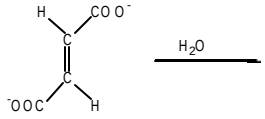
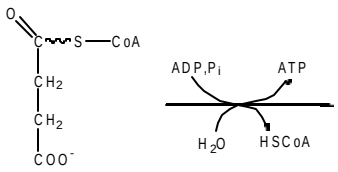
BIOSCI 1820
QUIZ #2
31 JAN 2001

1. Draw the structures of the products of the following reactions:

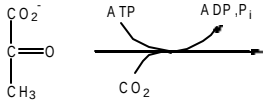
A.



B.

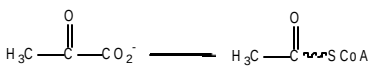


C.



2. Draw the structure of the inhibitor that causes succinate to accumulate during the TCA cycle (HINT: think about the structure of succinate)?

3. Consider the following reaction:



A. **B.**

What is the **full name** of "A"? _____

What is the **full name** of "B"? _____

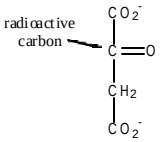
Give the **full names** of any three of the five cofactors required for the reaction catalyzed by this enzyme complex:

_____

_____

_____

4. The following molecule is radiolabled at the indicated carbon:



What is the full name of this metabolite? _____

If this molecule were to enter the TCA cycle, indicate (with an arrow) which atom(s) on α-ketoglutarate would be labled?

5. There is one dehydrogenase in the Krebs/TCA cycle that uses flavin adenine dinucleotide instead of nicotinamide adenine dinucleotide as the primary electron acceptor. What is the full name of this enzyme?

_____

6. Would the activity of pyruvate dehydrogenase (A) INCREASE or (B) DECREASE if:

i) there was an increase in the concentration of NADH? _____

ii) there was an increase in the concentration of calcium? _____

Explain how this regulation of the enzyme occurs at the molecular level:

-END-