



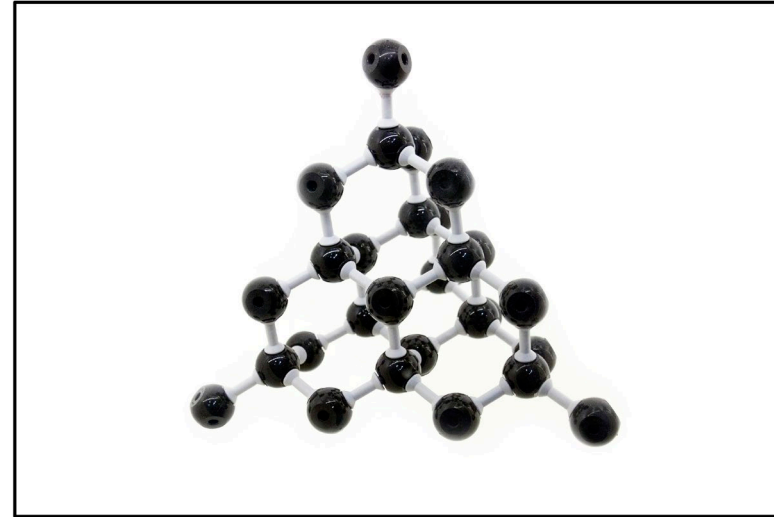
Scientists form liquid carbon for the first time

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

Scientists have successfully formed liquid carbon in the lab for the first time. Liquid carbon only exists at very high temperatures and pressures that are difficult to reach in the lab.

The researchers used a powerful laser to fire strong shock waves into solid carbon. This achieved high enough pressures and temperatures to form liquid carbon for a few nanoseconds. They then took snapshots of the structure using x-rays.

The researchers found that carbon atoms stay near their four neighbouring atoms in liquid form and keep aspects of the solid structure of diamond.



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Researchers found the structure of liquid carbon is surprisingly similar to solid diamond's structure

Questions

1. Name the type of bond between atoms in solid carbon.
2. Describe the structure of solid diamond.
3. Explain why liquid carbon is difficult to form.