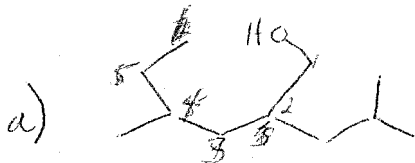


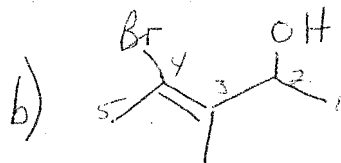
KEY

ORGANIC CH 10 HOMEWORK

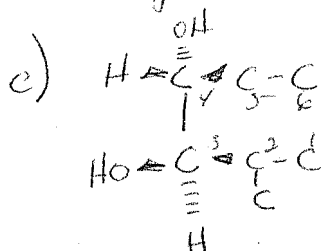
1. Give the IUPAC name for each of the following.



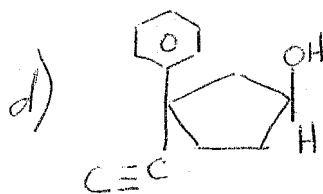
2-isobutyl-4-methylhexan-1-ol



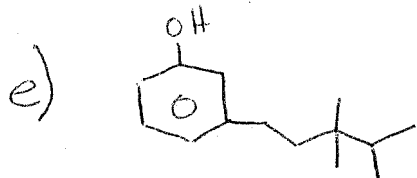
4-bromo-3-ethylpent-(3Z)-en-2-ol



(3R,4R)-2-methylhexan-3,4-diol

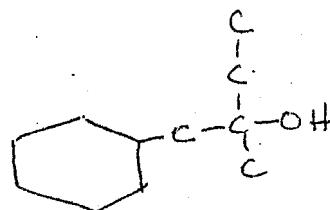
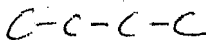
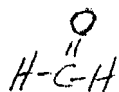
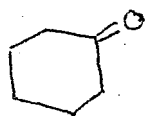


(1S,3S)-3-ethyl-3-phenylcyclopentanol

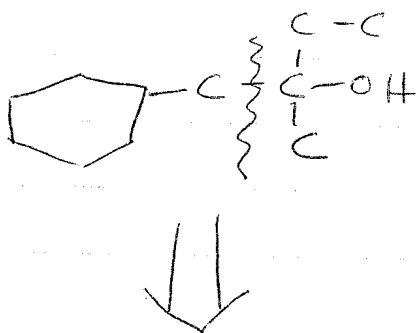


3-(3,3,4-trimethylpentyl)phenol

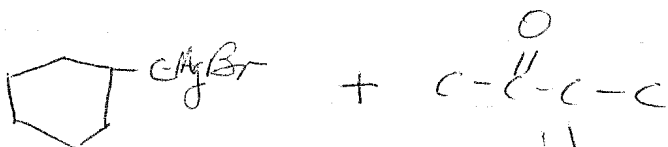
2. You have been hired as an organic chemist at Bugs & Slugs, Inc., a company specializing in the synthesis of insect pheromones. As your first project, the company president, Dr. Iluv Ochem, has assigned you the synthesis of the compound shown below. The company is very limited in its starting materials so the only sources of carbon that you have are cyclohexanone, formaldehyde and butane. Any other reagent that you may need will be available. Dr. Ochem has also stipulated that a Grignard reaction must be used in the synthesis. (Grignard was a distant relative of his).



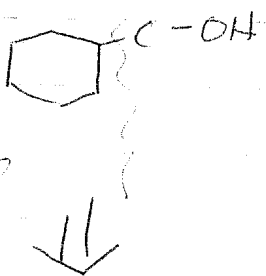
A. knowing what you have to start with I would break the molecule apart like this:



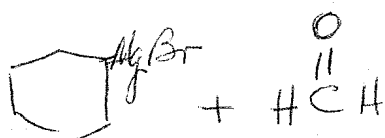
these 2 pieces could be connected using a Grignard



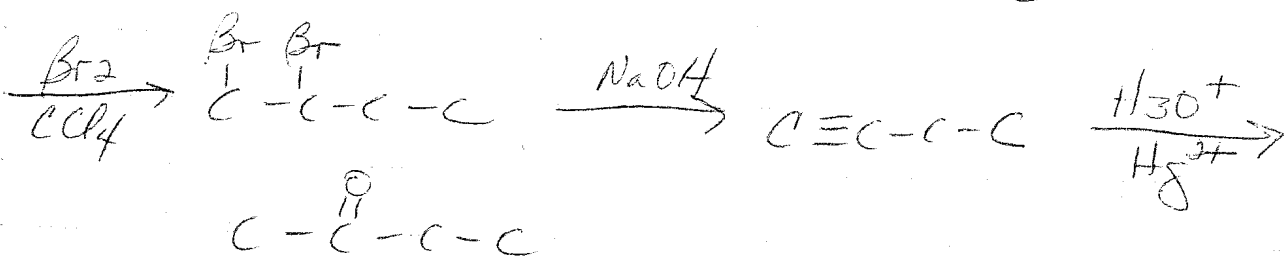
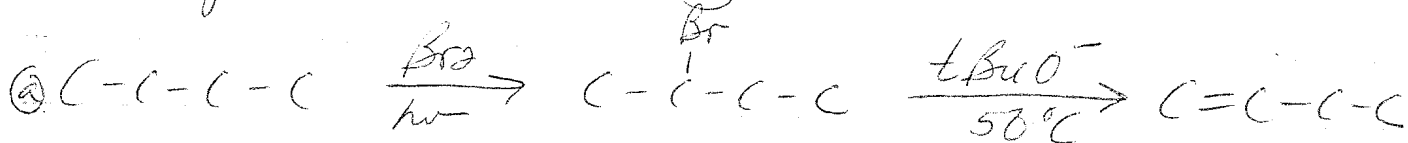
then break this one apart

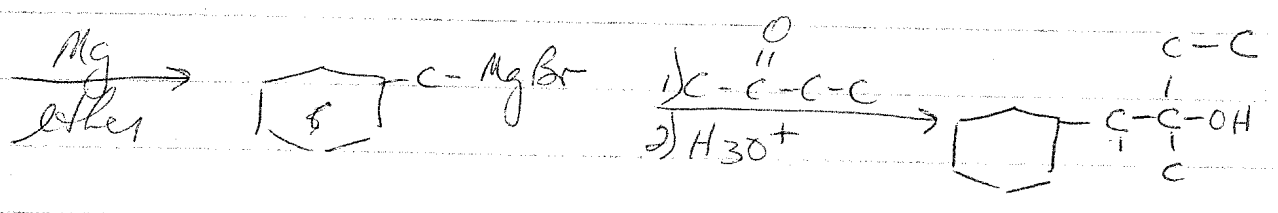
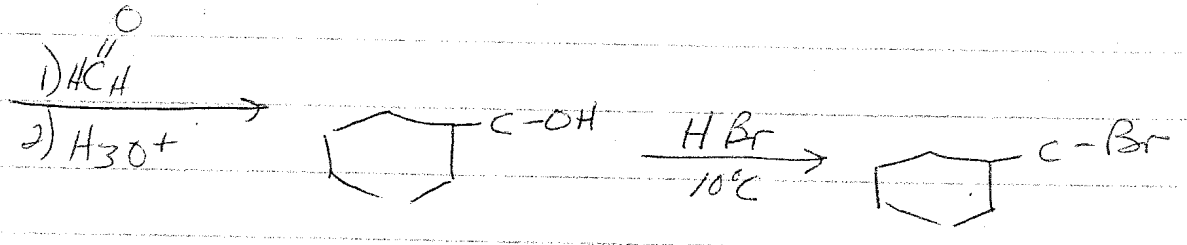
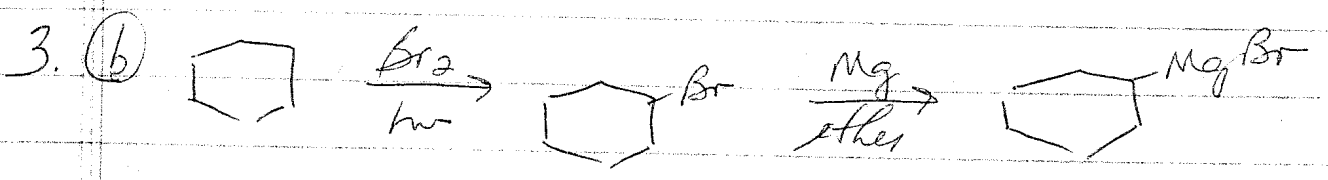


& connect thru grignard



So Synthesis would go like this:





3. Complete the following reactions by providing either the products formed or the reagents needed. Show stereochemistry where necessary.

