

## PDA(polydiacetylene)-Based Strip for Cryptosporidium Parvum Detection

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A novel application of Polydiacetylene (PDA) as an useful tool to detect parasites (*Cryptosporidium parvum*) will be developed. In this experiment, PDA vesicles coated with the first antibodies are immobilized at the bottom of the strip, while the first antibodies and the second antibodies are immobilized on the strip as a test zone and a control zone. When dip the strip into the unknown sample, the solution will migrate along the strip by capillary action. Positive result will give two red lines because parasite-liposome complex and free liposomes will be held at the test zone and the control zone respectively, while negative result will give one red line only at the control zone. Another model, that immobilizes liposomes coated with the first and the second antibodies at the test zone and the control zone respectively while the first antibodies at the bottom of the strip, will also be investigated, and in this case, positive result will change the two blue lines in the test zone and the control zone into red while negative result has no color change. Fluorescent properties of PDA vesicles will also be investigated which is helpful in elevation of sensitivity.