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spectrum of PNP; 4.3.2 Absorption of PNP as a function of pH; 4.3.3 Internal calibration of PNP; 4.3.4 Determination of B-galactosidase optimal pH; 4.3.5 Determination of B-galactosidase optimal temperature; 4.4 Second-day Experiments; 4.4.1 Kinetics of p-nitrophenyl-B-D-galactoside hydrolysis with B-galactosidase; 4.4.2 Determination of the B-galactosidase concentration in the test tube 4.5 Third-day Experiments 4.5.1 Determination of K_m and V_{max} of B-galactosidase; 4.5.2 Inhibition of hydrolysis kinetics of p-nitrophenyl-B-D-galactoside; 4.6 Fourth-day Experiments; 4.6.1 Effect of guanidine chloride concentration on B-galactosidase activity; 4.6.2 OD variation with guanidine chloride; 4.6.3 Mathematical derivation of K_{eq} ; 4.6.4 Definition of the standard Gibbs free energy, G° ; 4.6.5 Relation between G° and K_{eq} ; 4.6.6 Relation between G° and K_{eq} ; 4.6.7 Effect of guanidine chloride on hydrolysis kinetics of p-nitrophenyl-B-D-galactoside; References

5 Starch Hydrolysis by Amylase 5.1 Objectives; 5.2 Introduction; 5.3 Materials; 5.4 Procedures and Experiments; 5.4.1 Preparation of a 20 g IS1starch solution; 5.4.2 Calibration curve for starch concentration; 5.4.3 Calibration curve for sugar concentration; 5.4.4 Effect of pH; 5.4.5 Temperature effect; 5.4.6 Effect of heat treatment at 90.C; 5.4.7 Kinetics of starch hydrolysis; 5.4.8 Effect of inhibitor ($CuCl_2$) on the amylase activity; 5.4.9 Effect of amylase concentration; 5.4.10 Complement experiments that can be performed; 5.4.11 Notes; References; 6 Determination of the pK of a Dye

6.1 Definition of pK

Sommario/riassunto

Fluorescence spectroscopy is an important investigational tool in many areas of analytical science, due to its extremely high sensitivity and selectivity. With many uses across a broad range of chemical, biochemical and medical research, it has become an essential investigational technique allowing detailed, real-time observation of the structure and dynamics of intact biological systems with extremely high resolution. It is particularly heavily used in the pharmaceutical industry where it has almost completely replaced radiochemical labelling. Principles and Applications of Fluorescence
