

USING THE POWER OF CHEMDRAW IN A JAVASCRIPT SKETCHER DEPLOYED AS YOU WANT

ChemDraw® Direct is a pure JavaScript sketcher with the chemical intelligence and esthetics of ChemDraw on the desktop available as a zero download component for use in web browsers and other apps.

Already used as the sketcher in McGraw-Hill Education's Connect Chemistry online courses and in PerkinElmer Signals™ Notebook collaborative science platform, ChemDraw Direct is now available for customer deployment in chemically intelligent web browsers and other applications.

CHEMDRAW DIRECT CHEMISTRY

ChemDraw Direct has the same underlying chemical smarts as ChemDraw on the Desktop. It comes equipped with all the familiar tools you need to draw structures, reactions, mechanisms and text:

- Ring, chain and bond templates
- Arrows
- Text tool for chemical labels and captions
- Charges
- Query features: generic atoms, atom lists, R-groups, bond type and topology
- Valence checker
- Lassos
- Eraser
- New Templates: Amino acids, Bicyclics, Cycloalkanes
- Acyclic Chain tool
- Expand/Contract Labels
- Extended copy/paste Control C, Control V from other chemical structure editors

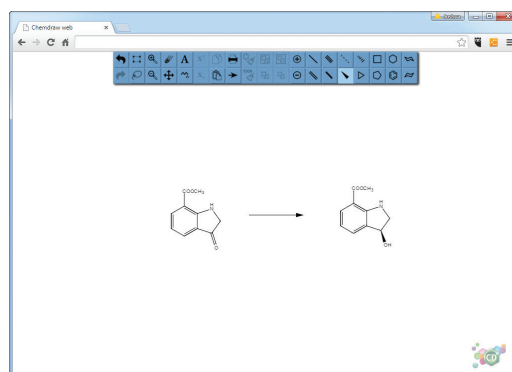


Figure 1. ChemDraw Direct Drawing Pane.

CHEMDRAW DIRECT PRODUCTIVITY

In addition to the basic drawing tools, ChemDraw Direct provides several ways to speed up the creation of publication quality diagrams:

- Hotkeys to change atoms and bonds, sprout new bonds, and add common groups such as Me, Et, Ph
- Move and zoom to position and scale structures the way you want them
- Copy/paste to duplicate structures
- Structure and reaction clean-up
- Unlimited undo/redo

CHEMDRAW DIRECT SHARING

ChemDraw Direct generates and reads the same file formats used by ChemDraw desktop so that files can be easily shared. Additional formats are also available for sharing with other applications:

- CDXML
- molfile and rxnfile
- SMILES
- InChI and InChIKey
- Chemical drawings copied from ChemDraw desktop, or from many other third-party editors, can be directly pasted into ChemDraw Direct for immediate exchange of structures and reactions between desktop and web browsers.
- Chemical drawings copied from ChemDraw Direct can be pasted into Microsoft® Word or PowerPoint

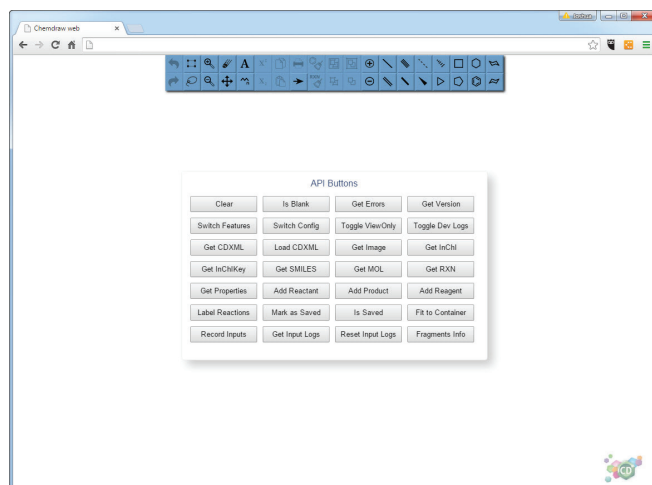


Figure 2. Available API calls for ChemDraw Direct.

CHEMDRAW DIRECT DEPLOYMENT

ChemDraw Direct is supplied with a fully documented User's Guide, Installation Guide and Developers' Guide. The latter includes instructions on loading and attaching ChemDraw Direct into an application, and details of how to make API calls to generate the various file formats that are available.

Run ID	Reactant	FM	MF	Limit	EQ	Sample Mass	Moles	Vol	Molarity	Den
I	1-methylcyclohex-1-ene	96 g/mol*	C ₇ H ₁₂	✓	1.000	2.59 mg*	0.027 mmol*	2.302 µL*		1.125
II	borane	13.83 g/mol*	BH ₃			3.71	1.383 mg*	0.1 mmol*	1.348 µL*	1.026
III	ethoxyethane	74.1 g/mol*	C ₄ H ₁₀ O		1.000	1.996 mg*	0.027 mmol*	2.000 µL*		0.996

Run ID	Product ID	Product	FM	MF	Theoretical Mass	Actual Mass	Purity	Yield	Theoretical Mol
IV	P1	tris(2-methylcyclohexyl)borane	302 g/mol*	C ₂₁ H ₃₉ B	8.14 mg*	7.1 mg*	97.2%	85%	0.027 mmol*

Figure 3. ChemDraw Direct Sketcher in PerkinElmer Signals™ Notebook.