

Abstract

In this work, a new, simple and fast dispersive liquid-liquid micro extraction method coupled with high performance liquid chromatography was used to extract atorvastatin. For this extraction, 40 μ l of undecanol as extraction solvent and 1.5ml methanol as dispersive solvent was added to sample. After addition of undecanol and methanol, an unsteady cloudy phase is formed and separates from the solution that stays on top of solvent which can be easily separated. The extracted solvent is injected to HPLC for further analysis. The effects of various experimental in extraction step with using design of experimental were also studied using response surface methodology. Three independent variables were volume of extraction solvent, volume of dispersive solvent and Ph. In optimum condition, linear range achieved were 3-200 μ g/l , $R^2=0.994$, RSD= 4.1 and limit of detection (LOD)= 0.9. this method were used for determination of atorvastatin in tablet.

Keywords: Dispersive Liquid-Liquid Microextraction, atorvastatin, design of experimental, response surface methodology , High Performance Liquid Chromatography



University of Zabol

Graduate school

Faculty of Science

Department of Chemistry

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**Determination of Atorvastatin in aqueous
samples using dispersive liquid-liquid
microextraction method optimized by
experimental design pattern**

Supervisors:

Dr. M. Nejati Yazdinezhad

Dr. F. Shiri

Adviser:

Dr. B. Hashemi

By:

Iman Fazlipour

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