

Abstract

Orthogonal experiment was applied to optimize the water extraction parameters of zinc from *Flammulina velutipes*, and then the extracts were separated by membrane filter (0.45 μm) and D101 macroporous resin. Six different species of Zn were obtained and the Zn content of various species were determined by flame atomic absorption spectrometry. The optimized conditions for the extraction of Zn were: ratio of dried material to water, 1:30; extraction temperature, 75°C; extraction time, 120 minutes. About 34.43 μg Zn was extracted from 1 g dried *F. velutipes* powder under the optimal conditions. The recovery value for Zn was 96.5% with a low relative standard deviation. In addition, the content of the organic state of Zn was more than that of the inorganic state, and most of the organic state Zn was found in the polysaccharide and protein fractions.