



Vesuvius victim's brain turned to organic glass

Slide by Neil Goalby. Available from rsc.li/4dRI0Ug

Scientists have discovered a brain of a victim of the 79 AD Mount Vesuvius eruption that was turned into glass. The remains were found in Herculaneum, an ancient city in southern Italy. Normally, when a liquid cools, its molecules arrange into an ordered crystalline structure. But if cooling occurs very rapidly, molecular motion is stopped before crystallisation can take place and a glassy solid forms instead. Experiments suggest that the brain was heated to over 510°C by a hot ash cloud from the volcano, before being rapidly cooled as the ash quickly dispersed.



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The victim, believed to be a roughly 20 year-old male, was found in Herculaneum's College of Augustalium

Questions

1. Describe the normal arrangement of particles in a liquid and in a solid.
2. Suggest how particles are arranged in a glass.
3. Explain how the brain turned to glass.