

# Simple fluorescence-based detection of Cr (III) and Cr (VI) using unmodified Gold Nanoparticles

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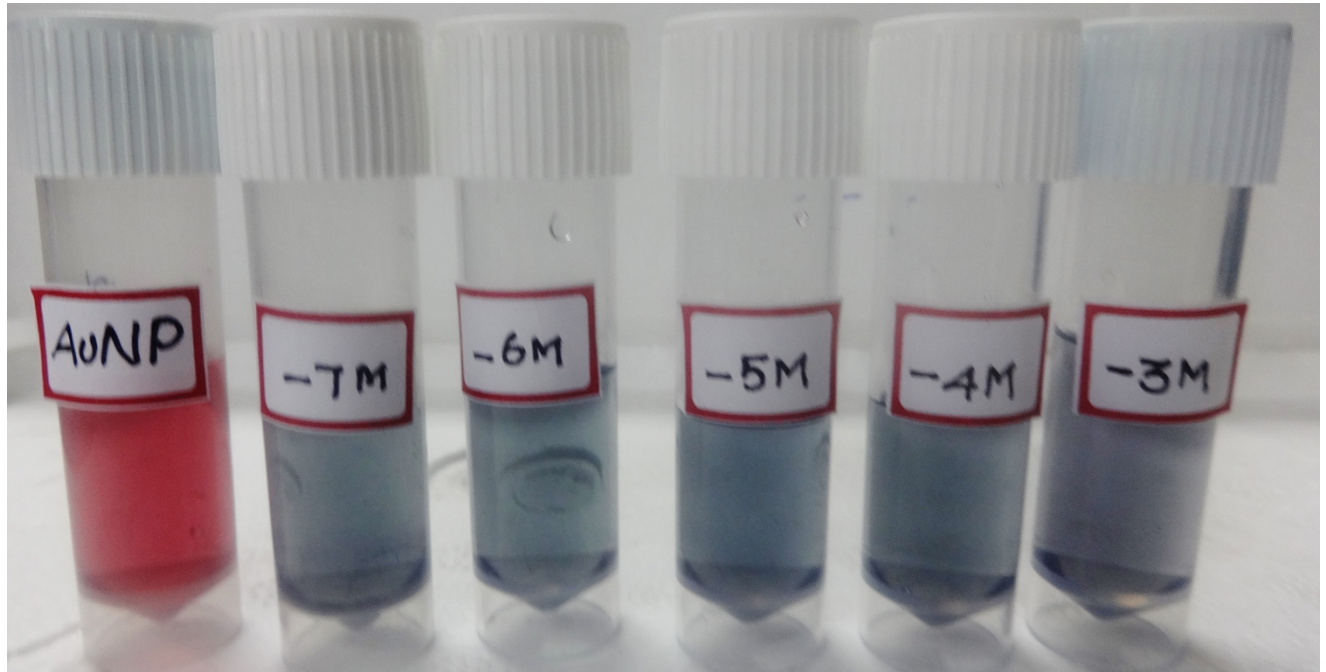
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**RESULTS:**

**Figure S1. Visual photograph of color change when various concentrations ( $10^{-7}$ - $10^{-3}$  M) of Cr (III) were added to Au NPs**



**Table S1. The volume ratio of Au NP and Cr (III) was determined by using different range of volume ratios [range:  $10^{-3}$  M -  $10^{-7}$  M]**

Volume of Au NP ( $\mu$ l)	Volume of Cr(III) ( $\mu$ l)	AuNP/Cr(III) volume ratio	Different Cr (III) concentrations				
			$10^{-7}$ M	$10^{-6}$ M	$10^{-5}$ M	$10^{-4}$ M	$10^{-3}$ M
700	200	3.5:1	253	436	344	543	234
700	300	2.3:1	710	659	582	477	382
700	500	1.4:1	326	262	182	137	428

**Table S2. The fluorescence intensity measured at a range of Cr (III) concentrations [range:  $10^{-3}$  M -  $10^{-7}$  M] at different pH**

pH	Different Cr (III) concentrations				
	10 <sup>-7</sup> M	10 <sup>-6</sup> M	10 <sup>-5</sup> M	10 <sup>-4</sup> M	10 <sup>-3</sup> M
3	710	659	582	477	382
4	524	273	541	652	752
5	361	614	482	731	384

**Table S3. The comparison of Cr concentration observed by the current method to that measured by AAS for tap water and Lake water**

Source	Fluorescences Intensity	Chromium concentration range (ppb)	Chromium concentrations by AAS (ppb)
Tap water	562	500-50	187±1
Lake water	523	500-50	125.±1