

Exam #3

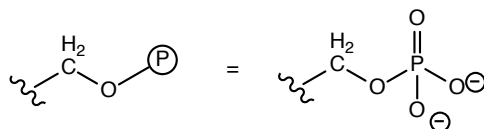
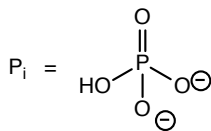
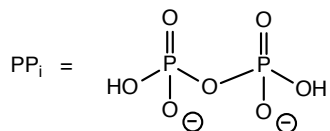
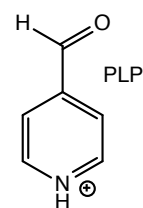
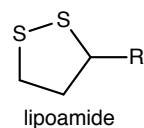
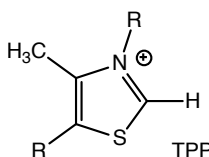
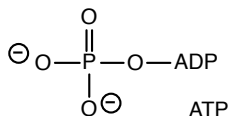
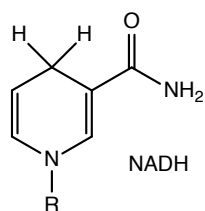
1. _____	33 pts
2. _____	33 pts
3. _____	33 pts
Bonus. <u> 1 </u>	<u> 1 </u> pt
	100 pts

For each of the questions, draw a reasonable mechanism as it would occur a neutral pH. You may draw a mechanism which is independent of the enzyme, or you may include selected enzyme side chains in your mechanism.

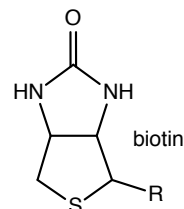
Mechanisms must include:

- Mechanistic arrows
- Lone pairs on all atoms that are giving or receiving electrons
- Formal charges where appropriate
- Structures of intermediates
- Representative and relevant resonance forms when they help to explain the observed reactivity
- Proper ionization state where acids and bases are involved; in other words, respect the *pH*.
- If cofactors are involved, you must show the "business end" of the cofactor structure (the part that is reacting).
- If you wish to abbreviate part of a structure as R, circle the portion to be abbreviated and label it clearly. Otherwise do not abbreviate structures.

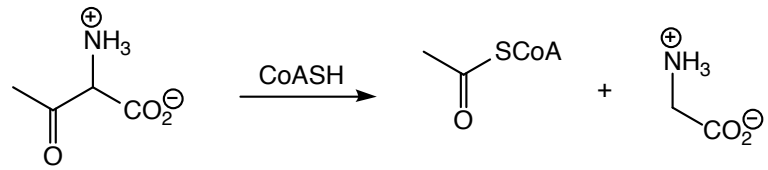
You may use the following abbreviations to save time & space:



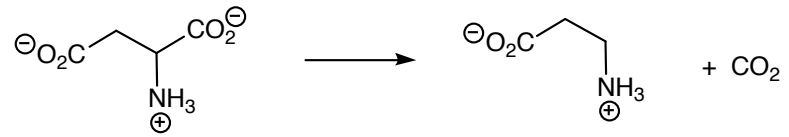
These abbreviations may only be used when the groups are away from the site where the reaction is occurring.



1. (33 points). The following reaction requires PLP.



2. (33 points). The following reaction requires PLP.



3. (33 points). The following problem requires TPP. Start by doing a careful analysis of what's changing as the reaction proceeds. The stereochemistry shown may provide a bit of a hint. You do not need to show accurate stereochemistry in your mechanism however.

