ODYSSEY Molecular Explorer

Platforms	
Windows	10, 8, 7, or Vista
macOS / OS X	10.12, 10.11, 10.10, 10.9, or 10.8

Content	
Built-In Models (Molecules, Bulk Samples)	> 3,000
Built-In Molecular Labs	> 200
Applied Chemistry Topics	> 100
Models in Molecular Stockroom	> 1,000
New User Tutorials (for Operating Program)	14
Content Search Engine	✓
Hyperlinks to Wikipedia	✓
Periodic Table of the Elements	✓
Lists of Misconceptions	*Instructor's Ed.* **Only**
Comments	All Labs
Assessment Questions	~1,200
Answer Key	*Instructor's Ed.* **Only**
Add Model Snapshots to Answers	✓
Annotation of Pages	✓
Customize Questions	*Instructor's Ed.* **Only**
Authoring Capability	*Instructor's Ed.* **Only**

3D Visualization	
Styles (Wire, Ball&Spoke, Space Filling, etc.)	5
Use Multiple Styles in Same Model	✓
Show Two Models Side-by-Side	✓
Synchronize Side-by-Side Simulations	✓
Scroll through Daisy-Chained Models	Selected Examples
Show Hydrogen Bonding, Show Dipoles	✓
Show Idealized Lone Pair Positions	✓
Show Collisions, Show Reactive Events	✓
Show Velocity Vectors, Show Trajectories	✓
Ribbons for Biopolymers	✓
Hyperlinkable from PowerPoint	✓
Export of JPG/PNG/BMP Images	✓
SMILES Export (EXPERT Setting)	✓
Declare Custom Colors	✓
Anaglyph Red-Blue Stereo	✓

Changing Parameters	
Change Bond Lengths and Torsion Angles	✓
Move Molecules Relative to Each Other	✓
Change Temperature and/or Cell Volume	✓
Change Numbers of Molecules	✓
Change Time Step (to Slow Down Motion)	✓

Molecular Dynamics	
Start Interactive Simulation	Single-Click
Recommended Max. Number of Atoms	~1,000
Translational and Rotational Motion	Always
Intramolecular Vibrational Motion	Yes (Unless Constrained)
Periodic Boundaries (for Condensed Phases)	✓
Minimize Energy (Molecular Mechanics)	Single-Click

Electron Distribution	
Calculate (from Quantum Mechanics)	Single-Click
Max. Number of Atoms	30
Electron Density Isosurfaces	✓
Polarity Maps (Electrostatic Potential Maps)	✓
Atomic Orbitals	Selected Examples
Molecular Orbitals	Selected Examples
Electrostatic Potentials, Spin Densities	Selected Examples

Chemical Reactions	
Reaction Dynamics at Set Temperature	Selected Examples
Dynamic Equilibria	Selected Examples
Examine Reaction Profiles	Selected Examples

Building New Models	
New User Tutorials (for Building Models)	25
Max. Number of Atoms, Crystal Builder	1,500
Max. Number of Atoms, General	9,999 (per Atom Type)
3D Entry-Level Builder	✓
3D Advanced/Inorganic Builder	✓
3D Crystal Builder (Solids)	52 Templates
3D Disordered Phase Builder (Gases, Liquids)	✓
3D Peptide and Nucleotide Builders	✓
Chemical Validity Check	✓
Name Molecules (Systematic Names)	✓
Show Common Names (for Built-In Models)	✓
Add Arbitrary Labels	✓
PDB/ChemDraw/SMILES Import	Drag and Drop

Analysis	
Measure Distances and Angles	✓
Measure Torsion Angles	✓
Other Property Queries	Many
Extended Property List (EXPERT Setting)	✓
XY Plots and Histograms	✓
Linear Regression	✓
Reciprocal and Logarithmic Axes	✓
Radial Distrib. Function (EXPERT Setting)	✓