



Giant Molecular Model Kit

 **3D Printy**

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Summary

Oversized kit for demonstrating molecular structures.

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Tags: [teaching](#) [chemistry](#) [science](#) [physics](#) [molecule](#)
[atom](#)

Oversized kit for demonstrating molecular structures.

Options

Atoms

- 1-Bond
- 2-Bond
- 2-Bond Alternate (120 degree offset ports)
- 3-Bond
- 4-Bond
- Hydrogen - A smaller version of the 1-bond atom.

Bonds

Bonds come in multiple sizes and two style. Default stems allow atoms to rotate freely. Locked stems prevent atoms from rotating.

- Long Stem
- Medium Stem
- Short Stem
- Mini Stem
- Flex Stem Long
- Flex Stem Short

Caps

Caps are used to secure bonds to an atom. Bonds are free to spin after assembly.

- Default - Simplest option
- Split - Tighter grip on bonds, but comes in 2 parts. This is the recommended cap when using flex stems.
- Alt - Use with you own custom bond materials: bungee, rope, etc.

Printing

- All parts can be printed in PLA or PETG, but avoid brittle PLA blends.
- Flex stems are best if printed in PETG or a rigid TPU (95A/98A). If printed in PLA, the flex stems will eventually deform.
- All parts can be printed without supports. **However, some sections of the interior threads have significant overhangs that require well-tuned cooling.**
- Test print a 4-bond atom, a default cap, and a short stem to check for proper fitting. If the fitting is too loose, you can get tighter results by adding a very slight fuzzy skin to the relevant surfaces.

Assembly

1. Slide stem into cap.
2. Screw cap into an atom port.
3. Repeat to assemble a full molecule.

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
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Model files


 **Untitled Folder** 2 files




demo-all-files.3mf




demo-all-files.stl

 **Atoms** 5 files



1-bond-element.stl



2-bond-element.stl



2-bond-element-alternate.stl



3-bond-element.stl

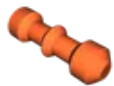


4-bond-element.stl

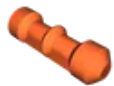


Bonds

10 files



stem-mini.stl



stem-mini-locked.stl



stem-short.stl



stem-short-locked.stl



stem-medium.stl



stem-medium-locked.stl



stom-long.stl



stom-long-locked.stl



stem-flex-short.stl



stem-flex-long.stl



Caps

4 files



cap.stl



cap-split-a.stl



cap-split-b.stl



cap-alt.stl



Hydrogen Parts

6 files



hydrogen.stl



hydrogen-stem.stl



hydrogen-stem-locked.stl



hydrogen-cap.stl



hydrogen-cap-split-a.stl



hydrogen-cap-split-b.stl



Templates

1 file



template.step

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