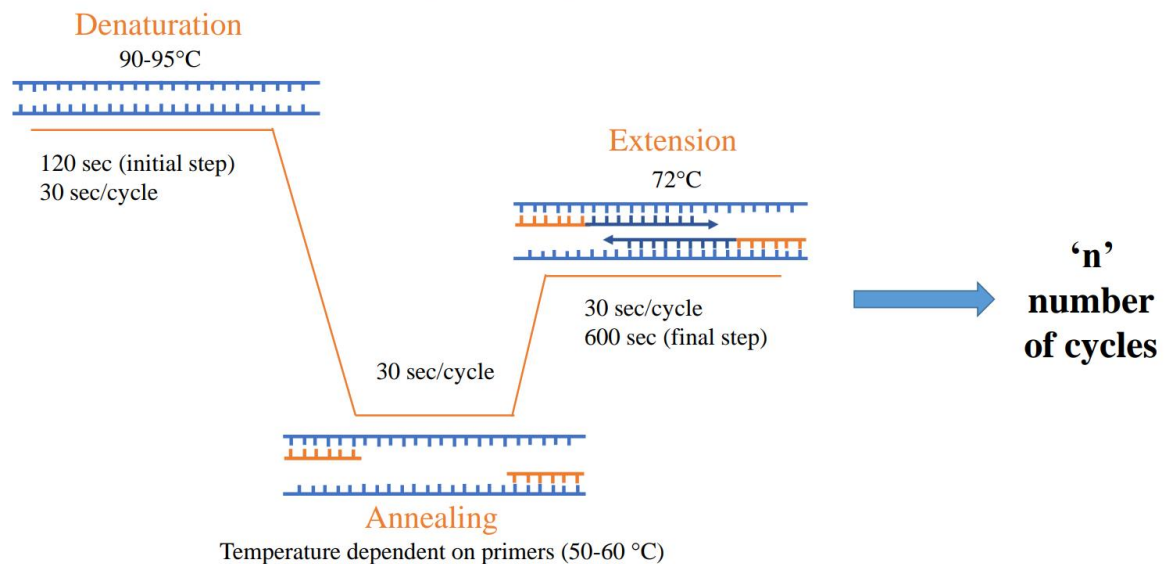


# WEL PCR

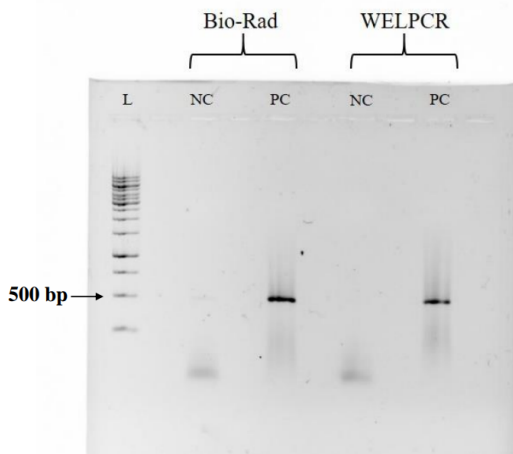
WELPCR is a low-cost PCR machine for DNA amplification. It is basically a thermocycler that used a peltier as heat pump, STM32F10 microcontroller, a power supply of 12V, 10A. Samples are loaded in WELPCR using 0.2ml Eppendorf tubes. To prevent the condensation on tube lid, the tube lid is heated to 100 °C. The lid is heated using nichrome heater. Temperature sensors are attached to both, lid and tube holder to send feedback. It also has an LCD display screen. It takes nearly 2 hours to perform 35 cycles. Cost of BOM is less than 10,000 Rupees.

## Temperature profile of PCR



## Comparison of WELPCR and Bio-Rad

*Comparative image of agarose gel electrophoresis for 503bp segment of bacteriophage phi6.*



*Estimation of amplified DNA (Nanodrop Spectrophotometer at 260nm)*

	Thermal cycler	Concentration (ng/μl)
1	Bio-Rad MJ Mini™ Personal thermal Cycler	20.1
2	WELPCR	16.5