

PIRAMAL ROUTE  
SCOUTING  
SERVICES

## CHALLENGES



Our customers are regularly faced with diverse kind of process development challenges starting from the preclinical development stage through Life Cycle management.

## HOW PIRAMAL HELPED?

- Through our route scouting services – we provide rapid development of novel, optimal, robust and cost effective solutions
- Dedicated labs and scientific team with proven track record of success
- Access to cutting edge technologies such as biocatalysis, AFR, etc.

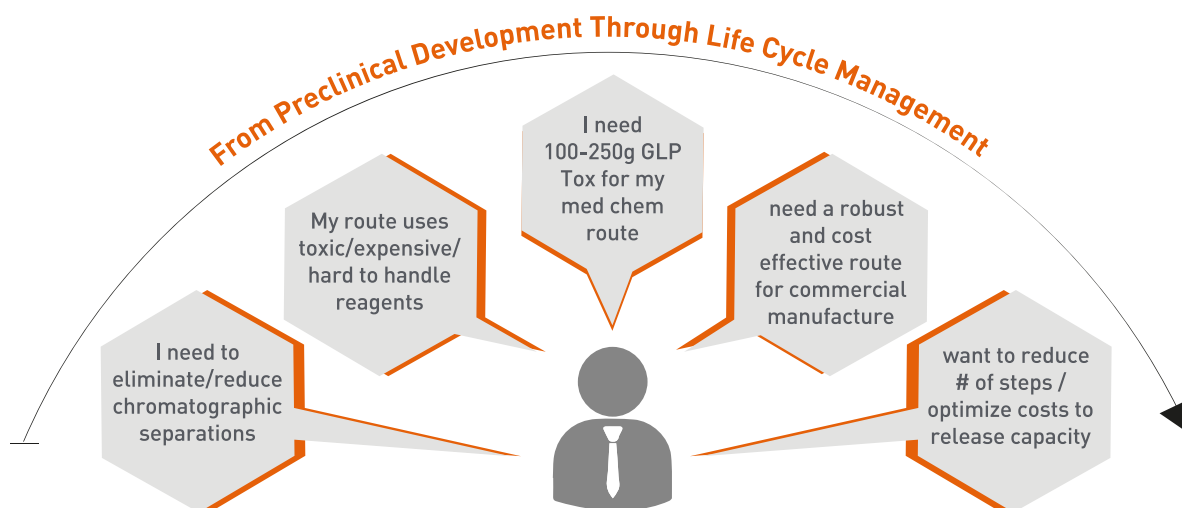
## KEY OUTCOMES

We develop routes that are

- Shorter (less no. of steps)
- Safer (avoid hazardous/explosive reagents and reactions)
- With increased yield
- Environment friendly (eliminate toxic/carcinogenic reagents)
- Cost-effective (shorter, safer route and increased yield hence cost effective)

## WE THINK BEFORE WE REACT

Over 150 Process Chemists, 7 Global R&D Centers (NA, EU, Asia), State-of-the-art Labs



Focus on rapid development of novel, optimal, robust and cost effective solutions

KEY OUTCOMES	CASE I	CASE II
No. of Steps	9 steps reduced to 6	8 steps reduced to 6
Safety	<ul style="list-style-type: none"> <li>Eliminated metal catalyzed reaction</li> <li>Replaced explosive BF<sub>3</sub>.THF with safer LiBH<sub>4</sub> reagent</li> </ul>	Eliminated metal catalyzed reaction
Yield Improvement	2% to 44%	<ul style="list-style-type: none"> <li>3% to 19%</li> <li>Eliminated 6 chromatographic separations</li> </ul>
Environment Friendly	Eliminated highly toxic carbon monoxide gas	Eliminated carcinogenic solvents such as Dioxan and DCM
Cost Effectiveness	NA	Cost reduced by 65%



Piramal Pharma Solutions is a contract development and manufacturing organization (CDMO), offering end-to-end development and manufacturing solutions across the drug life cycle. We serve our clients through a globally integrated network of facilities in North America, Europe and Asia. This enables us to offer a comprehensive range of services including Drug Discovery Solutions, Process & Pharmaceutical Development services, Clinical Trial Supplies and Commercial supply of APIs and Finished dosage forms. We also offer specialized services like development and manufacture of Highly Potent APIs, Antibody Drug Conjugation and are well versed in technologies such as Bio-catalysis, Route Scouting etc. Our capability as an integrated service provider & experience with various technologies enables us to serve Innovator and Generic companies worldwide.



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