

NEW FEATURES	Platform	ChemDraw Prime	ChemDraw Professional	Signals ChemDraw
ChemDraw now supports ARM and Intel Macs processors	Mac	•	•	•
Coordination bonds now behave like dative bonds in chemical perception	Win/Mac/Web	•	•	•
Stereo allenes and atropisomers now labeled with M & P stereochemistry (instead of R & S)	Win/Mac/Web	•	•	•
New Biopolymer document setting: remove line wrapping in biopolymer sequences	Win/Mac/Web	•	•	•
Insert FASTA Peptide sequence with definition line into a drawing	Win/Mac/Web		•	•
Improved visualization and clean-up of biopolymers	Win/Mac/Web			•
HELM in-line annotation support for monomers and polymers	Win/Mac/Web			•
Biopolymer connections now appear curved instead of sharp corners	Win/Mac/Web			•
Atom-mapped SMILES now supported in HELM strings for copy/paste	Win/Mac/Web			•
Drawing hydrogen bonds between complementary strands with non-natural nucleobases	Win/Mac/Web			•
Complementary strands inserted to canvas in a single line with no line wraps	Web			•
HELM Editing & Navigation Improvements	Web			•
BILN support for peptides	Web			•
HELM hotkeys for editing biopolymers	Web			•
Usability improvements when working with HELM biopolymer structures	Web			•
Refined Cursor display for drawing & editing HELM biopolymer structures	Web			•
Added support for pasting FASTA DNA/RNA sequences	Web			•
Drawing hydrogen bonds between complementary strands	Web			•
Complimentary strand generation from Text Tab with Hydrogen bonding	Web			•
Complementary strands generated from text tab now contain hydrogen bonds	Web			•
Generate complementary strand tool	Web			•
HELM Auto-pair tool	Web			•
Show 3' and 5' ends of oligonucleotides	Web			•
Sense & antisense annotations now available on oligonucleotide biopolymers	Web			•
Selection of attachment points between monomers to create biopolymer crosslinks	Web			•
New ChemDraw editor for HELM monomer curation	Web			•
Add new monomer to customer HELM libraries	Web			•
Enhanced Stereochemical annotation tool	Web			•



3D Clean-up & perspective tools	Web		•
Properties & Query Panels	Web		•
Zoom, scrolling and panning	Web		•
Rotate 180 degrees vertically and horizontally	Web		•
Chemical Symbols	Web		•
Join tool	Web		•
New ChemDraw web editor	Web		•
Expanded User Menu	Web		•
Upload Multiple Files	Web		•
Creation of Notebook	Web		•
Sharing of Notebooks & Drawings	Web		•
Trashing & Restoring Notebooks	Web		•
Notifications (in app and email preferences)	Web		•
Structure-based searching	Web		•

Efficient and Intuitive Drawing Experience	Platform	ChemDraw Prime	ChemDraw Professional	Signals ChemDraw
Chemical Bonds Tools	Win/Mac/Web	•	•	•
Chemical Rings Tools	Win/Mac/Web	•	•	•
Text Tool	Win/Mac/Web	•	•	•
Join and merge chemical structures	Win/Mac/Web	•	•	•
Smart Copy/Paste (SMILES, InChl, HELM)	Win/Mac/Web	•	•	•
Smart Paste (no overlapping on paste actions)	Win/Mac/Web	•	•	•
Shortcuts	Win/Mac/Web	•	•	•
Magic Hotkeys	Win/Mac/Web	•	•	•
Rotate 180 degrees vertically and horizontally	Win/Mac/Web	•	•	•
Expand/Contract Labels	Win/Mac/Web	•	•	•
Chemical Structures Templates	Win/Mac/Web	•	•	•
Reaction Mapping	Win/Mac/Web	•	•	•
Multicenter Attachments	Win/Mac/Web	•	•	•



Atom List Generic Structures	Win/Mac/Web	•	•	•
Variable Attachment Generic Structures	Win/Mac/Web	•	•	•
Label Repeating Units Generic Structures	Win/Mac/Web	•	•	•
Polymer Repeating Units Generic Structures	Win/Mac/Web	•	•	•
Generic Structure Enumeration	Win/Mac	•	•	•
Pen Tools	Win/Mac	•	•	•
Shapes Tool	Win/Mac	•	•	•
Laboratory Equipment Templates	Win/Mac	•	•	•
Reaction Interpretation	Win/Mac	•	•	•
Save ChemDraw Style Sheet	Win/Mac	•	•	•
Define/Use Nicknames	Win/Mac	•	•	•
R-Group Table Generic Structures	Win/Mac/Web		•	•
Zoom and scrolling	Win/Mac/Web			•
Create new Drawing from a Style Sheet	Win/Mac/Web			•
Upload Multiple Files	Web			•
Panning	Web			•
Dashboard view with recent & favorite drawings	Web			•
List view of drawings and favorites	Web			•
List view of notebook	Web			•
Trash & Untrash Drawings	Web			•
Edit Drawings in ChemDraw Desktop	Web			•
Duplicate a Drawing	Web			•
Rename a Drawing	Web			•
Round Trip editing to ChemDraw Desktop	Web			•
Favorite a Drawing	Web			•
Add Favorite monomers (peptides, DNA/RNA, Chem, Blob)	Web			•
Search & filter monomer libraries	Web			•

Communication that Stands Out	Platform	ChemDraw Prime	ChemDraw Professional	Signals ChemDraw
Structure Clean-up	Win/Mac/Web	•	•	•
Reaction Clean-up	Win/Mac/Web	•	•	•
Dark Mode Style Sheet	Win/Mac/Web	•	•	•
3D Perspective Tool	Win/Mac/Web	•	•	•
3D Clean-up & perspective tools	Win/Mac/Web		•	•
HELM Cartoon Representation	Win/Mac/Web		•	•
Biopolymer Clean-up	Win/Mac/Web		•	•
Atom/Bond Color Highlighting	Win/Mac		•	•
Ring-Fill Coloring	Win/Mac		•	•
Hydrogen Bonding in 3D cleanup	Win/Mac		•	•
BioDraw Toolbar	Win/Mac		•	•
Atom/Bond Color Highlight & Ring Fill transfer to 3MF	Win/Mac			•
Hydrogen Bonding support in 3MF	Win/Mac			•

Accurate Chemical Representation	Platform	ChemDraw Prime	ChemDraw Professional	Signals ChemDraw
Arrow Tool	Win/Mac/Web	•	•	•
Brackets Tool	Win/Mac/Web	•	•	•
Hydrogen Bond Tool	Win/Mac/Web	•	•	•
Chemical Polymers Tools	Win/Mac/Web	•	•	•
Parametrizable bracket for polymers supports average MW	Win/Mac/Web	•	•	•
Show Stereochemistry	Win/Mac/Web	•	•	•
Relative Stereochemistry (ISIS compatibility)	Win/Mac/Web	•	•	•
Atropisomer perception	Win/Mac/Web	•	•	•
M & P stereochemistry for allenes and atropisomers	Win/Mac/Web	•	•	•
Insertion of Chemical Symbols	Win/Mac/Web	•	•	•
Aromatic Cycle Display Toggle and Preferences	Win/Mac	•	•	•
Orbitals Tool	Win/Mac	•	•	•

Ignore Top Level Chiral flag	Win/Mac/Web	•	•	•
Enhanced Stereochemistry Support	Win/Mac		•	•
Enhanced Stereochemical annotation tool	Web			•

Accurate Biopolymer Representation	Platform	ChemDraw Prime	ChemDraw Professional	Signals ChemDraw
Add new monomer to custom HELM libraries	Win/Mac/Web		•	•
Support for ambiguous FASTA/HELM Monomers	Win/Mac/Web		•	•
HELM Monomer Versioning Support	Win/Mac/Web		•	•
Paste FASTA sequences	Win/Mac/Web		•	•
Insert Monomers to the Right or Left in a sequence	Win/Mac/Web		•	•
Replace a monomer in a sequence	Win/Mac/Web		•	•
Biopolymer crosslinks	Win/Mac/Web		•	•
Browse & Inspect Monomer Libraries	Win/Mac/Web		•	•
HELM in-line annotation support for monomers and polymers	Win/Mac/Web			•
Atom-mapped SMILES supported in HELM strings for copy/paste	Win/Mac/Web			•
Insert FASTA Peptide sequence with definition line into a drawing	Win/Mac/Web			•
Drawing hydrogen bonds between complementary strands with non-natural nucleobases	Win/Mac/Web			•
Draw with centralized monomer libraries from Pistoia Alliance & Signals	Win/Mac/Web			•
Draw with centralized custom monomer libraries	Win/Mac/Web			•
Shared HELM Libraries	Win/Mac/Web			•
Deprecate/Restore Monomers	Web			•
Bulk Import Custom Monomer Libraries	Web			•
Bulk Import Reports	Web			•
BILN support for peptides	Web			•
HELM Editing & Navigation	Web			•
HELM hotkeys for editing biopolymers	Web			•
Drawing hydrogen bonds between complementary strands	Web			•
Complimentary strand generation from Text Tab with Hydrogen bonding	Web			•
Generate complementary strand tool	Web			•

HELM Auto-pair tool	Web		•
Show 3' and 5' ends of oligonucleotides	Web		•
Sense & antisense annotations on oligonucleotides	Web		•
Insert HELM or FASTA string using the Text Tab	Web		•

Chemical Intelligence	Platform	ChemDraw Prime	ChemDraw Professional	Signals ChemDraw
Analyze/Check Structures	Win/Mac	•	•	•
Calculate MW	Win/Mac	•	•	•
Analyze/Check Structures	Win/Mac	•	•	•
Calculate MW	Win/Mac	•	•	•
Calculate Exact Mass	Win/Mac	•	•	•
Calculate Chemical Formula	Win/Mac	•	•	•
Calculate Elemental Analysis	Win/Mac	•	•	•
Calculate m/z	Win/Mac	•	•	•
Mass Fragmentation Tools	Win/Mac	•	•	•
Thin Layer Chromatography Tool	Win/Mac	•	•	•
Gel Electrophoresis Tool	Win/Mac	•	•	•
tPSA	Win/Mac	•	•	•
pKa / Log P / Log S	Win	•	•	•
cLogP	Win/Mac		•	•
Predict 1H NMR	Win/Mac		•	•
Predict 13C NMR	Win/Mac		•	•
Reaction Stoichiometry Grid	Win/Mac		•	•
Name-to-Structure / Structure-to-Name conversion	Win/Mac/Web		•	•

Find, Manage & Reuse Chemical Drawings	Platform	ChemDraw Prime	ChemDraw Professional	Signals ChemDraw
Browse & Drill-down into ChemDraw Files (.cdx, .cdxml)	Win/Mac			•
Browse & Drill-down ChemDraw Files embedded in MS Word	Win/Mac			•
Browse & Drill-down ChemDraw Files embedded in MS PowerPoint	Win/Mac			•

Browse ChemDraw For Excel Files	Win	•
Structure-searching inside Cloud-hosted MS Office documents	Win/Mac	•
Searching across Signals Notebook Experiments	Win/Mac	•
Browse .mol & .sdf Files	Win/Mac	•
Copy Embedded Chemical Structures to the Clipboard	Win/Mac	•
Create Collection of Chemical Structures	Win/Mac	•
Create Collection of Reactions from Signals Notebook Experiments	Win/Mac	•
Create a collection from .csv files	Win/Mac	•
Create collection from SMILES text file	Win/Mac	•
Adding Properties to Collections	Win/Mac	•
Editing Properties of Collections	Win/Mac	•
Saving Collection Layout as a Template	Win/Mac	•
Batch-Editing of Multiple Chemical Structures in Collections	Win/Mac	•
Create PowerPoint Reaction Report Slide from Signals Notebook Experiments	Win/Mac	•
Create PowerPoint Molecule Report Slide from Collection	Win/Mac	•
Export Collections to SD Files (v2000, v3000)	Win/Mac	•
Add Notebook	Web	•
Trashing & Restoring Notebooks	Web	•
File organization with Notebooks & Favorites	Web	•

Integration with Scientific Resources	Platform	ChemDraw Prime	ChemDraw Professional	Signals ChemDraw
CAS RN to Structure from ChemACX.com	Win/Mac		•	•
Search CAS SciFinder®	Win/Mac		•	•
Search Elsevier Reaxys™	Win/Mac		•	•
ChemACX Explorer	Win/Mac			•
Google Patents/Scholar Add-in	Win/Mac			•
PubChem GHS Safety Add-in	Win/Mac			•
ChemDraw Add-ins SDK	Win/Mac			•

ChemDraw Add-ins Dynamic Download	Win/Mac	•
Save to Signals	Win/Mac/Web	•
Open from Signals	Win/Mac/Web	•
Launch Signals applications	Win/Mac/Web	•

Chemistry Without Borders	Platform	ChemDraw Prime	ChemDraw Professional	Signals ChemDraw
Read and Save as ChemDraw .cdx / .cdxml Files	Win/Mac	•	•	•
Read and Save as ISIS Reaction .rxn Files (v2000, v3000)	Win/Mac	•	•	•
Read and Save as ISIS Sketch .skc Files	Win/Mac	•	•	•
Read and Save as MDL .mol Files (v2000, v3000)	Win/Mac	•	•	•
Read and Save as MDL .sdf Files (v2000, v3000)	Win/Mac	•	•	•
Read and Save as MDL .rdf Files (v2000, v3000)	Win/Mac	•	•	•
Read Crystallographic Information Files (CIF)	Win/Mac	•	•	•
Save as image GIF, JPEG, BMP, PNG, TIFF	Win/Mac	•	•	•
Save as Scalable Vector Graphics (SVG)	Win/Mac	•	•	•
Save as Encapsulated Post Script (EPS)	Win/Mac	•	•	•
Copy/Paste as CDXML	Win/Mac	•	•	•
Copy/Paste as Mol File / Mol3000	Win/Mac	•	•	•
Copy/Paste as SMILES	Win/Mac	•	•	•
Copy/Paste as SYBYL (SLN)	Win/Mac	•	•	•
Copy/Paste as InChI	Win/Mac	•	•	•
Copy ChemDraw Structures as OLE Object	Win	•	•	•
Insert OLE Object in ChemDraw	Win	•	•	•
Copy/Paste as HELM	Win/Mac		•	•
Copy/Paste as FASTA Peptide	Win/Mac		•	•
Copy/Paste as FASTA DNA/RNA	Win/Mac		•	•
View .sdf Files properties	Win/Mac			•
Copy as 3D-printable Object (.3MF)	Win/Mac			•
Save as 3D-printable object (.3MF)				•

Benefits of SaaS for Users and IT	Platform	ChemDraw Prime	ChemDraw Professional	Signals ChemDraw
License Management & Authentication via Signals	Win/Mac/Web			•
Automatic Updates	Win/Mac/Web			•
Secured access anytime, anywhere from a web browser	Web			•
Scalability and Cost efficiency	Web			•
Maintenance by service provider	Web			•

Applications	Platform	ChemDraw Prime	ChemDraw Professional	Signals ChemDraw
ChemDraw+	Web			•
Dashboard	Web			•
View Recents & Favorites	Web			•
Create a new Drawing from a Style Sheet	Web			•
File organization with Notebooks & Favorites	Web			•
List Views	Web			•
Drawings	Web			•
Notebooks	Web			•
Favorites	Web			•
Trash & Untrash Drawings	Web			•
Edit Drawings in a ChemDraw web editor	Web			•
Duplicate a Drawing	Web			•
Rename a Drawing	Web			•
Download cdxml drawing	Web			•
Round Trip editing to ChemDraw Desktop	Web			•
Favorite a Drawing	Web			•
Draw biopolymer sequences using ChemDraw+ HELM editor	Web			•
Draw with centralized monomer libraries from Pistoia Alliance & Signals	Web			•
Draw with centralized custom monomer libraries	Web			•



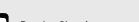
Add Favorite monomers (peptides, RNA/DNA, Chem, Blob)	Web		•
Insert HELM or FASTA string using the Text Tab	Web		•
Filter libraries using text based search & peptide filters	Web		•
Insert Monomers to the Right or Left in a sequence	Web		•
Replace a monomer in a sequence	Win		•
ChemDraw for Excel	Win	•	•
CombiChem for Excel	Win	•	•
Name-to-Structure / Structure-to-Name for ChemDraw for Excel	Win	•	•
ClogP/CMR for ChemDraw for Excel	Win	•	•
Molecular Networks (pKa/Log P/Log S) for ChemDraw for Excel	Win	•	•
Molecular Topology for Chem Draw for Excel	Win	•	•
ChemProp Std Properties for Chem Draw for Excel	Win	•	•
ChemProp Pro Properties for ChemDraw for Excel/Chem3D	Win		•
Chem3D Professional	Win	•	•
ClogP/CMR for ChemDraw for Chem3D	Win	•	•
Molecular Networks (pKa/Log P/Log S) for ChemDraw for Chem 3D	Win	•	•
Molecular Topology for Chem Draw for Chem 3D	Win	•	•
ChemProp Std Properties for Chem Draw for Chem 3D	Win	•	•
Chem3D Ultra	Win	•	•
Chem3D Interface to CONFLEX	Win		•
Chem3D Interface to Autodock	Win		•
Chem3D Interface to GAMESS 2020	Win		•
Chem3D Interface to Gaussian 16W	Win		•
Chem3D Interface to MOPAC 2016	Win		•
ChemProp Pro Properties for ChemDraw for Chem3D	Win		•
ChemFinder Standard	Win	•	•
ChemFinder Ultra	Win		•
ChemFinder for Oracle	Win		•

Explorer Window View in ChemFinder Ultra	Win		•
BioViz in ChemFinder Ultra	Win		•
Compound Profiles in ChemFinder Ultra	Win		•
Clustering in ChemFinder Ultra	Win		•
Combine ChemFinder Query Hit Lists	Win		•
ChemFinder Exports to MS Word/Excel	Win		•
ChemScript	Win	•	•



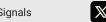
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<sup>\*</sup>ChemDraw+ is the new web-based ChemDraw application

<sup>\*\*</sup>ChemDraw Collections is a cloud-native application that is automatically updated quarterly

<sup>\*\*\*</sup>HELM Curation is a web-based application for the curation of centralized monomer libraries for use in the HELM editor in ChemDraw+ and Signals