

ROTATIONAL SPECTRUM AND CONFORMATIONAL ANALYSIS OF PERILLARTINE: INSIGHTS INTO THE STRUCTURE-SWEETNESS RELATIONSHIP^a

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Perillartine, a solid synthetic sweetener, has been brought into the gas phase using laser ablation techniques, and its conformational panorama has been studied using chirped-pulse Fourier transform microwave spectroscopy (LA-CP-FTMW). Four conformers are detected and characterized under the isolation conditions of the supersonic expansion. The four conformers present an E configuration of the C=N group with respect to the double bond of the ring. The observed structures are verified against the Shallenberger-Acree-Kier's sweetness theory to shed light on the structure-sweetness relationship. The results show that for this particular oxime there is a deluge of possibilities to bind to the receptor.

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