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(54) Title: IMPROVED CITRAL AND CITRONELLAL DERIVATIVES

(57) Abstract: Improved citral and citronellal derivatives, and fragrance and flavorings including the derivatives, that have a longer useful shelf life than citral and citronellal and/or fragrances and flavoring including citral and citronellal, are disclosed. In particular, the derivatives maintain the fragrance characteristics of citral and citronellal, while lowering the allergic properties, and lemony flavors and fragrances with a longer shelf-life than citral and citronellal, are disclosed. Also disclosed are methods of making the derivatives, and articles of manufacture including the derivatives. The derivatives replace the aldehyde group in citral or citronellal with a hydroxy group. In one embodiment, the derivatives also replaced one or more double bonds in citral or the double bond in citronellal with a cyclopropyl group, which can be unsubstituted, or substituted with one or two alkyl, preferably methyl, groups, or with an oxirane or thiirane ring, or combinations thereof. The alkyl groups in the cyclopropyl groups can optionally be substituted, for example, with electron donating groups, electron withdrawing groups, groups which increase the hydrophilicity or hydrophobicity, and the like. Examples of suitable articles of manufacture include candles, air fresheners, perfumes, disinfectant compositions, hypochlorite (bleach) compositions, beverages such as beer and soda, denture cleanser tablets and flavored orally-delivered products such as lozenges, candies, and the like.

WO 2006/069224 A3