

LSC in Practice

Cocktail Microemulsion May Produce Stable “Liquid Crystal” Structure

Introduction

One researcher commented that the addition of a 5.0 mL of 0.1 M HCl sample to 10.0 mL of ULTIMA™ Gold, followed by mixing at 24 °C, resulted in a “slightly hazy” system. The researcher was concerned that this might indicate an unstable mixture.

Discussion

The effect observed by the researcher is quite common and is not unusual.

This effect is caused by the microemulsion rearranging itself into a highly ordered structure sometimes

called a “liquid crystal.” The overall effect is that the liquid crystal refracts light and produces this phenomenon. Such an ordered structure is very stable and there will be no problems in counting this mixture. Normally, this effect is only found when a high (>5 mL) sample load is present but it sometimes occurs with lower sample loads.

Recommendation

Please be assured that this is a stable mixture and more than suitable for counting.

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