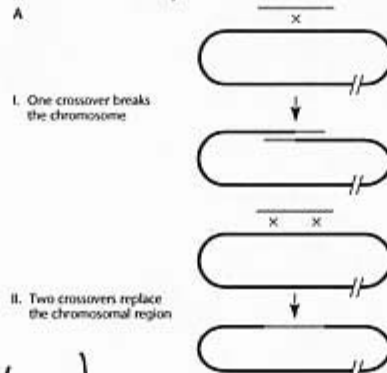


Figure 3.29

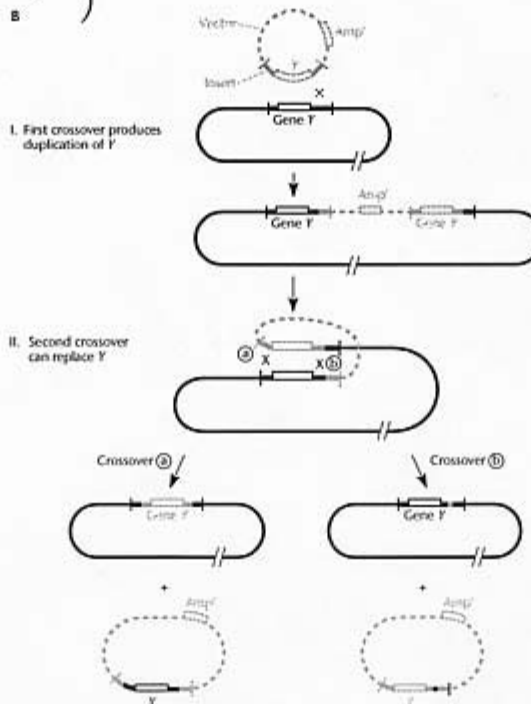
GENE REPLACEMENT

1.

(Linear)



(Circular)



DRs give  $\Delta$  (Fig. 3.16)

Figure 3.30

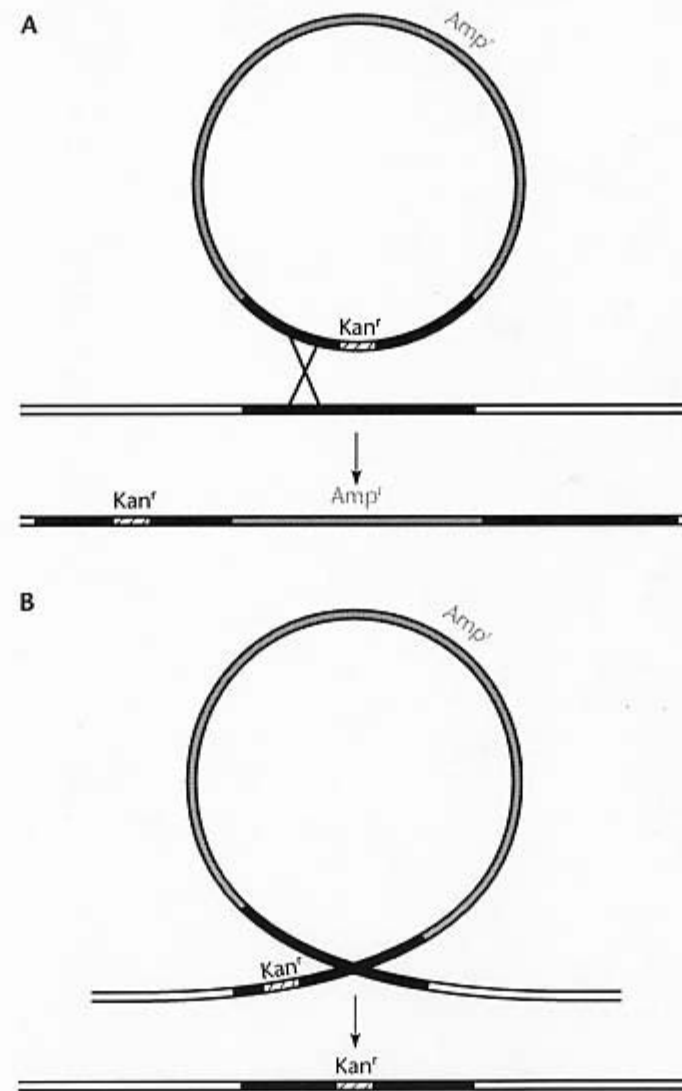
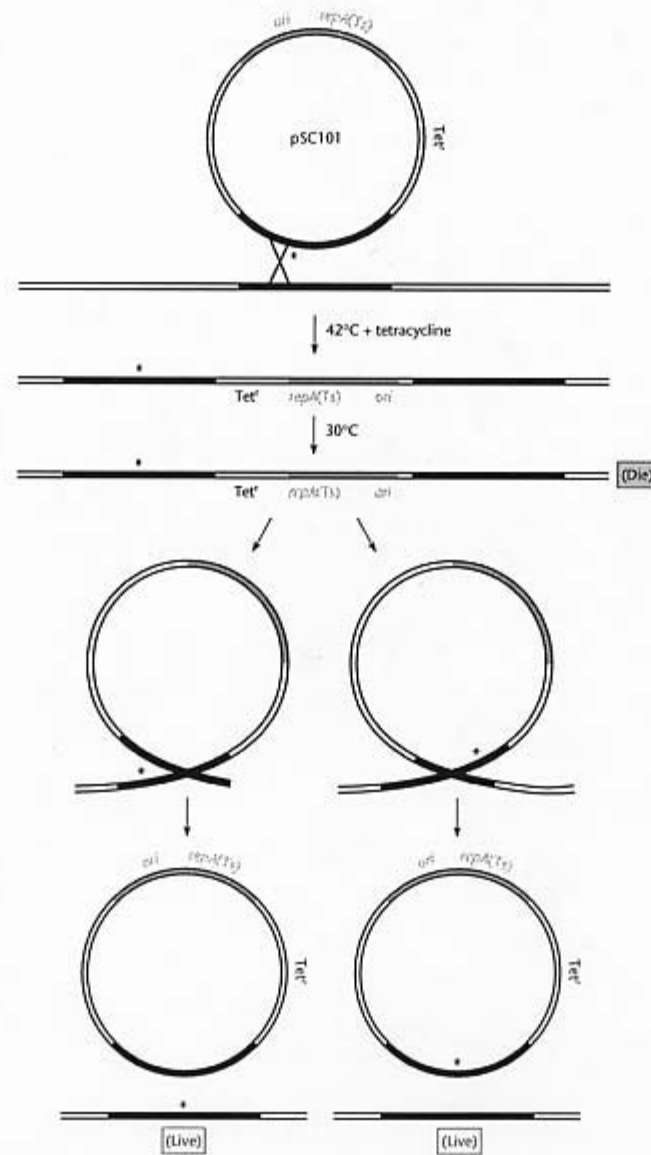


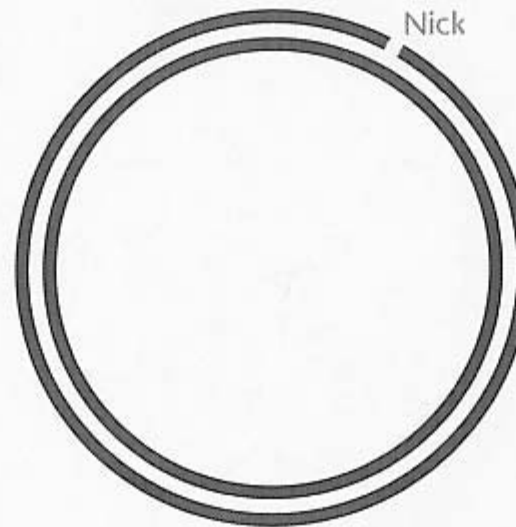
Figure 3.31



**Table 4.1**

<b>TABLE 4.1</b> Some naturally occurring plasmids and the traits they carry		
<b>Plasmid</b>	<b>Trait</b>	<b>Original source</b>
ColE1	Bacteriocin which kills <i>E. coli</i>	<i>E. coli</i>
Tol	Degradation of toluene and benzoic acid	<i>Pseudomonas putida</i>
Ti	Tumor initiation in plants	<i>Agrobacterium tumefaciens</i>
pJP4	2,4-D (dichlorophenoxyacetic acid) degradation	<i>Alcaligenes eutrophus</i>
pSym	Nodulation on roots of legume plants	<i>Rhizobium meliloti</i>
SCP1	Antibiotic methylenomycin biosynthesis	<i>Streptomyces coelicolor</i>
RK2	Resistance to ampicillin, tetracycline, and kanamycin	<i>Klebsiella aerogenes</i>

Figure 4.1



Relaxed, no supercoiling



Supercoiled, covalently  
closed circular DNA

Figure 4.2

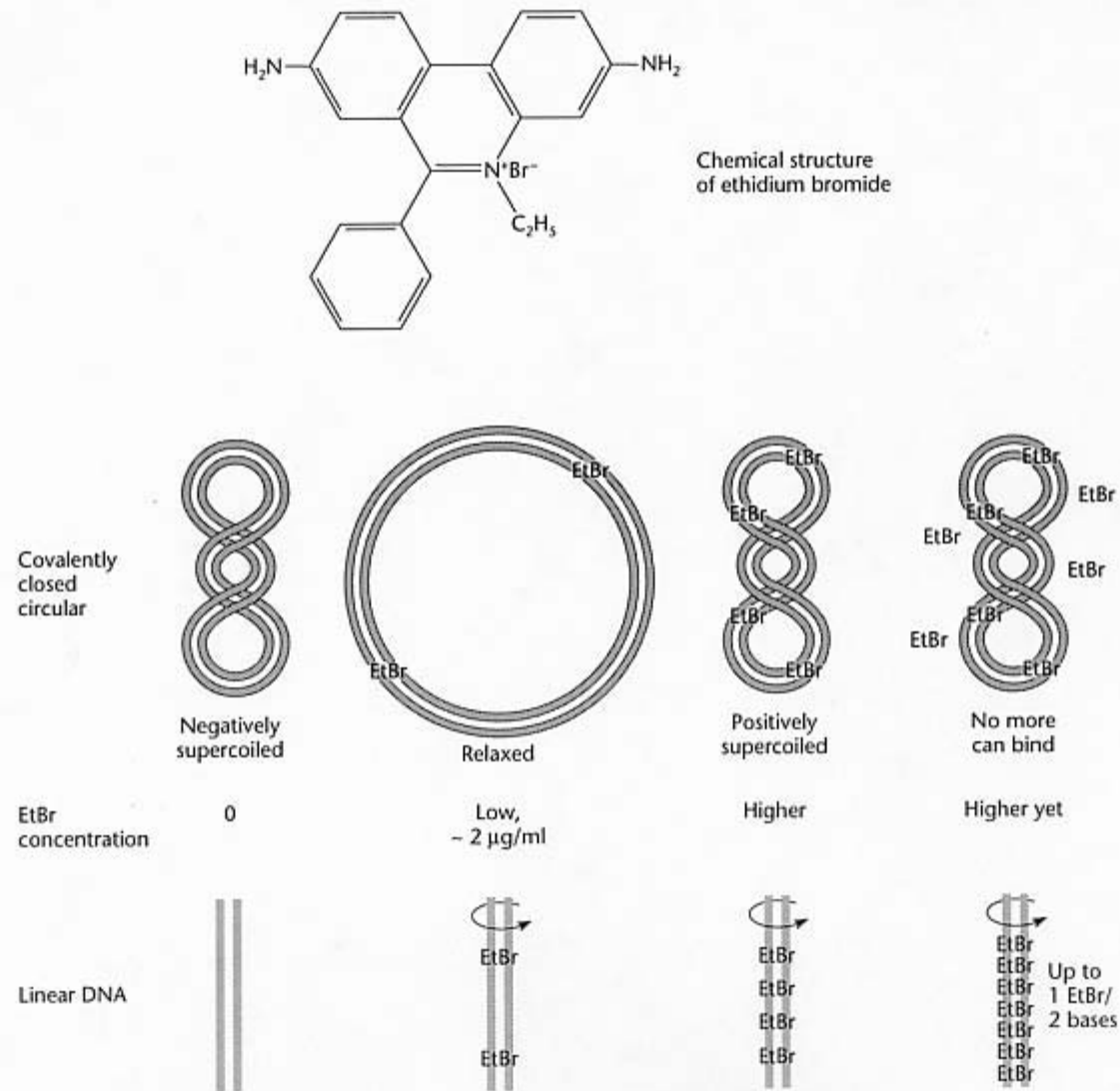


Figure 4.3

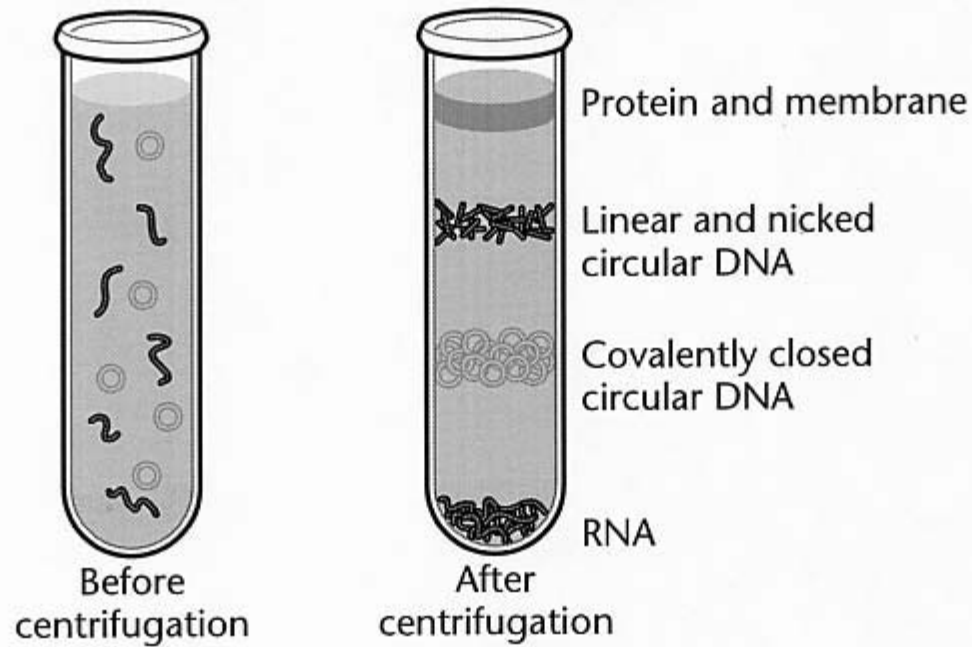






Table 4.2

TABLE 4.2 Copy numbers of some plasmids	
Plasmid	Approximate copy number
F	1
P1 prophage	1
RK2	4–7 (in <i>E. coli</i> )
pBR322	16
pUC18	~30–50
pIJ101	40–300

Figure 4.5

