Biosensor technologies for field applications

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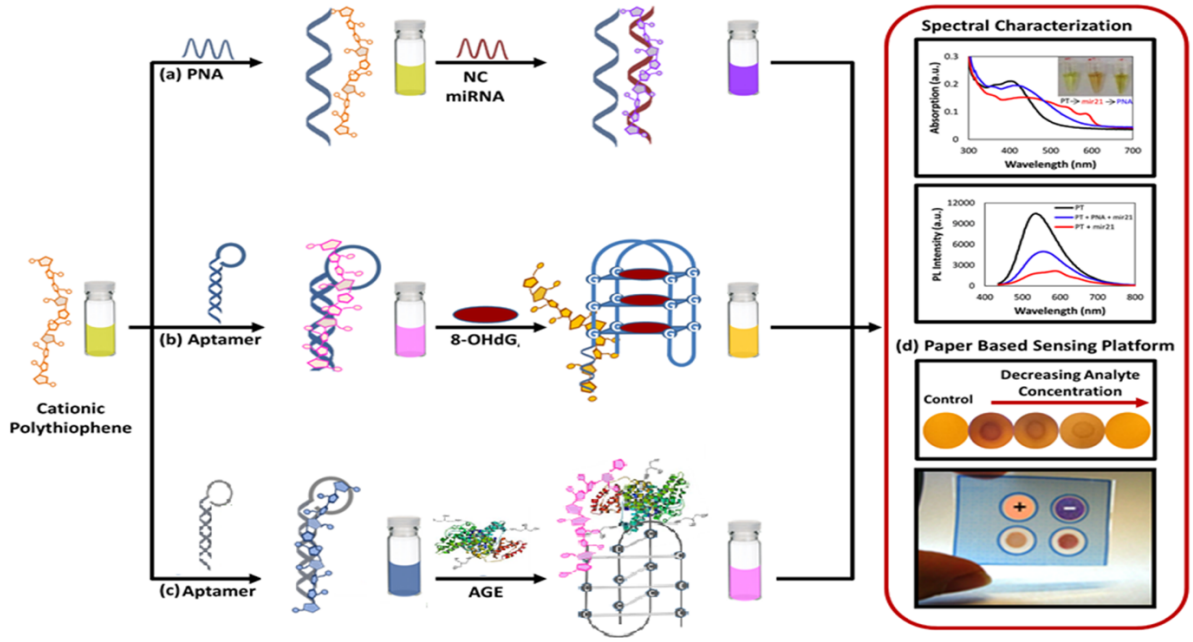
The development of low cost, rapid and robust tools for biosensor and diagnostic applications in the field has become an challenging task for the analytical communities. This contribution describes a few engineering solution that are designed to meet the demands in the less privileged regions or the world. The focus is on analytical solutions that don't require massive external preprocessing of the sample of interest. Nor should they require sophisticated instrumentation for reading the analytical signal. Ideally the analysis should be done in homogeneous solution or on a simple paper strip, and the signal should be read by the naked eye. A few examples from the environmental and biomedical sectors are given to demonstrate the activities including: 1) membrane protease (OmpT) as target for highly sensitive (1 CFU, in 6h) and selective detection of bacteria, *E.coli,* in water and food samples; 2) polymer impregnated polymer membranes for detection of nucleic acids and metabolic biomarkers[1,2].



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