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(54) **MONITORING AND CONTROLLING UNIT OPERATIONS**

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ABSTRACT

Fluid sensor methods and systems adapted for monitoring and/or controlling distillation operations in fluidic systems, such as batch distillation operations or continuous distillation operations, are disclosed. Preferred embodiments are directed to process monitoring and/or process control for unit operations involving endpoint determination of a distillation, for example, as applied to a liquid-component-switching operation (e.g., a solvent switching operation), a liquid-liquid separation operation, a solute concentration operation, a dispersed-phase concentration operation, among others.

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