### **TODAY'S TOPICS**

- 1,1-migratory insertion
- α-elimination
- 1,2-migratory insertion
- β-elimination
- transmetalation

## **CHEMIST OF THE DAY**



name? institution known for?

## **QUOTE OF THE DAY**

"An investment in knowledge pays the best interest."

- Benjamin Franklin

# **READING**

Hartwig: Ch. 3.2, 8–9, 19.4 Crabtree: Ch. 7

### PROBLEMS OF THE DAY

#1 Consider the following manganese complex. Propose the intermediate and product (A or B).

#2 In solution in C<sub>6</sub>D<sub>6</sub>, the following tantalum complex is in equilibrium with a tautomeric form, **C**. **Predict the structure of C and propose a mechanism to form it.** 

#3 P, $\pi$ ,P-pincer palladium complex reacts with HCl to form a new well-defined palladium(II) species **D** that eventually reacts further to form a distinct palladium(II) species **E**. **Predict the products**.

$$\begin{array}{c|c} & & & \\ \hline \\ Me & & \\ \hline \\ P(^iPr)_2 & \\ \hline \\ P(^iPr)_2 & \\ \hline \end{array} \begin{array}{c} & & \\ \hline \\ Et_2O, \, r.t. & \\ \hline \end{array} \begin{array}{c} & \\ \hline \\ C_6H_6, \, 80 \, ^{\circ}C \\ \hline \end{array} \begin{array}{c} \\ \hline \end{array} \begin{array}{c} \\ \hline \end{array}$$

#4 Upon treament with ArB(OH)<sub>2</sub> and NaF, N,N,π-palladacycle is converted to a new complex via the presumed intermediacy of F and G. Provide the structures for F and G and the names of the elementary reactions involved in their formation.

$$\begin{array}{c}
\text{Me} & \text{Me} \\
\text{Me} & \text{Me}
\end{array}$$

$$\begin{array}{c}
\text{ArB(OH)}_2 \\
\text{NaF}
\end{array}$$

$$\begin{array}{c}
\text{Me} \\
\text{NaF}
\end{array}$$

$$\begin{array}{c}
\text{Me} \\
\text{NaF}
\end{array}$$

$$\begin{array}{c}
\text{Me} \\
\text{NaF}
\end{array}$$