



مدیریت تحصیلات تکمیلی

دانشکده علوم پایه

گروه شیمی

پایان نامه جهت اخذ درجه کارشناسی ارشد

در رشته شیمی تجزیه

استخراج و تعیین رزبنگال در نمونه‌های آبی با استفاده از میکرواستخراج مایع-مایع

پخشی جفت شده با اسپکتروفتومتر مرئی-ماورابنفش

استاد راهنما:

دکتر رویا محمدزاده

استاد مشاور:

دکتر مسعود نجاتی یزدی‌نژاد

تهیه و تدوین:

فخرالدین کاکه

## **Abstract**

In this thesis we developed a method based on dispersive liquid-liquid microextraction (DLLME) coupled to UV-Vis spectrophotometry for determination of Rose Bengal (RB) in water samples. The extracted Rose Bengal was separated and quantified by UV-Vis spectrophotometry. The influence factors relevant to DLLME, such as type and volume of extractant and disperser solvents, pH, salt effect and extraction time were optimized. Under the optimal condition volume of the acetone as disperser solvent 2.00ml, volume of octanol as extraction solvent 300  $\mu$ l, extraction time 5 min and concentration of NaCl 10% (w/v) and pH=2 were obtained. Also limit of detection for Rose Bengal was 0.05  $\mu$ g/ml. The proposed method was applied to the determination of Rose Bengal in water samples with satisfactory analytical results. The proposed method was simple, rapid and sensitive for the detection of Rose Bengal.

**Key words:** Dispersive Liquid-Liquid Microextraction, Rose Bengal, UV-Vis Spectrophotometry, Water Samples.