**Exercise # 5A: IUPAC vs Common Names**

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(see also: Supplement #4: **Common Names in Organic Chemistry Nomenclature** )

Provide the common & IUPAC names for compounds I-IV below:

**I II III**



IUPAC

**\_2-chlorobutane\_\_\_\_\_\_\_\_\_\_\_\_ \_\_1-chloro-2-methylpropane\_\_ \_\_\_\_\_\_\_2-chloro-2-methylpropane**

COMMON

**Sec-butyl chloride\_\_\_\_\_\_\_\_ \_\_isobutyl chloride\_\_\_ tert-butyl chloride (or t-butyl chloride)\_**

**IV V**



IUPAC **1-chloro-3-methylbutane**

COMMON **isopentyl chloride**

Provide IUPAC AND COMMON Names for compounds V-VIII below

**VI VII**





IUPAC **4-(1-methylethyl)nonane**

COMMON 4-isopropyl nonane

IUPAC **5-(2-methylethyl)dodecane**



COMMON 5-isobutyl dodecane

V **VII VIII**

**Exercise # 5B: Naming Cycloalkanes C­nH2n Paraffin Rings\***

**Organic Chem I Alfred State College**

Use IUPAC rules to name these cycloalkanes





**2-ethyl-1,1-dimethylcyclohexane pentylcyclohexane**





*Ring wins as parent if equal C count in ring and chain*

**Isopentylcyclopentane pentylcyclopentane**





*Chain C count > ring C count; chain wins role as parent*

**1-(2,2-dimethylcyclopentyl)-hexane cyclopentylcyclohexane**



**\*not to be confused with aromatic rings : ex. BENZENE, C6H6**



**CYCLOHEXANE, C6H12**