Ankara University, Faculty of Agriculture , Department of Fisheries and Aquaculture, Programme of Fisheries and Aquaculture

AQS104: Biochemistry

Reference: Nelson, D. L., Lehninger, A. L., & Cox, M. M. (2008). ***Lehninger Principles of Biochemistry (5th edition)***. Macmillan.

AQS104 BIOCHEMISTRY: Weekly Programme	
1. Week: • The foundations of biochemistry • Water	**8. Week:** Principles of metabolic regulation The citric acid cycle
2. Week: • Amino acids, peptides, and proteins • The three-dimensional structure of proteins	**9. Week:** Fatty acid catabolism Aino acid oxidation and the production of urea
3. Week: • Protein function • Enzymes	**10. Week:** Oxidative phosphorylation and photophosphorylation Carbohydrate biosynthesis in plants and bacteria
4. Week: • Carbohydrates and Glycobiology • Nucleotides and Nucleic Acids	**11. Week:** Lipid biosynthesis Biosynthesis of amino acids, nucleotides, and related molecules
5. Week: • DNA-based information technologies • Lipids	**12. Week:** Hormonal regulation and integration of mammalian metabolism Genes and chromosomes
6. Week: Biological membranes and transport Biosignaling	**13. Week:** DNA metabolism RNA metabolism
7. Week: Bioenergetics and biochemical reaction types Glycolysis, gluconeogenesis, and the pentose phosphate pathway	**14. Week:** Protein metabolism Regulation of gene expression

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14. Week:

Protein Metabolism

Regulation of Gene Expression

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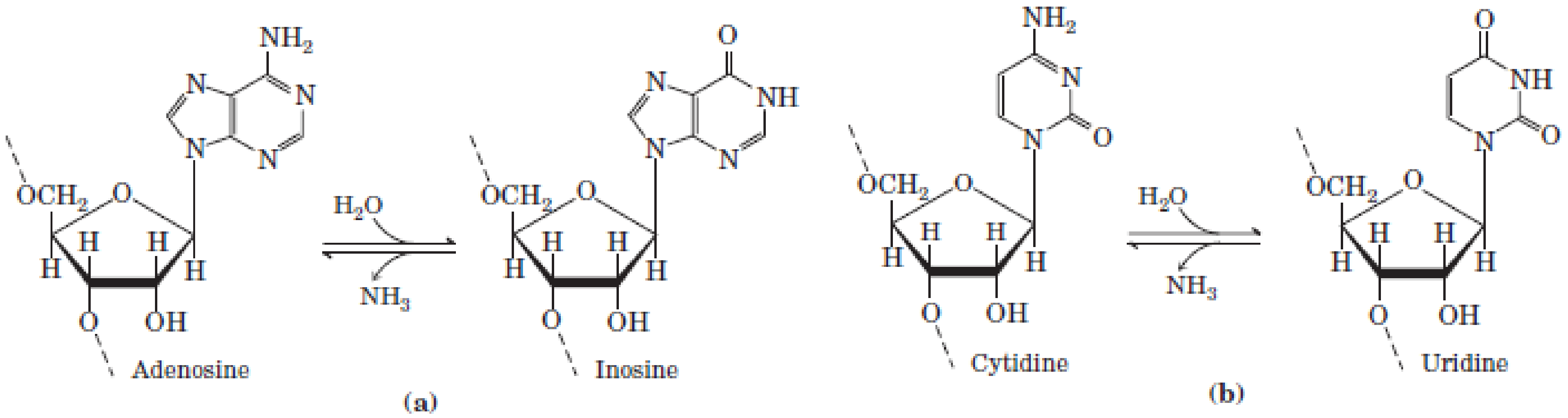

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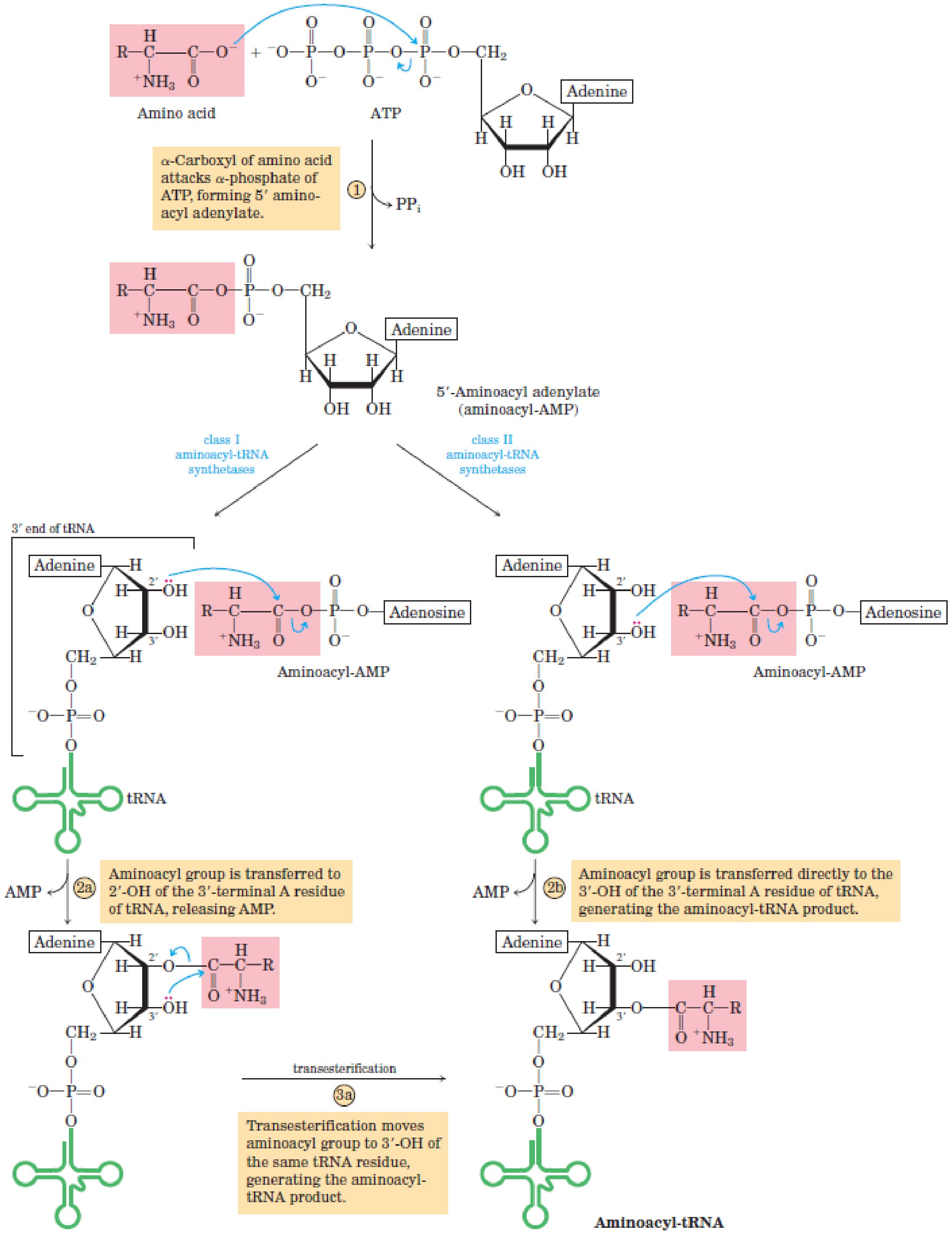

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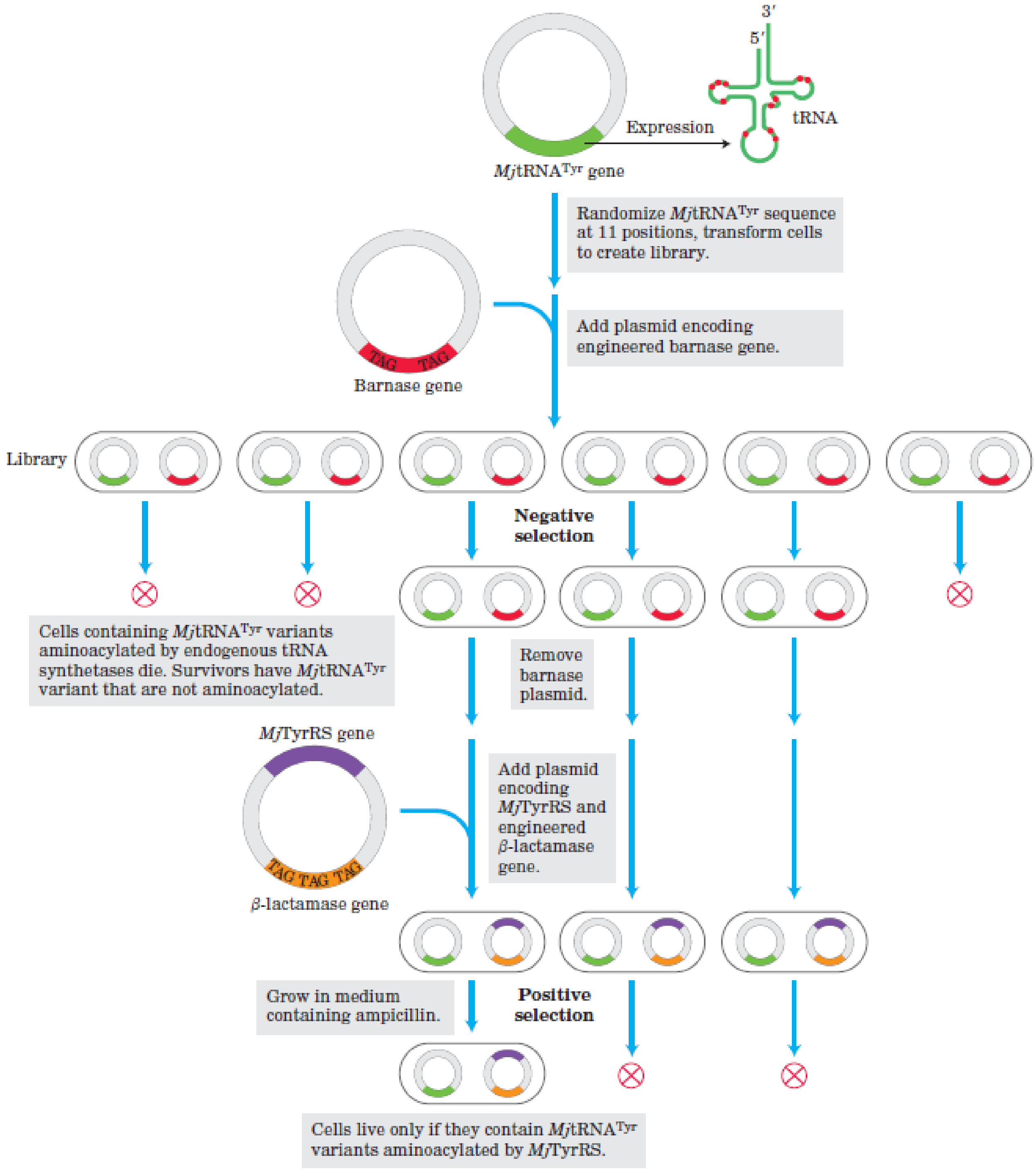

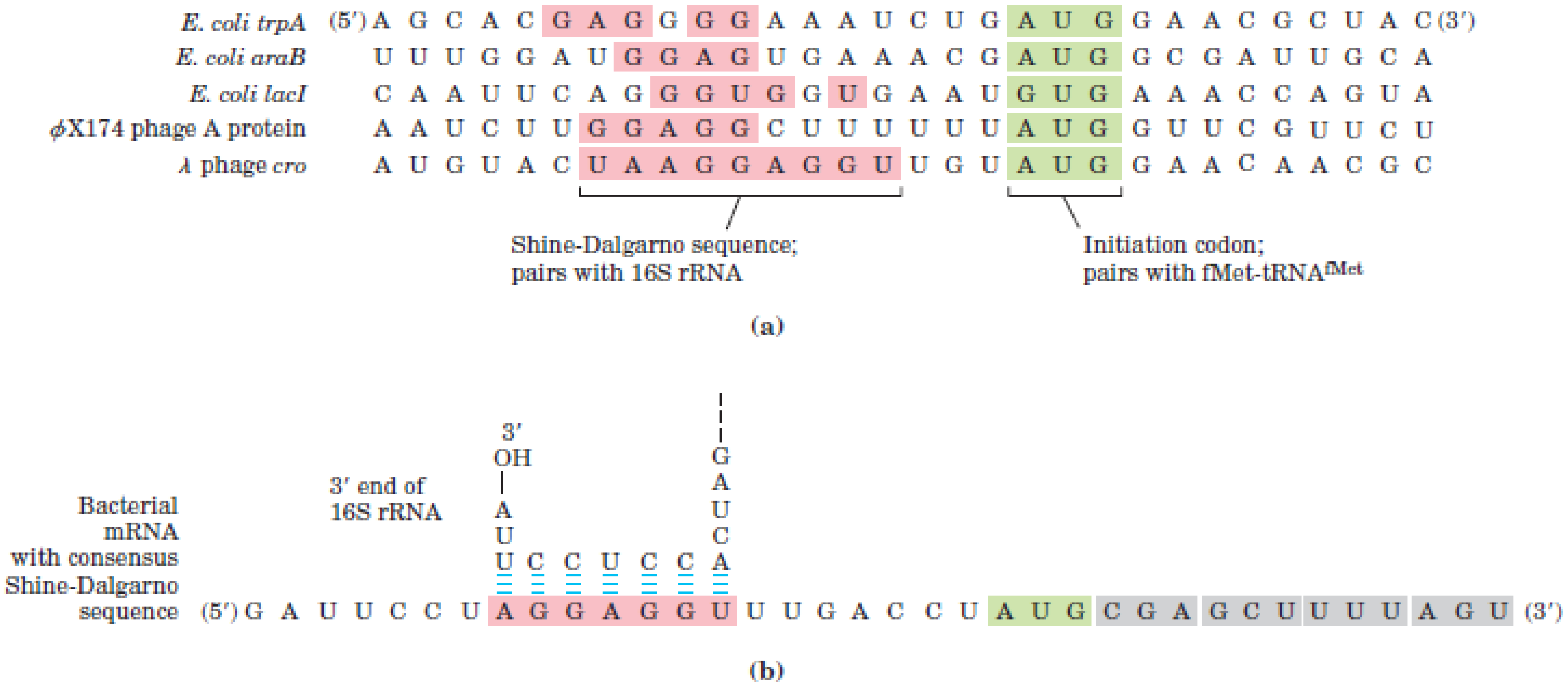
E. coli trpA (5′) A G C A C G A G G G G A A A U C U G A U G G A A C G C U A C (3′)
E. coli araB U U U G G A U G G A G U G A A A C G A U G G C G A U U G C A
E. coli lacI C A A U U C A G G G U G G U G A A U G U G A A A C C A G U A
ϕX174 phage A protein A A U C U U G G A G G C U U U U U U A U G G U U C G U U C U
λ phage cro A U G U A C U A A G G A G G U U G U A U G G A A C A A C G C
Shine-Dalgarno sequence; pairs with 16S rRNA
Initiation codon; pairs with fMet-tRNA^fMet
(a)
Bacterial mRNA with consensus Shine-Dalgarno sequence
3′ end of 16S rRNA
3′ OH
A U U C C U C C A C U A G
(5′) G A U U C C U A G G A G G U U U G A C C U A U G C G A G C U U U U A G U (3′)
(b)

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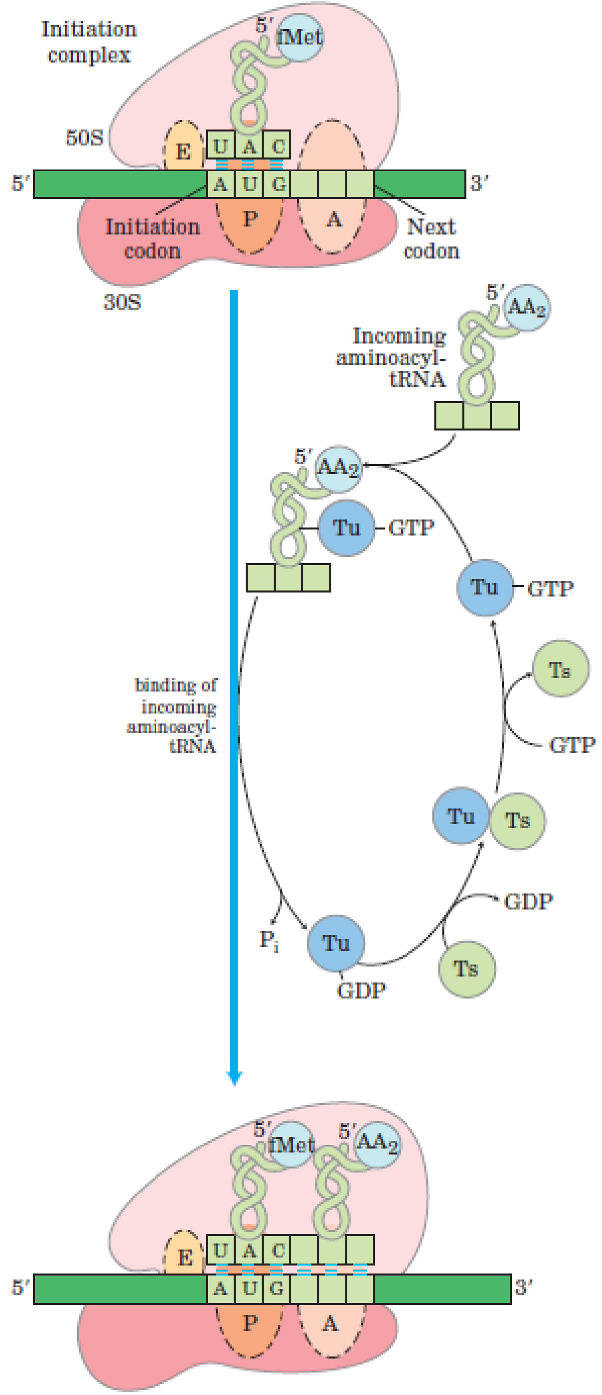

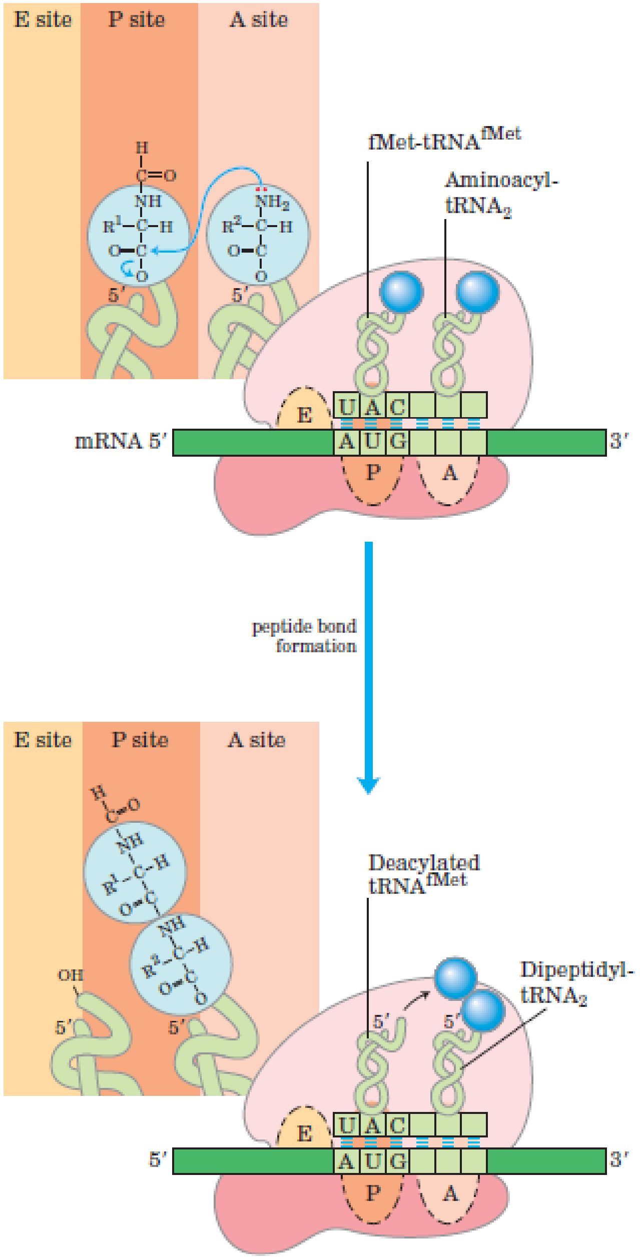

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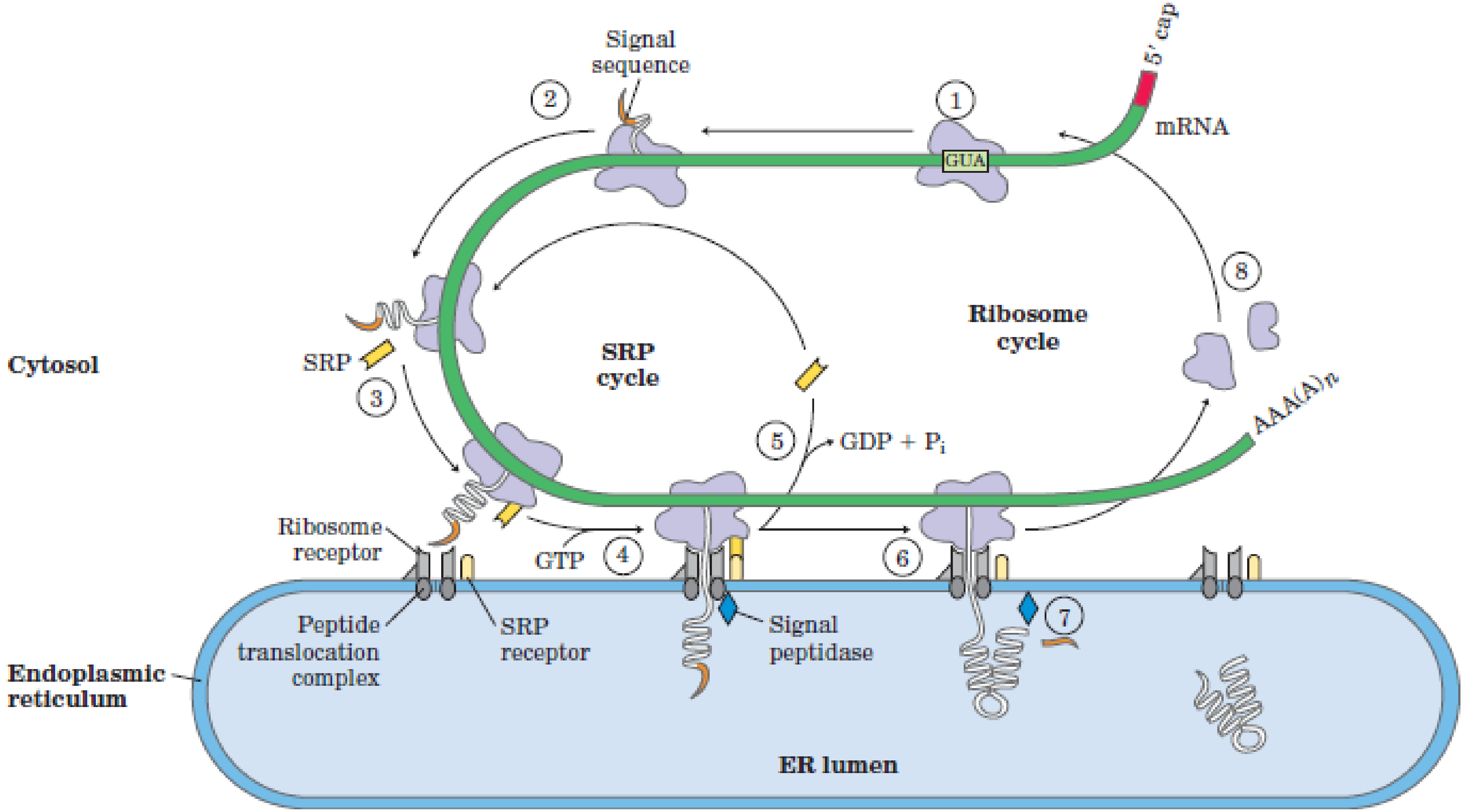

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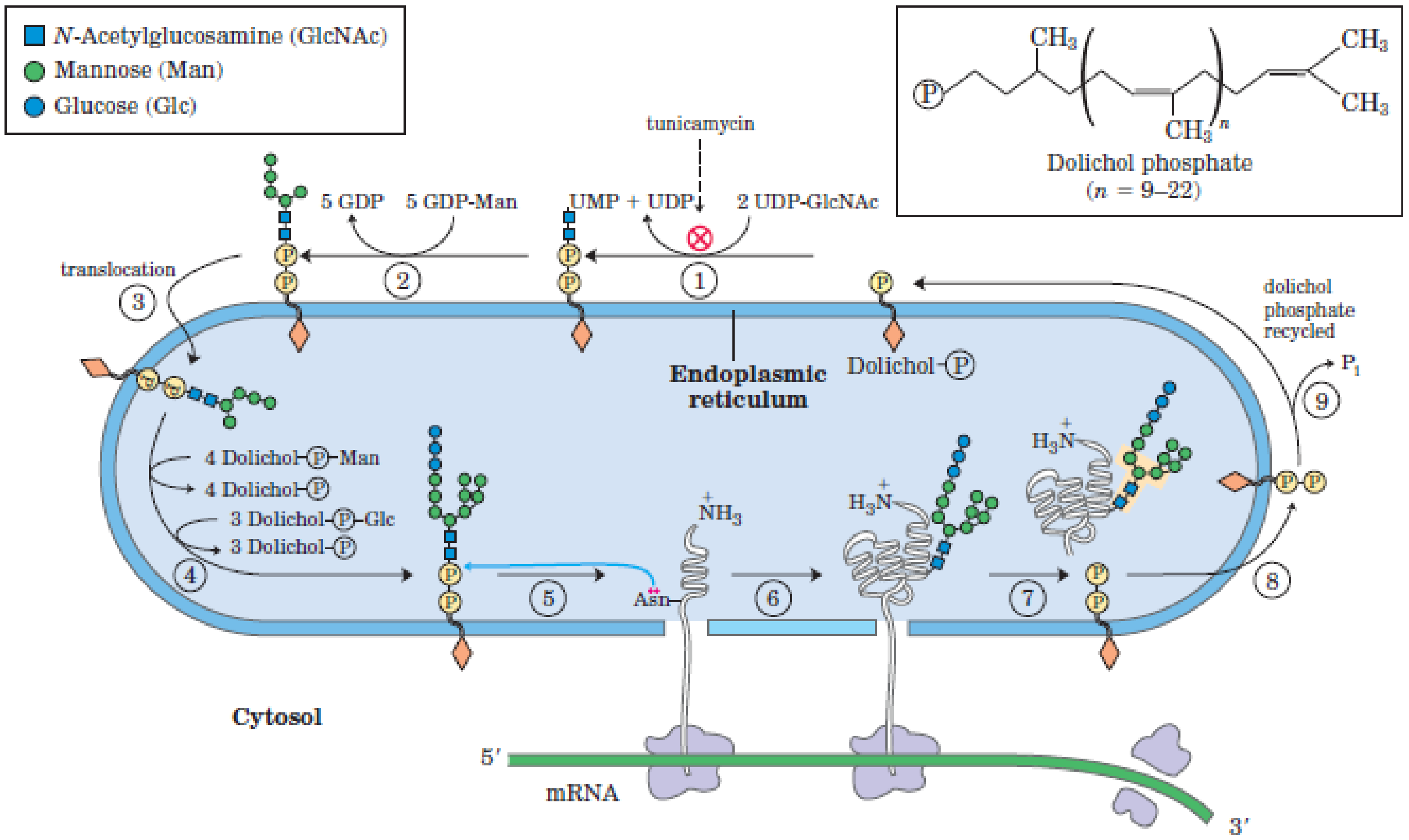

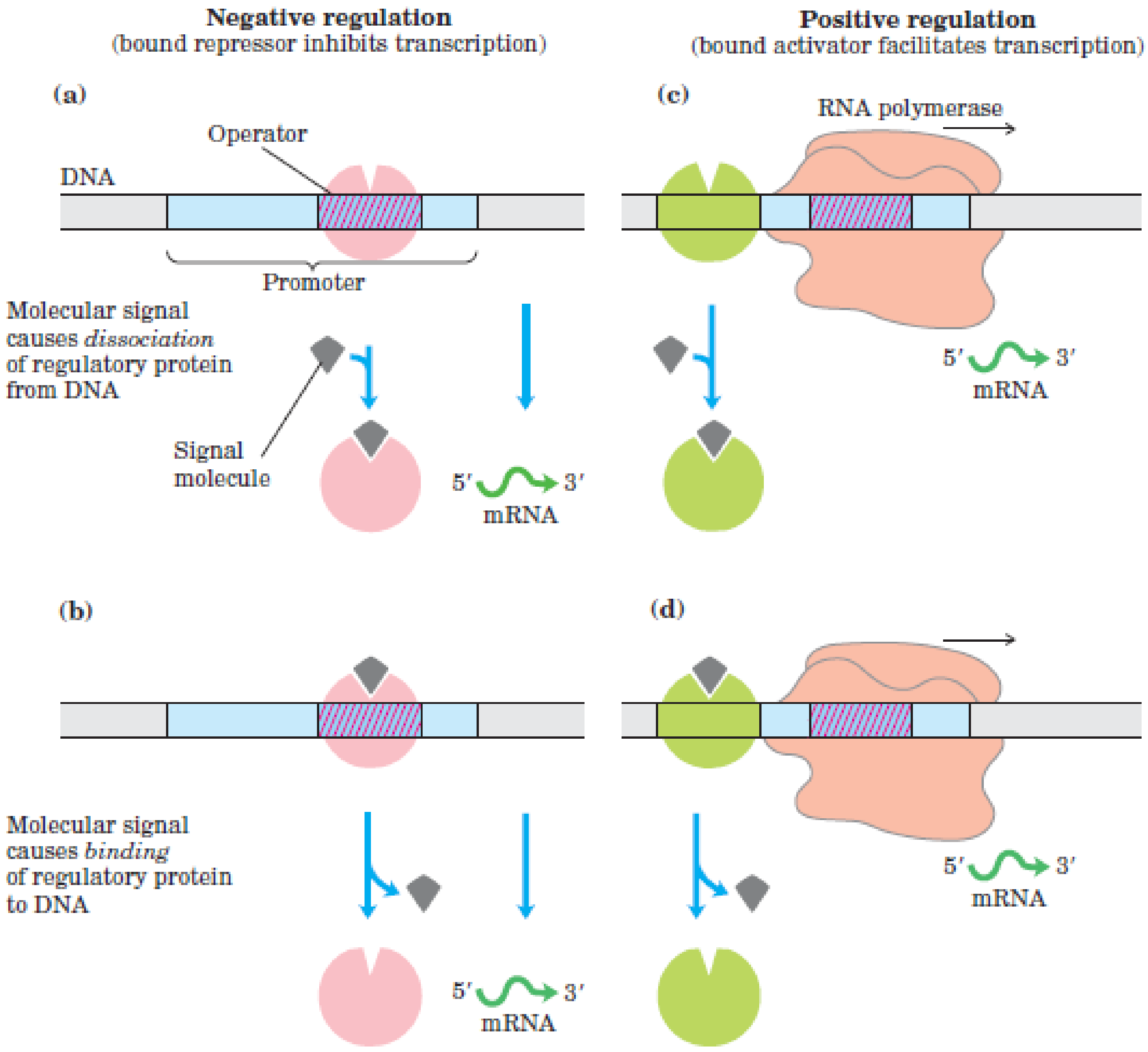

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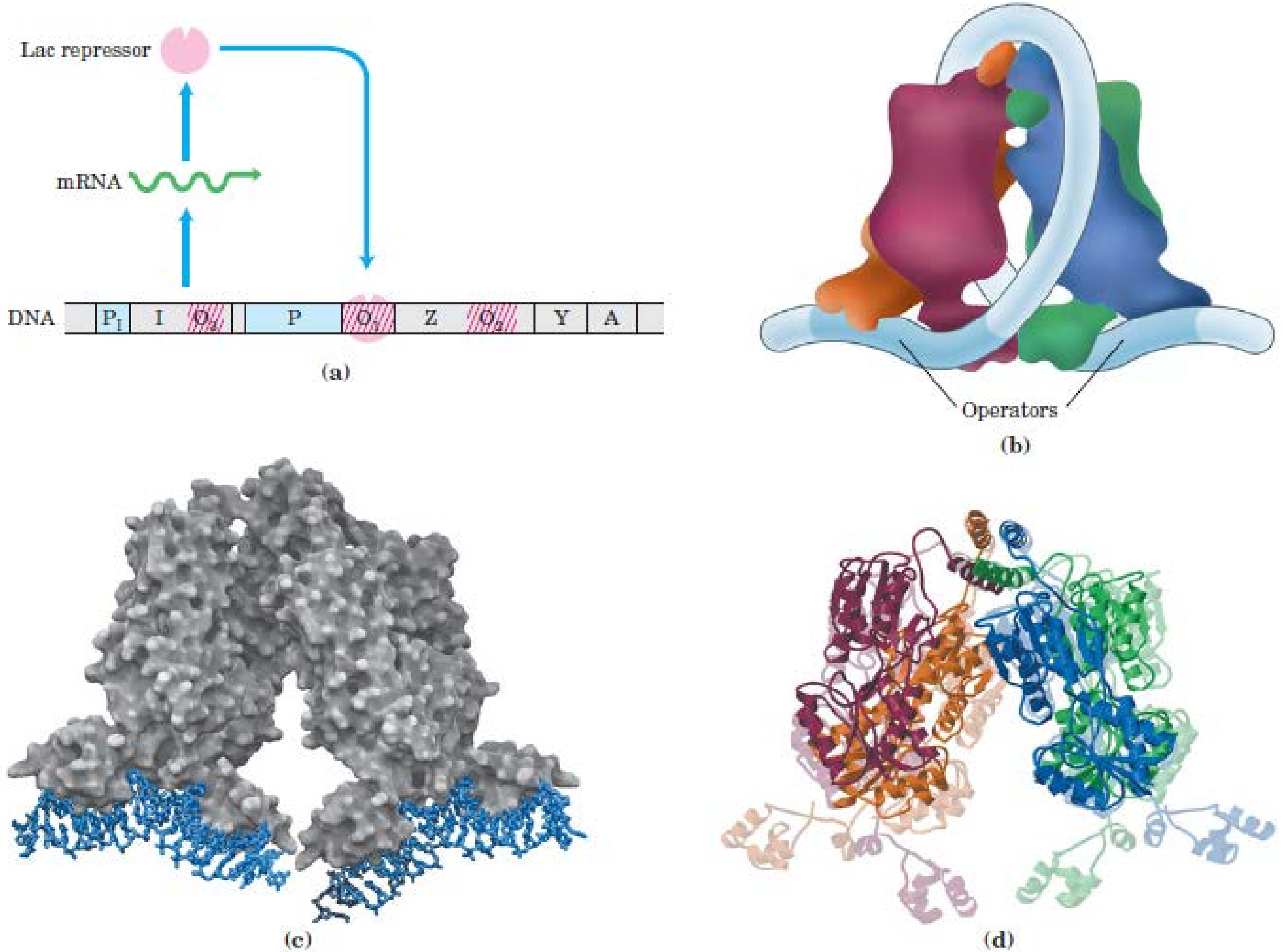

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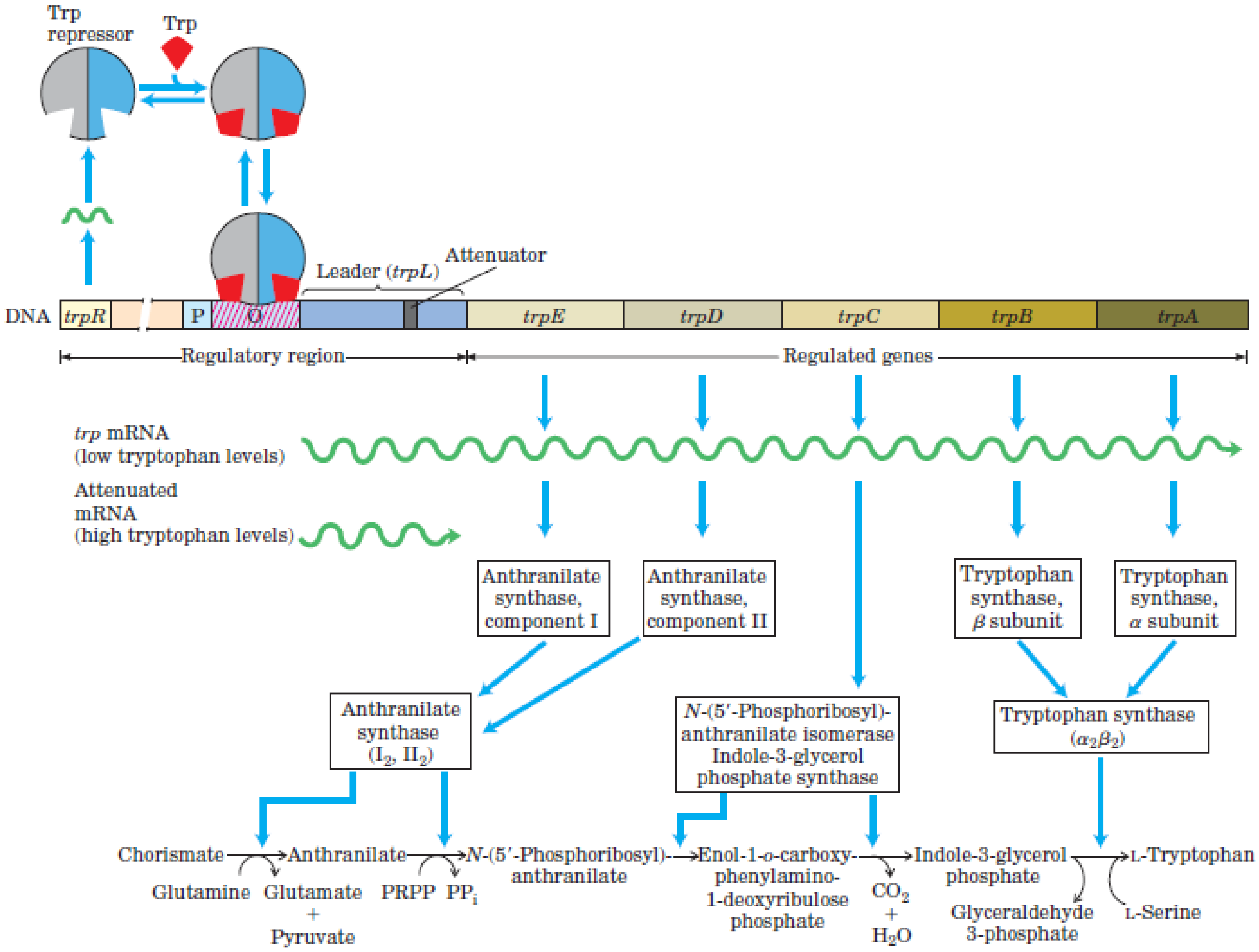

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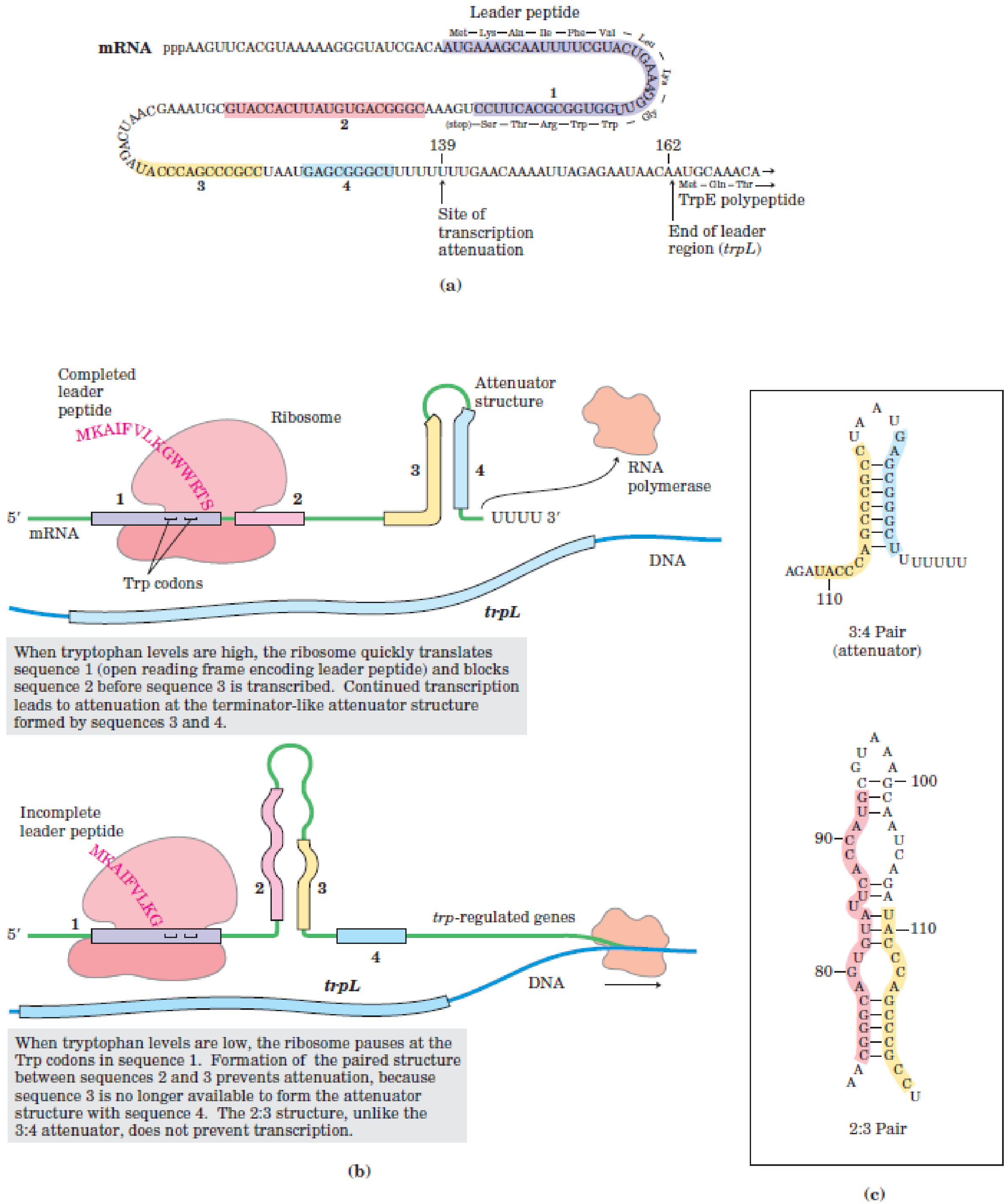

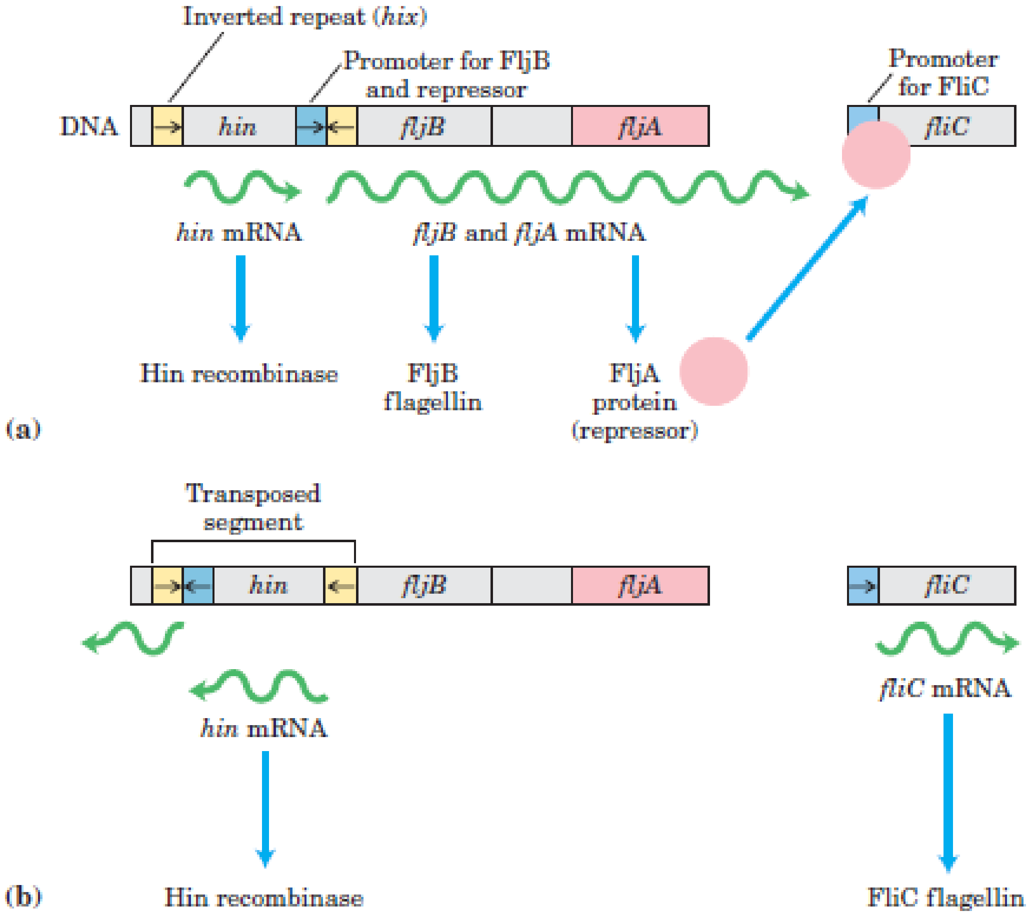

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