Supplementary Figures

Membrane-bound redox enzyme cytochrome *bd*-I promotes carbon monoxide-resistant *Escherichia coli* growth and respiration

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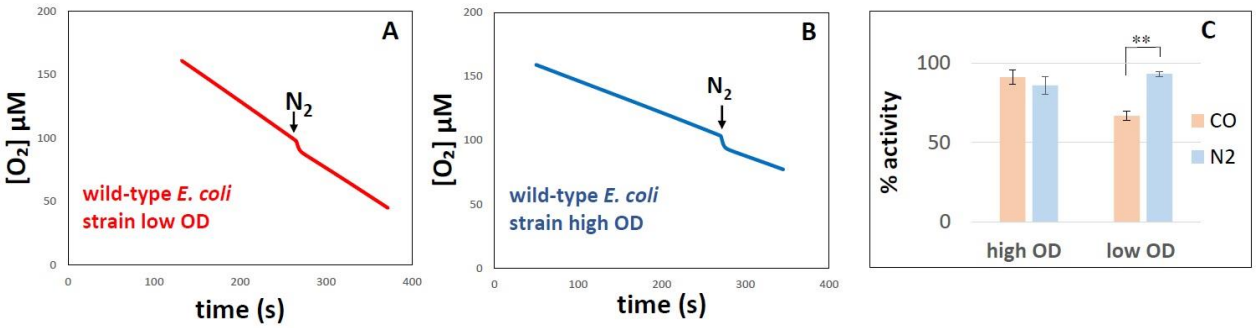
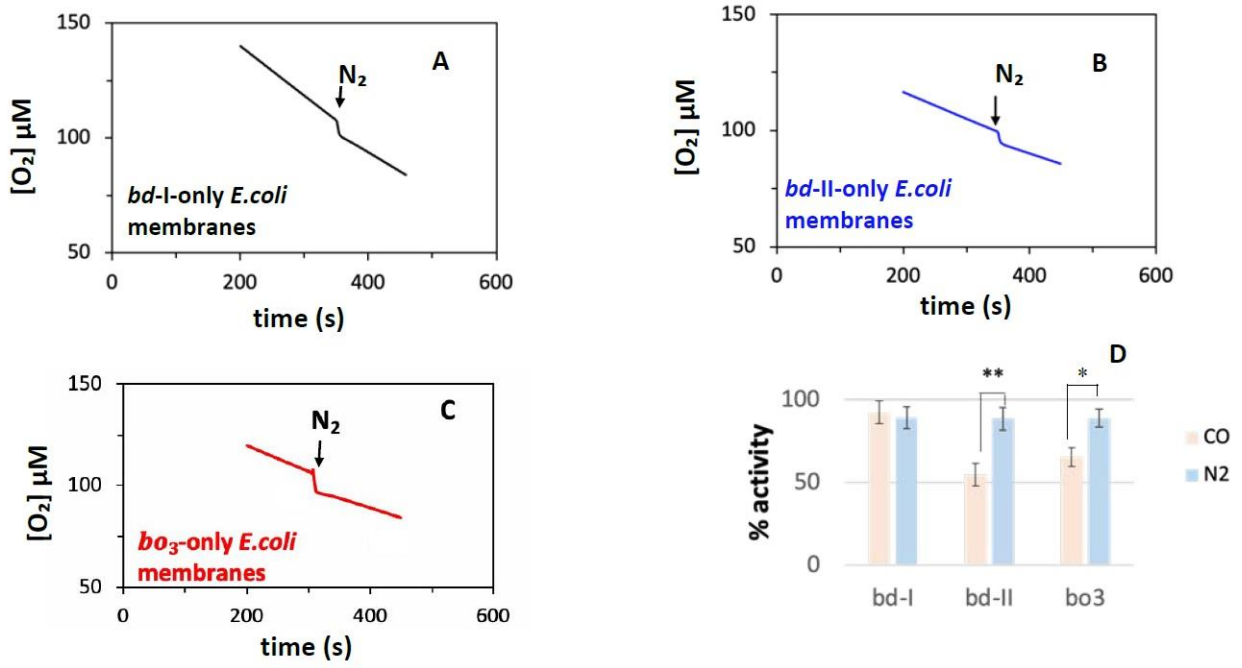


Supplementary Figure S1
Effect of N_2 on wild-type cell respiration. Traces of O_2 consumption of cell suspensions showing no effect of N_2 on aerobic respiration of the *E. coli* wild-type strain MG1655 measured with cells grown at low (**A**, red line) and at high (**B**, blue line) OD values. Low and high OD values indicate the prevalent expression of cytochrome *bo*$_3$ and the *bd* oxidases, respectively. 96 µM N_2 was added at [O_2] = 100 µM. Additions: 1.5 ml of cells at 0.4 OD (red line), 0.25 ml of cells at 5 OD (blue line). (**C**): Percent activity after CO or N_2 addition to respiring wild-type cells. Values represent the mean (n = 3) ± standard deviations. Asterisks denote statistically significant differences between the effects of CO and N_2 in wild-type cells grown at low OD (**, p < 0,01; t-test).



Supplementary Figure S2

Effect of N_2 on mutant strain respiration. Traces of O_2 consumption showing the effect of N_2 on aerobic respiration of isolated membranes from *E. coli* mutant strains expressing cytochrome *bd*-I (**A**), or cytochrome *bd*-II (**B**), or cytochrome bo_3 (**C**) as the sole terminal oxidase. 96 µM N_2 was added at [O_2] = 100 µM and had no effect on the respiratory activity of the membranes. Additions: 0.7 mg/ml of *bd*-I-containing isolated membranes (black line), 0.6 mg/ml of *bd*-II-containing isolated membranes (blue line), 0.7 mg/ml of bo_3-containing isolated membranes (red line). (**D**): Percent activity after CO or N_2 addition to respiring membranes. Values represent the mean (n = 3) ± standard deviations. Asterisks denote statistically significant differences between the effects of CO and N_2 in *bd*-II and bo_3 respiring isolated membranes (*, $p < 0{,}05$; **, $p < 0{,}01$; *t*-test).