1

\[
\begin{align*}
\text{Ph-CN} & \xrightarrow{\text{MeCN, rt}} \text{Ph-NH-Ts, 71\%} \\
\text{cat. CuBr-SMe}_2 & \quad \text{H}_2\text{O (6.0 eq)} \\
& \quad \text{Et}_3\text{N (1.2 eq)} \\
& \quad \text{Tsn}_3
\end{align*}
\]


2

\[
\begin{align*}
\text{AcO} & \quad \text{Me^+} \\
\text{Me} & \quad \text{Au cat. (2 mol\%)} \\
& \quad \text{CH}_2\text{Cl}_2, \text{rt} \\
& \quad 52\%
\end{align*}
\]


3

\[
\begin{align*}
\text{Li} & \quad \text{THF, 0 °C} \\
& \quad 65\%
\end{align*}
\]

Fukuyama Group - Group Meeting Problems

10/15/2014

1) Ti(O-i-Pr)₄ (cat), EtMgBr (3 eq)  
   THF, 15 °C, 70%  

2) \( \text{Na}_2\text{SO}_4, \text{Al(OTf)}_3 \)  
   \( \text{CH}_2\text{Cl}_2, -10 °C \)  
   TiCl₄, 55%  


2

\[ \text{cyclopropane} \]

1,4-dioxane  
70 °C  
88%


3

1) Ishikawa’s rgt (PPDA)  
   CHCl₃, rt, 74%  

2) BnNH₂  
   2-hydroxypyridine  
   THF, rt, 99%  