

Prakul Rakesh

Research Scholar,
Dept. of Chemistry,
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OBJECTIVE:

To establish myself in the field of chemical science and be a part of an industry where I can explore my ideas, skills and contribute to its success

PRESENT/ FUTURE RESEARCH INTRESTS:

- Design and synthesis of water soluble organochalcogen compounds, which can be act as sensor for heavy metal ions
- Design and synthesis of organometallic dye which can be used in dye sensitized solar cell (DSSC)
- Design and synthesis of main group organometallic compounds with applications in the field of biological and material sciences
- Design and synthesis of new catalyst based on organochalcogen compounds which can be used in Heck reaction.

WORK EXPERIENCE:

Working experience as a **Team Leader** in **Asian Paints Ltd.** (since 20 Dec 2004 to 3 Feb 2006)

- Expertise in the production of Trade **Resin polymer**
- Expertise in the problem solving techniques: **5 why analysis** and **Root cause Analysis (RCA)**
- Expert in **5S, TPM** and **SIX Sigma**

SYNTHETIC SKILLS:

- Expertise in the handling of air sensitive reactions
- Expert in CGLP and CGMP
- Expertise in the area of catalysis
- Expertise in the area of organometallic chemistry specially organochalcogens
- Expertise in the handling of *n*- BuLi, sodium and Grignard reactions
- Good in organic chemistry, spectroscopic analysis and organometallic chemistry
- Expertise in doing experiment in glove box
- Knowledge of literature survey using Sci-finder and Scopus

CHARACTERIZATION TECHNIQUES KNOWN:

- NMR Spectroscopy, Mass Spectrometry, UV-vis Spectroscopy, Emission Spectroscopy, FTIR, Cyclic voltametry and CHN analysis.
- Expertise in solving single X ray crystallography by software (SHELXTL and WINGX)
- Expertise in Computational chemistry (Gaussian software, DFT calculation)

INSTRUMENTS HANDELED:

- UV-vis Spectrophotometer (Perkin Elmer, Jasco V-570 UV/Vis / NIR Spectrophotometer and VARIAN CARY 1000 Bio UV -Visible Spectrophotometer)
- pH meter
- FT-IR ((Perkin Elmer)
- Fluorescence (Perkin Elmer LS 55 Luminescence spectrometer)
- Fluorescence (Varian Cary Fluorescence Spectrometer)
- Mass spectrometry (Q-TOF micromass (YA-105))
- Gas chromatography (Shimadzu 14A and Shimadzu 15A)

EDUCATIONAL QUALIFICATION:

- **Ph.D. (Chemistry)** from IIT Bombay under the supervision of Prof. H. B. Singh since 2006. **Thesis Submitted**
- **Master of Science (Organic Chemistry)** Shibli National College affiliated to V.B.S. University, Jaunpur, U.P., India in 2004 with 67.4 % (First position in class)
- **Bachelor of Science** from Post Graduate College, Ghazipur, affiliated to V.B.S. University, Jaunpur, U.P., India in 2001 with 67.8 %
- **Intermediate** from GCIC, Ghazipur, U. P. Board Allahabad, India in 1997 with 64.2 %
- **High school** from Central School, Ghazipur, U.P., India (CBSE Board) in 1995 with 72 % (Third position in class)

PUBLICATIONS:

- **Rakesh, P;** Singh, H. B.; Butcher, R. J.; Synthesis, characterization and reactivity of chiral (R)-[2-(4-ethyl-2-oxazoliny)phenyl]tellurium(IV) trihalides and (R)-[2-(4-ethyl-2-oxazoliny)phenyl]tellurium(II) bromide and the investigation of their reactivity towards alkenes *European Journal of Inorganic Chemistry* (To be submitted)
- Srivastava, K.; **Rakesh, P;** Singh, H. B.; Butcher, R. J.; Organooxotellurides: A detail investigation of their preparation, structure and properties *Coordination Chemical Review* (To be submitted)
- Srivastava, K.; **Rakesh, P;** Sarkar, B; Singh, H. B.; Butcher, R. J.; synthesis and characterization of palladium and platinum complex of azobenzene mono chalcogenide *Organometallics* (To be submitted)

- **Rakesh, P;** Singh, H. B.; Butcher, R. J.; Isolation of unstable organoselenium(II) cations/ seleniranium ions by the secondary interactions of only one ortho coordinating group and their applications in anion sensing *Organometallics* (Manuscript under preparation)
- **Rakesh, P;** Singh, H. B.; Butcher, R. J.; Synthesis and structurally characterization of first RSeSeCN compound *Chemical Communication* (Manuscript under preparation)
- **Rakesh, P;** Singh, H. B.; Butcher, R. J.; Design and synthesis of new Hg(II) metal sensor based on organochalcogen compounds *Chemical Communication* (Manuscript under preparation)

CONFERENCE, SYMPOSIUM AND WORKSHOP

- Have participated in **TECHCONNECT** held at TECHFEST 2011, IIT Bombay
- Have participated in the **Joint Indo-Canadian Meeting on Development of Low-Cost Lab-on-a-Chip Medical Devices for Healthcare Monitoring (IWLHMD 2011)** at IIT-Bombay
- Have participated in **Indo-German Conference (IGC-2011)** on Cities in the Era of Climate Change at IIT- Bombay
- Have presented poster **In-House Symposium 2010 (IHS-2010)** at IIT-Bombay
- Have presented poster in **Bio inorganic Symposium 2010** at IIT-Bombay
- Have presented poster at **RSC-IIT-Bombay symposium 2009**
- Have been a part of organizing team for **Fourth Science expo 2007** of IIT-Bombay held at **Nehru science Centre, Worli, Mumbai, India**

ACHIEVEMENTS AND AWARDS:

- Have completed **Diploma in Business Management** from **IMT, Centre For Distance Learning, Ghaziabad** in July 2005 with 66.9 %
- Have participated in the workshop on **Patent Searching & Drafting** organized by IPR Cell, SJSOM- IIT Bombay, Jan 2011
- Have completed General Course on Intellectual Property from **WIPO**, Nov 2010
- Have completed online course of the **Joint Certificate Course based on IP Panorama Multimedia Toolkits** from **KIPO-WIPO-KAIST-KIPA**, Aug 2010
- Have completed **course work** from **IIT Bombay** with 8.56 CPI
- Have awarded **Joint CSIR- UGC Junior Research Fellowship** as **CSIR-JRF** in June 2005 and June 2006
- Have awarded **SRF** from CSIR in Aug 2008
- Have completed **Certificate in Computing (CIC)** from **IGNOU** in June 2002 with 77.5 %
- Teaching experience of **CH-103** and **CH-117L** courses in IIT Bombay

EXTRA CURRICULAR:

- Have developed official website of Prof H. B. Singh, IIT Bombay

(<http://www.chem.iitb.ac.in/~chhbsia/webpage/home.htm>)

- Have a part of cricket team which won **first place** in Cricket at **PG Sports 2009** held at IIT Bombay in 2009
- Have successfully completed short course in **Fire Prevention and Fire Fighting** from **Institute of Fire and Security Management, New Delhi** in 2005
- Have attended the comprehensive training on **Resin and Emulsion Manufacturing** from **Asian Paints Ltd.** in 2005

PERSONEL DETAILS:

- **Father Name** Rakesh Chandra
- **Present Address** Prakul Rakesh
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- **Permanent Address** C/o Dr. A.K. Srivastava
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U.P. – 233001, India
Phone No. - 0548-2230119
Mob-09415350045
- **Marital Status** Married
- **Spouse name** Divya Priyadarshani
- **Nationality** Indian
- **Languages Known** English and Hindi
- **Hobbies** Cricket, swimming and handling tuff situation

REFERENCE:

Prof. H. B. Singh,
Professor,
Department of Chemistry,
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