SUPPORTING INFORMATION

A WATER SOLUBLE FLUORESCENT PROBE FOR SELECTIVE AND SENSITIVE

DETECTION OF PICRIC ACID - A NITROEXPLOSIVE

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Table S1. Optimization conditions for SAP oxidation

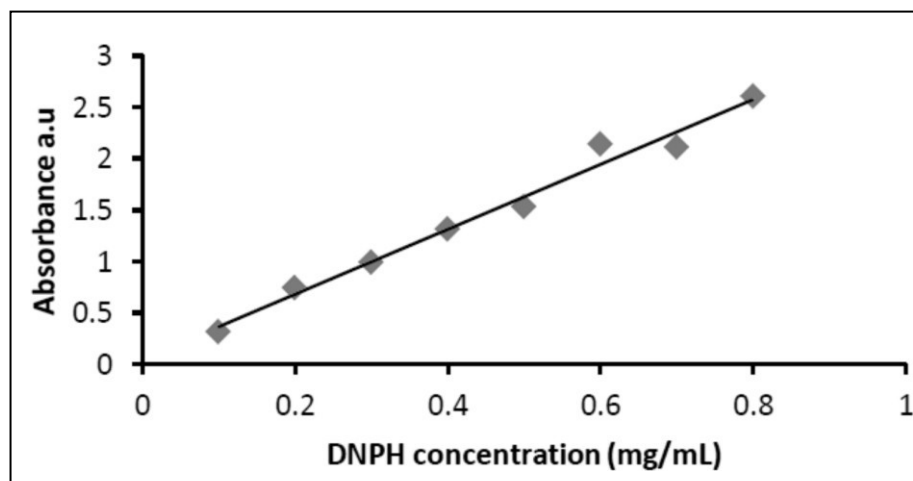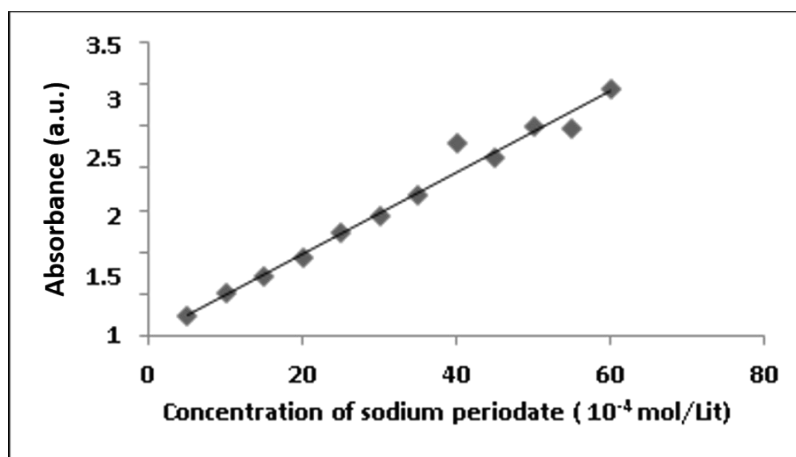| Saponin (g)	Volume of water (mL)	Sodium periodate (g)	Time (h)	Temperature (°C)
1	100	0.2 to 1.8	2	35
1	100	1.2	1 to 6	35
1	100	1.2	4	35 to 55
1	100	1.2	4	45

Fig. S1. The calibration graph of DNPH

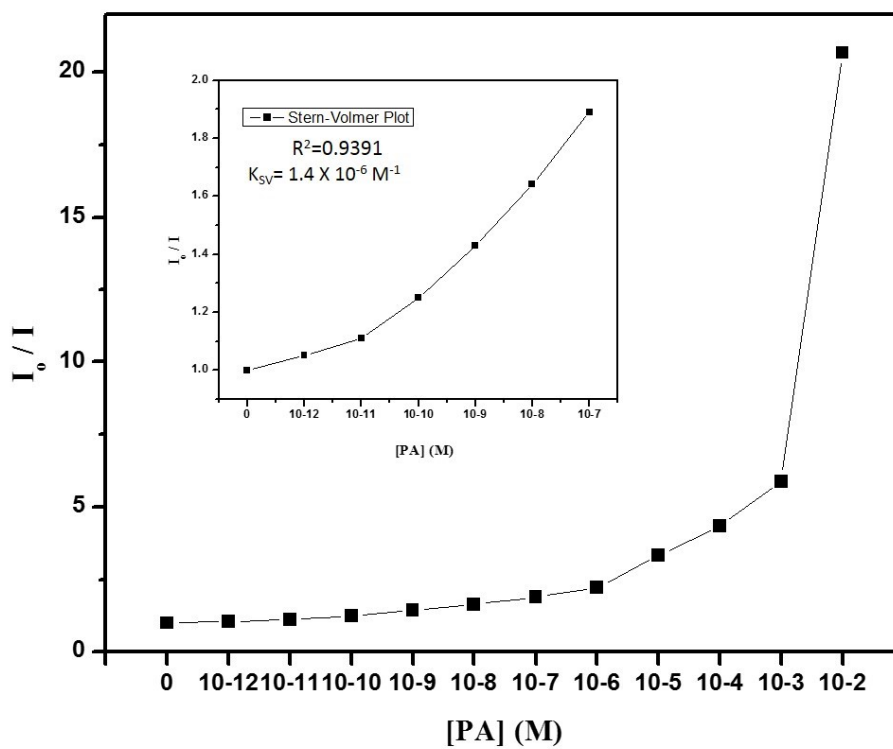**Fig. S2. The calibration graph of Periodate**

Fig. S3. Stern–Volmer plots for sensor-SAPAL-PY using PA as a quencher. Inset: Stern–Volmer plots at lower concentration region of PA.
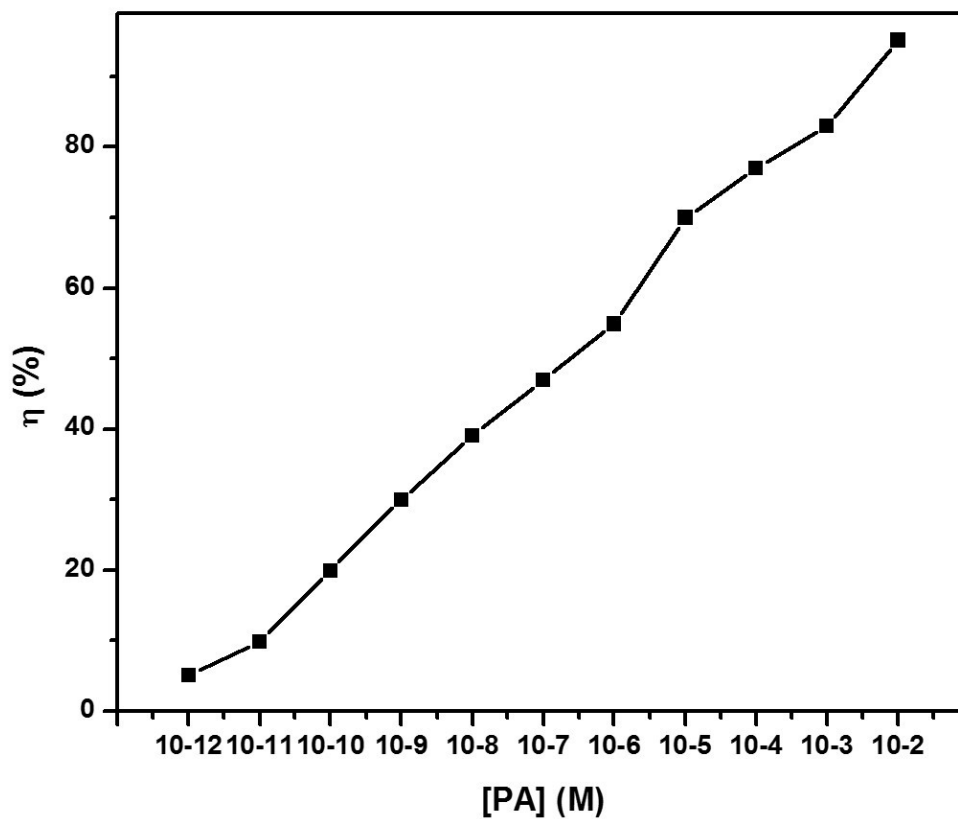
Fig. S4. Quenching plots of SAPAL-PY as a function of PA concentration.
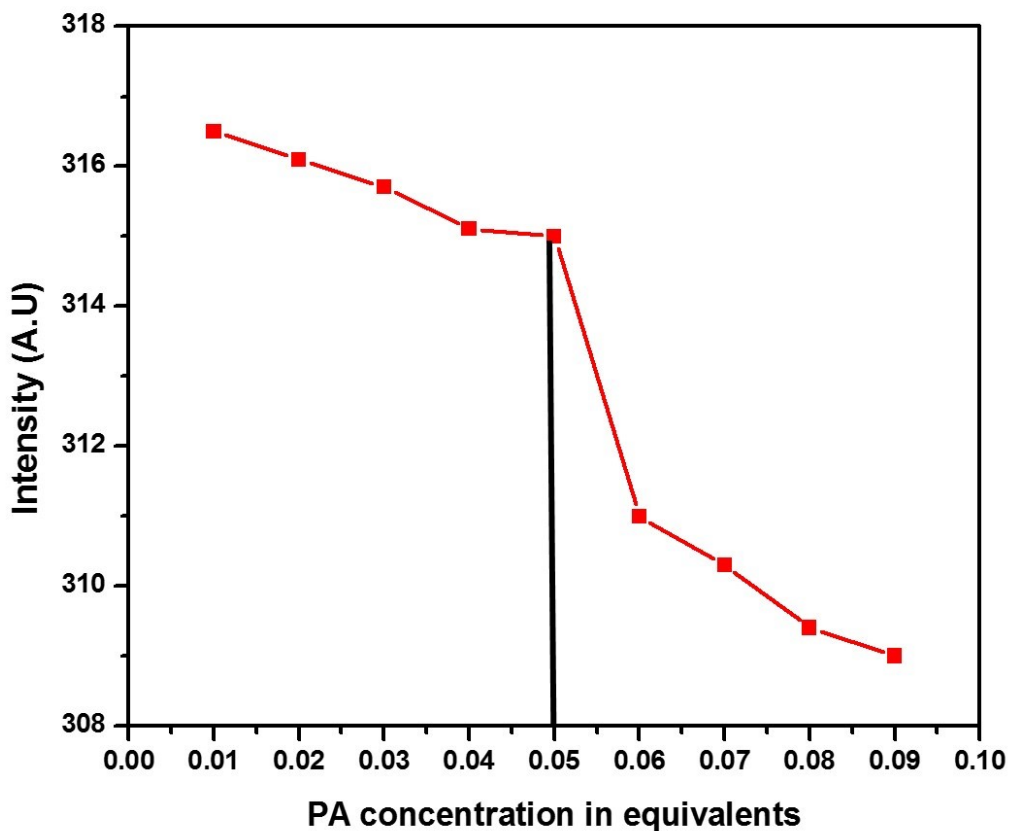
Fig. S5. Fluorescence intensity of SAPAL-PY as a function of PA concentration.

To determine the detection limit, fluorescence intensity of SAPAL-PY with picric acid as a function of picric acid concentration was plotted. From the plotted graph, the concentration at which a sharp or steep change in fluorescence intensity observed was multiplied with the concentration of SAPAL-PY gave the detection limit.

$$DL = CL \ X \ CT$$

C_L = concentration of SAPAL-PY ($1X10^{-8}$ M L^{-1})

C_T = concentration of PA at which sharp change occurred.

Therefore, detection limit,
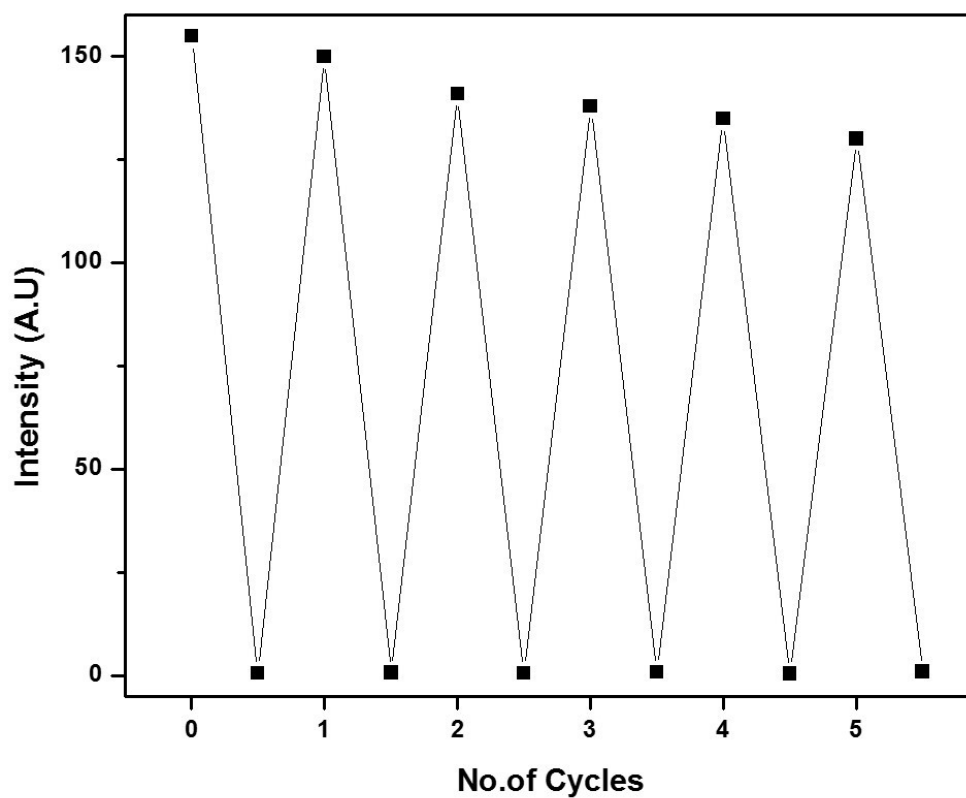
DL = $1X10^{-8}$ M L^{-1} X 0.05 equiv

   = $5X \ 10^{-10}$ ML^{-1}

Fig. S6. Reversibility of sensing film to PA