

Diseases continue to be a major challenge in developing countries with massive impact on the already overburdened economies. The demand for health service is ever increasing due rapid population growth. Since most medical instruments are bulky and expensive, rapid diagnostic kits for early disease recognition have been used to a great extent. The worldwide clinical diagnostics industry is valued at approximately \$19 billion. Currently rapid diagnostic kit casings are made of plastic because of its advantages during the fabrication, however little attention has been given to the life of the kits after use. Plastic casing used in diagnostic kits take a long time to degrade and this led to adverse effect in soil and water pollution. Some kits have been developed for highly infectious diseases like HIV and TB. Their disposal creates biohazard waste accumulation especially in developing countries where regulation and management of biohazardous waste is not developed yet. There is high risk of environmental contamination, exposure to human beings and animals. This study aims at adopting casings derived from degradable cellulosic materials to replace the non-degradable plastic casing. This will be achieved through chemical grafting to form a monolayer of hydrophobic molecules on the surface of cellulosic materials. The exposed hydroxyl groups (OH) in cellulosic materials will be functionalised without compromising mechanical properties. The surface modification of cellulosic materials will be tested for wetting properties by goniometer. Surface morphology and composition of modified will be screened by scanning electron microscope (SEM) and X-ray photoelectron spectroscopy (XPS). The suitable cellulosic materials identified will be used in fabrication of degradable, affordable and completely incinerable of diagnostic kit casing. Fabrication of the casing will ease accumulation biohazardous waste in developing countries.