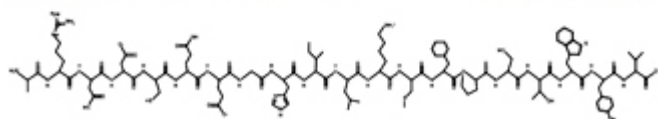


## Peptide Drawings Made Easy

January 03, 2011 12:45 PM Gilbert Estrada  
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The phrase “necessity is the mother of invention” may be figurative to most people. Two members of the Tulane Department of Biochemistry took the saying literally when they wrote a software program to facilitate the study of the chemical structure and properties of peptides.



Thomas Freeman, left, and Hussain Badani collaborated to produce the PepDraw software program that allows researchers and professors to quickly draw images of peptides. A sample drawing is below the photo. (Photo by Gilbert Estrada)

Postdoctoral fellow Thomas Freeman and Hussain Badani, a student in the biomedical sciences graduate program, are the coauthors of PepDraw, a unique software package. It helps professors teach about amino acids and their properties as well as aids researchers in the design of peptides, which are chemical compounds composed of a chain of two or more amino acids. Many hormones and antibiotics are peptides.

The need for a program such as PepDraw was obvious to Freeman.

“Because our lab primarily focuses on studying peptide biophysics and peptide-based drug design, we searched for a program that could easily draw peptide chemical structures,” he says. “We were unable to find any freely available programs that could automatically draw out the 2D chemical structures of peptides, so we decided to create PepDraw.”

The Java-based desktop application allows users to quickly draw a two-dimensional image of the chemical structure of an amino acid sequence and predict some chemical properties, Badani explains. It took them about six months to complete the work.

Making the program available to as many users as possible is important to the authors. Installation of PepDraw is as simple as downloading a compressed file and extracting the content, which can be handled by either Windows or Macintosh operating systems.

[PepDraw](#) can be downloaded from the website for the lab of William Wimley, associate professor of biochemistry. A user must have Java installed on a computer in order for PepDraw to work.

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