



Dr. S. Umadevi

UGC Assistant Professor

Contact

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Academic Qualifications: M.Sc. Ph.D.

Teaching Experience: 7 Years

Research Experience: 14 Years

Additional Responsibilities

1. Co-ordinator of 'Women Grievance Cell', IC Department

Areas of Research

Synthetic Chemistry, Material Chemistry, Liquid crystals, Nanomaterials

Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research	Ph.D.	2	4
	M.Phil.	6	-
Project	PG	24	-
	UG / Others	-	-

Publications

International		National		Others
Journals	Conferences	Journals	Conferences	Books / Chapters / Monographs / Manuals
29	1	-	-	2

Cumulative Impact Factor (as per JCR) :	140
h-index :	14
i10 index :	17
Total Citations :	525

Funded Research Projects

Completed Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	DST	2012	2015	Monolayers of liquid crystal – nanomaterial composites: preparation, characterization and applications in sensing and catalysis	24.10
2	UGC	2015	2017	Start-Up grant	6.0
3	SERB	2016	2019	Liquid crystal functionalized platforms for optical and electro-optical applications	33.97

Ongoing Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	SERB	2020	2023	Investigation on Nanocellulose Incorporated Liquid Crystal Elastomers (LCE) as Soft Actuators	Rs. 43.05

Distinctive Achievements / Awards

- 1 **5 Gold medals and 2 cash prizes** for the performance in **B.Sc. Chemistry** (1999)
- 2 **1st Rank** in **B.Sc.** examination (1999)
- 3 **2 Gold medals and 2 cash prizes** for the performance in **B.Ed.** (2000)
- 4 **1st Rank** in **B.Ed.** examination (2000)
- 5 **2 Gold medals and a cash prize** for the performance in **M.Sc. Organic chemistry** (2002)
- 6 **2nd Rank** in **M.Sc. Chemistry** examination (2002)
- 7 **Lectureship** qualification from the **Council of Scientific and Industrial Research**, India (2002); Roll. No. 102752
- 8 **Selectee** in Faculty Recharge Programme from UGC as **UGC Assistant Professor**, 2012
- 9 **Early Career Research Award** from Science and Engineering Research Council (SERB), India.

Overseas Exposure / Visits

1. University of Edinburgh, Scotland
2. University of Manitoba, Canada

Membership in

Professional Bodies

1. Life Member: Indian Liquid Crystal Society

Resource persons in various capacities

Number of Invited / Special Lectures delivered:

1. Delivered a special lecture as **Resource person** for the international conference **CDIC-2016** at Shri Sakthikailash Women's College, Salem held on 29th July 201

Recent Publications

Publications

- 1 R. Mangaiyarkarasi, S. Premlatha, R. Khan, R. Pratibha, S. Umadevi (2020) Electrochemical performance of a new imidazolium ionic liquid crystal and carbon paste composite electrode for the sensitive detection of paracetamol, *J. Mol. Liq.* **319**, 114255 ((**I. F. – 5.0**)
- 2 R. Mangaiyarkarasi, M. Priyanga, N. Santhiya and S. Umadevi (2020) In situ preparation of palladium nanoparticles in ionic liquid crystal microemulsion and their application in Heck reaction, *J. Mol. Liq.* **310**, 113241 ((**I. F. – 5.0**)
- 3 B. Sivaranjini, K. Mohana, S. Esakkimuthu, V. Ganesh and S. Umadevi (2020) Photo-responsive azo-functionalised flexible polymer substrate for liquid crystal alignment, *Liq. Cryst.* **47**, 1354-1365. (**I. F. -3.0**)
- 4 B. Sivaranjini, V. Ganesh and S. Umadevi (2020) Bent-Core Liquid Crystal-Functionalised Flexible Polymer Substrates for Liquid Crystal Alignment, *Liq. Cryst.* **47**, 838-850(**I. F. - 3.0**)
- 5 P. Mohana and S. Umadevi, (2019) Side-chain polysiloxane liquid crystalline elastomers from non-mesogenic components, *New J. Chem.* **43**, 15968-15978 (**I. F. -3.0**)
- 6 PR. Meyyathal, N. Santhiya, S. Umadevi, S. Michelraj and V. Ganesh, (2019) Lyotropic liquid crystal directed synthesis of anisotropic copper microparticles and their application in catalysis, *Colloids Surf. A.* **575**, 237-244 (**I. F. -3.99**)
- 7 R. Mangaiyarkarasi, S. Selvam, V. Ganesh and S. Umadevi, (2019) Cholesterol based imidazolium ionic liquid crystal: Synthesis, characterisation and its dual application as an electrolyte and electrode material, *New J. Chem.* **43**, 1063 - 1071 (**I. F. -3.0**)
- 8 R. Mangaiyarkarasi, B.Sivaranjini and S. Umadevi, (2019) Facile synthesis of gold nanoparticles-capped with an ammonium based chiral ionic liquid crystal , *Liq. Cryst.* **46**, 584-593 (**I. F. -3.0**)
- 9 B.Sivaranjini, R. Mangaiyarkarasi, V.Ganesh and S. Umadevi, (2018), Vertical Alignment of Liquid Crystals Over a Functionalized Flexible Substrate, *Sci. Rep.*, **8:8891**, 1-19 (**I. F. - 4.5**)
- 10 S. Sundari, Sheela Berchmans and S.Umadevi, (2018), Polymer Bulletin, Non-enzymatic nitric oxide release from biodegradable S-nitrosothiol bound polymer: synthesis, characterization, and antibacterial effect, *Polym Bull.*, **75**, 2971-2985(**I. F. -1.85**)

- 11 B.Rozic, J.Fresnais, C.Molinari, J.Calixte, S.Umadevi et al., (2017), Oriented gold nanorods and gold nanorod chains within smectic liquid crystal topological defects, *ACS Nano*, **11** 6728-6738 (I. F. -13.7)
- 12 S.Umadevi, S.Sundari, V.Ganesh and Sheela Berchmans (2017), Liquid crystal-gold nanoparticle composite modified indium tin oxide (ITO) substrates and their electrochemical characterisation, *Liq. Cryst.*, **44**, 2222-2229. (I. F. -3.0)
- 13 S. V. Sheen Mers, S. Umadevi and V. Ganesh (2017) Controlled growth of gold nanostars: Effect of spike length on SERS signal enhancement, *Chem Phys Chem*, **18**, 1358-1369. (I. F. 3.0)
- 14 S. Umadevi, R. Umamaheswari and V. Ganesh (2017), Lyotropic liquid crystal-assisted synthesis of micro- and nanoparticles of silver, *Liq. Cryst.* **44**, 1409-1420. (I. F. 3.0)
- 15 X. Feng, L. Sosa-Vargas, S. Umadevi, T. Mori, Y. Shimizu and T. Hegmann (2015), Discotic liquid crystal functionalized gold nanorods: 2- and 3D self-assembly plus macroscopic alignment and increased charge carrier mobility in hexagonal columnar liquid crystal hosts affected by molecular packing and π - π interactions, *Adv. Funct. Mater.*, **2**, 1180-1192. (I. F. 16.83)
- 16 S. Umadevi, V. Ganesh and Sheela Berchmans (2014), Liquid crystal (LC) monolayer on Indium Tin Oxide (ITO): structural and electrochemical characterization, *RSC Advances*, **4**, 16409-16417. (I. F. 3.1)
- 17 R. K. Shukla, X. Feng, S. Umadevi, T. Hegmann and W. Haase (2014), Effect of functionalized bulky goldnanorod doping on the electrooptical and dielectric properties of ferroelectric liquid crystal, *Chem. Phys. Lett.*, **599**, 80-85, 2014. (I. F. 1.9)
- 18 S. Umadevi, V. Ganesh and T. Hegmann (2014) A versatile, one-pot synthesis of gold nanostars with long, well-defined thorns using a lyotropic liquid crystal template, *Liq. Cryst.* **41**, 265-276, (I. F. 3.0)
- 19 S. Umadevi, X. Feng and T. Hegmann (2013) Large area self-assembly of nematic liquid crystal functionalized-gold nanorods, *Adv. Funct. Mater.*, **23**, 1393-1403. (I. F. 16.83)
- 20 S. Umadevi, S. Radhika and B. K. Sadashiva (2013) Polar columnar and lamellar mesophases in homologous bent-core compounds derived from methyl 3, 5-dihydroxybenzoate; *Liq. Cryst.* **40**, 1035-1049. (I. F. 3.0)
- 21 U. Shivakumar, J. Mirzaei, X. Feng, A. Sharma, P. Moreira and T. Hegmann, (2011) Nanoparticles – complex and multifaceted additives for liquid crystals; *Liq. Cryst.*, **38**, 1495–1514. (I. F. 3.0)

- 22 **S. Umadevi** and B. K. Sadashiva (2011), Liquid crystalline properties and dependence of transition temperatures on the length of the flexible alkylene spacer of symmetric dimers composed of bent-core units; *Liq. Cryst.*, **34**, 673-681. **(I. F. 3.0)**
- 23 **S. Umadevi** and B. K. Sadashiva (2006), Novel five-ring bent-core compounds exhibiting a transition from the electro-optically non switchable to a switchable B₇ phase; *Chem. Mater.*, **18**, 5186-5192. **(I. F. 9.94)**
- 24 S. Umadevi, A. Jákli and B. K. Sadashiva (2006), Odd- even effects in bent-core compounds containing terminal *n*-alkyl carboxylate groups, *Soft Matter*, **2**, 875-88. **(I. F. 3.14)**
- 25 **S. Umadevi**, A. Jákli and B. K. Sadashiva (2006) Bistable linear electro-optical switching in the B₇' phase of novel bent-core molecules, *Soft Matter*, **2**, 215-222. **(I. F. 3.14)**
- 26 **S. Umadevi**, B. K. Sadashiva, H. N. Shreenivasa Murthy and V. A. Raghunathan (2006) Mesogenic dimers composed of bent-core molecules with flexible alkylene spacer, *Soft Matter*, **2**, 210-214. **(I.F.3.14)**
- 27 **S. Umadevi**, S. Radhika and B. K. Sadashiva (2006) SmCP_A phase in five-ring bent-core compounds derived from 5-methoxyisophthalic acid, *Liq. Cryst.*, **33**, 139-147. **(I. F. 3.0)**
- 28 **S. Umadevi** and B. K. Sadashiva (2005) New five-ring symmetrical bent-core mesogens exhibiting the fascinating B₇ phase *Liq. Cryst.*, **32**, 1233-1241. **(I. F. 3.0)**
- 29 **S. Umadevi** and B. K. Sadashiva (2005) Banana-shaped mesogens: Mesomorphic properties of seven-ring esters derived from 5-chlororesorcinol, *Liq. Cryst.*, **32**, 287-297. **(I. F. 3.0)**