The Kinetic Stability of Cytochrome *c* Oxidase:
Effect of Bound Phospholipids and Dimerization

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Table S1. Calculated parameters based on two-step analysis of the data shown in Figure 1 the irreversible thermal transitions of PL-containing and PL-free CcO's at 5µM.

CcO form	E_{a1} (kJ/mol)	T_1^*/T_1 (°C)	ΔH_{u1} (kJ/mol)	$\tau_{37\,degC}$ (hours)	E_{a2} (kJ/mol)	T_2^*/T_2 (°C)	ΔH_{u2} (kJ/mol)	R^2
PL-containing 1.5 K/min	344 ±10	53.0/51.6 ±0.1	504 ±11	8.0	413 ±5	63.2/61.6 ±0.1	1157 ±12	0.9917
PL-free CcO 1.5 K/min	283 ±14	47.1/45.2 ±0.3	198 ±8	0.4	268 ±3	61.8/58.4 ±0.1	1097 ±10	0.9934

T* values are the temperatures at which the rate constant for the specific reaction is 1/min. *T* values are the temperatures corresponding to maximal value of molar heat capacity, Δc_p, in Figure 1.
Subscript 1 corresponds to the first N-to-I transition, and subscript 2 corresponds to the subsequent I-to-D process.

Table S2. Parameters obtained from DSC transitions of CcO at indicated concentration of CcO at scan rate 1.5 K/min. The listed parameters (transition temperatures, T_x, are temperatures corresponding to maximal value of molar heat capacity and values of calorimetric enthalpies, ΔH_{ux}, correspond to surface under the corresponding DSC transitions) are experimentally determined values from DSC scans and are model-independent.

[CcO] (µM)	T_1 (°C)	ΔH_{u1} (kJ/mol)	T_2 (°C)	ΔH_{u2} (kJ/mol)	R^2
0.55	46.2±0.1	510±11	59.5±0.1	1236±12	0.9922
1.1	47.5±0.1	456±14	60.0±0.1	1270±14	0.9897
1.6	48.4±0.1	500±14	60.8±0.1	1169±15	0.9904
2.1	48.7±0.1	525±10	61.1±0.1	1271±9	0.9953
3.2	50.3±0.1	454±6	61.5±0.1	1161±6	0.9981
3.6	50.6±0.1	463±17	61.4±0.1	1148±20	0.9789
4.1	51.6±0.1	461±16	61.2±0.1	1235±19	0.9850
5.0	51.6±0.1	504±11	61.6±0.1	1157±12	0.9917
5.2	51.0±0.1	481±15	61.8±0.1	1320±18	0.9914

Subscript 1 corresponds to the first N-to-I transition, and subscript 2 corresponds to the subsequent I-to-D process.

Table S3. Calculated parameters based on two-step analysis of the data shown in Figure 7 the irreversible thermal transitions of PL-containing CcO's (5 μM) in the presence and the absence of 2mM sodium cholate in different concentrations of dodecyl maltoside (DM).

[DM]±cholate	E_{a1} (kJ/mol)	T_1^*/T_1 (°C)	ΔH_{u1} (kJ/mol)	$\tau_{37\ degC}$ (hours)	E_{a2} (kJ/mol)	T_2^*/T_2 (°C)	ΔH_{u2} (kJ/mol)	R^2
2mM -cholate	354 ±13	53.0/51.6 ±0.2	504 ±13	7.3	413 ±6	63.2/61.6 ±0.1	1157 ±15	0.9907
6mM -cholate	359 ±7	50.9/49.8 ±0.1	448 ±7	4.5	384 ±3	62.5/61.0 ±0.1	1245 ±8	0.9965
10mM-cholate	346 ±7	50.5/48.8 ±0.1	459 ±7	3.2	419 ±4	62.0/60.8 ±0.1	1187 ±8	0.9964
14mM-cholate	347 ±8	49.6/48.0 ±0.1	465 ±8	1.5	409 ±4	61.9/60.8 ±0.1	1195 ±9	0.9954
2mM +cholate	526 ±24	54.1/54.3 ±0.1	280 ±11	475.0	320 ±9	63.8/61.1 ±0.1	1079 ±15	0.9820
6mM +cholate	406 ±22	52.6/52.1 ±0.2	415 ±17	22.0	381 ±8	62.8/60.9 ±0.1	1280 ±22	0.9815
10mM+cholate	375 ±14	51.7/50.7 ±0.1	408 ±12	8.2	419 ±6	61.4/60.0 ±0.1	1112 ±13	0.9898
14mM+cholate	361 ±8	51.5/50.2 ±0.1	419 ±7	6.1	423 ±4	61.5/60.3 ±0.1	1122 ±8	0.9966

T^* values are the temperatures at which the rate constant for the specific reaction is 1/min. T values are the temperatures corresponding to maximal value of molar heat capacity, Δc_p, in Figure 7.
 Subscript 1 corresponds to the first N-to-I transition, and subscript 2 corresponds to the subsequent I-to-D process.