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SUPPLEMENTAL FIGURES

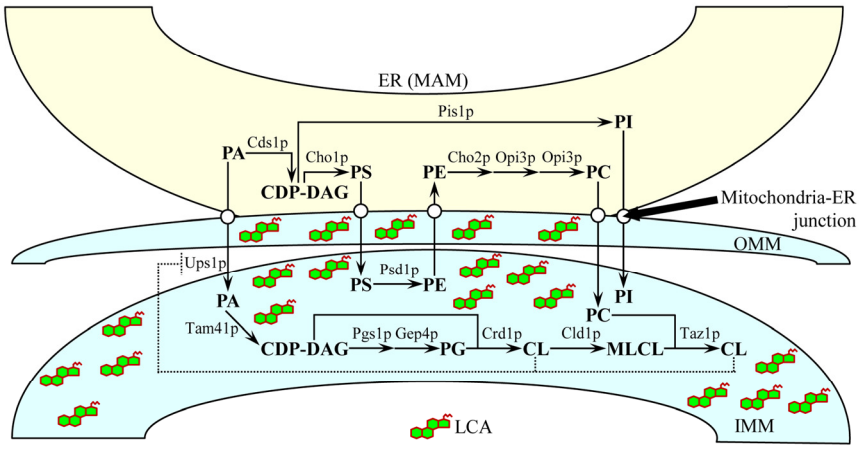

Figure S1. Outline of processes that define glycerophospholipid compositions of both mitochondrial membranes in yeast cells. An elaborate network that governs the spatiotemporal dynamics of glycerophospholipids within mitochondria and the ER integrates the synthesis of some of their molecular forms by enzymes confined to the mitochondria-associated membrane (MAM) domain of the ER, the synthesis of other glycerophospholipid species by enzymes residing in the IMM, a bidirectional transport of glycerophospholipids via mitochondria-ER junctions, and a shuttling of phosphatidic acid (PA) between the IMM and the OMM. In yeast cells cultured in the presence of exogenous LCA, this bile acid accumulates in the IMM and is also present in the OMM. A T bar denotes a cardiolipin (CL)-dependent inhibition of PA transport from the OMM to the IMM by Ups1p, a protein that shuttles PA between the two mitochondrial membranes. See text for details. Abbreviations: CDP-DAG, cytidine diphosphate-diacylglycerol; MLCL, monolysocardiolipin; PC, phosphatidylcholine; PG, phosphatidylglycerol; PI, phosphatidylinositol; PS, phosphatidylserine.

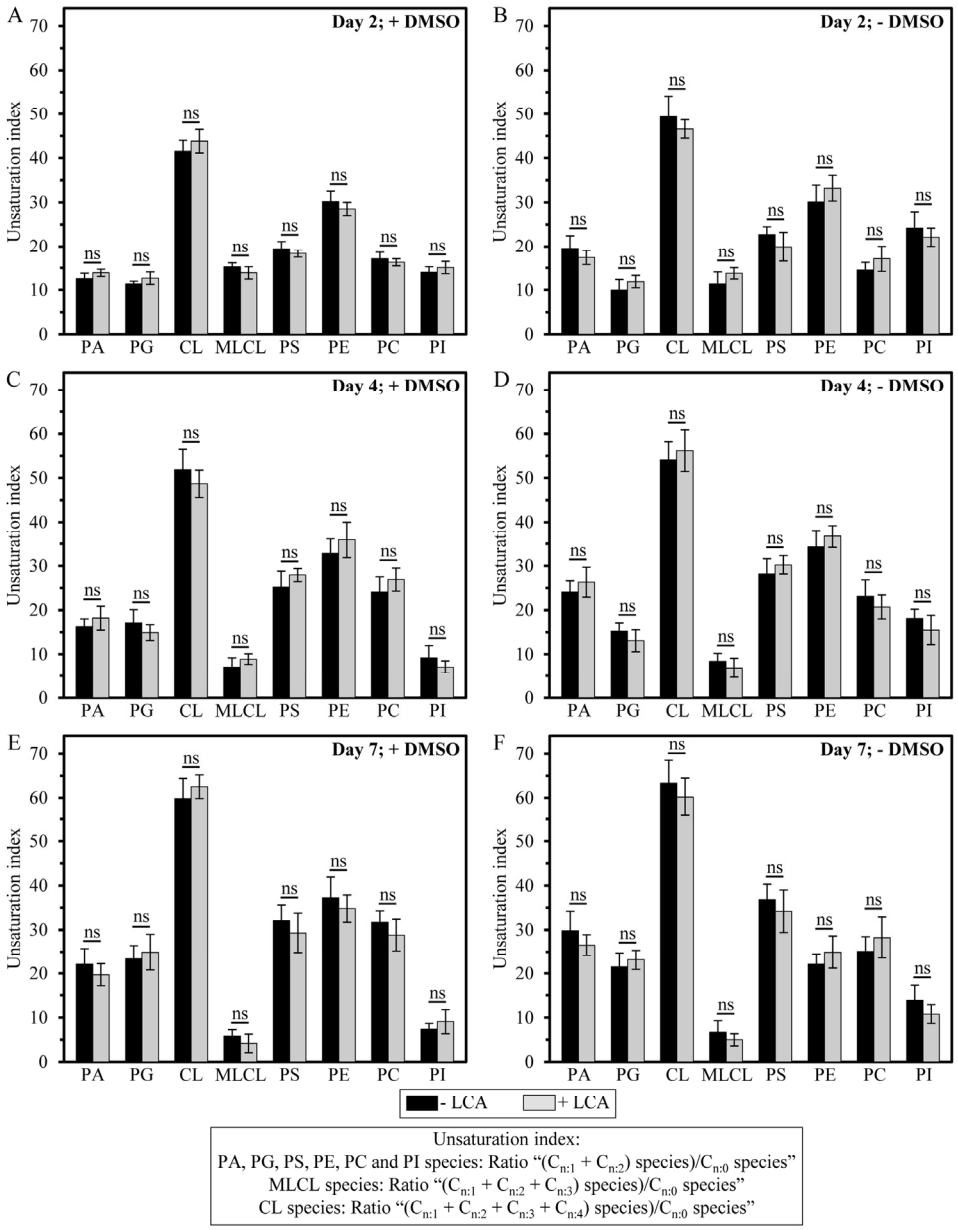

Figure S2. LCA does not cause a significant change in the "unsaturation index" for any of the glycerophospholipid species. Cells were cultured in the nutrient-rich YP medium initially containing 0.2% glucose with 50 μM LCA or without it, in the presence of 1% DMSO (**A**, **C** and **E**) or in its absence (**B**, **D** and **F**). Mitochondria were purified from cells recovered on day 2, 4 or 7 of cell culturing. Extraction of mitochondrial membrane lipids, and mass spectrometric identification and quantitation of the glycerophospholipid species were carried out as described in Methods. Based on these data, the unsaturation index for each molecular form of mitochondrial membrane glycerophospholipids was calculated as detailed in Methods. This index represents the "glycerophospholipids with one, two, three or four unsaturated acyl chains (*i.e.*, $C_{n:1}$, $C_{n:2}$, $C_{n:3}$ and $C_{n:4}$ species)/glycerophospholipids without unsaturated acyl chains (*i.e.*, $C_{n:0}$ species)" ratio. Data are presented as means ± SEM (n = 3; ns, not significant).