

Cold-Brew Chemistry



Despite the growing consumption of cold-brew coffee around the world, little is known about the drink's chemical makeup. Three researchers are helping to fill that gap with new findings on its level of beneficial antioxidants.

A recent study by **Niny Rao, PhD**, associate professor of chemistry, **Megan Fuller, PhD**, former assistant professor of chemistry and pre-medical studies student **Meghan Grim** found that the health-promoting antioxidants in cold-brew coffee can differ significantly from traditional hot-brew coffee prepared with the same beans, particularly for dark roasts. While similar amounts of antioxidants were observed in hot and cold preparations made from lighter-roast coffee beans, the hot-brewing process extracted more antioxidants from dark roasts than the cold-brewing process. Hot-brew



Pre-medical studies student Meghan Grim (right) working with Niny Rao, PhD.

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coffee from dark-roast beans produce a drink with more antioxidant activity and possibly more health benefits than its cold-brew counterpart.

That research built on previous work by Dr. Rao and Dr. Fuller that analyzed chemical differences between hot- and cold-brew coffees brewed with beans of various geographical origins. In that work, they found that the two preparations had similar pH levels. The latest of those studies reported that cold-brew coffee has less acidity

(or slightly higher pH values) than the hot-brew counterpart. That is notable because cold-brew coffee has been touted in the media as being less acidic than hot coffee and thus less likely to cause heartburn or gastrointestinal problems.

The researchers are continuing their comparison of the chemical impact of hot and cold brewing processes and of the degree of roast of the beans—focusing next on furans, a group of compounds that contribute to flavor. ■