**Mini-quiz #6 Chemistry 1114 section 2 (Fong) Monday 10 September 2012**

Your name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A

2 pts each/8pts total

1. UV radiation has a wavelength near 3\*10-7 meters. Given that c=3\*108 m/s

what is the frequency of UV ? \_\_\_\_\_\_1\*1015\_\_\_\_\_\_\_\_ (1/s)

1. The typical FM radio frequency is around 1\*108 /s. Given that c=3\*108 m/s

what is the wavelength of FM radio waves ? \_\_\_\_\_\_3\_\_\_\_\_\_\_\_\_\_ meters

1. The photoelectric effect finds that E for a photon of light has the formula:

E =6.63\*10‑34 \*f , E in units of joules

Visible light has an ~ f= 1014. How much energy E in a photon of visible light?

E= \_\_\_\_6.63\*10-20\_\_\_\_\_\_ joules

1. Frequency units are in 1/second units. What’s another name for this unit?

\_\_\_\_\_\_\_\_Hz or cps \_\_\_\_\_\_\_\_\_\_

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Your name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_answers\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B

2 pts each/8pts total

1. IR radiation has a wavelength near 3\*10-6 meters. Given that c=3\*108 m/s

what is the frequency of UV ? \_\_\_\_\_**\_1\*1014\_\_\_\_\_\_\_\_** (1/s)

1. A microwave oven operates is around 2\*1010 /s. Given that c=3\*108 m/s

what is the wavelength of a microwave ? \_\_\_\_\_**0.015**\_\_\_\_\_\_\_\_\_\_\_ meters

1. The photoelectric effect finds that E for a photon of light has the formula:

6.63\*10‑34 \* f , E in units of joules

x-ray light has an ~ f= 1015. How much energy E in a photon of x-ray light?

E= \_\_\_**6.63\*10-19**\_\_\_\_\_\_\_ joules

1. Frequency units are in 1/second units. What’s another name for this unit?

\_\_\_\_\_**Hz or cps**\_\_\_\_\_\_\_\_\_\_\_\_\_