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Appendix Table S1. DNA substrates

Name	Sequence (5' to 3')
ds32	CGATCGGTAACGTATGCTGAATCTGGTGCTGG CCAGCACCAGATTCAGCATACGTTACCGATCG
ds32 ^F	/5IRD700/CGATCGGTAACGTATGCTGAATCTGGTGCTGG /5IRD700/CCAGCACCAGATTCAGCATACGTTACCGATCG
ds50	CGTCGACTCTACATGAAGCTCGAAGCCATGAATTCAAATGACCTCTGATCA TGATCAGAGGTCATTTGAATTCATGGCTTCGAGCTTCATGTAGAGTCGACG
ss64	TTTCCCAGCACCAGATTCAGCATACGTTACCGATCGTACGTTTCGATGCTGGCTACTGCTAGCTT

Appendix Table S2. CryoEM data collection

	I _{Ub} D2 _{Ub} -dsDNA	ID2 _{Ub}
Microscope	Titan Krios	Cryoarm
Detector	Falcon III	DE64
Magnification	80,000x	200,000x
Voltage (kV)	300	300
Electron Dose (e ⁻ /Å ²)	44.4	46.2
Defocus range (μm)	1.0-3.5	1.0-3.5
Pixel Size (Å)	1.085	0.598