

Today

Next Class

Attendance

Sections 1.4, 1.6

Sections 1.1 – 1.3, 1.5

Different ways of representing molecules
An introduction to Molecular Orbital Theory

electrons, valence vs core electrons and
using the periodic table for help

periodic trends

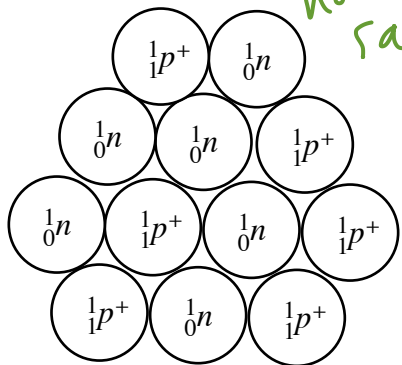
metals and nonmetals

octet rule

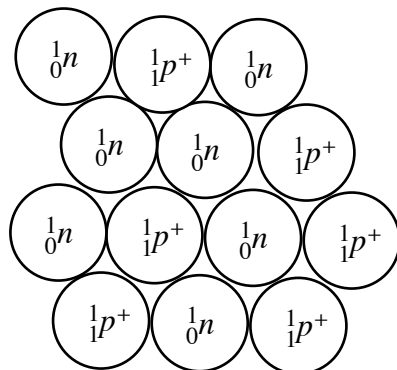
Ionic Interactions, Polar Bonds, and
Nonpolar Bonds

What Makes Carbon Carbon?

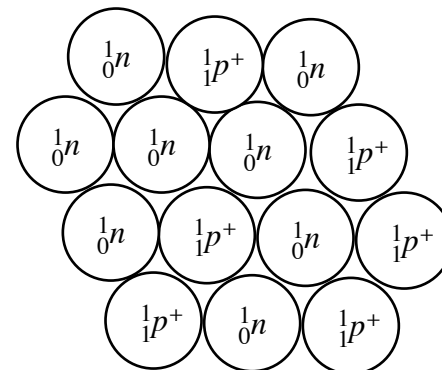
Sections 1.1 – 1.3



6 protons
6 neutrons



6 protons
7 neutrons



6 protons
8 neutrons

not radioactive

not magnetic

not radioactive

*magnets
↓
NMR*

radioactive

mass #



${}^{13}\text{C}$

${}^{14}\text{C}$



react the same

heavy ones react more slowly

nuclear properties are different

98.89% ${}^{12}\text{C}$

1.11% ${}^{13}\text{C}$

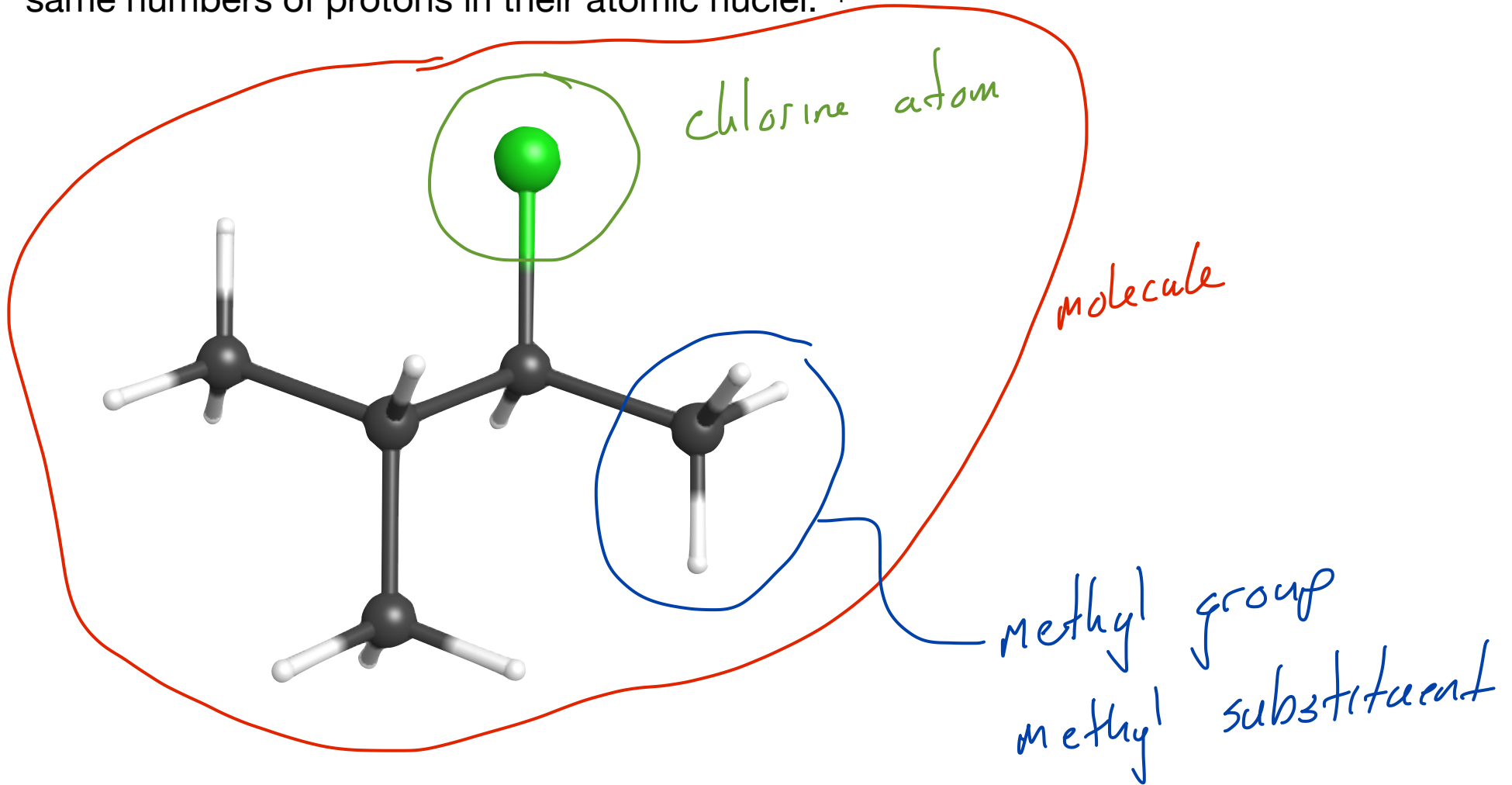
mass of 1 mol of C 12.011 g

Remember atomic structure, meaning of isotope

Atoms, Elements, Molecules, and Substituents or Groups

A diversion into the language of chemistry...

“In chemistry, an element is a pure substance consisting only of atoms that all have the same numbers of protons in their atomic nuclei.”¹



¹ https://en.wikipedia.org/wiki/Chemical_element