

Water quality control and monitoring

M. Oshima, S. Shigeoka, Z. Kovacs, R. Tsenkova

email: yunosatolabteam@gmail.com

Yunosato Spa waters

Purpose

To learn different characteristics and features of Tsukino Shizuku, Gold, Silver and Bronze waters compared to Milli Q.

Materials and methods

XDS – Rapid Liquid Analyzer
[FOSS.Co.,Ltd]

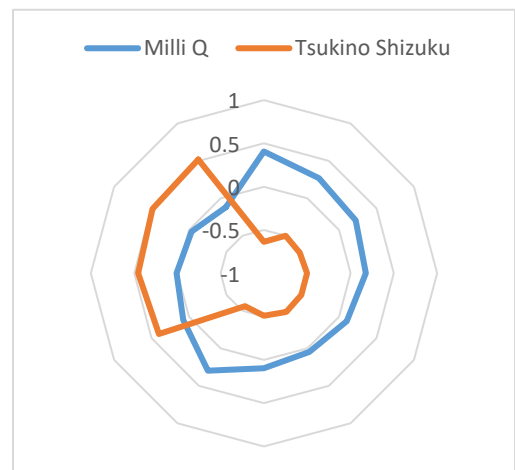
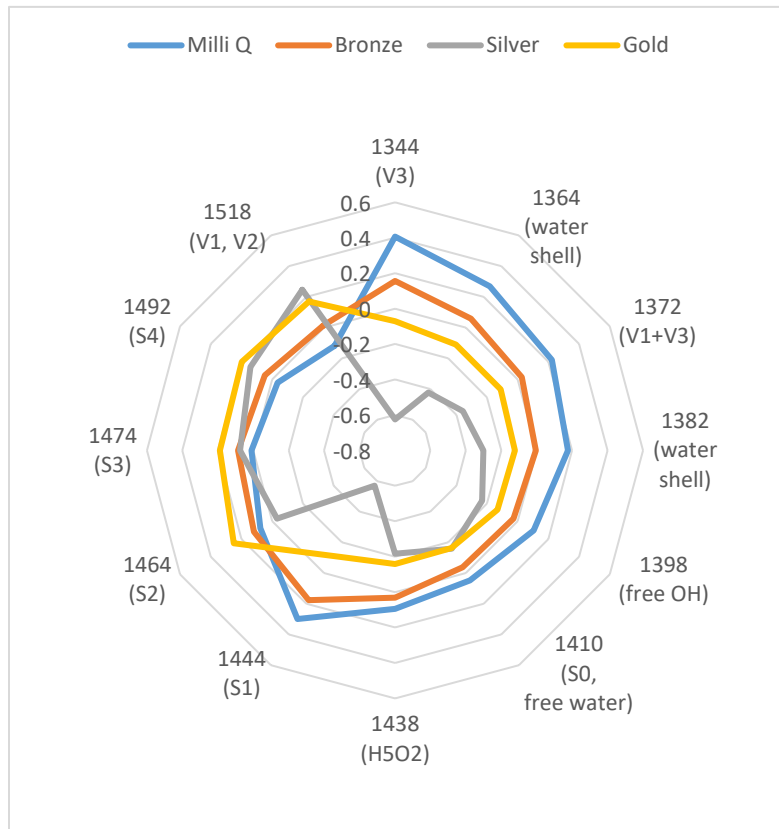
- ◆ measurement range : 400 – 2499.5 nm
- ◆ wavelength ep : 0.5 nm
- ◆ measurement mode : transmittance
- ◆ cuvette cell : quartz
- ◆ path length : 1 mm
- ◆ measurement temperature : 25 °C
- ◆ consecutive times : 3 times/1 sample
- ◆ Replication: 3 times/1 sample

Samples

- ◆ Bronze water
- ◆ Silver water
- ◆ Gold water
- ◆ Tsukino Shizuku
- ◆ Milli Q

Results and discussion

The different waters have different structures and functions. While Gold and Bronze waters have similarities, Silver water has the most unique structure of all.



Yunosato Spa cosmetics

Purpose

To evaluate Yunosato cosmetics on sale (as of 2013) and develop new cosmetics (lotion, essence and moisturizing cream)

Tasks

- Make those samples with different Silver Water ratio (3, 5 & 7%)
- take the samples data by XDS
- take the monitors' data after applying the samples (by NIRGUN)

Materials and methods

XDS – Rapid Liquid Analyzer

NIRGUN

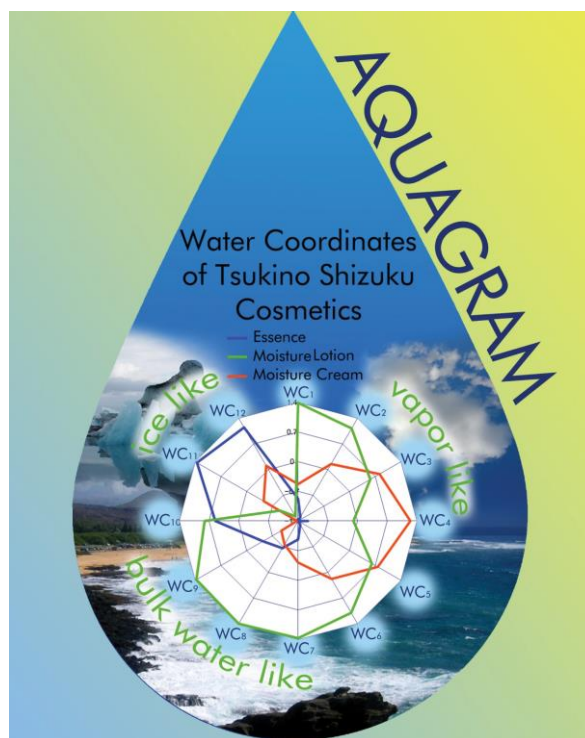
- ◆ measurement range : 592 – 1092 nm
- ◆ consecutive times : 3 times/1 sample
- ◆ acquired spectra: 3 times/1 sample

Results and discussion

Applying all of lotion, essence and moisturizing cream can moisture skin the best. They cover all ranges of the water bands, less hydrogen bonded, free and high hydrogen bonded waters.

Conclusion

The more paraben our cosmetics contains, the more stimulation occurred on skin. That caused inflammation on sensitive skin though the moisture level was better. We found the best ratio of Tsukino Shizuku and paraben and have started NEW Yunosato Cosmetics sale since 2014 spring.



Yunosato Spa Yogurt

Purpose

To discriminate which probiotics to be used for Sasho yogurt production.

Tasks

- prepare probiotics, non-probiotics and moderate strains
- cultivate them in at 37 C for 24 hours
- monitoring of the cultures and take the data by XDS

Materials and methods

XDS – Rapid Liquid Analyzer

Samples: the probiotics from Bulgaria and Japan to make Sasho yogurts

At Yunosato, after the experiments, we decided to use the Bulgarian probiotics (s10) and Japanese one (yw) with following Yunosato waters.

-Sasho yogurt ② = Gold Water 7 : Tsukino Shizku 3 with s10 +yw

-Sasho yogurt ⑦ = Gold Water 7 : Tsukino Shizku 3 with s10

Results and discussion

The strains vary in their ability to survive and grow under stress conditions as well as in their growth rate and maximal yield of biomass.

Reference

- [doi:10.1371-journal.poe.0130698](https://doi.org/10.1371-journal.poe.0130698)
“Monitoring of Water Spectral Pattern Reveals Differences in Probiotics Growth When Used for Rapid Bacteria Selection” Aleksandar Slavchev, Zoltan Kovacs, Haruki Koshiba, Airi Nagai, Gyorgy Bazar, Albert Krastanov, Yousuke Kubota, Roumiana Tsnekova (July 2, 2015)

