

Figure 2C		Sce mtRNAP					
[ATP] ( $\mu$ M)	[NAD <sup>+</sup> ]/[ATP]	Set 1	Set 2	Set 3	Avg	SD	
25	40	0.876	0.947	0.963	0.929	0.046	
50	20	0.828	0.824	0.859	0.837	0.019	
100	10	0.762	0.767	0.782	0.770	0.010	
200	5	0.657	0.650	0.673	0.660	0.012	
400	2.5	0.468	0.469	0.507	0.481	0.022	
800	1.25	0.299	0.316	0.345	0.320	0.023	
1600	0.625	0.181	0.176	0.194	0.184	0.009	
		human mtRNAP					
[ATP] ( $\mu$ M)	[NAD <sup>+</sup> ]/[ATP]	Set 1	Set 2	Set 3	Avg	SD	
25	40	0.922	0.825	0.909	0.886	0.053	
50	20	0.860	0.757	0.860	0.826	0.060	
100	10	0.657	0.650	0.609	0.639	0.025	
200	5	0.531	0.572	0.503	0.535	0.035	
400	2.5	0.353	0.364	0.349	0.355	0.008	
800	1.25	0.159	0.187	0.162	0.169	0.016	
1600	0.625	0.087	0.124	0.094	0.102	0.020	
		Eco RNAP					
[ATP] ( $\mu$ M)	[NAD <sup>+</sup> ]/[ATP]	Set 1	Set 2	Set 3	Avg	SD	
3.125	320	0.799	0.716	0.734	0.750	0.044	
6.25	160	0.642	0.623	0.646	0.637	0.012	
12.5	80	0.476	0.448	0.451	0.458	0.015	
25	40	0.317	0.339	0.304	0.320	0.017	
50	20	0.198	0.189	0.174	0.187	0.012	
100	10	0.099	0.086	0.086	0.090	0.008	
200	5	0.044	0.050	0.042	0.045	0.004	
		Sce RNAP II					
[ATP] ( $\mu$ M)	[NAD <sup>+</sup> ]/[ATP]	Set 1	Set 2	Set 3	Avg	SD	
12.5	320	0.643	0.690	0.744	0.692	0.051	
25	160	0.414	0.562	0.589	0.522	0.094	
50	80	0.383	0.527	0.554	0.488	0.092	
100	40	0.381	0.350	0.295	0.342	0.043	
200	20	0.260	0.143	0.171	0.191	0.061	
400	10	0.107	0.095	0.104	0.102	0.006	
800	5	0.043	0.051	0.059	0.051	0.008	

Figure 2D		Sce mtRNAP					
[ATP] ( $\mu$ M)	[NADH]/[ATP]	Set 1	Set 2	Set 3	Avg	SD	
25	40	0.957	0.959	0.959	0.958	0.002	
50	20	0.859	0.870	0.873	0.867	0.007	
100	10	0.772	0.784	0.813	0.790	0.021	
200	5	0.644	0.710	0.717	0.690	0.040	
400	2.5	0.556	0.599	0.594	0.583	0.023	
800	1.25	0.446	0.432	0.500	0.459	0.036	
1600	0.625	0.306	0.297	0.327	0.310	0.016	
		human mtRNAP					
[ATP] ( $\mu$ M)	[NADH]/[ATP]	Set 1	Set 2	Set 3	Avg	SD	
25	40	0.983	0.967	0.977	0.976	0.008	
50	20	0.929	0.958	0.939	0.942	0.015	
100	10	0.871	0.911	0.847	0.876	0.032	
200	5	0.769	0.731	0.716	0.739	0.027	
400	2.5	0.590	0.580	0.517	0.562	0.040	
800	1.25	0.387	0.367	0.332	0.362	0.028	
1600	0.625	0.227	0.231	0.180	0.213	0.028	
		Eco RNAP					
[ATP] ( $\mu$ M)	[NADH]/[ATP]	Set 1	Set 2	Set 3	Avg	SD	
3.125	320	0.937	0.922	0.950	0.936	0.014	
6.25	160	0.858	0.831	0.858	0.849	0.016	
12.5	80	0.728	0.752	0.756	0.745	0.015	
25	40	0.565	0.551	0.588	0.568	0.019	
50	20	0.386	0.383	0.387	0.385	0.002	
100	10	0.214	0.209	0.225	0.216	0.009	
200	5	0.123	0.112	0.114	0.116	0.006	
		Sce RNAP II					
[ATP] ( $\mu$ M)	[NADH]/[ATP]	Set 1	Set 2	Set 3	Avg	SD	
12.5	320	0.949	0.961	0.927	0.946	0.017	
25	160	0.965	0.923	0.904	0.931	0.031	
50	80	0.948	0.834	0.819	0.867	0.071	
100	40	0.687	0.635	0.702	0.675	0.035	
200	20	0.487	0.483	0.519	0.497	0.019	
400	10	0.218	0.242	0.231	0.231	0.012	
800	5	0.127	0.123	0.126	0.126	0.002	

Figure 2-supplement 2		T7 RNAP					
[ATP] ( $\mu$ M)	[NAD <sup>+</sup> ]/[ATP]	Set 1	Set 2	Set 3	Avg	SD	
25	40	0.905	0.911	0.921	0.912	0.008	
50	20	0.813	0.817	0.835	0.822	0.012	
100	10	0.663	0.661	0.675	0.667	0.008	
200	5	0.479	0.497	0.511	0.496	0.016	
400	2.5	0.280	0.300	0.310	0.296	0.015	
800	1.25	0.159	0.164	0.161	0.162	0.003	
1600	0.625	0.077	0.081	0.074	0.077	0.003	
		Sce RNAP II					
[ATP] ( $\mu$ M)	[NADH]/[ATP]	Set 1	Set 2	Set 3	Avg	SD	
25	40	0.977	0.972	0.973	0.974	0.002	
50	20	0.937	0.930	0.933	0.933	0.004	
100	10	0.851	0.832	0.845	0.843	0.010	
200	5	0.702	0.685	0.729	0.705	0.022	
400	2.5	0.529	0.502	0.518	0.516	0.013	
800	1.25	0.344	0.329	0.357	0.343	0.014	
1600	0.625	0.170	0.197	0.201	0.189	0.017	