Outline syntheses. Provide literature references for each transformation

1) \[
\text{\begin{tikzpicture}
\node (A) at (0,0) {\text{H}};
\node (B) at (1,0) {\text{H}};
\node (C) at (2,0) {\text{H}};
\node (D) at (3,0) {\text{Ph}};
\node (E) at (1.5,0.5) {\text{O}};
\node (F) at (1.5,-0.5) {\text{O}};
\node (G) at (1.5,0) {\text{Me}};
\node (H) at (1.5,0.3) {\text{Me}};
\end{tikzpicture}} \rightarrow \text{\begin{tikzpicture}
\node (I) at (0,0) {\text{H}};
\node (J) at (1,0) {\text{H}};
\node (K) at (2,0) {\text{H}};
\node (L) at (3,0) {\text{Ph}};
\node (M) at (1.5,0.5) {\text{O}};
\node (N) at (1.5,-0.5) {\text{O}};
\node (O) at (1.5,0) {\text{Me}};
\node (P) at (1.5,0.3) {\text{Me}};
\end{tikzpicture}}
\]

2) \[
\text{\begin{tikzpicture}
\node (Q) at (0,0) {\text{Ph}};
\node (R) at (0.5,0) {\text{HO}};
\node (S) at (1,0) {\text{Ph}};
\end{tikzpicture}} \rightarrow \text{\begin{tikzpicture}
\node (T) at (0,0) {\text{Ph}};
\node (U) at (0.5,0) {\text{HO}};
\node (V) at (1,0) {\text{Ph}};
\end{tikzpicture}}
\]

from any commercial starting materials

3) Predict the product. Explain

\[
\text{\begin{tikzpicture}
\node (W) at (0,0) {\text{O}};
\node (X) at (0.5,0) {\text{CH}_3};
\node (Y) at (1,0) {\text{OCH}_2\text{OBn}};
\end{tikzpicture}} \rightarrow \text{\begin{tikzpicture}
\node (Z) at (0,0) {\text{O}};
\node (AA) at (0.5,0) {\text{CH}_3};
\node (BB) at (1,0) {\text{OCH}_2\text{OBn}};
\end{tikzpicture}}
\]

EtMgBr

4) Propose a role for the CuI co-catalyst

\[
\text{\begin{tikzpicture}
\node (CC) at (0,0) {\text{Ph}};
\node (DD) at (0.5,0) {\text{I}};
\node (EE) at (1,0) {\text{H}_3\text{C}};
\end{tikzpicture}} \rightarrow \text{\begin{tikzpicture}
\node (FF) at (0,0) {\text{Ph}};
\node (GG) at (0.5,0) {\text{H}_3\text{C}};
\end{tikzpicture}}
\]

cat. Pd(PPh$_3$)$_4$ cat. CuI

\[
\text{\begin{tikzpicture}
\node (HH) at (0,0) {\text{Ph}};
\node (II) at (0.5,0) {\text{Et}_3\text{N}};
\end{tikzpicture}} \rightarrow \text{\begin{tikzpicture}
\node (JJ) at (0,0) {\text{Ph}};
\node (KK) at (0.5,0) {\text{Et}_3\text{N}};
\end{tikzpicture}}
\]

5) Write an arrow pushing mechanism

\[
\text{\begin{tikzpicture}
\node (LL) at (0,0) {\text{OTMS}};
\node (MM) at (1,0) {\text{MeCu(CN)Li}};
\node (NN) at (2,0) {\text{O}};
\end{tikzpicture}} \rightarrow \text{\begin{tikzpicture}
\node (OO) at (0,0) {\text{OTMS}};
\node (PP) at (1,0) {\text{MeCu(CN)Li}};
\node (QQ) at (2,0) {\text{O}};
\end{tikzpicture}}
\]

1) \[
\text{\begin{tikzpicture}
\node (RR) at (0,0) {\text{O}};
\node (SS) at (1,0) {\text{Me}};
\node (TT) at (2,0) {\text{CN}};
\end{tikzpicture}} \rightarrow \text{\begin{tikzpicture}
\node (UU) at (0,0) {\text{O}};
\node (VV) at (1,0) {\text{Me}};
\node (WW) at (2,0) {\text{CN}};
\end{tikzpicture}}
\]

2) \[
\text{\begin{tikzpicture}
\node (XX) at (0,0) {\text{O}};
\node (YY) at (1,0) {\text{Me}};
\node (ZZ) at (2,0) {\text{CN}};
\end{tikzpicture}} \rightarrow \text{\begin{tikzpicture}
\node (AA) at (0,0) {\text{O}};
\node (BB) at (1,0) {\text{Me}};
\node (CC) at (2,0) {\text{CN}};
\end{tikzpicture}}
\]

6) Complete the online tutorial for conducting a cited reference search using the Web of Science database. Using any one of the references for this week, conduct a cited reference search. Write down the 3 most recent references that cite the work.