

## CHAPTER OVERVIEW

### 3: Fatty Acids and Prostaglandins

In the previous chapter, two hypothetical biosynthetic strategies were presented that are not used biosynthetically. That the individual steps in each of these hypothetical strategies are reasonable, is indicated by the interesting fact that both strategies are exploited in reverse in Nature; one for the conversion of glucose into ribulose and the other for the conversion of acetyl CoA into malonyl CoA. The actual biosynthetic strategies for acetyl CoA and malonyl CoA were then presented. This format is intended not only to exemplify the numerous potential strategic options available, but also to provide foils that highlight the unique features of the actual biosynthetic strategies. These contrasting strategies encourage the reader to go beyond understanding the logic that governs the success of the biosynthetic sequence of reactions, and to ask: why does Nature choose this particular strategy?

In the ensuing chapters, a variety of strategies will be presented, compared, and contrasted for each natural product. Besides unimplemented hypothetical biosynthetic strategies, fatally flawed strategies, and often several topologically unique successful strategies will be considered with the goal of familiarizing the student with the options and pitfalls presented by the challenge of designing and executing the total synthesis of structurally and functionally complex organic molecules.

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- [3.2: Biosynthesis of Prostaglandins](#)
- [3.3: Syntheses of Prostaglandins from Acyclic Precursors](#)
- [3.4: Syntheses of Prostaglandins from Polycyclic Precursors](#)
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