

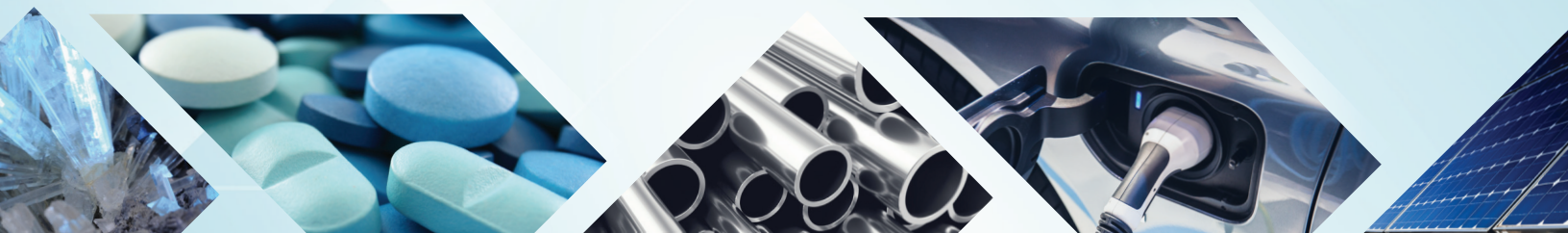
Powder Diffraction File™ Databases

**PDF-5+***The Powder Diffraction Standard***PDF-5+ Server Edition***Extend the Power
of Your Database***PDF-4/Axiom***Quality + Value***PDF-4/Minerals***Comprehensive Mineral Collection***PDF-2***Phase Identification + Value*

JADE® Analysis Software



Quality Management System Certified to ISO
9001:2015 by DEKRA



JADE Standard

JADE Standard provides a more limited set of tools than JADE Pro, but without the annual updates and renewal costs. Available in three levels -

1. Basic Level
2. Add either Phase ID (S/M) or WPF + Rietveld
3. Add both Phase ID (S/M) and WPF + Rietveld

Included with all levels of JADE Standard -

Simulation and Visualization - Simulate powder patterns to create your own custom database. Visualize a structure in 3D with motion. Visual cues throughout to better help you and your team understand the materials you are analyzing.

KEY POINTS - ALL LEVELS

- Reads all vendor pattern files
- Handles variable/fixed-slit data
- Auto peak search and multi-filter search
- Simulate powder patterns from crystal structures
- No annual renewal fee
- Individually licensed for workstations
- Hardware Independent - supports a wide range of diffractometers

PHASE ID (SEARCH/MATCH)

- Found in Levels
 - 2A: Search/Match
 - 3: Search/Match and Whole Pattern Fitting
- Phase Identification (S/M)
- Minor and Trace Phase ID

WPF + RIETVELD

- Found in Levels
 - 2B: Whole Pattern Fitting (WPF)
 - 3: Search/Match and WPF
- WPF & Rietveld Refinement



Level 1	Level 2 (A or B)		Level 3 ...or choose JADE Pro, and get it all and more!
Base	Base	Base	Base
	Phase ID (S/M)		Phase ID (S/M)
		WPF + Rietveld	WPF + Rietveld

Phase ID (S/M) - JADE Standard Level 2A or Level 3

Profile-based Search/Match with minor and trace phase ID or search on a single peak. Ability to include chemistry filters and unit cell data as well as preferred-orientation.

WPF + RIETVELD - JADE Standard Level 2B or Level 3

Quantify weight percentages and identify minor phases quickly and easily.

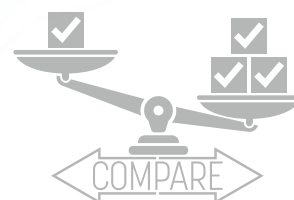


JADE QA

A special build meant for production line Quantitative Analysis (QA) typically carried out by a technician. Requires a setup file created by an analytical scientist using JADE Pro. JADE QA runs independently of JADE Pro and was designed to extend the power of Rietveld Quantitative Analysis (QA) to those in your organization responsible for overseeing consistencies in production who may or may not have a background in XRD.



...compare on the next page!

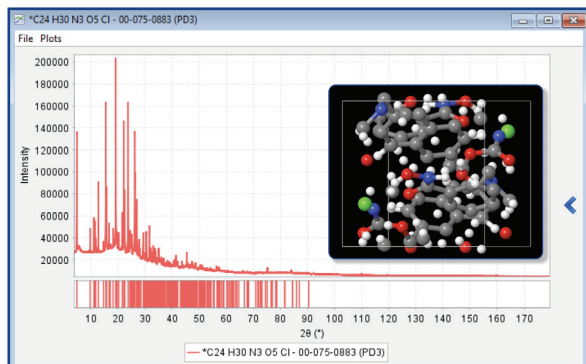




PDF-5+ 2027

The Powder Diffraction Standard

Featuring 1,149,100+ entries
700,400+ entries with atomic coordinates



Crystal structure of givnostat hydrochloride monohydrate form i, $C_{24}H_{28}N_3O_4Cl(H_2O)$

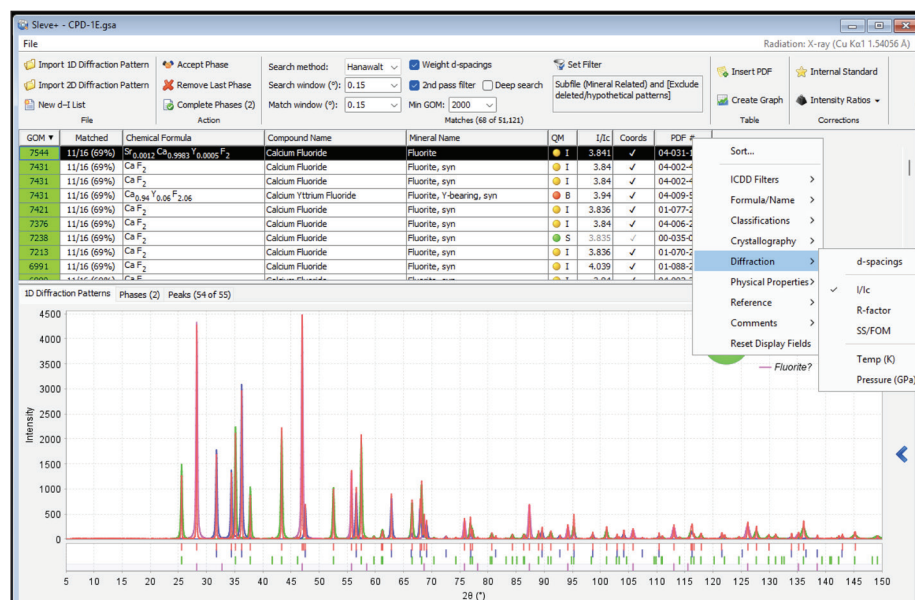
- Features 486,100+ entries for inorganic materials and 667,100+ entries for organic materials
- All entries have digital patterns for use in total pattern analysis
- 1,043,800+ entries have I/I_c values for quantitative analysis by Reference Intensity Ratio
- All entries are stored in a standardized format for easy search and interpretation
- All entries go through a rigorous editorial process to ensure quality

SIEVE/SIEVE+ 2027

Search and Identify

All PDF databases include
Sieve/Sieve+ at no additional cost!

ICDD's search identification programs, Sieve for PDF-2 and Sieve+ for PDF-5+ and PDF-4, are designed to search and identify unknown materials. Sieve/Sieve+ are integrated into the ICDD databases to allow the use of the extensive data mining interfaces, searches, and sorts available to improve the accuracy and precision of the phase identification process.

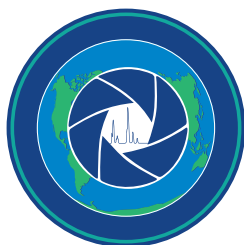


Show/hide d-spacing columns in the Matches table

* PDF-5+/PDF-4 only feature (Sieve+)

- Included for free in all PDF databases
- Designed to search and identify unknown materials
- Complementary with most commercial software programs
- Match filter algorithms - better results, more accuracy
- Identify non-crystalline materials and complex multi-phase specimens
- Strength of Sieve/Sieve+ is evident in the analysis of minor and trace phases
- Supports X-ray and synchrotron data
- "Intelligent" RIR for semi-quantitative analysis*

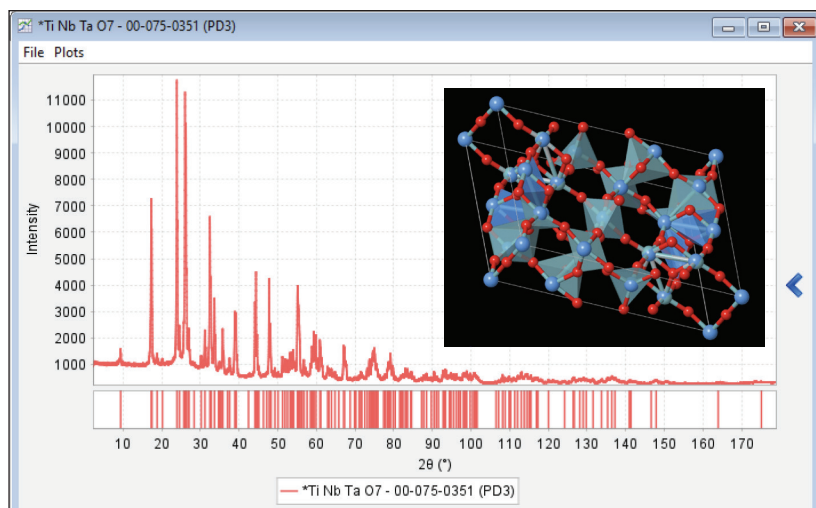
Sieve+ offers a variety of algorithms and options that allow users to optimize results for particular chemistries for both standard and non-standard diffraction systems.



PDF-4/Axiom 2027

Quality Plus Value

Featuring over 117,000+ entries
91,000+ entries with atomic coordinates



Titanium Niobium Tantalum Oxide

- Data focused on ambient entries
- Fundamental mineral entries
- (3) year license term
- Low cost additional license
- 6-year and 9-year prepaid packages

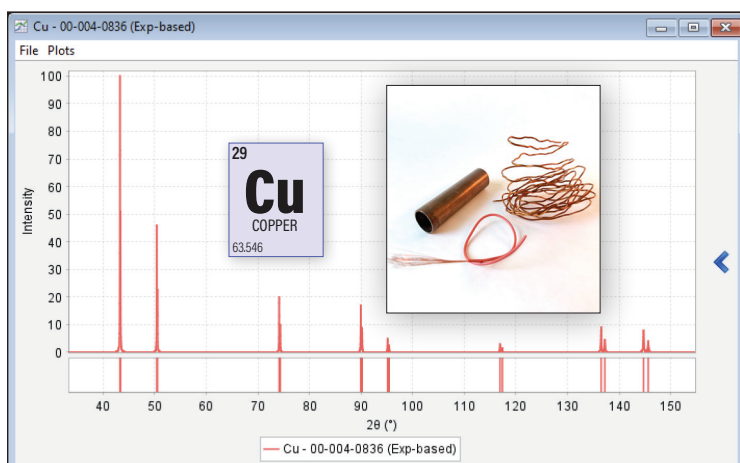
ICDD's Data Mining
Software Included



PDF-4/Minerals 2027

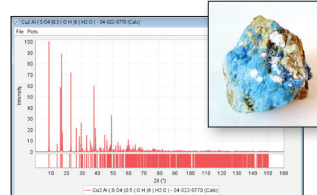
Comprehensive Mineral Collection

Featuring 56,100+ entries
48,200+ entries with atomic coordinates

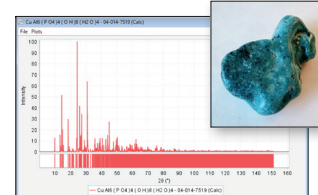


Copper - critical metal for today's powergrid and infrastructure

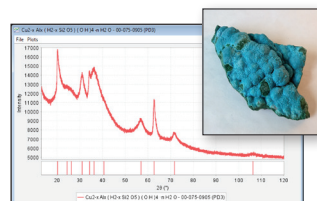
Copper containing phases



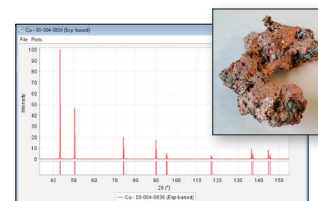
Cyanotrichite



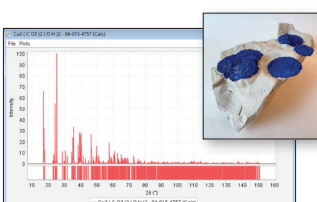
Turquoise



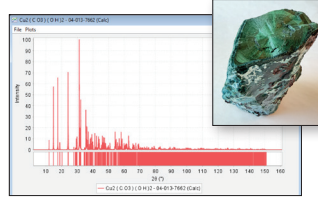
Chrysocolla



Copper Ore



Azurite "suns"



Malachite "stalagmite" with shattuckite and chrysocolla surface

- All entries have digital patterns for use in total pattern analysis
- 44,400+ entries have I/I_c values for quantitative analysis by Reference Intensity Ratio
- Classified by IMA designations
- A subset of the PDF-5+ database with all of the features and capabilities, targeted toward minerals and mineral related compounds