Kinetic Measurements on Single-molecule Disulfide Bond Cleavage

Supporting Information

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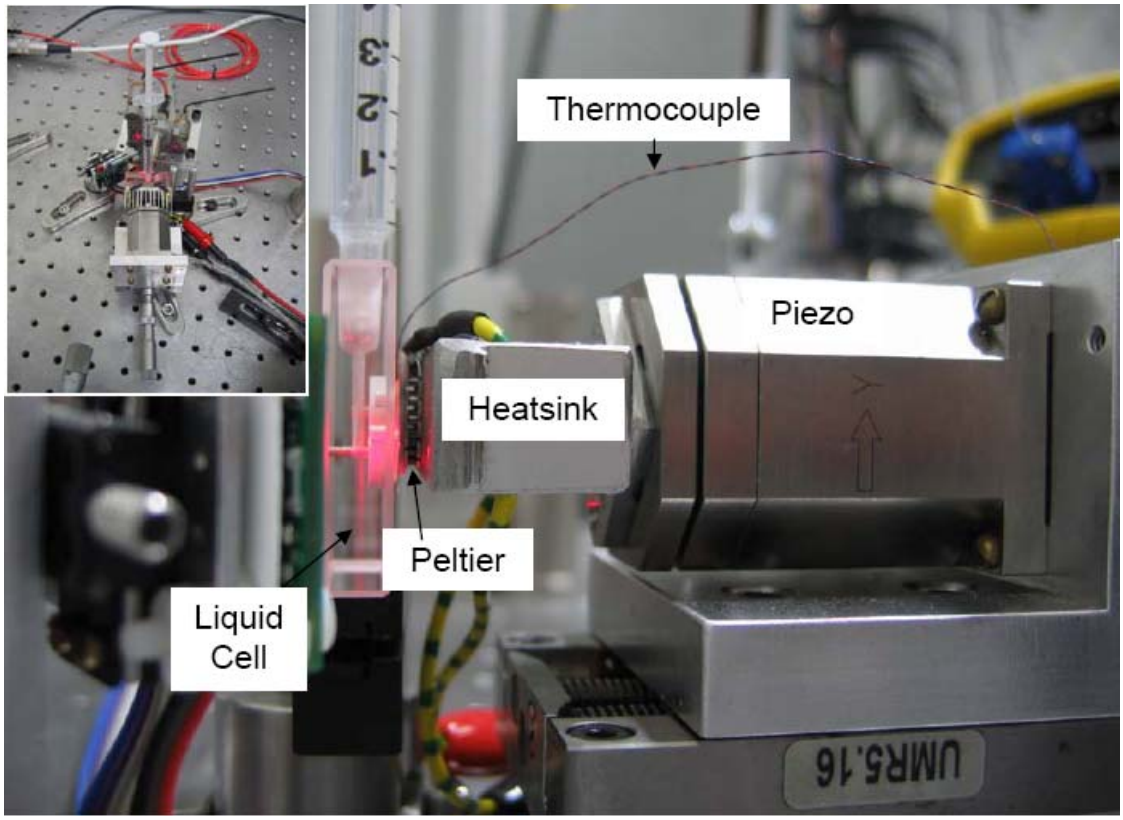

Figure S1. A close snapshot of our temperature-controlled atomic force microscope in actual operation. The arrangement of the liquid cell, thermoelectric device (Peltier), heatsink, piezo and thermocouple is shown. Inset: the top view of the AFM.

Table S1. Δx_r values measured from the fitting of rate with force using Equation 1 for different S_N2 reactions at different temperatures

	Temperature				
	278 K	288 K	298 K	308 K	318 K
Δx_r for TCEP (Å)	0.42 ± 0.03	0.40 ± 0.02	0.48 ± 0.02	0.45 ± 0.03	0.47 ± 0.03
Δx_r for DTT (Å)	–	0.36 ± 0.03	0.37 ± 0.03	0.38 ± 0.03	0.40 ± 0.03
Δx_r for HS^- (Å)	0.35 ± 0.04	0.37 ± 0.04	0.37 ± 0.03	0.40 ± 0.04	–