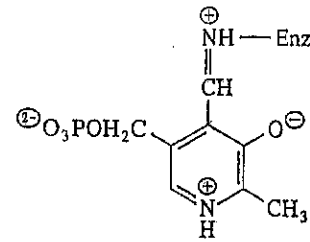


BIOSC 1820
Metabolic Pathways and Regulation
Spring, 2011
Prof. Jeffrey L. Brodsky
Quiz #4
March 21, 2012

NAME: _____

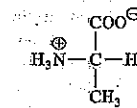
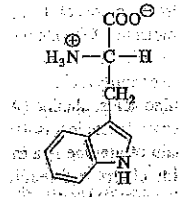
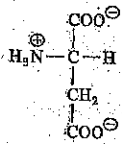
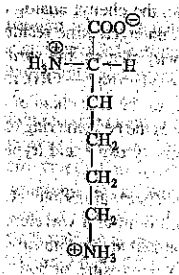
1. What is the FULL NAME of the following cofactor?



2. In the following peptide, where would chymotrypsin cut? (indicate the answer with an arrow)

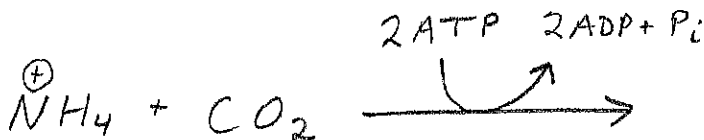
(N terminus) A - E - Y - T - V - K - G - A - D - G (C terminus)

3. Trypsin would cut C-terminal to which of the following amino acids within a peptide (circle one answer)



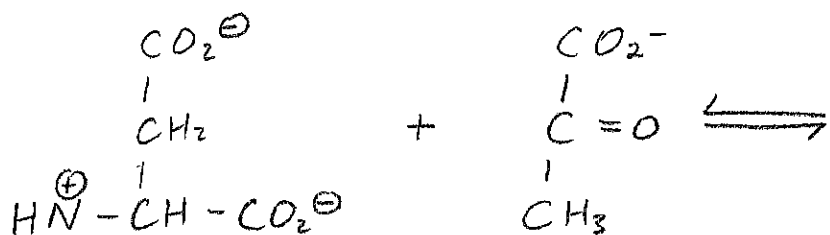
4. Draw the structures AND give the names of the products of the following reactions:

A.

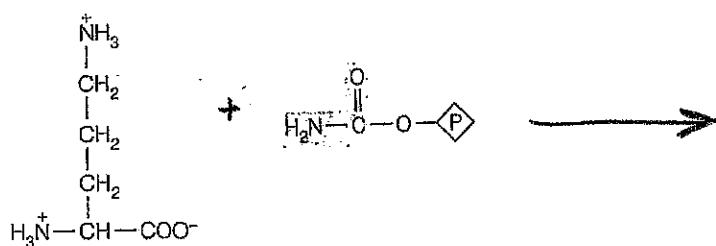


B.

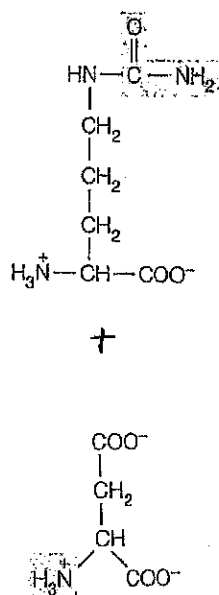
(two products-double credit)



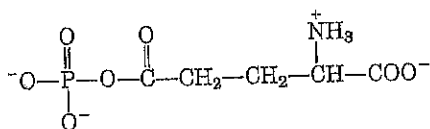
C.



D.



4. The following is an intermediate in the reaction catalyzed by which enzyme?



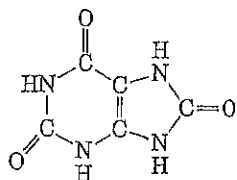
5. What is the name of the hormone that leads to the secretion of bicarbonate from the pancreas and into the small intestine?

6. Each of the following leads to an increase in flux through the Urea Cycle, except:

- A. An increase in protein in the diet
- B. Starvation
- C. A decrease in the level of arginine
- D. An increase in the amount of N-acetylglutamate
- E. None of the above—each of these leads to increased flux through the Cycle

7. Draw the structure AND give the name of the glycine by-product that can accumulate in the body and gives rise to kidney stones:

8. What is the name of the following molecule?



9. What is the full name of the enzyme that forms a transient AMP derivative with ubiquitin and then transfers the ubiquitin to the next enzyme in this protein-tagging cascade?

10. Which do you think is a more effective treatment for a urea cycle disorder: a very low protein diet or treatment with a compound such as sodium-phenylbutyrate? Why?

And, for the grand prize (i.e., one candy bar), provide a mnemonic for the intermediates in the Urea Cycle (the winner who makes us laugh the most will be announced in class):

115