

Chem 2321

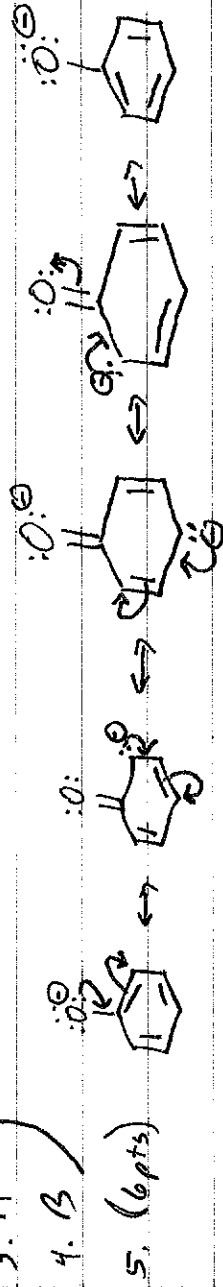
Text 1 - Jun 18, 2008

Answer Key

1. A } 4 points each  
2. C }

3. A }

4. B }



6. (6 pts)



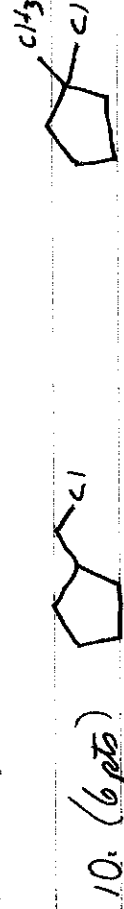
6. (5 pts)  $C_8H_{11}Cl$

7. (6 pts)  $CH_3-\overset{\ominus}{C}H-\overset{\oplus}{C}H-N\equiv N:$

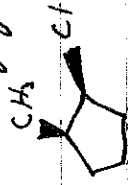
8. (5 pts)  $CH_3-\overset{O}{\parallel}C-CH_2-\overset{O}{\parallel}C-O-CH_2-CH_3$

$H-\overset{O}{\parallel}C-O-CH_2CH_2CH_3$       $H-\overset{O}{\parallel}C-O-\overset{CH_3}{\underset{O}{\parallel}C}-CH_3$

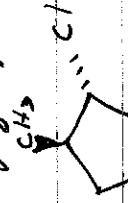
9. (5 pts)  $CH_3CH_2\overset{\ominus}{C}CH_3$



chloromethylcyclopentane     1-chloro-1-methylcyclopentane



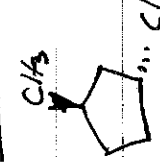
cis-1-chloro-2-methylcyclopentane



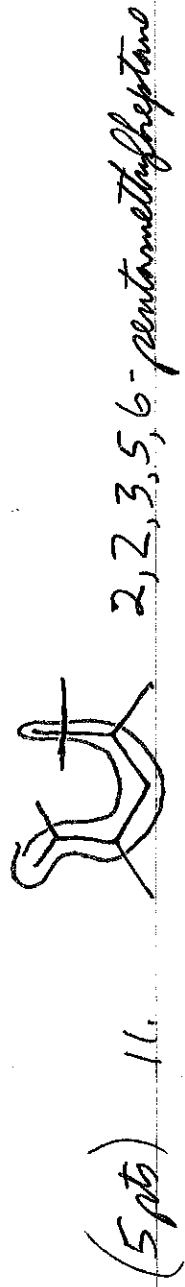
trans-1-chloro-2-methylcyclopentane



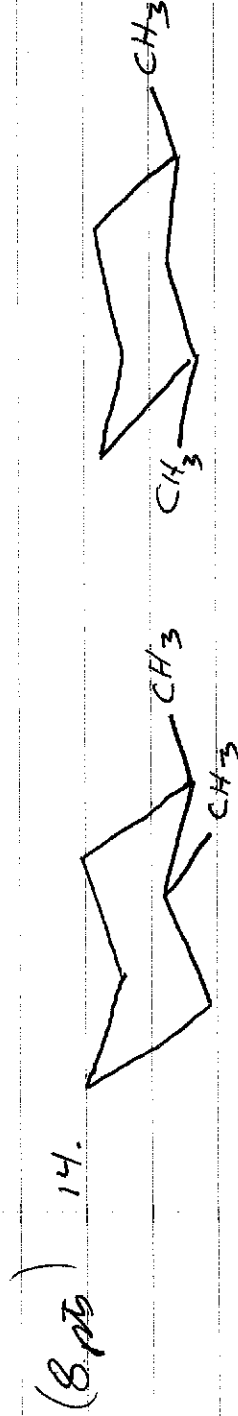
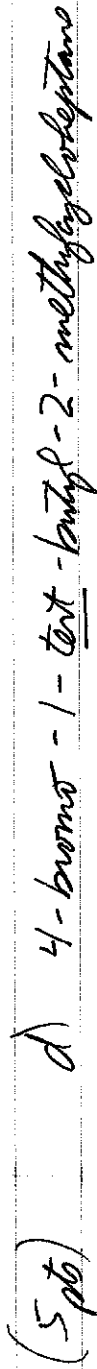
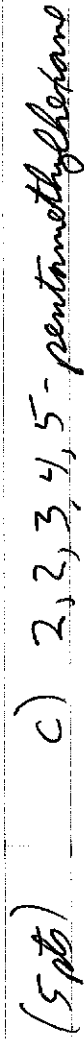
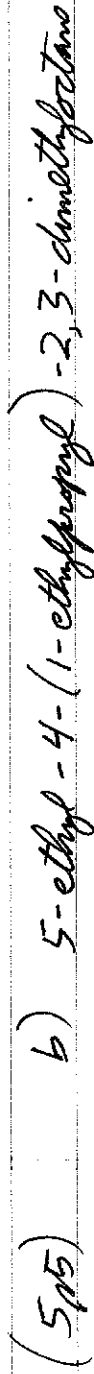
cis-1-chloro-3-methylcyclopentane



trans-1-chloro-3-methylcyclopentane



(4 pts) 12. by rotations about C-C single bonds



trans-1,2

1-Gauche interaction

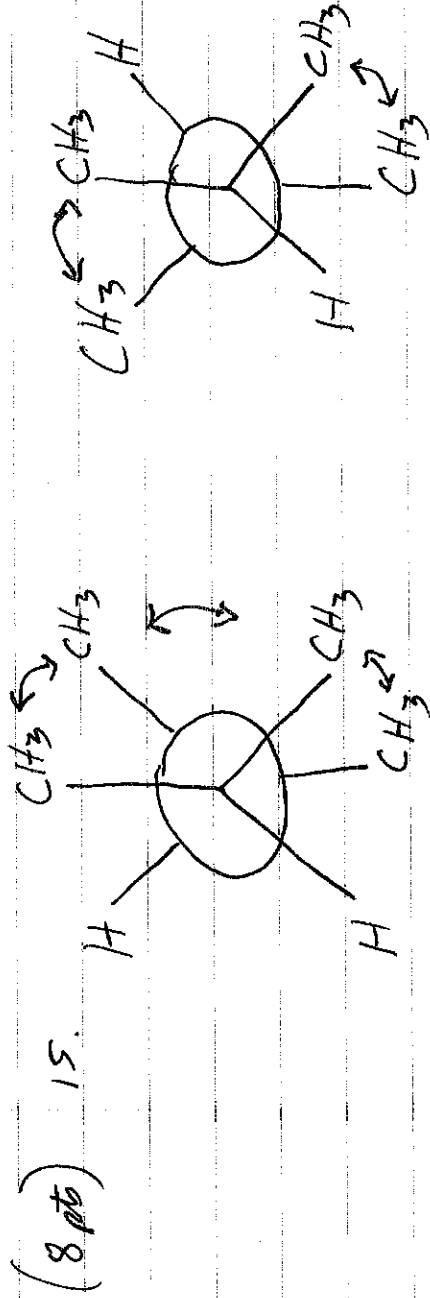
3.8 kJ

cis-1,2

No Gauche interactions

0 strain

more stable



3 Gauche Interactions

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

2 Gauche Interactions

$2 \times 3.8 = 7.6 \text{ kJ}$

More stable