Department of Chemistry

List of publications (2016-2024)

2016

1. Sundarakannan, B., and M. Kottaisamy. "Sol–gel derived flux assisted synthesis of fine particles YAG: Ce3+ phosphor for remote phosphor converted white light emitting diodes." *Materials Research Bulletin* 74 (2016): 485-490.

2. Sundarakannan, B., and M. Kottaisamy. "Synthesis of blue light excitable white light emitting ZnO for luminescent converted light emitting diodes (LUCOLEDs)." *Materials Letters* 165 (2016): 153-155.

3. Lingadurai, K., B. Sundarakannan, E. R. Nagarajan, H. Kominami, Y. Nakanishi, and M. Kottaisamy. "Low voltage cathode-luminescent properties of Zn co-doped Y2O3: Eu red phosphor." *Journal of Luminescence* 177 (2016): 249-253.

4. Kumar, S. Vinodh, M. Manivel Raja, R. Senthur Pandi, R. Kodi Pandyan, and M. Mahendran. "Surface and magnetic characteristics of Ni-Mn-Ga/Si (100) thin film." In *AIP Conference Proceedings*, vol. 1731, no. 1. AIP Publishing, 2016.

5. Deepak Ram Prasath, S., S. Balaji, S. Raju, and V. Abhaikumar. "Synthesis and characterization of zinc substituted nickel ferrite materials for L band antenna applications." *Journal of Materials Science: Materials in Electronics* 27 (2016): 8247-8253.

6. Mani Chandran, T., and S. Balaji. "Sputtering Deposition of Sn–Mo-Based Composite Anode for Thin-Film Li-Ion Batteries." *Journal of Electronic Materials* 45 (2016): 3220-3226.

7. Balaji, S., M. Ananda Kumar, T. Manichandran, and D. Mutharasu. "Electrodeposited three dimensional tin nano wire anode for thin film Li-ion micro batteries." *Russian Journal of Electrochemistry* 52 (2016): 226-232.

2017

1. Vasanthi, V., M. Kottaisamy, K. Anitha, and V. Ramakrishnan. "Near UV excitable yellow light emitting Zn doped MgO for WLED application." *Superlattices and Microstructures* 106 (2017): 174-183.

2. Vasanthi, V., M. Kottaisamy, and V. Ramakrishnan. "Green light emitting Zn doped β-Ga2O3 nanophosphor." In *AIP Conference Proceedings*, vol. 1832, no. 1. AIP Publishing, 2017.

3. Arsath Risvi, A,. K. Sudalaimani, M. Kottaisamy. “Experimental study on mechanical performance of Rice Husk Ash derived Nano silica with the addition of S-Glass Fibres in Concrete.” *International Research Journal of Engineering and Technology (IRJET)* e-ISSN: 2395 -0056 ,Volume: 04 Issue: 04 | Apr -2017.

4. Sunnapu, Omprakash, Niranjan G. Kotla, Balaji Maddiboyina, Gyati Shilakari Asthana, Jeyabalan Shanmugapriya, Karuppannan Sekar, Subramanian Singaravadivel, and Gandhi Sivaraman. "Rhodamine based effective chemosensor for Chromium (III) and their application in live cell imaging." *Sensors and Actuators B: Chemical* 246 (2017): 761-768.

5. Sunnapu, Omprakash, Niranjan G. Kotla, Balaji Maddiboyina, Srujan Marepally, Jeyabalan Shanmugapriya, Karuppannan Sekar, Subramanian Singaravadivel, and Gandhi Sivaraman. "Rhodamine-based fluorescent turn-on probe for facile sensing and imaging of ATP in mitochondria." *ChemistrySelect* 2, no. 25 (2017): 7654-7658.

6. Sathish, Veerasamy, Arumugam Ramdass, Murugesan Velayudham, Kuang-Lieh Lu, Pounraj Thanasekaran, and Seenivasan Rajagopal. "Development of luminescent sensors based on transition metal complexes for the detection of nitroexplosives." *Dalton Transactions* 46, no. 48 (2017): 16738-16769.

7. Rekha, B., S. Seenithurai, R. Kodi Pandyan, S. Vinodh Kumar, and Mahendran Manickam. "High capacity hydrogen storage in li decorated octagraphene-a first principles study." *Nano hybrids and Composites* 17 (2017): 131-139.

2018

1. Sivasankar, G., T. Sundarapandy, and M. Kottaisamy. "Development of nano-composite coating for silicon solar cell efficiency improvement." *Materials Today: Proceedings* 5, no. 1 (2018): 1759-1765.

2. Rajasekar, A., K. Arunachalam, and M. Kottaisamy. "Durability of ultra high strength concrete with Waste Granite Sand as partial substitute for aggregate." *Journal of Computational and Theoretical Nanoscience* 15, no. 2 (2018): 446-452.

3. Mohan, Brindha VG, V. Vasu, A. Robson Benjamin, and M. Kottaisamy. "Luminescent solar concentrators–the solar waveguides." *Current Science* (2018): 1656-1664.

4. Rajasekar, Arunachalam, K. Arunachalam, M. Kottaisamy, and V. Saraswathy. "Durability characteristics of Ultra High Strength Concrete with treated sugarcane bagasse ash." *Construction and Building Materials* 171 (2018): 350-356.

5. Sundarakannan, B., and M. Kottaisamy. "ZnO: Al–a yellowish orange emitting phosphor for blue light-converted white light emitting diode (WLEDs)." *Ceramics International* 44, no. 12 (2018): 14518-14522.

6. Vasanthi, V., M. Kottaisamy, K. Anitha, and V. Ramakrishnan. "Yellow emitting Cd doped SnO2 nanophosphor for phosphor converted white LED applications." *Materials Science in Semiconductor Processing* 85 (2018): 141-149.

7. Vasanthi, Venkidusamy, Muniasamy Kottaisamy, and Veerabahu Ramakrishnan. "Yellow and warm white light emitting Zn doped Y 2 O 3 for near UV excitable phosphor converted WLED." *Journal of Materials Science: Materials in Electronics* 29 (2018): 19724-19731.

8. Ramdass, Arumugam, Veerasamy Sathish, Murugesan Velayudham, Pounraj Thanasekaran, and Seenivasan Rajagopal. "Phosphorescence “Turn-On” Sensing of Anions by Rhenium (I) Schiff-Base Complexes." *ChemistrySelect* 3, no. 8 (2018): 2277-2285.

9. Sunija, A. J., and S. Siva Ilango. "Synthetic Approach for Polyurethane from Renewable Materials (Cashew Nut Husk Tannin)." In *Biopolymers and Biomaterials*, pp. 91-106. Apple Academic Press, 2018.

10. Shanmugapriya, Jeyabalan, Subramanian Singaravadivel, Gandhi Sivaraman, and Duraisamy Chellappa. "Anthracene-based highly selective and sensitive fluorescent “turn-on” chemodosimeter for Hg2+." *ACS omega* 3, no. 10 (2018): 12341.

11. Vandarkuzhali, Somasundaram Anbu Anjugam, Sampathkumar Natarajan, Shanmugapriya Jeyabalan, Gandhi Sivaraman, Subramanian Singaravadivel, Shanmugam Muthusubramanian, and Balasubramanian Viswanathan. "Pineapple peel-derived carbon dots: applications as sensor, molecular keypad lock, and memory device." *ACS omega* 3, no. 10 (2018): 12584-12592.

12. Thirumoolam, Mani Chandran, Ananda Kumar Manikandan, Balaji Sivaramakrishnan, Hariharan Kaluvan, and Mohan Rao Gowravaram. "An Investigation of Facile One-Pot Synthesis of Li 2 FeSiO 4/C Composite for Li Ion Batteries." *Journal of Electronic Materials* 47 (2018): 1952-1961.

13. Gokulnath, C., S. Balaji, S. Deepak Ram Prasath, S. Raju, and V. Abhaikumar. "An investigation of BaLaxFe12− xO19 magneto dielectric material to develop miniaturized antenna for navigational applications." *Materials Research Express* 5, no. 7 (2018): 076103.

2019

1. Rajasekar, A., K. Arunachalam, and M. Kottaisamy. "Assessment of strength and durability characteristics of copper slag incorporated ultra high strength concrete." *Journal of Cleaner Production* 208 (2019): 402-414.

2. Vasanthi, V., M. Kottaisamy, and V. Ramakrishnan. "Near UV excitable warm white light emitting Zn doped γ-Ga2O3 nanoparticles for phosphor-converted white light emitting diode." *Ceramics International* 45, no. 2 (2019): 2079-2087.

3. Sathish, Veerasamy, Mani Murali Krishnan, Murugesan Velayudham, Pounraj Thanasekaran, Kuang-Lieh Lu, and Seenivasan Rajagopal. "Host-guest interaction studies of polycyclic aromatic hydrocarbons (PAHs) in alkoxy bridged binuclear rhenium (I) complexes." *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 222 (2019): 117160.

4. Balamurali, M., N. Jawahar, S. Balaji, and T. Manichandran. "Realization of effective laser blanking process by heat zone spread resistance coating and optimization methods." *Materials Research Express* 6, no. 4 (2019): 046416.

5. Jude, A., S. Balaji, S. Deepak Ram Prasath, S. Raju, and V. Abhaikumar. "Miniaturization of long-term evolution antenna fostered by NiMnxFe2− xO4 nano composite coating." *Materials Research Express* 6, no. 9 (2019): 096307.

2020

1. Mohan, Brindha VG, Kottaisamy Muniasamy, Smagul Karaznov, A. Robson Benjamin, and Vasu Veerapandy. "Enhancement of power conversion efficiency of an angular luminescent solar concentrator employing a silica reinforced PMMA: CASN: Eu2+ composite." *Materials Today: Proceedings* 33 (2020): 2503-2511.

2. Mydeen, S. Sheik, R. Raj Kumar, M. Kottaisamy, and V. S. Vasantha. "Biosynthesis of ZnO nanoparticles through extract from Prosopis juliflora plant leaf: Antibacterial activities and a new approach by rust-induced photocatalysis." *Journal of Saudi Chemical Society* 24, no. 5 (2020): 393-406.

3. Mohan, Brindha VG, Jeyanthinath Mayandi, Joshua M. Pearce, and Vasu Veerapandy. "Demonstration of a simple encapsulation technique for prototype silicon solar cells." *Materials Letters* 274 (2020): 128028.

4. Rajagopal, Saravanakumar, Balakrishnan Paramasivam, and Kottaisamy Muniyasamy. "Photocatalytic removal of cationic and anionic dyes in the textile wastewater by H2O2 assisted TiO2 and micro-cellulose composites." *Separation and Purification Technology* 252 (2020): 117444.

5. Mydeen, S. Sheik, R. Raj Kumar, S. Sambathkumar, M. Kottaisamy, and V. S. Vasantha. "Facile synthesis of ZnO/AC nanocomposites using prosopis Juliflora for enhanced photocatalytic degradation of methylene blue and antibacterial activity." *Optik* 224 (2020): 165426.

6. Mydeen, S. Sheik, R. Raj Kumar, R. Sivakumar, S. Sambathkumar, M. Kottaisamy, and V. S. Vasantha. "Graphene quantum dots/ZnO nanocomposite: Synthesis, characterization, mechanistic investigations of photocatalytic and antibacterial activities." *Chemical Physics Letters* 761 (2020): 138009.

7. Sampath, Sugirdha, Murugan Vadivelu, Radhika Ravindran, Paramasivan T. Perumal, Veerapandian Velkannan, and Kesavan Karthikeyan. "Synthesis of 1, 2, 3-Triazole tethered 3-Hydroxy-2-oxindoles: Promising corrosion inhibitors for steel in acidic medium and their anti-microbial evaluation." *ChemistrySelect* 5, no. 7 (2020): 2130-2134..

8. Viswanathan, Gopalan, Pandian Bothi Raja, Krishnan Thirumoorthy, Ramanikanthan Deepa, and S. Siva Ilango. "Pathways of factors exacerbating dental fluorosis risk at high altitude regions—A review." *Environmental Technology & Innovation* 20 (2020): 101115.

9. Lu, Chung-Hsin, Pranav Kulkarni, S. Balaji, and P. Senthil Kumar. "Exploration of electrochemical and lithium transport properties of BaNb3. 6O10 as an anode material for lithium-ion batteries." *Journal of Alloys and Compounds* 830 (2020): 154306.

10. Lu, Chung-Hsin, T. Subburaj, Hong-Ting Chiou, Sudipta Som, Chang Ying Ou, P. Senthil Kumar, and S. Balaji. "Facile sol-gel synthesis of LiMn 0.5 Fe 0.5 PO 4 cathode materials fostered by bio-derived natural agar." *Ionics* 26 (2020): 1051-1056.

11. Kamatchi, Pravinkumar, Balaji Sivaramakrishnan, Mani Chandran Thirumoolam, and Anandakumar Manikandan. "Oxygen reduction reaction of manganese oxide/graphene oxide nanocomposite." *Indian Journal of Chemistry-Section A (IJCA)* 55, no. 2 (2020): 177-181.

2021

1. Sundarakannan, B., and M. Kottaisamy. "Synthesis and characterization of near UV excitable Y2O2S: Eu3+ entrapped ZnO for white light emitting diode applications." *Journal of Solid State Chemistry* 293 (2021): 121739.

2. Mohan, Brindha VG, Jeyanthinath Mayandi, Kottaisamy Muniasamy, and Vasu Veerapandy. "Assessment of the design efficacy of Eu2+ ion embedded thick scattering layers for operational photovoltaics." *Applied Surface Science Advances* 4 (2021): 100067.

3. Ponnada, Srikanth, Maryam Sadat Kiai, Demudu Babu Gorle, Saravanakumar Rajagopal, Swetha Andra, Annapurna Nowduri, and Kottaisamy Muniasamy. "Insight into lithium–sulfur batteries with novel modified separators: Recent progress and perspectives." *Energy & Fuels* 35, no. 14 (2021): 11089-11117.

4. Kalyani, P., T. R. Banuprabha, and V. Velkannan. "Activated carbon from banyan prop root biomass and its application in pseudocapacitors: a strategy towards circular economy for energy." *Ionics* 27 (2021): 1357-1368.

5. Lu, Chung-Hsin, Kuo-Chen Li, S. Balaji, and P. Senthil Kumar. "Agar-assisted sol-gel synthesis and electrochemical characterization of TiNb2O7 anode materials for lithium-ion batteries." *Ceramics International* 47, no. 13 (2021): 18619-18624.

2022

1. Sundarakannan, B., and M. Kottaisamy. "Blue light excitable red emitting ZnO and its blend for high CRI white light emitting diodes applications." *Journal of Luminescence* 241 (2022): 118447.

2. Mohan, Brindha VG, Shobhana V. Gnanapanditha Mohan, Kottaisamy Muniasamy, Jeyanthinath Mayandi, and Vasu Veerapandy. "Influence of polymer initiators in light guiding in a cyanobacterium incorporated (poly)-methyl methacrylate matrix." *Materials Letters* 314 (2022): 131845.

3. Devimeenakshi, S., M. Anandhi, V. Velkannan, and G. Balaji. "Effect of green tea in artificial saliva on the corrosion resistance behaviour of stainless steel." *Materials Today: Proceedings* 52 (2022): 577-581.

4. Kavipriya, Karunaivel, Maria Lurdu Lavanya, Kuppusamy Bhuvaneswari, Veerapandian Velkannan, Nilavan Anitha, Susai Rajendran, and Caslav Lacnjevac. "Influence of a paint coating on the corrosion of hull plates made of mild steel in natural seawater." *Materials Protection* 63, no. 3 (2022): 353-363.

5. Anitha, Nilavan, Nellainayagam Narendran, Veerapandian Velkannan, Shree Balu Nithiya, Gurmeet Singh, Hashem Abdulhameed Al, Susai Rajendran, and Časlav Lačnjevac. "Corrosion resistance of orthodontic wire made of nickel-titanium alloy in artificial saliva in the presence of Kopiko candy." *Zastita Materijala* 63, no. 4 (2022): 430-436.

6. Anitha, Nilavan, Venkatachalam Prathipa, Veerapandian Velkannan, Balu Nithiya Shree, Gurmeet Singh, Hashem Abdulhameed Al, Susai Rajendran, and Časlav Lačnjevac. "Corrosion resistance of SS 18/8 alloy and Gold 22 K alloy in artificial sweat in the presence of D-Glucose." *Zastita Materijala* 63, no. 4 (2022): 418-429.

7. Vigneswari, Krishnasamy, Karunaivel Kavipriya, Brintha Arockiasamy Santhiya, Veerapandian Velkannan, Gurmeet Singh, Hashem Abdulhameed Al, Anitha Nilavan, Susai Rajendran, and Časlav Lačnjevac. "Influence of thiourea on the corrosion resistance of mild steel immersed in simulated concrete pore solution." *Zastita Materijala* 63, no. 4 (2022): 447-453.

8. Velayudham, Murugesan, Arumugam Ramdass, Veerasamy Sathish, and Seenivasan Rajagopal. "Structural behavior of rhenium complexes in fluoride sensing: a spectroscopic and computational study." *Structural Chemistry* 33, no. 4 (2022): 1041-1053.

9. Sarathkumar, R., Pavankumar Naini, R. Kodi Pandyan, and L. Amalraj. "Structural, Optical and Electrical Properties of Nebulizer Spray-Deposited Tin Disulphide Thin Films with Different Substrate Temperatures." *International Journal of Vehicle Structures & Systems (IJVSS)* 14, no. 3 (2022).

10. Viswanathan, Gopalan, C. Manivannan, Pandian Bothi Raja, S. Siva Ilango, R. Deepa, K. Meenakshi Sundaram, and K. M. Saravanan. "Impact of ground water and tea on daily fluoride intake in Nalgonda district, Telangana, India." (2022): 2886-2909.

11. Viswanathan, Gopalan, Pandian Bothi Raja, Krishnan Thirumoorthy, Ramanikanthan Deepa, and S. Siva Ilango. "Pathways of factors exacerbating dental fluorosis risk at high altitude regions—A review." *Environmental Technology & Innovation* 20 (2020): 101115.

12. Kedia, Moon, Bhaskaran Shankar, and Malaichamy Sathiyendiran. "Rhenium (I)-based neutral coordination cages with a spherical cavity for selective recognition of fluoride." *Inorganic Chemistry* 61, no. 37 (2022): 14506-14510.

13. Bhol, Mamina, Bhaskaran Shankar, and Malaichamy Sathiyendiran. "Rhenium (I)-based heteroleptic pentagonal toroid-shaped metallocavitands: self-assembly and molecular recognition studies." *Inorganic Chemistry* 61, no. 29 (2022): 11497-11508.

14. Phukon, Upasana, Bhaskaran Shankar, and Malaichamy Sathiyendiran. "Self-assembly of a new class of rhenium (I)-based double stranded dinuclear monohelicates with their photophysical and electrochemical studies." *Dalton Transactions* 51, no. 42 (2022): 16307-16315.

15. Saritha, Rajendhiran, Sesuraj Babiola Annes, Karuppaiah Perumal, Bhaskaran Shankar, and Subburethinam Ramesh. "Dimethyl Sulfoxide-Assisted, Iodine-and Ascorbic Acid-Catalyzed One-Pot Synthetic Approach for Constructing Highly Substituted Pyrazolo [1, 5-a] quinoline Thioether Derivatives." *The Journal of Organic Chemistry* 87, no. 21 (2022): 13856-13872.

16. Ananthan Karthick, Kettalu, Bhaskaran Shankar, Manikka Kubendran Aravind, Balasubramaniem Ashokkumar, and Arunachalam Tamilselvi. "Small-Molecule

Fluorescent Probe: Ratiometric and Selective Detection of Sodium Ions for Imaging and Solid-State Sensing Applications." *ChemistrySelect* 7, no. 45 (2022): e202203235.

17. Karthick, Kettalu Ananthan, Kalairajan Kaleeswari, C. Uma Maheswari, Gandhi Sivaraman, Bhaskaran Shankar, and Arunachalam Tamilselvi. "Novel pyridoxal based molecular sensor for selective turn–on fluorescent switching functionality towards Zn (II) in live cells." *Journal of Photochemistry and Photobiology A: Chemistry* 428 (2022): 113861.

18. Ethiraj, Jayashree, Ranjith Sekar, Bhaskaran Shankar, Moola Joghee Nanjan, R. K. Sankaranarayanan, and Khanh B. Vu. "Structural investigations of halogen substituted 1, 4-dihydropyridine derivatives: Crystallographic and computational studies." *Journal of Molecular Structure* 1251 (2022): 132008.

19. Krishnaveni, Arjunan, Nilavan Anitha, Veerapandian Velkannan, Duraisamy Sarmina, Thangaiyan Shanthi, Gurmeet Singh, Hashem Abdulhameed Al, Susai Rajendran, and Časlav Lačnjevac. "Inhibition of corrosion of L 80 alloy pipeline carrying simulated oil well water by succinic acid." *Zastita Materijala* 63, no. 4 (2022): 454-462.

20. Lu, Chung-Hsin, Chih-Ping Tan, P. Senthil Kumar, and S. Balaji. "Urea and PVP assisted modified hydrothermal synthesis of spherical LiNi0. 4Co0. 2Mn0. 4O2 cathode materials for battery application." *Journal of Alloys and Compounds* 890 (2022): 161894.

2023

1. Anitha, N., V. Velkannan, K. Kavipriya, K. Bhuvaneswari, M. Lavanya, Gurmeet Singh, Abdulhameed Al-Hashem, S. Rajendran, and C. Lacnjevac. "Electrochemical investigation of the influence of a durable exterior emulsion coating on the corrosion resistance of mild steel in simulated concrete pore solution." *Int. J. Corros. Scale Inhib* 12, no. 2 (2023): 696-707.

2. Chandran, Vignesh, Chockalingam Kunjan, Velkannan Veerapandian, and Ramesh Kannan. "Mechanical, corrosion and biological behavior of centrifugal casting processed Mg–2Zn–1Mn alloy reinforced with β Tricalciumphosphate (βTCP) for orthopaedic applications." *Journal of the Mechanical Behavior of Biomedical Materials* 144 (2023): 105983.

3. Anitha, N., A. Uma Maheswari, L. Ilakiya, J. Arun Joency, K. Bhuvaneswari, G. Gomathi, M. Lavanya et al. "Corrosion resistance of orthodontic wire made of Gold 18K alloy in artificial saliva in the presence of Éclairs milky candy." *Int. J. Corros. Scale Inhib* 12, no. 2 (2023): 664-678.

4. Murugesh, Pushpa, Veerapandian Velkannan, Gurmeet Singh, Hashem Abdulhameed Al, Susai Rajendran, and Arjunan Krishnaveni. "Corrosion resistance of mild steel immersed

in simulated concrete pore solution in the presence of sodium potassium tartrate." *Zastita Materijala* 64, no. 2 (2023): 170-176.

5. Manisha, H., M. Velayudham, B. N. Kumara, M. H. Naveen, Yoon-Bo Shim, and K. Sudhakara Prasad. "Revelation of fluorophore impurities among biocompatible blue fluorescent carbon nanodots derived from Hemigraphis alternata plant and bioimaging." *Carbon Letters* 33, no. 3 (2023): 931-946.

6. Lu, Zong-Zhan, Pounraj Thanasekaran, Chia-Yuan Huang, Jing-Yun Wu, Tzu-Ting Chang, Wen-Shan Li, Murugesan Velayudham, and Kuang-Lieh Lu. "A neutral rhenium–biimidazole complex for the selective recognition of fluoride ions." *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 301 (2023): 122956.

7. Karthick, Kettalu Ananthan, Bhaskaran Shankar, Santhalingam Gayathri, Manikka Kubendran Aravind, Balasubramaniem Ashokkumar, and Arunachalam Tamilselvi. "Dual responsive pyridoxal-AHMT based fluorescent sensor towards zinc (ii) and mercury (ii) ions and its bioimaging application." *New Journal of Chemistry* 47, no. 19 (2023): 9427-9439.

8. Bhol, Mamina, Reema L. Borkar, Bhaskaran Shankar, Saroj Kumar Panda, Mariusz Wolff, and Malaichamy Sathiyendiran. "Self-Assembly of Rhenium (I) Double-Stranded Helicate and Mesocate from Flexible Ditopic Benzimidazolyl/Naphthanoimidazolyl N-Donor and Rigid Bis-Chelating Hydroxyphenylbenzimidazolyl N∩ OH-Donor Ligands: Synthesis, Characterization, and Photophysical and B-DNA Docking Studies." *Inorganic Chemistry* 62, no. 29 (2023): 11554-11569.

9. Annes, Sesuraj Babiola, Karuppaiah Perumal, Kalaiselvan Anandhakumar, Bhaskaran Shankar, and Subburethinam Ramesh. "Transition-Metal-Free Dehydrogenation of Benzyl Alcohol for C–C and C–N Bond Formation for the Synthesis of Pyrazolo [3, 4-b] pyridine and Pyrazoline Derivatives." *The Journal of Organic Chemistry* 88, no. 9 (2023): 6039-6057.

10. Vadivelu, Murugan, Abbasriyaludeen Abdul Raheem, Bhaskaran Shankar, Kesavan Karthikeyan, and Chandrasekar Praveen. "Synthesis and Optoelectronic Features of Rhodamine-Triazole Dyads as Metallochromic Probes for Copper-Selective Chemosensing." *Chemistry–An Asian Journal* 18, no. 7 (2023): e202300098.

11. Chandrasekaran, Sharmila, Elangovan Arumugam, Shanmugam Ramasamy, Chelladurai Karuppiah, Shankar Bhaskaran, Chun-Chen Yang, Dhanam Nallapandi, and Kalimuthu Palanisamy. "Exploring the new electrocatalyst based on pyrochlore manganese phosphate/graphene composite for hydrogen evolution and oxygen evolution reaction: An

experimental and computational study." *International Journal of Hydrogen Energy* 48, no. 28 (2023): 10423-10437.

12. Rajakannu, Palanisamy, and Bhaskaran Shankar. "Synthesis, characterization and photo-physical studies of naphthalamide-based Ir (III) complexes." *Journal of Organometallic Chemistry* 1002 (2023): 122908.

13. Phukon, Upasana, Moon Kedia, Bhaskaran Shankar, and Malaichamy Sathiyendiran. "Rhenium–Pyrazolyl-Based Figure-Eight-and Z-Shaped Metallocycles: Self-Assembly, Solid-State Structures, Dynamic Properties in Solution, and Competitive Ligand-Induced Supramolecular Transformations into Rhenium-Pyridyl/-Benzimidazolyl/-Phosphine-Based Metallocycles/Acyclic Complexes." *ACS omega* 8, no. 44 (2023): 41773-41784.

14. Raheem, Abbasriyaludeen Abdul, Saravanaperumal Kanagasundaram, Palanichamy Murugan, Bhaskaran Shankar, and Chandrasekar Praveen. "π-Bridge Extension and Additive-Influenced Panchromaticity: A Synergetic Ploy for Augmenting Photovoltaic Characteristics of π-Distorted Chromophores." *ACS Applied Energy Materials* 6, no. 4 (2023): 2296-2310.

15. Kedia, Moon, Sajmina Khatun, Upasana Phukon, Bhaskaran Shankar, Aravind Kumar Rengan, and Malaichamy Sathiyendiran. "Trinuclear rhenium (i)-based metallocages as anticancer agents towards human cervical cancer cells." *Dalton Transactions* 52, no. 40 (2023): 14314-14318.

16. *Mishra, Isha, Bhaskaran Shankar, and Malaichamy Sathiyendiran. "Fluorine-Assisted Self-Assembly Approach for Tubular Architecture of Cyclic Trinuclear Rhenium (I)-Fluorothiabendazolate Complex." Crystal Growth & Design 23, no. 12 (2023): 9103-9110.*

17. Kumar, A., K. Esakkimuthu, S. Sudha Kumari, and KP Vinod Kumar. "Influence of residential and industrial discharges on physical and chemical parameters of Valliyaru River, Kanyakumari District, Tamil Nadu, India." *Int J Res Anal Rev* 4 (2017): 708-722.

2024

1. Chellakannu, Arunbalaji, Ramki Karuppathevan, Kottaisamy Muniasamy, and Vasantha Vairathevar Sivasamy. "Synthesis and characterization of Mn-doped g-C3N4/ZnO nanocomposite for photocatalytic degradation and antibacterial activity applications." *Journal of Molecular Structure* 1314 (2024): 138708.

2. Saravanakumar, Rajagopal, Ezhaveni Sathiyamoorthi, Subramanium Rajkumar, Jintae Lee, and Muniasamy Kottaisamy. "Synergistic effect of adsorption and photo-catalysis on the removal of hazardous dyes using steam exploded banana fiber derived micro-cellulose." *International Journal of Biological Macromolecules* 258 (2024): 128970.

3. Borkar, Reema L., Mamina Bhol, Bhaskaran Shankar, Johannes Karges, and Malaichamy Sathiyendiran. "Solvent-Directed Rhenium (I) Metallocyclic Tubes, Dimeric Capsule, and Intercalated Dimers." *Crystal Growth & Design* 24, no. 5 (2024): 1987-1999.

4. Baskaran, Sarikalakshmi, Keerthana Thangaraj, Vengadeshwaran Palanichamy, Bhaskaran Shankar, and Palanisamy Rajakannu. "Effect of substituents in tuning the inter-and intra-molecular interactions in the dinuclear Pt (II) complexes." *Journal of Molecular Structure* 1296 (2024): 136900.

5. Kedia, Moon, Virender Singh, Bhaskaran Shankar, and Malaichamy Sathiyendiran. "Phosphine oxide donor-based dinuclear rhenium (I) metallocycles." *Journal of Organometallic Chemistry* 1004 (2024): 122937.

6. Hemamalini, Vijayakumar, Markabandhu Shanthi, Bhaskaran Shankar, Rambabu Dandela, Karuppaiah Perumal, and Subburethinam Ramesh. "Visible-light promoted the oxidative annulation of 2-naphthols with phenyl glyoxal monohydrates toward hydroxy-naphthofuranone and its derivation." *Organic & Biomolecular Chemistry* (2024).

7. Mishra, Isha, Reema L. Borkar, Bhaskaran Shankar, and Malaichamy Sathiyendiran. "Flexible rhenium metallocages: Self-assembly, solid-state structures, and solution dynamics." *Journal of Organometallic Chemistry* 1014 (2024): 123199.

8. Ethiraj, Jayashree, Bhaskaran Shankar, Alagarsamy Santhana Krishna Kumar, Sekar Ranjith, Chandru Annamalai, Ganeshraja Ayyakannu Sundaram, Sridhar Palla, and Khanh B. Vu. "Unraveling the structural features of a contemporary 1, 4-dihydropyridine derivative through crystallographic and computational study." *Journal of Molecular Structure* 1308 (2024): 138057.

9. Bayya, Shruthi, Reema L. Borkar, Isha Mishra, Bhaskaran Shankar, Maruthupandiyan Priyatharsini, and Malaichamy Sathiyendiran. "fac-[M (CO) 3](M= Mn or Re)-based capped metallacalix [3] arenes." *Journal of Organometallic Chemistry* 1015 (2024): 123238.

10. Sivakumar, Radhakrishnan, Kiseong Park, Jesty Thomas, Seok Min Yoon, and Minjoong Yoon. "Solar catalytic CO2 reduction over POM-entrapped zeolites decorated with TiO2 nanocomposites in water: Highly efficient and selective production of CH3OH via Z-scheme charge separation." *Journal of Environmental Chemical Engineering* 12, no. 2 (2024): 112052.

11. Sivakumar, Radhakrishnan, Rajamohan Satheesh, Arumugam Manivel, David Contreras, and Manidurai Paulraj. "Synthesis and Photophysical Properties of Bipolar Compound: Triphenylamine/Diazafluorene-Carbazole." *Journal of Fluorescence* (2024): 1-12.

12. S.Devimeenakshi, V.Velkannan, G.Priyadharshini, R.Santhiya and S.Chitra Devi. “Flexible Eco-Friendly Corrosion Analysis By Vegetable- Fruit Extracts On Nickel-Titanium Orthodontic Wire.” *Journal of Emerging Technologies and Innovative Research (JETIR)*, 11, (2024):289-294.

13. S.Devimeenakshi, V.Velkannan, A.Kavitha, S.Gayathri, A.Ashajenifer A study of herbal medicine on the corrosion resistance of Orthodontic wire of stainless steel in presence of artificial saliva, *Journal of Emerging Technologies and Innovative Research (JETIR) 2024*, 11, (2024):760-765.

14. Kumar, P. Ram, S. Alwin, and M. Baby Mariyatra. "Perovskite-structured ceramic zinc titanate nanomaterials: a comparative study of photovoltaic and synthetic approaches." *Ceramics International* (2024).

15. Roji, M. Ani Melfa, P. Ram Kumar, G. Jiji, and T. Ajith Bosco Raj. "Experimental and simulation studies on dye-sensitized solar energy conversion using plasmonic ZnSnO3/Ag photoanodes functionalized with biomolecules." *Biomass Conversion and Biorefinery* (2024): 1-19.

16. Prabula, S. S., C. Hentry, Saleh Al-Farraj, P. Ram Kumar, Mika Sillanpää, and M. Aravind. "Activity of Bambusa vulgaris extract in reducing silver nanoparticles: evaluation against methylene blue organic pollutant and microbial agents." *Discover Applied Sciences* 6, no. 4 (2024): 142.

17. P Ram Kumar, M. Pershaanaa, Murugavel Kathiresan, K. Ramesh, S. Ramesh, Incorporation of Nitrogen and Oxygen in Carbon: A Highly Tuned Electrochemistry with Facile Synthesis and its Influence on Optical and Electrode Performance in Supercapacitors, Journal of Power Sources (Article in press)

Books / Book chapter

- News Letter on Plastic Waste Management – From March 2018 onwards- quarterly
- Monograph on Plastic Waste Management- April 2020- TCE EIACP PC RP
- Performance Studies on Built Plastic Roads- January 2023- TCE EIACP and Earth Watch Institute
- M. Velayudham and P. Thanasekaran, *Rhenium based metallacycles for sensing applications*, Ch.7., In Photophysics of Supramolecular Architectures, Eds. P. Muthumareeswaran, P. Suresh, S. Rajagopal, Bentham science, July 2022.