

Supplementary Table 3: Summary of *in vitro* chaperone reactions with attempts to correlate folding with ATP-costs.

Chaperone system	Substrate to chaperone ratio (protomers)	Refolding rate (nM/min)	Substrate refolded chaperone ⁻¹ h ⁻¹	ATP/ natively refolded substrate	Reference
GroEL/GroES	1:8 MDH:GroEL	3.4	0.10	---	²
	1:35 Rubisco:GroEL	2.65	0.09	---	³
	1:21 Cit syn: GroEL	4.44	0.085	---	⁴
	1:70 MDH:GroEL	1.8	0.016	---	⁵
DnaK/DnaJ/GrpE	1:6 G6PDH:DnaK	14	0.24	1,200	⁶
	1:14 G6PDH: DnaK	4.2	0.072	4,200-16,800*	⁷
	1:14 MDH: DnaK	1.11	0.02	16,000-63,000*	⁷
	1:7 LDH: DnaK	15	0.26	1,200-4,700*	⁷
	0.7:1 MDH: DnaK (+ClpB)	5.1	0.31**	1,000-4,000*	⁸
	15:1 Luciferase: DnaK	2172 at V_{max}	324 at V_{max}	5.6 at V_{max}	Present study

* DnaK (+DnaJ and GrpE) ATPase activity in the presence of substrate is estimated from the present work to be 5-30 min⁻¹ at 25 °C.

** Normalized for DnaK.

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