

Box III Text of the abstract

The invention is to provide instruments and methods for amplifying nucleic acids in a sample provided in a flexible, self-contained, substantially closed sample container. The instrument comprises a first support member and a second support member, an opening for receiving a flexible reaction container between the first support member and the second support member, the container comprising a loading attachment, a plurality of reaction zones, and one or more sealable flow paths, each having a first side connecting the loading attachment to one or more fill ports, at least one of which is configured for receiving the sample, and a second side connected to at least one of the plurality of reaction zones, the sealable flow paths providing the only access from the one or more fill ports to the plurality of reagent zones such that when the first side of all of the one or more sealable paths are sealed, the container is fully closed, a heat sealing system comprising a plurality of heaters provided on at least one of the support members so as to contact the loading attachment and the one or more sealable flow paths, wherein the heaters include a number of individually controlled heaters associated with each of the first side of the one or more sealable flow paths.