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(54) Title: METHOD AND APPARATUS FOR PRODUCTION OF LEAD-212 ISOTOPE

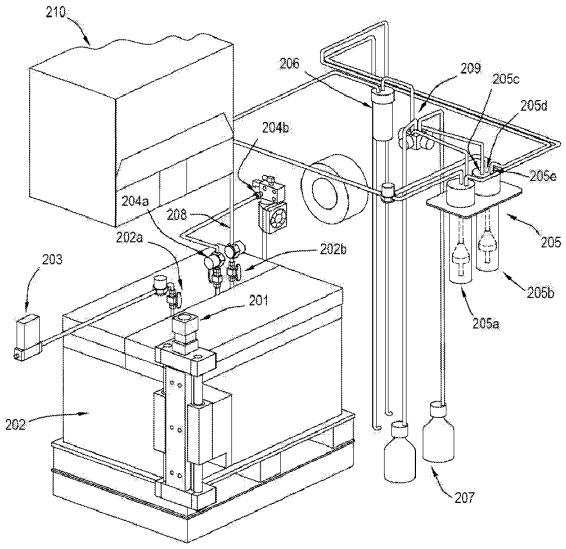


FIG.2

(57) Abstract: An apparatus for producing Pb-212. The apparatus comprises an emanation box that comprises an emanation source comprising a porous non-reactive material. The emanation box receives at least one of Th-228 andRa-224, wherein the at least one of Th-228 and Ra-224 decays to Rn-220 within the emanation box. The apparatus further includes a carrier gas feed coupled to the emanation box. The carrier gas feed directs an inert gas into the emanation box and the inert gas carries the Rn-220 out of the emanation box through a carrier gas exit port of the emanation box. The apparatus also includes one or more Rn-220 targets coupled to the carrier gas exit port. The carrier gas carries the Rn-220 from the emanation box to the one or more Rn-220 targets and the Rn-220 decays into Pb-212 within the one or more Rn-220 targets. The Pb-212 is directed into the Pb-212 collection container.

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