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(54) **Title**: OPTICAL SYSTEMS AND METHODS FOR BIOLOGICAL ANALYSIS

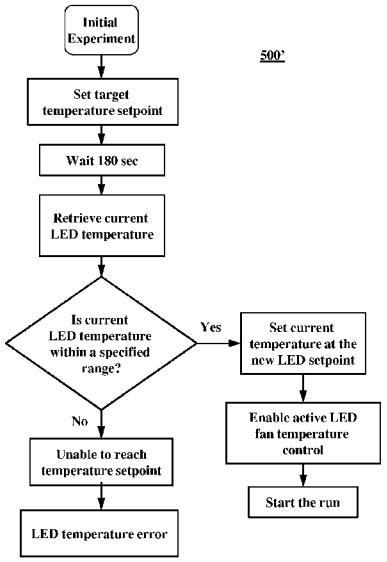


FIG. 16

(57) **Abstract**: An instrument for processing and/or measuring a biological process contains a sample processing system, an excitation source, an excitation optical system, an optical sensor, and an emission optical system. The sample processing system is configured to retain a first sample holder and a second sample holder, wherein the number of sample cells is different for each sample holder or a characteristic dimension for the first sample cells is different from that of the second sample holder. The instrument also includes an excitation source temperature controller comprising a temperature sensor that is coupled to the excitation source. The temperature controller is configured to produce a first target temperature when the first sample holder is retained by the instrument and to produce a second target temperature when the second sample holder is retained by the instrument.

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