Exercise 2: Nomenclature and functional groups

1. Identify all functional groups in Vigamox (moxifloxacin hydrochloride), by circling the functional group and labeling it. For alcohols and amines, further identify them as primary, secondary or tertiary.

2. a. Give the common name of the following compound, which you will use in an experiment in Chemistry 238:

   CH₃
   CH₃—CH—CH₂CH₂—OH

   b. Draw the structure of methyl tert-butyl ether, also known as MTBE, a gasoline additive that is becoming a groundwater hazard. You will have to look up what an ether is.

3. Use the IUPAC (systematic) nomenclature system to name the following compounds:
d. How would the name of structure 3c change if the right end of the molecule terminated in an alcohol group (-OH)?

4. How many **mono-chlorinated products** are possible when chlorine reacts with 3-methyl hexane?

5. How many **constitutional isomers** of C₆H₁₂ are there? Use the line-bond (skeletal structure) representation to draw at least six of them.