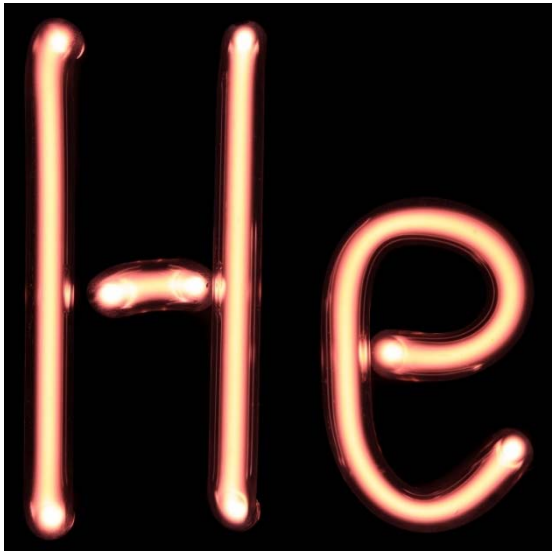
Hundreds of helium compounds could be hiding in Earth's mantle

Read the full article at rsc.li/2IseIKr



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In 2017, a scientist in Russia discovered that helium forms a stable compound with sodium. Now, scientists in the US have built on that work and discovered that helium can also form compounds with salts such as MgF_2 under high pressures.

Helium does not form bonds, but does form these compounds with salts because it reduces interactions between ions of the same charge within the salts.

These findings are unexpected, because helium is known as an unreactive element.

ROYAL SOCIETY OF CHEMISTRY

Helium is very useful to us, for example it is used in MRI scanners, but is scarce on Earth – helium gas is very light and escapes into space. But, if helium can form compounds, maybe helium is stored in rocks in the Earth's mantle that we don't yet know about.

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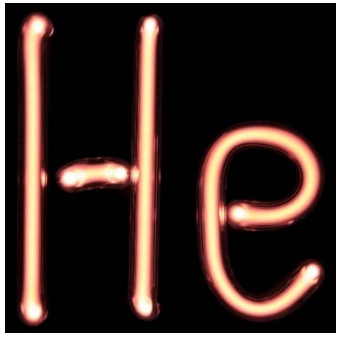

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ROYAL SOCIETY OF CHEMISTRY

1. Find out two other uses of helium, and explain which property makes it suitable for each use.
2. In terms of electrons, why are noble gases unreactive?
3. Use the information above and explain in your own words why it is important for scientists to publish and distribute their work.