*** Name Origin:**

Named after the city it was discovered

*** Sources:**

The bombardment of ^{244}Pu by ^{34}S produced, by a hot fusion pathway, one chain of spatially and temporally correlated alpha-emitting nuclides which was assigned to the product ^{273}Ds. The evaporation residues were separated in flight by a recoil separator. The investigators interpret their results as a sequence of five alpha-emitting nuclides beginning with ^{273}Ds. However, only three of the alpha particles are observed. A number of additional incomplete chains and one incomplete 5- a chain are also noted, but with less confidence. There remains the question as to whether subsequent studies might confirm the observed steps in these incomplete chains. Although the referenced chains ^{273}Ds alpha energy agrees with that seen in the recent Hofmann et al. collaboration, the subsequent two observed alphas have delay times at sharp variance with literature values for ^{265}Sg and ^{257}No.

*** Uses:**

None

*** Additional Notes:**

In 1987 Oganessian, et al., at Dubna, claimed discovery of this element. Their experiments indicated the spontaneous fissioning nuclide ^{272}Ds with a half-life of 10 ms. More recently a group led by Armbruster at G.S.I. in Darmstadt, Germany, reported evidence of ^{269}Ds, which was produced by bombarding lead for many days with more than 10^{18} nickel atoms. A detector searched each collision for Element 110's distinct decay sequence. On November 9, 1994, evidence of 110 was detected. Berkeley scientists, in 1991, performed similar experiments and reported evidence of 110, but this was not confirmed. Workers at Dubna have experiments underway to produce ^{273}Ds by bombarding plutonium with sulfur atoms. Other experiments at G.S.I. are now searching for heavier isotopes. Several years ago the IUPAC suggested the use of the temporary name ununnilium for Element 110 when it was found. The fusion-evaporation reaction using a ^{62}Ni beam on an isotopically enriched ^{208}Pb target produced four chains of alpha-emitting nuclides following the presumed formation of ^{269}Ds + n. The heavy residue is separated from non-fusion residues in-flight by the electromagnetic SHIP velocity filter which spatially localizes, through position sensitive detectors, the product and its radioactive progeny. Even in the first chain to be measured, the second and third consecutive alpha energies and delay times are in concordance with previously studied ^{265}Hs and ^{261}Sg. The redundancy of the consecutive alpha energies and delay times in the second through fourth chains measured is very reassuring. Even more so is the observation of fourth and fifth alpha particle energies and delay times in the last two chains observed that are in very good agreement with the known properties of descendants ^{257}Rf and ^{253}No.