

Dr (Mrs) Sabita Patel Assistant Professor Email: sabitap@nitrkl.ac.in Phone: 0661 - 2462659(O), 2463660(R)	
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Academic profile:

Ph.D. (2007) Sambalpur University, Physical Organic Chemistry

M.Phil (2000) Sambalpur University, Organic Chemistry

M.Sc (1999), Sambalpur University , Spl:Organic Chemistry

Research & Professional Experience :

- Assistant Professor, NIT Rourkela, India July 2008 – till date
- Postdoctoral Researcher, Dong A University, Busan, South Korea – March'08 to June'08
- Senior Research Fellow (Ext), CSIR, Sambalpur University, India – April'07 to February'08
- Senior Research Fellow, CSIR, Sambalpur University, India – August'05 to March'07
- Junior Research Fellow, CSIR, Sambalpur University, India – August'03 to July'05
- Junior Research Fellow, UGC, Sambalpur University, India-July'02 to July'03

Honours and Affiliation:

- 1999, University 2nd rank in M.Sc. Chemistry, sambalpur University, orissa, India
- 2000, University 2nd rank in M.Phil. Chemistry, sambalpur University, orissa, India
- 2002, JRF-CSIR-NET (rank within best 20%)
- 2005, Prof. R. C. Tripathy Young Scientist Award by Orissa Chemical Society
- 2006, Prof Dayanidhi Pattanaik Award for best paper of the year by Orissa Chemical Society
- 2007, Extended-Senior research Fellowship, CSIR, New Delhi
- 2008, Post-Doctoral Research Fellowship, Dong-A University, Busan, South Korea.

Research Interest:

Physical-Organic Chemistry, Organic reaction kinetics and Mechanism, Colloids and Interface Chemistry

Research Group:

Ph.D.Students:

(1) Ms. Sarita Garnayak (Since April 2010)

(2) Mr. Prakash Kr. Malik (Since July 2010)

M.S. Students:

(1) Mr. Santosh Ku. Behera (2011)

(2) Mr. Subhasis Kar (2011)

(3) Mr. Shailesh Kumar (2011)

Past M.Sc Students:

(1) Mr. Saroj Kumar Mahanta (2009)

(2) Mr Sukhamoy Gorai (2010)

(3) Mr Prakash Ku. Malik (2010)

Recent Publications:

1. M. Panigrahi, S. Dash, **Sabita Patel**, B. K. Mishra, Syntheses of Cyanines: A Review, *Tetrahedron* 68(2012)781-805.
2. **Sabita Patel**, S. Gorai, P. K. Malik, Preferential Solvation through selective functional group recognition in p-nitroaniline. *J. Photochem. Photobiol.*, 219(2011), 76-83.
3. M. Panigrahi, S. Dash, **Sabita Patel**, B. K. Mishra, Preferential Solvation of Styryl Pyridinium Dyes in Binary Mixtures of Alcohols with Hexane, Dioxane and Dichloromethane. *J. Phys. Chem. B*, 115(2011) 99-108.
4. S. Sahoo, **Sabita Patel**, B. K. Mishra, Quantitative Structure Property Relationship for Henry's Constant of some Alkane Isomers, *Thermochimica Acta*, 512 (2011) 273-277.
5. S. Dash, M. Panigrahi, S. Baliyarsingh, P. K. Behera, **S. Patel** and B. K. Mishra, Cyanine dyes - nucleic acids interactions, *Current Organic Chemistry*, 15 (2011), 2673-2689.
6. P. Mukherjee, S. Pradhan, S. Dash, **S. Patel** and B. K. Mishra Clouding behaviour in surfactants systems, *Adv. Coll. Interface Science*, 162 (2011) 59-79.
7. S. Sahoo, **S. Patel**, B. K. Mishra, Oxidation of Thiourea and Substituted Thioureas: A Review. *J Sulfur Chem.*, 32 (2011) 171-197.
8. P. Mukherjee, S. Pradhan, S. Dash, **S. Patel** and B. K. Mishra Effect of Temperature on Pseudoternary system Tween80-Butanol-Hexane-Water. *J. Colloid Interface Sci.*, 355(2011) 157.
9. P. Mukherjee, S. Sahu, S. Pradhan, S. Dash, **S. Patel** , P. K. Mohapatra and B. K. Mishra Temperature induced emulsification and demulsification of pseudoternary mixtures of Tween80-butanol-kerosene-water system, *Ind. Eng. Chem. Res.*, 50 (2011) 11889- 11896.

List of Publications:

10. M. Panigrahi, S. Dash, **Sabita Patel**, B. K. Mishra, Syntheses of Cyanines: A Review, *Tetrahedron* 68(2012)781-805.
11. **Sabita Patel**, S. Gorai, P. K. Malik, Preferential Solvation through selective functional group recognition in p-nitroaniline. *J. Photochem. Photobiol.*, 219(2011), 76-83.
12. M. Panigrahi, S. Dash, **Sabita Patel**, B. K. Mishra, Preferential Solvation of Styryl Pyridinium

Dyes in Binary Mixtures of Alcohols with Hexane, Dioxane and Dichloromethane. *J. Phys. Chem. B*, 115(2011) 99-108.

13. S. Sahoo, **Sabita Patel**, B. K. Mishra, Quantitative Structure Property Relationship for Henry's Constant of some Alkane Isomers, *Thermochimica Acta*, 512 (2011) 273-277.
14. S. Dash, M. Panigrahi, S. Baliyarsingh, P. K. Behera, **S. Patel** and B. K. Mishra, Cyanine dyes - nucleic acids interactions, *Current Organic Chemistry*, 15 (2011), 2673-2689.
15. P. Mukherjee, S. Pradhan, S. Dash, **S. Patel** and B. K. Mishra Clouding behaviour in surfactants systems, *Adv. Coll. Interface Science*, 162 (2011) 59-79.
16. S. Sahoo, **S. Patel**, B. K. Mishra, Oxidation of Thiourea and Substituted Thioureas: A Review. *J Sulfur Chem.*, 32 (2011) 171-197.
17. P. Mukherjee, S. Pradhan, S. Dash, **S. Patel** and B. K. Mishra Effect of Temperature on Pseudoternary system Tween80-Butanol-Hexane-Water. *J. Colloid Interface Sci.*, 355(2011) 157.
18. P. Mukherjee, S. Sahu, S. Pradhan, S. Dash, **S. Patel** , P. K. Mohapatra and B. K. Mishra Temperature induced emulsification and demulsification of pseudoternary mixtures of Tween80-butanol-kerosene-water system, *Ind. Eng. Chem. Res.*, 50 (2011) 11889- 11896.
19. P. Sahoo, S. Sahu, **Sabita Patel**, B. K. Mishra, Oxidation Kinetics of Arylthiourea by Cetyltrimethylammonium Dichromate, *Indian J Chem*, 49A (2010) 1483-87.
20. S. Sahu, P. Sahoo, **Sabita Patel**, B. K. Mishra, Oxidation of Arylthiourea by Cetyltrimethylammonium Dichromate, *Synthetic Communications*, 40 (2010) 3268-73.
21. B. K. Mishra, S. Sahu, S. Pradhan and **Sabita Patel**, Detection of tight ion-pair in some novel lipopathic oxidants from the monolayer at air-water interface. *Indian J. Chem*, 48A (2009) 1527.
22. S. Sahoo, **Sabita Patel**, S. Dash, B. K. Mishra, A molecular connectivity parameter derived from bond-disconnection: its application to quantitative structure property relationships, *Indian J. Chem*, 48A (2009) 921-929.
23. B. K. Mishra, P. Mukherjee, S. Dash, **Sabita Patel**, H. N. Pati, Alkylation of ethanolamines: An approach to a novel class of functional surfactants, *Synthetic Commun*, 39 (2009)2529-2539.
24. S. Dash, **Sabita Patel** and B. K. Mishra, Oxidation by permanganate: Synthetic and mechanistic aspects, *Tetrahedron* 65(2009)707-739. (**Remained in the list of top 25 hottest articles in the journal from October2008-March 2009 in Science Direct**)
25. B. B. Nayak, S. Sahoo, **Sabita Patel**, S. Dash and B. K. Mishra, Ce(IV) oxidation of alcohols using cetyltrimethylammonium ceric nitrate. *Indian J. Chem.*, 47A (2008)1486-1490.
26. **Sabita Patel**, D. D. Sung and B. K. Mishra, Oxidation of diols by cetyltrimethylammonium dichromate, *Indian J. Chem.*, 47A (2008)1218-1221.
27. S. Sahu, S. Sahoo, **Sabita Patel**, S. Dash and B. K. Mishra, Deoximation of keto-and aldoximes to carbonyl compounds, *Ind. J. Chem.,Sec.B*, 47 B (2008) 259-271.
28. S. Dash, S. Mishra, **Sabita Patel** and B. K. Mishra, Organically Modified Silica: Synthesis and application due to its surface interaction with organic molecules, *Adv. Coll. Interface Science*, 140 (2008) 77-94. (**Remained in the list of top 25 hottest articles in the journal from April 08-March 09 in Science Direct**)
29. **Sabita Patel**, B. K. Mishra, Chromium(VI) Oxidants having Quaternary Ammonium Ions: Studies on Synthetic Applications and Oxidation Kinetics. *Tetrahedron*, 63 (2007) 4367-4406. (**Remained in the list of top 25 hottest articles in the journal from April-June 2007 in**

Science Direct)

30. M. Panigrahi, S. Dash, **Sabita Patel**, P. K. Behera & B. K. Mishra, Reversal in solvatochromism in some novel Styrylpyridinium dyes having hydrophobic cleft. *Spectrochimica Acta A* , 68 (2007) 757-762.
31. **Sabita Patel** and B.K. Mishra, Oxidation of Alcohol by Lipopathic Cr(VI): A Mechanistic Study, *J.Org.Chem.*,71(18) (2006) 6759-6766.
32. **Sabita Patel** and B.K. Mishra, Oxidation of cholesterol by a biomimetic oxidant, cetyltrimethylammonium dichromate, *J.Org.Chem.*, 71(9) (2006) 3522-26.
33. **Sabita Patel** and B.K. Mishra, A Novel Lipopathic Cr(VI) oxidant for organic substrates: Application to Oxidation of Benzyl alcohol, a kinetic study, *International J. Chem. Kinet.*38(11)(2006)651-656.
34. S. Parida, S. Dash, **Sabita Patel**, B. K. Mishra, Adsorption Of Organic Molecules On Silica Surface, *Adv. Coll. Interface Science*, 121(1-3) (2006) 77-110. (**Within top 25 hottest articles in all journals of Chemistry covered by Science Direct in last quarter of 2006: the article remained in the list of top 25 hottest articles in the journal from July-2006 to September-2010**)
35. Minati Kuanar, Saroj K. Kuanar, **Sabita Patel** and B. K. Mishra, QSAR Studies on Biological Oxygen Demand of Alcohols. *Ind. J. Chem., Sec.B*, 45B (2006) 766.
36. B B Nayak, **Sabita Patel**, S. Dash and B. K. Mishra Solution behaviour of cetyltrimethylammonium ceric nitrate (CTACN)., *Indian J. Chem.*, 45A(2006)2229-2232.
37. B B Nayak, **Sabita Patel**, P K Behera and B K Mishra, A novel class of zwitterionic gemini surfactants, *ARKIVOC* (14) (2006) 22-27.
38. S. Sahu, **Sabita Patel** and B. K. Mishra, Selective oxidation of arylaldoximes by cetyltrimethyl ammonium dichromate to arylaldehydes and aryl nitriles. *Synthetic Commun.*, 35(2005),3123-3126.
39. **Sabita Patel**, M. Kuanar, B.B. Nayak, H. Banichul and B.K. Mishra, Cetyltrimethylammonium Dichromate: A phase transferring oxidant. *Synthetic Communicaton* 35(8) (2005) 1033-37.
40. P.K. Jal, A. Saha, M. Sudarshan, **Sabita Patel** and B.K. Mishra, Estimation of trace metals on silica matrix by using proton induced X-Ray emission (PIXE). *Ind. J. Chem.,Sec.A*, 44A (7) (2005) 1378.
41. P.K. Behera, S. Mohapatra, **Sabita Patel** and B.K. Mishra, Dye-Surfactant Interaction: Solubilization of styryl pyridinium dyes of varying alkyl chain in anionic surfactant (AOS and LABS) solutions. *J. Photochem. Photobiol.*, 169 (3) (2005) 253-60.
42. **Sabita Patel** and B.K. Mishra, Cetyltrimethylammonium dichromate: a mild oxidant for coupling amines and thiols. *Tetrahedron Letters*, 45(7) (2004)1371-1372. (**Cited by "Advance Organic Chemistry, Structure, Bonding and Reaction Mechanism" Jerry March 6th edition, 2006 Published by Wiley International**)
43. P.K. Jal, **Sabita Patel** and B.K. Mishra, Chemical modification of silica surface by immobilization of functional groups for extractive concentration of metal ions. *Talanta*, 62(5) (2004)1005-1028. (**Remained in the list of top 25 hottest articles in the journal from July 2004 to June 2005 and July 2009 to Sept. 2010 in Science Direct and it has 264 no. of citations till date**)
44. **Sabita Patel**, M. P. Panda, M. Kuanar and B. K. Mishra, Alkylation of substituted benzaldehyde

on a solid matrix by using grignard reagent. *Ind. J. Chem. Sec-B*, 43B (2004) 1299-1301.

45. P.K. Jal, M. Sudarshan, A. Saha, **Sabita Patel** and B.K. Mishra, Synthesis and characterization of nanosilica prepared by precipitation method. *Colloids and Surfaces*, 240(1-3)(2004)173-178.
46. M. Kuanar, S. K. Kuanar, **Sabita Patel** & B. K. Mishra, Optimization of regression model for predicting physicochemical properties of alkyl ethers. *Ind. J. Chem.*, 42A (2003)2463-2469.
47. **Sabita Patel** and B K Mishra, An analysis on the transmission of electron density through sulphur atoms in the quaternisation reaction of benzothiazoles. *Proc. Indian Acad. Sci. (Chem. Sci.)*, 113(2002)55-60.

Patents: NIL

Conferences:

Recent List of Invited Talk/ Paper Presented in Conferences /Symposia

S.No.	Names of the Authors	Title of the Paper/Talk	Name of the Conference Date, Year and Place
1	Sabita Patel	Monolayer Study of some Novel Lipopathic Oxidants	14 th National conference on surfactants, emulsions and biocolloids", July 28-30, 2009, University of Kashmir.
2	Sabita Patel	Preferential solvation through selective functional group recognition and hydrogen bonding in mixed solvents	National seminar on "Recent trends in chemical sciences" February 01-03, 2011 Department of Chemistry, Sambalpur University

Sponsored/ Consultancy Projects:

S.No	Title of the Project	Sponsoring Agency	Year	Value (lakhs)	Co-Investigators, if any	Completed/ongoing
1	Chemoselective electron transfer reaction in substrates of biological interest by lipopathic Cr(VI)	DST	2009-12	15 lakhs	NIL	Ongoing