

Figure S1. (a) Fluorescence and (b) maximum emission intensity of CdTe QD at different excitation wavelengths.

To meet the requirements of trace detection, the fluorescence intensity of CdTe QD at different excitation wavelengths was tested. As shown in Figure S1, CdTe QD showed excitation wavelength independence and exhibited the strongest fluorescence intensity at the excitation wavelength of 360 nm. Thus, we chose 360 nm as the excitation wavelength.

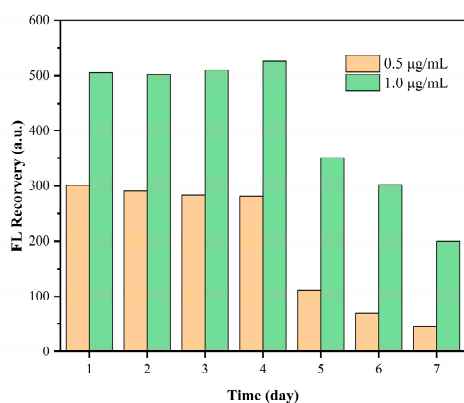


Figure S2. Fluorescence recovery of the biosensor towards 0.5 µg/mL and 1 µg/mL SrMV CP over 1-week period.

To characterize the long-term stability, the CdTe QD-Ab+AuNP-CP immune complex has been stored at 4 °C and monitored its fluorescence recovery daily with 0.5 and 1 µg/mL of SrMV CP within 1 week. As shown in Figure S2, the fluorescence recovery of the sensor kept basically stable over the first 4 days. However, after the fourth day, fluorescence recovery decreased significantly, which may be due to the degradation of proteins in the nanocomposites.