PRIOR CHALLENGES

1 / Legacy software couldn't keep pace with Synlogic’s need for rapid process iteration, putting the onus on scientists to manage manual data entry across disparate systems.

2 / Disparate systems of record for fermentation data hindered analysis and reporting, delaying critical business decisions.

3 / Without a central place to store the data produced by their bioreactors, scientists spent significant time tracking people down and sending emails.

KEY BENEFITS

1 / One-Click Solution for Fermentation
After completing a reactor run, Synlogic’s data is automatically uploaded and structured in Benchling and tied to its relevant experimental workflow.

2 / Automated Visualizations
By leveraging the Benchling API, Synlogic automatically generates visualizations of their fermentation data. With these visualizations, they can track fermentation trends over time of individual and multiple fermentations.

3 / Centralized Fermentation Requests
Synlogic’s core platform development team runs fermentations for the rest of the organization. With Benchling, requesters see progress in real-time and can directly access and visualize their results the instant the data is compiled.

“...

We looked at a number of different LIMS systems to help manage our process development, but I don’t think any of this would have been possible without Benchling.

Scott Hamilton, Senior Lead Process Engineer

“...
Structuring and unifying assays

- During and after fermentation runs, Synlogic's scientists use Benchling to run numerous assays to gauge characteristics such as optical density, cell health, and potency.
- Benchling Workflows structures these assays into trackable stages that automatically associate assay data to the fermentation run that it corresponds to.
- By unifying assay data and fermentation data, Synlogic improves scientist productivity and eliminates inaccurate and missing data.

Automating and visualizing fermentation runs

- Synlogic uses Benchling to automatically link bioreactor data to experiments.
- Through Benchling's APIs, Synlogic integrated their reactor software with Benchling. Fermentation data is automatically uploaded to Benchling and then automatically visualized through an integration with third-party data analysis software.
- By automating data centralization and visualization, Synlogic has built a "one click solution" for fermentation. They're able to make more informed decisions around process development much more quickly than ever before.

Centralizing and streamlining fermentation requests

- Groups across Synlogic rely on the platform development team to run fermentations for them. With Benchling, these groups have a single system to place fermentation requests and access data the moment it's generated.
- With Benchling Requests, requesters specify desired inputs and other experimental parameters. Taking advantage of the automations they've developed, Synlogic fulfills these requests and shares results and visualizations without any downtime.
- Groups throughout Synlogic get the results they need faster than ever before and no longer depend on outdated methods to work together.