



# ENVIROTEK LABORATORIES, INC.

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EPA ID # NJ01298 NJ DEP ID # 08012

## UV-VIS ABSORPTION TEST REPORT

Report # 13-24-Adya Clarity Mineral Solution UV-Vis Absorption test)

Customer Name: Adya, Inc.

Report Date: February 5, 2013.

### SUMMARY

Adya Clarity mineral solution was tested for Ultraviolet/Visible absorption compare to the absorption of tap and Ultrapure water. The mineral solution shows a high absorption in the range of 190 to 380 nm (Ultraviolet), and very low absorption in the range of 380 to 750 nm (visible range).

### INTRODUCTION

Adya Clarity mineral solution was scanned for Ultraviolet/Visible absorption and compared to the absorption of Tap and Ultrapure water. The Clarity mineral solution shows a high absorption in the range of 190 to 380 nm (Ultraviolet), and very low absorption in the range of 380 to 750 nm (visible range). The high absorbance of the Adya Clarity Mineral solution could be related to the formation of crystalline water mentioned in the research work of Dr. Gerald Pollack of the University of Washington.

### REAGENTS AND LAB EQUIPMENT

Shimadzu UV/Vis Spectrometer model 1601 with Data system

Ten Centimeters Quartz cells

Ultrapure Water (ASTM Reagent Type IV water)

Tap water

Adya Clarity Mineral Solution.

### PROCEDURE

The Adya Clarity mineral solution was prepared diluting 2 mL of Adya Clarity in 1L of Tap water. The solution was tested after 6 days of sitting undisturbed in the laboratory bench. A scan in the range of 190 to 810 nm was performed with the Ultrapure water (ASTM Reagent Type IV water) to establish the baseline, then the Tap water was scan in the same range, and finally the diluted Adya Clarity Mineral Solution. The spectra are included in the Results section.

### RESULTS:

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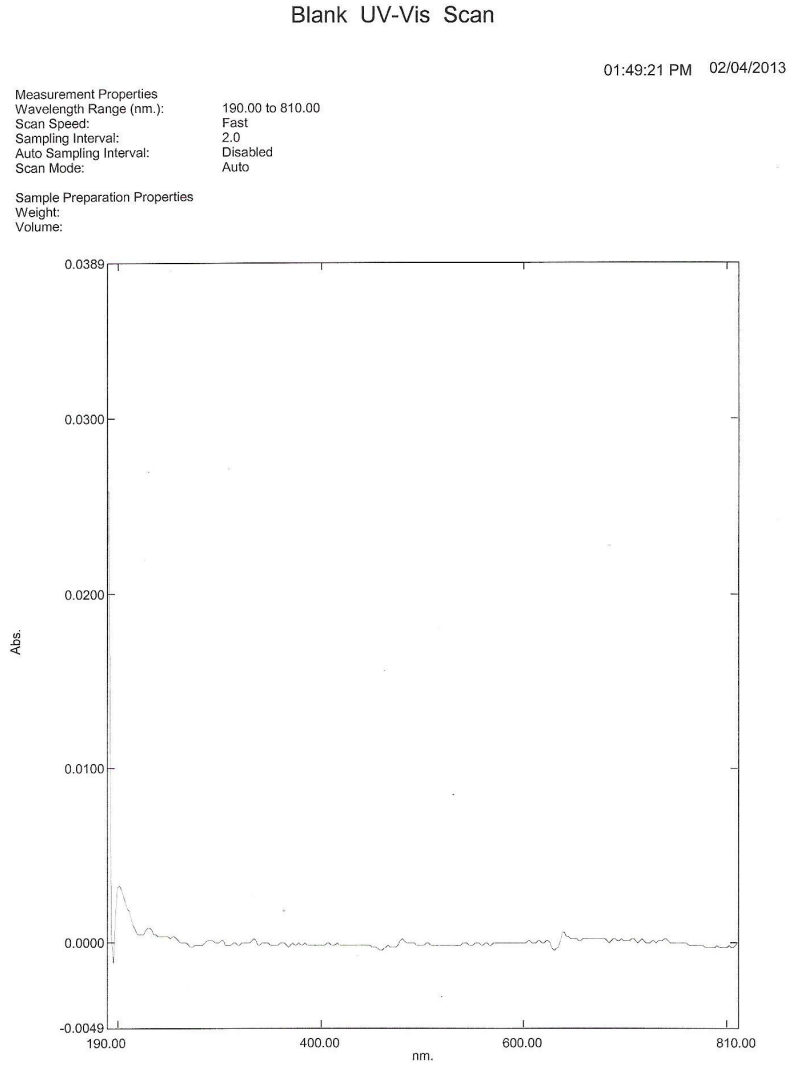
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**Figure 1. Ultrapure water (ASTM Reagent Type IV) UV-Vis scan range 190-810 nm.**





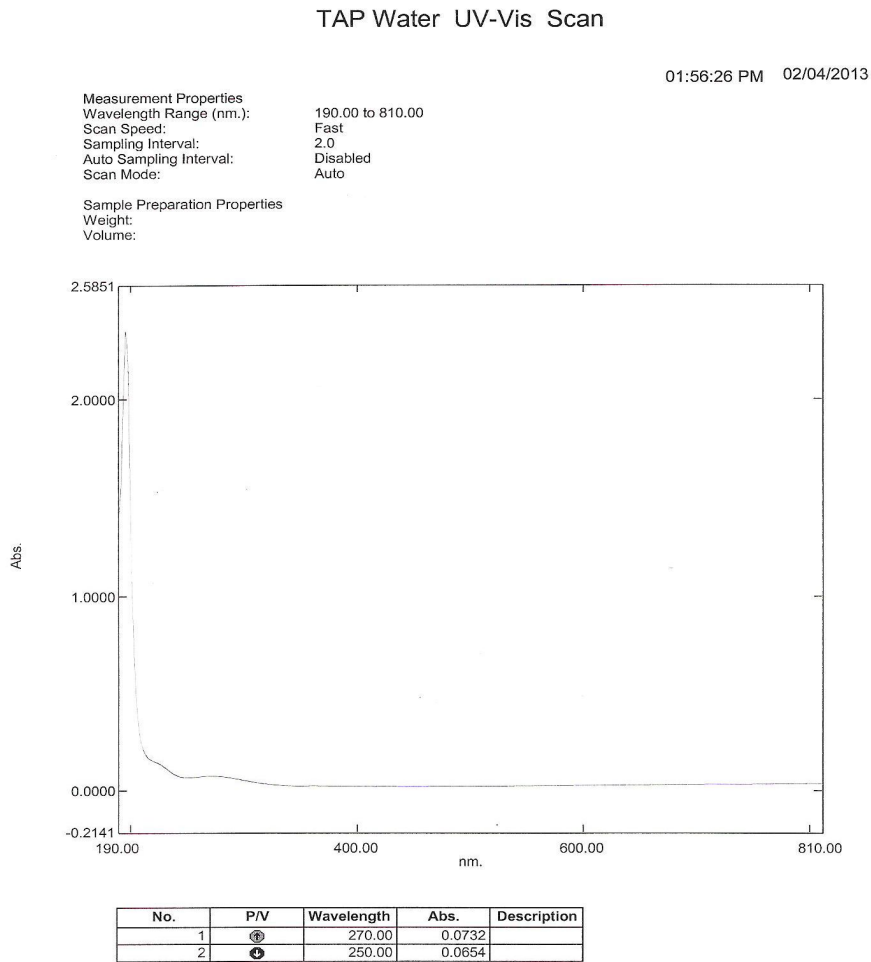
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Figure 2. Tap water UV-Vis scan range 190-810 nm.





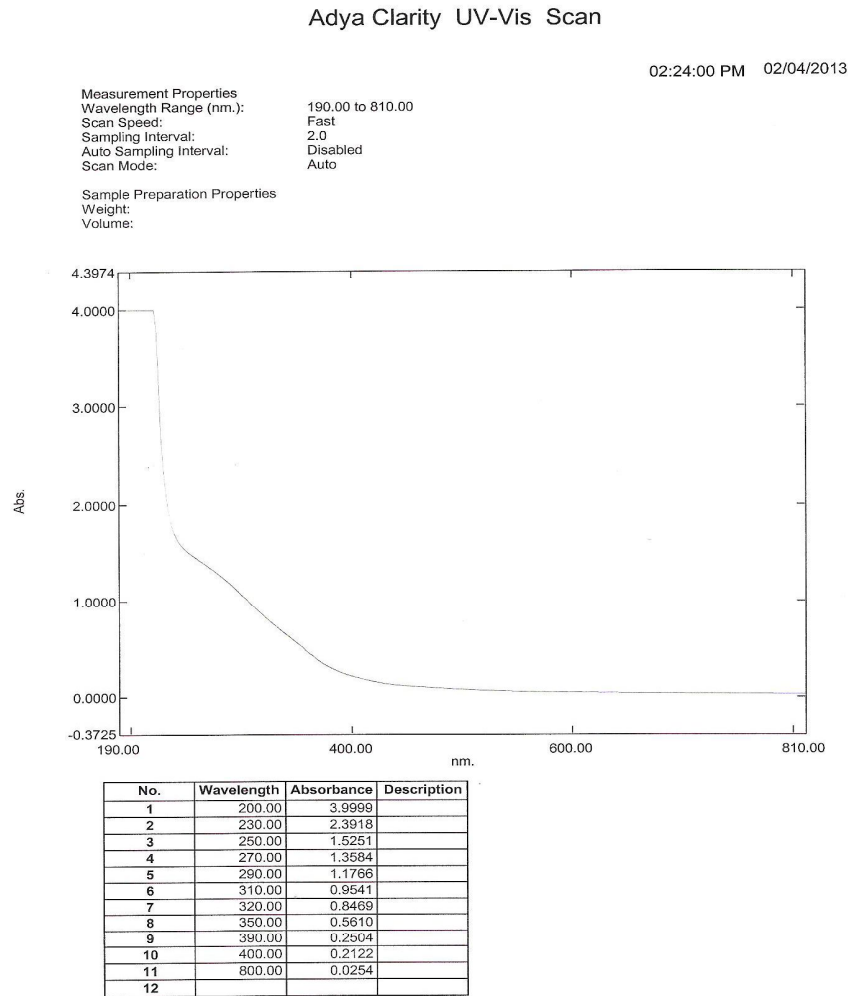
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**Figure 3. Adya Clarity Mineral Solution UV-Vis scan range 190-810 nm.**





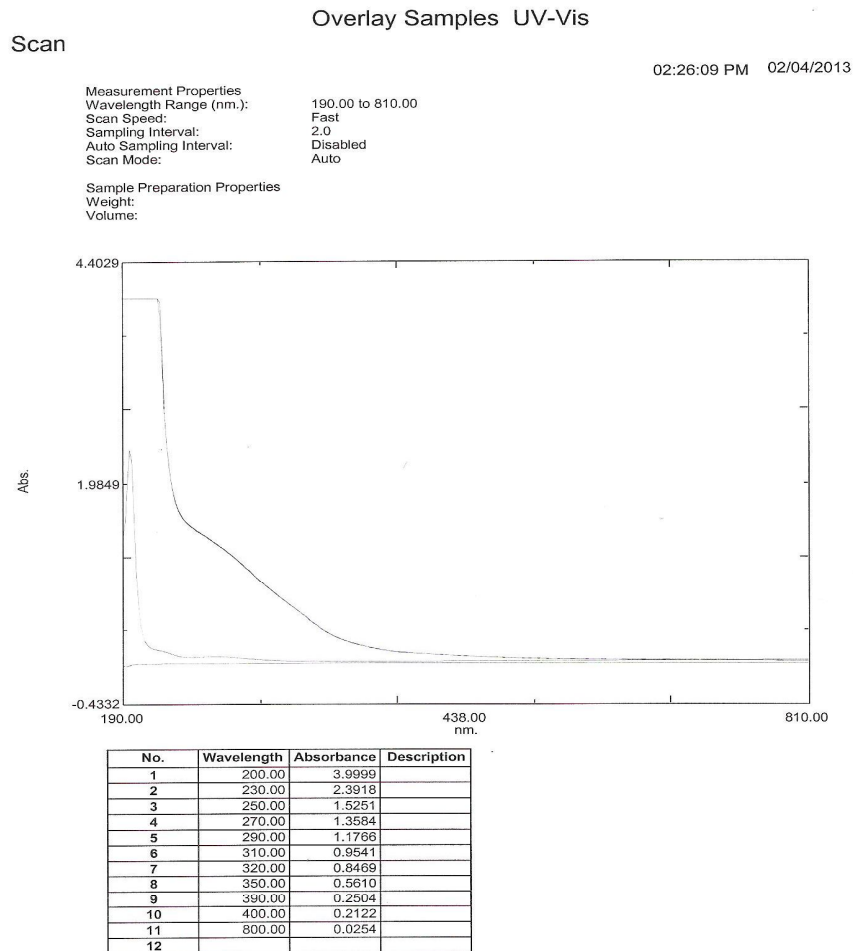
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**Figure 4. Overlay of the three spectra UV-Vis scan range 190-810 nm.**





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## CONCLUSION

Adya Clarity Mineral Solution shows high absorption of UV light with a maximum in the range of 190 to 200 nm, the Tap water shows a maximum absorption at 270 nm of 0.0732 which is very small compare to the Adya Clarity solution absorption, the Ultrapure water does not show any absorption in the range of 190 to 810 nm. The high absorbance of the Adya Clarity Mineral solution could be related to the formation of crystalline water mentioned in the research work of Dr. Gerald Pollack of the University of Washington (G. H. Pollack and J. Clegg, Unexpected linkage between unstirred layers, exclusion zones, and water, *In Phase Transitions in Cell Biology*, G.H. Pollack and W.-C. Chin (eds.), (Springer Science+Business Media B.V., 2008) pp. 143-152).

## Jaime A. Young

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