**HomeWork 17: Chem 1114**

**Due Wednesday 11/16/16**

**Your name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_/5**

**Given: Planck’s Law: energy/ photon = E/photon = hf = hc/λ**

**Wave Equation: f\*λ=c**

**h=6.634\*10-34 J\*s**

**c=3\*108 m/s**

**hc= 1.989\*10-25 J\*m**

**1. If f=3.0148\*1013 Hz, what is the energy of a photon ? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ J**

**2. If λ = 9.945\*10‑6 m, what is the energy of a photon ? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ J**

**3. If E/photon= 6.63\*10‑19 J, what is the wavelength of the photon ?**

**\_\_\_\_\_\_\_\_\_\_\_=λ(m)**

**4. A photon with a frequency of 1.5\*1014 Hz is equivalent to what wavelength?**

**\_\_\_\_\_\_\_\_\_=λ(m)**

**5. What is the energy of a photon with f=1.2059\*1014 Hz ? \_\_\_\_\_\_\_\_J**