Organometallics and Named Reactions

The broad goal of the project is to introduce you to a variety of metal complexes and the synthetic utility available to organic chemists beyond the reagents shown in the textbook. You will practice describing a named reaction starting with the substrate, the reagents used in the transformation, and the product pointing out the bonds that are broken/formed. This assignment will improve both your research (SciFinder Scholar) and communication (PowerPoint and oral) skills.

Choose two of the following reactions/catalysts and obtain the following information.

- Provide the generic reaction/structure and describe what the overall chemistry is (carbon-carbon bond formation, hydrogenation of a double bond, etc.). *Wikipedia is often a good general reference for this type of information.*

- Using SciFinder, search for two papers regarding the reaction/catalyst. The first must be by the original chemist and the second one by another researcher who has cited the first paper in their work. *The second paper may be found using the related citations feature. If you are having difficulty with SciFinder consult http://www.cas.org/support/scifi/howto/index.html.*

- From each paper, provide an example of a specific reaction including reagents used.

Create a five-minute presentation (3-6 slides) based on the information above to present to the class. The presentation should be created in PowerPoint with all structures drawn using ChemDraw. The chemistry should be described using terms you have learned in class and not necessarily the words in the paper that you can't pronounce.

Adam's Catalyst
Barbier Coupling
Buchwald-Hartwig Coupling
Cadiot-Chodkiewicz Coupling
Grubbs Catalyst
Heck Coupling
Jacobsen-Katsuki Reaction
Kharasch Reaction
Lindlar Catalyst
Miyaura Coupling
Noyori Annulation
Nozaki-Hiyama-Kishi Coupling
Pauson-Khand Reaction
Prevost Reaction
Reformatsky Reaction
Rosenmund-von Braun Reaction
Sharpless Aminohydroxylation
Sharpless Asymmetric Dihydroxylation
Sharpless Asymmetric Epoxidation
Sonogashira Coupling
Stephen Reduction
Stephens-Castro Coupling
Stille Coupling
Suzuki Coupling
Tebbe Reagent/Reaction
Ullman Coupling
Wacker Oxidation
Wilkinson's Catalyst
Wurtz Coupling
Ziegler-Natta Catalyst