

Answer on the question #63974, Chemistry / General Chemistry

Question:

How can I figure this out

The energy of a photon with a frequency of $1.8 \times 10^{12} \text{ Hz}$

Solution:

The equation for the photon energy is:

$$E = hf$$

where h is the Planck constant and f is the frequency. Remember that 1 Hz is 1 s^{-1} .

$$E = 6.626 \cdot 10^{-34} \text{ (J s)} \cdot 1.8 \cdot 10^{12} \text{ (Hz)} = 11.93 \cdot 10^{-22} \text{ J}$$

Answer: $11.9 \cdot 10^{-22} \text{ J}$