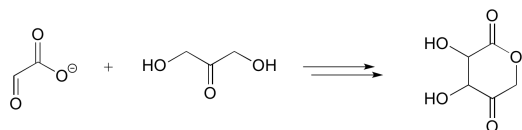


Pathway prediction practice problems

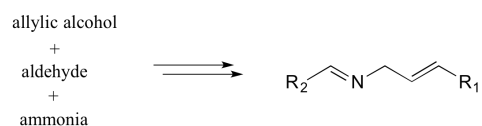
In the multi-step pathway prediction problems that you will be asked to solve below and in the remainder of this book, you will be instructed to present your solution in the form of a proposed 'forward' pathway diagram, showing the participation of all coenzymes and other species such as water. At first, we'll start with relatively simple, *hypothetical* (not real) biochemical transformations. As you learn more reaction types, the range and complexity of problems that you will be able to solve will expand correspondingly, and you will eventually be able to tackle real-life pathways.

For each transformation below, draw a pathway diagram illustrating a potential biosynthetic pathway. Indicate other molecules participating in the reaction but not shown below (eg. coenzymes, water, etc.). Each step should be recognizable as a reaction type that we have covered through the end of chapter 13. (Note - you are being asked to draw your pathways in the 'forward' direction, but you should attack each problem using a retrosynthetic analysis strategy).

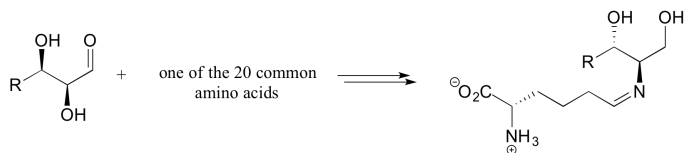
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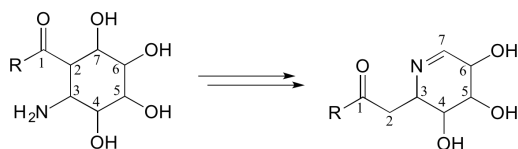
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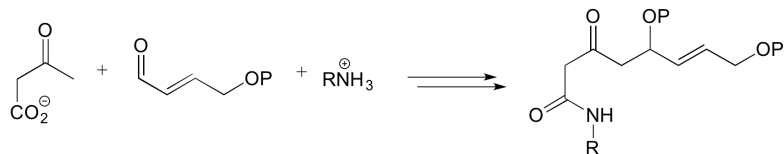
3:



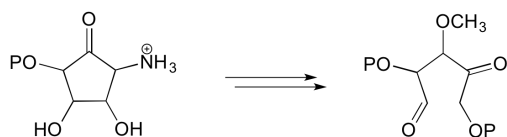
4:



5:



6:



Organic Chemistry With a Biological Emphasis by Tim Soderberg (University of Minnesota, Morris)

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