

Structure Manipulation

Talk to a Teacher

<http://spoken-tutorial.org>

National Mission on Education through ICT

<http://sakshat.ac.in>

Snehalatha Kaliappan

IIT Bombay

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Learning Objectives



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- ▶ **Open a structure on the Chimera window**



Learning Objectives

- ▶ **Open a structure on the Chimera window**
- ▶ **Move, rotate and zoom the structure**



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- ▶ **Open a structure on the Chimera window**
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- ▶ **Scale and clip the structure**



Learning Objectives

- ▶ **Open a structure on the Chimera window**
- ▶ **Move, rotate and zoom the structure**
- ▶ **Scale and clip the structure**
- ▶ **Change the display**



Pre-requisites



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- ▶ **Undergraduate Biochemistry**



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- ▶ **Undergraduate Biochemistry**
- ▶ **Structural Biology**



System Requirement



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- ▶ **Ubuntu OS version 14.04**



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- ▶ **Chimera version 1.10.2**



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- ▶ **Mozilla firefox browser 35.0**



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- ▶ **Mozilla firefox browser 35.0**
- ▶ **Working internet connection**



UCSF Chimera



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- ▶ **Software for interactive visualization and analysis of molecular structures**



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- ▶ **<http://www.cgl.ucsf.edu/chimera>**



Summary



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- ▶ **Open a structure on the Chimera window**
- ▶ **Download pdb files from PDB database**
- ▶ **Move, rotate and zoom the structure**
- ▶ **Scale and clip the structure**



Summary

- ▶ **Change the display using menus.**
- ▶ **Remove the water molecules**
- ▶ **Add hydrogens**



Assignment



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- ▶ Download the pdb file of **Leucine zipper** (pdb code **1zik**) from PDB database



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- ▶ Download the pdb file of **Leucine zipper** (pdb code **1zik**) from PDB database
- ▶ Open the pdb file on Chimera window using **open** option in **File** menu



Assignment

- ▶ Download the pdb file of **Leucine zipper (pdb code 1zik)** from PDB database
- ▶ Open the pdb file on Chimera window using **open** option in **File** menu
- ▶ Change the display to **wire** and all the aromatic structures as **disks**



About the Spoken Tutorial Project

- ▶ Watch the video available at http://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- ▶ It summarises the Spoken Tutorial project



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Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- ▶ Conducts workshops using spoken tutorials
- ▶ Gives certificates to those who pass an online test
- ▶ For more details, please write to contact@spoken-tutorial.org



Acknowledgements

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- ▶ **It is supported by the National Mission on Education through ICT, MHRD, Government of India**
- ▶ **More information on this Mission is available at**

<http://spoken-tutorial.org/NMEICT-Intro>

