

## **Keeping beer fresh longer**

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Researchers are reporting discovery of a scientific basis for extending the shelf life of beer so that it stays fresh and tastes good longer. For the first time, they identified the main substances that cause the bitter, harsh aftertaste of aged beer and suggest that preventing the formation of these substances could help extend its freshness. Their findings appear in ACS' *Journal of Agricultural and Food Chemistry*.

Thomas Hofmann and colleagues point out that beer can develop an unpleasant, bitter aftertaste as it ages. Unlike <u>wine</u>, scotch whiskey, and bourbon, beer tastes best when consumed fresh. Experts estimate that the average beer goes bad after 6 to 12 months of storage. Scientists have identified several dozens of the key bitter-tasting substances formed during beer manufacturing — mostly so-called "prenylated polyketides" derived from hops. Until now, however, nobody had solid information about the bitter substances that form as beer ages.

The scientists analyzed a variety of commercial beers both before and after storage. They identified 56 substances that contribute to beer's bitter taste, including five that appear to be largely responsible for its harsh flavor after aging. "The present study offers the scientific basis for a knowledge-based extension of the shelf life of the desirable beer's bitter taste and the delay of the onset of the less preferred harsh bitter aftertaste by controlling the initial pH value of the <u>beer</u> and by keeping the temperature as low as possible during <u>storage</u> of the final beverage,"



## Provided by American Chemical Society

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