

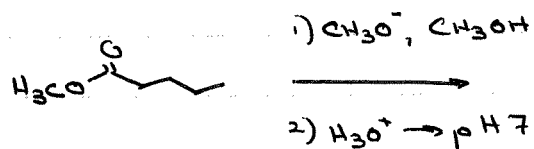
JAN. 23, 2012

# ASSIGNMENT #1

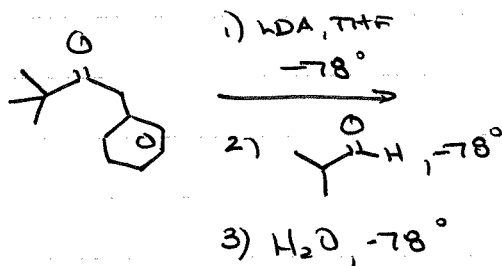
DUE JAN. 30, 2012

## MECHANISM

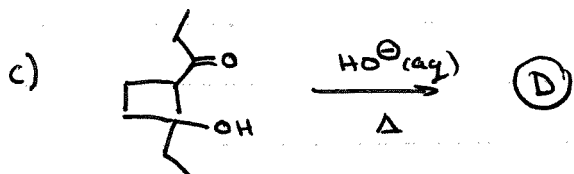
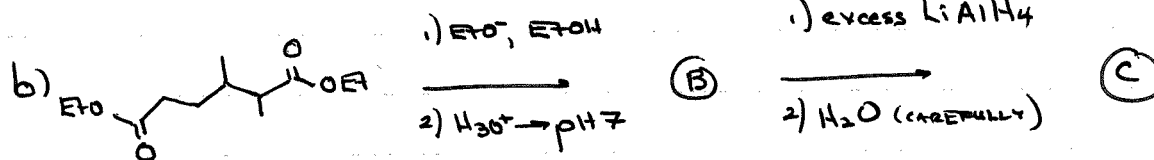
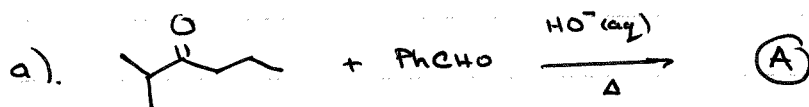
1. GIVE THE COMPLETE [FOR THE BASE MEDIATED CLAISEN CONDENSATION BETWEEN TWO MOLECULES OF METHYL PENTANOATE. SHOW ANY SMALL MOLECULES USED OR GIVEN OFF IN EACH OF THE STEPS. INDICATE WHICH STEPS ARE REVERSIBLE AND WHICH ARE (PRACTICALLY) IRREVERSIBLE.



2. SHOW THE TRANSITION STATE FOR THE ALDOL CONDENSATION (AND THE MAJOR PRODUCT) BETWEEN THE LITHIUM ENOLATE OF 1-PHENYL-3,3-DIMETHYL-2-BUTANONE AND 2-METHYLPROPANAL (ISOBUTYRALDEHYDE). THE ENOLATE GENERATED IS THE Z-ISOMER.

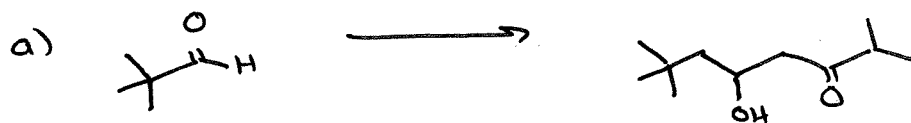


3. GIVE THE MAJOR PRODUCT (S) OF THE FOLLOWING TRANSFORMATIONS. INDICATE STEREOCHEMISTRY WHERE IT IS RELEVANT. MECHANISMS ARE NOT NECESSARY, BUT SHOWING YOUR WORK MAY BE A HELP.

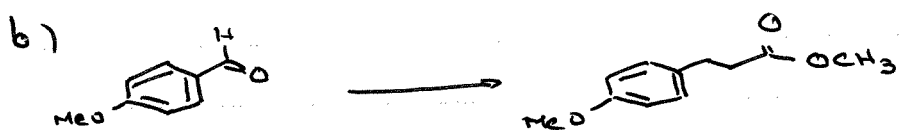


NOTE: CAUTION. THIS IS A BIT OF A TRICK.

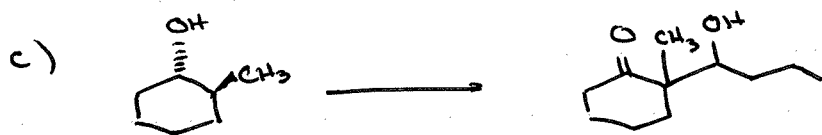
4. SHOW HOW YOU WOULD ACCOMPLISH THE FOLLOWING TRANSFORMATIONS OVER 1 OR (MORE THAN LIKELY) >1 STEPS. YOU MAY USE ANY ADDITIONAL REAGENTS THAT YOU DEEM FIT. SHOW ALL REAGENTS, PLAUSIBLE CONDITIONS, AND ANY INTERMEDIATES THAT COULD BE ISOLATED.



COUNT YOUR CARBONS CAREFULLY.



THIS WILL REQUIRE A LITTLE 59-230 REVIEW



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