

CURRICULUM VITAE

Name: Aijaz Ahmad Dar

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Current Position: **Professor, Department of Chemistry, University of Kashmir** since July 23rd 2019.
Head, Department of Chemistry, University of Kashmir since June 1st, 2023.

Qualifying Degree: **Ph.D. in Chemistry**
Title of Thesis: Studies on Surfactant-Surfactant and Surfactant-Polymer Interactions

Fellowships/ Awards:

1. Qualified National Eligibility Test (NET) for Lecturership in June 2000. NET is conducted at national level jointly by University Grants Commission (UGC) and Centre for Scientific and Industrial Research (CSIR), Govt. of India, New Delhi. Those who qualify NET are eligible for lecturership.
2. Qualified twice for Junior Research Fellowship (JRF) conducted by CSIR, India in December **2000** and June **2001**.
3. I ranked among the top 20% of the students who had qualified CSIR-JRF NET in year 2001 throughout India and was eligible for more prestigious Shayama Prasad Mukherjee (SPM) Fellowship.
4. Best Teacher Award in 2010 by University of Kashmir.
5. Teacher Summer Research Fellowship for the period of two months from November to December, 2011 by IASc-INSa-NASI, India for working in IIT Bombay, Mumbai on Ultrafast spectroscopic processes.
6. Raman Postdoctoral Fellowship for Indian Scholars to USA (2013-2014) by UGC, New Delhi for working at Rutgers-The State University of New Jersey, USA for the period of eight months due in 2013-2014. (Postdoc from 26-September, 2013 to 31st May, 2014)
7. Postdoctoral Fellowship by Prof. Larry Romsted at Department of Chemistry and Chemical Biology, Rutgers-The State University of New Jersey, USA for the period of one year from 21st Nov. 2016 to 20th Nov. 2017.

Education: *timeline*

Year	Course	Institute/University
2008	Ph.D. in Chemistry	Jadavpur University, Jadavpur, Kolkata-32, and Indian Association for the Cultivation of Science, Jadavpur, Kolkata-32, India
2000	M.Sc. in Chemistry	University of Kashmir, Hazratbal, Srinagar-190006, J&K, India.
1997	B.Sc.	University of Kashmir, Hazratbal, Srinagar-190006, J&K, India.

Professional Experience:

1. **Professor**, Department of Chemistry, University of Kashmir, Srinagar-190006, India. (July, 2019-Till date)
2. **Associate Professor**, Department of Chemistry, University of Kashmir, Srinagar-190006, India. (July, 2016-July, 2019)
3. **Assistant Professor**, Department of Chemistry, University of Kashmir, Srinagar-190006, India. (July, 2002-July, 2016)
4. **Teaching Assistant**, Department of Chemistry, University of Kashmir, Srinagar-190006, India. (June, 2000- July, 2002)
5. **Part-time contractual Lecturer**, SSM, Engineering College, Srinagar (January, 2000- June, 2000)

Teaching Experience: 2 ½ years as contractual lecturer and 21 years as permanent faculty member = Total experience of 23 years

I have been working as contractual Teaching Assistant in the Department of Chemistry, University of Kashmir, Srinagar-190006, India from June, 2000 – July, 2002 and then as Assistant Professor, in the same department. The main assignments included teaching the courses pertaining to Quantum chemistry, Interfacial Chemistry and Solid state Chemistry in addition to the Lab course in Physical Chemistry for M.Sc. Program. Moreover, I was actively involved as guest lecturer in Department of Environmental sciences and during refresher course of Chemistry for college and school fraternity by the University of Kashmir for deliberating on different topics of chemistry like Liquid crystals and their applications, Surfactants and their properties, use of different softwares in chemistry etc.

Research Experience: 12 years as permanent faculty member excluding the period of acquiring Ph.D.

A. Research experience through Ph.D. work

My Ph.D. project involved *Studies on Surfactant-Surfactant and Surfactant-Polymer Interactions*, with the motive to harvest their interesting properties in the transport. The project focused on understanding of micelle formation and adsorption characteristics of the mixed cationic-nonionic surfactant systems. The formulations characterized were then subjected to vigorous solubilization studies to evaluate their transportation capabilities towards substances having limited aqueous solubilities like polyaromatic hydrocarbons and drugs. The results indicate substantial increase in the transportation properties of such compounds by mixed surfactant systems as compared to single surfactant systems usually employed. The results were a step forward towards green chemistry and efficient drug delivery formulations. In addition, special attention was paid towards the evaluation of interaction between cationic surfactant and methylcellulose (MC) in absence and presence of hydrophobic salts viz. sodium hexanoate (NaHx) and sodium benzoate (NaBz) employing rheology and spectrofluorimetric techniques. The obtained experimental findings unfold significant information with respect to the effects of the salts on the solution behaviour and gelation characteristics of such polymer-surfactant system.

I achieved the experience of characterizing mixed surfactant-surfactant and surfactant- polymer systems conducive for the efficient transportation of poorly water soluble compounds. Meanwhile I gained experience in various analytical and numerical techniques.

B. Research Collaborations

In the capacity of being permanent faculty member in the Department of Chemistry at University of Kashmir I am personally involved with various research collaborative projects to extend/diversify the domain of what I achieved in my Ph.D work:

1. “Physicochemical characterization and solubilization aspects of Gemini-surfactants and their mixtures with conventional surfactants” with Prof. Kabir-ud-Din, Deptt. of Chemistry, AMU, Aligarh, India.
2. Collaborative research work with Dr. G.M. Rather, Associate Professor, Deptt. of Chemistry, University of Kashmir on Surfactant-surfactant and surfactant polymer/protein interactions and the influence of organic additives on such aggregate formations.

C. Independent Research work

Presently I have an independent research group, started since 2010, comprising of four Ph.D. scholars (3 of them are CSIR/UGC-JRF) working on the broader area of “Exploring different self-assembled soft systems based on surfactants like mixed surfactant systems, surfactant-polymer systems and microemulsions for their potential applications in catalysis and transport”. The main objectives of these projects is to formulate variety of the mixed surfactant, microemulsions and mixed surfactant-polymer systems and then study such systems for their efficiency in encapsulating a variety of hydrophobic molecules with the aim to use them prospectively as efficient nanocontainers for carrying out variety of reactions or protecting them from the influence of harsh environmental conditions important in food and pharmaceutical industries.

D. Postdoctoral Research Experience:

1. Two months in IIT Bombay from November to December, 2011 by IASc-INSANA-NASI, India for working in IIT

Bombay, Mumbai on Ultrafast spectroscopic processes.

2. ***Eight Months in Department of Chemistry and Chemical Biology, Rutgers University, New Jersey USA*** as Raman Postdoc from UGC, New Delhi in year 2013.
3. ***One year Postdoc at Department of Chemistry and Chemical Biology, Rutgers University, New Jersey USA*** from November 2016 to November 2017.

No. of research Scholars:

Currently working: Ph.D. 09 (Nine)
Awarded: M.Phil 02 (two); Ph.D. 09 (Nine)

No. of Research projects completed/ongoing/submitted:

Completed: NIL

Ongoing:

1. “Novel Chemical Imaging Method based on Chemical Trapping for determining topology of proteins in the interfacial region of the membrane mimetic systems” vide sanction order no. CRG/2019/002686 by DST-SERB in the year 2020 to the tune of 32.26 lakhs.
2. “Development of Interfacial engineering guided food processing technology for enhanced shelf-life and nutritive value of the food emulsions” sanction under RUSA in the year 2020 to the tune of 94 lakhs.

Paper presentations at Conferences/Seminar attended:

1. **Aijaz A Dar**, G M Rather, A R Das “**Mixing Behaviour of Surfactant Mixtures**” at International Conference on Soft Matter (ICSM 2004): 18-20 November, 2004 held at Kolkata, India.
2. **Aijaz A Dar**, G M Rather, A R Das. “**Solubilization Behavior toward Polycyclic Aromatic Hydrocarbons of Binary and Ternary Cationic-Nonionic Surfactant Mixtures** ” at National Conference on Disperse Systems (NCDS-2006): 23-25th November, 2006 held at Assam University, Silchar, India.
3. **Aijaz A Dar**, Ashesh Garai, Arun K. Nandi, S Ghosh, G M Rather, A R Das. “**Interaction of Hexadecyltrimethylammonium Bromide and Methylcellulose in Aqueous Solution. A Rheological and Fluorescence Probing Study**” at International Conference on Soft Systems (ICSS 2008): 13-15th February, 2008 held at Kolkata, India.
4. **Aijaz A Dar**, Parveiz A Bhat, G M Rather. “**Solubilization capabilities of some cationic, anionic, and nonionic surfactants toward the poorly water-soluble antibiotic drug Erythromycin**” at National Symposium on Soft Matter: 18-19th September, 2008 held at Kolkata, India.
5. **Aijaz A Dar**, Parveiz A Bhat, G M Rather. “**Effect of Surfactant mixing on partitioning of model hydrophobic drug, ‘Naproxen’ between aqueous and micellar phase**” at National Conference on Frontiers of Colloids, Surfaces and Nanostructured Systems: 18-20th February, 2009 held at Manipur University, Imphal, India.
6. **Aijaz A Dar**, Nuzhat Gull, G M Rather. “**Refolding of Bovine Serum Albumin by Gemini Surfactants via Artificial Chaperone Protocol**” at International Conference on Nucleation, Aggregation and Growth: 26-30th July, 2010 held at JNCASR, Bengaluru, India.
7. **Aijaz A Dar** “**Interaction of Gemini and conventional surfactants in their single and mixed states on the interfacial and physicochemical properties of BSA**” at 25th Edition of European Colloid and Interface Society Conferences (ECIS2011) during 04-09 September, 2011 at TU Berlin, Germany.
8. **Aijaz A Dar** “**Interaction of two coumarin derivatives within the self-assemblies of surfactants: A steady state and time resolved fluorescence study**” at 19th International symposium on Surfactants in Solution (SIS2012) during 24-28th June, 2012 at University of Alberta, Edmonton, Canada.
9. **Aijaz A Dar**. “**Co-solubilization of Coumarin30 and Warfarin in cationic, anionic and nonionic micelles: A micelle-water interfacial charge dependent FRET,**” at National Conference on Surfactants, Emulsions and Biocolloids (NATCOSEB-17): 4-6th November, 2015 held at Pt. Ravishankar Shukla University Raipur, India.
10. **Aijaz A Dar**. “**Stimuli Responsive Hydrogels from biocompatible Polymers,**” at National Conference on Advances in Biopolymers: 30-31st October, 2018 held at University of Kashmir, India.
11. **Aijaz A Dar**. “**Triple-mode orthogonal emission color tuning with white light ON/OFF switching from a Trimolecular Cocktail in Cationic Micelles for anticounterfeiting applications**” at National Conference on

12. **Aijaz A Dar**. "Chemical kinetic and chemical trapping methods: Unique approaches for probing the chemical reactivity and composition in the interfacial region of association colloids" 58th Annual Convention of Chemists and International Conference on Recent Trends in Chemical Sciences, December 22-23, 2021 held online.

Refresher courses/Workshops/Training courses attended:

1. One week workshop on Information Technology: 16th March, 2016 to 22nd March **2016** organized by Human Resource Development Center, University of Kashmir.
2. Two day training course on "Surfactants and Polymers" delivered by Prof. B. Lindman from Lund University, Sweden between 2-3 September, **2011** at Max Planck Institute of Colloids and Interfaces, Potsdam, Germany.
3. General Orientation Course: 11th Jan to 17th Feb, **2010** organized by Academic Staff College, University of Kashmir.
4. Two Days Seminar on Dynamics of Science Education – Current Problems and Future Challenges. 23-24th October, **2007**, Organised by Deptt. of Chemistry, University of Kashmir.
5. Refresher Course in Chemistry, Academic Staff College, The University of Kashmir: 03 August – 23 August, **2006**.
6. National workshop on Magnetic Resonance (NMR): 1st- 5th August, **2006** organized by Deptt. of Chemistry, University of Kashmir in collaboration with NMR society of India.
7. Capacity building programme on Multimedia and E-content Development: 7th -26th November, **2005**, Organised by EMMRC Srinagar, University of Kashmir through Edusat networking.
8. One day training programme for using STN abstracting service at Delhi University, 5th April **2004**.

Membership:

1. Life member of Indian Society for Surface Science and Technology, Deptt. of Chemistry, Jadavpur University, Kolkata.
2. Life member of Indian Association for the Cultivation of Science, Jadavpur, Kolkata.
3. Board of under graduate and post graduate studies of Department of Chemistry, University of Kashmir, Srinagar, India.
4. Editorial Board member of Colloid and Surfaces A Journal published by Elsevier Publishing house.
5. Member of the Board of Professional Entrance Examination- J&K.
6. Inorganic and Physical Chemistry Project Advisory Committee (IPC-PAC) co-opted member, SERB, INDIA., from 2021.
7. Preliminary screening committee member for POWER GRANT, SERB, INDIA from 2023.

Other Experience:

1. Work as a **nodal officer of Departmental Internal Quality Assurance Unit (DIQAU)** of Deptt. of Chemistry, University of Kashmir from 05-07-2006 till date which organizes extension lectures by eminent scientists/professors from National/International universities/institutions.
2. Organized **National Conference on Surfactants, Emulsions and Biocolloids (NATCOSEB-XIV) during July 28 – 30, 2009** in association with the Indian Society for Surface Science and Technology at Deptt. of Chemistry, University of Kashmir. 3 special lectures, 18 invited lectures, 24 oral presentations and 64 poster presentations were made during the conference in which more than 80 scientists and scholars from outside the state participated.
3. Played a proactive role in academic and developmental activities of the department pertaining to academics.
4. As an Academic Counsellor in Department of Chemistry w.e.f. 2014 for assigning and helping students choose the subjects as per Choice Based Credit System.
5. Work as a DIQA coordinator since year 2020.
6. As a **reviewer of research manuscripts** submitted to Advances in colloids and interfaces (Elsevier), Journal of physical chemistry B (American Chemical Society), Journal of American Chemical Society (American Chemical Society), Biochemistry (American Chemical Society), Journal of Colloid and Interface science (Elsevier), Soft matter (Royal Society of Chemistry) Colloids and surfaces A (Elsevier) and Journal of Hazardous materials (Elsevier).

Publications: 105 (Total citations > 2500 and range of impact factor 1.0 - 10.6; h-index:28; i10=54)

7. **Aijaz A. Dar**, Mohsin A. Bhat, Ghulam M. Rather. Application of mixed electrolyte mass-action model to the micellization of 1-dodecylpyridinium chloride in aqueous medium. *Colloids and Surfaces A: Physicochem. Eng. Aspects* **2004**, 248: 67-74.
8. **Aijaz A. Dar**, Bedachanda Chatterjee, Ghulam M. Rather, Akhil R. Das. Mixed micellization and interfacial properties of dodecyltrimethylammonium bromide and tetraethyleneglycol mono-n -dodecyl ether in absence and presence of sodium propionate. *Journal of Colloid and Interface Science* **2006**, 298: 395-405.

9. Kabir-ud-Din, Umme S. Siddiqui, Sanjeev Kumar, **Aijaz A. Dar**. Micellization of monomeric and dimeric (gemini) surfactants in polar nonaqueous-water-mixed solvents. *Colloid and Polymer Science* **2006**, 284: 807-812.
10. **Aijaz A. Dar**, Ghulam M. Rather, Akhil R. Das. Mixed Micelle Formation and Solubilization Behavior toward Polycyclic Aromatic Hydrocarbons of Binary and Ternary Cationic-Nonionic Surfactant Mixtures. *Journal of Physical Chemistry B* **2007**, 111: 3122-3132.
11. Kabir-ud-Din, Waseefa Fatma, Ziya A. Khan and **Aijaz A. Dar**. ¹H NMR and Viscometric Studies on Cationic Gemini Surfactants in Presence of Aromatic Acids and Salts. *Journal of Physical Chemistry B* **2007**, 111: 8860-8867.
12. Musarat Jan, **Aijaz A. Dar**, Adil Amin, Nuzhat Rehman, Ghulam M. Rather. Clouding behaviour of nonionic-cationic and nonionic-anionic mixed surfactant systems in presence of carboxylic acids and their sodium salts. *Colloid and Polymer Science* **2007**, 285: 631-640.
13. Roof A. Thakur, **Aijaz A. Dar**, Ghulam M. Rather. Investigation of the micellar growth of 1-Dodecylpyridinium Chloride in aqueous solution of phenol. *Journal of Molecular liquids* **2007**, 136: 83-89.
14. Mohsin A. Bhat, **Aijaz A. Dar**, Adil Amin, Peer I. Rashid, Ghulam M. Rather. Temperature dependence of transport and equilibrium properties of alkylpyridinium surfactants in aqueous solutions. *Journal of Chemical Thermodynamics* **2007**, 39: 1500-1507.
15. **Aijaz A. Dar**, Ghulam M. Rather, Soumen Ghosh, Akhil R. Das. Micellization and interfacial behavior of binary and ternary mixtures of model cationic and nonionic surfactants in aqueous NaCl medium. *Journal of Colloid and Interface Science* **2008**, 322: 572-581.
16. Parvaiz A. Bhat, **Aijaz A. Dar**, Ghulam M. Rather. Solubilization capabilities of some cationic, anionic, and nonionic surfactants toward the poorly water-soluble antibiotic drug Erythromycin. *Journal of Chemical Engineering data* **2008**, 53, 1271-1277.
17. Adil Amin, **Aijaz A. Dar**, Mohsin A. Bhat, Musarat Jan, Nuzhat Rehman, Mohammad A. Mir, Ghulam M. Rather. Effect of sodium alkanoates on micellization of dodecylbenzyltrimethylammonium chloride in aqueous medium. *Journal of Dispersion Science and Technology* **2008**, 29: 1-9.
18. Mohsin Ahmad Bhat, **Aijaz A. Dar**, Adil Amin, Ghulam Mohammad Rather. Co- and Counter Ion effect on the Micellization Characteristics of Dodecylpyridinium chloride. *Journal of Dispersion Science and Technology* **2008**, 29: 514-520.
19. Saima Qadir, **Aijaz A. Dar**, Khaliq Zaman Khan. Synthesis of Biscoumarins from 4-Hydroxycoumarin and Aromatic Aldehydes—A Comparative Assessment of Percentage Yield under Thermal and Microwave-Assisted Conditions. *Synthetic Communication* **2008**, 38:1-10.
20. Musarat Jan, **Aijaz A. Dar**, Ghulam M. Rather. Effect of Sodium Butanoate and Sodium Hexanoate on Micelle Formation of Model Cationic-Nonionic and Anionic-Nonionic Surfactant Mixtures. *Colloids and Surfaces A: Physicochem. Eng. Aspects* **2009**, 335:114-120.
21. Parvaiz A. Bhat, Ghulam M. Rather, **Aijaz A. Dar**. Effect of Surfactant mixing on partitioning of model hydrophobic drug, 'Naproxen' between aqueous and micellar phase. *Journal of Physical Chemistry B* **2009**, 113(4):997–1006.
22. Kabir-ud-Din, Mohammad Shafi, **Aijaz A. Dar**. Solubilization capabilities of mixtures of cationic Gemini surfactant with conventional cationic, nonionic and anionic surfactants towards polycyclic aromatic hydrocarbons. *Journal of Hazardous Materials* **2009**, 167:575-581.
23. Nuzhat Rehman, **Aijaz A. Dar**, Mohammad Amin Mir, Musarat Jan, Adil Amin, Ghulam M. Rather. Mixed Micellization and Interfacial Properties of Tween Surfactants with Cetylpyridinium chloride: A Tensiometric Study. *Journal of Surfactants and Detergents* **2009**, 12:295-304.
24. Kabir-ud-Din, Mohammad Shafi, **Aijaz A. Dar**. Interactions of a cationic Gemini surfactant with conventional surfactants in the mixed micelle and monolayer formation in aqueous medium. *Journal of Colloid and Interface Science* **2009**, 333, 605-612.
25. Mohammad Amin, **Aijaz A. Dar**, Adil Amin, Ghulam M. Rather. Interaction of Hydroxypropylcellulose with Hexadecyldimethylbenzylammonium Chloride in Absence and Presence of Hydrophobic Salts. *Journal of Molecular Liquids*, **2009**, 150:86-91.
26. Mohammad Amin, Javed A Khan, Rizwan H Khan, Ghulam M. Rather, **Aijaz A. Dar**. Effect of Spacer Length of Alkanediyl- α,ω -bis(dimethylcetylammmonium bromide) Gemini Homologues on the Interfacial and Physicochemical Properties of BSA. *Colloids and Surfaces B: Biointerfaces* **2010**, 77, 54–59.
27. Kabir-ud-Din, Shafi, M. and **Aijaz A. Dar**. Effect of Spacer Length on the Micellization and Interfacial Behavior of Mixed Alkanediyl- α,ω -bis(dimethylcetylammmonium bromide) Gemini Homologues. *Journal of Colloid and Interface Science* **2010**, 344, 75-80.
28. Mohammad Amin, Nuzhat Gull, Javed A Khan, Rizwan H Khan, **Aijaz A. Dar**, Ghulam M. Rather. Interaction of Bovine Serum Albumin with Cationic Single Chain/Non-ionic and Cationic Gemini/Nonionic Binary Surfactant Mixtures. *Journal of Physical Chemistry B* **2010**, 114, 3197-3204.
29. **Aijaz A. Dar**, Ashesh Garia, Akhil R. Das, Soumen Ghosh. Rheological and Fluorescence Investigation of Interaction between Hexadecyltrimethylammonium Bromide and Methylcellulose in Presence of Hydrophobic

- Salts. *Journal of Physical Chemistry A* **2010**, *114* (15), 5083–5091.
30. Kabir-ud-Din, Mohammad Shafi, **Aijaz A. Dar**. Analysis of Mixed Micellar and Interfacial Behavior of Cationic Gemini Hexanediyl-1,6-bis(dimethylcetylammmonium bromide) with Conventional Ionic and Nonionic Surfactants in Aqueous Medium. *Journal of Physical Chemistry B* **2010**, *114*, 6023–6032.
 31. Muzaffer H. Najar, **Aijaz A. Dar**, Ghulam M. Rather. Effect of Self-Assemblies of Various Surfactants in Their Single and Mixed States on BZ Oscillatory Reaction. *International Journal of Chemical Kinetics* **2010**, 659-668 DOI 10.1002/kin.20514.
 32. Oyais A. Chat, Muzaffar H. Najar, Mohammad A. Mir, Ghulam M. Rather, **Aijaz A. Dar**. Effects of surfactant micelles on solubilization and DPPH radical scavenging activity of Rutin. *Journal of Colloid and Interface Science* **2011**, 355, 140-149.
 33. Umme S. Siddiqui, Farah Khan, Iqrar A. Khan, **Aijaz A. Dar**, Kabir-ud-Din. Role of added counterions in the micellar growth of bisquaternary ammonium halide surfactant (14-s-14): ¹H NMR and viscometric studies. *Journal of Colloid and Interface Science* **2011**, 355, 131–139.
 34. Mohammad Shafi, Kabir-ud-Din, **Aijaz A. Dar**. Synergistic interaction of Gemini surfactant pentanediyl-1,5-bis(dimethylcetylammmonium bromide) with conventional (ionic and nonionic) surfactants and its impact on the solubilization. *Colloid Surf A*. **2011**, 378, 60-66.
 35. Nuzhat Gul, Mohammad A Mir, Javaid A Khan, Rizwan H. Khan, Ghulam M. Rather, **Aijaz A. Dar**. Refolding of Bovine Serum Albumin by Gemini Surfactants via Artificial Chaperone Protocol. *Journal of Colloid and Interface Science* **2011**, 364, 157-162.
 36. Mohammad Amin, Oyais A. Chat, Muzaffar H. Najar, Ghulam M. Rather, **Aijaz A. Dar**. Solubilization of Triphenylamine, Triphenylphosphine, Triphenylphosphineoxide and Triphenylmethanol in Single and Binary Surfactant Systems. *Journal of Colloid and Interface Science* **2011**, 364, 163-169.
 37. Mohammad Amin, Javaid A Khan, Rizwan H. Khan, **Aijaz A. Dar**, Ghulam M. Rather. Interaction of Cetyltrimethylammonium Bromide and Its Gemini Homologue Bis(cetyldimethylammonium)butane Dibromide with Xanthine Oxidase. *Journal of Physical Chemistry B* **2012**, *116*, 5711–5718.
 38. Masrat Maswal, **Aijaz A. Dar**. Inhibition of citral degradation in an acidic aqueous environment by polyoxyethylene alkylether surfactants. *Food Chemistry* **2013**, 138, 4, 2356-2364.
 39. Bashir Ahmad Shairgojray, **Aijaz A. Dar**, Bilal Ahmad Bhat, Micellar promiscuity: an expeditious approach to Morita–Baylis–Hillman reaction, *Tetrahedron Letters* **2013**, 54, 19, 2391-2394.
 40. Suraya Jabeen, Oyais Ahmad Chat, Ghulam Mohammad Rather, **Aijaz A. Dar**, Investigation of antioxidant activity of Quercetin (2-(3, 4-dihydroxyphenyl)-3,5,7-trihydroxy-4H-chromen-4-one) in aqueous micellar media. *Food Research International* **2013**, 51, 294-302.
 41. Rohi Masrat, Masrat Maswal, **Aijaz A. Dar**, Competitive solubilization of naphthalene and pyrene in various micellar systems. *Journal of Hazardous Materials* **2013**, 244–245, 662-670.
 42. Muzaffar Hussain Najar, **Aijaz A. Dar**, Oyais Ahmad Chat, Ghulam Mohammad Rather Mixed Micellization and Mixed Monolayer Formation of Sodium Cholate and Sodium Deoxycholate in Presence of Hydrophobic Salts Under Physiological Conditions. *Journal of Surfactants and detergents*, **2013**, 16, 967-973.
 43. Zahid Yaseen, Jeenat Aslam, **Aijaz A. Dar**, Kabir-ud-Din, Effect of temperature on the supramolecular behavior of antidepressant drug amitriptyline hydrochloride in the presence of nonionic surfactants (Tweens and Brij)s as pharmaceutical excipients. *Zeitschrift für Physikalische Chemie*, **2013**, 227, 459-479.
 44. Masrat Maswal, Altaf H. Pandith, Nasrul Islam, **Aijaz A. Dar**. Co-solubilization of Model Hydrophobic Drugs Carbamazepine and Nifedipine in Aqueous Nonionic Surfactant Media. *Journal of Solution chemistry*, **2013**, 42:1374–1392.
 45. Oyais Ahmad Chat, Muzaffer Hussain Najar, **Aijaz A. Dar**. Evaluation of reduction kinetics of 2, 2-Diphenyl-1-picrylhydrazyl radical by flavonoid glycoside Rutin in mixed solvent based micellar media, *Colloid and Surfaces A: Physicochem Engineering Aspects*, **2013**, 436, 343– 353.
 46. Masrat Maswal, **Aijaz A. Dar**. Mixed Micelles of Sodium Cholate and Brij30: Their Rheological Behaviour and Capability towards Stabilization and Solubilization of Rifampicin, *Colloid and Surfaces A: Physicochem Engineering Aspects*, **2013**, 436, 704-713.
 47. Saima Qadir, **Aijaz A. Dar**, Khaliquz Zaman Khan, UV Monitoring of Microwave Assisted Biscoumarin Synthesis, *Advances in Analytical Chemistry*, **2013**, 3(3): 34-40.
 48. Uzma Ashraf, Oyais Ahmad Chat, **Aijaz A. Dar**, An inhibitory effect of self-assembled soft systems on Fenton driven degradation of xanthene dye Rhodamine B, *Chemosphere*, **2014**, 99, 199- 206.
 49. Masrat Maswal, **Aijaz A. Dar**. Formulation challenges in encapsulation and delivery of citral for improved food quality. *Food Hydrocolloids*, **2014**, 37:182-195.
 50. Oyais Ahmad Chat, Muzaffer Hussain Najar, Uzma Ashraf, Suraya Jabeen, Rohi Masrat, Masrat Maswal, Rais Ahmad Shah, **Aijaz A. Dar**. Influence of Micellar Proximity on Dynamics of Ce (IV)-Catalyzed BZ Oscillatory Reaction under Stirred Conditions, *International Journal of Chemical Kinetics*, **2014**, 46, 351-362.
 51. Kabir-ud-Din, Zahid Yaseen, Vinod Kumar Aswal, **Aijaz A. Dar**. Rheological response and small-angle neutron-scattering study of diester-bonded cationic biodegradable gemini surfactants in presence of different additives.

52. Masrat Maswal, Oyais Ahmad Chat, Uzma Ashraf, Suraya Jabeen, Rohi Masrat, Rais Ahmad Shah, **Aijaz A. Dar**. An investigation of solubilization and co-solubilization of Carbamazepine and Nifedipine in mixed micellar systems: insights from surface tension, electronic absorption and HPLC measurements. *RSC Advances* **2015**, 5, 7697.
53. Masrat Maswal, Oyais Ahmad Chat, **Aijaz A. Dar** Rheological characterization of multi-component hydrogel based on carboxymethyl cellulose: insight into its encapsulation capacity and release kinetics towards ibuprofen. *Colloid and Polymer Science*, **2015**, 293:1723–1735.
54. Carlos Bravo-Diaz, Laurence Stuart Romsted, Changyao Liu, Sonia Losada- Barreiro, María José Pastoriza-Gallego, Xiang Gao, Qing Gu, Gunaseelan Krisnan, Verónica Sánchez-Paz, Yongliang Zhang, **Aijaz A. Dar**. To Model Chemical Reactivity in Heterogeneous Emulsions: Think Homogeneous Microemulsions. *Langmuir*, **2015**, 31, 8961–8979.
55. **Aijaz A. Dar** and Oyais Ahmad Chat. Cosolubilization of Coumarin30 and Warfarin in Cationic, Anionic, and Nonionic Micelles: A Micelle–Water Interfacial Charge Dependent FRET. *Journal of Physical Chemistry B* **2015**, 119, 11632–11642.
56. Uzma Ashraf, Oyais Ahmad Chat, **Aijaz A. Dar**, An investigation of Pluronic P123–sodium cholate mixed system: micellization, gelation and encapsulation behavior. *RSC Advances* **2015**, 5, 83608-618.
57. Suraya Jabeen Masrat Maswal, Oyais Ahmad Chat, Uzma Ashraf, Gh. Mohammad Rather, **Aijaz A. Dar** Hydrogels of sodium alginate in cationic surfactants: Surfactant dependent modulation of encapsulation/release toward Ibuprofen. *Carbohydrate Polymers* **2015**, 133, 144-153.
58. OA Chat, M Maswal, PA Hassan, VK Aswal, GM Rather, **Aijaz A. Dar**, Effect of mixed micellization on dimensions of 1-butyl-3-methylimidazolium dodecylsulfate micelles in presence of electrolytes. *Colloids and Surfaces A: Physicochemical and Engineering Aspects* **2015**, 484, 498-507.
59. FA Mir, I Chattarjee, AA Dar, K Asokan, GM Bhat, Preparation and characterizations of cadmium sulfide nanoparticles, *Optik-International Journal for Light and Electron Optics* **2015**, 126, 1240-1244.
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