

Figure S1. FnPg vs Fn Amino Acid Fermentation. The diagram shows a schematic of L-histidine, L-glutamine, L-glutamate, L-asparagines, L-aspartate, L-serine, and L-lysine

fermentation for the *F. nucleatum* with *P. gingivalis* sample compared to *F. nucleatum*. Proteins catalyzing each step are shown by their *F. nucleatum* FN number. Red numbers indicate increased levels in the first condition compared to the second condition, green decreased levels, yellow no statistical change, black undetected in at least one of the conditions, and purple for Acetyl-CoA which appears as a substrate or product in many reactions.

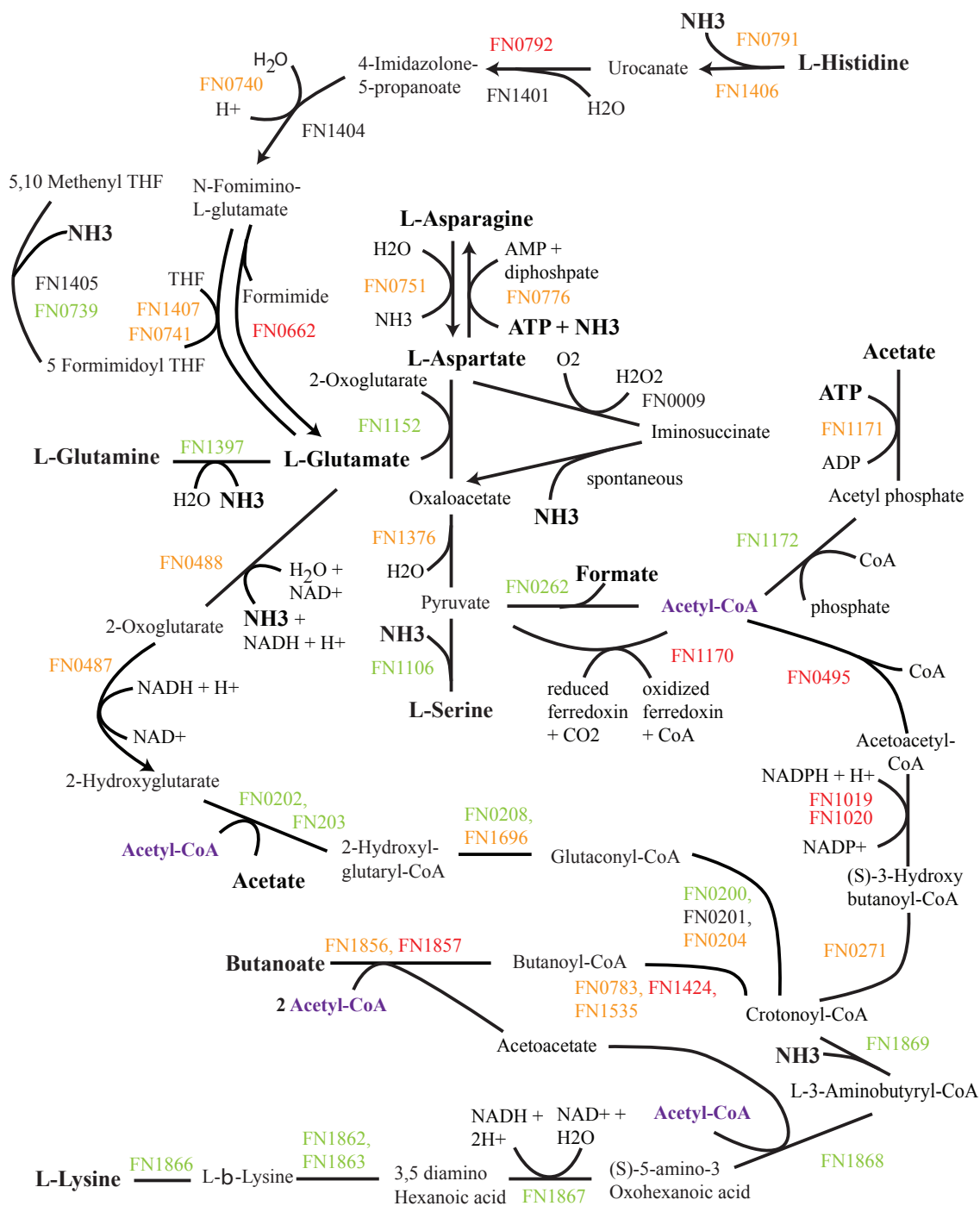


Figure S2. FnSg vs Fn Amino Acid Fermentation. Labels and color coding as described for Figure S1, for the *F. nucleatum* with *S. gordonii* comparison to *F. nucleatum*.

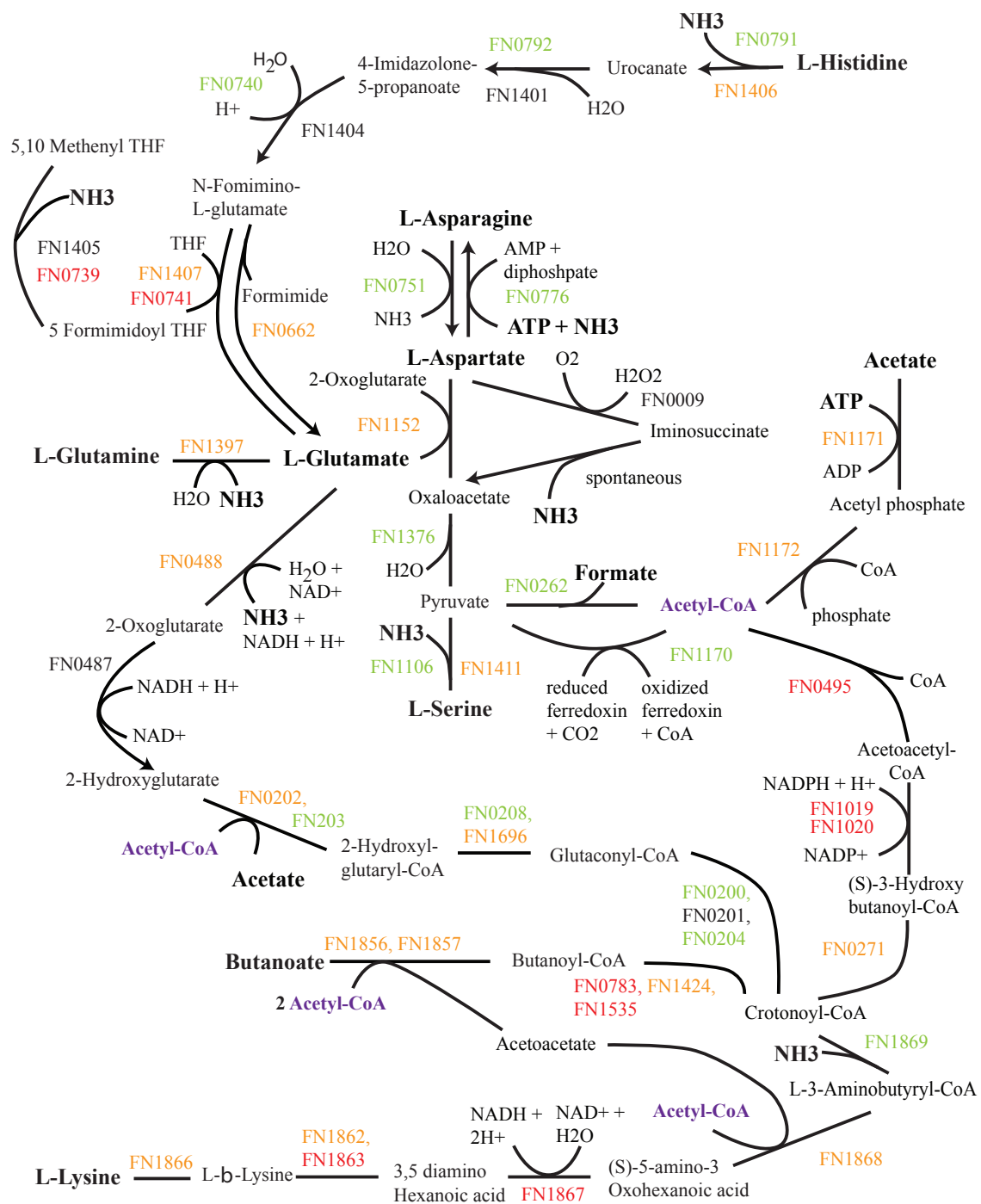


Figure S3. FnPgSg vs Fn Amino Acid Fermentation. Labels and color coding as described for Figure S1, for the *F. nucleatum* with *P. gingivalis* and *S. gordonii* comparison to *F. nucleatum*.

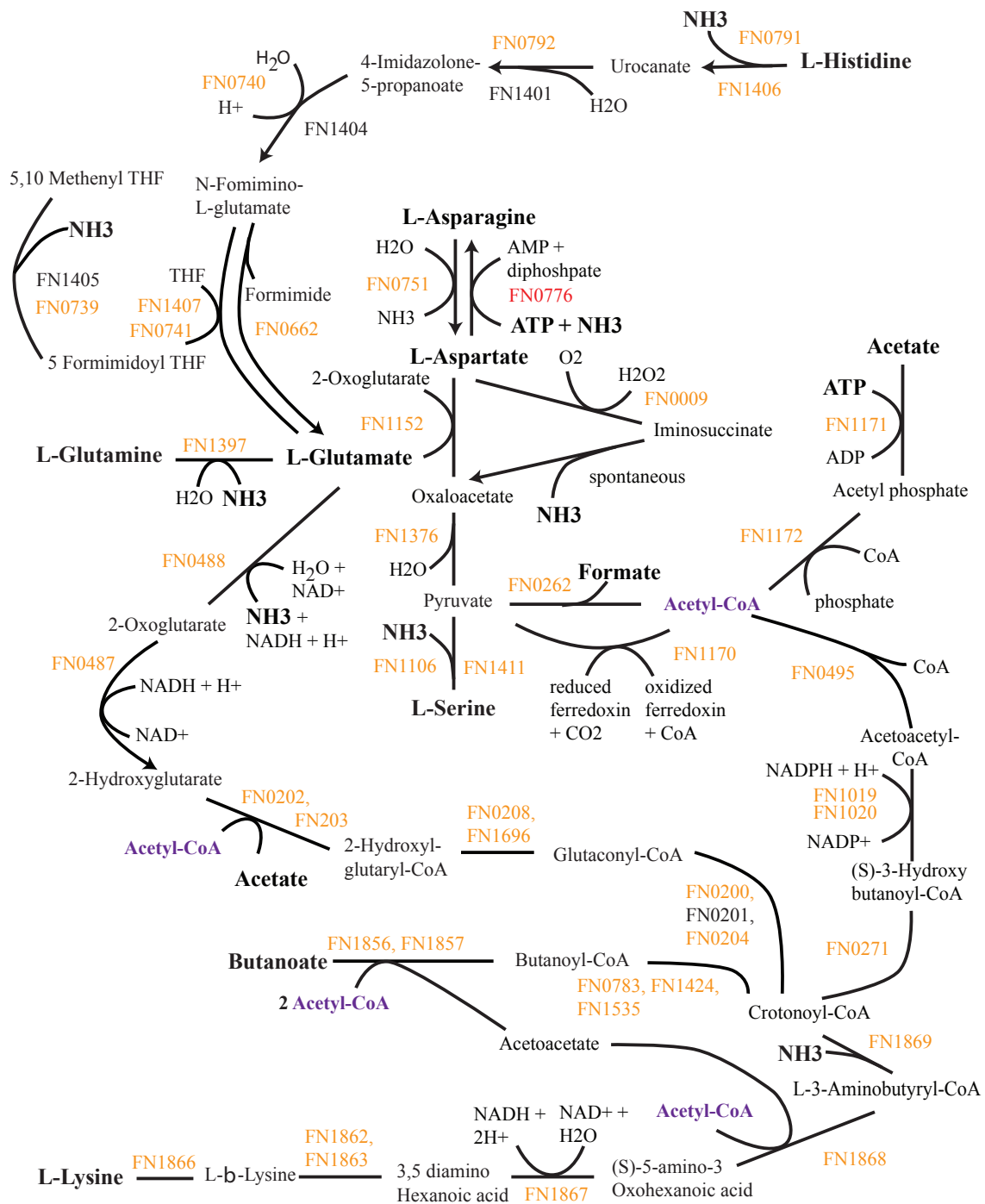


Figure S5. FnSg vs FnPg Amino Acid Fermentation. Labels and color coding as described for Figure S1, for the *F. nucleatum* with *S. gordonii* comparison to *F. nucleatum* with *P. gingivalis*.

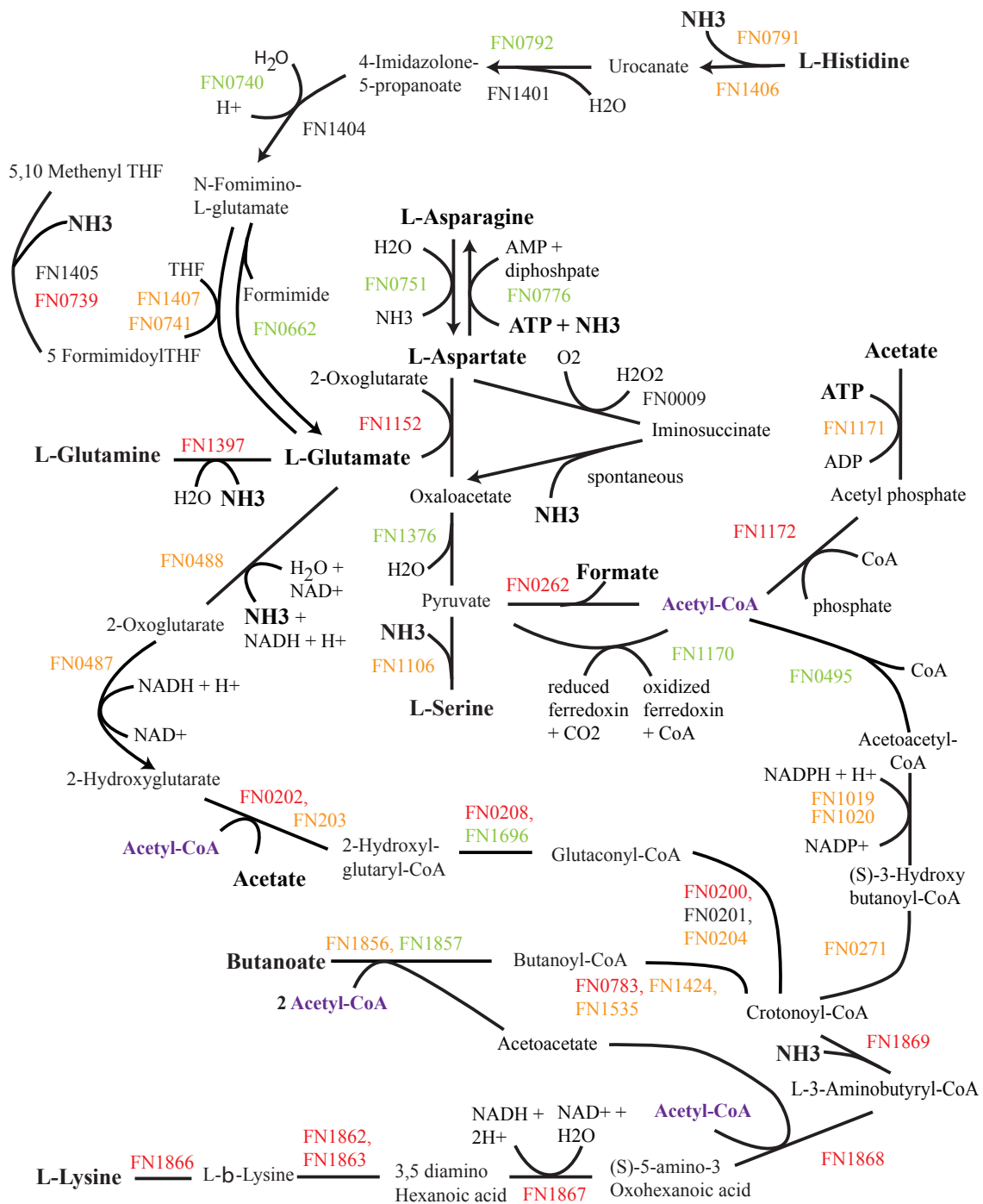


Figure S6. FnPgSg vs FnSg Amino Acid Fermentation. Labels and color coding as described for Figure S1, for the *F. nucleatum* with *P. gingivalis* and *S. gordonii* comparison to *F. nucleatum* with *S. gordonii*.

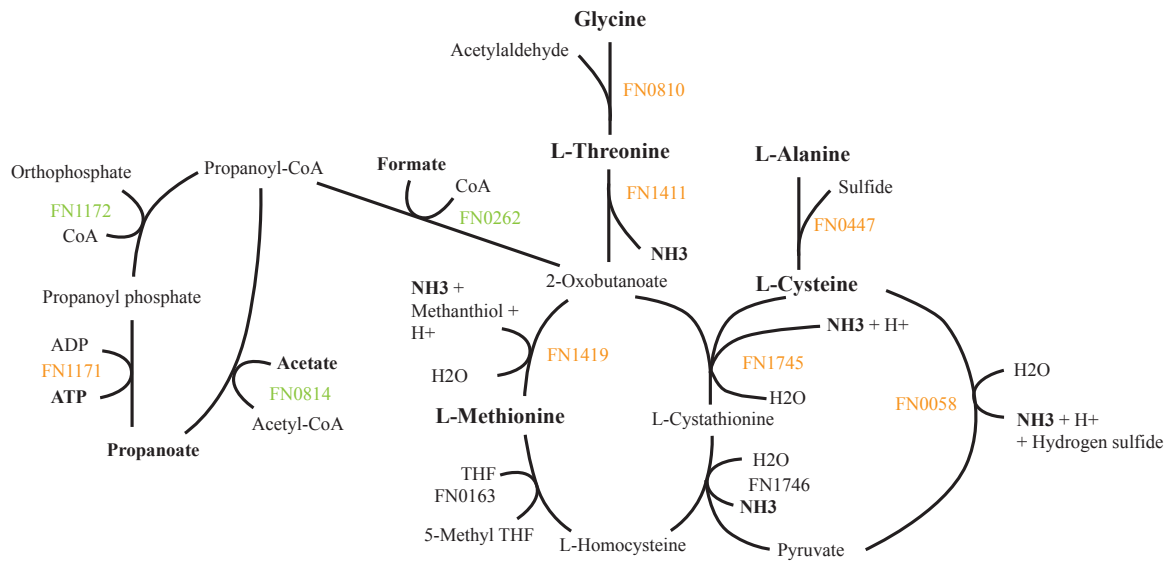


Figure S7. FnPg vs Fn Other Amino Acid Fermentation. The diagram shows a schematic of L-alanine, L-cysteine, glycine, L-methionine, and L-threonine fermentation for the *F. nucleatum* with *P. gingivalis* sample compared to *F. nucleatum*. Proteins catalyzing each step are shown by their *F. nucleatum* FN number. Red numbers indicate increased levels in the first condition compared to the second condition, green decreased levels, yellow no statistical change, and black undetected in at least one of the conditions.

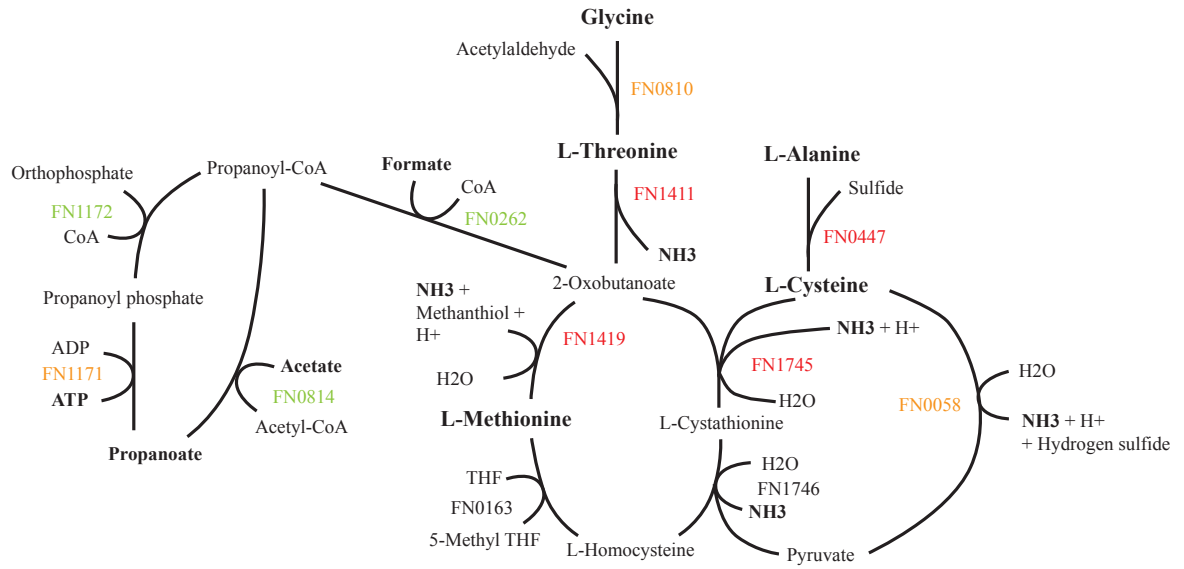


Figure S8. FnSg vs Fn Other Amino Acid Fermentation. Labels and color coding as described for Figure S7, for the *F. nucleatum* with *S. gordonii* comparison to *F. nucleatum*.

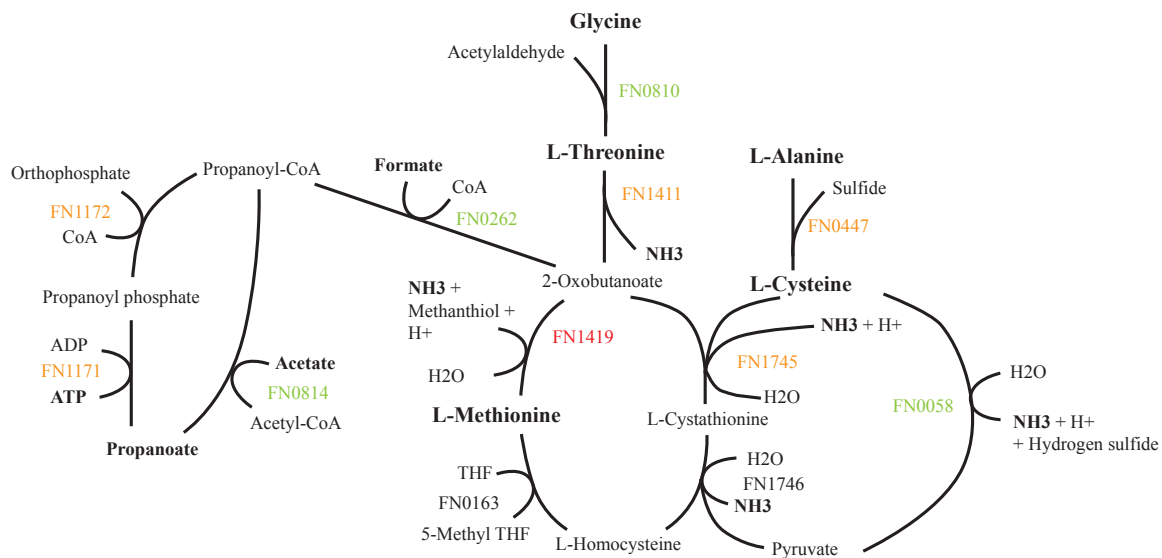


Figure S9. FnPgSg vs Fn Other Amino Acid Fermentation. Labels and color coding as described for Figure S7, for the *F. nucleatum* with *P. gingivalis* and *S. gordonii* comparison to *F. nucleatum*.

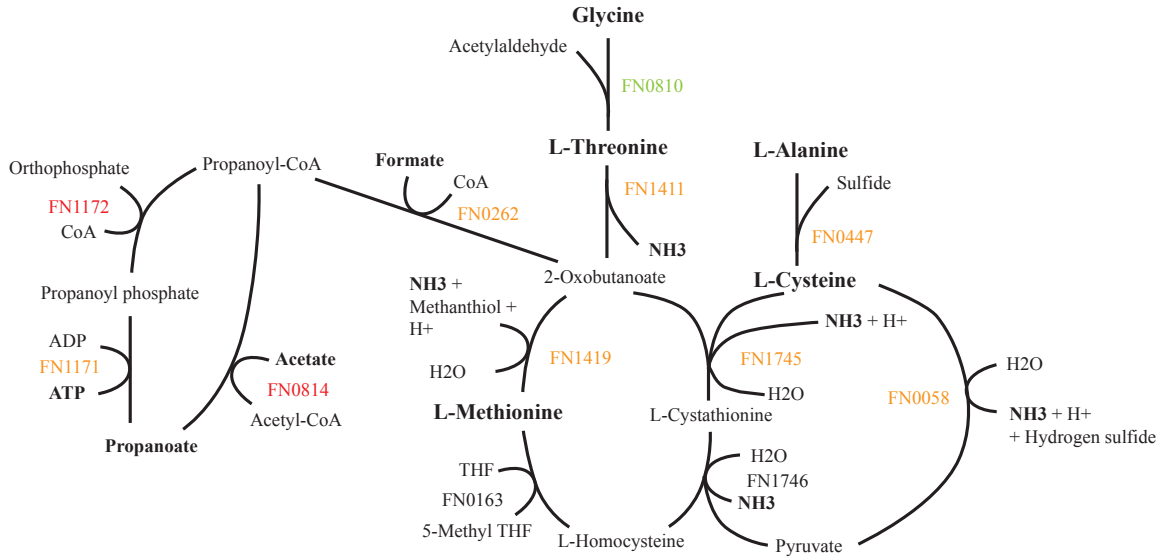


Figure S10. FnPgSg vs FnPg Other Amino Acid Fermentation. Labels and color coding as described for Figure S7, for the *F. nucleatum* with *P. gingivalis* and *S. gordonii* comparison to *F. nucleatum* with *P. gingivalis*.

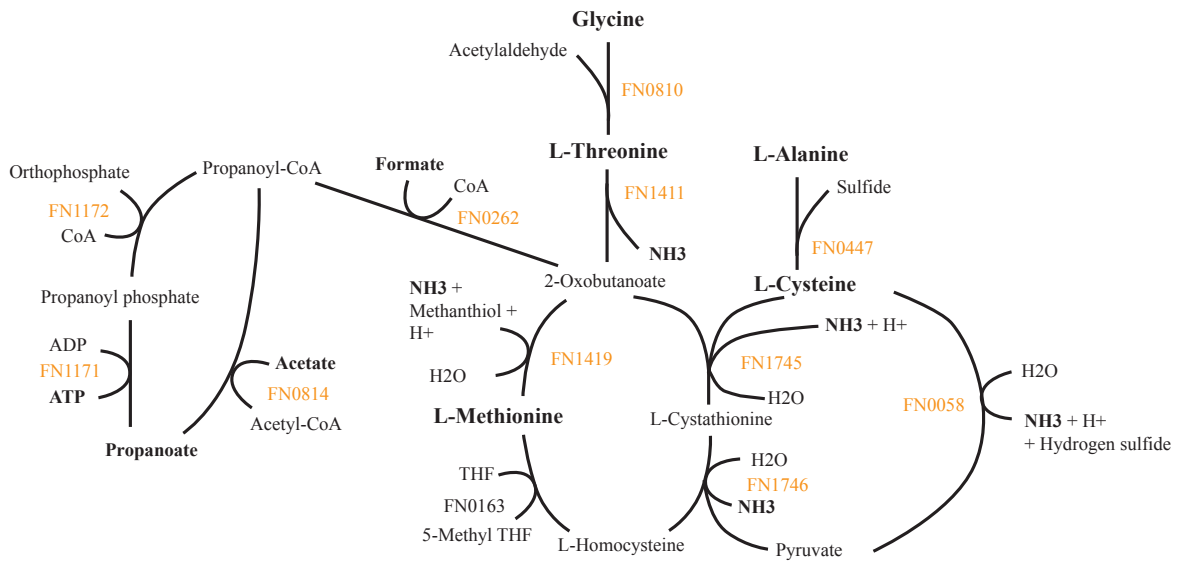


Figure S11. FnSg vs FnPg Other Amino Acid Fermentation. Labels and color coding as described for Figure S7, for the *F. nucleatum* with *S. gordonii* comparison to *F. nucleatum* with *P. gingivalis*.

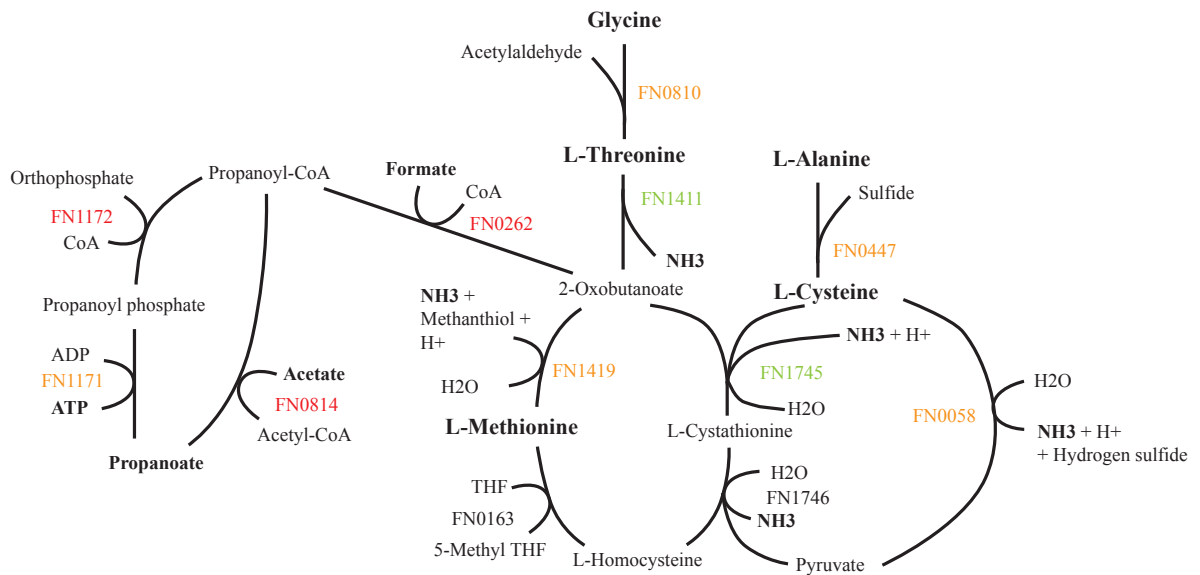


Figure S12. FnPgSg vs FnSg Other Amino Acid Fermentation. Labels and color coding as described for Figure S7, for the *F. nucleatum* with *P. gingivalis* and *S. gordonii* comparison to *F. nucleatum* with *S. gordonii*.