

Curriculum Vitae

Kedar R. Ratkanthwar

Personal information:

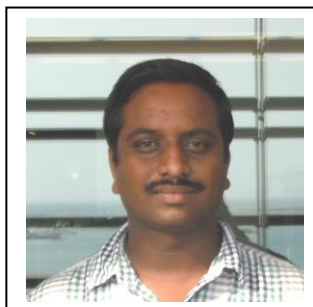
Kedar R. Ratkanthwar, Ph.D.

Date and place of birth: 22. 07. 1982, Nanded, India

Nationality: Indian

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Education:

Postdoc:

- 3/2014 - present: King Abdullah University of Science and Technology, Saudi Arabia
- Field of work: Polymer Chemistry
- Supervisor: Prof. Dr. Nikos Hadjichristidis

Ph.D. Study:

- 10/2008 - 11/ 2013: School of Chemical Sciences, Swami Ramanand Teerth Marathwada University, Nanded (MS), India
- Title of doctoral dissertation: Synthesis and Characterization of Well-defined Complex Macromolecular Architectures
- Field of work: Polymer Chemistry
- Supervisor: Dr. P. K. Zubaidha

Undergraduate Study:

- 6/2002- 6/2004, School of Chemical Sciences, Swami Ramanand Teerth Marathwada University, Nanded, India
- Title of the undergraduate thesis: Synthesis of Malonate Esters from Malonic acid Catalyzed by Sulphated SnO₂".
- Field of work: Organic synthesis
- Supervisor: Dr. P. K. Zubaidha

Professional profile:

3/2014 - present: Postdoctoral Fellow, King Abdullah University of Science and Technology, Saudi Arabia

1/2010 – 1/2013: Marie Curie Early Stage Researcher (ESR) in the European Network for Initial Training, “DYNACOP” at University of Athens, Greece.

9/2007 - 9/2008: Marie Curie Researcher in the European Network for Initial Training, “BioPolySurf”, Department of Chemistry, University of Athens, Greece.

8/2005 – 9/2007: Junior Research Fellow (UGC-JRF), Division of Polymer Science and Engineering, National Chemical Laboratory (NCL), Pune, India

4/2005 - 8/2005, Project Assistant (PA-II), Division of Organic Chemistry: Synthesis (OCS), National Chemical Laboratory (NCL), Pune, India

Technical Skills and Experiences:

- Work experience in Anionic polymerization-high vacuum technique
- Synthesis of well-defined diblock, triblock, star, exact comb, dendritic and multiblock-multicomponent copolymers with narrow molecular weight distribution; using high vacuum techniques.
- Expertise in custom glass blowing for making reaction apparatus.
- Synthesis of amphiphilic diblock copolymers and hyperbranched polyglycidol
- Familiar with synthetic techniques: Simple organic reactions, purification by column chromatography and characterization. Polymer synthesis by ROP, ATRP, Anionic with nitrogen/Argon line, Anionic with high vacuum techniques.
- Monomers handled: glycidol(l), EEGE(l), ϵ -caprolactone(l), t-Butylacrylate(l), styrene(l), isoprene(l), butadiene(g), Ethylene oxide(g), 2-vinylpyridine(l), hexamethylcyclotrisiloxane(s) (monomer for PDMS), DPE, etc.

Instruments handled

- Gel Permeation Chromatography (**GPC**) with UV, RI and light scattering detectors
- Static and Dynamic Light Scattering
- Thermo Gravimetric Analysis (**TGA**), Differential Scanning Calorimetry (**DSC**),
- Ultraviolet (**UV**) and Fourier Transform Infra-Red Spectrometer (**FTIR**)
- Fluorescence Spectrometry (steady state and lifetime measurement), Cyclic Voltammetry, Nuclear Magnetic Resonance (NMR), sonicator, rotavapour

Competence in computer application:

- Bachelor of Science with Computer science as one of the optional subject
- Completed six month certificate course in Computer Programming conducted by Maharashtra State Board of Vocational Examination
- Completed certificate course in MS-Office
- Familiar with chemistry software such as ChemDraw, ChemSketch, Origin, CoralDraw, ACD lab, MestreNova, etc.
- Familiar with bibliographic database such as Scopus, CA on CD, ISI web of knowledge and scifinder
- Familiar with reference management software such as EndNote, Mendeley, ACS ChemWorx

Posters and Publications:

1. N. Hadjichristidis, **K. Ratkanthwar**; “High-vacuum Techniques for Anionic Polymerization” book Chapter (under submission process)
2. N. Hadjichristidis, **K. Ratkanthwar**, M. Pitsikalis, H. Iatrou; “Synthesis of Star Polymers” Chapter (submitted) for Encyclopedia of Polymeric Nanomaterials, edited by Shiro Kobayashi and Klaus Müllen, Springer Reference 2013
3. Frank Snijkers, **Kedar Ratkanthwar**, Dimitris Vlassopoulos, and Nikos Hadjichristidis; “Viscoelasticity, nonlinear shear start-up and relaxation of entangled star polymers”, *Macromolecules* 2013, 46, 5702-5713
4. **Kedar Ratkanthwar**, Nikos Hadjichristidis, Sanghoon Lee, Taihyun Chang and Zubaidha Pudukulathan; “Synthesis and characterization of an exact comb polyisoprene with three branches having the middle branch with twice the molecular weight of the other two identical external branches”. *Polym. Chem.*, 2013, 4, 5645
5. **Ratkanthwar, K. R.**, Hadjichristidis, N., Pudukulathan Z. Synthesis and Characterization of Well-Defined Regular Star Polyisoprenes with 3, 4, 6 and 8 Arms. *Chemistry Journal* 2013, 03, 90-96
6. Rai, D., Beaucage, G., **Ratkanthwar, K.**, Hadjichristidis, N., Kunlun, H., Uhrig, D., Tsou, A. Simultaneous determination of the interaction parameter and topological scaling features of polymers in dilute solutions. In: *Bulletin of the American Physical Society*, Oral presentation in APS March Meeting 2013, Volume 58, March 18-22, 2013, Baltimore, Maryland.
7. Beaucage, G., Rai, D., Ramachandran, R., **Ratkanthwar, K.**, Hadjichristidis, N., Kunlun, H., Uhrig, D. Steric Constraints in Fractal-Regime Star Polymers. In: *Bulletin of*

the American Physical Society, Oral presentation in APS March Meeting 2012, Volume 57, February 27-March 2, 2012, Boston, Massachusetts

8. Poster presented at NATO Advanced Study Institute (ASI) in Antalya, Turkey, September 1-12, 2008
9. Poster presented "Synthesis and Self assembly behavior of polyglycidol containing block copolymers" in BioPolySurf International joint meeting POLYAMPHI_BIOSONS, 10-14 February 2008, Biarritz, France.

Awards:

1. Marie Curie Early Stage Research (ESR) Fellow at University of Athens, Greece (2007-2008 and 2010-2013)
2. National Eligibility Test (NET) conducted by UGC and CSIR, New Delhi, qualified in 2005 with UGC fellowship
3. Graduate Aptitude Test in Engineering (GATE), conducted by Indian Institute of Technology (IIT), qualified in 2005 with percentile of 93.13
4. State Eligibility Test (SET), conducted by University of Pune, India, qualified in 2004.

Current Research Interests:

- Synthesis and characterization of complex macromolecular architectures by anionic polymerization high vacuum technique