

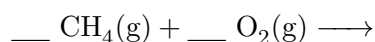
Name: \_\_\_\_\_

Date: \_\_\_\_\_

[3 pt] 1. What are the three principle sources of hydrocarbons

[4 pt] 2. Draw **AND** Name the structure of hydrocarbons which make up Natural gas?  
(Hint: Give at least 4.)

[4 pt] 3. Write the complete chemical reaction (not actually talked about in lecture this semester, but familiar from last semester) that is the single most important reaction of hydrocarbons? Be sure to include energy in the reaction.



[3 pt] 4. A major use of alkylhalides (haloalkanes) is a a modern anesthetic that is superior to diethyl ether (Ch. 22). Give the "common" name, IUPAC name, **AND** structure of first one discovered.

[6 pt] 5. Answer the following question about Ozone depletion. (Hint: its not in the book, wonder where you could find the answers?)

(a) What is the Ozone layer? What is the chemical formula for the compound making it up?

(b) What class of compounds (studied in the chapter) is responsible for much of the breakdown of the ozone layer. Draw an example molecule.

(c) The molecules destroy the ozone layer by forming Free Radicals. Using your example molecule above show the formation of free radicals from it.

(d) A single chlorine atom can react with how many ozone molecules (on average) before it is removed from the cycle?

If you read the back page the answers to the last question are linked on [www.chemhaven.org/che102](http://www.chemhaven.org/che102) and lead the Wikipedia article on Ozone depletion.