Name: $\qquad$

In an experiment to determine the amount of vitamin $\mathrm{C}\left(\mathrm{C}_{6} \mathrm{H}_{8} \mathrm{O}_{6}\right)$ in a commercial tablet, 0.08 g of the tablet powder was reacted with $\mathrm{I}_{3}^{-}$. The following reaction occurs:

$$
\mathrm{C}_{6} \mathrm{H}_{8} \mathrm{O}_{6}(a q)+\mathrm{I}_{3}^{-}(a q) \rightarrow 3 \mathrm{I}^{-}(a q)+2 \mathrm{H}^{+}(a q)+\mathrm{C}_{6} \mathrm{H}_{6} \mathrm{O}_{6}(a q)
$$

If $6.0 \times 10^{-4} \mathrm{~mol}$ of $\mathrm{I}^{-}$was obtained in the product, what is the mass percent of vitamin C in the tablet? You may assume $100 \%$ yield for the reaction above.
(The molecular mass of $\mathrm{C}_{6} \mathrm{H}_{8} \mathrm{O}_{6}$ is $176.13 \mathrm{~g} / \mathrm{mol}$.)

