



**Dr. Rajpratap B. Kshatriya**

MSc. PhD, PDF (ICT Mumbai)

*R & D Manager*

Huechem Global

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### **Skills in Synthetic Organic Process Chemistry:**

Utilize the skills for the multistep synthesis of diversified organic molecules and drugs. Data interpretation of these molecules using TLC, Flash chromatography, HPLC, LCMS, GC, GCMS, UV, FTIR,  $^1\text{H}$  and  $^{13}\text{C}$  NMR (1D and 2D, COSY, NOESY, HETCOR, HSBC, HMQC, DEPTH 45/90/135), Carl Fischer, Acid base titrations, XRD (polymorph) DSC, TGA (Potency). Handling knowledge of HPLC method development and impurity profiling. Typical titration like acidity, alkalinity & nitrate value etc.

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**Projects Handled:** 1) Multistep synthesis of organic molecules/Drugs, 2) Grignard reaction, Borylation reaction, Suzuki reaction, Kumada coupling, Sonagashira coupling, Friedal-Craft acylation, Fries rearrangement, Hoffman rearrangement 3) Sulphonation, Nitration, Reduction (Fe, Ni, Pd, Pt), Diazotization, Cynuration, Condensation, 4) Chlorination, Chlorosulphonation, Bromination, Sulphonamidation and Amidation, Amination, Hydroxylation (Fusion), Oxidation, 5) C-C, C-N, C-O, C-S coupling reaction, Suzuki, Buckwald and Sonagashira coupling and other important reactions for synthetic transformations, Pressure reaction on autoclave, Moisture and air sensitive reactions, 6) Autoclave hydrogenation by Ni, Pd, Pt, Fusion reaction, Amination, Chlorination

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### **Current Job & Allied Departments:**

#### **R & D Work and skills**

Team Handling, Literature survey, Mole chart and RMC preparation, Laboratory process development, Technology Transfer, Plant flowsheet, plant capacity and efficiency, BMR and validation of batches, Audit of the pharma products, Hazop, P & ID & PFD designation, Plant operation and safety with ETP

#### **Plant Process and Operations:**

Plant tech transfer from R & D and Pilot Plant, HAZOP study and PFD, P& ID, Plant flow sheet, Plant capacity and reactor utility, Material balance, BMR, Heat capacity and Transfer study, ETP testing manifesto etc.

#### **QC and Audit Incharge:**

Analytical method development and Validation for pharma and Intermediates. SOP, Protocols, Calibration, maintainance, records and logbooks. Correction of the QA department. BMR, APQR, OOS, CAPA, OOT, IQ, OQ, PQ and other work. Five audits handled successfully with minimum points

### **Extra activities:**

ISO Certifications, ECOVADIS Ranking, Market survey of new product launch, customer identification and product need for supply

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## **Industrial Experience**

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### **1. Company: Huechem Global, Ahmedabad (Sarna Group Company)**

**Duration:** Oct 2023- Nov 2024

**Designation:** Manager R & D

**Department:** R & D and Plant

**Job profile:** Process development for organic molecules up to plant level, Support for ADL method development and validation

**Company: Sarna Chemicals Pvt. Ltd. Vapi Duration:** Oct 2023- Nov 2024

**Designation:** Asst Manager & Audit Incharge

**Department:** R & D and Plant

**Job profile:** Process development for organic molecules up to plant level, Support for ADL method development and validation

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### **2. Company: Anant Pharma & Chemicals Mumbai**

**Duration:** 2022- Nov. 2023

**Designation:** Senior Research Scientist R & D/Group Leader

**Job profile:** Synthesis of API and impurities (Nitrosamine/N-oxide, S-oxide/Mutagenic)

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### **3. Company/institute: UTU University Bardoli Surat**

**Designation:** Research Professor/Scientist

**Duration:** July 2019-May 2022

**Job profile:** Teaching organic and inorganic chemistry, Synthetic industry funded projects & Lab development, thesis and project work

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## **Post-Doctoral Experience**

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### **1. Company/Institute: Institute of Chemical Technology, Mumbai (formerly UDCT)**

**Designation:** CSIR-Post Doc- Research Associate

**Duration:** Feb. 2017-June 2019

**Department:** Speciality Chemical for & Dyestuff Technology

**Job profile:** Asymmetric/Chiral methodology development

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### **2. Company/Research Institute: University of Kwazulu Natal, Darban. South Africa**

**Designation:** Post Doctoral Fellow :Advanced Organic Synthesis

**Duration:** 2015-2017

**Department:** Catalysis and Peptide Research Unit (CPRU) – UKZN

**Job Profile:** Literature survey and process optimization and modification of peptides

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## Industrial Experience After MSc.(Organic Chemistry)

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**Company/Research Institute:** RPG Life Sciences Mumbai

**Designation:** Executive

**Duration:** 2007-2008

**Department:** API R & D

**Job profile:** Job Profile: Literature survey and process optimization and modification

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### Academic Qualifications

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**Ph.D. (Chemistry) : S. P. Pune University, Pune, Maharashtra, India**

Duration : 2010 to 2015

Title of Thesis: Synthesis of Biologically Active flavonoids

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**UCG-NET/SET: University Grant Commission**

Required to qualify for PhD Course admission in Pune University: Qualified 2009

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**MSc. (Organic Chemistry): S. P. Pune University, Pune, Maharashtra, India**

**Grade** : Distinction (First rank in Organic Chemistry Specilization)

**Duration** : 2001-2003 (Full time)

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**BSc. (Chemistry): S. P. Pune University, Pune, Maharashtra, India**

**Grade** : Distinction

**Duration** : 1998-2001 (Full time)

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**H.S.C. : Maharashtra State Board**

**Grade** : First Class

**Duration** : 1996-1998 (Full time)

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**S.S.C. : Maharashtra State Board**

**Grade** : Distinction

**Duration** : 1996 (Full time)

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### List of publications

#### **In process**

1. Process development of bioactive molecules
  2. Modernization in Process Development of of drugs having Aliphatic Ether and Amine linkers (Last 25 years covered, ACS-Org. Process Res. Dev. 2023, (IF-3.8).
  3. Organometallic chemistry: A basic science for drug & modification of properties (ACS-Org. Process Res. Dev. 2023, (IF-3.8).
  4. Process development for ..... molecule (ACS-Org. Process Res. Dev. 2023, (IF-3.8)
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#### **Published**

1. Recent advances in synthetic methodologies of H8-BINOL catalyzed asymmetric synthesis: Kshatriya, R.B. *ACS-Omega* **2023**, 8, 20,17381-17401 (IF= **4.134**)

2. Synthesis and Evaluation of Anticancer Activity of Pyrazolone Appended Triarylmethanes: Kshatriya R. B., Saha S. *Chemistry Select* **2021**, 6(24), 6230-6239 (IF = 1.81)
  3. Bronsted acid catalyzed Domino synthesis of functionalized 4H-Chromens and their ADMET Molecular Docking: Kshatriya R. B., Jejurkar V., Saha S. *Chemistry Select* **2019**, 4(27), 7943-7948 (IF = 1.81)
  4. Solvent-free, mechanochemically scalable synthesis of 2,3-dihydroquinazolin-4(1H)-one using p-TSA at room temperature: Yashwantrao, G. Kshatriya R. B., Saha S. *ACS Sust. Chem. and Eng.* **2019**, 7, 15, 13551-13558 (IF = 6.97)
  5. In memory of Prof. Venkatraman: Recent advances in the synthetic methodologies of flavones: Kshatriya R. B., Jejurkar V., Saha S\*. *Tetrahedron*, **2017**, 74(8), 811-833 (IF= 2.64)
  6. Recent advances in the synthetic methodologies of triarylmethanes: Kshatriya R. B., Jejurkar V., Saha S. *Eur. J. Org. Chem.* **2019**, 2019 (24), 3818-3841 (IF =3.0)
  7. Synthesis, antimicrobial screening and in-silico appraisal of iminocarbazole derivatives : Jejurkar V., Mali S., Kshatriya R. B., Saha S\*. *Chemistry Select* **2019**, 4, 9470-9475 (IF = 1.81)
  8. Review: Synthesis of flavones by different methods : Kshatriya R. B., Shaikh Y. I., Nazeruddin G. M. *Oriental J. of Chem.* **2013**, 29(4), 1475-1487 (IF = 0.5)
  9. Synthesis of flavanones using methane sulphonic acid as a green catalyst and comparison under different conditions : Kshatriya R. B., Nazeruddin G. M\*. *Oriental J. of Chem.* **2014**, 30(2), 857-862 (IF = 0.5)
  10. A Brief Review: Flavonoids as a Pharmacophore : Kshatriya R.B.,Nazeruddin G. M. *Journal of Applicable Chemistry* **2015**, 4(3), 801-817 (IF = 0.654).
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**Key achievements:**

1. Literature survey (Scifinder, Reaxys, Google) and laboratory scale up
  2. Plant process and guidance
  3. Multistep molecules plant development
  4. Softwares: Lab solution, Chemdraw, Mestronova and Topspin
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**Values and strengths:**

1. Critical molecule development
  2. Process development and commercialization
  3. New product development as per customer demand
  4. Market survey and product management and development
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**Notice Period:** Immediate/1 Month

**Relocation:** Ready to relocate anywhere

**Expertise :** Organic Synthesis

**Functional Area:** Process Development R & D/Pilot to plant scale

**Future Role:** Tech Transfer/Plant/Site Head

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**Extra Activity:**

1. Reviewer for ACS journals
  2. Reviewer for RSC journals.
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