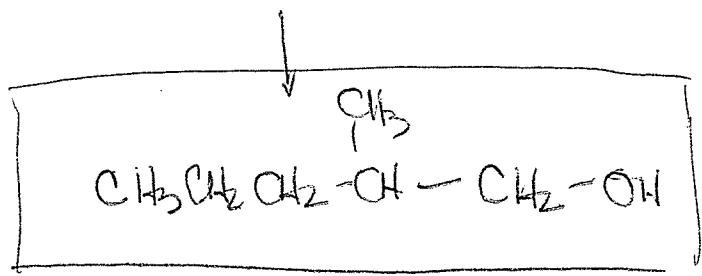
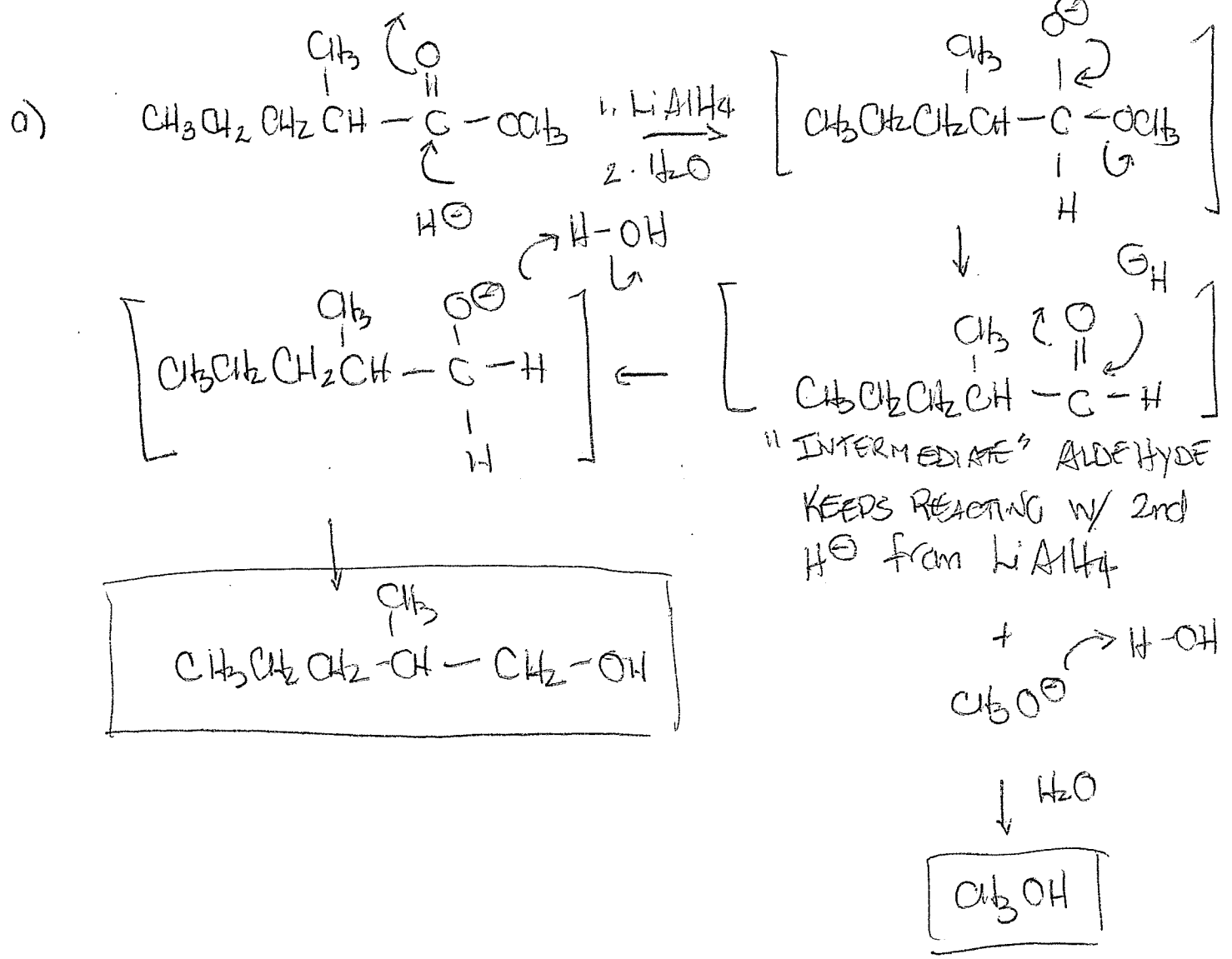


PROBLEM SET #21

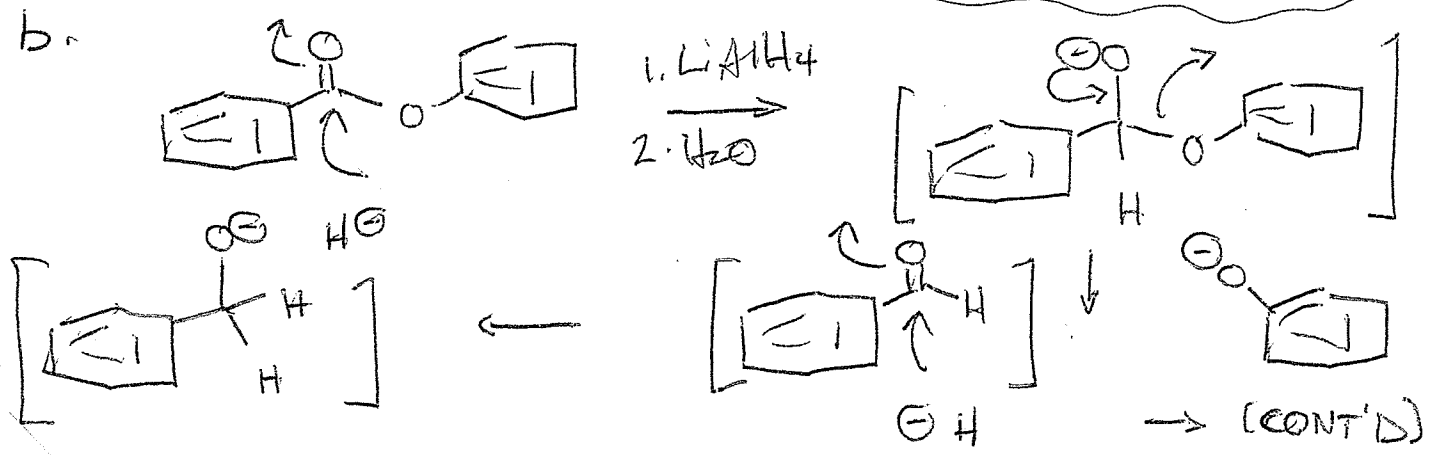
SOLUTIONS

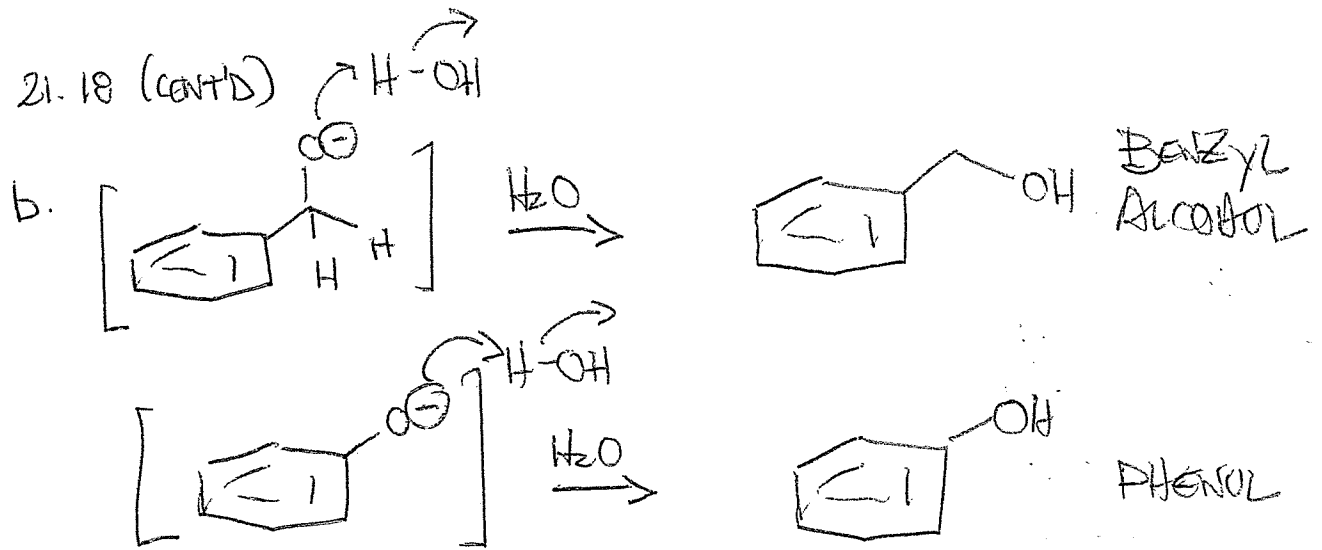
21.18

TETRAHERAL INTERMEDIATE



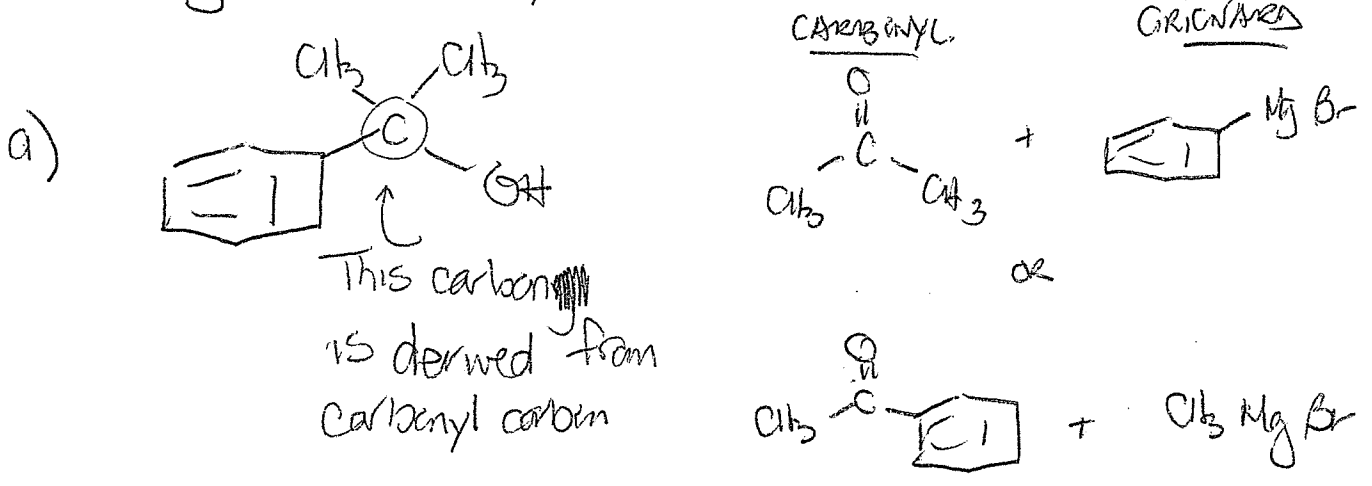
METHANOL





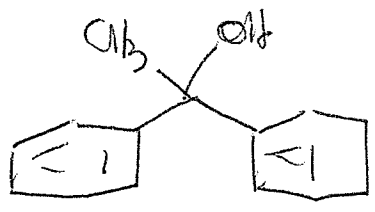
21.19

To determine GRIGNARD + CARBONYL given the product, focus on carbon atom in product bonded to OH. This carbon must be the CARBONYL carbon of the starting material. One of the carbon substituents bonded to the C-OH carbon must come from GRIGNARD reagent. Usually there are multiple options.



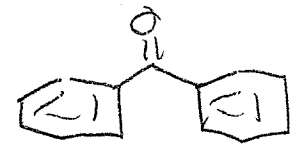
21.19

b.



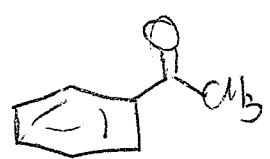
CARBONYL

Grignards



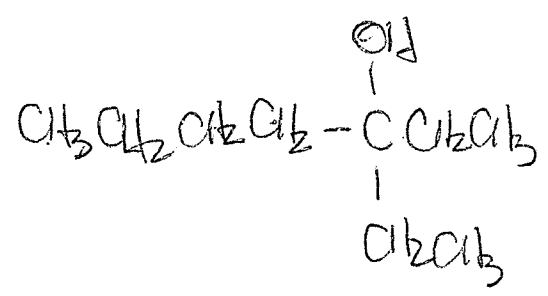
CH<sub>3</sub>MgBr

OR

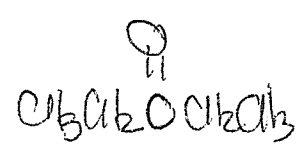


MgBr

c.

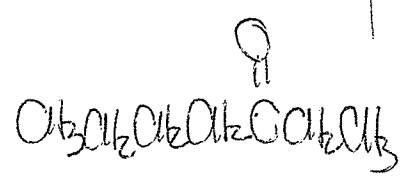


CARBONYL



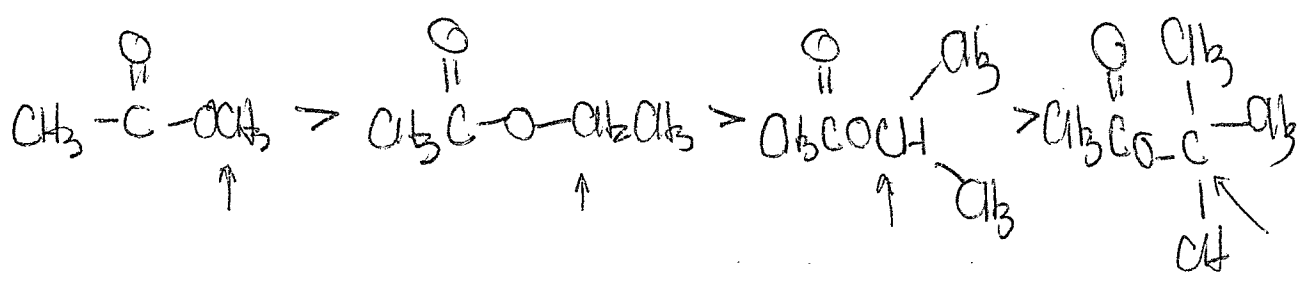
CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>MgBr

OR



CH<sub>3</sub>CH<sub>2</sub>MgBr

21.40



INCREASED STERIC BULK AROUND CARBONYL CARBON ↓ REACTIVITY w/ Nu: (i.e. OH<sup>-</sup>)