

Assessment of the Contribution of New Aroma Compounds Found in Coffee to the Aroma of Coffee

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SUMMARY

Using gc/olfactometry and gc/ms analysis of coffee aroma fractions that were isolated by different mild isolation techniques (e.g. nitrogen stripping, SPME) 6 new sulfur compounds could be detected, 4 of which were positively identified as 3-mercapto-2-butanone, 3-mercapto-2-pentanone, 2-mercapto-3-pentanone and 4-methoxy-2-methylbutan-2-thiol for the first time in coffee. Quantitative analysis of these 4 sulfur compounds in various coffee brews revealed for 3-mercapto-2-pentanone, 2-mercapto-3-pentanone and 4-methoxy-2-methylbutan-2-thiol contents that are significantly above their thresholds (in water). Several mixtures that were formulated with the 3 thiols 3-mercapto-2-butanone, 3-mercapto-2-pentanone, and 4-methoxy-2-methylbutan-2-thiol were added to a coffee beverage. Sensory evaluations of the spiked coffee beverage against a reference (w/o additions) showed a positive impact of these thiols on the sensory profile of the coffee.