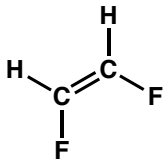
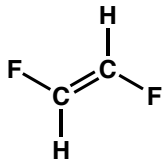
Determining Existence of Molecular Dipole

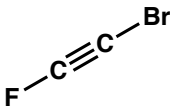
For each of the following, give the hybridization of each carbon, and determine if there is a net dipole.



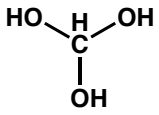
There is a dipole. Two fluorines on the same face, so the molecule is not symmetric.



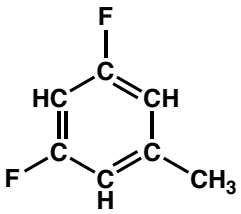
There is **no** dipole. The fluorines oppose one another symmetrically, and so the whole molecule has no net dipole.



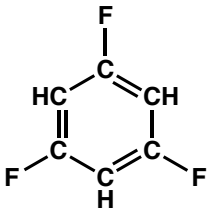
There is a dipole. The molecule is not symmetric with regard to the two substituents.



There is a dipole. Since the carbon has tetrahedral geometry,
the whole molecule is not totally symmetric, and so there is a net dipole.



There is a dipole. The fluorine substituents here do not cancel.

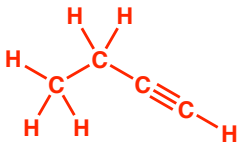


Here, there is **no** dipole. The three fluorines are placed symmetrically apart, and so everything cancels.

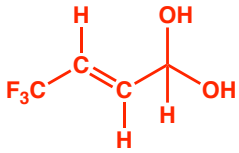
Drawing Structures from Chemical Formulas

Please draw the chemical structures that correspond to the following formulas.

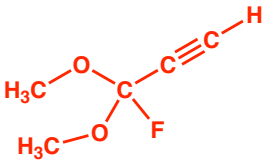
CH_3CH_2CCH



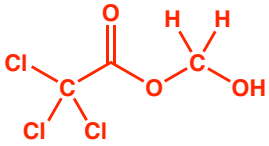
$CF_3CHCHCH(OH)_2$



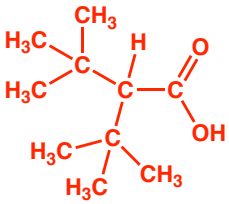
$(CH_3O)_2CFCCH$



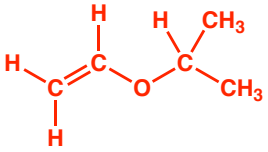
$CCl_3CO_2CH_2OH$



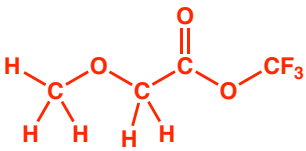
$((CH_3)_3C)_2CHCO_2H$



$CH_2CHOCH(CH_3)_2$



$CH_3OCH_2CO_2CF_3$



$CH_3CH_2OCH_2C(CH_3)_3$