



Universiteit  
Leiden  
The Netherlands

## Jasmonate-responsive transcriptional regulation in *Catharanthus roseus*

Zhang, H.

### Citation

Zhang, H. (2008, November 6). *Jasmonate-responsive transcriptional regulation in Catharanthus roseus*. Retrieved from <https://hdl.handle.net/1887/13223>

Version: Corrected Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/13223>

**Note:** To cite this publication please use the final published version (if applicable).

**Jasmonate-responsive  
transcriptional regulation in  
*Catharanthus roseus***

**Hongtao Zhang**

张洪涛

Cover: Revised from figure 7 in chapter 4  
ISBN/EAN: 978-90-5335-172-7  
Printed by: Ridderprint, Ridderkerk, The Netherlands

# **Jasmonate-responsive transcriptional regulation in *Catharanthus roseus***

## **Proefschrift**

ter verkrijging van  
de graad van Doctor aan de Universiteit Leiden,  
op gezag van de Rector Magnificus prof. mr. P. F. van  
der Heijden,  
volgens besluit van het College voor Promoties  
te verdedigen op Donderdag 6 november 2008  
klokke 15:00 uur

door

**Hongtao Zhang**

**张洪涛**

geboren te Huadian (China) in 1975

## Promotiecommissie

Promotor: Prof. Dr. J. Memelink

Referent: Prof. Dr. B. St-Pierre (Université de  
Tours)

Overige Leden:

Prof. Dr. J.F.Bol

Prof. Dr. P.J.J. Hooykaas

Prof. Dr. B. van Duijn

Dr. R. Offringa

This work was supported by the Dutch Research Council for Earth and Life Sciences (ALW) with financial aid from the Netherlands Organization for Scientific Research (NWO; grant # 812.06.002)

献给我的父母妻子和女儿

To my parents, wife and daughter



## Contents

	<b>Page</b>
<b>Chapter 1</b>	<b>9</b>
Introduction	
<b>Chapter 2</b>	<b>33</b>
Characterization of a novel putative regulator of plant secondary metabolism	
<b>Chapter 3</b>	<b>57</b>
The basic helix-loop-helix transcription factor CrMYC2 controls the jasmonate-responsive expression of the <i>ORCA</i> genes regulating alkaloid biosynthesis in <i>Catharanthus roseus</i>	
<b>Chapter 4</b>	<b>91</b>
CrJAZ proteins repress CrMYC2 activity and jasmonate-responsive gene expression in <i>Catharanthus roseus</i>	
<b>Chapter 5</b>	<b>125</b>
General discussion	
<b>Samenvatting</b>	<b>137</b>
<b><i>Curriculum vitae</i></b>	<b>143</b>



