
ABSTRACT**SEALING PROCESS FOR WELL PLATE, HIGH-THROUGHPUT SCREENING METHOD, WELL PLATE HEAT SEALING DEVICE, AND HIGH-THROUGHPUT SCREENING SYSTEM**

The present application relates to the technical field of high-throughput chemical reactions, and in particular to a sealing process for a well plate, a high-throughput screening method, a well plate heat-sealing device, and a high-throughput screening system. The sealing process for a well plate comprises: covering a layer of film above blind wells of a well plate and then performing heat sealing, wherein the material for forming the film is consistent with the material of the part of the well plate in contact with the film, and the heat-sealing conditions comprise: the heat-sealing temperature is 5-65 °C higher than the melting point of the material of the film, and the heat-sealing duration is 0.3-4.5 s. The sealing process can solve problems that sealing of a single well with a small volume in an existing well plate is difficult and a temperature tolerance of an existing well plate sealing process is low. Thus, a well plate reaction device is allowed to expand its applicable ranges of reaction temperatures and reaction solvents in high-throughput screening, implementing heating and oscillating reactions, and also implementing chemical reactions under conditions exceeding the boiling points of solvents.

FIG.19