DNA Polymerase III, but not Polymerase IV, Must be Bound to τ-Containing DnaX Complex to Enable Exchange into Replication Forks[†]

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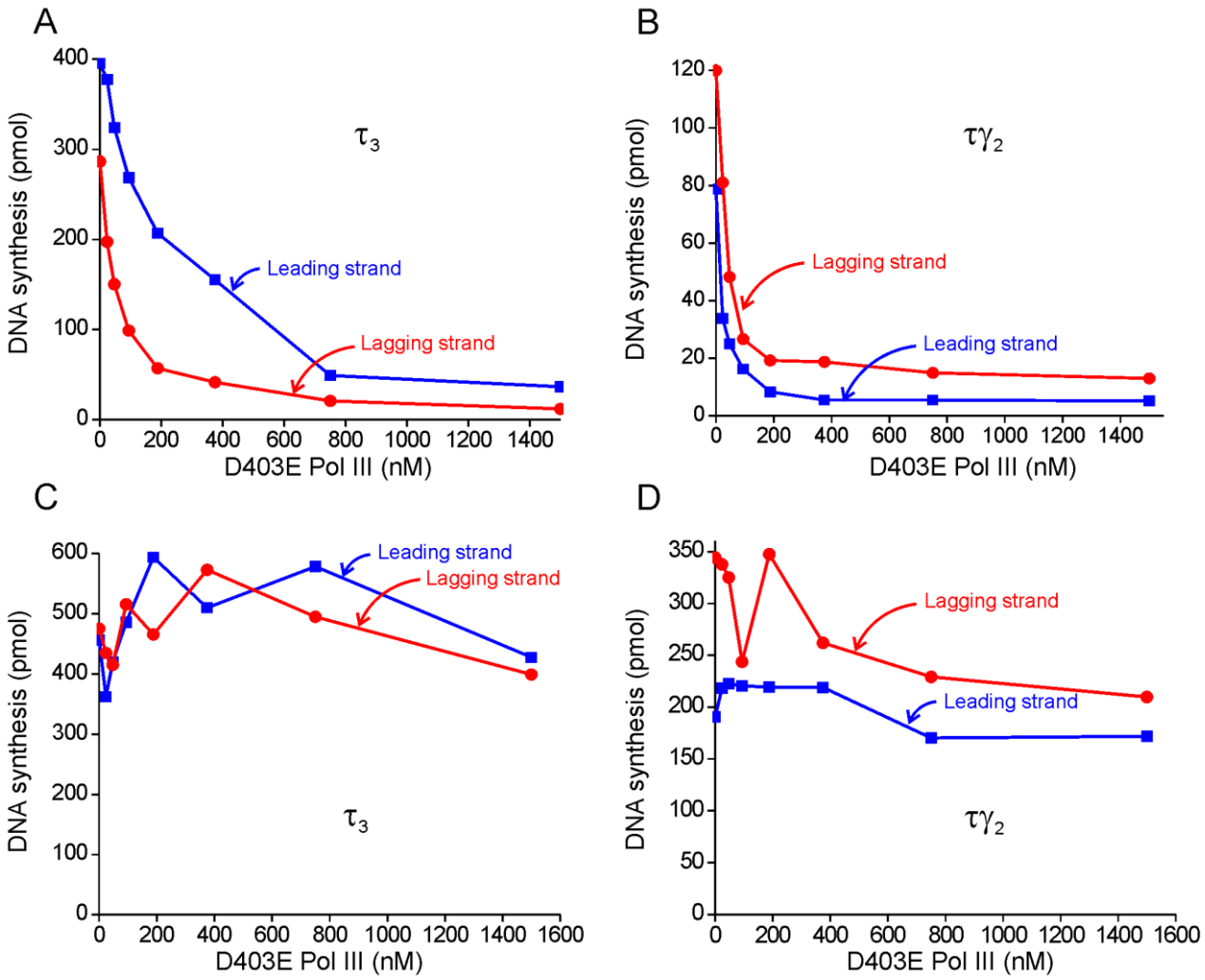
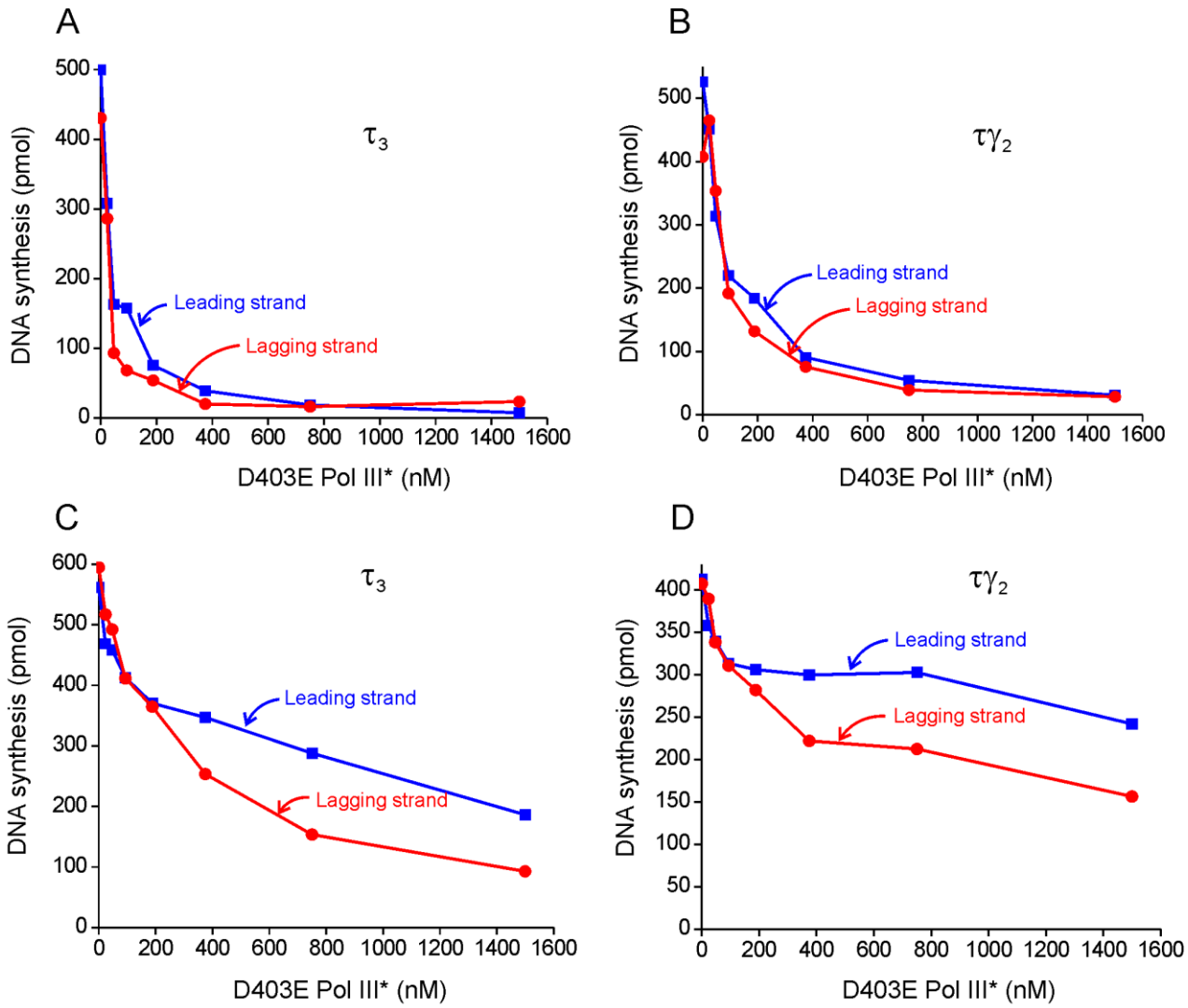
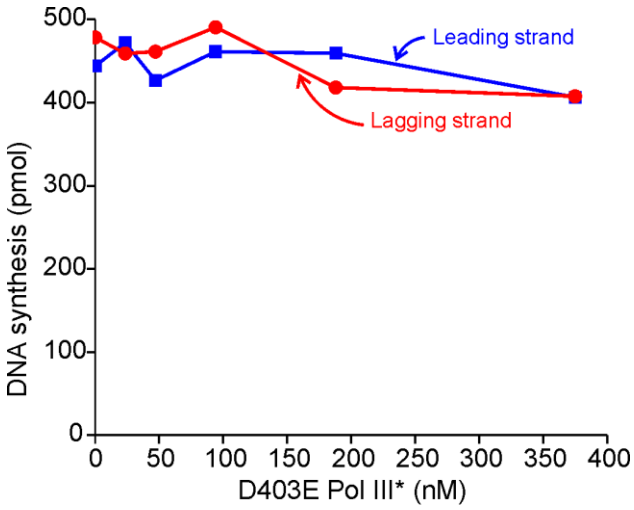
Supplemental FIGURES



Supplementary FIGURE 1. **Pol III HE containing only one τ is resistant to a D403E Pol III challenge.** (A,B) Protein components required for a rolling circle reaction were added to a pre-mixed solution of wild-type Pol III and D403E Pol III. After initiation complex formation, rolling circle replication reaction was started by the addition of 1 mM ATP, 100 μM dNTPs, and α-[^{32}P]-dCTP/dGTP. (C,D) D403E Pol III was added to an ongoing rolling circle reaction. The composition of the DnaX complex in A,C is τ_3. The composition of the DnaX complex in B,D is $\tau_1\gamma_2$.



Supplementary FIGURE 2. **Pol III* containing one or three τ can exchange into the replication fork.** (A,B), Protein components required for a rolling circle reaction were added to a pre-mixed solution of wild-type Pol III* and D403E Pol III*. After initiation complex formation, rolling circle replication reaction was started by the addition of 1 mM ATP, 100 μM dNTPs, and α-[^{32}P]-dCTP/dGTP. (C,D), D403E Pol III* was added to an ongoing rolling circle reaction. The composition of the DnaX complex in A,C is τ_3. The composition of the DnaX complex in B,D is $\tau_1\gamma_2$.



Supplementary FIGURE 3. **τ is required for Pol III* exchange into the replication fork**. D403E Pol III*, with the composition of the DnaX complex γ_3, was added as challenge (0, 23.5, 47, 94, 188, 375 nM) to an ongoing rolling circle replication reaction containing WT Pol III* (2.5 nM, DnaX composition $\tau_2\gamma_1$). After initiation complex formation, rolling circle reaction was started by the addition of 1 mM ATP, 100 μM dNTPs, and α-[^{32}P]-dCTP or α-[^{32}P]-dGTP.