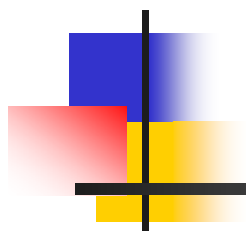


# Organic Chemistry I:

## CHEM 233



*Dr. Xiaodong Michael Shi*

Section 001

MWF, 9:30 am--10:20 am

Clark 112

# Problem set

- 3.15, 3.17, 3.18, 3.21, 3.23, 3.26, 3.27,  
3.33, 3.38, 3.39, 3.423.43



# Chapter III: Functional groups

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- **3.1 Functional Groups**

A functional group is an atom or a group of atoms with characteristic chemical and physical properties. It is the reactive part of the molecule.



# Chapter III: Functional groups

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- 3.2 Overview of the functional groups
  - hydrocarbons



# Chapter III: Functional groups

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- 3.2 Overview of the functional groups
  - C-X sigma bond



# Chapter III: Functional groups

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- 3.2 Overview of the functional groups
  - C=X



# Chapter III: Functional groups

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- **3.3 Intermolecular forces**
  - Van der Waals forces



# Chapter III: Functional groups

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- **3.3 Intermolecular forces**
  - **Dipole-Dipole interactions**



# Chapter III: Functional groups

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- 3.3 Intermolecular forces
  - Hydrogen Bonding





# Chapter III: Functional groups

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- **3.4 Physical Properties: boiling point and melting point**
  - **Boiling point**

Determine factors: Strength of intermolecular forces



# Chapter III: Functional groups

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- **3.4 Physical Properties: boiling point and melting point**
  - **Melting point**

Determine factors:

- a) Strength of intermolecular forces
- b) The overall symmetry of the molecules



# Chapter III: Functional groups

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- **3.4 Physical Properties: Solubility**

Determine factors: solvent and solute

