

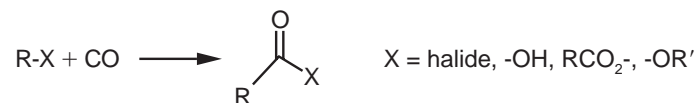
## CARBONYLATION CAPABILITIES

### Introduction of a Carbonyl Unit Into an Organic Molecule

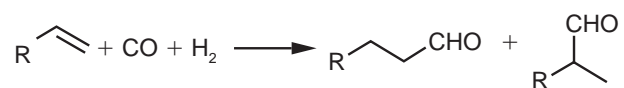
- Decades of Operational Experience
- Proprietary Catalysts and/or Ligands
- Capabilities in Continuous or Batch Equipment
  - Billions of pounds in continuous equipment
  - Tens of tons in batch equipment

### Carbonylation capabilities include:

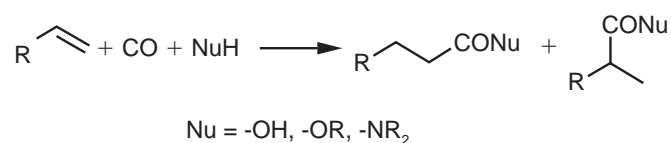
Carbonylation of alcohols, esters, ethers, halides



Hydroformylation of olefins

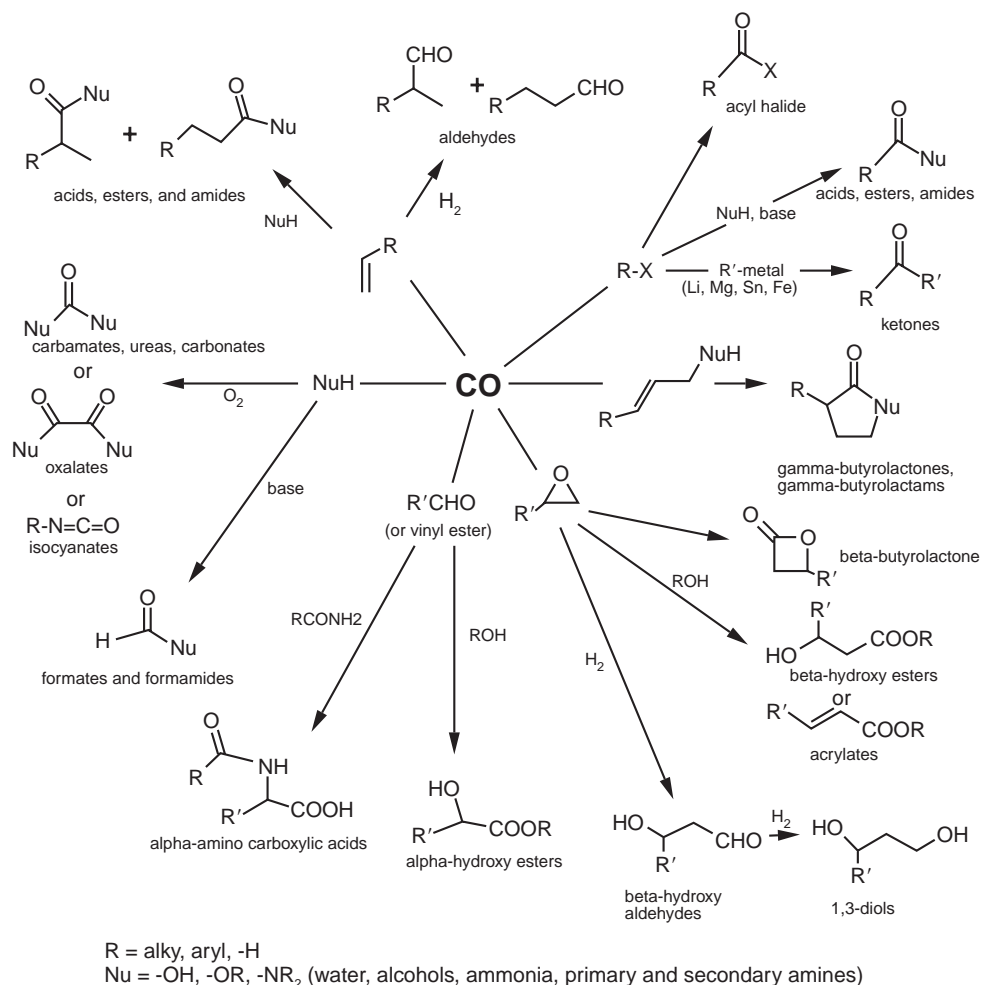


Hydro- or carboalkoxylation of olefins



*Get a Reaction!*

# CARBONYLATION POSSIBILITIES<sup>1</sup>



<sup>1</sup>Shown for illustration only; not all routes are demonstrated or commercial.

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