

A pulsed, low energy (keV), primary ion source has been constructed and coupled to an existing plasma desorption time-of-flight mass spectrometer. Pulses of Cs⁺ primary ions (1-30keV) of about 2 ns duration have been obtained from the source and used to measure the damage cross sections for keV ion induced sputtering from amino acid valine (MW=117 u) and Luteinizing Hormone Releasing Hormone (LHRH) (MW=1182 u). Sputtered targets were examined with the time-of-flight mass spectrometer. Irradiation for damage measurements was carried out by operating the ion source in the DC mode. The variation of the secondary molecular ion yield as a function of the intensity of the primary ion flux has been measured and used to evaluate damage cross sections and the values were found to be in the order of 10^{-14} cm². These values are one order of magnitude lower than the previously published corresponding values for the high energy (MeV) ion irradiated valine.