

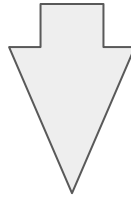
Decomposition of melanin by vitamin C contained in mandarin oranges

Purpose of doing this research

food waste is a problem

Mandarin oranges in particular are thrown away in large numbers.

Will vitamin C reverse sunburn?



Is it possible to make cosmetics that make effective use of mandarin oranges?

Methods 1

A: Nothing

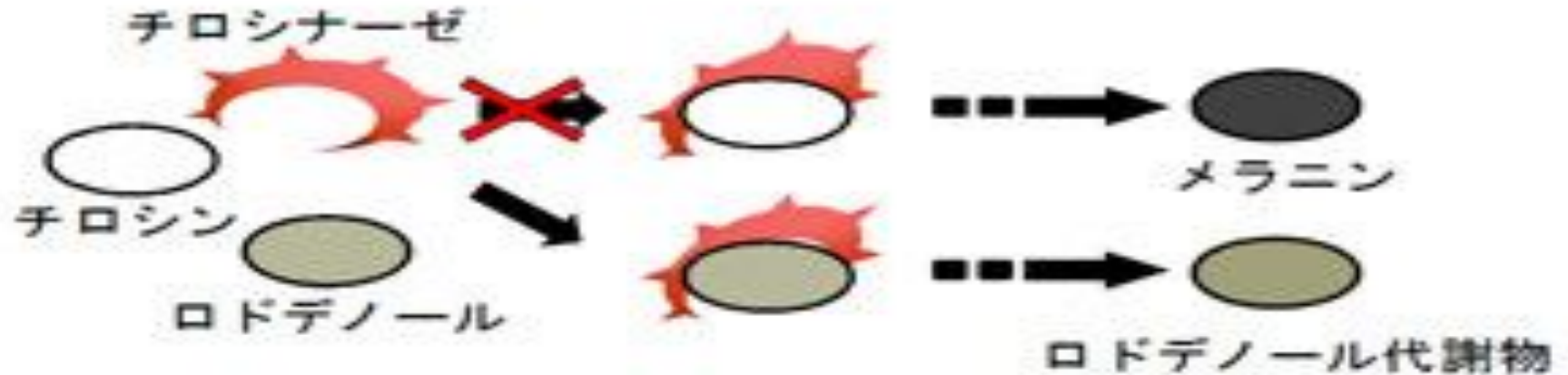
B: with Lemon Juice

C: Sunscreen

Prepare 3 of these and Check for signs of Sunburn (Blown Darkening) Every 5 Minutes.



The Reason We Use a Mushroom

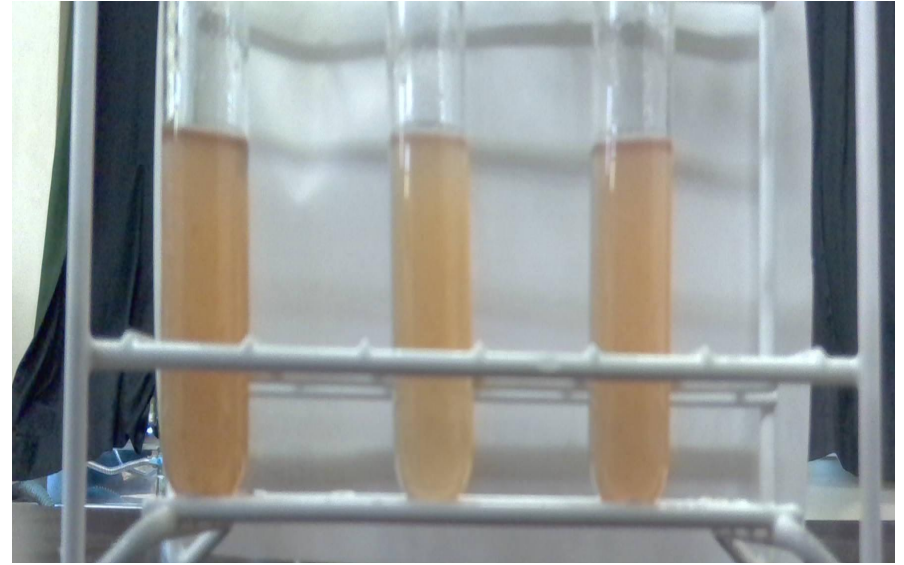


Results 1

The Change is Small,
But the One with Lemon
Juice Has a Lighter

Brown Color. The One with

Sunscreen Did not Change Much.



A B C
nothing Lemon juice Sunscreen

Summary 1

- tasks
- Prepare color sample
 - Match conditions

Results 1 ▪ Lemon juice worked



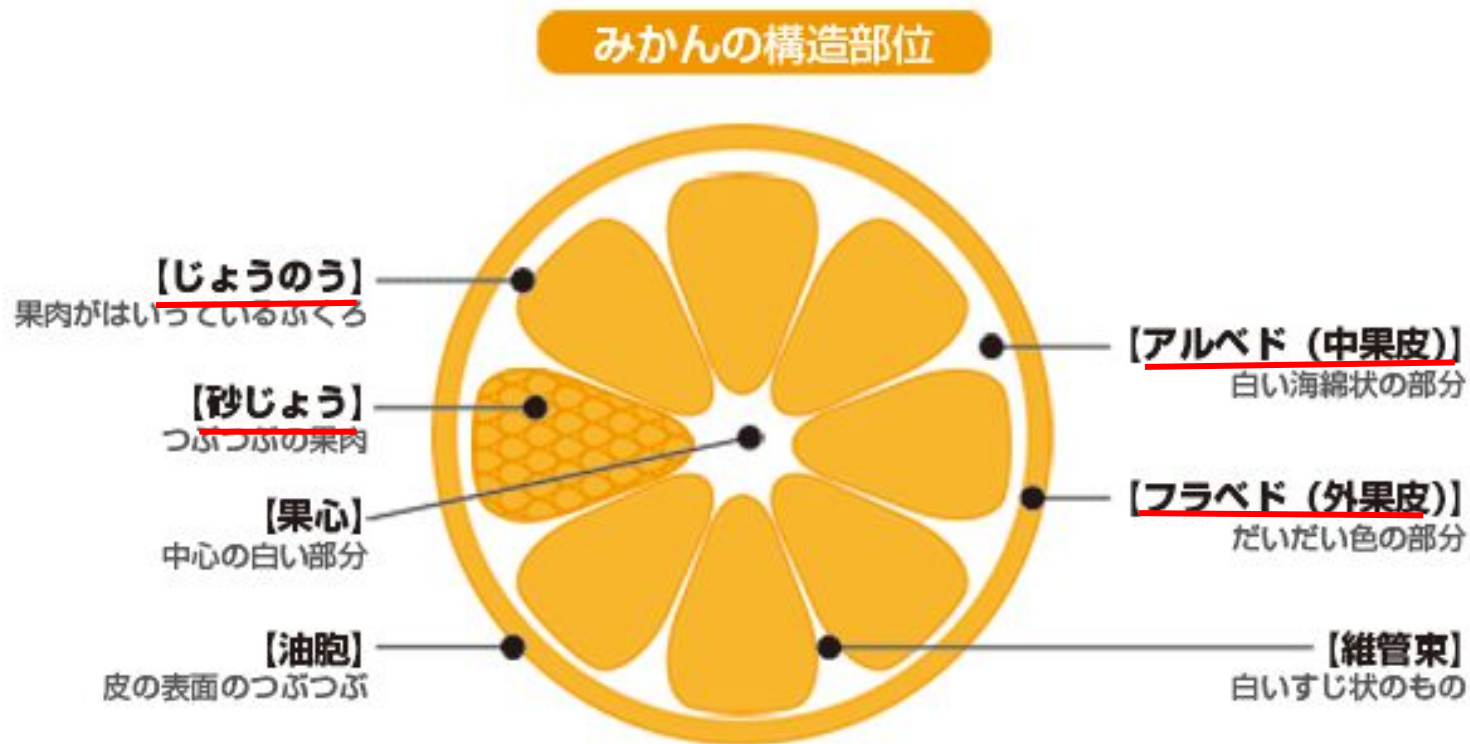
VitaminC can work

Method2

- 1、 Prepare mashroom juice and squid ink juice
- 2、 Add 2ml of Hatomugi lotion, VitaminC lotion, MeranoCC, mandarin
- 3、 After a while, digitize difference of colors



The reason we use mandarin



About mandarin

1. Divide mandarin (juice sac, peel, soft carpel)
2. Collect the juice by boiling in water at 50°C
 - ⌘ Not to destroy Vitamin C
3. Add this juice to mushroom juice and squid ink juice

The reason we use squid ink

squid ink

contain n black melanin



one kind of melanin

(Causes of hair color and spots)

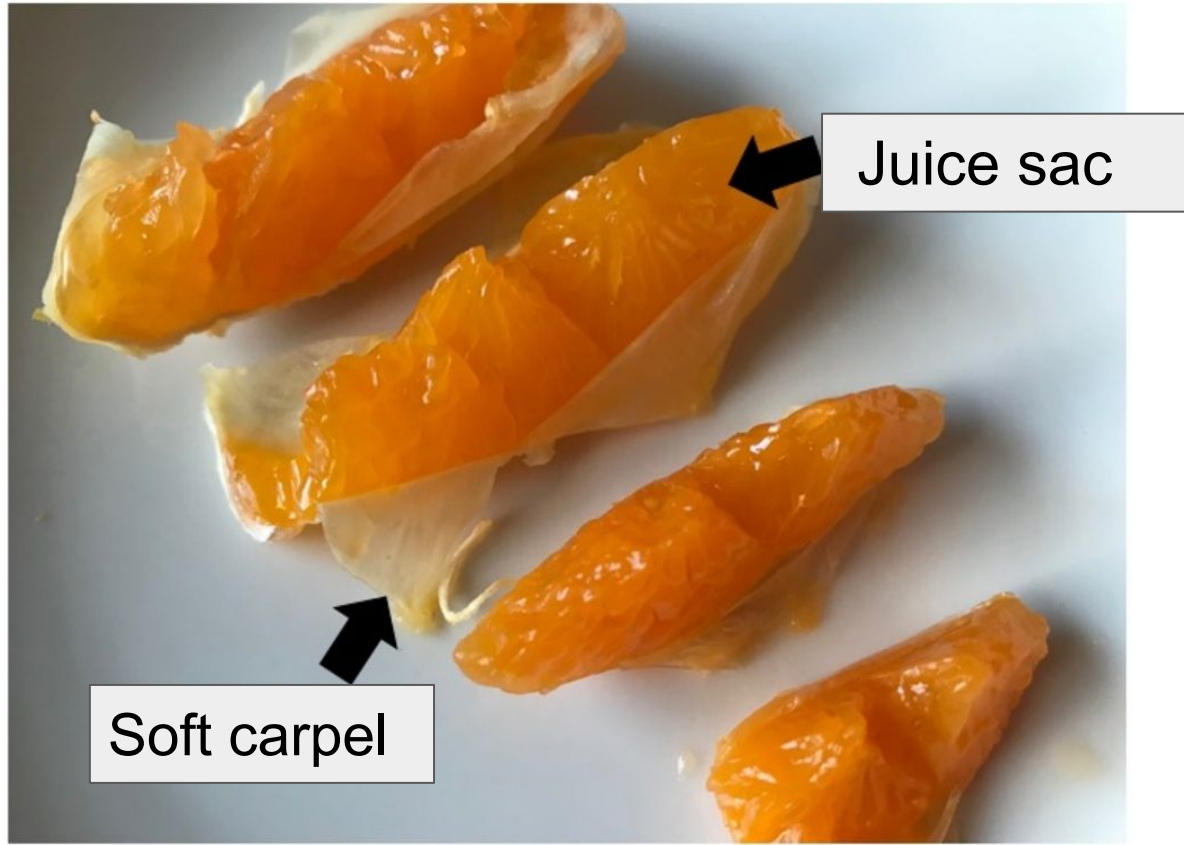
mashroom

contain melanin



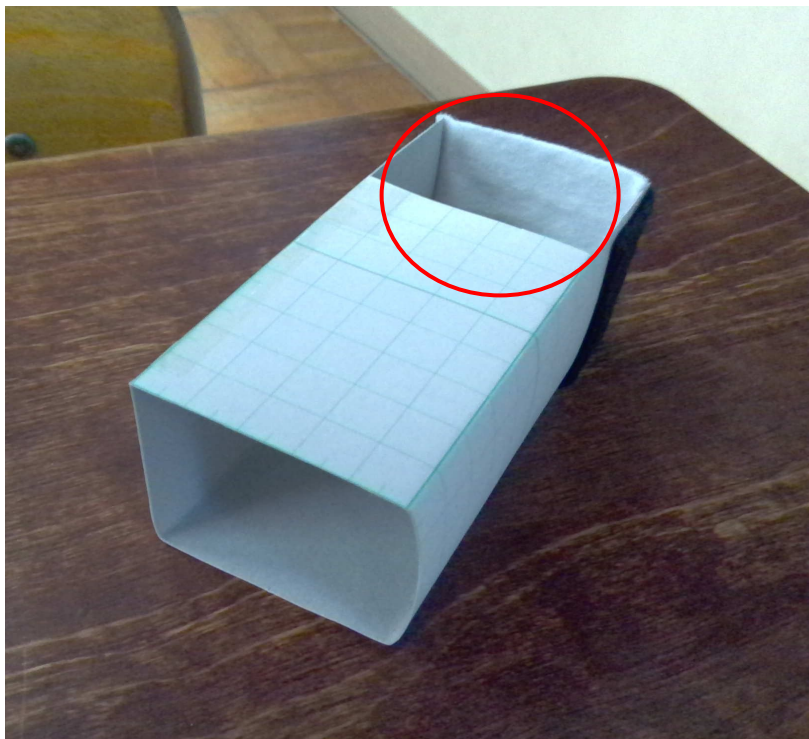
cause sun burn

Is there a difference between eumelanin and melanin?



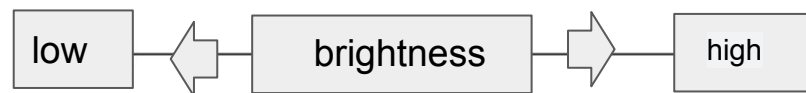
https://www.shokuotamagazine.com/shokuotanote_orange_mikan

【Color measurement method】



【About digitizing colors】

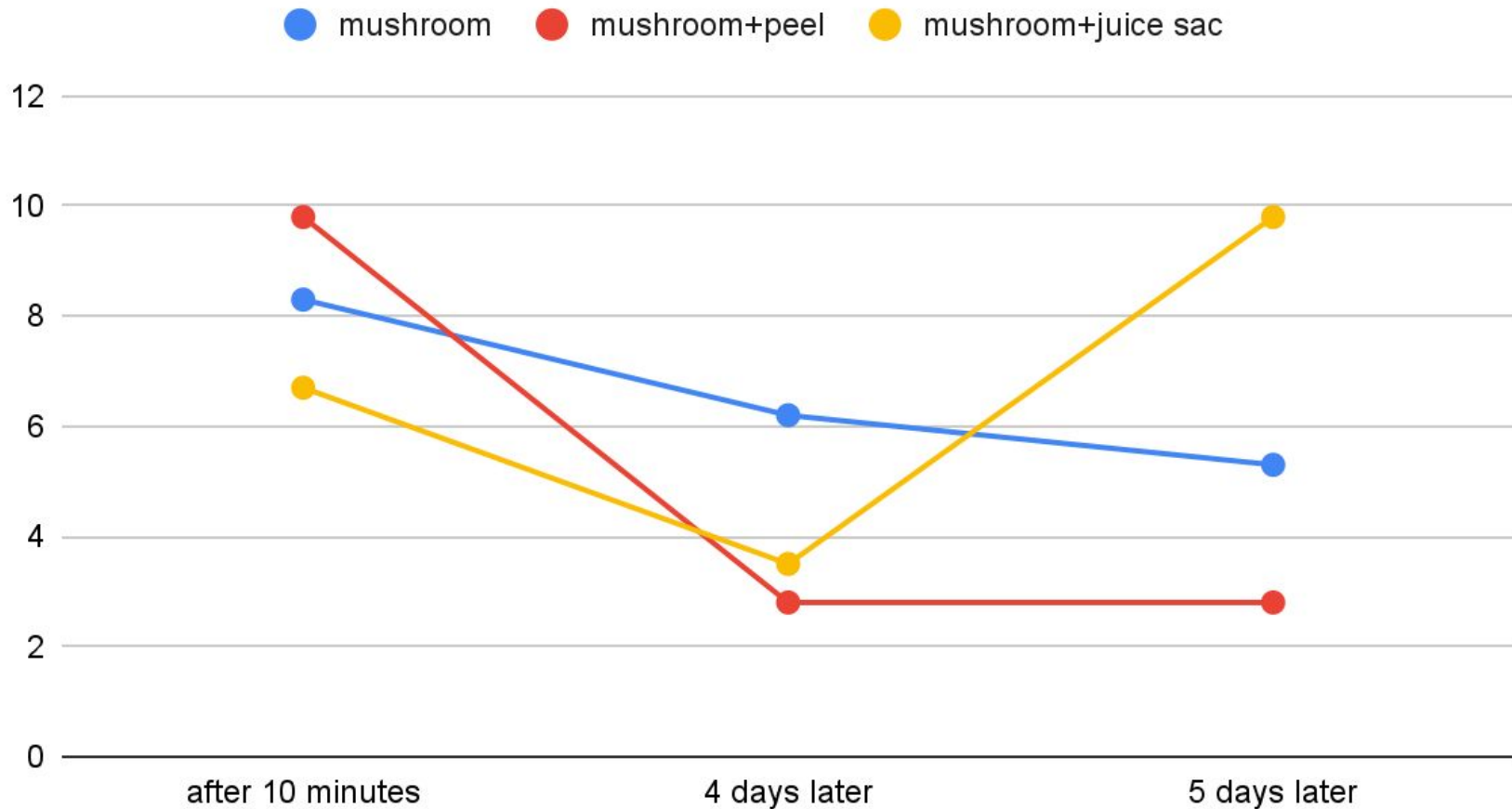
sRGB...digitize colors with red, blue, and green



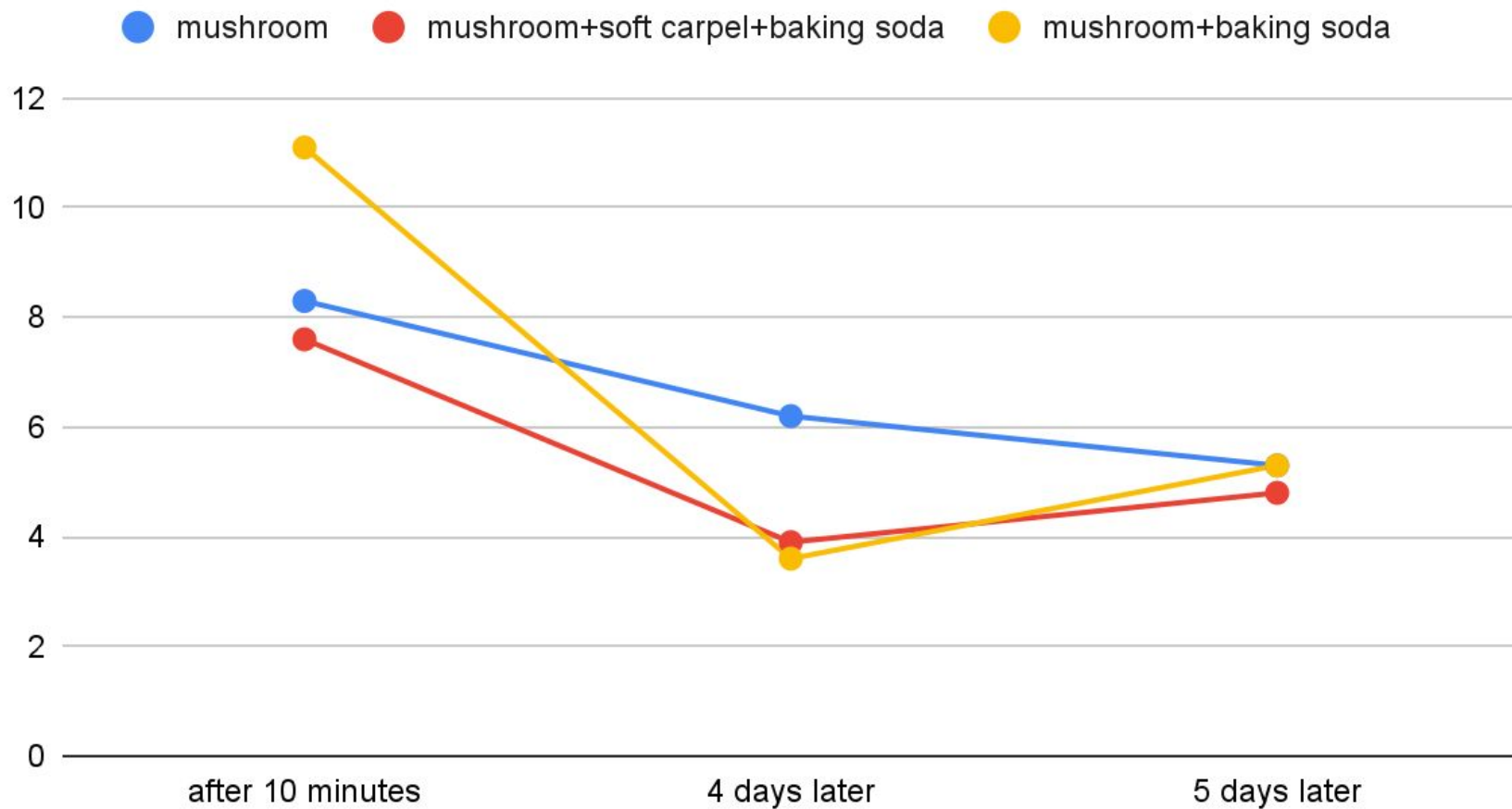
LRV...digitize colors' blightness



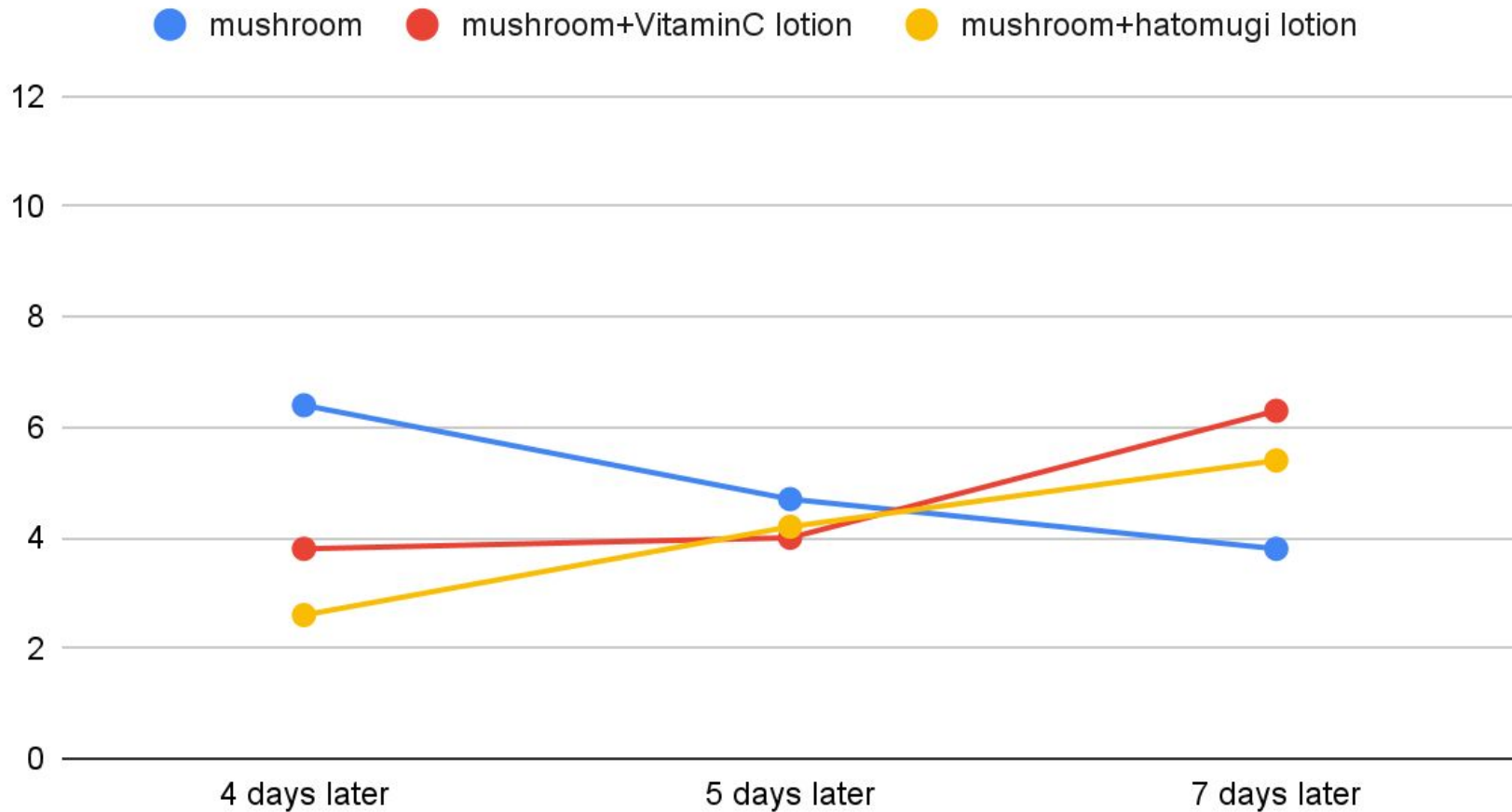
mushroom&mandarin ①



mushroom&mandarin②



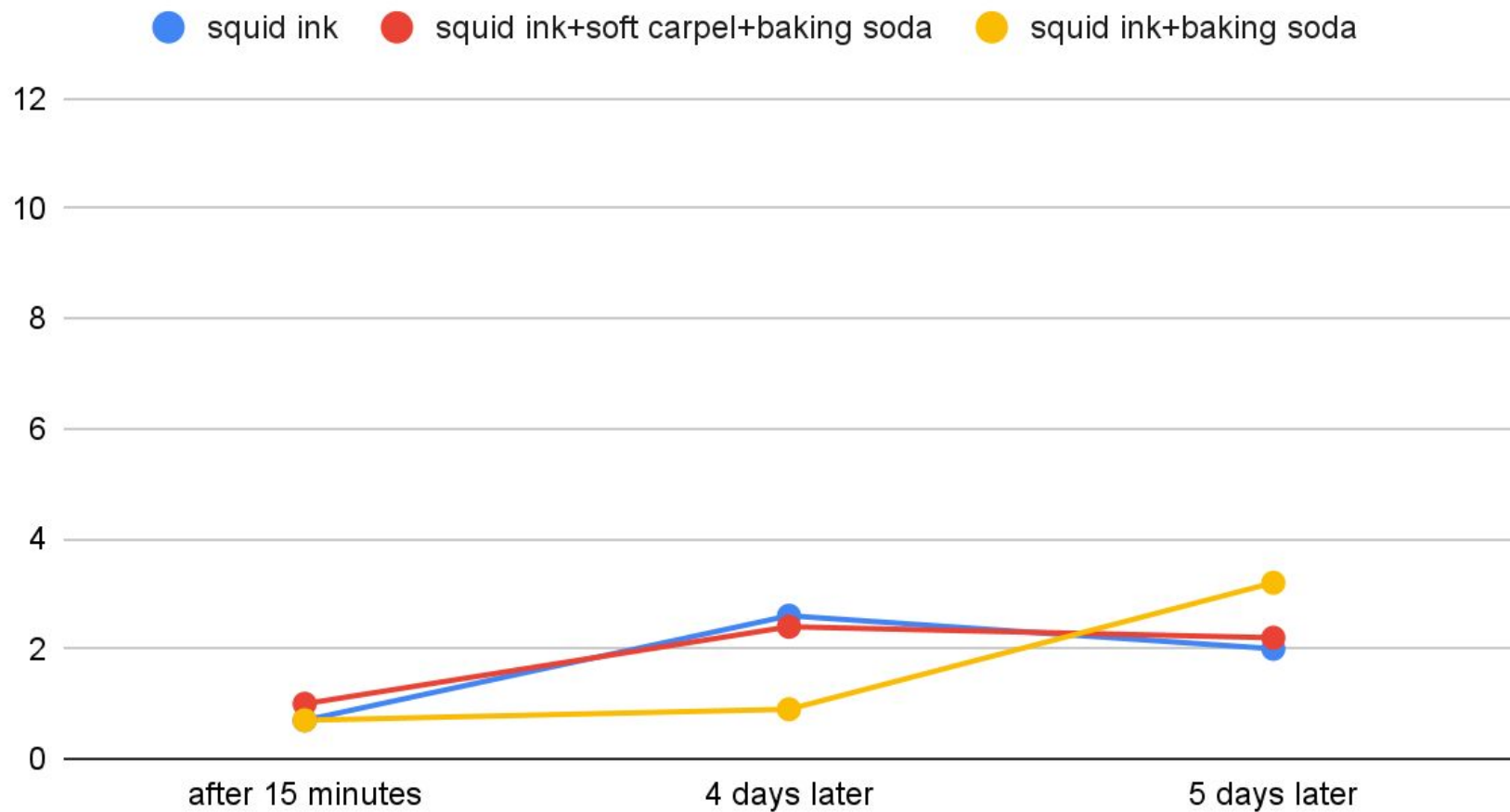
mushroom&cosmetics



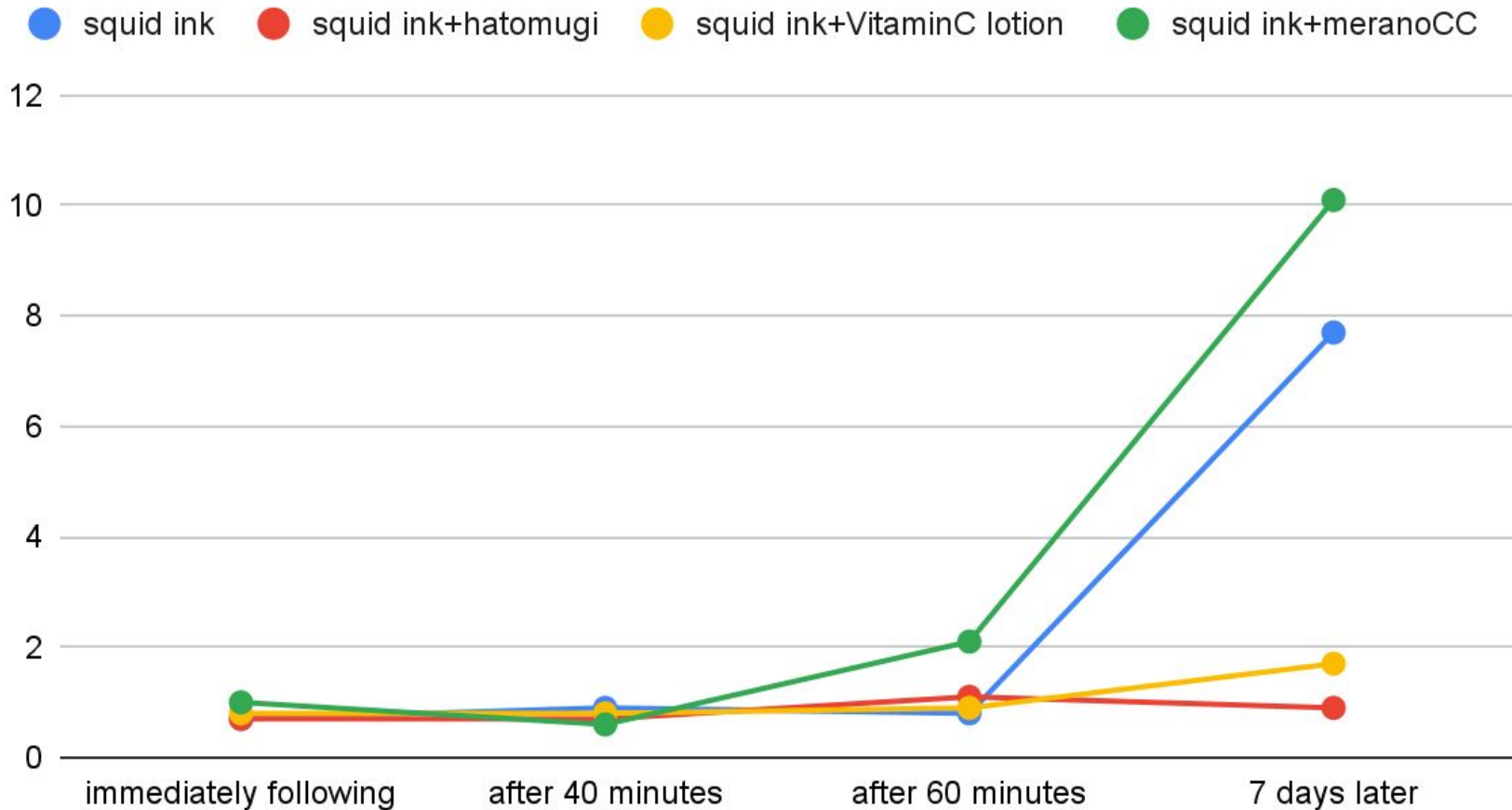
squid ink&mandarin①



squid ink&mandarin②



squid ink&cosmetics



[Summary and discussion]

- No change was observed with pearl barley and vitamin C

→ Viscosity and sedimentation velocity are related

- I didn't see much change with soft carpel + baking soda

→ boiling is not enough

【Theme】

- Pigment is not considered

- pH is not considered

- Repeat the experiment with considerations and check the reproducibility

Thank you for listening.