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(54) Title: METHOD AND APPARATUS FOR GENERATING BASIS SETS FOR USE IN SPECTROSCOPIC ANALYSIS

(57) Abstract

One or more basis sets are applied to a spectroscopic signal during analysis to produce an accurate spectral representation from which analyte concentration may be accurately determined. A basis set includes all interfering components found in a sample, such as serum. With regard to an analyte, such as glucose, it is necessary to define those components of a sample that have a larger interference than that of glucose. A basis set may be generated, for example, that produces a transform for the red blood cells that interfere or scatter the light; and also for skin effects. Once the spectra of all these components is known, it is then necessary to determine how each of these components interact, e.g. taking serum data, extracting each of the components, and then comparing the spectra for the individual components with that of the components in solution. The invention characterizes each component in a sample, as well as all other possible interferants and, after producing an accurate representation of each component at each frequency of interest, identifies and subtracts each interferant from the spectra produced at the frequency of interest. The basis sets may take the form of transforms that may be stored in a look–up table for use during analysis.

