

Friday worksheet 9

Organic

- 1) Pent-1-ene is the starting compound for the two reaction pathways shown on the right.

- a) Name substance Y

- b) Draw the structural formula of substance Z

- c) Name the class of organic compound (homologous series) to which Compound Z belongs

- d) Give the IUPAC name of substance B

- e) Write the semi-structural formula of substance D

- f) Name the class of organic compound (homologous series) to which Compound G belongs.

- g) Name the class of organic compound (homologous series) to which Compound X belongs

- h) Show that reaction 2 is an oxidation reaction.

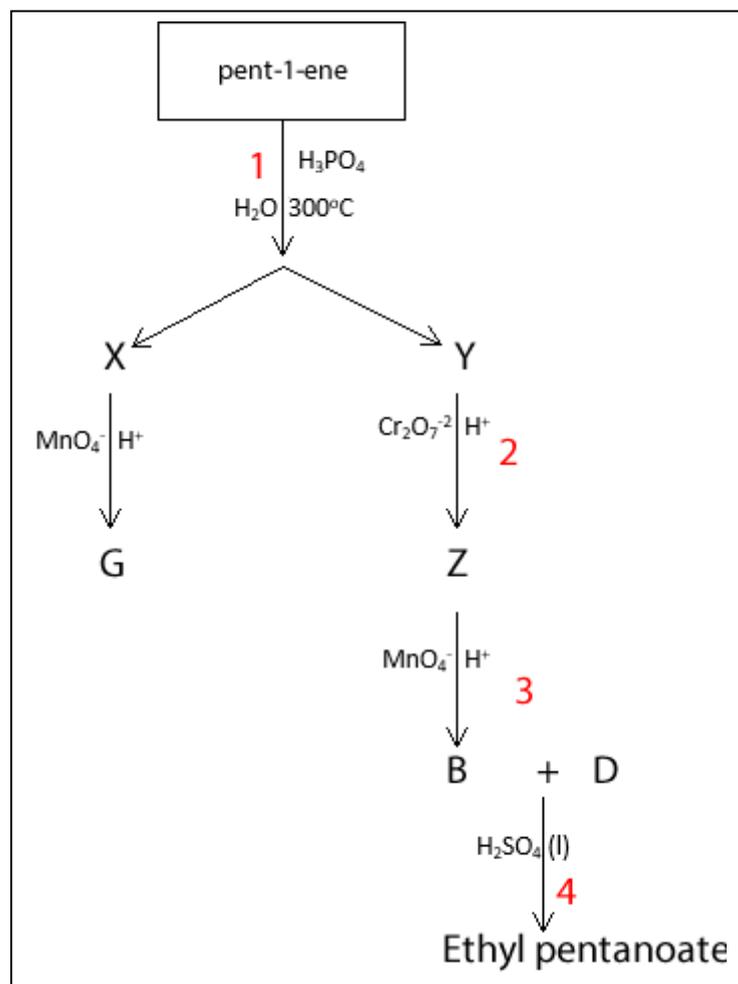
- i) What type of reactions is :

1 \_\_\_\_\_

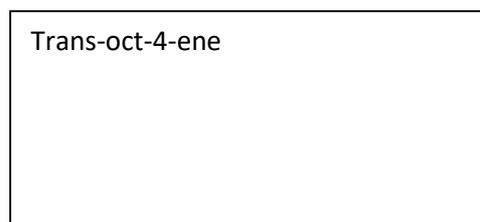
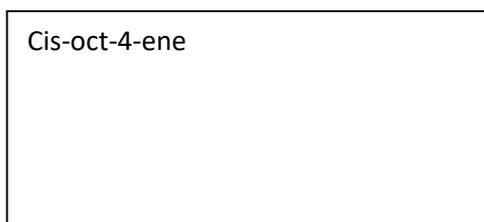
3 \_\_\_\_\_

4 \_\_\_\_\_

- j) Consider the two products X and Y of reaction 1, above. Draw the structural formula of each compound and give the number of optical isomers that exist for each.

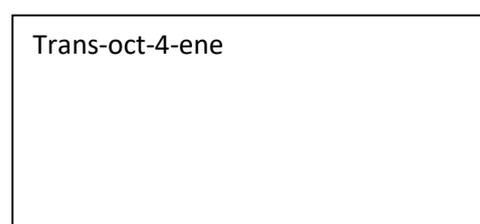
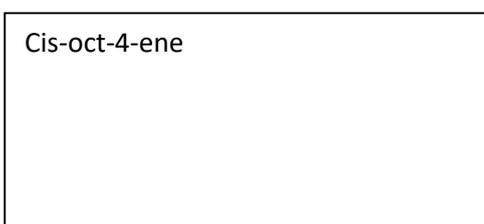


2) Draw the skeletal structure of the compounds mentioned in each box below.

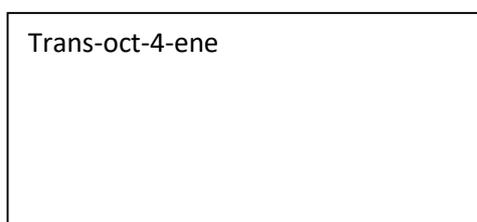
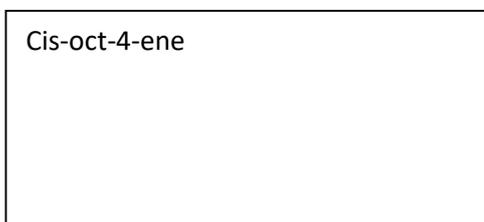


a. Cis-oct-4-ene has a boiling point of 128 °C and a melting point of -119 °C  
Trans-oct-4-ene has a boiling point of 122 °C and a melting point of -94 °C

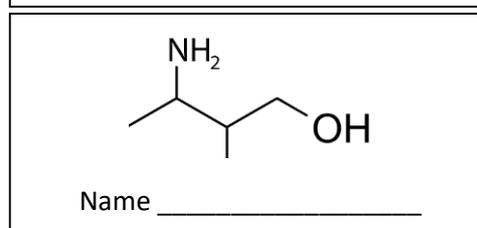
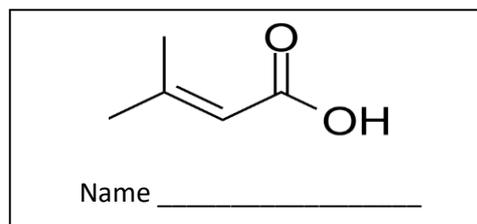
i. Using diagrams explain the differences between the melting temperatures of the cis and trans isomers.



ii. Using diagrams explain the differences between the boiling temperatures of the cis and trans isomers.



3) Give the IUPAC name for the molecules



4) Name the stereoisomer shown on the right.

