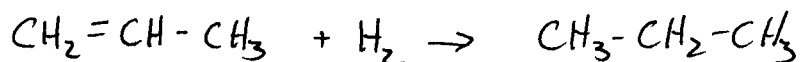


## Organic Reaction Review

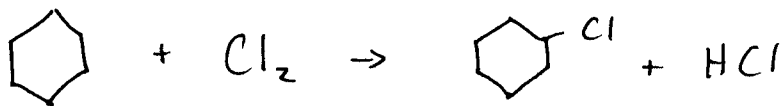
Write structural formulas for all organic compounds. State the type of reaction. Complete and balance the reaction. Name the products.

1. propene + hydrogen  $\rightarrow$  propane



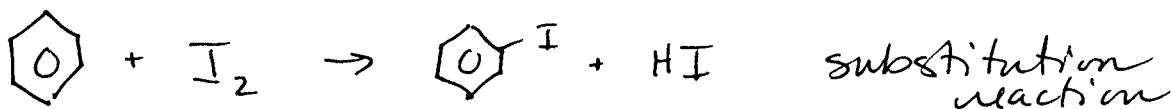
- addition reaction

2. cyclohexane + chlorine  $\rightarrow$  chlorocyclohexane + hydrogen chloride



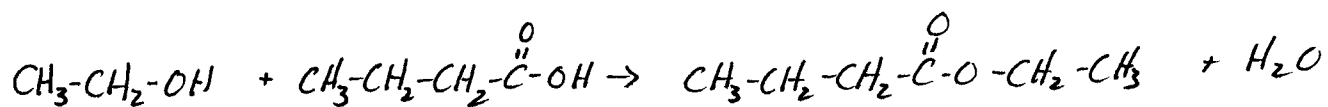
substitution reaction

3. benzene + iodine  $\rightarrow$  iodo benzene + hydrogen iodide



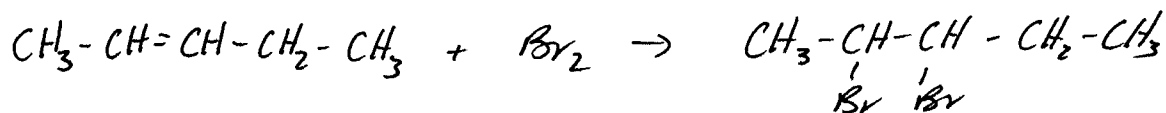
substitution reaction

4. ethanol + butanoic acid  $\rightarrow$  ethyl benzoate + water



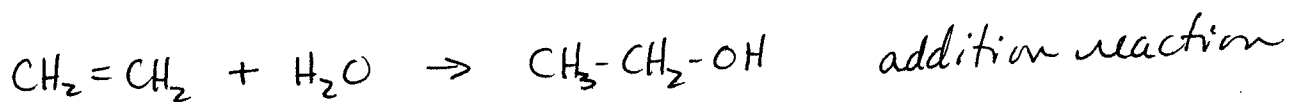
esterification reaction

5. 2-pentene + bromine  $\rightarrow$  2,3-dibromopentane

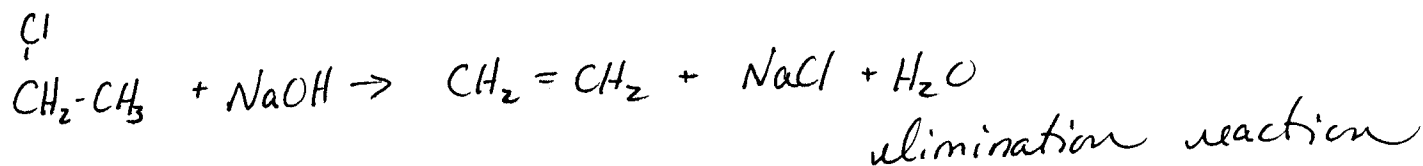


addition reaction

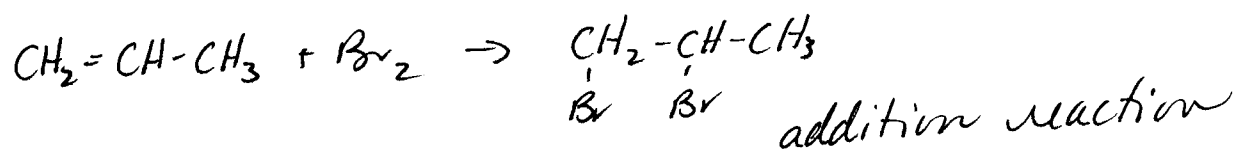
6. ethene + water  $\rightarrow$  ethanol



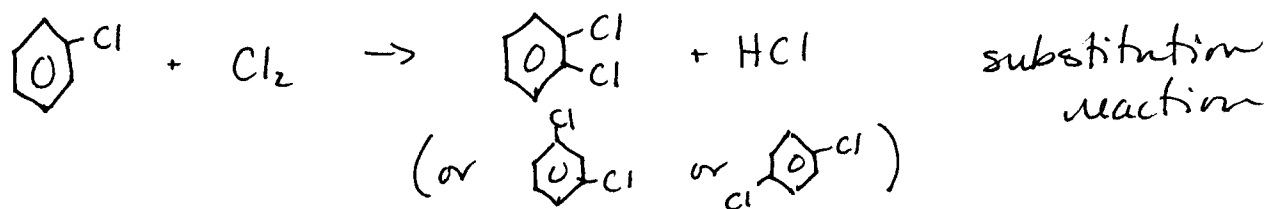
7. chloroethane + sodium hydroxide  $\rightarrow$  ethene + sodium chloride + water



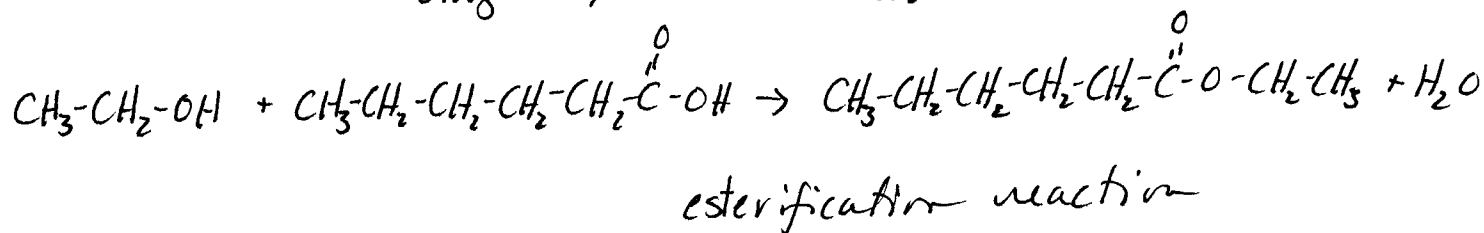
8. propene + bromine  $\rightarrow$  1,2-dibromopropane



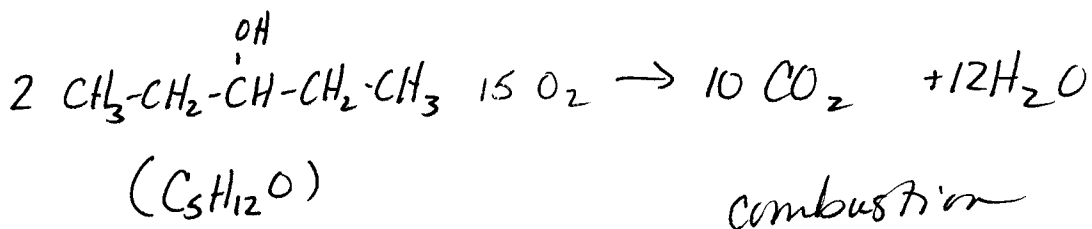
9. chlorobenzene + chlorine  $\rightarrow$  1,2-dichlorobenzene + hydrogen chloride



10. ethanol + hexanoic acid  $\rightarrow$  ethyl hexanoate + water

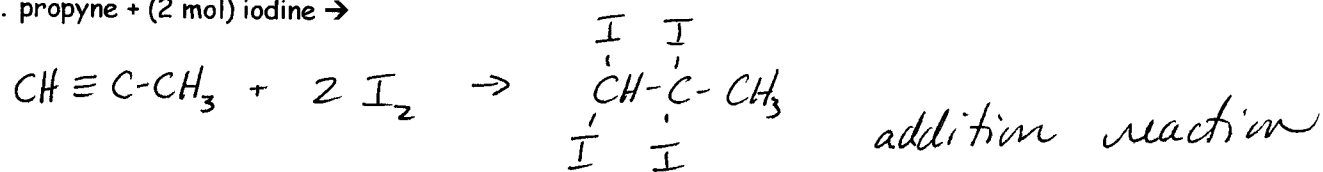


11. 3-pentanol + oxygen  $\rightarrow$  carbon dioxide + water

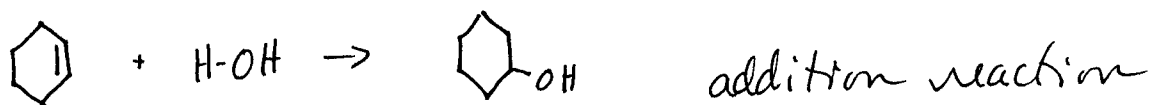


1,1,2,2-tetraiodopropane

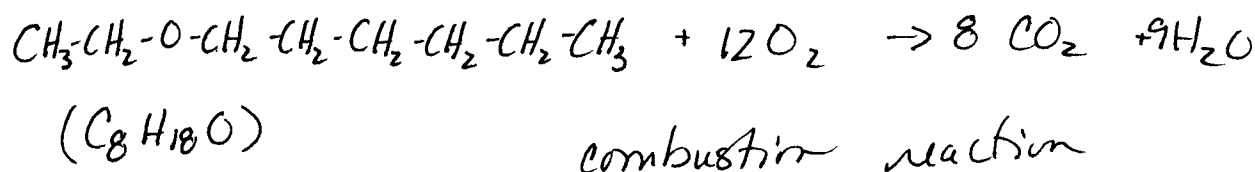
12. propyne + (2 mol) iodine →



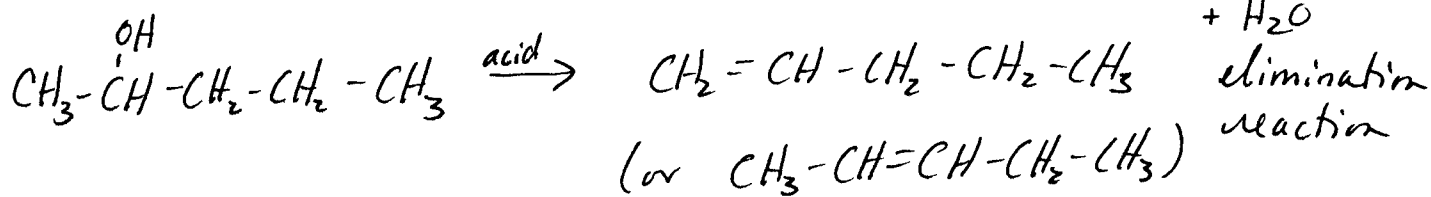
13. cyclohexene + water → cyclohexanol



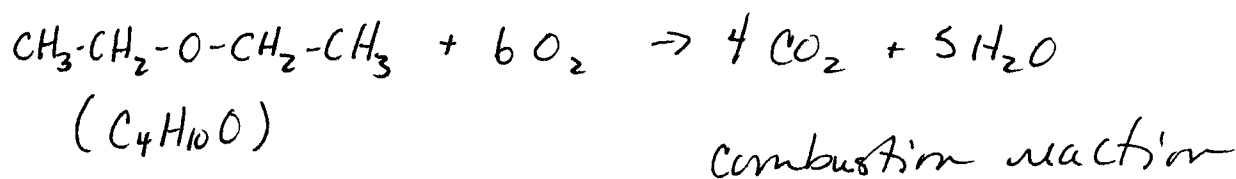
14. ethoxyhexane + oxygen → carbon dioxide + water



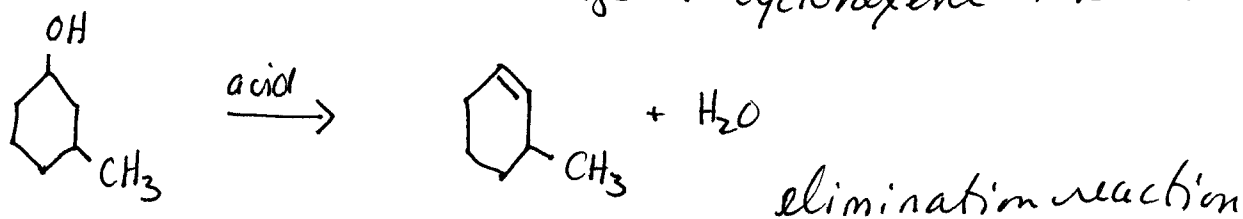
15. 2-pentanol  $\xrightarrow{\text{acid}}$  1-pentene + water



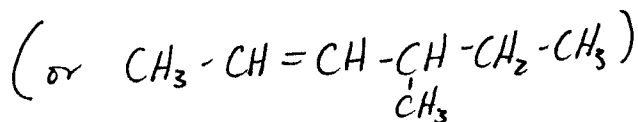
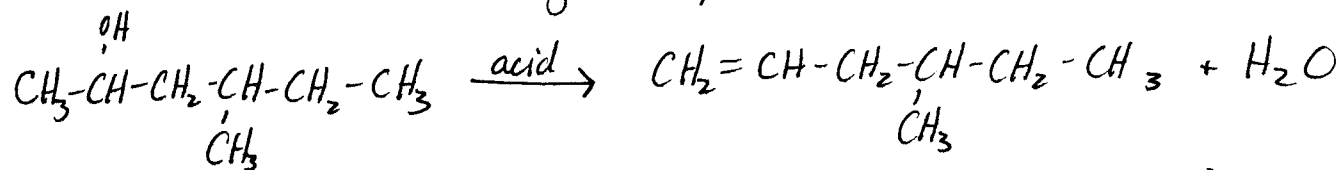
16. diethyl ether + oxygen → carbon dioxide + water



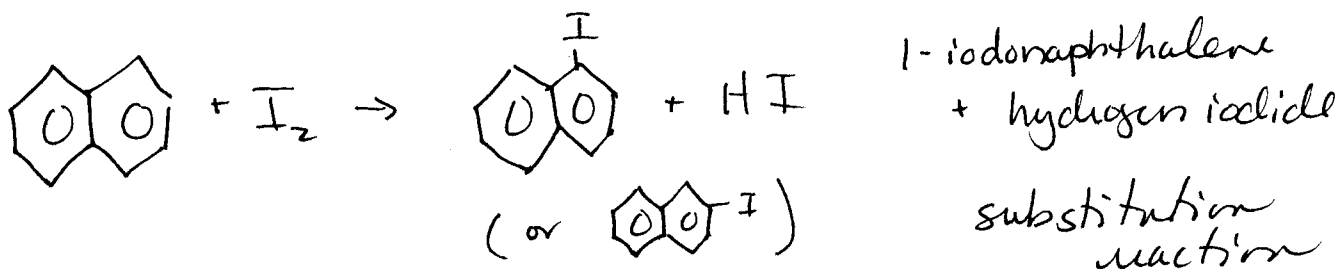
17. 3-methyl-1-cyclohexanol  $\xrightarrow{\text{acid}}$  3-methyl-1-cyclohexene + water



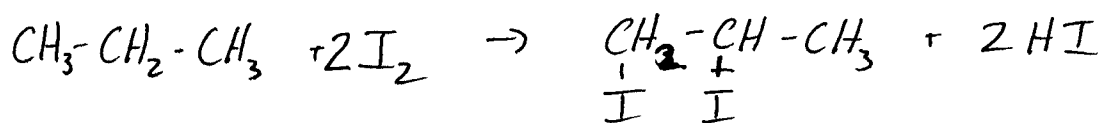
18. 4-methyl-2-hexanol  $\xrightarrow{\text{acid}}$  4-methyl-1-hexene + water elimination



19. naphthalene + iodine  $\rightarrow$

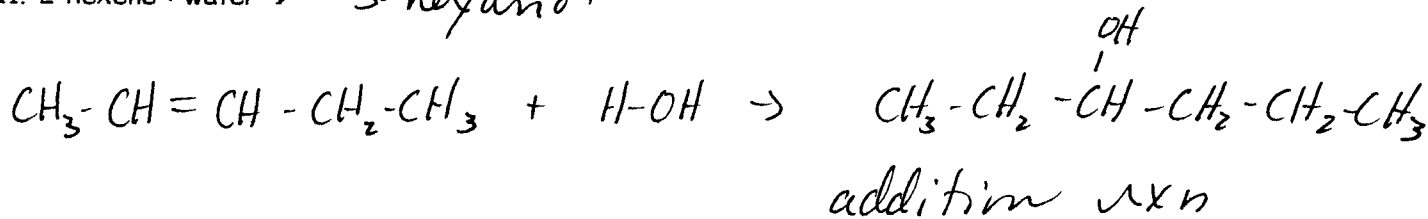


20. propane + (2 mol) iodine  $\rightarrow$  1,2-diiiodopropane + hydrogen iodide

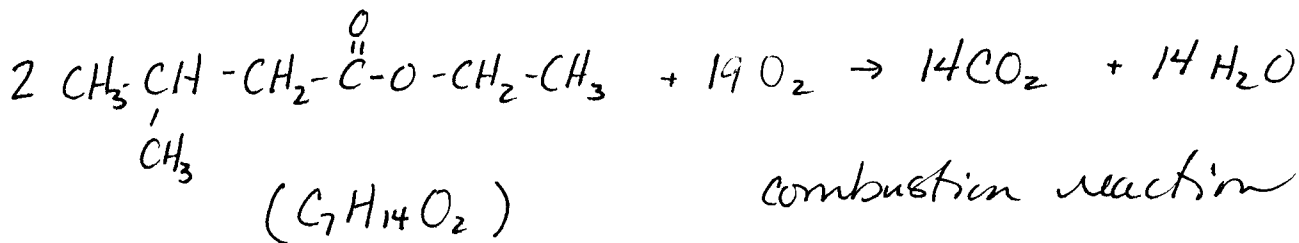


substitution

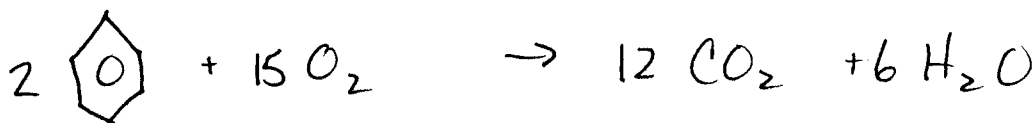
21. 2-hexene + water  $\rightarrow$  3-hexanol



22. ethyl 3-methylbutanoate + oxygen  $\rightarrow$  carbon dioxide + water

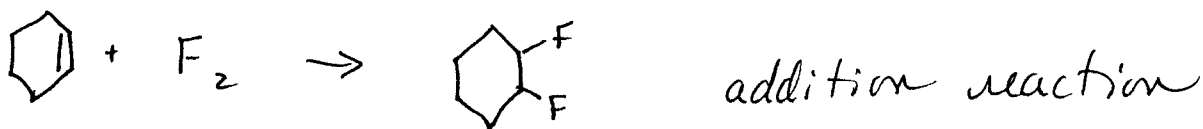


23. benzene + oxygen  $\rightarrow$  carbon dioxide + water

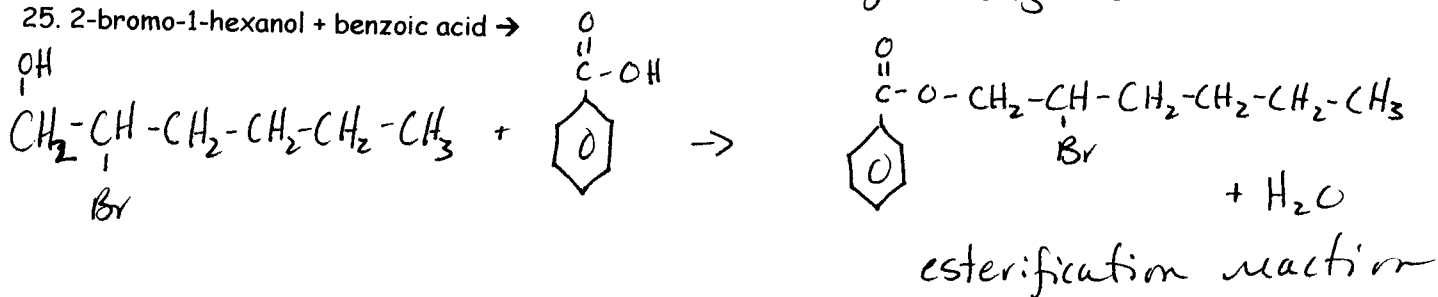


( $\text{C}_6\text{H}_6$ ) combustion reaction

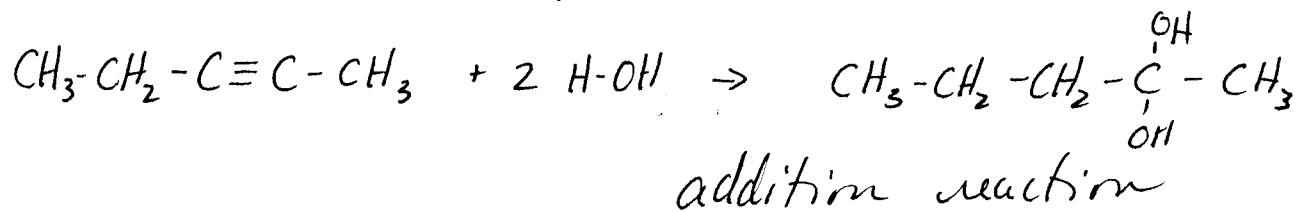
24. cyclohexene + fluorine  $\rightarrow$  1,2-difluorocyclohexane



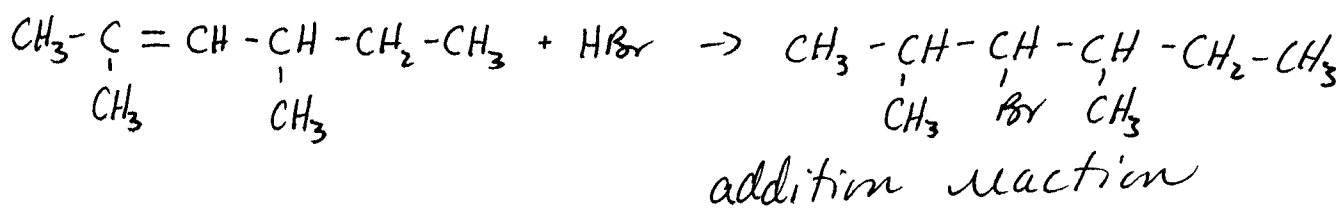
25. 2-bromo-1-hexanol + benzoic acid  $\rightarrow$  2-bromohexyl benzoate + water



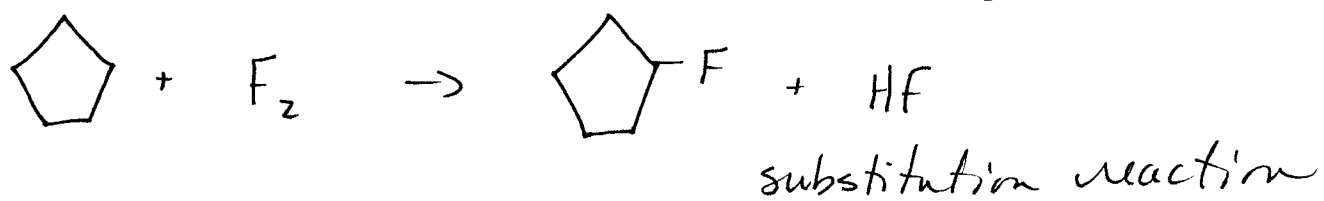
26. 2-pentyne + (2 mol) water  $\rightarrow$  2,2-pentandiol



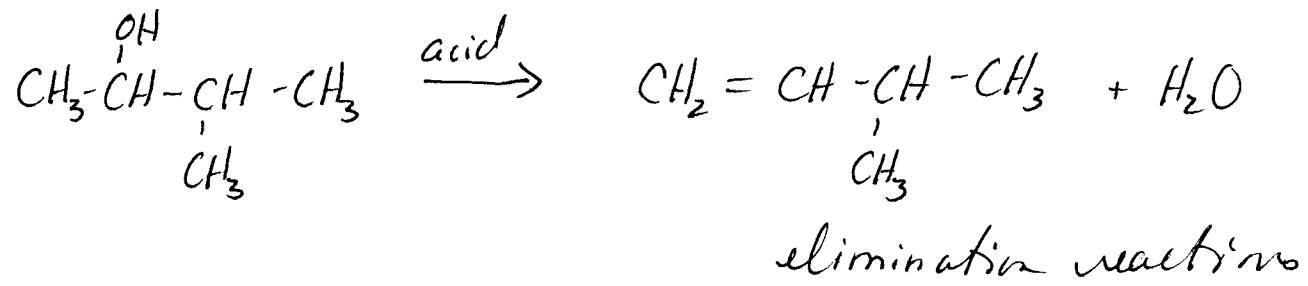
27. 2,4-dimethyl-2-hexene + hydrogen bromide  $\rightarrow$  3-bromo-2,4-dimethylhexane



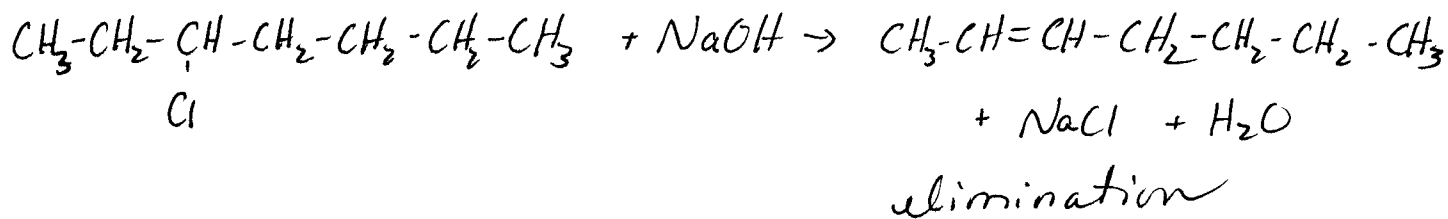
28. cyclopentane + fluorine  $\rightarrow$  fluorocyclopentane + hydrogen fluoride



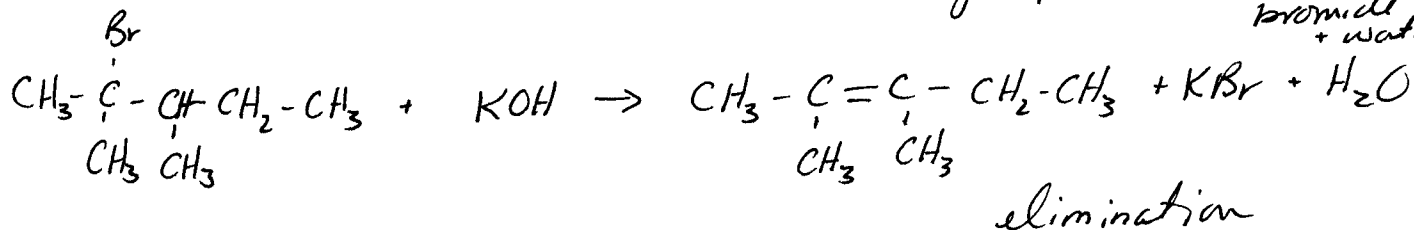
29. 3-methyl-2-butanol  $\xrightarrow{\text{acid}}$  3-methyl-2-butene + water



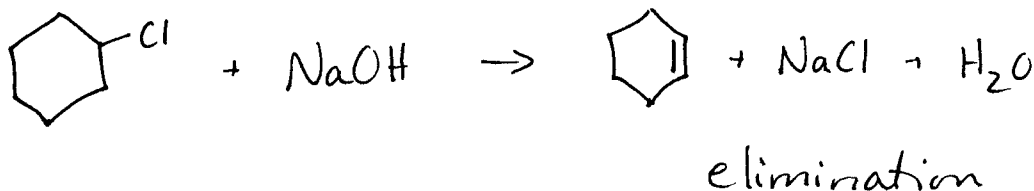
30. 3-chloroheptane + sodium hydroxide → 2-heptene + sodium chloride + water



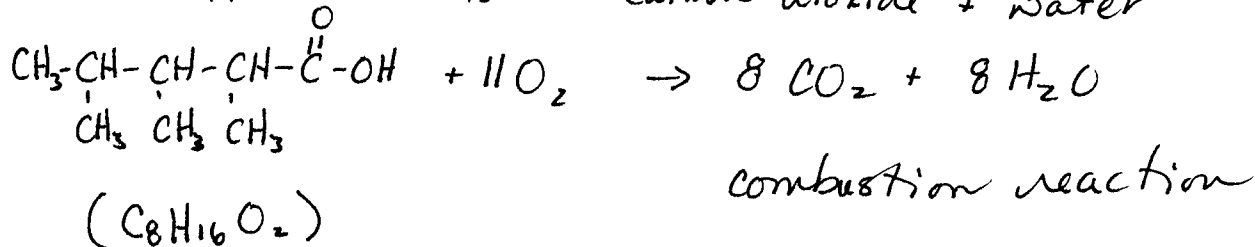
31. 2-bromo-2,3-dimethylpentane + potassium hydroxide → 2,3-dimethyl-2-pentene + potassium bromide + water



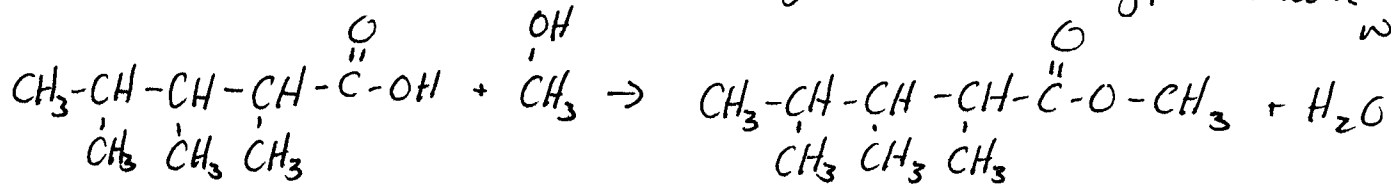
32. chlorocyclohexane + sodium hydroxide → cyclohexene + sodium chloride + water



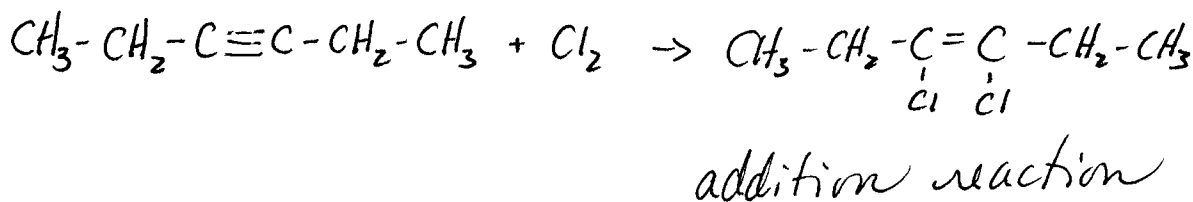
33. 2,3,4-trimethylpentanoic acid + oxygen → carbon dioxide + water



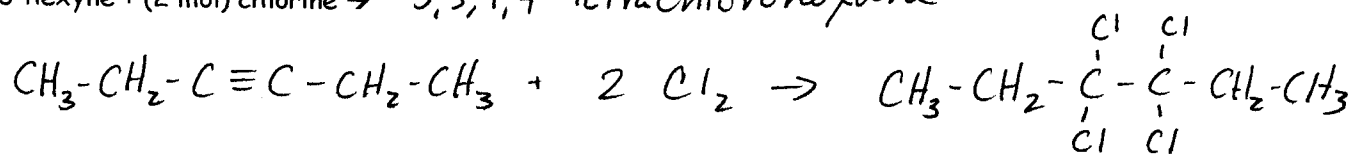
34. 2,3,4-trimethylpentanoic acid + methanol → methyl 2,3,4-trimethylpentanoate + water



35. 3-hexyne + chlorine → 3,4-dichloro-3-hexene

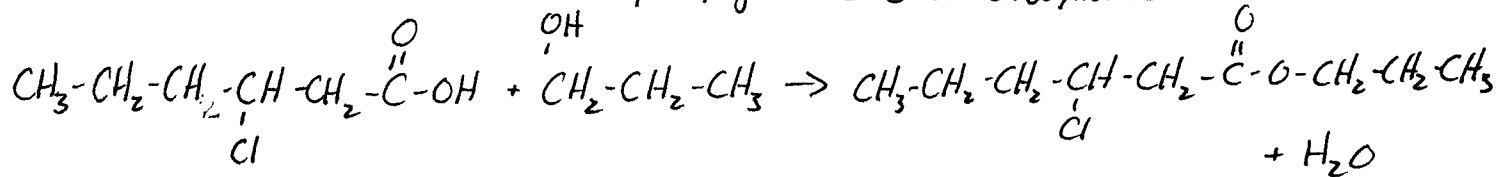


36. 3-hexyne + (2 mol) chlorine → 3,3,4,4-tetrachlorohexane

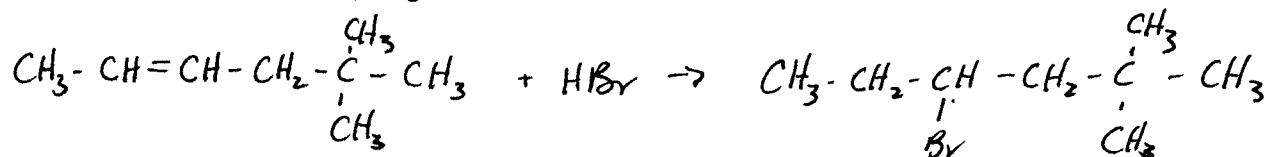


addition reaction

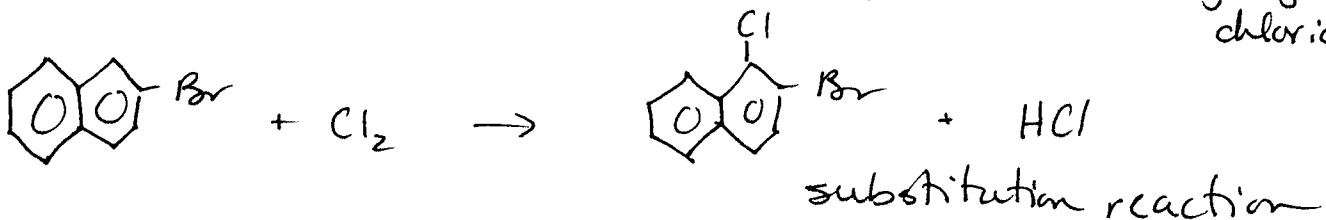
37. 3-chlorohexanoic acid + 1-propanol → propyl 3-chlorohexanoate + water



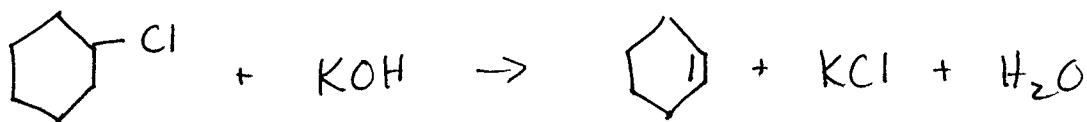
38. 5,5-dimethyl-2-hexene + hydrogen bromide → 4-bromo-2,2-dimethylhexane



39. 2-bromonaphthalene + chlorine → 2-bromo-1-chloronaphthalene + hydrogen chloride



40. 1-chlorocyclohexane + potassium hydroxide → cyclohexene + potassium chloride + water



elimination reaction