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(54) Title: SYSTEMS, METHODS, AND DEVICES FOR AUTOMATED NUCLEIC ACID AND PROTEIN ISOLATION

(57) Abstract: Purifying target biomolecules, such as nucleic acids or proteins, from a biological source is a time intensive process and is typically performed by a skilled technician or scientist owing to the highly technical nature of the work. Systems, devices, and methods disclosed herein enable the automated bioprocessing and purification of target biomolecules from a biological source. For example, an instrument and disposable cartridge are provided for automatically isolating and purifying nucleic acids (such as plasmid DNA from a bacterial culture) or for isolating protein from any biological sample. Such an exemplary instrument and cartridge can work in concert to timely release, mix, and move the target biomolecule and various reagents and buffers through a target biomolecule purification process, resulting in a purified target biomolecule with less manual oversight than traditional approaches.

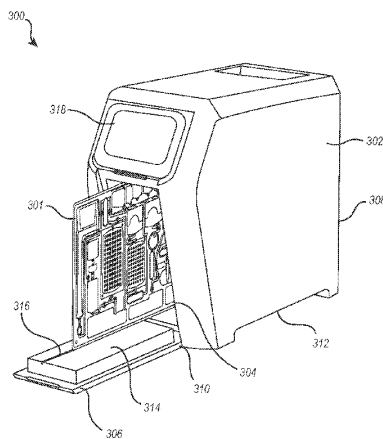


FIG. 10

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