

- Sketch the wavefunction of the 3s atomic orbital as described below. Clearly mark all nodes and the relative sign (+ or -) of the wavefunction.

a) using lobe representations

b) by plotting wavefunction *versus* distance from the nucleus

Explain the significance of (a) the lobes, (b) the nodes and (c) the sign of the wavefunction, in terms of the probability of finding an electron at a given point in space relative to the nucleus.