

**TRINADH MUMMULURI**  
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### Career Objective

To contribute in research and development of polymer chemistry by utilizing my scientific knowledge and experience in synthesis and development of polymers and their utilization in various applications

### Academic Qualifications

- 27<sup>th</sup> SEPTEMBER-2015 **Ph. D. (Chemistry)**,  
Research supervisor: **Dr. A. V. Sesa Sainath**  
**Thesis title:** Synthesis, characterisation and properties of glucose based polymers and their biological applications  
Ph.D. work completed at Polymers and Functional Materials Division, CSIR-Indian Institute of Chemical Technology, Hyderabad – 500007, India.
- Jul 2005 - May 2007 **M. Sc (Analytical Chemistry)**  
First Class (**65.6%**), Andhra University,  
Visakhapatnam- 530 045, India.
- Jul 2002 - May 2005 **B. Sc (Chemistry)**  
First Class (**75.6%**), Andhra University,  
Visakhapatnam- 530 045, India.
- 2000- 2002 **Intermediate**  
First Class (88.1%), Chaitanya Junior College,  
Srungavarapukota, Vizianagaram-535145, India.
- 1999-2000 **S. S. C**  
First Class (76.3%), S R K M School,  
Srungavarapukota, Vizianagaram-535145, India.

### Research Interests

- ❖ Synthesis of novel polymers by controlled polymerization techniques such as RAFT and ATRP and their applications
- ❖ Synthesis of biodegradable and biocompatible polymers
- ❖ In biocompatibility studies

### Skills

- ❖ Excellent experience in handling air sensitive reagents and reactions using schlenk line
- ❖ Structural elucidation by NMR & FT-IR and molecular weights determination of polymers using GPC & <sup>1</sup>H NMR spectroscopic techniques
- ❖ Excellent experience in evaluating thermal properties of polymers using TGA and DSC
- ❖ Have experience in writing manuscripts and technical reports
- ❖ Good knowledge of computing and software: MS Office, ISIS Draw and Chem draw
- ❖ Good knowledge of literature search (Sci-Finder and ISI web of knowledge and Scopus), writing scientific manuscripts and research projects
- ❖ Have experience in guiding master students for their project work

### Awards and Fellowships

- ❖ 169 Rank in GATE-2008
- ❖ Awarded Junior Research Fellow (JRF) of the Council of Scientific and Industrial Research (CSIR) in December 2008
- ❖ Awarded Senior Research Fellow (SRF) of the Council of Scientific and Industrial Research (CSIR) in December 2011
- ❖ 3rd Prize in Poster Presentation in 2<sup>nd</sup> National Symposium on Polymers & Coatings (NSPC-2014), CSIR-IICT, Hyderabad, India 2014

### List of Publications

- ❖ Solvent-free Cyanoethylation of Selected Alcohols using Amberlyst A-21 Polymer Resin.  
M. Trinadh, T. Rajasekhar, B. Bhadru, J.Gopinath, V. Santosh, B. V. S. Reddy, A. V. S. S. Sainath  
*J Appl Polym Sci* **2013**, 128, 795-801.

- ❖ Synthesis of glycopolymers at various pendant spacer lengths of glucose moiety and their effects on adhesion, viability and proliferation of osteoblast cells.  
M. Trinadh, G.Kannan, T. Rajasekhar, A. V. Sessa Sainath, M. Dhayal  
*RSC Adv* **2014**, 4, 37400-37410.
- ❖ Synthesis and characterization of novel ABA-type azobenzene-containing tri-block copolymers from telechelic polystyrene.  
T. Rajasekhar, M. Trinadh, R. Sahoo, S. Dhara, A. V. Sessa Sainath,  
*Des. Monomers Polym* **2015**, 2, 145-156.
- ❖ Synthesis and characterization of diblock copolymer of poly(ethylene oxide) and conjugated glucose moiety polymethacrylate and their biocompatibility with osteoblast cell  
M. Trinadh, G.Kannan, T. Rajasekhar, A. V. Sessa Sainath, M. Dhayal  
*Polym Int* **2015**, 64, 795-803.
- ❖ Oil-water emulsion separation using ultrafiltration membranes based on novel blends of poly(vinylidene fluoride) and amphiphilic tri-block copolymer containing carboxylic acid functional group.  
T. Rajasekhar, M. Trinadh, P. Veera Babu, A. V. Sessa Sainath, A. V. R. Reddy,  
*J Membr Sci* **2015**, 481, 82-93.
- ❖ Assessment of *In-vitro* Biocompatibility with MC3T3 Osteoblast Cells of PEO Based Di-block Glycopolymers at Various Pendant Spacer Length of Functional Moiety  
M. Trinadh, G.Kannan, T. Rajasekhar, A. V. Sessa Sainath, M. Dhayal  
*Des. Monomers Polym* **2015**, (manuscript submitted).

### Conference and Symposium

21. Well-define Polymer Chain Design and Growth Control Role in Applications  
A. V. Sessa Sainath, B. Balaraju, N. N. Malleswara Rao, V. Santosh, J. Gopinath, T. Rajasekhar, M. Trinadh  
Proceedings of National conference of frontiers of Chemistry and Materials, Post graduate department of Chemistry, Tuljaram Chaturchand College, Baramati, Pune, India **2015**, 12-13, I-6.
20. Well-defined Polymers for Nanotechnology Applications  
A. V. Sessa Sainath, B. Balaraju, N. N. Malleswara Rao, V. Santosh, J. Gopinath, T. Rajasekhar, M. Trinadh  
Proceedings of National seminar on Nano Materials and Global Perspectives, Department of Chemistry, Government College (M) UG & PG, Ananthapuramu, India **2015**, 31-33.
19. Syntheses and Characterization of Various well-defined Glycopolymer Architectures by Controlled Radical Polymerization and Their Biocompatibility  
M. Trinadh, N. N. Malleswara Rao, A. V. Sessa Sainath  
Proceedings of International Symposium on Polymer Science and Technology, MACRO 2015, Indian Association for the Cultivation of Science, Kolkata, India **2015**, 531. Poster presentation.

18. Well Defined Functional Macromolecular Architectures Preparation and Their Characterization and Applications

A. V. Sessa Sainath, N. N. Malleswara Rao, V. Santosh, J. Gopinath, T. Rajasekhar, M. Trinadh

Proceedings of National conference on Absorption and Magnetic Resonance Spectroscopy and Their Integration to Sustainable Human Development, Department of Physics, Osmania University, Hyderabad, India **2014**, 15, IT-10.

17. Syntheses of Hydrophilic Glycopolymers by Controlled Radical Polymerization Methods and Their Biocompatibility

M. Trinadh, N. N. Malleswara Rao, V. Santosh, A. V. Sessa Sainath

Proceedings of National conference on Absorption and Magnetic Resonance Spectroscopy and Their Integration to Sustainable Human Development, Department of Physics, Osmania University, Hyderabad, India **2014**, 74-75, PP-33. Poster presentation.

16. Functional Macromolecular Architectures and Applications

A. V. Sessa Sainath, N. N. Malleswara Rao, V. Santosh, J. Gopinath, T. Rajasekhar, M. Trinadh

Proceedings of 2<sup>nd</sup> National Symposium on Polymers & Coatings (NSPC-2014), CSIR-IICT, Hyderabad, India **2014**, 21, IL16.

15. Syntheses of Different Hydrophilic Glycopolymer Architectures by Controlled Radical Polymerization Methods and Their Applications in Cell Biocompatibility

M. Trinadh, N. N. Malleswara Rao, V. Santosh, A. V. Sessa Sainath

Proceedings of 2<sup>nd</sup> National Symposium on Polymers & Coatings (NSPC-2014), CSIR-IICT, Hyderabad, India **2014**, 48, PA22. Poster presentation. **3<sup>rd</sup> Prize in Poster Presentation.**

14. Polymeric chain design and their role in applications

A. V. Sessa Sainath, N. N. Malleswara Rao, V. Santosh J. Gopinath, T. Rajasekhar, M. Trinadh

Proceedings of Second National Conference on Physics and Chemistry of Solids (NCPCS-2014), Khammam, A. P., India **2014**, IT 5.

13. Controlled Macromolecular Architectures Role on Applications

A. V. Sessa Sainath, M. Trinadh, T. Rajasekhar, J. Gopinath, V. Santosh

Proceedings of International Conference on Innovations in Energy, Polymer and Environmental Sciences (IEPES -2014), Yashavantrao Chavan Institute of Science, Satara, Maharashtra, India **2014**, I-29, 60-61.

12. Controlled Macromolecular Architectures from Radical Initiation and Their Applications

A. V. Sessa Sainath, M. Trinadh, T. Rajasekhar, J. Gopinath, V. Santosh

Proceedings of International Conference on Science and Engineering of Materials (ICSEM-2014), Sharda University, Greater Noida, India **2014**, 25-28.

11. Well Defined Macromolecular Architectures for Self-assemblies, Membrane and Biomedical Applications

A. V. Sessa Sainath, M. Trinadh, T. Rajasekhar

Proceedings of National seminar on Recent Trends in Polymer Science & Technology, Dept. of Polymer Science & Technology, SK University, A. P., India **2013**, 26.

10. Forward Osmosis of Composite Membranes Containing Ultrathin Hydrophobic Active Layer of Tri-block and Penta-block Copolymers Blends for the Removal of Organic Micro-pollutants from Water.

M. Ravikumar, T. Rajasekhar, M. G. Ravindra, M. Trinadh, J. Gopinath, S. K. Jewrajka, A. V. Sesha Sainath, A.V.R. Reddy

Proceedings of FAPS Polymer Congress and MACRO-2013, IISC Bangalore India **2013**, 139. Poster presentation

9. Novel pendant carboxylic acid containing tri-block copolymers syntheses and their self-assembled morphologies in tetrahydrofuran and water mixtures.

T. Rajsekhar, M. Trinadh, V. Santosh, A.V. Sesha Sainath

Proceedings of 3<sup>rd</sup> FAPS Polymer congress and MACRO-2013, IISc-Bangalore, India **2013**, 144. Poster presentation.

8. Self-assemblies from controlled macromolecular architecture and their applications.

A. V. Sesha Sainath, M. Trinadh, T. Rajasekhar, J. Gopinath, V. Santosh

Proceedings of National Conference on Physics and Chemistry of Solids, Khammam, A.P., India **2013**, 21.

7. ABA Type Tri-block Copolymers from Telechelic Polystyrene by Radical Initiation Process.

T. Rajasekhar, M. Trinadh, J. Gopinath, V. Santosh, A.V. SeshaSainath

Proceedings of PolyTech – 2012, International Conference on Advances in Polymeric Materials & Nanotechnology, Pune, India **2012**, 1, 118-120. Poster Presentation

6. Pendant carboxylic acid containing ABA type tri-block copolymers from telechelic polystyrene: Synthesis, characterization and their liquid crystalline assisted self-assembly applications

T. Rajasekhar, M. Trinadh, V. Santhosh, A. V. Sesha Sainath

Proceedings of National Symposium on Polymers & Coatings, CSIR-IICT, Hyderabad, India **2012**, 1, 44. Poster Presentation

5. Glycopolymers Synthesis, Characterization and Their Self-assemblies for Lectin Recognition

M. Trinadh, T. Rajasekhar, J. Gopinath, A. V. Sesha Sainath

Proceedings of National Symposium on Polymers & Coatings, CSIR-IICT, Hyderabad, India **2012**, 1, 45. Poster Presentation

4. Polymer Based Heterogeneous catalyst for Solvent-free Cyanoethylation of Various Alcohols with Acrylonitrile

M. Trinadh, T. Rajasekhar, B. Bhadr, J. Gopinath, V. Santosh, B. V. Subba Reddy\*, A. V. Sesha Sainath

Proceedings of National Seminar on Advances in Polymeric Materials, SK University, Anantapur, India **2012**, 1, 74.

3. Tri-block copolymers from telechelic polystyrene: Synthesis, characterization and their liquid crystalline properties for self-assembly applications

T. Rajasekhar, M. Trinadh, A. V. Sesa Sainath  
Proceedings of National Seminar on Advances in Polymeric Materials, SK University,  
Anantapur, India **2012**, 1, 64. Oral presentation.

2. Solvent Free oxa-Michael Reaction over Weakly Basic Polymer Resin  
T. Mummuluri, R. Tota, B. Bhukya, V. S. S. Annadanam, V. S. R. Basireddy  
Proceedings of national conference on Advances in Polymer Science and Technology,  
India **2010**, 1, 318-323. Poster Presentation

1. Di-block copolymers for microphase-separated nanostructures  
A. V. S. Sainath, M. Trinadh, K. Madhukar, K. Kamata, H. Yoshida, T. Iyoda  
Proceedings of 2<sup>nd</sup> national conference on Nanomaterials and Nanotechnology, India  
**2009**, 1, 90-93.

### Co-guide

- ❖ Glycopolymers: monomers design & synthesis and polymerization by atom transfer radical polymerization and their characterization  
Student Name: P. Chinnikrishna, Sri Krishnadevaraya University, Anantapur, Andhra Pradesh. Duration: January- June 2012.  
Co-guide: M. Trinadh; Guide: A. V. Sesa Sainath
- ❖ Synthesis and characterization of Polystyrene Based ABA Type Block Copolymer Of acryl-2,3,4,6-*O*-acetyl-D-glucopyranoside by Reversible Addition Fragmentation Chain Transfer Process  
Student Name: Rajatkumar, Indian Institute of Technology-Roorkee, Uttaranchal.  
Duration: May-July 2013  
Co-guide: M. Trinadh; Guide: A. V. Sesa Sainath
- ❖ Synthesis and Characterization of ABA Type Tri-block Glycopolymer  
Student Name: N. Kusuma, Nijam College, Hyderabad, Telangana.  
Duration: August-December 2013  
Co-guide: M. Trinadh; Guide: A. V. Sesa Sainath

## Personal Details:

Name : Trinadh Mummuluri  
Father's Name : Mutyala naidu  
Mother's Name : Gangamma  
Date of Birth : 20/08/1985  
Sex : Male  
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Marital Status : Unmarried  
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## References

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