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(54) Title: METHODS AND APPARATUSES FOR GENE PURIFICATION AND IMAGING

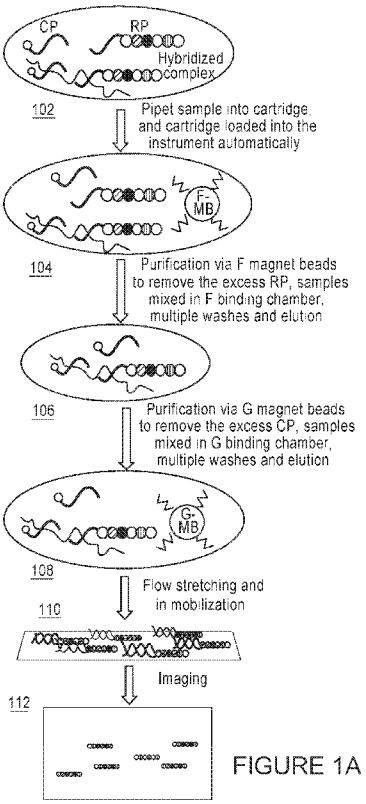

FIGURE 1A

(57) Abstract: The present disclosure is directed to systems, devices and methods for nucleic acid or protein purification and imaging. A system is provided including a cartridge comprising a sample input area configured to hold a sample, comprising a plurality of hybridized complexes comprising a plurality of target molecules each hybridized with probes and a plurality of non-hybridized probes. The cartridge may also include a first binding chamber configured with first magnetic beads to receive and bind the sample, a first elution channel configured to receive the first magnetic beads and elute the sample from the first magnetic beads, a second binding chamber configured with second magnetic beads to receive and bind the sample, a second elution channel configured to receive the second magnetic beads and elute the sample from the second magnetic beads, and a binding area configured to receive the eluted sample and hold molecules for imaging.

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