^{36}Ca

Tribble et al. first observed ^{36}Ca in 1977. They reported their findings in "Mass of ^{36}Ca" (1977Tr03). A 121.4-MeV α beam from the Texas A&M University 88-inch cyclotron bombarded a 3-mg/cm^2 natural calcium target. The presence of ^{36}Ca was inferred from the presence of ^{8}He detected by an Enge split-pole magnetic spectrograph. "The centroid uncertainty, assuming background contribution, is 30 keV. Combining this with the uncertainties associated with (1) beam energy (10 keV), (2) scattering angle (5 keV), (3) focal plane calibration (15 keV), target thickness (20 keV) along with the ^{8}He mass excess of 31.601$\pm$0.013 MeV, we find the reaction Q value to be -57.58$\pm$0.04 MeV, and the mass of ^{36}Ca to be -6.44$\pm$0.04 MeV."

Adapted from reference (2011Am01)

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