



## From Idea to IND: Signals Synergy for CRO Collaboration Accelerates Drug Discovery

In the ever-evolving world of drug discovery, the ability to effectively collaborate with Contract Research Organizations (CROs) has become increasingly crucial. As the pharmaceutical and biotechnology industries continue to face declining returns on R&D investments, the need to tap into the deep expertise and cutting-edge technologies offered by CROs has become more pronounced.

However, the reality is that the communication and collaboration challenges between biopharmaceutical sponsors and their CRO partners have often hindered the efficient and seamless progression of drug discovery projects. From navigating the complexities of data exchange to managing the administrative burden of onboarding and offboarding CRO resources, the drug discovery landscape has been in need of a comprehensive solution to address these informatics challenges.

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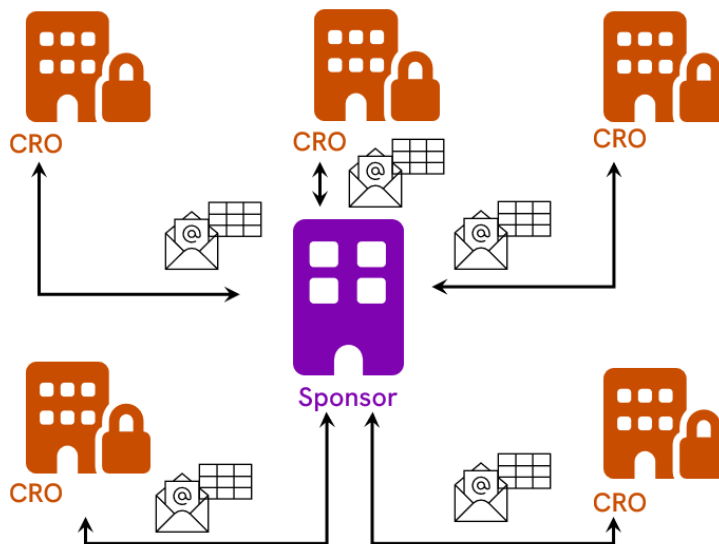
### *Addressing the Informatics Challenges in CRO Collaboration*

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Revvity Signals' Synergy Software was developed in direct response to the key pain points identified by the company's research with a customer advisory board. Through extensive conversations with biopharmaceutical sponsors, the Revvity Signals team gained a deep understanding of the primary challenges that hinder smooth collaboration between sponsors and CROs.

One of the most significant hurdles lies in the communication and data exchange processes. Traditionally, sponsors and CROs have relied on email and spreadsheet attachments to share

information, resulting in a number of issues (Figure 1). Each CRO often has its own unique format for reporting experimental results, requiring custom code and data wrangling on the sponsor's side to integrate the data into a suitable format for analytics. Moreover, sponsors frequently find themselves having to send back up to 25% of the received data due to errors or missing information, further slowing down the collaborative efforts.



*Figure 1. Biopharmaceutical sponsors interact with multiple CROs through email and attachments. Each CRO often has a unique format for reporting experimental results.*

Beyond the data exchange challenges, the Revvity Signals team also identified obstacles in the areas of project management, intellectual property (IP) protection, and the onboarding and offboarding of CRO resources. Sponsors often struggle to maintain visibility into the status of their outsourced projects, while the high turnover of personnel at CROs can add to the administrative burden. Additionally, the need to protect proprietary information while still providing the CRO with the necessary details to complete the requested work has been a constant balancing act.

### Signals Synergy: Revvity Signals' Solution to Collaborative Drug Discovery

To address these pressing challenges, Revvity Signals has developed Signals Synergy, a comprehensive solution designed to streamline CRO collaboration and accelerate the drug discovery process. Signals Synergy adds fit-for-purpose CRO Collaboration capabilities to Revvity Signals' Signals Research Suite and Signals Notebook. Signals Research Suite is a cloud-

native R&D platform that offers end-to-end workflow capabilities for managing both traditional and emerging drug modalities as well as facilitating multimodal research while Signals Notebook is the only cloud-native Electronic Laboratory Notebook that natively integrates ChemDraw® and Spotfire™.

One of the key features of Signals Synergy is its administrative capabilities, which simplify the process of onboarding and offboarding CRO resources (Figure 2). The solution provides a CRO repository, allowing sponsors to easily initiate new collaborations with their preferred CRO partners and manage user access and permissions within a secure environment. This eliminates the tedious administrative tasks that often burden sponsors when working with multiple CROs, freeing up their time and resources to focus on the scientific aspects of the project.

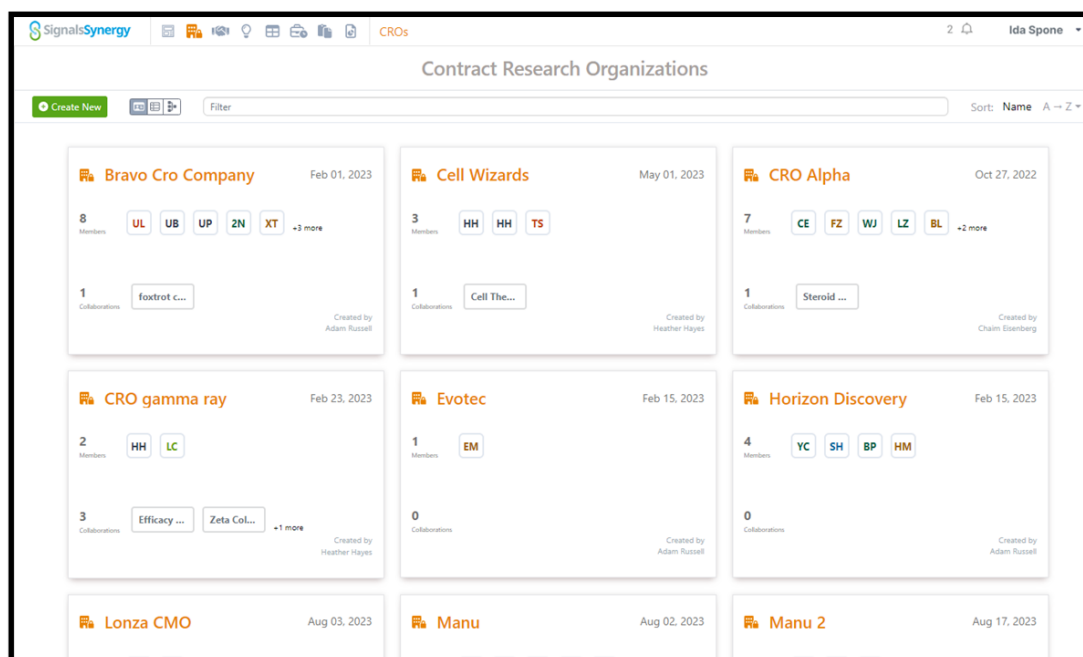


Figure 2. CRO database facilitates easy onboarding and offboarding of CRO collaborations and users.

Signals Synergy also introduces a unique approach to intellectual property protection. Sponsors can now selectively share information with their CRO partners, deciding which specific properties or attributes to expose while keeping sensitive data hidden (Figure 3). This ensures that proprietary information is safeguarded without limiting the CRO's ability to complete the requested work effectively.

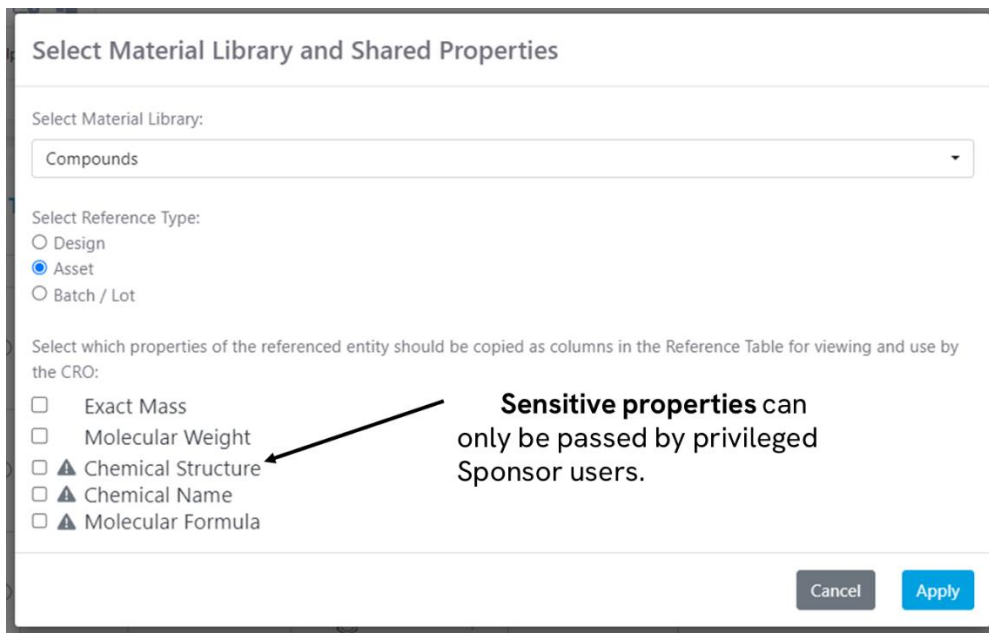


Figure 3. Signals Synergy provides multiple levels of intellectual property protection. The work order enables secure passage of only necessary information to their CROs thereby protecting proprietary information at the sponsor.

### Driving Innovation: From Idea to IND

Another key capability offered by Signals Synergy is a dedicated Ideation workspace for capturing and tracking drug ideas, allowing sponsors to organize and prioritize their proposed designs and hypotheses without immediately cluttering their compound registry (Figure 4).

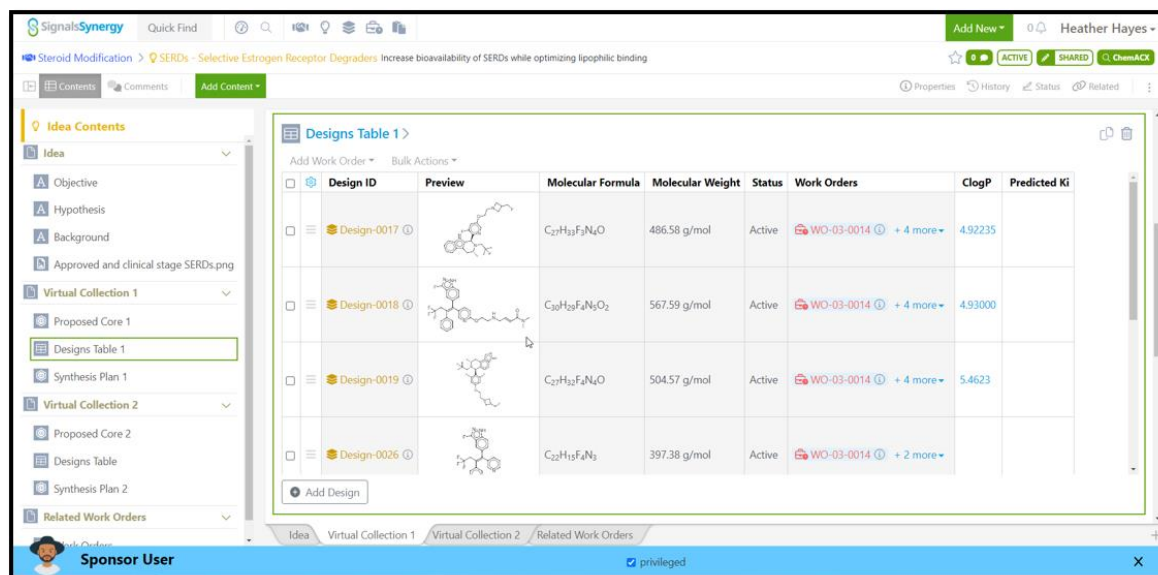


Figure 4. The Ideas capability empowers sponsors to capture and track drug ideas from conception to decision.

As sponsors progress their ideas towards leads, they can utilize Signals Synergy's work order functionality to securely share the necessary information with their CRO partners. These work orders not only facilitate the communication and collaboration between sponsors and CROs, without resorting to email and attachments, but also offer granular control over what data is shared, ensuring that only the relevant information is passed along (Figure 5).

**Work Order Summary**

**Details**

Status: Draft

Work Type: One Pot Synthesis

**Assignment**

Priority: 2 - Medium

Due Date: Jun 16, 2023

CRO Department: Chemistry

Assigned To: Select CRO User

**Fulfillment**

Synergy Experiment Template: Single Pot Synthesis

Create Synergy Experiment

**Reference Table**

Reference	Molecular Weight	Chemical Structure	Molecular Formula	Exact Mass
Design-0017	486.58 g/mol		C <sub>27</sub> H <sub>33</sub> F <sub>3</sub> N <sub>4</sub> O	486.26065
Design-0018	567.59 g/mol		C <sub>30</sub> H <sub>29</sub> F <sub>4</sub> N <sub>3</sub> O <sub>2</sub>	567.22574
Design-0019	504.57 g/mol		C <sub>27</sub> H <sub>32</sub> F <sub>4</sub> N <sub>4</sub> O	504.25122
Design-0026	397.38 g/mol		C <sub>22</sub> H <sub>15</sub> F <sub>4</sub> N <sub>3</sub>	397.12021

Sponsor User | privileged

Figure 5. Workorders provide secure passage of select information to CROs without requiring email and attachments.

Signals Synergy's project management capabilities further enhance the collaborative experience, with Kanban-style project management dashboards that provide real-time visibility into the status of outsourced projects (Figure 6). Both sponsors and CROs can easily track the progress of their work, prioritize tasks, and stay up-to-date on the overall project timeline, eliminating the need for email-based status updates and reducing the risk of miscommunication.

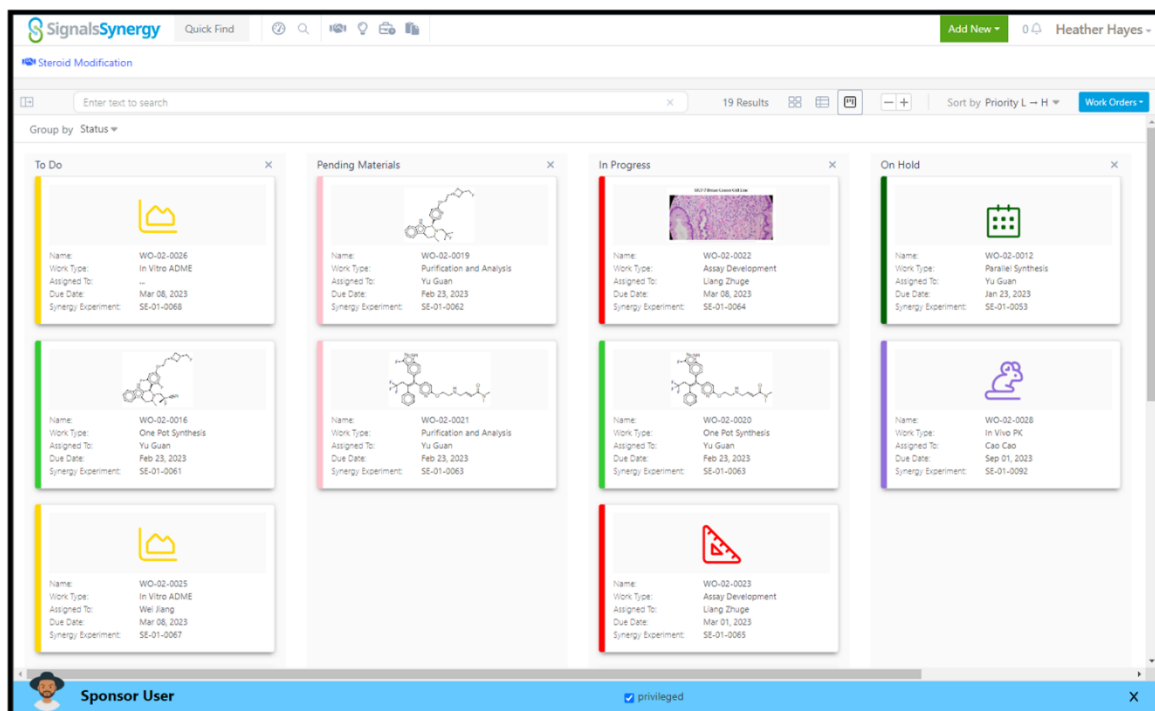


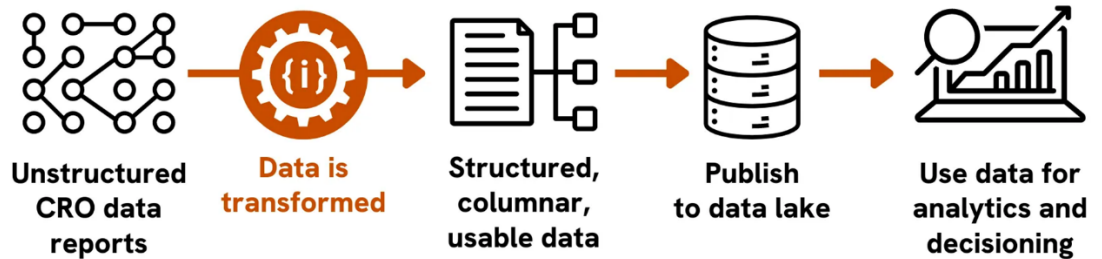
Figure 6. Kanban boards simplify project management. The sponsor and CRO both have their own Kanban boards. Kanban boards facilitate the tracking of project progress throughout the scientific pipeline.

### Transforming Data Exchange: Automating the Conversion of CRO Reports

One of the most significant challenges in CRO collaboration has been the efficient exchange and processing of experimental data (Figure 7). Traditionally, CROs have provided sponsors with multi-tabular spreadsheet reports, which, while human-readable, often prove difficult to integrate into the sponsor's existing data ecosystem. The manual efforts required to extract, transform, and load this data can introduce errors and significantly slow down the decision-making process.

Signals Synergy addresses this challenge through its Synergy Data Exchange capability, which automatically transforms the unstructured CRO reports into structured, machine-readable data tables that are ready for analytics and visualization investigation. Revvity Signals has developed a robust library of CRO and assay-specific report formats, each with pre-configured parsing instructions. This allows the software to rapidly extract the relevant metadata, raw data, and analytical endpoints from the CRO-provided reports, presenting the information in a format that is readily usable for downstream analytics and decision-making.

## Signals Synergy Data Exchange



*Figure 7. The Signals Synergy Data Exchange automatically transforms CRO results reports into computer-consumable tables ready for datastream analytics and visualization to empower ready decision making.*

By automating this data conversion process, Signals Synergy eliminates the need for manual data wrangling and enables sponsors to seamlessly integrate the CRO-generated data with their existing research workflows. This not only saves time and resources but also reduces the risk of errors, ultimately accelerating the progression of drug candidates through the discovery pipeline.

### Revvity Signals: A Trusted Partner in Collaborative Drug Discovery

Revvity Signals has established itself as a leading provider of scientific software solutions, with a deep understanding of the evolving needs of the pharmaceutical and biotechnology industries. The company's commitment to addressing the informatics challenges in collaborative drug discovery is evident in Signals Synergy, which serves as a testament to its expertise and ability to deliver innovative solutions.

By partnering with Revvity Signals, biopharmaceutical sponsors can leverage Signals Synergy to streamline their CRO collaborations, enhance their scientific workflows, and drive more efficient drug discovery processes. The platform's robust capabilities, from administrative tools to data exchange automation, empower sponsors to focus on the science, while Revvity Signals handles the complex informatics challenges.

### Conclusion

The drug discovery landscape is undergoing a transformative shift, with biopharmaceutical organizations increasingly relying on CRO partnerships to access specialized expertise and cutting-edge technologies. However, the informatics challenges inherent in these collaborations have often hindered the progress of drug discovery projects, leading to inefficiencies and delays.

Revvity Signals' Signals Synergy offers a comprehensive solution to these challenges, providing biopharmaceutical sponsors with a holistic software for managing their CRO collaborations. From streamlining administrative tasks to automating data exchange and enhancing project management, Signals Synergy empowers sponsors to drive innovation, protect their intellectual property, and ultimately accelerate the path from idea to IND.

As the industry continues to navigate the evolving landscape of drug discovery, Revvity Signals' Signals Synergy stands as a transformative solution, poised to redefine the way biopharmaceutical sponsors and their CRO partners collaborate and achieve success in the pursuit of new therapies.


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