

Pyran formation by an atypical CYP-mediated four-electron oxygenation-cyclization cascade in an engineered aureothin pathway.

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Abstract

Small changes, big effect: A new aureothin derivative, aureopyran, which features an unusual pyran backbone, was generated by simply altering the enzymatic methylation topology. The α -pyrone ring hampers the correct placement of the polyketide backbone in the multifunctional cytochrome P450 monooxygenase AurH. Instead of a tetrahydrofuran ring, an oxo intermediate is formed that readily undergoes a rare electrocyclization reaction.

Beteiligte Forschungseinheiten

[Biomolekulare Chemie](#) [Christian Hertweck](#) [Mehr erfahren](#)

Leibniz-HKI-Autor*innen



Christian Hertweck

[Details](#)



Keishi Ishida

[Details](#)

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