62. (a) Since $K = 7.5\,\text{MeV} \ll m_\alpha c^2 = 4(932\,\text{MeV})$, we may use the non-relativistic formula $p = \sqrt{2m_\alpha K}$. Using Eq. 38-43 (and recognizing that $1240\,\text{eV}\cdot\text{nm} = 1240\,\text{MeV}\cdot\text{fm}$), we obtain

$$\lambda = \frac{h}{p} = \frac{hc}{\sqrt{2m_\alpha c^2 K}} = \frac{1240\,\text{MeV}\cdot\text{fm}}{\sqrt{2(4\,\text{u})(931.5\,\text{MeV/u})(7.5\,\text{MeV})}} = 5.2\ \text{fm}\ .$$

(b) Since $\lambda = 5.2\,\text{fm} \ll 30\,\text{fm}$, to a fairly good approximation, the wave nature of the α particle does not need to be taken into consideration.