

Assay of Cyanocoblamine injection
(BP 1999)

Objectives

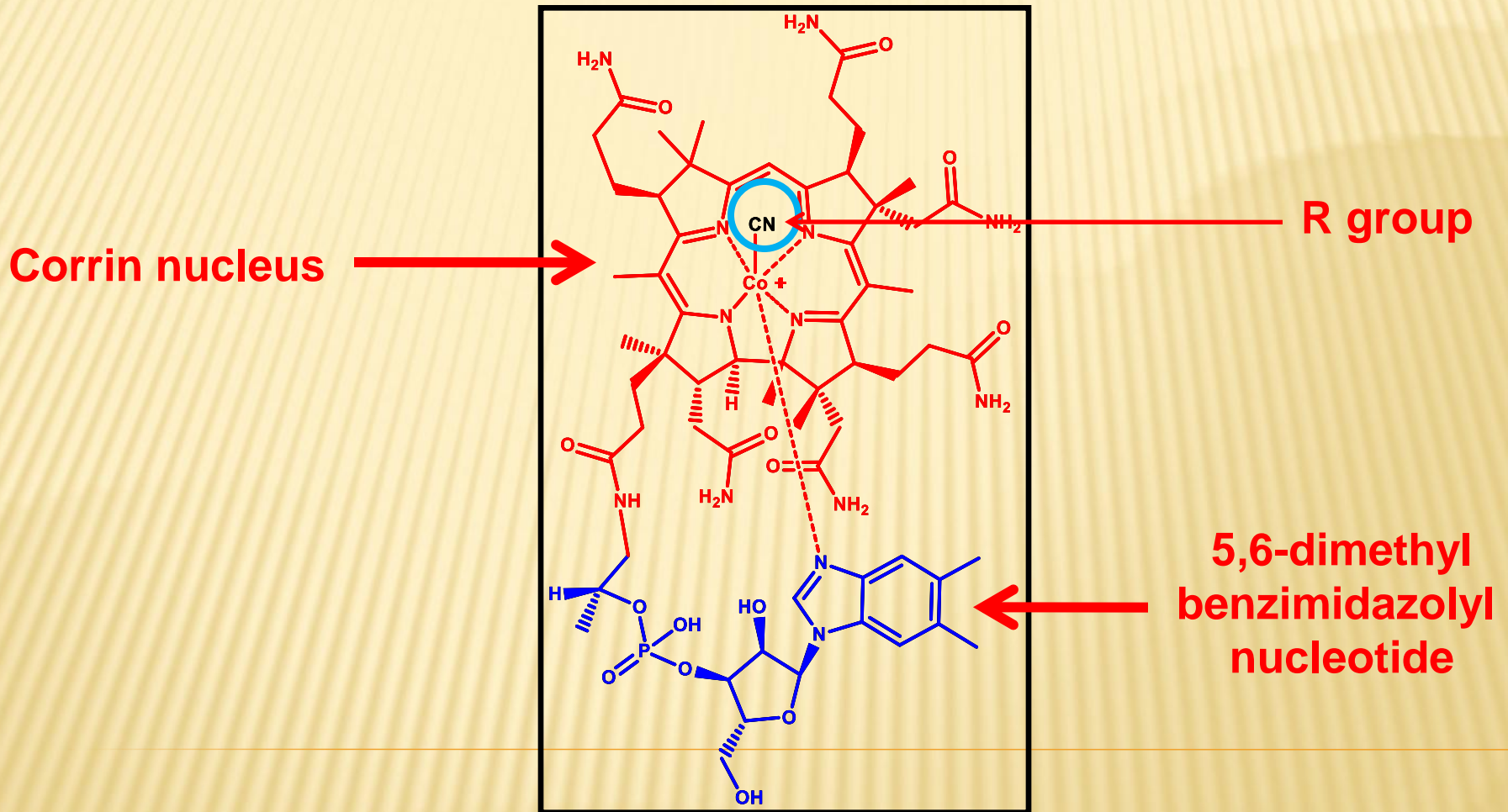
1-Structure and nomenclature of vit.B12

2-Hints about vit.B12

3-Assay of vit.B12 spectrophotometrically

4-Calculations and doing report

STRUCTURE AND NOMENCLATURE



Chemical nomenclature

$\text{Co}\alpha\text{-}[\alpha\text{-}(5,6\text{-dimethylbenzimidazolyl})]\text{-Co}\beta\text{-Cyanocobamide}$

1-Vit.B12 is water soluble vitamin

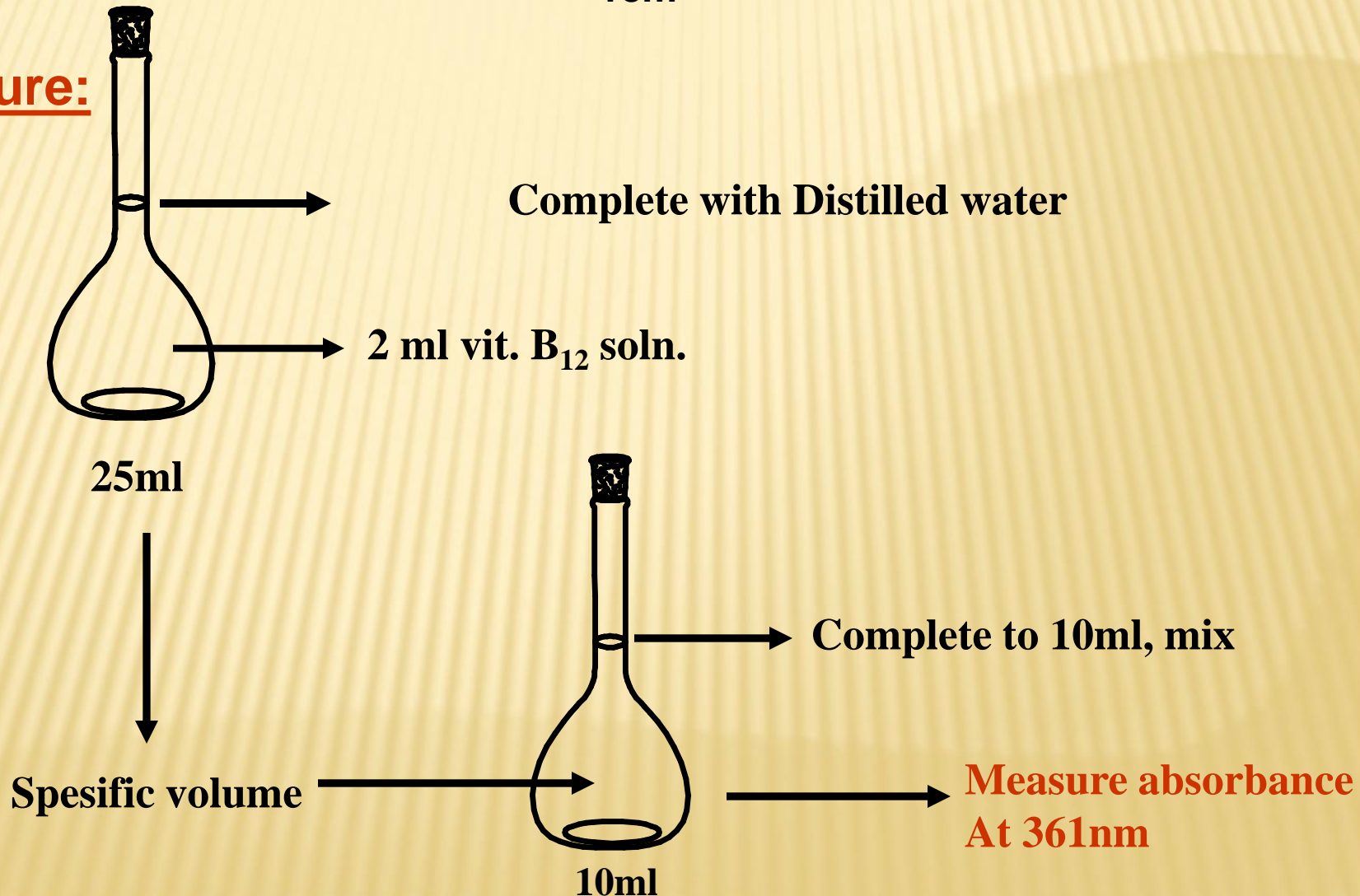
2-Vit.B12 is important for brain, nervous system and red blood cells.

3-Vit.B12 is essential vitamin(not synthesized by human) .only by bacteria

Principle of assay :

Spectrophotometric assay at maximum at 361nm
taking 207 as the value of $A_{1\%}^{1\text{cm}}$

Procedure:



Precautions

▶ **The solutions should be protected from light throughout the assay because cyanocobalamin is sensitive to light and photolysed in aqueous solutions to hydroxycobalamin which has lower absorptivity.**

Calculation:

% Recovery calculations:

$$A_{1\text{cm}}^{1\%} = \frac{\text{Au}}{\text{Cu}}$$

$$\text{Cu} = \frac{\text{Au}}{A_{1\text{cm}}^{1\%}} = \quad \text{g/100ml}$$

$$\text{Content} = \text{Cu} \times \text{D.F} = \quad \text{g}$$

$$\blacksquare \text{ \% Recovery} = \frac{\text{Content}}{\text{Labelled Content}} \times 100 =$$

Thank you