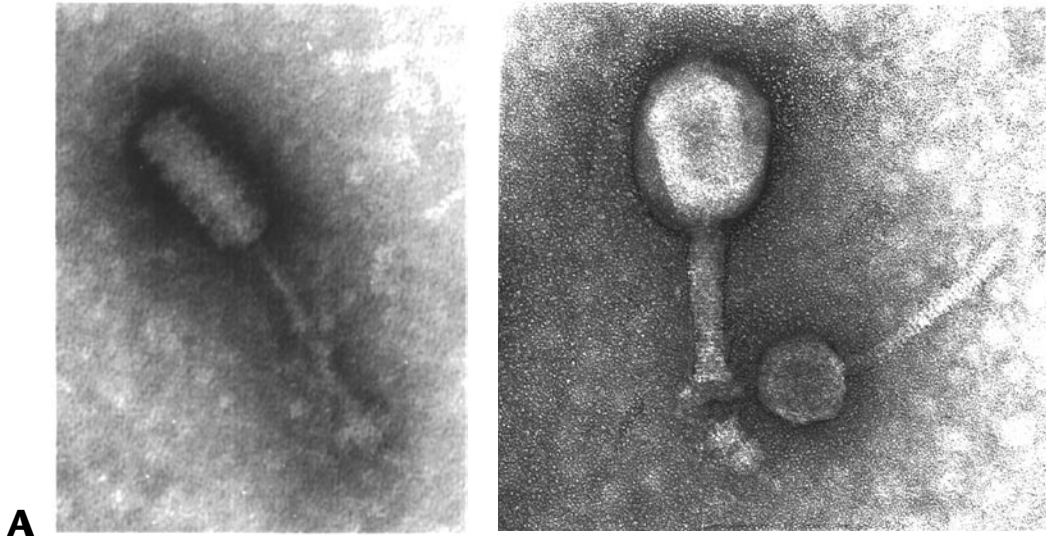
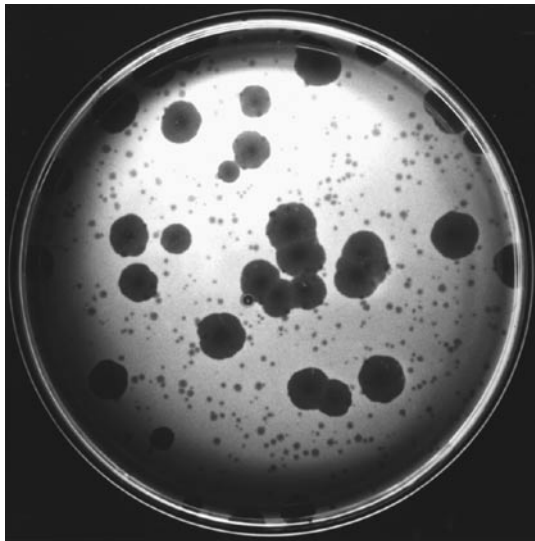


**Figure 7.1**

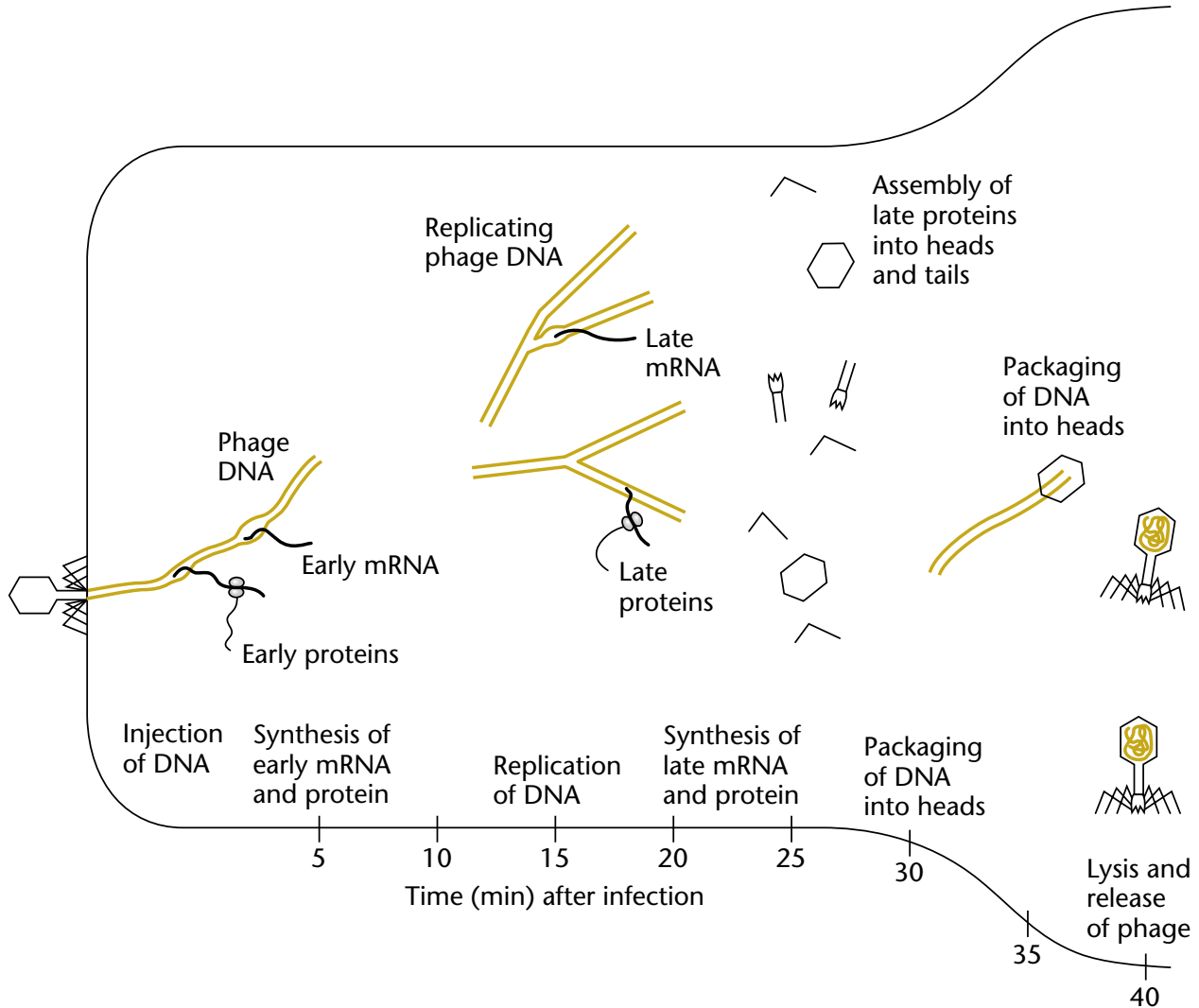


**A**

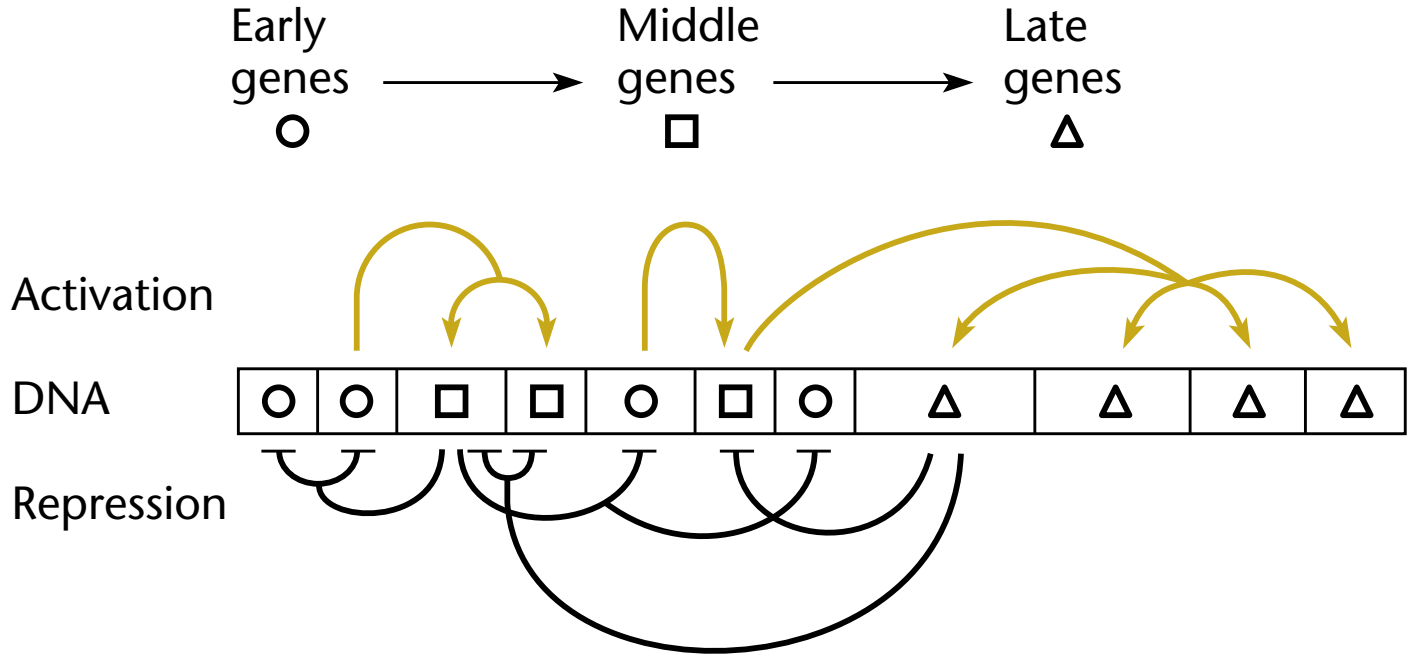


**B**

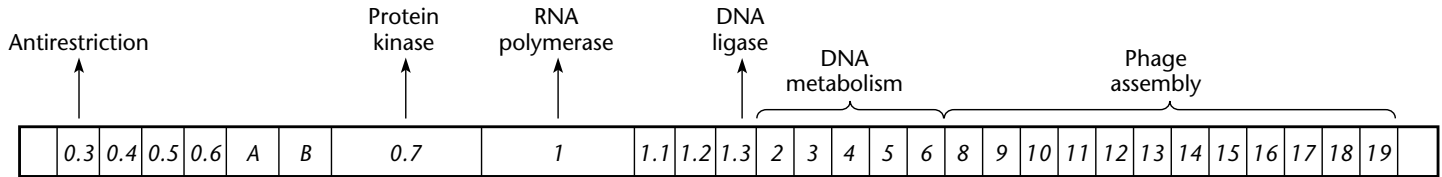
## Figure 7.2



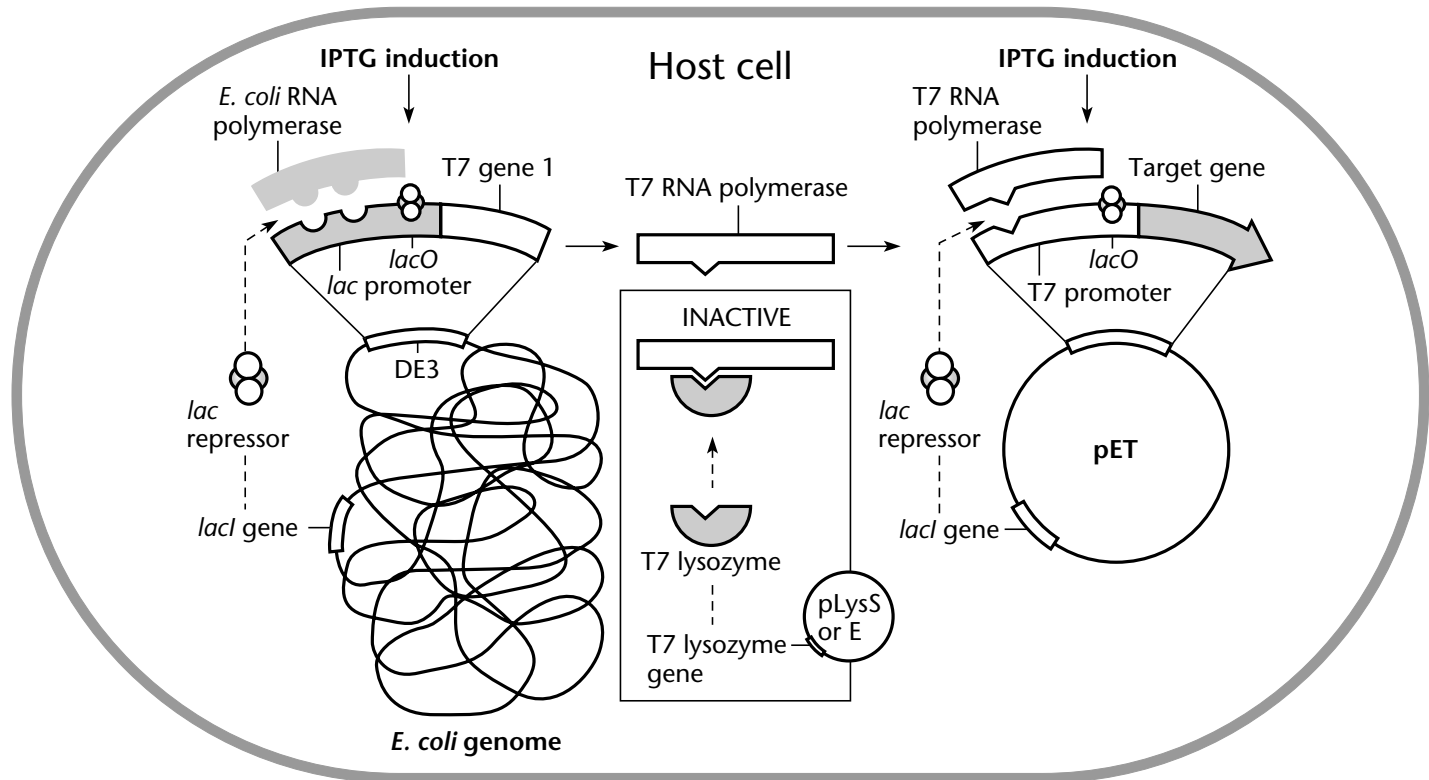
**Figure 7.3**



**Figure 7.4**

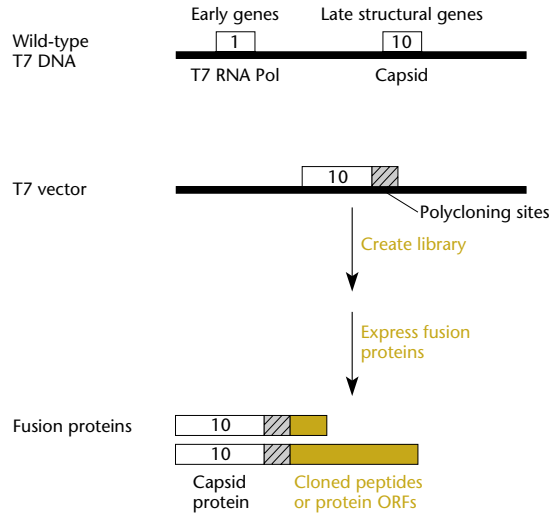


**Figure 7.5**

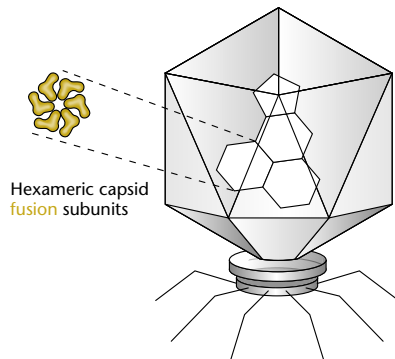


## Box 7.3

### A Cloning proteins to be "displayed"



### B T7 "display" phage particle



### C "Panning"

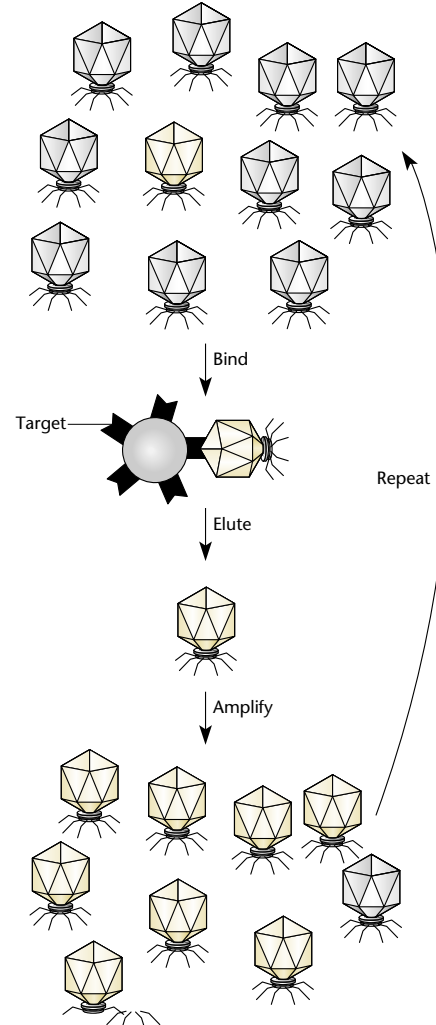


Figure 7.6

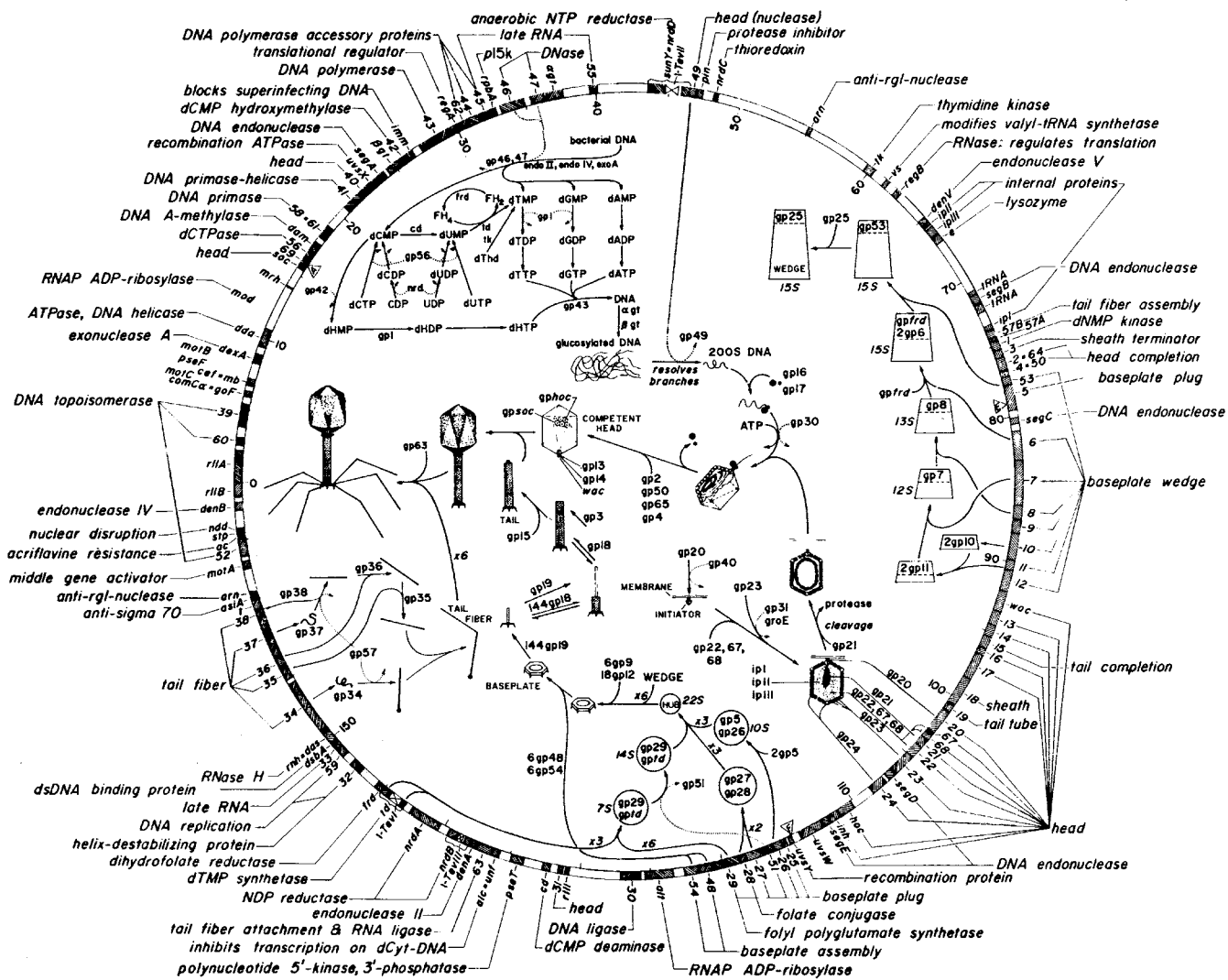
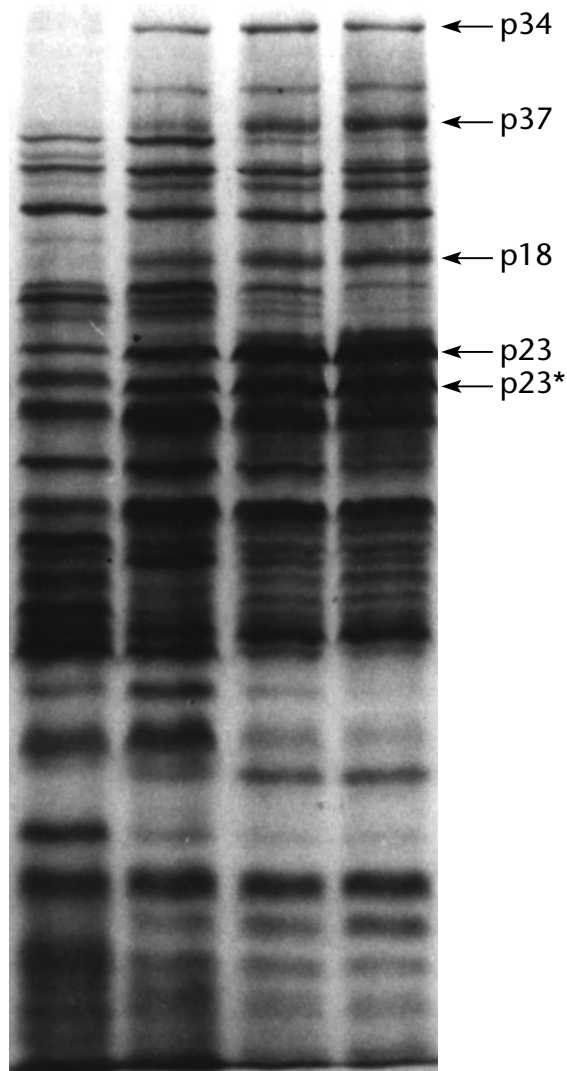
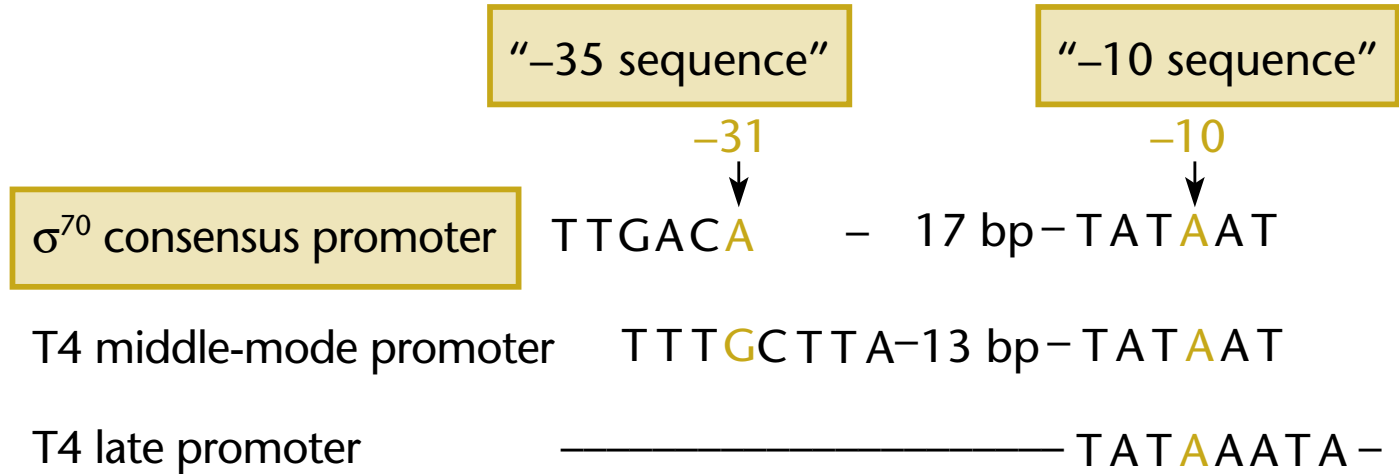


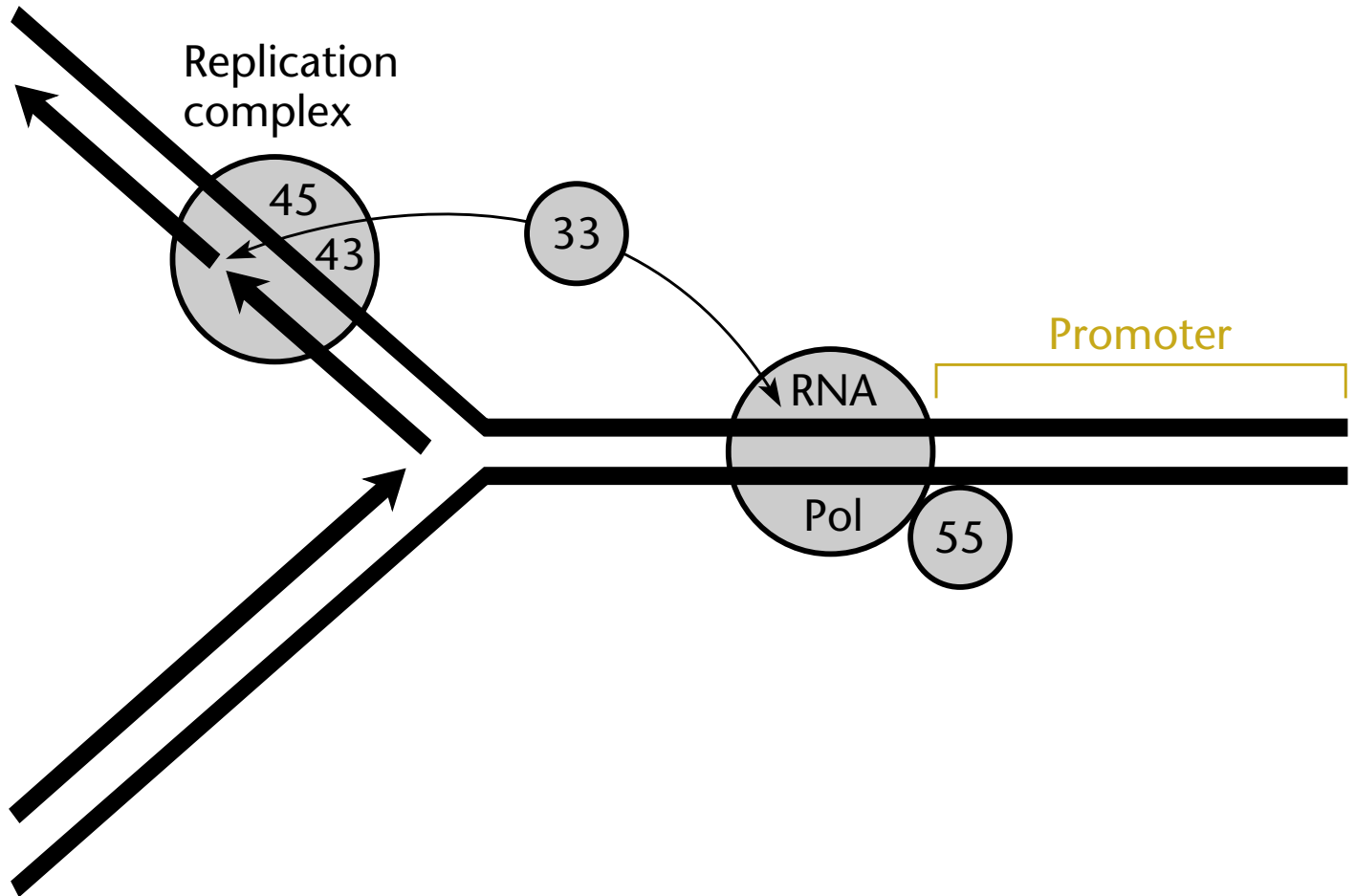
Figure 7.7



**Figure 7.8**



**Figure 7.9**



**Figure 7.10**

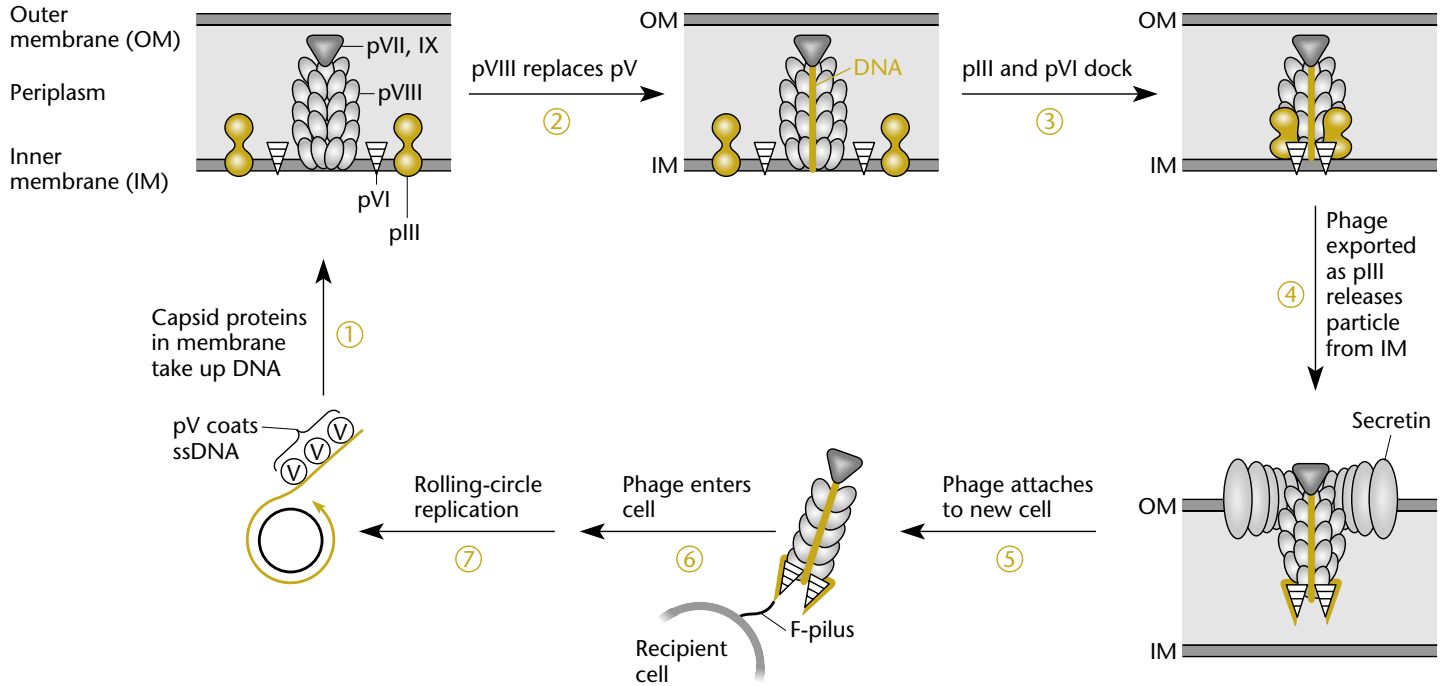
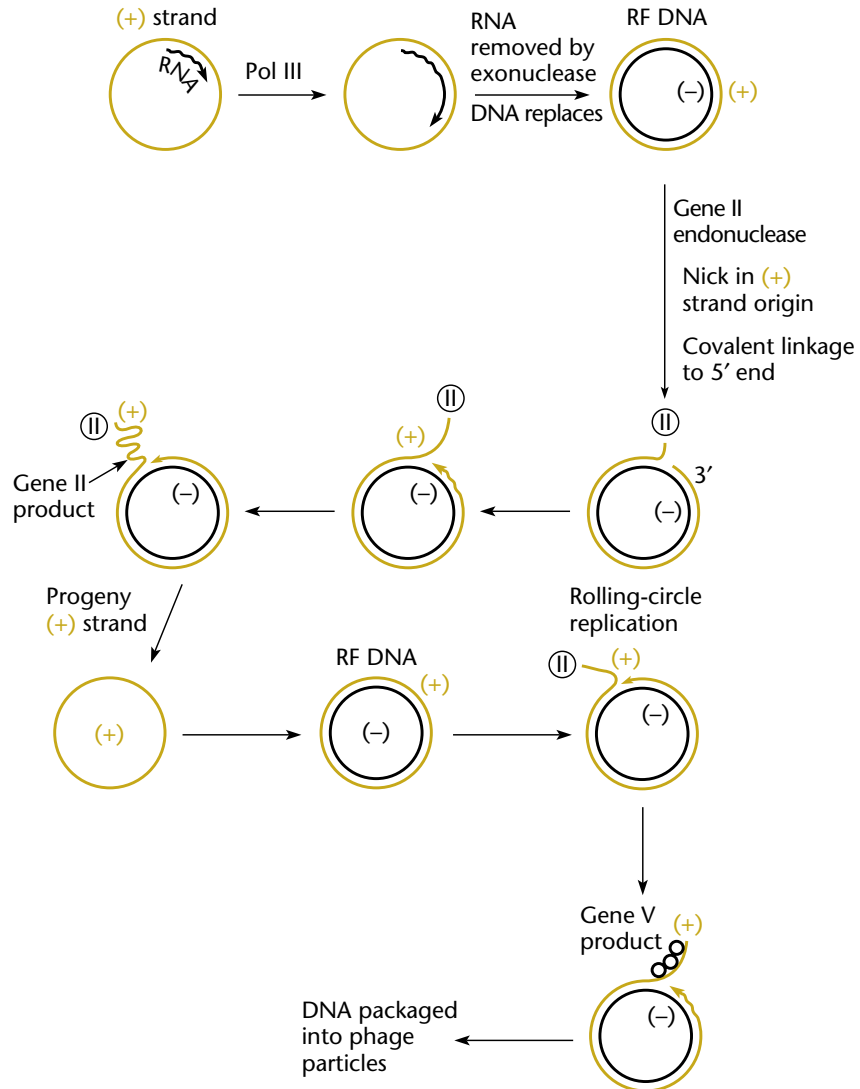
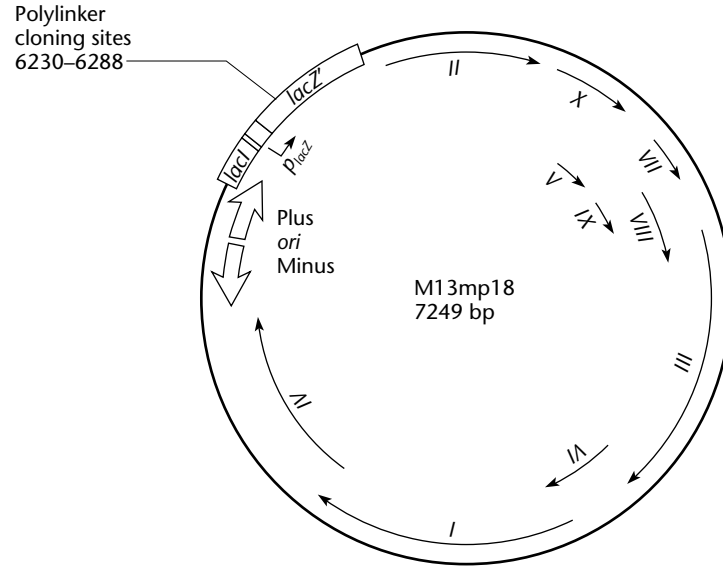


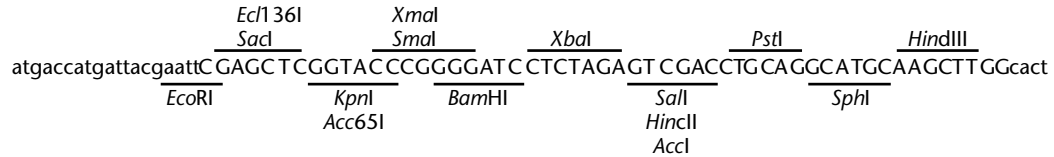
Figure 7.11



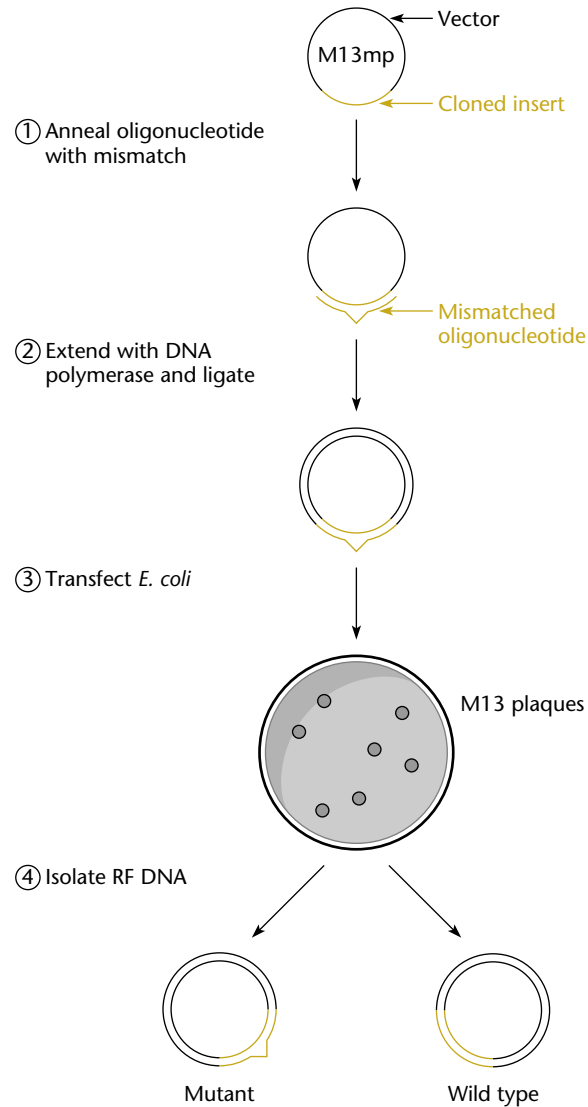
**Figure 7.12**



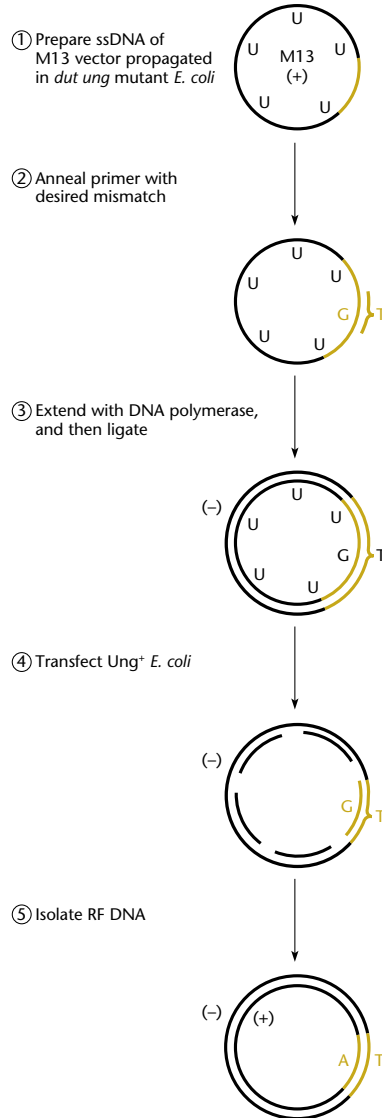
Polylinker cloning sites



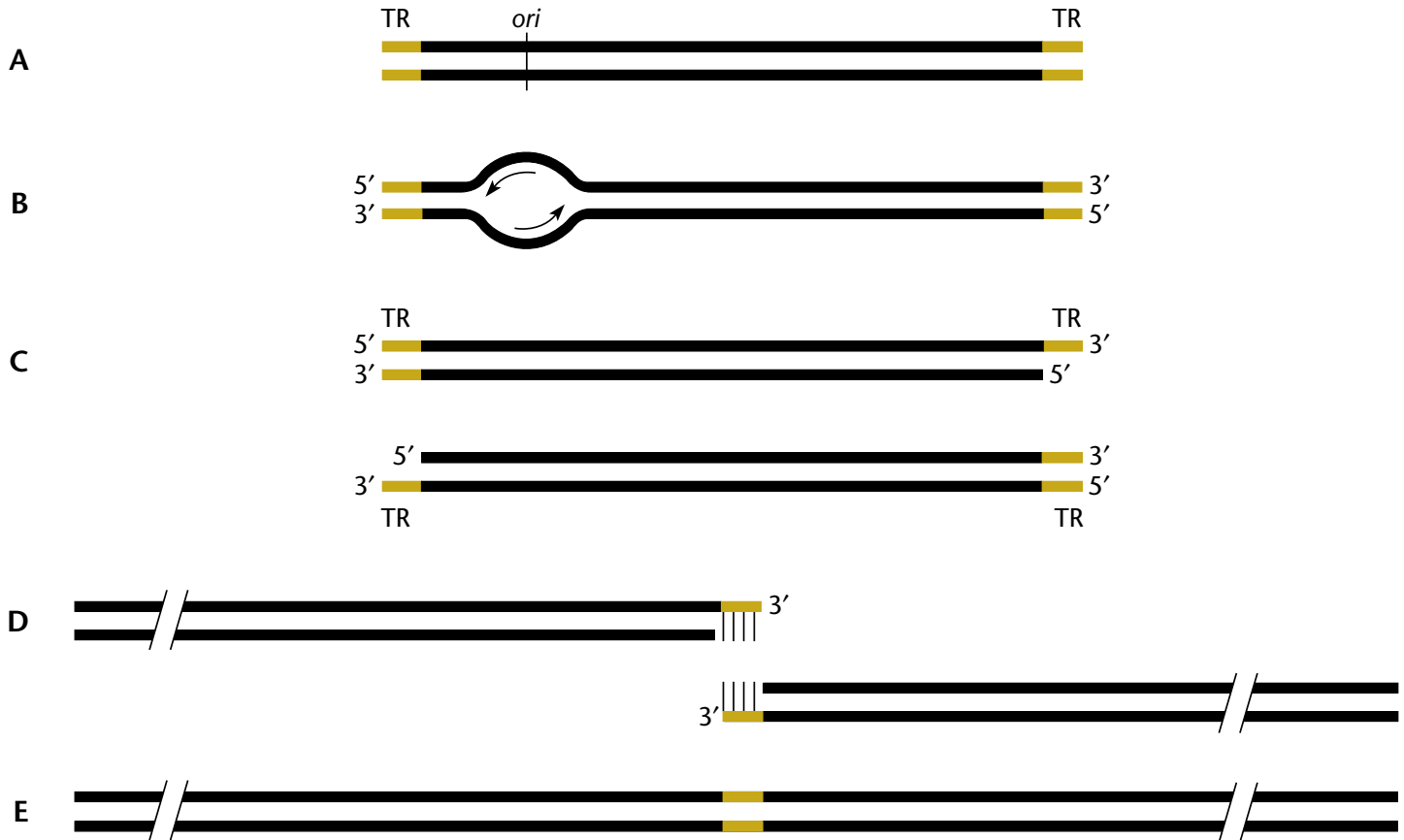
## Figure 7.13



**Figure 7.14**



**Figure 7.15**



## Table 7.1

TABLE 7.1 T4 gene products involved in replication and their homologs in <i>E. coli</i> and eukaryotes		
T4 gene product	<i>E. coli</i> function	Eukaryotic function <sup>b</sup>
<b>Origin-specific replication</b>		
gp43	Pol III $\alpha$ and $\epsilon$	DNA pol $\alpha$ , $\beta$ , $\gamma$
gp45	$\beta$ sliding clamp	PCNA
gp44, gp62	Clamp loader	— <sup>a</sup>
gp41	Replicative helicase	MCM
gp59	DnaC	Edc6
gp61	Primase	—
gp39, gp52, gp60	GyrAB, TopoIV	TopoII
gp30	DNA ligase	—
Rnh	RNase H	—
<b>Recombination-dependent replication</b>		
UvsW	RecG	—
UvsX	RecA	Rad51p (yeast)
UvsY	—	Rad52 (yeast)
gp46, gp47	RecBCD, SbcCD	Rad50p, Mrellp (yeast)
gp32	SSB	RPA
gp59	PriA	—
gp49	RuvABC	—

<sup>a</sup>—, not identified.

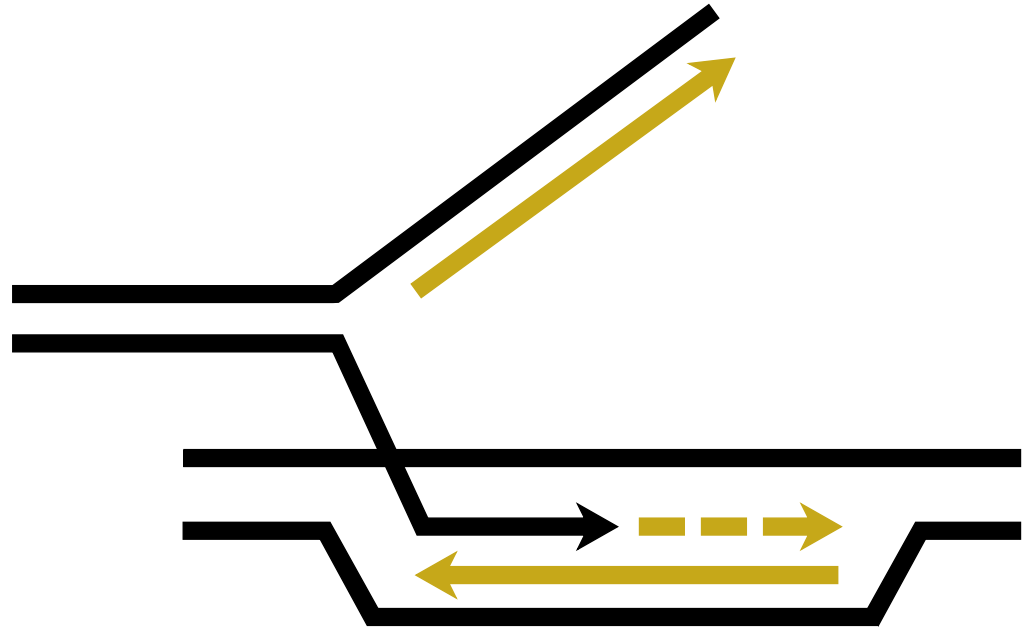
<sup>b</sup> PCNA, proliferating-cell nuclear antigen; RPA, SV40 replication protein A.

**Figure 7.16**

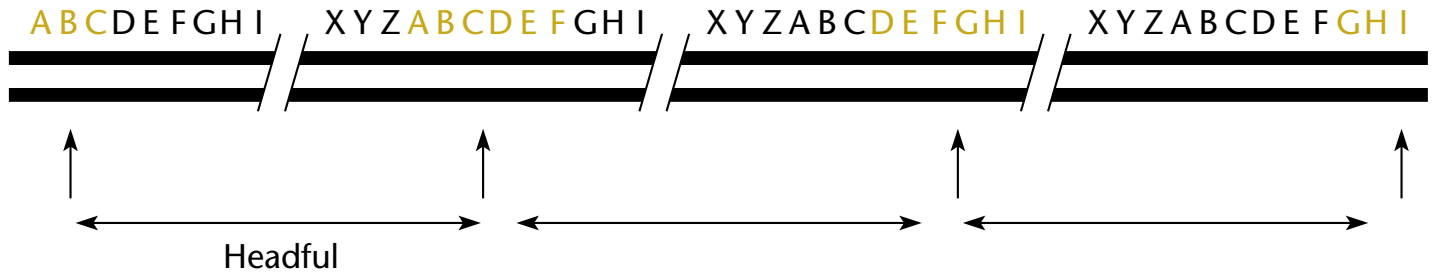
Stage 1:  
specific  
origins



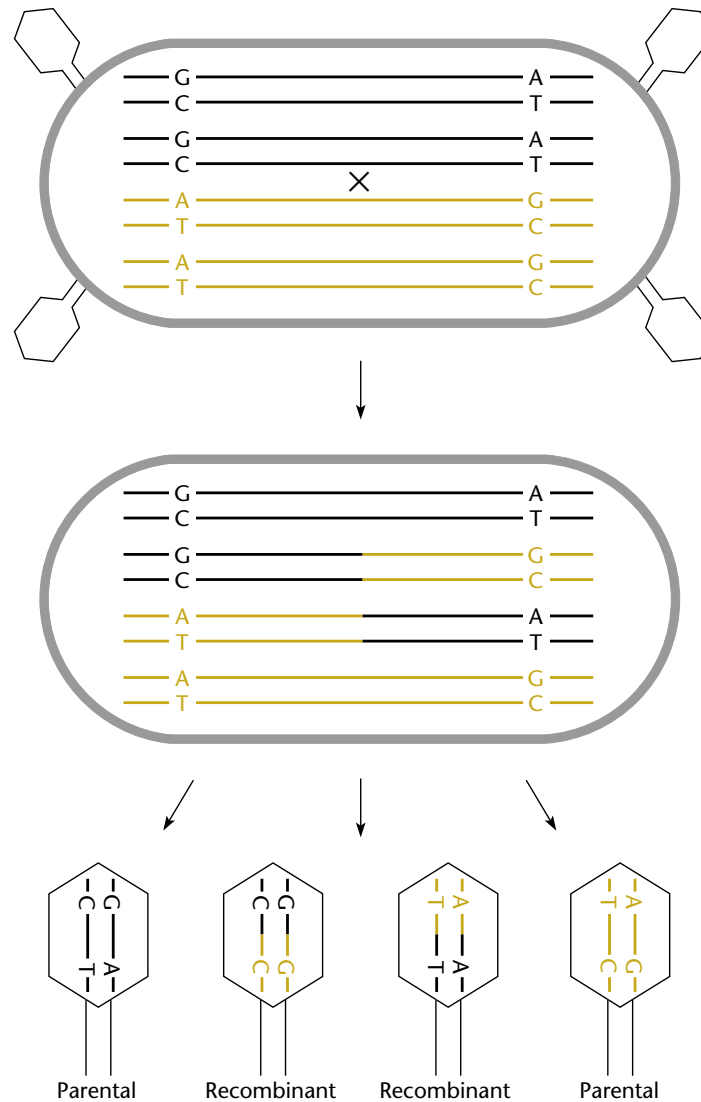
Stage 2:  
no specific  
origins;  
recombination  
dependent



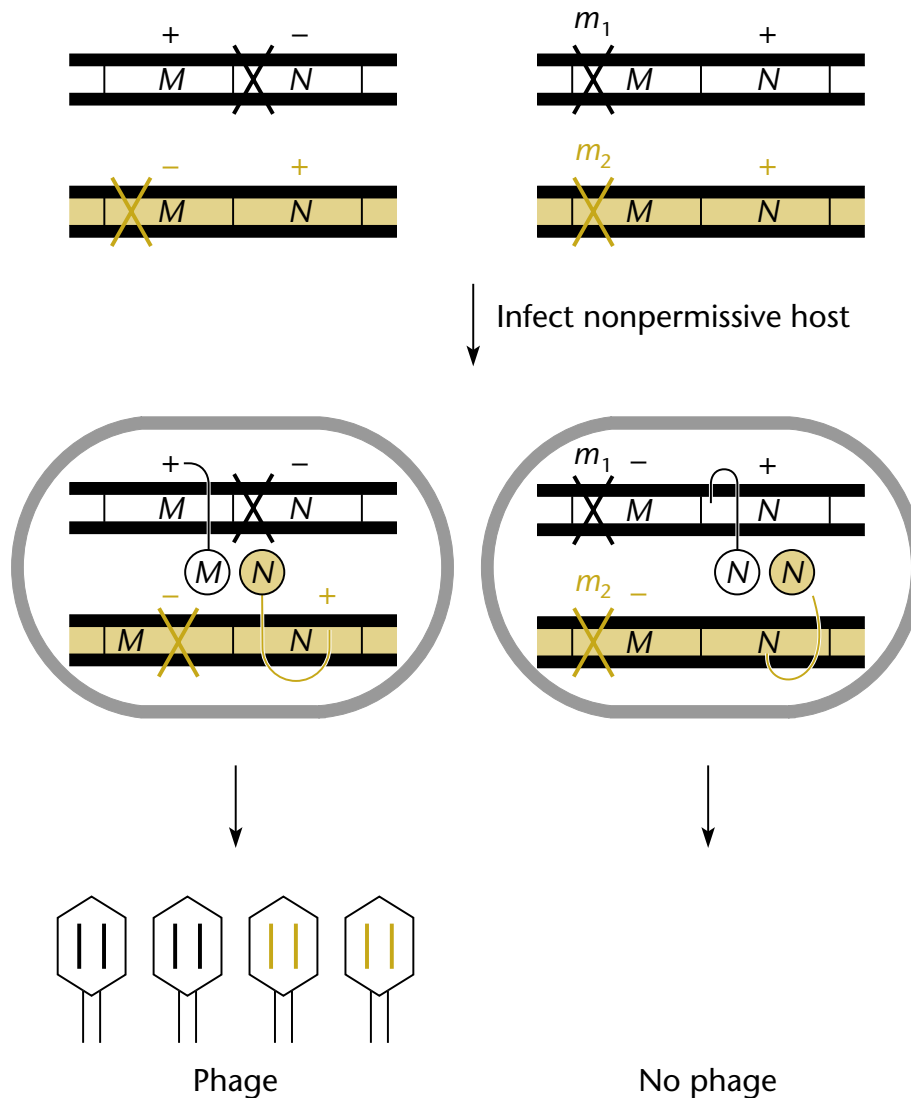
**Figure 7.17**



**Figure 7.18**



**Figure 7.19**



**Figure 7.20**

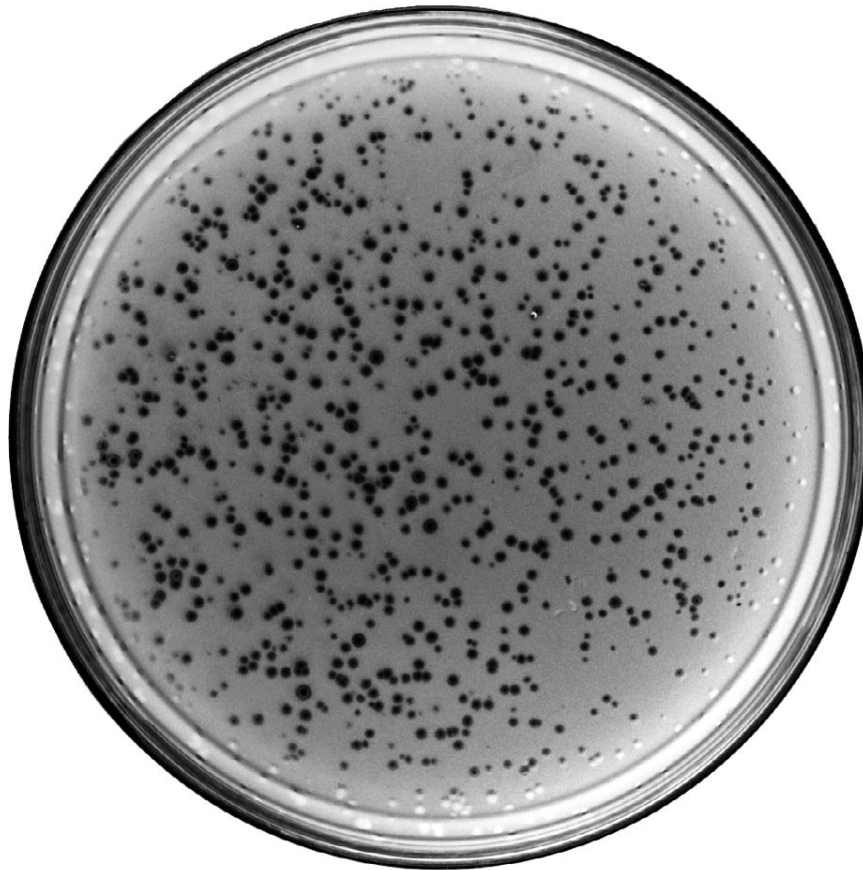
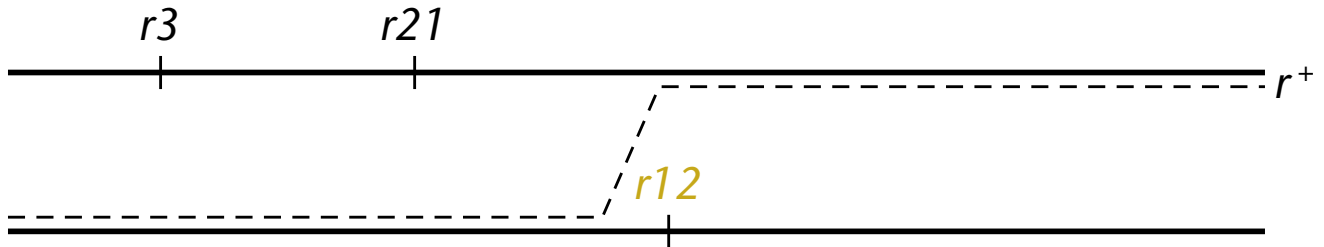


Figure 7.21

A



B

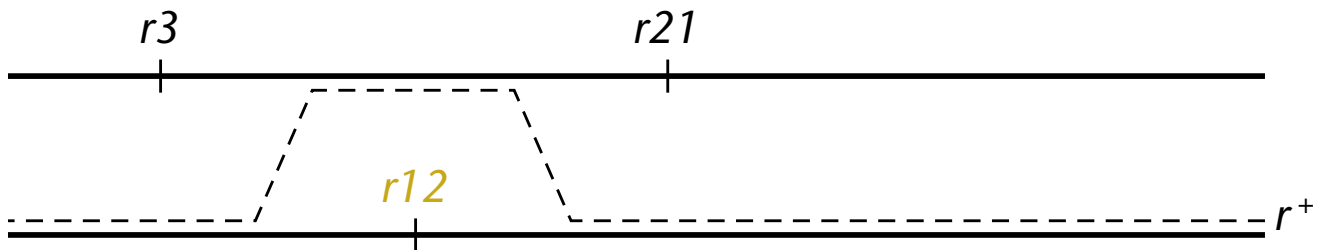
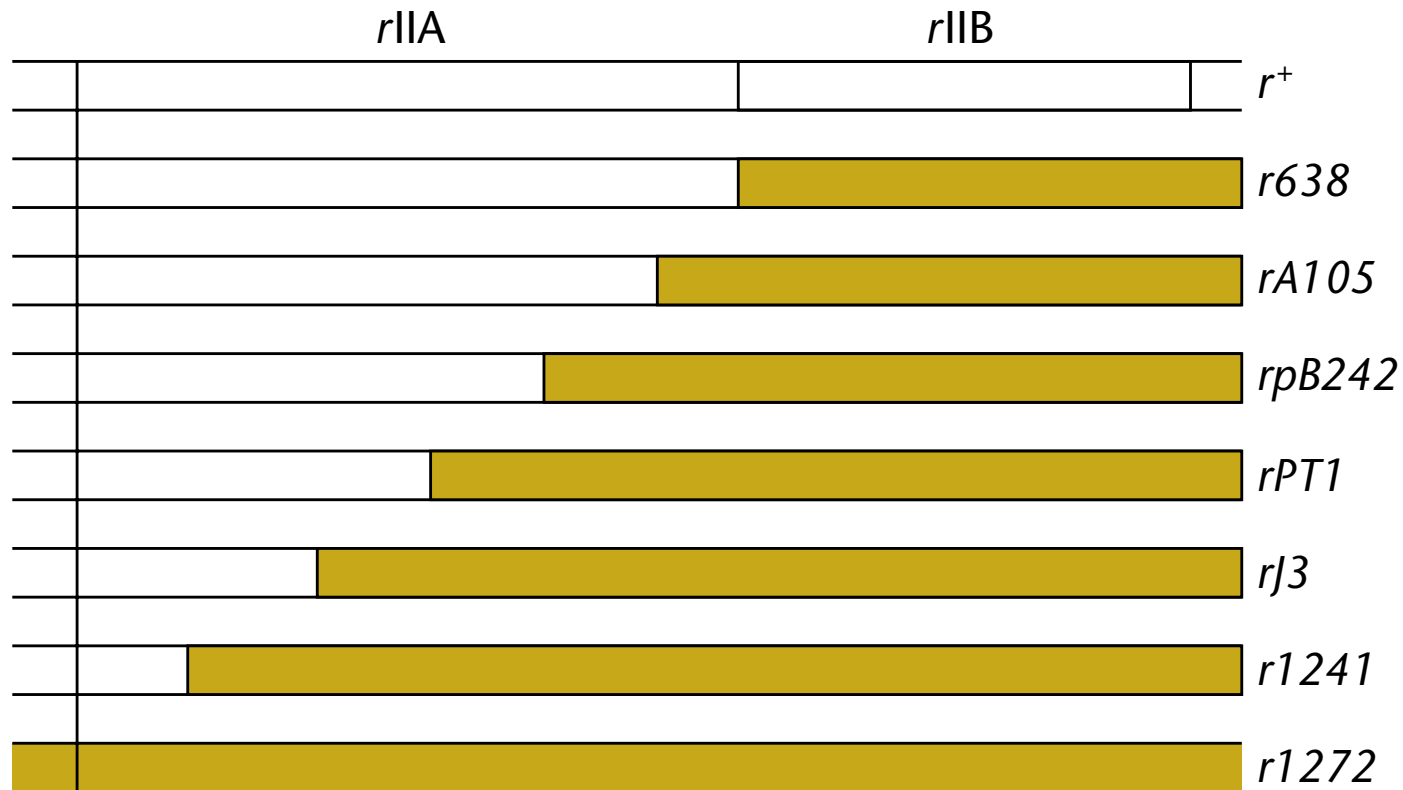


Figure 7.22



**Figure 7.23**

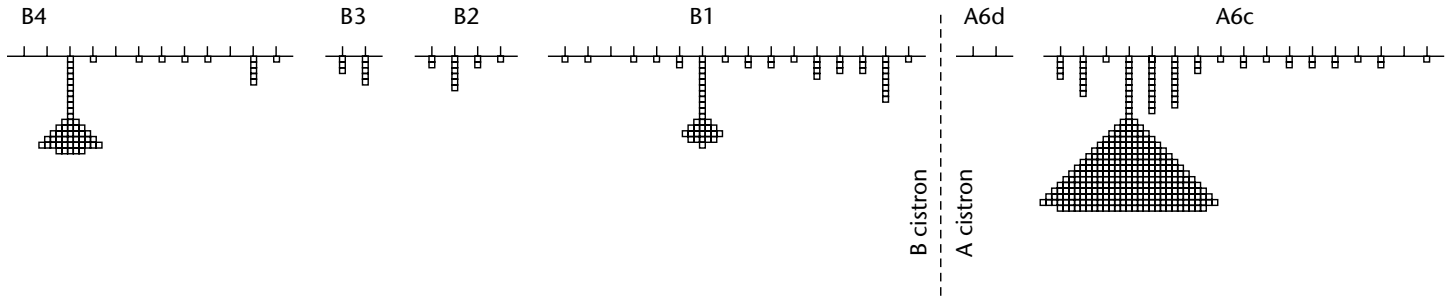


Figure 7.24

A Reversion



B Suppression



Figure 7.25

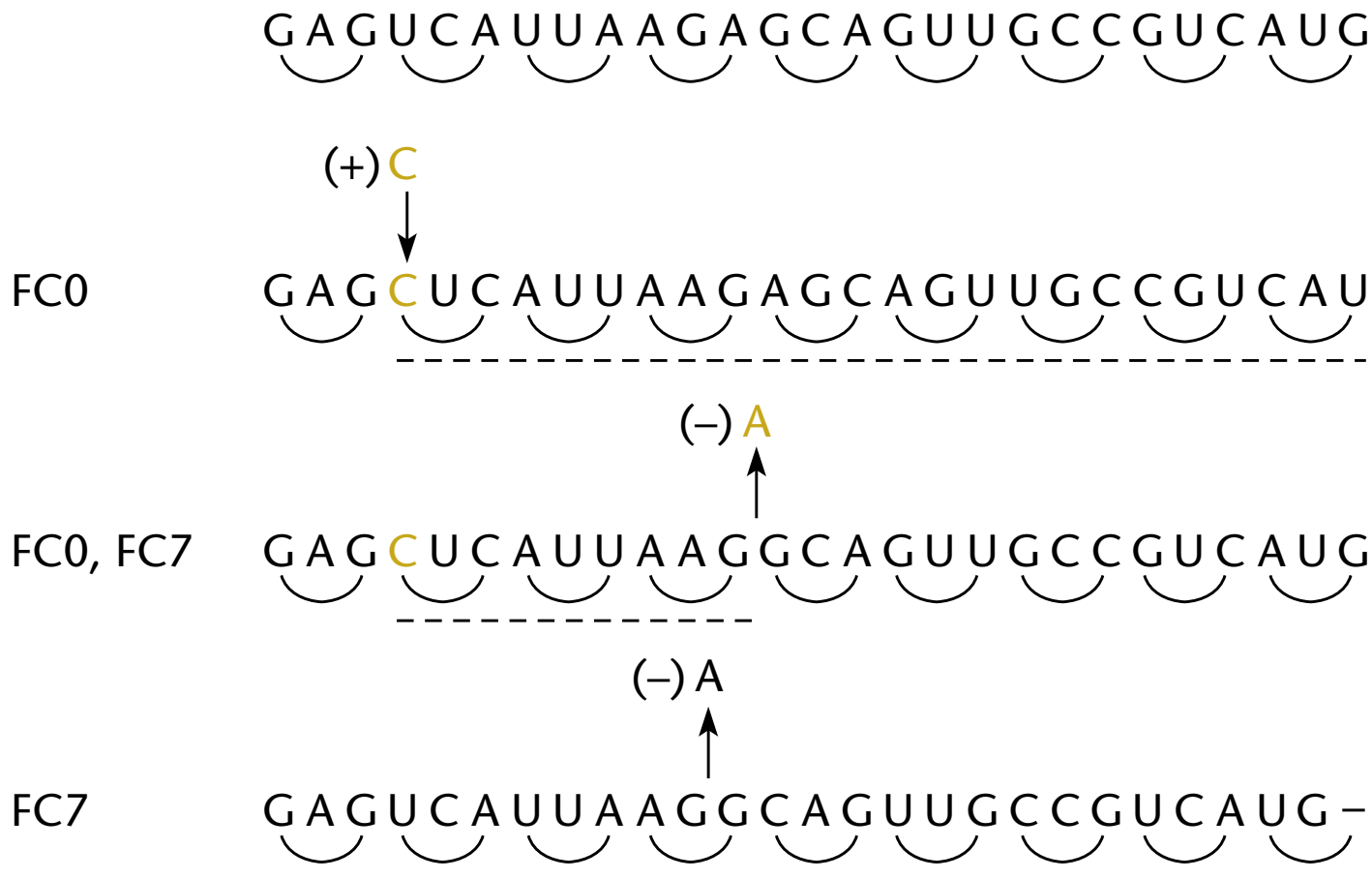
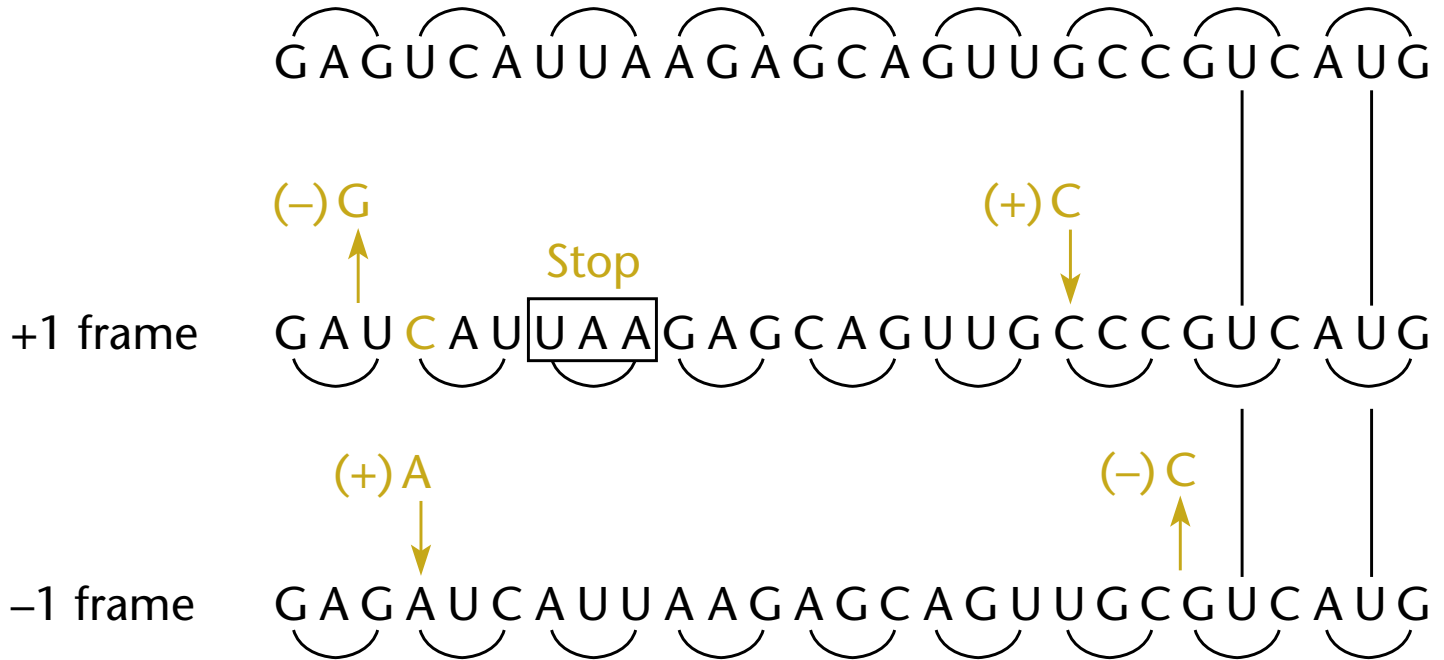


Figure 7.26



**Figure 7.27**

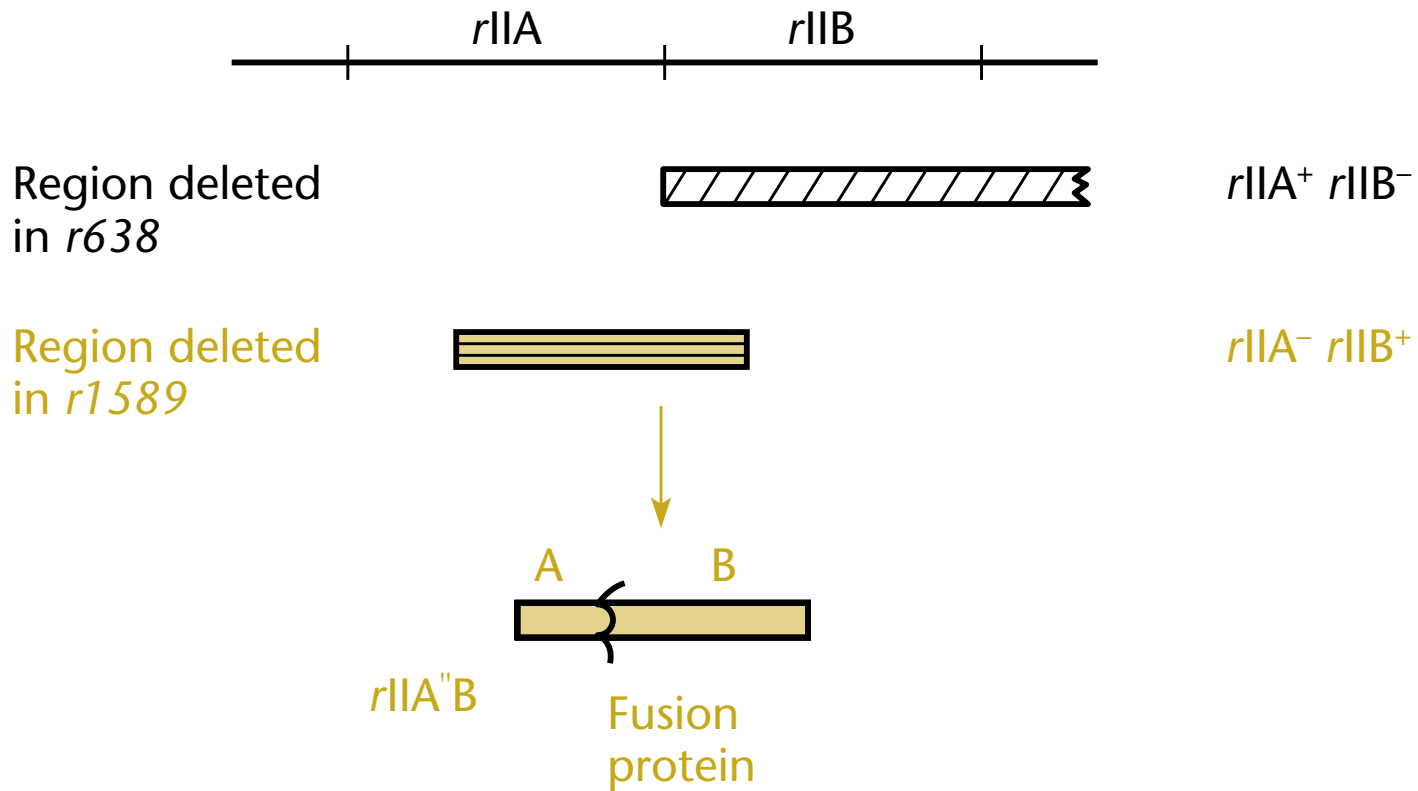
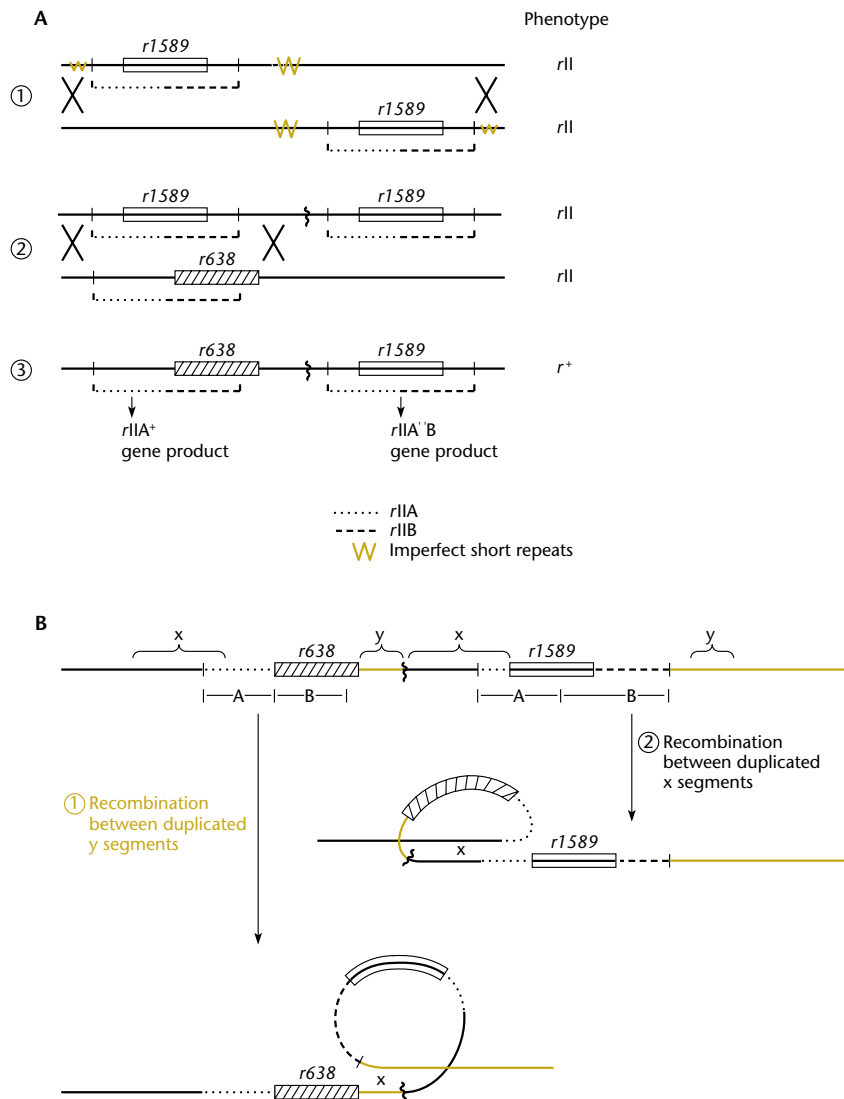


Figure 7.28



**Figure 7.29**

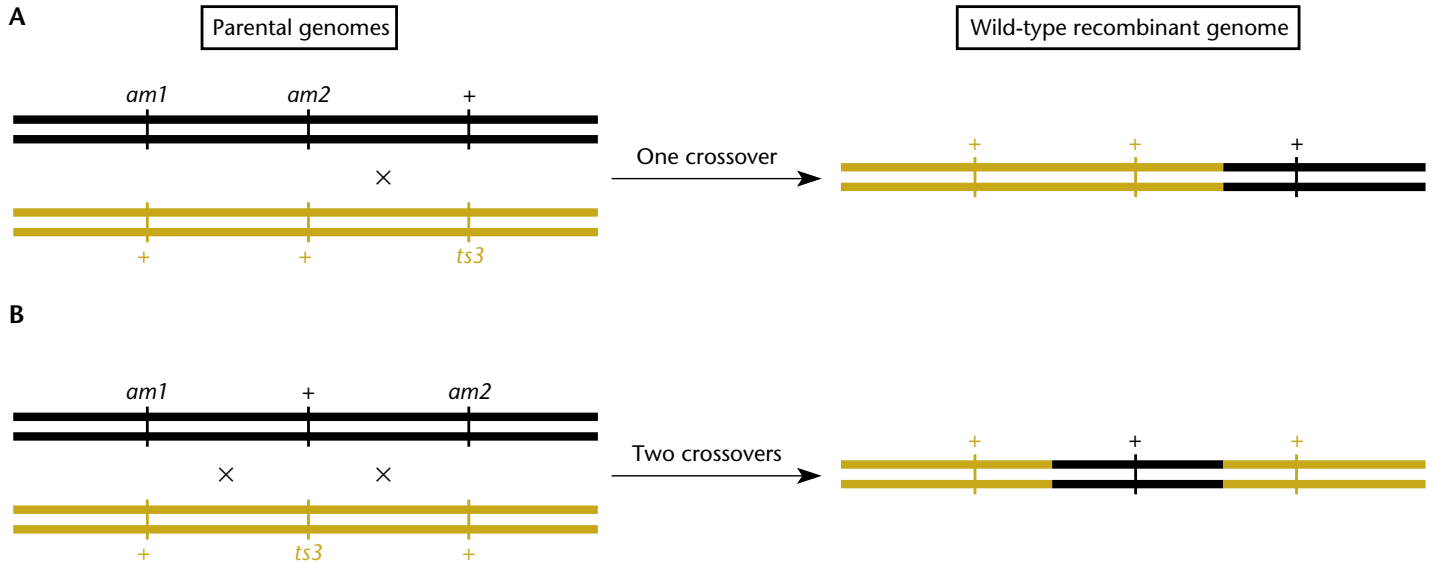
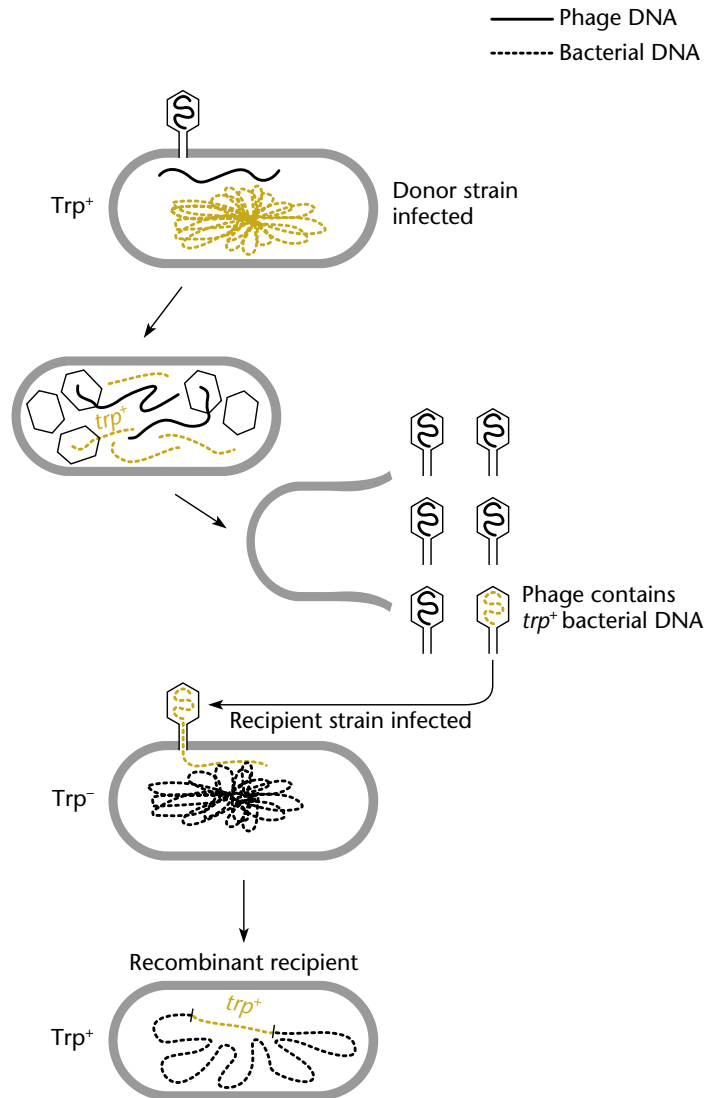


Figure 7.30



**Table 7.2**

<b>TABLE 7.2</b> Characteristics of generalized transducing phages P1 and P22		
<b>Characteristic</b>	<b>Phage</b>	
	<b>P1</b>	<b>P22</b>
Length (kb) of DNA packaged	100	44
Length (%) of chromosome transduced	2	1
Packaging mechanism	Sequential headful	Sequential headful
Specificity of markers transduced	Almost none	Some markers transduced at low frequency
Packaging of host DNA	Packaged from ends	Packaged from <i>pac</i> -like sequences
% of transducing particles in lysate	1	2
% of transduced DNA recombined into chromosome	1–2	1–2

**Figure 7.31**

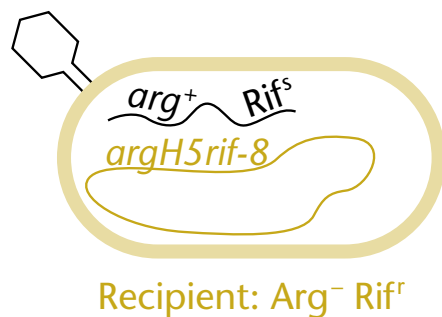
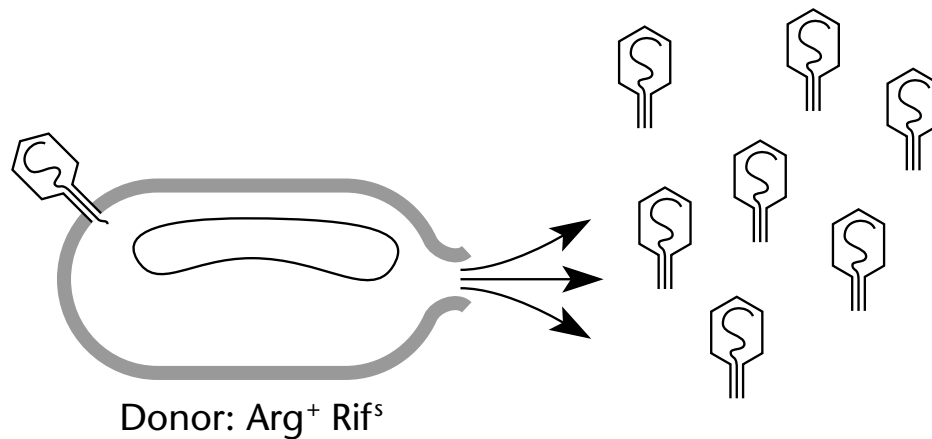


Plate without arginine to select Arg<sup>+</sup> transductants

**Figure 7.32**

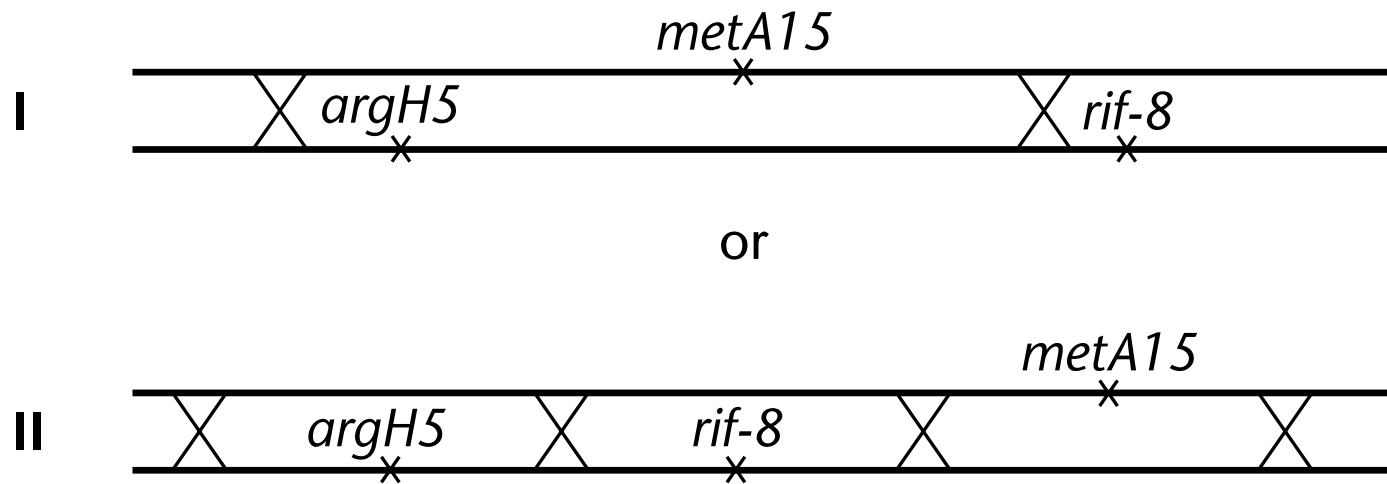


Table 7.3

<b>TABLE 7.3</b> Typical transductional data from a three-factor cross	
<b>Recombinant phenotype</b>	<b>No. of recombinants</b>
Arg <sup>+</sup> Met <sup>+</sup> Rif <sup>r</sup>	61
Arg <sup>+</sup> Met <sup>+</sup> Rif <sup>s</sup>	22
Arg <sup>+</sup> Met <sup>-</sup> Rif <sup>r</sup>	2
Arg <sup>+</sup> Met <sup>-</sup> Rif <sup>s</sup>	11