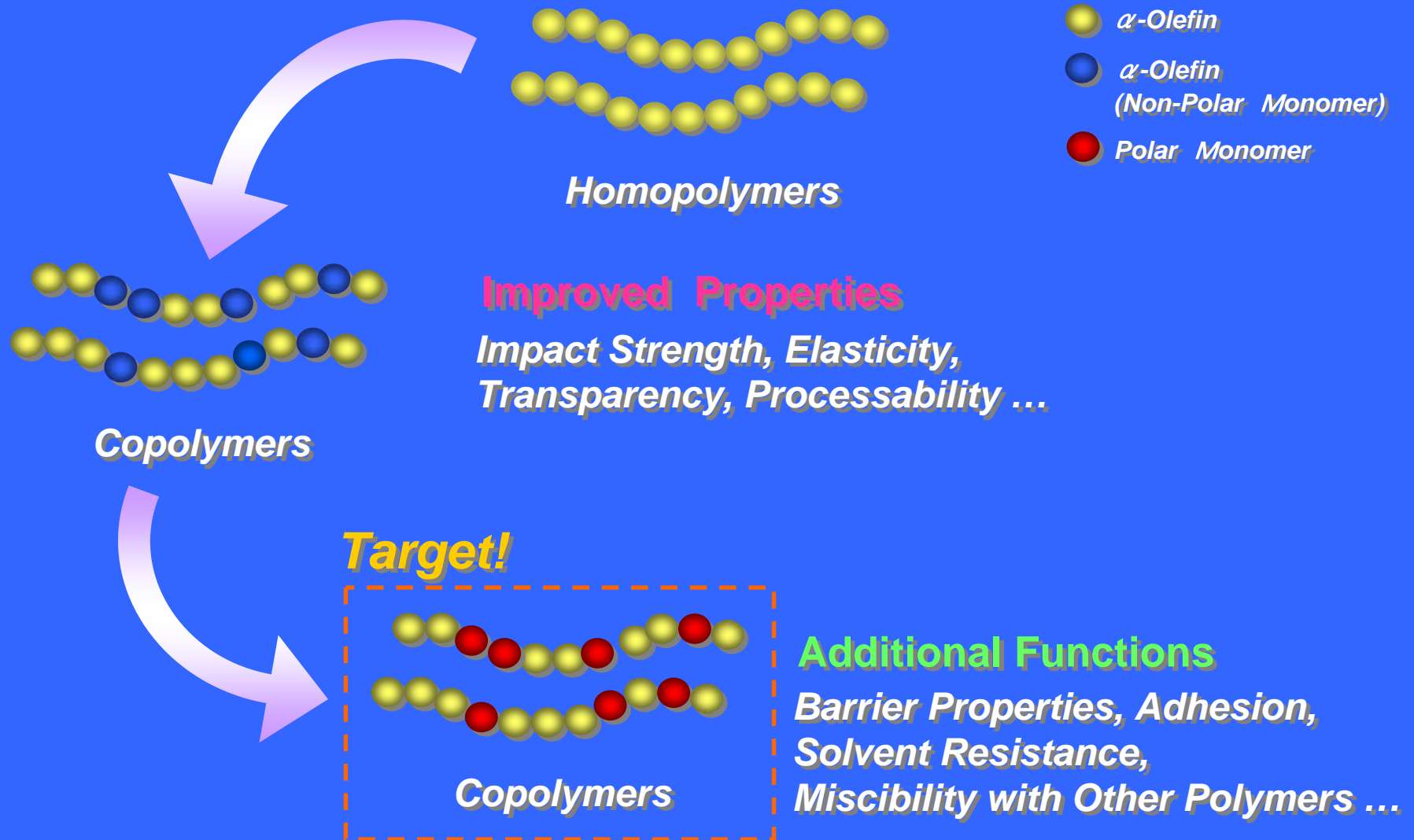
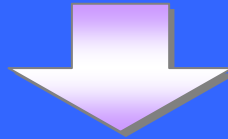


# Why Polar Monomers?



# Ethylene/Polar-Monomer Copolymerization

1<sup>st</sup> generation: **Early** Transition Metal Catalyst & **'Capped'** Polar Monomer



2<sup>nd</sup> generation: **Late** Transition Metal Catalyst & **'Non-Capped'** Polar Monomer

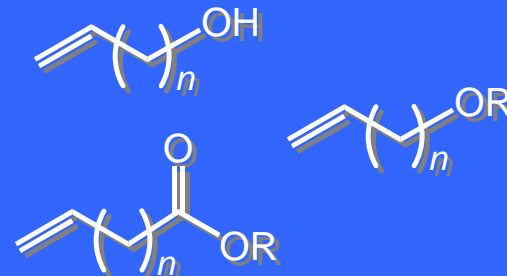


**Target!**

3<sup>rd</sup> generation: **Early** Transition Metal Catalyst & **'Non-Capped'** Polar Monomer



M: Ti, Zr, V, Cr ....



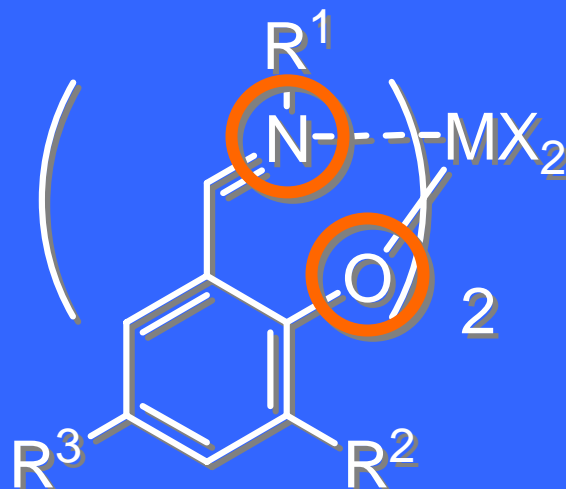
**Highly Active & Simple** system



Mitsui Chemicals

The New Chemical Explorer

# Motivation



*FI Catalysts*

1. Extremely High Activity towards Olefin Polymerization
2. Wide Range of Catalyst Design
3. “Already Poisoned” by the Heteroatoms; [N, O] Ligands



Excellent for Ethylene/Polar Monomer Copolymerization



Mitsui Chemicals

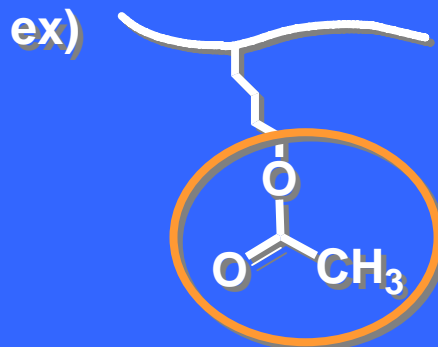
The New Chemical Explorer

# Summary

## ✓ Ethylene/Polar-Monomer Copolymerization



*FI Catalysts*



### Features

- ✓ Early Transition Metal Catalysts
- ✓ 'Non-Capped' Polar Monomers



**New Generation of the Copolymerization System**



Mitsui Chemicals

The New Chemical Explorer