

**Localized surface plasmon resonance of silver nanoparticles for sensitive
colorimetric detection of chromium in surface water, industrial waste water and
vegetable samples**

**Kamlesh Shrivs^{1*}, Swapan Sahu¹, Goutam Kumar Patra¹, Nitin Kumar Jaiswal² and Ravi
Shankar^{3,4}**

¹Department of Chemistry, Guru Ghasidas Vishwavidyalaya, Bilaspur, CG-495009, India

**²Department of Chemistry, School of Engineering and Research, ITM University, Raipur,
CG-493661, India**

**³Nano science and Nanoengineering Program, South Dakota School of Mines and
Technology, Rapid City, South Dakota, USA**

⁴Fujifilm Imaging Colorants, Inc. 233 Cherry Lane, New Castle, Delaware 19720, USA

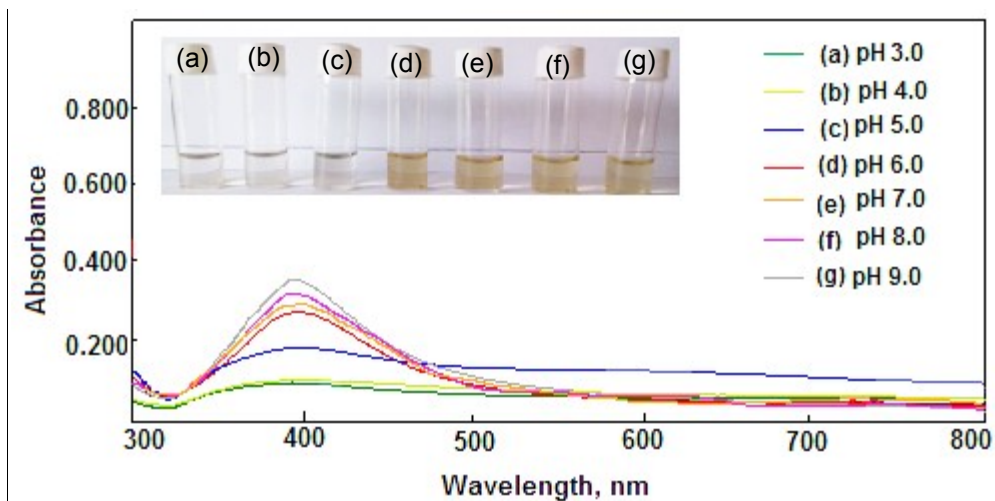


Fig. S1. Photographs of glass vials containing AgNPs/TA and different pH solutions (2.0, 3.0, 4.0, 5.0, 6.0, 7.0 and 9.0) for 5 min of reaction time at room temperature along with their UV-visible spectra

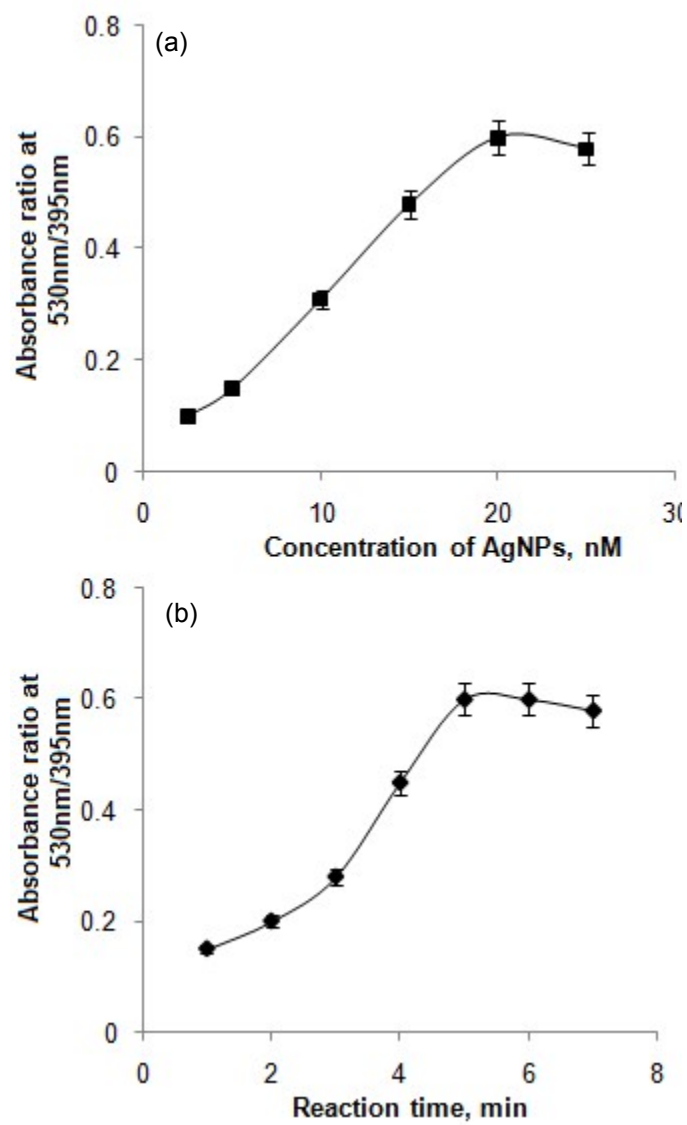


Fig. S2. (a) Effect of concentration of AgNPs/TA and (b) reaction time on absorbance ratio for determination of chromium ($50 \mu\text{gL}^{-1}$) at pH 7.0 at room temperature