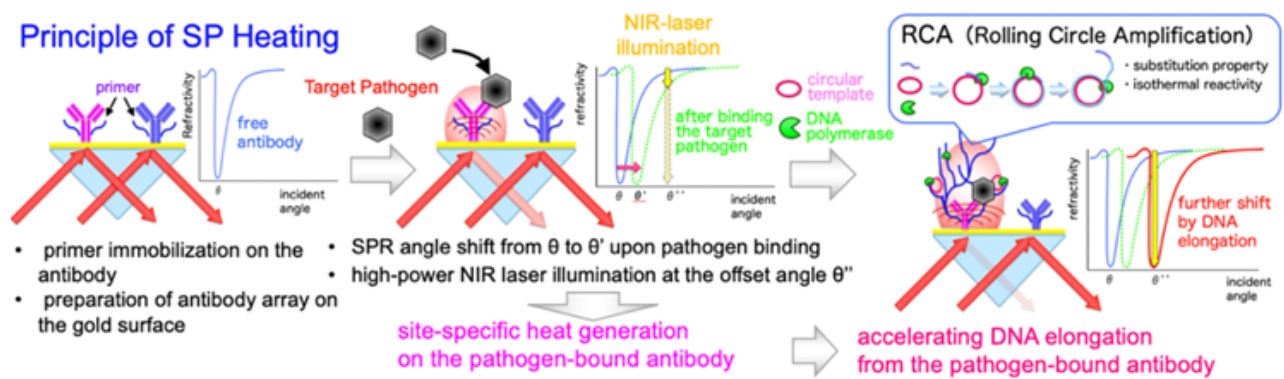


Scheme 1. Progress of the diagnostic devices and the key technologies



Scheme 2. The concept of site-selective heating by damping of SP field propagating on gold surface, on which the active ligand and control (inert ligand) molecules are immobilized as individual spots. Upon illumination at the offset angle, the SP fields should be effectively generated at the analyte binding site, and the resulting heat can induce site-selective DNA elongation from the primers immobilized on the analytes. The amplified DNA (amplicons) elongating on the analytes contributes more effectively to the increase of the SPR angle than the initial binding of analytes to the ligands