II. (cont'd, 8 pts each) Provide the reagents necessary to transform the given starting material into the desired product. Showing your work and providing intermediate structures may help earn partial credit. It may help to first consider the retrosynthesis of the product.

III. (10 pts) There are **two** possible disconnections for any ether target molecule (TM). Provide **both** retrosyntheses, **explain** which would lead to the better synthesis, and then provide the preferred **synthesis**.

$$\begin{array}{ccc}
& & \xrightarrow{A} \\
& & \xrightarrow{B} \\
\end{array}$$

Which is better (A, B or neither)? Explain.

Synthesis of TM: