

## Chemical investigation of element 114

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Element 114 is an element of group 14 in the periodic table together with carbon, silicon, germanium, tin, and lead. With increasing atomic number  $Z$  a typical trend observed along the main groups 13-17 of the periodic table is the enhancing metallic character [1-3]. On the other hand, relativistic calculations of the electronic structure of SHE predict an increased chemical stability of the elemental atomic state for element 114, having an electronic ground state configuration of  $Rn:5f^{14}6d^{10}7s^27p_{1/2}^2$  [3-9]. Therefore, a high volatility and a chemical inertness were postulated. Modern relativistic calculation models predict atomic properties for element 114, representing a higher chemical inertness but still a chemical similarity to the lighter group 14 metal lead [9-11]. We present first experimental evidence for a noble-gas like behavior of element 114 in contact with a gold surface.

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