Chemistry 2541, Fall 2015 Quiz 6

(30 points)

Important notes:

- Please use the provided Scantron form for your answers; you can keep the sheet with the questions and can use it as scratch paper
- Do not forget to write your name on the Scantron form
- You will not receive credit for unmarked answers or for more than one mark on answer line
- Your scores will be posted on eGradebook; graded Scantron forms will not be returned to students.

Questions 1-10: Please mark the appropriate box on the front of the Scantron form (3 pts each).

1. What is the **IUPAC** name for the compound shown in the box?

- A) (Z)-2-methyl-5-pentyn-1-ene
- B) 2-methyl-1-hexen-4-yne
- C) 2-methyl-1-penten-4-yne
- D) 4-methyl-1-hexyn-4-ene

2. What is the **IUPAC** name for the compound in the box?

$$\begin{array}{|c|c|c|}\hline H_3C\text{-}C\Xi C\text{-}CHCH_3 \\ & \downarrow \\ & F \end{array}$$

- A) 5-fluoro-4-methyl-2-pentyne B) 4-fluoro-2-pentyne
- C) 1-fluoro-2-methyl-3-pentyne
- D) 2-fluoroethyl-3-pentyne

3. What is the **main product** of the sequence of reactions shown in the box?

$$CH_3C \equiv CH \xrightarrow{NaNH_2} \xrightarrow{CH_3CH_2Br} \xrightarrow{1 \text{ mol } Br_2} ?$$

- A) (*Z*)-2,3-dibromo-2-pentene B) 2,3-dibromopentane
- C) (*E*)-2,3-dibromo-2-pentene D) 3,3-dibromopentane

4. What is the **main product** of the reaction shown in the box?

$$= \frac{1. (sia)_2BH}{2. H_2O_2, H_2O, NaOH}?$$

$$C)$$
 \longrightarrow O O

5. What is the **main product** of the reaction shown in the box?

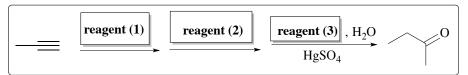
6. What is the common name of **trichloromethane**?

- A) methylene chloride
- B) vinyl chloride
- C) carbon trichloride
- D) chloroform

7. Which is the most stable **radical**?

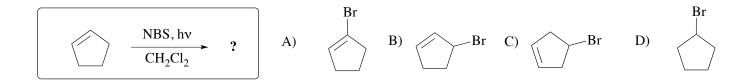
$$A) \quad \stackrel{\cdot}{\longleftarrow} \qquad B) \quad \stackrel{\cdot}{\longleftarrow} \qquad C) \quad \stackrel{\cdot}{\longleftarrow} \qquad D) \quad \stackrel{\cdot}{\longleftarrow} \qquad$$

8. Which sequence of **reagents** can be used for the reaction shown in the box?

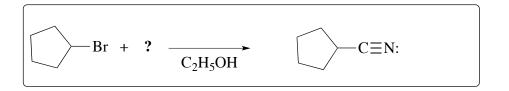


- A) (1) Na, (2) C₂H₅Br, (3) H₂SO₄
- B) (1) Br₂, (2) CH₃Br, (3) (sia)₂BH
- C) (1) Br₂ (1), (2) NaNH₂, (3) (sia)₂BH
- D) (1) NaNH₂, (2) CH₃Br, (3) H₂SO₄

9. What is the **main product** of the reaction shown in the box?



10. Which **reactant** is missing in the reaction shown in the box?



- A) NaCN B) CH₃NH₂
- C) NaN₃ D) $H_3C-C\equiv N$: