

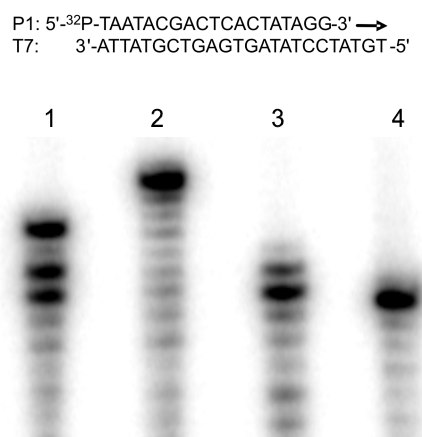
**Electronic Supplementary Information for:**

**Efficient enzymatic synthesis of LNA-modified DNA duplexes by KOD DNA Polymerase**

Rakesh N. Veedu,<sup>a</sup> Birte Vester<sup>a</sup> and Jesper Wengel<sup>\*a</sup>

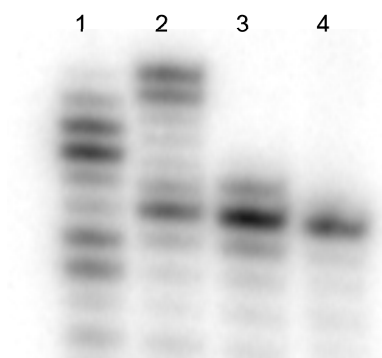
<sup>a</sup>*Nucleic Acid Center, Department of Physics and Chemistry and Department of Biochemistry and Molecular Biology, University of Southern Denmark, Campusvej 55, Odense M, 5230, Denmark.*

**Results:**



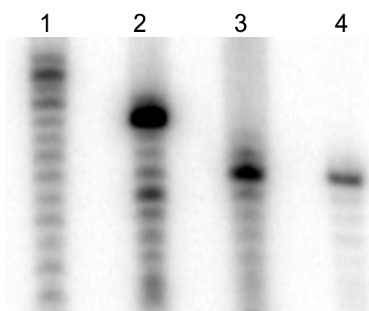
**Fig. S1** Enzymatic incorporation of LNA-T, LNA-A and LNA-5-methyl-C nucleotides into a DNA strand directed from a DNA template by KOD DNA polymerase. Lane 1: Incorporation of LNA nucleotides (LNA-TTP, LNA-ATP, and LNA-5-methyl-C nucleotides in the mix); Lane 2: Positive control (dTTP, dATP and dCTP in the mix); Lane 3: Negative control (dGTP in the mix); Lane 4: 19n Primer.

P1: 5'-<sup>32</sup>P-TAATACGACTCACTATAGG-3' →  
T8: 3'-ATTATGCTGAGTGATATCCTAGGT-5'



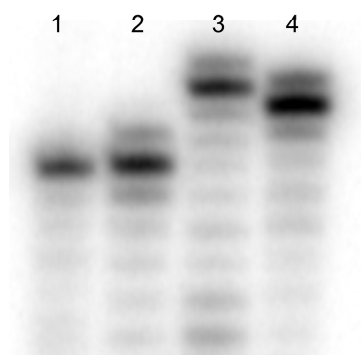
**Fig. S2** Enzymatic incorporation of LNA-T, LNA-A and LNA-5-methyl-C nucleotides into a DNA strand directed from a DNA template by KOD DNA polymerase. Lane 1: Incorporation of LNA nucleotides (LNA-TTP, LNA-ATP, and LNA-5-methyl-C nucleotides in the mix); Lane 2: Positive control (dTTP, dATP and dCTP in the mix); Lane 3: Negative control (dGTP in the mix); Lane 4: 19n Primer.

P1: 5'-<sup>32</sup>P-TAATACGACTCACTATAGG-3' →  
T9: 3'-ATTATGCTGAGTGATATCCTTATG-5'



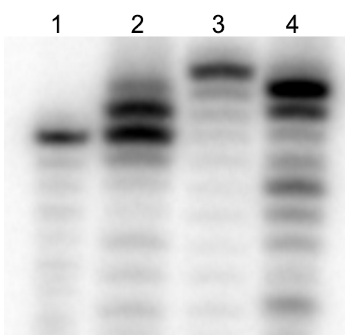
**Fig. S3** Enzymatic incorporation of LNA-T, LNA-A and LNA-5-methyl-C nucleotides into a DNA strand directed from a DNA template by KOD DNA polymerase. Lane 1: Positive control (dTTP, dATP and dCTP in the mix); Lane 2: Incorporation of LNA nucleotides (LNA-TTP, LNA-ATP, and LNA-5-methyl-C nucleotides in the mix); Lane 3: Negative control (dGTP in the mix); Lane 4: 19n Primer.

P1 : 5'-<sup>32</sup>P-TAATACGACTCACTATAGG-3' →  
T11: 3'-ATTATGCTGAGTGATATCCGTA-5'



**Fig. S4** Enzymatic incorporation of LNA-T, LNA-A and LNA-5-methyl-C nucleotides into a DNA strand directed from a DNA template by KOD DNA polymerase. Lane 1: 19n Primer; Lane 2: Negative control (dGTP in the mix); Lane 3: Positive control (dTTP, dATP and dCTP in the mix); Lane 4: Incorporation of LNA nucleotides (LNA-TTP, LNA-ATP, and LNA-5-methyl-C nucleotides in the mix).

P1 : 5'-<sup>32</sup>P-TAATACGACTCACTATAGG-3' →  
T12: 3'-ATTATGCTGAGTGATATCCTAG-5'



**Fig. S5** Enzymatic incorporation of LNA-T, LNA-A and LNA-5-methyl-C nucleotides into a DNA strand directed from a DNA template by KOD DNA polymerase. Lane 1: 19n Primer; Lane 2: Negative control (dGTP in the mix); Lane 3: Positive control (dTTP, dATP and dCTP in the mix); Lane 4: Incorporation of LNA nucleotides (LNA-TTP, LNA-ATP, and LNA-5-methyl-C nucleotides in the mix).