

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

New discoveries in 2011 increase total number of known isotopes

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Since the previous update on new isotopes of the platinum group of elements (1), further isotopes have been discovered and reported by Kurcewicz *et al.* (2) in 2011. These are: ^{202}Os , ^{203}Os , ^{204}Ir , ^{205}Ir and ^{206}Pt to ^{209}Pt . The discovery of the isotope ^{201}Os was also claimed but this was previously identified by Kurtukian-Nieto (3) in 2007. All of these isotopes are particle stable (resistant to proton and neutron decay)

and are likely to be β^- emitters. These discoveries bring the total number of known isotopes for the platinum group of elements as shown in **Table I**.

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Table I

Total Number of Isotopes and Mass Ranges Known for Each Platinum Group Element to 2012

Element	Number of known isotopes	Known mass number ranges
Ruthenium	38	87–124
Rhodium	38	89–126
Palladium	38	91–128
Osmium	43	161–203
Iridium	42	164–205
Platinum	44	166–209

References

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- 2 J. Kurcewicz, F. Farinon, H. Geissel, S. Pietri, C. Nociforo, A. Prochazka, H. Weick, J. S. Winfield, A. Estradé, P. R. P. Allegro, A. Bail, G. Bélier, J. Benlliure, G. Benzoni, M. Bunce, M. Bowry, R. Caballero-Folch, I. Dillmann, A. Evdokimov, J. Gerl, A. Gottardo, E. Gregor, R. Janik, A. Kelić-Heil, R. Knöbel, T. Kubo, Yu. A. Litvinov, E. Merchan, I. Mukha, F. Naqvi, M. Pfützner, M. Pomorski, Zs. Podolyák, P. H. Regan, B. Riese, M. V. Ricciardi, C. Scheidenberger, B. Sitar, P. Spiller, J. Stadlmann, P. Strmen, B. Sun, I. Szarka, J. Täieb, S. Terashima, J. J. Valiente-Dobón, M. Winkler and Ph. Woods, eprint arXiv:1112.0521v1 [nucl-ex], 2nd December, 2011
- 3 T. Kurtukian-Nieto, 'Production and β Decay Half-Lives

of Heavy Neutron-Rich Nuclei Approaching the Stellar Nucleosynthesis R-Process Path Around $A = 195'$, PhD Thesis, University of Santiago De Compostela, Santiago De Compostela, Spain, 2007

The Author



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.