in-class exercise #9

Alkyl Halide Naming EXERCISES

Organic Chem I Alfred State College

1) What are the IUPAC names for: ***(ozone killers)***

CC14 CHCl3 **CH2Cl2**  CFC13 **CF2 C12**

**CARBON TET(RACHLORIDE) CHLOROFORM METHYLENE CHLORIDE FREON 11 (REFRIGERANT) FREON 12**

**(SPRAY CAN PROPELIANT)**

2) What are the common, IUPAC(substitutive) and functional group names for:

(a) (b) (c) (d)

**C**

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**C-C-C C-C-C-I** Br-C-C-C-C C-C-C-C

| | |

Cl C F

common

functional

substitutive (IUPAC)

(~standard method)

exer cise #9 (continued)…naming alkyl halides chem. 3514 orgaznic I

3) What are the functional and substitutive IUPAC names for:

functional substitutive

a)



b)







c)

d)

Answers:

1) CC14 CHCl3 CH2CI2 CCI3F CF2C12

tetrachloromethane trichloromethane dichloromethane trichlorofluoromethane chlorodifluoromethane

**C**

|

**C-C-C C-C-C-I** Br-C-C-C-C C-C-C-C

| | |

Cl C F

2)

common tertbutyl chloride isobutyl iodide n-butyl bromide sec-butyl fluoride

functional 1,1-dimethylethyl chloride 2-methylpropyl iodide butyl bromide 1-methylpropyl fluoride

substitutive 2-chloro-2-methylpropane 1-iodo-2-methylpropane 1-bromobutane 2-fluorobutane

3)

FUNCTIONAL SUBSTITUTIVE (std IUPAC)



1-ethyl-5-methylpentyl fluoride 5-fluoro-2-methylheptane





1,4-dimethylhexyl fluoride 2-fluoro-5-methylheptane (halogens and R are equal in rank…go for minimum count to substituent )

2-ethylcyclohexyl fluoride 1-ethyl-2-fluorocyclohexane (number with lowest # for substituent first occurring in alphabet)



2-ethylcyclohexyl bromide 1-bromo-2-ethylcyclohexane