

NAME: _____

If you object to your graded script being placed in a box outside my office then check here _____

(1-10) are True or False.

- 1) Benzene is a planar hydrocarbon.
- 2) Tetrahydropyran has less ring strain than pyran.
- 3) 1,3-Butadiene would be anti-aromatic if it was planar.
- 4) Kinetic products are always formed in lesser amounts than thermodynamic products.
- 5) Straight chain ethers react rapidly with nucleophiles.

6)

The oxygen atom in this ether
is sp^3 hybridized

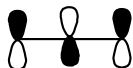
7)



is aromatic

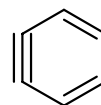
- 8) Aromatic compounds display "closed bonding shells" of π electrons when described using molecular orbital theory.

9)

represents a **bonding**
Molecular Orbital

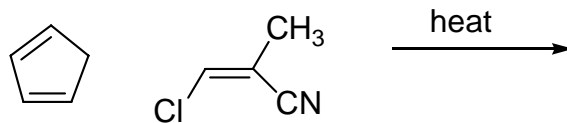
10)

This compound is aromatic

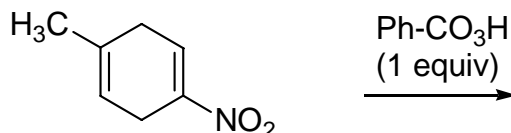


11-17) Give the products for the following reactions (and indicate stereo/regiochemistry where applicable).

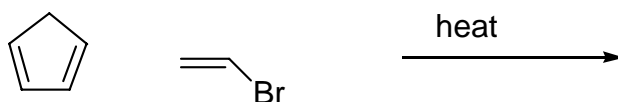
11)



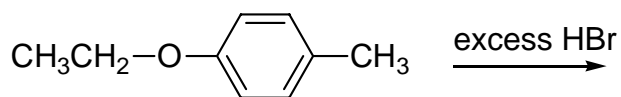
12)



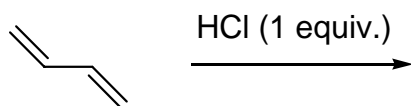
13)



14)

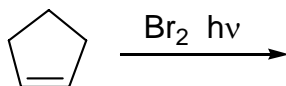


15)



(HINT: 1/2 point for each product)

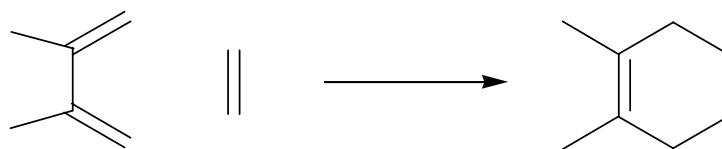
16)



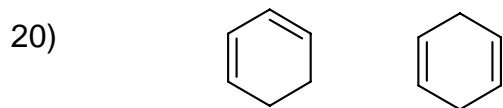
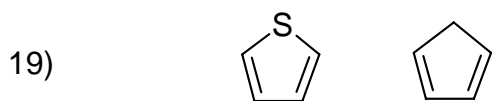
17)



18) Write the mechanism (CURLY ARROWS) for the following Diels-Alder Reaction.



19-20) Circle the more stable molecule in each pair.



BONUS QUESTION for up to 2 extra points

Thinking back to the story I told during lecture about the “Whipper Reaction” – state two facts about that episode.

NAME: WHIPPER + HNO₃ + ORGWASTE → BOOM!!!

If you object to your graded script being placed in a box outside my office then check here _____

(1-10) are True or False.

1) Benzene is a planar hydrocarbon. T

2) Tetrahydropyran has less ring strain than pyran. T



3) 1,3-Butadiene would be anti-aromatic if it was planar. F



4) Kinetic products are always formed in lesser amounts than thermodynamic products. F

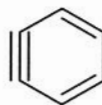
5) Straight chain ethers react rapidly with nucleophiles. F

6) The oxygen atom in this ether is sp³ hybridized

T

7)  is aromatic T8) Aromatic compounds display "closed bonding shells" of π electrons when described using molecular orbital theory. T9)  represents a **bonding** Molecular Orbital F

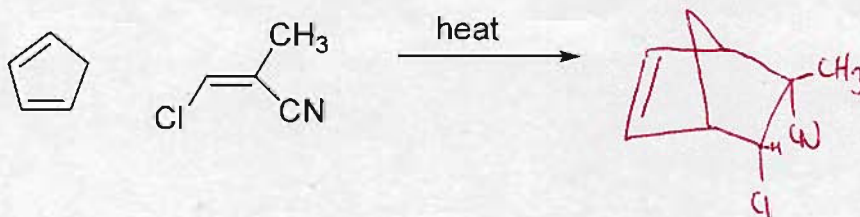
10) This compound is aromatic



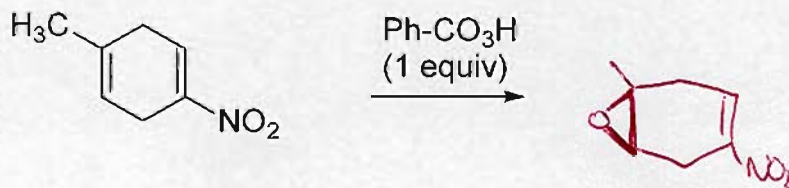
T

11-17) Give the products for the following reactions (and indicate stereo/regiochemistry where applicable).

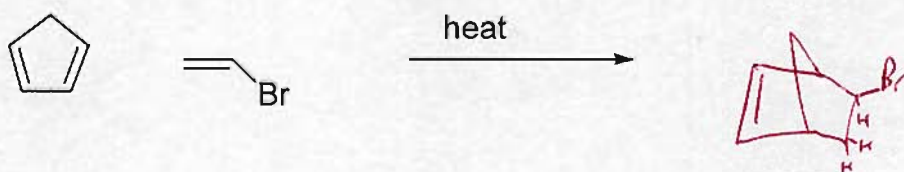
11)



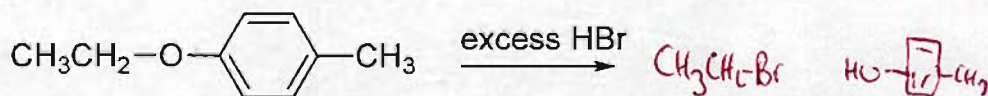
12)



13)



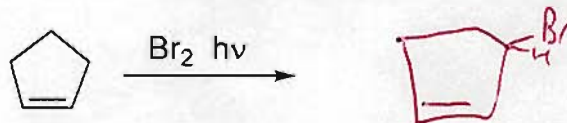
14)



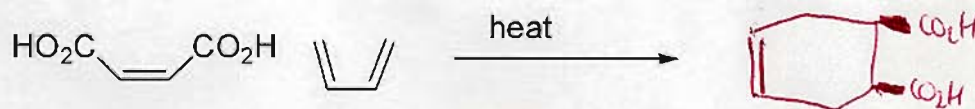
15)



16)



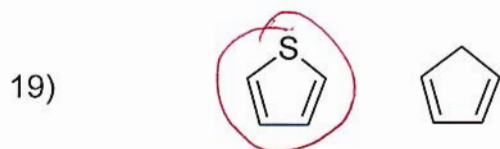
17)



18) Write the mechanism (CURLY ARROWS) for the following Diels-Alder Reaction.



19-20) Circle the more stable molecule in each pair.



BONUS QUESTION for up to 2 extra points

Thinking back to the story I told during lecture about the “Whipper Reaction” – state two facts about that episode.

See 'Name'.