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(54) Title: DEVICES, SYSTEMS AND METHODS FOR SAMPLE PREPARATION

(57) Abstract: Devices, systems and methods including a sonicator for sample preparation are provided. A sonicator may be used to mix, resuspend, aerosolize, disperse, disintegrate, or de-gas a solution. A sonicator may be used to disrupt a cell, such as a pathogen cell in a sample. Sample preparation may include exposing pathogen-identifying material by sonication to detect, identify, or measure pathogens. A sonicator may transfer ultrasonic energy to the sample solution by contacting its tip to an exterior wall of a vessel containing the sample. Multipurpose devices including a sonicator also include further components for additional actions and assays. Devices, and systems comprising such devices, may communicate with a laboratory or other devices in a system for sample assay and analysis. Methods utilizing such devices and systems are provided. The improved sample preparation devices, systems and methods are useful for analyzing samples, e.g. for diagnosing patients suffering from infection by pathogens.



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