

NO Activates the Triterpenoid Biosynthetic Pathway in *Inonotus obliquus* Through Multilevel Signaling Regulation to Enhance Its Production

Ping Kou *, Yu-Chi Zhang, He Wang, Li-Li Mo, Jun-Jiao Gu and Fang Yu

School of Biological Engineering, Dalian Polytechnic University, Dalian 116034, China

* Correspondence: kouping@dlpu.edu.cn

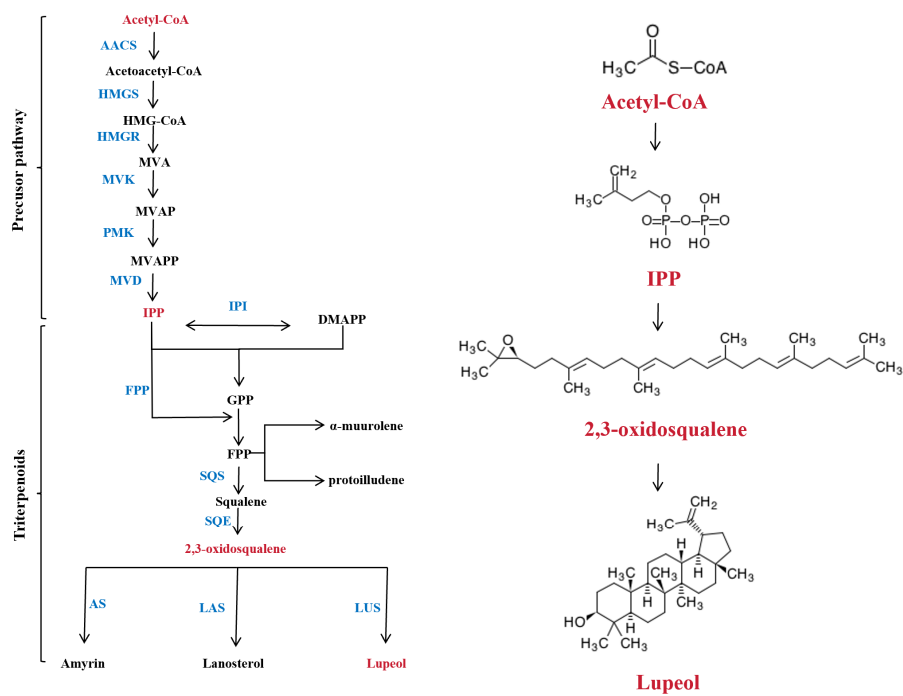


Figure S1. The biosynthetic pathway of terpenoids.

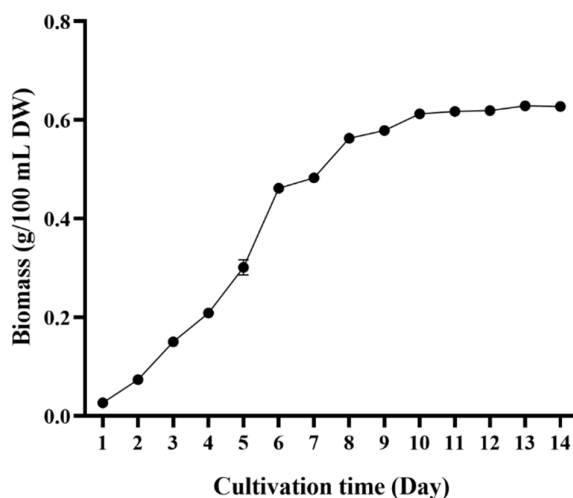


Figure S2. Growth profile of *Inonotus obliquus* during liquid fermentation.

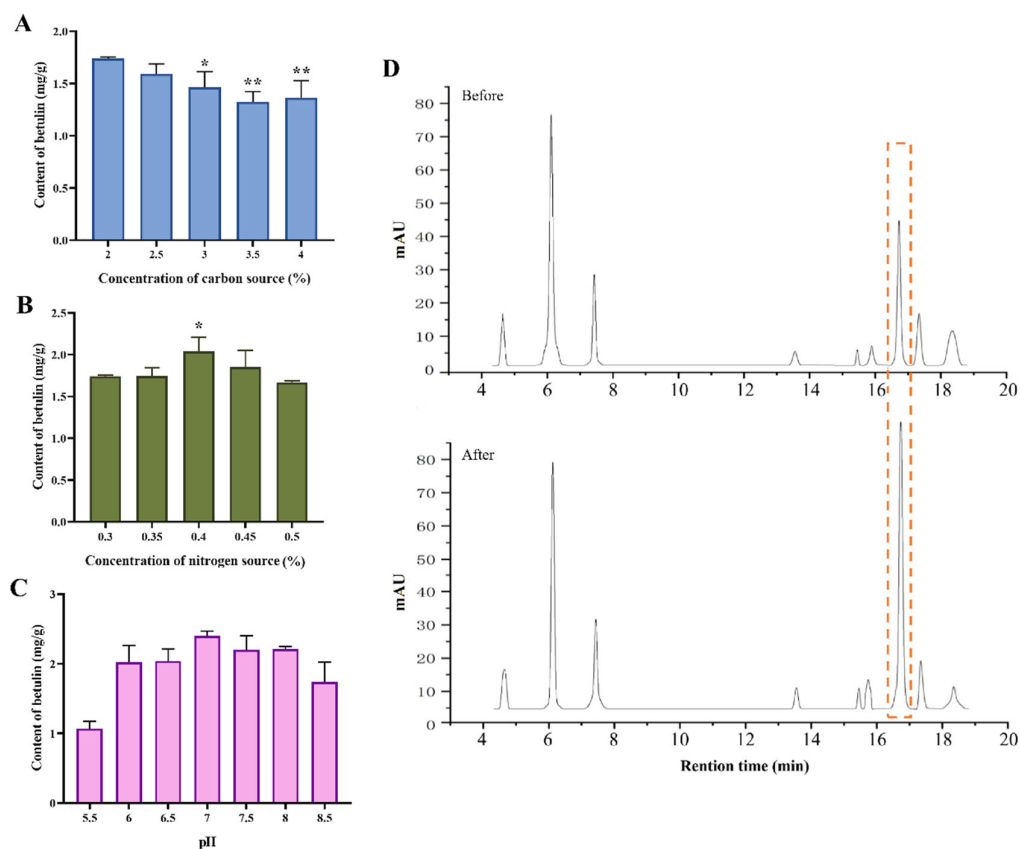


Figure S3. Optimization of carbon source, nitrogen source and pH during liquid fermentation of *I. obliquus* (A–C) and HPLC detection of betulin before and after optimization (D).

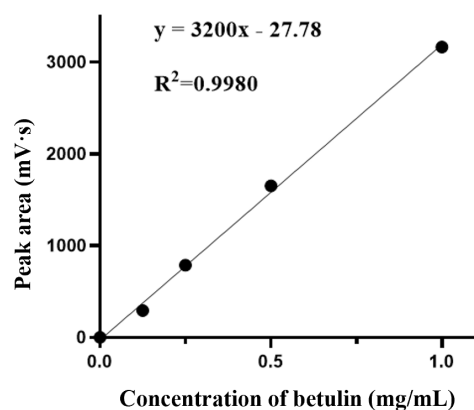


Figure S4. Standard curve of betulin.

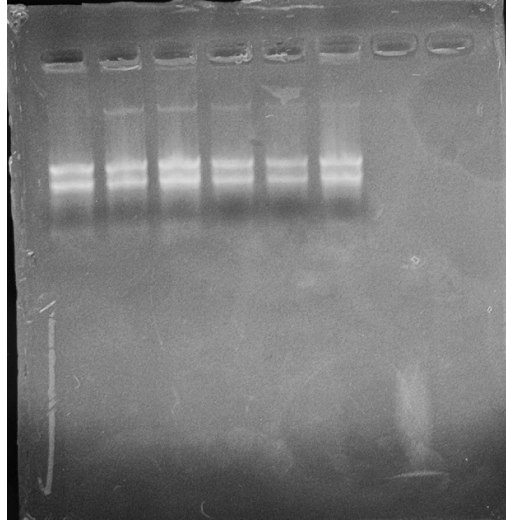


Figure S5. Uncropped gel electrophoresis of total RNA in control group and experimental groups.

Table S1. GenBank accession for triterpenoid biosynthetic genes.

Genes	GenBank Accession
<i>IoHMGR</i>	JN580310.1
<i>IoMVD</i>	MK82558
<i>IoFPP</i>	MK825560.1
<i>IoSQS</i>	JN580311.1
<i>IoSQE</i>	MK825566.1
<i>IoLUS</i>	OP810572.1

Table S2. Primers used in this study.

Primers	Sequences (5'-3')
actin-F	CCACGAGACAACATACAAC
actin-R	CCACGAGACAACATACAAC
<i>IoHMGR</i> -F	ACATCCTCACGGCGATCTTCCT
<i>IoHMGR</i> -R	GCGTCATCATTGCTGGCTCCA
<i>IoMVD</i> -F	CAGTTTCTGGAGGTGGTGCC
<i>IoMVD</i> -R	AAGGGGATAAGGGATGTGGA
<i>IoFPP</i> -F	CATCTCTGCCTTTGCCCTGT
<i>IoFPP</i> -R	TCCAGGCAACTCGTGGCTTA
<i>IoSQS</i> -F	AGCAGGTGTGACGGCAAACG
<i>IoSQS</i> -R	GACGAIGGCGAACGCAAGGA
<i>IoSQE</i> -F	GCAAGGAGGTGGAGACAA
<i>IoSQE</i> -R	GACCCAGAGGCATGGAAA
<i>IoLUS</i> -F	ATTGGGGGATTGCTACACCTACG
<i>IoLUS</i> -R	GTCCACACCTTGCTTTGGCTTGA
<i>IoNOX</i> -F	ATAACCGTTGACCGGCCATT
<i>IoNOX</i> -R	AAGATGAGTTTCCGCGGTGT
<i>IoSOD</i> -F	GACGAAGGTGGAGAGTGCAA
<i>IoSOD</i> -R	TGCAGAGTATTCGGGTTCGG
<i>IoCAT</i> -F	CCGGGATCAAACCATGTGGA
<i>IoCAT</i> -R	GGTGGCTGGCAGGTAATCT
<i>IoCAMP</i> -F	CTTCCTACGTTGACCACGCT
<i>IoCAMP</i> -R	TCGCGGAGAATTGCTCTAC
<i>IoCATP</i> -F	GGGCACAAGGTGATCGAGAA
<i>IoCATP</i> -R	CGTCCAACACAGTTCCGAGA
<i>IoCALM</i> -F	GGTGTTCGATAAGGACGGCA
<i>IoCALM</i> -R	AATCATCTCGTCGACCTCGC