

Timegated Green Balls

For some inexplicable reason, it's customary in Finland to eat green marmalade balls during the holidays. Because it's widely known that sugar is the most important nutrient¹ for children growing up, we felt that it's our duty to explore the wide-ranging possibilities these green balls of goo might provide. And because of totally objective reasons² we chose timegated Raman as our investigatory tool. We used our older timegated M1 Raman spectrometer, because the new PicoRaman spectrometer model had better things to do than play with candy.

Firstly, we set out to record the Raman intensity time domain distribution. When you have the info, you most certainly want to know where the info is located in time as well. And as it can be observed in figure 1, the intensity distribution is not quite Gaussian. The Green Balls might have seemed innocent, but they seem to pack a mighty punch of fluorescence. But all hope might not be lost after all.

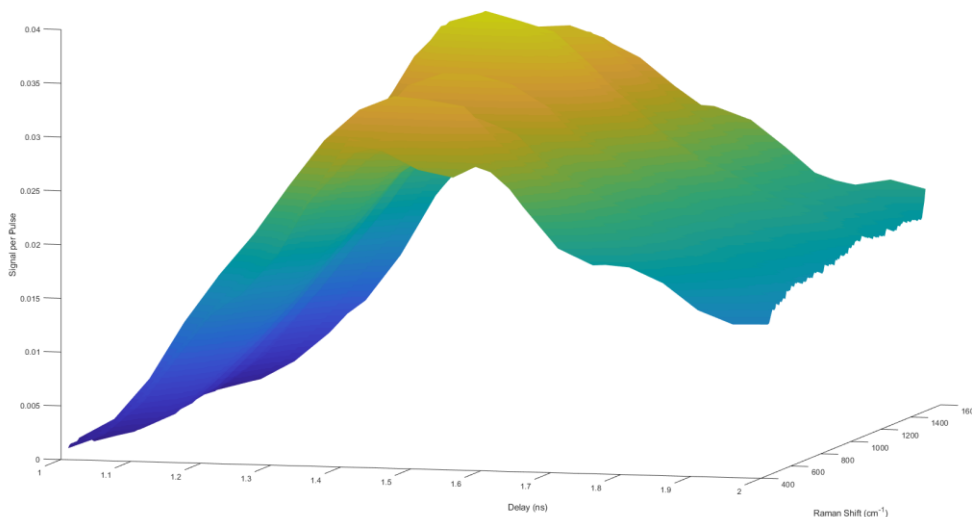


Figure 1. The Green Balls might not be that innocent after all.

By using the mighty Timegate, we can choose to extract the Raman information near the maximum of the intensity distribution (see fig 1) and this way reject most of the interfering fluorescence. This way we can extract the spectrum presented in figure 2.

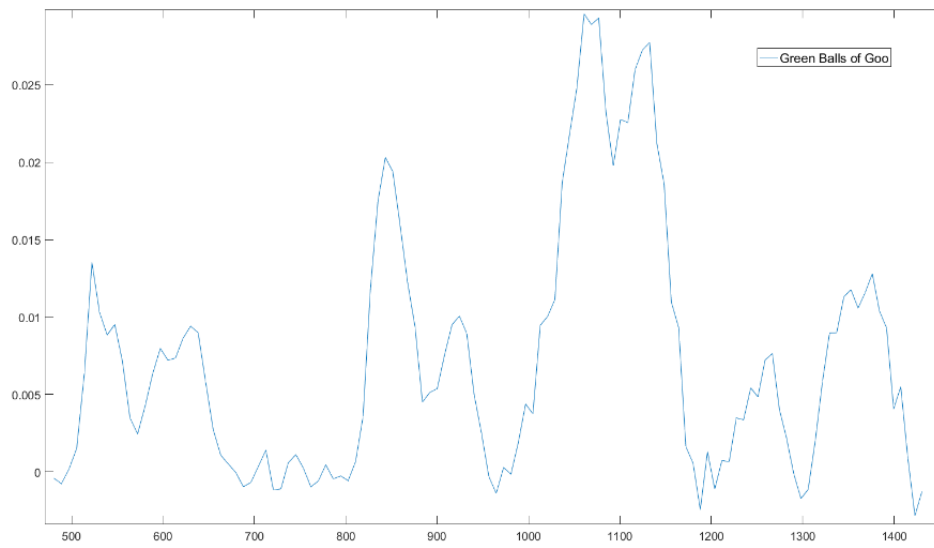


Figure 2. Timegated Balls of Goo spectrum

And because, as discussed earlier, sugar is the most important nutrient³ for any situation and especially during the holidays, we compared this spectra with some sweet spectra (Figures 3 and 4).

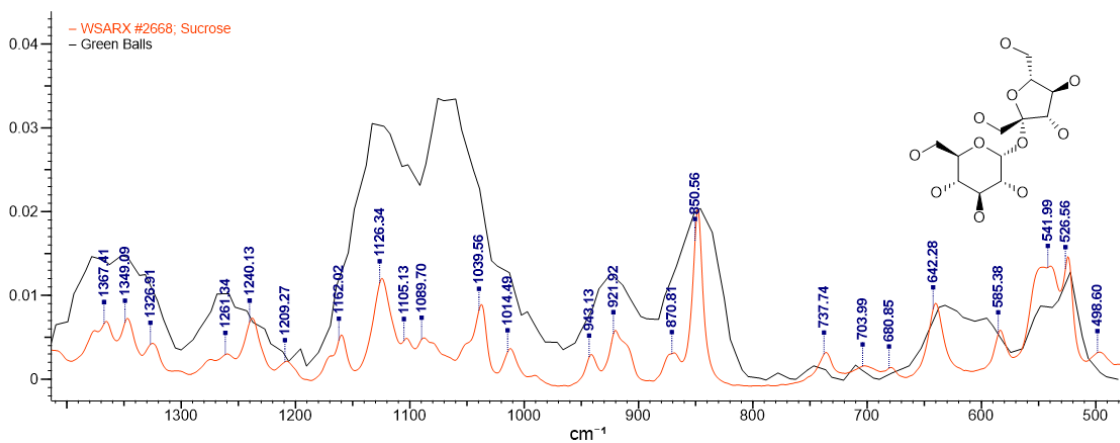


Figure 3. Sucrose and Green Ball spectra

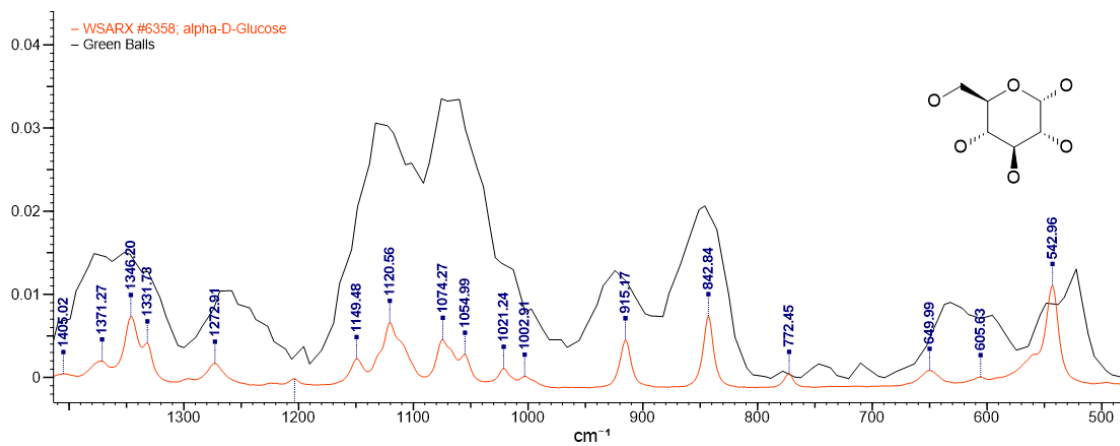


Figure 4. Glucose and Green Ball spectra

The Timegate Instruments team wishes everyone happy holidays and urges everyone to eat Green Balls. Lots of Green Balls. They keep you going through the holidays.

Fazer Fruit Marmalade Jellies, aka Green Balls

Finns do not only crave for the salty, black licorice, but also for the Green Balls. The Finnish history has two great milestones, which the nation never forgets: The Ice Hockey World Championship 1995 when we bet our favourite enemy Sweden; and the year 1929 when Fazer started to produce their famous Green Balls according to the Russian recipe⁴.

Every year Fazer produces 17 million of these Green Balls. For a country with 5,5 million inhabitants that makes around 3 balls per person. As it can be assumed not all indulge sugary treats, there are heavy users who do not hesitate to treat themselves. Based on the tests we made with our timegated Raman spectrometer, consuming Green Balls should not be avoided.



Figure 5. Fazer Green Balls (Picture by Fazer)

- [1] Probably not true... well, most certainly not true
- [2] This is totally our subjectively honest subjective truth
- [3] Not true this time either
- [4] Part of collective memory of the Finns