger”**, 3<sup>rd</sup> International Symposium on Materials Chemistry (ISMC-2010), Society for Materials Chemistry & Chemical Division, BARC, Mumbai, 7<sup>th</sup> -11<sup>th</sup> December, 2010.
- [4] **“Synthesis, characterization and application of a novel metal phosphonate, using claw type amino phosphonic acid as donor in the binding of tetravalent metal”**, 3<sup>rd</sup> Asian Conference on coordination Chemistry (ACCC-3), Department of Chemistry, IIT Kanpur and IIT Delhi, 17<sup>th</sup> – 20<sup>th</sup> October 2011.
- [5] **“Application of Metal Phosphonate -A novel Hybrid Material as an Ion Exchanger”**, National Symposium on Advances in Separation and Purification Science & Technology (NSST-2011), Department of Chemical Engineering, , G H Patel College of Engineering & Technology, Vallabh Vidhyanagar, 4<sup>th</sup>-5<sup>th</sup> February, 2011.
- [6] **“Cross-linked zirconium tri-ethylene tetra-amine membrane in aqueous media for selective separation of Cu<sup>2+</sup>”**, DAE-BRNS Biennial Symposium on Emerging Trends in Separation Science and Technology (SESTEC-2012), Mithi Bhai College, Mumbai, 27<sup>th</sup> February -1<sup>st</sup> March, 2012.
- [7] **“Synthesis and Characterization of a Novel Hybrid Chelating Ion Exchanger and its Application as an Amphoteric Exchanger”**, DAE-BRNS Biennial Symposium on Emerging Trends in Separation Science and Technology (SESTEC-2014), Department of Atomic Energy and Board of Research of Nuclear Science, BARC, Mumbai, 25<sup>th</sup> -28<sup>th</sup> February, 2014.

**ATTENDED SYMPOSIA/ CONFERENCES/ WORKSHOPS,**  
**TRAINING PROGRAMME FOR SELF DEVELOPMENT**

- [1] Modern Trends in Inorganic Chemistry (MTIC-XII) organized by, Department of Inorganic and Physical Chemistry, Indian Institute of Science (IISc), Indian Institute of Science, Bangalore, 9<sup>th</sup> -13<sup>th</sup> December, 2009.
  
- [2] National conference on “Water: Membranes and other Purification Technologies” organized by Indian water works Association and Indian Membrane Society, Faculty of Technology & Engineering, The M. S. University of Baroda, Vadodara, 9<sup>th</sup> – 10<sup>th</sup> January 2010.
  
- [3] Advances in Water & Wastewater Treatment Technology, organized by Civil Engineering Department, Faculty of Technology & Engineering, The M. S. University of Baroda, Vadodara, 7<sup>th</sup> February 2010.