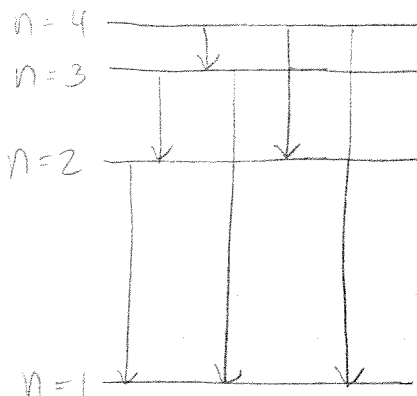


P #17

Ch 28 - pg 895



Shown by the diagram,
 $n=4$ is excited state
for 6 different λ 's

From Question #E:

$$n_1 = -13.6 \text{ eV}$$

$$n_4 = -0.85 \text{ eV}$$

$$\Delta E = n_1 \rightarrow n_4$$

$$= (-0.85 \text{ eV}) - (-13.6 \text{ eV})$$

$$\Delta E = 12.75 \text{ eV}$$

$$\Delta E = \frac{h \cdot c}{\lambda} \quad (12.75 \text{ eV} = \frac{1240 \text{ eV} \cdot \text{nm}}{\lambda})$$

$$\lambda = 97.3 \text{ nm}$$