

# Receptor Preparation for Docking

<https://spoken-tutorial.org>

National Mission on Education through ICT

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# Learning Objectives



# Learning Objectives

- ▶ Open the receptor pdb file on the ADT display panel



# Learning Objectives

- ▶ **Open the receptor pdb file on the ADT display panel**
- ▶ **Delete the water molecules from the receptor structure**



# Learning Objectives

- ▶ Open the receptor pdb file on the ADT display panel
- ▶ Delete the water molecules from the receptor structure
- ▶ Add hydrogens to the receptor structure



# Learning Objectives



# Learning Objectives

- ▶ Remove the ligand molecule crystallized along with the receptor



# Learning Objectives

- ▶ **Remove the ligand molecule crystallized along with the receptor**
- ▶ **Save the current session**





# System Requirement



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► **Ubuntu Linux OS v20.04**



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- ▶ **Ubuntu Linux OS v20.04**
- ▶ **AutoDockTools v1.5.7**



# Pre-requisites



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**Learner should be familiar with,**



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**Learner should be familiar with,**

- ▶ **topics in basic bioinformatics**



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**Learner should be familiar with,**

- ▶ **topics in basic bioinformatics**
- ▶ **basic operations on AutoDock Tools interface**



# Code Files

- ▶ The input files required for this tutorial are available in the **Code files link**





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- ▶ The input files required for this tutorial are available in the Code files link
- ▶ Please download and extract the files



# Code Files

- ▶ The input files required for this tutorial are available in the Code files link
- ▶ Please download and extract the files
- ▶ Make a copy of all the files and then use them for practising



# Summary

- ▶ Opened the receptor pdb file on the ADT display panel
- ▶ Deleted the water molecules from the receptor structure
- ▶ Added hydrogens to the receptor structure



# Summary

- ▶ **Removed the ligand molecule crystallized along with the receptor**
- ▶ **Saved the current session**



# Assignment



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As an assignment,

1. Practice the same steps with the example (1DWD) given in the Examples folder in the Downloads page
2. <https://autodock.scripps.edu/download-autodock4/>



# About the Spoken Tutorial Project

- ▶ Watch the video available at [http://spoken-tutorial.org/What\\_is\\_a\\_Spoken\\_Tutorial](http://spoken-tutorial.org/What_is_a_Spoken_Tutorial)
- ▶ It summarises the Spoken Tutorial project



# About the Spoken Tutorial Project

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- ▶ It summarises the Spoken Tutorial project
- ▶ If you do not have good bandwidth, you can download and watch it





# 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](mailto:contact@spoken-tutorial.org)



# Answers for THIS Spoken Tutorial

- ▶ Questions in THIS Spoken Tutorial?
- ▶ Visit <https://forums.spoken-tutorial.org>
- ▶ Choose the minute and second where you have the question
- ▶ Explain your question briefly
- ▶ The Spoken Tutorial project will ensure an answer

**You will have to register to ask questions**



# Acknowledgements

**The Spoken Tutorial project was established by the Ministry of Education, Govt. of India**

