

THERMAL CYCLING SYSTEM

ABSTRACT OF THE DISCLOSURE

A thermal cycling system includes a light source, an optical element, a set of optics, a chamber and a cooling device. The light source emits light to an optical path. The optical element is disposed on the optical path for magnifying and collimating the light into an output beam. The set of optics is disposed behind the optical element along the optical path for evenly expanding and distributing the output beam. The chamber is disposed behind the set of optics along the optical path for receiving a plurality of target samples. The cooling device is attached to the chamber for cooling the chamber. The target samples are continuously cooled by the cooling device, and the light source is enabled for heating the target samples or disabled according to a thermal cycling profile. Therefore, an ultrafast thermal cycling with uniform heating and precise temperature control for multiple target samples is implemented.

Fig. 1