

Base your answers to questions 1 through 3 on the information below.

A photon with a wavelength of 2.29×10^{-7} meter strikes a mercury atom in the ground state.

1. Based on your answer to the question above, state if this photon can be absorbed by the mercury atom. Explain your answer.

2. Determine the energy, in electronvolts, of this photon.

_____ eV

3. Calculate the energy, in joules, of this photon. [Show all work, including the equation and substitution with units.]
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Part 2 Review I

Base your answers to questions 4 through 6 on the information below.

A photon with a frequency of 5.48×10^{14} hertz is emitted when an electron in a mercury atom falls to a lower energy level.

- Determine the energy of this photon in electronvolts.
 - Calculate the energy of this photon in joules. [Show all work, including the equation and substitution with units.]
 - Identify the color of light associated with this photon.
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