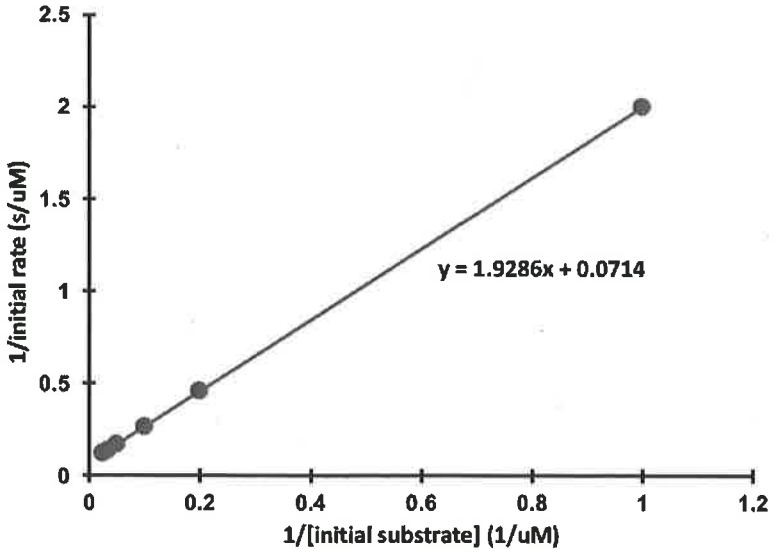
Name: Key

Quiz 17

Imagine that you collect the following kinetic data with 7 nM of enzyme present in each assay.



1. Estimate V_{Max}. Include units.

$y_{int} = \frac{1}{V_{max}}$

$V_{max} = \frac{1}{y_{int}} = \frac{1}{0.0714} = 14 \frac{\mu M}{s}$

2. Estimate K_M. Include units.

$m = \frac{K_m}{V_{max}}$

$K_m = m(V_{max}) = (1.9286)(14 \frac{\mu M}{s}) = 27 \mu M$

3. Estimate k_{cat}. Include units.

$k_{cat} = \frac{V_{max}}{[E]_{tot}} = \frac{14 \frac{\mu M}{s}}{0.007 \mu M} = 2{,}000 \frac{1}{s}$

$7 nM = 0.007 \mu M$