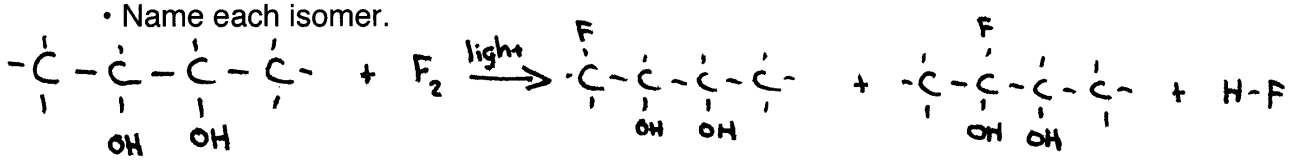
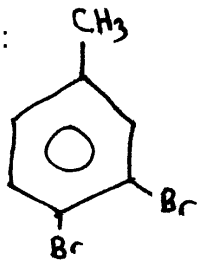
30. Write the reaction for the halogenation of 2,3-butandiol with fluorine gas.
- Include all products.
- Determine the % formation of each isomer.
- Name each isomer.



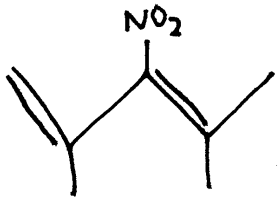
6/8 2/8

1-Fluoro-2,3-butandiol 2-fluoro-2,3 butandiol

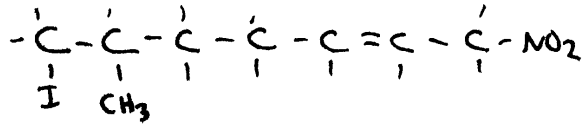
31. Draw 3,4-dibromotoluene:



32. Draw the **line structure** for 2,4-dimethyl-3-nitro-1,3-pentadiene

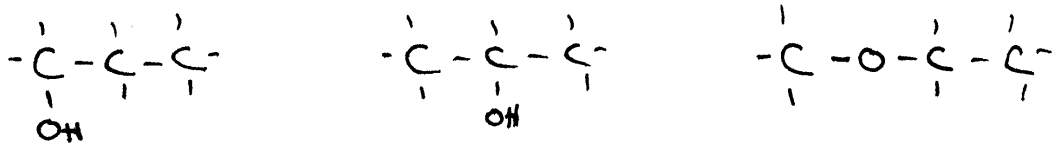


33. Name this: $CH_2ICH(CH_3)(CH_2)_2CH{=}CHCH_2(NO_2)$



7-iodo-6-methyl-1-nitro-2-heptene

34 Draw all 3 isomers for C_3H_8O:



35. Using the solubility data from packet 10's reference sheet, calculate the K_{sp} of potassium chlorate at 0.0°C.

$KClO_3 \rightleftharpoons K^+ + ClO_3^-$

$\frac{3.3\,g}{100\,g\,H_2O} \times \frac{1\,g}{1\,mL} \times \frac{1000\,mL}{1\,L} \times \frac{1\,mol}{122.6\,g} = 0.269\,M$

$K_{sp} = (0.269)(0.269)$

$= 0.0724$