**supplement #12*. Naming of Alkenes***

***Chemistry 3514 Organic Chemistry I***

common vs IUPAC naming



COMMON ethylene propylene isobutylene

IUPAC ethene propene 2-methylpropene

**alkyl substituents: specifying double bond position**

Note*: post 1993, a new locant scheme was introduced by IUPAC for double bonds (see p 177).*

*Old New*

*2-pentene pent-2-ene*

*Your instructor is no fan of the new scheme. It sounds and looks ugly to him. Moreover, the new scheme immediately causes confusion when two functionalities exist as in the case of 3-penten-1-ol. Therefore, we’ll stay with the old-school, pre-1993 version. You won’t be penalized for using the new scheme, but your aesthetic sensibilities will be viewed with a dim eye.*

**C**

**|**

**C-C=C-C C=C-C-C C-C-C=C-C**

2-butene 1-butene 4-methyl-2-pentene

C-C=C-C-C-Br C-C=C-C-C-OH

5-bromo-2-pentene 3-penten-1-ol

(not 1-bromo-3-pentene) (not 5-hydroxy-2-pentene)





3-chloro-cyclohexene 2-cyclopenten-1-ol

(not 1-chloro-2-cyclohexene) (not 3-hydroxy-cyclopentene)

specifying geometric isomerization: E-Z



(E)-2-butene (Z)-2-butene



(E)-1-bromo-2-chloropropene (Z)-1-bromo-2-chloropropene