

Element 111 is Named Roentgenium

Following the 80th meeting of the IUPAC Bureau in Bled, Slovenia, the name roentgenium for the element of atomic number 111, with symbol Rg, was officially approved on 1 November 2004. The IUPAC Council, at its meeting at Ottawa, Canada in 2003, delegated the authority to approve a name for the element of atomic number 111 to the Bureau.

In 2003, a joint IUPAC-IUPAP Working Party (JWP) confirmed the discovery of element number 111 by the collaboration of Hofmann et al. from the Gesellschaft für Schwerionenforschung mbH (GSI) in Darmstadt, Germany (*Pure Appl. Chem.*, 2003, **75**, 1601-1611). The most relevant experiment resulted from fusion-evaporation using a ^{64}Ni beam on a ^{209}Bi target, which produced a total of six decay chains of alpha-emitting nuclides following the presumed formation of $^{272}\text{Rg} + n$ (S. Hofmann et al., *Z. Phys. A*, 1995, **350**, 281-282); S. Hofmann et al., *Eur. Phys. J. A*, 2002, **14**, 147-157).

In accordance with IUPAC procedures, the discoverers proposed a name and symbol for the element. The proposed name was roentgenium, with symbol Rg. The Inorganic Chemistry Division Committee then recommended this proposal for acceptance. The provisional recommendation has now successfully passed expert examination and the prescribed period of public scrutiny. This proposal lies within the long-established tradition of naming elements to honor famous scientists.

On 8 November 1895, Wilhelm Conrad Roentgen discovered X-rays, a new type of rays to which he gave this name in view of their uncertain nature. Their use has

subsequently revolutionized medicine, found wide application in technology, and heralded the age of modern physics, which is based on atomic and nuclear properties. In 1901, six years after their discovery, the benefit of X-rays to humankind was so evident that Roentgen was awarded the first Nobel Prize in



For some time before Nov/Dec 1895, scientists had been reporting bizarre apparitions when they electrified the thin gas in vacuum tubes. On the Sunday before Christmas 1895, Wilhelm Conrad Roentgen invited his wife Bertha into the laboratory and took a shadow-graph of the bones of her hand with her wedding ring clearly visible. This is one of the most famous images in

photographic history and propelled Roentgen in no time into international celebrity. The medical implications were immediately realized and the first images of fractured bones were being made by January 1896 even though none yet knew what the mystery rays were. The radiograph reproduced here is of the hand of Albert von Kolliker, made at the conclusion of Roentgen's lecture and demonstration at the Wurzburg Physical-Medical Society on 23 January 1896. (Credit AIP Emilio Segre Visual Archives, Lande Collection)

Physics. Element 111 was synthesized exactly 100 years after Roentgen's discovery. To honor Wilhelm Conrad Roentgen, the name roentgenium was proposed for the element with atomic number 111.



www.iupac.org/news/archives/2004/naming111.html

From Macro to Poly

At its division meeting in Paris in July 2004, prior to the IUPAC World Polymer Congress (Macro 2004), Division IV voted to change its name from Macromolecular Division to Polymer Division. The change was ratified by the Bureau at its meeting in Bled, Slovenia, on 2 October 2004.

The Macromolecular Division was formed in 1967 to "extend the activities of the former Commission on Macromolecules and of the Polymer and Plastics Section."¹ The structure of the new division was devised under the guidance of Otto Wichterle (Prague), the then Chairman of the Commission of Macromolecules. Initially, within Division IV, only

¹ Roger Fennell, *History of IUPAC 1919-1987*, Blackwell Science Ltd., Oxford, 1994, p. 238.



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*Wilhelm Conrad Roentgen
(b. 1845–d. 1923)*