

An instrument for instant identification of chromatic changes in chemical reactions

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Colour change in a chemical is an indication of one of several causes. The reaction of the chemical occurs with the addition of another organic or inorganic substance. To monitor a reaction as it takes place, during the transition of its molecular structural properties, colour change is a useful criterion. In industrial manufacture of chemicals through their formation with many a combination and technique, to arrive at the needed composition, colour change is a very useful criterion. An instrument that can detect instantly and record the changes in the colour of the reacting substance has been developed, which uses a Provotech sensor. Using an embedded controller, and an exhaustive software to sense the colour, it can report the parameters quantitatively from instant to instant; it is a very compact and simple one to use in the laboratories or in production. The artificially intelligent program can sense and report colours by names in addition to the more detailed quantitative colour space parameters. The controller could also initiate action to time a reaction to occur, to stop a reaction at the intended level by the sensing of the changes in hue, say from 640 nm to 650 nm. Though a simple and economical instrument, it provides useful colour value information during the transition phase of any reaction and reports the data to a computer in addition to a display on LCD of the hue, saturation and colour name, such as reddish purple.

Keywords: Provotec sensor, embedded controller, C.I.E. chromaticity diagram, colour space, FTIR.
