Enantiospecific (S)-(+)-Linalool Formation from -Myrcene by Linalool Dehydratase-Isomerase

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The linalool dehydratase-isomerase from *Castellaniella defragrans* strain 65Phen catalyzes in the thermodynamically unfavourable direction the hydration of -myrcene to linalool and further the isomerization to geraniol, the initial steps in anaerobic -myrcene biodegradation. We have now investigated the stereochemistry of this reaction. (S)-(+)-Linalool is formed with an enantiomeric excess of at least 95.4%. (R)-(-)-Linalool was not detected. This indicates an introduction of the hydroxy group on the *si*-face of -myrcene.

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