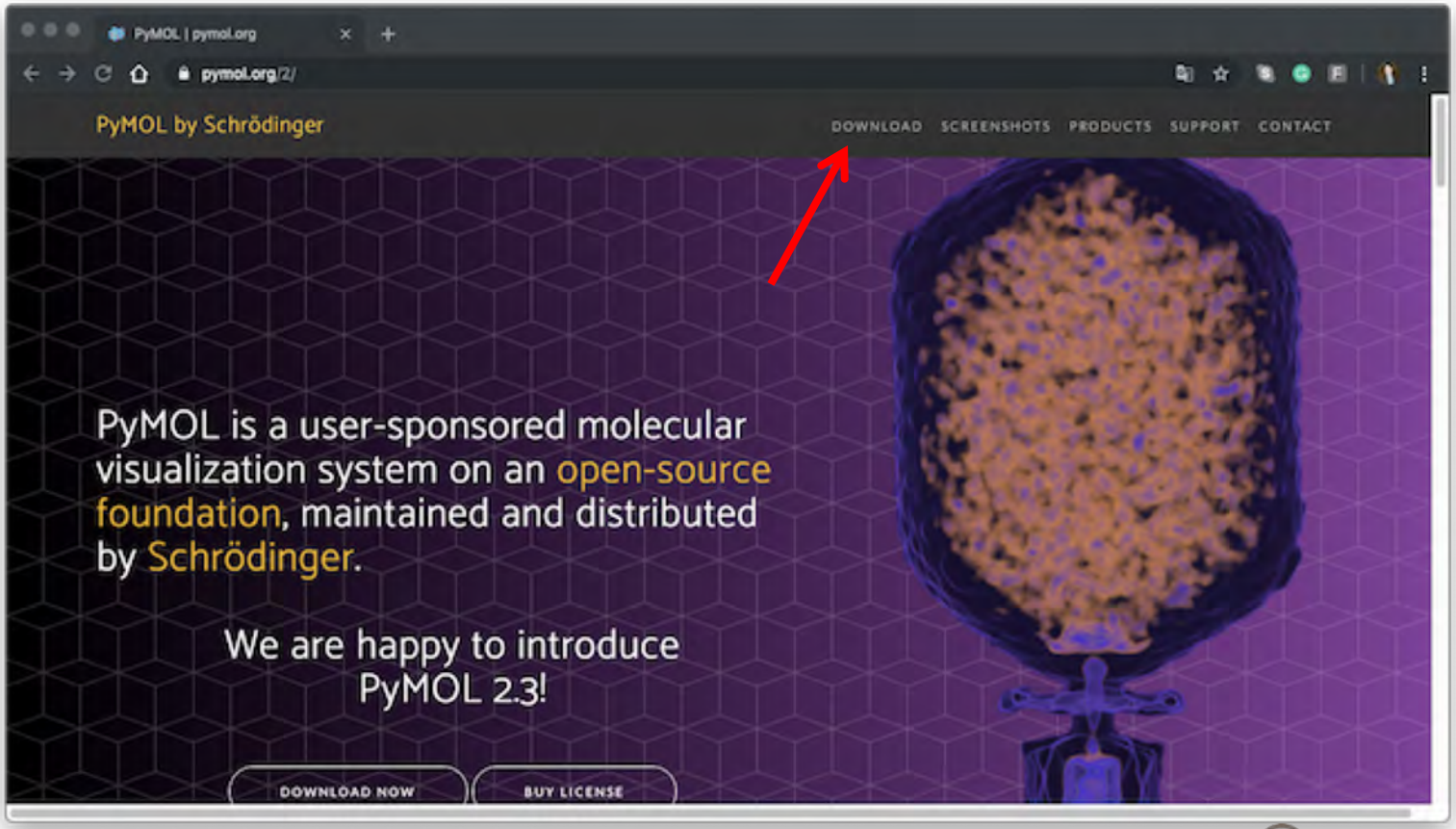
Protein Structure, Function and Disease

Basic tool(s) to visualize protein structures: PyMOL and UCSF Chimera.

Jyh-Yeuan (Eric) Lee, Assistant Professor, BMI

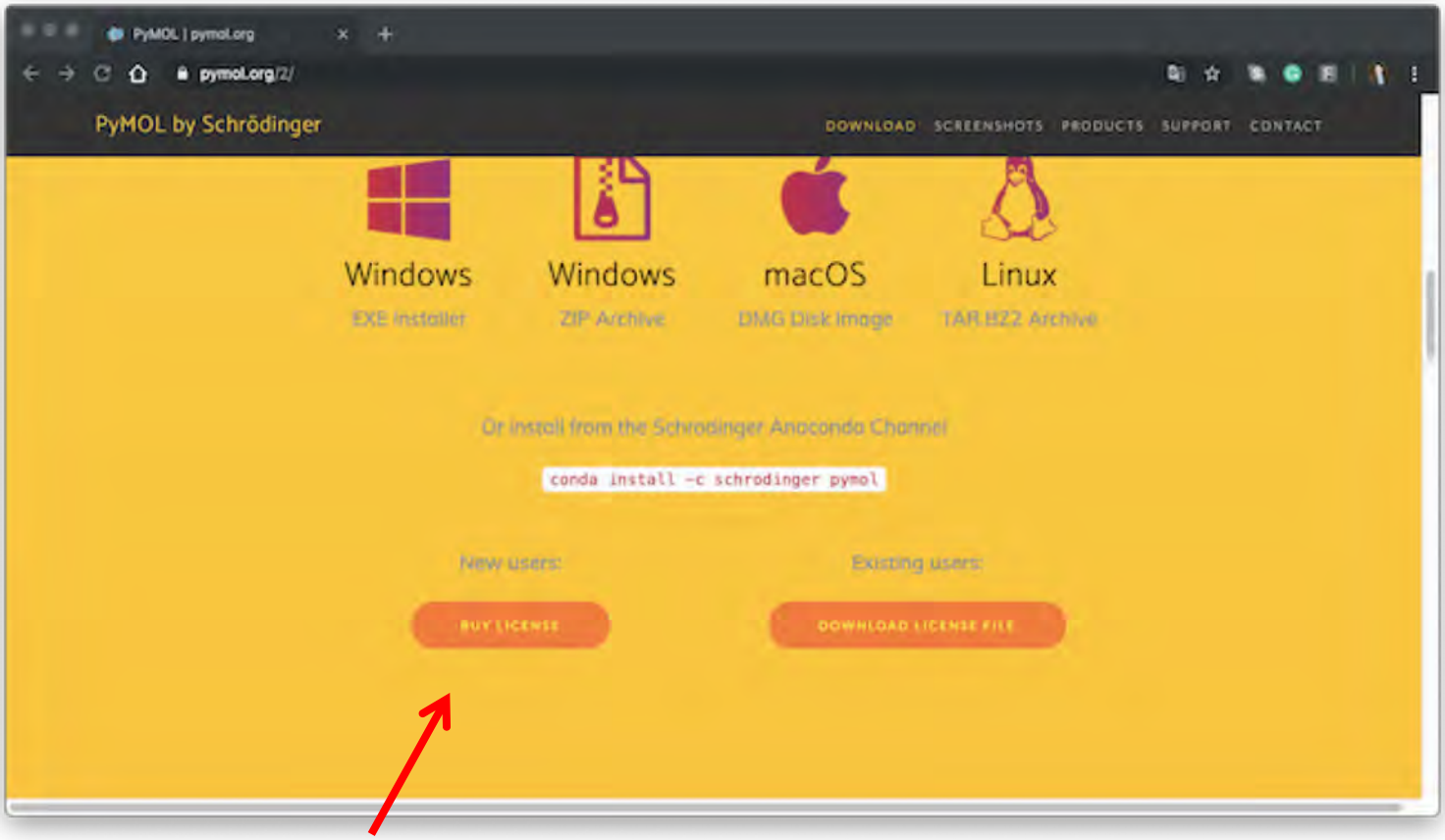
Step-by-step installation: PyMOL

1) Go to https://pymol.org/; click on "DOWNLOAD".



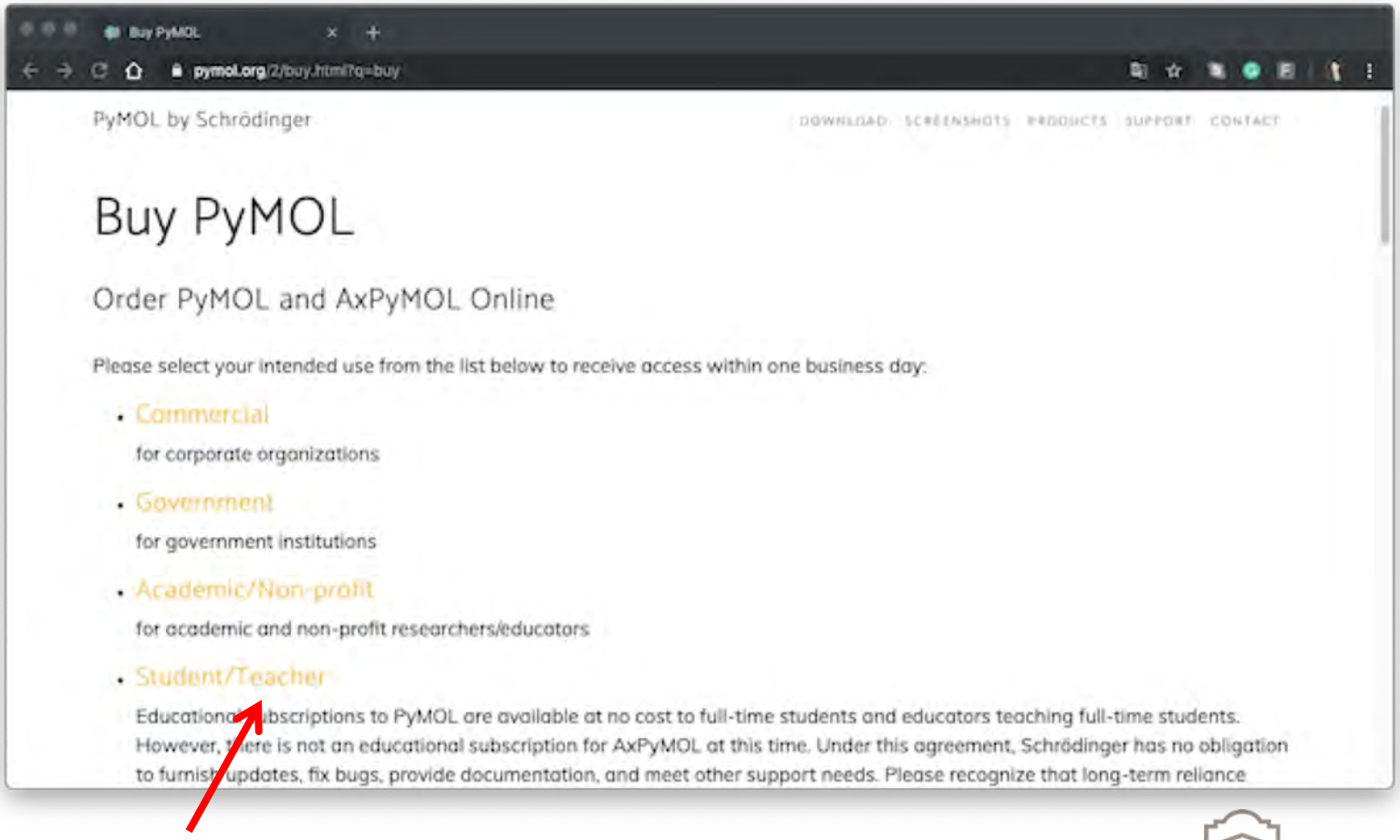
Step-by-step installation: PyMOL

2) Scroll down to “BUY LICENSE”; click on it.



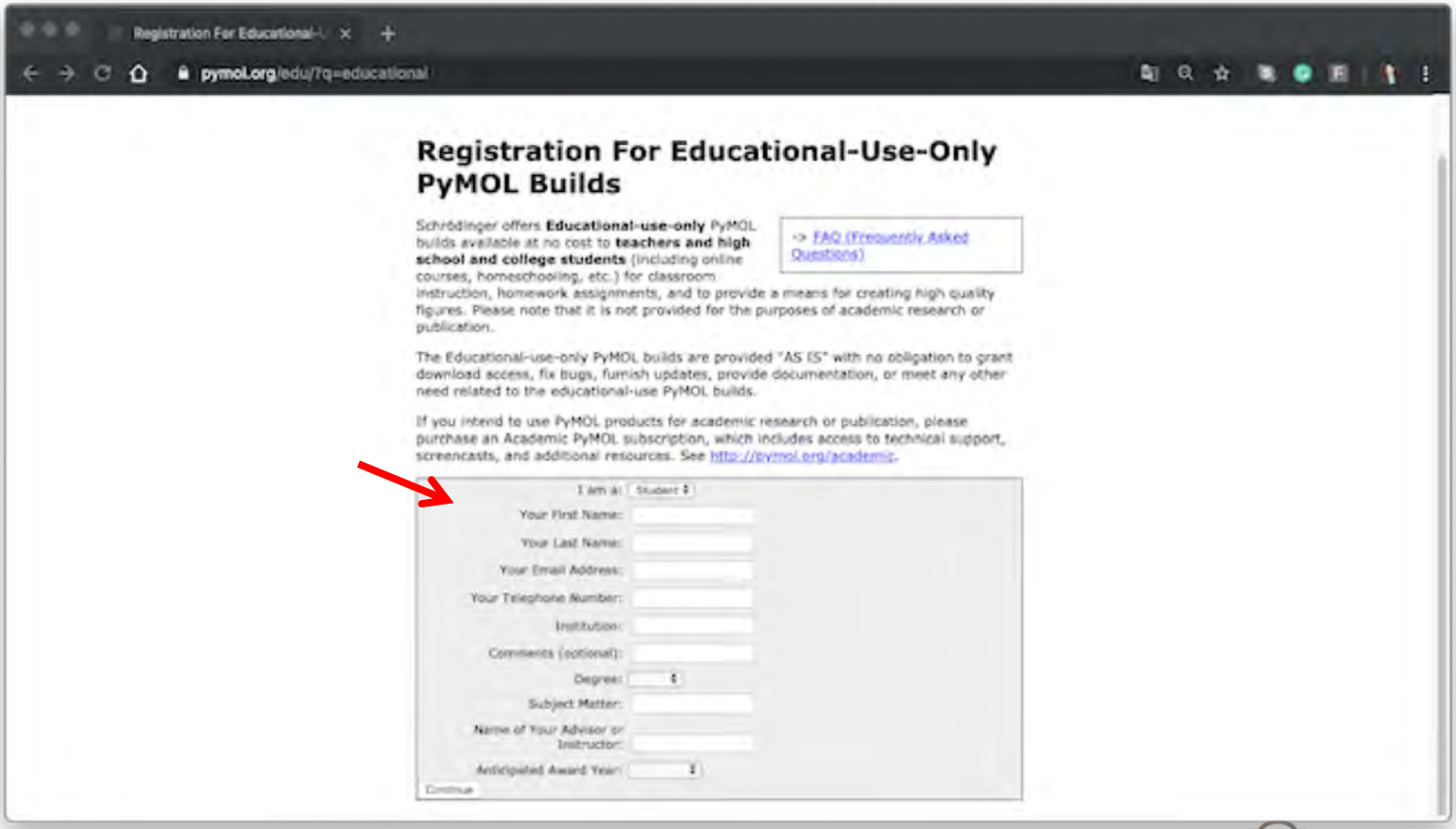
Step-by-step installation: PyMOL

3) Select "Student/Teacher"



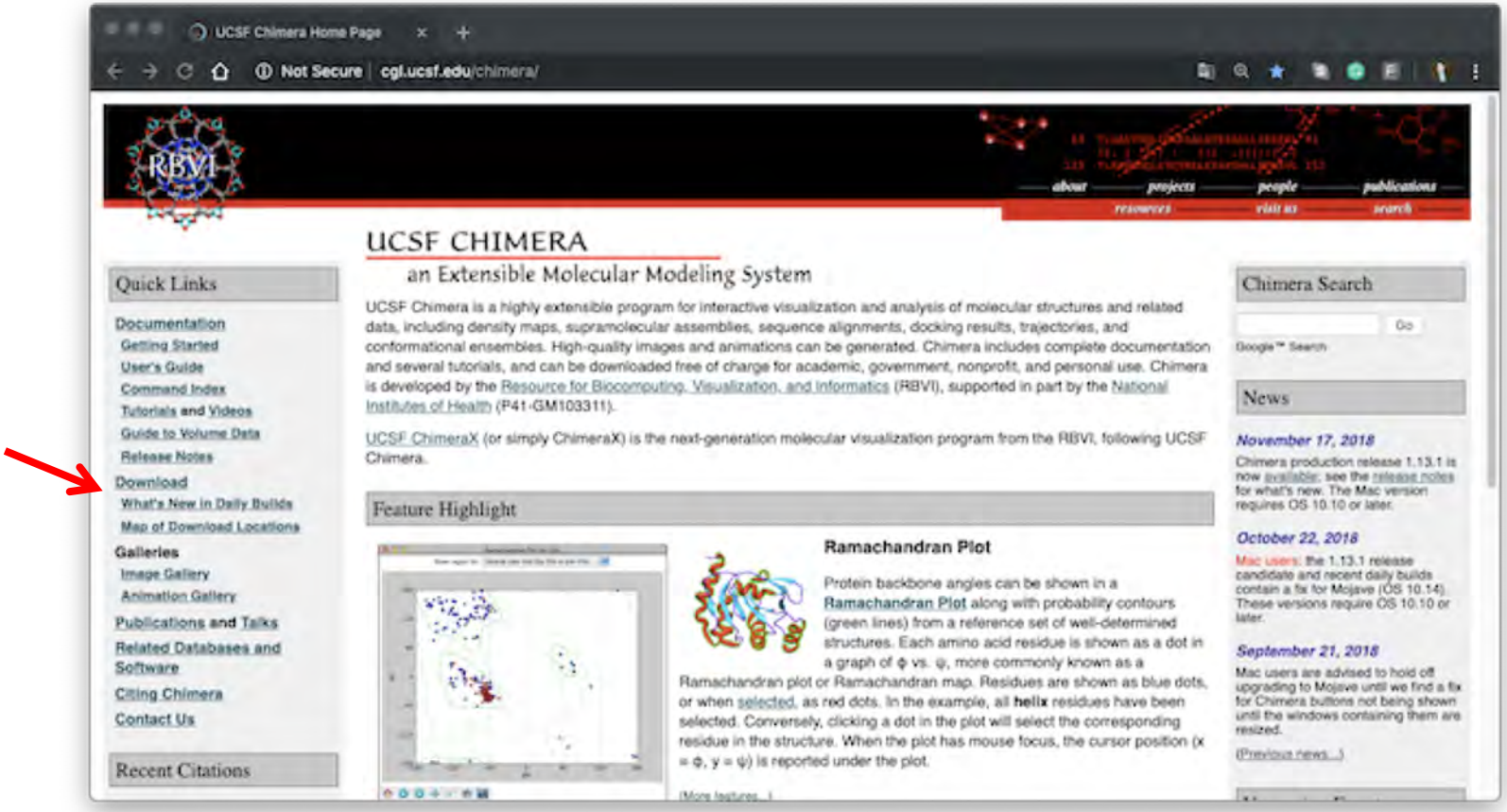
Step-by-step installation: PyMOL

4) Register; then wait for an instruction email.



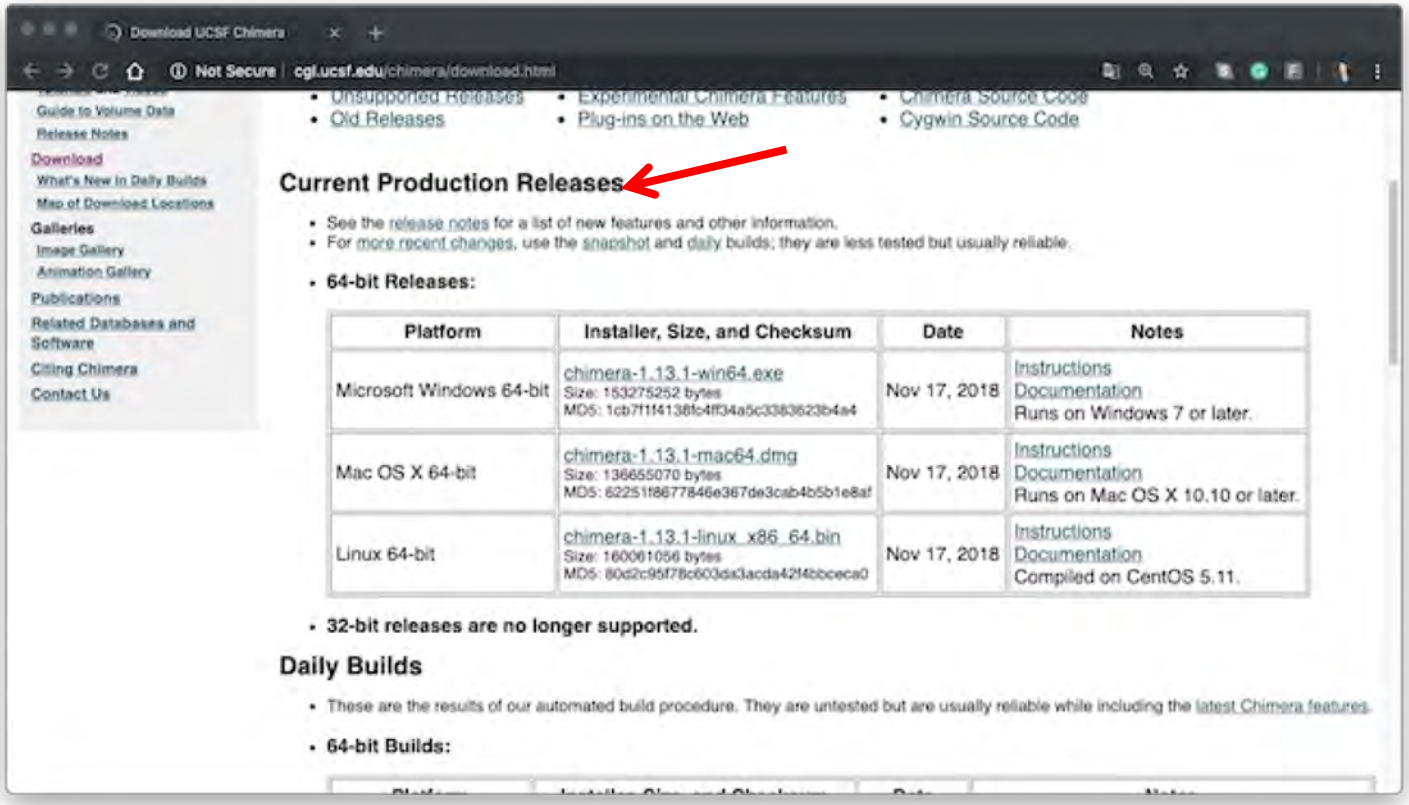
Step-by-step installation: Chimera

1) Go to http://www.cgl.ucsf.edu/chimera/; click on "Download".



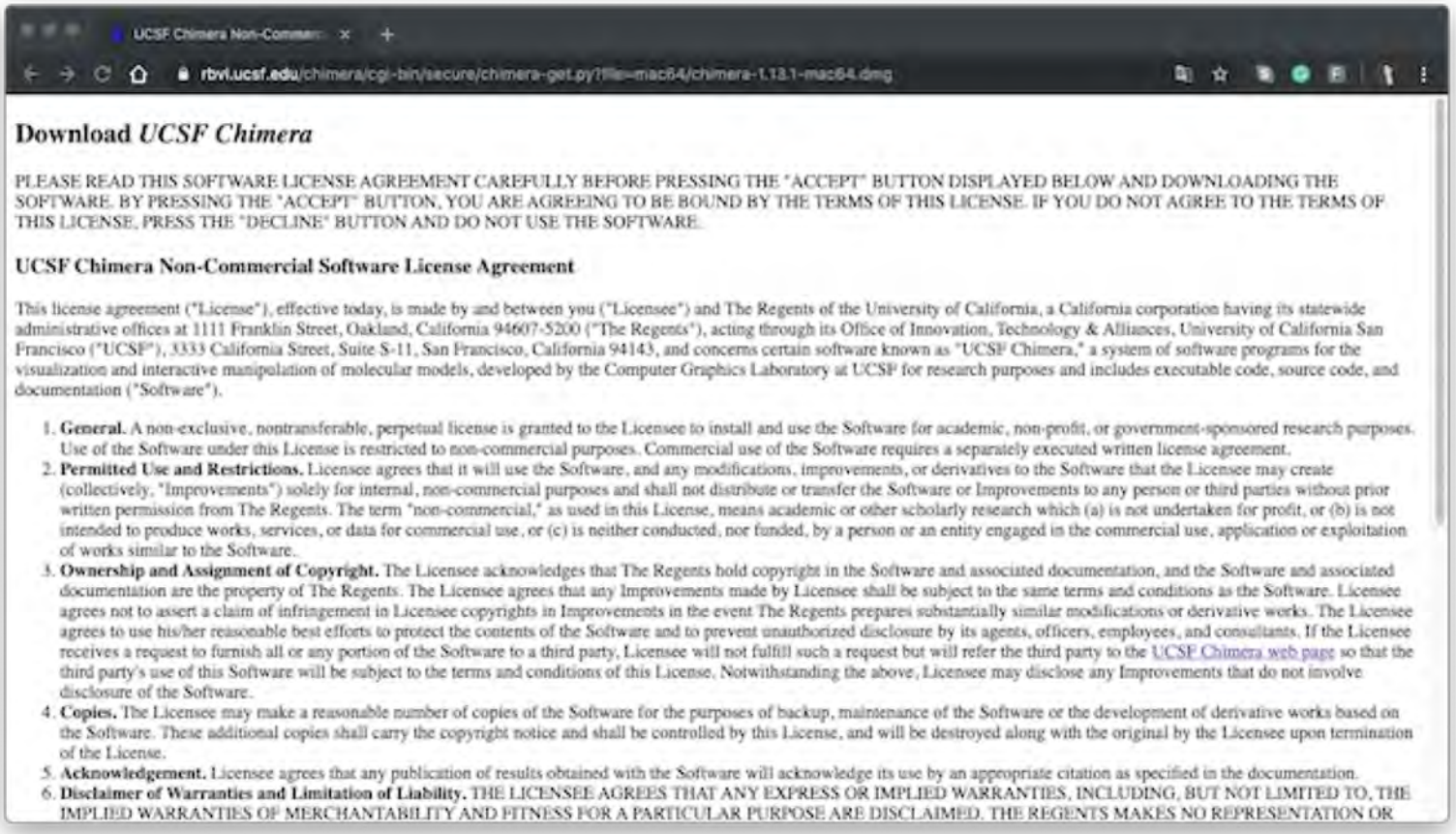
Step-by-step installation: Chimera

2) Choose the installer suitable for your OS.



Step-by-step installation: Chimera

3) "Accept" and start downloading.



Step-by-step installation: Chimera

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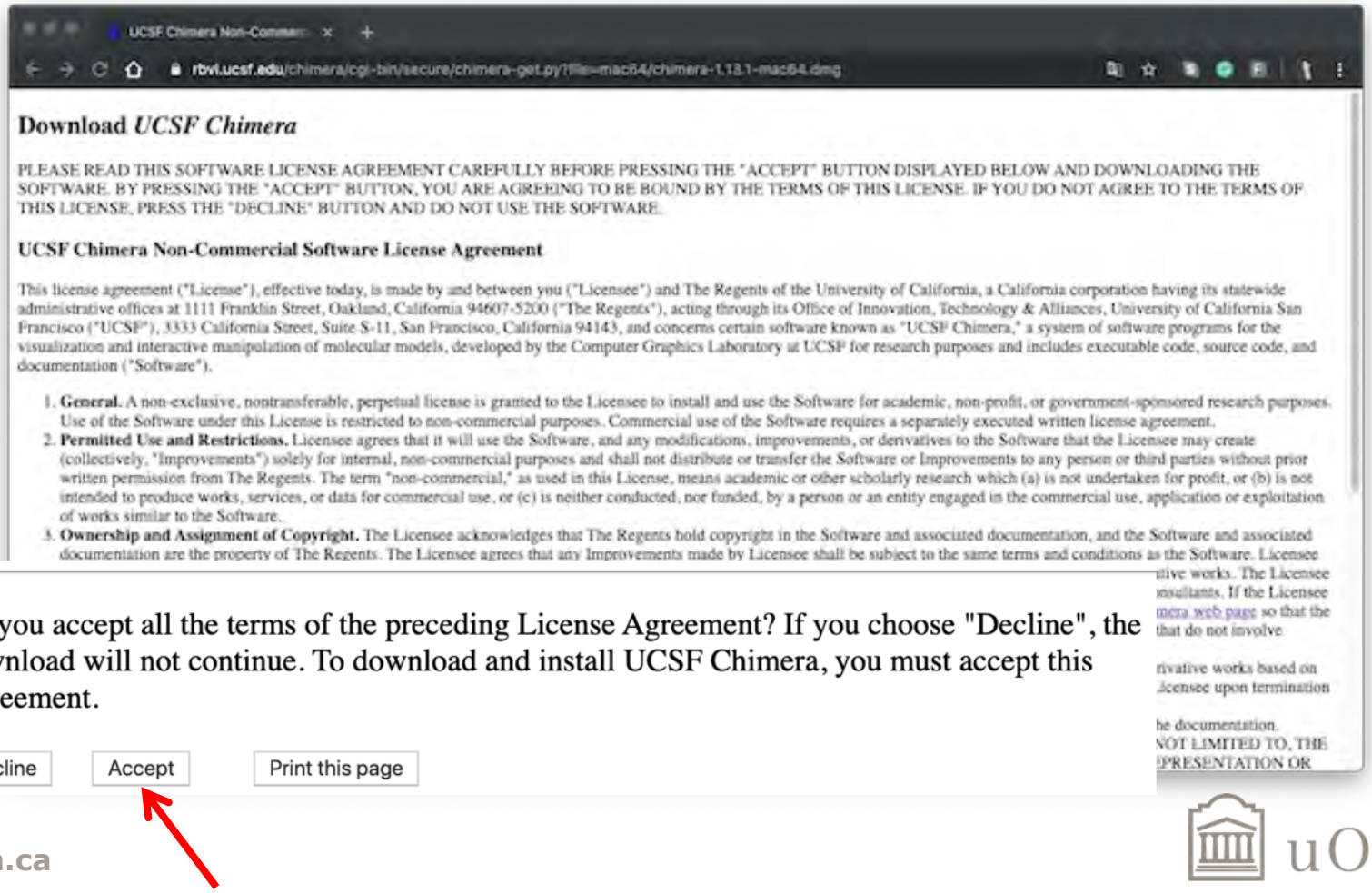
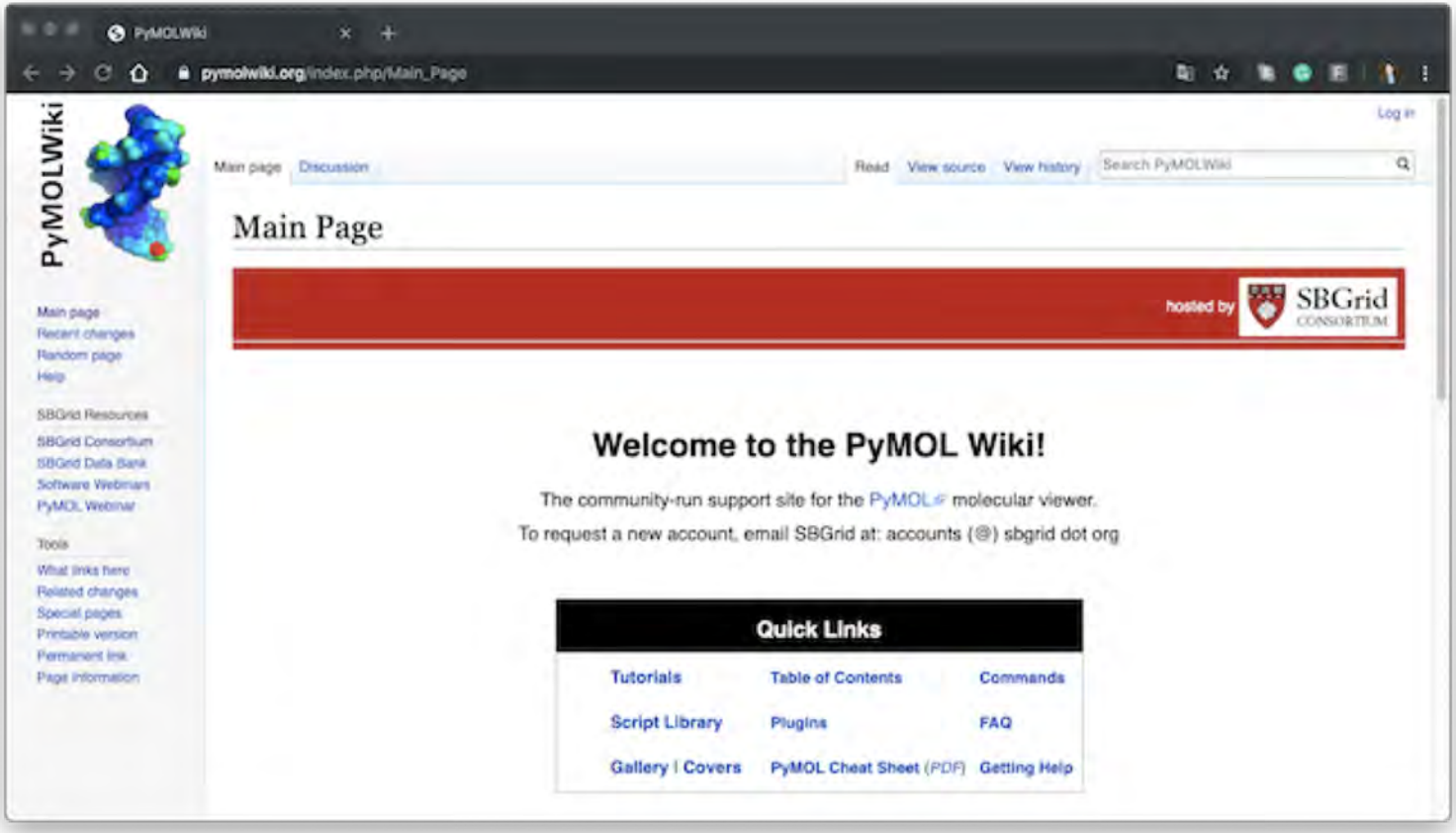


PyMOL Wiki

https://pymolwiki.org/index.php/Main_Page



UCSF Chimera tutorials

http://www.cgl.ucsf.edu/Outreach/Tutorials/GettingStarted.html

Journal club: objectives and guidelines

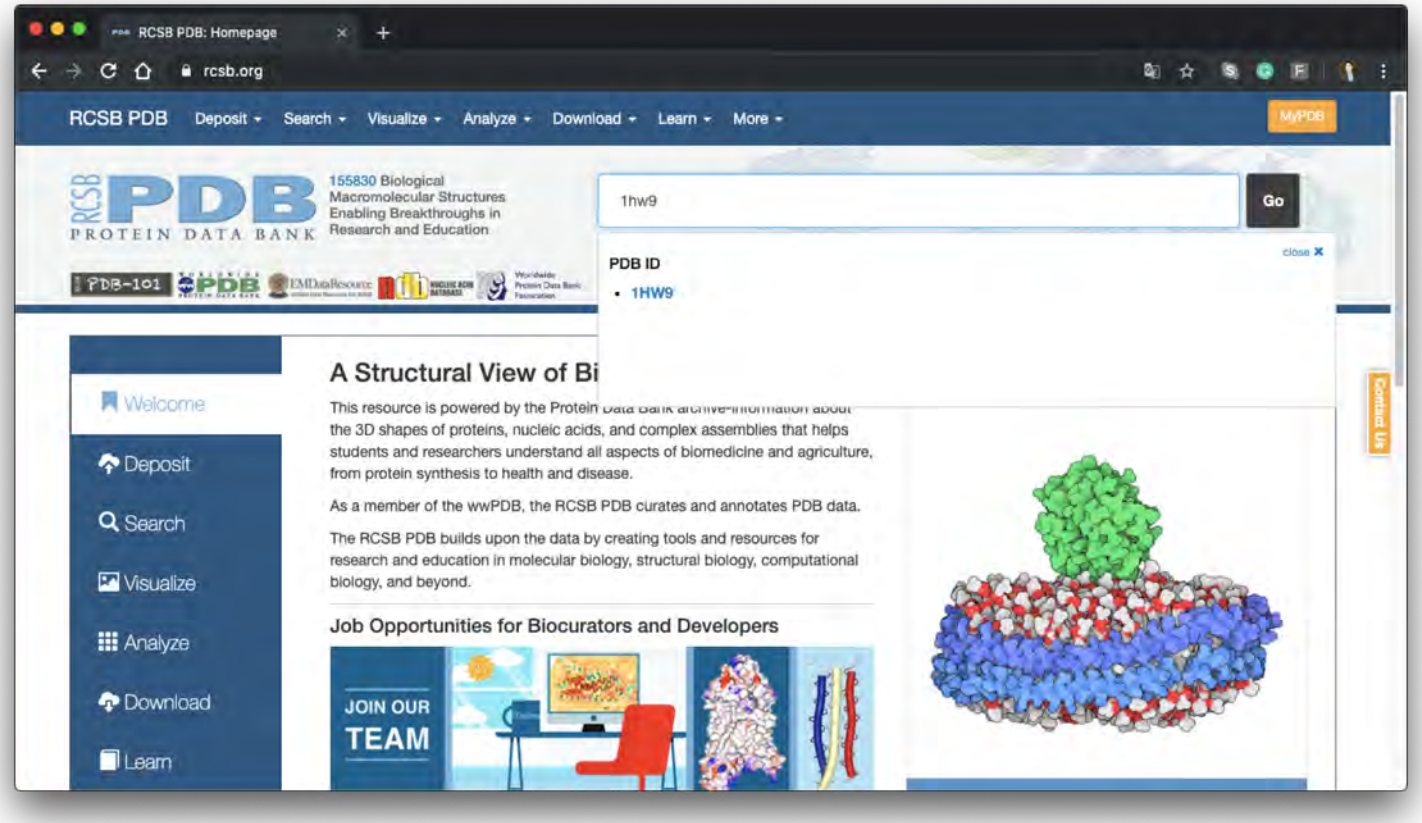
- **Objectives:**
  - To use graphic tools to inspect protein structures.
  - To provide a short summary of a scientific discovery.
- **Guidelines:**
  - Each team downloads the assigned model from Protein Data Bank (https://www.rcsb.org/) and the affiliated research paper from Brightspace.
  - Study the background and the significance of the assigned subject and what the structural model shows.
  - Prepare ~10-minute presentation (PowerPoint or Keynote) with 2-5 minutes of discussion.

Journal club: teams and models (PDB #)

Team 1	6PXW	Team 6	3GD8
Team 2	4MBS	Team 7	5V9U
Team 3	4XP1	Team 8	4F2A
Team 4	4NTJ	Team 9	3TO3
Team 5	3BPS	Team 10	1DB1

Protein in action at atomic resolution

Demo example: statin and HMG-CoA reductase



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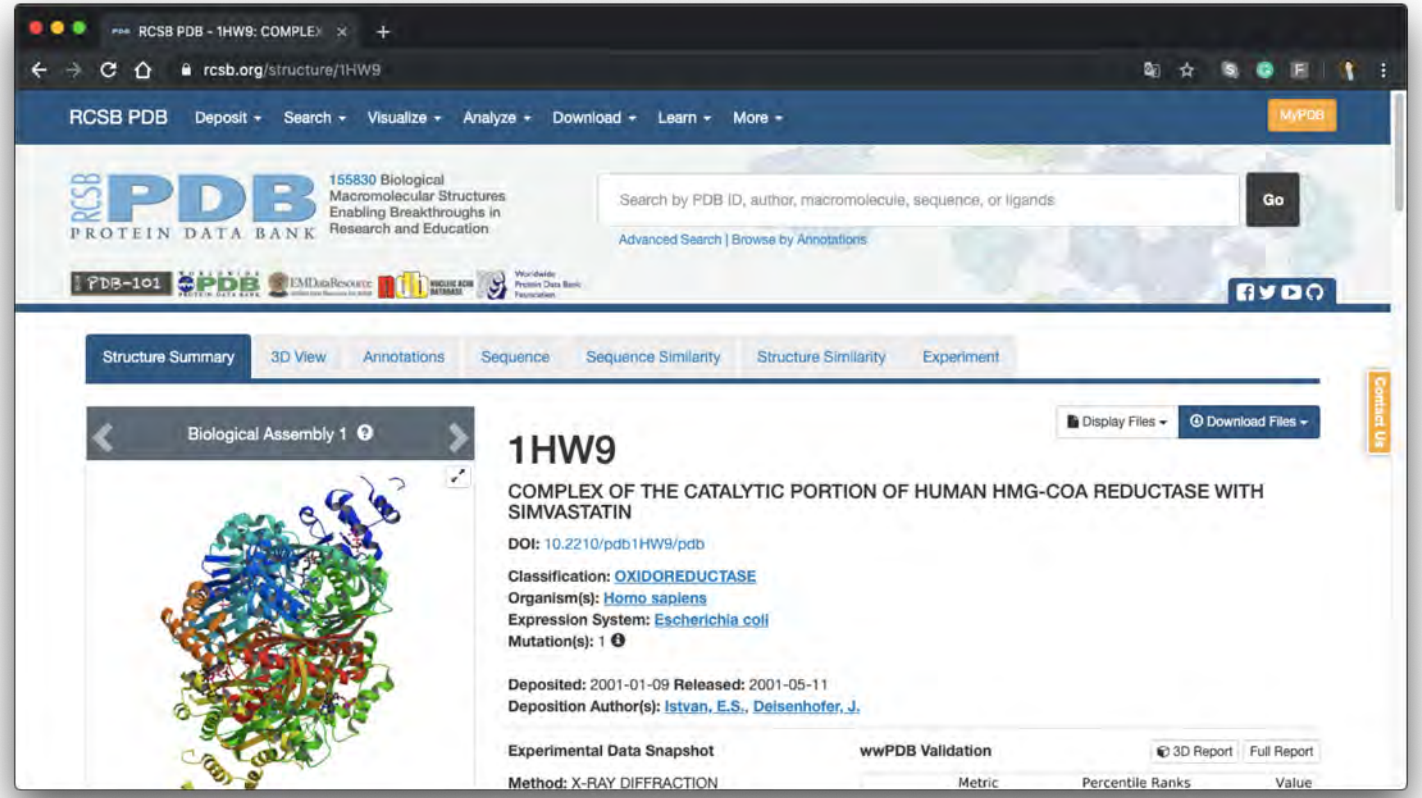

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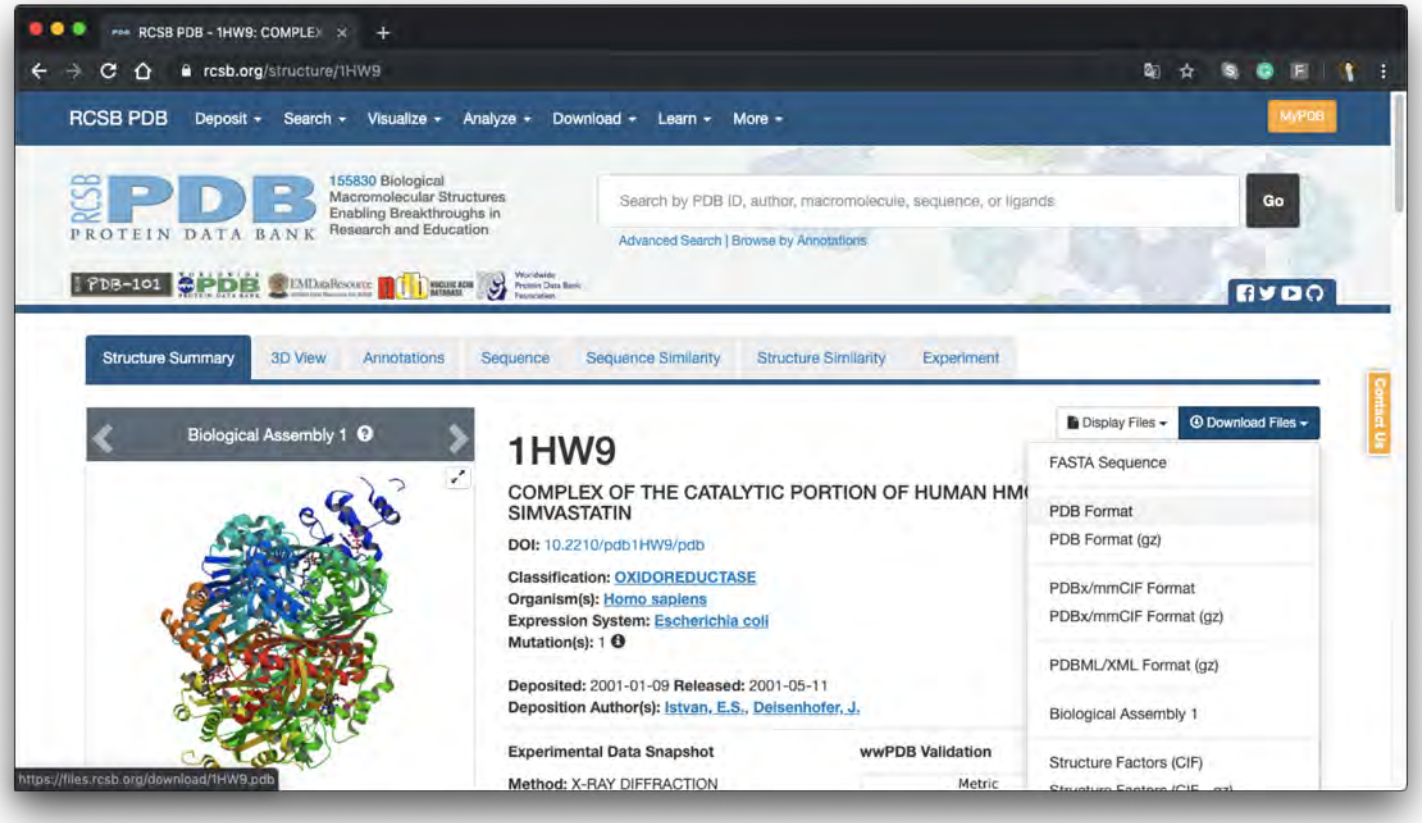

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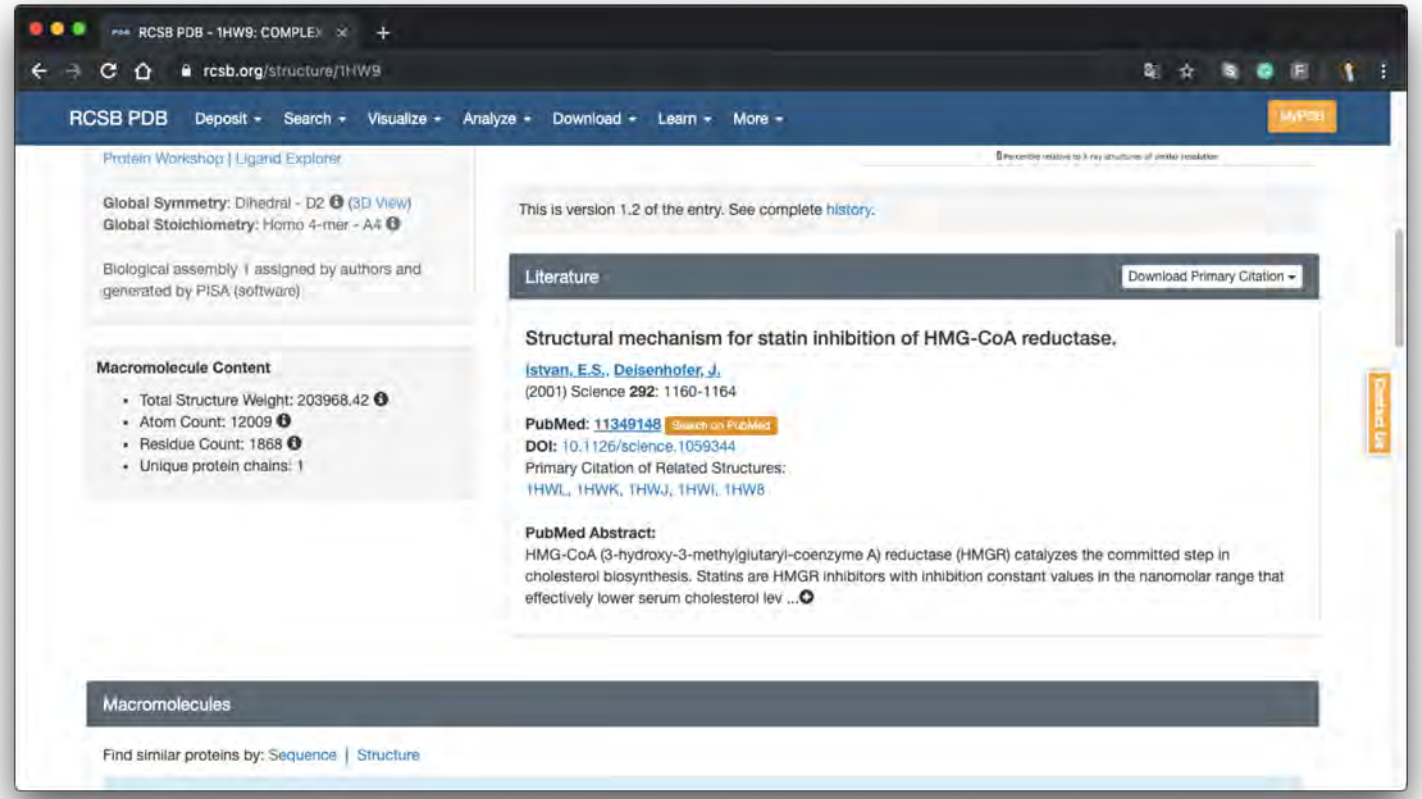

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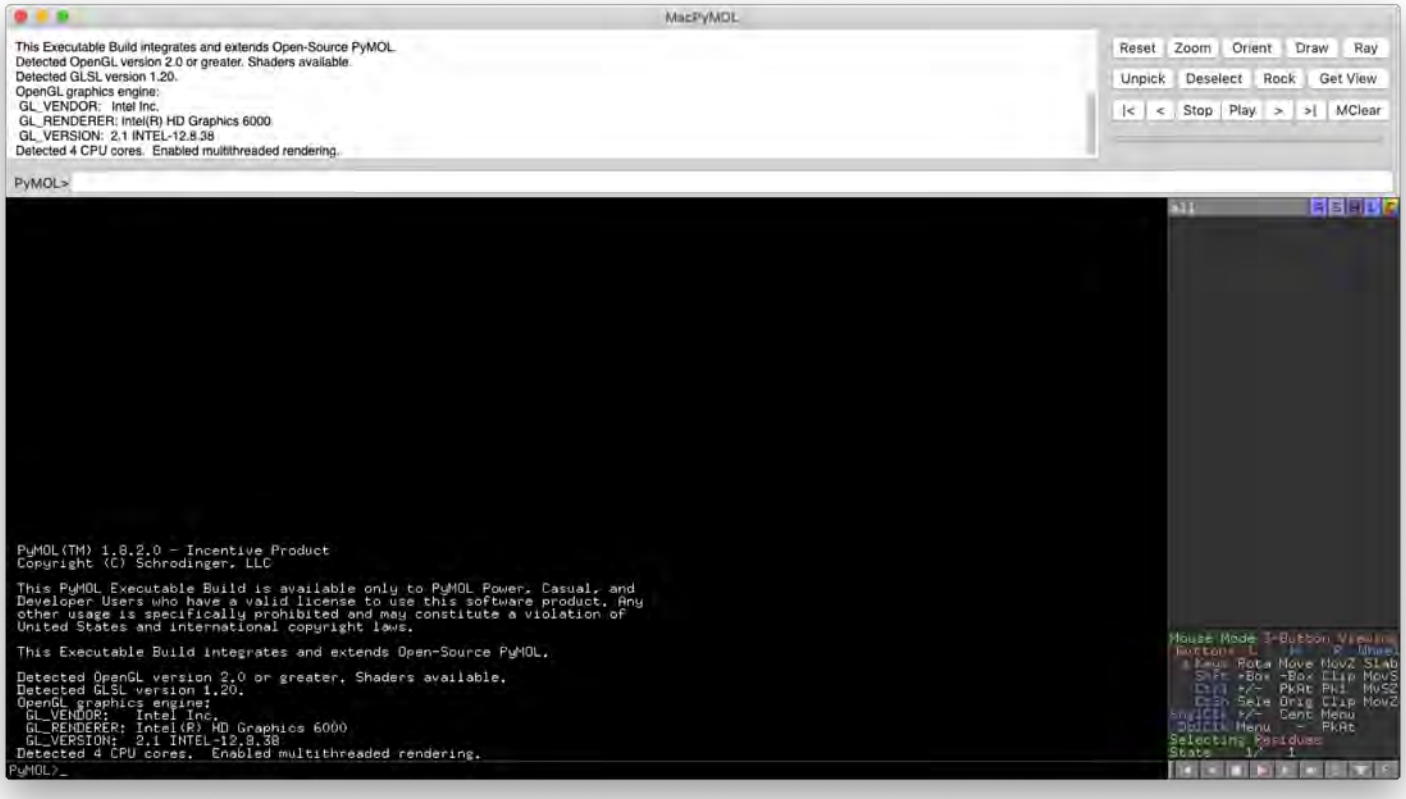

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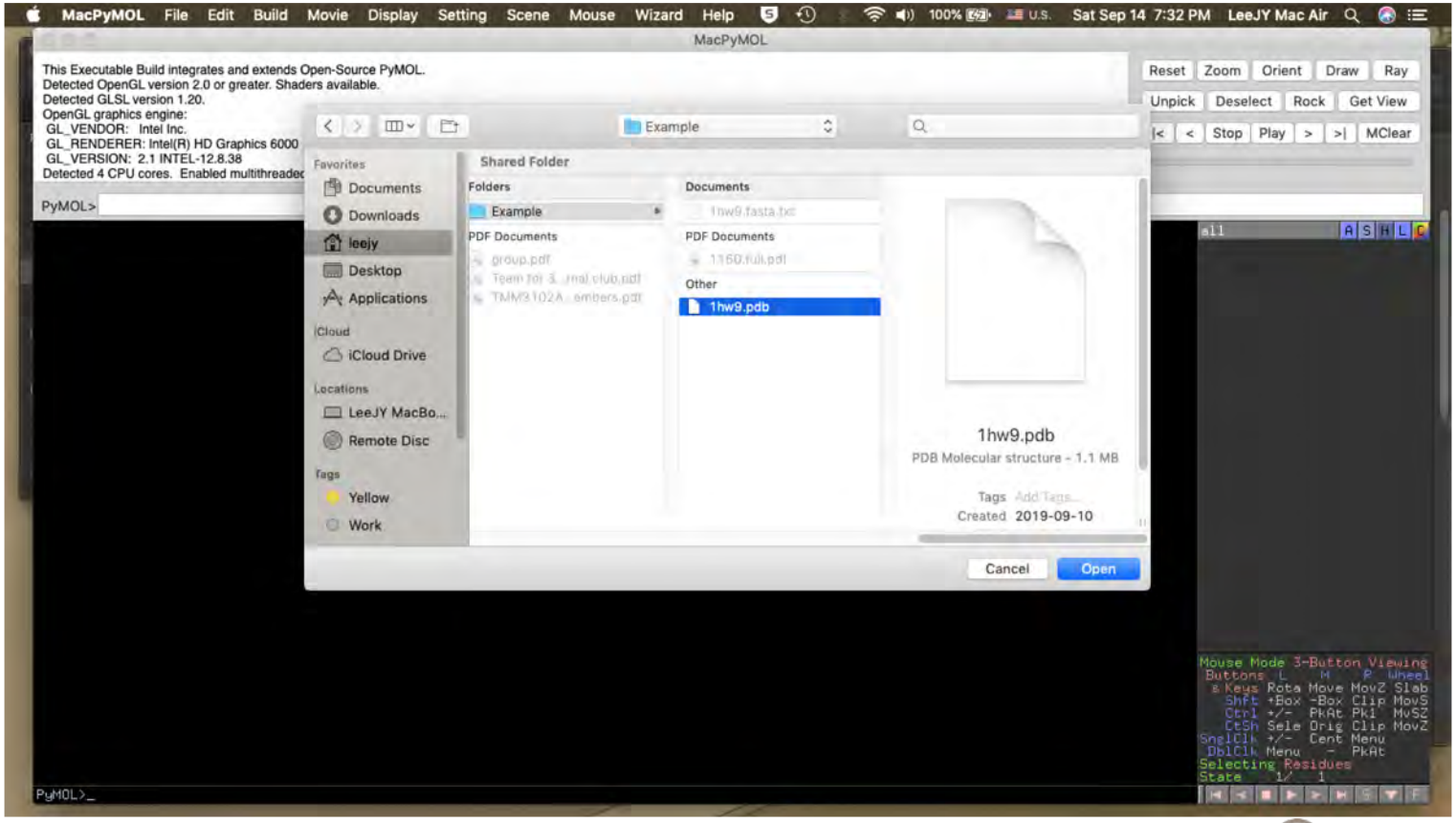

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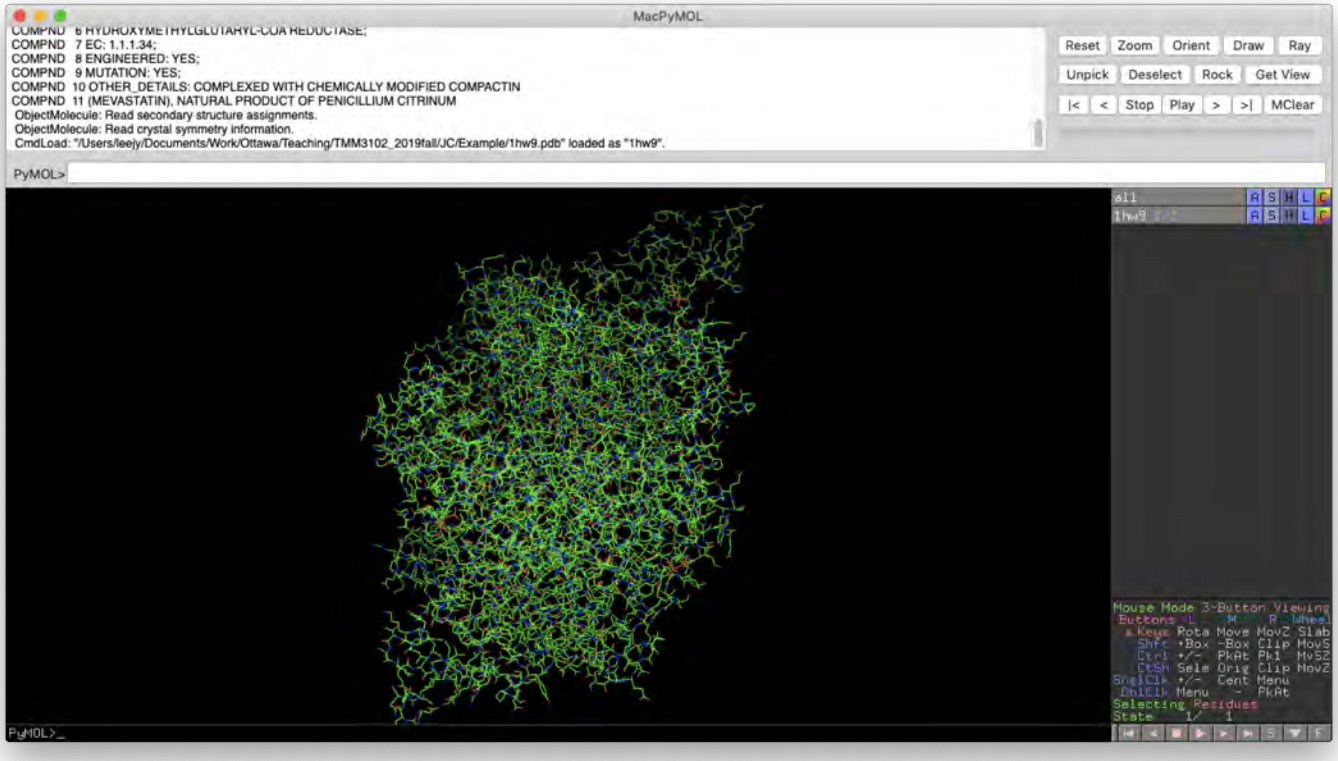

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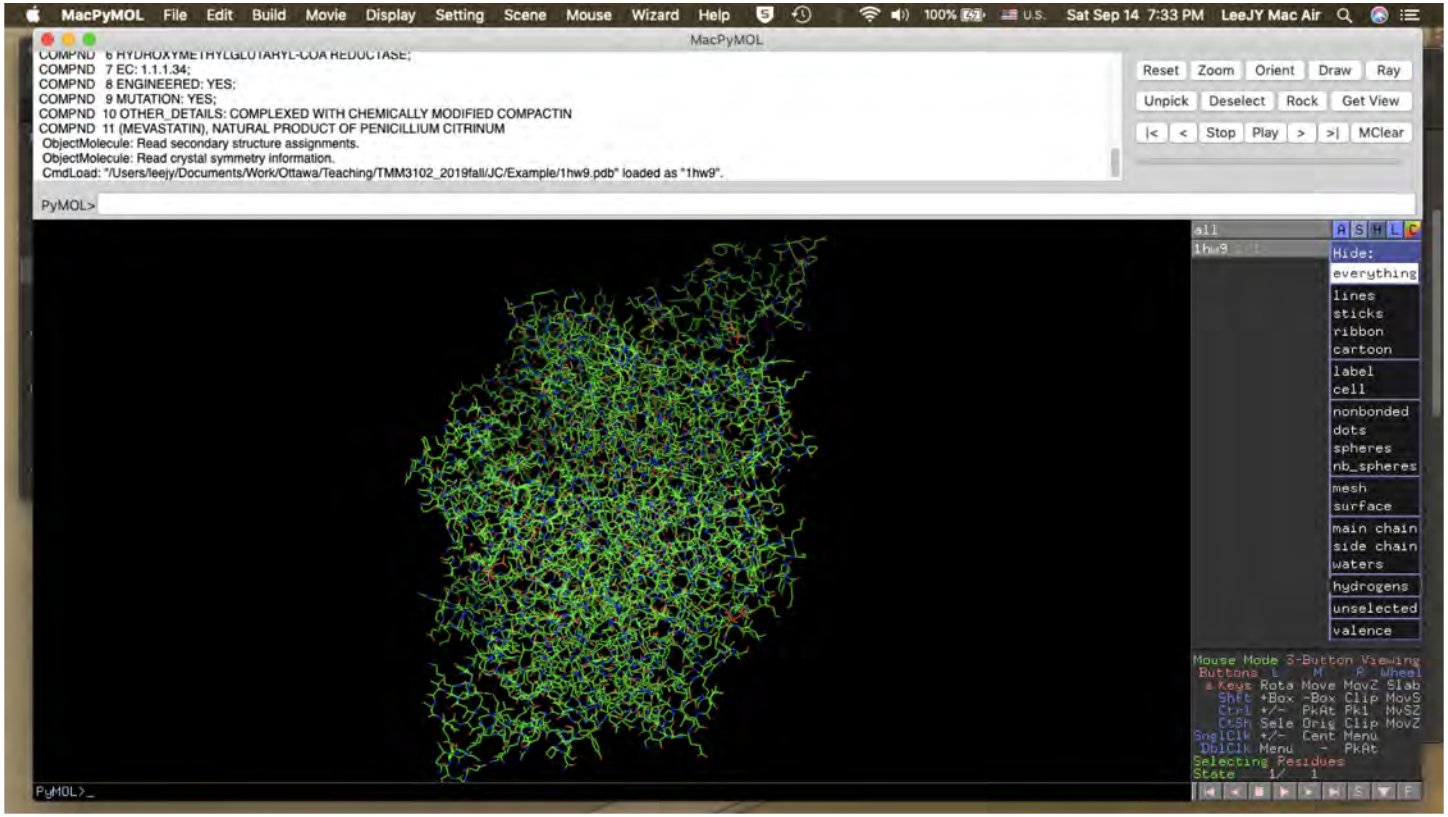

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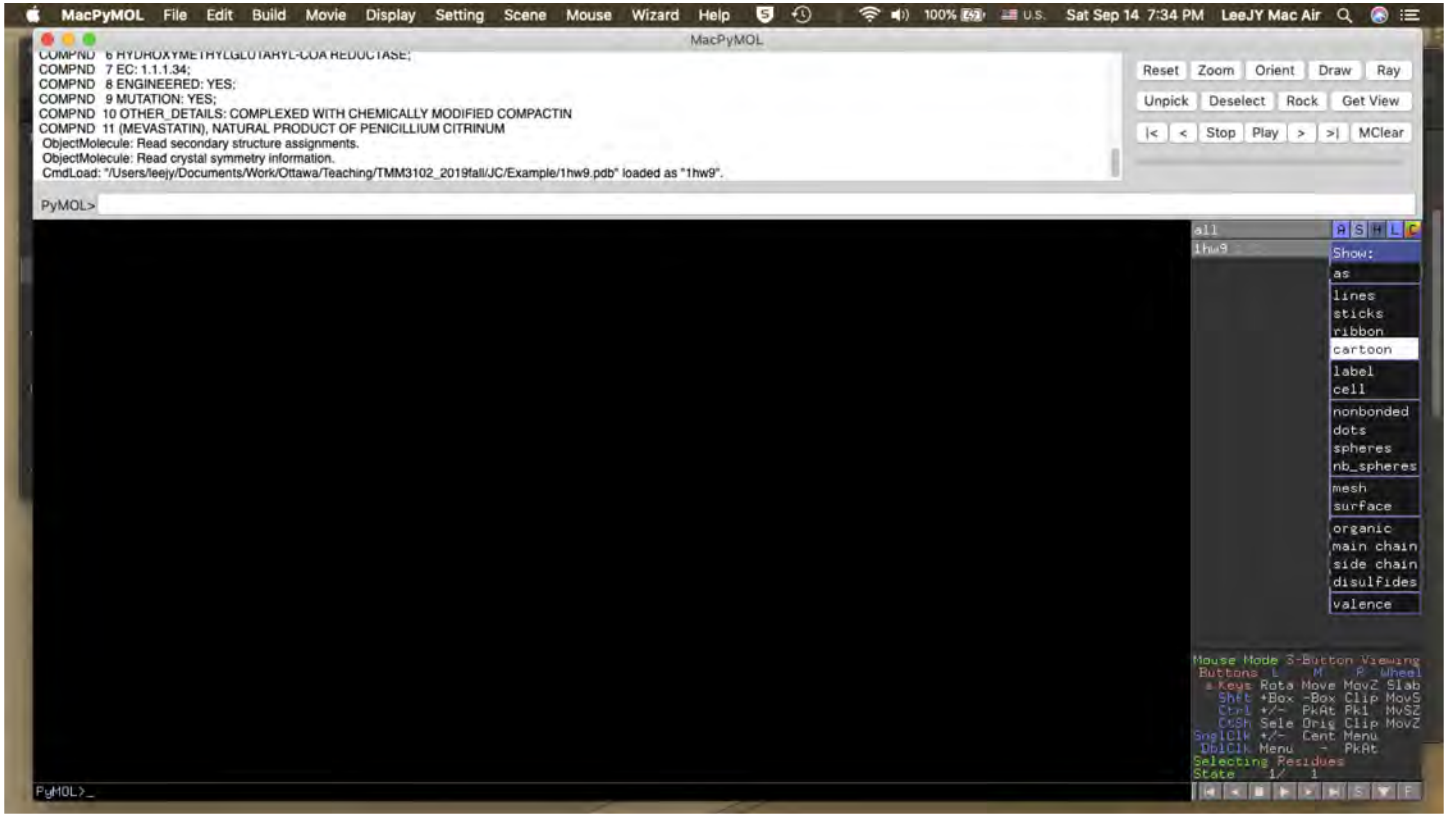

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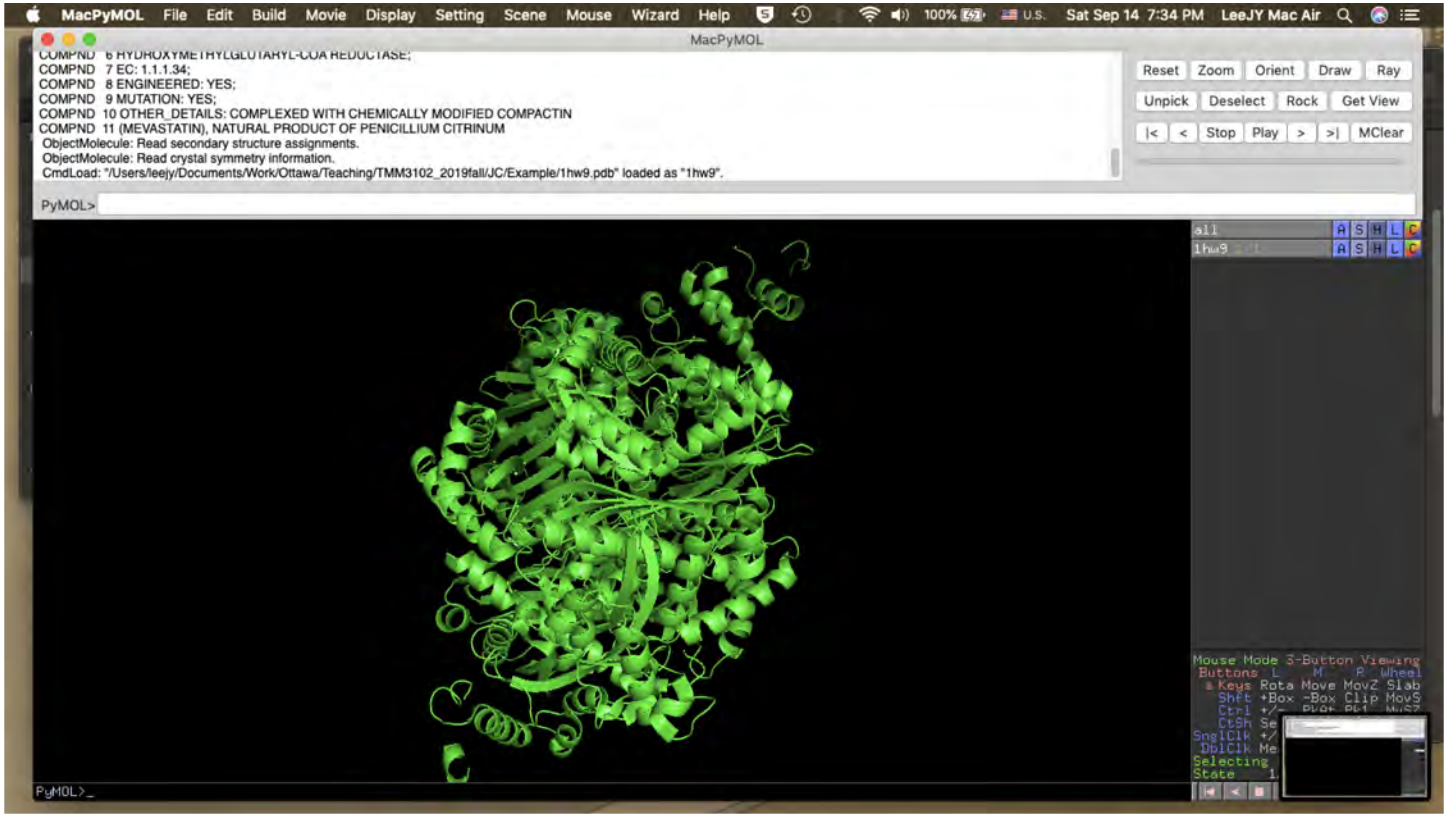

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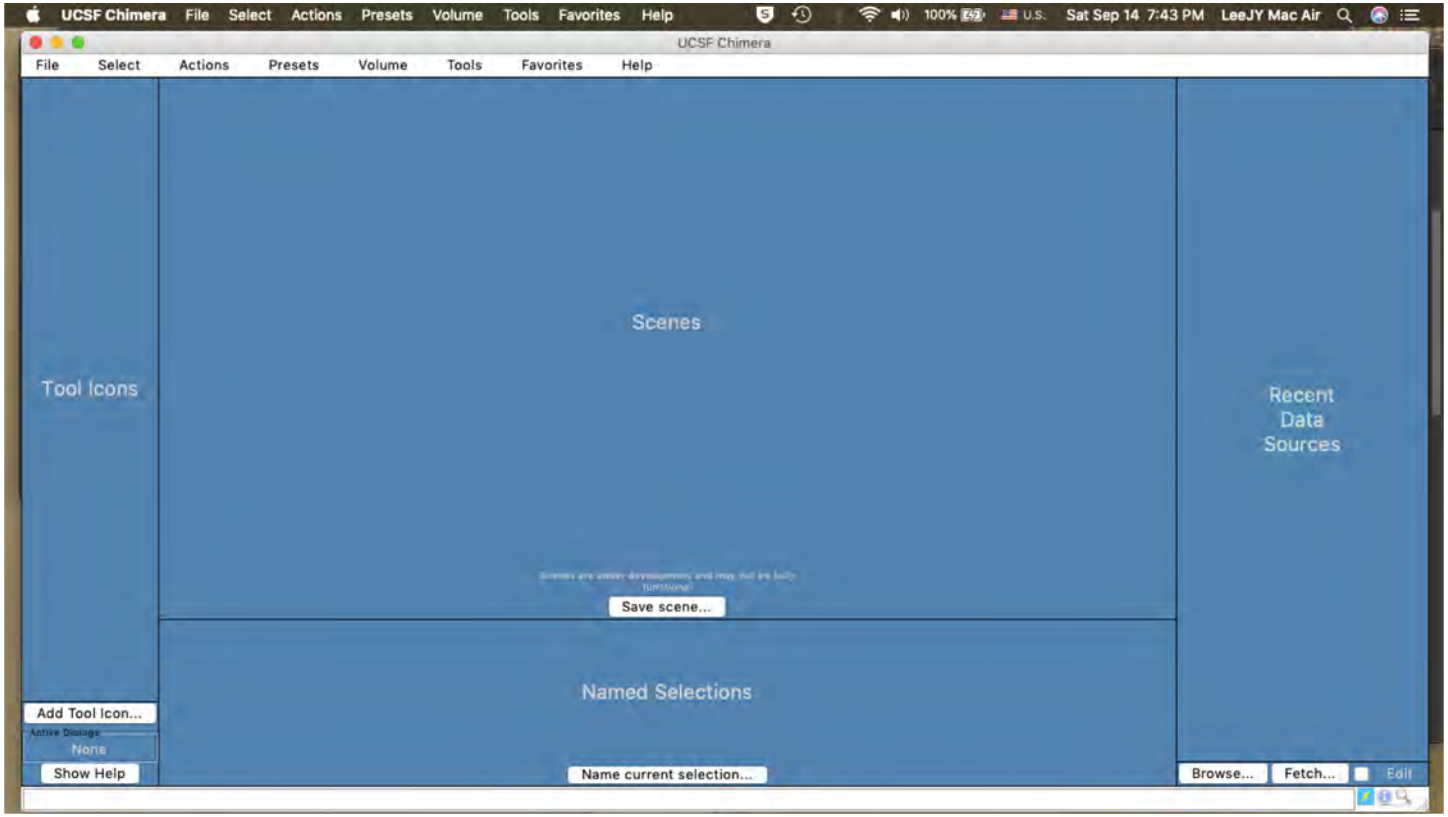

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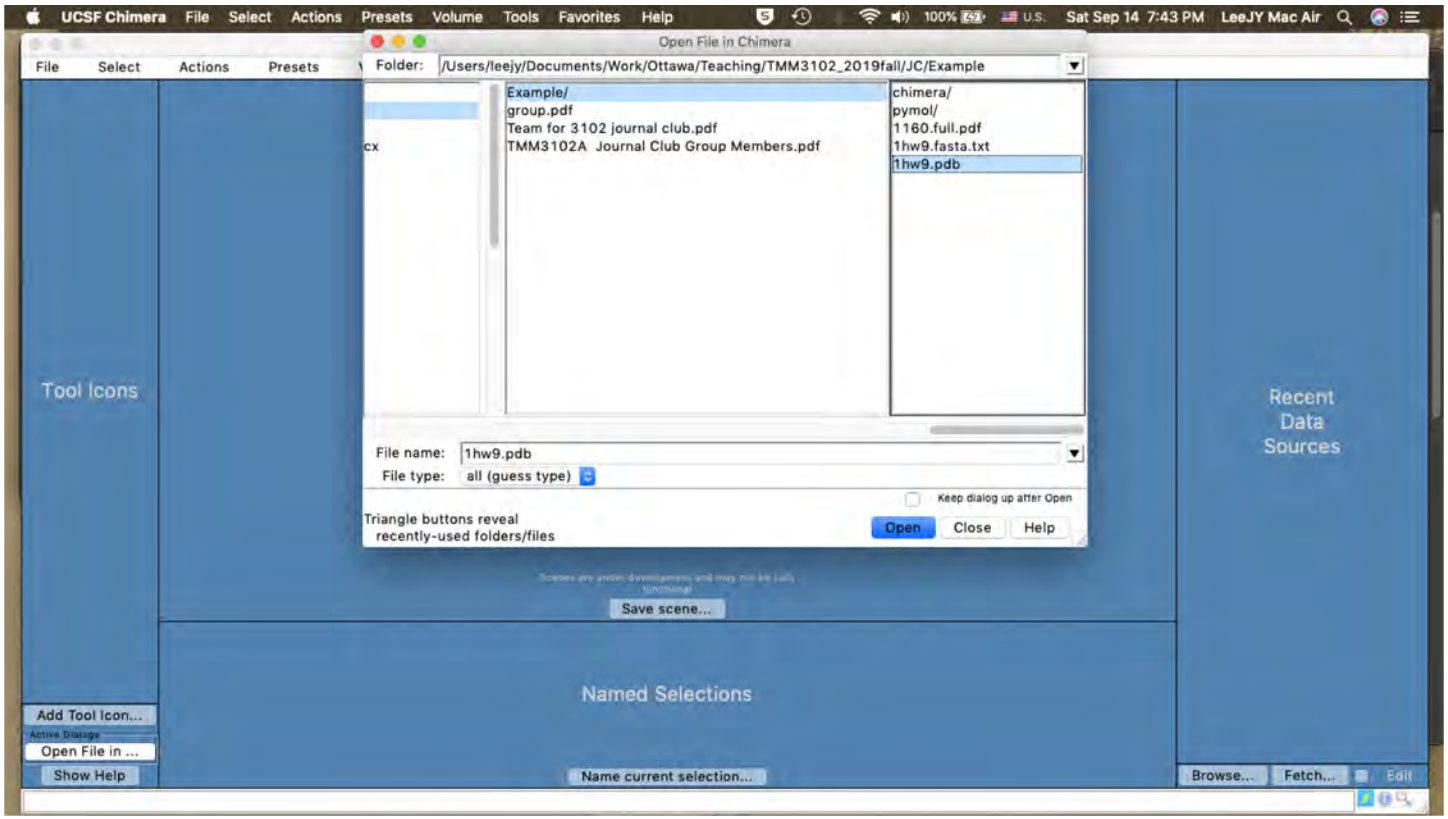

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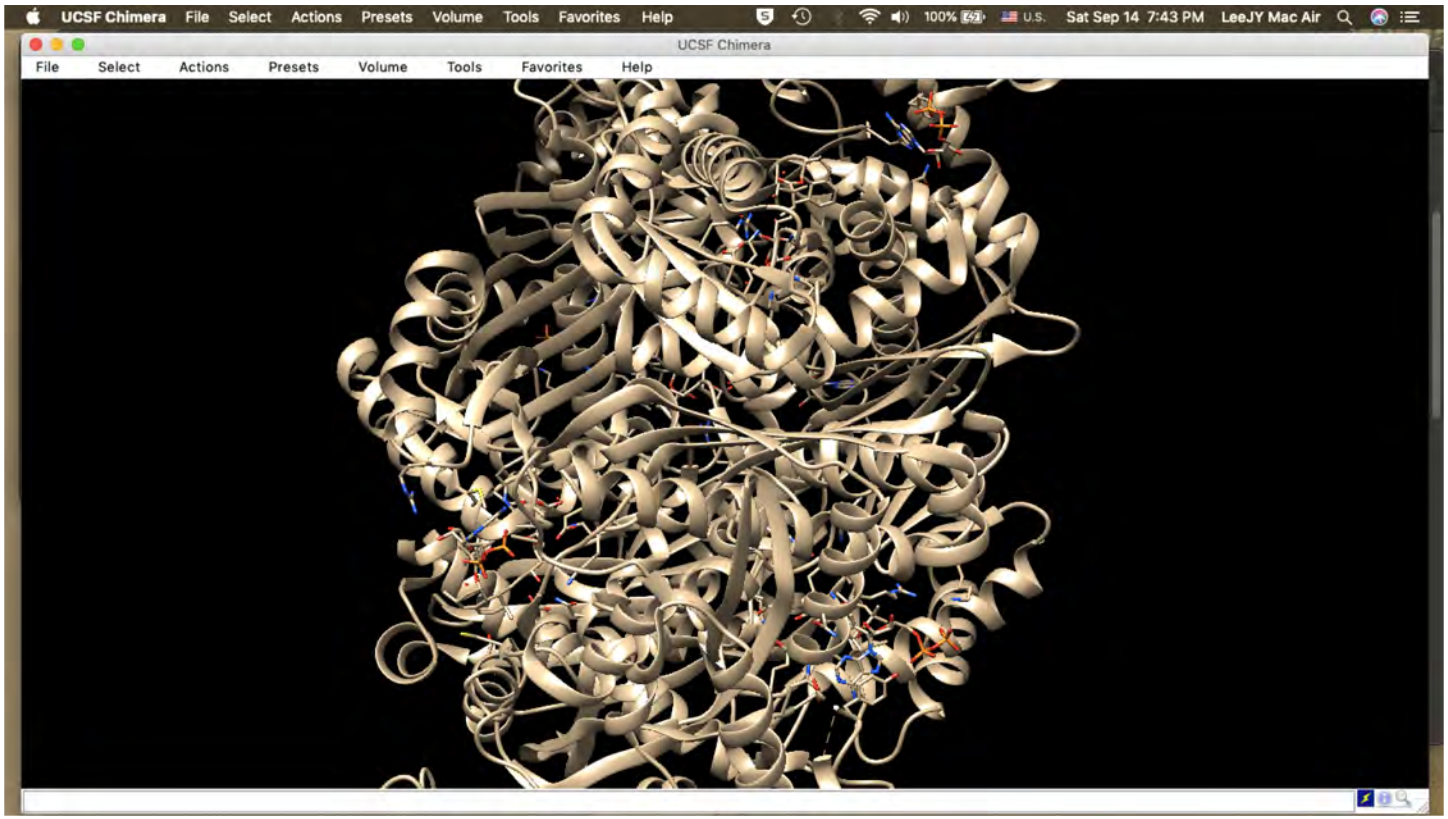

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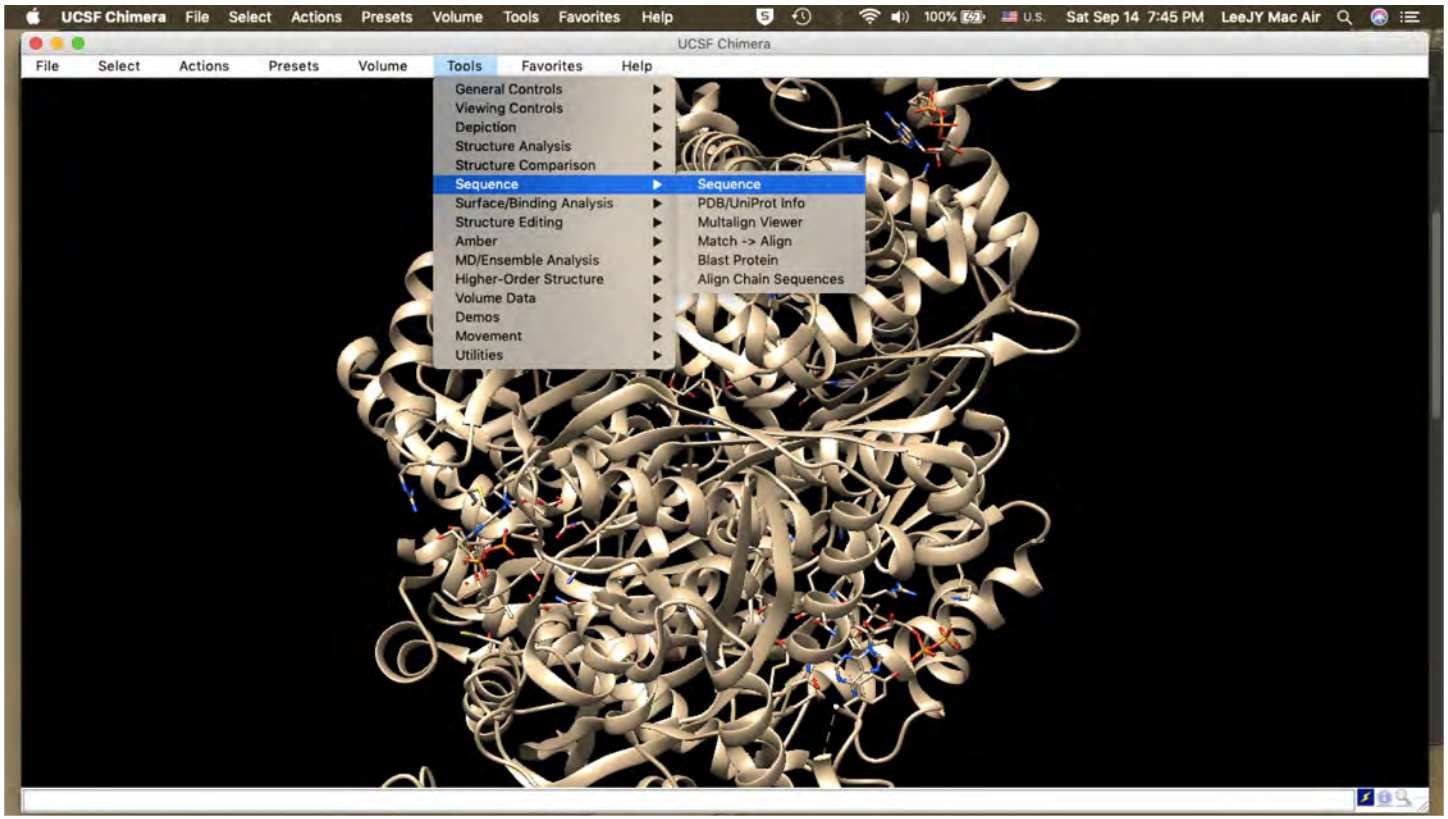

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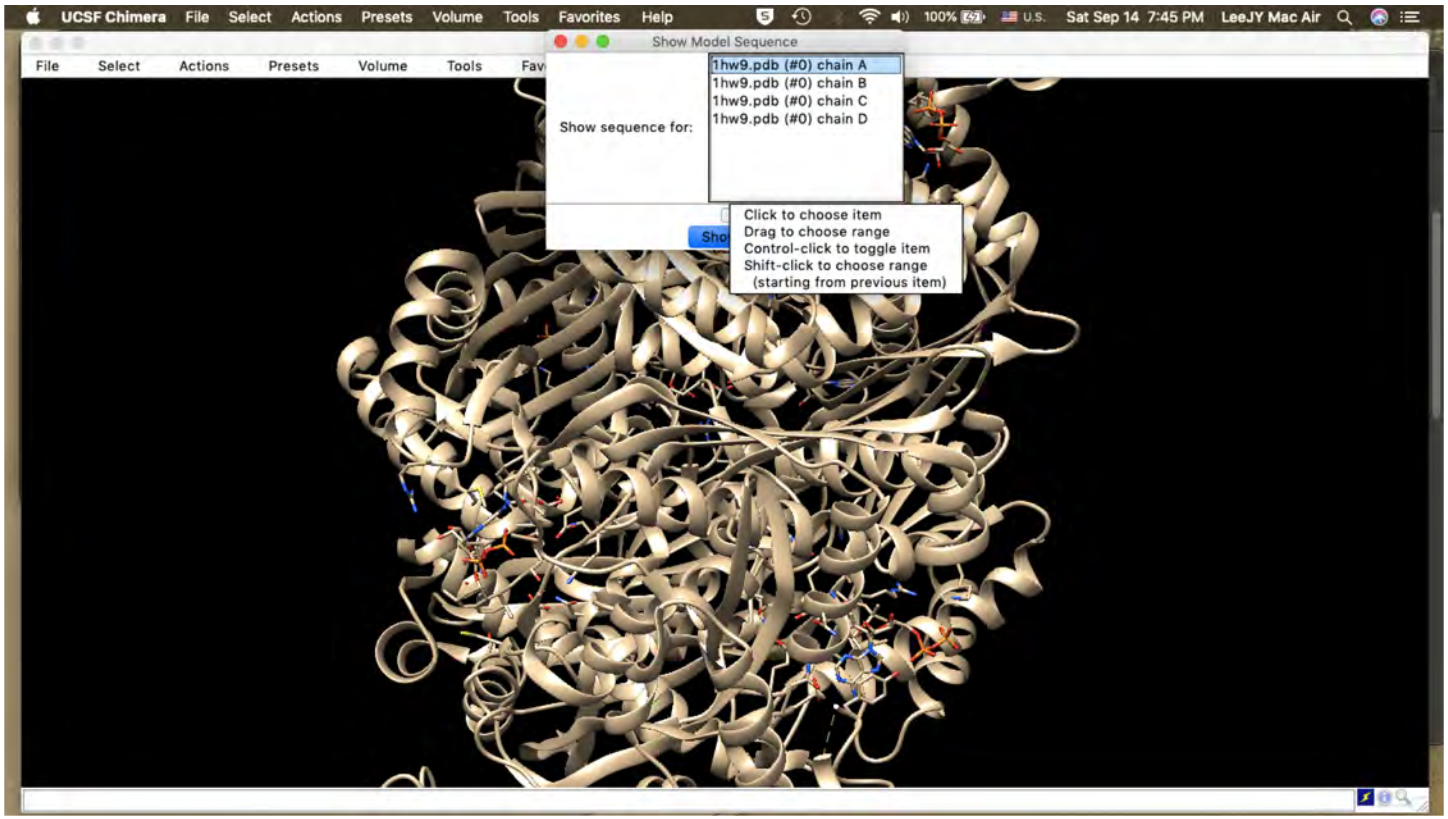

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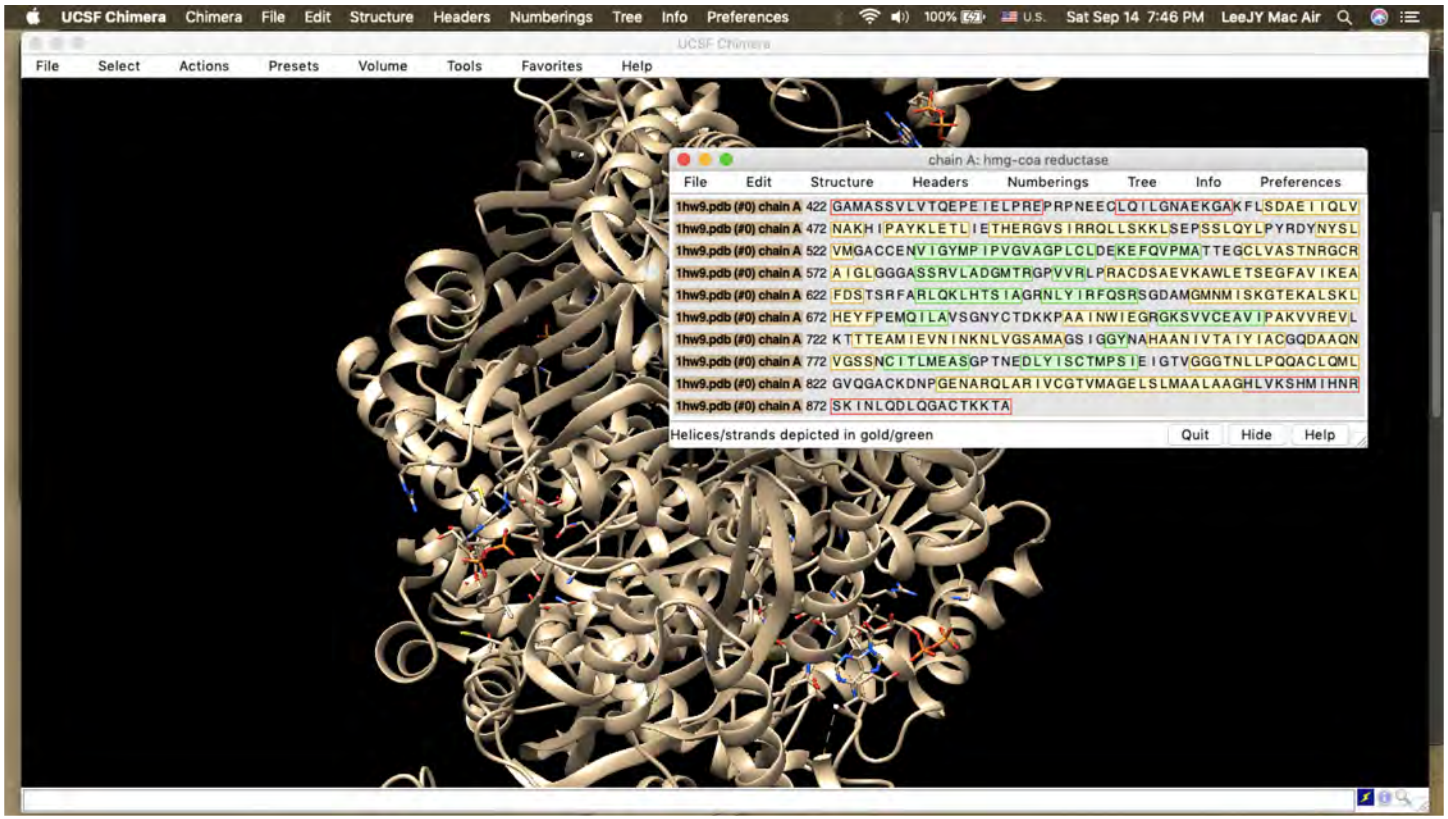

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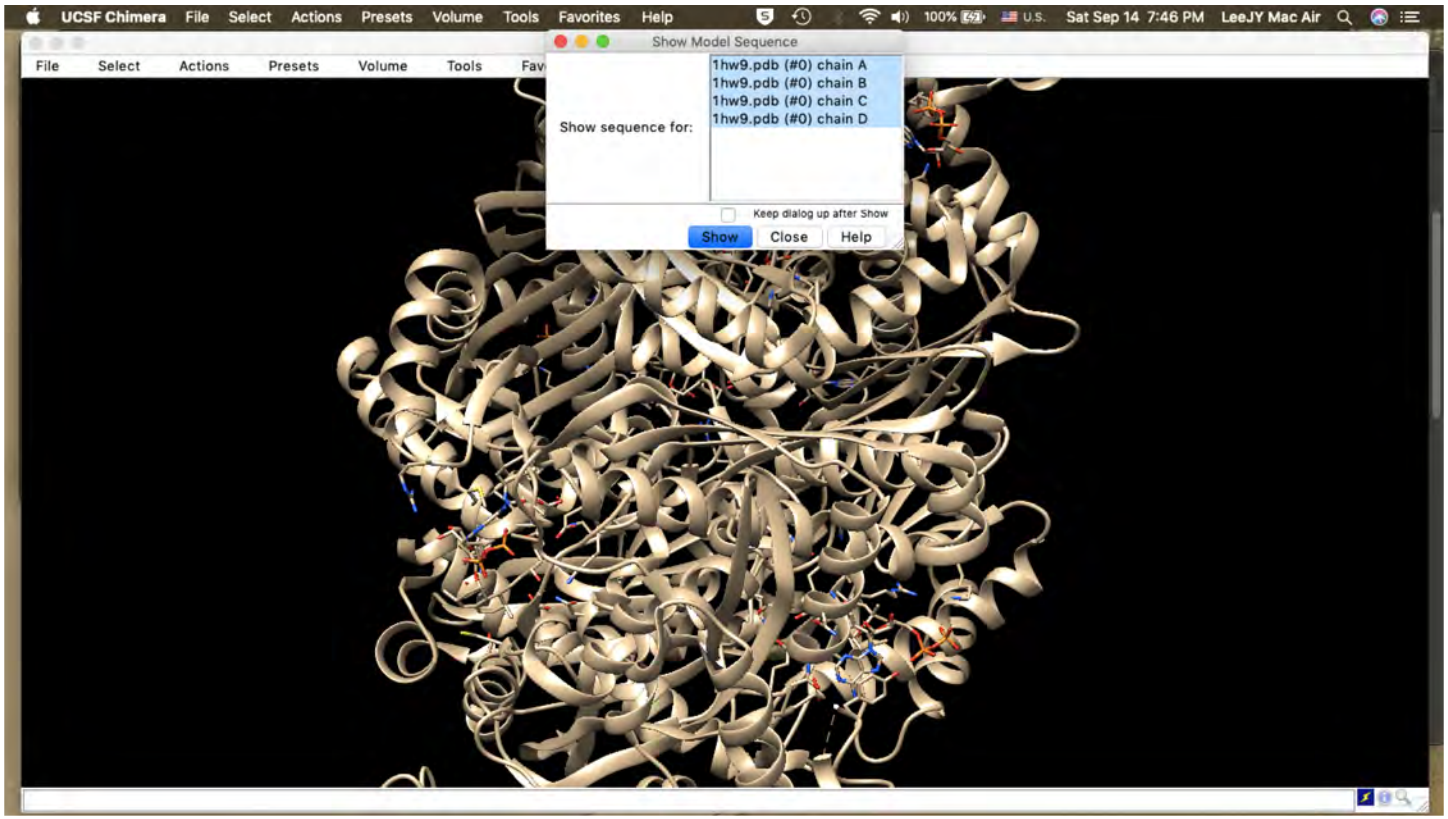

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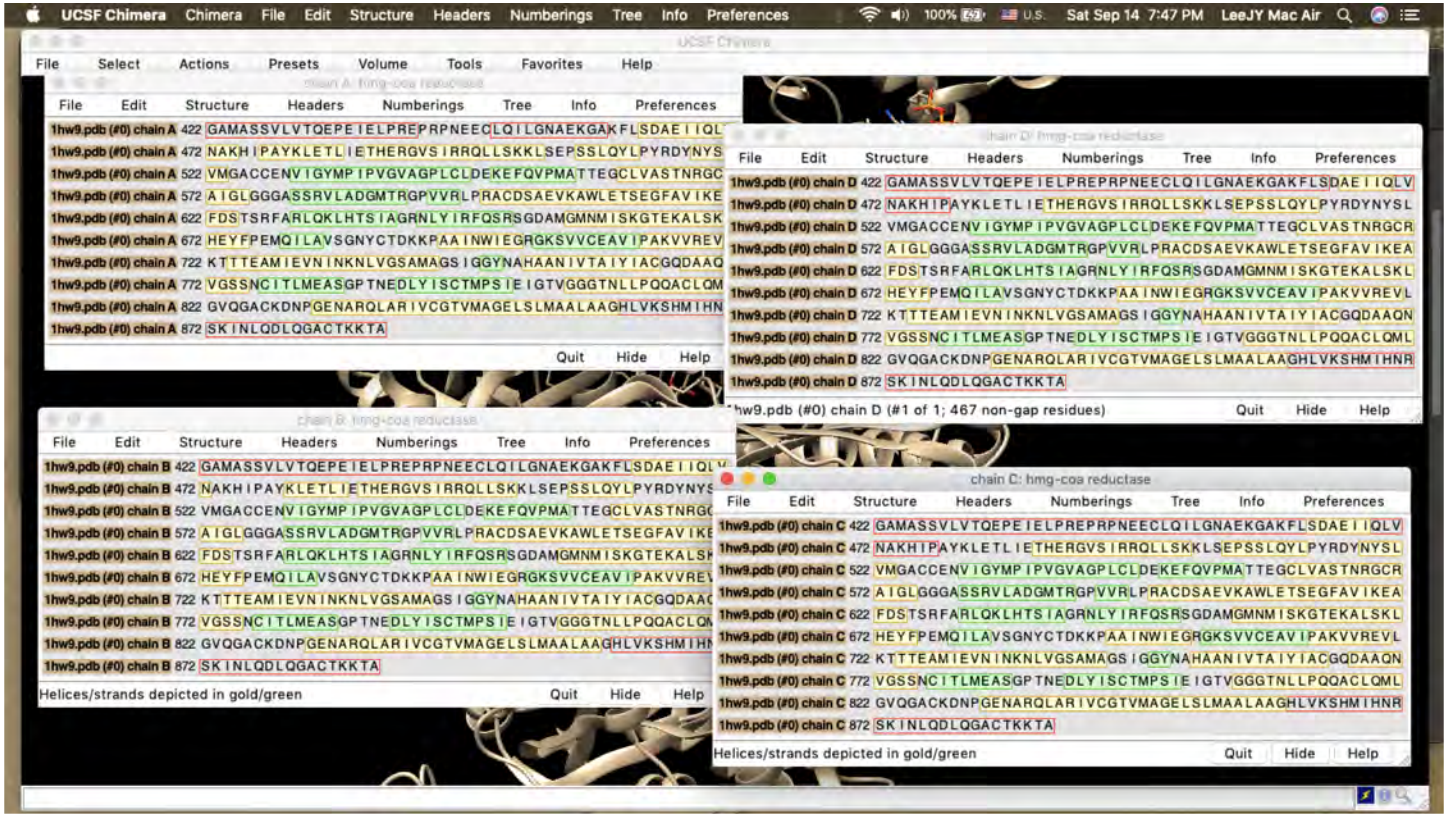

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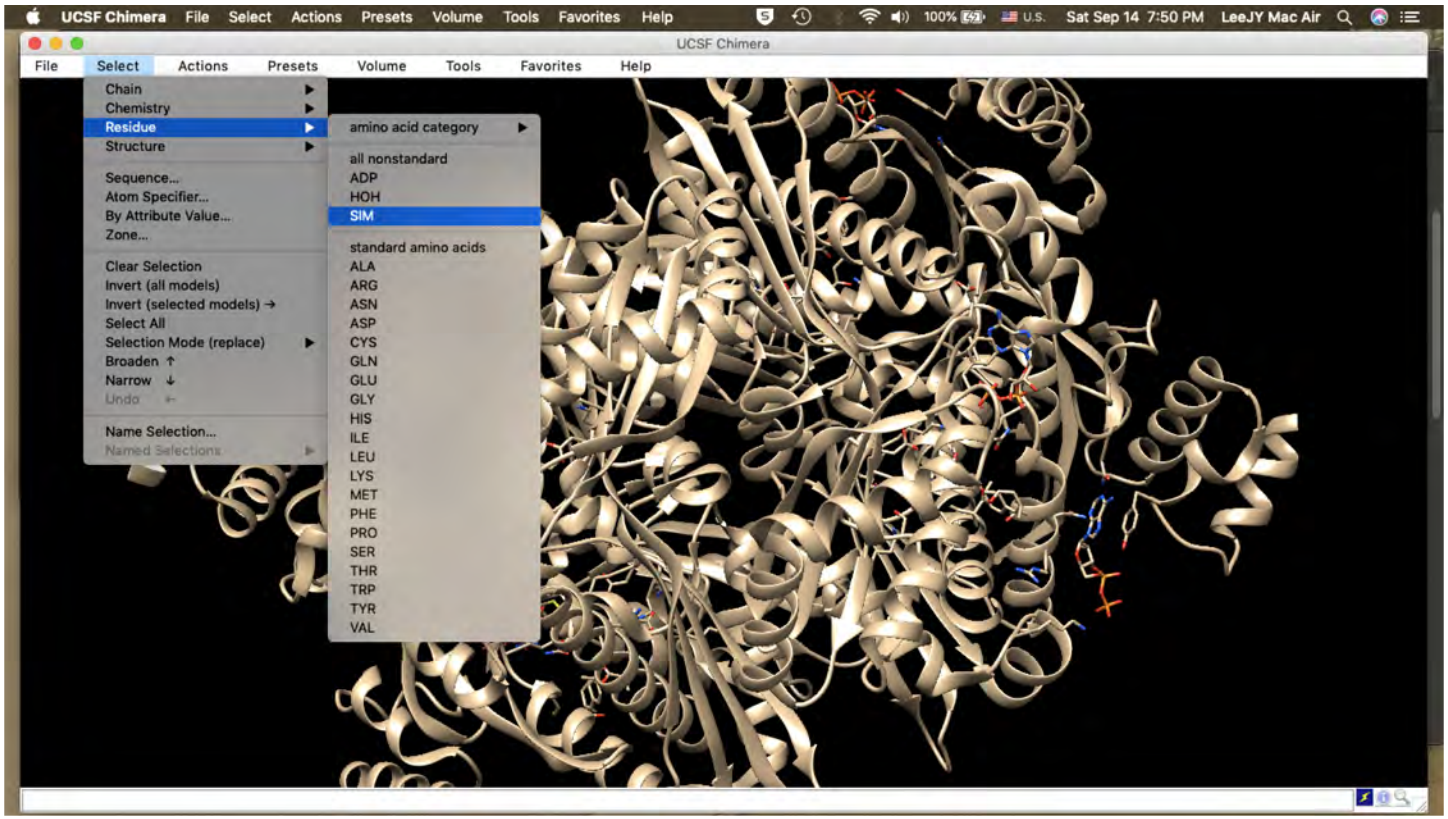

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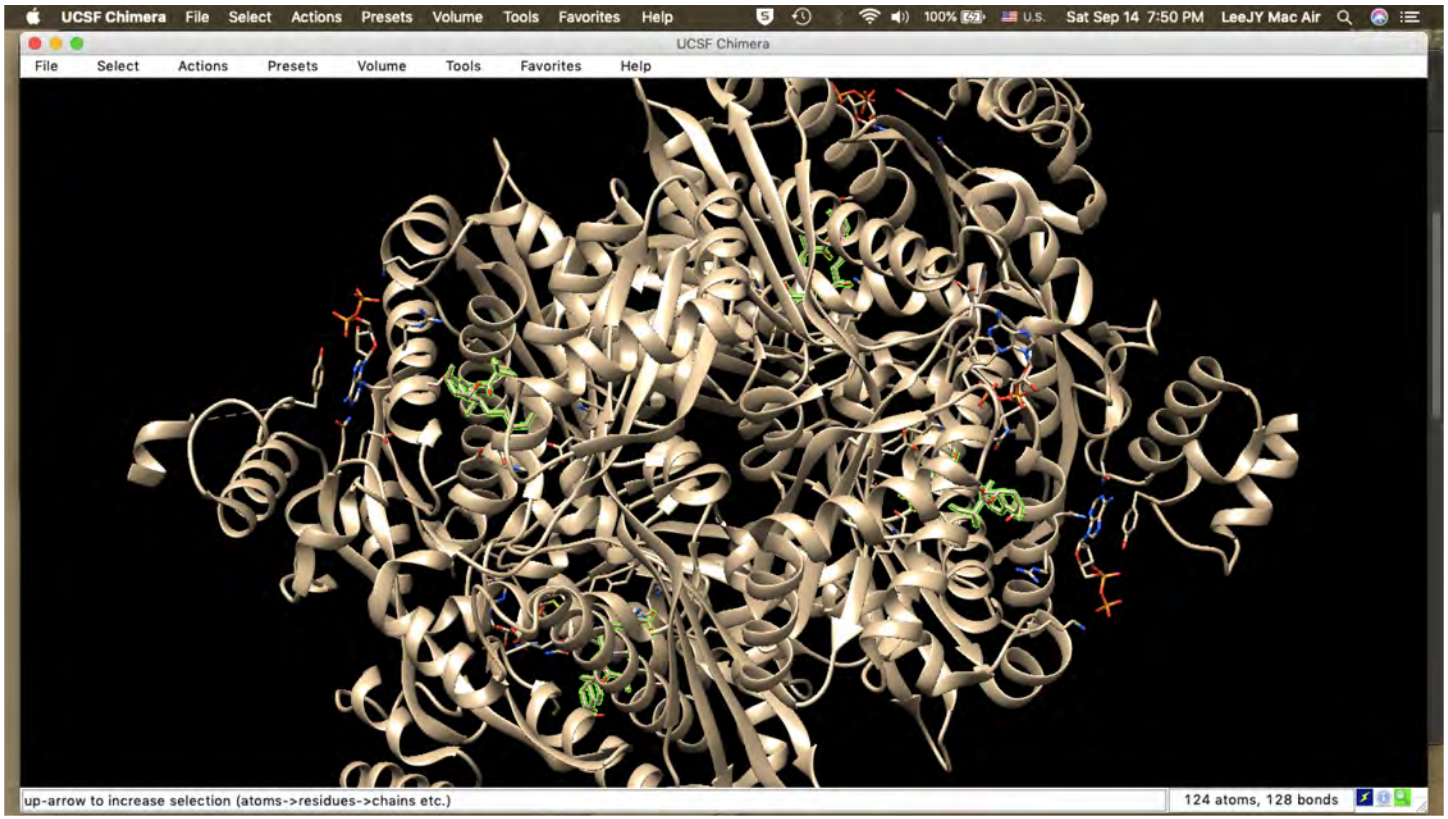

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