

An acyl group

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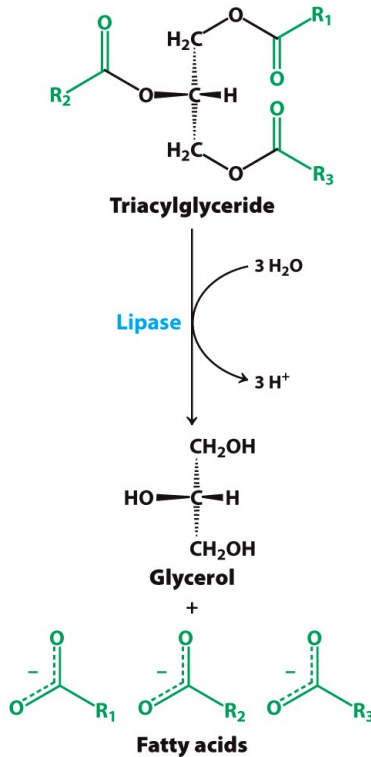


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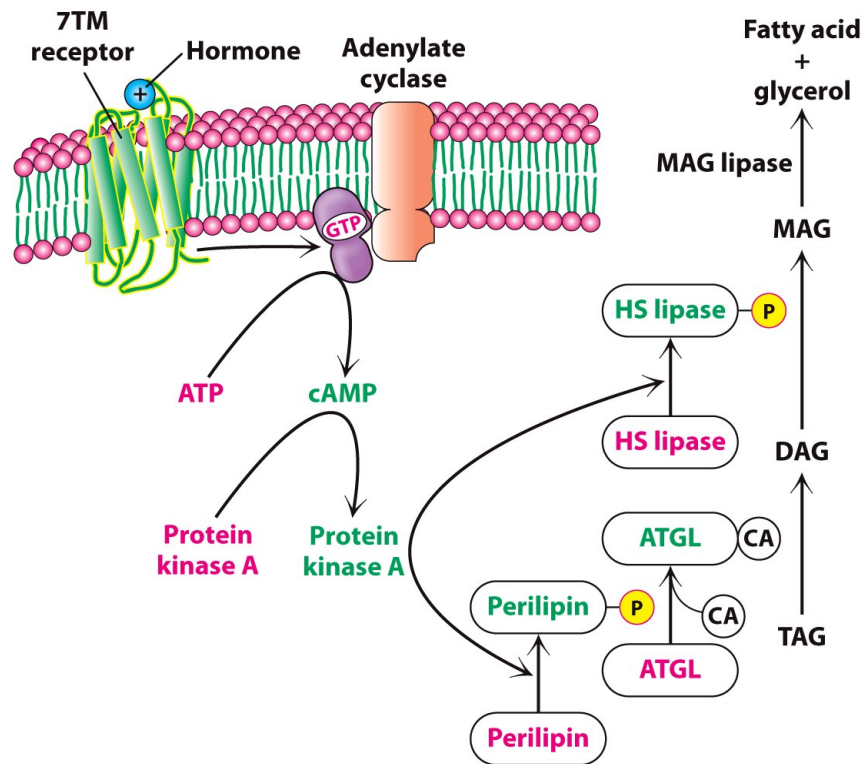
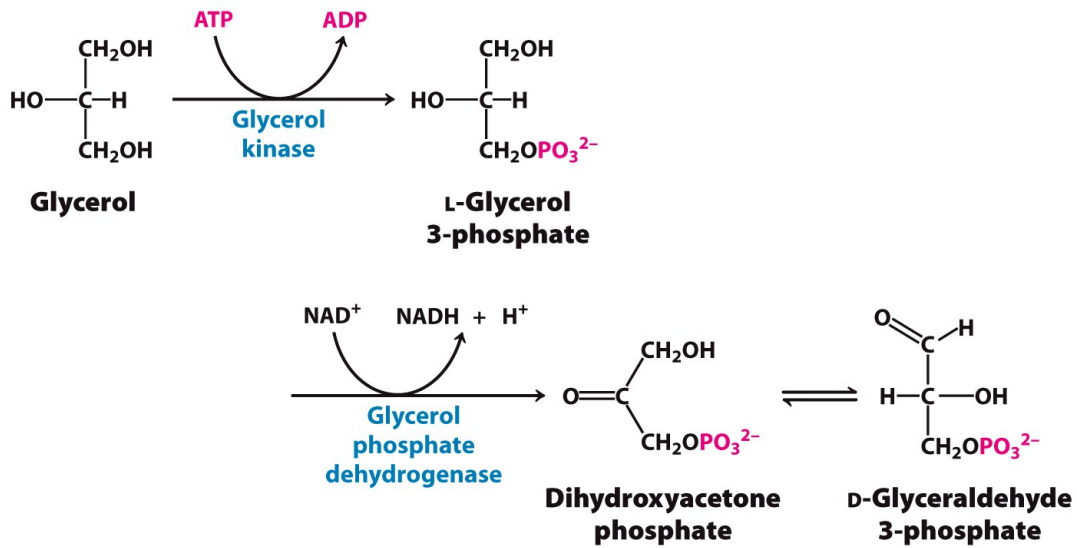


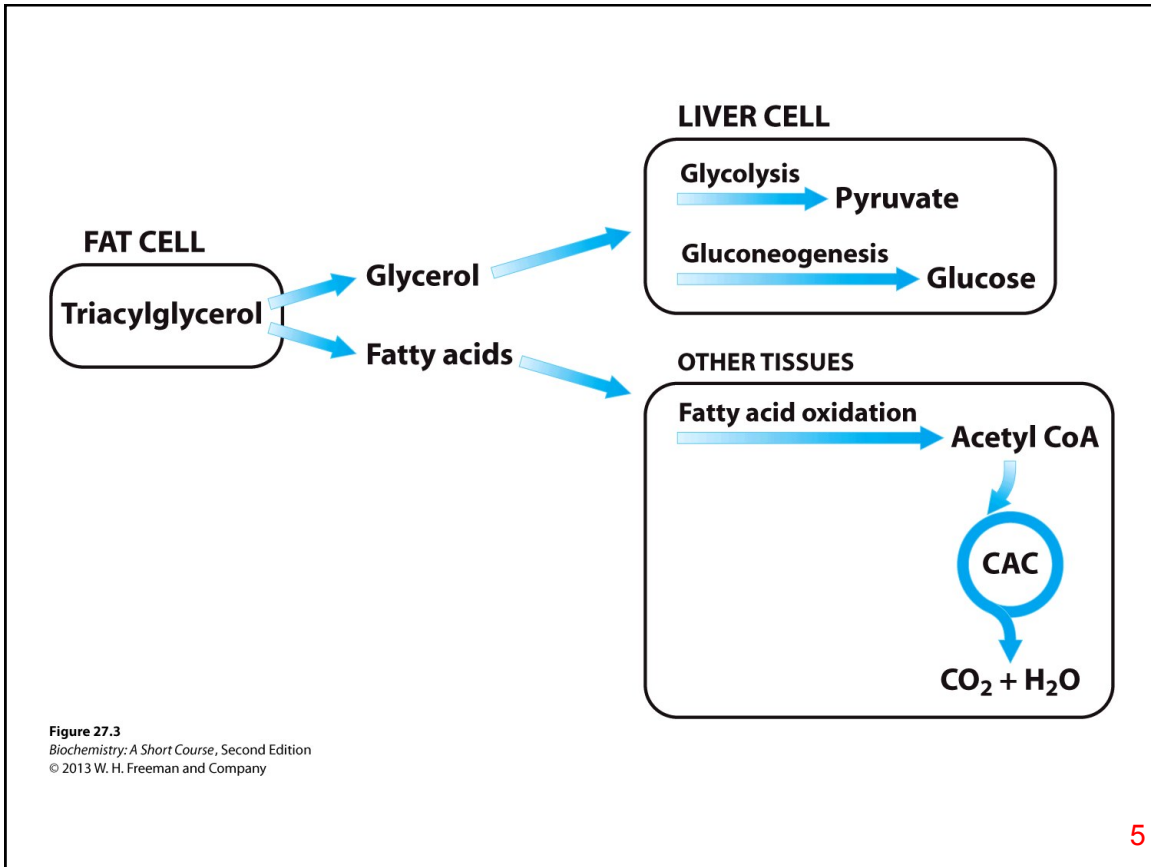
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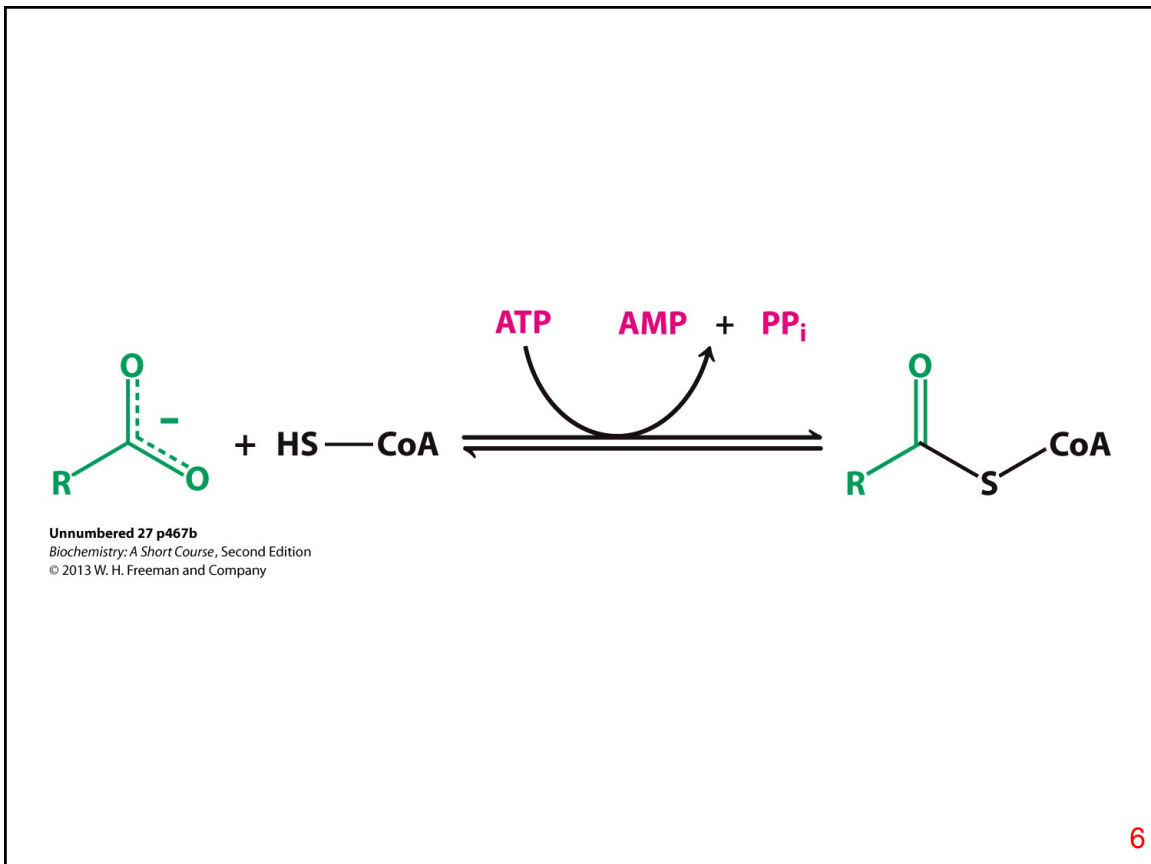


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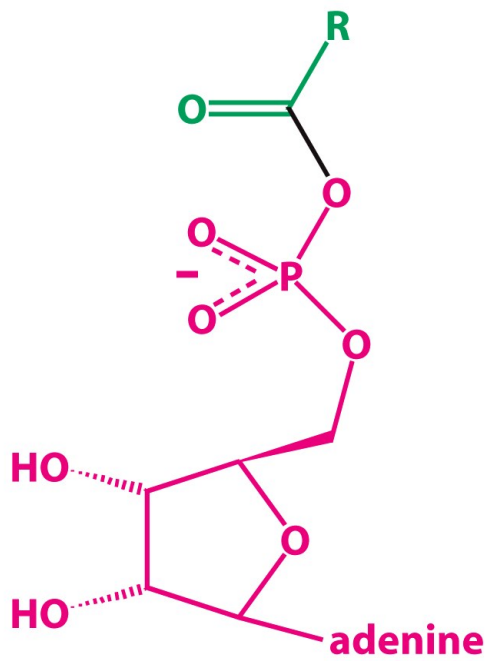
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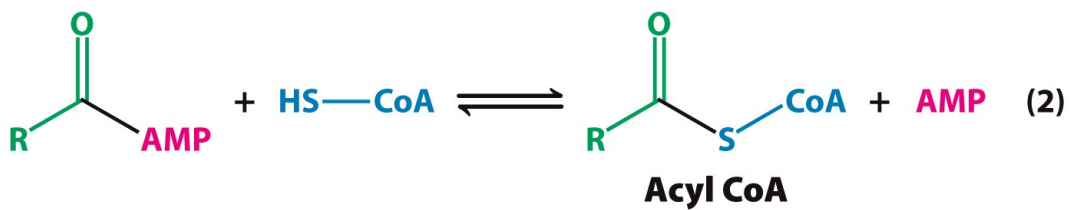
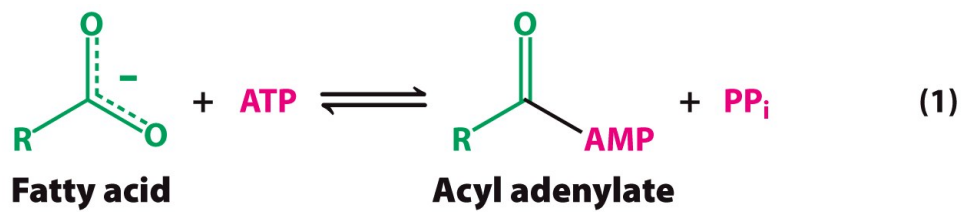
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Acyl adenylate

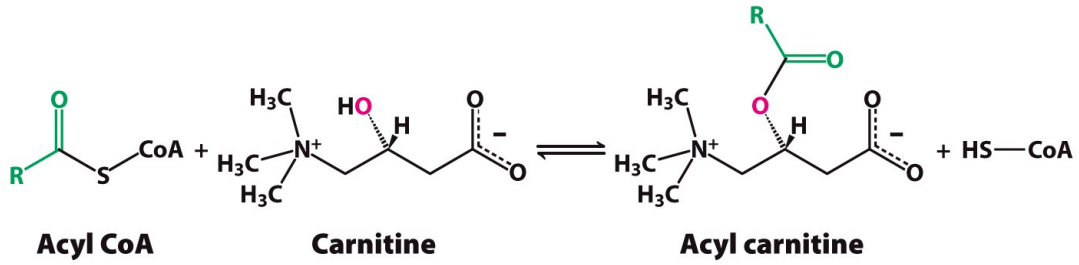
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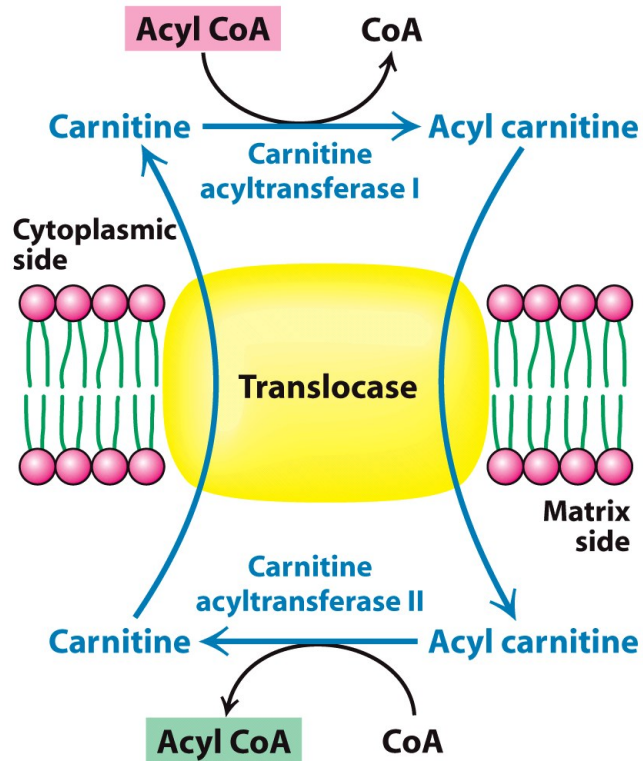
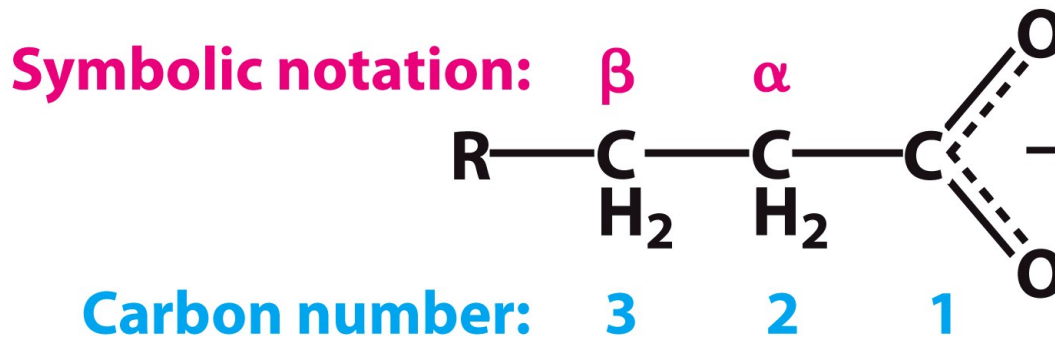


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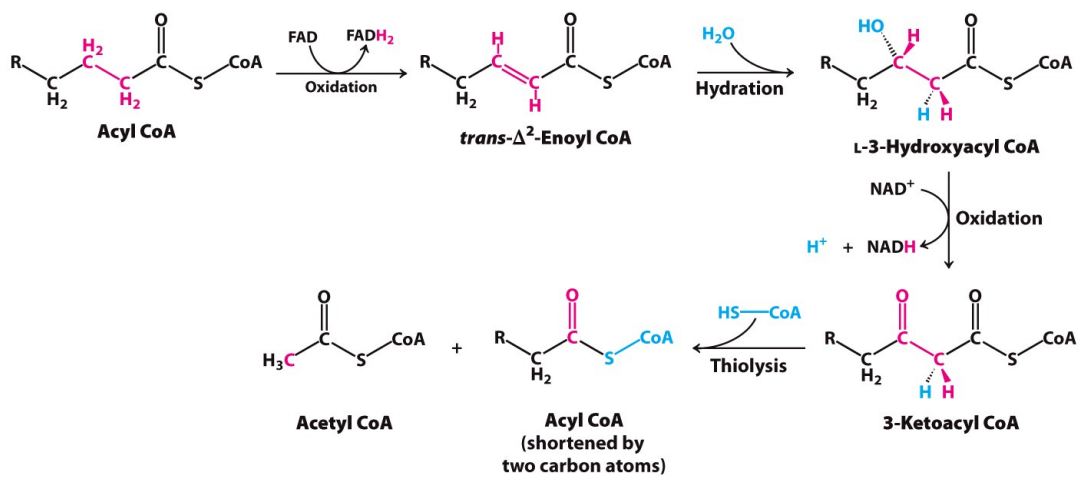


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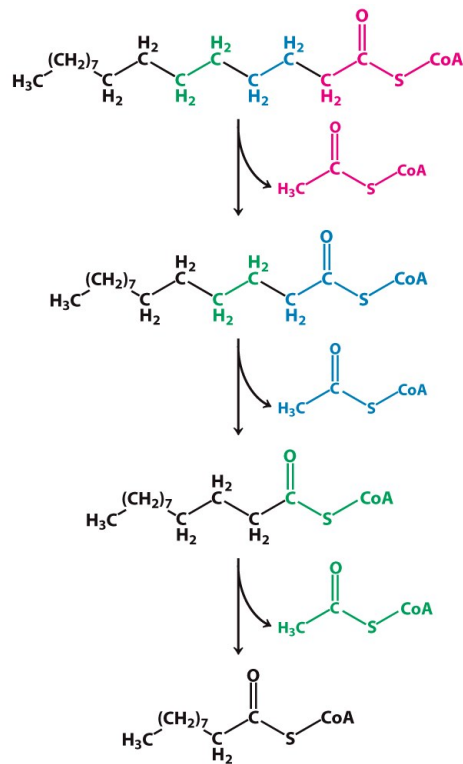


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Table 27.1 Principal reactions required for fatty acid degradation

Step	Reaction	Enzyme
1	Fatty acid + CoA + ATP \rightleftharpoons acyl CoA + AMP + PP _i	Acyl CoA synthetase (also called fatty acid thiokinase and fatty acid: CoA ligase)*
2	Carnitine + acyl CoA \rightleftharpoons acyl carnitine + CoA	Carnitine acyltransferase I and II (also called carnitine palmitoyl transferase I and II)
3	Acyl CoA + E-FAD \rightleftharpoons <i>trans</i> - Δ^2 -enoyl CoA + E-FADH ₂	Acyl CoA dehydrogenases (several isozymes having different chain-length specificity)
4	<i>trans</i> - Δ^2 -Enoyl CoA + H ₂ O \rightleftharpoons L-3-hydroxyacyl CoA	Enoyl CoA hydratase (also called crotonase or 3-hydroxyacyl CoA hydrolyase)
5	L-3-hydroxyacyl CoA + NAD ⁺ \rightleftharpoons 3-ketoacyl CoA + NADH + H ⁺	L-3-Hydroxyacyl CoA dehydrogenase
6	3-Ketoacyl CoA + CoA \rightleftharpoons acetyl CoA + acyl CoA (shortened by two carbon atoms)	β -Ketothiolase (also called thiolase)

*An AMP-forming ligase.

Table 27.1
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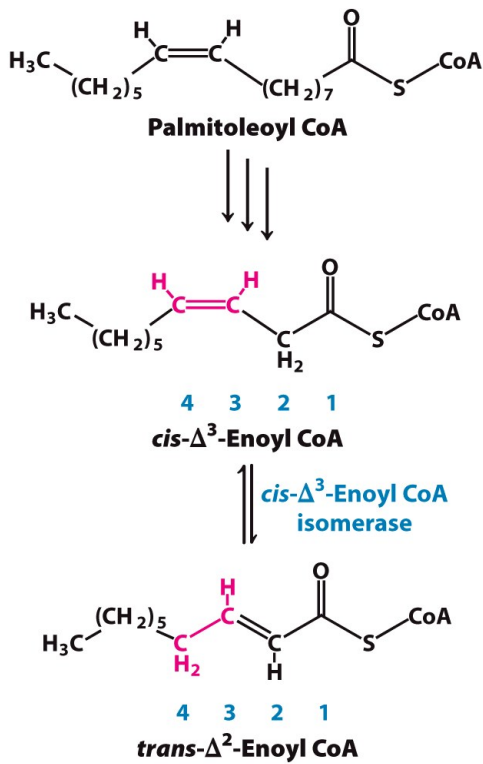


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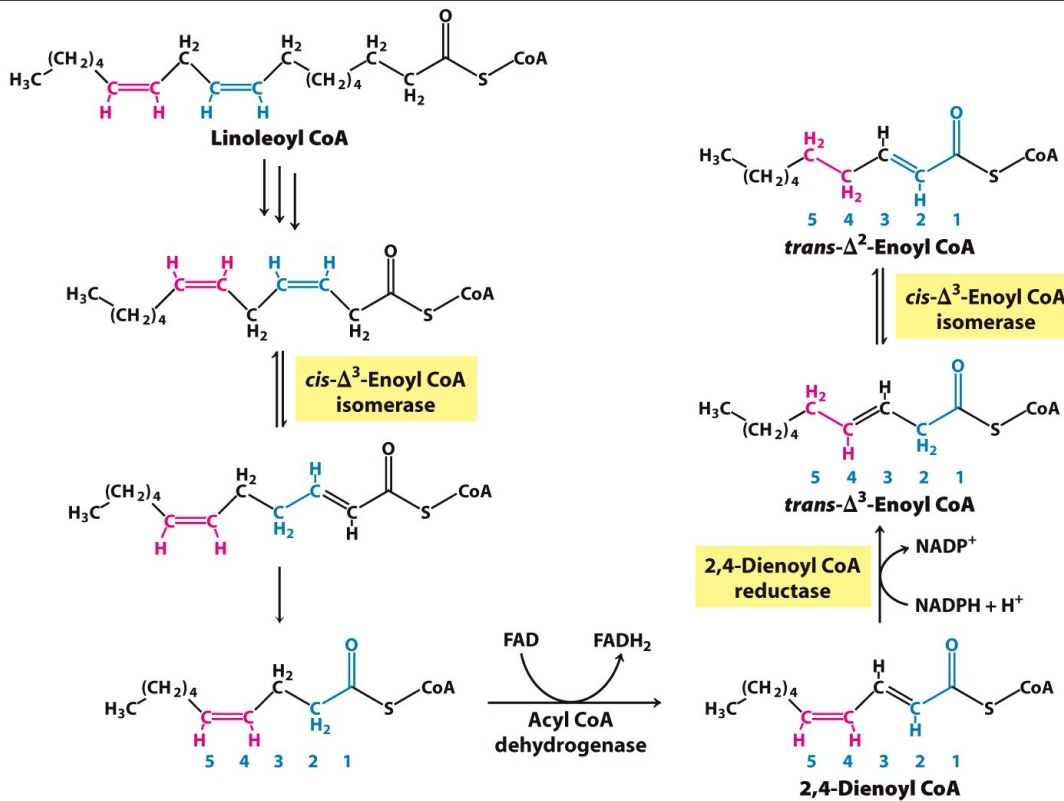
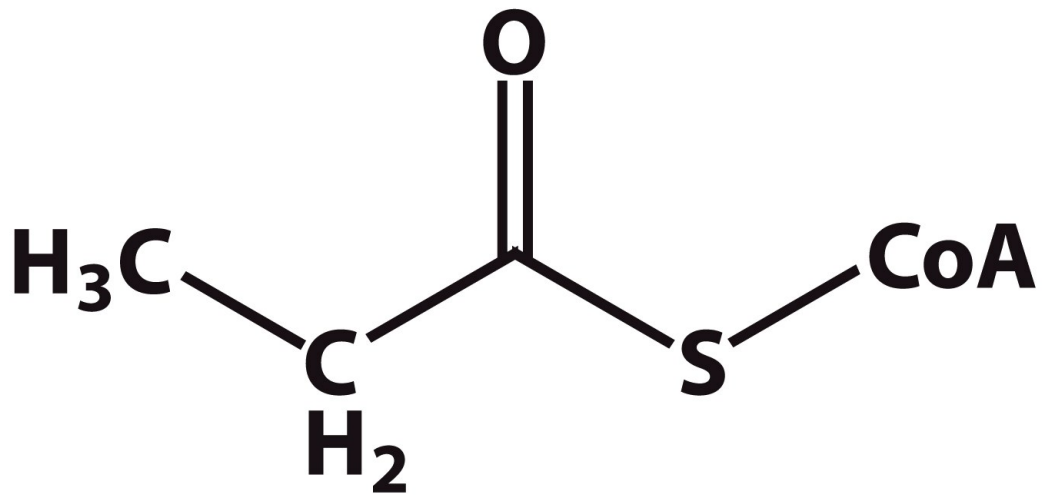


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Propionyl CoA

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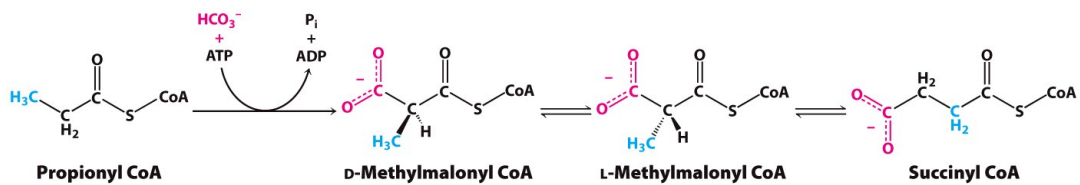


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