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(54) Title: BAYESIAN MODELLING TO PREDICT PROPERTY SPECTRUM

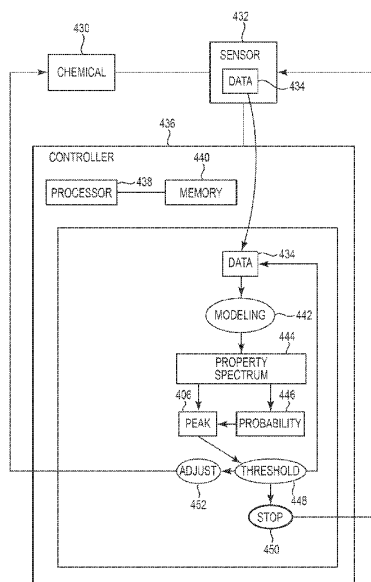


Fig. 4

(57) Abstract: Bayesian modeling can be used to predict a property spectrum. Measurement of a property associated with a chemical can be initiated over a range of frequencies or wavelengths. Data collected from the measurement can be modeled recursively to an expected property spectrum using Bayesian modeling before completion of the measurement over all of the range of frequencies or wavelengths. A peak in the property spectrum can be predicted and a probability of the peak can be calculated recursively according to the data before completion of the measurement over all of the range of frequencies or wavelengths. The measurement can be stopped before completion thereof over all of the range of frequencies or wavelengths in response to the probability being greater than a threshold value.

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