



University of Zabol
Graduate school
Faculty of science
Department of chemistry

**The Thesis Submitted for the Degree of Master of Science (In the
field of Analytical Chemistry)**

**Application new porous organic polymers
for extraction and determination of
mercury by ultraviolet and visible
spectrum**

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Abstract

In this research, a porous organic framework was used to extract and determine the amount of mercury by visible-ultraviolet light. This porous structure was identified using different techniques such as Fourier infrared spectrometer, X-ray normal diffraction spectrum, scanning electron microscope, X-ray energy diffraction spectroscopy, thermal analysis and specific area measurement. Parameters affecting the extraction such as pH of the sample solution, adsorbent amount, detergent volume and absorption time were studied. The detection limit was 1.2 ng/L. Then, under optimal conditions, this method was used to determine the amount of mercury in real samples of city water and well water.

Keywords: Mercury, porous organic polymer, ultraviolet and visible spectrum, extraction, identification of mercury.