

Chemosensory and Physicochemical Factors in Flavors in Flavor Sweetness of Tobacco Products
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Abstract:

This supplement is being submitted in response to PA-14-320 which seeks to generate evidence on the role and impact of flavors in cigarettes, cigars, e-cigarettes and smokeless tobacco and inform FDA tobacco product regulatory actions. The overall goal of the Yale TCORS is to use a multidisciplinary approach to understand the role of flavors and sweeteners in tobacco products. This supplement will further extend our capabilities to include psychophysical and analytical measurement expertise focused on evaluating the role of flavors and sweeteners in e-cigarettes and cigars/cigarillos. Flavors and sweeteners are present in most e-cigarette solutions and cigars/cigarillos and are emerging as important determinants of use behaviors. In order to support FDA's regulatory goal it is imperative to develop an understanding how characteristics like smell, taste and constituents alter perceptions regarding tobacco products. This administrative supplement proposes an innovative combination of psychophysical and analytical chemistry experiments to address these important questions. Specifically, we will combine systematic psychophysical measurements of sweet flavor perception and liking with detailed chemical analyses of the base constituents, flavoring and sweetener agents in e-liquids/vapors. We will also conduct preliminary chemical analyses of the flavor/sweetener composition of cigars/cigarillos which will be used to support future psychophysical experiments on these products. The following specific aims will be addressed: 1) Determine whether the VG/PG ratio in e-liquid bases affects the sweetness of e-cigarette flavors, 2) Determine how flavor additives interact perceptually to produce the perceived sweetness of e-cigarette liquids containing nicotine, 3) Conduct analytical characterizations of flavors, sweeteners and nicotine in e-liquids and aerosols, and 4) Initiate exploratory characterizations of flavors and sweeteners in cigar/cigarillo wrapping papers.