



Derwent Chemistry Research

Patent intelligence for chemists

Patents are vital for researchers, revealing unique scientific and technical insights often disclosed earlier—or only—in patent filings. They also illuminate competitive activities and emerging technologies, providing foundational information that supports discovery, strategic planning, and innovation.

Critical scientific information is often missed

Patents often contain essential chemical information, but many scientists aren't accustomed or trained to work with patents. Struggling with complex formats, hidden data, and obscure terminology.

Search is time consuming and inefficient

Patent search tools are built for paralegals and attorneys, not chemists. Scientists are required to manually sift through irrelevant documents. Without unified platforms or intuitive search, each new query means starting from scratch, wasting time and increasing the risk of missing key information.

Despite their value, many scientists struggle to effectively access and interpret patents.

Patent language is a barrier

Patents are written for legal protection, not scientific clarity. Chemical details are often deliberately obscured, making it hard for researchers to quickly assess relevance or extract meaningful insights.

Workflow gaps slow innovation

Most tools are designed for IP professionals, not R&D. This creates bottlenecks between scientists and patent experts, forcing time-consuming handovers and duplicative efforts that delay discovery and decision-making.

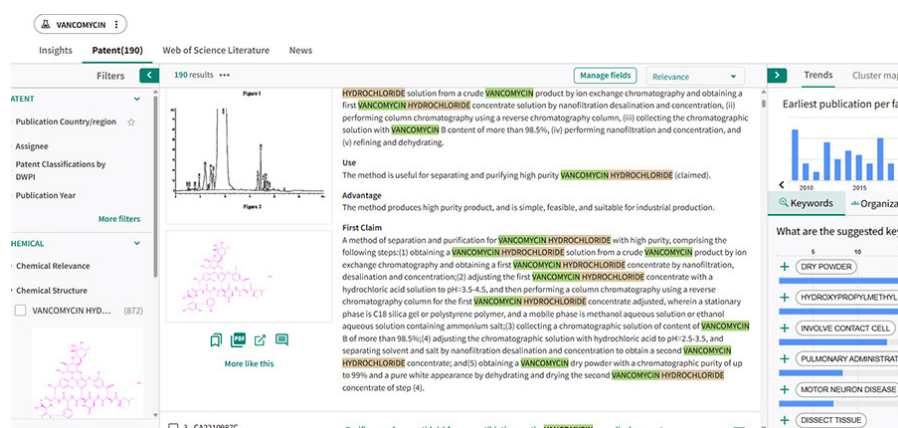
The Consequence?

Missed insights, inefficient teams and prolonged R&D cycles.

With Derwent Chemistry Research, teams can stay ahead. Quickly and accurately accessing the critical patent information and scientific literature needed, right at their fingertips, all in one place.

Chemists! Your next breakthrough is buried in a patent

Derwent Chemistry Research is an AI-powered, easy-to-use chemical search software that delivers accurate, reliable results for R&D chemists.



- Deep-indexed data ensures highly relevant results
- AI dashboard provides key insights from your search results to help you focus your research, making it easy to identify key technologies
- Insights page directly shows contribution per assignee, track competitor activities and spot new applications or undeserved opportunities for product development.

With Derwent Chemistry Research, quickly search and explore chemical data and more, to gain a comprehensive view of current knowledge and emerging trends.

Key benefits



01. Streamlined research process

Save time reviewing patent content. Derwent Chemistry Research integrates chemical structures, patents, literature, and market news, all in one space, ensuring complete, fast, accurate chemical information for R&D. Supporting you to build your queries with ease.



02. Enhanced insights capabilities

Deep indexing and AI insights offer summaries and visualizations. DWPI expert curated patent abstracts make it easy to quickly understand what a patent is about before spending a lot of time reading through.



03. Reliable and accurate data

Derwent Chemistry Research uses trusted Derwent World Patents Index (DWPI) and Web of Science content for high-quality data, enhancing decision-making, optimizing R&D workflows, and reducing risks.

AI-powered research process

AI Patent Results Summary

Patent search results discussing the following topics:

- 1. Coronavirus Infection Treatments:** Researchers have developed various pharmaceutical compositions to treat coronavirus infections, including nucleoside derivatives, pyrazine derivatives, and modified TFP2 polypeptides. These compositions aim to inhibit viral replication, reduce symptoms, and prevent severe acute respiratory syndrome.
- 2. Molnupiravir Synthesis and Development:** Molnupiravir, an antiviral drug under investigation for COVID-19 treatment, is synthesized through various chemical reactions, including reacting cytidine with diethyl propanoate, esterifying, and hydroxyammoniating. Its development involves optimizing reaction conditions and purifying the final product.
- 3. Antibody Based Therapies:** Scientists have isolated antibodies that inhibit coronavirus binding to cells, reducing infection and inducing immune responses. These antibodies can be used to prevent or treat coronavirus infections, including severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).
- 4. Viral Infection Diagnosis and Prevention:** Researchers have developed methods to determine exposure to or infection with various pathogens, including *Bacillus anthracis* and HIV-1. These methods involve analyzing DNA methylation status and accessible chromatin to diagnose and prevent viral diseases.
- 5. Long Lasting Coronavirus Therapies:** Scientists have developed long-lasting coronavirus peptide therapeutic agents by conjugating immunoglobulin G Fc-binding peptides with coronavirus polypeptide therapeutic agents. These conjugates aim to increase the efficacy of coronavirus treatments.

[View less](#) [Go to Patent results](#)

Quickly understand a patent

(12) United States Patent
Huff et al.

(11) Patent No.: US 11,000,886 B2
(45) Date of Patent: *May 11, 2021

(54) PERFLUOROALKYL SUBSTANCES (PFAS) PHYTOREMEDIATION BY MANIPULATING SOIL PROPERTIES AND PLANT MANAGEMENT

(57) Field of Classification Search
CPC: B01C 1/105
See application file for complete search history.

(51) U.S. PATENT DOCUMENTS
5,348,405 A 11/19/94 Bialek et al.
(12,33,349) B1* 11/20/99 Hall et al. B01C 1/002
2005,095,940 A1 5/20/07 Van Der Liden et al.

OTHER PUBLICATIONS
Sudnick, K., et al., "Site Remediation of a Superfund Site," *Journal of Energy*, vol. 17, no. 2, pp. 219-221, 4 pages, Environmental Protection Agency, "Primary Environmental Assessment of a Superfund Site," *Technical Environmental Research Laboratory*, Oct. 1978, 360 pages.
(Continued)

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(57) ABSTRACT
Phytoremediation processes, methods, materials and compositions to remediate soil, sediment and groundwater that is contaminated by per- and polyfluoroalkyl substances (PFAS) via phytoextraction, which includes the uptake and translocation of contaminants in the contaminated media by plant roots into the above-ground portions of the plants. The plants can be selected from sixteen plants as well as other plants and the invention can include managing soil salinity levels of the plants, manipulating amounts of organic matter in the contaminated media, managing pH levels of the contaminated media, utilizing double cropping systems, utilizing hydroponic systems, and managing harvest methodology of the plants.

Increasing amount of per- and polyfluoroalkyl substances (PFAS) that plant will accumulate from PFAS contaminated media soil, sediment, and groundwater by growing live selected plants, managing soil salinity, and phytoremediating PFAS.

Published: 2020-11-17 **Earliest family member published:** 2020
Assignee: NUTTER & ASSOCIATES, PC

Recently
Amount of per- and polyfluoroalkyl substances (PFAS) that a plant will accumulate from PFAS contaminated media soil, sediment, and groundwater, is increased by growing live selected plants in PFAS contaminated media soil, sediment, or groundwater and providing for phytoremediation via phytoextraction of PFAS from the contaminated media, soil, sediment, and groundwater, where providing step further includes managing soil salinity levels to increase ionic strength and salinity of contaminated media soil, sediments, and groundwater with calcium sulfate dihydrate (CaSO₄·2H₂O) and magnesium sulfate dihydrate (MgSO₄·2H₂O) to have a salinity of 120-400 μS/cm.

Use
The method is useful for increasing amount of per- and polyfluoroalkyl substances (PFAS) that a plant will accumulate from PFAS contaminated media soil, sediment, and groundwater.

Advantage
The method can maximize phytoremediation of PFAS at contaminated sites with selected plants.

Keywords:
potassium salt | plant management | phytoremediation | manipulate amount | polyfluoroalkyl substance | increase ionic strength | contaminate media | helianthus annuus | cyrtocodon dactylon | pfa | brassica juncea

Enhanced insights capabilities

MOLNUPIRAVIR

CMR ID: 7700385
DCR Number: 5204525
Molecular formula: C13H19N3O7
Molecular weight: 329.3123
CMR Source list: DCR
Name: MOLNUPIRAVIR | [(2R,3S,4R,5R)-3,4-dihydroxy-5-[4-(hydroxyamino)-2-oxo-1,2-dihydropyrimidin-1-yl]oxolan-2-yl](methyl 2-methylpropanoate) | EDD-2801 | MK-4482 [Show less](#)
IUPAC name: [(2R,3S,4R,5R)-3,4-dihydroxy-5-[4-(hydroxyamino)-2-oxo-1,2-dihydropyrimidin-1-yl]oxolan-2-yl](methyl 2-methylpropanoate)
SMILES: O=C@@H]1[C@@H](COC(=O)C)C(=O)O[C@H]1[C@@H](O)N2C(=O)N=C(N)O)C=C2
InChI: InChI=1S/C13H19N3O7/c:1-6(2)12(1)9(2)5-7-9(17)10(18)11(23-7)16-4-3-8(15-21)14-13(16)20(3-4,6-7,9-11,17-18,21)4,5H2,1-2H3, (H)14,15,20/(R)-9,-10,-11-/m/1/n1

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60+

patent-issuing authorities covered with chemical compound abstracts, written by subject matter experts



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