

### Research and Development Profile of Institute

**Detailed list of Research Publications coming from the College during the last five years under the**

No. of Research Publications in <b>SCI Journals only</b> for the work done in the College with Corresponding author from the College.	No. of collaborative Research Publications in <b>SCI Journals</b>	No. of Research Publications in <b>SCIE Journals only</b> for the work done in the College.	No. of Review Publications in <b>SCI Journals only</b> during the last 5years.
<b>18</b>	<b>11</b>	<b>54</b>	<b>36</b>

**Categories wise as mentioned below:**

**i) List of Research Publications in SCI Journals only for the work done in the College with Corresponding author from the College.**

1. Kankate RS, Gide PS, Belsare DP. 2019. Design, synthesis and antifungal evaluation of novel benzimidazole tertiary amine type of fluconazole analogues. Arabian Journal of Chemistry. 12 (8): 2224 – 2235.
2. Deokar GS, Deokar AM, Kshirsagar SJ, Buranasompob A, Nirmal NP. 2023. Extraction, physicochemical characterization, functionality, and excipient ability of corn fiber gum-starch isolate from corn milling industry waste. International Journal of Pharmaceutics 645: 123401.
3. Laddha UD, Kshirsagar SJ. 2021. Formulation of nanoparticles loaded in situ gel for treatment of dry eye disease: In vitro, ex vivo and in vivo evidences. Journal of Drug Delivery Science and Technology 61: 102113.
4. Laddha UD, Kshirsagar SJ, Sayyad LS, Ahmed MT, Gaikwad SS, Udavant PB, Kulkarni AD. 2022. Development of surface modified nanoparticles of curcumin for topical treatment of diabetic retinopathy: In vitro, ex vivo and in vivo investigation. Journal of Drug Delivery Science and Technology 76: 103835.
5. Laddha UD, Sandhan PD, Gaikwad SS, Moravkar KK, Kshirsagar SJ. 2023. Fabrication of pioglitazone nanoparticles loaded polymeric dispersion for treatment of dry eye disease with in vitro and in vivo investigation. Journal of Drug Delivery Science and Technology 81: 104267.
6. Dashputre NL, Laddha UD, Patil SB, Kadam JD, Kshirsagar SJ. 2023. An insight to development and in-vitro, ex-vivo, in-vivo study of effect of naringenin nanoparticles against letrozole induced polycystic ovarian syndrome in female wistar rats. Journal of Drug Delivery Science and Technology 90C: 105129.



- Laddha UD, Chikhale SS, Dashputre NL, Gaikwad SS, Moravkar KK, Kshirsagar SJ. 2023. Development and in vitro, ex vivo, in vivo investigation of curcumin loaded nanoparticles in management of dry eye disease. *Journal of Drug Delivery Science and Technology* 87: 1-8.
- Kakad SP, Kshirsagar SJ. 2021. Nose to brain delivery of Efavirenz nanosuspension for effective Neuro AIDS therapy: In-vitro, In-vivo and pharmacokinetic assessment. *Heliyon* 7 (11): E08368
- Kakad SP, Kshirsagar SJ. 2022. Nose to brain delivery of nanosuspensions with first line antiviral agents is alternative treatment option to Neuro-AIDS treatment. *Heliyon* 8 (7): E09925
- Laddha UD, Kshirsagar SJ. 2020. Formulation of PPAR-gamma agonist as surface modified PLGA nanoparticles for non-invasive treatment of diabetic retinopathy: in vitro and in vivo evidences. *Heliyon* 6(8): E04589
- Dashputre NL, Laddha UD, Darekar PP, Kadam JD, Kshirsagar SJ. 2023. Potential therapeutic effects of naringin loaded PLGA nanoparticles for the management of Alzheimer's disease: In vitro, ex vivo and in vivo investigation. *Heliyon* 9: e19374.
- Gaikwad SS, Kshirsagar SJ. 2024. Application of Tablet in Tablet technique to design and characterize immediate and modified release tablets of Timolol maleate. *Heliyon* 10 (3):E25820.
- Deokar G, Shinde P, Kshirsagar S. 2022. In- vitro bio-relevant media and time simulation probiotic proliferation methodology to determine prebiotic potentials of flaxseed powder. *Bioactive Carbohydrates and Dietary Fibre* 28: 100335
- Sonawane SS, Chhajed SS, Attar SS, Kshirsagar SJ. 2019. An approach to select linear regression model in bioanalytical method validation. *Journal of Analytical Science and Technology* 10 (1): 1-7.
- Kakad PS, Kshirsagar SJ. 2023. Development of nano emulsion of antiviral drug for brain targeting in the treatment of neuro-AIDS. *Beni-Suef University Journal of Basic and Applied Sciences* 11: 1-10.
- Chhajed SS, Shinde PE, Kshirsagar SJ, Sangshetti JN et al. 2020. De-novo design and synthesis of conformationally restricted thiazolidine-2,4-dione analogues: highly selective PPAR- $\gamma$  agonist in search of anti-diabetic agent. *Structural chemistry* 31(8): 1375-1385.
- Sonawane SS, Bankar PC, Kshirsagar SJ. 2021. Stability-indicating LC method for quantification of azelnidipine: synthesis and characterization of oxidative degradation product. *Turkish Journal of Pharmaceutical Sciences* 18 (5): 550-556.
- Kankate RS, Nathe VC, Kshirsagar SJ, Surse SN, Bhalerao SA, Ghodke S, Sadhwani JA. 2023. Bioisosterism based Design, Synthesis and Antifungal Evaluation of Novel Fluconazole Analogues. *Asian Journal of Chemistry* 35 (10).

**ii) List of collaborative Research Publications in SCI Journals**

- Rudrapal M, Khairnar SJ, Khan J, Dukhyil AB, Ansari M, Palai S, Devi R. 2022. Dietary Polyphenols and Their Role in Oxidative Stress-Induced Human Diseases: Insights Into Protective Effects, Antioxidant Potentials and Mechanism(s) of Action. *Frontiers in pharmacology* 13: 806470.



- Moravkar KK, Laddha UD, Patil MD, Kale S, Girase N, Bhairav BA, Bhaumik J, Chalikwar S. 2023. Extraction of rutin from tageteserecta (Marigold) and preparation of peroral nano-suspension for effective antitussive/expectorant therapy. *Carbohydrate Polymer Technologies and Applications* 5: 100320.
- Rudrapal M, Khan J, Dukhyil AAB, Khairnar SJ, Bendale AR et al. 2022. Chalcone scaffolds, bioprecursors of flavonoids: Chemistry, bioactivities, and pharmacokinetics. *MDPI: Molecule* 26 (23): 7177.
- Rudrapal M, Gogoi N, Chetia D, Laddha UD, Khairnar SJ, Walode SG et al. 2022. Repurposing of phytomedicine- derived bioactive compounds with promising anti- SARS-CoV-2 potential: Molecular docking, MD simulation and drug- likeness/ADMET studies. *Saudi Journal of Biological Sciences* 29 (4): 2432-2446.
- Rudrapal M, Celik I, Chinnam S, Ansari M, Khan J, Khairnar SJ et al. 2022. Phytocompounds as potential inhibitors of SARS-CoV-2 Mpro and PLpro through computational studies. *Saudi Journal of Biological Sciences (Elsevier)* 29 (5): 3456-3465.
- Rudrapal M, Celik I, Khan J, Ansari M, Khairnar SJ, Bendale A et al. 2022. Identification of bioactive molecules from Triphala (Ayurvedic herbal formulation) as potential inhibitors of SARS-CoV-2 main protease (Mpro) through computational investigations. *Journal of King Saud University- Science* 34(3) 101826.
- Sangshetti J, Pathan S, Patil R, Ansari S, Chhajed S. 2019. Synthesis and biological activity of structurally diverse phthalazine derivatives: A systematic review. *Bioorganic & Medicinal Chemistry* 27 (18): 3979-3997.
- Parab M, Pathan S, Gupta P, Chhajed S, Dasgupta D. 2022. Functional analysis of repositioned anilide derivatives as anticancer compounds. *Journal of the Indian Chemical Society* 99 (1): 100276.
- Attah E, Ugwuagbo S, Chinnam S, Khairnar SJ, Jagtap M. 2022. Anti-inflammatory activity of Sabiceabrevipes Wernharm (Rubiaceae). *Pharmacia* 69 (9): 311-317.
- Kumar S, Taraka K, Pasala P, Laddha UD, Khairnar SJ, Rudrapal M et al. 2022. Atorvastatin ascorbic acid cocrystal strategy to improve the safety and efficacy of atorvastatin. *Pharmacia* 69 (2): 295-302.
- Rudrapal M, Celik I, Chinnam S, Ansari M, Khairnar SJ et al. 2022. Phytocompounds of Indian spices as inhibitors of SARS-CoV-2 Mpro and PLpro: Molecular docking, molecular dynamics, and ADMET studies. *Saudi Journal of Biological Sciences* 29: 3456-3465.

**iii) List of Research Publications in SCIE Journals only for the work done in the College**

- Balekundri, A., Ahire, E.D., Shelke, R.U., Rishipathak, D.D. and Kshirsagar, S.J., 2025. Eco-friendly HPTLC method for Trifluridine and Tipiracil determination: Quality-by-design meets green analytical chemistry. *Green Analytical Chemistry*, 13, p.100234.



- Ahire, E.D. and Kshirsagar, S.J., 2025. Irinotecan's molecular mechanisms against cancer: a primary system biology and chemoinformatics approach for novel formulation development. *Current Issues in Pharmacy and Medical Sciences*, 38(1 (AOP)).
- Deokar, G.S., Nirmal, N., Pathak, V.A., Kshirsagar, S.J., Udavant, P.B. and Koirala, P., 2025. Impact of sprouting process on pectin content of ragi seed (*Eleusine coracana* L. Gaertn): isolation and characterization. *Discover Food*, 5(1), p.79.
- Mogal, R., Shingare, V., Patil, M., Gite, A., Patil, M. and Kshirsagar, S., 2025. Topical Ethosomal Formulation of Alpha Arbutin: Dermatokinetic Study and In-vitro Evaluation. *Ars Pharmaceutica (Internet)*, 66(2), pp.174-186.
- Laddha, U.D., Girase, N., Bhairav, B.A., Lonkar, V., Chalikwar, S.S. and Moravkar, K.K., 2024. Impact of two-step glidant mixing process on flow performance of coated curcumin-In vitro, in vivo investigation. *European Journal of Medicinal Chemistry Reports*, 11, p.100163.
- Ahirrao SP, Bhambere DS, Kshirsagar SJ. 2022. Effective use of Silymarin as a promising P-Glycoprotein Inhibitor in the Management of Breast Cancer. *International Journal of Pharmaceutical Sciences and Nanotechnology* 15 (5): 6147.
- Patil MP, More MK, Chhajed SS, Bhambere DS, Kshirsagar SJ. 2020. Synthesis and characterization of mesoporous silica nanoparticles loaded with repaglinide for dissolution enhancement. *Indian Journal of Pharmaceutical Science* 82 (4): 686.
- Patil M, Sonawane D, Sonawane S, Bhambere D, Kshirsagar S. 2022. Application of Central Composite Design for Development of Celecoxib Loaded Lipospheres: Formulation and in-vitro Characterization. *Indian Journal of Pharmaceutical Education and Research* 56(2): 405.
- Patil M, Pandit P, Udavant P, Sonawane S, Bhambere D. 2021. Development and optimization of proniosomal gel containing etodolac: in-vitro, ex-vivo and in-vivo evaluation. *ArsPharmaceutica* 62 (3).
- Thombre N, Jangam P, Umarani R, Kulkarni N, Kshirsagar S. 2022. Development and evaluation of Deferasirox-loaded nanoparticles for the treatment of breast cancer: in-vitro evaluation and cell line study. *ArsPharmaceutica* 63 (3): 209-221.
- Nemade L, Patil M. 2023. Formulation development, optimization, and evaluation of lansoprazole loaded nanosuspension. *International Journal of Applied Pharmaceutics* 15 (3) 208-219.
- Patil M, Borade S, Bhambere D, Kshirsagar S. 2022. Mesoporous silica nanoparticles of hesperidin: synthesis and in vitro characterization. *Indian Drugs* 59(9): 50-55.
- Patil M, Bhagade P, Amale M, Sonawane S, Kshirsagar S. 2021. Development of sertaconazole nitrate loaded nanostructured lipid carriers gel using central composite design: in-vitro and ex-vivo evaluation. *Nanoscience and Nanotechnology-Asia* 11 (1): 132-143.
- Dashputre NL, Laddha UD, Pagare TD, Kadam J, Patil S, Tajanpure AB, Udavant PB, Kakad SP, Kshirsagar SJ. 2023. Fabrication of nanoparticulate system for oral delivery of Naringenin against paraquat-induced Parkinson's disorder in Wistar rats. *European Journal of Medicinal Chemistry Reports* 8:100105.

15. Thombre N, Patil Y. 2022. Domperidone loaded Caesalpinia pulcherrima galactomannan-based microspheres for nasal administration: In-vitro and In-vivo studies. Songklanakarin Journal of Science & Technology 44(5):1314–1322.
16. Kakad SP, Kshirsagar SJ. 2021. Nose to brain delivery of Efavirenz nanosuspension for effective Neuro AIDS therapy: In-vitro, In-vivo and pharmacokinetic assessment. Heliyon 7 (11): E08368
17. Kakad SP, Kshirsagar SJ. 2022. Nose to brain delivery of nanosuspensions with first line antiviral agents is alternative treatment option to Neuro-AIDS treatment. Heliyon 8 (7): E09925
18. Kakad SP, Kshirsagar SJ. 2021. Formulation and optimization of ritonavir nasal nanosuspension for brain targeting. Indian Drugs 58 (4).
19. Kakad PS, Kshirsagar SJ. 2023. Development of nano emulsion of antiviral drug for brain targeting in the treatment of neuro-AIDS. Beni-Suef University Journal of Basic and Applied Sciences 11: 1-10.
20. Laddha UD, Kshirsagar SJ. 2020. Formulation of PPAR-gamma agonist as surface modified PLGA nanoparticles for non-invasive treatment of diabetic retinopathy: in vitro and in vivo evidences. Heliyon 6(8): E04589
21. Laddha UD, Kshirsagar SJ. 2021. Formulation of nanoparticles loaded in situ gel for treatment of dry eye disease: In vitro, ex vivo and in vivo evidences. Journal of Drug Delivery Science and Technology 61: 102113.
22. Laddha UD, Kshirsagar SJ, Sayyad LS, Ahmed MT, Gaikwad SS, Udavant PB, Kulkarni AD. 2022. Development of surface modified nanoparticles of curcumin for topical treatment of diabetic retinopathy: In vitro, ex vivo and in vivo investigation. Journal of Drug Delivery Science and Technology 76: 103835.
23. Laddha UD, Sandhan PD, Gaikwad SS, Moravkar KK, Kshirsagar SJ. 2023. Fabrication of pioglitazone nanoparticles loaded polymeric dispersion for treatment of dry eye disease with in vitro and in vivo investigation. Journal of Drug Delivery Science and Technology 81: 104267.
24. Chhajed SS, Laddha UD, Sonawane SS, Pekhale M, Thorat P, Kshirsagar S, Sangshetti J. 2024. Formulation, Development and Characterization of PLGA-Luliconazole Nanoparticles Loaded Gel System for Topical Fungal Treatment. Indian Journal of Pharmaceutical Education and Research 58 (1S): s187-s195.
25. Dashputre NL, Laddha UD, Darekar PP, Kadam JD, Kshirsagar SJ. 2023. Potential therapeutic effects of naringin loaded PLGA nanoparticles for the management of Alzheimer's disease: In vitro, ex vivo and in vivo investigation. Heliyon 9: e19374.
26. Dashputre NL, Laddha UD, Patil SB, Kadam JD, Kshirsagar SJ. 2023. An insight to development and in-vitro, ex-vivo, in-vivo study of effect of naringenin nanoparticles against letrozole induced polycystic ovarian syndrome in female wistar rats. Journal of Drug Delivery Science and Technology 90C: 105129.
27. Laddha UD, Chikhale SS, Dashputre NL, Gaikwad SS, Moravkar KK, Kshirsagar SJ. 2023. Development and in vitro, ex vivo, in vivo investigation of curcumin loaded nanoparticles in management of dry eye disease. Journal of Drug Delivery Science and Technology 87: 1-8.

28. Thombre NA, Laddha UD, Ahire ED, Tajanpure AB et al. 2023. Formulation Development and Evaluation of Herbal Antifungal Cream by using Psidiumguajava Leaf Extract. International Journal of Drug Delivery Technology 13 (4): 1229-1234.
29. Gaikwad SS, Kshirsagar SJ. 2024. Application of Tablet in Tablet technique to design and characterize immediate and modified release tablets of Timolol maleate. Heliyon 10 (3): E25820.
30. Dashputre NL, Bandawane DD. 2021. Effect of Abelmoschusficulneus (L.) Wight & Arn. on immunomodulation: in vivo experimental animal models. Future Journal of Pharmaceutical Sciences 7(149).
31. Udavant P, Kanade G, Khairnar S, Sable R, Dashputre N, Tajanpure A, Rishipathak D, Chhajed S, Tanzeel M, D'Souza S, Ahmad N. 2023. Preclinical Evaluation of Nerolidol'sHepatoprotective and Nephroprotective Potential. Biomedical and Pharmacology Journal 16 (4) 2083-2097.
32. Deokar GS, Raut SS, Kshirsagar SJ. 2019. An attempt to understand and validate the factors controlling in-situ raft formation process. International Journal of Pharmaceutical Sciences and Research 10 (10): 4657-67.
33. Deokar GS, Shewale S, Kshirsagar SJ. 2019. Impact of hydrothermal isolation method on the recovery of fenugreek seed hemi-cellulose analyzed through FTIR- DSC-SEM interpretations. International Journal of Pharmaceutical Sciences and Research 10 (10): 4677-84.
34. Shelke R, Rishipathak D. 2023. Development and validation of a new bioanalytical method for quantification of CDK4/6 inhibitor in Spiked Human Plasma by HPLC-UV. Current Issues in Pharmacy and Medical Sciences 36 (2): 81-86.
35. Sonawane S, Chhajed S, Amale M, Patil M et al. 2019. Development and Validation of Stability- Indicating HPLC Method for Estimation of Sertaconazole Nitrate in Bulk and Topical Formulation: Application to Chemical Kinetics. Analytical Chemistry Letters 9 (1) 86-95.
36. Sonawane S, Deore A, Jadhav K, Khapare P, Laddha U, Patil M, Chhajed S. 2022. Bridging Pharmaceutical Analysis with Computational Chemistry to Ascertain the Pharmacokinetic and Toxicological Profiling of Febuxostat and its Diacid Impurity. Analytical Chemistry Letters 12(2): 221-232.
37. Chhajed SS, Sonawane SS, More PK, Chaudhari H, Kshirsagar SJ. 2023. HPLC Method Development, Validation and Application to Determining In-Vitro Effect of Levofloxacin on the Availability of Gliclazide. Pharmaceutical Chemistry Journal 57: 445-450.
38. Kankate RS, Gide PS, Belsare DP. 2019. Design, synthesis and antifungal evaluation of novel benzimidazole tertiary amine type of fluconazole analogues. Arabian Journal of Chemistry 12 (8): 2224 – 2235.
39. Deore AS, Khairnar MV, Shelke RU. 2022. One-pot, Two-step, Three-Component Synthesis of 2,4-Diamino-3-cyano-5- benzoyl-thiophenes Using Cyanoacetamides and Evaluation of their Biological Activity. Indian Journal of Heterocyclic Chemistry 32(1): 97-102.
40. Kankate RS, Nathe VC, Kshirsagar SJ, Surse SN, Bhalerao SA, Ghodke S, Sadhwani JA. 2023. Bioisosterism based Design, Synthesis and Antifungal Evaluation of Novel Fluconazole Analogues. Asian Journal of Chemistry 35 (10).



41. Kankate RS, Deshmukh S, Haque Z, Ahire E, Kshirsagar S. 2023. Producing Highly Predictive QSAR Models of Benzimidazole Derivatives As Potent Antifungal Agents. *Journal of Pharmaceutical Negative Results* 14: 2285-2293.
42. Kankate RS, Pawar V, Abhang P, Bhalerao K et al. 2023. Microwave-Assisted Synthesis and Antifungal Evaluation of 1, 2, 4-Triazole Derivatives. *Journal of Pharmaceutical Negative Results* 14(2): 2294-2301.
43. Sonawane SS, More SS, Chhajed SS, Kshirsagar SJ. 2019. Simultaneous estimation of dapaglifozin and saxagliptin in tablets using two chemometric-assisted UV-spectrophotometric methods. *Indian Drugs* 56 (3): 32-38.
44. Sonawane SS, Chhajed SS, Attar SS, Kshirsagar SJ. 2019. An approach to select linear regression model in bioanalytical method validation. *Journal of Analytical Science and Technology* 10 (1): 1-7.
45. Sonawane SS, Chhajed SS, Jadhav D, Thombre N, Kshirsagar SJ. 2020. Development and validation of stability-indicating HPLC method for the quantification of Levetiracetam in bulk and oral solution: application to chemical kinetics. *Pharmaceutical Chemistry Journal* 54 (8) 870-876.
46. Sonawane SS, Patil A, Chhajed SS, Lalchandani D, Kshirsagar SJ. 2021. Development of A Validated Stability-Indicating Method For Estimation of Ethionamide In Tablets By RP-HPLC And Characterization Of Its Isolated Alkali Degradation Product. *Indian Drugs* 58 (1): 20-27.
47. Sonawane SS, Shinde P, Joshi G, Kshirsagar SJ. 2021. Development and Validation of High-performance Liquid Chromatography Method for Estimation of Seratrodast in Spiked Human Plasma. *Thai Journal of Pharmaceutical Sciences* 45(5):374 – 378.
48. Sonawane SS, Bankar PC, Kshirsagar SJ. 2021. Stability-indicating LC method for quantification of azelmidipine: synthesis and characterization of oxidative degradation product. *Turkish Journal of Pharmaceutical Sciences* 18 (5): 550-556.
49. Chhajed SS, Gupta P, Kshirsagar S, Tomar S, Sundararajan R. 2020. N-(2-(1H-benzo[d]imidazol-2-yl)Phenyl)-2- (Substituted-styryl)Aniline as Anti-proliferative Agents: Rejuvenating the Importance of Low Molecular Weight Ligands in Oncotherapeutics. *Indian Journal of Pharmaceutical Education and Research* 54 (2):432-439.
50. Chhajed SS, Rajderkar Y, Tajanpure A, Sangshetti J, Mahapatra D, Kshirsagar S. 2020. Solvent Drop Grinding Approach Assisted Development of Glimepiride Co-crystals: Solubility Enhancement Journey of BCS Class-II Product. *Indian Journal of Pharmaceutical Education and Research* 54 (3): 602-609.
51. Deokar GS, Deokar AM, Kshirsagar SJ, Buranasompob A, Nirmal NP. 2023. Extraction, physicochemical characterization, functionality, and excipient ability of corn fiber gum-starch isolate from corn milling industry waste. *International Journal of Pharmaceutics* 645: 123401.
52. Deokar G, Shinde P, Kshirsagar S. 2022. In- vitro biorelevant media and time simulation probiotic proliferation methodology to determine prebiotic potentials of flaxseed powder. *Bioactive Carbohydrates and Dietary Fibre* 28: 100335

53. ChhajedSS, Shinde PE, Kshirsagar SJ, Sangshetti JN et al. 2020. De-novo design and synthesis of conformationally restricted thiazolidine-2,4-dione analogues: highly selective PPAR- $\gamma$  agonist in search of anti-diabetic agent. *Structural chemistry* 31(8): 1375-1385.
54. UdavantP, Gurav P, Kanade G, Dashputre N, Sable R, Khairnar S et al. 2023 Evaluation of hepatoprotective and nephroprotective effect of  $\alpha$ -pinene on wistar albino rat. *Biomedical and Pharmacology Journal* 16 (1): 103-112.

**iv) List of Review Publications in SCI Journals only during the last 5 years.**

1. Gaikwad, S.S. and Kshirsagar, S.J., 2020. Review on Tablet in Tablet techniques. *Beni-Suef university journal of basic and applied sciences*, 9, pp.1-7.
2. Thombre, N., Thete, M. and Shimpi, P., 2020. Review on Role of Herbs in Management of Oral diseases. *Asian Journal of Pharmaceutical Research*, 10(4), pp.321-326.
3. Kakad, S.P. and Kshirsagar, S.J., 2020. Neuro-AIDS: current status and challenges to antiretroviral drug therapy (ART) for its treatment. *Current Drug Therapy*, 15(5), pp.469-481.
4. Rudrapal, M., Khairnar, S.J., Borse, L.B. and Jadhav, A.G., 2020. Coronavirus disease-2019 (COVID-19): an updated review. *Drug research*, 70(09), pp.389-400.
5. Rudrapal, M., Khairnar, S.J. and Jadhav, A.G., 2020. Drug Repurposing (DR): An Emerging Approach in Drug. *Drug Repurposing: Hypothesis, Molecular Aspects and Therapeutic Applications*, p.3.
6. Rudrapal, M., Khairnar, S.J. and Jadhav, A.G., 2020. Drug Repurposing (DR): An Emerging Approach in Drug. *Drug Repurposing: Hypothesis, Molecular Aspects and Therapeutic Applications*, p.3.
7. Rudrapal, M., Khairnar, S.J., Hussain, N. and Sarwa, K.K., 2020. Biosimilars: present status, challenges and future prospects. *Asian Journal of Science and Technology*, 11(12), pp.11376-11381.
8. Thombre, N., Thete, M. and Shimpi, P., 2020. Review on Role of Herbs in Management of Oral diseases. *Asian Journal of Pharmaceutical Research*, 10(4), pp.321-326.
9. Pawar, S., Khairnar, S., Patil, V. and Bhambar, R., 2020. Effect of vanillic acid on nerve conduction velocity in chronic constriction injury model of neuropathy. *Ind. J. Pharm. Educ. Res*, 54, pp.108-114.
10. Laddha, U.D. and Kshirsagar, S.J., 2020. Ppar Receptor Modulation And Its Implications In Diabetic Retinopathy: An Overview. *Journal of Critical Reviews*, 7(11), pp.3614-3625.
11. Bolmal, U.B., Manvi, F.V., Kotha, R., Palla, S.S., Paladugu, A. and Reddy, K.R., 2013. Recent advances in nanosponges as drug delivery system. *International Journal of Pharmaceutical Sciences and Nanotechnology (IJPSN)*, 6(1), pp.1934-1944.
12. Bastikar, V.A., Bastikar, A., Gupta, P.P., Pai, S.R. and Chhajed, S.S., 2020. Target related in silico analysis of Bergenin and tuberculosis management. *Biomedicine*, 40(4), pp.474-481.
13. Rudrapal, M., Khan, J., Dukhyil, A.A.B., Alarousy, R.M.I.I., Attah, E.I., Sharma, T., Khairnar, S.J. and Bendale, A.R., 2021. Chalcone scaffolds, bioprecursors of flavonoids: Chemistry, bioactivities, and pharmacokinetics. *Molecules*, 26(23), p.7177.
14. Ahire, E.D. and Kshirsagar, S.J., 2021. Immune responses induced by different vaccine platforms against coronavirus disease-19. *Exploration of Immunology*, 1(4), pp.243-257.

15. Reddy, P., Reddy, M.M., Reddy, R., Chhajed, S.S. and Gupta, P.P., 2021. Computational modelling and analysis of Pyrimidine analogues as EGFR inhibitor in search of anticancer agents. *Biomedicine*, 41(1), pp.130-138.
16. Marigoudar, J.B., Sarkar, D., Yuguda, Y.M., Abutayeh, R.F., Kaur, A., Pati, A., Mitra, D., Ghosh, A., Banerjee, D., Borah, S. and Barman, K., 2022. Role of vitamin D in targeting cancer and cancer stem cell populations and its therapeutic implications. *Medical Oncology*, 40(1), p.2.
17. Deshmukh, M.D., Patil, M.P., Ahire, E.D. and Gosavi, S.B., 2022. Shatdhauta Ghrita: A Promising agent in the development of herbal creams. *J Pharm Negat Result*, 13(1), pp.1332-1343.
18. Udavant, P.B., Sable, R.R., Khairnar, S.J., Chavan, S.R., Torane, A.P. and Kanade, G.N., 2022. A Review on Neurodegenerative Diseases with their Suitable Animal Models. *Biosciences Biotechnology Research Asia*, 19(3), pp.579-587.
19. Rudrapal, M., Maji, S., Prajapati, S.K., Kesharwani, P., Deb, P.K., Khan, J., Mohamed Ismail, R., Kankate, R.S., Sahoo, R.K., Khairnar, S.J. and Bendale, A.R., 2022. Protective effects of diets rich in polyphenols in cigarette smoke (CS)-induced oxidative damages and associated health implications. *Antioxidants*, 11(7), p.1217.
20. Khairnar, S.J., Kasar, D.S., Patil, J.G., Gayake, R.S., Gosavi, P.S. and Chavan, S.R., 2022. Magnetic Drug Delivery System: New Hope for Cancer Patients. *Biosciences Biotechnology Research Asia*, 19(1), pp.191-198.
21. Shelke, R. and Rishipathak, D., 2022. Recent Upgradation in Bioanalytical Studies. *Biosciences Biotechnology Research Asia*, 19(1), p.121.
22. Mahajan, S., Dave, H., Bothe, S., Mahpatra, D., Sonawane, S., Kshirsagar, S. and Chhajed, S., 2022. Objective Monitoring of Cardiovascular Biomarkers using Artificial Intelligence (AI). *Asian Journal of Pharmaceutical Research*, 12(3), pp.229-234.
23. Surana, K.R., Parkhe, A.G., Ahire, E.D., Pawar, A.R., Khairnar, S., Mahajan, S.K., Patil, D.M., Sonawane, D.D. and Kshirsagar, S.J., 2022. Current therapeutic targets for neuropathic pain. *Asian Journal of Pharmaceutical Research*, 12(1), pp.96-104.
24. Khairnar, S.J. and Jadhav, G.B., 2023. Neuroprotective Action of Polyphenols and Phenolic Compounds: An Overview. *Biosciences Biotechnology Research Asia*, 20(3), pp.793-816.
25. Gaikwad, S.S., Morade, Y.Y., Kothule, A.M., Kshirsagar, S.J., Laddha, U.D. and Salunkhe, K.S., 2023. Overview of phytosomes in treating cancer: Advancement, challenges, and future outlook. *Heliyon*, 9(6).
26. Gandla, K., Babu, A.K., Unnisa, A., Sharma, I., Singh, L.P., Haque, M.A., Dashputre, N.L., Baig, S., Siddiqui, F.A., Khandaker, M.U. and Almujally, A., 2023. Carotenoids: Role in neurodegenerative diseases remediation. *Brain sciences*, 13(3), p.457.
27. Agiwale, B.T., Jadhav, A.B., Kshirsagar, S.J., Bele, M.H., Sonawane, C.R., Kakad, S.P. and Ahirrao, S.P., 2023. Liposomal Drug Delivery System as an Emerging Technique for Treatment of "Neurodegenerative Diseases". *Current Nanomedicine (Formerly: Recent Patents on Nanomedicine)*, 13(1), pp.17-26.

28. Gaikwad, S.S., Kothule, A.M., Morade, Y.Y., Patil, S.S., Laddha, U.D., Kshirsagar, S.J. and Salunkhe, K.S., 2023. An overview of the implementation of SeDeM and SSCD in various formulation developments. *International Journal of Pharmaceutics*, 635, p.122699.
29. Gaikwad SC, Pathare S, More M, Waykhinde N, Laddha UD, Salunkhe K, Kshirsagar SJ et al. 2023. Dry Powder Inhaler with the technical and practical obstacles and forthcoming platform strategies. *Journal of Controlled Release* 355: 292-311.
30. Keservani, R.K., Ahire, E.D., Singh, A.K., Maurya, N.K. and Maurya, P., 2023. Natural bio-enhancer for bioavailability enhancement. *Current Issues in Pharmacy and Medical Sciences*, 36(3), pp.140-144.
31. Saindane, R.A. and Thombre, N.A., 2023. Drug–Drug Cocrystals: A Promising Approach to Overcome Barriers in Pain Management. *Crystal Research and Technology*, 58(7), p.2300029.
32. Koirala, P., Malav, O.P., Rai, S., Palanisamy, G., Agrawal, A., Dhar, B.K., Bekhit, A.E.D.A., Deokar, G.S. and Nirmal, N., 2024. Impact of non-bovine milks and milk products on human gut microbiota: A perspective towards sustainable healthy food production. *Trends in Food Science & Technology*, p.104642.
33. Sharma, P., Nangare, S.N., Bagade, S.B., Sonawane, S.S. and Patil, D.D., 2024. Hydrogen Peroxide Quantification Using Zero Dimensional Carbon Nanostructured Materials: A Review. *Critical Reviews in Analytical Chemistry*, pp.1-21.
34. Kshirsagar, S.J., Adhav, P.S., Laddha, U.D., Ganore, J.S., Pagar, C.S. and Bambal, V.R., 2025. Navigating psoriasis: From immune mechanisms to natural healing approaches. *International Immunopharmacology*, 144, p.113626.
35. Gaikwad, S.S., Morales, J.O., Lande, N.B., Catalán-Figueroa, J., Laddha, U.D. and Kshirsagar, S.J., 2024. Exploring paediatric oral suspension development: Challenges, requirements, and formulation advancements. *International journal of pharmaceutics*, p.124169.
36. Deokar, G.S., Pathak, V.A., Kshirsagar, S.J., Al-Asmari, F. and Nirmal, N., 2025. Enhancement of vitamin B12 in plant-based food through microbial fermentation-a sustainable food system. *Food Chemistry*, p.144437.

**Paper published in top 10 Journals (Impact Factor):**

1. Trends in Food Science & Technology (15.1)
2. Journal of Controlled Release (11.4)
3. Frontiers in pharmacology (6.3)
4. Arabian Journal of Chemistry (6.0)
5. International Journal of Pharmaceutics (5.8)
6. Carbohydrate Polymer Technologies and Applications (5.5)
7. Journal of Drug Delivery Science and Technology (5.0)
8. MDPI: Molecule (4.972)
9. Saudi Journal of Biological Sciences (4.4)
10. Heliyon (4)



**Granted Patent List:**

Sr. No.	Patent Title	Patent No.	Inventors	Year
1.	Caffeine soyaphosphatidyl choline complex and applications thereof	507878	Sanjay Kshirsagar, Santosh Chhajer, Sonali Patil, Debarshikar Mahapatra, Moreshwar Patil, Sandeep Sonawane, Umesh Laddha	2024
2.	Indomethacin derivatives as a multi-targeting agent for alizimers management and process for synthesis	491697	Dinesh Rishipathak	2023
3.	Fabrication of surface modified nanoparticles of PPAR-gamma agonist for noninvasive management of Diabetic Retinopathy.	458439 (Ind.)	Sanjay Kshirsagar, Laddha Umesh	2023
4.	A nasal efavirenz nano- suspension for the targeted drug delivery in Neuro-Aids	467539 (Ind.)	Kakad Smita, Sanjay Kshirsagar	2023
5.	Enhancement of transcorneal permeation and sustained release of timolol maleate from developed and optimized in situ gel with better safety profile	472620 (Ind.)	Laddha Umesh	2023
6.	Formulation of nanoparticles laden in situ gel (NPLISG) for treatment of Dry Eye Disease	486669	Sanjay Kshirsagar, Laddha Umesh	2023
7.	A method of preparation of Embelia Tsjeriam Cottam for preliminary and phytochemical studies	20211066 14 (Aust.)	Laddha Umesh	2021
8.	Natural oil based nail polish remover composition and process of preparation thereof	369716 (Ind.)	Abhijeet Belekar, Kanchan Chaudhari, Supriya Bhamare, Nilima Thombre, Sanjay Kshirsagar	2021
9.	Herbal Nutritional filled chocolate & Composition Thereof	397008 (Ind.)	Rais Pathan, Shubham Pawar, Malvi Patel, Nikita Nathe, Seema Nikam, Smita Rupvate, Sanjay Kshirsagar	2021
10.	Formulation and evaluation of Poloxamer-407 and HPMC K15M based thermosensitive sol gel transition system of Dorzolamide Hydrochloride	355808 (Ind.)	Umesh Laddha	2020

**Major Industrial Project:**

1. Hovid Bhd, Malaysia, **Accelerated Stability Studies of Ayurvedic Products**, Malaysia.



**MET's Institute of Pharmacy,  
Bhujbal Knowledge City, Adgaon, Nasik, Maharashtra, India.**

2. Aarch Ayurveda, Kolhapur, **Assessment of antidiabetic activity of a polyherbal formulation, Kolhapur, MH, India.**
3. Chaitanya Pharmaceutical Pvt. Ltd., Nashik, **Tablet preparation and Accelerated Stability Studies of Ayurvedic Products, Nashik, MH, India**
4. Parmax Pharma Limited Rajkot, **Synthesis of p- dimethylaminobenz oicacid by green chemistry approach, Gujrat, India**
5. Deltas Pharma Pvt. Ltd., **Evaluation of anti-acne and antidandruff activity, Nashik, MH, India**
6. Amity University (M Tech students) , **Synthesis and analysis of derivatives of few active pharmaceutical ingredient, Mumbai, MH, India**
7. QCS LABS LLP Mumbai , **Pre-shipment Inspections, MH, India**
8. Messrs Herbicine, Mumbai , **Development of SLS free toothpaste, MH, India**
9. Homeopathy India Pvt. Ltd., Mumbai, **Development of cosmetics, MH, India**

