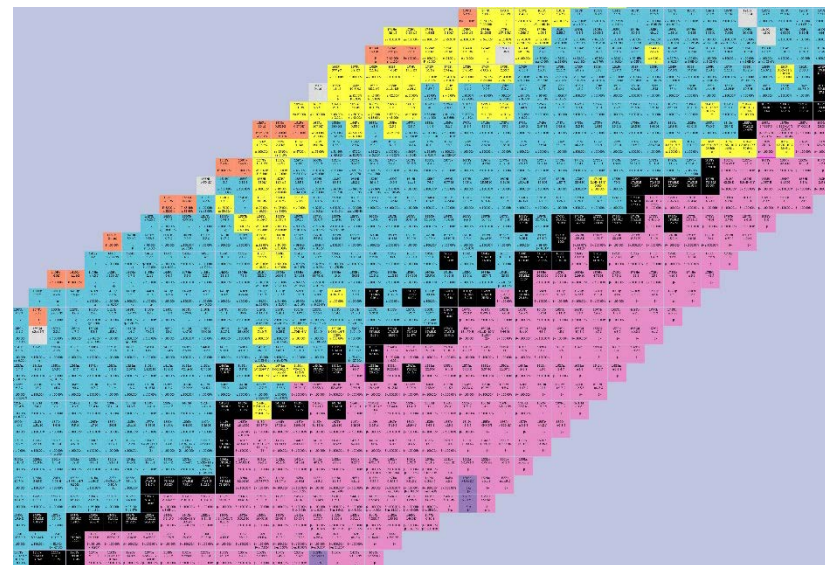


73 new isotopes discovered

Read the full article at rsc.li/2ybpZtX

A Japanese team has discovered 73 new isotopes of elements such as iron, silver and iodine.

The team use the word 'nuclide', which means something very similar to the word 'isotope'. However, isotopes must all be from the same element, whereas nuclides are from any element.



A nuclide map: the black squares are stable elements. The other colours are unstable isotopes. Source: National Nuclear Data Center, information extracted from the [NuDat 2 database](#)

There are 3000 known nuclides and scientists think that there could be another 4000 left to discover. The nuclides were discovered by firing beams of uranium-238 at a beryllium target. They are all radioactive, with half-lives of only a few milliseconds.

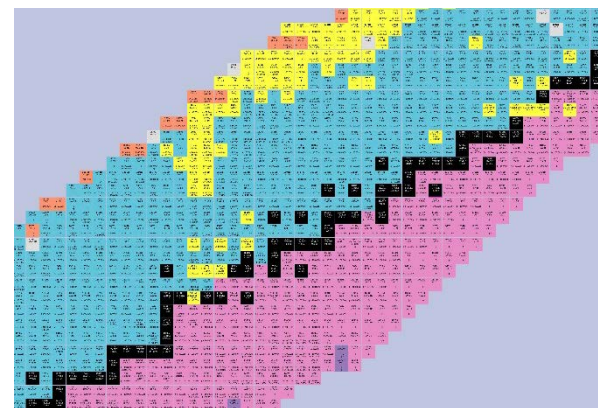
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1. In terms of protons and neutrons, what is the difference between an isotope and a nuclide?
2. Create a concept map with the word 'isotope' at the centre. Which other topics in chemistry and physics does it relate to?
3. Pick an element, then invent an isotope and a relative abundance. Show how to calculate the element's atomic mass