

Independent Study Title Visible Spectrophotometer Processed by Computer

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ABSTRACT

The objective of this independent study entitled as “Visible Spectrophotometer Controlled by Computer” is to develop a prototype of scientific instrument that can measure visible light absorption of solvent. This instrument is controlled by computer through a parallel port that is a common port of personal computer.

A development of this instrument applied three knowledge domains:- physical science especially Physics and Chemistry for designing and building an optical system, electronic science for designing and building an analog-digital converter, including an interface circuit between computer and power supply, Computer Science for developing a program that controls the instrument such as data processing, display the result and communicates between the instrument and computer. This control program is developed by using Visual Basic.

After the development and testing of the instrument is completed, we have found that the developed instrument can analyze in order to find an absorption wavelength as well as an instrument used in a laboratory, though its quality of absorption peak is worse.

The cause of poor absorption peak may be due to the quality of some parts and the undesirable optical system design.

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