

Lab Report: Analysis of Various Oil Mixtures

Report ID: 895

This report documents the analysis of several oil mixtures using advanced laboratory techniques. Each test involved specific equipment to analyze properties such as mass, chemical structure, molecular content, and physical characteristics. Various spectrometers, chromatographs, and meters were employed to ensure comprehensive evaluation.

Equipment and Methods

Spectroscopic Analysis

Observation: The sample exhibited a significant peak at m/z 1250, indicative of the presence of high molecular weight components.

FTIR Spectrometer (Model: FTIR-8400)

Chromatographic and Centrifugal Analysis

Observation: Analysis revealed a concentration of 50 mM, demonstrating a presence of ionic compounds.

HPLC System (Model: HPLC-9000)

Measurement: 500 mg/L concentration of cetyl alcohol was identified within the mixture.

Centrifuge (Model: X100)

Physical Property Measurements

Reading: Conductivity recorded at 1500 $\mu\text{S}/\text{cm}$.

Viscometer (Model: VS-300)

Spectroscopic Investigation

Irrelevant Notes:

Detailed Tables

Spectral Readings

Spectrometer Type	Sample Composition	Peak/Reading	Unit
Mass Spectrometer	Almond Oil, Cetyl Alcohol	1250.0	m/z
FTIR Spectrometer	Almond Oil, Beeswax	3200.0	1/cm
UV-Vis Spectrophotometer	Almond Oil, Beeswax, Glycerin	2.8	Abs

Chromatography and Conductivity

Equipment Type	Sample Composition	Reading	Unit
Ion Chromatograph	Coconut Oil, Gum, Vitamin E	50	mM
Conductivity Meter	Coconut Oil, Gum	1500	uS/cm
HPLC System	Almond Oil, Cetyl Alcohol	500	mg/L

Viscosity Measurements

Viscometer Model	Sample Composition	Viscosity	Unit
VS-300	"Jojoba Oil", "Cetyl Alcohol", "Glycerin"	2549.88	cP
VS-300	"Almond Oil", "Cetyl Alcohol", "Vitamin E"	7295.5	cP

Summary

The analytical tests presented in this report provide a comprehensive understanding of various oil mixtures using a range of scientific instruments. The spectroscopic methods indicated complex chemical interactions, while chromatography provided insight into molecular compositions. Physical properties such as viscosity and conductivity further characterized the samples. These analyses are crucial in guiding the formulation and quality control of related products.

Note: The precision of instruments and environmental factors were ensured to maintain the integrity of data and results.