

---

## Now offering services in custom synthesis and contract research

---

State of Art R&D Facility equipped with latest equipment for organic synthesis and analysis.

**Expertise in synthesizing organic and inorganic compounds from lab to plant scale as per customer requirements**

**Team of talented scientists capable in developing novel routes of synthesis along with IP strategy**

**Proficiency in screening patent databases for non-infringing synthesis route**

**Focus on cost-effective and eco-friendly process development**

**Access to retro synthesis softwares, Reaxys and SciFinder for fast and efficient screening of synthesis routes**

**Development and validation of accurate, precise and robust analytical methods for analysis of synthesized compounds**

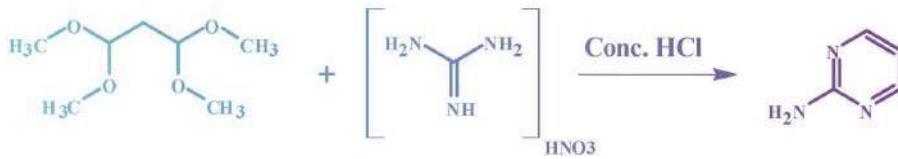
**In house analytical instruments like HPLCs, LC-MS, LS-MS/MS, GC-MS/MS, ICP-OES, FTIR, UV Spectro**

**Full molecule characterization by NMR, XRD, DSC, CHNSO**

# Reaction Capabilities

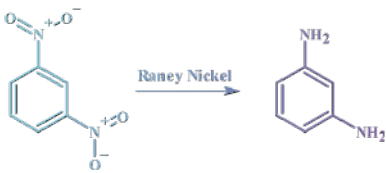
## 1. Cyclisation Reaction

Higher temperature reaction, acid catalyst reaction.



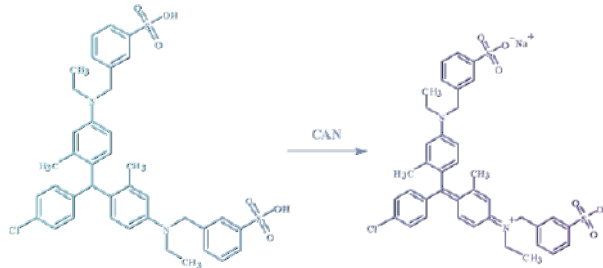
## 2. Reduction Reaction

Hydrogenation using palladium, raney Nickel catalyst or metal catalyst reduction.



## 3. Oxidation Reaction

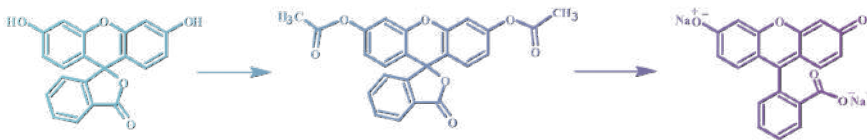
Using CAN, Potassium dichromate (K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>), Sodium dichromate (Na<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>), potassium permanganate (KMnO<sub>4</sub>), ceric ammonium nitrate (CAN).



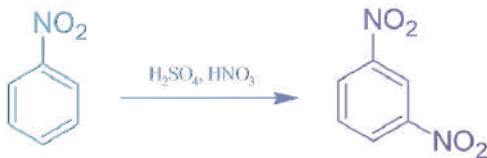
## 4. Condensation Reaction

## 5. Halogenation Reaction like Chlorination, bromination

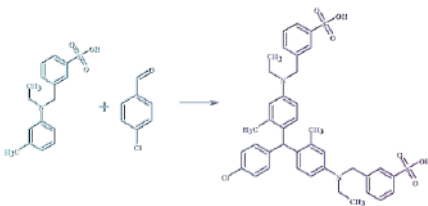
## 6. Protection De-protection Reaction



## 7. Nitration Reaction



## 8. Triaryl formation Reaction



## 9. Coupling Reaction

## 10. Chiral Synthesis

## 11. Fractional Distillation: Using Vacuum and without Vacuum.

## 12. Development of Purification Methods

## 13. Precious metal recovery

## Infrastructure in R&D or Gram scale Lab

- Bench top and Walk-in fume hoods
- All types of reaction assemblies and apparatus in glass
- S.S 316L 2 liter autoclave for high pressure reactions and hydrogenation.
- Rotary evaporators
- Vacuum dryers, ovens, bench top centrifuge, high vacuum diaphragm pumps, magnetic stirrer, overhead stirrer
- All utilities like vacuum, nitrogen, chilled water
- For impurity/ product isolation: column chromatography (combi flash) & preparative HPLC

## Infrastructure in Kilo Lab

- Complete reaction assemblies in glass from 50.0 liter till 300.0 liter vessel capacity
- Equipments like fractional distillation, vacuum distillation, pressure reactor (for hydrogenation), crystalliser, solvent recovery plant & phase separator
- All utilities like vacuum, nitrogen, chiller, steam, thermic fluid
- Product isolation equipments like centrifuge & vacuum nutsche
- Vacuum dryer & tray dryer

## Infrastructure at plant scale

- Reaction vessels in S.S 316L & GLRs upto 500 to 5000 liter
- All utilities like vacuum, nitrogen, air, steam, chiller, thermic fluid
- Product isolation equipment like centrifuge, nutsche filter, and
- Vacuum dryer, tray dryer, fluid bed dryer, scrubber, sparkler filter
- Chemicals store, finished goods store, controlled area for finished goods, fractional distillation unit, vacuum distillation unit, RO water plant, AHU system, vacuum system

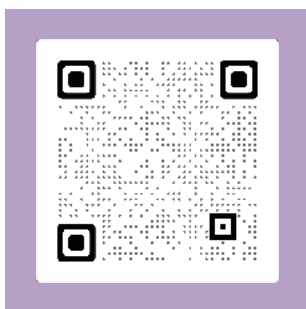
## What makes us stand apart?

Quick product development, fast response, focus on cost optimization, full confidentiality through implemented systems, non-disclosure and confidentiality agreements are some of the key factors which make us stand apart. Our highly optimized way of functioning and efficient purchase mechanisms enables us to offer you high class services at much lower costs than other organizations.



# MACSEN LABS

APIs • Specialty & Fine Chemicals • Dyes



Scan the QR code to enquire about our custom synthesis and research services.

 Visit us at [www.macsenlab.com](http://www.macsenlab.com)

 Email - [sales@macsenlab.com](mailto:sales@macsenlab.com)  Contact: +91-72968-66111

### Corporate Headquarters

303, 3rd Floor, Shivam Residency, Durga Nursery Road, Udaipur,  
Rajasthan, India 313001

### Sales Office

Yesssworks S14, Pinnacle Business Park, M.I.D.C,  
Andheri East, Mumbai, Maharashtra 400093

### Factory Unit

F-261,262,263, RIICO Industrial Area, Gudli, Udaipur, Rajasthan