

# Copolymerization of Olefins with Polar Monomers:

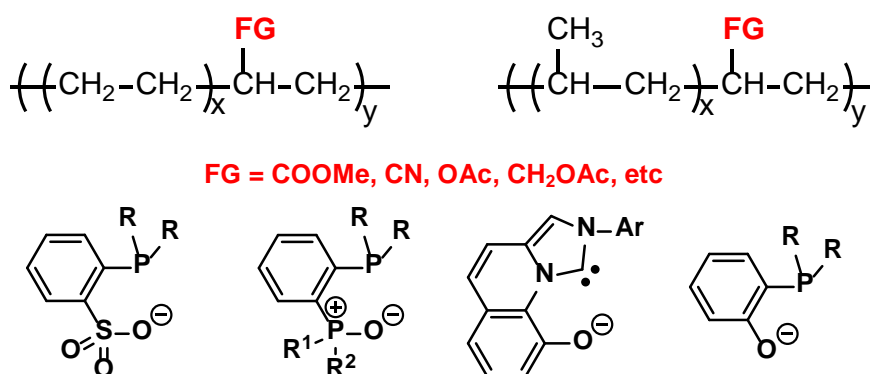
## The Role played by Unsymmetrical Bidentate Ligand in the Group 10 Metal Mediated Olefin Insertion and $\beta$ -Hydride Elimination

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The incorporation of polar functional groups into polyolefins can significantly alter the adhesion, barrier and surface properties, dyeability, printability, and compatibility of the resulting 'functional polyolefin'. Thus, the development of methods for the controlled synthesis of functional polyolefins from industrially-relevant monomers holds the potential to expand the range of applications available to this already ubiquitous class of materials. Specific topics discussed here include copolymerization of ethylene/polar monomers and propylene/polar monomers catalyzed Pd complexes phosphine-sulfonate (Drent),<sup>1</sup> bisphosphine monoxide (BPMO),<sup>2</sup> and Imidazoquinolinato (IzQO)<sup>3</sup> Ligands. The use of Ni complexes of phosphine-phenolato (SHOP)<sup>4</sup> catalyst will be also presented.

The reaction mechanism will be also presented focusing on the roles played by the unsymmetrical bidentate ligands.



### References

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