

## LIST OF PUBLICATIONS OF THE APPLIED CHEMISTRY DEPARTMENT FROM 2020 TO DEC 2024

Sr.	Title	Source title	Authors	Year	Volume	Issue	Art. No.
<b>PROF. P. K. KHANNA</b>							
1	Progress of hybrid nanocomposite materials for thermoelectric applications	Materials Advances	Bisht N.; More P.; Khanna P.K.; Abolhassani R.; Mishra Y.K.; Madsen M.	2021	2	6	
2	Room temperature thermoelectric performance of Methyl Ammonium Lead Iodide Perovskite and their MWCNT-PANI composites	Materials Today Chemistry	Kishan K.Y.; Bisht N.; Hiragond C.; Dey A.; Khanna P.K.; More P.V.	2020	17		100275
3	Green technology-driven novel, safe metal nanoparticles for cancer therapy: Present facts, current needs and future trends	Green Sustainable Process for Chemical & Env Engineering and Science: Biomedical Applications of Green Composites	Mehta P.P.; Kadam S.S.; Khanna P.K.; Dhapte-Pawar V.	2023			
4	ZnO nanoparticles: A key ingredient of sunscreen shows absence of adverse effects on Drosophila melanization pathway	Nano-Structures and Nano-Objects	Phatak K.A.; Khanna P.K.; Nath B.B.	2024	38		101145
5	Novel one-pot microwave assisted synthesis of MoO <sub>2</sub> nanoparticles	Materials Letters	Phalswal P.; Khanna P.K.	2021	302		130445
6	Exploring the telechelic block copolymers of polybutadiene and $\epsilon$ -caprolactone for composite propellant application	Materials Today Chemistry	Singh H.; Pande S.M.; Kumar A.; Mishra S.; Khanna P.K.; More P.V.	2020	16		100244
7	Sonochemical synthesis of silver nanoparticles using orange juice: Cytotoxic behaviour and applications	Hybrid Advances	Singh S.; Mohammad N.; Pal K.; Dhapte-Pawar V.; Saxena S.; Khanna P.K.	2024	6		100220
8	Synthesis of biologically active silver nanoparticles using N-containing compounds: The dual role of semicarbazones	New Journal of Chemistry	Joshi P.G.; More M.S.; Bisht N.; Phalswal P.; Dhapte-Pawar V.; Khanna P.K.	2021	45	47	
9	Synthesis and food packaging application of silver nano-particles: A review	Hybrid Advances	Rao M.M.V.; Mohammad N.; Banerjee S.; Khanna P.K.	2024	6		100230

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10	Studies on thermoelectric properties of sonochemically exfoliated MoS <sub>2</sub>	Materials Chemistry and Physics	Phalswal P.; Dey A.; Khanna P.K.	2024	319		129264
11	Nanostructured molybdenum dichalcogenides: a review	Materials Advances	Phalswal P.; Khanna P.K.; Rubahn H.-G.; Mishra Y.K.	2022	3	14	
12	Magic-sized CdSe nanoclusters: A review on synthesis, properties and white light potential	Materials Advances	Singh V.; Priyanka; More P.V.; Hemmer E.; Mishra Y.K.; Khanna P.K.	2021	2	4	
13	One-pot synthesis of CIS nano-particles and their EMI shielding studies	Materials Letters	Mohammad N.; Khanna D.; Phalswal P.; Khanna P.K.	2023	347		134597
14	Schiff base metal complexes driven quantum dots of ZnSe and CdSe	Inorganic Chemistry Communications	Joshi P.G.; Phalswal P.; Gaikwad A.; More M.S.; Khanna P.K.	2022	135		109070
15	Ternary metal selenides by use of 4-nitroacetophenone selenosemicarbazone: Application of selenium Schiff base in nanotechnology	Inorganic Chemistry Communications	Kshirsagar A.S.; Khanna P.K.	2022	139		109334
16	Silver Oxide Nanoparticles: A Promising Material with Melanin Modulatory Properties Validated in Drosophila	BioNanoScience	Phatak K.A.; Khanna P.K.; Nath B.B.	2024	14	4	
17	Synthesis and Characterization of Selenium Containing Schiff Bases: The Selenosemicarbazones	Current Chemical Biology	Kshirsagar A.S.; Khanna P.K.	2022	16	1	
18	Magic size ZnSe nanoclusters: Synthesis and their potential	Inorganic Chemistry Communications	Pandit S.; Phalswal P.; Khanna P.K.	2023	152		110602
19	Safety evaluation of zinc oxide microparticles on Drosophila melanization pathway	Materials Today: Proceedings	Phatak K.A.; Khanna P.K.; Nath B.B.	2022	57		
20	Microwave mediated synthesis of layered MoS <sub>2</sub> nanostructures and its conversion to MoO <sub>3</sub> nanoparticles	Inorganic Chemistry Communications	Phalswal P.; Gadhok M.; Khanna P.K.	2023	153		110737

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21	Green light emitting hydrophilic CdTe quantum dots with magic size signature	Next Materials	Phalswal P.; Raj M A.P.; Singh V.; Khanna D.; Khanna P.K.	2024	3		100041
22	Novel synthesis of polyaniline/tellurium (PANI/Te) nanocomposite and its EMI shielding behavior	Materials Advances	Yadav A.K.; Mohammad N.; Khanna P.K.	2023	4	19	
23	Selenium nanoparticles: A review on synthesis and biomedical applications	Materials Advances	Bisht N.; Phalswal P.; Khanna P.K.	2022	3	3	
24	Modern AIB12/KNO <sub>3</sub> -based pyrotechnic system: Combustion characteristics and performance study for the igniter application	International Journal of Energetic Materials and Chemical Propulsion	Rawal S.; Khanna P.K.; Kakade S.D.	2020	19	3	
25	Microwave processed metal nanoparticles/MoO <sub>3</sub> -PVA photoactive nano-composites for energy applications	Materials Science and Engineering: B	Khanna D.; Dhamale S.; Mohammad N.; Phalswal P.; Yeolekar S.; Lokhande N.; Ray B.; Datar S.; Khanna P.K.	2023	297		116822
26	Synthesis and EMI shielding study of Ni (II) semicarbazone driven nickel nanoparticles	Materials Chemistry and Physics	Joshi M.A.; Khanna P.K.; Mohammad N.; Joshi P.G.	2025	329		130064
27	Materials and biological applications of 1,2,3-selenadiazoles: a review	Materials Today Chemistry	Joshi P.G.; More M.S.; Jadhav A.A.; Khanna P.K.	2020	16		100255
28	Novel microwave synthesis of copper chromite nanoparticles	Inorganic Chemistry Communications	Bisht N.; Rao S.S.; Deshawal S.; Khanna P.K.	2021	134		109072
29	One-pot solvothermal synthesis of copper indium telluride (CuInTe <sub>2</sub> ) and its X-band EMI shielding behaviour	Hybrid Advances	Mohammad N.; Khanna P.K.	2024	5		100169
30	Studies on Effect of Nitrogen Rich Explosives on the Morphology, Thermal and Combustion Behaviour of B/KNO <sub>3</sub> Composition	Propellants, Explosives, Pyrotechnics	Rawal S.; Kakade S.D.; Khanna P.K.	2022	47	1	e202100113
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31	A computational model for prediction of IR intensity and burn time of Magnesium-Teflon-Viton (MTV) based Infrared (IR) decoy flare of various configurations	Infrared Physics and Technology	Debnath S.; Rej P.; Kumar H.; Jain S.; Banerjee S.	2025	145		105651
32	Diverse role, structural trends, and applications of fluorinated sulphonamide compounds in agrochemical and pharmaceutical fields	Heliyon	Chaudhari S.B.; Kumar A.; Mankar V.H.; Banerjee S.; Kumar D.; Mubarak N.M.; Dehghani M.H.	2024	10	12	e32434
33	Synthesis and food packaging application of silver nano-particles: A review	Hybrid Advances	Rao M.M.V.; Mohammad N.; Banerjee S.; Khanna P.K.	2024	6		100230
34	Fe <sub>3</sub> O <sub>4</sub> -mediated dielectric sensor using metamaterial-inspired resonators for the NO <sub>2</sub> sensing	Applied Physics A: Materials Science and Processing	Kale V.; Chavan C.; Sable D.; Girija K.G.; Banerjee S.; Kale S.N.	2020	126	9	702
35	Simulation of a secure optical communication system using different optical modulation schemes coupled with Rivest-Shamir-Adleman algorithm	2021 Asian Conference on Innovation in Technology, ASIANCON 2021	Banerjee S.; Ventaka Ramana Murthy A.	2021			
36	Light weight HTPB-clay nanocomposites (HCN) with enhanced ablation performance as inhibition materials for composite propellant	Defence Technology	Ghosh K.; Gaikwad L.V.; Kalal R.K.; Kulkarni P.A.; Kumar A.; Banerjee S.; Gupta M.	2021	17	2	
37	Rheological studies of energetic binder-plasticizer blends	Materials Research Innovations	Kumari D.; Banerjee S.	2021	25	7	
38	Ultrasonically assisted solvothermal synthesis of nanocrystalline Zn-Ni ferrite advanced material for EMI shielding	Journal of Alloys and Compounds	Singh H.; Parmar S.; Ray B.; Lokku V.K.; Kumar D.; Lakshmi Bhavani K.; Nagaraju D.; Vo D.-V.N.; Sharma A.; Datar S.; Banerjee S.	2022	906		164199
39	Real-time transformer oil monitoring using planar frequency-based sensor	Sensors and Actuators A: Physical	Srivastava R.; Kumar Y.; Banerjee S.; Kale S.N.	2022	347		113892

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40	Novel evaluation enhancement role of poly (1-(3-nitrophenyl)-1H-1,2,3-triazol-4-yl) acrylate materials for propellant composite formulation	Materials Letters	Kumar D.; Singh H.; Maurya M.; Nguyen V.-H.; Vo D.-V.N.; Sharma A.; Banerjee S.	2020	280		128585
41	Preparation of reduced sensitivity co-crystals of cyclic nitramines using spray flash evaporation	Defence Technology	Ghosh M.; Sikder A.K.; Banerjee S.; Talawar M.B.; Sikder N.	2020	16		
42	1,2,3-Triazoles by Click Chemistry Using Azido Esters as a Precursor	Propellants, Explosives, Pyrotechnics	Kumari D.; Banerjee S.	2020	45	12	
43	Self-Healing of HTPB Based Polyurethane Binder via Ring Opening Metathesis Polymerization	Propellants, Explosives, Pyrotechnics	Dhas A.M.; Ghosh K.; Banerjee S.	2022	47	10	e202100383
44	Study of the Progress of Reaction in the Preparation of tetra-Functional GAP using FTIR Spectroscopy	Central European Journal of Energetic Materials	Adak P.K.; Meena A.K.; Ghosh M.; Sutar V.; Jain M.; Banerjee S.	2024	21	2	
45	Ferrocene-fullerene dyad as a novel burn rate modifier for propellants	Energetic Materials Frontiers	Sriramrao S.; Raman P.; Dhas A.; Banerjee S.	2024	5	1	
46	A DFT approach towards understanding the thermal stability of TKX-50 and their key precursors through band gaps and MESP	Journal of Molecular Modeling	Adak P.K.; Singh S.K.; Singh J.; Mahesh S.; Jain M.K.; Sagar P.A.K.; Banerjee S.; Khan M.A.S.	2022	28	12	400
47	Self-Healing Polyurethane Binder with Catalytic Thermal Decomposition Property Based on Metal-Ligand Interaction	ChemistrySelect	Dhas A.M.; Banerjee S.	2023	8	10	e202203704
48	Design and Development of Composite Propellant Using CuFe <sub>2</sub> O <sub>4</sub> Spinel Decorated Graphene Oxide Nanocomposite as Novel Burn Rate Modifier	Propellants, Explosives, Pyrotechnics	Ar G.; Dhas A.M.; Pawar R.B.; Banerjee S.	2022	47	11	e202200098
49	Post-Synthetic Modification of Mixed-Metal UiO-66 Framework for Rapid Neutralization of Chemical Warfare Agent Simulants	ChemistrySelect	Kumar Y.; Banerjee S.	2024	9	22	e202304617

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50	Thermal Hazards Studies for the Azidation Process in the Preparation of Tetra Functional Glycidylazide Polymer (t-GAP) Using a Thermal Screening Unit (TSU)	Central European Journal of Energetic Materials	Adak P.K.; Ghosh M.; Meena A.K.; Jain M.; Banerjee S.	2024	21	3	
51	Reaction Profiling and Process Optimization for the Azidation of Tetrafunctional Glycidyl Azide Polymer Using FTIR Spectroscopy	Polymer Science - Series B	Adak P.K.; Ghosh M.; Meena A.K.; Sutar V.B.; Sagar A.K.; Jain M.K.; Banerjee S.	2024	66	3	
52	Synthesis and Computational Studies of Novel Disulfide-Based Curing Cum Healing Agent for Self-healing Polyurethanes	Journal of Inorganic and Organometallic Polymers and Materials	Dhas A.M.; Banerjee S.	2024	34	2	
53	Bit error rate performance of underwater optical wireless communication test bed simulating the seawater conditions	Optik	Kumar U.; Banerjee S.; Murthy A.V.R.	2022	251		168434
54	Composite Propellant Formulation of Poly (16-, 32- and 64-) Azido Dendritic Esters as Energetic Plasticizer and Evaluation of Properties	Central European Journal of Energetic Materials	Yamajala K.D.B.; Singh H.; Kurva R.; Maurya M.; Banerjee S.	2020	17	4	
55	Fluorine-containing 2,3-diaryl quinolines as potent inhibitors of methicillin and vancomycin-resistant Staphylococcus aureus: Synthesis, antibacterial activity and molecular docking studies	Journal of Molecular Structure	Janeoo S.; Kaur H.; Kaul G.; Akhira A.; Chopra S.; Banerjee S.; Reenu; Kumar V.; Kumar R.	2021	1244		130924
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56	Tetraalkylammonium-based dicationic ionic liquids (ILs) for CO <sub>2</sub> capture	New Journal of Chemistry	Kulkarni P.S.; Ranjane P.; Mishra K.; Sundararajan S.; Kamble S.	2023	47	27	
57	Phase change materials (PCMs) in photocatalysis	Multifunctional Phase Change Materials: Fundamentals, Properties and Applications	Kulkarni P.S.; Deshpande M.D.; Raut S.S.	2023			

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58	Hydrodechlorination of 4-Chloro-2-Aminophenol into a Recyclable Product Using Ni- and Cu-Based Catalysts	Industrial and Engineering Chemistry Research	Shetty R.R.; Raut S.S.; Kulkarni P.S.; Kamble S.P.	2022	61	39	
59	PEG-linked bis-imidazolium and polyhedral oligomeric based silsesquioxanes as ion exchangers	Microporous and Mesoporous Materials	Das S.K.; Dinker M.K.; Kulkarni P.S.	2022	343		112185
60	Examining the Effect of Trimethylol Propane Crosslinker on Butanetriol Trinitrate Plasticized Polycaprolactone Polymer Networks of Propellant Binder System	Propellants, Explosives, Pyrotechnics	Santosh M.S.S.N.M.; Sadavarte V.S.; Kumar A.; Pande S.M.; Kulkarni P.S.	2022	47	6	e202100377
61	Enhanced separation of nitrophenols from wastewater by using ammonium ionic liquid with thiocyanate anion in supported liquid membrane	Separation Science and Technology (Philadelphia)	Kulkarni P.S.; Shaikh V.A.E.; Sutradhar M.	2022	57	10	
62	Photodegradation of an ammonium ionic liquid: Spiking in urban wastewater and comparison with aromatic ionic liquids	Environmental Science: Water Research and Technology	Raut S.S.; Kulkarni P.S.	2021	7	10	
63	Microwave Assisted Preparation of Poly(ethylene) glycol/Lignin Blends for Thermal Energy Storage	Journal of Energy Storage	Deshpande M.; Sundararajan S.; Samui A.B.; Kulkarni P.S.	2021	35		102338
64	Inhibition of hydrogen-air mixtures by using chemical vapor additives	Journal of Loss Prevention in the Process Industries	Das S.K.; Swami V.V.; Joshi G.N.; Kulkarni P.S.	2024	87		105225
65	Enhanced Degradation of Ciprofloxacin Hydrochloride Using Hybrid Advanced Oxidation Process of Hydrodynamic Cavitation and Ozonation	Chemical Engineering and Technology	Bodawar N.; Shetty R.; Kamble S.; Kulkarni P.	2024	47	10	e202300469

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66	Application of ionic mesoporous silica in selective recovery of tungstate ions through column adsorption and subsequent photocatalytic degradation of an organic dye	Environmental Science: Nano	Dinker M.K.; Raut S.S.; Kulkarni P.S.	2023	10	7	
67	Comparative effectiveness of C3-Hydrocarbons and their mixtures on suppression of hydrogen-air explosions	International Journal of Hydrogen Energy	Das S.K.; Joshi G.N.; Kulkarni P.S.	2024	69		
68	Improved photocatalytic efficiency of TiO <sub>2</sub> by doping with tungsten and synthesizing in ionic liquid: precise kinetics-mechanism and effect of oxidizing agents	Environmental Science and Pollution Research	Raut S.S.; Kamble S.P.; Kulkarni P.S.	2021	28	14	
69	Annealing Temperature- and Morphology-Controlled Development of Nickel Cobaltite Nanoneedles for Photocatalytic Degradation of Nitroaromatics	Industrial and Engineering Chemistry Research	Yadav K.; Raut S.S.; Patro T.U.; Abhyankar A.C.; Kulkarni P.S.	2022	61	12	
70	Repurposing hazardous waste material into energy storage system	Journal of Energy Storage	Ranjane P.; Thanigaivelan U.; Kulkarni P.S.	2024	98		113028
71	Screening of zero valent mono/bimetallic catalysts and recommendation of Raney Ni (without reducing agent) for dechlorination of 4-chlorophenol	Chemosphere	Raut S.S.; Shetty R.; Raju N.M.; Kamble S.P.; Kulkarni P.S.	2020	250		126298
72	Various polymorphs of calcium carbonate and poly(ethylene) glycol as thermal energy storage materials	Journal of Applied Polymer Science	Ranjane P.; Deshpande M.; Kulkarni P.S.	2023	140	41	e54533
<b>DR SHWETA SAXENA, SCI. F, DRDO</b>							
73	Comparative analysis of Physiochemical, Nutritional and Bioactive phyto-compound of onion ( <i>Allium cepa</i> L.) cultivated at high and low altitudes	Vegetos	Shardulya Shukla, Monisha Rawat, Nitish Kumar, Manoj Kumar Patel, Rakesh Kumar Behera, Mohan Singh Thakur, <b>Shweta Saxena.</b>	2024	accepted		



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74	Comparative Effect of FYM and Azotobacter on Morphology and Nutritional Quality of High and Low Altitude Grown Knol-khol (Brassica oleracea var. Gongylodes L.) Cultivar "White Vienna".	Defence Life Science Journal	Shardulya Shukla, Monisha Rawat, Nitish Kumar, Ankita Sharma, Anshu Verma, Rakesh Kumar Behera, Manoj Kumar Patel, Mohan Singh Thakur, OM Prakash Chaurasia, <b>Shweta Saxena</b> .	2024	(accepted)		
75	Effect of cold arid high-altitude environment on bioactive phytochemical compounds of organically grown Brassicaceae vegetables for nutri-health security in mountainous regions.	Scientific Reports	Shardulya Shukla, Nitish Kumar, Pushpender Bhardwaj, Priyanka Pandita, Manoj Kumar Patel, Mohan Singh Thakur, Raj Kumar, Monisha Rawat and <b>Shweta Saxena</b> .	2024	14,		15976
76	Synthesis of Silver Nanoparticles Using Orange Juice: Cytotoxic Behaviour and Applications	Hybrid Advances,	Sumiran Singh and Naeem Mohammad and Kavita Pal and Vividha Dhapte Pawar and <b>Shweta Saxena</b> and Pawan Kumar Khanna. Sonochemical	2024	6		100220
77	Dietary nitrate supplementation influences the oral denitrifying microbiome in human volunteers: a pilot study. (2024)	Biologia	Nitish Kumar, Bhupinder Kaur, Shardulya Shukla, Manoj Kumar Patel, Ragumani Sugadev, Madhu Khatri, <b>Shweta Saxena</b> .	2024	Volume 79, pages 2165–2177		
<b>DR. CHETAN BHONGALE</b>							
78	Simultaneous TG—FTIR studies show high thermal resilience in core organic matrix of molluscan gastropod shell of <i>N. josephina</i>	Journal of Analytical and Applied Pyrolysis	Purkayastha S.; Chaudhari R.R.; Bhongale C.J.	2024	181		106609
79	Studies of Energetic and Non-Energetic Plasticizers for Nitrile Butadiene Rubber based CSP	Propellants, Explosives, Pyrotechnics	Singh S.; Raveendran S.; Kshirsagar D.R.; Somraj; Kumar A.; Bhongale C.J.; Gupta M.	2022	47	12	e202200217

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80	Simultaneous TG-FTIR analyses on molluscan shells: Characterization and thermal stability of organic-inorganic components	Chemical Geology	Chaudhari R.R.; Bhongale C.J.	2022	611		121132
81	Superhydrophobic silicone-coating on carbon foam for efficient oil adsorption	Materials Letters	Bagal R.; Chouhan D.K.; Sahoo B.N.; Chaudhari R.; Bhongale C.J.; Patro T.U.	2022	311		131525
82	Studies on the High Performance Characteristics of an Aluminized Ammonium Perchlorate Composite Solid Propellant Based on Nitrile Butadiene Rubber	Central European Journal of Energetic Materials	Singh S.; Raveendran S.; Kshirsagar D.R.; Gupta M.; Bhongale C.	2021	18	4	
83	All-organic solution processed solar cells based on terephthalaldehyde self-assembled Monolayer	Engineered Science	Bhongale C.J.; Chaudhari R.	2021	15		
84	Studies on Curing of an Aluminized Ammonium Perchlorate Composite Propellant Based on Nitrile Butadiene Rubber Using a Quinol Ether of 1,4-Benzoquinone Dioxime	Central European Journal of Energetic Materials	Singh S.; Raveendran S.; Kshirsagar D.R.; Gupta M.; Bhongale C.J.	2022	19	1	
85	Resonance-based detection of perilous sulphur dioxide using TiO <sub>2</sub> nanoparticles and unit-cell ring resonator	Sensors and Actuators, A: Physical	Kale V.; Chavan C.; Bhongale C.; Girija K.G.; Kale S.N.	2021	331		112898