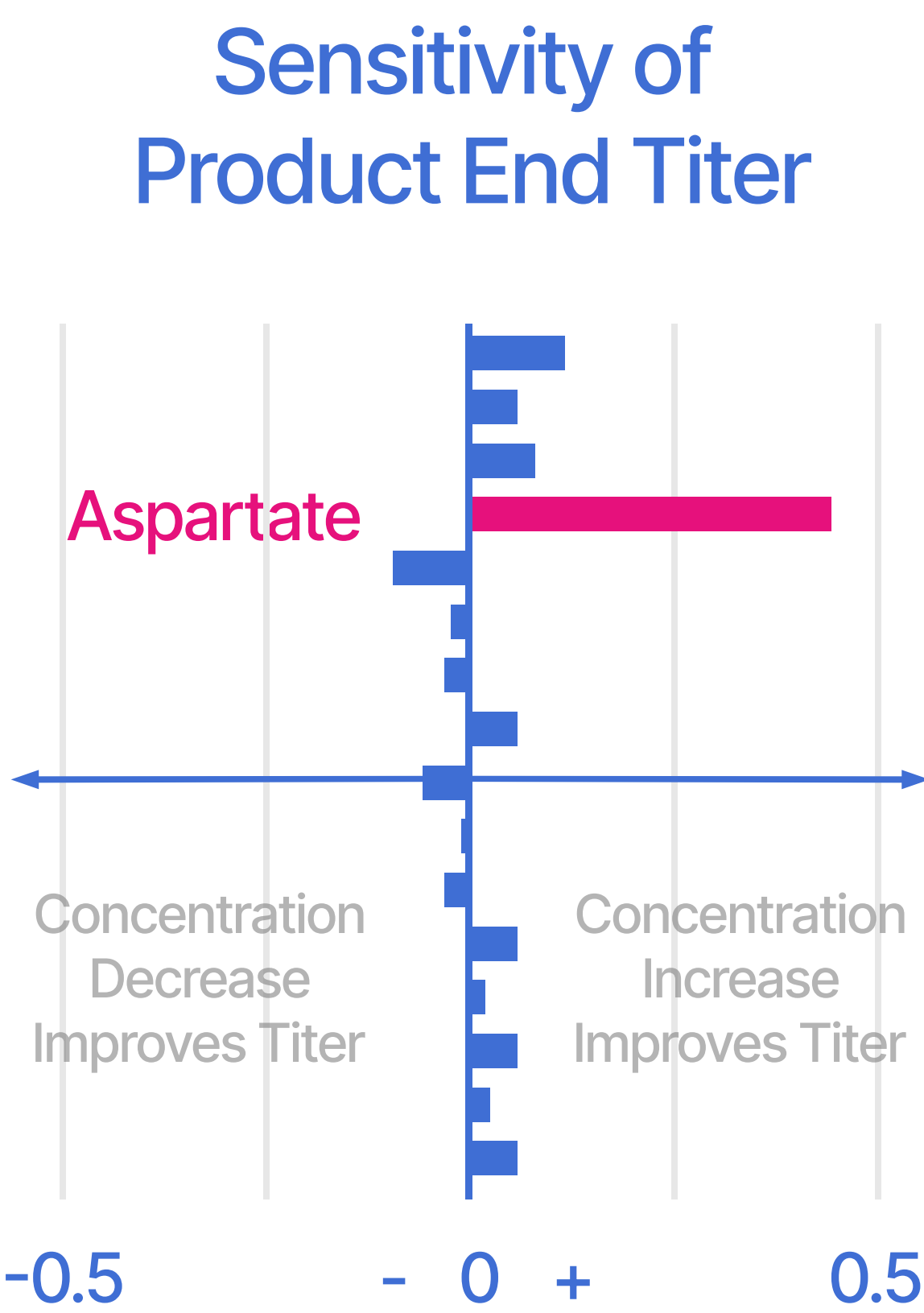


A partner was struggling to raise their product titer. We used several of the modules in the Insilico Suite to **diagnose** the problem.

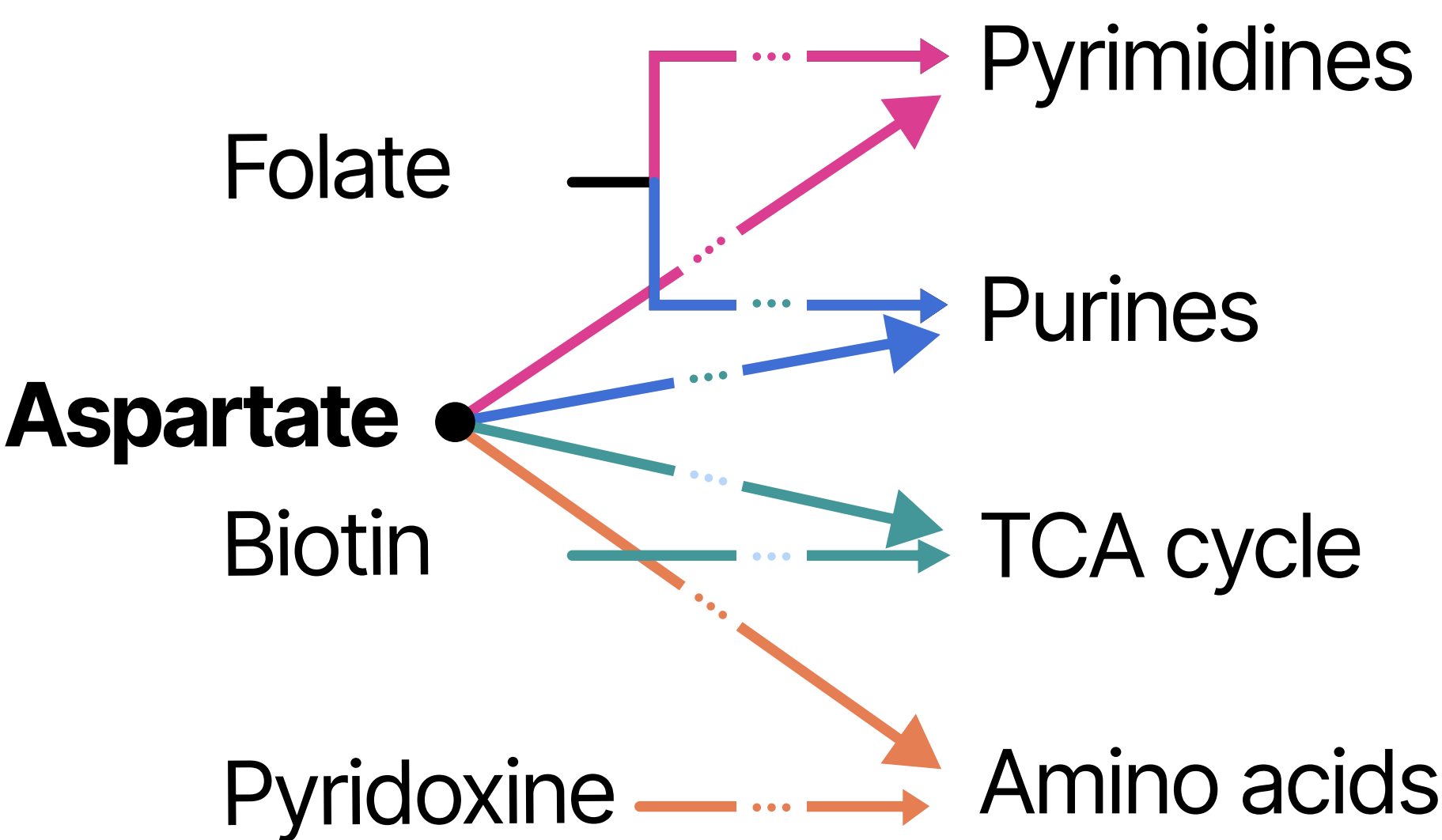
1 Sensitivity Analysis
identified Aspartate as the strongest limiting factor on titer.

However, Aspartate was already at the solubility limit.

Why is Aspartate so in demand?



2 Metabolic Pathway Analysis
identified Aspartate’s role as a vitamin compensator.



Folate, Biotin, and Pyridoxine deficiencies increase Aspartate consumption.

This explained the high sensitivity to Aspartate despite saturation.

3 Optimization Simulations
were then run with the Folate, Biotin, and Pyridoxine deficiencies resolved.

The result: **32% Predicted Higher Titer**