It should be mentioned that the successful handling in a safe manner of the huge amounts of radioactivity in the target material was made possible through the use of the excellent protective equipment provided by Nelson Garden and the members of his Health Chemistry Group at our Laboratory.

The name "berkelium" (symbol Bk) was suggested for element 97 after the city where the work was done, in analogy with the naming of its chemical homologue terbium, which was named after the town of Ytterby here in Sweden where the rare earth minerals were found. The name "californium" (symbol Cf) was suggested for element 98 in honor of the University and State where the work was done; thus the name does not reflect its strong homology to dysprosium. These names are used in the present talk including the various slides.

Soon following this work, it became possible on the basis of the interesting pioneer carbon ion bombardment experiments of Miller, Hamilton, Putnam, Haymond, and Rossi (26) in the 60-inch cyclotron to produce isotopes of californium in better yield by this method. These experiments, in which uranium is bombarded with carbon ions, led to the production (27) of californium isotopes according to the reactions given in the following slide (Figure 15).

$$_{92}U^{238} + {}_{6}C^{12} \longrightarrow {}_{98}Cf^{244} + 6n$$
(45 minutes, α)

$$_{92}U^{238} + {}_{6}C^{12} \longrightarrow {}_{98}Cf^{246} + 4n$$
(36 hours, α)

Figure 15