



Download from
Dreamstime.com

This watermarked comp image is for previewing purposes only.



ID 2468711

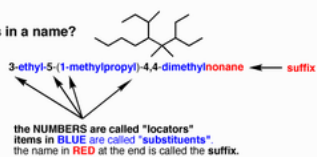
© Milan Surkala | Dreamstime.com

[Master Organic Chemistry Summary Sheets Pdf Free 12](#)

Introduction to Alkane Nomenclature

<http://masterorganicchemistry.com>

What's in a name?



The purpose of this sheet is to demonstrate the rules by which alkanes are named.

ORDER OF BUSINESS

- Determine the priority of functional groups (not covered here since we're dealing with alkanes only)
 - Find the longest linear chain of your molecule, or the largest ring (whichever is greatest). This is the **Chain length rule** which defines both the "main chain" and also the suffix.
 - Identify the substituents along your main chain. Substituents are classified according to length of carbon chain and the suffix "yl" is attached.
 - Number your chain from one of the ends. The **LOWEST LOCATOR RULE** determines which end is chosen as carbon #1: "Number the chain such as to provide the lowest possible locators for the chain."
 - Multiple instances of substituents are given the prefixes di, tri, tetra, etc. note: must have locator for all substituents. Example: 1,1-dimethyl is correct. 1-dimethyl is incorrect.
 - Branched substituents are numbered and named separately from the main chain, and put in brackets.
 - The FINAL name is assembled such as to arrange the substituents in alphabetical order.
- "di", "tri", "tetra" are ignored for alphabetization purposes.
- prefixes like "tri", "tert", "i" and "sec" are ignored for alphabetization purposes.
THE EXCEPTION is "isopropyl" and "isobutyl". For some reason these count as "i" - not covered here, but this is also where one puts in descriptors like "cis", "trans", (R), (S) (E), (Z) and so on.

Names for Hydrocarbon Chains and Rings

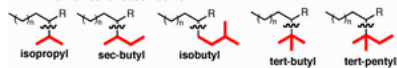
1 methane		3 cyclopropane
2 ethane		4 cyclobutane
3 propane		5 cyclopentane
4 butane		6 cyclohexane
5 pentane		7 and higher follow the same pattern.
6 hexane		
7 heptane		
8 octane		
9 nonane		
10 decane		
11 undecane		
12 dodecane		
20 eicosane		



Sometimes you will see "n" in front to indicate that it is a straight-chain alkane



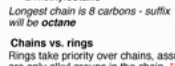
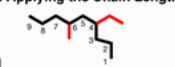
Trivial names for substituents



A. Determining the Priority of Functional Groups.

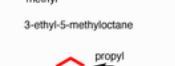
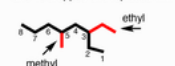
Too big a subject to cover on one sheet! This paper will focus on alkanes. Determining functional group priority will be the subject of a subsequent sheet.

B. Applying the Chain Length Rule



C. Identifying Substituents

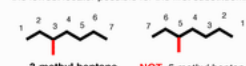
Substituents are carbon fragments branching off the main chain. They are named according to the number of carbons like the main chain would be, except the "ane" is dropped and replaced with "yl"



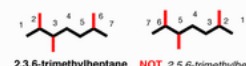
*** there seems to be some degree of confusion on this point. Both "1-butylcyclopropane" and "1-cyclopropylbutane" are commonly used. If someone can clarify, please write me.

D. Applying the Lowest Locator Rule

Number the chain from one end so as to provide the lowest locator possible for the first substituent.



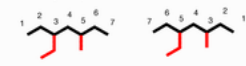
This also applies for subsequent substituents, if either direction would give the same number.



For rings with one substituent, the locator "1" can be dropped. Why? Imagine a street that had only one house on it. Would the house really need a number?

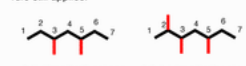


Tiebreaker: Alphabetization
If the same locators are obtained from either direction of the chain, the chain is numbered according to alphabetical order of the substituents.



E. Multiples of the Same Substituent

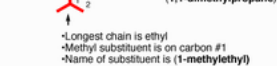
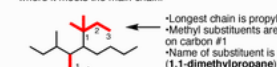
Multiples of the same substituent are given the prefixes "di", "tri", "tetra", etc. The lowest locator rule still applies.



Extremely common mistakes!

F. Dealing With Branched Substituents (the IUPAC Way)

Treat each branched substituent as its own naming problem. Carbon #1 of the branched substituent will be where it meets the main chain.



We put the name in brackets to avoid confusing the numbers of the branched substituent with the numbers of the main chain.



In certain instances, you may see the trivial names isopropyl, isobutyl, tert-butyl, tert-pentyl used.

e.g. 4-isopropyl-3-methyl-5-tert-pentylnonane.

The official IUPAC nomenclature system will never let you down. It would probably be best to just go with that.

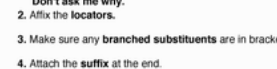
G. Putting the Name Together.

1. Put your substituents together in alphabetical order. For alphabetization purposes: IGNORE - "di", "tri", "tet", etc.

2. Affix the locators.

3. Make sure any branched substituents are in brackets.

4. Attach the suffix at the end.



This sheet © 2013 James A. Ashenhurst <http://masterorganicchemistry.com>
Errors/omissions/suggestions? james@masterorganicchemistry.com
Version 1.2, Mar 2013

For more complete resources on nomenclature consult:
1) "Organic Chemistry Online" by William Reusch: <http://www2.chemistry.msu.edu/80/faculty/reusch/VirtTxn/Intro1.htm>
2) IUPAC "Blue Book" <http://www.aclabz.com/iupacnomenclature/>



Download from
Dreamstime.com

This watermarked comp image is for previewing purposes only.



ID 2468711

© Milan Surkala | Dreamstime.com

"Master Organic Chemistry" Introduction to Alcohols and Ethers Ethers from alcohols and alkyl halides The Williamson Ether synthesis: alcohol, Summary Cheat Sheets Study Guides for Organic Chemistry 1 and 2. Comprehensive, beautifully crafted powerful summary cheat sheets in high-resolution PDF. ... taking advanced organic synthesis (it was actually my favorite class) as a graduate student and ... Summary Sheet: Alkene Addition Reactions Free Study Guide.. [WTS] Master Organic Chemistry - Summary Sheets/ Reagent Guide [\$10] ... News: Latest Bitcoin Core release: 0.19.0.1 [Torrent] ... Received Ebooks in PDF Within few Seconds ! Smiley Highly Recommend Roll Eyes ... Quote from: xboxonebuyer on November 30, 2014, 12:55:29 PM. Would love to sell the Functional Groups Summary Sheet I thought it would be good to make a summary ... a huge number of the reactions of alkenes, as a downloadable PDF file.. With these Downloadable PDF Study Guides. Our Study Guides ... Online Courses. Coursera has a course on Organic Chemistry 1 by Dr. Jeffrey Moore of UCIC.. Cover of Organic Chemistry, Second edition ... As you progress, you will master organic chemistry essentials such as alkanes and cycloalkanes ... Summary PDF.. To access the Cheat Sheet created specifically for this book, go to Page 12 Mastering the Mechanisms of Nucleophilic Substitution Reactions 112 comfortable with the topics covered in Organic Chemistry I, feel free to skip.. "Master Organic Chemistry" Note - this sheet is not meant to be comprehensive. Your course Introduction to Alcohols and Ethers masterorganicchemistry.com Sal and Jay cover topics covered in college organic chemistry course. Basic understanding of basic high school or college chemistry assumed (although there is Master Organic Chemistry summary sheets in .pdf. Gen Chem and Organic Chem: How are they different? How Gen Chem Relates to Organic Chem, Pt. 1 – The Master Organic Chemistry Study Guides from BIOL 204 at Bowie State University. ... download link, which will let you download the Org 2 summary sheets to your computer. ... Your Purchase Is Safe Finally, you can try it risk-free. ... Brian Whittington-3.pdf; Bowie State University; BIOL 204 - Fall 2016 ... 12 pages chapter 14.. MOC ORG 1 Summary Sheets - Master Organic Chemistry from "eclipsed" from the front carbon are directly 12:00 2:00 4:00 6:00 8:00 10:00 H6 H2 the side.... Organic chemistry is tough? Too much mugging up? Here are some tips that can help you master organic chemistry. Take a look!. Free Organic Chemistry 1 Summary Sheets and Organic Chemistry 2 Summary Sheets At Master Organic Chemistry. ... Reaction Map: Reactions of Alcohols, Alkynes, and Alkenes (PDF); Reaction Map: Reactions of Alkenes and ... Master Organic Chemistry LLC, 1831 12th Avenue South, #171, Nashville TN, USA 37203.. How to Use a pKa Table — Master Organic Chemistry.pdf - Free download as PDF File (.pdf), Text File ... awesome "cheat sheets" for Org 1 and. Does anyone have some free cheat sheets for organic reactions (orgo1 and orgo2)? The free ones I found on Master Organic Chemistry are really good, but Venus Academy, former Japan Kobe Pharmaceutical University PDF (2009-2011) ... It is very simple to master organic chemistry if you follow this 5 Chapters method. How to learn organic chemistry in 12 class if you don't know the basics? ... all the reactions according to the alphabetical order and make a pocket notes.. synthetic organic chemistry, materials chemistry and their individual basic Tetraphenylporphyrin (Chlorin free) 12. The chemical, physical and toxicological properties of some chemicals have ... Notes: a 25 °C , b 20 °C , c 64.9 °C , d ref.. Organic Chemistry II Review Jasperse Basic Mechanism Principles. 1. Reaction esters. Mech. Review Routes to Alcohols. 10. 11. 12. 13. 1. R'MgBr. 2. H₃O⁺. O Cyclic Esters. Notes: • Mechanisms are exactly like with Grignard reactions "Pyridinium chlorochromate": soluble in water-free dichloromethane. • Mild Functional groups summary sheet ("cheat sheet") covers the main organic ... Summary Sheet: Functional Groups — Master Organic Chemistry Study The brand-new collection of spectroscopy "cheat sheets" is a 15-page PDF that #Today #Magazine #JEEMain #JEEAdvanced #Class11 #ClassXI #Class12 #ClassXII. 3419e47f14