

**DETERMINATION OF TOTAL PHENOLIC CONTENT IN
WATER USING UV-VIS SPECTROMETRY**

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ABSTRACT

DETERMINATION OF TOTAL PHENOLIC CONTENT IN WATER USING UV-VIS SPECTROMETRY

Phenolic content are most important contaminants exist in the surroundings. The release of phenol to the water is considered as a polluting chemical because it leads to several diseases if exposed to human being as well as animals if exceeded the allowable amount of TPC in water. A much more simple method with no usage of hazardous chemical which is chloroform, is use to determine TPC in water that is 4-aminoantipyrine method and was analysed using UV-Vis Spectrophotometer. The parameter for method validation are linearity, limit of detection, limit of quantification, repeatability, reproducibility as well as percent recovery. Calibration curve obtained from phenol standard range between 1 ppm to 7 ppm shows correlation coefficient of 0.9993 showing good linearity. Using this method, the LOD and LOQ obtained were $0.0159 \pm 0.001 \text{ mg L}^{-1}$ and $0.257 \pm 0.0049 \text{ mg L}^{-1}$. The repeatability is 1.84 % and the reproducibility is 11.61 %. The recovery test done were spiked with phenol at 1 ppm, 2 ppm, 5 ppm and 6 ppm and the range recovery were between 98 – 120 % where all the water samples were within the range.