

C11 - 6.0 - Organic Review

Alkane **ane** C_nH_{2n+2} $H = 2C + 2$

Alkyl: **ane**→**yl** $R - CH_3$ **R: Hydrocarbon**

- 1) Longest Alkane Chain
 2) Attached Alkyl
 2) #-Location of Alkyl @
- 1) *Alphabetical*
 2) *Smallest #*

C_nH_m	# C's
Meth 1	Hex 6
Eth 2	Hept 7
Prop 3	Oct 8
But 4	Non 9
Pent 5	Dec 10

Full/Skeleton
Line Structure

$C^{\pm 4}$

Each C needs a combination of bonds* and H's attached to add to 4!

Cycloalkanes: **cyclo**



C_nH_{2n}

alkene = C **ane** → **ene** C_nH_{2n}

Double/Triple Bond Overrides Alphabetical!

alkyne $\equiv C$ **ane** → **yne** C_nH_{2n-2}

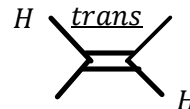
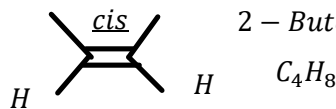
Count from before the double/triple bond

dienes: two double bonds **diene**

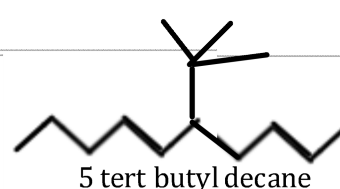
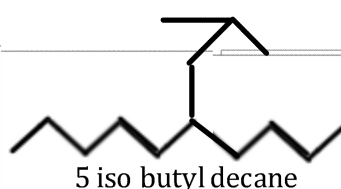
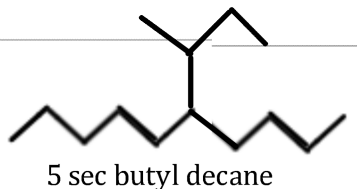
Right to Left

(di/tri)

Isomers



sec 1
iso 2
tert 3



alkyl halides: **ine** → **o** $R - Cl$ (Halogens⁻¹) **Prefixes (before)** All else Suffixes (after)

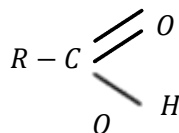
alcoholS **ane** → **anol** $R - OH$

Group (last) Overrides Ethyl!

OH^{-1}

ALdehyde
n
d

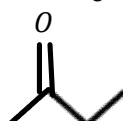
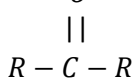
ane → **anal**



Each Oxygen needs a 2 bonds! O^{-2}

keyTONEs

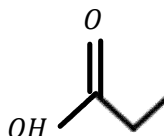
ane → **anone**



Count away from the 'Group'

cArbQxylIC ACID **ane** → **anoic Acid**

$R - COOH$



alcohol + aldehyde

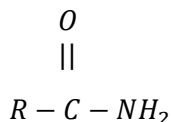
AMINE **amin + o**

$R - NH_2$

AMIDE

ane → **amide**

$R - CONH_2$



amine + keytone

ether

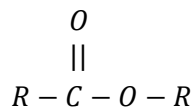
yl → **oxy**

$R - O - R$

ester

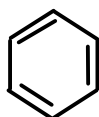
e → **oate**

$R - COO - R$



ether + keytone

Aromatics (Benzenes)



halide alcohol aldehyde amine keytone ether
 ↘ ↙ ↘ ↙ ↘ ↙
 carboxylic acid amide ester