

Herpetopanone, a diterpene from *Herpetosiphon aurantiacus* discovered by isotope labeling.

Pan X, Domin N, Schieferdecker S, Kage H, Roth M, Nett M (2017) Herpetopanone, a diterpene from *Herpetosiphon aurantiacus* discovered by isotope labeling. *Beilstein J. Org. Chem.* 13, 2458-2465.

[Details](#)



Abstract

The genome of the predatory bacterium *Herpetosiphon aurantiacus* 114-95T harbors a number of biosynthesis genes, including fourterpene cyclase genes. To identify the terpenes biosynthesized from *H. aurantiacus* 114-95T, we fed the strain with ^{13}C -labeled glucose and, subsequently, searched for characteristic mass shifts in its metabolome. This approach led to the discovery of a new natural product, of which the isotope pattern is indicative for a diterpene originating from the methylerythritol phosphate pathway. After large-scale fermentation of *H. aurantiacus* 114-95T, the putative diterpene was isolated in sufficient quantity to enable NMR-based structure elucidation. The compound, for which the name herpetopanone is proposed, features a rare octahydro-1H-indenyl skeleton. Herpetopanone bears resemblance to cadinane-type sesquiterpenes from plants, but is structurally entirely unprecedented in bacteria. Based on its molecular architecture, a possible biosynthetic pathway is postulated.

Beteiligte Forschungseinheiten

[Biotechnikum Miriam Agler-Rosenbaum](#) [Mehr erfahren](#)

Leibniz-HKI-Autor*innen



Martin Roth

[Details](#)

Identifier

doi: 10.3762/bjoc.13.242