

Chemistry 30B
Spring 2012

Review Outline
Topics for Quiz 2
Chapters 11 (all), 12 (first part only)

Chem 30A Review

Polar molecules (including electronegativity trends)

Intermolecular forces

dipole-dipole
H-bond
dispersion } describe how each works

For any molecule, predict the most important intermolecular force in the pure compound

Chapter 11—Alkanes

Definition of alkane

MEMORIZE names for first 6 alkanes

expanded structural formula, condensed formula, line bond formula

Terms: branch, substituent

Naming alkanes (IUPAC only)

finding main chain, finding #1 end, naming substituents

MEMORIZE prefixes di-, tri-, tetra-

Name halogen substituents: fluoro-, chloro-, bromo-

Cycloalkanes

Definition—alkanes with ring structures

Naming cycloalkanes

Cis-trans isomers

Alkane Properties

Solubility, density, melting and boiling points

Chemical Reactions: combustion (know reactants and products, you don't even have to balance it!)

Isomers

Given the formula for a compound, write the isomers for that compound

Know the difference between constitutional isomers and stereoisomers

Chapter 12—Alkenes, Alkynes, Aromatic Compounds FIRST SECTION ONLY

I. Alkenes and Alkynes, introduction

Definitions of alkenes and alkynes

Bond angles for alkenes and alkynes,

Multiple bonds are stiff and do not rotate

II. Nomenclature

IUPAC names

Recognize the following common names (MEMORIZE): ethylene, acetylene

cis-trans isomers for alkenes