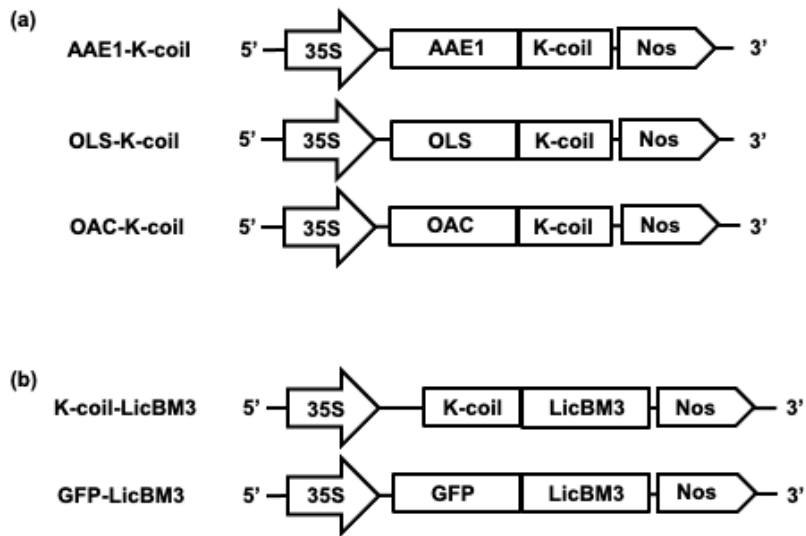


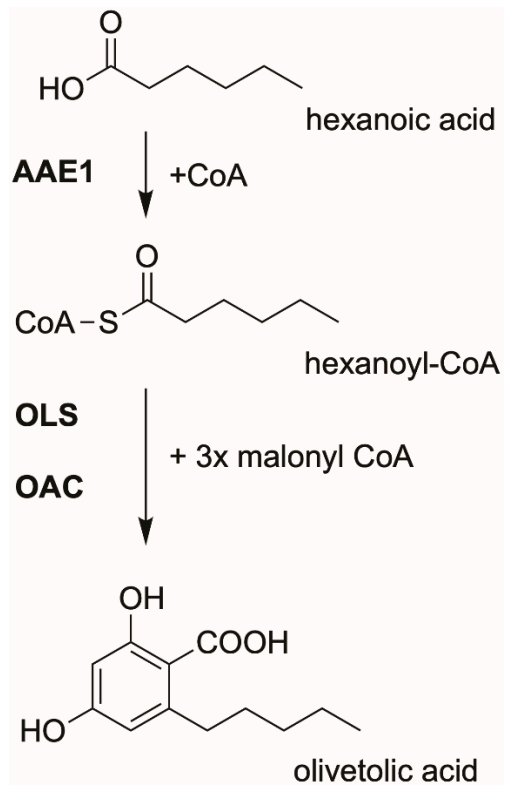
Supplementary Material



Supplementary Figure S1. Schematic representation of cloned constructs. Transcriptional units for the transient production of enzymes *in planta* were cloned via GoldenBraid cloning system. All transcriptional units are utilizing the P35s promoter from Cauliflower mosaic virus (Prom 35S) and the nopaline synthase terminator from *A. tumefaciens* (Nos-Ter)

(a) Transcriptional units for the production of catalytic enzymes from the cannabinoid synthesis from *C. sativa*
AAE1: Acyl activating enzyme 1; OLS: olivetol synthase; OAC: olivetolic acid cyclase.

(b) Transcriptional unit for the production of the thermostable lichenase from *Clostridium thermocellum* (LicBM3) fused with the K-coil-sequence as reporter enzyme.



Supplementary Figure S2. Schematic representation of the biosynthetic pathway for production of the cannabinoid precursor olivetolic acid from *C. sativa* (AAE1: acyl activating enzyme 1; OLS: olivetol synthase; OAC: olivetolic acid cyclase).

Supplementary Table S1. List of oligonucleotides used for cloning.

Name	Sequence (5'-3')
TBSVECoilFor	cggaggtaaggaagtgtcagcttggagaaagaggtagtcacttgaaaaggagggtctgcattagaaaaagaagttctgctcttgag aagtgagagctcttaat
TBSVECoilRev	taagactctcacttctcaagagcagaaactcttttctaatacagacacctctttcaagtgcactaacctcttctcaaagctgacacttctt acctccgggcc
ECoilPVXFor	ggccgcatgtccaccaaggaagtgtcagcttggagaaagaggtagtcacttgaaaaggagggtctgcattagaaaaagaagttctg ctcttgagaagg
ECoilPVXRev	tcgaccttctcaagagcagaaactcttttctaatacagacacctctttcaagtgcactaacctcttctcaaagctgacacttcttgggtg catgc