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 e^- can transition to

$$n = 4, 3, 2, 1$$

$$E_5 = \frac{-13.6}{25} \text{ eV} = -0.54 \text{ eV}$$

$$E_4 = \frac{-13.6}{16} \text{ eV} = -0.85 \text{ eV}$$

$$E_3 = \frac{-13.6}{9} \text{ eV} = -1.51 \text{ eV}$$

$$E_2 = \frac{-13.6}{4} \text{ eV} = -3.4 \text{ eV}$$

$$E_1 = \frac{-13.6}{1} \text{ eV} = -13.6 \text{ eV}$$

$$\text{So } E_5 - E_4 = -0.54 - -0.85 = 0.31 \text{ eV}$$

$$E_5 - E_3 = -0.54 - -1.51 = 0.97 \text{ eV}$$

$$E_5 - E_2 = -0.54 - -3.4 = 2.86 \text{ eV}$$

$$E_5 - E_1 = -0.54 - -13.6 = 13.06 \text{ eV}$$