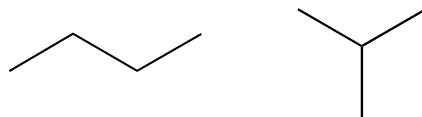


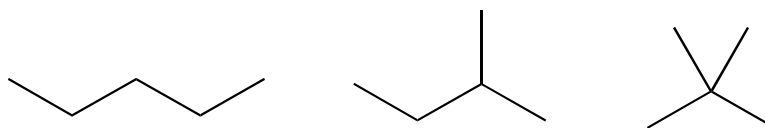
Isomeric carbon chains:

C1 methyl, C2 ethyl and C3 propyl have no branching isomers

C4: n-butane, isobutane

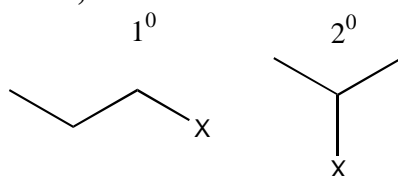


C5: n-pentane, sec-butane, 2,2-dimethylpropane

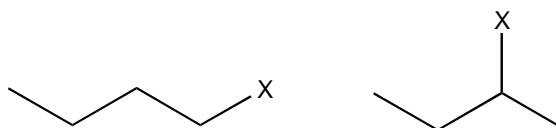


Isomeric positions in chains: 1°, 2° and 3°

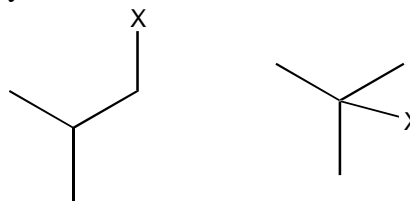
C3: n-propyl, isopropyl



C4: n-butyl can have 1° n-butyl and 2° sec-butyl

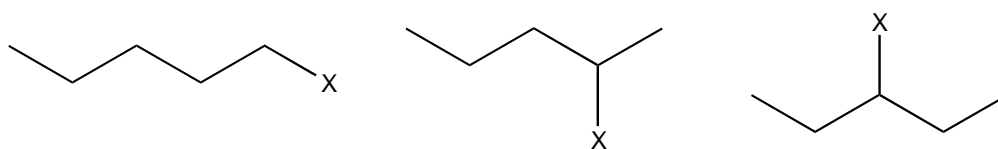


Isobutyl can have 1° isobutyl, 3° tert-butyl

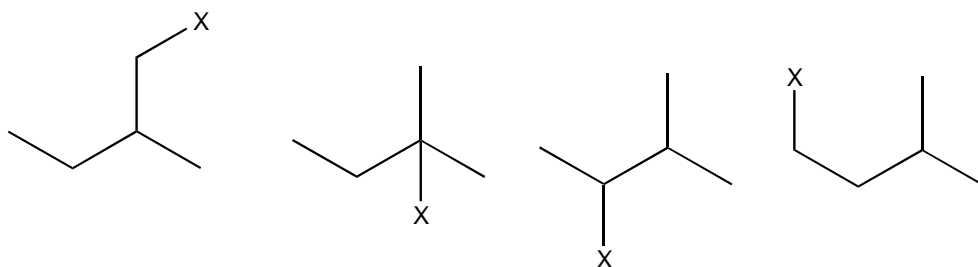


C5:

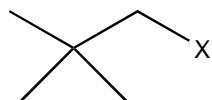
n-pentyl can have 1° n-pentyl, 2° 2-Xpentyl, 2° 3-Xpentyl



2-methylbutane can have 1, 2, 3 and 4 positions



Dimethyl propane only one.



Naming Alkanes

- 1) Name longest chain
- 2) Number chain such that groups have the total lowest numbers
- 3) Name groups and use a number with a hyphen. Separate numbers with commas.
- 4) Put in ABC order. Prefixes di, tri, etc. and sec-, tert- are NOT used in ABC order. But iso, neo are used in ABS order)
- 5) Name any complex groups in parentheses

Naming Cycloalkanes

- 1) Determine if ring or chain has more carbons. If ring has more name as a cyclo"alkane chain"
- 2) Number so total numbers are lowest and break ties with ABS order.
- 3) Cis or trans with a hyphen if needed.

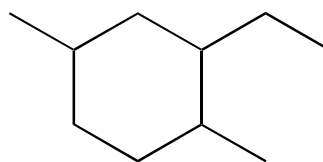
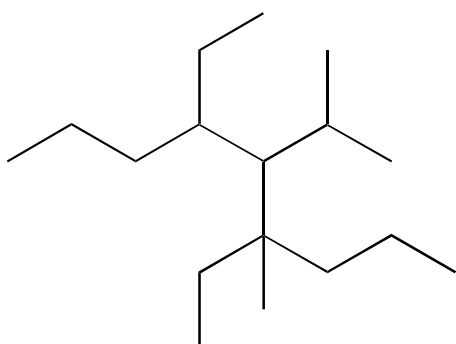
Working backwards (From name to a structures)

3-methylhexane

4-ethyl-3-methylheptane

1,3-dimethyl-6-(2-isobutyl)decane

Working forwards: (from structure to name)



Draw all isomers of dimethylcyclobutane