

Quiz #1 Ch 1-3 Fall 01 (20 questions for 20 points)

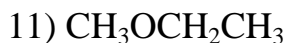
Name _____

If you do not want your graded quiz placed in the box outside my office, then please tick here _____

(1-10) Are True or False.

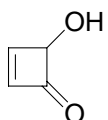
- 1) Organic chemistry is the study of carbon containing compounds
- 2) Electrons are positively charged and therefore repel one another
- 3) A π bond places electron density above and below the axis of the two atoms bonded together
- 4) Nitrogen is more electronegative than carbon
- 5) Cyclopentane has more ring strain than cyclohexane
- 6) The electron configuration of Boron is $1s^2 2s^2 2p^1$
- 7) Oxygen has 8 electrons but only 6 valence electrons
- 8) sp^3 hybrid orbitals give rise to bond angles of 109.5°
- 9) An sp^2 hybridized atom has an unhybridized p orbital, which lies at right angles to the plane of the hybrid orbitals
- 10) A σ bond places electron density directly between the atoms being bound together and is therefore stronger than a π bond

11-16) Draw Lewis structures (lines for bonds, dots for lone pairs of electrons) for:

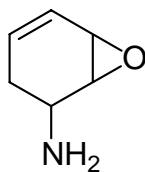




14)



16)

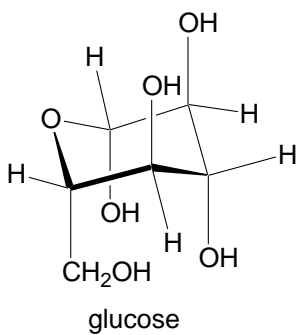


17+18) Draw the two stereoisomers of $\text{CFH}=\text{CHF}$, and indicate the appropriate terms to describe the difference in these 1,2-difluoroethenes

19+20) Cyclohexane can adopt numerous conformations. Draw any **two**, name them and indicate which of the two you selected has the *least* number of eclipsing interactions.

BONUS QUESTION for 1 extra point

Glucose prefers to exist in a different conformation than that shown below – draw its preferred conformation



Name X. ZACK LEE WRIGHT

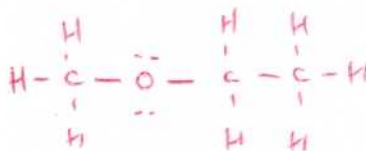
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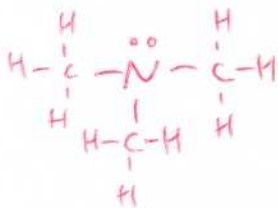
- T 1) Organic chemistry is the study of carbon containing compounds
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- T 10) A σ bond places electron density directly between the atoms being bound together and is therefore stronger than a π bond

11-16) Draw Lewis structures (lines for bonds, dots for lone pairs of electrons) for:

11) $CH_3OCH_2CH_3$



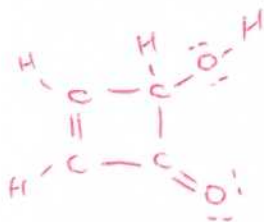
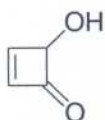
12) $N(CH_3)_3$



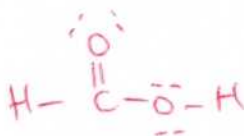
13) NCH



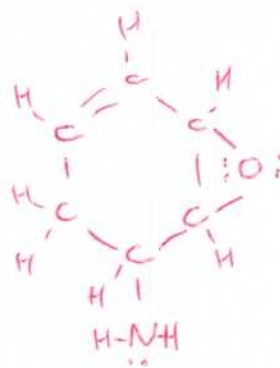
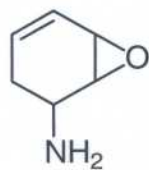
14)



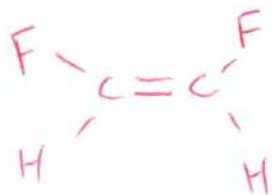
15) HCO_2H



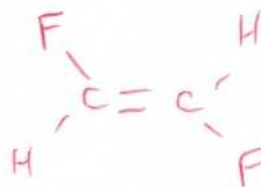
16)



17+18) Draw the two stereoisomers of $CFH=CHF$, and indicate the appropriate terms to describe the difference in these 1,2-difluoroethenes

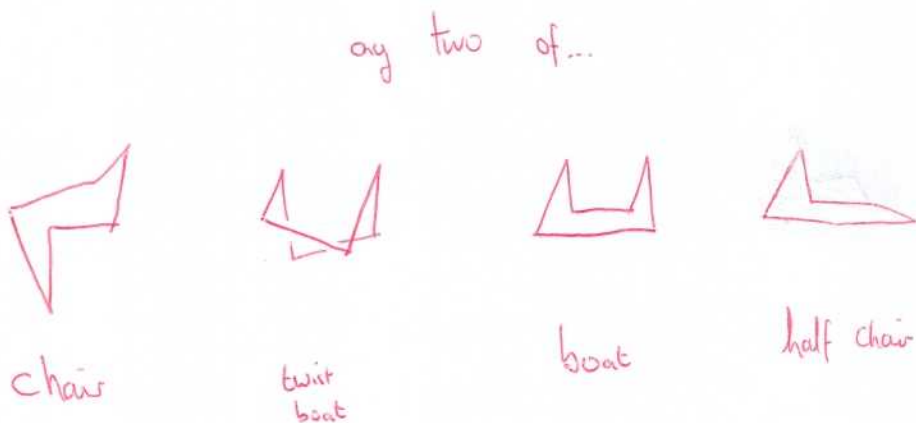


CIS



TRANS

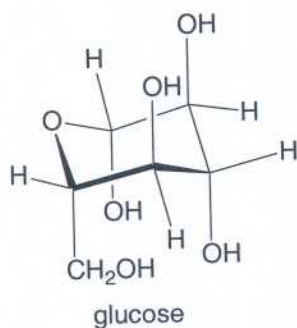
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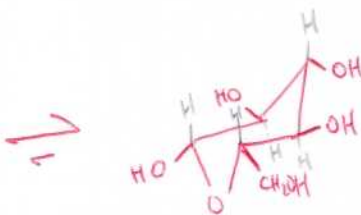
least eclipsing \dashrightarrow most eclipsing

BONUS QUESTION for 1 extra point

Glucose prefers to exist in a different conformation than that shown below – draw its preferred conformation



all axial substituents



all puts substituents in equatorial positions