Determining of the stability of the emulsion and dispersion characteristics

Aim of study:

The main goal of this exercise is compering the stability of the obtained of dispersions prepared from different ingredients and analyze obtained results to find basic information about stability of this mixtures.

Experimental part:

Materials:

Cellulose,

Poly(vinyl alcohol) (PVAL) Mw about 31 kDa, 130 kDa and 205 kDa degree of hydrolysis 86.7-88.7 from Fluka,

Polyvinylpirrolidon (PVP) F.G. about 29 kDa from Aldrich,

NaCl from POCh,

Procedure:

1. Micronization of cellulose with three methods:
   a. Mortar,
   b. Homogenizer,
   c. Ultrasonic disintegrator.
2. Preparing the dispersions of micronizated cellulose

No	4% Cellulose dispersion [mL]	4% NaCl solution [mL]	Distillated water [mL]	8% PVAL solution [mL]	8 % PVP solution [mL]
1	5	5	10	-	-
2	5	5	-	10	-
3	5	5	-	-	10
4	5	5	5	5	-
5	5	5	5	-	5
6	10	-	10	-	-
7	10	-	-	10	-
8	10	-	-	-	10
9	10	-	5	5	-
10	10	-	5	-	5

3. Determining the stability of the obtained dispersions (1-10) with Turbiscan

Reports should contain:
1. Short introduction about using methods
2. Short description of experimental part
3. Results should be in tables.

Discussion should contain the interpretation of results from Turbiscan, analysis the influence of composition of dispersions with their stability. Students have to compare which method the of micronization is the best to obtain more stable cellulose dispersions.
4. Conclusions

<u>Attention</u>
The basic information about measurement of the stability in the pharmaceutical products and Turbiscan equipment are given in the references for Exercise No. 1, which are given in separate documents.