

Unit 3 – Quantum Mechanics

C2.4a Describe energy changes in flame tests of common elements in terms of the (characteristic) electron transitions.

C2.4b Contrast the mechanism of energy changes and the appearance of absorption and emission spectra.

C2.4c Explain why an atom can absorb only certain wavelengths of light.

C2.4c.a I can explain why an atom can absorb only certain wavelengths of light.

C2.4d Compare various wavelengths of light (visible and non-visible) in terms of frequency and relative energy.

C4.8e Write the complete electron configuration of elements in the first four rows of the periodic table.

C4.8e.a I can write the complete electron configuration of elements in the first four rows of the periodic table.

C4.8f Write kernel structures for main group elements.

C4.8g Predict oxidation states and bonding capacity for main group elements using their electron structure.

C4.8g.a I can predict the oxidation states of an element.

C4.8g.b I can predict how the element will bond with other elements.

C4.8h Describe the shape and orientation of s and p orbitals.

C4.8i Describe the fact that the electron location cannot be exactly determined at any given time.