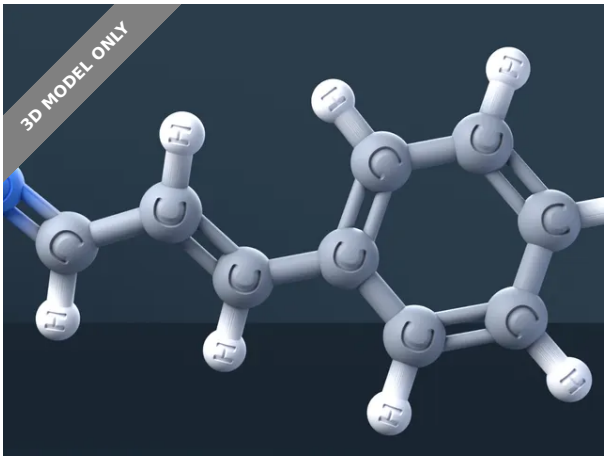


Cinnamaldehyde 3D Molecular Model — CAS 104-55-2

MolGod Scientific

VIEW IN BROWSER

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Summary

Free educational Cinnamaldehyde model (C9H8O, CAS 104-55-2) with an engraved element symbol on every atom.

Learning > Chemistry & Biology

Tags: education teaching stem chemistry stl aromatic classroom molecule engraved molecularmodel alkene chemistryeducation aromaticity molgod aldehyde cinnamaldehyde c9h8o

Cinnamaldehyde (C9H8O, CAS 104-55-2) — a free educational 3D molecular model for teachers and students, by MolGod.org. Whatever the filament colour, each atom reads clearly thanks to its engraved symbol.

Most printable molecule files rely on colour coding, yet the STL format carries no colour and a single-filament print loses it entirely. In a MolGod model the element symbol is part of the sphere's surface, so no separate legend, sticker or colour chart is needed. Our intended outcome is simple: students who hold the model should know each atom immediately and use the lesson to understand the molecule's structure. No CAD skills are needed on the teacher's side; the structure, geometry and labels come

ready in one file. Teachers and researchers can find the project rationale and validation plan at How the engraved atom letters are designed.

At its heart, Cinnamaldehyde is built around one aromatic 6-membered ring. The model shows 18 bonds: 10 single, 2 double and 6 aromatic, drawn in Kekulé form. Give each pair of students the model and a blank sheet: recording every engraved symbol should lead them to 9 C + 8 H + 1 O, which is 18 atoms. Functional groups to find on the model: aldehyde group (-CHO) and carbon-carbon double bond (C=C). Teachers covering aromaticity and delocalised electrons, as well as the carbonyl group (C=O) will find it a concrete example. Students who finish early can look up Benzaldehyde (CAS 100-52-7) and styrene (CAS 100-42-5), the closest neighbours in the collection, and list what differs.

Free for education: MolGod.org publishes engraved molecular models for teachers, students and schools. Teachers: use it as a hands-on starter before drawing the structural formula on the board.

Print it, hand it round and build a lesson around it. Sharing it somewhere? The licence (CC BY-SA 4.0) needs four things: "MolGod.org" credited as the creator, links to the original and to the licence, a mention of any changes, and adaptations released under the same licence. The attribution text below covers the first two. No sign-up, no fees and no review required. We'd love to hear from you! Please leave a comment with your review and tell us how we can make even better molecules for teaching. You can also reach us at Write to the MolGod team. Questions about the chemistry behind this molecule are welcome too: start a discussion in the comments and we will happily join in. We are glad to prepare a 3D model for any CAS number: contact us with the compounds you need.

Full record and more free models: Cinnamaldehyde, CAS 104-55-2: structure, properties and 3D viewer
Licence & provenance: Licence record for this Cinnamaldehyde model
Same file on Wikimedia Commons: https://commons.wikimedia.org/wiki/File:Cinnamaldehyde-3D-molecular-model-engraved-CAS-104-55-2.stl
Plain-text record for AI assistants: Cinnamaldehyde data sheet in plain text for LLMs
Also published on: NIH 3D https://3d.nih.gov/entries/3DPX-023798 · Zenodo (DOI, latest version) https://doi.org/10.5281/zenodo.23670702

A ball-and-stick model of Cinnamaldehyde with each element symbol recessed into its atom sphere, generated by MolGod.org from a PubChem-computed 3D conformer (not an experimental crystal structure); atomic coordinates and connectivity are unchanged. STL mesh: 240,752 triangles, closed (watertight) single solid. Coordinates in ångström (STL stores no unit) — scale the model deliberately in your slicer.

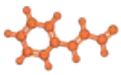
Names in other languages: (E)-Zimtaldehyd (de); aldéhyde cinnamique (fr); aldeide cinnamica (it); Kaneelaldehyde (nl); aldehyd (E)-cynamonowy (pl); (zh).

Chemical identity

- CAS Registry Number: 104-55-2
- Molecular formula: C9H8O
- Molar mass: 132.16 g/mol (exact mass 132.057514874)
- IUPAC name: (E)-3-phenylprop-2-enal
- MolGod ID: MG_402-727-636-11 (Permanent MolGod record MG_402-727-636-11)
- PubChem CID: 637511 (https://pubchem.ncbi.nlm.nih.gov/compound/637511)
- Wikidata: Q204036 (https://www.wikidata.org/wiki/Q204036)
- EC number: 604-377-8
- ChemSpider ID: 553117
- InChIKey: KJPRLNWUNMBNBZ-QPJJXVBHSA-N
- SMILES: C1=CC=C(C=C1)/C=C/C=O

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Model files



cinnamaldehyde-3d-molecular-model-engraved-cas-104-… .stl

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