

THE PERIODIC TABLE'S FOUR NEW ELEMENTS

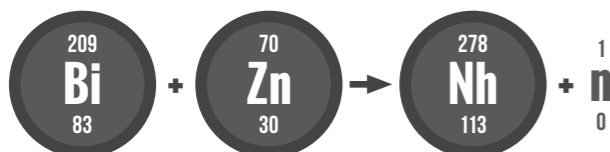
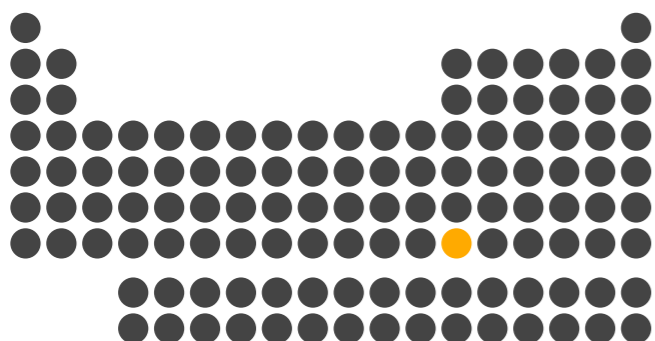
On the last day of 2015, the International Union of Pure and Applied Chemistry (IUPAC) confirmed the discoveries of four new synthetic elements, which completes the periodic table's seventh row. What do we currently know about these elements? Here's a brief summary.



ELEMENT 113 — NIHONIUM

Discovered at RIKEN, Japan

Named after 'Nihon' (One of two Japanese names for Japan).



(zinc-70 atoms collided with thin bismuth layer)

286
Nh
113

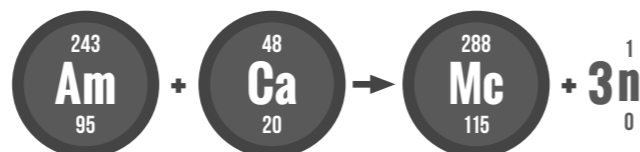
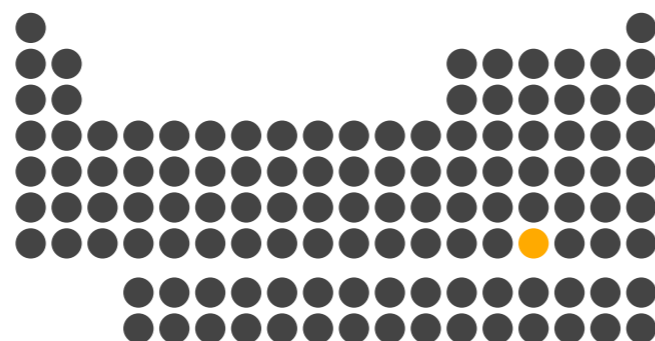
MOST STABLE ISOTOPE
HALF LIFE: 19.6 SECONDS



ELEMENT 115 — MOSCOVIUM

Joint discovery by Russia & US

After the Moscow region, where the Joint Institute for Nuclear Research is based.



(calcium-48 atoms collided with americium target)

289
Mc
115

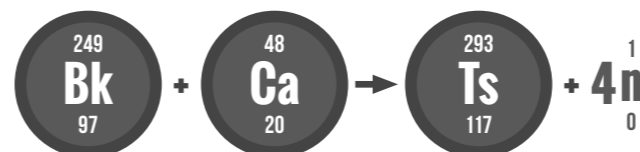
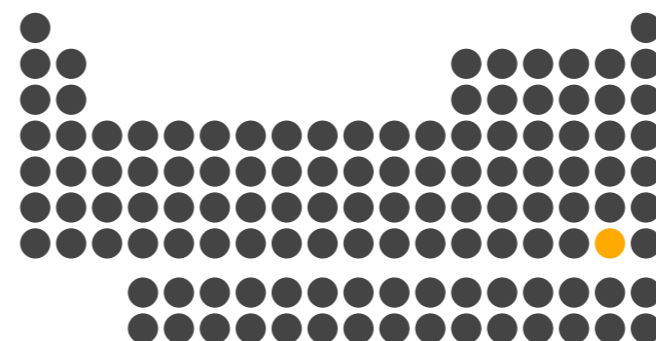
MOST STABLE ISOTOPE
HALF LIFE: 220 MILLISECONDS



ELEMENT 117 — TENNESSINE

Joint discovery by Russia & US

After the state of Tennessee, where Oak Ridge National Lab is based.



(calcium-48 atoms collided with berkelium target)

294
Ts
117

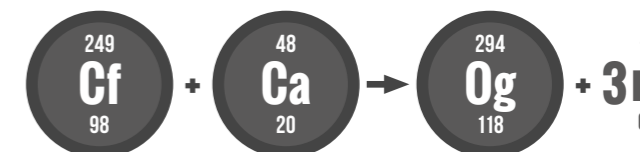
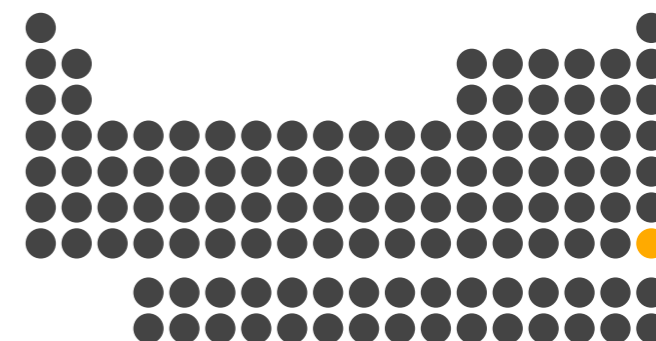
MOST STABLE ISOTOPE
HALF LIFE: 51 MILLISECONDS



ELEMENT 118 — OGANESSON

Joint discovery by Russia & US

After Yuri Oganessian, who discovered a number of superheavy elements.



(calcium-48 atoms collided with californium target)

294
Og
118

MOST STABLE ISOTOPE
HALF LIFE: 0.89 MILLISECONDS

WHAT'S THE POINT OF MAKING THESE ELEMENTS?

Only a limited number of atoms of these unstable elements have been created, and they quickly decay to other elements. However, it's theorised that an 'island of stability' may exist for heavier elements. These elements may exist for hours or days. They may also start to deviate from the usual periodicity (pattern of properties) of the periodic table, teaching us new things about chemistry!