

A Systems Biology Approach to the Study of Novel Environmental Bacteria



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Traditional Biology



Systems Biology



Protein Complexes

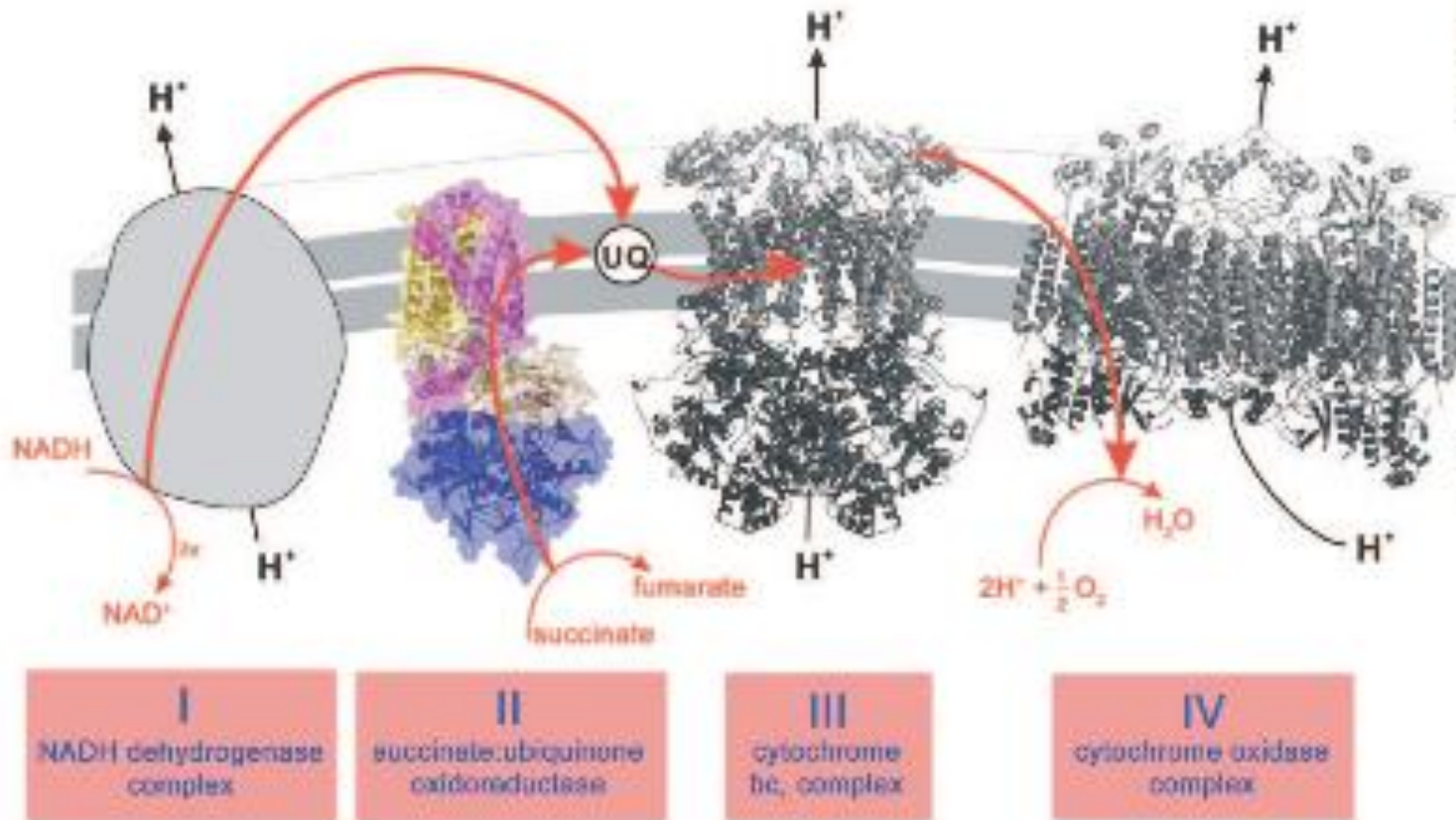
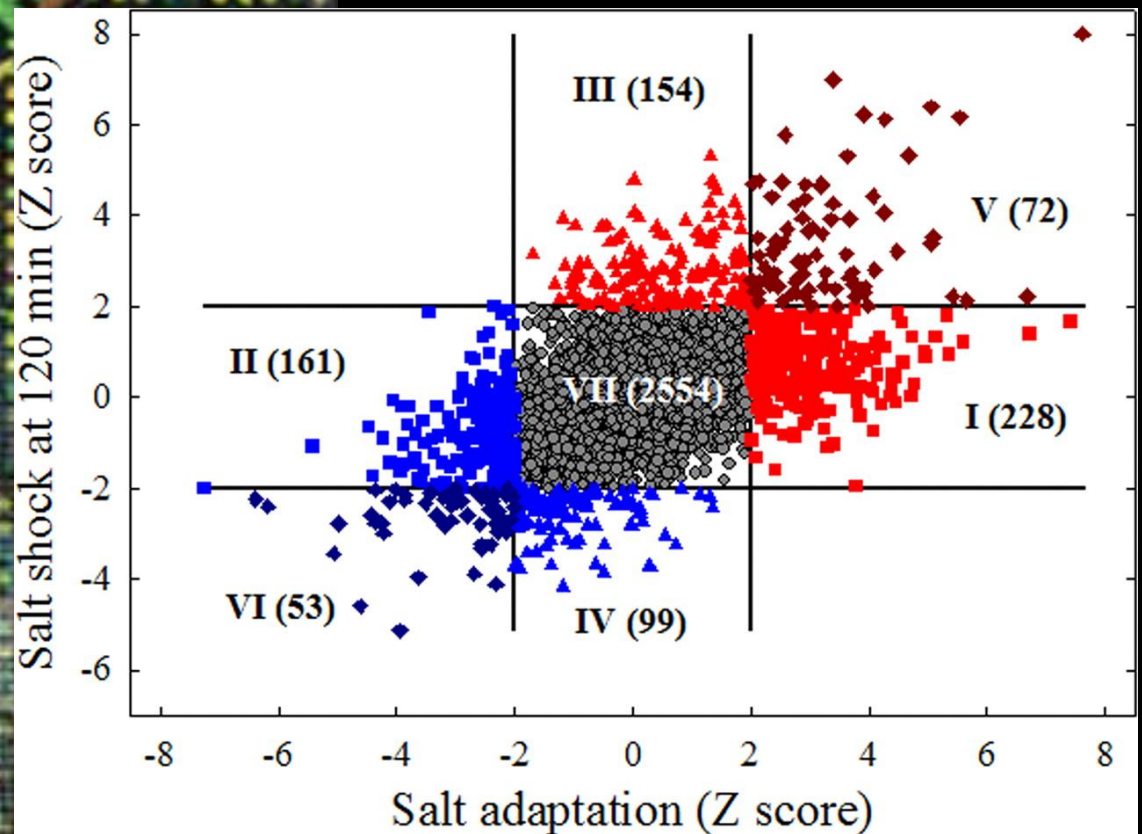
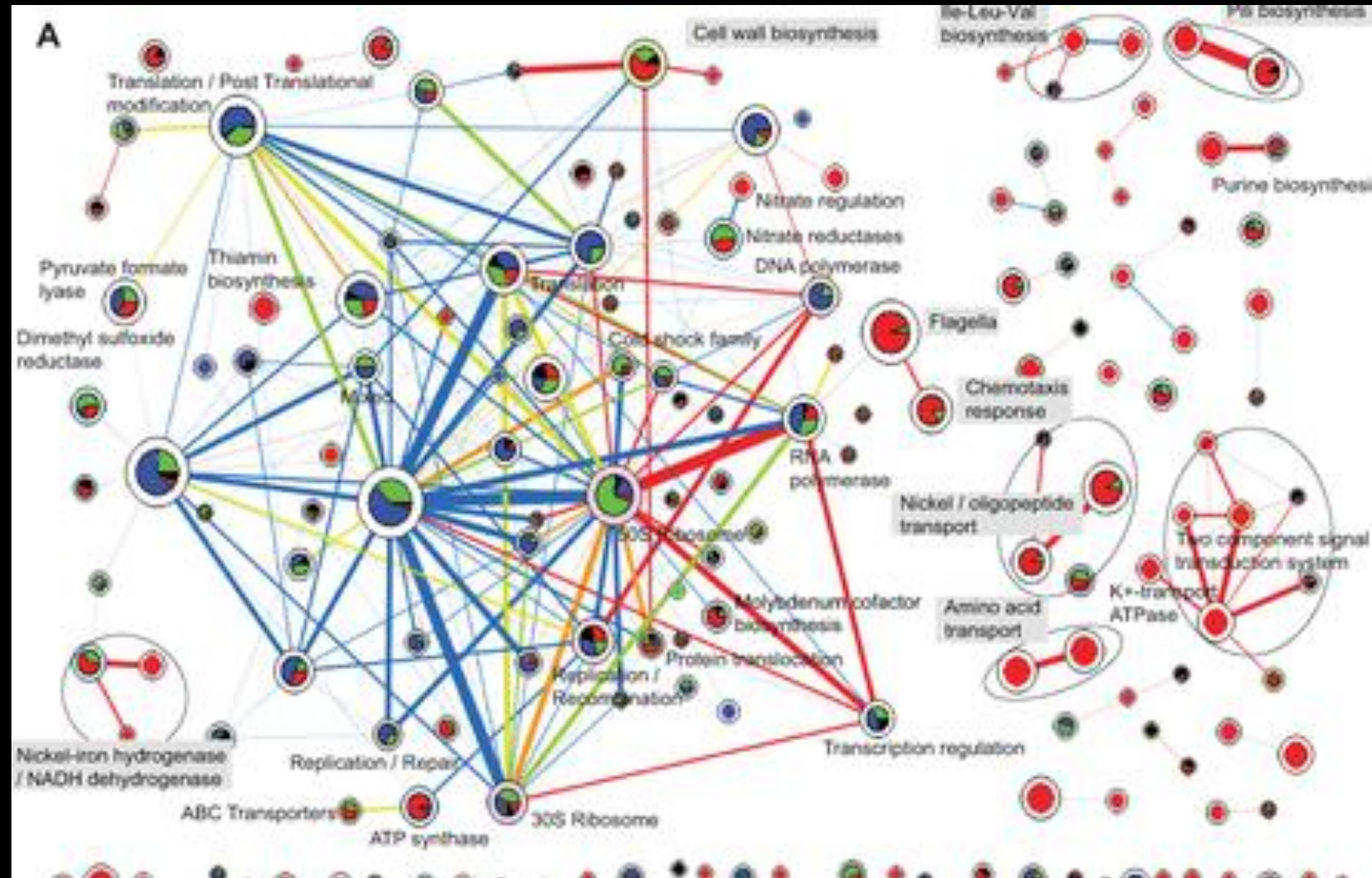


Figure 1. The Role of Complex II in the Mitochondrial Respiratory Chain

Transcriptomics

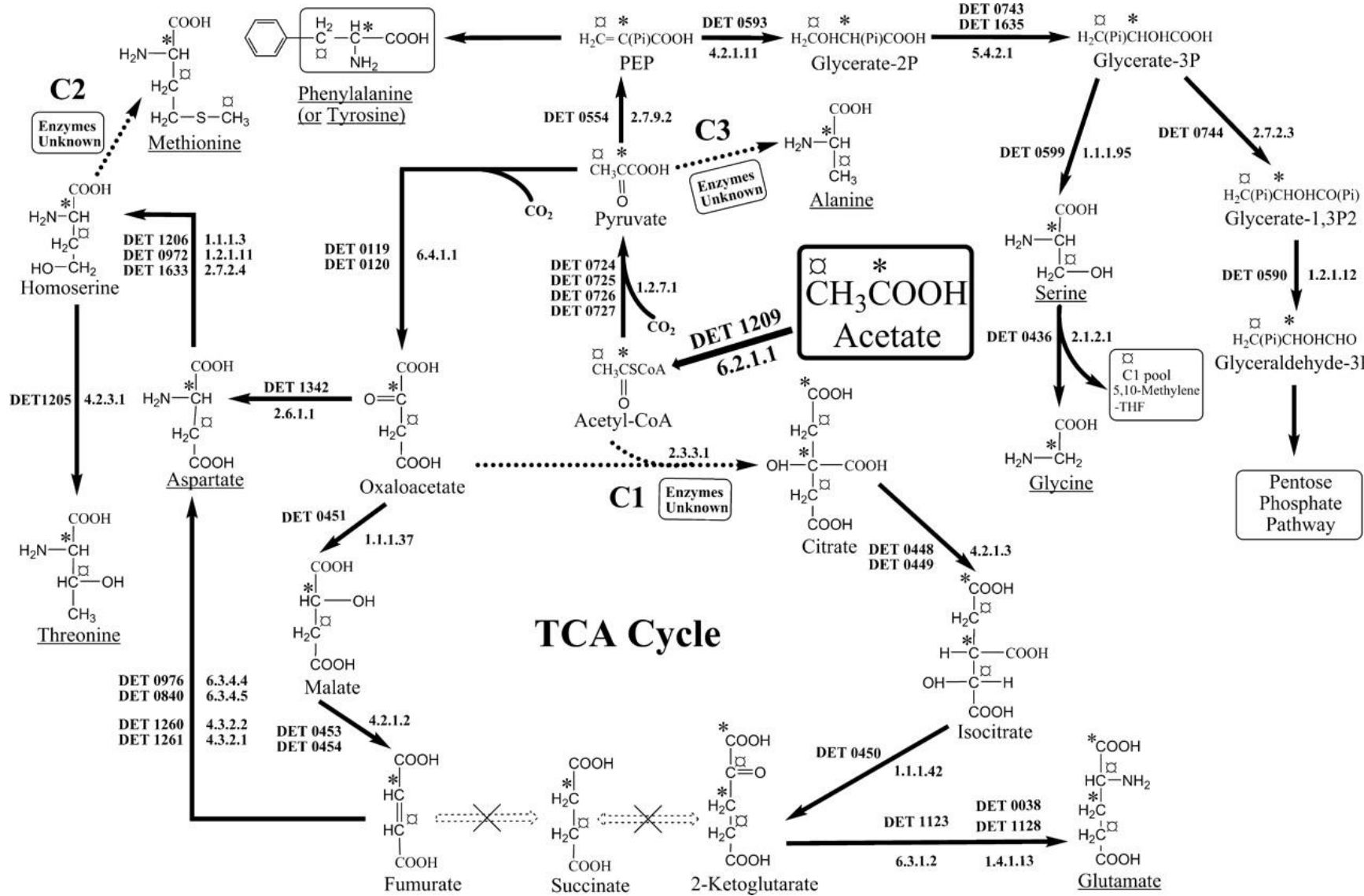


Protein Interactome



Metabolic Modeling

Proposed central metabolic pathways in *D. ethenogenes* 195



Applications

- ❧ Bacteria catalyzing the production of natural gas from petroleum and from renewable resources.
- ❧ Newly discovered bacteria in the Environment (soils, lake and marine sediments, engineered systems).
- ❧ Bacteria involved in biodegradation of petroleum and other contaminants.
- ❧ Bacteria in Biocorrosion.