

Four new elements added to the periodic table. Row 7 is now complete.

48 Cd cadmium 112.41	49 In indium 114.82	50 Sn tin 118.71	51 Sb antimony 121.76	52 Te tellurium 127.60(3)	53 I iodine 126.90	54 Xe xenon 131.29
80 Hg mercury 200.59	81 Tl thallium 204.38 [204.38, 204.39]	82 Pb lead 207.2	83 Bi bismuth 208.98	84 Po polonium	85 At astatine	86 Rn radon
112 Cn copernicium	113 Nh nihonium	114 Fl flerovium	115 Mc moscovium	116 Lv livermorium	117 Ts tennessine	118 Og oganeson

Element 113 is nihonium (Nh). The element derives its name from “nihon,” one of two words used to say “Japan” in Japanese. Nihonium was synthesized by the RIKEN Nishina Center for Accelerator-Based Science and is the first element discovered in an Asian country. Four other countries have elements named after them: francium for France, germanium for Germany, polonium for Poland, and americium for the United States. Elements 115 and 117, formerly called ununpentium and ununseptium, are now moscovium (Mc) and tennessine (Ts), respectively. The two elements were synthesized by a team of American and Russian scientists and named after the sites of their discovery. Moscovium honors the Joint Institute for Nuclear Research in Dubna outside Moscow, while tennessine recognizes the contributions of Oak Ridge National Laboratory and its surrounding universities in Tennessee.

And Element 118, previously known as ununoctium, will be named oganesson (Og). Discovered by the same joint Russian-American team of scientists, the element is named after Yuri Oganessian, a Russian physicist at the Flerov Laboratory and a prominent figure in the international hunt for superheavy elements. Oganesson is the second element named for a living person; the first, seaborgium, was named in 1997 after American physicist Glenn Seaborg two years before his death.

All four of the superheavy elements exist only in research laboratories, born from the violent collisions of heavy atoms within particle accelerators. Once created, their unwieldy atomic structures survive only for the briefest of moments, and then collapse into more stable forms like an ill-fated cosmic soufflé. Oganesson, the heaviest element yet created, has a half-life of only 890 microseconds. There are 1 million microseconds in a second. Many physicists theorize that as increasingly larger elements are synthesized, a group of superheavy elements will be discovered on a so-called “island of stability.” On this figurative island, neutrons and protons would be arranged in a structure that allows the resulting element to survive for minutes, hours, or even days. Reaching the island of stability is one of the great quests of modern physics.

References

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