

## CURRICULUM VITAE

Name: *Dr. Baldev Singh*  
Designation: *Professor*  
Present Address: Department of Chemistry,  
Punjabi University Patiala  
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### **Academics:**

- B.Sc. (Physics, Chemistry, Biology), Punjab University, Chandigarh (1975)
- M.Sc. (Organic Chemistry), Punjabi University, Patiala (1979)
- M. Phil. (Organic Chemistry), Punjabi University, Patiala (1981)
- Ph.D. (Organic Chemistry), Punjabi University, Patiala (1985)

### **Employment:**

- Lecturer, Department of Chemistry, Punjabi University, Patiala (1986).
- Reader, Department of Chemistry, Punjabi University, Patiala (1998).
- Professor, Department of Chemistry, Punjabi University, Patiala (2006).
- Head, Department of Chemistry, Punjabi University, Patiala (2009-2012).

### **Present Position:**

At present working as Professor, Department of Chemistry, Punjabi University, Patiala, Punjab, India since 2006.

### **Specialization:**

Organic / Synthetic Chemistry

### **Courses Taught:**

- Research Methodology (M.Phil. - Semester I)
- Organic Chemistry Practicals (M.Phil. - Semester I & II)
- Carbocyclic and Heterocyclic Chemistry (M.Sc. Part-II)
- Modern Synthetic Reaction and Rearrangements (M.Sc. Part-II)
- Chemistry of Natural Products (M.Sc. Part-II)
- Organic Synthesis (M.Sc. Part-II)
- Organic Chemistry Practicals (M.Sc. Part-I & II).

- Additional Courses taught at IAS Study Centre.

### Member:

- Punjab Academy of Sciences
- Senate
- Syndicate

### Project:

- UGC sponsored project on “Synthesis and evaluation of flavonoids derivatives as acetylcholinesterase inhibitors for Alzheimer’s disease”. (6.67 Lakhs)

### Conferences/Workshops Attended:

1. Indian National Congress, Department of Chemistry, Punjabi University, Patiala (**Feb 1994**).
2. National Seminar on Recent Trends in Chemistry, Department of Chemistry, Punjabi University, Patiala (**Jan 2009**).
3. National Conference on Recent Advances in Chemical and Environment Sciences, Multani Mal Modi College (**2009**).
3. National Seminar on Recent Trends in Chemistry, Deptt. Of Chemistry, Punjabi University, Patiala (**Feb 2010**).
4. National Seminar on Recent and Advanced Trends in chemistry, Deptt. Of Chemistry, Punjabi University, Patiala (**Feb 2011**).
5. UGC sponsored seminar on International Year of Chemistry-**2011**.
6. National Seminar on Chemistry: An Interdisciplinary Science-**2012**.

### No. of students supervised

#### ➤ M.Phil. Students:

S. No.	Name	Year	Topic
1.	Geetanjali Khanna	1989	Studies in Azomethine N-oxides
2.	Varinder Singh	1990	Cycloaddition Reactions of Nitrones
3.	Indu Bala	1991	Studies in Azomethines
4.	Tejinder Mahajan	1994	Photochemistry of <i>N</i> -cyanoamines

5.	Sharda K. Kaushal	1994	1,3-Dipolar cycloaddition reactions of Azomethine- <i>N</i> -oxides
6.	Amanpreet Kaur	2009	Studies in Azomethine: Cycloaddition reactions of <i>N</i> -sulphinyl aniline and <i>N</i> -( $\alpha$ -cyano- $\alpha$ -aryl)methylanilines
7.	Kulvir Kaur	2011	Synthesis of heterocycles in aqueous media

➤ **Ph.D. Students:**

S. No.	Name	Year	Topic
1.	Ajaib Singh	2002	Studies in carbon nitrogen double bond: Synthesis of New Heterocycles
2.	Jaspreet Kaur	2005	Synthesis and Studies in some new open-chain conjugated Azomethine and 1,3-dipoles leading to the synthesis of new Heterocyclics
3.	Sanjiv Kumar	2006	Development of new analytical methods for the determination of some toxic metal ions in the environmental samples
4.	Manjit Singh	2011	Studies in Imines and Imine- <i>N</i> -oxides
5.	Kuldeep Kaur	2008-onwards	Spectrophotometric and Spectro - fluorimetric studies of selected drugs
6.	Susheela Rani	2008-onwards	Development of preconcentration methods for drugs and their analysis by chromatographic methods
7.	Amritpal Singh	2009 onwards	Design, synthesis and characterization of organo-chalcogen compounds (S, Se and Te) containing heterocyclic ring
7.	Manpreet Kaur	2009-onwards	Synthesis of Heterocyclics using carbon nitrogen double bond
8.	Rahul Badru	2009-onwards	Synthesis of heterocyclic compounds through cycloadditions of nitrones and azomethines with active

			dipolarophiles
9.	Sakshi Shah	2009- onwards	Synthetic study of Azomethine and Azomethine- <i>N</i> -oxides: Synthesis of new heterocyclics
10.	Preet Anand	2009- onwards	Synthesis and evaluation of acetylcholinesterase inhibitors for Alzheimer's disease
11.	Bhawna Vyas	2009- onwards	Designing of novel agents for the management of diabetic complications
12.	Anjandeep Kaur	2010- onwards	Studies in open chain conjugated azomethine and Azomethine- <i>N</i> -oxides

➤ **Environment Technology and Management Students:**

S. No.	Name	Year	Topic
1.	Rupinder Kaur	1991	Studies of Waste water of H.M.M. (Nabha - Punjab)
2.	Rekha Jindal	1993	Industrial waste water-treatment
3.	Harpreet Kaur	1994	Study of waste water treatment from Oswal Vanaspati and Soap Factory (Ludhiana) Punjab
4.	Parvinder Kaur Sandhu	1994	Study of waste water and effluent treatment plant at Smithkline (Nabha – Punjab)

➤ **Miscellaneous**

1. Compiled and edited the “Proceedings of Refresher Course” held in the Department of Chemistry, Punjabi University, Patiala-2001.
2. Co-ordinator, Refresher Course in Chemistry-2010.

**Research Publications**

1. Studies in Azomethine *N*-oxide: 1,3-Dipolar cycloaddition Reaction of nitrones with substituted maleimide leading to the synthesis of hexahydro..... derivatives.  
K. Krishan, B. Singh.  
*Indian Journal of Chemistry.* 23 B, 657, **1984**.
2. Synthesis and Reduction of Vanillin nitrones  
Baldev Singh, M. Rai, K. Krishan  
*J. Indian Chem. Soc.* 59, 80, **1981**.
3. Studies in 1-Aza-1,3-butadienes; Grignard's reaction with open chain

- conjugated azomethines.  
Baldev Singh, Savitha Kumari, K. Krishan  
*Indian Journal of Chemistry*. 23 B, 257, **1984**.
4. Studies in 1-Aza-1,3-butadienes; Grignard's Reaction with open chain conjugated azomethines.  
B. Singh, Savita Kumari and K. Krishan.  
*Indian Journal of Chemistry*. 23 B, 620, **1984**.
  5. Studies in 1-Azo-1,3-butadienes; Diels Alder Cycloaddition of 1-Aza-1,3-butadienes with ketene leading to the synthesis of  $\beta$ -lactam.  
B. Singh, K. Krishan and Ajit Singh.  
*Synthetic Communication*. 14, 219, **1984**.
  6. A Novel one pot photo-cyclisation of *N*- $\alpha$ -cyano amines leading to the synthesis of substituted 2-oxo-1,2,5,6-tetrahydrobenzo[3,4-*d*]imidazo[3,4-*a*]quinolines.  
B. Singh and K. Krishan.  
*Synthetic Communication*. 15, 829, **1985**.
  7. Studies in 1-Aza-1,3-butadienes: Reformatsky reaction with open chain conjugated azomethines leading to the synthesis of 3*H*-*N*-aryl-4-(2-nitrophenyl)-3,4-dihydro-2-pyridinones.  
B. Singh and K. Krishan.  
*Chemical Acta Turcica*. 14, **1986**.
  8. Studies in 1-Aza-1,3-butadienes with carbene generated in situ leading to the synthesis of *N*-aryl-1,4-diphenyl-3,4-dihydropyrroles.  
B. Singh and K. Krishan.  
*Chem. Acta. Turcica*. 16, **1987**.
  9. Studies in 1-Aza-1,3-butadienes: A novel synthesis of thiadiazines-1-oxide through Diels-Alder Cycloaddition of *N*-sulphinyl anilines and open-chain conjugated azomethines.  
B. Singh, K.S. Rehalia and K. Krishan.  
*Indian Journal of Chemistry*. 27B, 843, **1988**.
  10. Studies in 1-Aza-1, 3-butadienes: Diels Alder Cycloaddition Reactions of 1,4-diaryl-1-aza-1,3-butadienes with aryl sulphonyl nitrosites leading to the synthesis of new oxadiazines.  
K.K. Singal, B. Singh and Baldev Raj.  
*Synthetic Communication*. 23(1), 107-114, **1993**.
  11. A novel one-pot photo-redox reaction of *N*- $\alpha$ -Cyano- $\alpha$ -styryl-methylanilines leading to the synthesis of  $\beta$ -phenylpropionanilides.  
B. Singh and K.K. Singal.  
*Chemica Acta Turcica*. 26, 1-3, **1998**.
  12. A new synthesis and 1,3-dipolar cycloaddition of *C*-aryl-*N*-(2,4-dibromophenyl)nitrilimines with aryl maleimides leading to the synthesis of 1-(2',4'-dibromophenyl)-3,5-diaryl-3a,4,6,6a-tetrahydro-1*H*,5*H*-pyrrolo[3,4-*c*]pyrazole-4,6-dione derivatives.  
B. Singh, Balkar Singh and K. Krishan.  
*Indian Journal of Chemistry*. 38B, 93, **1999**.
  13. 1,3-Dipolar Cycloaddition reactions of substituted open-chain conjugated

- azomethine *N*-oxides with substituted *N*-aryl maleimides leading to the synthesis of new stereo-isomeric 2,5-diaryl-3-(*o*-nitro)styryl-4*H*-2,3,3*a*,5,6,6*a*-hexahydro pyrrolo[3,4-*s*]isoxazole-4,6-dione derivatives.  
B. Singh and K. Krishan.  
*Indian Journal of Chemistry*. 38B, 292, **1999**.
14. Cycloaddition reaction of *N*-sulphonylanilines and *N*- $\alpha$ -(cyano).....aryl ethylanilines.  
B. Singh, K. Krishan and Baldev Raj.  
*Synthetic Communication*. 29, 911, **1999**.
  15. 1,3-Dipolar cycloaddition reaction of open-chain conjugated azomethine *N*-oxide with *N*-phenylmaleimides.  
B. Singh and K. Krishan.  
*Chemica Acta Turcica*. 27, **1999**.
  16. Studies of Fragmentation Behaviour of open-chain conjugated Azomethine *N*-oxides under Electron Impact.  
K.K. Singal, B. Singh and Renuka Goyal.  
*Chem. Environ. Res*. 11, 105, **2002**.
  17. Huisgen Reaction of aldonitrones with *N*-benzyl maleimide leading to the synthesis of 2,3-diaryl-5-benzyl-2*H*-3,3*a*,4,5,6,6*a*-hexahydropyrrolo[3,4-*d*]isoxazole-4,6-diones.  
Jaspreet Kaur, B. Singh and K. Krishan.  
*Indian Journal of Chemistry*. 44B, 1476, **2005**.
  18. Development of new adsorbent chitin for column pre-concentration and spectrophotometric trace determination of Ziram and Zineb in synthetic commercial samples and food stuffs.  
S.K. Mehta, A.K. Malik, B. Singh and A.L.J. Rao.  
*Talanta*. 67, 725, **2005**.
  19. 1,3-Dipolar cycloaddition of nitrones derived from protocatechuric aldehyde methylene ether: Synthesis of isoxazole-4,6-diones.  
Jaspreet Kaur, B. Singh and K.K. Singal.  
*J. Indian Chem. Soc.* 82, 689, **2005**.
  20. Column pre-concentration and spectrophotometric trace determination of Zirum and Zineb using chitin as an adsorbate.  
S.K. Mehta, B. Singh and A.K. Malik.  
*Indian Journal of Chemistry*. 44A, 1413, **2005**.
  21. 1,3-Dipolar cycloaddition reaction of Nitrile oxide with *N*-benzyl maleimides.  
Jaspreet Kaur, B. Singh and K. Krishan.  
*J. Indian Chem. Soc.* 83, **2006**.
  22. Carbon-An article in Punjabi-Encyclopedia-Bal-Vishakosh. Pbi. Uni. Patiala.
  23. Isomerism: An article in Punjabi-Encyclopedia-Bal-Vishakosh. Pbi. Uni. Patiala.
  24. Sulphur: An article in Punjabi-Encyclopedia-Bal-Vishakosh. Pbi. Uni. Patiala.
  25. Valency: An article in Punjabi-Encyclopedia-Bal-Vishakosh. Pbi. Uni. Patiala.
  26. Microwave assisted nitrile oxide cycloaddition.  
Baldev Singh, Manjit Singh and K.K. Singal  
*Asian J. Chem.* 20, 1, 745, **2008**.

27. Microwave assisted 1,3-dipolar cycloaddition reactions of cyclopentylidene *N*-phenyl nitrene with substituted *N*-arylmaleimides.  
Baldev Singh, Manjit Singh and K.K. Singal  
*Asian J. Chem.* 20, 1, 736, **2008**.
28. 'Spectrophotometric methods for the determination of fluoroquinolones: A review'  
K. Kaur, A. Kumar, A.K. Malik, B. Singh and A.L.J. Rao  
*Critical reviews in Analytical Chemistry* vol.38, pp 2-18, **2008**.
29. 'Simultaneous spectrophotometric determination of carbidopa and levodopa by PLS, PCR and LS-SVM methods'  
K. Kaur, A.K. Malik, B. Singh and M. Godarzi  
*Thai Journal of Pharmaceutical Sciences* vol.33 pp.123-136, **2009**.
30. 'Micelle enhanced spectrofluorimetric method for determination of ofloxacin and lomefloxacin in human urine and serum'  
K. Kaur, B. Singh, A.K. Malik  
*Thai Journal of Pharmaceutical Sciences* vol.34 pp.58-66, **2010**.
31. Quantification of Tricyclic and Nontricyclic Antidepressants in Spiked Plasma and Urine Samples Using Microextraction in Packed Syringe and Analysis by LC and GC-MS  
*Chromatographia.* **2011**, 74:235–242.  
Susheela Rani, Ashwini Kumar, Ashok Kumar Malik, Baldev Singh
32. 'Chemiluminescence and spectrofluorimetric methods for the determination of fluoroquinolones: A Review'  
K. Kaur, B. Singh, A.K. Malik  
*Analytical Letters* vol.44 (9) pp.1602-1639, **2011**.
33. Liquid Chromatographic Determination of Quinolones in Water and Human Urine Samples after Microextraction by Packed Sorbent  
*Journal of AOAC International.* Vol. 95, No. 1, **2012**.  
Susheela Rani, Ashwini Kumar, Ashok Kumar Malik, and Baldev Singh
34. 1,3-Dipolar cycloaddition reactions of 2-substituted azomethine *N*-oxides with *N*-benzyl maleimides leading to the synthesis of stereoisomers.  
Rahul Badru, Sakshi Shah, Baldev Singh  
*Journal of Heterocyclic Chemistry.* Vol. 49, 2, **2012**.
35. Novel Micro-Extraction by Packed Sorbent Procedure for the Liquid Chromatographic Analysis of Antiepileptic Drugs in Human Plasma and Urine  
*Journal of Separation Science.* **2011 (In Press)**  
Susheela Rani, Ashok Kumar Malik\*, Baldev Singh
36. Diastereoselective synthesis of novel Spiro-isoxazolidines via [3+2] cycloaddition.  
Sakshi Shah, Rahul Badru, Baldev Singh  
*Synthetic Communications.* **2011** (in press).
37. Synthesis and evaluation of hexahydropyrrolo[3,4-*d*]isoxazole-4,6-diones as anti-stress agents.  
Rahul Badru, Preet Anand, Baldev Singh  
*European Journal of Medicinal Chemistry.* vol. 48, pp. 81-91, **2012**.
38. Synthesis and evaluation of novel hexahydropyrrolo[3,4-*d*]isoxazole-4,6-

- diones as acetylcholine-esterase inhibitors.  
Preet Anand, Baldev Singh  
*Bioorganic and Medicinal Chemistry*. Vol. 20, pp. 521-530, **2012**.
39. One-pot photoredox reaction of *N*-( $\alpha$ -cyano- $\alpha$ -phenyl)methylanilines leading to the synthesis of substituted benzimidazolo-quinolines under sensitized conditions  
Manpreet kaur, Baldev Singh  
*Arabian Journal of Chemistry*. **2011**. (in press)
40. Catalyst free, facile and an efficient synthesis of  $\alpha$ -aminonitriles employing  $Zn(CN)_2$  as an eco-friendly cyanating agent.  
Sakshi Shah, Baldev Singh  
*Tetrahedron Letters*. Vol. 53, pp.151-156, **2012**.
41. A review on coumarins as acetylcholinesterase inhibitors for Alzheimer's disease.  
Preet Anand, Baldev Singh and Nirmal Singh  
*Bioorganic and Medicinal Chemistry*. Vol. 20, pp. 1175-1180, **2012**.

### Papers presented at the National / International Conferences

- 1,3-Dipolar cycloaddition reaction of cyclopentylidene-*N*-phenyl nitrones with *N*-aryl maleimides leading to the synthesis of 2,5-diaryl-3,3-spiro tetramethylene-4*H*,2,3,3a,5,6,6a-hexahydropyrrolo[3,4-*d*]isoxazole-4,6-diones.  
B. Singh and Manjit Singh.
- Microwave assisted nitrile oxide cycloaddition with *N*-phenylmaleimides, leading to the synthesis of isoxalozoline-4, 6-diones.  
B. Singh and Manjit Singh.
- 1,3-Dipolar cycloaddition reaction of Azomethine-*N*-oxides under catalyzed conditions leading to the synthesis of hexahydropyrrolo[3,4-*d*]isoxazole-4,6-diones.  
B. Singh and Manjit Singh.
- Synthesis and Alignment studies of 3,6-Diaryl-1,3-oxazinane-2-thiones as potential anticonvulsant agents.  
Baldev Singh, Ajaib Singh and Raman K. Verma.
- Diels-Alder Cycloaddition of 1-Aza-1,3-butadienes with ketene leading to the synthesis of  $\delta$ -Lactam.  
*Annual Convention of Chemists*. Madras. 36 (**1981**).
- Studies in 1-Aza-1,3-butadienes: Grignard Reaction of phenyl magnesium bromide.  
*National Academy of Science*. 81 (**1981**).
- Studies in 1-Aza-1,3-butadienes: Reformatsky reaction with open-chain conjugated imines leading to the synthesis of dihydropyridinones.  
*Annual Convention*. Cuttack. No.2 p-1 (**1983**).
- Studies in 1-Aza-1,3-butadienes: Addition of Carbene to open-chain conjugated 1,3-azabutadienes.  
*Annual Conference of Indian Council of Chemists*, Dharwar. Abs. No. Op.-41, p-16 (**1983**).



9. Studies in 1-Aza-1, 3-butadienes: A novel synthesis of thiadiazine-1-oxide.  
*5th Annual Conference of Indian Council of Chemists*. Sindri-Dhanbad-Abs. No. 0.043 (1985).
10. 1,3-Dipolar Cycloaddition Reaction of open-chain conjugated azomethine-*N*-oxides with *N*-arylmaleimides.  
*Annual Conference of Indian Council of Chemists*. Gwalior. No. 0024, p-10 (1987).
11. Diels-Alder Cycloaddition Reaction of *N*-Sulphinyl with azomethines.  
*National Symposium in Synthetic Organic Chemistry*, Madurai (1990).
12. 1,3-Dipolar cycloaddition Reaction of open-chain conjugated aldo-nitrones with *N*-substituted arylmaleimides.  
*Annual Convention of Chemists*, Jaipur, Os-58 (1995).
13. Photoreductive decarboxylation of *N*-( $\alpha$ -Cyno- $\alpha$ -styryl)methylamines to open-chain propionic acid derivatives.  
*Indian Science Congress- Pbi. Uni. Patiala*. Part IV, P-13 (1996).
14. [4+2] Cycloaddition Reaction of Azomethines:  
B-III. OR-16, 6th *Punjab Science Congress* (2002).
15. [5+2] Cycloaddition Reaction of Azomethine-*N*-oxides.  
B-7, p-S-25. 6<sup>th</sup> *Punjab Science Congress* (2002).
16. Synthesis and Alignment studies of 3,6-Diaryl-1,3-oxazinane-2-thiones as potential anticonvulsant agents.  
(CTDDR LUKHNOW).
17. A new method for determination of some aldehydes using SPME-HPLC-UV system.  
Rahul Badru, Baldev Singh  
(At National conference RACES -2009 held at Multani Mal Modi college, Patiala, 2009).
18. Synthesis and alignment studies of 3,6-diaryl-1,3-dioxazinane-2-thiones as potential anticonvulsant agents.  
Rahul Badru, Baldev Singh  
(At National conference RACES-2009 held at Multani Mal Modi college, Patiala, 2009).
19. Regiospecific cycloaddition reaction of azomethine *N*-oxides leading to synthesis of isoxazolines.  
Rahul Badru, Baldev Singh  
(At two days National Seminar held at Punjabi Univ., Patiala, 2009).
20. Synthesis of  $\alpha$ -Bromo- $\alpha$ -phenyl-*N*-cyano-*N*-phenyl methanamine.  
Rahul Badru, Baldev Singh  
(At two days National Seminar held at Punjabi Univ., Patiala, 2009).
21. Synthesis of  $\alpha$ -bromo-*N*-cyano-*N*-phenyl methanamine.  
Manpreet Kaur, Baldev Singh  
(At two days National Seminar held at Punjabi Univ., Patiala, 2009).
22. An overview of current and novel acetylcholinesterase inhibitors in Alzheimer's disease therapeutics  
Preet Anand, Baldev Singh  
(At two days National Seminar held at Punjabi Univ., Patiala, 2009).

23. Synthesis of heterocyclics using thiophosgene.  
Rahul Badru, Baldev Singh  
(At two days National Seminar held at Punjabi Univ., Patiala, **2010**).
24. Synthesis of new heterocyclics: 1,3-dipolar cycloaddition of nitrones with substituted maleimides.  
Rahul Badru, Baldev Singh  
(At two days National Seminar held at Punjabi Univ., Patiala, **2010**).
25. Synthesis of heterocycles of pharmacological importance  
Manpreet Kaur, Baldev Singh  
(At two days National Seminar held at Punjabi Univ., Patiala, **2010**).
26. Synthesis of 4-[(3H,3aH,6aH)-3-phenyl-4,6-dioxo-2-phenyldihydro-2H-pyrrolo[3,4-*d*]isoxazole-5(3H,6H,6aH)-yl]benzoic acid derivatives.  
Preet Anand, Rahul Badru, Baldev Singh  
(At two days National Seminar held at Punjabi Univ., Patiala, **2011**).
27. Photoirradiation of  $\alpha$ -cyanoamines using aqueous isopropyl alcohol leading to the synthesis of imidazole derivatives.  
Manpreet Kaur, Baldev Singh  
(At two days National Seminar held at Punjabi Univ., Patiala, **2011**).
28. A convenient synthesis and characterisation of 4*H*-2,3,3a,5,6,6a-hexahydropyrrolo[3,4-*d*]isoxazole-4,6-diones.  
Rahul Badru, Manpreet Kaur, Baldev Singh  
(At National conference RACES-2011 held at Multani Mal Modi college, Patiala, **2011**).
29. A convenient synthesis of aziridines: iodide catalysed cycloaddition reaction of azomethines with dichloromethane.  
Rahul Badru, Baldev Singh  
(At Prof. Ram Paul International Conference held at Punjab Univ. Chandigarh, **2011**).
30. Coupling of  $\alpha$ -cyanoamine and ethyl bromoacetate via Reformatsky reaction route.  
Sakshi Shah, Baldev Singh  
(At Prof. Ram Paul International Conference held at Punjab Univ. Chandigarh, **2011**).
31. Photoirradiation of  $\alpha$ -cyanoamines under sensitized conditions leading to the synthesis of benzoimidazoloquinolines.  
Manpreet Kaur, Baldev Singh  
(At Prof. Ram Paul International Conference held at Punjab Univ. Chandigarh, **2011**).
32. Assymmetric 1,3-dipolar cycloaddition reactions of nitrones  
Anjandeep Kaur, Baldev Singh  
(At Prof. Ram Paul International Conference held at Punjab Univ. Chandigarh, **2011**).
33. Synthesis of novel substituted 4-methyl-2-oxo-2H-chromen-7-yl phenyl carbamates as potential acetylcholinesterase inhibitors  
Preet Anand, Baldev Singh  
6<sup>th</sup> National Conference on Thermodynamics of Chemical and Biological

- systems, M.D. University, Rohtak (Haryana) India. **2011**
34. Synthesis of new heterocycles through 1,3-dipolar cycloaddition  
Anjandeeep Kaur, Baldev Singh  
6<sup>th</sup> National Conference on Thermodynamics of Chemical and Biological systems, M.D. University, Rohtak (Haryana) India. **2011**
35. Microwave Assisted, AlCl<sub>3</sub>.6H<sub>2</sub>O Catalysed Solvent-Free synthesis of Benzimidazoles Derivatives  
Sakshi Shah, Baldev Singh  
International conference on innovations in chemistry for sustainable development (**ICSD-2011**), Punjab University, Chandigarh.
36. One-pot region-selective synthesis of spiro[indole-pyrrolidines] by 1,3-dipolar cycloaddition reaction.  
Anjandeeep Kaur, Baldev Singh  
International conference on innovations in chemistry for sustainable development (**ICSD-2011**), Punjab University, Chandigarh.