

## ODYSSEY Molecular Explorer (v. 7)

Platforms		Molecular Dynamics	
Windows	Win 8.1 or newer	Start Interactive Simulation	Single-Click
macOS	10.12 Sierra or newer	Recommended Max. Number of Atoms	~1,000
Content		Translational and Rotational Motion	Always
New User Units (Tutorials)	> 50	Intramolecular Vibrational Motion	Yes (Unless Constrained)
Chemistry Learning Units (Labs)	> 290	Periodic Boundaries (for Condensed Phases)	✓
Prebuilt Molecular Models (Total)	> 3,000	Minimize Energy (Molecular Mechanics)	Single-Click
Tagging (Highlighting) of Preferred Labs	✓	Electron Distribution	
Content Search	✓	Calculate (from Quantum Mechanics)	Single-Click
Hyperlinks to Wikipedia	✓	Max. Number of Atoms	30
Periodic Table of the Elements	✓	Electron Density Isosurfaces	✓
Lists of Misconceptions	<i>Instructor's Ed. Only</i>	Polarity Maps (Electrostatic Potential Maps)	✓
Comments	Most Labs	Atomic Orbitals	Selected Examples
Assessment Questions	> 1,200	Molecular Orbitals	Selected Examples
Answer Key	<i>Instructor's Ed. Only</i>	Electrostatic Potentials, Spin Densities	Selected Examples
Add Model Snapshots to Answers	✓	Chemical Reactions	
Annotation of Pages	✓	Reaction Dynamics at Set Temperature	Selected Examples
Customize Questions	<i>Instructor's Ed. Only</i>	Dynamic Equilibria	Selected Examples
Authoring Capability	<i>Instructor's Ed. Only</i>	Examine Reaction Profiles	Selected Examples
3D Visualization		Building New Models	
Styles (Wire, Ball&Spoke, Space Filling, etc.)	5	Tutorials for Building Models	30
Use Multiple Styles in Same Model	✓	Max. Number of Atoms, Crystal Builder	1,500
Show Two Models Side-by-Side	✓	Max. Number of Atoms, General	9,999 (per Atom Type)
Synchronize Side-by-Side Simulations	✓	3D Entry-Level Builder	✓
Scroll through Daisy-Chain Models	Selected Examples	3D Advanced/Inorganic Builder	✓
Show Hydrogen Bonding, Show Dipoles	✓	3D Crystal Builder (Solids)	52 Templates
Show Idealized Lone Pair Positions	✓	3D Disordered Phase Builder (Gases, Liquids)	✓
Show Collisions, Show Reactive Events	✓	3D Peptide and Nucleotide Builders	✓
Show Velocity Vectors, Show Trajectories	✓	Chemical Validity Check	✓
Ribbons for Biopolymers	✓	Name Molecules (Systematic Names)	✓
Hyperlinkable from PowerPoint	✓	Show Common Names (for Built-In Models)	✓
Export of JPG/PNG/BMP Images	✓	Add Arbitrary Labels	✓
SMILES Export (EXPERT Setting)	✓	PDB/ChemDraw/SMILES Import	Drag and Drop
Declare Custom Colors	✓	Analysis	
Anaglyph Red-Blue Stereo	✓	Measure Distances and Angles	✓
Changing Parameters		Measure Torsion Angles	✓
Change Bond Lengths and Torsion Angles	✓	Other Property Queries	Many
Move Molecules Relative to Each Other	✓	Extended Property List (EXPERT Setting)	✓
Change Temperature and/or Cell Volume	✓	XY Plots and Histograms	✓
Change Numbers of Molecules	✓	Linear Regression	✓
Change Time Step (to Slow Down Motion)	✓	Reciprocal and Logarithmic Axes	✓
		Radial Distrib. Function (EXPERT Setting)	✓