

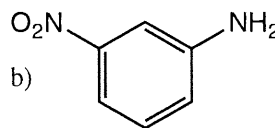
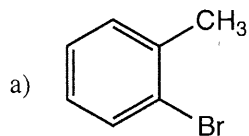
25 Points

CEM143, Quiz 3, Summer 2018

NAME

Key

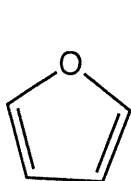
1) (4 Pts) Name the following aromatic compounds.



or  
o-bromotoluene  
1-bromo-2-methylbenzene

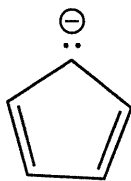
m-nitroaniline  
or 1-amino-3-nitrobenzene

2) (5 Pts) Label the following compounds as Aromatic (A), or Not Aromatic.



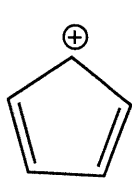
A

A



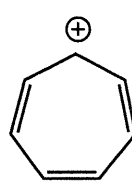
A

A



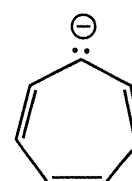
NA

NA



A

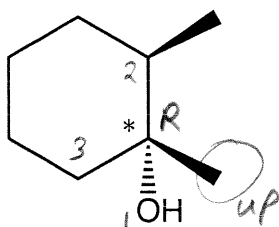
A



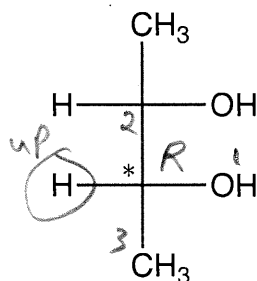
NA

NA

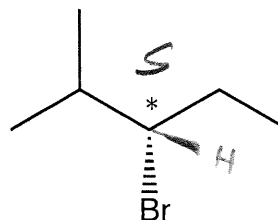
3) (3 Pts) Assign R/S-configuration to the stereogenic centers designated by a "\*".



R



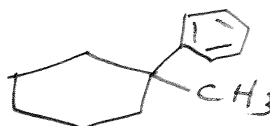
R



S

4) (2 Pts) The correct molecular formula for 1-methyl-1-phenylcyclohexane is:

A) C<sub>13</sub>H<sub>18</sub> B) C<sub>12</sub>H<sub>16</sub> C) C<sub>13</sub>H<sub>26</sub> D) C<sub>12</sub>H<sub>26</sub> E) C<sub>12</sub>H<sub>18</sub> F) C<sub>13</sub>H<sub>20</sub>



(8 Points) Use Figure 1 to answer questions 4-7.

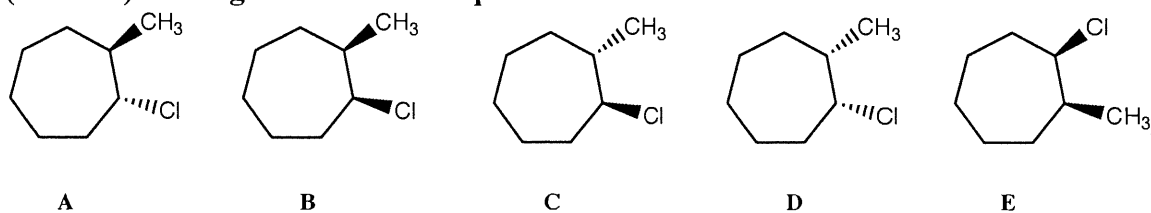


Figure 1

5. (2 Pts each) What is the stereochemical relationship between Compounds **A** & **B** in **Figure 1**?

- A) Enantiomers
- B) Diastereomers
- C) Identical
- D) Conformational isomers

6. (2 Points) What is the stereochemical relationship between Compounds **B** & **E** in **Figure 1**?

- A) Enantiomers
- B) Diastereomers
- C) Identical
- D) Conformational isomers

7. (2 Points) What is the stereochemical relationship between Compounds **D** & **E** in **Figure 1**?

- A) Enantiomers
- B) Diastereomers
- C) Identical
- D) Conformational isomers

8. (2 Points) What is the stereochemical relationship between Compounds **A** & **C** in **Figure 1**?

- A) Enantiomers
- B) Diastereomers
- C) Identical
- D) Conformational isomers

9. (3 pts) Provide an efficient synthesis of **Compound Z** starting with benzene and any other necessary reagents.

