^{204}Bi

Howland et al. observed ^{204}Bi for the first time in 1947 in "Artificial radioactive isotopes of polonium, bismuth and lead" (1947Ho06). The Berkeley 60-inch cyclotron was used to bombard an enriched ^{204}Pb target with a 40 MeV ^{4}He beam and a thallium target with 20 MeV deuterons forming ^{204}Bi in the (d,2n) and (α,3n) reactions, respectively. Electrons and γ rays were measured. "The high yield of the 12-hour bismuth from deuterons on Pb^{204} limits the assignment to Bi^{203} or Bi^{204}, and the high yield from helium ions on thallium sets 204 as the lowest possible mass. Therefore the isotope is Bi^{204}."

Adapted from reference (2013Fr04)

1947Ho06 J. J. Howland, D. H. Templeton, and I. Perlman, Phys. Rev. **71**, 552 (1947).

2013Fr04 C. Fry and M. Thoennessen, At. Data Nucl. Data Tables **99**, 365 (2013).

Please cite this abstract as: "FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:10.11578/frib/2279152"