

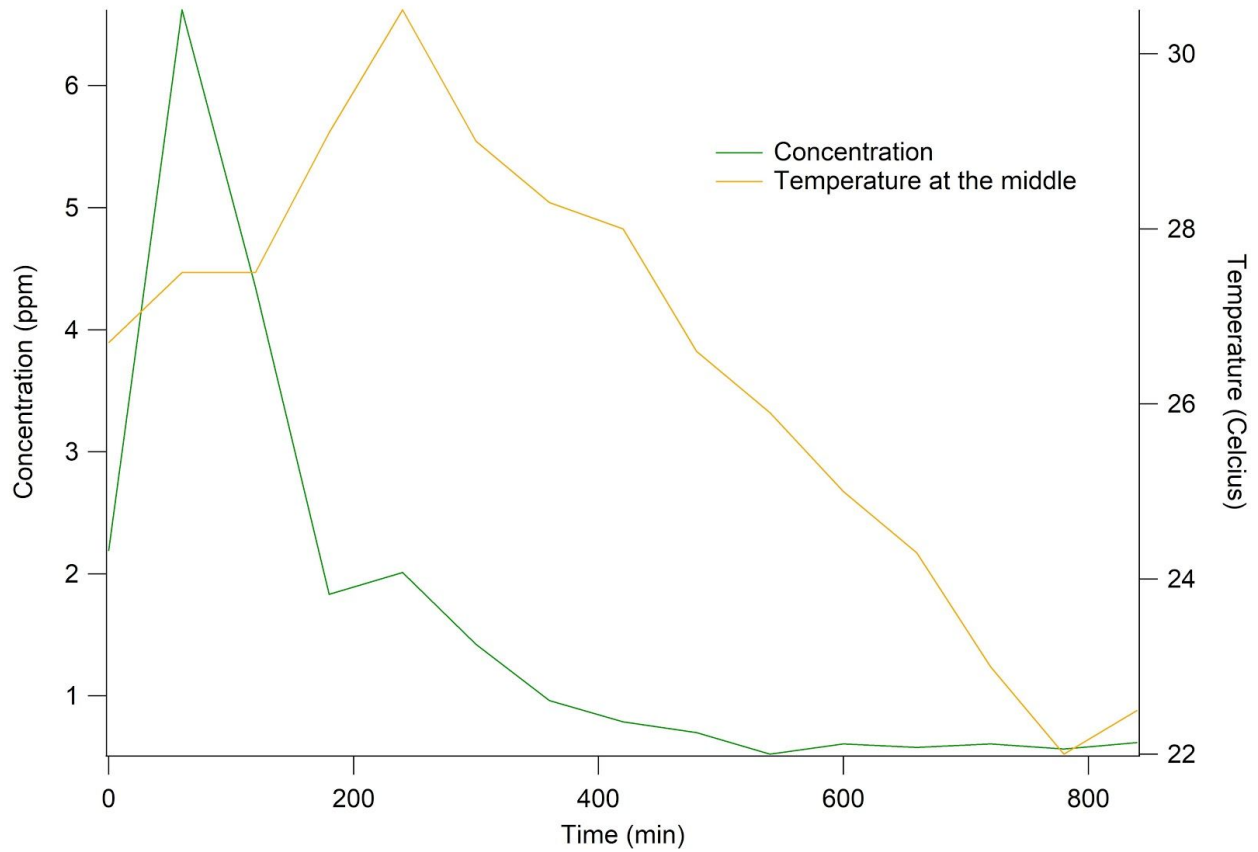
#KSUTitan

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(Background/objective) The Titan Arum, also known as the corpse flower, only blooms every 7 to 10 years for a very short period of time, and it has a very distinct scent of rotting flesh during the bloom that allows it to attract carrion beetles to pollinate it. An opportunity to collect data from the flower at Kansas State University's greenhouses on May 18, 2018 arose. (Materials/methods) During a 24 hour period, volatile compounds and temperature readings were collected every hour in order to observe any correlation between temperatures and concentrations of known compounds that create the distinct scent. Using sorbent tubes and a vacuum pump, an active method of collecting the air around the plant was completed to capture the volatile compounds present. The compounds of interest were then eluted from the tubes using hexane and run through a Gas Chromatograph-Mass Spectrometer to determine concentrations. At the same time as the samples were collected, using an IR thermal camera, the temperature of the spadix was recorded in multiple locations. (Results). One of the main compounds of interest, dimethyl trisulfide, was found in the highest concentration and was used as the main comparison against the temperature readings. When comparing temperature readings to the concentration of the compound, it was found that when the largest concentration of dimethyl trisulfide was captured, the temperature peaked soon after. This conclusion makes sense due to the flower exerting its energy to release the compound and bloom, causing it to rise in temperature.



This graph compares the concentration of dimethyl disulfide and subsequent temperature readings from the middle of the spadix found from 6:30 pm (time 0) on May 18 to 8:30 am on May 19.

