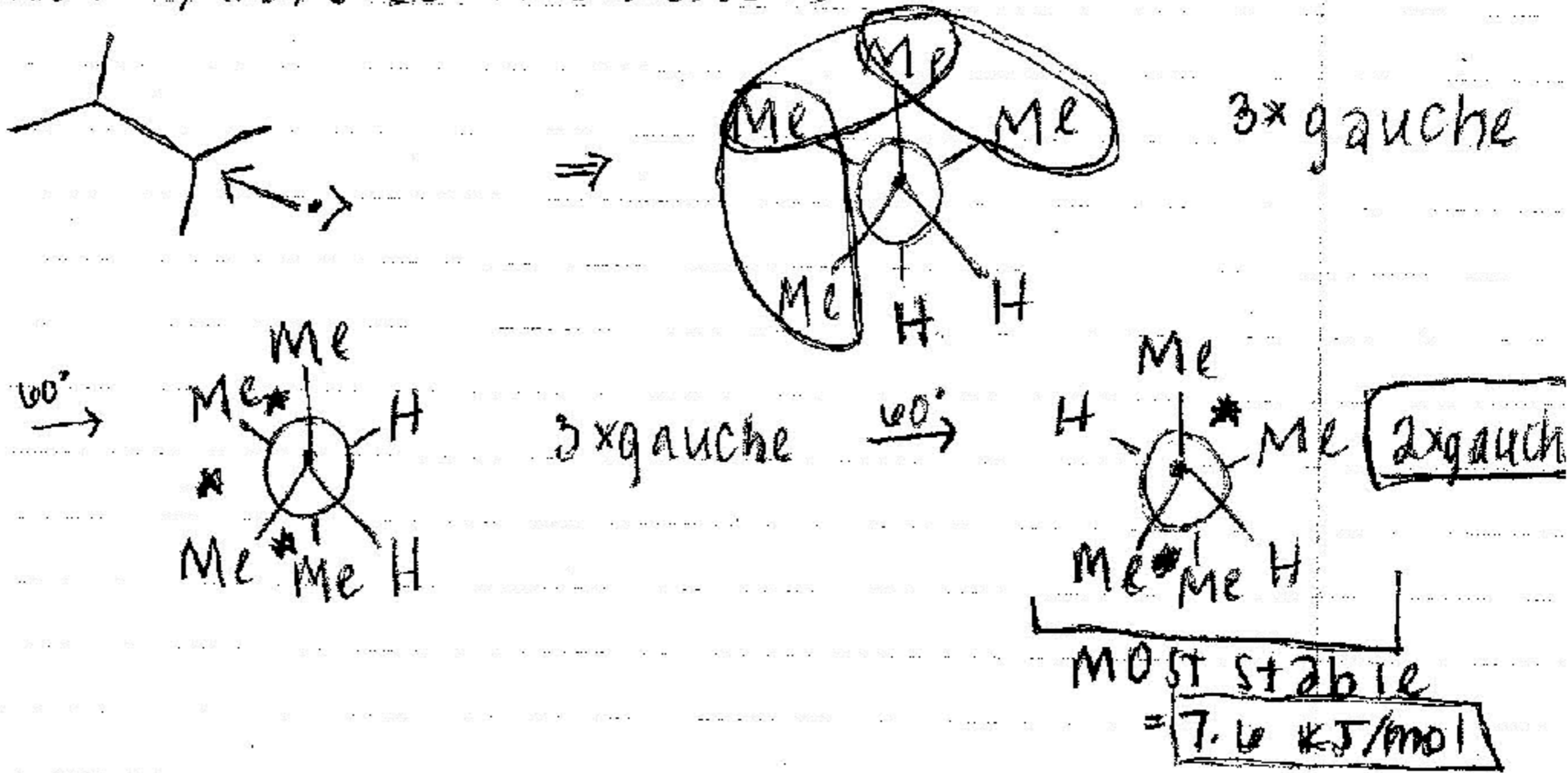


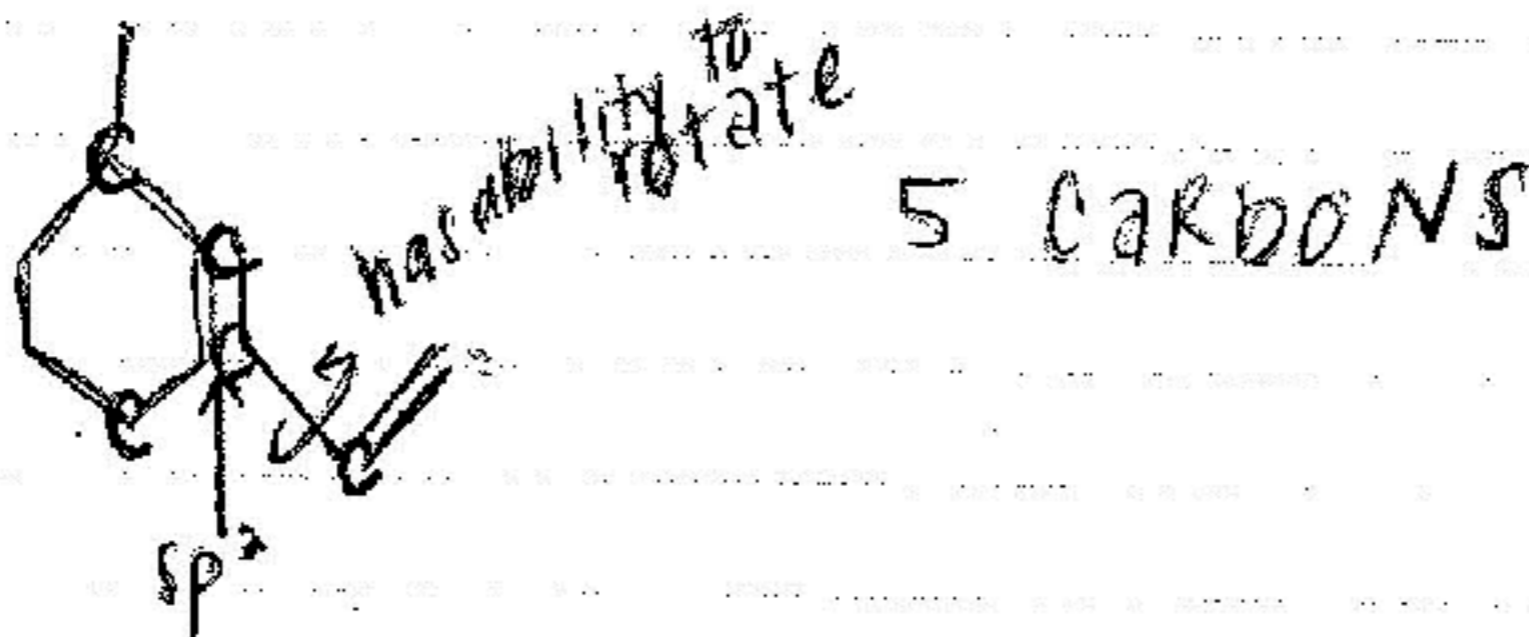
ORGO EXAM I REVIEW

SEP. 29, 2008

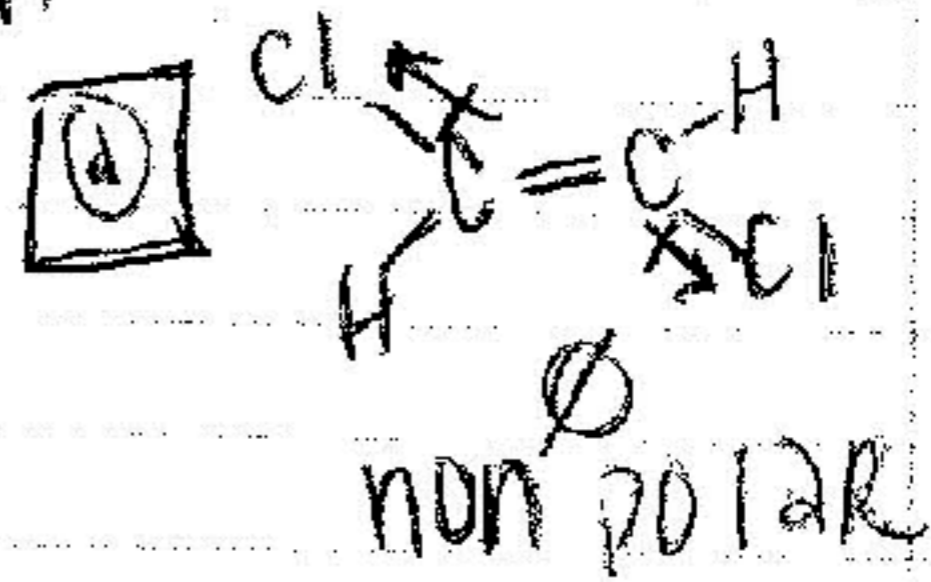
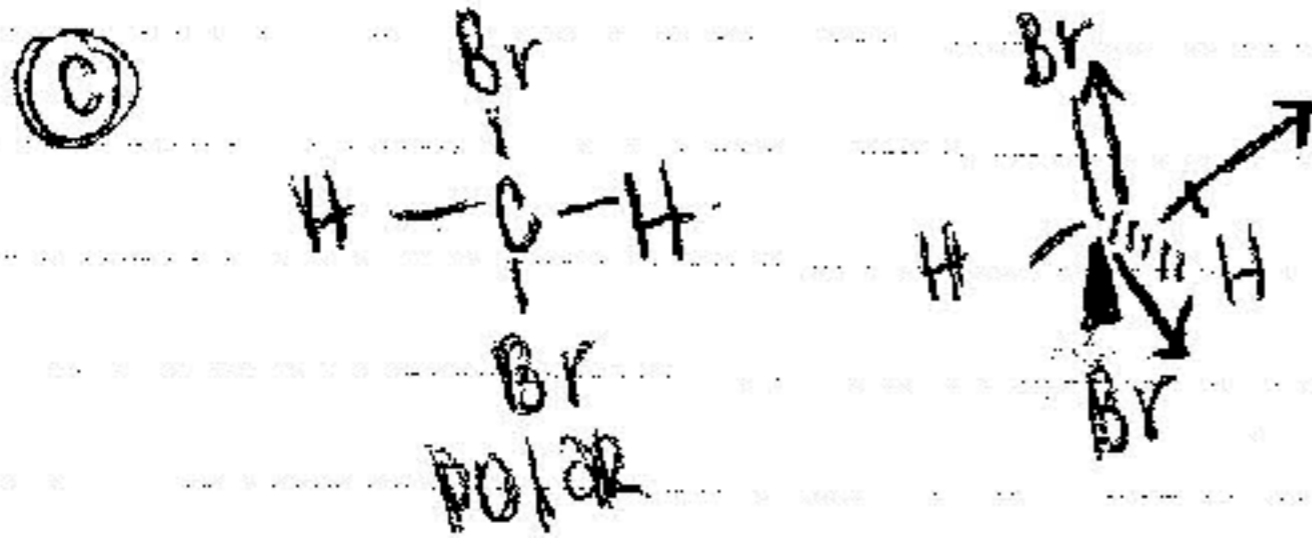
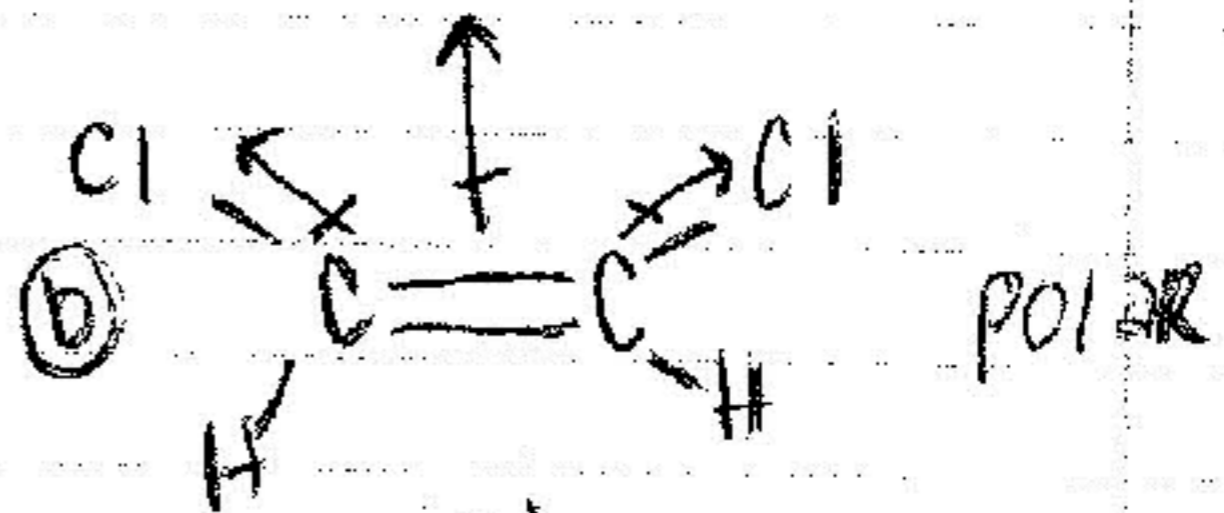
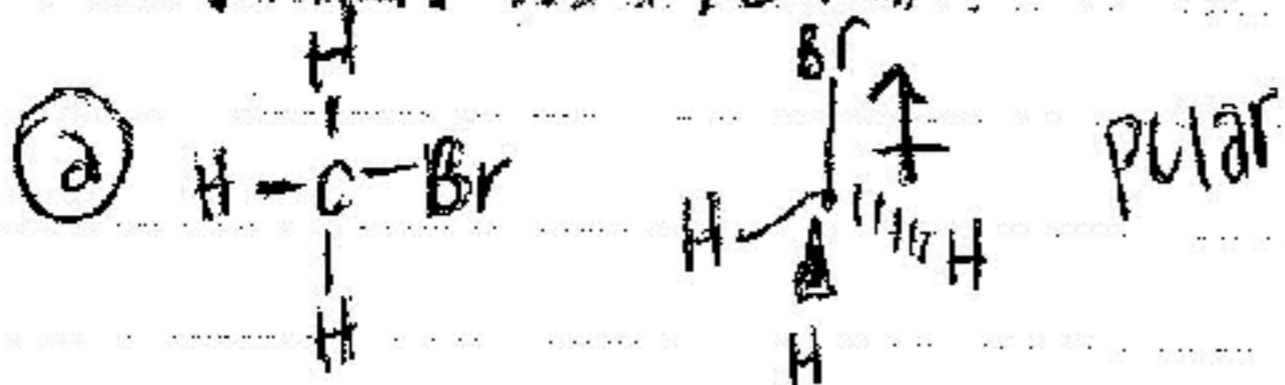
1. 2,3-dimethylbutane (relative energy cost of MOST stable conformation)



* 2. how many carbon atoms on same plane?

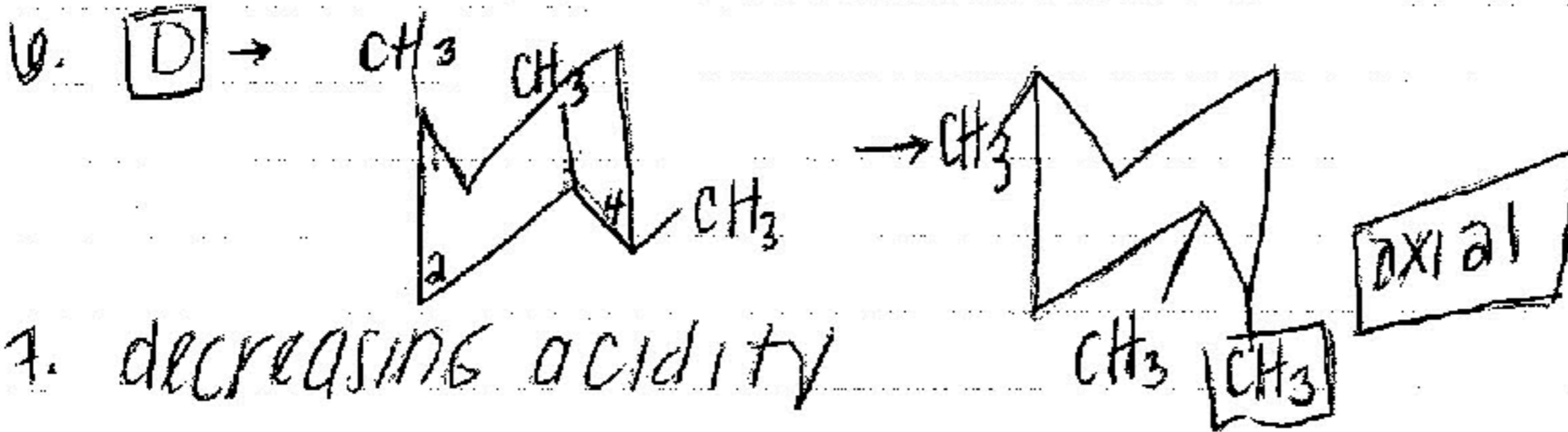


3. WHICH NOT POLAR?



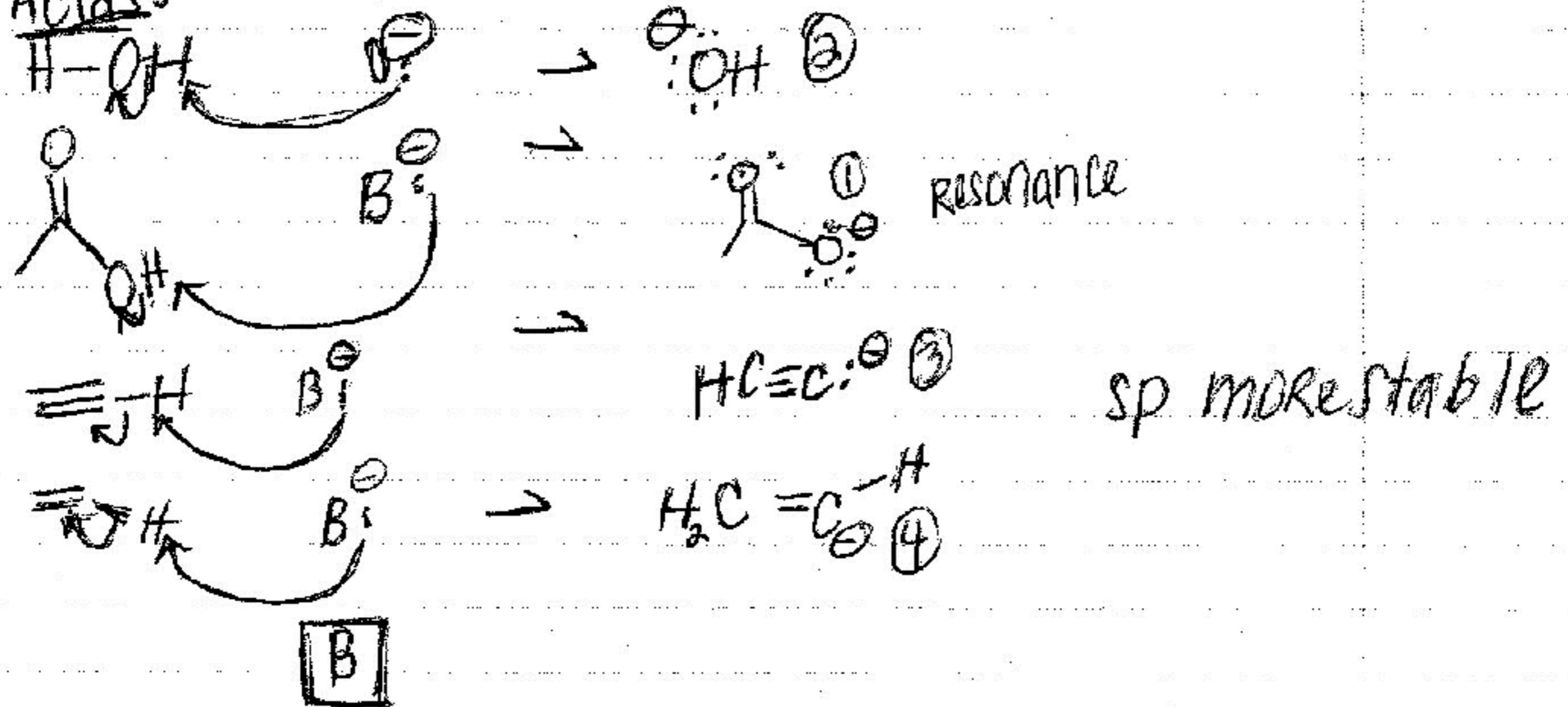
Need help? Visit premedtutoring.com to see videos on how to solve all these test questions!

5. 7 degrees unsaturation

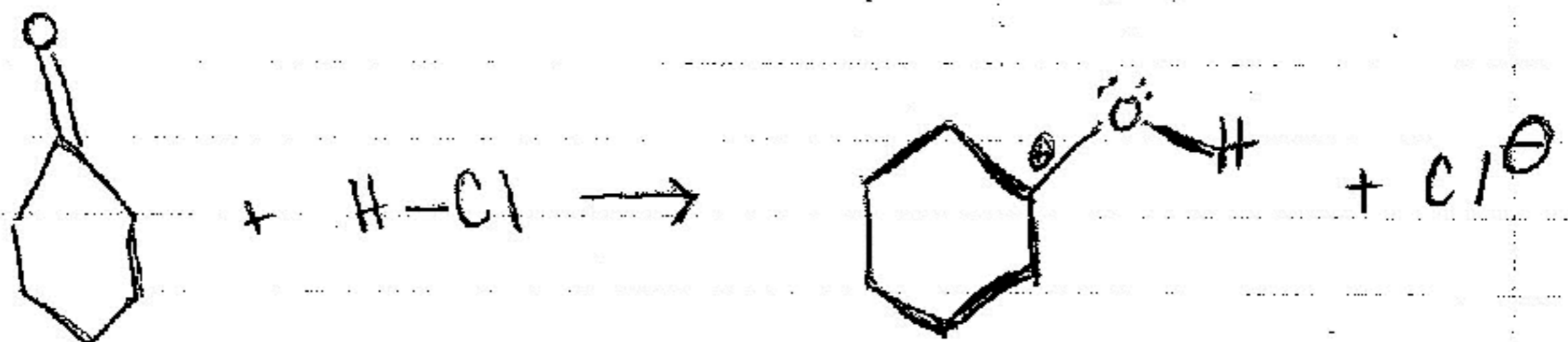
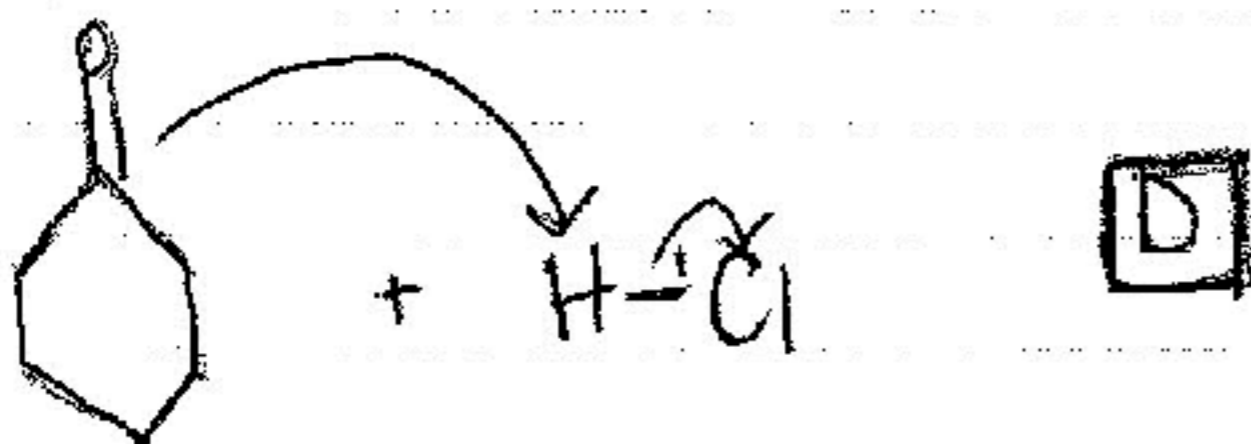


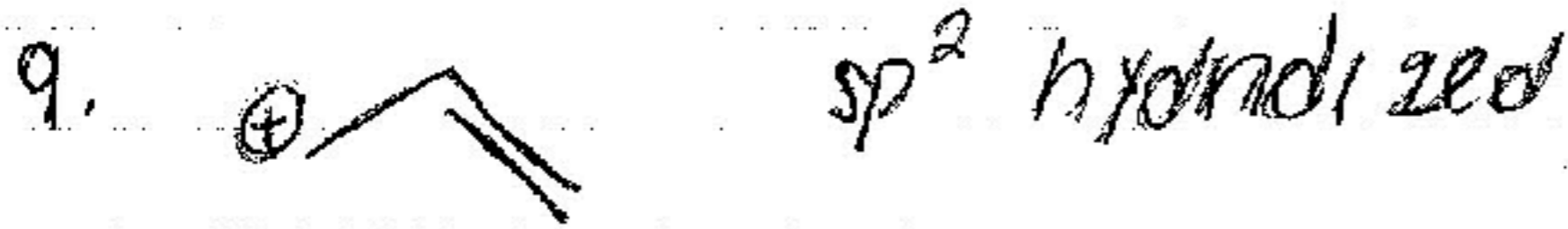
7. decreasing acidity

Stronger acid = most stable con., base



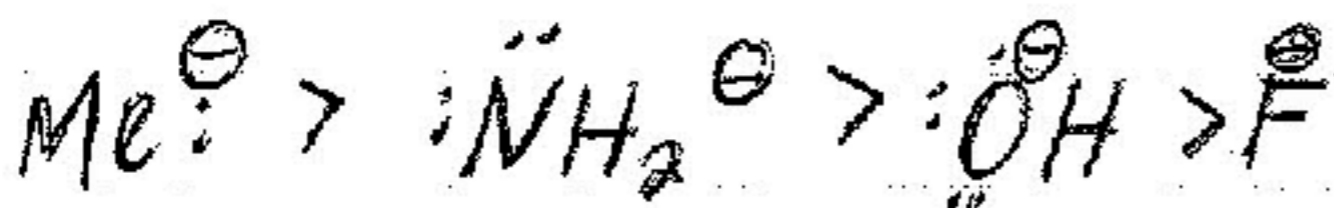
8.



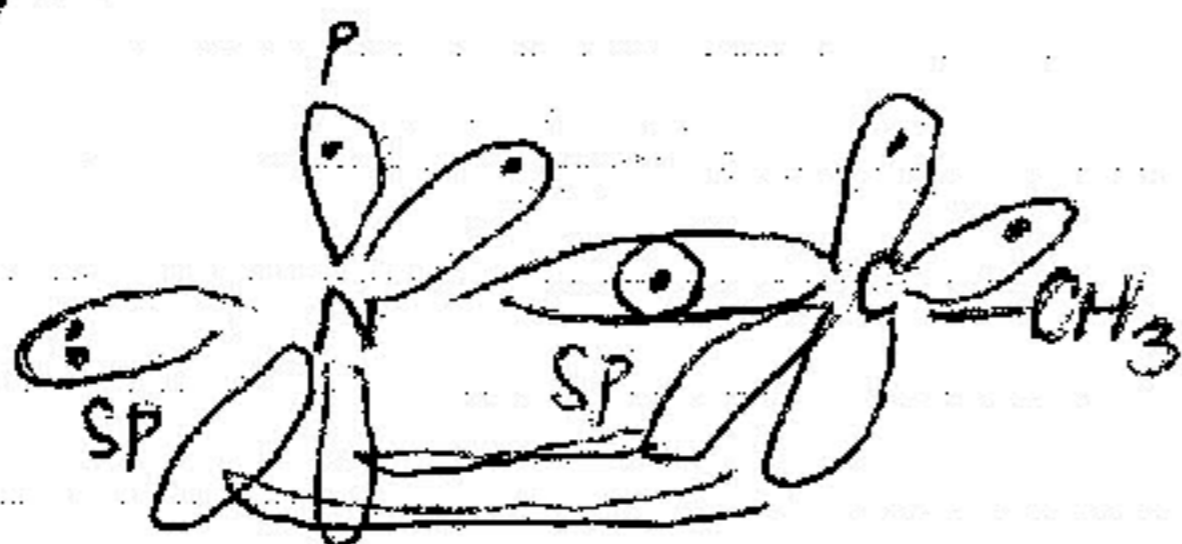
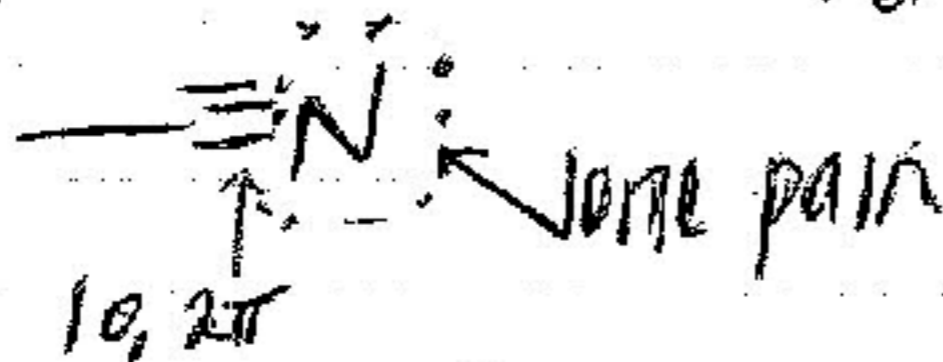
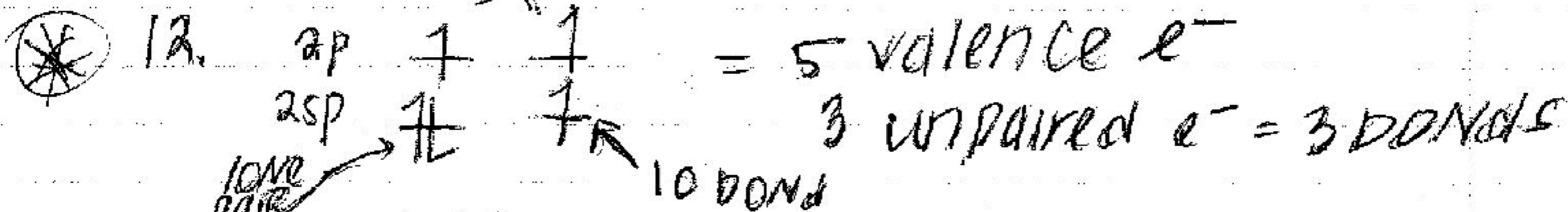


10. IGNORED

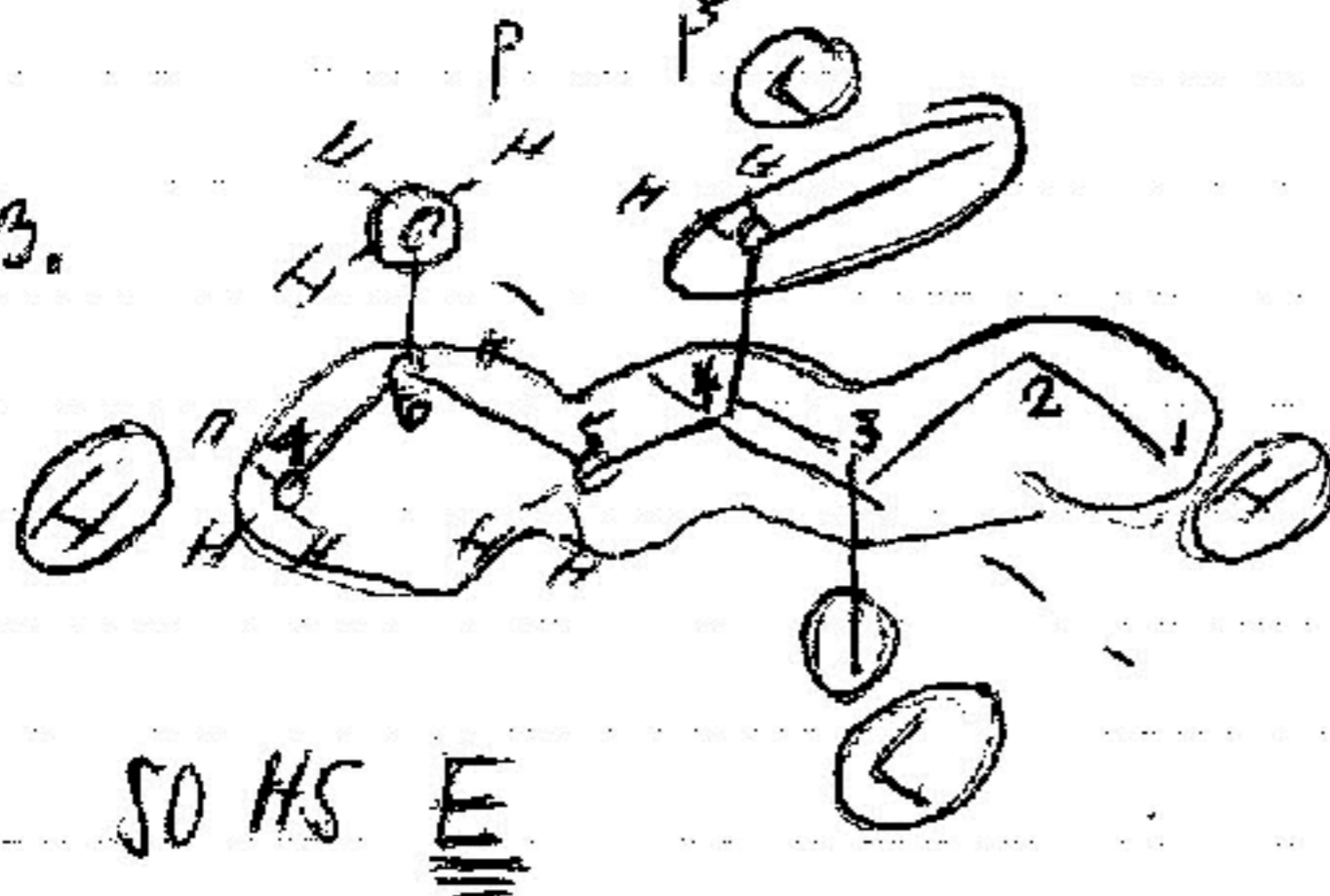
11. RANK BASES IN ORDER OF DECREASING BASE



D IF BASE IS STABLE - WEAK



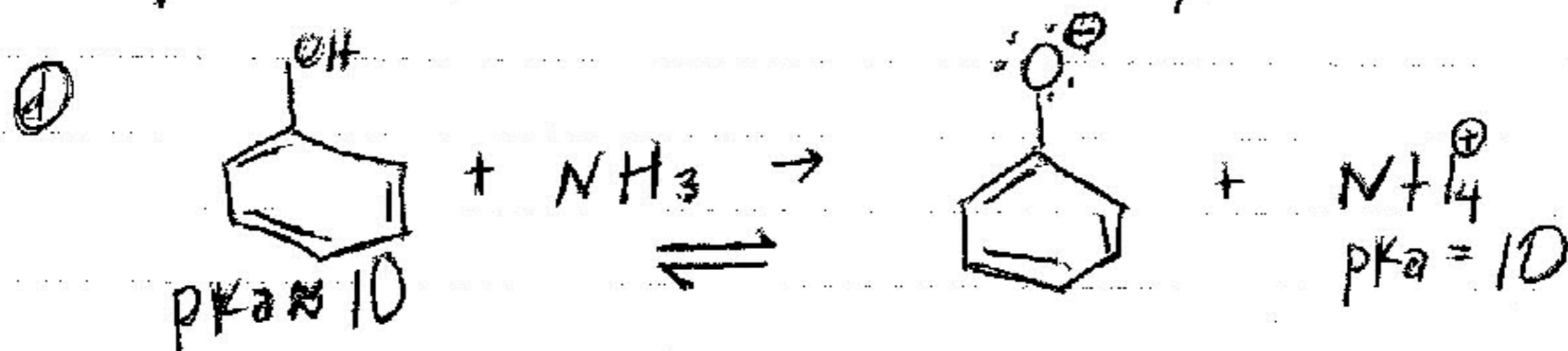
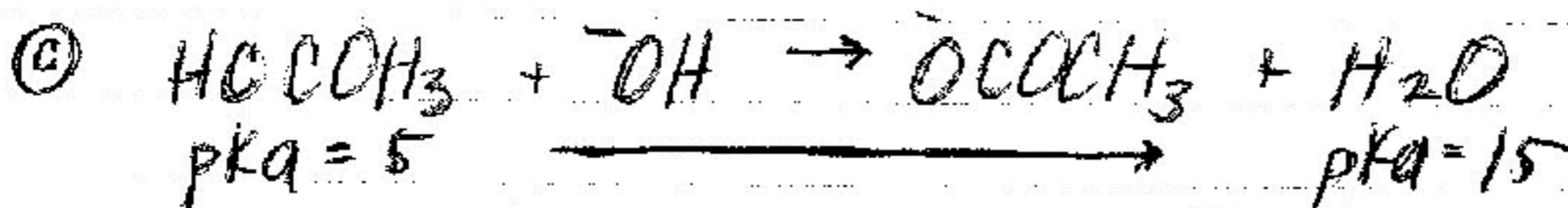
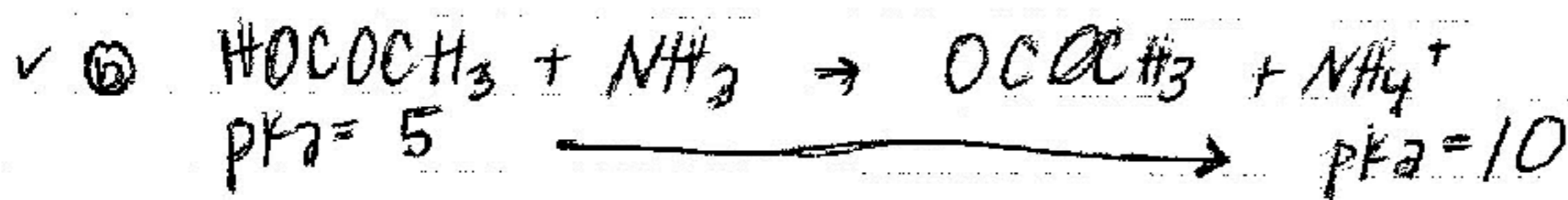
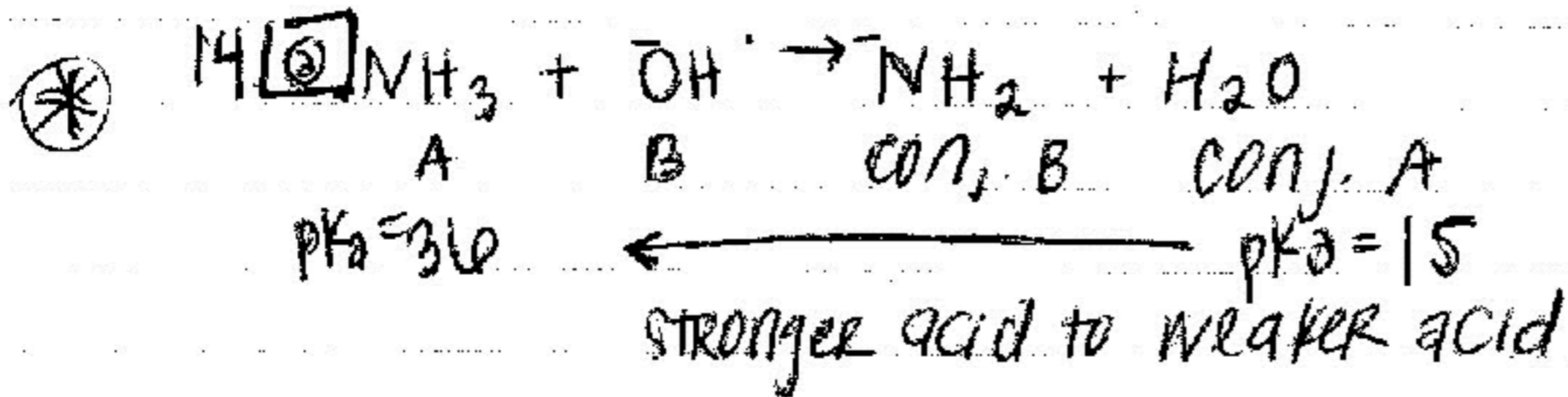
13.



3-heptene

SO HS 

4-ethyl-3,6-dimethyl-3-heptene **B**

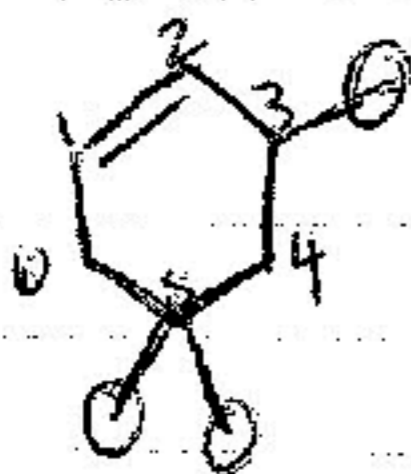


compare to alcohol ($\text{pK}_a = 15$)



but here electron delocalization plays a role = more stable, lower pK_a

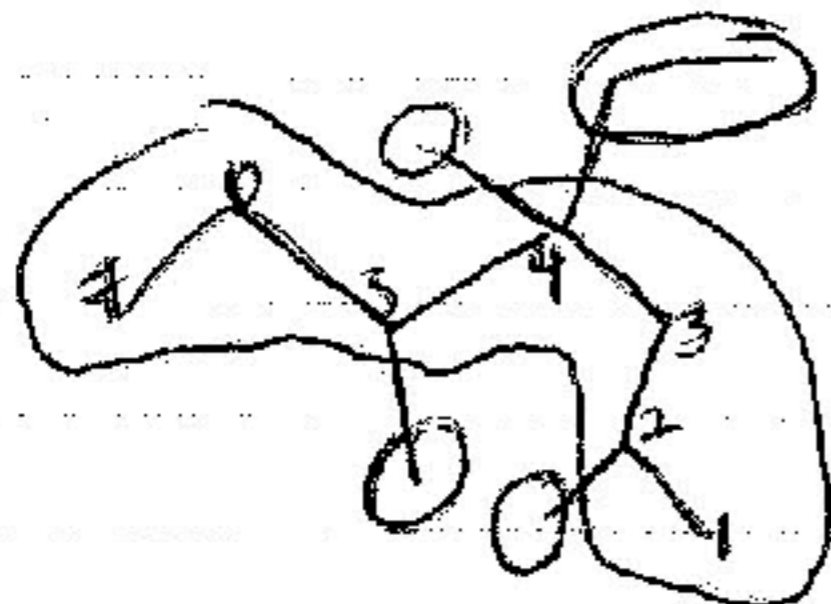
18.



3, 5, 5 - TRIMETHYLCYCLOHEXANE

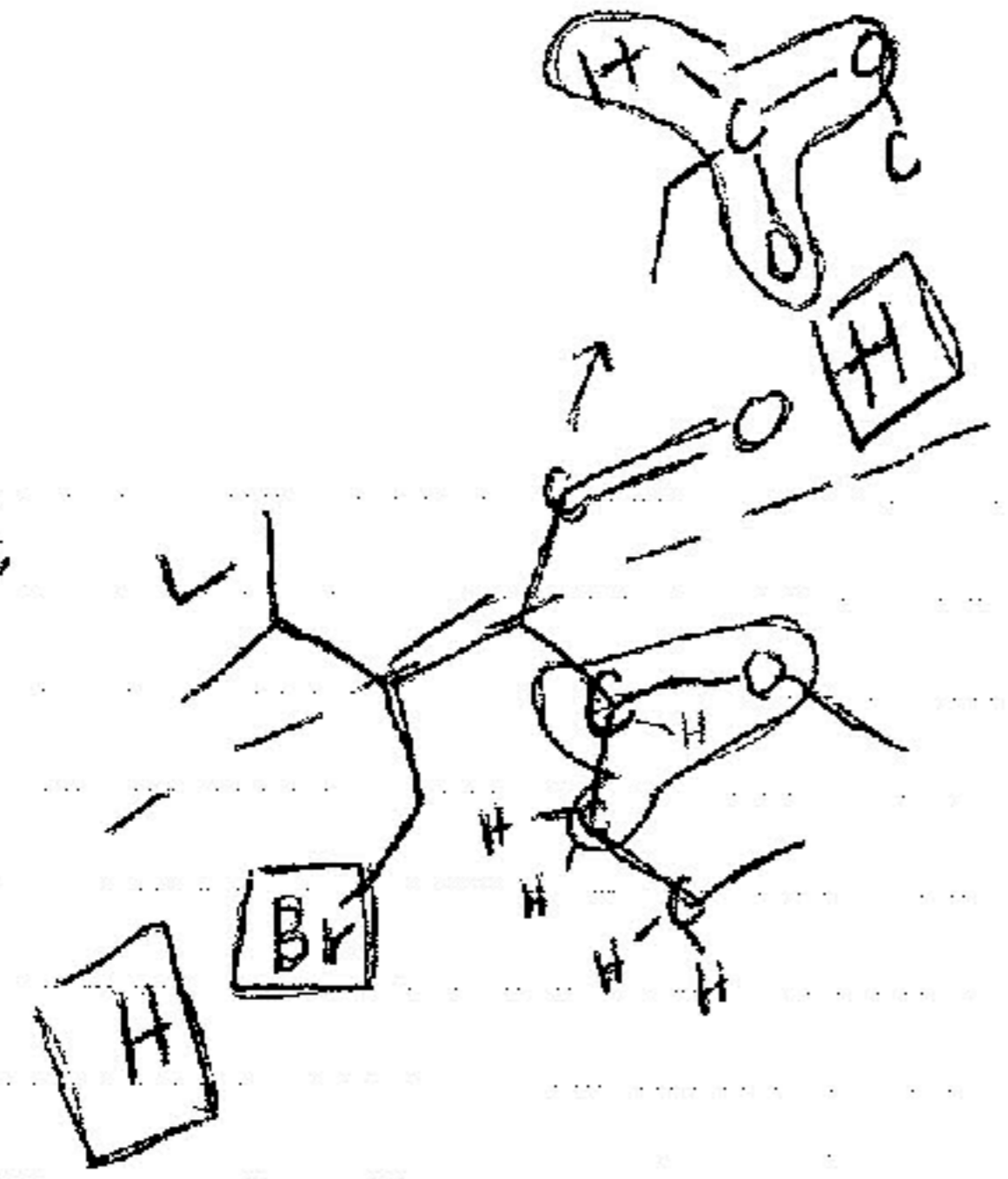
C

19.

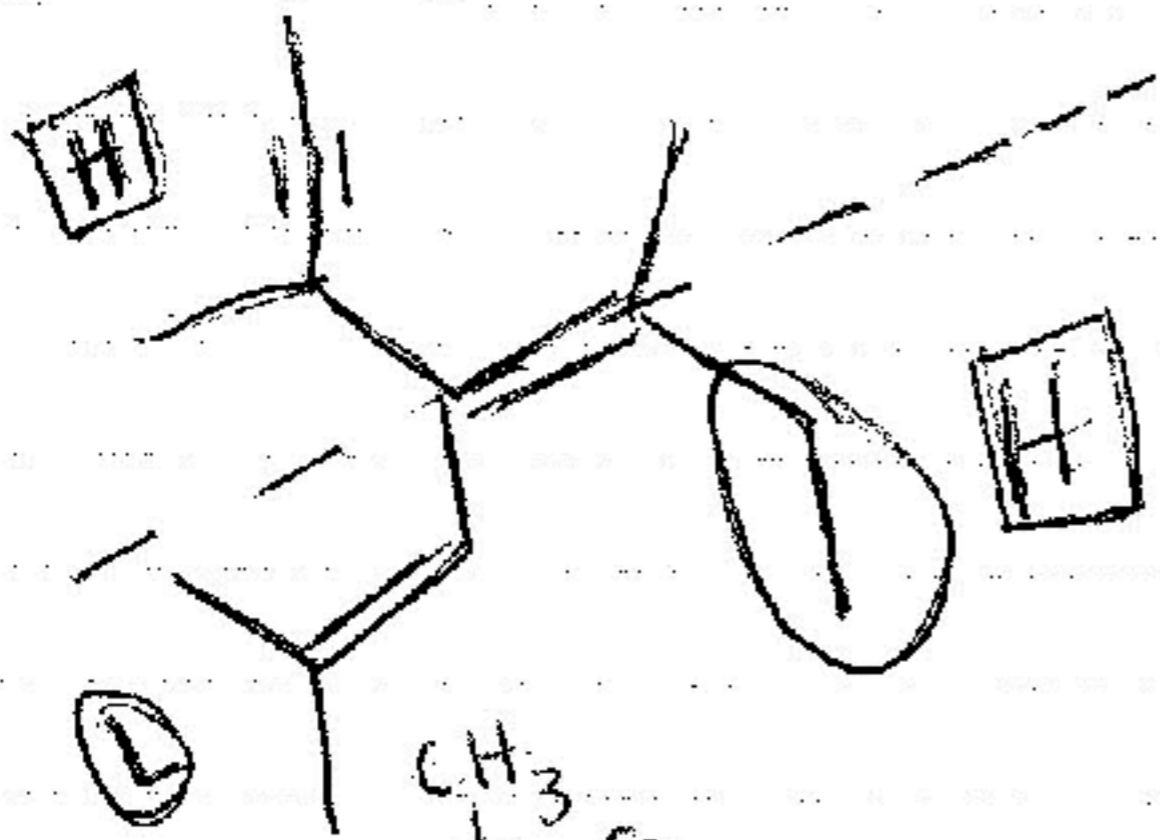


2, 4, 5 - trimethyl 7 - propylheptane

17.



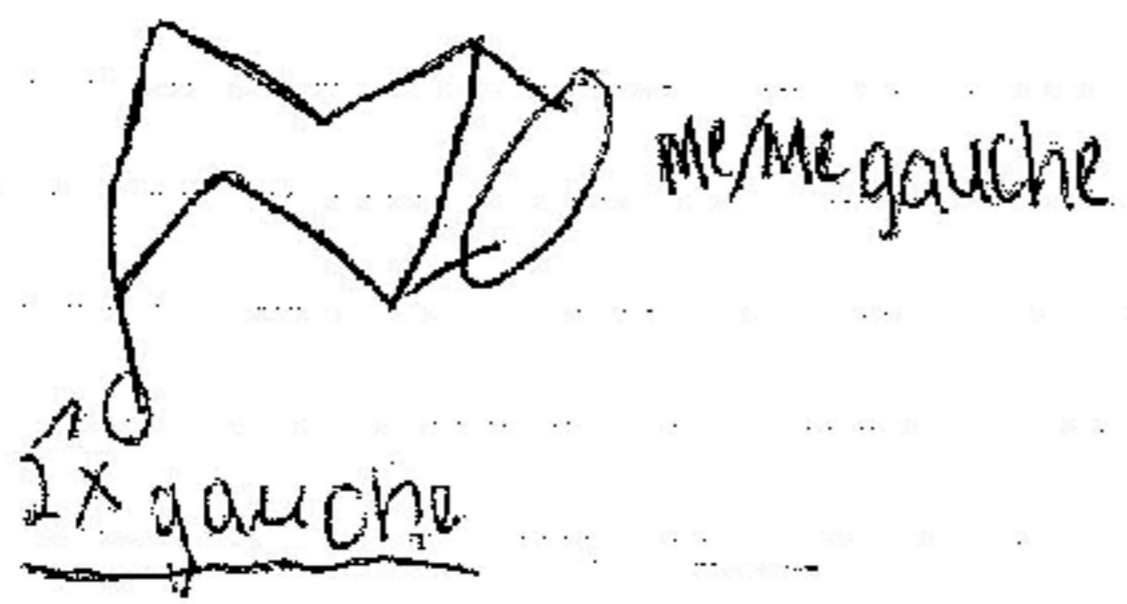
= E



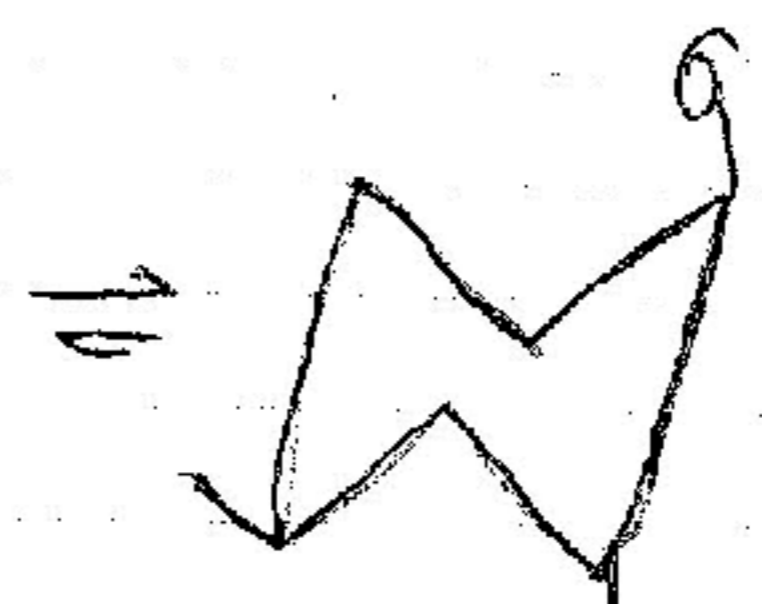
= E

ANSWER: (a) E E

18. ratio of 2 conformers



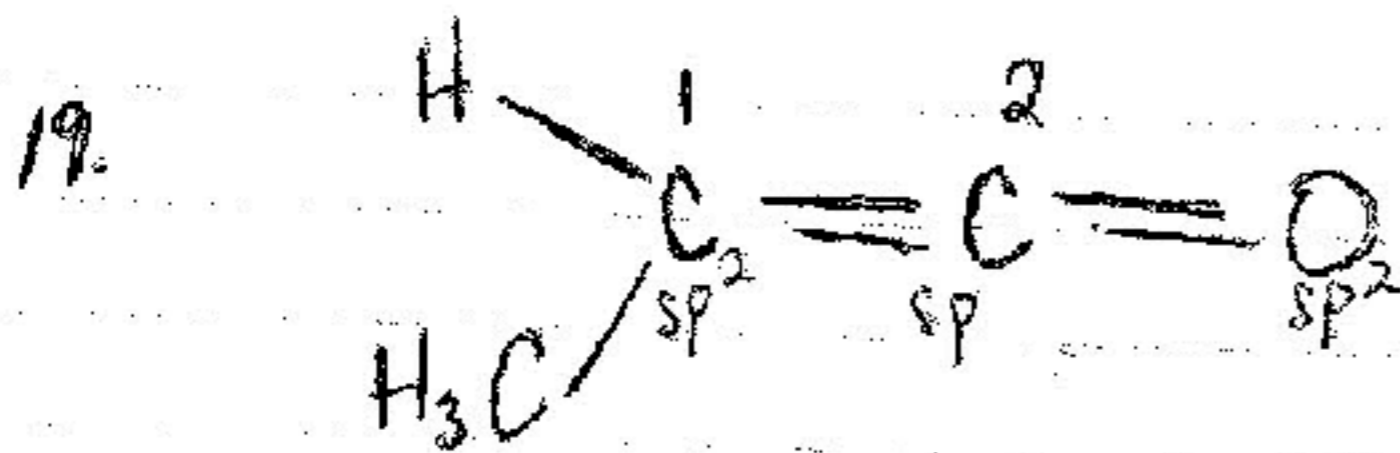
$3 \times 3.8 = 11.4 \text{ kJ/mol}$



$4 \times \text{gauche} = 15.2$

$\Delta E = 3.8 \text{ kJ}$

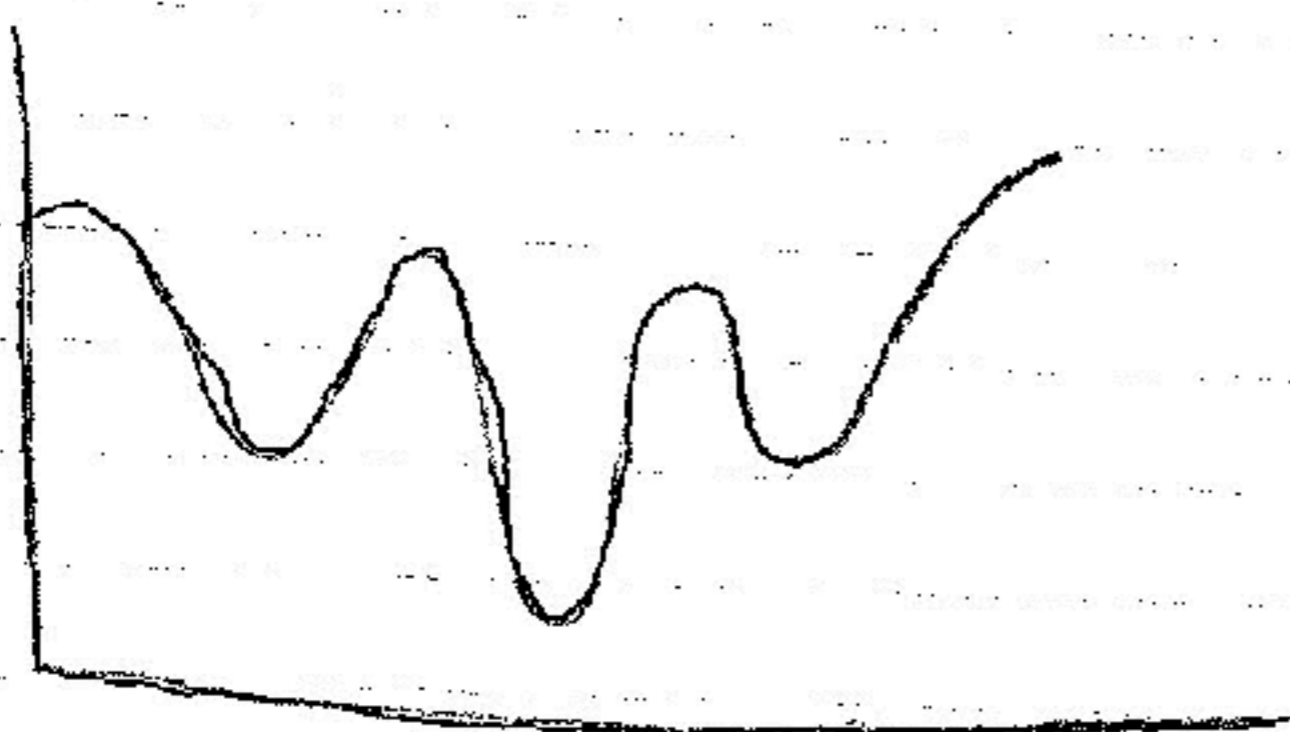
$K = e^{-\Delta E/RT}$



① C1 sp² C2 sp

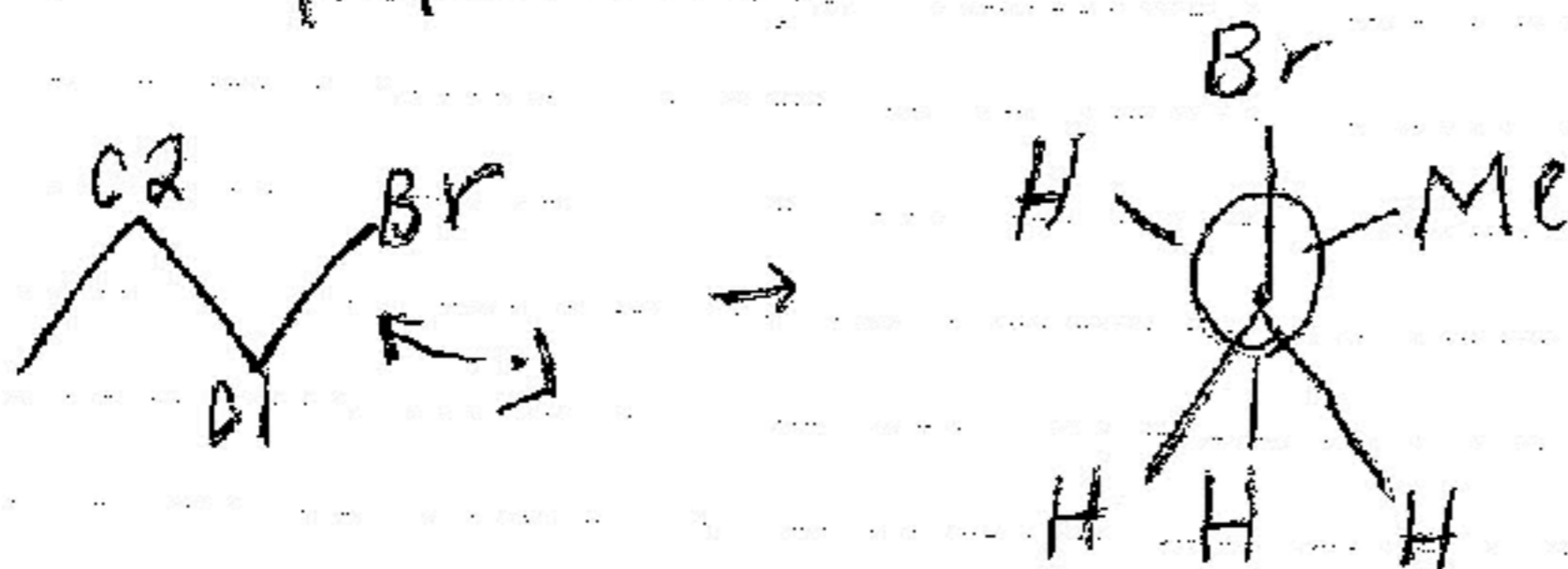


20.



ROTATION ALONG
 A CERTAIN 2 CARBON
 ATOMS GIVES PARTICULAR
 VALUES

1-BROMOPROPANE



#3.

②



④