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APPENDIX

UV-Visible Spectrometer

4-Nitrophenol (4-NP) concentration was identified by measuring light absorption of sampling solution. The absorption spectrum of 4-NP was taken to find a suitable wavelength to determine the 4-NP content. From Figure A, the 317 nm wavelength was selected to study. Concentration of the 4-NP was determined using the standard calibration curve and the equation shown below.

$y = 0.0691x$

y = absorbance, x = 4-Nitrophenol concentration

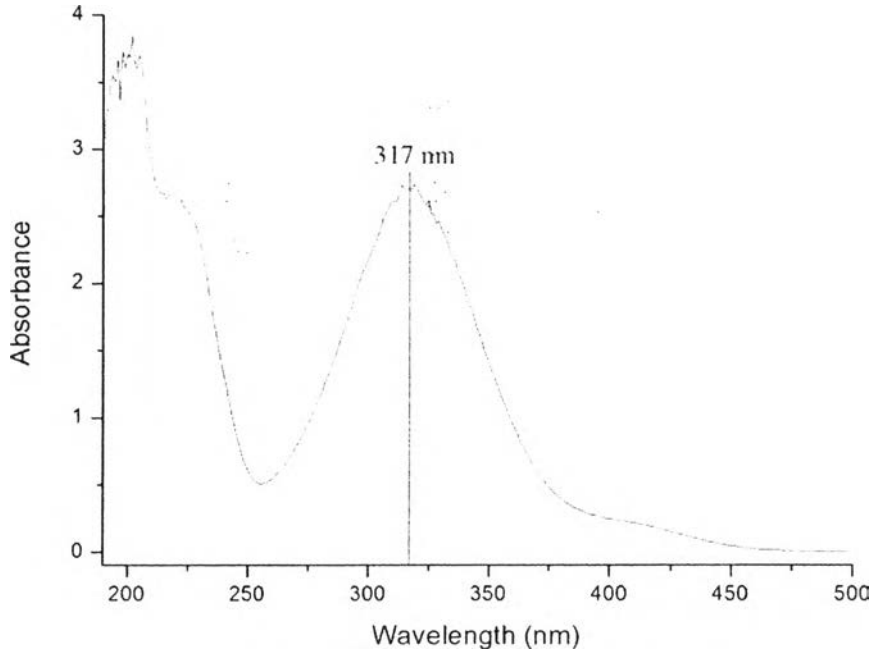

Figure A UV-Visible absorption spectrum (190 - 500 nm) of 4-nitrophenol solution.

Table A Absorbance and concentration of standard 4-Nitrophenol solution.

Concentration (ppm)	Absorbance
1	0.06995
5	0.34054
10	0.69164
20	1.36118
30	2.05615
40	2.77246
50	3.47115

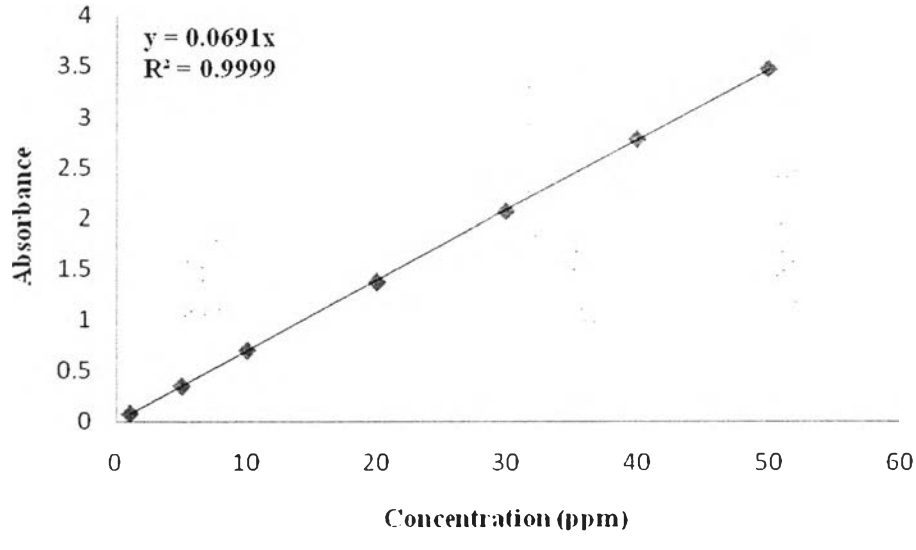

Figure B Calibration curve of 4-Nitrophenol at various concentrations.

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