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ABSTRACTS - Oral Presentations

Identification of key odorants from the fermentation broth of the late-fall polypore, *Ischnoderma resinosum*

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Evaluation of fungi from eastern Tennessee for odor properties led to the identification of the understudied polypore *Ischnoderma resinosum* with a pleasant “candy-like” aroma. *Ischnoderma resinosum*, a member of the order Polyporales and family Hapalopilaceae, is commonly found in North American hardwood forests. The pleasant odor characteristics of *I. resinosum* have not been explored. Consequently, the objectives of the current investigation were: (1) to isolate and identify the key odorants present in *I. resinosum* fermentation broth using solvent-assisted flavor evaporation (SAFE) and aroma dilution extract analysis (AEDA); (2) to quantitate the odorants with stable isotope dilution assays (SIDAs); and (3) to simulate the odor of *I. resinosum* fermentation broth using the quantitative results in combination with sensory experiments. Eight compounds with flavor dilution factors ≥ 16 were quantitated in a 16-day old fermentation broth sample using stable isotope dilution assays. Odor activity values (OAV) revealed anise-smelling 4-methoxybenzaldehyde, vanilla-smelling 3,4-dimethoxybenzaldehyde, and cherry-smelling benzaldehyde as the key contributors to the pleasant aroma of the broth. Odor simulation experiments revealed that a mixture of five compounds in their natural concentrations mimicked the odor of a 16-day-old fermentation broth. This talk will highlight the identification of key odorants contributing to the unique aroma of *I. resinosum* using modern analytical techniques.