

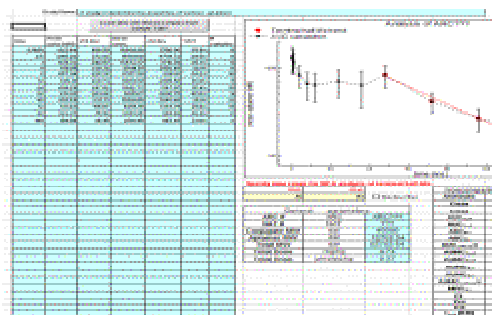


## Assay Template Development

Archemix is a biopharmaceutical company leading the development of aptamers as a new class of directed therapeutics for the prevention and treatment of chronic and acute disease. Aptamers are oligonucleotides that bind to molecular targets in a manner conceptually similar to antibodies.

### Business Problem

Archemix has developed assays to determine the properties and performance of promising aptamers and protocols for the analysis of the raw data generated by these experiments.



Although the protocols were clear and methodical, inevitable variations in the scientists' use of off the shelf computer programs introduced uncertainty as to how their data could be compared.

The time-consuming computation process was not as valuable to Archemix as it could have been because of variations in analysis methodology and the challenge of evaluating the data after it was pulled from multiple scientists' notebooks.

### Tessella Solution

Tessella consultants worked closely with Archemix to arrive at an agreed upon process for the analysis of assay results and proposed the construction of assay templates to formalize the setup and processing of assay data. Tessella and Archemix identified the time consuming and problematic parts of the process.

It was decided that a good assay template would:

- Serve as a record of the assay parameters and setup
- Perform the repetitive and time-consuming setup calculations such as serial dilution volumes
- Read machine generated files to import result data
- Be flexible enough to accommodate common variations in assay setup
- Rapidly and correctly perform the approved analysis of result data
- Generate interactive and dynamic visualization of analysis reports
- Easily print to single page reports that could be pasted into a scientist's lab notebook

Tessella implemented templates for Archemix assays that performed these tasks. Built with speed and ease of use in mind, the templates perform all setup, input, computations, processing, and output necessary in the laboratory. Having one template for the process guaranteed that all results could be directly compared against each other and that no trial used a process that violated the protocol.

The powerful scripting system inside Excel was used to provide custom functionality without the need to invest large amounts of time developing hard to maintain standalone applications.

## Results and Benefits

With the addition of several simple and lightweight templates, a deficiency in the Archemix pipeline was addressed. The right tools were used for the job, providing easy integration with the existing Archemix IT structure. Archemix is now able to visualize, assess, and compare the quality of their data from every trial and from every scientist's bench. The time between receiving the raw data and looking at the processed visual results is now a matter of minutes instead of hours or days. Archemix scientists can now spend their time interpreting results, rather than performing computations.

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