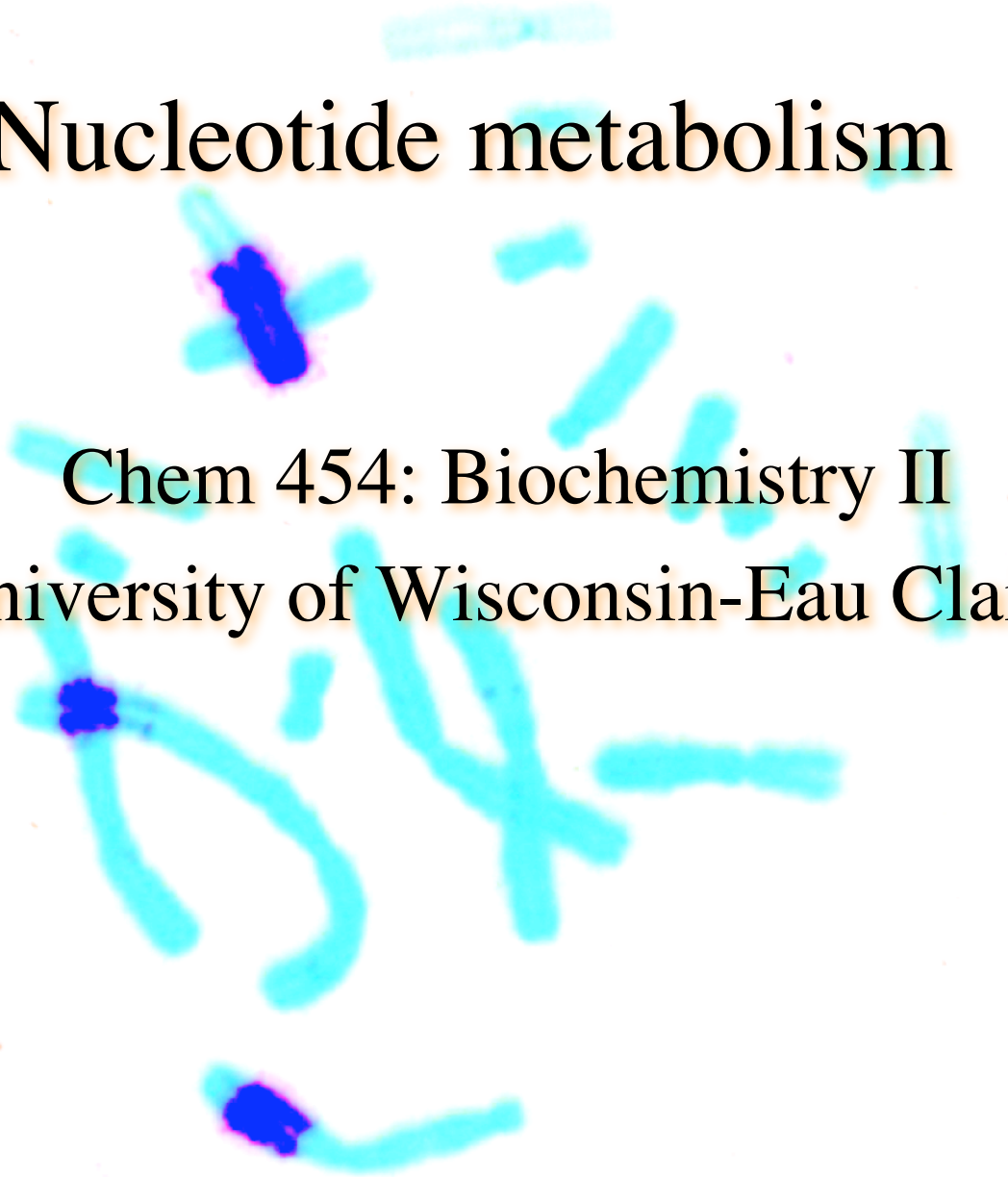
Nucleotide metabolism



Chem 454: Biochemistry II

University of Wisconsin-Eau Claire

TABLE 25.1 Nomenclature of bases, nucleosides, and nucleotides

RNA

Base	Ribonucleoside	Ribonucleotide (5′-monophosphate)
Adenine (A)	Adenosine	Adenylate (AMP)
Guanine (G)	Guanosine	Guanylate (GMP)
Uracil (U)	Uridine	Uridylate (UMP)
Cytosine (C)	Cytidine	Cytidylate (CMP)

DNA

Base	Deoxyribonucleoside	Deoxyribonucleotide (5′-monophosphate)
Adenine (A)	Deoxyadenosine	Deoxyadenylate (dAMP)
Guanine (G)	Deoxyguanosine	Deoxyguanylate (dGMP)
Thymine (T)	Thymidine	Thymidylate (TMP)
Cytosine (C)	Deoxycytidine	Deoxycytidylate (dCMP)

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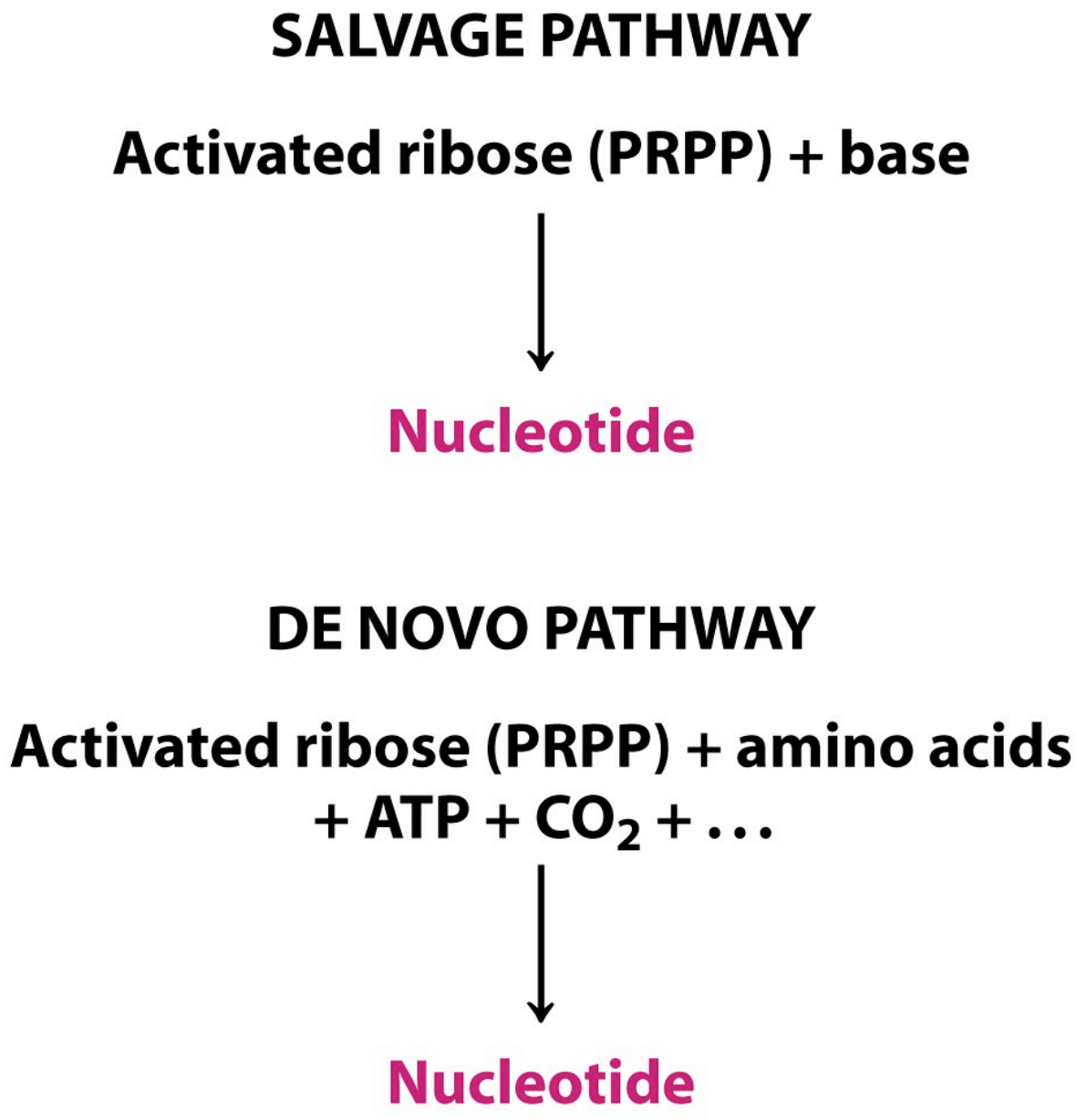

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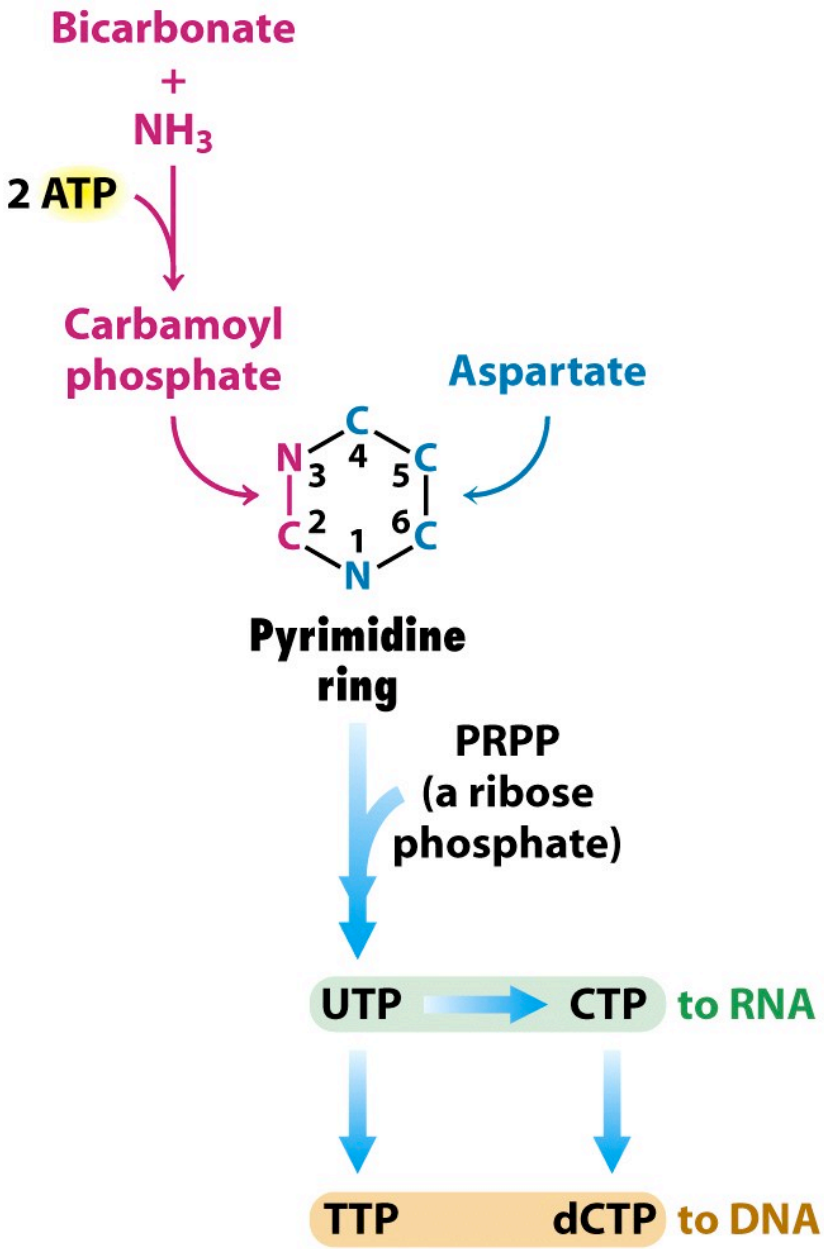

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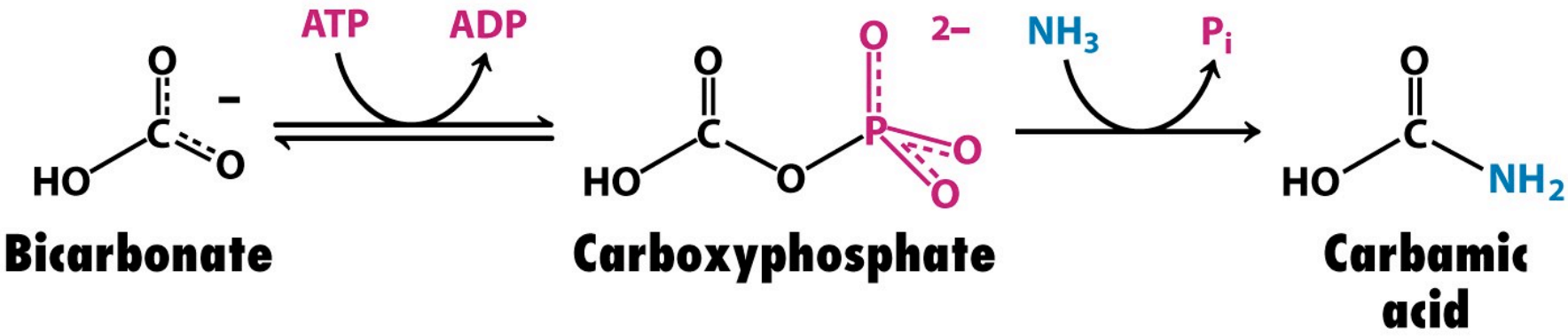

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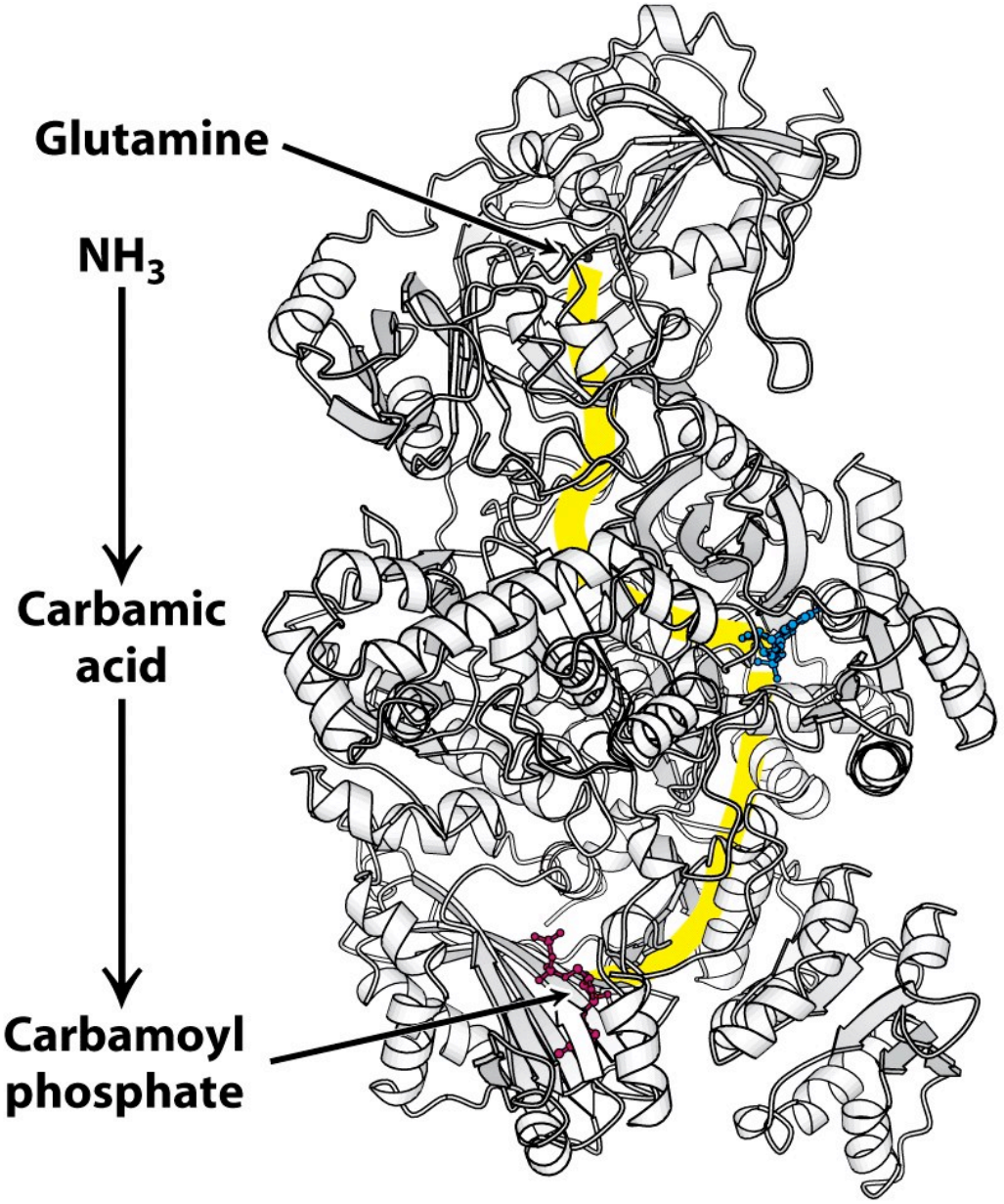
2 ATP-Grasp domains



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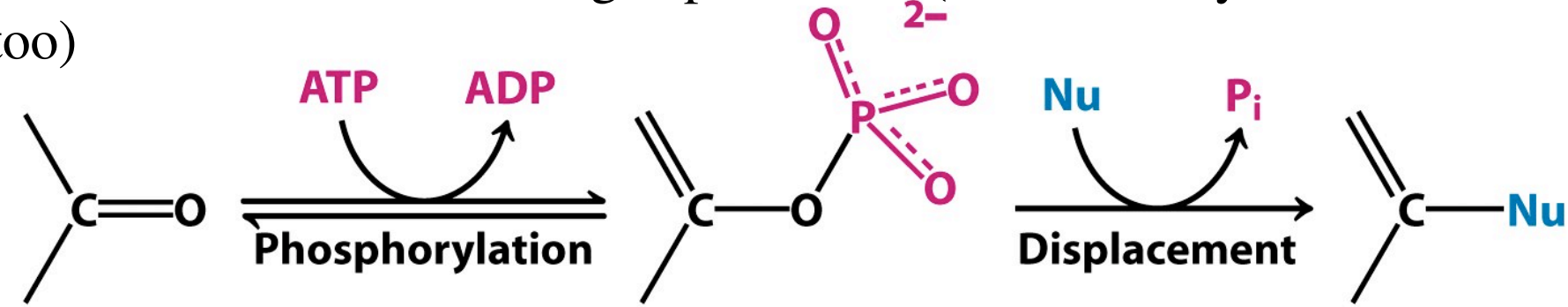
Generic Mechanism: ATP-grasp domains (nucleotide syntheses too)



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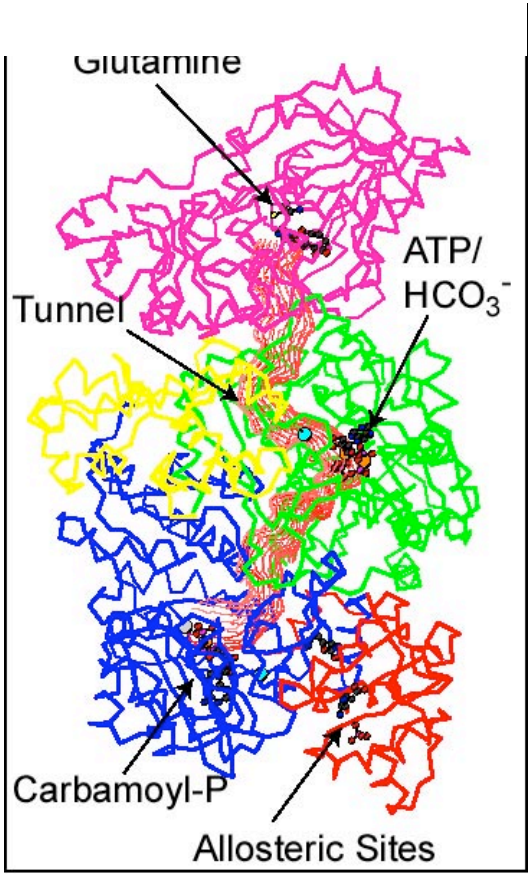

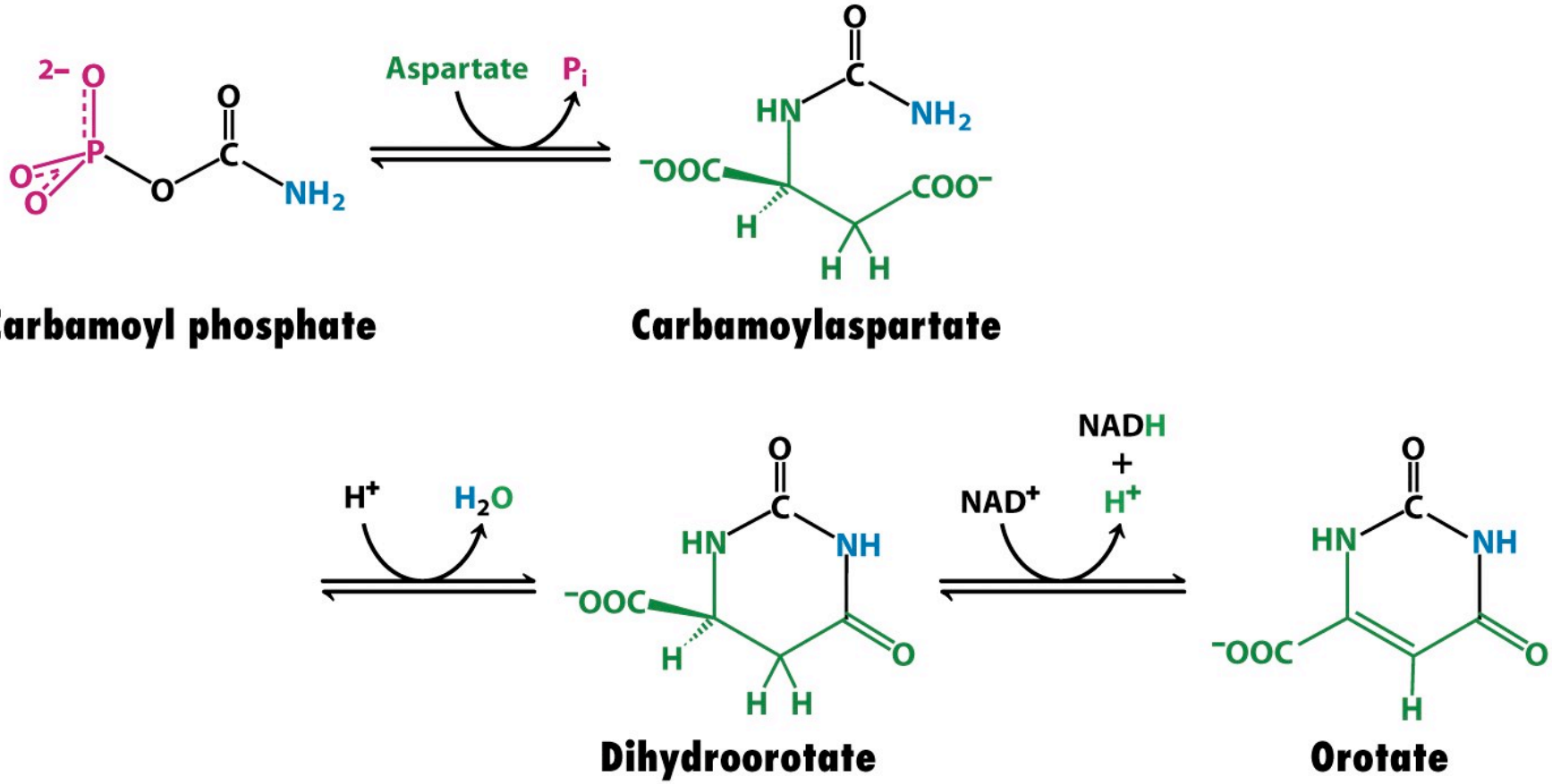

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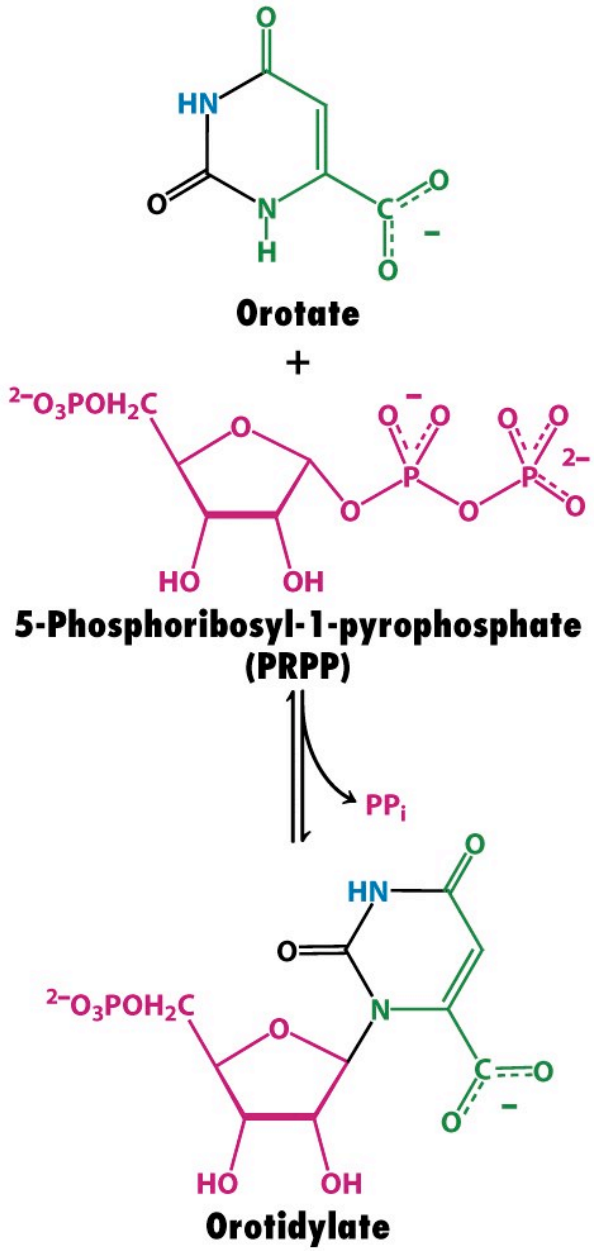

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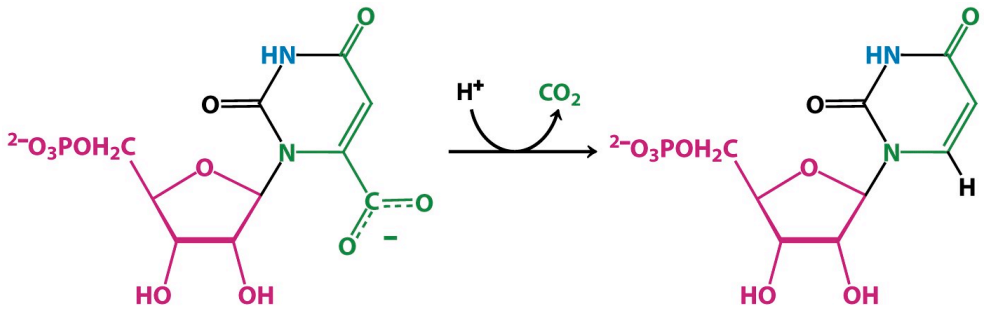

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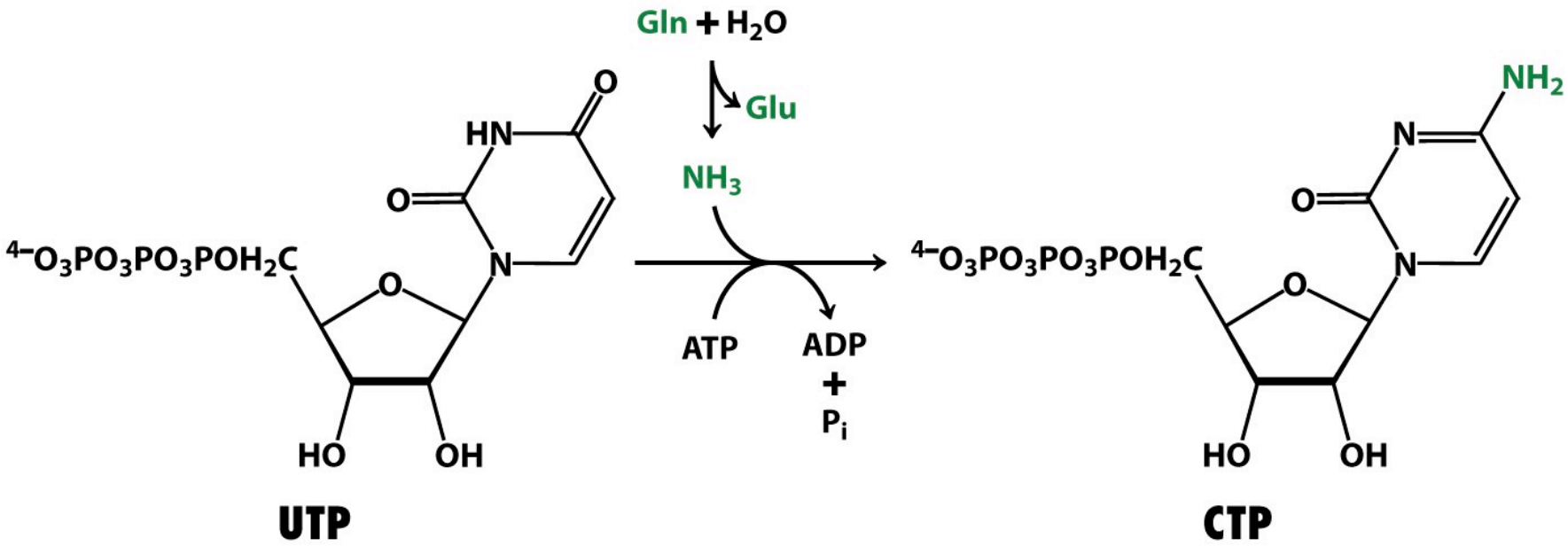

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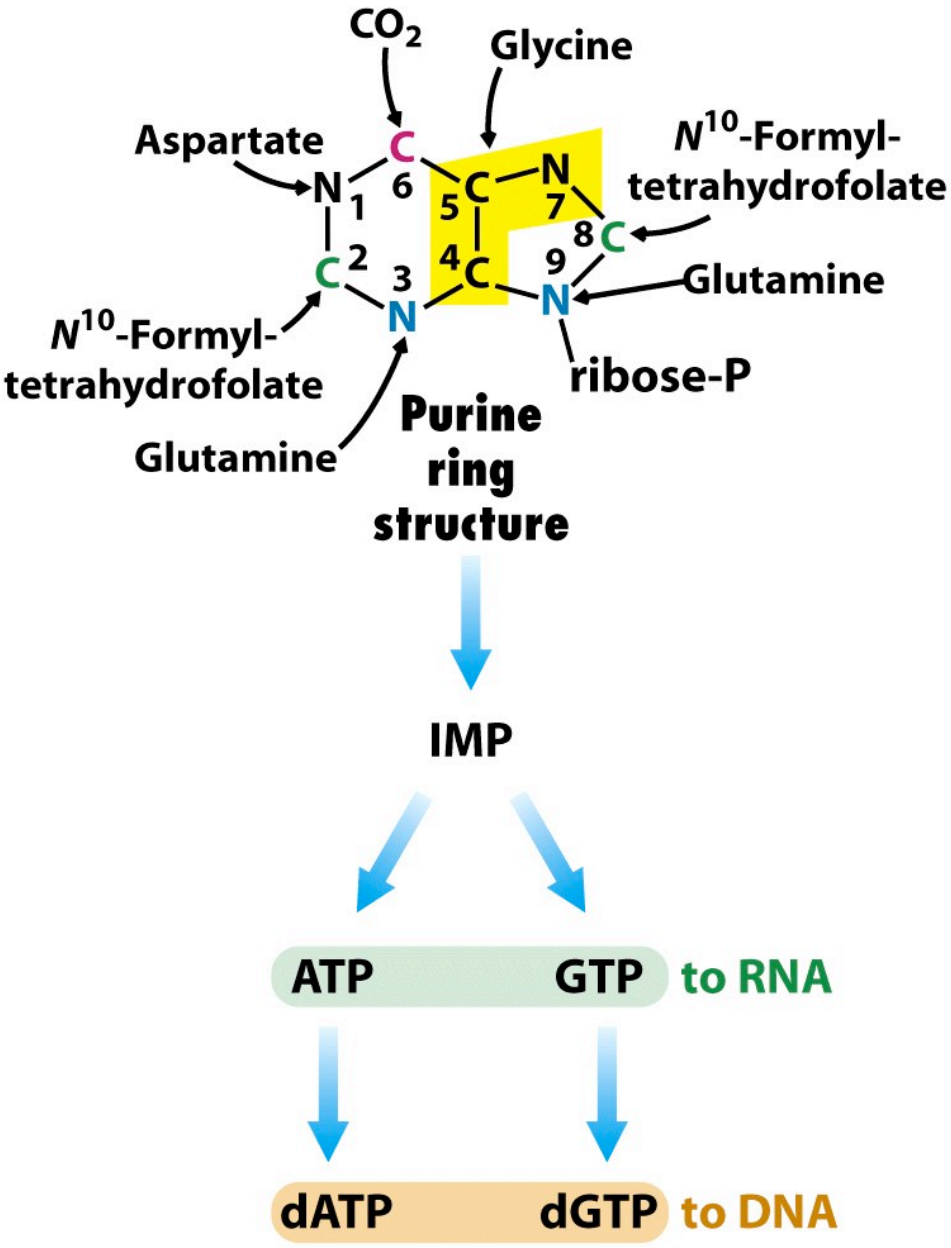

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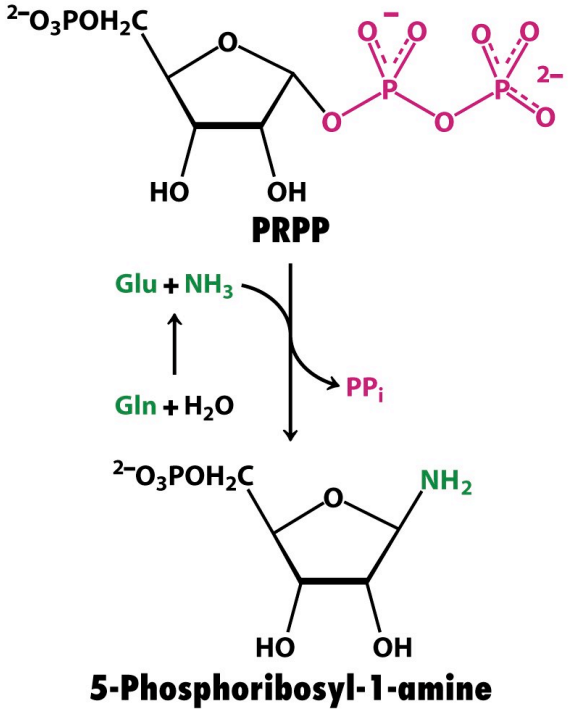

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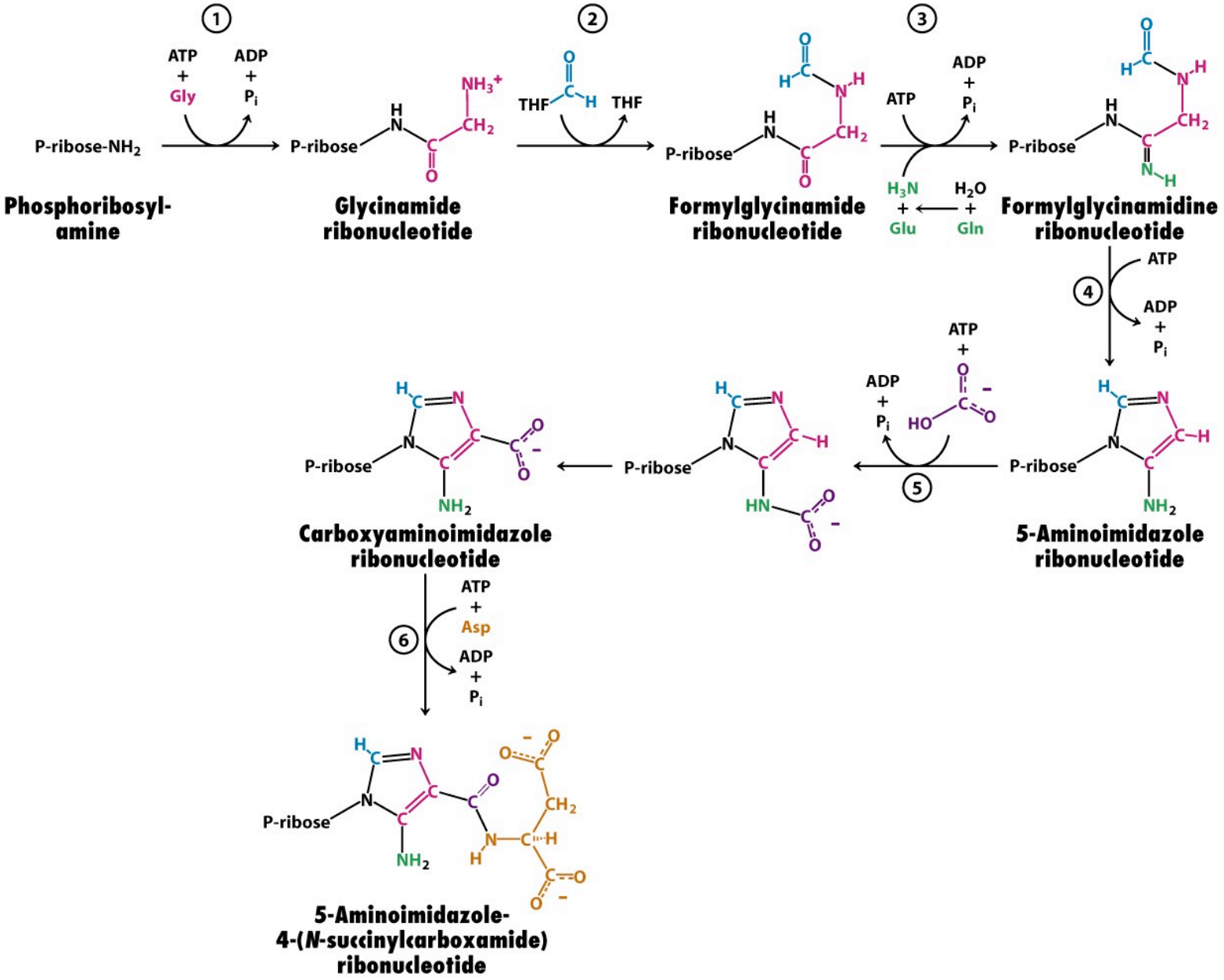

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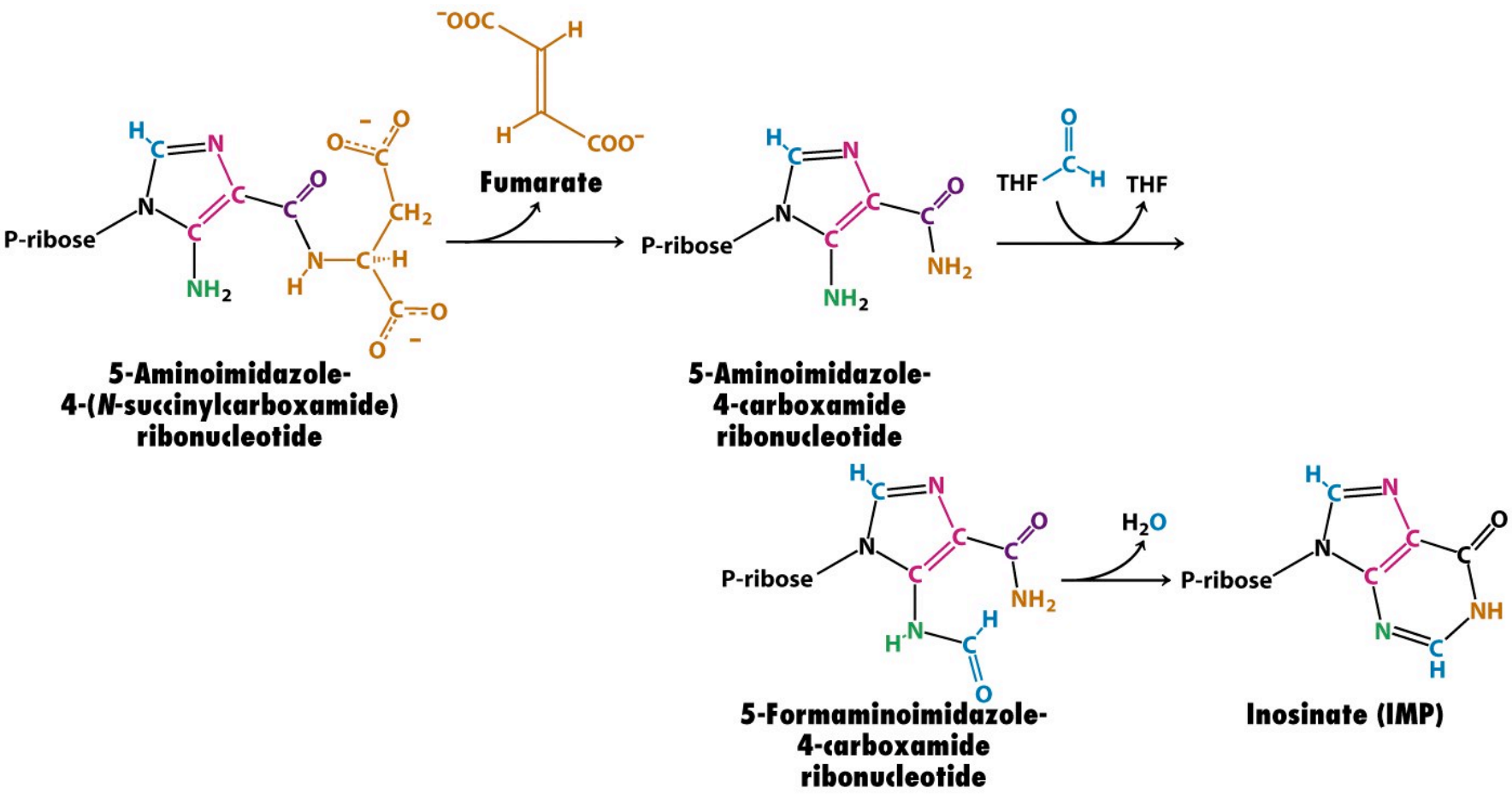

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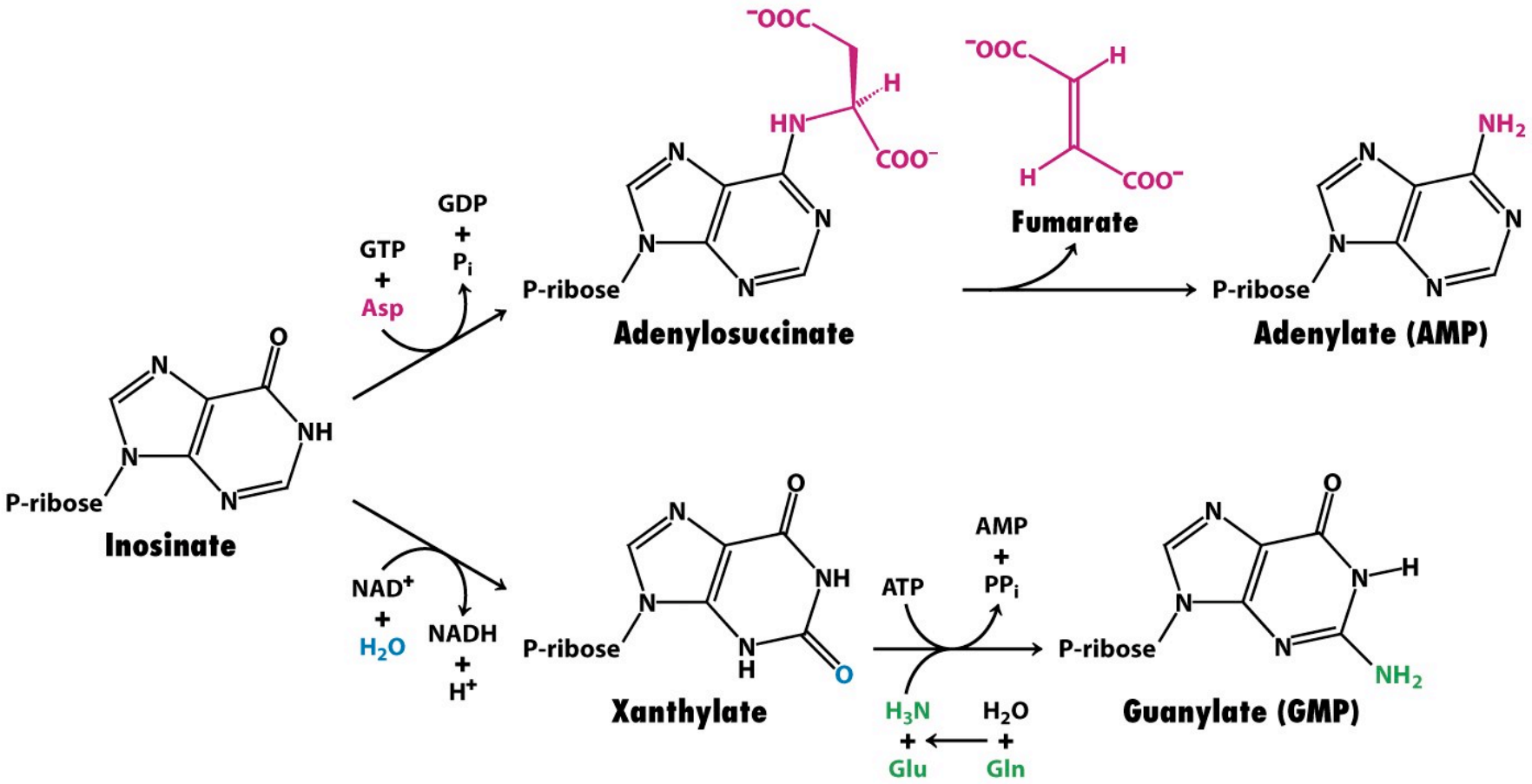

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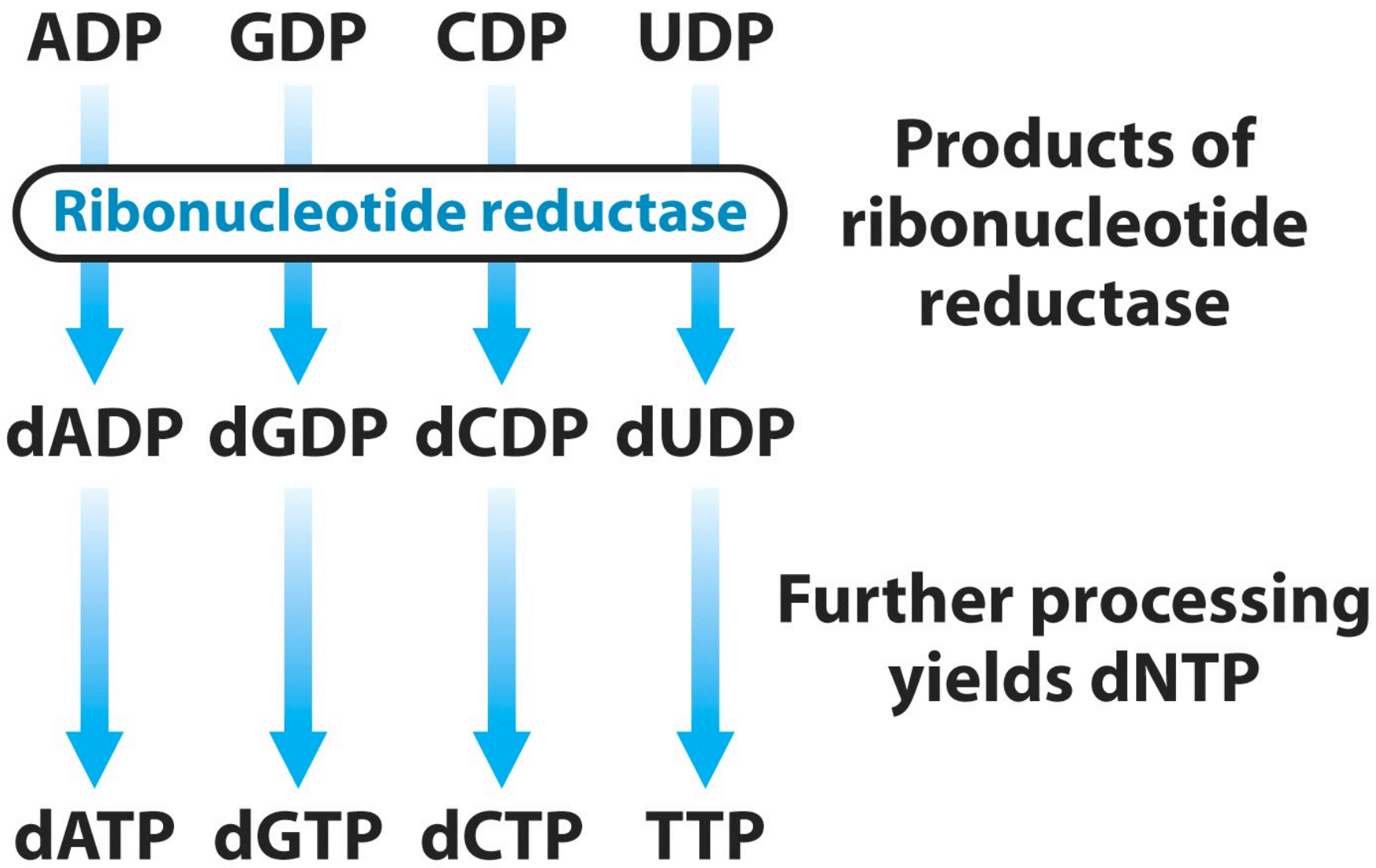

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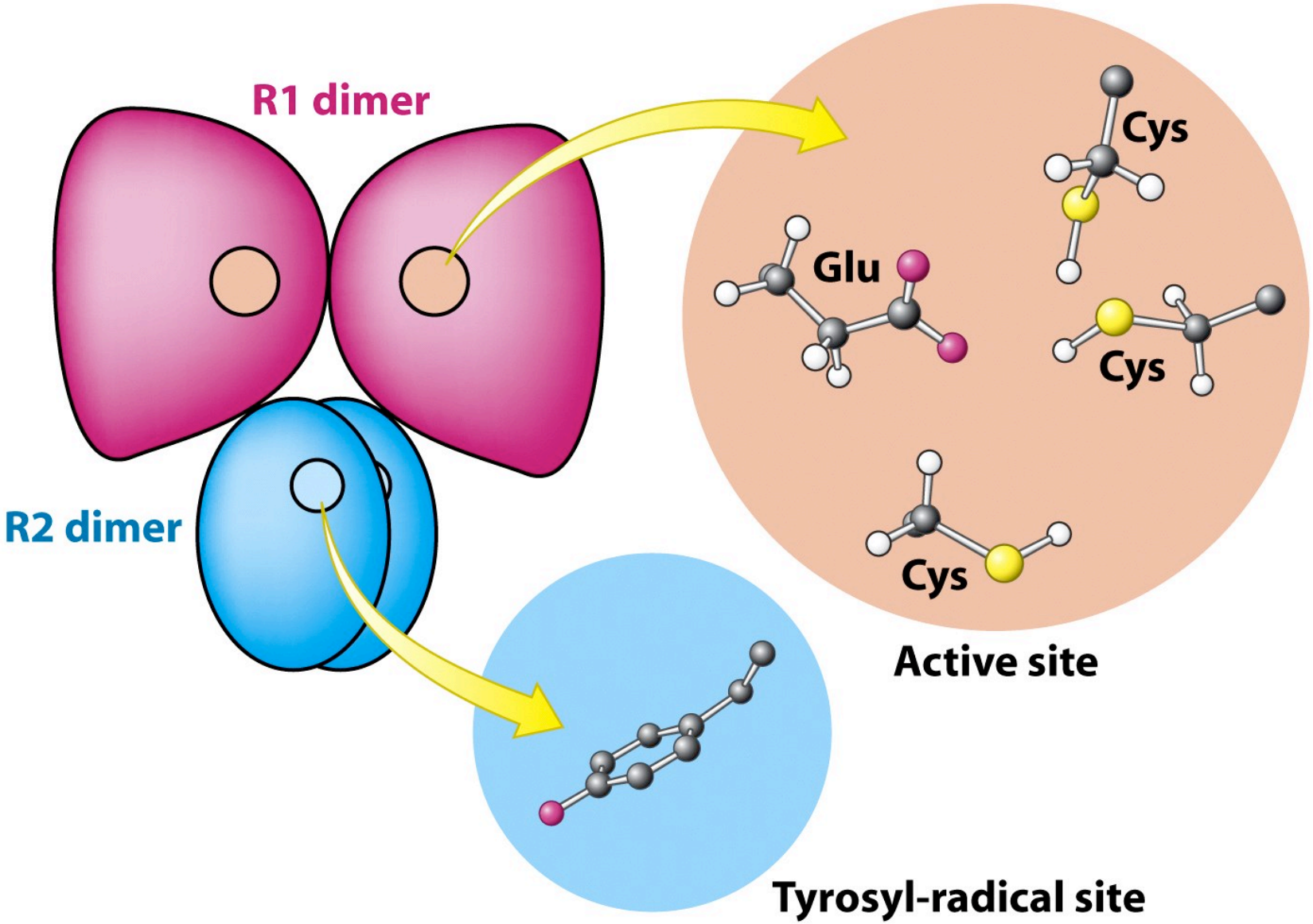
Ribonucleotide Reductase



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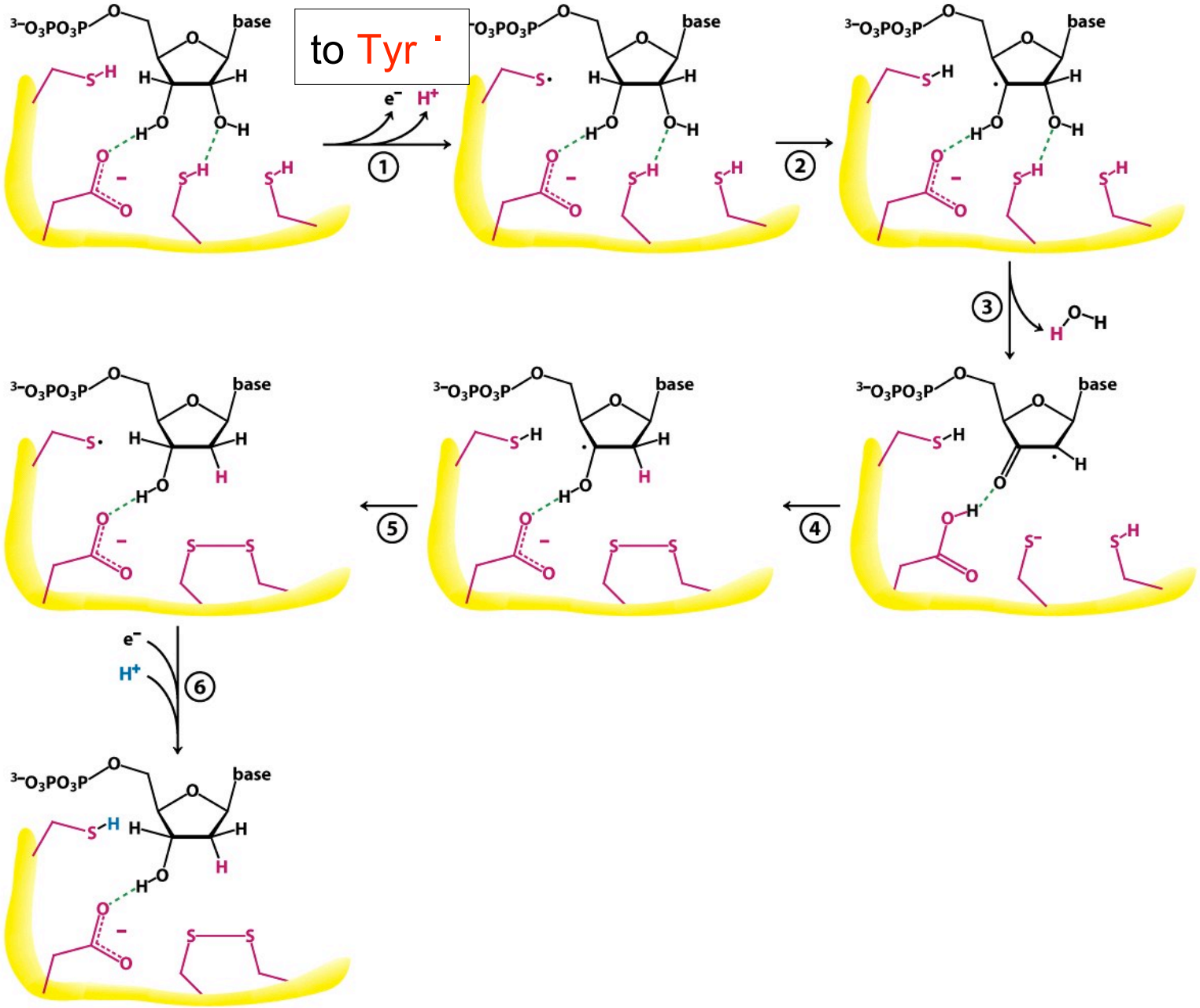

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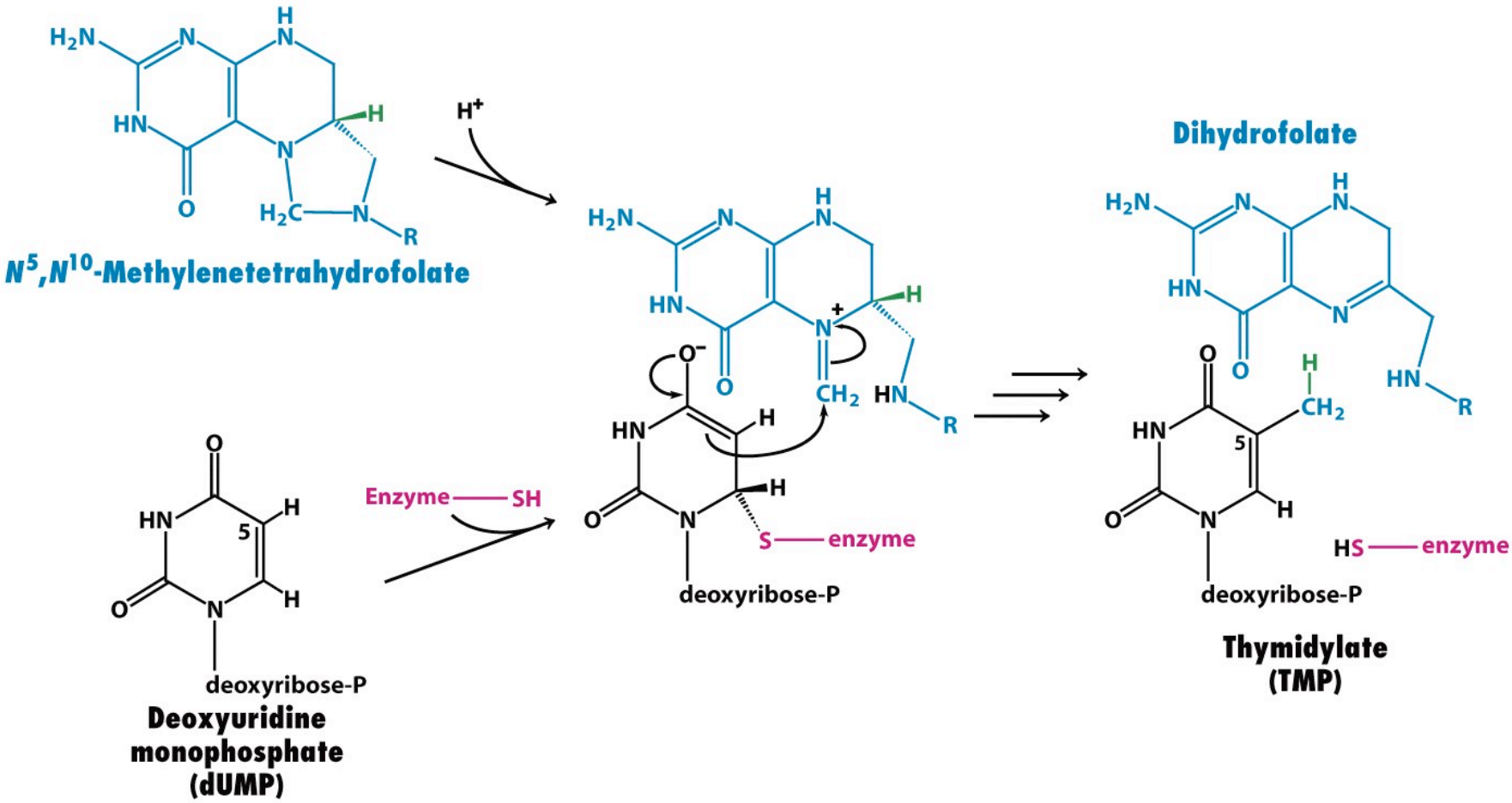

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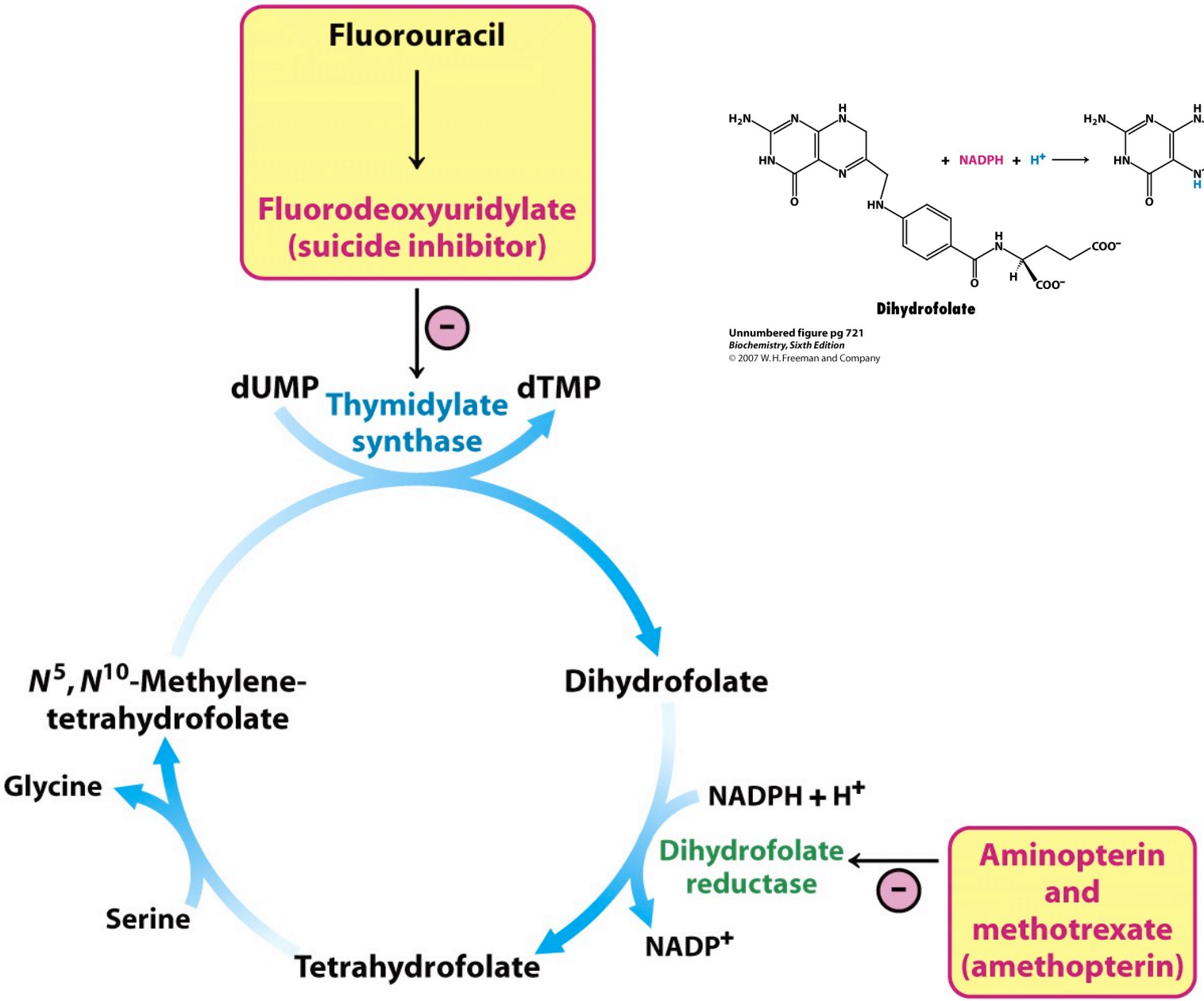

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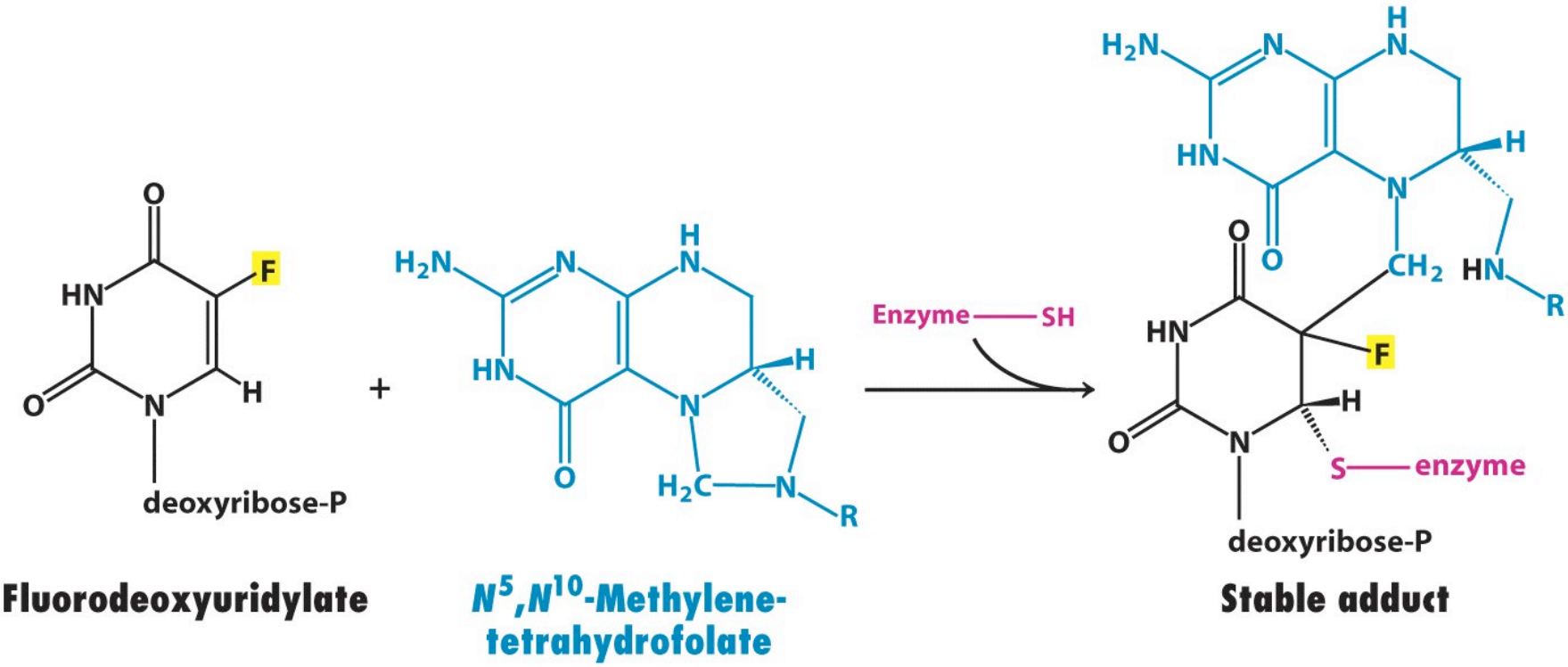
Suicide Inhibition



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Pyrimidine regulation

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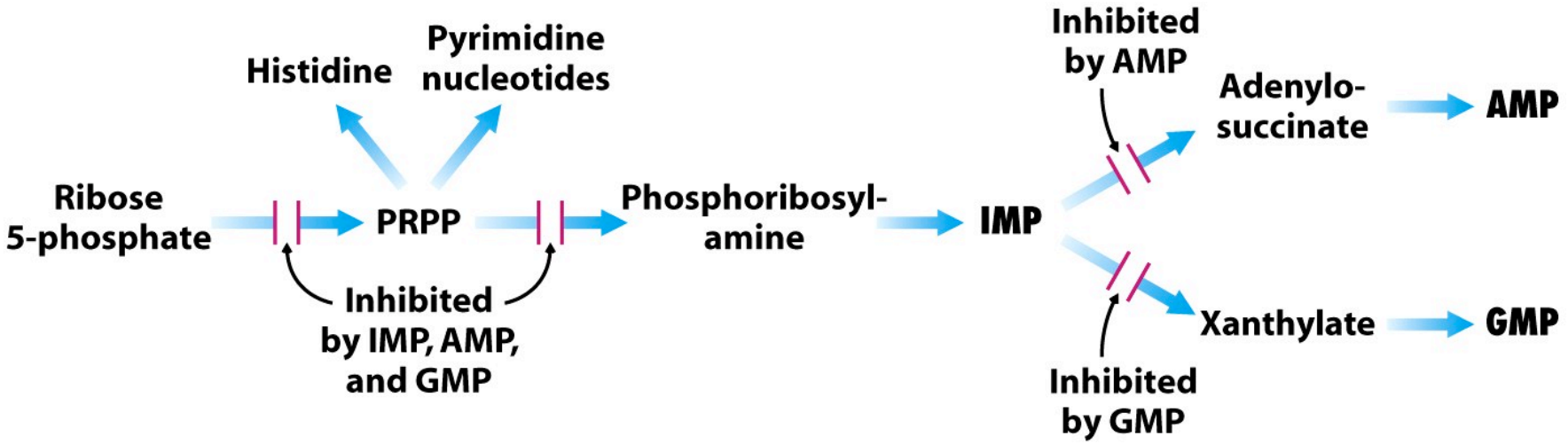
Purine regulation



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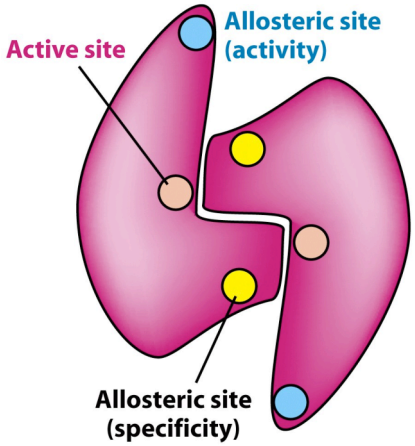

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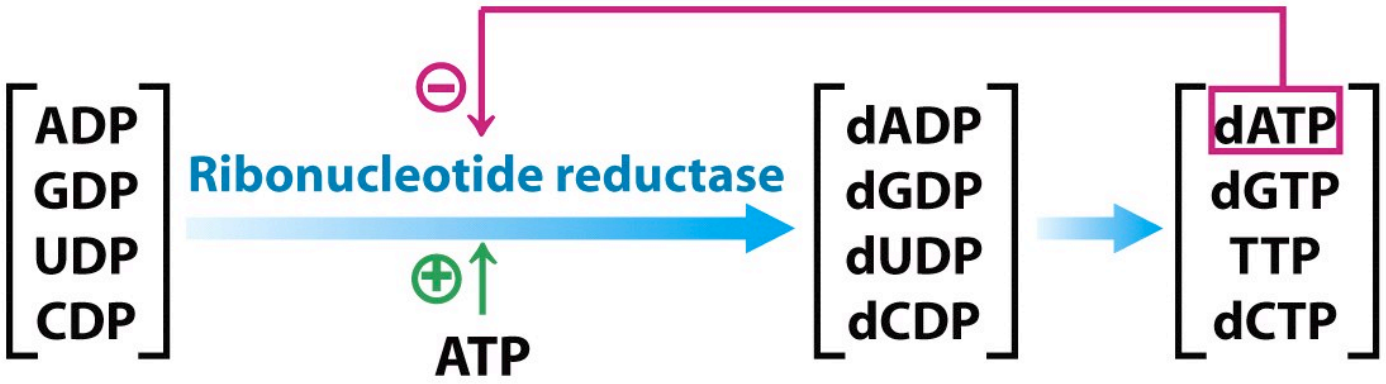
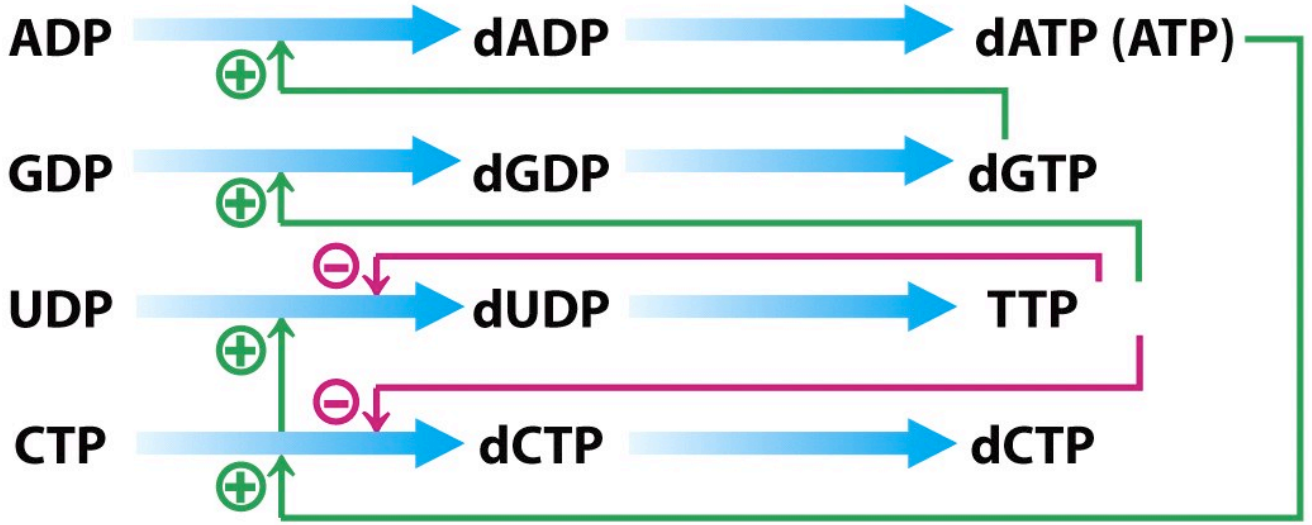
Regulation of overall activity



Regulation of substrate specificity



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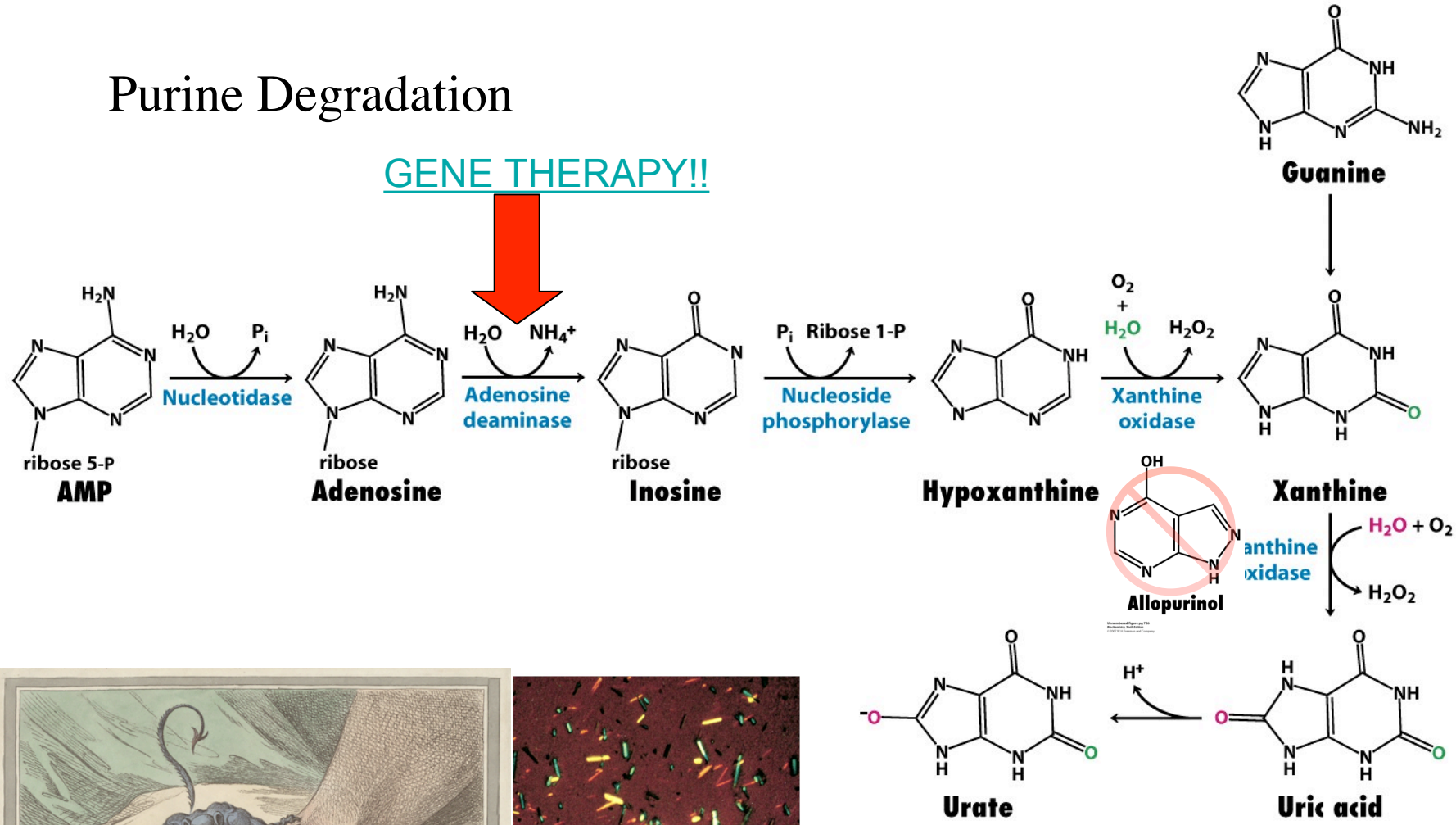
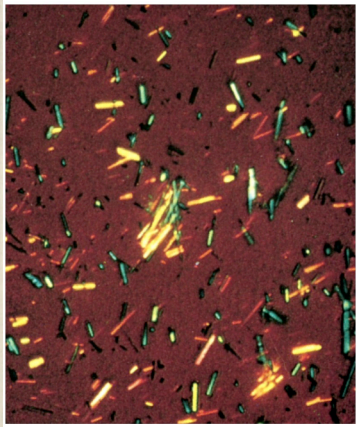
Purine Degradation

GENE THERAPY!!





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The Gout James Gillray(1757-1815), artist