

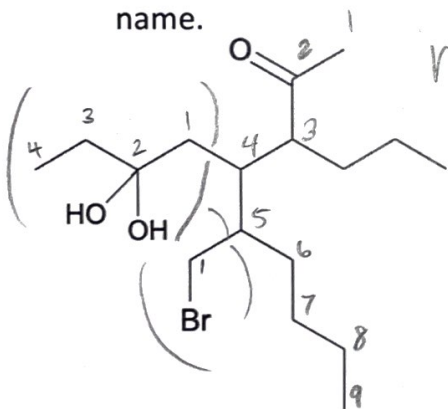
Alkanes: IUPAC Nomenclature, Take Two--Functional Groups Galore

jOeCHEMists: You liked naming so much you wanted more, huh? Just kidding, I know just like taking your vitamins, you're here cause you know it's good for you.

In this worksheet, I want to do more challenging naming in terms of adding multiple functional groups in a structure AND parentheses to the mix. That's right—it's getting real. I made these hard on purpose, gang, so don't feel bad at all looking at the answers and taking some time to digest these problems. I can't ever imagine you'd have to name structures like this on a test, so if you can handle this, you can do anything.

After this worksheet, you should feel **very** confident about how to name structures in the IUPAC fashion. You'll know how to consult the naming functional group priority chart (yeah, we'll need that in this worksheet) to see who's calling the shots as far as the parent chain name as well as naming the other functional group substituents. But enough of my textual chit chat—let's hit it.

- 1.) This worksheet is straight forward. Below, I have a bunch of structures that are dying, pleading, **begging** to be named. Be a friend, help them out, and give them a name.



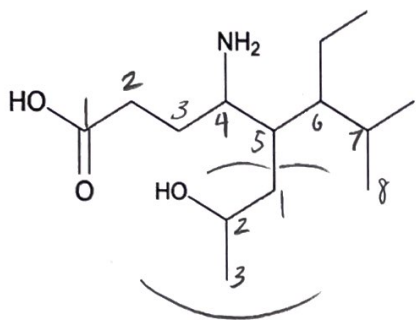
nonane

3-propyl

5-(bromomethyl)

4-(2,2-dihydroxybutyl)

5-(bromomethyl)-4-(2,2-dihydroxybutyl)-3-propylnonan-2-one



~~octane~~

4-amino ①

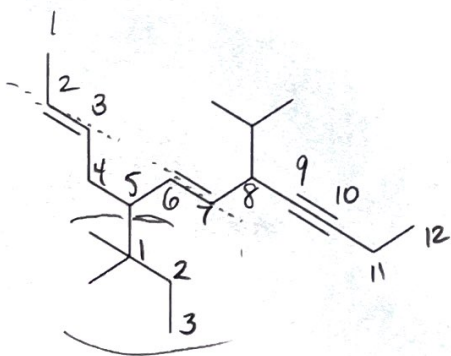
6-ethyl ②

7-methyl ④

5-(2-hydroxypropyl) ③

4-amino-6-ethyl-5-(2-hydroxypropyl)-7-methyloctanoic acid

~~dodecane~~



8-isopropyl ②

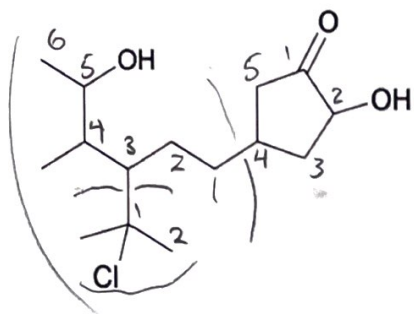
5-(2,2-dimethylpropyl) ①

(2E,6E)-5-(2,2-dimethylpropyl)-8-isopropyldodecan-9-yn-2,6-diene

3-(1-chloro-1-methyl)

4-methyl

5-hydroxy

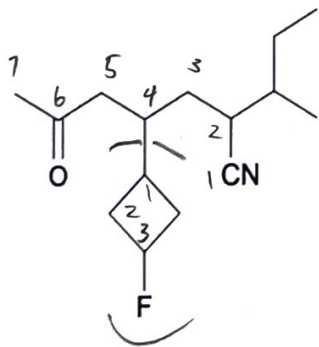


2-hydroxy

4-(3-(1-chloro-1-methylethyl)-5-hydroxy-4-methylhexyl)

4-(3-(1-chloro-1-methylethyl)-5-hydroxy-4-methylhexyl)-2-hydroxycyclopentanone

heptane



2-sec-butyl (1)

4-(3-fluorocyclobutyl) (2)

6-oxo (3)

2-sec-butyl-4-(3-fluorocyclobutyl)-6-oxoheptan-1-nitrile