of 1 drop (about 0.030 cm^3) about every two minutes and the drops were collected separately or in groups of two in the region where the actinide elements were expected. Element 98 was collected in drops of elutriant from the columns just preceeding those containing berkelium.

Each drop or a suitable fraction of each drop collected from the column was evaporated on a platinum plate using a heat lamp. Ignition of the plates to red heat removed the citric acid. Each of these samples which preceeded the curium peak was examined for high energy alpha-radioactivity using the differential alpha-energy pulse analyzer.

The fractions which should contain elements 97 and 98 were submitted in some experiments to further separation from remaining radioactive contaminants (mainly approximately 10^4 alpha-disintegrations per minute of Cm^{242}) by means of a second Dowex-50 resin column operated in a manner similar to the first column run. In this case, the appropriate elutriant fractions from the first column containing the ammonium citrate were acidified with hydrochloric acid to make the hydrogen ion concentration about 0.1M. Then the mixture of radioactivities was adsorbed on Dowex-50 resin and the column separation made as described previously. (The separation of curium from element 97 and element 98 in one column run as described above is limited to a factor of approximately 10^6 to 10^7. After the second column run the curium present in element 98 fractions is reduced to a few alpha-disintegrations per minute.) In some of the experiments the lengths of the resin columns were shortened to about 15 cm length in order to increase the speed of separation. Each drop of elutriant preceeding the curium peak was again examined for high energy alpha-particles in the same manner as described above in connection with the first column separation. In addition to differential alpha-energy pulse analysis, certain fractions obtained in some of the experiments were also counted in a windowless proportional counter in order to look for soft electrons with