

The Discoverers of the Isotopes of the Platinum Group of Elements: Update 2016

A deletion of the isotope ^{209}Pt and the inclusion of new isotopes found for Rh and Pd

In the 2012 review (1) the isotope ^{209}Pt was included based on a claim to its discovery by Kurcewiz *et al.* which was reported in a preprint (2). However when the actual paper was published (3) it was considered that the evidence for ^{209}Pt was unsatisfactory and it was no longer included. Therefore the number of known isotopes for platinum has been amended

in **Table I**. In addition one further isotope each for rhodium and palladium have been identified and are included in **Table II** and **Table III** respectively.

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Table I Total Number of Isotopes and Mass Ranges Known for Each Platinum Group Element to 2016

Element	Number of known isotopes	Known mass number ranges
Ru	40	85–124
Rh	39	89–127
Pd	39	91–129
Os	43	161–203
Ir	42	164–205
Pt	43	166–208

Table II New Isotope for Rhodium

Mass Number	Half-life	Decay mode	Year of discovery	Discoverers	Reference
127	20 ms	β^-	2015	Lorusso <i>et al.</i>	4

Table III New Isotope for Palladium

Mass Number	Half-life	Decay mode	Year of discovery	Discoverers	Reference
129	31 ms	β^-	2015	Lorusso <i>et al.</i>	4

β^- : beta or neutron decay for neutron rich nuclides is the emission of an electron and an anti-electron neutrino caused by a neutron in the nucleus decaying to a proton so the mass number of the daughter nuclide remains the same but the atomic number increases by one

References

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John W. Arblaster is interested in the history of science and the evaluation of the thermodynamic and crystallographic properties of the elements. Now retired, he previously worked as a metallurgical chemist in a number of commercial laboratories and was involved in the analysis of a wide range of ferrous and non-ferrous alloys.