Planck's Constant - Results
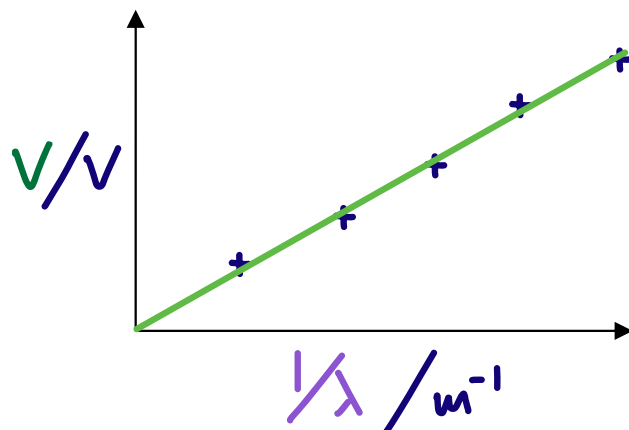
$$eV = \frac{hc}{\lambda}$$

$$V = \frac{hc}{e} \cdot \frac{1}{\lambda}$$

$$y = mx + c$$

$$h = gradient \times e/c$$

Method 1: A coloured LED was connected into a simple series circuit with a DC power supply and a variable resistor. The variable resistor was adjusted until the current through the LED was just above zero. The potential difference across the LED was measured with a voltmeter, giving a value for the threshold voltage of the LED.

This procedure was repeated for a number of different coloured LEDs, with the manufacturer's stated value for wavelength quoted in the table below.

The following data was recorded:

LED Colour	LED Wavelength / nm	Threshold Voltage / V	$1/\lambda$ / $\times 10^{-6}$ m^{-1}
Red	634	1.97	
Orange	602	2.05	
Yellow	590	2.12	
Green	532	3.38	
Blue	464	2.60	
Violet	405	3.05	