reactions shown on a foregoing slide (Figure 8), and thus it has been possible to investigate its chemical properties extensively through the use of macroscopic quantities.

Curium was first isolated in the form of a pure compound of Cm^{242} by L. B. Werner and I. Perlman (16) at the University of California during the fall of 1947. A photograph is shown in the following slide (Figure 11). The isotope Cm^{242} is so highly radioactive, due to its short half-life, that chemical investigations with it in macroscopic concentrations are very difficult. Nevertheless a large number of such investigations have been carried on and much has been learned about its chemical properties.

More recent work has led to the identification of a number of heavier isotopes of americium, curium, and plutonium which present interesting possibilities for the further nuclear and chemical investigation of these elements. The nuclide Am^{242m} formed by the neutron bombardment (12, 13, 17) of Am^{241} decays partially by electron capture (18) to the isotope of plutonium, Pu^{242}. The latter nuclide (19) is an alpha emitter with the comparatively long half-life of 5×10^5 years and, therefore, may be important in future investigations of the chemical properties of plutonium since it has a specific activity some twenty times lower than that of Pu^{239}. This material can be transmuted by neutron bombardment (20, 21) to the comparatively long lived Am^{243} (about 10^4 years) and, therefore, following chemical separation this latter isotope can be made available comparatively free of other isotopes of americium. Similarly, such Am^{243} can be transmuted by neutron bombardment (22, 23) to the comparatively long lived Cm^{244} (about 10 years) which can thus be made available in a