

OPTIMIZATION CONDITION FOR EXTRACTION OF ROSEMARY ESSENTIAL OIL BY RESPONSE SURFACE METHODOLOGY

SHILPA PHILIP¹, HOZEN RICCHIE ROSE A² & ELIZABETH AMUDHINI STEPHEN³

^{1,2}Department of Food Processing and Engineering, Karunya Institute of Technology and Sciences
Coimbatore, Tamil Nadu, India

³Professor, Department of Mathematics, Karunya University, Coimbatore, India

ABSTRACT

Response surface system (RSM) is utilized to assess the impacts of preparing parameters of a current extraction handle: the quick controlled pressure drop on the extraction yield of rosemary essential oil. The content was determined using HPLC method and steam distillation process with change in pressure. Here gas chromatography was used to identify volatile oil.. In this study the tested parameters were temperature which was initially at 20 - 80 degree C, extraction time 30 – 120 and modifier concentration to be 5 - 20 % using response surface methodology. Extraction temperature and time were the two major factors affecting extraction yield. Here by analysis, the optimized results were the temperature to be 50 degree C and concentration to be of 12.50 and extraction time to be 75 min. So an increase in extraction rate and in yield is observed.

KEYWORDS: Response Surface Methodology, HPLC, Rosemary & Extraction