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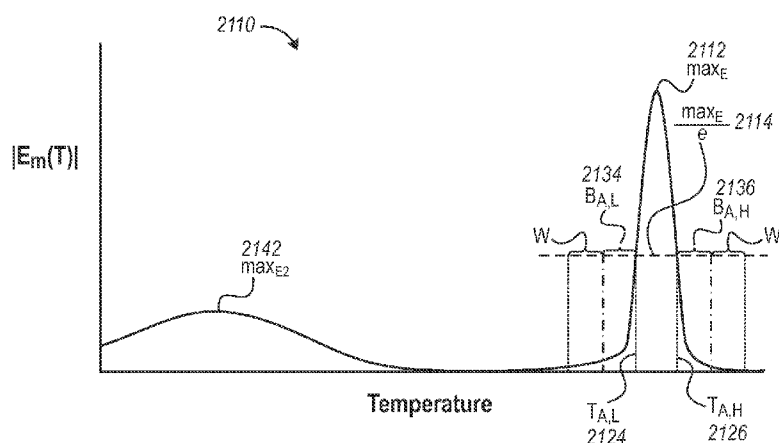


FIG. 21A

(57) **Abstract:** An experimental melting curve is modeled as a sum of a true melting curve and background fluorescence. A deviation function may be generated based upon the experimental melting curve data and a model of a background signal. The deviation function may be generated by segmenting a range of the experimental curve into a plurality of windows. Within each window, a fit between the model of the background signal and the experimental melting curve data may be calculated. The deviation function may be formed from the resulting fit parameters. The deviation function may include background signal compensation and, as such, may be used in various melting curve analysis operations, such as data visualization, clustering, genotyping, scanning, negative sample removal, and the like. The deviation function may be used to seed an automated background correction process. A background-corrected melting curve may be further processed to remove an aggregation signal.