October 10 2013 Group Meeting Questions

1) Explain (with a mechanism) the outcomes of the following chemical reactions.

\[ \text{Ni(COD)}_2 (10 \text{ mol } \%) + 7 (10 \text{ mol } \%) \text{ KO-i-Bu (10 mol \%)} \rightarrow \text{SiEt}_3 \]

\[ \text{THF, rt} \rightarrow \text{10 (76 \%, >98:2)} \]

\[ + \text{El}_3\text{SiH} \]

\[ \text{Pd}_2(\text{dba})_2 (5 \text{ mol } \%) + 5a (10 \text{ mol } \%) \text{ KO-i-Bu (10 mol \%)} \rightarrow \text{SiEt}_3 \]

\[ \text{THF, rt} \rightarrow \text{11 (74 \%, >98:2)} \]

2) Propose a reasonable mechanism for the following rearrangement.

\[ \text{3, 5 mol } \% \text{ o-C}_6\text{D}_4\text{Cl}_2 \]

\[ 70 ^\circ \text{C, 1 h} \rightarrow \text{2-d}_4 \]

\[ 89\% \]