

Characterization of natural monatin isomers, a high intensity sweetener from the plant *Sclerochiton ilicifolius* from South Africa

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ABSTRACT:

The objective was to establish the natural occurrence of the various isomers of monatin in extracts of *Sclerochiton ilicifolius* plant material harvested from different growing regions in South Africa. The natural occurrence of the 2S,4S isomer has been reported as well as the synthesis of the 2R,4R isomer. The 2R,4R is reported as the most intense sweetness however its natural occurrence has not been fully reported, as a result it was not possible to establish whether these isomers are indeed already present in the plant or come from racemisation during the processing of the plant. The presence of the monatin isomers 2S,4S; 2R,4R in aqueous extracts of *S. ilicifolius* root bark was demonstrated in each sample harvested at two different time points. The 2R,4R, 2S,4S, 2R,4S, and 2S,4R monatin isomers were absent in the aqueous extracts of *S. ilicifolius* stem and leaf samples, however was shown to be present in the root bark, and root core samples. This report confirms previous findings which suggested that the 2S,4S and 2R,4R monatin isomers occur naturally in *S. ilicifolius*.