

Deodorizing Ability PROJECT ²⁰¹⁹ -body odor ver.-



Introduction

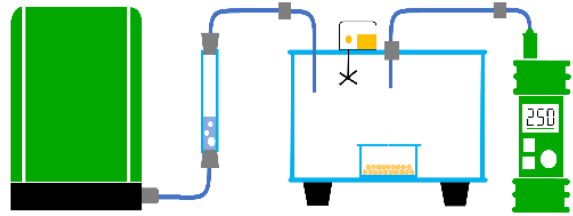
This study was performed to deodorize various body odors around us by chemical or physical ways.

Purpose

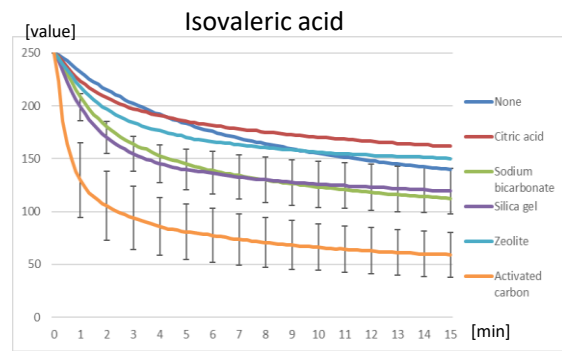
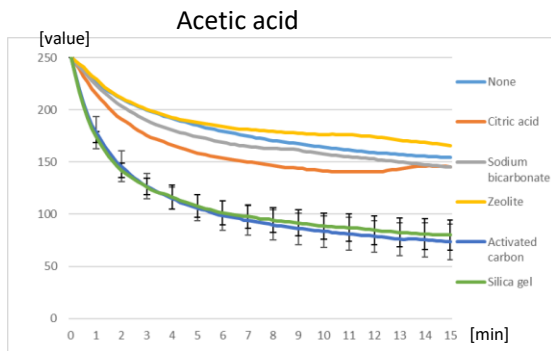
- identifying the substances that can deodorize body odors
- making fiber that can deodorize by the melt spinning method.

Experiment 1

Experiments were conducted to examine the deodorizing ability of the five substances –citric acid, activated carbon, sodium bicarbonate, silica gel, zeolite-. Acetic acid and isovaleric acid were used as malodorous substances. Portable odor sensor was used to measure odors.



Experiment 1 Results and Discussion



Activated carbon and silica gel are effective. → Body odors can be deodorized effectively by physical deodorant.
Sodium bicarbonate can hardly deodorize body odors. → Small surface areas prevent the chemical reaction between sodium bicarbonate and body odors (carboxylic acid).
Silica gel is less effective against isovaleric acid than acetic acid.
→ The differences of the size of the molecular or the hole on the surface cause that.

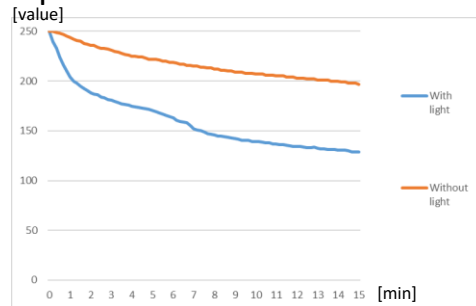
Experiment 2

This experiments were conducted to verify that a photocatalyst can deodorize body odors. We used a LED light, which has 51 LEDs and whose wavelength is 395nm. Titanium oxide was used as a photocatalyst.

Prospects

More experiments using other wavelength or illuminance are needed. Our skills of making fiber should be improved.

Experiment 2 Results and Discussion



There are significant differences between the two data.
→ A photocatalyst can deodorize body odors.

Reference

- “The first skills to deodorize” written by Yoshinori Kawase
“Everything about a photocatalyst” written by Akira Fujishima