**From Poison to Medicine**

**Authors**: Kristen Procko\*1,2, Vishal Patel1, Giani Tah1, Michael The1, Shravya Yarlagadda1, Kathleen Cornely\*\*2

where 1 College of Natural Science, University of Texas at Austin, Austin, TX and 2 Providence College, Providence, RI

**Suggested Resources for Student Preparation**:

* *Neurotransmission*
  + <https://openbooks.lib.msu.edu/neuroscience/chapter/neurotransmitter-synthesis-and-storage/>
* *Alzheimer’s Disease*
  + <https://openstax.org/books/pharmacology/pages/10-3-introduction-to-alzheimers-disease>
* *Enzyme mechanisms and kinetics*
  + <https://bio.libretexts.org/Bookshelves/Biochemistry/Fundamentals_of_Biochemistry_(Jakubowski_and_Flatt)/01%3A_Unit_I-_Structure_and_Catalysis/06%3A_Enzyme_Activity>
  + <https://chem.libretexts.org/Bookshelves/Physical_and_Theoretical_Chemistry_Textbook_Maps/Map%3A_Physical_Chemistry_for_the_Biosciences_(Chang)/10%3A_Enzyme_Kinetics>
* *Molecular visualization*
  + In addition to materials provided by the instructor that assist students in their learning of the pre-requisite material, students will need access to the molecular visualization program PyMOL (or an equivalent program, to carry out the exercises in the case study). Colleges and universities can obtain a site license for this software for a reasonable price; a free version of the program is also available <https://pymol.org/2/>

**Other Resources**

* Learn more about:
  + [organophosphorus nerve agents](https://www.opcw.org/sites/default/files/documents/2018/08/Organophosphorus%20%28OP%29%20Nerve%20Agents%20and%20Countermeasures.pdf) (including sarin)
  + [Alzheimer's disease treatment options](https://www.nia.nih.gov/health/alzheimers-treatment/how-alzheimers-disease-treated)