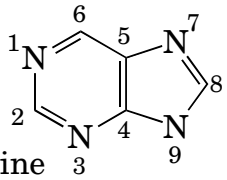
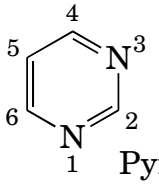
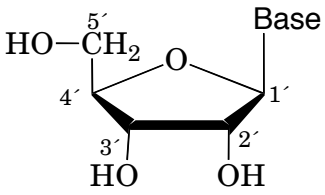
Nucleotides Metabolism



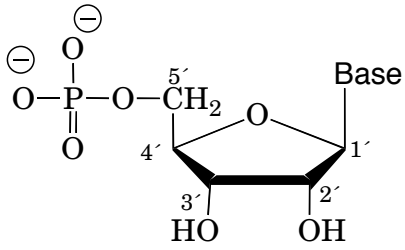
Purine



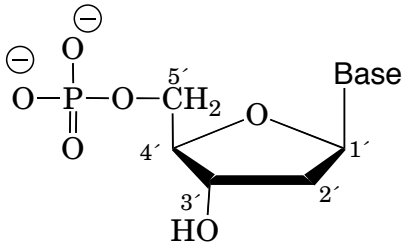
Pyrimidine



Nucleoside

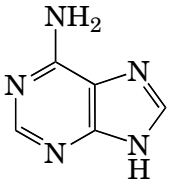


Nucleotide Monophosphate

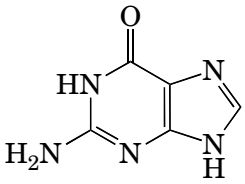


2´-Deoxyribonucleotide Monophosphate

Purines

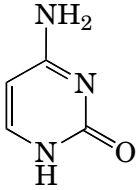


Base	Nucleotide
Adenine	Adenosine

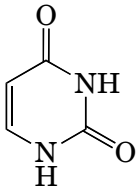


Guanine	Guanosine

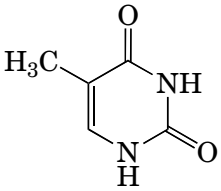
Pyrimidines



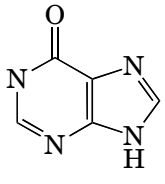
Base	Nucleotide
Cytosine	Cytidine



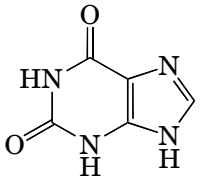
Uracil	Uridine



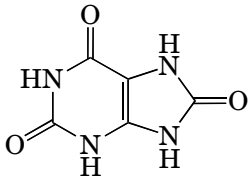
Thymine	Thymidine



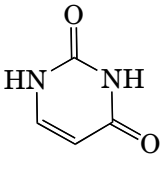
Hypoxanthine



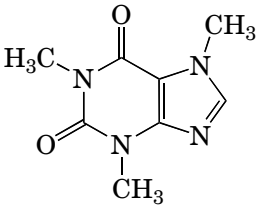
Xanthine



Uric acid

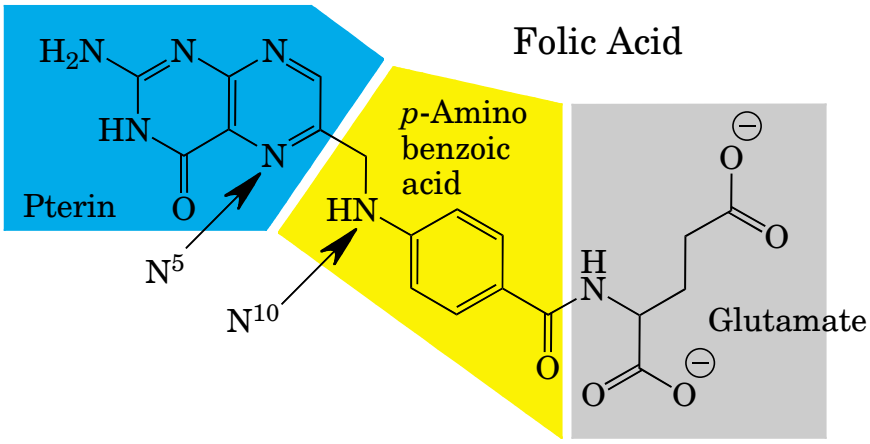


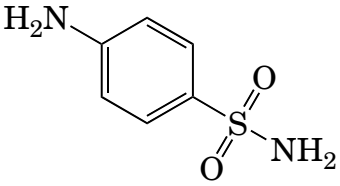
Pseudouracil



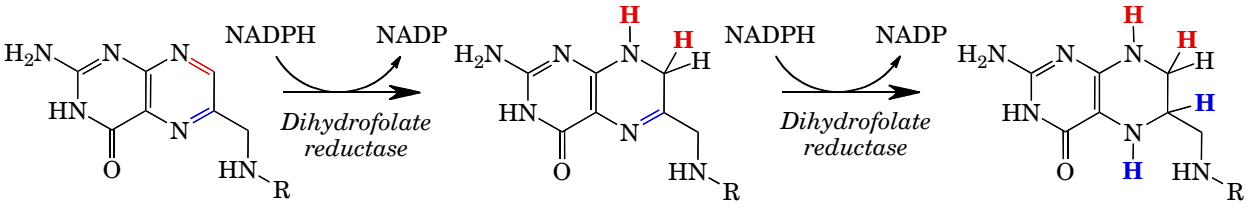
1,3,7-Trimethyl xanthine

Folic Acid

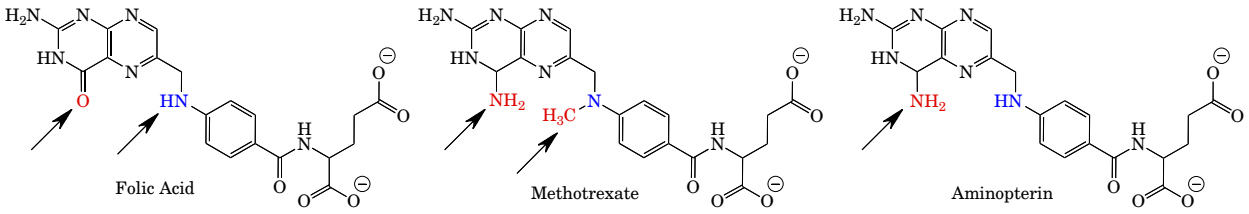


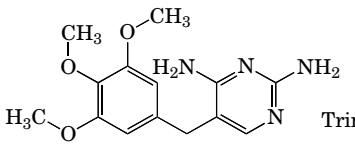


Sulfanilamide



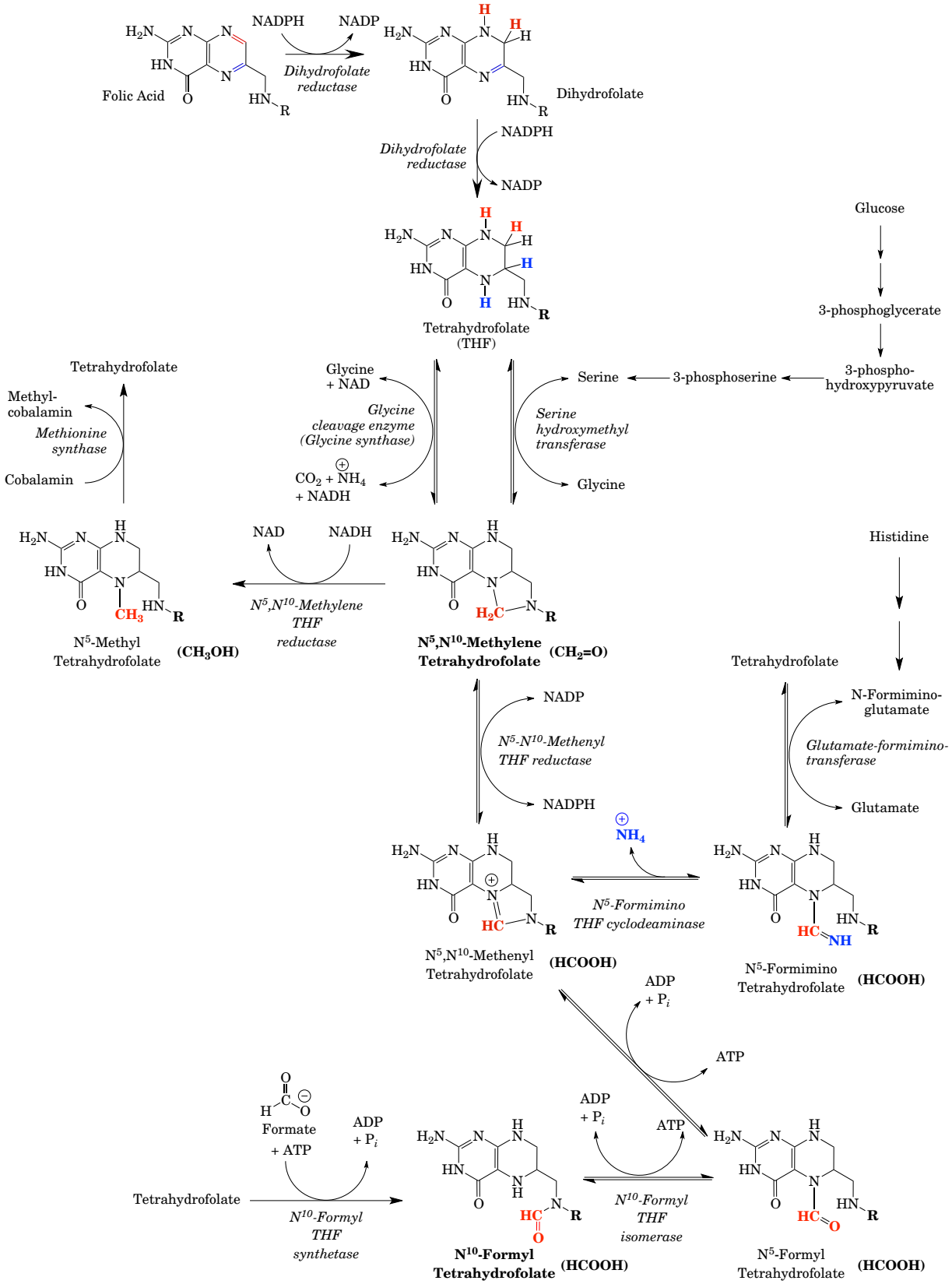
Folic Acid | Dihydrofolate | Tetrahydrofolate (THF)



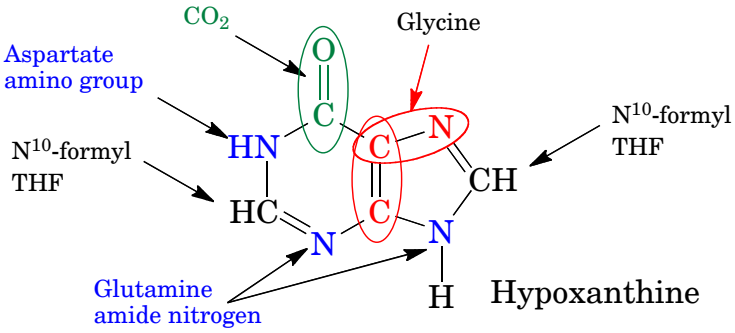


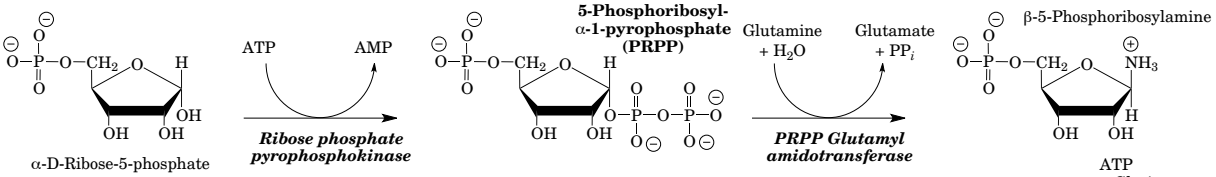
Trimethoprim

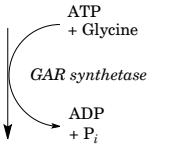
Folic Acid Metabolism

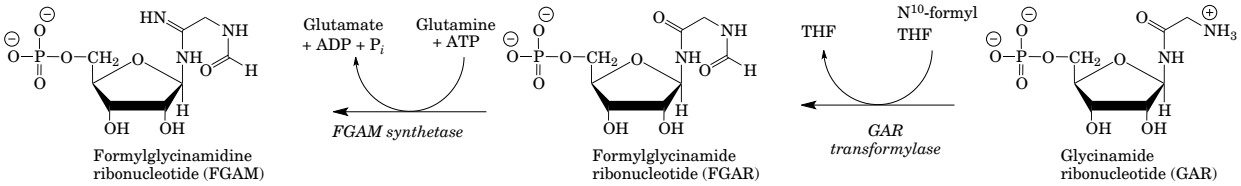


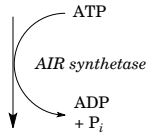
Purine Synthesis

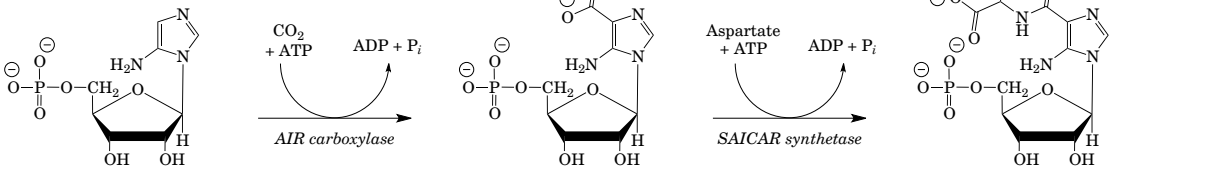


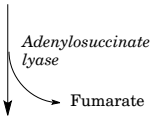


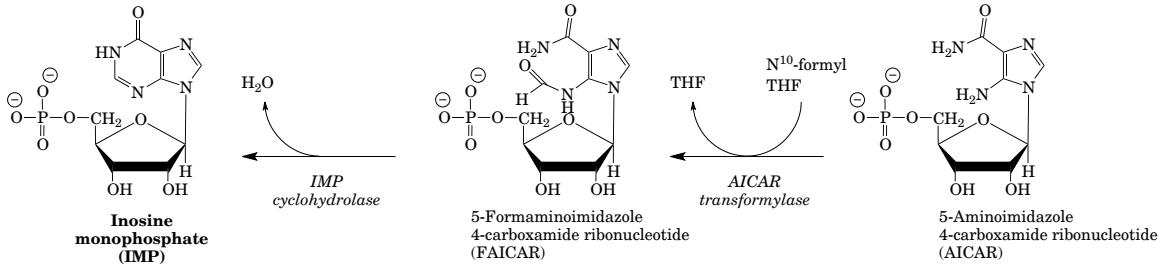




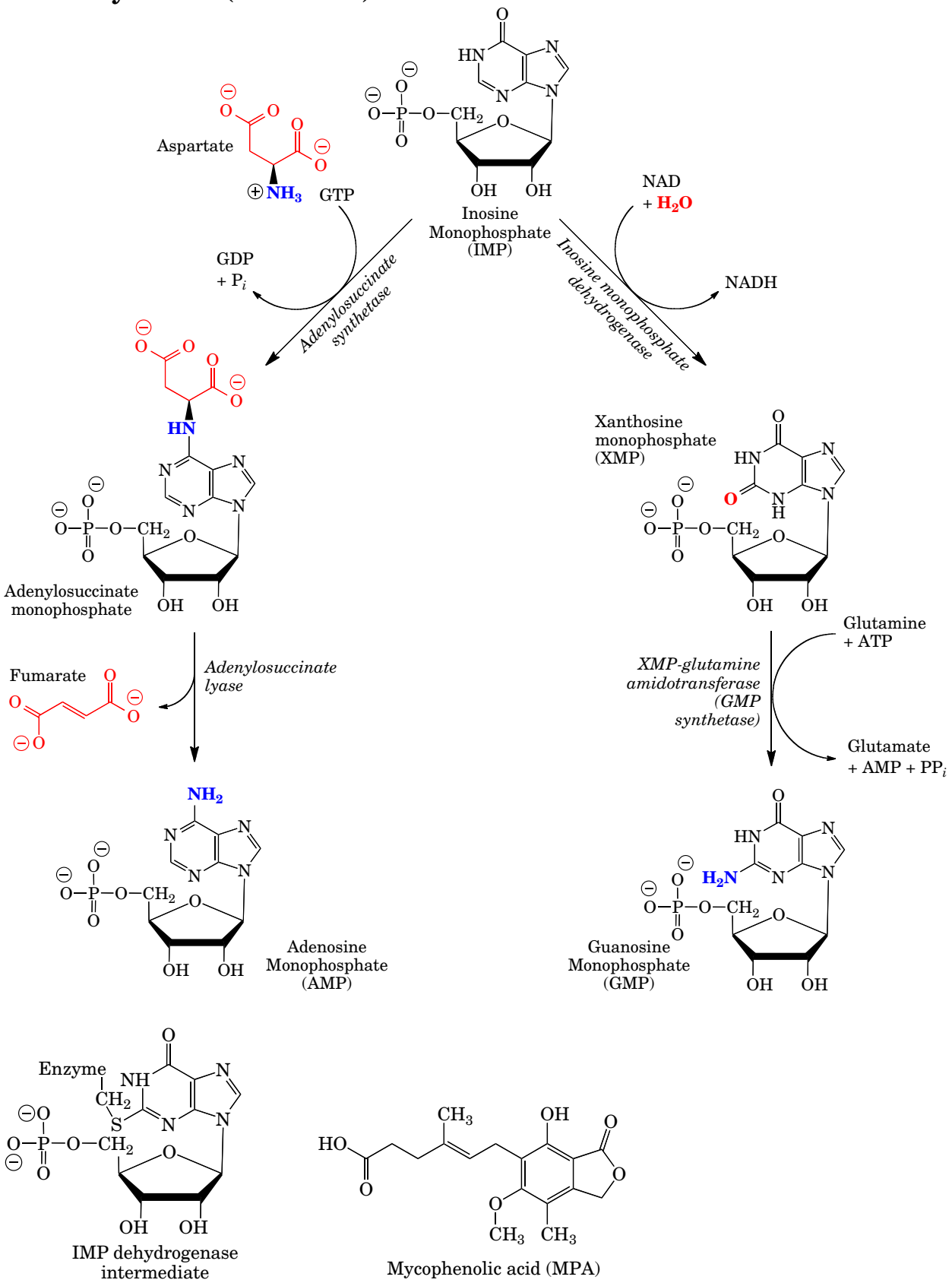




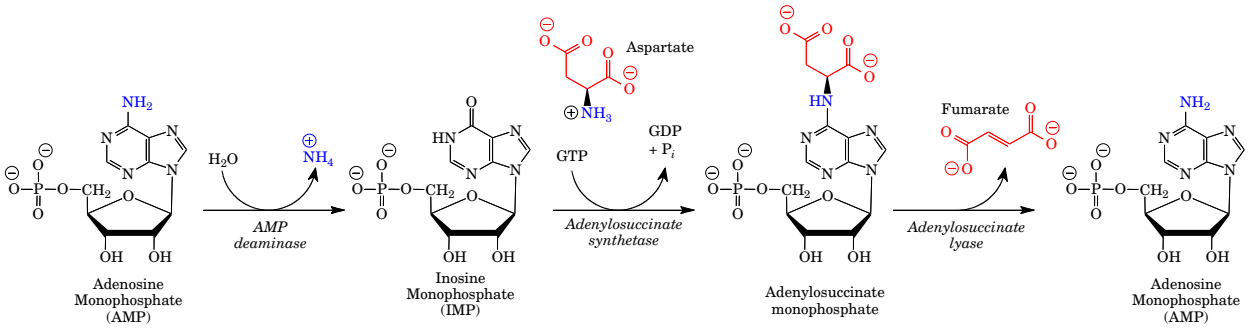


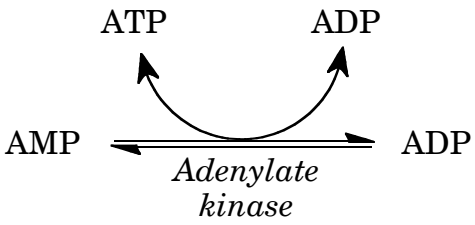


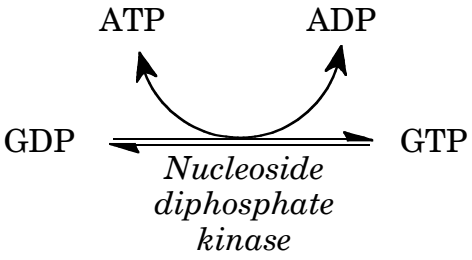
Purine Synthesis (continued)

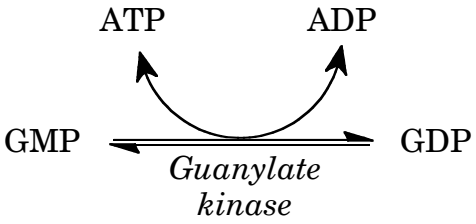


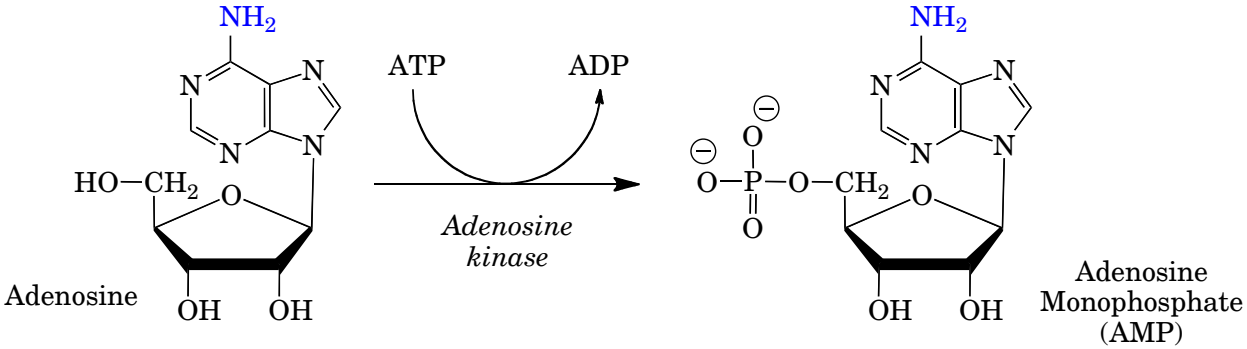
Nucleotide Conversion Processes



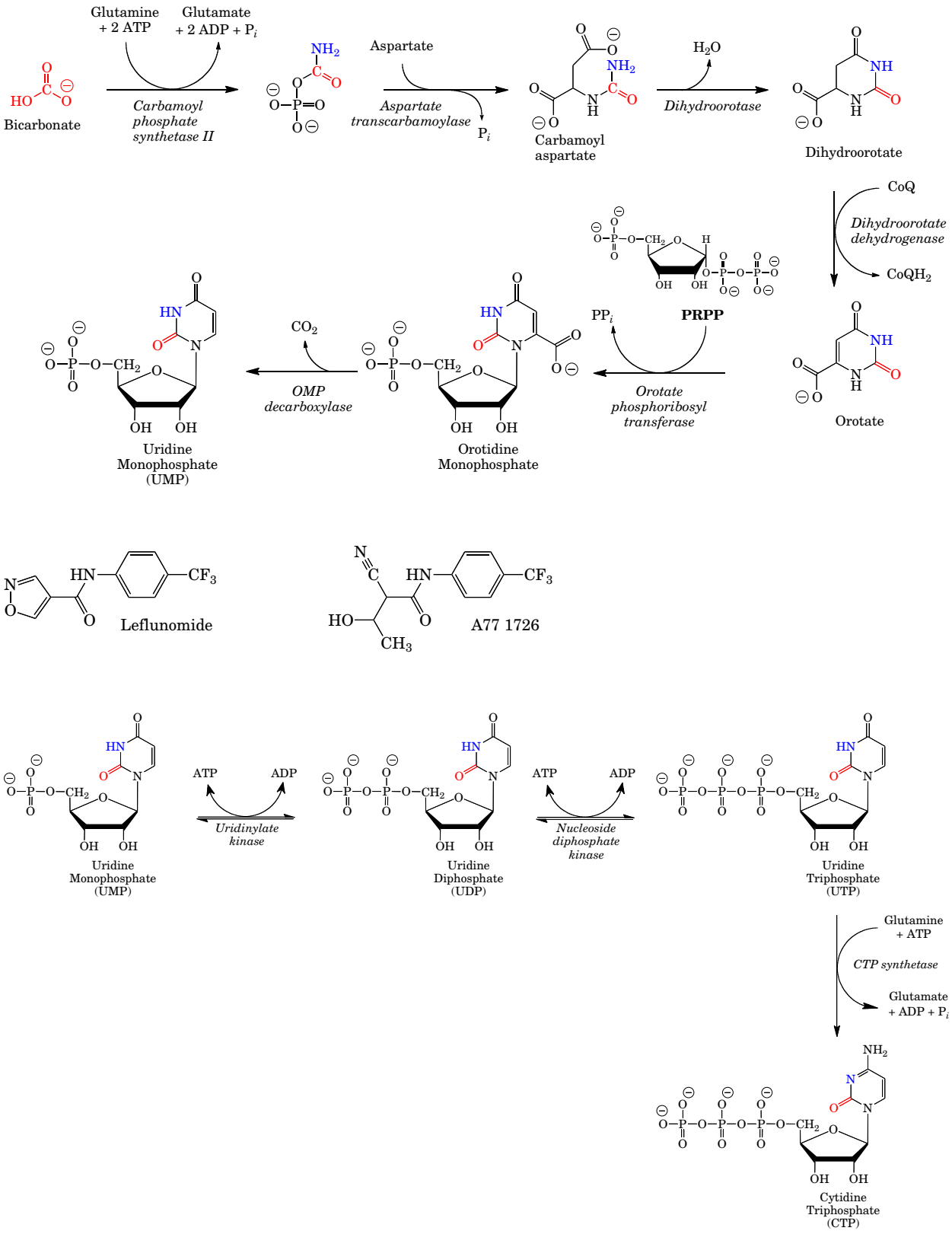




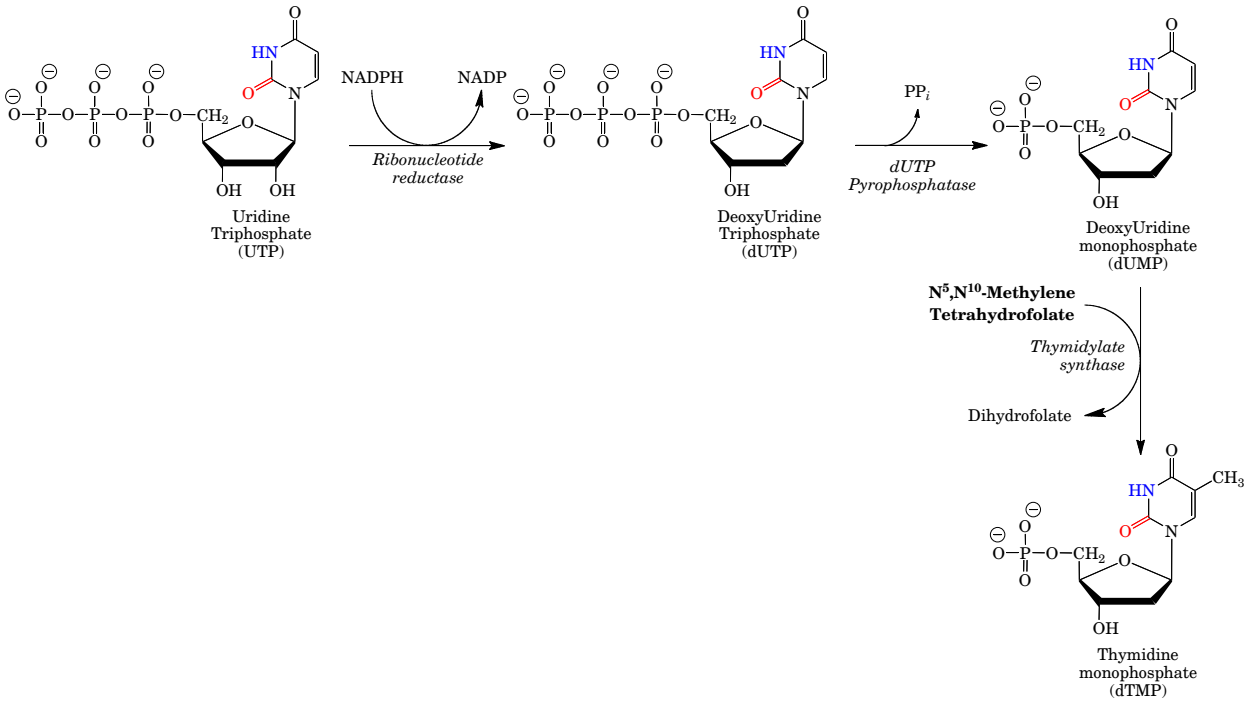


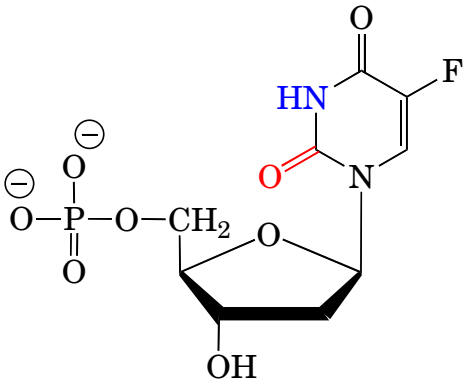


Pyrimidine Synthesis

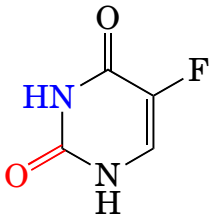


Thymidine Synthesis



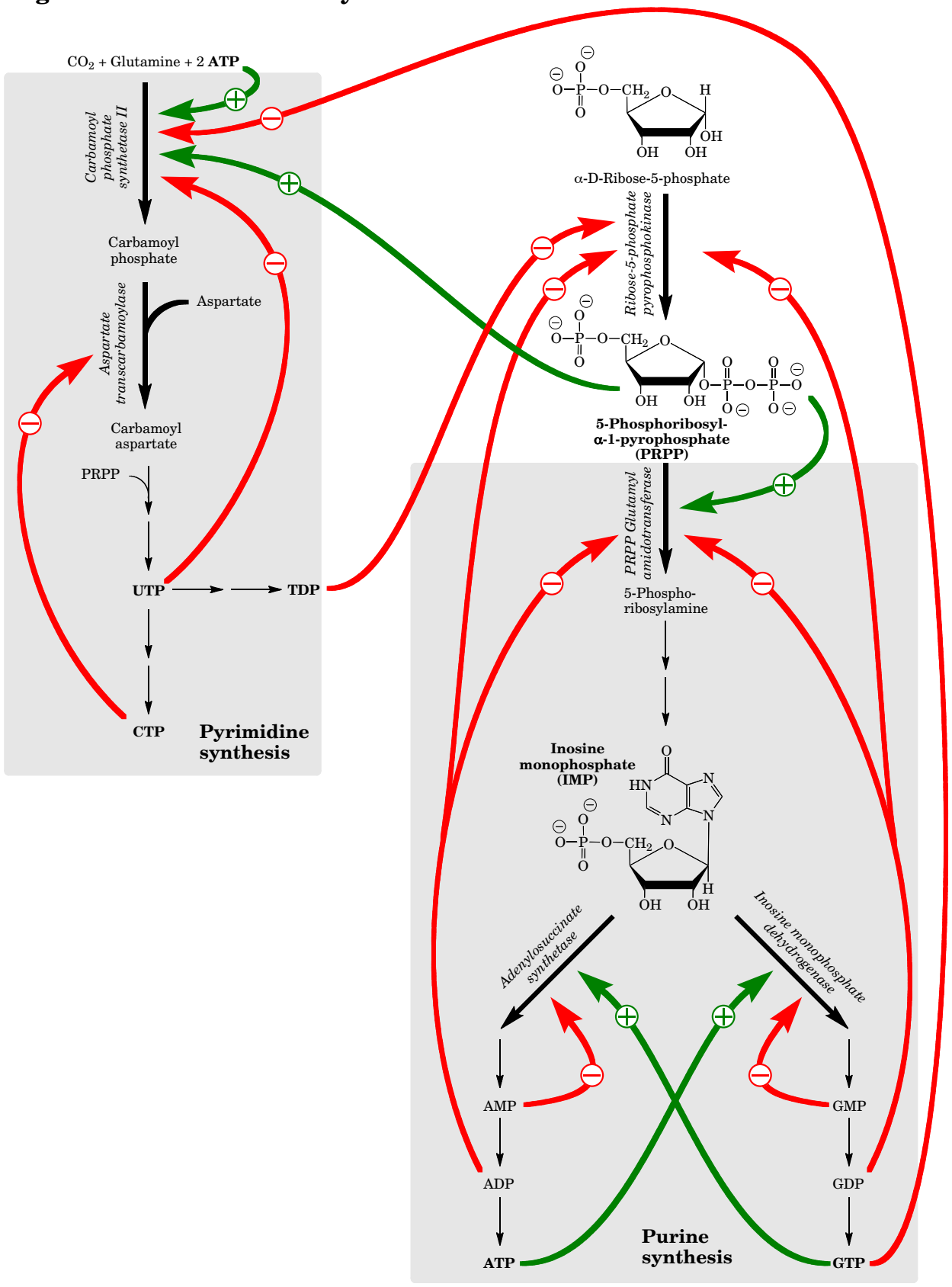


5-Fluoro-deoxyuridylate monophosphate (FdUMP)

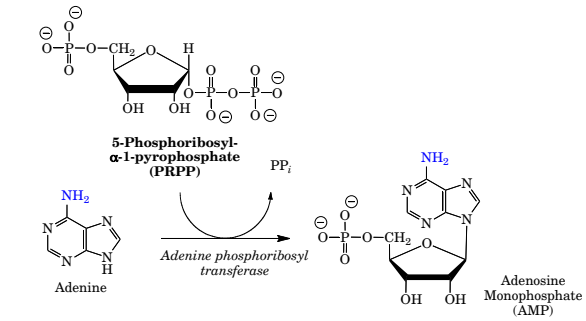


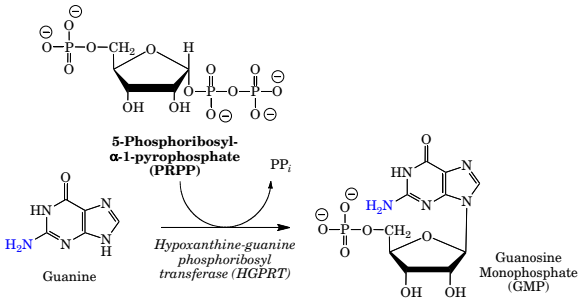
5-Fluorouracil

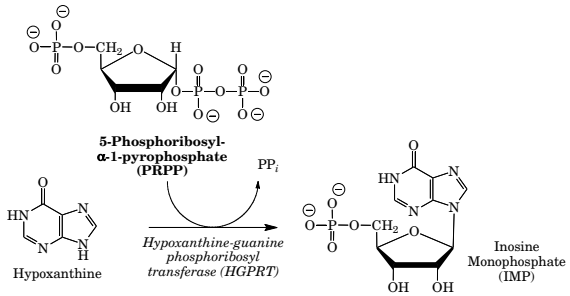
Regulation of Nucleotide Synthesis

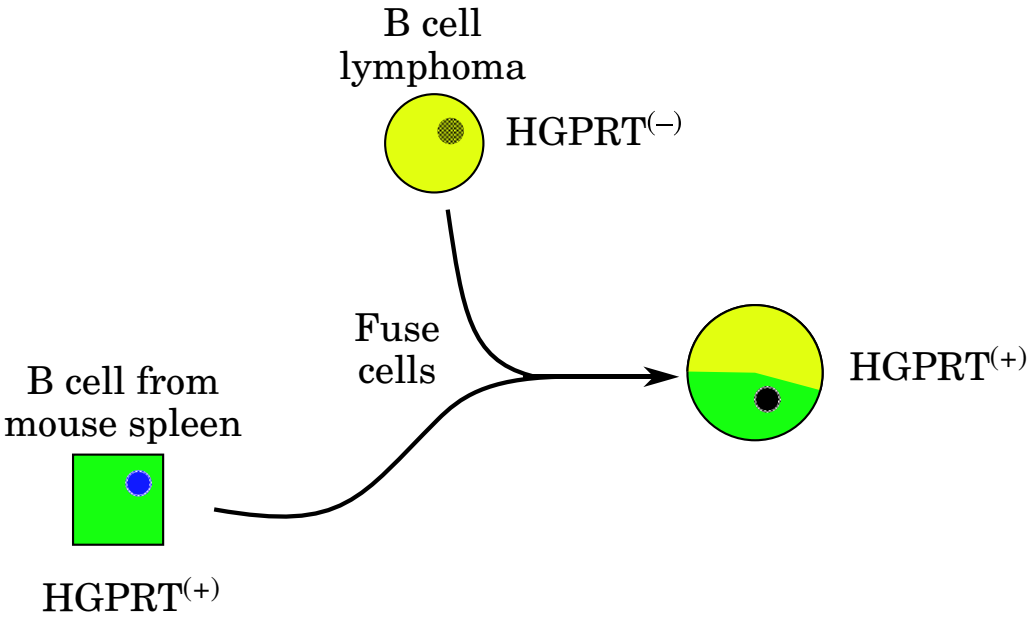


Purine Salvage



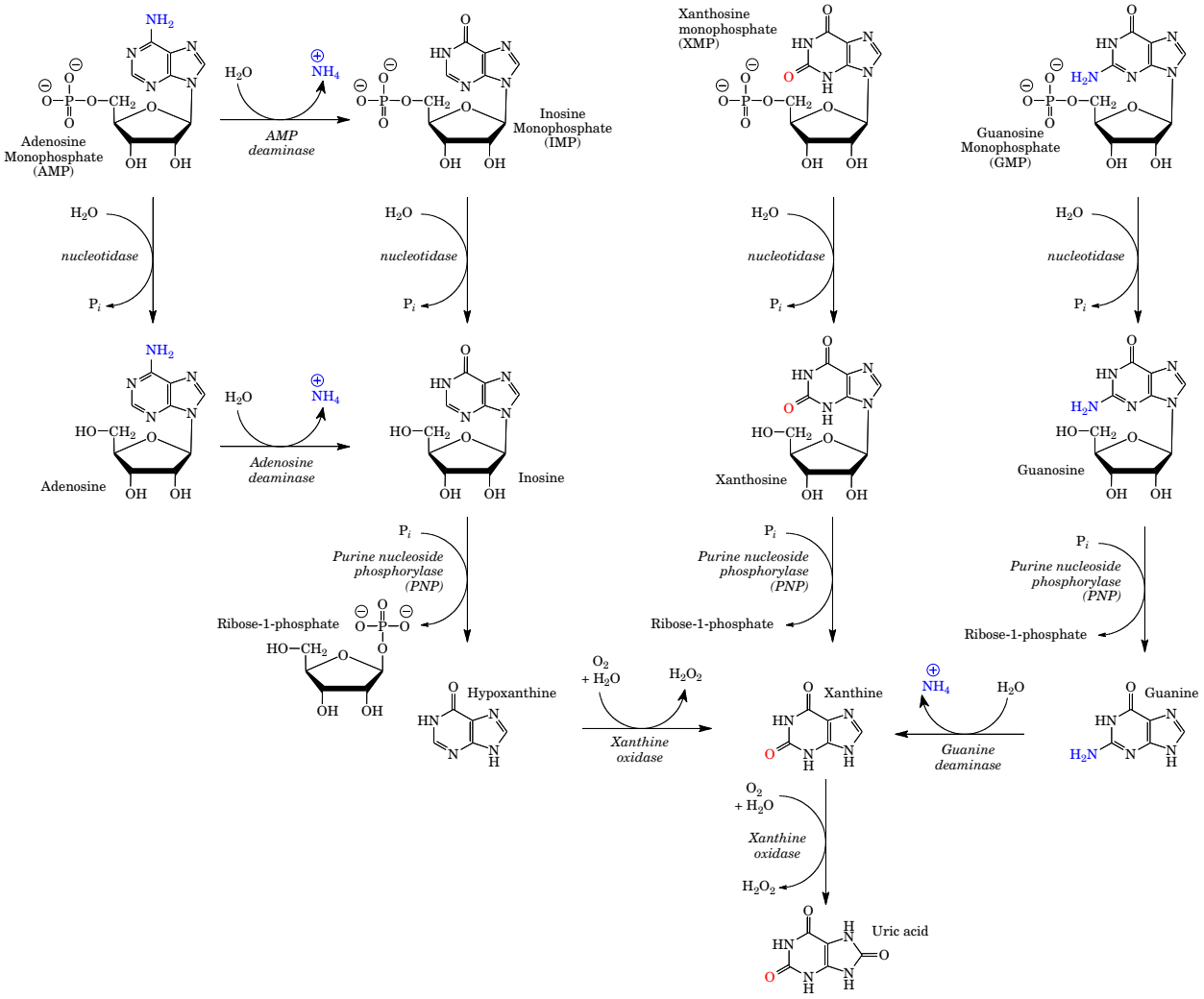




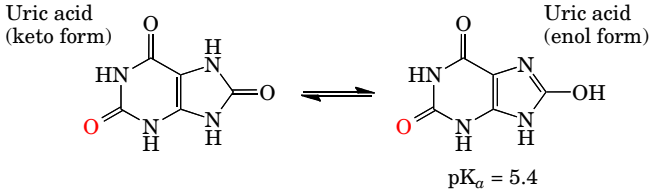


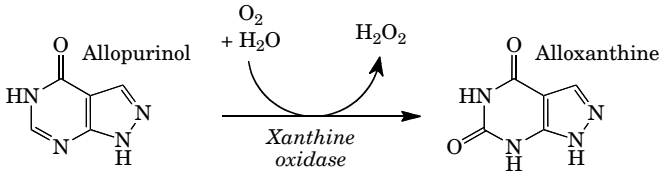
HAT = Hypoxanthine/aminopterin/thymidine

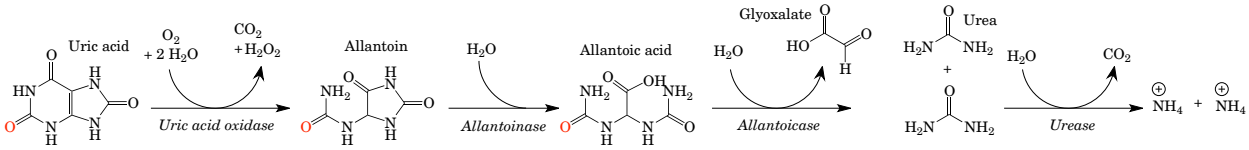
Purine Breakdown

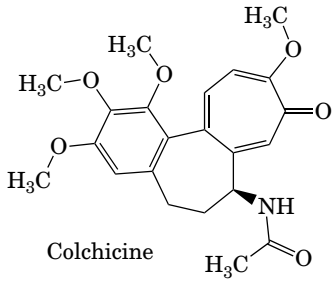


Purine Excretion



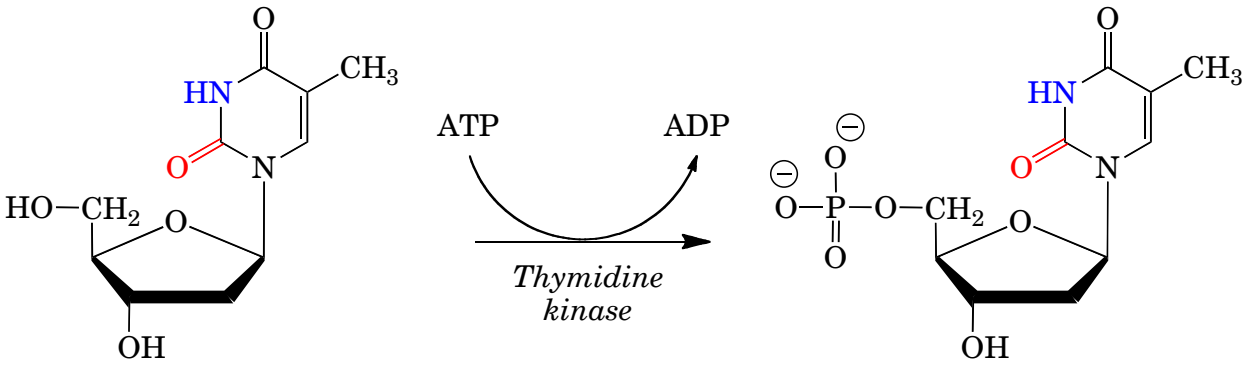






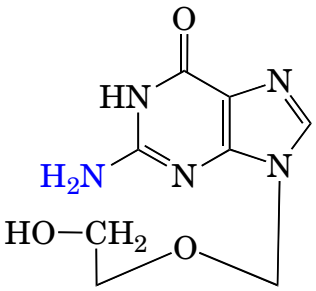
Depiction of gout by James Gillray (political cartoonist and gout sufferer, c1756-1815)

Thymidine Kinase



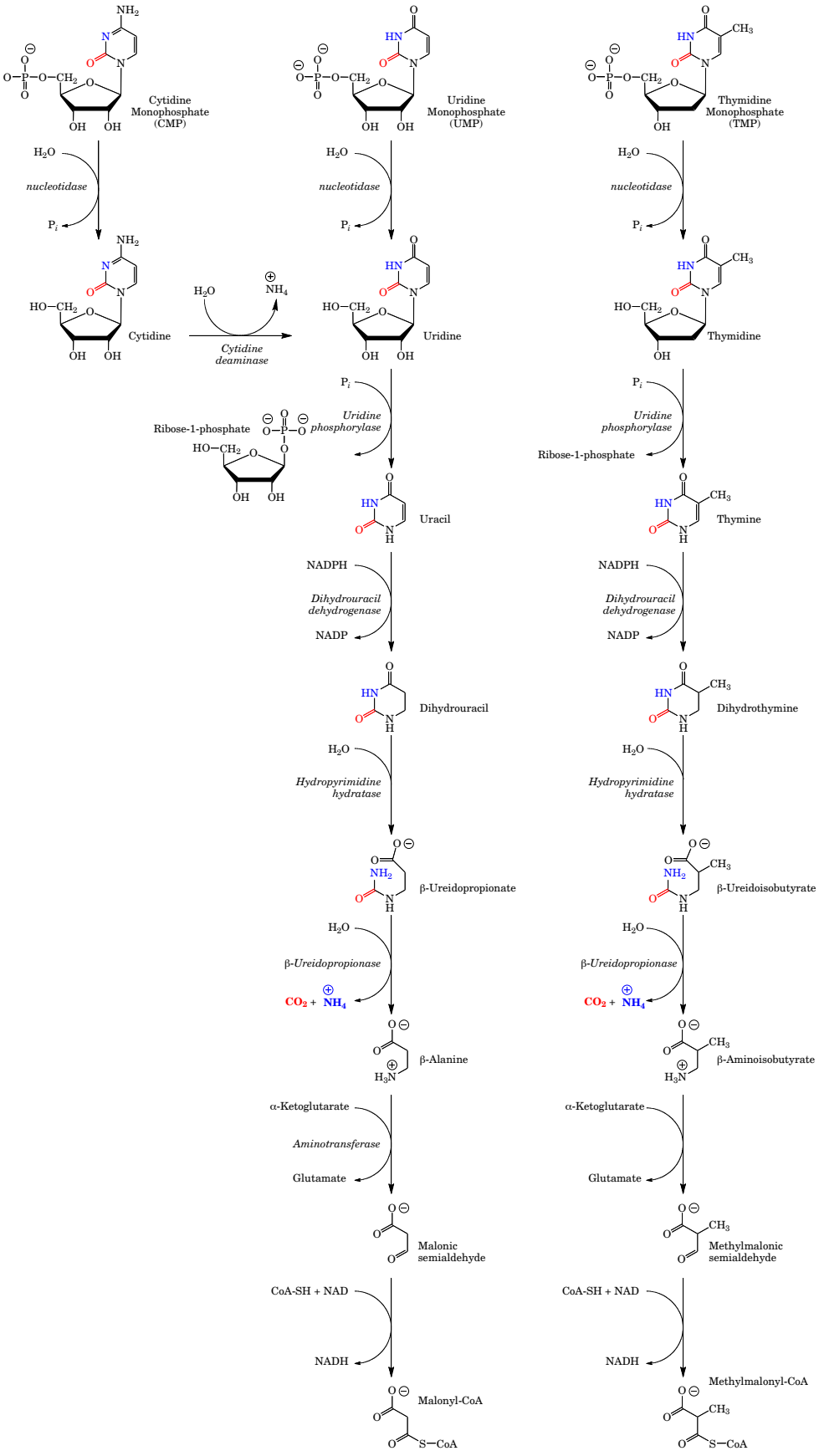
Thymidine

Thymidine monophosphate (dTMP)

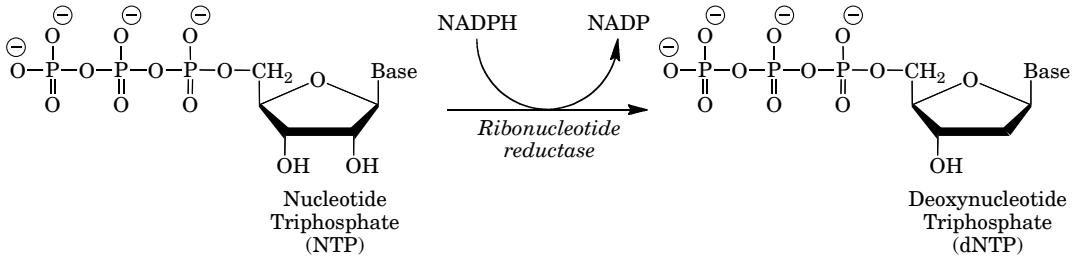


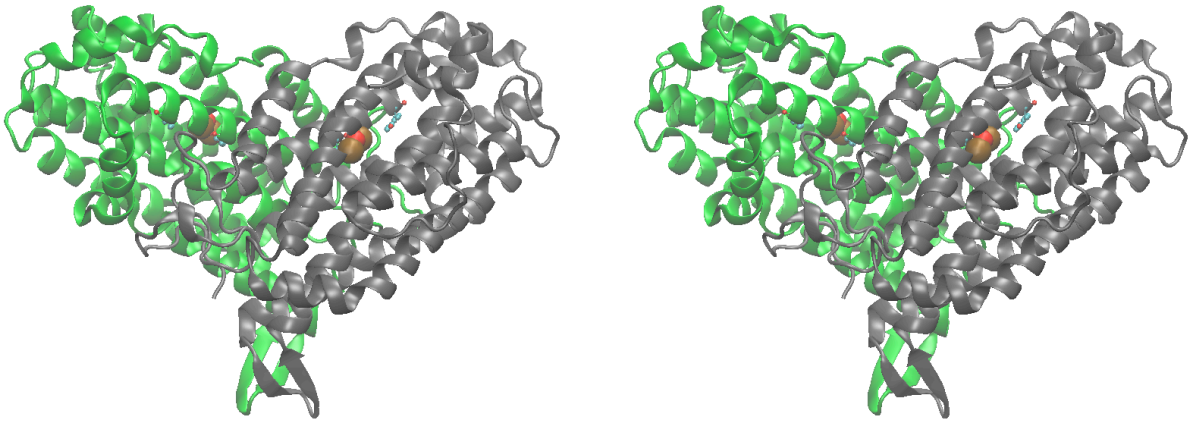
Acyclovir

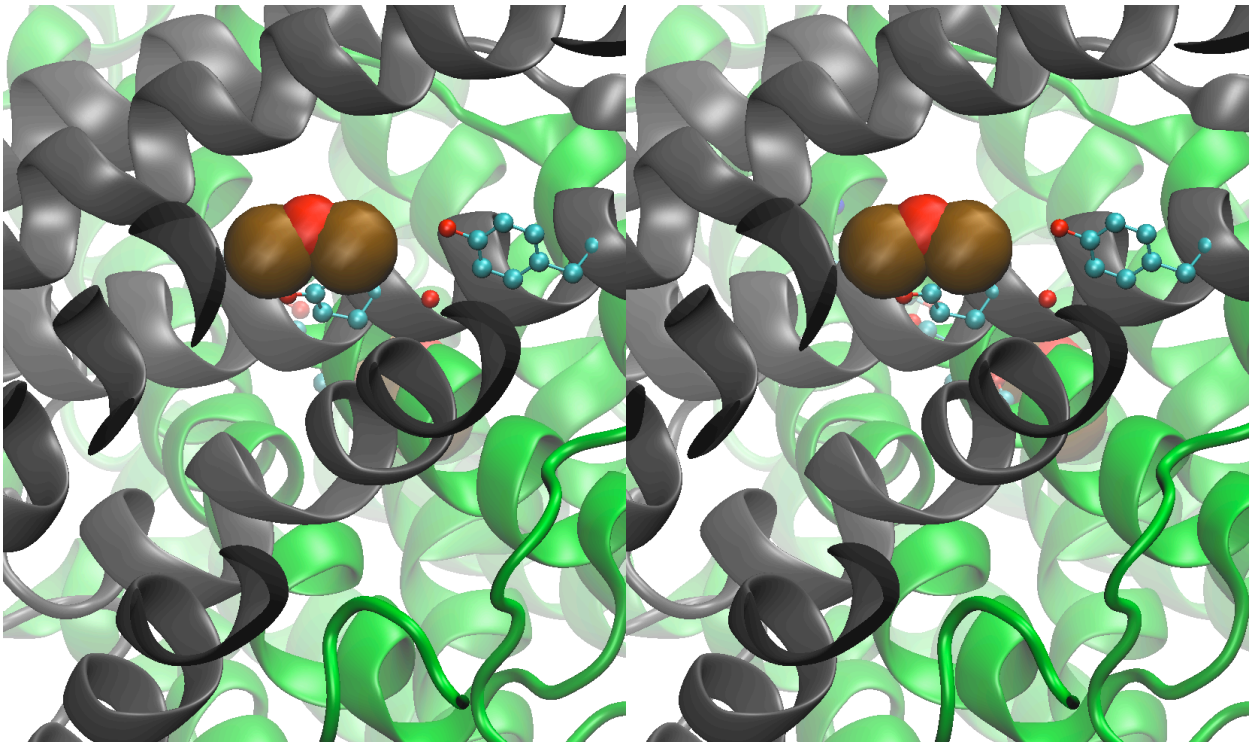
Pyrimidine Breakdown



Ribonucleotide Reductase



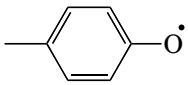


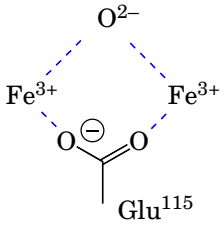


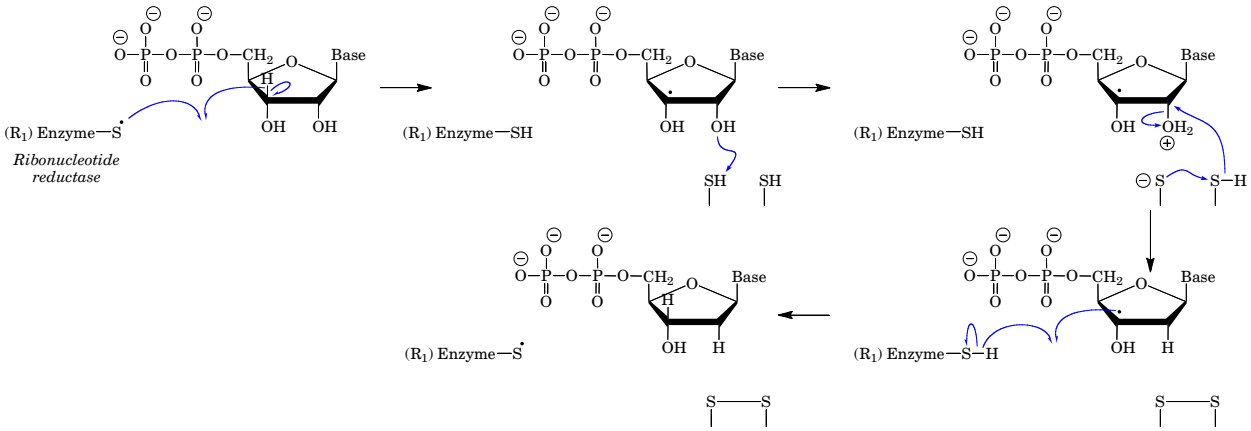
Escherichia coli ribonucleotide reductase R2 (catalytic subunit) dimer (pdb ID 1RIB)

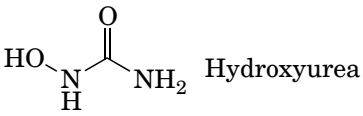
Ribonucleotide Reductase Mechanism

Tyr^{122}









Hydroxyurea

Ribonucleotide Reductase Regulation