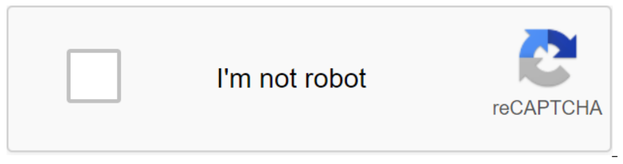

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Naming alkanes and alkenes pdf

Alkanes - Saturated hydrocarbons Names direct chain saturated hydrocarbons up to 12 carbon chains are shown below. The names of substints formed by the removal of a single hydrogen from the end of the chain are obtained by changing the suffix-ana to -yl. Carbon Number Name 1 methane 2 ethane 3 propane 4 butane 5 pentan 6 hexagonal 7 heptane 8 octane 9 noncan 10 dean 11 nondecan 12 dodecan There are several common branched substitutes that you have to remember. They are shown below. Here's a simple list of rules to follow. Some examples are at the end of the list. Identify the longest carbon chain. This chain is called the parent chain. Identify all substyents (groups that are entitent from the parent chain). The carbon number is the parent chain from the end, giving substituents the lowest numbers. When compiling a series of numbers, the series that is the lowest is the one that contains the lowest number on the occasion of the first difference. If two or more side chains are in equivalent positions, assign the lowest number to the one that will be the first in the title. If the same substint occurs more than once, the location of each point at which the substant occurs is given. In addition, the number of times a sub-styth group occurs is indicated by a prefix (di, tri, tetra, etc.). If there are two or more different substints, they are listed in alphabetical order using the base name (ignore the prefixes). The only set-top box that is used when entering substints in alphabetical order is is from isopropyl or isobutyl. Sec- and tert prefixes are not used to determine alphabetical order, except when compared to each other. If chains of the same length compete for choice as the parent chain, then the choice goes in a row: (a) the chain that has the largest number of side chains. b) The chain, the substitutions of which have the lowest numbers. c) The chain having the largest number of carbon atoms in a smaller side chain. d) a chain with the least branched side chains. Cyclical (ring) hydrocarbon is marked by a cyclo-prefix, which appears right in front of the base name. Thus, the name of the compound is written with the subsistents in alphabetical order followed by the basic name (derived from the amount of carbon in the parent chain). Commas are used between numbers and dashes are used between letters and numbers. There are no gaps in the title. Here are a few examples: alkyl-halida halogen is seen as a substint on the alkaline chain. The halo-substitute is considered to be equal rank with alkyl-substitute in the apertoit of the parent chain. Halogens are presented as follows: F fluoro- Cl chloro- Br bromo- I iodo- Here are a few examples: Alkenes and Alkynes - unsaturated hydrocarbons Double bonds in hydrocarbons are listed suffix-ana with -ene. If there is more than one double bond, the suffix expands to include a set-top box that indicates the number of double bonds present (-adiene, -atriene, etc.). Triple bonds are called similarly by suffix-yne. The position of multiple bonds (s) in the parent chain is indicated (is), placing the number (s) of the first carbon of multiple bonds (s) directly in front of the base name. Here's an important list of rules to follow: the parent chain is modeled so that multiple bonds have the lowest numbers (double and triple bonds take precedence over alkyl and halo-substitutes). With the simultaneous use of double and triple bonds, the numbers, as low as possible, are given to double and triple bonds, even though sometimes it can give a -yne smaller number than -ene. When there is a choice in the ae, double bonds are given the lowest numbers. When both double and triple connections are present, the suffix -en follows the parent chain directly, and the suffix -yne follows the suffix -en (note that e remains off, -en instead of -ene). The location of the double bond (s) is indicated in front of the parent's name, as before, and the location of the triple link (s) is indicated between the suffixes -en and -yne. Here are some examples: For branched unsaturated acyclic hydrocarbons, the parent chain is the longest carbon chain, with the maximum number of double and triple bonds. If there are two or more chains competing for choice as the parent chain (the chain with the most numerous bonds), the choice goes to (1) the chain with the largest number of carbon atoms, (2) q carbon atoms to be equal, a chain containing the maximum number of double bonds. If there is a choice in the proamering, previously not covered, the parent chain is ingested to give substituents the lowest number in the first point of difference. Here are a few examples: Alcohol Alcohol is named by replacing suffix-ane with anol. If there is more than one group of hydroxyl (-OH), the suffix expands to include a prefix that indicates the number of hydroxyl groups present (-anediol, -anetriol, etc.). The position of the hydroxyl group (s) on the parent chain is indicated (is), placing the number (s) corresponding to the location (s) on the parent chain directly in front of the base name (just like alkenes). Here's an important list of rules to follow: the hydroxyl group prioritizes alkyle groups and halogen subgents, as well as double connections in the parent chain numbering. When there are both double bonds and hydroxyl groups, the suffix -en follows the parent chain directly, and the suffix -ol follows the suffix -en (note that e remains off - en instead of -ene). Location of dual communication (s) in front of the parent's name, as before, and the location of the hydroxyl group (s) is (is) (is) between suffixes -en and-ol. Here are some examples: Again, hydroxyl gets priority in the parent chain ake. If there is a choice in the proamering, previously not covered, the parent chain is ingested to give substituents the lowest number in the first point of difference. Here are a few examples: Ethers you only need to know how to name ethers by their common names. The two alkyl groups attached to the oxygen are in alphabetical order with gaps between the names, followed by the word ether. The prefix is used if both alkyl groups are the same. Here are a few examples: Aldehydes Aldehydes are named by replacing suffix-ane with. If there is more than one group -CHO, the suffix expands to include a set-top box that indicates the number -CHO groups present (-anedial - there should be more than 2 of these groups on the parent chain as they should occur at the ends). There is no need to specify the position of the -CHO group, because this group will be at the end of the parent chain and its carbon is automatically assigned as C-1. Here's an important list of rules to follow: the carbonyl group takes precedence over alkyl groups and halogen submissives, as well as double bonds, in the numbering of the parent chain. When there are both double bonds and carbonyl groups, the suffix -en follows the parent chain directly, and the suffix -al follows the suffix -en (note that e remains off -en instead of -ene). The location of the dual bond (s) is indicated in front of the parent's name as before, and the suffix -al follows the suffix -en directly. Remember that there is no need to specify the location of the carbonyl group because it will automatically be a carbon #1. Here are some examples: Again, carbonyl gets priority in the parent chain a shed. There are a few common names that are acceptable as IUPAC names. They appear in the examples at the end of this list, but at this time these names will not be accepted by the computer. Eventually they will be accepted. If there is a choice in the proamering, previously not covered, the parent chain is ingested to give substituents the lowest number in the first point of difference. Here are a few examples: Ketones Ketones named by replacing the suffix-ane with -anone. If there is more than one group of carbonyl (SSO), the suffix expands to include a set-top box that indicates the number of carbonyl groups present (-anedione, -anetrione, etc.). The position of the carbonyl group (s) on the parent chain is indicated by placing a number (s) corresponding to the location (s) on the parent chain directly in front of the base name (just like alkenes). Here's an important list of rules to follow: the carbonyl group takes precedence over alkyle groups and halogen substints, as well as double bonds, in numbering Chain. When both double bonds and carbonyl groups are present, the suffix follows the parent chain directly, and -one suffix follows the suffix -en (note that e remains off - en instead of -ene). The location of the double bond (s) is indicated in front of the parent's name, as before, and the location of the carbonyl group (s) is indicated between -en and -one suffixes. Here are some examples: Again, carbonyl gets priority in the parent chain a shed. If there is a choice in the proamering, previously not covered, the parent chain is ingested to give substituents the lowest number in the first point of difference. Here are some examples: Carboxylic acid carboxyl acids are called by counting the amount of carbon in the longest continuous chain, including the carboxyl group, and replacing the suffix-an of the corresponding alkaline acid with analic acid. If there are two groups of COOH, the suffix expands to include a set-top box that indicates the number of COOH groups present (anedia acid - there should be more than 2 of these groups on the parent chain as they should occur at the ends). There is no need to specify the position of the COOH group because this group will be at the end of the parent chain and its carbon is automatically assigned as C-1. Here's an important list of rules to follow: the carboxyl group takes precedence over alkyl groups and halogen submissives, as well as double connections, in the numbering of the parent chain. If the carboxyl group is attached to the ring, the parent ring is named and the suffix-carboxylic acid is added. When both double bonds and group carboxilos are present, the suffix -en follows the parent chain directly, and the suffix -oic acid follows the suffix -en (note that e stays off - en instead of -ene). The location of the double bond (s) is indicated in front of the parent's name as before, and the suffix -oic acid follows -en suffix directly. Remember that there is no need to specify the location of the carboxil group because it will automatically be a carbon #1. Here are some examples: Again, carboxyl gets priority in the parent chain a living. There are a few common names that are acceptable as IUPAC names. They appear in the examples at the end of this list, but at this time these names will not be accepted by the computer. Eventually they will be accepted. If there is a choice in the proamering, previously not covered, the parent chain is ingested to give substituents the lowest number in the first point of difference. Here are a few examples: Esters Systematic ether names are based on the name of the corresponding carboxic acid. Remember, the ethers look like this: the alkyl band is called as a substitute using a -yl ending. This is followed by space. Acyl part of the name (what's left) is called by replacing -ic acid suffix corresponding carboxicycil acid c-eat. Here are a few examples: You only need to know how to name amines by their common names. They are named as esters, alkyle (R) groups attached to nitrogen are put in alphabetical order without gaps between names, and are followed by the word amin. Prefixes di- and three-use if two or three alkyl groups are the same. NOTE: Some books put gaps between parts of the title, but we won't. Follow the examples. Here are a few examples: Summary of functional groups Functional group Prefix Suffix carboxyline acid no one -oic acid aldehyde no one -al ketones no one -one al altols hydroxy-ol amino acid --amine esters alkoxy-ether fluoride fluoride- no chlorine chlorine - no bromine bromide - no iodine naming alkanes and alkenes worksheet. naming alkanes and alkenes practice. naming alkanes and alkenes quiz. naming alkanes and alkenes pdf. naming alkanes alkenes and alkynes. naming alkanes alkenes and alkynes quiz with answers. naming alkanes alkenes and alkynes quiz. rules in naming alkanes alkenes and alkynes