

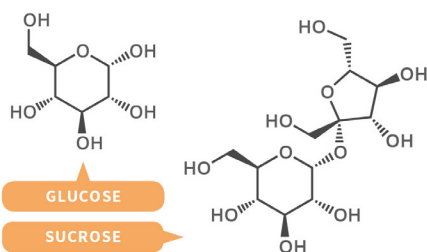
# Periodic Graphics With Compound Interest

A collaboration between C&EN and Andy Brunning, author of the popular graphics blog Compound Interest (compoundchem.com). To see all of C&EN's Periodic Graphics, visit <http://cenm.ag/periodicgraphics>.

## HELPING FLOWERS LAST LONGER

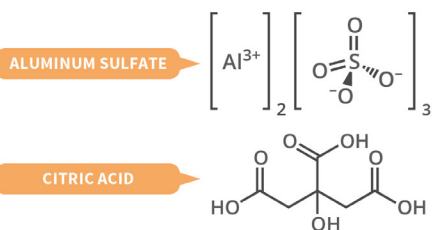
If you gave or received flowers for Valentine's Day, chances are they came with a mysterious packet of flower food. Here, we reveal its chemical contents, which keep bouquets from fading fast.

### SUGARS



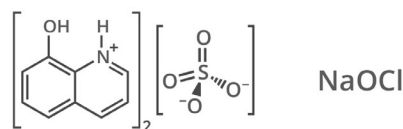
Sugars are an important component of the food packet that often comes with store-bought flowers. Sugars such as glucose and sucrose act as nutrients.

### ACIDIFIERS



Cut flowers placed in alkaline tap water—present in many homes—can wilt at a fast pace. Acidifiers lower the pH of the water, bringing it closer to the pH of the flowers' plant cells and protecting them. Common agents used for this purpose include aluminum sulfate and citric acid.

### ANTIMICROBIALS

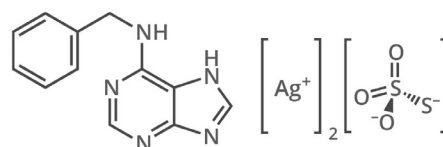


8-HYDROXYQUINOLINE SULFATE

SODIUM HYPOCHLORITE

Antimicrobials prevent microorganisms from growing in vase water and reducing your flowers' life span. Some of these compounds, found in the packet, are 8-hydroxyquinoline sulfate (or citrate) and sodium hypochlorite (also known as bleach).

### INHIBITORS & REGULATORS



6-BENZYLADENINE

SILVER THIOSULFATE

Some flower foods contain cytokinin growth regulators, which help preserve petal colors. 6-Benzyladenine is often used for this purpose. Compounds such as silver thiosulfate also extend bloom life by inhibiting the plant hormone ethylene, which is known to be a ripener.



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