# **17: UV-Vis Spectroscopy**

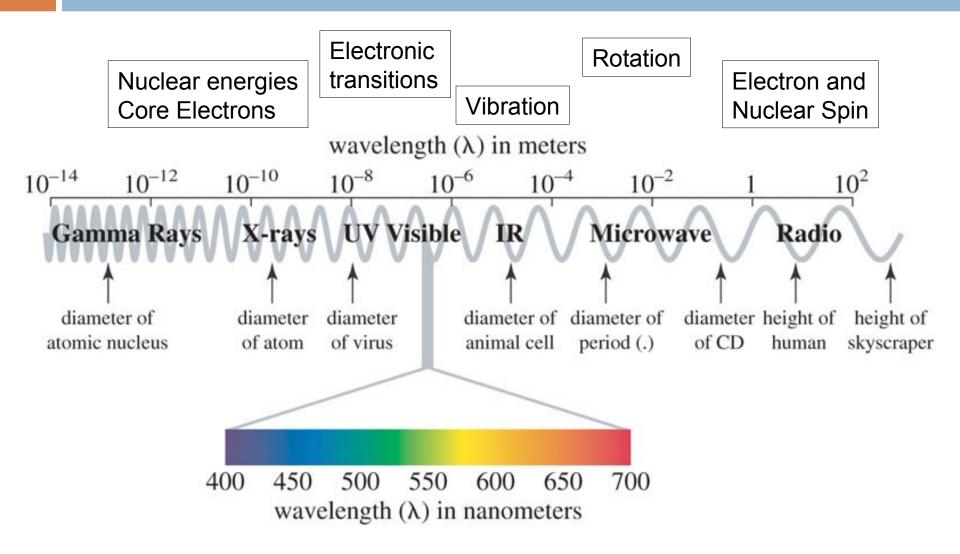
#### Reading: Ch 9.2-9.6

- General Instrumentation: Detectors
- Absorbing Light
  - A Transmittance, Absorbance, and Beer-Lambert Law
- **UV-Vis Theory** 
  - A Electronic energies
  - B Course and fine structure
  - c Frank-Condon Principle
  - Radiative Processes
  - E Singlet and Triplet States
  - Charge Transfer
- Effects on Lambda

### Announcements

# Pre-lab for Lab 4: UV-Vis is involved and will take time.

# **Electromagnetic Spectrum**



## **Photomultiplier Tube**

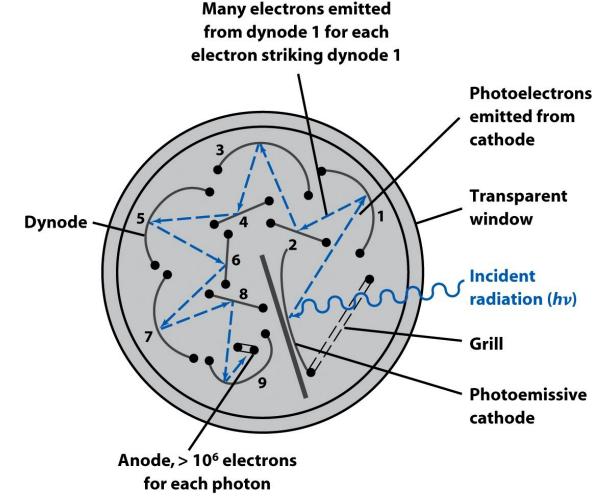
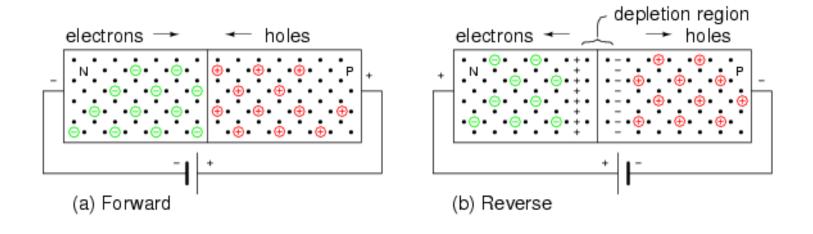


Figure 20-12 Quantitative Chemical Analysis, Seventh Edition © 2007 W. H. Freeman and Company

# **Photodiodes: p-n Junctions**



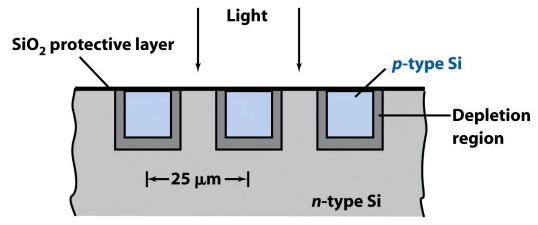


Figure 20-13a Quantitative Chemical Analysis, Seventh Edition © 2007 W.H. Freeman and Company

top figure from http://www.allaboutcircuits.com/vol\_3/chpt\_2/6.html