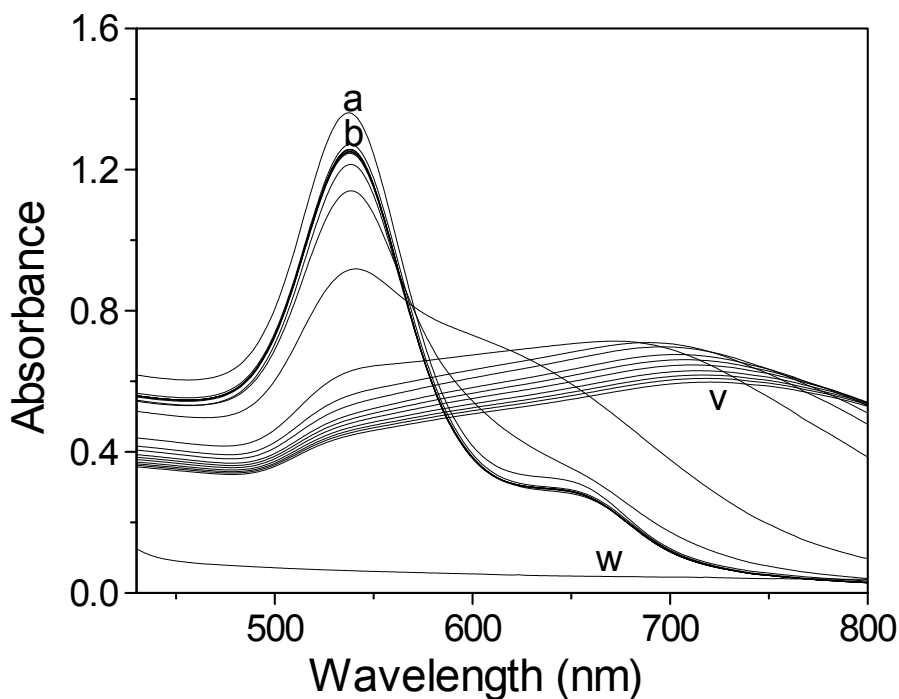


Supplementary information



The time dependent UV-visible spectra of the reaction of Au@ZrO₂ with CCl₄. The traces were recorded at an interval of 20 minutes. Trace (a) is the absorption spectrum of pure Au@ZrO₂. Trace (b) was recorded just after the addition of 100 μ l of CCl₄. The reactivity was very slow and decrease in the plasmon was not abrupt. After 3 h and 20 minutes, another plasmon emerges at longer wavelength and the solution turned bluish. With further passage of time the intensities of both the peaks decrease. After 15 h (trace w), there is complete disappearance of the plasmon and the solution turned colourless.