

Table 1. Kinetic data for DNA Polymerases.

Enzymes (family)	Fidelity ^a	$k_{pol}(s^{-1})$ ^b
Klentaq1 (A)	10^4	20
HIV-1 RT (RT)	10^4	70
Pol β (X)	10^3	10
Pol λ (X)	10^3	4
Pol μ (X)	10^3	0.08
Pol X (X)	~ 1	0.8
Dpo4 (Y)	10^2	0.3

^a Fidelity = reciprocal of misinsertion error frequency = $[(k_{pol}/K_d)_c + (k_{pol}/K_d)_i] / (k_{pol}/K_d)_i$, where c and i denote correct and incorrect nucleotide incorporation, and K_d is the apparent equilibrium dissociation constant of dNTP.

^b k_{pol} : rate of nucleotide incorporation for first-enzyme turnover.