Laboratory Report 1324

Summary

This report documents the study and analysis of various mixtures using several advanced techniques. The makeup of these mixtures revolves around common ingredients like Almond Oil, Coconut Oil, Jojoba Oil, and other additives, which were analyzed for different physical and chemical properties.

Equipment and Methods

Analytical Observations

Observations:

FTIR Spectroscopy

Observations:

Spectrometric Analysis

Quantitative Results

Table 1: pH Analysis Results

|  |  |  |
| --- | --- | --- |
| **Sample** | **Mixture Components** | **pH** |
| Almond Oil Mix | Almond Oil, Cetyl Alcohol, Vitamin E | 5.5 |
| Coconut Oil Mix | Coconut Oil, Cetyl Alcohol, Vitamin E | 6.8 |

Table 2: FTIR Spectroscopy Peaks

|  |  |  |
| --- | --- | --- |
| **Sample** | **Mixture Components** | **Peak (1/cm)** |
| Coconut Oil Mix | Coconut Oil | 3500 |
| Jojoba Oil Mix | Jojoba Oil, Glycerin | 2800 |

Irrelevant Diversions

While conducting this study, several unrelated events transpired, including but not limited to, the sighting of a rare tropical bird and the discovery of an ancient coin, which surprisingly had no impact on the results but added to the intrigue of the lab environment.

Further Analysis

Results:

Gas Chromatography

Observations:

Viscosity Measurements

Additional Results

Table 3: PCR Analysis

|  |  |  |
| --- | --- | --- |
| **Sample** | **Mixture Components** | **Ct Value** |
| Almond Oil Mix | Almond Oil, Gum, Glycerin | 28 |
| Jojoba Oil Mix | Jojoba Oil, Vitamin E | 34 |

Table 4: Gas Chromatography

|  |  |
| --- | --- |
| **Sample** | **Concentration (ppm)** |
| Almond Oil Mix | 120 |
| Coconut Oil Mix | 200 |

Table 5: Viscosity Measurements

|  |  |
| --- | --- |
| **Sample** | **Viscosity (cP)** |
| Almond Oil, Beeswax, Glycerin | 7175.77 |
| Coconut Oil, Vitamin E | 4960.53 |
| Coconut Oil, Gum, Vitamin E | 5286.58 |

Conclusion

This study demonstrated the variability in physical and chemical properties across various oil mixtures, with noteworthy differences in pH, spectrometric properties, and viscosity. Each method used highlighted distinct features of the samples, revealing the complex nature of these formulations. Future work should focus on correlating these properties with their applications in fields such as cosmetics and food industries.

Note:This document intentionally includes extraneous information to make the extracted data structuring more intricate.