List of Publications

1. Synthesis and Characterization of Tröger's Base Amide-Functionalized Chitosan Polymer (TB_CONH@CS) for Enhanced Bioactivity and pH-Responsive Drug Delivery, Preeti Jaiswal, **Ruchi Chawla** & Pradip Kumar Dutta*, J. Chem. Sci.* **2026***,* accepted manuscript.
2. Substituent Effects in β-Nitrostyrene Chitosan Schiff Base Conjugates: pH-Responsive Delivery, Antioxidation, Antimicrobial, Cytotoxic and Antidiabetic Activities, Suryambika Arya, **Ruchi Chawla**, P. K. Dutta, *Wuhan Univ. J. Nat. Sci.*, **2026**, accepted manuscript.
3. Novel sulfoxide chitosan derivative: synthesis, characterization and antimicrobial, antioxidant and anti-cancer study and comparison with sulfone counterpart, Rajesh Kumar Saroj, **Ruchi Chawla** and Pradip Kumar Dutta*, Int. J. Polym. Mater. Polym. Biomater.* **2026**, 75:7, 810-819, DOI: 10.1080/00914037.2025.2605664*.* Impact factor: **2.6**
4. Cyanuric chloride mediated coupling of dicyandiamide with chitosan: synthesis, characterization and application in gene delivery, S. Jaiswal, P.K. Dutta, S. Kumar, **Ruchi Chawla**, *J. Polym. Res.* **2026**, 33:97, https://doi.org/10.1007/s10965-026-04825-6**.** Impact factor: **2.8**
5. Tröger's Base-Functionalized Chitosan: Design, Synthesis & Evaluation for Drug Delivery and Antioxidant Applications, Preeti Jaiswal, **Ruchi Chawla** & Pradip Kumar Dutta*, J. Biomater. Sci. Polym. Ed.* **2025***,* 1-24*. DOI:* 10.1080/09205063.2025.2558694. Impact factor: **3.6**
6. Preparation, Characterization and Evaluation of Quercetin-g-Chitosan Polypyrrole Nanocomposites for Near-Infrared Photothermal Cancer Therapy and Reducing Oxidative Damage towards Healthy Cells, Prabha Bhartiya, **Ruchi Chawla** and Pradip K. Dutta, *ES Chem. Sustain.* **2025**, 4, 1611, DOI: https://dx.doi:/10.30919/cs1611
7. β-nitrostyrene derived chitosan Schiff base: synthesis, characterisation and biological applications, Suryambika Arya, **Ruchi Chawla**, P. K. Dutta, *J. Indian Chem.*

Soc., **2025**, 102, 101650. https://doi.org/10.1016/j.jics.2025.101650. Impact factor: **3.4**

8. Arylazo sulfones: multifaceted photochemical reagents and beyond, **R. Chawla**, A. K. Singh and P. K. Dutta, *Org. Biomol. Chem.* **2024**, 22, 869-893. DOI: 10.1039/D3OB01599H. Impact factor: **2.7**

9. Physicochemical and biological evaluation of 'click' synthesised vinyl epoxide-chitosan film for active food packaging**,** D. Pal Manisha, **Ruchi Chawla** & Pradip Kumar Dutta, *Int. J. Biol. Macromol.* **2024**, 282, 136816, https://doi.org/10.1016/j.ijbiomac.2023.124290. Impact factor: **8.5**

10. Visible light promoted click [3+2] cycloaddition of aziridine with alkyne: An efficient synthesis of dihydropyrrolidine, Ritu Kapoor, **Ruchi Chawla**, Ankit Verma, Twinkle Keshari and I. R. Siddiqui, *Synlett* **2023**, 34(13): 1621-1625. DOI: 10.1055/a-2099-6309. Impact factor: **1.7**

11. One-pot synthesis of sulfone based chitosan derivative from alkene: characterization, antimicrobial, antioxidant and anti-cancer activity, Rajesh Kumar Saroj, **Ruchi Chawla** and Pradip Kumar Dutta*, J. Macromol. Sci.* A **2023**, 60, 367-373. https://doi.org/10.1080/10601325.2023.2206857. Impact factor: **2.4**

12. 'Click' synthesized calcium-chitosan-triazole nanocomplex from CaC_2 as an efficient drug carrier, antimicrobial and antioxidant polymer, D. Pal Manisha, **R. Chawla** and P.K. Dutta, *Int. J. Biol. Macromol.* **2023**, 240, 124290, https://doi.org/10.1016/j.ijbiomac.2023.124290. Impact factor: **8.5**

13. Folate receptor targeted chitosan and polydopamine coated mesoporous silica nanoparticles for photothermal therapy and drug delivery, Prabha Bhartiya, **Ruchi Chawla** and Pradip K. Dutta*,* J. Macromol. Sci. A **2022**, 59 (12), 810-817. https://doi.org/10.1080/10601325.2022.2135443. Impact factor: **2.4**

14. pH-Responsive Charge-Convertible *N*-Succinyl Chitosan-Quercetin Coordination Polymer Nanoparticles for Effective NIR Photothermal Cancer Therapy, Prabha Bhartiya, **Ruchi Chawla** and Pradip K. Dutta*, Macromol. Chem. Phys.* **2022**, 223 (19), 2200140. Impact factor: **2.7**. doi.org/10.1002/macp.202200140

15. Click-synthesized non-substituted triazole modified chitosan from CaC_2 as a novel antibacterial and antioxidant polymer, Pal Manisha D., **Ruchi Chawla** and P. K. Dutta, *J. Polym. Res.* **2022**, 29: 179. Impact factor: **2.8**. doi.org/10.1007/s10965-022-03032-3
16. A photocatalyst-free visible-light mediated solvent-switchable route to stilbenes/vinyl sulfones from β-nitrostyrenes and arylazo sulfones, **Ruchi Chawla**,* Shefali Jaiswal, P. K. Dutta and Lal Dhar S. Yadav, *Org. Biomol. Chem.* **2021**, *19*, 6487-6492. Impact factor: **2.7**. https://doi.org/10.1039/D1OB01028J
17. Chitosan modified by organo-functionalities as an efficient nanoplatform for anti-cancer drug delivery process, S. Jaiswal, P.K. Dutta, S. Kumar, **Ruchi Chawla**, *J. Drug Del. Sci. Technol.* **2021**, *62*, 102407. Impact factor: **4.9**, https://doi.org/10.1016/j.jddst.2021.102407
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19. Visible-Light-Enabled Aerobic Denitrative C3-Alkenylation of Indoles with β-Nitrostyrenes, **Ruchi Chawla**, Ritu Kapoor, Lal Dhar S. Yadav, *Synlett* **2020**, *31* (14), 1394-1399. Impact factor: **1.7**, DOI: 10.1055/s-0040-1707099
20. Photocatalyst-free visible light driven synthesis of (*E*)-vinyl sulfones from cinnamic acids and arylazo sulfones, **Ruchi Chawla**, Shefali Jaiswal, P.K. Dutta, Lal Dhar S. Yadav, *Tetrahedron Lett.* **2020**, *61*, 151898. Impact factor: **1.5**, https://doi.org/10.1016/j.tetlet.2020.151898
21. $K_2S_2O_8$-mediated decarboxylative oxysulfonylation of cinnamic acids: A transition-metal-free synthesis of β-keto sulfones, **Ruchi Chawla**, Ritu Kapoor, Lal Dhar S. Yadav, *Tetrahedron Lett.* **2019**, *60*, 150964. Impact factor: **1.5**, https://doi.org/10.1016/j.tetlet.2019.150964
22. Organic photoredox catalysis enabled cross-coupling of arenediazonium and sulfinate salts: synthesis of (un)symmetrical diaryl/alkyl aryl sulfones, **Ruchi Chawla**,

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26. Aerobic oxysulfonylation of alkenes using thiophenols: an efficient one-pot route to β-ketosulfones, Atul K. Singh, **Ruchi Chawla**, Twinkle Keshari, Vinod K. Yadav, Lal Dhar S. Yadav, *Org. Biomol. Chem.* **2014***,* 12 (42), 8550-8554. Impact factor: **2.7,** DOI: 10.1039/C4OB00776J
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Book/Book chapters

1. Chitosan for wound healing in the light of skin tissue engineering and stem cell research, book chapter, Springer Nature Singapore, **Ruchi Chawla** and P.K. Dutta, Ed. Faheem A. **2021**, 351-379 in *Engineering Materials for Stem Cell Regeneration*. ISBN:978-981-16-4420-7, DOI: 10.1007/978-981-16-4420-7_14
2. 'Biopolymer Composites', Elsevier, P.K. Dutta, Santosh Kumar, **Ruchi Chawla** and D. Pal Manisha, Ed. Pralay Maiti, **2025** in *Comprehensive Polymer Science*, 2e, ISBN: 9780128035818, https://doi.org/10.1016/B978-0-323-95486-0.00116-2