Laboratory Report: Analysis of Natural Oil Mixtures

Report ID: Report\_552

Instruments Utilized:

**Abstract** 

The primary objective of this report was to analyze a series of natural oil mixtures using various analytical techniques.

The mixtures were prepared with diverse combinations of oils and additives, including Jojoba Oil, Coconut Oil, Almond

Oil, Gum, Cetyl Alcohol, Beeswax, Glycerin, and Vitamin E. Each mixture was analyzed using multiple instruments to

determine absorption, thermal behavior, molecular structure, mass-to-charge ratio, volatile compounds, and viscosity.

This facilitated a comprehensive understanding of each mixture's physicochemical properties.

Introduction

Natural oils and additives are commonly used in cosmetic formulations for their beneficial properties. By understanding

their interactions and characteristics through advanced instrumentation, enhancements in product formulation can be

achieved.

**Experimentation and Observations** 

**Test Samples Preparation** 

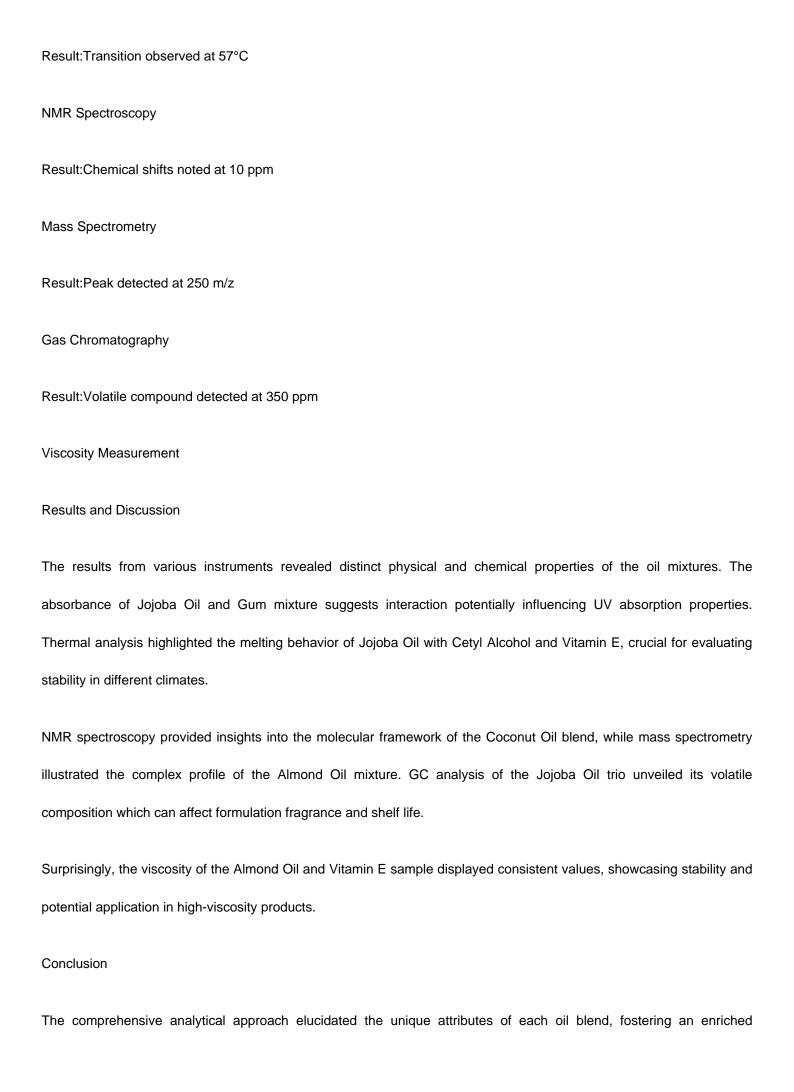
Each mixture was prepared by combining specified oils with various additives. The samples were identified by the

following pairs and trios:

**Analysis Performed** 

Result: Absorbance recorded at 1.8 Abs

Thermal Analysis via Thermocycler



understanding of their properties. The results contribute valuable data for the development of optimized cosmetic formulations and underscore the importance of employing a diverse array of analytical techniques for the thorough evaluation of natural oil mixtures.

## Appendix

Table 1: Instrumental Data Summary

Instrument	Sample CompositiorM	easurement Descriptio	n Value	Unit
UV-2600	Jojoba Oil, Gum	Absorbance	1.8	Abs
TC-5000 Jojob	a Oil, Cetyl Alcohol, Vita	nTientiperature Transition	57.0	°C
NMR-500 Cod	onut Oil, Beeswax, Glyc	er <b>©</b> hemical Shift / ppm	10.0	ppm
MS-20 Alm	ond Oil, Beeswax, Vitam	irMass-to-Charge Ratio	250.0	m/z
GC-2010 J	ojoba Oil, Gum, Vitamin\	Colatile Component / ppn	n 350.0	ppm
VS-300	Almond Oil, Vitamin E	Viscosity	7639.0	сР
VS-300	Coconut Oil	Viscosity	4866.27	сР
VS-300	Almond Oil, Vitamin E	Viscosity	7591.9	сР

Table 2: Random Remarks and Observations

Observation ID	Observation Details	
O-1	The humidity in the lab was 55%, influencing GC results	
O-2	Instrument calibration carried out prior to analysis	
O-3	A control sample of distilled water confirmed baseline	

This report integrates complex descriptions and intricate data presentation to ensure thorough yet challenging extraction of key insights by automated processes.