

7.3: Metabolic Maps Homepage

Now its time to see how the various pathways fit together to form an integrated set of pathways. Metabolic map pathways are by nature very messy and complex. I've created a series of maps below which display some important anabolic and catabolic pathways and how they connect. Many pathways have been omitted. These maps will evolve with time as more relevant information is added. The first maps show the interconnected pathways without much detail. Subsequent maps give increasingly amount of detail. Eventually, the most detailed maps will contain web links to show how given reactions are regulated and will display interactive Jmol molecular models of key enzymes.

These maps are tailored to support foundational courses in chemical reactivity that highlight specific metabolic pathways to illustrate how enzyme-catalyzed reactions can be explain using the language of organic and inorganic chemistry. Of course they are also useful for foundational level biochemistry courses which seek to give an overview of metabolic pathways and their connections. More detailed and comprehensive sites are available on the web. Once such site is the Kyoto Encyclopedia of Gene and Genomes (KEGG) [Pathway Data Base](#).

INTEGRATED METABOLIC PATHWAYS MAPS (pdf version)

- [Lower resolution](#): Overview of catabolic and anabolic pathways
- [Medium resolution](#): Overview showing structure of key shared pathway intermediates
- [Higher resolution](#): Overview with more detailed pathway intermediates

INDIVIDUAL METABOLIC PATHWAY MAPS (pdf version)

Best viewed in Firefox as Safari. Some links don't show in Chrome or IE!

Catabolic

- [Glycolysis](#):
- [Pyruvate Dehydrogenase](#)
- [Tricarboxylic Acid Cycle \(TCA\)](#):
- [Variants of the TCA Cycle](#) (New 4/11/12)
- [Electron Transport/Oxidative Phosphorylation](#):
- [Fatty Acid Oxidation](#)

Anabolic

- [Gluconeogenesis](#)
- [Pentose Phosphate Shunt](#)
- [Fatty Acid Synthesis](#)
- [Isoprenoid/Sterol Synthesis](#)

Both

- [Glycogen Synthesis/Mobilization](#)
- [Ketone Body Synthesis/Mobilization](#)
- [Triacylglyceride Synthesis/Mobilization](#)
- [Glutamine/Glutamate/NH₃ Metabolism](#)

ORGAN PROFILES

- [Liver](#)
- [Brain](#)
- [Heart](#)
- [Muscle](#)
- [Adipose](#)

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