**PRACTICE:** CITRIC ACID CYCLE

1. Which of the following *not* true of pyruvate dehydrogenase complex?

a. both NAD+ and FAD participate
b. biotin participates in the decarboxylation
c. the reaction occurs in the mitochondria
d. two different –SH groups participate
e. all of the above

2. Glucose labeled in the third and fourth carbons with $^{14}C$ is converted to pyruvate by glycolysis and to acetyl-CoA with pyruvate dehydrogenase complex. Where is the label acetyl-CoA?

a. 100% in the thioester
b. 50% in the thioester
c. 100% in the methyl
d. 50% in the methyl
e. it is not there at all

3. Malonate is a competitive inhibitor of succinate dehydrogenase. If malonate is added to respiring mitochondria, which molecule would you expect to decrease in concentration?

a. succinate
b. fumarate
c. $\alpha$-ketoglutarate
d. isocitrate
e. pyruvate

4. Which of the following is not an intermediate in the Citric Acid Cycle?

a. acetyl-CoA
b. citrate
c. oxaloacetate
d. malate
e. isocitrate

5. Oxaloacetate uniformly labeled with $^{14}C$ in all carbons (all carbons have the same radioactivity) is added to mitochondria with an adequate supple of acetyl-CoA (unlabeled). In the first cycle, how much radioactivity will remain in oxaloacetate?

a. 100%
b. 50%
c. 25%
d. 12.5%
e. none