**Peptides synthesis.** The peptides, PHP, was synthesized using a high-efficiency solid-phase peptide synthesizer (Protein Technologies Inc., Tucson, AZ) by GL Biochem Ltd. (Shanghai, China). The principle of reaction was based on the procedure of solid phase peptide synthesis (SPPS). The amino acids were continuously added into the closed explosion-proof glass reactor in a certain order, and finally the required peptides were obtained.

**MS analysis.** The molecular mass determination of the synthetic peptides were performed on a Waters Micromsaa ZQ 2000 single quad mass spectrometer (USA).

**Structure identification of the synthetic peptide.** According to the procedure of solid phase peptide synthesis (SPPS), the sequence of the synthetic peptide was PHP. The synthetic peptides were analyzed by the single quad mass spectrometer for molecular mass determination. The MS spectra of PHP were shown in Fig.1. The molecular mass of the synthetic PHP was determined to be 349.17 Da.
**Fig. 1** mass spectrum of the synthesized PHP