Supporting Information

Modeling Gene Expression Instability by Programmed and Switchable Polymerization/Nicking DNA Nano-Machineries

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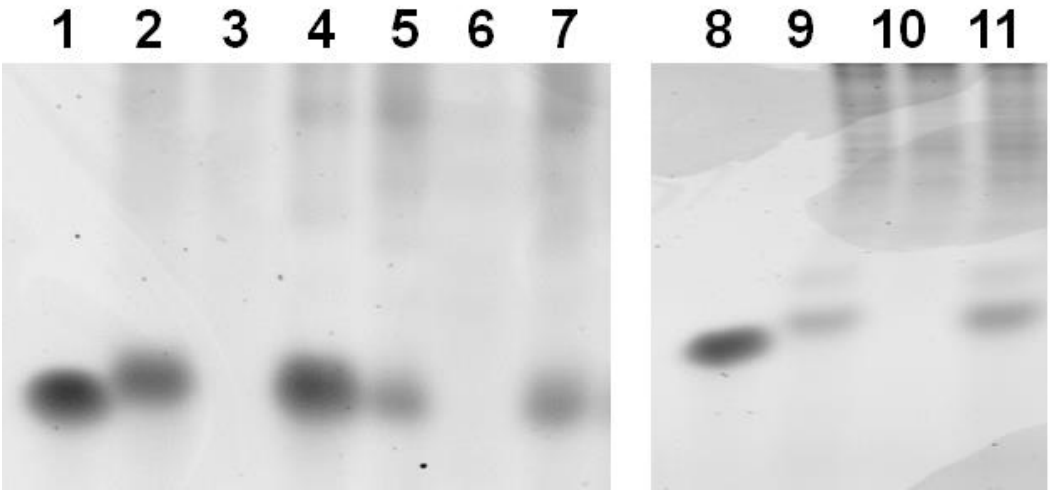

Figure S1. Native polyacrylamide gel electrophoresis analysis of the switchable polymerization/nicking machinery using T-A•T triplex as blocker unit and strand (**6**) as deblocker: Lane 1-reference lane of "gene" (**2**); lane 2-the polymerization/nicking machinery, in the absence of T-A duplex; lane 3-upon addition of T-A duplex, the blockage of the polymerization/nicking machinery; lane 4-upon the addition of DNA sequence (**6**) to the T-A·T triplex blocked machinery. Native polyacrylamide gel electrophoresis analysis of the switchable polymerization/nicking machinery using ATP as blocker unit and ATPase as deblocker: Lane 5-the polymerization/nicking machinery, in the absence of ATP; lane 6-upon addition of ATP, the blockage of the polymerization/nicking machinery; lane 7-upon the addition of ATPase to the ATP blocked machinery. Native polyacrylamide gel electrophoresis analysis of the switchable polymerization/nicking machinery using Sr^{2+}-ion-stabilized G-quadruplex as blocker unit and kryptofix [2.2.2] (KP) as deblocker: Lane 8-reference lane of "gene" (**2**); Lane 9-the polymerization/nicking machinery, in the absence of Sr^{2+}-ions; lane 10-upon addition of Sr^{2+}-ions, the blockage of the polymerization/nicking machinery; lane 11-upon the addition of KP to the Sr^{2+}-ions blocked machinery.