

Resume



Dr. J. JAYABHARATHI, M.sc., B.ed., Ph.D., PDF (Taiwan), FRSC

Professor

Department of Chemistry

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Academic Qualifications: M.Sc., B.Ed., Ph.D., NSC Post-Doc-NTHU, Taiwan

POSTDOCTORAL NSC FELLOW (PDF) : 2005 -2006 National Tsing Hua University, Taiwan

Doctor of Philosophy in Chemistry (Ph.D.) : 1990-1994 Annamalai University,
Annamalainagar, Tamilnadu, India.

Master of Science in Organic Chemistry : 1988-1990 Annamalai University,
Annamalainagar, Tamilnadu, India.

Bachelor of Science in Chemistry : 1985-1988
KNC College for Women, Cuddalore,
University of Madras, Tamilnadu, India

Bachelor of Education : 1991-1992
Annamalai University, Annamalainagar,
Tamilnadu, India.

Research Experience: 28 Years

Areas of Research

- Organic light emitting devices (OLED),
- Synthetic Organic Chemistry,

- Nanotechnology,
- Computational Chemistry

Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research	Ph.D.	17	5
	M.Phil.	26	-
Project	PG	8	-

PATENT

CYCLOMETALATED IRIDIUM (III) COMPLEXES FOR LIGHT EMITTING DIODES, PATENT NO. 292301

PUBLICATIONS

Journal		Conference		Total
International	National	International	National	
252	5	35	76	368

h-intex	26
i10	94
Total citations	2696

Funded Research Projects

Completed Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	UGC (F.No. 30-71/2004(SR))	2005	2007	Synthesis, spectral studies and ----- 2,6-di-2-furylpiperidines	4.59
2	DST (F.No. SR/S1/1C-07/2007)	2007	2010	Synthesis, photophysical ----- biscyclometalated iridium complexes	25.27
3	UGC (F.No. 36-21/2008)(SR)	2009	2012	Synthesis of cyclometalated iridium(III) ----- organic light emitting devices	10.45
4	DRDO (F.No. DNRD /05/4003/NRB/213)	2012	2015	Synthesis and characterisation of luminescent chemosensors	33.16
5	DST (F.No. SR/S1/1C-73/2010)	2011	2014	Synthesis, photophysical and ---- heteroleptic iridium complexes	27.10
6	CSIR (No 3732/NS-EMRII)	2013	2016	Synthesis of nano-sized undoped and doped ----- materials as sensors	27.00
7	DST(SERB) (F.No. EMR /2014/000094)	2015	2018	Alkenyl phenanthrimidazole --- ----emitting diodes	41.76
8	DST(Nano Mission) (SR/NM/NS-1001/2016)	2016	2019	Hybrid inorganic–organic ----- - complexes as emissive layer	56.69

Ongoing Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		

1	CSIR (No 01(0155)/19 /NS-EMRII)	2019	2022	Hybridized Local and Charge-Transfer ---- Full Exciton Utilization	20.56
2	UGC Mid- career Award No.F.19-248/2020 (BSR)	2020	2022	Efficient hybrid white light-emitting organic electro fluorescence materials at low power consumption---Energy saving lighting Technology	10.00

Distinctive Achievements / Awards

1. Fellow of Royal Society of Chemistry (FRSC), London
2. UGC under BASIC SCIENTIFIC RESEARCH SCHEME recognised my research output and awarded MID-CAREER AWARD for the year 2019
3. National Science Council Fellowship, NTHU (Advisor: Prof. Chien-Hong Cheng), Taiwan 2005-2006
4. Certificate of merit award- Best research publication 2012-2016
5. Best researcher prize award (Grants) 2016-2017
6. Best researcher prize award (Publications) 2016-2017
7. Best researcher prize award (Grants) 2018-2019
8. Best researcher prize award (Publications) 2018-2019

BEST PAPER AWARD

1. Certificate of merit award, Science Day- 28th, February, 2018, Annamalai University
2. Certificate of merit award, Science Day- 28th, February, 2018, Annamalai University

BOOKS PUBLISHED

1. **J. Jayabharathi** and V. Thanikachalam, Benzimidazole: Preparation and Applications: Benzimidazole Derivatives in Organic Light Emitting Device, Nova Science Publishers, Inc, New York, Chapter 4, ISBN:978-1-53616-986-7, 113-156, 2020.
2. **J. Jayabharathi**, C. Karunakaran, Enhancing and Quenching of Fluorescence Of organic Ligands by Nanoparticles, (Nanotechnology and Nanomaterials), Studium Press LLC, USA, Vol.3, 153-178, VI Chapter, 2012.

3. C. Karunakaran, **J. Jayabharathi**, Semiconductor-photocatalyzed iodine generation in Eds. Adelina H. Martinez, Edelmiro J. Perez, (Iodine: Characteristics, Sources and Health Implications), Nova Science Publishers, Newyork, 27-51, 2012.
4. A. Thiruvalluvar, G. Vasuki, **J. Jayabharathi** and S. Rosepriya, X-Ray Crystal Structure Analysis of Selected Benzimidazole Derivatives, InTechOpen access.

Events organized in leading roles

Number of Seminars / Conferences / Workshops / Events organized: 1

1. Convenor, International National Seminar on **Recent Advances on Luminescent Materials (RALM-2015)** on 23th and 24th January 2015, Department of Chemistry, Annamalai University
2. Co-convenor, International Conference on **Applications of Smart Materials (ASM - 2020)** on 5th-7th February 2020. Annamalai University, Chidambaram
3. Convenor, virtual symposium on **Molecular Materials: Present and Future Trends**, on 15.07.2020, Department of Chemistry, Annamalai University
4. Convenor, **Webinar on Multifunctional Aspects in Chemistry Research**, on 22.07.2020, Department of Chemistry, Annamalai University
5. Convenor, Webinar on “**Intellectual Property Rights, Designing Projects and Placement Prospects: Challenges and Opportunities**” on 05.08.2020
6. Convenor, Webinar on “**Overview of Intellectual Property Rights**” on 30.09.2020

LIST OF PUBLICATIONS

National and International Journals

➤ Papers published in international Journals (Till Dec. 2019)

1. V.Thanikachalam, B. Seransenguttuvan, J. Jayabharathi, Versatile accumulated surface plasmon resonance of functionalized graphene oxide-supported silver nanoparticles in

polymer optoelectronic devices, ACS, Ind. Eng. Chem. Res., ISSN: 0888-5885, 2020, 59, 21802–21810, <https://dx.doi.org/10.1021/acs.iecr.0c04612>

2. S.Mathi and **J. Jayabharathi** , Enhanced stability and ultrahigh activity of amorphous ripple nanostructured Ni-doped Fe oxyhydroxide electrode toward synergetic electrocatalytic water splitting, RSC Adv., 2020, 10, 26364: ISSN: 2046-2069; DOI: 10.1039/d0ra04828c.
3. J. Jayabharathi, S. Sivaraj, V. Thanikachalam, B. Seransenguttuvan, Efficient blue electroluminescence with external quantum efficiency of 9.20 % and CIE_y < 0.08 without excimer emission, RSC Adv., 2020, 10, 25059, ISSN: 2046-2069; DOI: 10.1039/d0ra03463k .
4. V.Thanikachalam, B.Seransenguttuvan, **J.Jayabharathi**, Efficient and chromaticity stable green and white organic light-emitting devices with organic– inorganic hybrid materials, RSC Adv., 2020, 10, 21206, ISSN: 2046-2069; DOI: : 10.1039/d0ra02122a.
5. **J. Jayabharathi**, S. Panimozhi and V. Thanikachalam, A novel hot exciton blue fluorophores and white organic light-emitting diodes with simplified configuration, *Springer Nature, Sci Rep*, 2020, 10 :5114; ISSN: 2045-2322: doi.org/10.1038/s41598-020-62029-4
6. **J. Jayabharathi**, J. Anudeebhana, V.Thanikachalam and S.Sivaraj Efficient fluorescent OLEDs based on assistant acceptor modulated HLCT emissive state for enhancing singlet exciton utilization, RSC Adv., 2020, 10, 8866, ISSN: 2046-2069; DOI: 10.1039/d0ra00658k
7. White light emission from HMIMBF₄-TiO₄ (A) colloidal hybrid electrolyte and surface modification of TiO₂ using ionic liquid in hybrid optoelectronic devices, V.Thanikachalam, B.Seransenguttuvan, **J. Jayabharathi**, *J. Mater. Chem. C*. 2020, 8, 2899-2912, ISSN: 2050-7534:DOI: 10.1039/c9tc05377h
8. **J. Jayabharathi**, J. Anudeebhana, V.Thanikachalam, S.Sivaraj and A. Prabhakaran, Efficient donor–acceptor emitter based nonsymmetrical connection for organic emitting diodes with improving exciton utilization, *RSC Adv.*, 2020, 10, 4002-4013; ISSN2046-2069 ; DOI: 10.1039/c9ra10513a.
9. Red, green and blue phosphorescent organic light-emitting diodes with ITO-free anode material, **J.Jayabharathi**, S.Sivaraj, V.Thanikachalam, S.Panimozhi, J. Anudeebhana, *Elsevier, Photochem. Photobiol. A*, ISSN: 1010-6030, (2020), 389, 112229-112242. <https://doi.org/10.1016/j.jphotochem.2019.112229>.
10. Asymmetrically twisted phenanthrimidazole derivatives as host materials for blue fluorescent, green and red phosphorescent OLEDs,**J. Jayabharathi**, S. Panimozhi and V. Thanikachalam, *Springer Nature, Sci Rep*, (2019) 9, 17555; ISSN 2045-2322, DOI: 10.1038/s41598-019-54125-x
11. Strategic tuning of excited-state properties of electroluminescent materials with enhanced hot exciton mixing, **J. Jayabharathi**, V. Thanikachalam, R. Ramya, S. Panimozhi, *RSC Adv*, ISSN: 2046-2069 1010-6030,(2019), 9, 33693, DOI: 10.1039/c9ra07509g.
12. Regulation of singlet and triplet excitons in a single emission layer: Efficient fluorescent/phosphorescent hybrid white organic light-emitting diodes,**J. Jayabharathi**, G. Goperundeivi, S. Panimozhi, *ACS Omega*, 4, 12, 15030, ISSN: 24701343, (2019), DOI: 10.1021/acsomega.8b01815.

13. Interfacial charge-transfer in Cu-TiO₂-HBDPPIN7-Ag film and AIEE-active chemosensor, **J. Jayabharathi**, P. Nethaji, V. Thanikachalam and R. Ramya, *Elsevier, Photochem. Photobiol. A*, ISSN: 1010-6030, (2019), 377, 318, <https://doi.org/10.1016/j.jphotochem.2019.03.046>.
14. Promotional effect of silver nanoparticles embedded Ga-Zr-codoped TiO₂ as an alternative anode for an efficient blue, green and red PHOLEDs, **J. Jayabharathi**, P. Nethaji and V. Thanikachalam, *RSC Adv.*, ISSN: 2046-2069, (2019), 9, 13664, DOI: 10.1039/c9ra01025d.
15. Derivatives of cyanonaphthyl-substituted phenanthroimidazole as blue emitters for non-doped organic light emitting diodes, **J. Jayabharathi**, P. Nethaji, V. Thanikachalam, R. Ramya, *ACS Omega*, ISSN: 24701343, (2019), 4, 4553, DOI: 10.1021/acsomega.8b03617.
16. Efficient electroluminescent hybridized local and charge-transfer host materials with small singlet–triplet splitting to enhance exciton utilization efficiency: Excited state transition configuration, **J. Jayabharathi**, V. Thanikachalam and G. Abirama Sundari, *RSC Adv.*, ISSN: 2046-2069, (2019), 9, 6658, DOI: 10.1039/c9ra00135b.
17. Efficient full-colour organic light-emitting diodes based on donor–acceptor electroluminescent materials with a reduced singlet–triplet splitting energy gap, **J. Jayabharathi**, R. Ramya, V. Thanikachalam, P. Jeeva and E. Sarojpurani, *RSC Adv.*, ISSN: 2046-2069, (2019), 9, 2948, DOI: 10.1039/c8ra09486a.
18. Hot excitation transition for organic light-emitting diodes: Tailoring excited-state properties and electroluminescence performances of donor-spacer-acceptor molecules, **J. Jayabharathi**, S. Panimozhi, V. Thanikachalam, *RSC Adv.*, ISSN: 2046-2069, (2018), 8, 37324, DOI: 10.1039/c8ra07891b.
19. Tailoring molecular design of twisted dihydrobenzodioxin phenanthroimidazole derivatives for non-doped blue organic light emitting devices, **J. Jayabharathi**, R. Ramya, V. Thanikachalam and P. Nethaji, *RSC Adv.*, ISSN: 2046-2069, (2018), 8, 29031, DOI: 10.1039/c8ra05004j.
20. Enhanced internal quantum efficiency of organic light-emitting diodes: A synergistic effect, **J. Jayabharathi**, G. Abirama Sundari, V. Thanikachalam and S. Panimozhi, *Elsevier, J. Photochem. Photobiol. A*, ISSN: 1010-6030, (2018), 364, 577, <https://doi.org/10.1016/j.jphotochem.2018.06.041>, 2018.
21. Efficient donor–acceptor host materials for green organic light-emitting devices: non-doped blue emissive materials with dual charge transport properties, **J. Jayabharathi**, P. Sujatha, V. Thanikachalam and P. Nethaji, *RSC Adv.*, ISSN: 2046-2069, (2018), 8, 20007, DOI: 10.1039/c8ra02840k.
22. A hybrid inorganic–organic light-emitting diode using Ti-doped ZrO₂ as an Electron-Injection Layer, **J. Jayabharathi**, S. Panimozhi, V. Thanikachalam, A. Prabhakaran and P. Jeeva, *RSC Adv.*, ISSN: 2046-2069, (2018), 8, 8402, DOI: 10.1039/c8ra00259b.
23. Optical and electroluminescent performances of dihydrobenzodioxin phenanthroimidazoles based blue-emitting materials, **J. Jayabharathi**, R. Ramya, V. Thanikachalam, P. Jeeva and P. Nethaji, *Elsevier, J. Photochem. Photobiol. A*, ISSN: 1010-6030, (2018), 357, 11, DOI: <https://doi.org/10.1016/j.jphotochem.2018.02.013>.
24. Improved efficiencies of hybrid organic light-emitting diodes using efficient electron injection layer, **J. Jayabharathi**, P. Nethaji, V. Thanikachalam, P. Jeeva and R. Ramya, *Wiley, J. Phys. Org. Chem.*, ISSN: 1099-1395, (2018), 31, 3806, DOI: 10.1002/poc.3806.

25. Ga-Ti-codoped ZnO embedded silver nanoparticles as an alternative anode in blue and green OLEDs, **J. Jayabharathi**, E. Sarojpurani, V. Thanikachalam and P. Jeeva, *Elsevier, J. Photochem. Photobiol. A*, ISSN: 1010-6030, (2017), 342, 59, DOI: <https://doi.org/10.1016/j.jphotochem.2017.12.035>.
26. Organic-Inorganic Hybrids based on Phenanthrene functionalized Gold nanoparticles for OLEDs, **J. Jayabharathi**, G. Abirama Sundari, V. Thanikachalam, P. Jeeva and S. Panimozhi, *Wiley, J. Phys. Org. Chem.*, ISSN:1099-1395,(2018), 3796, DOI:<https://doi.org/10.1002/poc.3796>.
27. Efficient non-doped blue organic light-emitting diodes: donor–acceptor type host materials, **J. Jayabharathi**, P. Sujatha, V. Thanikachalam, P. Jeeva and P. Nethaji, *RSC Adv.*, ISSN: 2046-2069,(2017), 7, 54078, DOI: 10.1039/c7ra11732a.
28. Localized surface plasmon-enhanced green OLEDs by Au nanoparticles embedded ZnO, **J. Jayabharathi**, P. Sujatha, V. Thanikachalam, P. Jeeva and S. Panimozhi, *Elsevier, J. Photochem. Photobiol. A*, (2017), ISSN: 1010-6030, 348, 269, DOI: [dx.doi.org/10.1016/j.jphotochem.2017.08.048](https://doi.org/10.1016/j.jphotochem.2017.08.048).
29. A Dodecanethiol-functionalized Ag nanoparticles modified ITO anode for efficient performances of organic light-emitting devices, **J. Jayabharathi**, G. Abirama Sundari, V. Thanikachalam, P. Jeeva and S. Panimozhi, *RSC Adv.*, ISSN: 2046-2069, (2017), 7, 38923, DOI:10.1039 /c7ra07080b.
30. Enhancement of electroluminescent green emission by far-field coupling of Au nanoparticles in organic light emitting diodes, **J. Jayabharathi**, P. Sujatha, V. Thanikachalam, P. Jeeva and S. Panimozhi, *ACS, Ind. Eng. Chem. Res.*, ISSN: 0888-5885, (2017), 56, 6952, DOI: 10.1021/acs.iecr.7b01674.
31. Efficient blue organic light-emitting diodes based on pyrene phenanthrimidazole and D- π -A chromophore, **J. Jayabharathi**, P. Jeeva, V. Thanikachalam and S. Panimozhi, *Elsevier, J. Photochem. Photobiol. A*, ISSN: 1010-6030, (2017), 346, 296, (<http://dx.doi.org/10.1016/j.jphotochem.2017.06.019>).
32. Far-field enhancement by silver nanoparticles in organic light emitting diodes based on D- π -A chromophore, **J. Jayabharathi**, E. Sarojpurani, V. Thanikachalam and P. Jeeva, *ACS, Ind. Eng. Chem. Res.*, ISSN: 0888-5885, (2017), 56, 5325, DOI: 10.1021/acs.iecr.7b00783.
33. Interfacial charge-transfer process in nanosemiconductor-N-benzylpiperidine phenanthroimidazole (BDPI)-metal heterostructure: A combined experimental and theoretical studies of BDPI-(FeO)_n composites, V. Thanikachalam, E. Sarojpurani and **J. Jayabharathi**, *Elsevier, J. Photochem. Photobiol. A*, ISSN: 1010-6030, (2017), 342, 59, DOI: [dx.doi.org/10.1016/j.jphotochem.2017.04.001](https://doi.org/10.1016/j.jphotochem.2017.04.001). **(Invited Article)**
34. Nondoped blue fluorescent OLED based on cyanophenanthrimidazole-styryl-triphenylamine/carbazole materials, V. Thanikachalam, P. Jeeva and **J. Jayabharathi**, *Wiley, J. Phys. Org. Chem.*, ISSN:1099-1395,(2017), 30, e3695, DOI: 10.1002/poc.3695.
35. Efficient phenanthroimidazole-styryltriphenylamine derivatives for blue OLEDs: a combined experimental and theoretical study, V. Thanikachalam, E. Sarojpurani, **J. Jayabharathi** and P. Jeeva, *RSC, New J. Chem.*, ISSN: 1369-9261,(2017), 41, 2443, DOI: 10.1039/c6nj03801h.
36. Highly efficient non-doped blue organic light emitting diodes based on a D- π -A chromophore with different donor moieties, V. Thanikachalam, P. Jeeva and **J. Jayabharathi**, *RSC Adv.*, ISSN: 2046-2069, (2017), 7, 13604, DOI: 10.1039/c6ra28303a.

37. Hybridised-local and charge-transfer excited states in donor-spacer-acceptor molecules for efficient OLEDs: Combined experimental and theoretical study, V. Thanikachalam, P. Jeeva and **J. Jayabharathi**, *Wiley, Chemistry Select*, ISSN: 2365-6549, (2017), 2, 1860, DOI: 10.1002/slct.201601842.
38. Efficient non-doped blue emitting devices based on bis(phenanthrimidazolyl)biphenyl derivatives, **J. Jayabharathi**, A. Prabhakaran, V. Thanikachalam and P. Jeeva, *RSC, New J. Chem.*, ISSN: 1369-9261, (2016), 40, 8768, DOI: 10.1039/c6nj02431a.
39. Non-doped blue organic light emitting devices with donor- π -acceptor derivatives as the emissive material, V. Thanikachalam, P. Jeeva, **J. Jayabharathi**, P. Ramanathan, A. Prabhakaran and E. Saroj Purani, *ACS, Ind. Eng. Chem. Res.*, ISSN: 0888-5885, (2016), 55, 9639, DOI: 10.1021/acs.iecr.6b02549.
40. Air stable HyLEDs using efficient electron injection and emitting materials, **J. Jayabharathi**, A. Prabhakaran, V. Thanikachalam, P. Jeeva and M. Sundharesan, *ACS, Ind. Eng. Chem. Res.*, ISSN: 0888-5885, (2016), 55, 8087, DOI:10.1021/acs.iecr.6b01151.
41. Highly efficient non-doped blue electroluminescent materials for organic light-emitting devices, **J. Jayabharathi**, A. Prabhakaran, V. Thanikachalam and M. Sundharesan, *RSC Adv.*, ISSN: 2046-2069, (2016), 6, 62208, DOI:10.1039/C6RA11439C.
42. Improved Efficiency of Hybrid Inorganic-Organic Light Emitting Diodes, **J. Jayabharathi**, A. Prabhakaran, V. Thanikachalam and M. Sundharesan, *Wiley, Chemistry Select*, ISSN: 2365-6549, (2016), 1, 2642, DOI: 10.1002/slct.201600455.
43. Structural, optical and photoconductivity characteristics of pristine FeO.Fe₂O₃ and NTPI-FeO.Fe₂O₃ nanocomposite: Aggregation induced emission enhancement of fluorescent organic nanoprobe of thiophene appended phenanthrimidazole derivative, **J. Jayabharathi**, A. Prabhakaran, C. Karunakaran, V. Thanikachalam and M. Sundharesan, *RSC Adv.*, ISSN: 2046-2069, (2016), 6, 18718, DOI: 10.1039/c5ra25545g.
44. Hybrid organic-inorganic light emitting diodes: Effect of Ag-doped ZnO, **J. Jayabharathi**, A. Prabhakaran, V. Thanikachalam and M. Sundharesan, *Elsevier, J. Photochem. Photobiol. A*, ISSN: 1010-6030, (2016), 325, 88, DOI: dx.doi.org/10.1016/j.jphotochem.2016.04.007.
45. Study of interfacial charge transfer in nanosemiconductor-molecule composites, **J. Jayabharathi**, A. Prabhakaran, C. Karunakaran, V. Thanikachalam and M. Sundharesan, *Wiley, J. Phys. Org. Chem.*, ISSN:1099-1395,(2017), 30, e3600, DOI: 10.1002/poc.3600. **(Cover Article)**
46. Fused methoxynaphthyl phenanthrimidazole semiconductors as functional layer in high efficient OLEDs, **J. Jayabharathi**, P. Ramanathan, C. Karunakaran and V. Thanikachalam, *Springer, J. Fluoresc.*, ISSN: 1053-0509, (2016), 26 307, DOI: 10.1007/s10895-015-1715-x.
47. Enhanced photocatalytic activity of magnetically separable bactericidal CuFe₂O₄-embedded Ag deposited ZnO Nanosheets, C. Karunakaran, P. Vinayagamoorthy and **J. Jayabharathi**, *RSC Adv.*, ISSN: 2046-2069, (2016), 6, 1782, DOI:10.1039/C5RA20958G.
48. Donor-acceptor binding interaction of 1-(naphthalene-1-yl)-2,4,5-triphenyl-1H-imidazole with semiconductor nanomaterials, **J. Jayabharathi**, C. Karunakaran, V. Kalaiarasi and P. Ramanathan, *Elsevier, Spectrochim. Acta, Part A*, ISSN: 1386-1425,(2015), 137, 333, DOI: <https://doi.org/10.1016/j.saa.2014.08.048>.
49. Study on conformational stability, molecular structure, vibrational spectra, NBO, TD-DFT, HOMO and LUMO analysis of 3,5-dinitrosalicylic acid by DFT techniques, S. Sebastian, S.

- Sylvestre, **J. Jayabharathi**, K. Oudayakumar and I.A.Herman, *Elsevier, Spectrochim. Acta, Part A.*, ISSN: 1386-1425, (2015), 136, 1107, DOI: doi.org/10.1016/j.saa.2014.09.135.
50. Inhibition of fluorescence of styryl phenanthrimidazole on doping nanocrystalline ZnO with bismuth, **J. Jayabharathi**, I. JebaSingh, A. Arunpandiyan and C. Karunakaran, *Elsevier, Measurement*, ISSN:02632241, (2015), 65, 129, DOI: doi.org/10.1016/j.measurement.2015.01.006.
 51. Turn-off of fluorescence of styryl phenanthrimidazole on doping ZnO nanoparticles with Ce³⁺, **J. Jayabharathi**, I. JebaSingh, A. Arunpandiyan and C. Karunakaran, *Elsevier, Spectrochim. Acta, Part A.*, ISSN: 1386-1425,(2015), 135, 264, doi.org/10.1016/j.saa.2014.07.003.
 52. Synthesis and optical properties of phenanthrimidazole derivatives for organic electroluminescent devices, **J. Jayabharathi**, P. Ramanathan and V. Thanikachalam, *RSC, New J. Chem.*, ISSN: 1369-9261, (2015), 39, 142, DOI: 10.1039/C4NJ01515K.
 53. Binding interaction between 2-(naphthalen-1-yl)-1-p-tolyl-1H-phenanthro[9,10-d]imidazole and semiconductor nanomaterials, **J. Jayabharathi**, C. Karunakaran, P. Ramanathan, *Elsevier, Spectrochim. Acta, Part A.*, ISSN: 1386-1425,(2015), 136, 1428, DOI:doi.org/10.1016/j.saa.2014.10.032.
 54. Multiple linear regression solvatochromic analysis of donar-acceptor imidazole derivatives, **J. Jayabharathi**, V. Thanikachalam, V. Kalaiarasi, P. Ramanathan, *Springer, J. Fluoresc.*, ISSN: 1053-0509,(2015), 25, 95, DOI 10.1007/s10895-014-1484-y.
 55. Understanding the binding interaction of imidazole with ZnO nanomaterials and clusters, **J. Jayabharathi**, M. Sundharesan, A. Prabhakaran and C. Karunakaran, *RSC adv.*,ISSN: 2046-2069, (2015), 5, 9518,DOI: 10.1039/C4RA15957H.
 56. Enhancing photoresponse of ionic liquid - ZnO composite: Molecular docking study, V. Thanikachalam, A. Arunpandiyan, C. Karunakaran and **J. Jayabharathi**, *Elsevier, Sensors & Actuators, B*, ISSN: 0925-4005,(2015), 220, 814, DOI: doi.org/10.1016/j.snb.2015.05.123.
 57. Phenanthrimidazole as a fluorescent sensor with logic gate operations, **J. Jayabharathi**, V. Thanikachalam and P. Ramanathan, *Elsevier Spectrochim. Acta, Part A.*, ISSN: 1386-1425,(2015), 150, 886, DOI: doi.org/10.1016/j.saa.2015.06.044.
 58. Site specific interaction between TiO₂ nanoparticles and phenanthrimidazole – A first principles quantum mechanical study, **J. Jayabharathi**, P. Ramanathan, C. Karunakaran and V. Thanikachalam, *Springer, J. Fluoresc.*, ISSN: 1053-0509,(2015), 25, 1063, DOI: 10.1007/s10895-015-1593-2.
 59. Enhancing the photoluminescence of 1-(naphthalene-1-yl)-2,4,5-triphenyl-1H-imidazole anchored to superparamagnetic Nanoparticles, **J. Jayabharathi**, C. Karunakaran, V. Kalaiarasi, P. Ramanathan and A. Prabhakaran, *Elsevier, Spectrochim. Acta, Part A.*, ISSN: 1386-1425,(2015), 135, 1169, DOI: doi.org/10.1016/j.saa.2014.07.042.
 60. Optical and theoretical studies on Fe₃O₄ - imidazole nano composite and clusters, **J. Jayabharathi**, P. Ramanathan, V. Thanikachalam and C. Karunakaran, *RSC, New J. Chem.*, ISSN: 1369-9261, (2015), 39, 3801, DOI: 10.1039/C4NJ02068E.
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