



CAS STN<sup>ext</sup><sup>®</sup> COFFEE LECTURE



**Boost efficiency with CAS PatentPak<sup>®</sup>**

Jan Baur, ACS International

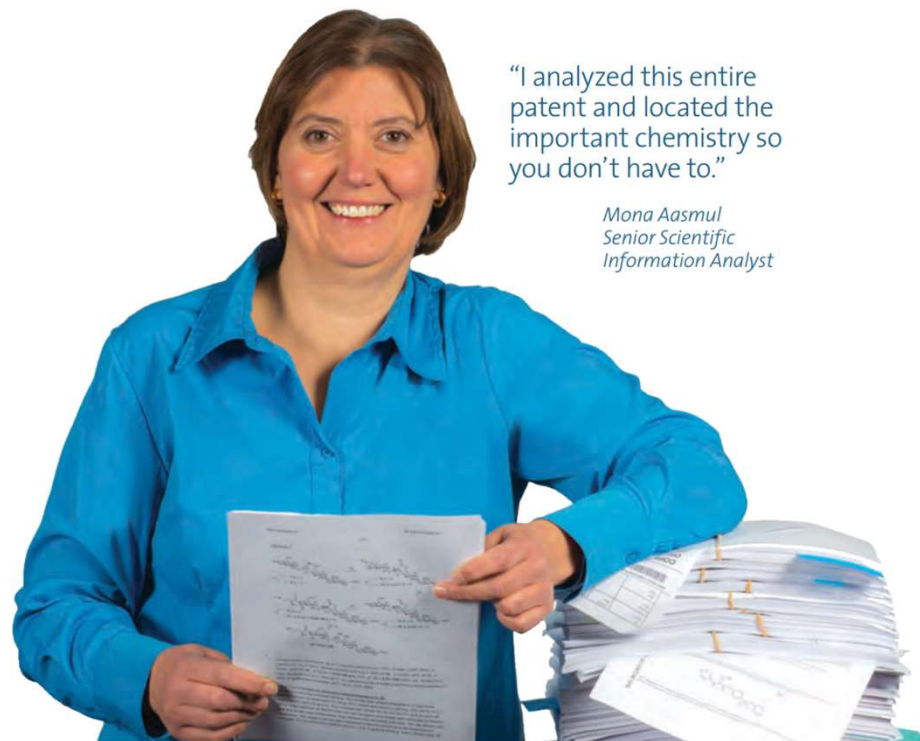
© 2024 American Chemical Society. All rights reserved.

 **FIZ Karlsruhe**  
Leibniz Institute for Information Infrastructure

**CAS**   
A division of the  
American Chemical Society

# What is CAS PatentPak?

- Instant connection to searchable, full-text patents from major patent offices
- CAS scientists review each patent and identify new substances for CAS REGISTRY inclusion
- They mark the specific location of substances in the text during analysis
- Algorithmic processing with human intervention allows previously registered substances to be located and annotated in backfile documents



“I analyzed this entire patent and located the important chemistry so you don’t have to.”

*Mona Aasmul  
Senior Scientific  
Information Analyst*

# Country coverage

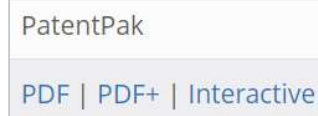
- Available in CPlus family of databases as well as fulltext files USPATFULL / USPAT2
- 46 patent authorities covered in PatentPak

Authority	Code	Authority	Code	Authority	Code
Argentina	AR	Greece	GR	Poland	PL
Australia	AU	Hungary	HU	Portugal	PT
Austria	AT	India	IN	Romania	RO
Belgium	BE	Ireland	IE	Russian Federation	RU
Brazil	BR	Israel	IL	Slovakia	SK
Bulgaria	BG	Italy	IT	Slovenia	SI
Canada	CA	Japan	JP	South Africa	ZA
China	CN	Korea	KR	Spain	ES
Croatia	HR	Latvia	LV	Sweden	SE
Czech Republic	CZ	Lithuania	LT	Switzerland	CH
Denmark	DK	Luxembourg	LU	Turkey	TR
EPO	EP	Malaysia	MY	United Kingdom	GB
Estonia	EE	Moldova	MD	United States	US
Finland	FI	Monaco	MC	WIPO	WO
France	FR	Netherlands	NL		
Germany	DE	Philippines	PH		

# PatentPak full-text options

Up to three full-text PDF links appear at the top of the displayed record

- PatentPak links appear in display formats and in table and text reports. Links stay active for 365 days. PDFs are OCR'd and text-searchable.
- **PatentPak Interactive**  
Interactive version of annotated PDF, helps to identify locations of the relevant chemistry
- **PatentPak PDF+**  
PDF file supplemented with a substance table, including page references, CAS Registry Number identifiers, chemical names and chemical structures
- **PatentPak PDF**  
PDF file with original full-text
- PatentPak Interactive and PDF+ are only available for **fully indexed** patents



# Search refinement options

- **PDF/FA:** Restrict answer set to patent records with full-text PDF links  
E.g.: [s l1](#) and [pdf/fa](#)

PATENT NO.	KIND	DATE	LANGUAGE	PatentPak
<a href="#">WO 2024011189</a>	A2	20240111	English	<a href="#">PDF</a>

- **PPAK/FA:** Restrict answer set to records with Interactive and PDF+ links  
E.g.: [s l1](#) and [ppak/fa](#)

<a href="#">WO 2024017150</a>	A1	20240125	Chinese	<a href="#">PDF</a>   <a href="#">PDF+</a>   <a href="#">Interactive</a>
<a href="#">CN 117447411</a>	A	20240126	Chinese	<a href="#">PDF</a>

- Both options can be linked to the patent publication information

=> [S L10 AND PDF/FA \(L\) DE/PC](#)

[L11](#)      [9 L10 AND PDF/FA \(L\) DE/PC](#)

=> [S L10 AND PPAK/FA \(L\) DE/PC](#)

[L13](#)      [3 L10 AND PPAK/FA \(L\) DE/PC](#)

# Display options

- **PPPI** and **PPAK** fields display PatentPak links for Patent Family members that have PDFs
- PatentPak links are included in popular display formats such as BIB and ALL

PPPI

PATENT NO.	KIND	DATE	LANGUAGE	PatentPak
WO 2024017150	A1	20240125	Chinese	PDF   PDF+   Interactive
CN 117447411	A	20240126	Chinese	PDF

PPAK

6228-73-5, Pg 20 Claim  
7436-22-8, Pg 20 Claim  
21075-83-2, Pg 21 Claim

**BIB:** contains PPPI

**ALL:** contains PPPI and PPAK

- **HITPPAK** displays the CAS Registry Number, chemical name, and page number of the **query hit compound(s)** after a crossover from CAS Registry

PPAK

1609392-27-9 P, Deucravacitinib, Pg 20 Claim

# Interactive Viewer

CAS PatentPak

PAGE 108 / 211 Jump To Claims ZOOM DOWNLOAD PDF

Key Substances in Patent

CAS RN 1609392-27-9

Analyst Markup Locations (1)  
page 108

CAS RN 6228-73-5

Analyst Markup Locations (1)  
page 109

CAS RN 1609392-28-0

2014/074661

PCT/US2013/068846

Example 52

Tips:

- Jump to Claims is a shortcut to look at the patent claims
- Click on the page links on the left to jump to the location of the substance mark-up
- Use CTRL+F to find any marked-up Registry Number in the OCR'd patent full-text

Step 1

Step 2

Chemical reaction scheme showing the synthesis of a substituted benzimidazole derivative (Int13) from a substituted benzimidazole derivative and a substituted pyridine derivative (Int8) using LiHMDS in THF (Step 1). The reaction is followed by a second step (Step 2) where Int13 reacts with a cyclopropylamine derivative using Pd<sub>2</sub>dba<sub>3</sub>, Xantphos, and Cs<sub>2</sub>CO<sub>3</sub> in dioxane at 130 °C to form the final product.

# Interactive Viewer

CAS PatentPak

PAGE 738 / 765 CLAIMS Jump To Claims ZOOM DOWNLOAD PDF

Key Substances in Patent

CAS RN 2941177-79-1

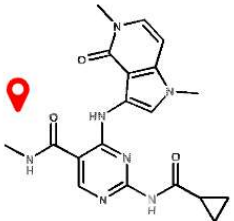
Analyst Markup Locations (3)

- page 738 - Claim
- page 188
- page 611

Multiple patent locations might be linked. In this case the claims mention table 1, which shows the relevant substance. A link to **Table 1** is posted as well.

WO 2023/10

**Table 1. Exemplary Compounds**

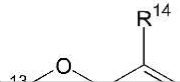
Example	Structure	Name	Mol Weight
1		2-(Cyclopropanecarboxamido)-4-((1,5-dimethyl-4-oxo-4,5-dihydro-1H-pyrrolo[3,2-c]pyridin-3-yl)amino)-N-methylpyrimidine-5-carboxamide	395.41

202. The compound of any one of claims 187-201, wherein q is 1 and R<sup>52</sup> is F, Cl, CN, CH<sub>3</sub>, CF<sub>3</sub>, OCF<sub>3</sub> or morpholino.

203. A compound selected from **Table 1** or a pharmaceutically acceptable excipient, carrier, or diluent.

204. A pharmaceutical composition comprising a compound according to any of claims 1-203, effective to treat or reduce one or more diseases or disorders, in a mammal, including a human, and a pharmaceutically acceptable excipient, carrier, or diluent.

205. A pharmaceutical composition comprising an amount of a compound having the structural formula of (I):



CAS RN 2941178-21-6



# Claim tagging in PatentPak

- Substances and sequences from Claims systematically tagged, for US, CN, WO and JP patents
- Time coverage: US (1975-), CN (2013-), WO (2009-) and JP (2023-)
- Backfile expansion in progress and further patent authorities to be added in the future
- Display
  - A** Substances with claim tag appear first in PPAK display
  - B** **Jump to Claims** function available in PPAK Viewer; Claim tag added to page link

ALL, STD and HITPPAK formats will show claim tag in PPAK display

**A** PPAK

1421373-65-0 , Pg 37 Claim  
1430101-92-0 , Pg 37 Claim  
1442472-39-0 , Pg 37 Claim

**B**

CAS PatentPak

PAGE 37 /71 CLAIMS Jump To Claims

Viewer has **Jump to claims** option in the top bar

CAS RN 1430101-92-0

Nc1nc2c(nc3c1nnc23)c4ccc(F)(F)cc4

Analyst Markup Locations (1)

[page 37 - Claim](#)

**Claim tag** linked to substance entries in the left panel of the viewer

14. The combination drug for use according to any one of claims is selected from the group consisting of: SCO-101, SCO-201, Estrone, Saquinavir, Omeprazole, Hesperetin, Genistein, Nel

# PDF+ and PDF are downloadable PDF files

PDF+ comprises a table of marked-up substances, PDF is the plain full-text. Both are text-searchable

PatentPak PDF | PatentPak PDF+

DOWNLOAD PDF



The PDF+ contains a table of marked-up substances at the end. The first patent page indicates the PDF page number of this table. Marks are shown as symbols in the full text.

**PATENTPAK** Substance table begins on page 142.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)  
 (19) World Intellectual Property Organization  
 International Bureau  
 (43) International Publication Date  
 08 June 2023 (08.06.2023)

**WIPO | P**

(51) International Patent Classification:  
 C07D 403/12 (2006.01)

(21) International Application Number:  
 PCT/US2022/051466

(22) International Filing Date:  
 01 December 2022 (01.12.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
 63/284,703 01 December 2021 (01.12.2021) US  
 63/290,744 17 December 2021 (17.12.2021) US  
 63/310,211 15 February 2022 (15.02.2022) US  
 63/322,687 23 March 2022 (23.03.2022) US  
 63/347,063 31 May 2022 (31.05.2022) US  
 63/348,513 03 June 2022 (03.06.2022) US  
 63/358,286 05 July 2022 (05.07.2022) US  
 63/418,691 24 October 2022 (24.10.2022) US

(71) Applicant: **TEVA CZECH INDUSTRIES S.R.O.**  
 [CZ/CZ]; Ostravska 305/29, 747 70 Opava-Komarov (CZ).

**Key Substances in Patent**

Mark	Page #	CAS RN	Name	Structure
205	p.15 p.93	1609393-90-9	Benzenamine, 2-methoxy-3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-	
206	p.15 p.93	2408762-26-3	Benzenamine, 3-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)-2-methoxy-	
9	p.16 p.66	6228-73-5	Cyclopropanecarboxamide	
202	p.16 p.66 p.88	2936652-48-9	3-Pyridazinecarboxylic acid, 6-[(cyclopropylcarbonyl)amino]-4-[[2-methoxy-3-(1-methyl-1H-1,2,4-triazol-3-yl)phenyl]amino]-, ethyl ester	
1	p.16 p.56 p.66 p.95	1609392-27-9	3-Pyridazinecarboxamide, 6-[(cyclopropylcarbonyl)amino]-4-[[2-methoxy-3-(1-methyl-1H-1,2,4-triazol-3-yl)phenyl]amino]-N-(methyl-d3)-	
203	p.16 p.67	1609394-23-1	3-Pyridazinecarboxamide, 6-chloro-4-[[2-methoxy-3-(1-methyl-1H-1,2,4-triazol-3-	

claims and to be republished in the event of receipt of amendments (Rule 48.2(a))

# PDF+ and PDF are downloadable PDF files

PDF+ comprises a table of marked-up substances, PDF is the plain full-text. Both are text-searchable

## PDF+

Marks are shown as symbols embedded in the full text.

WO 2023/102085

PCT/US2022/051466

more preferably by borylation of 3-bromo-2-methoxyaniline with bis(pinacolato)diboron or bis(neopentyl glycolato)diboron and reacting the borylated compound, with a triazole compound, preferably a 1-methyl-1H-1,2,4-triazole having a leaving group at the 3 position, more preferably 3-bromo-1-methyl-1H-1,2,4-triazole.

14. A process according to Claim 13, wherein Compound XIII is prepared by reacting Compound XI with Compound IV in the presence of a base, preferably a non-nucleophilic base, preferably wherein the base is lithium bis(trimethylsilyl)amide or 2,2,6,6-tetramethylpiperidine, and more preferably wherein the base is 2,2,6,6-tetramethylpiperidine.

15. A process according to any of Claims 13 and 14, wherein the reaction is carried out in the presence of a solvent, preferably an aprotic solvent, more preferably wherein the solvent is selected from acetonitrile, toluene, and N,N-dimethylformamide (DMF), preferably wherein the solvent is toluene.

## Key Substances in Patent

Mark	Page #	CAS RN	Name	Structure
205	p.15 p.93	1609393-90-9	Benzenamine, 2-methoxy-3-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-	
206	p.15 p.93	2408762-26-3	Benzenamine, 3-(5,5-dimethyl-1,3,2-dioxaborinan-2-yl)-2-methoxy-	
9	p.16 p.66	6228-73-5	Cyclopropanecarboxamide	
202	p.16 p.66 p.88	2936652-48-9	3-Pyridazinecarboxylic acid, 6-[(cyclopropylcarbonyl)amino]-4-[[2-methoxy-3-(1-methyl-1H-1,2,4-triazol-3-yl)phenyl]amino]-, ethyl ester	
1	p.16 p.56 p.66 p.95	1609392-27-9	3-Pyridazinecarboxamide, 6-[[cyclopropylcarbonyl)amino]-4-[[2-methoxy-3-(1-methyl-1H-1,2,4-triazol-3-yl)phenyl]amino]-N-(methyl-d3)-	
203	p.16 p.67	1609394-23-1	3-Pyridazinecarboxamide, 6-chloro-4-[[2-methoxy-3-(1-methyl-1H-1,2,4-triazol-3-	

# Sequences in PatentPak

Since 2022 biosequences are systematically tagged using PatentPak, backfile coverage is in progress

CAS RN 3026081-44-4

Analyst Markup Locations (1)

📍 page 65 - Claim

*pneumoniae* of distinct O-types, in particular at least three distinct O-types of capsular-deficient *Klebsiella pneumoniae*.

2. The bacteriophage of claim 1, which further comprises a polypeptide that is a hinge connector of long tail fiber distal connector of SEQ ID NO: 3 or SEQ ID NO: 4 or a variant thereof having at least 99.9% identity with SEQ ID NO: 3 or SEQ ID NO: 4.
3. The bacteriophage of claim 1 or 2, which further comprises a polypeptide that is a hinge connector of long tail fiber proximal connector of SEQ ID NO: 5 or SEQ ID NO: 6 or a variant thereof having at least 99.5% identity with SEQ ID NO: 5 or SEQ ID NO: 6.
4. The bacteriophage of claims 1 to 3, which further comprises a polypeptide that is a long tail fiber proximal unit of SEQ ID NO: 7 or SEQ ID NO: 8.

# PatentPak links in STNext transcripts and reports

Links are accessible for 365 days via session transcript or table and text reports

## Text report (.rtf)

L3 1/6129 CAPLUS

[PatentPak PDF](#) | [PatentPak PDF+](#) | [PatentPak Interactive](#)

I

**Flavored porous material for flavored beverage production**

Accession Number: 2024:181679 CAPLUS | [Full-text](#)

Document Type: Patent

Language: English

Author/Inventor: Fotheringham, Robert; Richards, Chris; Reid, Struan; Fossati, Elena

Patent Assignee/Corporate Source: Lallemand Hungary Liquidity Management LLC, Hung.; Danstar Ferment AG

Document Number: 185:230437

Family Accession Number Count: 1

Source: PCT Int. Appl., 103pp.

CODEN: PIXXD2

PatentPak Patent Information:

Patent No.	Kind	Date	Language	PatentPak
WO 2024018436	A1	20240125	English	<a href="#">PDF</a>   <a href="#">PDF+</a>   <a href="#">Interactive</a>

## Tabular report (.xls)

PatentPak PDF	PatentPak PDF+	PatentPak Interactive
<a href="#">PatentPak PDF</a>	<a href="#">PatentPak PDF+</a>	<a href="#">PatentPak Interactive</a>

R	S	T	U	V	W
Patent No./Kind (PPPI)	Publication Date (PPPI)	Language (PPPI)	PatentPak PDF	PatentPak PDF+	PatentPak Interactive
WO 2024017150 A1	20240125	Chinese	<a href="#">PDF</a>	<a href="#">PDF+</a>	<a href="#">Interactive</a>
CN 117447411 A	20240126	Chinese	<a href="#">PDF</a>		

Between problems  
and progress  
are connections  
that matter



## CONTACT

### CAS

help@cas.org  
cas.org

### EMEA Help

EMEAhelp@cas.org