

- The intense yellow light emitted from a sodium street lamp has a wavelength of $\lambda = 590 \text{ nm}$. The light is emitted when an electron moves from a $3p$ to a $3s$ orbital. What is the energy of (a) one photon and (b) one mole of photons of this light?

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(a) Answer:

(b) Answer:

Sketch the shape of a $3s$ and a $3p$ orbital and label any spherical nodes that may be present.

$3s$ orbital	$3p$ orbital

What does a node represent?

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