Figure 1.16

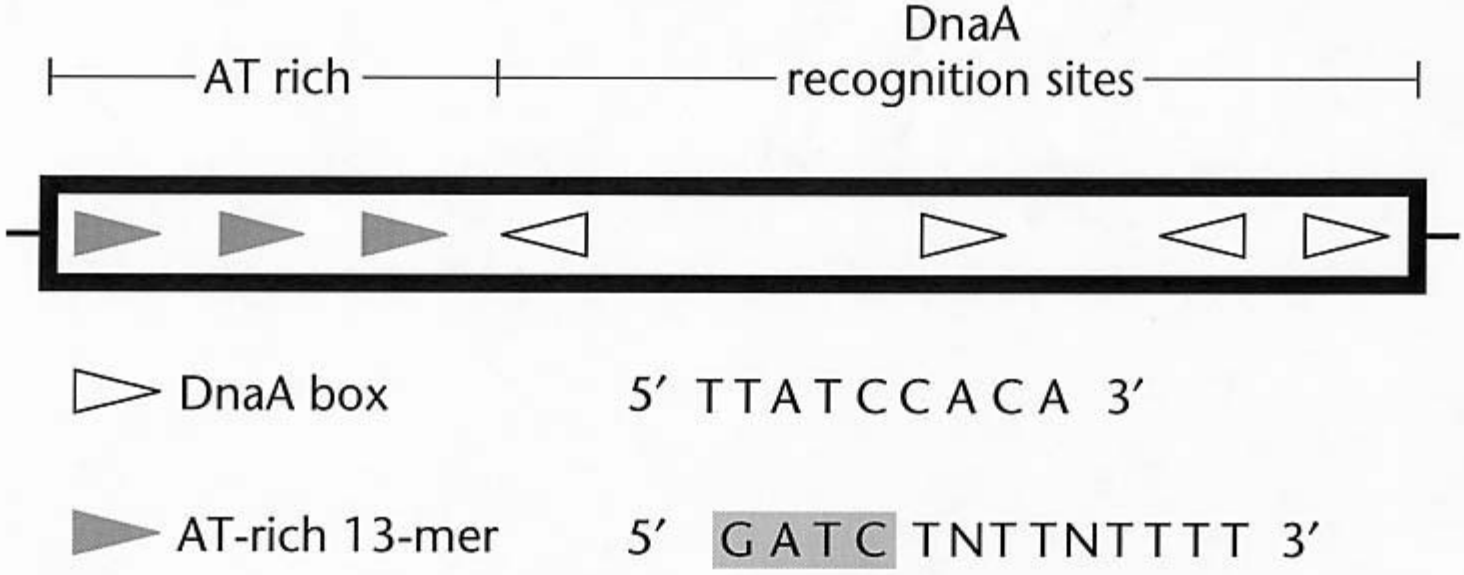

DnaA
AT rich
recognition sites
DnaA box
5′ TTATCCACA 3′
AT-rich 13-mer
5′ GATC TNTTNTTTT 3′

Figure 1.17

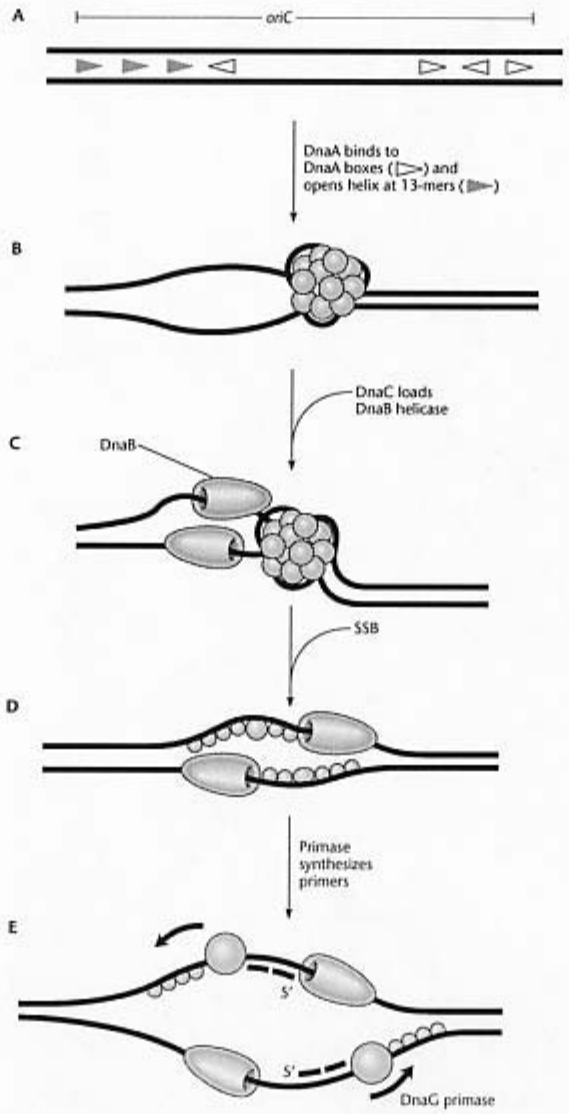

A
oriC
DnaA binds to
DnaA boxes (▷) and
opens helix at 13-mers (▶)
B
DnaC loads
DnaB helicase
C
DnaB
SSB
D
Primase
synthesizes
primers
E
5'
5'
DnaG primase

Figure 1.18

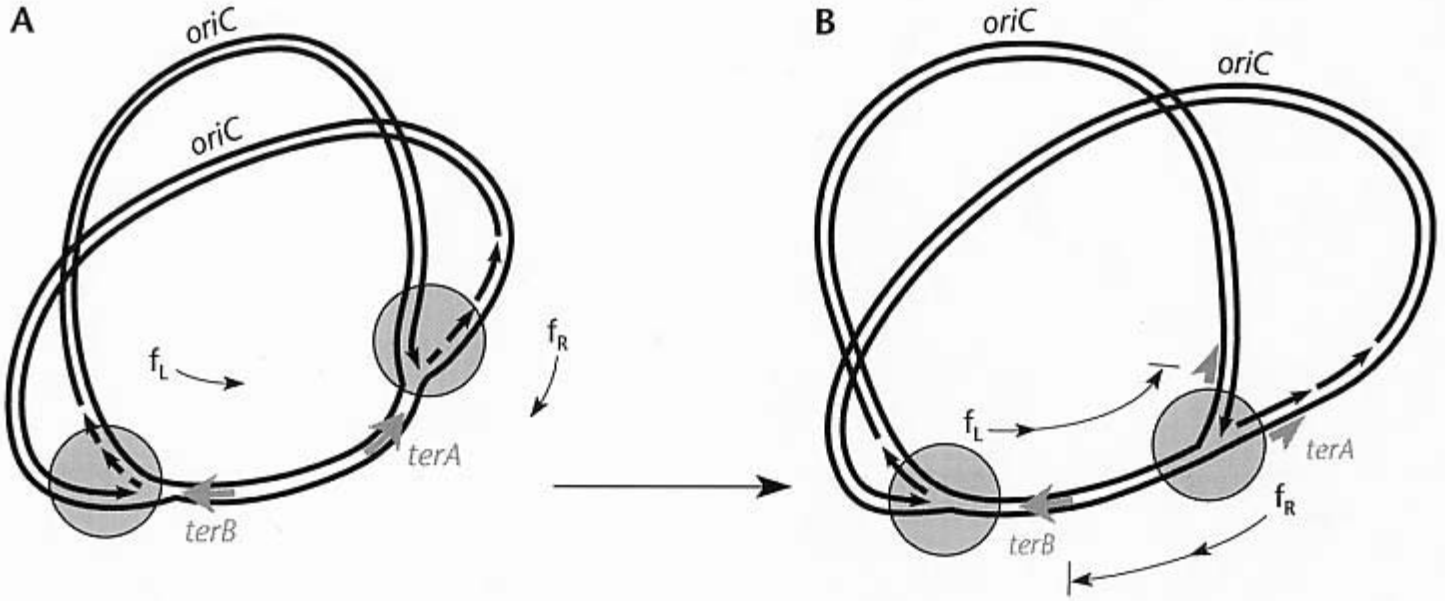


Figure 1.19

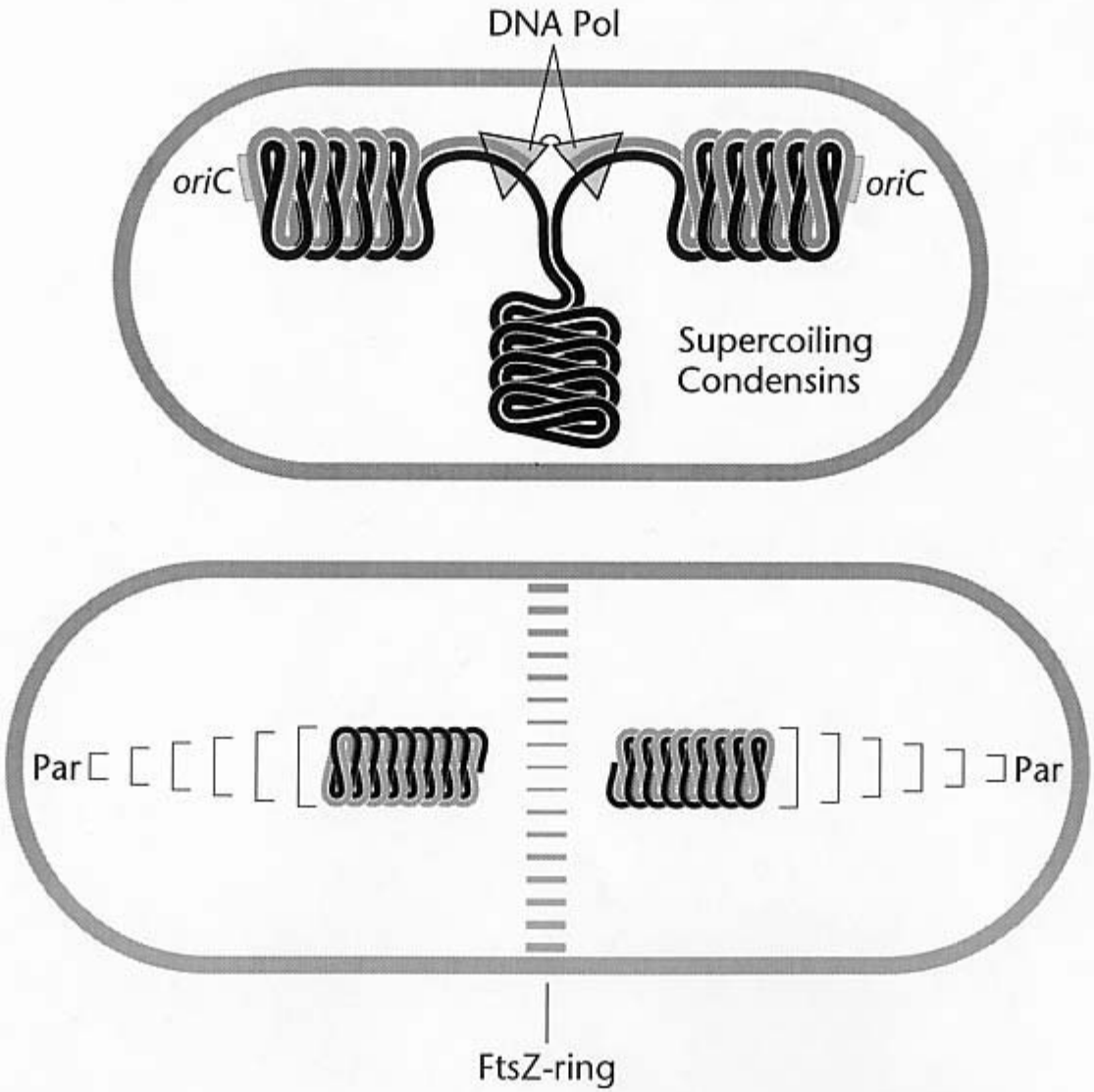

DNA Pol
oriC
oriC
Supercoiling
Condensins
Par
Par
FtsZ-ring

Figure 1.20

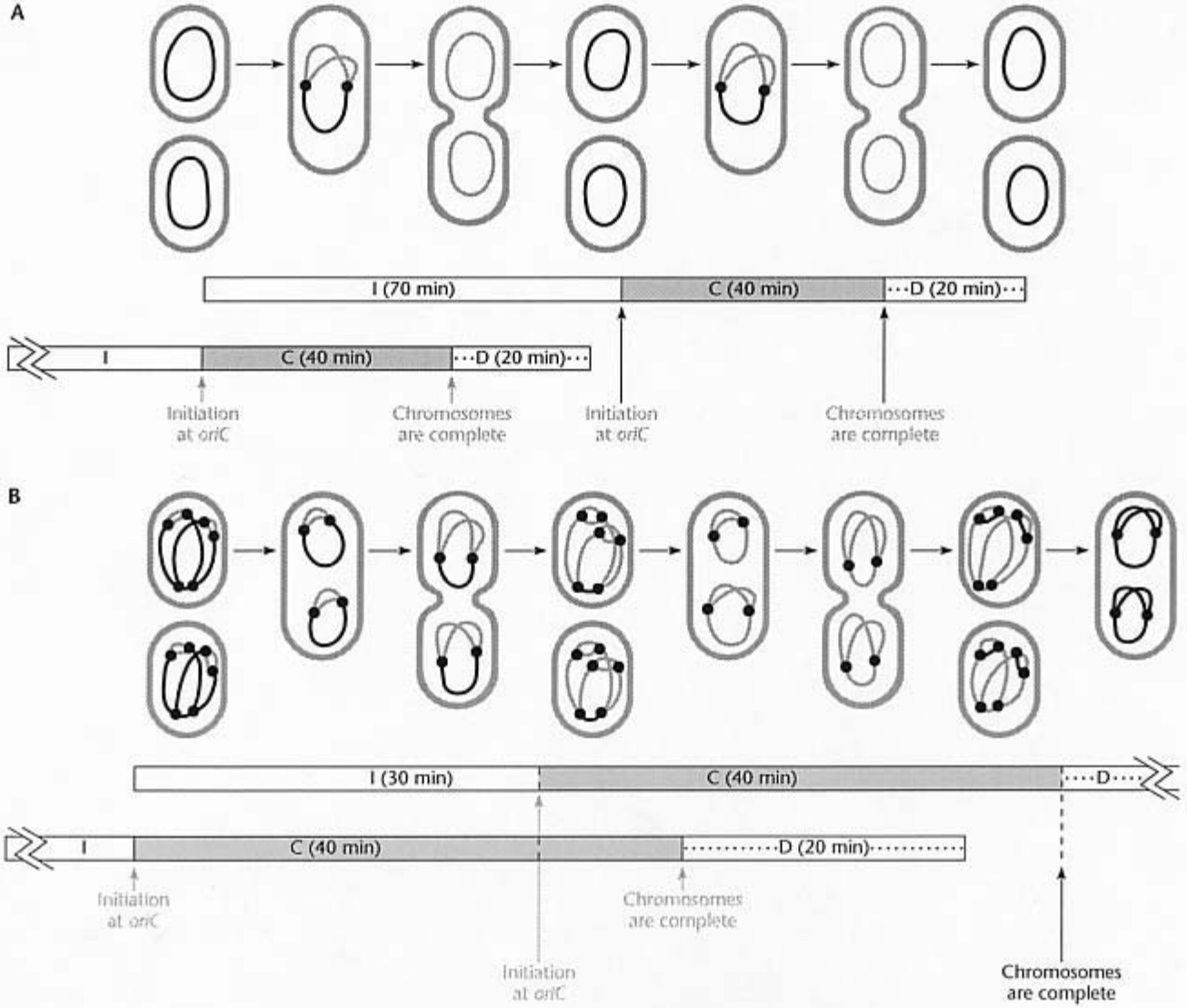
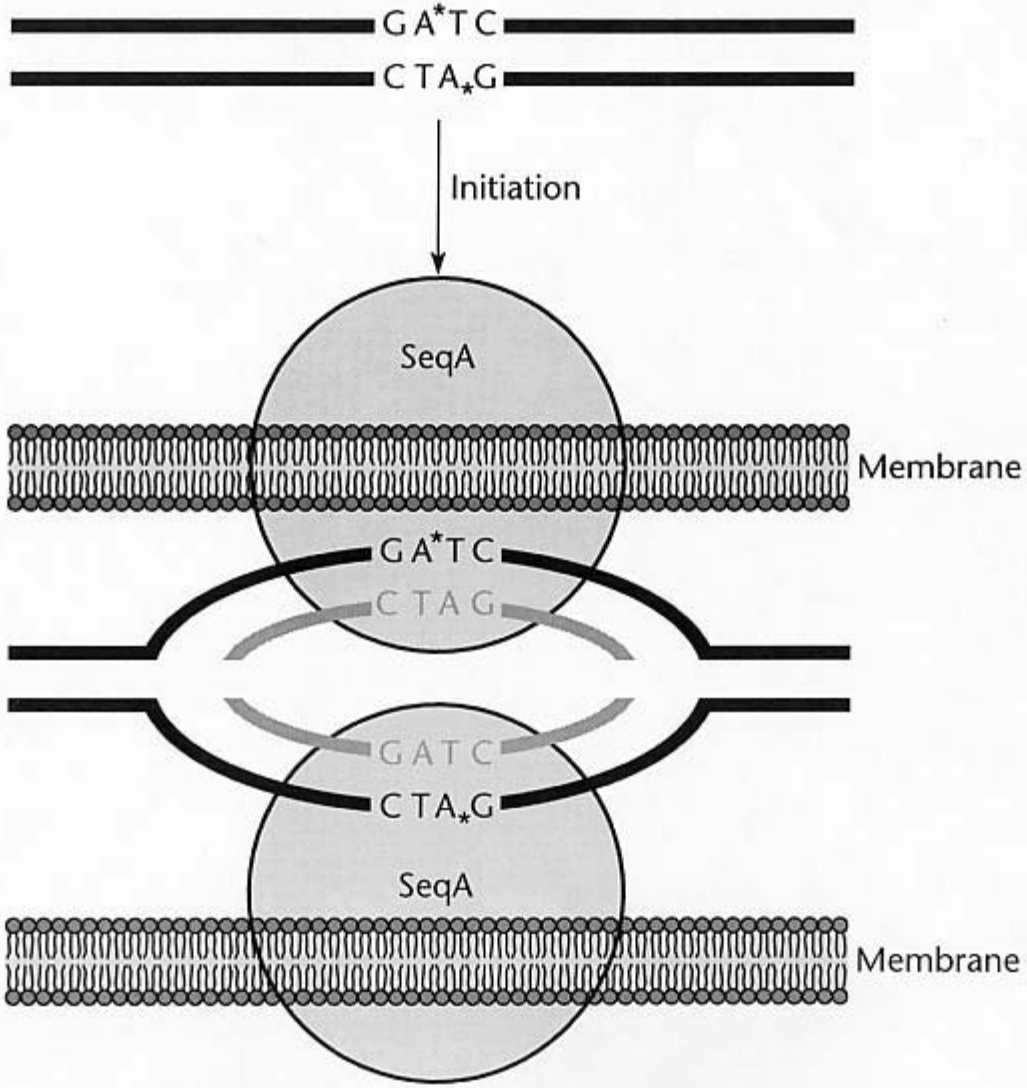

A
I (70 min)
C (40 min)
···D (20 min)···
I
C (40 min)
···D (20 min)···
Initiation at oriC
Chromosomes are complete
Initiation at oriC
Chromosomes are complete
B
I (30 min)
C (40 min)
····D····
I
C (40 min)
·····D (20 min)·····
Initiation at oriC
Chromosomes are complete
Initiation at oriC
Chromosomes are complete

Figure 1.21


GA*TC
CTA*G
Initiation
SeqA
Membrane
GA*TC
CTAG
GATC
CTA*G
SeqA
Membrane

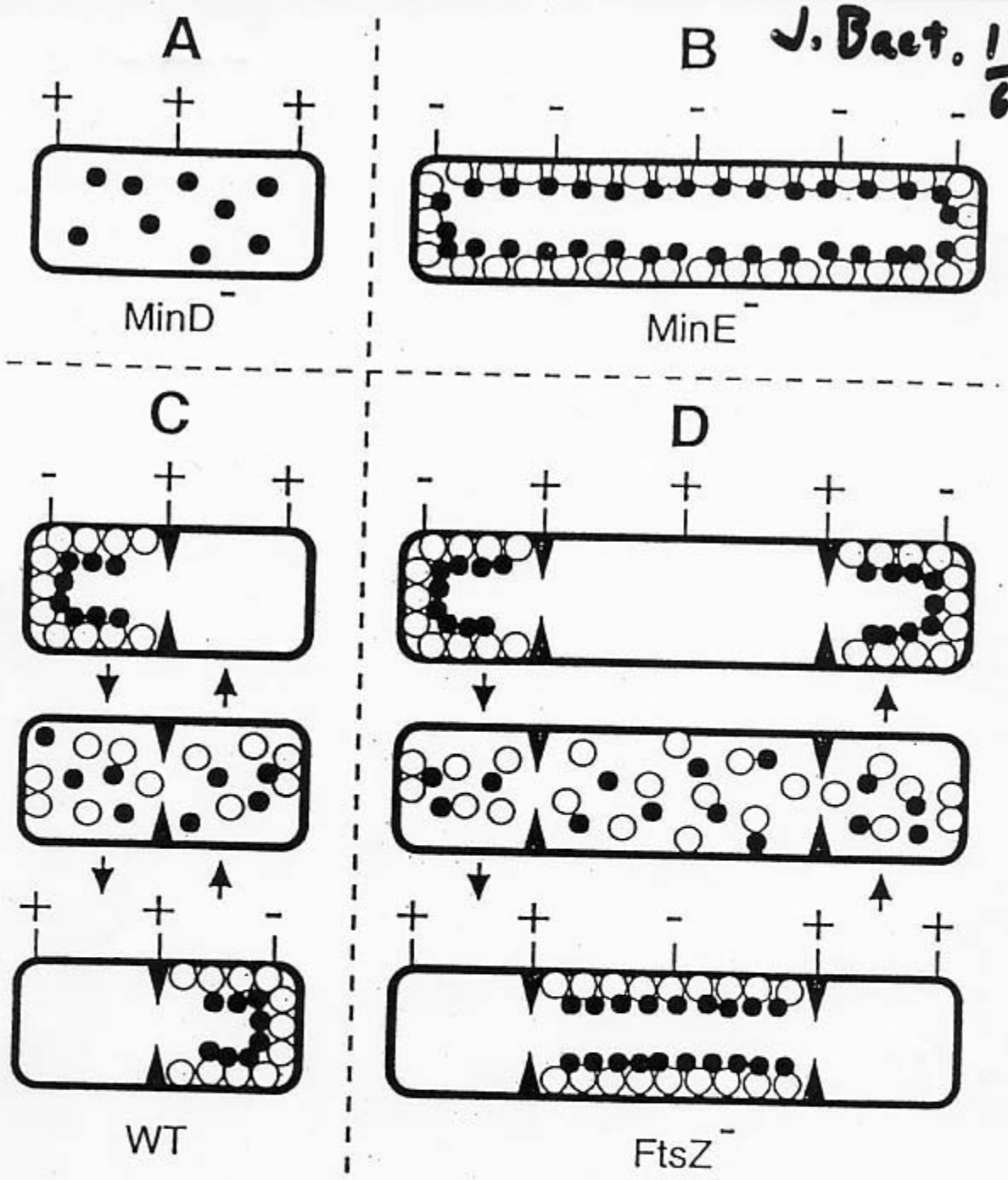


FIG. 4. Model for MinCDE action in preventing aberrant septation events. Symbols: ●, MinC; ⊛, MinD; ▲, the MinE ring. PDSs are represented by either a minus (blocked by MinC-MinD) or a plus (not blocked, available for FtsZ ring assembly) sign. (A) In the absence of MinD and MinE, MinC localizes nonspecifically to the cytoplasm and has no effect on septal or FtsZ ring formation. (B) In the presence of MinD, and absence of MinE, MinC associates with MinD along the entire membrane, preventing FtsZ ring formation at all PDSs. (C) In WT cells, MinC co-oscillates with MinD from one side of the MinE ring to the other, actively interfering with FtsZ ring assembly at each cell end in a sequential and rapidly repeating fashion. (D) In cells lacking FtsZ rings, multiple MinE rings define three or more cell segments. As in WT cells, MinC co-oscillates with MinD between the segments flanking each MinE ring. Note that although the figure suggests the presence of a limited number of regularly spaced PDSs in each cell, the proposed mechanism of MinCDE action does not depend on the exact number or nature of the PDSs and is equally tenable whether potential sites for FtsZ ring assembly are (or)