Advanced laboratory technique

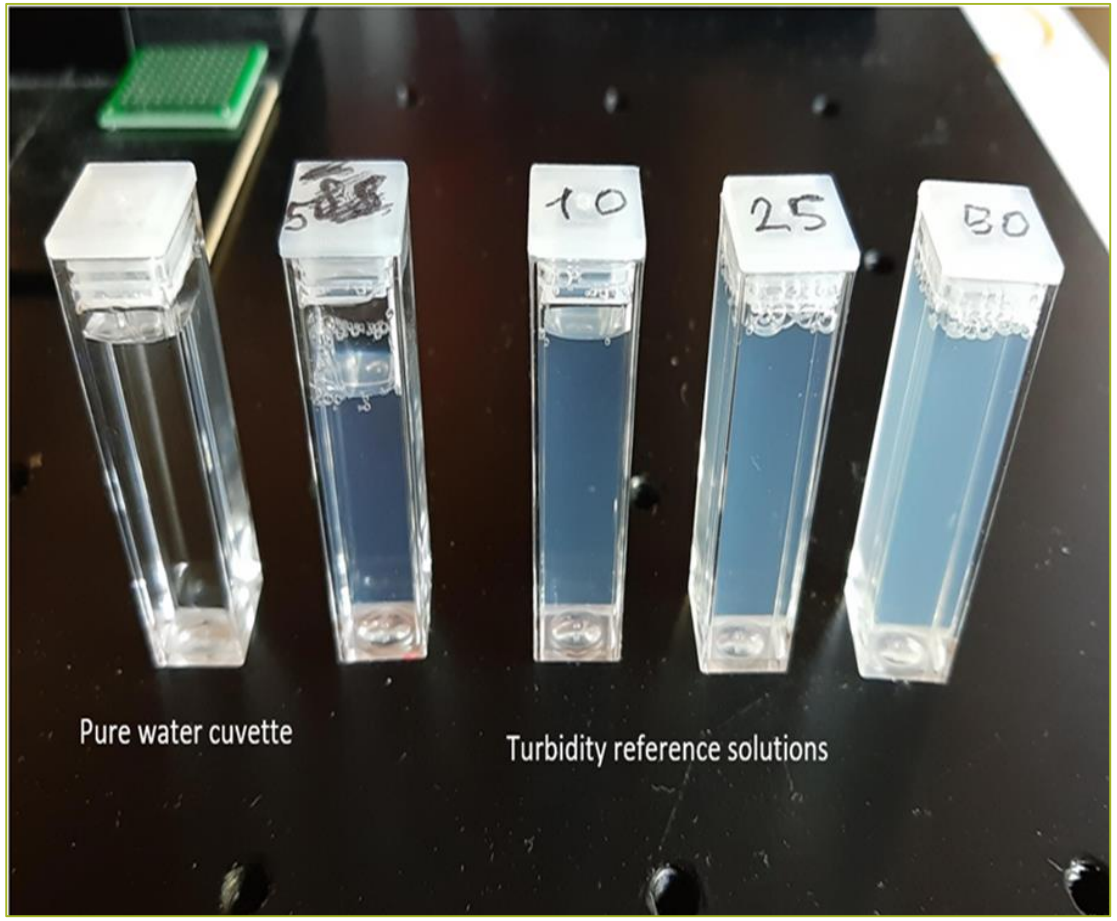
Lab/5

Turbidimetry

MSc.Yasmeen Kateb

INTRODUCTION

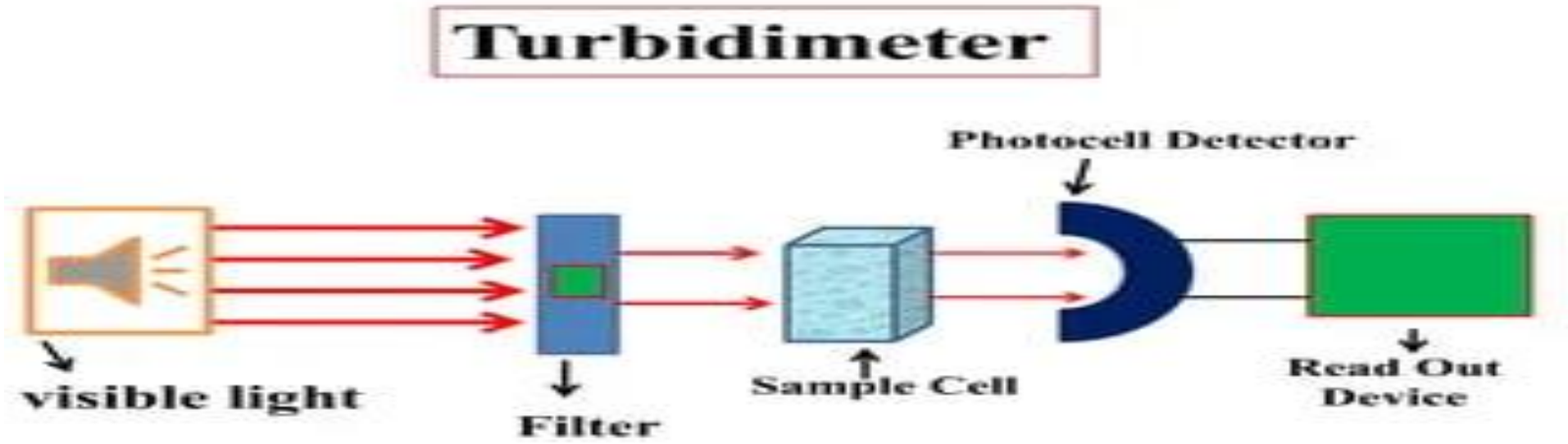
Turbidimetry is an analytical technique used to measure the turbidity (cloudiness) of a fluid due to the presence of suspended particles , the method is commonly used to quantify antigen-antibody complexes, the formation of antigen-antibody complexes increases the turbidity of the sample, which is measured by observing the transmission level of visible light.


10
25
30
Pure water cuvette
Turbidity reference solutions


0.00
DIGITAL
TURBIDITY METER

PRINCIPLE

Light Scattering: When light passes through a sample containing suspended particles, the particles scatter the light, the amount of light that reaches the detector is reduced, and this reduction is measured to determine the turbidity.



APPLICATIONS

- **Water quality:** Monitoring water treatment processes and detecting contaminants.
- **Biology:** Measuring cell concentrations in bacterial cultures or other biological suspensions.
- **Chemical Analysis:** Assessing the purity of solutions by detecting particulate matter.
- **Pharmaceuticals:** Ensuring the clarity and stability of pharmaceutical products.

ADVANTAGES AND DISADVANTAGES

Advantages:

- Simplicity: The technique is straightforward and easy to perform .
- Speed: Results can be obtained quickly.
- Non-Destructive: It does not alter the sample during measurement.

Disadvantages:

- Interference: The presence of colored substances can interfere with the measurement.
- Limitation on Sample Type: Not suitable for all types of samples, especially those with very low or very high turbidity.


thank
you