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## Insights

# Chemical Abstracts Service Presents PatentPak Interactive Chemistry Viewer

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**Chemical Abstract Services (CAS), the leading authority in chemical information, formally launched PatentPak with Interactive Chemistry Viewer (PatentPak Viewer), a search and discovery workflow solution. Available in SciFinder, PatentPak accelerates finding critical information within patents.**

## Important Details

CAS ingests reputable chemistry and related scientific literature into databases searchable through the SciFinder platform and runs it through analysis, identifying never before listed molecules and creating a registry for them. There were 25 million unique chemical substances after 40 years of aggregation – and 100 million 10 years later, in 2015.

In 1976, 14% of new molecules added to CAS REGISTRY came from patents, with the remainder first revealed primarily in journal articles. In stark contrast, in 2014, 75% of new molecules disclosed in the literature came from patents. The number of substances in CAS REGISTRY firmly underscores this trend. The shift from journals to patents for first publication of scientific information is clear when it comes to protecting intellectual property, much of it fueled by significant development of chemistry in Asia.

In fact, often referred to as the “central science,” chemistry is the connector of the physical sciences with life and applied sciences. As scientists’ understanding of biology at the molecular level increases, and the level of investment in life sciences has skyrocketed, the importance of chemistry and biochemistry has increased exponentially, along with the filing of patents (see Insights, August 20, 2015, Uptick in M&A Activity Drives Demand for Patent Information Solutions).

It’s a long road from the start of a study to the ready-for-market product, and along that road scientific researchers in pharma, biotech, and academe not only comb through articles to look for information

around which to construct a hypothesis, they also pore over patents. It is critical to understand who owns what intellectual property and whether the path to market remains clear, a typically arduous process involving finding many patents, some hundreds of pages long, then scanning them to figure out what's in them.

Launched this month, PatentPak Viewer enables rapid acquisition of relevant patent documents along with tools for sifting through massive amounts of information contained within these documents with the click of a mouse, bringing the researcher directly to a desired substance or diagram. Previously able only to discover that a compound is in fact in a patent and which patent it's in, but not where the compound is within the patent, users can now search and quickly find that compound within the document itself. This entails a cadre of scientists at CAS tagging not only text but also diagrams, so a chemist can ask a question and find herself at a structural representation of a molecule from the PatentPak annotation regardless of how it is presented in the patent text, knowing immediately what it's telling her.

## Implications

Protection of scientific intellectual property is an important part of the research workflow. Filings often occur before a study begins to protect a potential discovery. For example, companies must file with the Food and Drug Administration in the US to conduct a clinical trial, which means the potential drug or treatment is then public information. A patent will protect the potential discovery, thereby protecting the investment in the study. However, this also means with the lag between filing and commercialization, a window of opportunity is open for competitors to get a jump on learning and understanding an organization's research direction and activities.

To make it more difficult for competitors to figure out what is being developed, information in the patent is as broad as possible, covering many different potential derivative substances. This can lead to hundreds of pages and hundreds of substances identified within a single patent just to protect the information around one molecule, substance, chemical structure, etc. Confusing legal language often adds to the clutter. Patents also frequently have diagrams depicting a chemical structure, for example, described in the text. Being very visual researchers, chemists can detect important variances in two diagrams of a structure that look exactly alike to a layperson, so they prefer searching for a diagram but can find it difficult to locate.

Researchers looking at chemical structures recognize nuances in a way that others don't see, or even think of. PatentPak Viewer helps that community of users find information in ways that make sense to them: looking for a chemical structure rather than text, bringing the user to a diagram more quickly interpreted and understood by those familiar with chemical structures than reading surrounding verbiage.

This type of innovation and workflow support is an example of serving researchers the way they need it most. With virtually no competition in the marketplace for this kind of functionality on this size patent database, CAS has quietly carved out a significant niche providing unique functionality – a position we expect they will retain for the foreseeable future.

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