

CURRICULUM VITAE

Dr. D. THIRUMOOLAN

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ACADEMIC PROFILE

Ph.D., in Chemistry (Jan-2011-July-2015)

P.G. & Research Department of Chemistry,
C. Abdul Hakeem College Affiliated to Thiruvalluvar
University, Melvisharam-632 509, Tamil Nadu, India.
Highly Commended.

M.Phil., in Chemistry (Aug-2009-Oct-2010)

P.G. & Research Department of Chemistry,
C. Abdul Hakeem College Affiliated to Thiruvalluvar
University, Melvisharam-632 509, Tamil Nadu, India.
Secured 74.8%, First Class.

M.Sc., in Chemistry (Apr-2009)

Department of Chemistry, Jawahar Science College, (July-2006-
Affiliated to Thiruvalluvar University, Neyveli,
Tamil Nadu, India. **Secured 66.8%, First Class.**

B.Sc., in Chemistry (Apr-2005)

Department of Chemistry, Jawahar Science College, (July-2002-
Affiliated to University of Madras, Neyveli,
Tamil Nadu, India. **Secured 65.8%, First Class.**

Higher Secondary (May-2002)

Sri Ramakrishna Vidhyasala Higher Secondary School,
Chidambaram, Tamilnadu, India.
Secured 65.8%, First Class.

Title of the Ph.D. Work

“Synthesis, Characterization and Electrochemical Evaluation of Anti-Corrosive
Performance of Imidazole Copolymers”

Research Supervisor:

Professor **Dr. K. AnverBasha**,
P.G. & Research Department of Chemistry,
C. Abdul Hakeem College, Melvisharam, Vellore,
Tamil Nadu, India.

Summary of Doctor of Philosophy

“Actually, something can and should be done to prolong the life of metallic structure and complexes exposed to the environments”. My research work is devoted to establish a new idea for protecting metal against corrosion through good adherent and low permeability to different aggressive ions and molecular species to understand the basic relationship between the chemistry of surfaces and corrosion using eco-friendly copolymer coating. Polymers are chosen as the class of compounds most suitable for the complex formation with the metal. The synthesis of organic copolymers bearing labile functional groups with novel multi-functionality is of great accent in the field of polymer science research. The synthesized copolymers are amorphous, hydrophobic with remarkable thermal stability and also they are successfully coated onto the mild steel substrate by dip coating method and the efficiency of the coated steel are evaluated using electrochemical impedance spectroscopy and potentiodynamic polarization in aggressive environment. This strategy provides specific function of all the investigated copolymers as protecting agents to control mild steel corrosion in aggressive environment is evident.

Title of the M.Phil. Work

“Synthesis, Characterization and thermal properties of poly (p-acetamidophenyl) methacrylate –Co- Ethyl methacrylate”

Research Supervisor: Professor **Dr. K. AnverBasha**,
P.G. & Research Department of Chemistry,
C. Abdul Hakeem College, Melvisharam, Vellore,
Tamil Nadu, India.

Summary of Master of Philosophy

The monomer 4- Acetamidophenyl Methacrylate is synthesized and it is used to synthesis homopolymer and copolymers by free-radical solution polymerization. The AAPM monomer is characterized by FT-IR, ^1H NMR, ^{13}C NMR and GC-MS studies. The copolymers are also characterized by FT-IR, ^1H NMR, ^{13}C NMR spectroscopy and GPC. The thermal analysis of both homopolymer and copolymers were performed by Thermo gravimetric analysis (TGA).

Area of Interest

- ❖ Functionalized polymer synthesis
- ❖ Synthesis of Macromolecules
- ❖ Corrosion inhibitors
- ❖ Coating against corrosion

- ❖ Super hydrophobic and hydrophobic coating
- ❖ Self-healing polymers
- ❖ Click reactions
- ❖ Nano materials

Work Experience

Assistant Professor (3/ 8/2015 to – Till Date)	Department of Chemistry, Annai College of Arts and Science, Kovilacheri, Kumbakonam.
Junior Research Fellow (Apr 2011-Mar-2014)	Polymer and Nanotechnology Division, P.G. and Research Department of Chemistry, C. Abdul Hakeem College, Melvisharam, Vellore, India.
Skilled Analytics (Mar-2009-Oct-2009)	Water Analytical Section, CARD-NLC Ltd., Neyveli for Ayyanar& Company Neyveli, Tamil Nadu, India
Primary Teacher Nadu, (June-2005-April-2006)	St. Patricks Nursery and Primary School, Meensurtti, Tamil India.

Academic Administration responsibilities:

Placement Officer (June-2017 –Till Date)	Annai College of Arts and Science, Kovilacheri, Kumbakonam, Tamil Nadu, India.
Asst. Professor &PG Coordinator (Oct-2019 –Till Date)	Annai College of Arts and Science, Kovilacheri, Kumbakonam, Tamil Nadu, India.
IQAC Member (June -2017 – May-2018)	Annai College of Arts and Science, Kovilacheri, Kumbakonam, Tamil Nadu, India.
Nature Club Coordinator (June -2017 – May-2018)	Annai College of Arts and Science, Kovilacheri, Kumbakonam, Tamil Nadu, India.
Assist. Professor & HEAD (April-2017 – Aug-2018)	Department of Chemistry, Annai College of Arts and Science, Kovilacheri, Kumbakonam, Tamil Nadu, India.

Hands on Experience with Instruments

Capable to operate FTIR, UV-Vis, Cyclic Voltammetry, Impedance spectroscopy and various electrochemical techniques, etc.

Laboratory proficiency

- Experienced in the handling of sensitive reagents and carryout inert atmosphere reactions.
- Experienced well in isolation of products (mg to gram scale) from mixture of compounds by column chromatography.
- Structural interpretation of copolymers by spectral analysis.
- Electrochemical evaluation of copolymers using EIS, TAFEL.
- Surface investigation of the coated materials by SEM, EDX, AFM.

List of Publications

1. **D. Thirumoolan**, T. Siva, S.P. Sakthinathan, K. AnverBasha, Corrosion protection properties of poly((benzoyl phenyl) methacrylate-co-methoxy ethylmethacrylate) coating on mild steel. *Journal of Molecular Structure* 1264 (2022) 133186. **Impact Factor: 3.841**
2. **D. Thirumoolan**, T. Siva, S. Sathiyarayanan, K. AnverBasha, K. Kaviyarasu, A. Ayeshamariam, M. Jayachandran, Study on Anticorrosion Behavior of Poly(N-vinylimidazole-co-methoxyethyl methacrylate) Based Coating in the Aggressive Chloride Ion Environment. *Journal of Advanced Microscopy Research*. 13(1) (2018) 20.
3. **D. Thirumoolan**, K. AnverBasha, Tapan Kanai, S. Mohamed Safiullah, K. Vetrivel, K. Abdul Wasi, B. Ranjith Kumar, Synthesis, Characterization and Reactivity Ratios of PolyN-(p-bromophenyl)-2-methacrylamide-co-N-vinyl-2-pyrrolidone. *Journal of Saudi Chemical Society*. 20(2)(2016)195. **Impact Factor: 3.932**
4. **D. Thirumoolan**, T. Siva, K. Vetrivel, S. Sathiyarayanan, K. AnverBasha, Corrosion resistant performance of hydrophobic poly(N-vinylimidazole-co-ethyl methacrylate) coating on mild steel. *Prog. Org. Coat.* 89(2015) 181. **Impact Factor: 5.161**

5. Tapan Kanai, **D. Thirumoolan**, R. Mohanram, K.Vetrivel, K. AnverBasha, Antimicrobial activity of hyperbranched polymers: Synthesis, Characterization and activity assay study. *Journal of Bioactive and Compatible Polymers*. (2015), 1-2.**Impact Factor:1.756**
6. **D. Thirumoolan**,Vikas A. Katkar, G. Gunasekaran, Tapan Kanai, K. AnverBasha, Hyperbranched poly(cyanurateamine): A new corrosion inhibitor for mild steel in Hydrochloric acid medium. *Prog. Org. Coat.*77 (2014) 1253. **Impact Factor:5.161**
7. **D. Thirumoolan**, S. Mohammed Safiullah, K.M. Govindaraju, D. Gopi, K. AnverBasha, Corrosion protection behavior of poly(N-(p-bromophenyl)-2-methacrylamide-co-ethyl methacrylate) coatings on low nickel stainless steel. *Int. J. Polym. Mater. Polym. Biomater.* 63 (2014) 820.**Impact Factor:2.559**
8. S. Mohamed Safiullah, **D. Thirumoolan**, K. AnverBasha., D. Gopi, K.M. Govindaraju, Tapan Kanai, A.B. Samui, Synthesis, characterization and corrosion protection properties of Poly N-(p-Bromophenyl)-2-Methacrylamide-co-Glycidylmethacrylate on low nickel stainless steel. *J. Polym. Eng.* 31 (2011) 199.**Impact Factor:1.27**

List of Conferences/ Seminars/ Workshops attended/ Paper Presented

1. Participated in Inter collegiate level Seminar on Recent Trends in Electrochemistry organized by Jawahar Science College, Neyveli on 22.09.2006.
2. Participated in Workshop on Instrumental Analysis jointly organized by Centre for Applied Research and Development (CARD), NLC Ltd., & Department of Chemistry, Jawahar Science College, Neyveli from March 10-12, 2008.
3. Participated in second international conference on Polymer Processing and Characterization organized by Institute of Macromolecular Science and Engineering, Kottayam, Beijing University of Chemical Technology, Beijing and Centre for Nanoscience and Nanotechnology, MG University, Kottayam from Jan 15 – 17, 2010.
4. Participated in Asian conference on Recent Advances in Polymer Science organized by SASTRA University Thanjavur on January 22 and 23, 2010.
5. Presented a paper in National seminar & Exhibition on Polymeric Materials in Defence(POMADE-2011) organized by Defence Research and Development Organization (DRDO), Naval Materials Research Laboratory (NMRL), Ambernath, India on Feb 4-5, 2011

6. Presented a paper in National Conference on Nanostructured materials and Nanocomposites(NCNM- 2010) on March 17 and 18, 2011 at Department of Chemistry, NSS College, Ottapalam, Plakkad, Kerala, India.
7. Presented a paper in National level Seminar on Recent Trends in Polymeric Materials (RTPM-2011) on 12.10.2011 at CLRI, Chennai, Tamil Nadu, India.
8. Participated in Workshop on PicoSpin-Benchtop NMR Spectrometer organized by Coleparmer, India at Le Royal Meridian, Chennai on 11.11.2011.
9. Participated in Workshop on Marine Corrosion and Surface Engineering at Annamalai University, Parangipettai jointly organized by Central Electro Chemical Research Institute (CSIR-CECRI), Karaikudi, Tamil Nadu, India, on 24.11.2011-26.11.2011
10. Participated in Sixteenth National Convention of Electrochemists (NCE-16) at P.S.G.R. Krishnammal College for Women, Coimbatore jointly organized by Central Electro Chemical Research Institute (CSIR-CECRI), Karaikudi, Tamil Nadu, India, on 15.12.2011-16.12.2011
11. Presented a Poster on National Conference on Frontiers Areas in Chemistry (NCFAC-2011), Pondicherry University, Pondicherry, India on 22.12.2011.
12. Presented a Poster on National Conference on “Advanced Nanomaterials (ANM-2012)” at Periyar University, Salem-11, Tamil Nadu during 6-7 February 2012.
13. Presented a Poster in State Level Seminar on Recent Trends in Chemistry (RTC-2012) on 13 and 14 Sep-2012 at Govt. Arts College, Chidambaram. Organized by Govt. Arts College, Chidambaram, Tamil Nadu, India.
14. Presented a paper in International Corrosion Prevention Symposium for Research Scholars (CORSYM-2013) on Feb 28 and March 1,2, 2013 at GRT Grand Chennai. Organized by NACE International, USA and Jointly organized by IGCAR, Kalpakkam, Tamil Nadu, India.
15. Presented a Poster in International Conference on Recent Advances in Textile and Electrochemical Science-2013(RATES-2013) on March 21-23, 2013 at Alagappa University, Karaikudi, Tamil Nadu, India. Organized by Department of Industrial Chemistry Alagappa University, Karaikudi, Tamil Nadu, India.
16. Presented a paper in International Corrosion Prevention Symposium for Research Scholars (CORSYM-2014) on Feb 20 and 21, 2014 at IIT Bombay, Mumbai. Organized by NACE International, USA and jointly organized by IIT Bombay, Mumbai, India.

17. Presented a poster in National seminar on nanomaterials (NSM-2014) on August 12-13, 2014 at NSS Hindu College, Changanacherry, Kerala, India. Organised by UGC and KSTE
18. Presented a Poster in seventeenth national congress on corrosion control on Aug 21-23, 2014 at CECRI, Karaikudi, Tamil Nadu, India. Organized by National Corrosion Council of India (NCCI), Karaikudi.
19. Participated in Workshop on Corrosion and Its Control at PSGR Krishnammal College for Women, Coimbatore, jointly organized by National Corrosion Council of India, Central Electro Chemical Research Institute (NCCI-CECRI), Karaikudi, Tamil Nadu, India, on 30.06.2016-01.07.2016.
20. Presented a paper in Eleventh International Symposium on Advances in Electrochemical Science and Technology (iSAEST-2016) on Dec08 to 10, 2016 at Hotel Kohinoor Asiana, Chennai. Organized by Society for Advancement of Electrochemical Science and Technology (SAEST) and Central Electro Chemical Research Institute (NCCI-CECRI), Karaikudi, Tamil Nadu, India.
21. Presented a paper in Kalam Young Researchers Conference (KYRC)-01 (2017) on October, 16, 2017 at Central Electro Chemical Research Institute (CSIR-CECRI), Karaikudi, Tamil Nadu, India.
22. Presented a Paper in Third National Seminar on Recent Trends in Smart Materials (NSSM-2018) on Feb 17th, 2018 at KINGS College of Engineering, Punalkulam, Thanjavur, Tamil Nadu, India.
23. Participated in Faculty Development Programme – Art of Mentoring organized by Annai College of Arts and Science, Kovilacheri, Kumbakonam, Tamil Nadu, India on 30.03.2019.
24. Participated in the One Week Workshop on Teaching and Learning for Sustainability organized by VSR & NVR College, Tenali, India from 14.11.2019 to 20.11.2019.
25. Participated in the One Day seminar on Revised Accreditation Process on NAAC & Seven Criteria and Their Weightages, organized by SKSS Arts College, Thirupanandal, Thanjavur, Tamil Nadu, India on 14.03.2021.

Workshops/Training Programs/ Seminars/Webinars Organized:

S.No	Name of the Webinars/Programme	Date	Modus of Operant	Role
1	Webinar on “Principle and Applications of Electronic Spectroscopy”	07 May 2020	Cisco-Webex and Youtube streaming	Convenor
2.	International levelwebinar series on “Personality Development Program, Career Guidance Program, Connect and Meet the industry Experts”	08-10, May 2020	Zoomand Youtube streaming	Convenor
3.	International Webinar on“Secrets of Lateral Flow Immunoassay analysis (Rapid Test Kit) forcoronavirus detection: Role of TPNT to fight against COVID 19”.	21 May 2020	GoTo Meetingsand Youtube streaming	Convenor
4.	International live Webinar on "Synthesis of Biologically active compounds based on Nitrogen hetero system	23 May 2020	Zoomand Youtube streaming	Organizing Secretary
5.	National live Webinar on Molecular Docking in Rational Drug Design	27 May 2020	Zoomand Youtube streaming	Organizing Secretary
6.	Faculty Development Program on “Outstrip of Catch 22”	25-29, May 2020	Zoomand Youtube streaming	Organizing Secretary
7.	Academics to Foster Entrepreneurial Ecosystem	05 June 2020	Zoomand Youtube streaming	Convenor
8.	Three Day National Webinar on “Interview Therapy”	10-12, Sep 2020	Zoomand Youtube streaming	Convenor
9.	“Virtual Lecture on Chemistry", A view of How to Affect Food Additive in Human Life	24Augu st 2021	Zoomand Youtube streaming	Organizing Secretary

Member of Editorial Board of Journals

Editorial Board Member in the **American Journal of Polymer Science and Technology** (AJPST), Science Publishing Group, USA.

Reviewer Panel Member of the Journal **Chemical Science and Engineering Research**, Arivyal Publishing, India

Personal Profile

Name : Dr. D. Thirumoolan
Father's Name : Deivasigamani.R
Date of Birth : 27th November 1984
Sex : Male
Nationality : Indian
Religion : Hindu
Marital Status : Married
Languages Known : Tamil and English.
Residential & Mailing Address : Dr. D. Thirumoolan
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Mobile: +91-8667642420

Google Scholar: <https://scholar.google.com/citations?user=PQjD2vwAAAAJ&hl=en>

Researchgate: <https://www.researchgate.net/profile/Thirumoolan-Deivasigamani-2>

ORCID ID: <https://orcid.org/0000-0001-7417-5055>

References

1. Dr. K. AnverBasha, (Research Supervisor)
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Polymer and Nanotechnology Division,
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Tamil Nadu, India.
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Senior Principal Scientist
Corrosion and Materials Protection Division
CSIR-Central Electro Chemical Research Institute,
Karaikudi- 630 006, Tamilnadu, India.
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Declaration

I declare that the above given details are true to my best of knowledge and belief.

(D. Thirumoolan)