

1) Where does the name 'fluorine' come from?

The Latin verb "Fluo, fluere" meaning "to flow"

2) What is the source of fluorine, on the rare occasions when C-F bonds are formed in nature?

Mineral Fluoride, such as Fluospar, CaF_2

3) What is the biggest problem with using elemental fluorine as a reagent for converting C-H to C-F?

The large exothermicity of the reaction

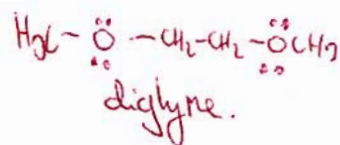
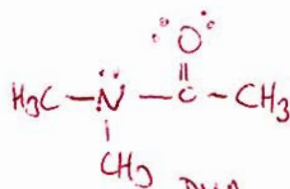
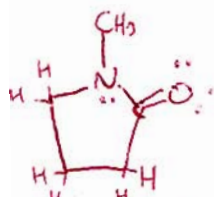
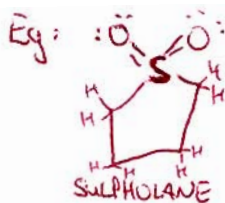
4) Which are generally denser – hydrocarbons or perfluorocarbons?

Perfluorocarbons.

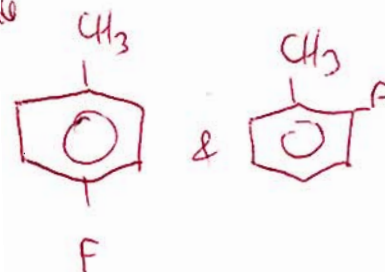
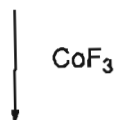
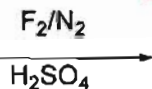
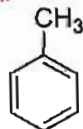
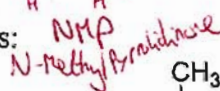
5) What is an "aprotic" solvent?

A solvent with no acidic hydrogens.

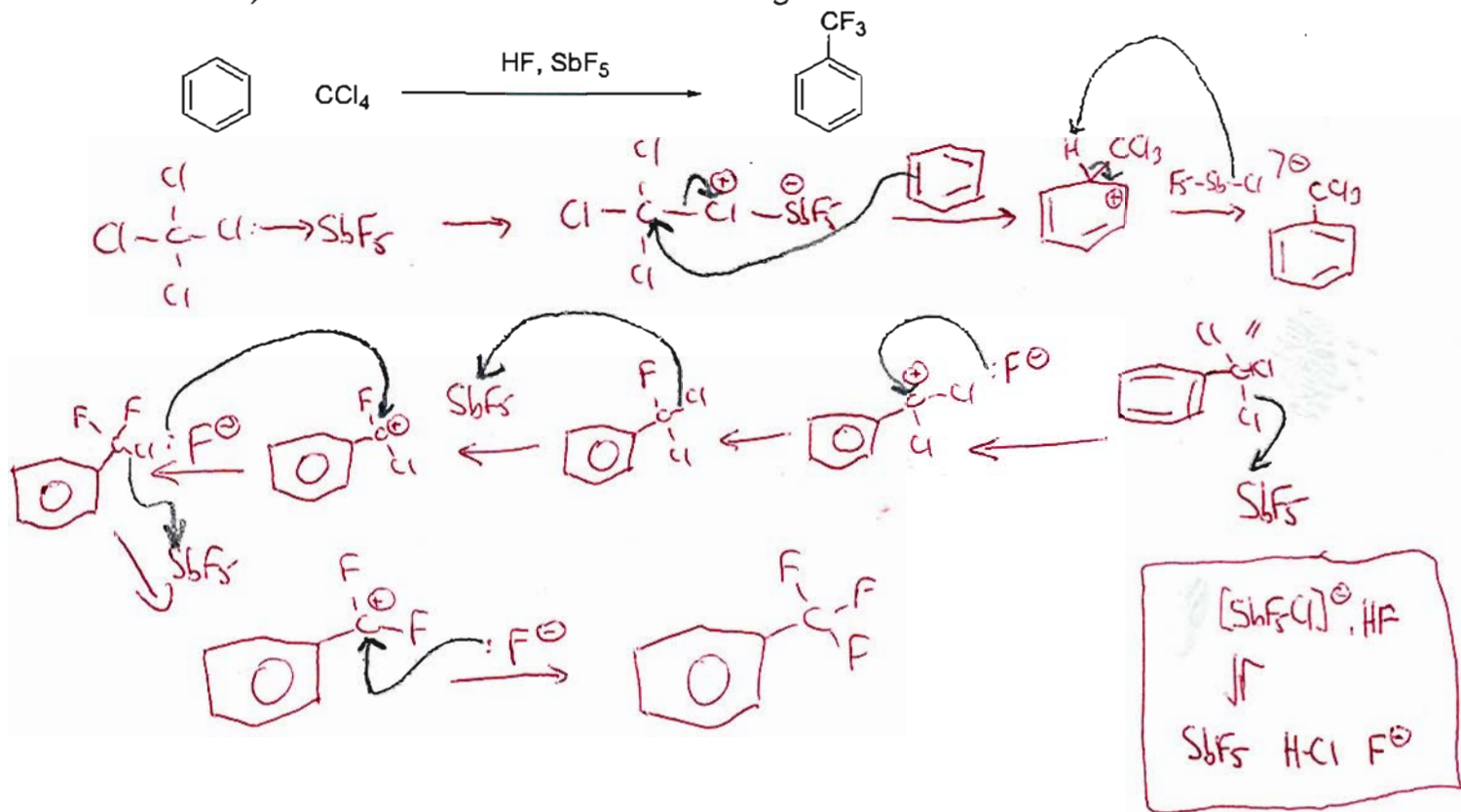
6-8) Name and draw a correct Lewis structure for a common polar aprotic solvent useful in metal fluoride HALEX reactions.



9-10) Give the products:



11-16) Provide the mechanism for the following reaction.



17-20) State what a CFC is, and explain why they are detrimental to the environment.

CFC = ChloroFluoroCarbon, a molecule that contains only Carbon, Fluorine & Chlorine atoms.

They are detrimental to the ozone layer, in that they destroy it. As they rise into the stratosphere, the U.V. rays homolytically split the C-Cl bond.

