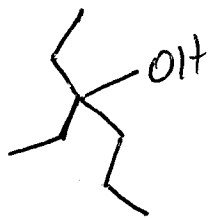


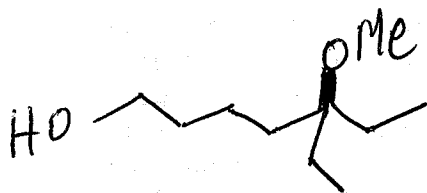
# Chem 336 practice problems.

Came up with a synthesis  
of the following:



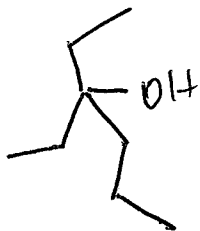
starting materials  
of 1 carbon.

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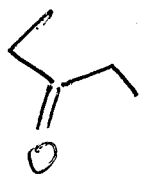


starting materials  
of 4 carbons or less.

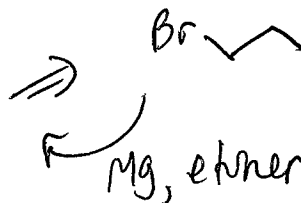
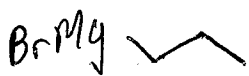
Answer



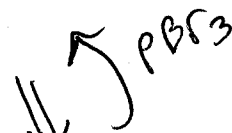
⇓ ↑ ether



+

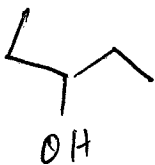


⇓ ↑ Mg, ether

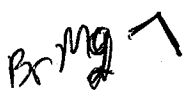
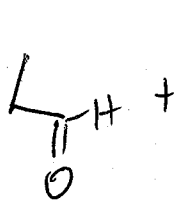


⇓ ↑ PBr<sub>3</sub>

⇓ ↑ H<sub>2</sub>CrO<sub>3</sub>



⇓ ↑ ether

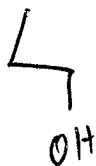


⇓ ↑ Mg, ether

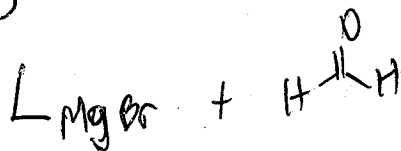
can also use  
CCBr + CCC(=O)O

⇓ ↑ PCC

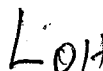
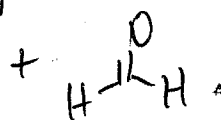
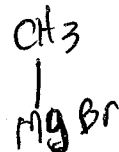
BrCC ← see below



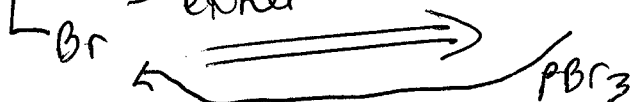
⇓ ↑ ether



⇓ ↑ Mg, ether

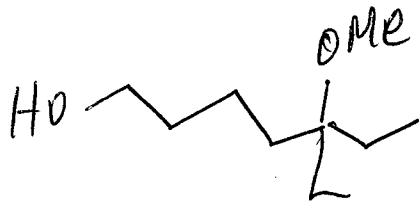


← ether



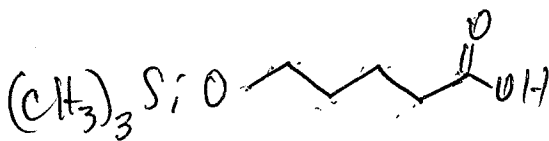
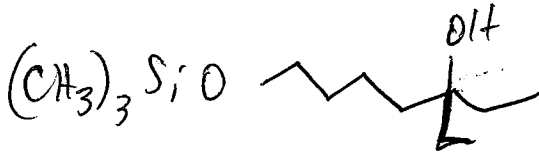
PBr<sub>3</sub>

Answer 2



1. NaH  
 2. CH<sub>3</sub>Br  
 3. Bu<sub>4</sub>N<sup>+</sup>F<sup>-</sup>

Williamson ether synthesis.



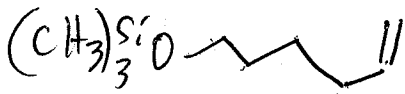
MgBr, ether



~~CH<sub>3</sub>COCl, imidazole, DMF~~  
 KMnO<sub>4</sub>, OH<sup>-</sup>



1. O<sub>3</sub>, CH<sub>2</sub>Cl<sub>2</sub>, -70°C  
 2. Zn, CH<sub>3</sub>COOH



TMSCl  
 imidazole, DMF

Mg ether

