Question: When the catalyst was at 0.1 mg/mL and the substrate concentr...

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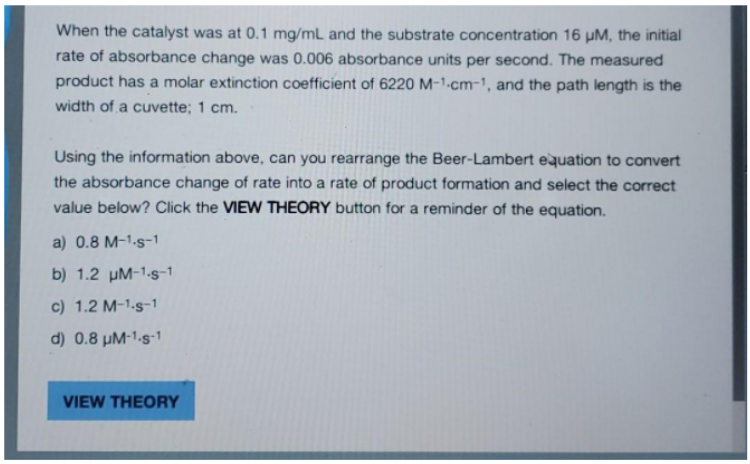

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Expert Answer

Anonymous answered this
288 answers

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In this case, we can use the Lambert-Beer law:

$$A = C * E * b$$

Now, we can replace the values:

$$0.006\ s^{-1} = C * 6220\ M^{-1}s^{-1} * 1\ cm$$

$$C = \frac{0.006\ s^{-1}}{6220\ M^{-1}\cancel{cm^{-1}} * 1\ \cancel{cm}}$$

$$C = 8X10^{-7}\ M/s$$

Finally, we can do the conversion from M to uM:

$$8X10^{-7}\ \cancel{M}/s\ \frac{1X10^{6}\ \mu M}{1\ \cancel{M}} = 0.8\ \mu M/s$$

I hope it helps!

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Up next for you in Chemistry

Balance the following redox reaction in basic solution. N2H4 (aq) + Cu^2+ (aq) ---> N2 (g) + Cu^+ (aq)

See answer

1. Consider a galvanic cell consisting of the Cr3+/Cr (E° = ?0.74 V) and the Ag+/Ag (E° = +0.80 V) systems in the half-cells. a. Write the equation for the reaction that occurs at the anode: b. Write the equation for the

See answer

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Questions viewed by other students

Q: When the catalyst was at 0.1 mg/mL and the substrate concentration 16 MM, the initial rate of absorbance change was 0.005 absorbance units per second. The measured product has a molar extinction coefficient of 6220 M-1.cm-1, and the path length is the width of a cuvette; 1 cm. Using the information above, can you identify which values are important and rearrange the Beer-Lambert...

A: See answer 100% (4 ratings)

Q: When the catalyst was at 0.2 mg/mL and the substrate concentration 13 µM, the initial rate of absorbance change was 0.01 absorbance units per second. The measured product has a molar extinction coefficient of 3110 M-1·cm-1, and the path length is the width of a cuvette: 1 cm. Using the information above, can you identify which values are important and rearrange the Beer-Lambert...

A: See answer

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