

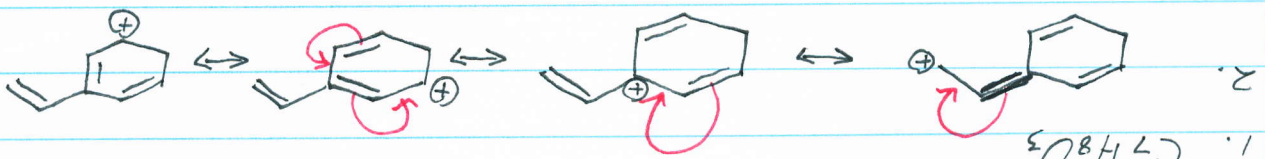
Part 1. 1. D 4. D 7. E 10. E

2. B 5. E 8. A

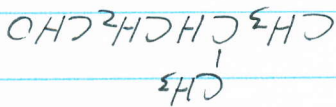
3. B 6. E 9. C

Part 2.

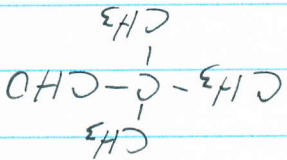
1. $C_7H_8O_3$



3. $CH_3CH_2CH_2CH_2CHO$



$CH_3CH_2CH_2CHO$

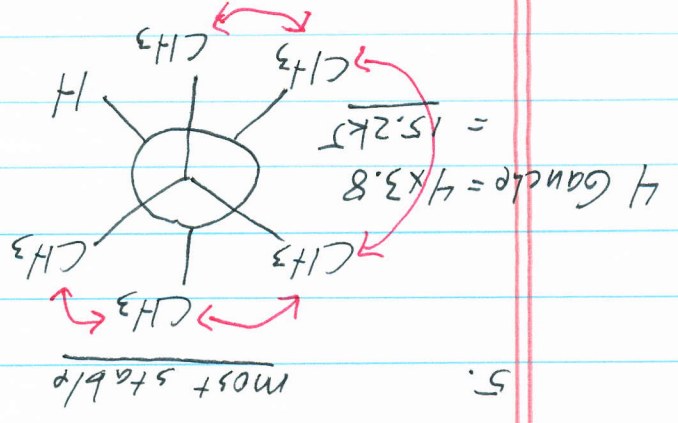


4. a) trans-1-ethyl-2-methylcyclohexane

b) 3,3,4-triethyl-2,2-dimethylhexane

c) 2-chloro-1-isopropyl-4-(1-methylbutyl)cyclohexane

5.

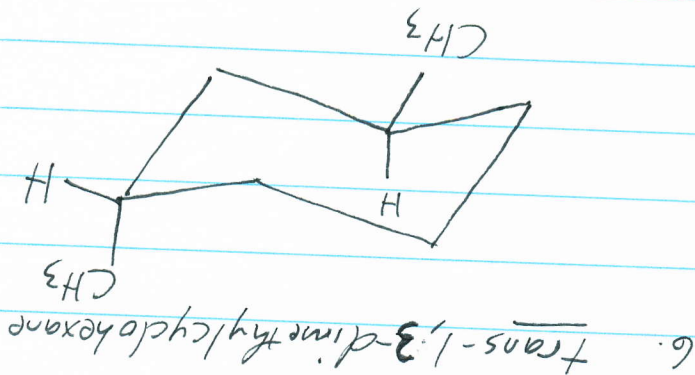


least stable

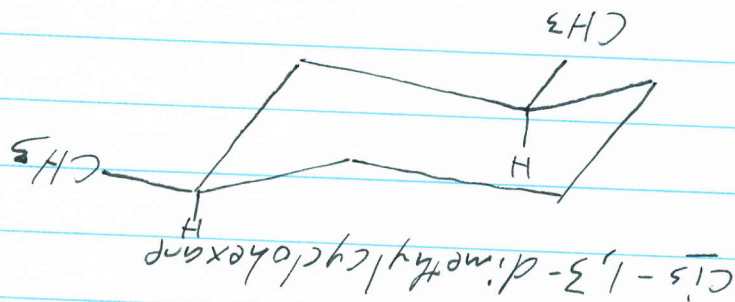
$2 \times 11 + 6 = 28 \text{ kJ}$

$\Delta E = 28 - 15.2$

$\Delta E = 12.8 \text{ kJ}$



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



0 strain

∴ The *cis* isomer is more stable than *trans*

