

1) What is a fluorocarbon?

ORGANIC COMPOUND THAT CONTAINS FLUORINE (C-F bond)

2) In general, do these compounds occur naturally?

No

3) Name a famous Fluorine Chemist (Dr Roche is not famous!).

Moissan, Swarts, Scheele, Simon, Chambers, Dobler, O'Hagan, Christie, Prakash, Hudlicky

4) Name a fluorinated anesthetic.

Methoxyflurane, Enflurane, Isoflurane, Desflurane,

5) What does perfluorinated mean?

FULLY FLUORINATED

6) In what major form is naturally occurring fluorine found in the earth's crust?

FLUORSPAR ~ CaF_2

7) Name one fluorinated compound that you used or encountered today.

Toothpaste, teflon, viagra, CFC's, prozac

8) Give one similarity between hydrogen and fluorine.

Both univalent, small, $I = 1/2$

9) Give one similarity between fluorine and chlorine.

3 lone pairs, electronegative, good leaving group

10-13) Circle the molecule with the stronger σ bond:

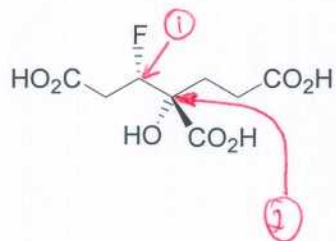
10) CF₄ Cl₄

11) CF₄ CH₄

12) BBr₃ BCl₃

13) F-F Cl-Cl

14) Indicate the location of any chiral center (or centers) in the molecule below.



15) Is the previous molecule in (14) chiral?

Yes

16) What is a diastereomer?

A stereoisomer which is not an enantiomer.

17) For a molecule with two chiral centers, how many possible diastereomers are there?

4

18-20) What are the three characteristics that make fluorine such a special and unique substituent?

- Most Electronegative element.

- 2nd smallest substituent after hydrogen.

- Can form a bond to carbon that is stronger than a C-H bond.