



RASAYAN ENGINE

Product Catalogue

One platform for AI-powered drug discovery. It helps you take a medicine all the way from a first idea to a real candidate — and every part of it runs on an engine that can read and understand chemistry like nothing before it.

210M+

MOLECULES

110M+

PATENTS

1.3B+

REACTIONS

94%

READING ACCURACY

One engine for the whole of drug discovery.

Rasayan Engine is a single platform that covers the entire journey of finding a new medicine. Two things make it work. **OCSR** is an engine that can read chemistry out of almost anything. **Darvi** is a scientific AI that helps you inside every part of the platform. On top of those sit the tools your team uses every day — to understand a molecule, make sure it's safe, plan how to make it, turn it into a real product, and design against a protein target.

THESE POWER EVERYTHING

OCSR — the chemical reading engine · Darvi — the scientific AI

YOUR OWN DATA, MADE USEFUL

Knowledge Extraction · US-patented

UNDERSTANDING MOLECULES & KEEPING THEM SAFE

Compound Intelligence · Toxicity · Impurity Profiling

MAKING THE MOLECULE & TURNING IT INTO A PRODUCT

Retrosynthesis · Formulations

DESIGNING AGAINST A TARGET · ENTERPRISE

Protein & Structure-Based Discovery

EVERYDAY TOOL

Rasayan Draw

Toxicity

OUR STAR · FOLLOWS ICH RULES

13 models

BEHIND RETROSYNTHESIS

SM + protein

BOTH KINDS OF DRUG

20k / mo

FREE USERS · OCS



OCSR

This is the engine that lets Rasayan read chemistry — and it quietly powers everything else on the platform. It is the best of its kind in the world.

THE PROBLEM Most of the world's chemistry is stuck inside pictures — in patents, research papers, lab notebooks and photos. Ordinary software simply can't read it, so all of that knowledge sits locked away.

WHAT WE DO OCSR looks at any picture of a molecule and turns it into something a computer can actually use — and it gets it right **94% of the time**, the best result in the world. Because it can read chemistry from anywhere, it feeds every other part of Rasayan.

94%READING ACCURACY · BEST
IN THE WORLD**210M+**

MOLECULES ON RECORD

~20k / mo

FREE USERS AT OCSR.AI

WHAT IT MAKES POSSIBLE

- **It has read 110 million patents**, pulling out reaction routes, biological data and molecular properties on a scale no team could ever do by hand.
- **It reads handwritten lab notebooks**, including the structures a chemist sketched by hand during an experiment.
- **It powers Rasayan Draw**, so you can paste a picture of a molecule and start working with it right away.
- **It runs a free version at ocsr.ai**, used by around 20,000 people every month.
- **It sits underneath every other tool**, because if a job starts with a chemical structure, OCSR reads it first.

IN SHORT

The engine everything else is built on

POWERS EVERYTHING



Knowledge Extraction

We turn your company's old records — even the handwritten ones — into a knowledge base you can actually search. The technology behind it is protected by a US patent.

THE PROBLEM Every company has decades of hard-won knowledge, but most of it is trapped in old notebooks, scanned pages and files no search tool can read. So teams repeat experiments that already failed, and slowly forget what they once knew.

WHAT WE DO Point Rasayan at your archives and it reads them — handwriting included — and pulls out the structures, reactions and results. Everything goes into one place you can search just by drawing a molecule, and it all stays safely inside your own systems.

WHAT IT DOES FOR YOU

- **It reads handwritten and scanned records**, the kind of archive no other tool can open.
- **You search it by drawing a molecule**, the way a chemist naturally thinks, instead of guessing keywords.
- **It understands chemistry drawn by hand**, picking up the structures and reactions your chemists sketched.
- **Your data stays private**, because everything runs inside your own environment.
- **It captures the details that matter**, like the conditions, the amounts made, and the results.
- **The method is protected**, covered by a granted US patent.

FOR

Companies with decades of records to unlock

US PATENTED



Darvi

Darvi is our scientific AI. It genuinely understands chemistry and helps inside every part of the platform — from a free assistant anyone can use, to an AI that can run a whole drug-discovery project.

THE PROBLEM Scientists need an AI that truly understands chemistry and can do the work alongside them — not a general chatbot that sounds confident but gets the science wrong.

WHAT WE DO Darvi is built on Rasayan's own knowledge, so it works with you in every tool — helping plan a synthesis, explain a molecule, or design a formulation. It goes from a free public assistant to an enterprise AI that runs a whole project.

In every tool

ACROSS THE WHOLE
PLATFORM

darvi.ai

A FREE SCIENTIFIC
ASSISTANT

Runs projects

FOR ENTERPRISE, IN-HOUSE

WHERE DARVI HELPS

- **It helps inside every tool**, from analysis to retrosynthesis and formulation.
- **Darvi Research answers with sources** you can check for yourself.
- **It explains molecules on ocsr.ai**, so anyone looking at a compound can understand it.
- **It runs free at darvi.ai**, a scientific assistant open to everyone.
- **It ties the platform together**, one AI that talks to every Rasayan tool.
- **For enterprises, it runs whole projects**, in-house, from start to finish.

FOR

Everyone — from students to enterprise teams

ACROSS THE PLATFORM

01 Compound Intelligence

Everything worth knowing about a molecule, in seconds, all on one page. You can try it free at ocsr.ai.

THE PROBLEM To really understand a molecule today, you have to jump between a dozen different websites and stitch it all together yourself. And if the molecule is brand new, most of them tell you nothing at all.

WHAT WE DO Search by name, structure, ID — or even a photo — and we bring everything together on a single page: what it is, how it behaves in the body, how safe it is, where it has been used, and who holds the patents. It even works on molecules that have never been made.

WHAT YOU'LL FIND ON THE PAGE

- **Search however you like**, by name, structure, ID, formula, a drawing, or a photo.
- **It works on brand-new molecules**, working everything out from scratch instead of just looking it up.
- **See how it behaves in the body**, with clear predictions for how it's absorbed, broken down and cleared.
- **Understand how it acts at different acidities**, which decides how well it dissolves and travels through the body.
- **Know what the body turns it into**, with its likely breakdown products laid out for you.
- **Check the real-world evidence**, measured activity, approvals and warnings, each with its source.
- **See the patents and papers**, everything published about the molecule, in one view.
- **Ask Darvi about it**, an assistant that already knows the whole page and answers your questions.

FOR

Every research chemist

YOU GET

One clear page, plus reports to share

Toxicity

This is our star. It predicts how likely a molecule is to be harmful, using models that are among the best in the world — and it's built around the exact safety rules that regulators follow.

THE PROBLEM More drugs fail because of safety problems than for any other reason — and usually late, after a lot of money has been spent. The warning signs were there early, but the usual tools are slow, hard to trust, and don't produce anything a regulator will accept.

WHAT WE DO We predict a molecule's safety risks in seconds, explain the reasoning behind every finding, and hand it to you in a form your regulatory team can actually use. And we don't just claim our models are good — they've proven it in open, worldwide competitions.

9th of 100

PXR WORLD CHALLENGE ·
TIED WITH #1

Top tier

TOX21 WORLD CHALLENGE

rs-BMUT

OUR AMES MODEL · FREE ON
OCSR.AI

THREE THINGS IT DOES ESPECIALLY WELL

- **It's outstanding at mutagenicity**, the risk of damaging DNA — predicted by rs-BMUT, one of the strongest models of its kind anywhere.
- **It explains every genotoxicity flag**, showing exactly why a molecule is a concern, never just a mystery score.
- **It watches for nitrosamines**, the impurity type regulators worry about most right now.
- **It's proven by outsiders**, tested on molecules the models had never seen before.

FOR

Safety, regulatory and medicinal chemistry teams

OUR STAR · PROVEN IN COMPETITION

TOXICITY — BUILT AROUND THE RULES

Built around the safety rules regulators actually use.

Every result lines up with the official ICH safety guidelines your regulatory team already works to. That means what you get is clear, easy to defend, and ready to file.

IT FOLLOWS THE OFFICIAL GUIDELINES

- **It follows ICH M7**, the rulebook for judging and controlling impurities that could damage DNA.
- **It gives extra care to the riskiest families**, like nitrosamines, which need special handling.
- **It works out safe limits**, telling you how much of an impurity is acceptable.
- **It writes the formal report**, in the documented format regulators expect to see.
- **It guides safe handling**, with exposure limits for the people making the drug.

IT CHECKS MORE THAN THE MOLECULE ALONE

- **The molecule itself**, with a full safety read-out.
- **What the body turns it into**, checking its breakdown products for the same risks.
- **Its impurities**, flagging anything harmful, nitrosamines included.
- **Close chemical relatives**, borrowing evidence from similar molecules.
- **The major organs**, with warnings for heart, liver and other serious risks.

YOU GET

A safety report that's ready for regulators

FOLLOWS ICH GUIDELINES

02 Impurity Profiling

The most complete picture of impurities anywhere — and it's this good because, behind the scenes, it draws on every other tool on the platform.

THE PROBLEM Impurities and nitrosamines tend to show up during manufacturing, not at the design stage — and no single tool catches them all, because they come from the way it's made, the way it breaks down, the body and the formulation, all at once.

WHAT WE DO We predict every impurity and breakdown product a molecule can form, and explain why each one appears, by bringing together what the whole platform knows. Anything harmful — especially nitrosamines — is flagged against the safety rules.

WHY IT'S SO COMPLETE

- **It looks at how the drug is made,** spotting impurities that come from the actual synthesis route.
- **It looks at the formulation,** catching reactions between the drug and its other ingredients.
- **It looks at how it breaks down,** using its breakdown products and how it behaves at different acidities.
- **It checks every impurity for safety,** including the all-important nitrosamine risk.
- **It shows you the structures,** the actual impurity, and how it forms.
- **It maps the ways it breaks down,** from heat, water, light and air.
- **It tells you how to control them,** with practical advice for each one.
- **It writes the report,** ready to share with regulators.

FOR

Process, analytical, quality and regulatory teams

USES THE WHOLE PLATFORM

03 Retrosynthesis

We don't just hand you one recipe for making a molecule — we give you a workbench you drive yourself, backed by 13 of our own models and the world's biggest collection of chemical reactions.

THE PROBLEM Most tools give you one fixed way to make a molecule and no room to change it. Worse, they only know routes from published papers, so they miss the clever shortcuts a real chemist would try.

WHAT WE DO In minutes you get ranked ways to make your molecule from ingredients you can actually buy — and then you can build and change the routes yourself. Thirteen of our own models think through every kind of reaction, not just the ones found in our 110 million patents.

13 models

COVERING EVERY KIND OF
REACTION

110M+ patents

KNOWN ROUTES — AND
BEYOND THEM

1.3B+

REACTIONS IT LEARNS FROM

YOU STAY IN CHARGE

- **You build and change the routes**, it's a workbench you control, not a fixed answer.
- **You decide where to break the molecule**, and it plans the route around your choice.
- **Darvi works right beside you**, finding routes and writing up the steps as you go.
- **It goes beyond the textbook**, suggesting new routes, not only ones already published.

FOR

Synthetic and process chemists, and CDMOs

13 OF OUR OWN MODELS

RETROSYNTHESIS — THE DETAIL BEHIND EVERY STEP

Every route — costed, checked and written up.

Open any step to get the full detail a chemist needs, and see the things that really decide a project — cost, impurities and patents — all in the same place.

FOR EVERY REACTION STEP

- **The conditions and the yield**, which reagents and solvents to use, and how much you can expect to get.
- **A full written method**, a proper lab procedure, with the common pitfalls and safety notes.
- **Real published procedures**, genuine experiments from the literature, with their sources.
- **An early impurity check**, so you design a clean route from the very start.

COST, PATENTS AND SHARING

- **Live pricing**, what each ingredient costs, and the total for the whole route.
- **A patent check**, so you know if a route is already owned by someone else.
- **Forward prediction**, which tells you what a reaction will actually produce.
- **Easy export**, straight into the chemistry tools you already use.

YOU GET

Routes you can edit, priced and patent-checked

THE ROUTE WORKBENCH

04 Formulations

Everything you need to turn an active ingredient into a real, stable medicine — all connected in one place.

THE PROBLEM Turning a molecule into an actual product means checking how it mixes with other ingredients, how long it will last, and whether it meets the rules. Today all of that happens in separate places, months apart, so problems show up late and cost a fortune to fix.

WHAT WE DO Choose your active ingredient, the other ingredients, and how it will be stored — and everything runs and connects on its own: a first profile, how the ingredients get along, how long it lasts, whether it meets the rules, and one overall score.

WHAT IT WORKS OUT FOR YOU

- **How workable the ingredient is**, a clear first read on its strengths and weak spots.
- **Whether the ingredients get along**, if the drug reacts with anything, and what that would create.
- **How well it holds up**, tested against real heat, humidity and light.
- **How long it will last**, predicting shelf life for any storage condition.
- **Whether it meets the rules**, with safe limits and impurity control.
- **Its solid form**, the crystal forms and options worth considering.
- **A library of ingredients**, with trusted guidance on how to use each one.
- **One clear score and report**, a single answer you can share.

FOR

Formulation and product-development teams

NEW

05 Protein & Structure-Based Discovery

A complete, enterprise-grade pipeline that takes you from a protein target all the way to a short list of promising, makeable molecules — for both small molecules and proteins.

THE PROBLEM Designing a drug around a protein target usually means juggling a dozen separate tools — for modelling, finding the binding spot, screening, designing and checking — and, in the end, results nobody fully believes.

WHAT WE DO One pipeline carries a target from start to finish: it prepares the target, finds where a drug can attach, screens millions of options, invents brand-new molecules, tests how well they fit, and double-checks the best ones with quantum-level accuracy — all before you make a single compound.

Millions

MOLECULES SCREENED,
FAST

Quantum-level

FINAL ACCURACY CHECK

SM + protein

BOTH KINDS OF DRUG

FOUR STRENGTHS, BROUGHT TOGETHER IN ONE SOLUTION

- **It invents new molecules**, fresh, makeable ideas aimed straight at your target.
- **It models the protein**, building its shape and finding where a drug can attach.
- **It screens and ranks millions**, then tests how well each one fits.
- **It designs new proteins too**, brand-new proteins and binders, made from scratch.

FOR

Enterprise discovery and structural biology teams

ENTERPRISE

THE PIPELINE — FROM TARGET TO A TRUSTED FEW

Every step, in one system.

The full set of protein and structure tools, working together — narrowing millions of possibilities down to a trusted few.

FINDING AND SCREENING

- **It finds the binding spot**, every place a drug could attach, including the hidden ones.
- **It prepares the target**, a clean, ready-to-use protein structure.
- **It screens at massive scale**, our DDP engine sifts through millions of molecules quickly.
- **It finds the best fits**, top-quality predictions of how each molecule sits in place.

CREATING AND CHECKING

- **It invents new molecules**, Janak designs fresh, makeable ideas for the target.
- **It runs a quantum-level check**, QVS confirms the best candidates with deep accuracy.
- **It designs new proteins**, proteins and binders built from scratch.
- **It predicts the sequence**, turning a design into something you can actually make.

YOU GET

A short list of novel, makeable, well-checked hits

DDP · JANAK · QVS

06 Rasayan Draw

The first structure editor that runs on any computer. Draw a molecule, or simply paste a picture of one, and start working with it right away.

THE PROBLEM Most drawing tools are heavy, live off on their own, and can't take a picture — so if you find a structure in a paper, you have to redraw the whole thing by hand.

WHAT WE DO Sketch a molecule, or paste a picture of one, and OCSR reads it straight onto the canvas. From there you can predict its spectra, check its properties, and send it into any other tool — all on an ordinary laptop, with no special hardware.

WHAT MAKES IT SPECIAL

- **It runs on any laptop**, no special hardware needed — a first for a tool like this.
- **You can paste a picture of a structure**, and it reads straight into the editor.
- **It's a full drawing tool**, fast, complete, and it opens instantly.
- **It predicts NMR and mass spectra**, and shows which peak belongs to which atom.
- **You can see it in 3D**, with its **properties**, right there as you work.
- **It's one click into everything else**, send your molecule straight to any other tool.

FOR

Everyone — the easiest way in

AN INDUSTRY FIRST

One platform. Built to fit the way you work.

WAYS TO USE IT

Single tools — use any one on its own, or bundle a few together.

The full Engine — the complete platform, with everything working as one.

Free versions — ocsr.ai and darvi.ai, open to everyone, no login needed.

Enterprise — Darvi and Structure-Based Discovery, run privately inside your own systems.

WHERE IT RUNS

In the cloud, in a private cloud, or fully inside your own building — wherever your data is allowed to live.

HOW WE PROTECT YOUR DATA

Your data is encrypted, access is controlled, and you choose where it lives. We never use your molecules to train our models without your permission.