

**Table S2.** Summary of DNA unwinding activity of Mtb XPB.

Substrate name	Oligonucleotide combination	Structure	Unwinding activity
Blunt end duplex	A <sub>0</sub> +B*		-
3'-overhang	A+B*		+
5'-overhang	C+B*		-
Fork	T4*+B4/T1*+B1		+
3' flap	RF1+RF2+RF3*		+
5' flap	RF1+RF2+RF4*		-
Nicked 3-way junction	RF1+RF2+RF3*+RF4		-
Holliday junction	HJ1*+HJ2+HJ3+HJ4		-
Bubble	D1+D2*		-
D-loop with fully complementary invading strand	D1+D2+D5*		-
3'-tailed D-loop	D1+D2+D4*		+
3'-tailed R-loop	D1+D2+R2*		-
5'-tailed D-loop	D1+D2+D3*		-
5'-tailed R-loop	D1+D2+R1*		-

\* -indicates the 5'-end-labeled substrates