



Case study:

**Simplifying multi-omics data analysis** and accelerating small molecule drug discovery with Pluto's bioinformatics platform

## The challenge

↳ **Nimbus Therapeutics is a small molecule drug discovery biotech company.** Scientists at Nimbus frequently incorporate multi-omics experiments, including RNA sequencing and global proteomics, to explore differentially expressed genes and proteins in preclinical models; for example, following pharmacological inhibition and/or activation of a target.

While essential for identifying promising drug candidates or biomarkers, multi-omics datasets are vast and usually require specialized bioinformatics resources to correctly analyze, integrate and interpret results.

Similarly, distilling the critical findings to cross-functional team members or a wider audience can be challenging, particularly to stakeholders without a bioinformatics background. Historically, these bottlenecks were due to the complexity of traditional multi-omics data analysis, the reliance on multiple different bioinformatics tools and the cumbersome nature of sharing results across different platforms.

Together, these challenges prolonged decision-making at the project team level. Nimbus sought the help of Pluto to overcome bioinformatics challenges and simplify their multi-omics data analysis.



## The solution

↳ **Pluto's bioinformatics platform was identified as a means to streamline multi-omics data analysis and interpretation.** Rather than passing data to another team or outsourcing bioinformatics, biologists at Nimbus began using Pluto to perform multi-omics data analysis.

Pluto is an online bioinformatics workspace designed to empower anyone to perform complex multi-omics analysis, without the need for extensive bioinformatics expertise or coding experience. As a modern bioinformatics platform built for drug discovery, Pluto offers several key advantages over traditional multi-omics data analysis workflows:

**Efficiency:** The platform seamlessly handles data uploading, quality control, statistical analysis, visualization and reporting. This eliminates the need for manual coding and scripting, simplifying processes and accelerating the time taken to go from raw data to meaningful insights.

**Accessibility:** Pluto's intuitive, no-code interface empowers researchers without extensive coding experience to perform complex analyses independently. This democratizes data access, allowing biologists to stay closer to their data without having to spend time learning bioinformatics and take experiments from inception to interpretation.

**Visualization:** Pluto's powerful visualization tools, including customizable volcano plots and heatmaps, enable researchers to quickly identify key trends and communicate their findings effectively. Combining data storage, analysis and visualization in a single, interactive platform also reduces the need for multiple bioinformatics tools, facilitating easy results sharing and fostering collaboration across teams.

Pluto's efficiency, accessibility and enhanced visualization help streamline multi-omics data analysis, generate meaningful results and accelerate drug discovery. Researchers no longer have to spend time performing bioinformatics steps using multiple platforms or learning bioinformatics coding techniques. Instead, they can upload their data, perform analyses and visualization within hours, interpret and share results and make informed decisions without leaving Pluto's platform.

"Our overall experience using Pluto has been fantastic and the team has been a great collaborator, supporting all of our needs."

**Scott Boiko,**  
*Director Translational Medicine  
at Nimbus Therapeutics*

## The results

↳ **Simplifying multi-omics data analysis with Pluto enabled Nimbus to accelerate decision-making at the project team level following the interpretation of critical experiments.** By reducing the time spent on data analysis from days or weeks to hours, researchers could rapidly make informed decisions.

**Reduced time-to-insight:** Pluto's streamlined workflow enabled faster identification of differentially expressed genes and proteins, accelerating the lead optimization process.

**Improved decision-making:** The platform's clear visualizations facilitated data-driven decision-making, helping Nimbus prioritize the most promising drug candidates.

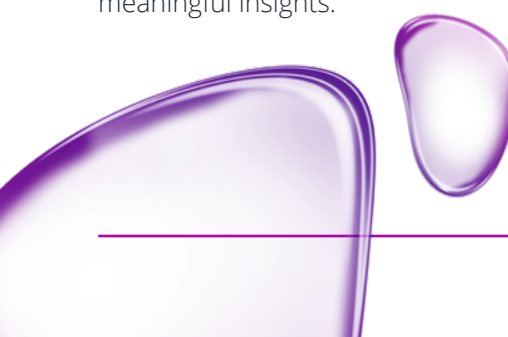
**Enhanced collaboration:** Pluto's intuitive interface fostered collaboration between biologists and other stakeholders, breaking down silos and promoting a more integrated approach to drug discovery.

**Customization:** Pluto's responsiveness to feedback ensured that the platform met the company's evolving needs. For example, the addition of custom color palettes aligned with company branding enhanced the professionalism of presentations.

**Cost efficiencies:** By reducing the need for specialized bioinformatics expertise and outsourcing, Pluto helped Nimbus optimize their resources and reduce costs.

## Conclusion

↳ **Pluto's bioinformatics platform has proven to be a valuable tool for scientists at Nimbus Therapeutics,** empowering efficient analysis of complex multi-omics data in hours rather than days or weeks, which accelerates decision-making.





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