

Here is an expression for the energy levels of an electron in a particular situation (an electron bound to a single proton):

$$E_n = \frac{-13.6 \text{ eV}}{n^2} \quad n = 1, 2, 3, \dots \quad (1)$$

1. Sketch the energy level diagram
2. Find at least one allowed transition which produces a photon with a visible color

Note:

$$\lambda = \frac{2\pi\hbar c}{E_{\text{photon}}} \quad (2)$$

$$= \frac{1240 \text{ eV} \cdot \text{nm}}{E_{\text{photon}}} \quad (3)$$

Missing /var/www/paradigms_media_2/media/activity_media/visible-spectrum.png

Figure 1: Visible light spectrum