Cyclotron produced 44gSc from natural calcium

44gSc was produced by 16 MeV proton irradiation of unenriched calcium metal with radionuclidic purity greater than 95%. The thick target yield at saturation for 44gSc was 213 MBq/μA, dwarfing the yields of contaminants 43Sc, 44mSc, 47Sc and 48Sc for practical bombardment times of 1–2 h. Scandium was isolated from the dissolved calcium target by filtration, and reconstituted in small volumes of dilute HCl. Reactions with the chelate 1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetic acid (DOTA) indicated a reactivity of View the MathML source54±14 Gbq/μmol at end-of-bombardment.