

Visualize Ligands

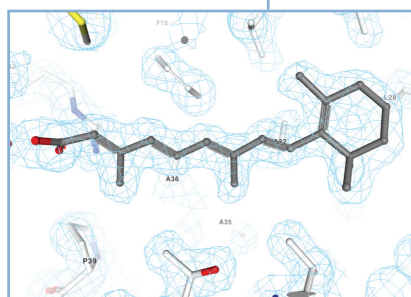
Analyze small molecule interactions in the PDB using the RCSB PDB's ligand visualization tools.

The **SMALL MOLECULES** section on entry's Structure Summary page offers tools for ligand visualization in 2D and 3D.

Small Molecules				
Ligands 1 Unique				
ID	Chains	Name / Formula / InChI Key	2D Diagram & Interactions	3D Interactions
REA Query on REA	A, B	RETINOIC ACID C ₂₀ H ₂₈ O ₂ SHGAZHPCJJPWSC-YCNIQYB TSA-N		Ligand Interaction
Download SDF File				
Download CCD File				

NGL Viewer

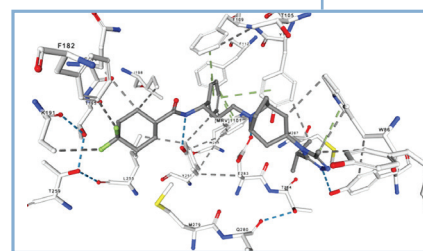
POSEVIEW 2D DIAGRAMS show a ligand and interacting residues. Black dashed lines indicate hydrogen bonds, salt bridges, and metal interactions. Green solid lines show hydrophobic interactions and green dashed lines show π - π and π -cation interactions.



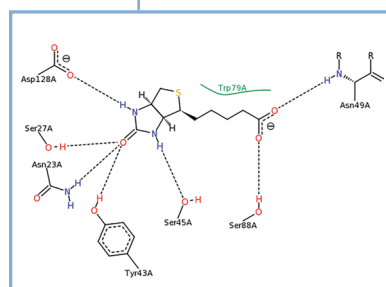
Electron density 2fo-fc map for PDB structure 1CBS centered around Retinoic Acid at 1 sigma contour level.

BINDING POCKET

The NGL Ligand View binding pocket display can be adjusted for opacity and radius clipping. The binding pocket can be colored by hydrophobicity, element, or by B-factor.



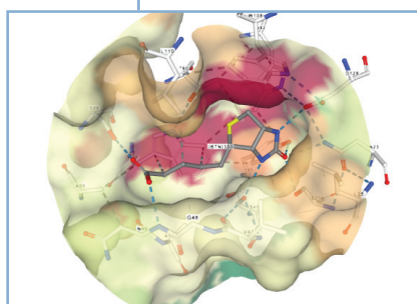
Maraviroc with its receptor C-C chemokine receptor type 5 (PDB structure 4MBS). Interactions shown with dotted lines; hydrogen bonds in blue; hydrophobic contacts in gray; and Pi interactions in green.



Visualization of Biotin bound to Streptavidin PDB ID: 1STP with PoseView (poseview.zbh.uni-hamburg.de)

ELECTRON DENSITY MAPS

can be displayed in 3D using NGL. Both 2fo-fc and fo-fc maps are available, and can be displayed at different sigma levels and styles.



Biotin bound to streptavidin in PDB structure 1STP. The binding pocket is colored on a hydrophobicity scale where red is the most hydrophilic and green the most hydrophobic.

LIGAND EXPLORER

Selecting Ligand Interaction launches 3D NGL viewer. Display hydrogen bonds, hydrophobic contacts, Pi interactions, and metal interactions.