3-D printed model structural files   Biochemistry, Department of

10-2018

Amino acid pop-set: Model file name: amino-acid-WGRP-pop_sc3.stl

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This is a teaching model for protein primary structure. It consists of four amino acids (tryptophan, proline, arginine, and glycine) depicted in stick and space-fill representations, five peptide bonds depicted in space-fill, and an N-terminus and a C-terminus depicted in space-fill. It is designed so that students can make various peptides to explore the amount of space of the electron clouds of the amino acids and bonds, and explore the psi and phi angles for the peptides. The printable model is already uploaded to Shapeways.com in the MacroMolecules shop under the name "Amino acid pop-set". This model has been printed successfully using these parameters on Shapeways' laser sintering printer in the following material: Processed Versatile Plastic (Strong & Flexible Plastic). After printing, one will have to cut the wire connecting each piece to produce a useable model set. We recommend printing 2 models in two contrasting colors so that each set can have the amino acids in one color and the peptide bonds and termini in the opposing color.