

## DEPARTMENT OF PHARMACEUTICAL CHEMISTRY AND ANALYSIS

Metric (*2017 Onwards)	Total	Trend																																								
Paper*	150	<div><p>Year-wise Research Output: Pharmaceutical Chemistry and Pharmaceutical Analysis</p><table border="1"><thead><tr><th>Year</th><th>Paper</th><th>Book/Chapter</th><th>Patent</th></tr></thead><tbody><tr><td>2017</td><td>3</td><td>1</td><td>0</td></tr><tr><td>2018</td><td>2</td><td>1</td><td>0</td></tr><tr><td>2019</td><td>4</td><td>1</td><td>0</td></tr><tr><td>2020</td><td>5</td><td>1</td><td>0</td></tr><tr><td>2021</td><td>7</td><td>2</td><td>0</td></tr><tr><td>2022</td><td>8</td><td>3</td><td>0</td></tr><tr><td>2023</td><td>9</td><td>4</td><td>1</td></tr><tr><td>2024</td><td>10</td><td>3</td><td>1</td></tr><tr><td>2025</td><td>12</td><td>3</td><td>1</td></tr></tbody></table></div>	Year	Paper	Book/Chapter	Patent	2017	3	1	0	2018	2	1	0	2019	4	1	0	2020	5	1	0	2021	7	2	0	2022	8	3	0	2023	9	4	1	2024	10	3	1	2025	12	3	1
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2017	3		1	0																																						
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Project*	05																																									
Patent*	3																																									
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Article Title (Last Five Years)	Journal name
A comprehensive review of analytical methods on everolimus: a basis for cleaning residue quantitation	<i>Separation science plus</i>
A new green and efficient method for pyranopyrazoles synthesis in a single pot using multiple components, in silico pharmacokinetics with cytotoxic assessments	<i>Russian journal of bioorganic chemistry</i>
A novel validated stability indicating analytical hptlc method for quantitation of hydrochlorothiazide and lisinopril in tablet formulation	<i>Indian drugs</i>
A review of the therapeutic importance of indole scaffold in drug discovery	<i>Current drug discovery technologies</i>
A simple, precise, and sensitive rp-hplc method for quantification of teneligliptin hydrobromide and metformin hydrochloride: development and validation	<i>Research journal of pharmacy and technology</i>
A simplex-optimized chromatographic separation of phytoconstituents in cardioprotective polyherbal formulation and crude drugs	<i>Asian journal of pharmaceuticals</i>
A validated hptlc method for quantification of a new combination containing lidocaine hcl and diltiazem hcl	<i>Discover chemistry</i>
Advancements in the analytical methods for ripasudil hydrochloride hydrate and timolol maleate: a recently approved fdc	<i>Current pharmaceutical analysis</i>
Advancing against drug-resistant tuberculosis: an extensive review, novel strategies and patent landscape	<i>Naunyn-schmiedeberg's archives of pharmacology</i>
Aegeline: a biologically important alkaloid from nature	<i>Phytomedicine plus</i>
Analytical methods for simultaneous estimation of sglt2 inhibitor and dpp-4 inhibitor in their	<i>Letters in applied</i>

combination for treatment of type 2 diabetes mellitus	<i>nanobioscience</i>
Analytical quality by design based hplc for quantitative analysis of teneligliptin and rosuvastatin calcium tablets in the presence of force degradation products	<i>Separation science plus</i>
Analytical quality by design based robust rp-hplc method for quantitative estimation of pregabalin and etoricoxib in fixed-dose combination tablet formulation	<i>Journal of aoac international</i>
Analytical technique advances for recently approved fixed-dose combination of dapagliflozin and teneligliptin hydrobromide hydrate	<i>Separation science plus</i>
Antibody drug conjugates as targeted cancer therapy: past development, present challenges and future opportunities	<i>Archives of pharmacal research</i>
Anticancer potential of 1,2,3-triazole-tethered isonicotinate hybrids: synthesis, in-silico studies, in-vitro studies and md simulation	<i>Journal of molecular structure</i>
Anti-ulcer activities of herbal remedies as alternative therapy	<i>Journal of natural remedies</i>
Aqbd integrated high-performance thin layer chromatographic method for quantitative estimation of tavaborole in the presence of its degradants and the matrix of nanostructured lipid carriers	<i>Drug development and industrial pharmacy</i>
Aqbd-guided stability indicating hplc method for azelnidipine and chlorthalidone fixed-dose combination tablet: a green approach	<i>Journal of taibah university for science</i>
Asciminib - abl kinase inhibitor in the treatment of philadelphia chromosome positive chronic myeloid leukemia: chemistry and pharmacology perspectives	<i>Mini-reviews in organic chemistry</i>
Atorvastatin's reduction of alzheimer's disease and possible alteration of cognitive function in midlife as well as its treatment	<i>Cns &amp; neurological disorders - drug targets</i>
Catechins and theaflavins: an overview on therapeutic application	<i>Journal of natural remedies</i>
Chemopreventive role of phytoconstituents in breast cancer: an integration therapy	<i>Current bioactive compounds</i>
Chromatography chronicles: unveiling the power of reversed-phase high-performance thin layer chromatography in pharmaceutical analysis	<i>Current analytical chemistry</i>
Co-administration of coenzyme q10 and hmg-coa reductase inhibitor attenuates oxidative stress, tgf- $\beta$ , tnf-a, nitrite content and mpo levels against experimentally-induced diabetic nephropathy in rats	<i>Indian journal of pharmaceutical education and research</i>
Collocating novel targets for tuberculosis (tb) drug discovery	<i>Current drug discovery technologies</i>
Comparative evaluation of protecting affordability of flexible laminates to <i>bacopa monnieri</i> powder extract	<i>Journal of natural remedies</i>
Comparative study of the uv chemometrics, ratio spectra derivative and hplc-qbd methods for the estimation of their simultaneous estimation in combined marketed formulation	<i>Chromatographia</i>
Compatibility and physicochemical stability of ceftriaxone for injection admixed with pantoprazole sodium and ondansetron hydrochloride in different infusion solutions	<i>European journal of hospital pharmacy</i>

Comprehending the potential of metallic, lipid, and polymer-based nanocarriers for treatment and management of depression	<i>Neurochemistry international</i>
Comprehensive analysis of aspirin and apixaban: the development, validation, and forced degradation studies of bulk drugs and in-house capsule formulations using the rp-hplc method	<i>American journal of translational research</i>
Comprehensive review of ethnopharmacological and phytochemical aspects of nutraceuticals in psychiatric disorders	<i>Current psychopharmacology</i>
Comprehensive review on repurposing of approved medicine in the management of covid-19 infection	<i>Organic communications</i>
Comprehensive standardization and rapid quality evaluation of isoflavones and isoflavone glycosides from <i>dalbergia sissoo</i> by ultra-high-performance liquid and thin layer chromatography analysis with tandem mass spectrometry	<i>Separation science plus</i>
Computational exploration of naturally occurring flavonoids as tgf- $\beta$ inhibitors in breast cancer: insights from docking and molecular dynamics simulations and in-vitro cytotoxicity study	<i>Chemistry &amp; biodiversity</i>
Design and evaluation of microemulsion-based efinaconazole formulations for targeted treatment of onychomycosis through transungual route: ex vivo and nail clipping studies	<i>Colloids and surfaces b: biointerfaces</i>
Design of experiment centered multivariate optimization strategy for rp-hplc method to quantitate retapamulin in topical cream and microemulsion	<i>Pharmaceutical sciences</i>
Design of experiment-driven stability indicating rp- hplc method for simultaneous estimation of tetracaine hydrochloride and oxymetazoline hydrochloride	<i>Bulletin of environment, pharmacology and life sciences</i>
Design, characterization, and evaluation of efinaconazole loaded poly(d, l-lactide-co-glycolide) nanocapsules for targeted treatment of onychomycosis	<i>Journal of drug delivery science and technology</i>
Design, development and optimization of new high performance thin-layer chromatography method for quantitation of retapamulin in pharmaceutical formulation: application of design of experiment	<i>Separation science plus</i>
Design, synthesis, and evaluation of nitroimidazole n-arylacetamides as anti-tb agents	<i>Current bioactive compounds</i>
Design, synthesis, computational studies and evaluation of novel 2, 4, 5-trisubstituted pyrimidine derivatives for anticancer activity against mcf-7 and a549 cell lines	<i>Journal of molecular structure</i>
Design, synthesis, computational studies and evaluation of novel hybrid bipyrimidine analogues for anticancer activity against mcf-7 and a549 cell lines	<i>Journal of computational biophysics and chemistry</i>
Determination of asenapine maleate in pharmaceutical and biological matrices: a critical review of analytical techniques over the past decade	<i>Critical reviews in analytical chemistry</i>
Development and application of hptlc method for estimation of rivaroxaban and aspirin in bulk drug and in-house tablet form	<i>Journal of chemical metrology</i>
Development and application of rp-hplc method for estimation and evaluation of stability of brinzolamide in ophthalmic formulation	<i>Journal of chemical metrology</i>

Development and characterization of novel solid self nanoemulsifying drug delivery system of fimasartan	<i>Journal of pharmaceutical innovation</i>
Development and characterization of solid smedds for enhanced oral delivery of ticagrelor	<i>Nanotechnology perceptions</i>
Development and validation of a green stability indicating hptlc method for estimation of curcumin, gallic acid and ursolic acid from polyherbal formulation jatyadi taila	<i>Journal of aoac international</i>
Development and validation of a new reversed phase hplc method for the quantitation of azithromycin and rifampicin in a capsule formulation	<i>Journal of chromatographic science</i>
Development and validation of a spectrofluorophotometric method for berberine hydrochloride quantification in diverse matrices	<i>Journal of research in pharmacy</i>
Development and validation of a stability indicating lc method for the analysis of chlordiazepoxide and trifluoperazine hydrochloride in the presence of their degradation products	<i>Acta pharmaceutica sciencia</i>
Development and validation of lc-ms method for determination of genotoxic impurity n, o-dimethyl hydroxylamine by chemical derivatization in investigational drug substance	<i>Current pharmaceutical analysis</i>
Development and validation of rp-hplc method for simultaneous estimation of lornoxicam and tolperisone hydrochloride in bulk drug and combined dosage form	<i>Indian drugs</i>
Development of stable formulations of pemetrexed	<i>Journal of research in pharmacy</i>
Development, optimization and validation of hplc method for assay and dissolution testing of furosemide tablet formulation utilizing design of experiment approach	<i>Indian drugs</i>
Ecm-responsive pegylated liposomal biomaterial for enhanced tumor penetration through dual-mechanism microenvironment remodeling in lung cancer	<i>International journal of pharmaceutics</i>
Effect of surfactant and methods of drying on methotrexate hydrochloride loaded chitosan beads	<i>Indian drugs</i>
Enhanced tumor treatment outcomes of pegylated liposomal gefitinib in non-small cell lung cancer: a comprehensive preclinical evaluation with superior therapeutic efficacy	<i>Aaps pharmscitech</i>
Estimation of tadalafil in human plasma by spectrofluorophotometry	<i>Indian drugs</i>
Fabrication of cefixime nanoparticles loaded films and their ex-vivo antimicrobial effect on periodontitis patient's saliva	<i>Pharmaceutical nanotechnology</i>
Fabrication of eucalyptus oil-loaded ciprofloxacin hydrochloride topical films for enhanced treatment of post-operative wound infection	<i>Anti-infective agents</i>
Formulation and evaluation of controlled release transdermal microneedles of rotigotine	<i>Journal for basic sciences</i>
Front cover: design, development and optimization of new high performance thin-layer chromatography method for quantitation of retapamulin in pharmaceutical formulation: application of design of experiment	<i>Separation science plus</i>
Glycolate oxidase-1 gene variants influence the risk of hyperoxaluria and renal stone development	<i>World journal of urology</i>

Gradient reversed-phase hplc method for the quantitation of azelnidipine and chlorthalidone in a fixed-dose synthetic mixture	<i>Journal of chemical metrology</i>
Green high-performance thin layer chromatography-densitometric approach for tablet formulation containing remogliflozin etabonate and vildagliptin	<i>Separation science plus</i>
Green synthesis of pyrazole linked thiazole derivatives with enhanced anti-breast cancer activity: water extract of banana peel-mediated protocol, anticancer screening, epidermal growth factor receptor inhibition, in silico absorption–distribution–metabolism–excretion and density functional theory calculations	<i>Chemistry &amp; biodiversity</i>
Haplotype of casr gene is associated with risk of renal stone disease in west indian population	<i>Urolithiasis</i>
Hydrazide-hydrazone derivatives and their antitubercular activity	<i>Russian journal of bioorganic chemistry</i>
Hydrazide–hydrazones as potential antitubercular agents: overview of the literature (1999-2023)	<i>Synopen</i>
Identification and assessment of novel degradants in pazopanib hydrochloride using stability-indicating rp-hplc method	<i>Journal of taibah university for science</i>
Illuminating the analytical chemistry profile: a three-decade comprehensive review of fluorometric quantitation in pharmaceutical formulations	<i>Microchemical journal</i>
Investigating the antioxidant capacity of newly synthesized flavonoids via dpsh assay	<i>Current drug discovery technologies</i>
Investigating the resistance mechanism of 5-fluorouracil in colorectal cancer based on surface markers of cancer stemness and cytokine level: a pre-clinical study	<i>Journal of cancer research and therapeutics</i>
Investigating the role of natural flavonoids in vegfr inhibition: molecular modelling and biological activity in a549 lung cancer cells	<i>Journal of molecular structure</i>
In-vitro cytotoxicity and aromatase inhibitory activity of flavonoids: synthesis, molecular docking and in-silico adme prediction	<i>Anti-cancer agents in medicinal chemistry</i>
Mechanistic insights of formulation approaches for the treatment of nail infection: conventional and novel drug delivery approaches	<i>Aaps pharmscitech</i>
Method development and validation of cabozantinib by lc-ms/ms	<i>Pharmacia</i>
Method development and validation of degradation studies of lenalidomide by rp-hplc	<i>Research journal of pharmacy and technology</i>
Method development and validation of degradation studies of palbociclib by rp-hplc	<i>International journal of pharmaceutical research (ijpr)</i>
Method development, validation and degradation studies of imatinib mesylate by uplc	<i>Journal of pharmaceutical research international</i>
Molecular docking, dynamics, and cytotoxicity assessment of pyrazolo[1,5-a]pyrimidine derivatives against breast cancer	<i>Chemistry and biodiversity</i>

Molecular modeling and admet predictions of flavonoids as prospective aromatase inhibitors	<i>Indian journal of chemistry - section b (ijc-b)</i>
Ms-compatible hplc method for simultaneous estimation of ceftriaxone, pantoprazole, and ondansetron in parenteral formulations and admixtures	<i>Separation science plus</i>
Nanoemulsion-based strategy for maximizing nitrofurantoin absorption: in-vitro and in-vivo investigations	<i>Recent advances in drug delivery and formulation</i>
Neurodegenerative diseases and brain delivery of therapeutics: bridging the gap using dendrimers	<i>Journal of drug delivery science and technology</i>
Novel imidazole containing chalcone derivatives as an aromatase inhibitor: synthesis, docking studies, biological screening and adme studies	<i>Rasayan j. Chem</i>
Novel lipid-based nanocarrier of nitrofurantoin for improved oral bioavailability and reduced variability in absorption	<i>Journal of dispersion science and technology</i>
Novel therapeutic intervention using coenzyme q10 and insulin sensitizer on experimentally initiated diabetic neuropathy	<i>Journal of natural remedies</i>
One-pot multicomponent synthesis of novel pyrazole-linked thiazolyl-pyrazolines: molecular docking and cytotoxicity assessment on breast and lung cancer cell-lines	<i>Journal of molecular structure</i>
Optimizing quality and sustainability in drug development: a comprehensive desidustat stability study using qbd and green chemistry	<i>Journal of liquid chromatography and related technologies</i>
Overview on capillary electrophoresis with mass spectrometry: application in peptide analysis and proteomics	<i>International journal of pharmaceutical chemistry and analysis</i>
Peg-400 mediated synthesis of benzo[d]imidazo[2,1-b]thiazoles as bioactive scaffolds: antibreast cancer potential, egfr inhibition, antioxidant study, molecular docking, and dft insights	<i>Chemistryselect</i>
Phytochemical analysis, cytotoxic evaluation, and in silico screening of metabolites from <i>dysoxylum malabaricum</i> bedd.	<i>Chemistry &amp; biodiversity</i>
Piperine: medicinal, analytical and therapeutics perspective	<i>Current bioactive compounds</i>
Potentiating antibacterial effect of locally deliver caffeine nanoparticles on systemically used antibiotics in periodontal treatments	<i>Asian journal of pharmaceuticals</i>
Progress in analytical techniques for remogliflozin etabonate, vildagliptin and metformin hydrochloride: a recently, approved fdc	<i>Current pharmaceutical analysis</i>
Progress in quantitative methods for azelnidipine and chlorthalidone: an analytical basis for a recently approved fdc	<i>Current pharmaceutical analysis</i>
Prominent targets for cancer care: immunotherapy perspective	<i>Current cancer therapy reviews</i>
Protective effects of lycopene against adenine-induced chronic renal failure in rats	<i>Indian journal of physiology and</i>

	<i>pharmacology</i>
Quality by design approach driven development and validation of reverse phase-high-performance liquid chromatography methodology for dual quantification of aspirin and rivaroxaban	<i>Separation science plus</i>
Review on analytical methodologies, chemical and therapeutic perspectives of curcumin: a ubiquitous natural molecule	<i>Current pharmaceutical analysis</i>
Review on determination of berberine in biological and pharmaceutical matrices: an analytical and therapeutic perspective	<i>Current pharmaceutical analysis</i>
Revolutionizing nitrofurantoin delivery: unraveling challenges and pioneering solutions for enhanced efficacy in uti treatment	<i>Drug delivery letters</i>
Role of natural and synthetic flavonoids as potential aromatase inhibitors in breast cancer: structure-activity relationship perspective	<i>Anti-cancer agents in medicinal chemistry</i>
Separation and quantification of azelnidipine and chlorthalidone in a synthetic mixture using optimized hptlc method	<i>Annales pharmaceutiques françaises</i>
Simultaneous estimation of fimasartan potassium trihydrate and atorvastatin calcium with greenness assessment using hplc and uv spectrophotometric methods	<i>Green analytical chemistry</i>
Simultaneous estimation of remogliflozin etabonate and vildagliptin in a tablet formulation: uv spectrophotometric and hplc-pda method	<i>Journal of chemical metrology</i>
Simultaneous quantification of teneligliptin hydrobromide and metformin hydrochloride: an improved hptlc method with implementation of plackett-burman design	<i>Journal of chemical metrology</i>
Spp1 and umod gene variants are synergistically associated with risk of renal stone disease	<i>Gene</i>
Stability-indicating green hplc method for fixed-dose tablets containing remogliflozin etabonate and teneligliptin: an aqbd approach	<i>Drug development and industrial pharmacy</i>
Stability-indicating hplc for remogliflozin, vildagliptin, and metformin: method development, validation, and greenness	<i>Annales pharmaceutiques françaises</i>
Stability-indicating instrumental thin-layer chromatography method for the quantification of dapagliflozin propanediol monohydrate and bisoprolol fumarate with implementation of fractional factorial design	<i>Jpc-journal of planar chromatography-modern tlc</i>
Structural insights of pd-1/pd-l1 axis: an in silico approach	<i>Current protein &amp; peptide science</i>
Synthesis and inha inhibition of imidazo[1,2-a]pyridine derivatives as anti-tuberculosis agents	<i>Current organic chemistry</i>
Synthesis, in silico studies and in vitro cytotoxicity evaluation of novel posaconazole derivative as a alk tk inhibitor	<i>Journal of taibah university for science</i>
Tavaborole microemulsion: new strategy for the targeted treatment of onychomycosis	<i>Journal of drug delivery science and technology</i>

Using quality by design to develop fixed-dose combination tablets	<i>Pharmaceutical technology</i>
Virtual screening, molecular docking studies and dft calculations of novel anticancer flavonoids as potential vegfr-2 inhibitors	<i>Chemistry africa</i>

## FOCUSED RESEARCH AREA

- **Drug Design and Synthesis:** Focus on the synthesis and optimization of novel chemical entities, including heterocycles and derivatives like Sulphonylureas/guanidine, often involving Molecular Docking studies. (e.g., *Chemotherapeutic Agent* patent).
- **Advanced Analytical Method Development:** Establishing and validating robust analytical techniques, such as Stability Indicating Reverse Phase HPLC Methods, for the accurate estimation of drugs in formulations.
- **Quality Control (QC/QA):** Research into impurity profiling and quantification to ensure the quality and stability of pharmaceutical dosage forms.