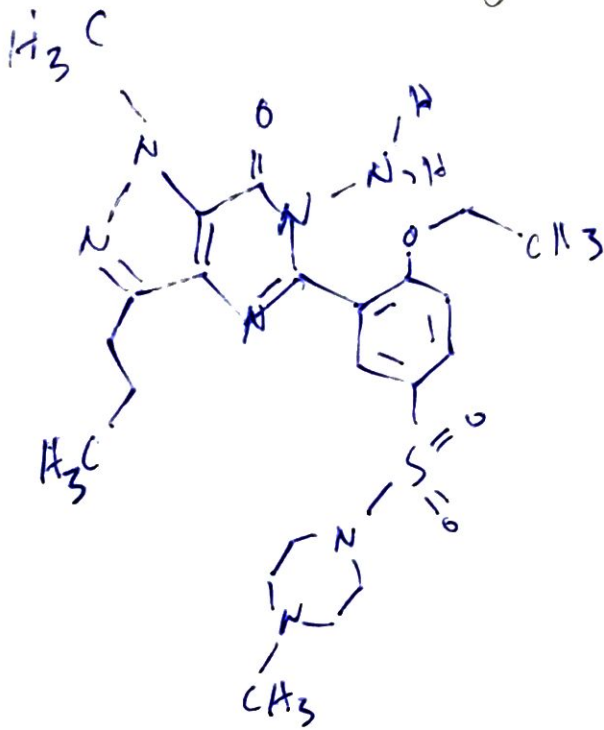


26 August CHEM106



5-(2-ethoxy-5-(4-methylpiperazine-1-yl)sulfonamido)-2-methyl-3-propyl-1H-pyrazolo-[4,3-d]pyrimidin-7(6H)-one

Sildenafil

Viagra

systematic naming

Prefix — Parent — Suffix

substituents/
minor functional
groups

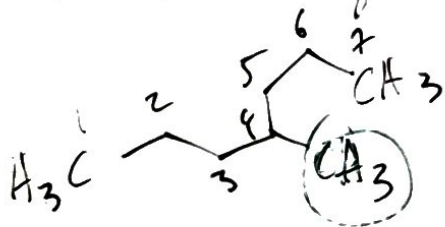
number of
carbons
and multiple
bond index

Principal
functional
group

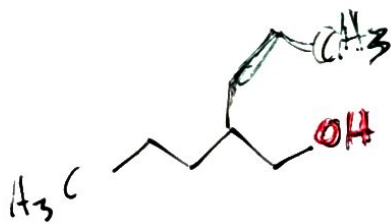
Nomenclature Rules

① Parent

Root is derived from number of carbons
in longest unbranched chain containing
functional group



4-methyl-heptane



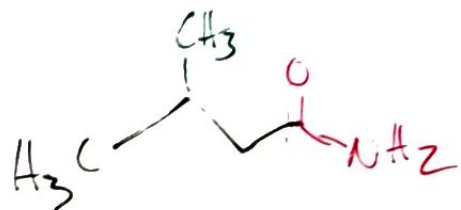
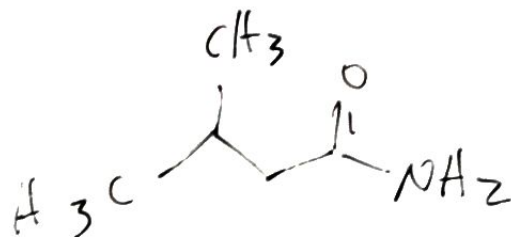
2-propyl-1-pentanol

② Suffix

Basic name derived by adding ending
of major functional group



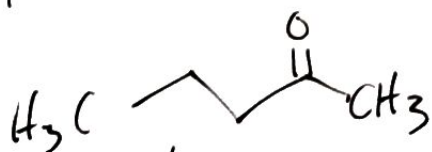
Butan *oic acid*



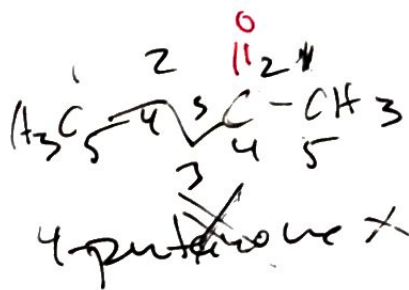
3-methyl- butan*amide*

③ Position

Position of the functional group denoted by
number placed before whole name - or just
before the ending. Number is given in such
a way as to give the functional group
the lowest number.



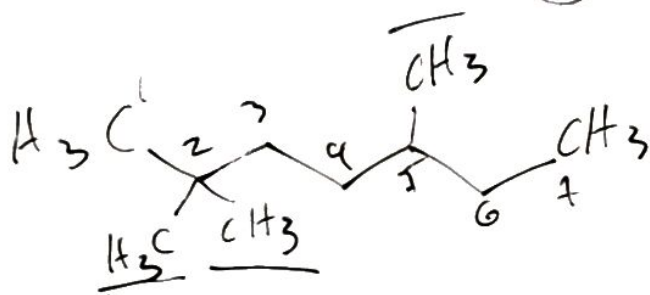
2-pentanone
Pentan-2-one



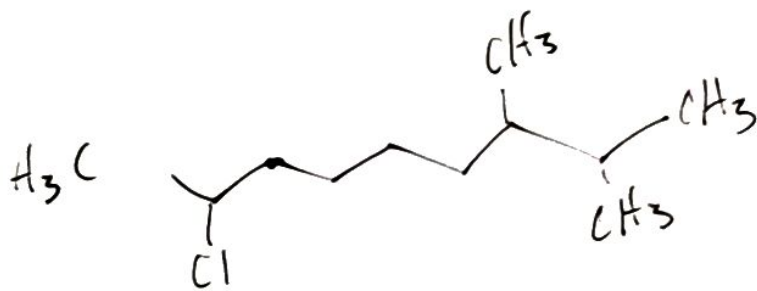
more nomenclature rules

④ Prefix

Substituents are denoted by prefix and number indicating position (lowest possible numbering)



2,2,5-trimethyl heptane



nonane



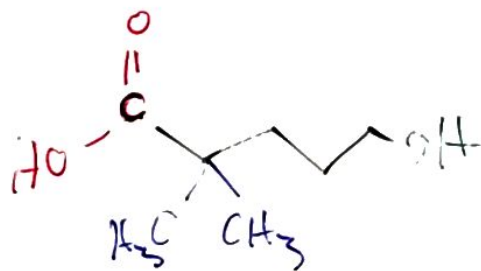
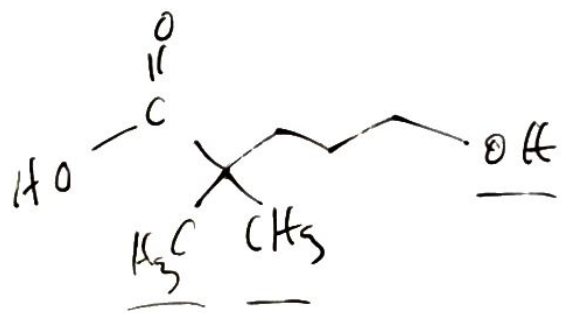
8-chloro-2,3-dimethyl nonane

⑤ Functional group

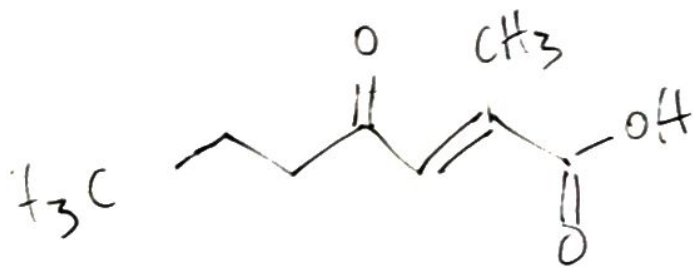
If more than one functional group then name and number of functional groups is determined based upon

PRIORITY OF FUNCTIONAL GROUPS

Carboxylic acid > esters > amides > nitriles > aldehydes > ketones > alcohols > amines > alkenes > alkyne



5-Hydroxy-2,2-dimethylpentanoic acid



2-methyl-4-oxohept-2-enoic acid



2-methyl-4-oxoheptanoic acid

⑧ Minor functional groups

Halo-

Nitro- (-NO₂)

Nitroso- (-NO)

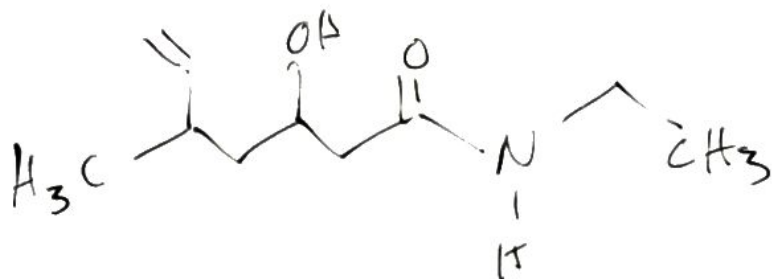
Azo -N=N-

are considered substituents and

not functional groups when it comes to nomenclature

⑨ Order substituents are written in alphabetical.

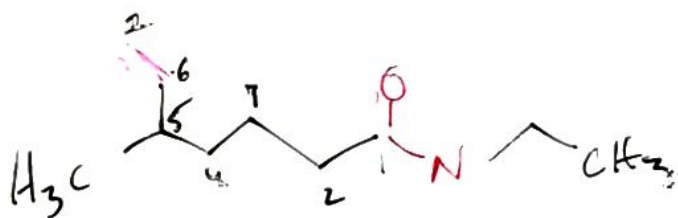
Examples : Structure to name



Step 1: Determine the root
Hept-

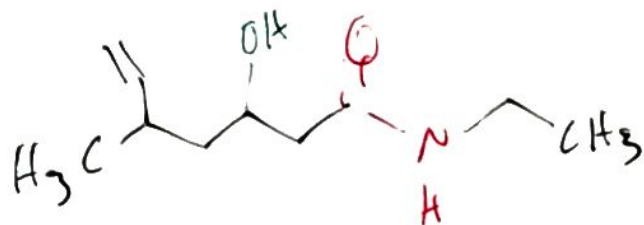
Step 2: Suffix (Priority rule)
Amide beats hydroxyl
Heptanamide

Step 3: Multiple bond index
-number based on priority

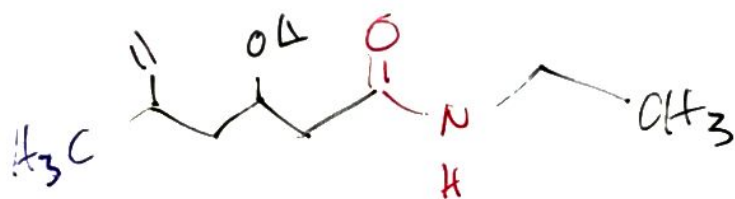


Hept-6-enamide

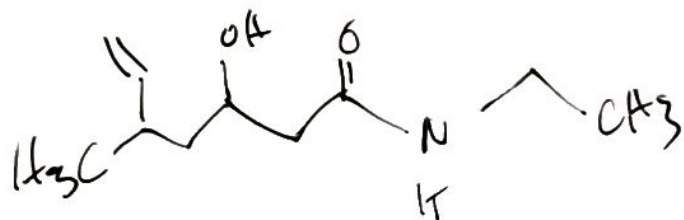
Step 4: Functional groups (Prefix)



5-Hydroxy-hept *o*-enamide



5-Hydroxy-5-methyl-hept *o*-enamide



N-ethyl -3-hydroxy-5-methyl-hept *o*-enamide

4-ethyl-3-hydroxy-cyclohexanone

Draw the structure for 4pts
extra credit