



The Integrated Drug Discovery Software Platform

- Structure-Based Drug Design
- \circ Ligand- and Fragment-Based Drug Design
- Pharmacophore Screening
- \circ Protein, Antibody and Peptide Modeling
- Molecular Modeling and Simulations
- Cheminformatics and QSAR
- Methods Development and Deployment



The Molecular Operating Environment (MOE) is a leading drug discovery software platform that integrates visualization, modeling and simulations, as well as methodology development, in a single package. MOE scientific applications are used by medicinal chemists, biologists, crystallographers and computational chemists in pharmaceutical, biotechnology and academic research.

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The Integrated Drug Discovery Software Platform

Structure-Based Drug Design

Active Site Visualization and Analysis
Molecular Surfaces and Property Maps
Interactive Ligand Design in the Pocket
Ligand-Receptor Docking with Induced Fit
Water Placement and Energetics

Ligand- and Fragment-Based Drug Design

- \circ Conformation Generation and Clustering
- Flexible Molecular Alignments
- Web Application for SAR Analysis
- \odot Scaffold Replacement Grow, Link and Transform
- \circ Pharmacophore Screening and Descriptor Filtering

Pharmacophore Screening

Ligand- and Structure-Based Query Editor
Boolean Expressions and Custom Features
Partial Matches, Constraints and Shape Filters
High-Throughput Conformation Generation
Pharmacophore Elucidation and Search

Protein, Antibody and Peptide Modeling

Multimer Homology Modeling
Loop and Linker Modeling
Ala, Cys, SNP, Residue Scanning
Protein Property Descriptors
Patch Analysis for Property Modulation

Molecular Modeling and Simulations

AMBER10:EHT, MMFF94x, CHARMM Forcefields
Explicit and Implicit Solvent Models
LowModeMD Conformational Search
Molecular Mechanics and Dynamics
Quantum and Semi-Empirical Calculations

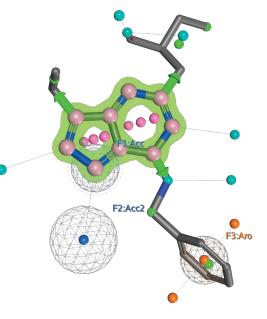
Cheminformatics and QSAR

- \circ 400+ 2D and 3D Descriptors
- Similarity, Diversity and Fingerprints
- $\odot\,\text{PLS},\,\text{PCR},\,\text{and Binary}\,\text{QSAR}$
- pKa Prediction and Protomer Generation
- \odot Pipeline Tools and Components

Methods Development and Deployment

- \circ Automated Protocol for Organizing SBDD Data
- Relational Database Connectivity
- SOAP Server and KNIME Nodes
- \odot MOE/web: Web Browser Application Framework
- Cluster Computing







NORTH AMERICA

Corporate Headquarters 1010 Sherbrooke Street W., Suite 910 Montreal, Quebec, Canada H3A 2R7 Tel.: +1 514 393 1055

EUROPE

United Kingdom St John's Innovation Centre Cowley Road, Cambridge CB4 OWS Tel.: +44 1223 422320

EUROPE

Germany Kaiser-Wilhelm-Ring 11 50672 Köln Tel.: +49 221 337790 0 ASIA Japan MOLSIS Chuo-ku, Tokyo 104-0032 Tel.: +81-3-3553-8030