Abstract

This study proposed and tested a simple, yet highly effective, and fairly accurate laser light scattering system for evaluation of emulsion's functionality of emulsifying agents and their blends.

The laser light scattering system is built up from low cost readily available components, without serious compromise of the elegance and powerfulness of laser light scattering technique.

The laser light scattering system was used in studying the functionality of three *Acacia* gums, *A. senegal*, *A. seyal* and *A. polyacantha* and their blends. The study reversed that the emulsifying power (P) of the gums studied can be arranged in the following order:

A. polyacantha > *A. seyal* > *A. senegal*.

The relative emulsifying power taking *A. senegal* as reference is of the order 1.4: 1.3: 1.

The study established that *A. polyacantha* gum form the most stable emulsions, while *A. seyal* form the least one among the three gums.

Blending of the emulsifying gums shown that a superior emulsifier can results of blend *A. polyacantha* and *A. seyal* in proportion of 30% to 70%.