

## Sanjay Tiwari, Ph.D.

Associate Professor of Pharmaceutics

NIPER-Raebareli

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### Education

Postdoctoral Research	Institute of Drug Research, The Hebrew University of Jerusalem, Israel	2015 - 2017 2008 - 2011
Ph.D.	Indian Institute of Technology (Banaras Hindu University), INDIA	
M. Pharm.	Indian Institute of Technology (Banaras Hindu University), INDIA	2005 - 2007
B. Pharm.	U.P. Technical University, INDIA	2001 - 2005

### Teaching experience

**Associate Professor – Pharmaceutics** (NIPER-Raebareli; Feb 24, 2021 till date)

**Assistant Professor – Pharmaceutics** (UKA Tarsadia University; Feb 24, 2012 – Feb 19, 2021)

**Lecturer - Pharmaceutics** (HCPG College, Varanasi; August 2007 - January 2008)

### Grants and extramural projects

1. Research Grant of Rupees 14.4 Lakh from UGC-DAE CSR, Mumbai - **Ongoing**
2. Research Grant of Rupees 31.8 Lacs from DST-SERB under ECR Scheme – **Complete (2021)**
3. Grant of Rupees 200 Lakh by Govt. of Gujarat under Student Startup and Innovation Policy (SSIP)
4. Research Grant of Rupees 7.8 Lacs from GUJCOST, Gandhinagar - **Complete**
5. Seminar Grant of Rupees 1.3 Lacs from GUJCOST, Gandhinagar

### Academic Credentials, Awards and Honors

1. Postdoctoral Fellowship of Hebrew University of Jerusalem, Israel
2. Gandhian Young Technological Innovation Award - 2014 (Technological-Edge Category)
3. '2011 IT-BHU Publication Award' by Global IT-BHU Alumni Association
4. Best Poster Award in a DST-sponsored National Seminar held at Sikkim (India)
5. Research Fellowship of UGC, ICMR and CSIR during Ph.D. research
6. Fellowship of University Grants Commission during M. Pharm.
7. Passed M. Pharm. with honors
8. Qualified GATE 2005 in Pharmaceutical Sciences with a percentile of 99.56 (AIR – 49)

### Research guidance

M. Pharm. students: 20

Ph.D. students: 04 (pursuing)

## Research/ Review Articles Published in Refereed Journals

1. Shirisha Kanike, Jayant Sarolia, Jastarn Toor, Debes Ray, Vinod K. Aswal, **Sanjay Tiwari**. Loading of alpha-tocopherol in a nonionic microemulsion: phase behaviour and structural characteristics. 660 (2022) 130785. **Impact factor: 5.5**
2. Priyanka Tiwari, **Sanjay Tiwari**. Detection and modulation of neurodegenerative processes using graphene-based nanomaterials: Nanoarchitectonics and applications. Advances in Colloid and Interface Science. 311 (2022) 102824. **Impact factor: 15.2**
3. Mitesh Dwivedi, **Sanjay Tiwari**, E. Helen Kemp, Rasheedunnisa Begum. Implications of regulatory T cells in anti-cancer immunity: from pathogenesis to therapeutics. Heliyon 8 (2022) e10450. **Impact factor: 3.7**
4. Sachin Rathod, Shristi Arya, Shirisha Kanike, Shailesh A. Shah, Pratap Bahadur, **Sanjay Tiwari**. Advances on nanoformulation approaches for delivering plant-derived antioxidants: A case of quercetin. International Journal of Pharmaceutics 625 (2022) 122093. **Impact factor: 6.5**
5. Kansara V, **Tiwari S**, Patel M. Graphene quantum dots: A review on the effect of synthesis parameters and theranostic applications. Colloids and Surfaces B: Biointerfaces 217 (2022) 112605. **Impact factor: 5.9**
6. Jayant Sarolia, Deepak Kumar, Shailesh A Shah, Pratap Bahadur, **Sanjay Tiwari**. Thermodynamics of pluronic 103 micellization in mannitol solution: Analyses based on isothermal titration calorimetry. Colloids and Surfaces A 648 (2022) 129240. **Impact factor: 5.5**
7. Arya S, Patidar R, Ray D, Aswal VK, Ranjan N, Bahadur P, **Tiwari S**. Structural transitions in TPGS micelles induced by trehalose as a model cryoprotectant. Colloids and Surfaces A 642 (2022) 128714. **Impact factor: 5.5**
8. Kansara V, Shukla R, Flora SJS, Bahadur P, **Tiwari S**. Graphene quantum dots: synthesis, optical properties and navigational applications against cancer. Materials Today Communications 31 (2022) 103359. **Impact factor: 3.7**
9. Ekal NS, Patil R, Ranjan N, Bahadur P, **Tiwari S**. Oxidation state of graphene oxide nanosheets drives their interaction with proteins: a case of bovine serum albumin. Colloids and Surfaces B: Biointerfaces. 212 (2022) 112367. **Impact factor: 5.9**
10. **Tiwari S**, Dwivedi M. Rathod S, Bahadur P. Immunomodulation and anticancer immunity: reviewing the potential of probiotics and their delivery with macromolecular carriers. Critical Reviews in Therapeutic Drug Carrier Systems. 39 (2022) 97–120. **Impact factor: 4.9**
11. **Tiwari S**, Singh K, Marangoni DG, Bahadur P. Amphiphilic star block copolymer micelles in saline as effective vehicle for quercetin solubilization. Journal of Molecular Liquids (2022) 118259. **Impact factor: 6.6**
12. Rathod S, Patidar R, Ray D, Aswal VK, Shah SA, Ranjan N, Bahadur P, **Tiwari S**. Monosaccharide-induced growth and higher order transitions in TPGS micelles. Colloids and Surfaces A 632 (2022) 127792. **Impact factor: 5.5**
13. Singh YP, Shankar G, Jahan S, Singh G, Kumar N, Barik A, Upadhyay P, Singh L, Kamble K, Singh GK, **Tiwari S**, Garg P, Gupta S, Modi G. Further SAR studies on natural template based neuroprotective molecules for the treatment of Alzheimer's disease. Bioorganic & Medicinal Chemistry 46 (2021) 116385. **Impact factor: 3.6**
14. Patel D, Ray D, **Tiwari S**, Kuperkar K, Aswal VK, Bahadur P. SDS triggered transformation of highly hydrophobic Pluronics® nanoaggregate into polymer-rich and surfactant-rich mixed micelles. Journal of Molecular Liquids 345 (2021), 117812. **Impact factor: 6.6**

15. Sarolia J, Shukla R, Ray D, Aswal VK, Choudhury SD, Bahadur P, **Tiwari S**. Mobility of doxorubicin in TPGS micelles in response to sodium taurodeoxycholate incorporation: Analyses based on scattering and fluorescence studies. *Colloids and Surfaces A* 622 (2021) 126693. **Impact factor: 5.5**
16. Handa M, **Tiwari S**, Yadav AK, Almalki WH, Alghamdi S, Alharbi KS, Shukla R, Beg S. Therapeutic potential of nanoemulsions as feasible wagons for targeting Alzheimer's disease. *Drug Discovery Today*. 26 2021 2881-2888. **Impact factor: 8.4**
17. Rathod S, Arya S, Shukla R, Ray D, Aswal VK, Bahadur P, **Tiwari S**. Investigations on the role of edge activator upon structural transitions in Span vesicles. *Colloids and Surfaces A* 627 (2021) 127246. **Impact factor: 5.5**
18. **Tiwari S**, Ma J, Rathod S, Bahadur P. Solubilization of quercetin in P123 micelles: Scattering and NMR studies. *Colloids and Surfaces A* 621 (2021) 126555. **Impact factor: 5.5**
19. Singh A, Mallika TN, Gorain B, Yadav AK, **Tiwari S**, Flora SJS, Shukla R, Kesharwani P. Quantum dot: Heralding a brighter future in neurodegenerative disorders. *Journal of Drug Delivery Science and Technology*. 65 (2021) 102700. **Impact factor: 3.9**
20. Kumar AVP, Dubey SK, **Tiwari S**, Puri A, Hejmady S, Gorain B, Kesharwani P. Recent advances in nanoparticles mediated photothermal therapy induced tumor regression. *International Journal of Pharmaceutics* 606 (2021) 120848. **Impact factor: 6.5**
21. Patil R, Ray D, Aswal VK, Bussy C, Bahadur P, **Tiwari S**. Adsorption of P103 nanoaggregates on graphene oxide nanosheets: Role of electrostatic forces in improving nanosheet dispersion. *Langmuir*. 37 (2021) 867-873. **Impact factor: 4.3**
22. Gandhi SM, Khan AK, Rathod S, Jain R, Dubey SK, Ray D, Aswal VK, Joshi A, Bahadur P, **Tiwari S**. Water driven transformation of a nonionic microemulsion into liquid crystalline phase: Structural characterizations and drug release behavior. *Journal of Molecular Liquids*. 326 (2021) 115239. **Impact factor: 6.6**
23. Rathod S, Joshi A, Ray D, Aswal VK, Verma G, Bahadur P, **Tiwari S**. Changes in aggregation properties of TPGS micelles in the presence of sodium cholate. *Colloids and Surface A*. 2021, 610, 125938. **Impact factor: 5.5**
24. Patil R, Patel H, Pillai SB, Jha PK, Bahadur P, **Tiwari S**. Influence of surface oxygen clusters upon molecular stacking of paclitaxel over graphene oxide sheets. *Materials Science and Engineering: C*. (2020) 111232. **Impact factor: 7.3**
25. Rathod S, Bahadur P, **Tiwari S**. Nanocarriers based on vitamin E-TPGS: Design principle and molecular insights into improving the efficacy of anticancer drugs. *International Journal of Pharmaceutics*. (2020) 120045. **Impact factor: 6.5**
26. Patel D, Rathod S, **Tiwari S**, Kuperkar K, Ray D, Aswal VK, Bahadur P. Self-Association in EO–BO–EO Triblock Copolymers as a nanocarrier template for sustainable release of anticancer drugs. *Journal of Physical Chemistry B*. 124, (2020) 11750–11761. **Impact factor: 3.5**
27. **Tiwari S**, Sarolia J, Kansara V, Chudasama NA, Prasad K, Ray D, Aswal VK, Bahadur P. Synthesis, Colloidal Characterization and Targetability of Phenylboronic Acid Functionalized  $\alpha$ -Tocopheryl Polyethylene Glycol Succinate in Cancer Cells. *Polymers*. 12 (2020) 2258. **Impact factor: 4.9**
28. Hejmady S, Pradhan R, Alexander A, Agrawal M, Singhvi G, Gorain B, **Tiwari S**, Kesharwani P, Dubey SK. Recent advances in targeted nanomedicine as promising antitumor therapeutics. *Drug Discovery Today*, 25 (2020) 2227-2244. **Impact factor: 8.3**
29. **Tiwari S**, Kansara V, Bahadur P. Targeting Anticancer Drugs with Pluronic Aggregates: Recent Updates. *International Journal of Pharmaceutics*. (2020) 119544. **Impact factor: 6.5**

30. Patil R, Marathe D, Roy SP, Husain GM, Bahadur P, **Tiwari S**. Biosafety assessment of P103 stabilized graphene oxide nanosheets. *Materials Today Communications*. (2020) 101319. **Impact factor: 3.7**
31. Dubey SK, Salunkhe S, Agrawal M, Kali M, Singhvi G, **Tiwari S**, Saraf S, Saraf S, Alexander A. Understanding the Pharmaceutical Aspects of Dendrimers for the Delivery of Anticancer Drugs. *Current Drug Targets*. 21 (2020) 528-40. **Impact factor: 2.9**
32. **Tiwari S**, Patil R, Dubey SK, Bahadur P. Graphene nanosheets as reinforcement and cell-instructive material in soft tissue scaffolds. *Advances in Colloid and Interface Science*. 281 (2020) 102167. **Impact factor: 15.2**
33. Patil R, Marathe D, Roy SP, Ray D, Aswal VK, Jha PK, Bahadur P, **Tiwari S**. Colloidal stability of graphene oxide nanosheets in association with triblock copolymers: A neutron scattering analysis. *Materials Science & Engineering C*. 109 (2020) 110559. **Impact factor: 7.3**
34. Patel A, **Tiwari S**, Jha PK. Molecular interaction between bi-antennary phenylboronic acid and sialic acid using density functional theory and multi-time scale trajectories. *Journal of Biomolecular Structure & Dynamics*. 38 (2020) 1242-47. **Impact factor: 3.4**
35. Golwala P, Rathod S, Patil R, Joshi A, Ray D, Aswal VK, Bahadur P, **Tiwari S**. Effect of cosurfactant addition on phase behavior and microstructure of a water dilutable microemulsion. *Colloids and Surface B: Biointerfaces*. 186 (2020) 110736. **Impact factor: 5.9**
36. Patil R, Bahadur P, Tiwari S. Dispersed graphene materials of biomedical interest and their toxicological consequences. *Advances in Colloid and Interface Science*. 275 (2020) 102051. **Impact factor: 15.2**
37. Patil R, Kansara V, Ray D, Aswal VK, Jha PK, Bahadur P, Tiwari S. Slow degrading hyaluronic acid hydrogel reinforced with cationized graphene nanosheets. *International Journal of Biological Macromolecules*. 141 (2019) 232–239. **Impact factor: 8.02**
38. Vyas B, Pillai SA, **Tiwari S**, Bahadur P. Effects of head group and counter-ion variation in cationic surfactants on the microstructures of EO-PO block copolymer micelles. *Colloid and Interface Science Communications*. 33 (2019) 100216. **Impact factor: 5.6**
39. Pathan H, Patil R, Ray D, Aswal VK, Bahadur P, **Tiwari S**. Structural changes in non-ionic surfactant micelles induced by ionic liquids and application thereof for improved solubilization of quercetin. *Journal of Molecular Liquids*. 290 (2019) 111235. **Impact factor: 6.6**
40. Jain S, Pandey S, Sola P, Pathan H, Patil R, Ray D, Aswal VK, Bahadur P, **Tiwari S**. Solubilization of carbamazepine in TPGS micelles: effect of temperature and electrolyte addition. *AAPS PharmSciTech*. 20 (2019) 203. **Impact factor: 4.02**
41. **Tiwari S**, Patil R, Dubey SK, Bahadur P. Derivatization approaches and applications of pullulan. *Advances in Colloid and Interface Science*. 269 (2019) 296-308. **Impact factor: 15.2**
42. Patel A, **Tiwari S**, Jha PK. Theoretical investigations and density functional theory-based probe of the affinity interaction of saccharide ligands with extra-cellular sialic acid residues. *Journal of Biomolecular Structure & Dynamics*. 37 (2019) 1545-54. **Impact factor: 3.4**
43. Rathod V, Tripathi R, Joshi P, Jha PK, Bahadur P, **Tiwari S**. Paclitaxel encapsulation into dual-functionalized multi-walled carbon nanotubes. *AAPS PharmSciTech*. 20 (2019) 51. **Impact factor: 4.02**
44. **Tiwari S**, Patil R, Bahadur P. Polysaccharide based scaffolds for soft tissue engineering applications. *Polymers*. 11 (2019) 1. **Impact factor: 4.3**
45. **Tiwari S**, Bahadur P. Modified hyaluronic acid-based materials for biomedical applications. *International Journal of Biological Macromolecules*. 121 (2019) 556-571. **Impact factor: 8.02**
46. Kansara V, Patil R, Tripathi R, Jha PK, Bahadur P, **Tiwari S**. Functionalized graphene nanosheets with improved dispersion stability and superior paclitaxel loading capacity. *Colloids and Surfaces B: Biointerfaces*. 173 (2019) 421-8. **Impact factor: 5.9**
47. Sheth U, **Tiwari S**, Bahadur A. Preparation and characterization of anti-tubercular drugs

- encapsulated in polymer micelles. *Journal of Drug Delivery Science and Technology*. 48 (2018) 422-8. **Impact factor: 3.9**
48. Patidar P, Bahadur A, Prasad K, **Tiwari S**, Aswal VK, Bahadur P. Synthesis, self-assembly and micellization characteristics of choline alkanoate ionic liquids in association with a star block copolymer. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*. 555 (2018) 691-8. **Impact factor: 5.5**
  49. Rathod S, Tripathi R, Verma G, Aswal VK, Bahadur P, **Tiwari S**. Bioadhesive polymeric film-based integrative platform for the unidirectional carbamazepine release from a volatile microemulsion. *Colloids and Surfaces B: Biointerfaces*. 170 (2018) 683-91. **Impact factor: 5.9**
  50. **Tiwari S**. Mannosylated constructs as a platform for cell-specific delivery of bioactive agents. *Critical Reviews™ in Therapeutic Drug Carrier Systems*.35 (2018) 157-194. **Impact factor: 4.9**
  51. **Tiwari S**, Tirosh B, Rubinstein A. Increasing the affinity of cationized polyacrylamide-paclitaxel nanoparticles towards colon cancer cells by a surface recognition peptide. *International Journal of Pharmaceutics*. 531(2017) 281-91. **Impact factor: 6.5**
  52. Patel H, Patel K, **Tiwari S**, Pandey S, Shah S, Gohel M. Quality by Design (QbD) approach for development of co-processed excipient pellets (MOMLETS) by extrusion-spheronization technique. *Recent Patents on Drug Delivery & Formulation*. 10 (2016) 192-206. **Impact factor: 1.7**
  53. Patel H, Patel H, Gohel M, **Tiwari S**. Dissolution rate improvement of telmisartan through modified MCC pellets using 3<sup>2</sup> full factorial design. *Saudi Pharmaceutical Journal*. 24 (2016) 579-87. **Impact factor: 4.5**
  54. Navadiya K, **Tiwari S**. Pharmacology, efficacy and safety of felodipine with a focus on hypertension and angina pectoris. *Current Drug Safety* 10 (2015) 194. **Impact factor: 1.4**
  55. Patel SK, Shah DR, **Tiwari S**. Bioadhesive films containing fluconazole for mucocutaneous candidiasis. *Indian Journal of Pharmaceutical Sciences*. 77 (2015) 55. **Impact factor: 0.7**
  56. **Tiwari S**, Mistry P, Patel V. SLNs based on co-processed lipids for topical delivery of terbinafine hydrochloride. *Journal of Pharmaceutics & Drug Development*. 2 (2014) 1-8.
  57. **Tiwari S**, Chaturvedi AP, Tripathi YB, Mishra B. Microspheres based on mannosylated lysine-co-sodium alginate for macrophage-specific delivery of isoniazid. *Carbohydrate Polymers*. 87 (2012) 1575-82. **Impact factor: 9.4**
  58. **Tiwari S**, Chaturvedi AP, Tripathi YB, Mishra B. Macrophage-specific targeting of isoniazid through mannosylated gelatin microspheres. *AAPS PharmSciTech*. 12 (2011) 900. **Impact factor: 10.72**
  59. Jha RK, **Tiwari S**, Mishra B. Bioadhesive microspheres for bioavailability enhancement of raloxifene hydrochloride: formulation and pharmacokinetic evaluation. *AAPS PharmSciTech*. 12 (2011) 650-7. **Impact factor: 4.02**
  60. **Tiwari S**, Mishra B. Multilayered membrane-controlled microcapsules for controlled delivery of isoniazid. *DARU Journal of Pharmaceutical Sciences*, 19 (2011) 41. **Impact factor: 2.7**
  61. Mishra BB, Patel BB, **Tiwari S**. Colloidal nanocarriers: a review on formulation technology, types and applications toward targeted drug delivery. *Nanomedicine: Nanotechnology, Biology and Medicine*. 6 (2010) 9-24. **Impact factor: 6.5**
  62. Mishra B, Arya N, **Tiwari S**. Investigation of formulation variables affecting the properties of lamotrigine nanosuspension using fractional factorial design. *DARU Journal of Pharmaceutical Sciences*. 18 (2010) 1. **Impact factor: 2.7**
  63. **Tiwari S**, Singh S, Rawat M, Tilak R, Mishra B. L<sub>9</sub> orthogonal design assisted formulation and

evaluation of chitosan based buccoadhesive films of miconazole nitrate. Current Drug Delivery. 6 (2009) 305-16. **Impact factor: 2.6**

64. Singh S, Jain S, Muthu MS, **Tiwari S**, Tilak R. Preparation and evaluation of buccal bioadhesive films containing clotrimazole. AAPS Pharmscitech. 9 (2008) 660-7. **Impact factor: 4.02**

**MEMBERSHIPS: Scientific Societies**

- Life time member, Association of Pharmaceutical Teachers in India (APTI)
- Member (LM\_0055), Society for Positron Annihilation and Nuclear Probes (SPAN), Radiochemistry Division, BARC
- Academic Member, Athens Institute for Education and Research, Greece