

Capsinoids represent a novel group of capsaicinoid-like substances found in a nonpungent cultivar, *Capsicum annuum* "CH-19 Sweet." They have capsaicinoid-like physiological and biological properties while lacking the harmful stimuli of capsaicinoids. A large-scale synthesis of dihydrocapsiate (DCT) is established in this work. 8-Methylnonanoic acid (MNA) was synthesized by copper-catalyzed cross-coupling of ethyl 6-bromohexanoate with isobutylmagnesium bromide and subsequent hydrolysis. Lipase-catalyzed chemoselective esterification of vanillyl alcohol and MNA was performed at 50 °C under reduced pressure to remove water without solvents or drying agents. A slightly larger stoichiometric amount of MNA was used and the purification in the final stage was simplified to leave a small amount of MNA in the product, because we found that the presence of a small amount of MNA is necessary to stabilize DCT. DCT was synthesized according to the production, and stabilization methods described here has been filed as a new dietary ingredient.

Dihydrocapsiate was synthesized via lipase-catalyzed chemoselective esterification of vanillyl alcohol and 8-methylnonanoic acid under reduced pressure without solvents.

