

Faculty Profile of Dr. M. Ilanchelian



Dr. M. Ilanchelian
Professor & Head
Department of Chemistry

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Research Area

- Biophysical and photo physical Chemistry
- Photo electro chemistry
- Synthesis of metal, carbon and semiconductor nano-composite materials

Education & Career

Education

Ph. D.

Subject : Chemistry

Institution : Madurai KamarajUniversity, Madurai

Affiliated University : Madurai KamarajUniversity, Madurai

Year of Award : 2004

M. Sc.,

Subject: Chemistry

Institution : Madurai KamarajUniversity, Madurai

Affiliated University : Madurai KamarajUniversity, Madurai

Year of Award : 1995

B. Sc.,

Subject: Chemistry

Institution: Madurai KamarajUniversity, Madurai

Affiliated University: Madurai KamarajUniversity, Madurai

Year of Award: 1993

Career**At Bharathiar University (Reverse Order)**

Associate Professor : 12-04-2017 to Till date

Assistant Professor : 12.04.2005 to 11-04-2017

Past Experience

Post-doctoral Fellow : 01-06-2003 to 31-10-2003 at Institute of Chemistry, Jerusalem University, Israel.

Awards

- **DST - Young Scientist**, DST, New Delhi, **2010**
- **JRF and SRF**, CSIR, New Delhi, **1996-2001**

Membership

Visits

Collaborators

Others

Projects

Funded Projects (National Level)

- [Ongoing](#)
- [Completed-03](#)

Ongoing Projects List with necessary Information

1. Department of Science and Technology (DST-SERC-FT) New Delhi.

PI

Dye Molecules Functionalized Metal Nanoclusters for the Colorimetric and FRET Detection of Biomolecules

2010-2013

9,89,000/-

2. University Grants Commission (UGC-MRP), New Delhi.

PI

Nanomaterial functionalized With cyclodextrin Inclusion complexes of organic dye molecules based detection system for heavy metals

2013-2016

13,94,800/-

3. Department of Science and Technology,
(DST-SERB)

New Delhi

PI

Functional Nanoparticle Architectures for Amplified Electrochemical
Detection of Biologically Important Molecules

2015-2017

12,00,000/-

Consultancy Projects

- [Ongoing](#)
- [Completed](#)

Ongoing Consultancy Project Informations

Completed Consultancy Project Informations

Research Guidance

- [Post Doc.](#)
- [Ph.D.](#)
- [M.Phil.](#)
- [M.Sc.](#)

Ongoing

Title

Name

Completed

Title

Name

Ongoing

Sample Data.

Completed

Sample Data.

Ongoing

Sample Data.

Completed

Sample Data.

Ongoing

Sample Data.

Completed

Sample Data.

Research Publication

- [International](#)
- [National](#)
- [Patents](#)
- [Conferences](#)
- [Books / Chapters](#)
- [Database](#)

1. Krishnamoorthy Shanmugaraj, Thangarasu Sasikumar, Cristian H Campos, Malaichamy Ilanchelian, Ramalinga Viswanathan Mangalaraja, Cecilia C Torres
Colorimetric determination of cysteamine based on the aggregation of polyvinylpyrrolidone-stabilized silver nanoparticles Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 118281 2020 SCI indexed 2.93
2. Krishnamoorthy Shanmugaraj, Arumugam Selva Sharma, Thangarasu Sasikumar, Ramalinga Viswanathan Mangalaraja, Malaichamy Ilanchelian
Insight into the binding and conformational changes of hemoglobin/lysozyme with bimetallic alloy nanoparticles using various spectroscopic approaches Journal of Molecular Liquids 300 111747 2020 SCI indexed 4.56
3. K Anand, R Rajamanikandan, A Selva Sharma, M Ilanchelian, Faez Iqbal Khan, C Tiloke, Naresh Kumar Katari, P Boomi, C Balakumar, M Saravanan, S Palanisamy, M Ramesh, Dakun Lai, AA Chuturgoon Human serum albumin interaction, in silico and anticancer evaluation of Pine-Gold nanoparticles Process Biochemistry 89 98-109 2020 SCI indexed 1.57
4. Thangarasu Sasikumar, Malaichamy Ilanchelian Colorimetric and visual detection of cyanide ions based on the morphological transformation of gold nanobipyramids into gold nanoparticles New Journal of Chemistry 44 4713-4718 2020 SCI indexed 3.06
5. Ramar Rajamanikandan, Arumugam Selva Sharma, Malaichamy Ilanchelian
New insights into the binding interaction of food protein ovalbumin with malachite green dye by hybrid spectroscopic and molecular docking analysis Journal of Biomolecular Structure and Dynamics 37 292-4300 2019 SCI indexed 3.3
6. Rajendran Satheeshkumar, Ramar Rajamanikandan, Malaichamy Ilanchelian, Koray Sayin, Karnam Jayarampillai Rajendra Prasad Synthesis of novel 1, 10-phenanthroline derivatives and it used as probes for sensitive detection of Zn²⁺ and Cd²⁺ metal ions–Spectroscopic and theoretical approach Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 221 117196 2019 SCI indexed 2.93

7. Perumal Manivel, Marimuthu Parthiban, Malaichamy Ilanchelian Exploring the binding mechanism between methylene blue and ovalbumin using spectroscopic analyses and computational simulations Journal of Biomolecular Structure and Dynamics 1-10 2019 SCI indexed 3.3
8. Ramar Rajamanikandan, Malaichamy Ilanchelian Red emitting human serum albumin templated copper nanoclusters as effective candidates for highly specific biosensing of bilirubin Materials Science and Engineering: C 98 1064-1072 2019 SCI indexed 5.0
9. Vasanthakumar Arumugam, Ramar Rajamanikandan, Malaichamy Ilanchelian, Kandasamy G Moodley, Gan G Redhi Investigation of binding interactions between BSA and [EPMpyr][Sal] through spectroscopy studies, thermophysical and thermodynamic properties Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 210 299-307 2019 SCI indexed 2.88
10. Kandoth Kandy Jesna, Malaichamy Ilanchelian Photophysical insights and in vitro cytotoxicity of dyes-gold nanostars system towards MCF-7 and A-549 cancer cells Dyes and Pigments 162 916-925 2019 SCI indexed 3.76
11. Ramar Rajamanikandan, Arumugam Selva Sharma, Malaichamy Ilanchelian New insights into the binding interaction of food protein ovalbumin with malachite green dye by hybrid spectroscopic and molecular docking analysis Journal of Biomolecular Structure and Dynamics 1-9 2019 SCI indexed 3.1
12. Ramar Rajamanikandan, Malaichamy Ilanchelian β -Cyclodextrin protected gold nanoparticle based cotton swabs as an effective candidate for specific sensing of trace levels of cyanide , Analytical Methods 11 97-104 2019 SCI indexed 1.26
13. Vasanthakumar Arumugam, Ramar Rajamanikandan, Malaichamy Ilanchelian, Kandasamy G Moodley, Gan G Redhi Elucidation of interactions of BSA with [EPMpyr]⁺[Cl]⁻ using spectroscopic techniques with reference to theoretical thermodynamic and molecular docking studies , Journal of Molecular

Liquids 273 634-644 2019 SCI indexed 4.5

14. Ramar Rajamanikandan, Malaichamy Ilanchelian Protein-Localized Bright-Red Fluorescent Gold Nanoclusters as Cyanide-Selective Colorimetric and Fluorometric Nanoprobes ACS Omega 3 14111-14118 2018 SCI indexed 2.58

15. Ramar Rajamanikandan, Malaichamy Ilanchelian Protein-protected red emissive copper nanoclusters as a fluorometric probe for highly sensitive biosensing of creatinine, Analytical Methods 29 3666-3674 2018 SCI indexed 2.07

16. Dhanya Rajan, Malaichamy Ilanchelian Exploring the interaction of Azure dyes with t-RNA by hybrid spectroscopic and computational approaches and its applications toward human lung cancer cell line International Journal of Biological Macromolecules 113 1052-1061 2018 SCI indexed 3.6

17. Arumugam Selva Sharma, Thangarasu SasiKumar, Malaichamy Ilanchelian [A Rapid and Sensitive Colorimetric Sensor for Detection of Silver Ions Based on the Non-aggregation of Gold Nanoparticles in the Presence of Ascorbic Acid](#) Journal of Cluster Science 2018 SCI indexed 1.3

17. Palanivelu Nithya, Ramar Rajamanikandan, Jim Simpson, Malaichamy Ilanchelian, Subbiah Govindarajan Solvent assisted synthesis, structural characterization and biological evaluation of cobalt(II) and nickel(II) complexes of Schiff bases generated from benzyl carbazate and cyclic ketones Polyhedron 145 200-217 2018 SCI indexed 2.1

18. Ramar Rajamanikandan, Malaichamy Ilanchelian Naked eye and optical biosensing of cysteine over the other amino acids using β -cyclodextrin decorated silver nanoparticles as a nanoprobe New Journal of Chemistry 42 9193-9198 2018 SCI indexed 3.2

19. Krishnamoorthy Shanmugaraj, Thangarasu Sasikumar, Malaichamy Ilanchelian [Histidine-Stabilized Copper Nanoclusters as a Fluorescent Probe for](#)

20. Ramar Rajamanikandan Malaichamy Ilanchelian β -cyclodextrin functionalised silver nanoparticles as a dual colorimetric probe for ultrasensitive detection of Hg²⁺ and S²⁻ ions in environmental water samples Materials Today communications 15 61-69 2018 SCI indexed 1.8

21. Perumal Manivel, Malaichamy Ilanchelian
Selective and Sensitive Colorimetric Detection of Hg²⁺ at Wide pH Range Using Green Synthesized Silver Nanoparticles as Probe Journal of Cluster Science 28 145-1162 2017 SCI indexed 1.3

22. Ramar Rajamanikandan, Krishnamoorthy Shanmugaraj, Malaichamy Ilanchelian
Concentration Dependent Catalytic Activity of Glutathione Coated Silver Nanoparticles for the Reduction of 4-Nitrophenol and Organic Dyes Journal of Cluster Science 28 1009-1023 2017 SCI indexed 1.3

23. Ramar Rajamanikandan, Malaichamy Ilanchelian Simple and visual approach for highly selective biosensing of vitamin B1 based on glutathione coated silver nanoparticles as a colorimetric probe Sensors and actuators B: Chemical 244 380-386 2017 5.6

24. Perumal Manivel, Manickam Paulpandi, Kadarkarai Murugan, Giovanni Benelli & Malaichamy Ilanchelian Probing the interaction of thionine with human serum albumin by multi spectroscopic studies and its in vitro cytotoxic activity toward MCF-7 breast cancer cells
Journal of Biomolecular Structure and Dynamics 35 3012-3031 2017 SCI indexed 3.17

25. Ramar Rajamanikandan, Malaichamy Ilanchelian Highly selective and sensitive biosensing of dopamine based on glutathione coated silver nanoclusters enhanced fluorescence New Journal of Chemistry

41 15244-15250 2017 SCI indexed 3.27

26. Krishnamoorthy Shanmugaraj,
Malaichamy
Ilanchelian

Visual and optical detection of hypochlorite in water samples based on etching of gold/silver alloy nanoparticles New Journal of Chemistry

41 14130-14136 2017 SCI indexed 3.27

27. Arul Murugesan, Robert Moonsamy Gengan, Ramar Rajamanikandan,
Malaichamy Ilanchelian and Chia-Her Lin

One-pot synthesis of Claisen-Schmidt reaction through (E)-chalcone derivatives: Spectral studies in human serum albumin protein binding and molecular docking investigation Synthetic Communications 47 1884-1904
2017 SCI indexed 1.37

28. Arul Murugesan, Robert Moonsamy Gengan, Ramar Rajamanikanda,
Malaichamy Ilanchelian

One-pot synthesis via 1, 3-dipolar cycloaddition reaction to piperazinyl-quinolinyl dispiro heterocyclic derivatives and spectrofluorometric and molecular docking studies on their binding with human serum albumin Journal of Molecular Structure

1149 439-451 2017 SCI indexed 2.0

29. Kandoth kandy Jesna, Malaichamy Ilanchelian

Photophysical changes of thionine dye with folic acid capped gold nanoparticles by spectroscopic approach and its in vitro cytotoxicity towards A-549 lung cancer cell Journal of Molecular liquids 242 1042-1051 2017 SCI indexed 4.5

30. Sasikumar Thangarasu, Malaichamy Ilanchelian

Colorimetric detection of hypochlorite based on the morphological changes of silver nanoprisms to spherical nanoparticles Analytical methods

9 3151-3158 2017 SCI indexed 2.07

31. Krishnamoorthy Shanmugaraj, Umadevi palanivel, L. Senthilkumar, Malaichamy Ilanchelian Elucidation of Binding Mechanism of Photodynamic Therapeutic Agent Toluidine Blue O with Chicken Egg White Lysozyme by Spectroscopic and Molecular Dynamics Studies Photochemistry and Photobiology 93 1043-1056 2017 SCI indexed 2.2
32. Krishnamoorthy Shanmugaraj, Malaichamy Ilanchelian
A "turn-off" fluorescent sensor for the selective and sensitive detection of copper (II) ions using lysozyme stabilized gold nanoclusters RSC Advances 6 54518-54524 2016 SCI indexed 2.93
33. Saravanan Thangavel, Ramar Rajamanikandan, Holger B. Friedrich, Malaichamy Ilanchelian, Bernard Omondi Binding interaction, conformational change, and molecular docking study of N-(pyridin-2-ylmethylene)aniline derivatives and carbazoleRu(II) complexes with human serum albumins Polyhedron 107 124-135 2016 SCI indexed 2.06
34. Palanivelu Nithya, Sannasi Helena, Jim Simpson, Malaichamy Ilanchelian, Aathi Muthusankar, Subbiah Govindarajan New cobalt(II) and nickel(II) complexes of benzyl carbazate Schiff bases: Syntheses, crystal structures, in vitro DNA and HSA binding studies
Journal of photochemistry and photobiology. B, Biology 165 220-231 2016 3.16
35. Arumugam Selva Sharma, Nandhitha Subramanian, Malaichamy Ilanchelian
New insights into the dimerization and site-specific cooperative interaction of Azure B with model transport proteins by spectroscopic and computational studies Journal of photochemistry and photobiology. B, Biology, 164 212-225 2016 SCI indexed 3.16
36. K. Shanmugaraj and M. Ilanchelian Colorimetric determination of sulfide using chitosan capped silver nanoparticles Microchimica Acta 183 1721-1728 2016 SCI

indexed 5.7

37. Manivel P, Anandakumar S, Ilanchelian M [Exploring the interaction of the photodynamic therapeutic agent thionine with bovine serum albumin: multispectroscopic and molecular docking studies](#) Luminescence 2015 SCI indexed 1.67

38. Arumugam Selva Sharma and Malaichamy Ilanchelian Comprehensive Multispectroscopic Analysis on the Interaction and Corona Formation of Human Serum Albumin with Gold/Silver Alloy Nanoparticles The Journal of Physical Chemistry 119 9461–9476 2015 SCI indexed 4.48

39. Shanmugaraj K, Anandakumar S, Ilanchelian M Probing the binding interaction of thionine with lysozyme: A spectroscopic and molecular docking investigation Dyes Pigm 112 210-219. 2015 SCI indexed 3.76

40. Shanmugaraj K, Anandakumar S, Ilanchelian M Unraveling the binding interaction of Toluidine blue O with bovine hemoglobin – a multi spectroscopic and molecular modeling approach RSC Adv., 5 3930-3940 2015 SCI indexed 2.93

41. Shanmugaraj K, Anandakumar S, M Ilanchelian Exploring the biophysical aspects and binding mechanism of thionine with bovine hemoglobin by optical spectroscopic and molecular docking methods , Journal of Photochemistry and Photobiology B: Biology 131 43-2 2014 SCI indexed 3.1

42. Selva Sharma A, Anandakumar S, Ilanchelian M A combined spectroscopic and molecular docking study on site selective binding interaction of Toluidine blue O with Human and Bovine serum albumins, Journal of Luminescence 151 206-18 2014 SCI indexed 2.1

43. K. Shanmugaraj, S. Anandakumar and M. Ilanchelian Exploring the biophysical aspects and binding mechanism of thionine with bovine hemoglobin by optical spectroscopic and molecular docking methods, J. Photochem. Photobiol., B: Biol 131 43 2014 SCI indexed
44. Selva Sharma, S. Anandakumar and M. Ilanchelian
In vitro investigation on domain specific interactions of phenothiazine dye with serum proteins by spectroscopic and molecular docking approaches
RSC Adv 4 36267 2014 SCI indexed
45. Selva Sharma and M. Ilanchelian Elucidation of photophysical changes and orientation of acridine orange dye on the surface of bare gold nanoparticles by multi spectroscopic techniques
J. Photochemical and Photobiological Sciences 13 1741 2014 SCI indexed
46. Ilanchelian M, Ramaraj R Binding interactions of Toluidine Blue O with Escherichia coli DNA: formation of bridged structure
Journal of fluorescence 21 1439-53 2011 SCI indexed 1.7
47. J. Jebaramy, M. Ilanchelian and S. Prabakar Spectral Studies of Toluidine Blue O in the presence of Sodium Dodecyl Sulfate
Digest Journal of Nanomaterials and Biostructures 4 789 2009 SCI indexed
48. M. Ilanchelian, and R. Ramaraj Emission of Thioflavin T and its control in the presence of DNA
J. Photochem. Photobiol. A: Chem., 162 129 2004 SCI indexed
49. M. Ilanchelian, J. Premkumar and R. Ramaraj Photoreduction of Nitrite to Ammonia by Metal Phthalocyanines Adsorbed Nafion Membrane
Current Science 83 628 2002 SCI indexed

50. M. Ilanchelian, C. Retna Raj and R. Ramaraj Spectral studies on the Cyclodextrin Inclusion Complexes of Toluidine Blue O and Meldola's Blue in Aqueous Solution

J. Inclusion Phenomena 36 9 2000 SCI indexed

National Publications - Reverse Chronological Order

Patent Info

Conference Info

Books & Chapters Related Info

Database Related Info

Alumini Reflections: