

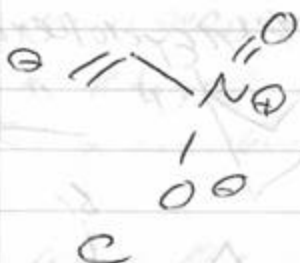
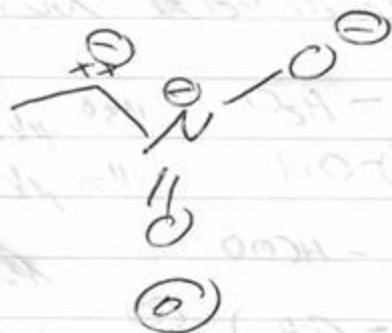
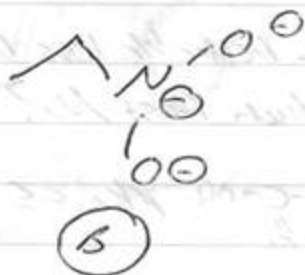
# Test Review 3

1. Rank the following in decreasing acidity



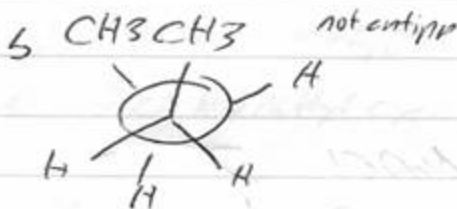
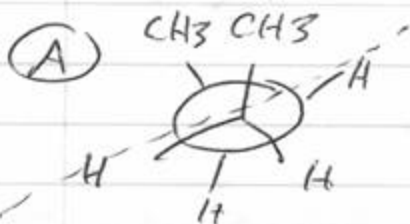
c.  $C > A > B$

2. Which resonance contributor of A



c. B and C

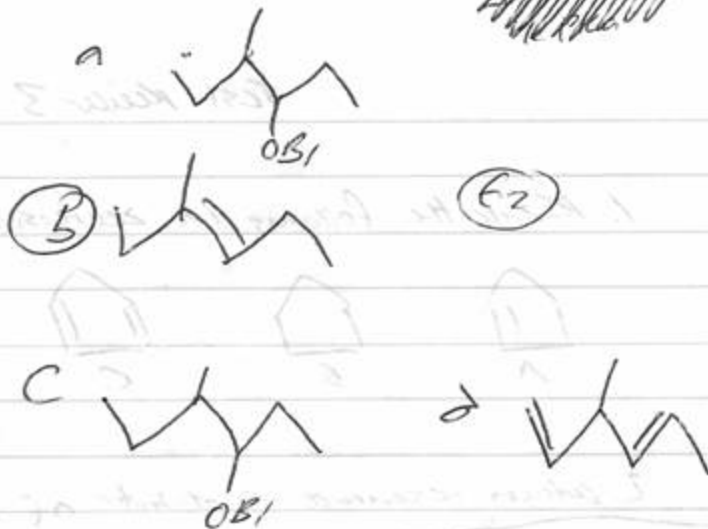
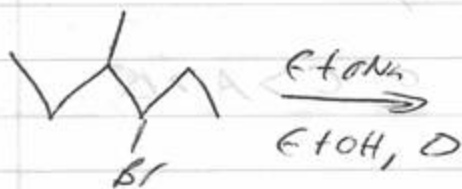
3. In a syn-diaxial hydrogenation of Z-butene, which conformer leads to formation of cis-2-butene



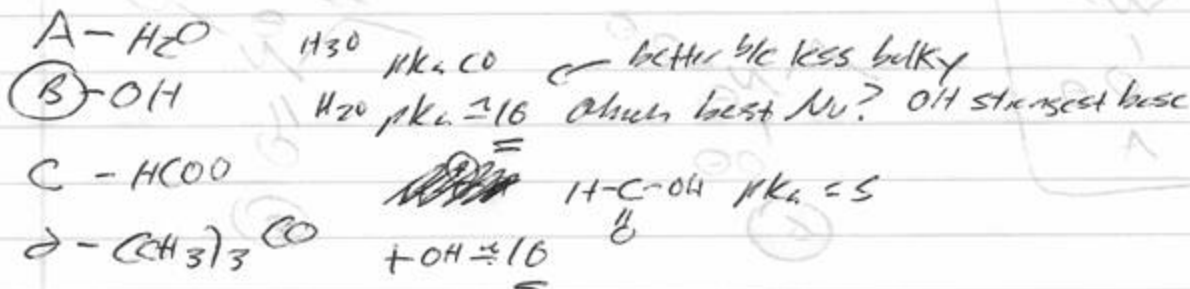
4. Which following not goes to give elimination product



5. Major Product

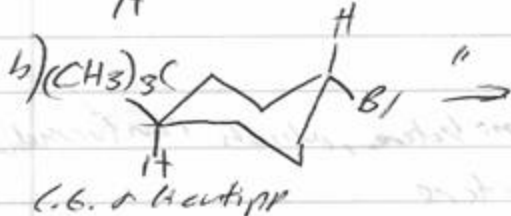


6. Which best Nu in 2-methylpropanoic acid solution

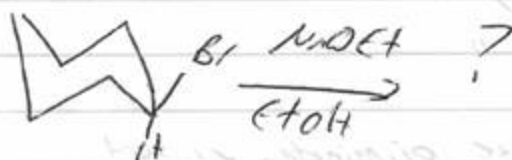


7. Which fastest rate of rxn to form 4-tert-butylcyclohexane

6. (c)



8. Major Product



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9. Major product in rxn of (R)-2-bromopentane w/ NaCN in DMSO

(R)-2-     II

c facemic mix of Z-cyanopentane

(b) (S)-2-cyanopentane

d trans-2-pentane

10. Which gives LEAST heat per double bond when hydrogenated to cyclohexene?



Which most stable?

11. Which conjugate diene gives a single product upon 1,2 or 1,4 addition of HCl

a butadiene

(c) 1,3-cyclohexadiene

b Z-methylbutadiene

d Z,3-dimethylbutadiene

12. Which kinetic product forms at low temp in reaction of HCl to methylenecyclohexene. M? Misericordia stereoisomers



(a) 3-chloro-3-methylcyclohexane

b 3-chloro-1-methylcyclohexane

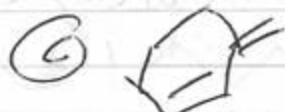
c Z-chloro-methylcyclohexane

e 3-chloromethylcyclohexane

13. when molecule irradiated w/ UV E electrons convert to

(b) e amount necessary to excite e<sup>-</sup>s from one M.O. to another

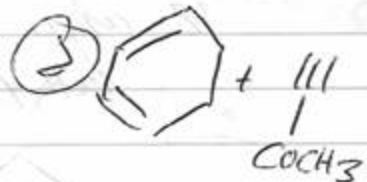
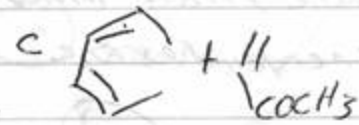
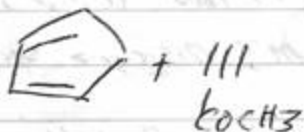
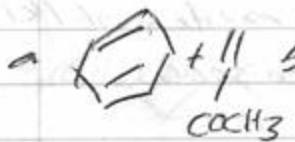
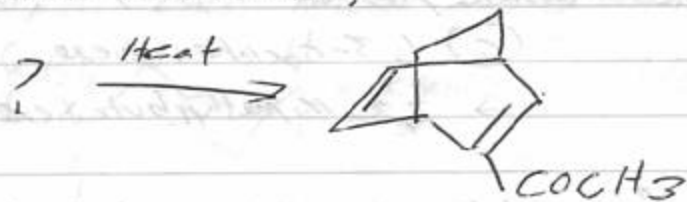
14. Which diene will not undergo P.A. rxn



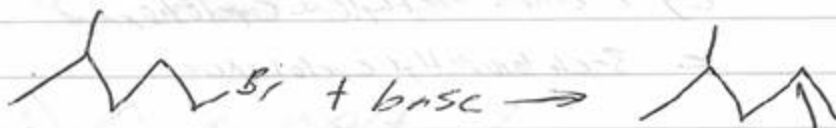
15. Cyclobutadiene is unstable & can only be isolated at  $-100^{\circ}\text{C}$ . at higher temp it dimerizes via P.A. rxn. what structure of dimer?



16. what reactants?



17. Which following bases <sup>works</sup> best to maximize E2 product in rxn

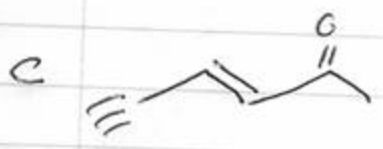


strong hindered base for 1<sup>o</sup>

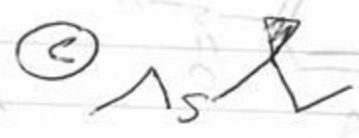
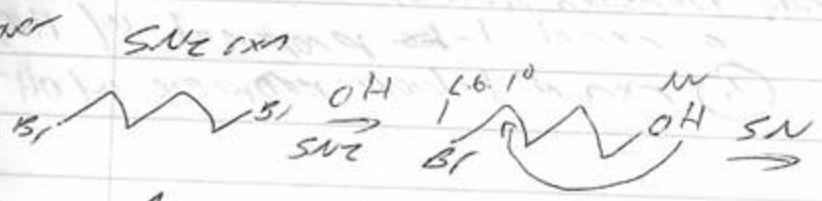


(a) both  $S_N2$  &  $E2$  mech  
1 step w/ no intermediate

19 which longest wavelength absorb

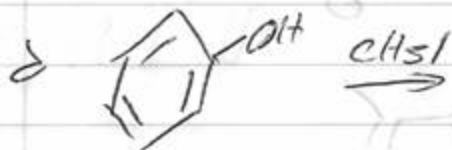
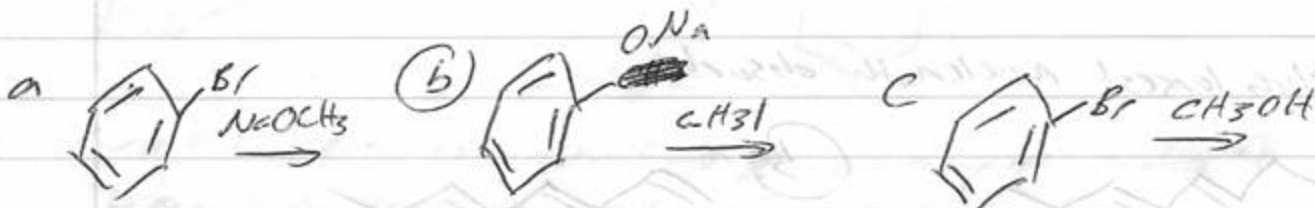


20 Major product

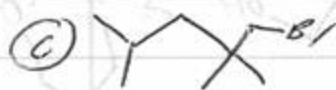
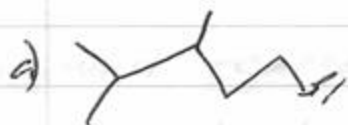


## 22 Synthesis

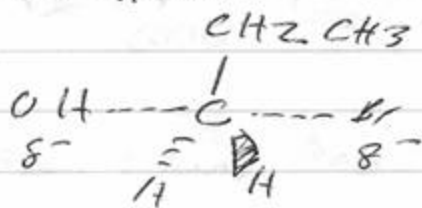
when ~~the~~ ketone- attached to  $\text{O}^-$   
 no  $\text{S}_{\text{N}}2$  b/c  $\text{O}^-$   
 which best NU  $\text{O}^-$  better



## 23 reacts slowest w/ $\text{NaCN}$ ( $\text{S}_{\text{N}}2$ )



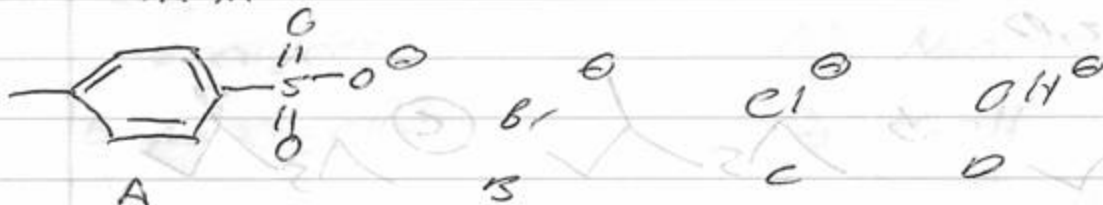
## 24 Which species shown represents transition state for



a rxn of 1-bromopropane w/  $\text{HBr}$   
 b rxn of 1-bromopropane w/  $\text{OH}^-$

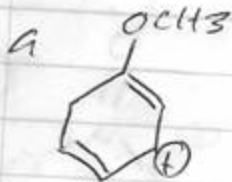
best C.B.

## 25 Rank in order best C.B.



A) A > B > C > D

26. Which resonance structure contributes the most to the most resonance hybrid



SC<sup>-5</sup> plus charge on O  
oxy atom has full octet