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## 陶能国

### 基本信息



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### 个人简介

陶能国, 男, 博士, 教授, 博士生导师, 化工学院副院长, 湖南省青年骨干教师 (2010年度), 湘潭大学学术委员会成员 (2014-2017, 2017-2020)。国家自然科学基金、科技部创新基金、湖南省自然科学基金、河北省自然科学基金等通讯评审专家。先后主持国家自然科学基金3项 (31572172, 31271964, 30901010)、国际科学基金 (IFS) 1项 (F4589-1)、湖南省自然科学基金1项 (08JJ6020)、湖南省教育厅重点项目1项 (15A181)、湖南省教育厅青年项目1项 (12B126)、湖南省科技厅计划项目1项 (2012FJ3114)等, 在Food Chemistry, Food Control, Postharvest Biology and Technology等杂志发表第1作者 (含通讯作者) SCI/El论文30多篇, 申请国家发明专利4项。

### 研究方向

1. 柑橘贮藏与保鲜
2. 果蔬加工
3. 植物源防腐保鲜剂开发与利用

## 科研项目

- 1.国家自然科学基金 (31572172) : 柠檬烯诱导指状青霉孢子萌发的作用机制
- 2.国家自然科学基金 (31271964) : 柠檬醛抑制柑橘采后绿霉的作用机制
- 3.国家自然科学基金 (30901010) : 柑橘果实类胡萝卜素“采后生物合成”的分子机制研究
- 4.湖南省教育厅重点项目 (15A181) : 萜烯类诱导柑橘采后绿霉发生的机制解析
- 5.瑞典国际科学基金 (F/4589-1) : Carotenogenesis during fruit ripening of *Lycium barbarum*
- 6.湖南省自然科学基金 (08JJ6020) : 超量表达柑橘PSY基因提高枸杞果实类胡萝卜素含量
- 7.湖南省教育厅青年项目(12B126): 柠檬醛抑制柑橘采后青霉和绿霉的作用机制
- 8.湖南省科技计划项目 (2012FJ3114) : 莲子壳固态发酵产饲用复合酶的研究
- 9.湖南省教育厅项目 (08C891) : 几种橘皮精油的化学成分及抑菌效果研究

## 发明专利

- 1.陶能国, 段小芳, 敬国兴, 黄师荣, 欧阳秋丽. 一种采后柑橘防腐保鲜的方法.公开(公告)号: CN104855496A, 申请日: 2015.06.2;
- 2.陶能国, 谢思, 敬国兴, 黄师荣.一种莲心软糖及其制备方法. 公开(公告)号: CN104855663A, 申请日: 2015.06.2;
- 3.陶能国, 谢思, 敬国兴, 黄师荣.一种柑橘渣酥饼及其制备方法. 公开(公告)号: CN105211168A, 申请日: 2015.11.18;
- 4.陶能国, 谢思, 敬国兴, 黄师荣, 张妙玲.一种软皮橘渣玉米饼及其制备方法. 公开(公告)号: CN 105918388A, 申请日: 2016.07.15

## 科研成果

1. Ouyang QL, Jing GX, Tao NG\*. Transcriptional profiling analysis of *Penicillium digitatum*, the causal agent of citrus green mold, unravels an inhibited ergosterol biosynthesis pathway in response to citral. *BMC Genomics*, 2016, 17: 599 (SCI)
2. Duan XF, Jing GX, Fan F, Tao NG\*. Control of postharvest green and blue molds of citrus fruit by application of sodium dehydroacetate. *Postharvest Biology and Technology*, 2016, 113: 17-19 (SCI)
3. Duan XF, Ouyang QL, Jing GX, Tao NG\*. Effect of sodium dehydroacetate on the development of sour rot on Satsuma mandarin. *Food Control*, 2016, 65: 8-13 (SCI)
4. Wu YL, Ouyang QL, Tao NG\*. Plasma membrane damage contributes to antifungal activity of citronellal against *Penicillium digitatum*. *Journal of Food Science and Technology*, 2016, 53(10): 3853-3858 (SCI)
5. Zheng SJ, Jing GX\*, Wang X, Ouyang QL, Jia L, Tao NG\*. Citral exerts its antifungal activity against *Penicillium digitatum* by affecting the mitochondrial morphology and function. *Food Chemistry*, 2015,178: 76-81 (SCI)
6. Jing GX, Tao NG\*, Jia L, Zhou HE. Influence of  $\alpha$ -terpineol on the growth and morphogenesis of *Penicillium digitatum*. *Botanical Studies*, 2015, 56: 35-35(SCI)
7. Tao NG\*, Jia L, Zhou HE. Anti-fungal activity of *Citrus reticulata* Blanco essential oil against *Penicillium italicum* and *Penicillium digitatum*. *Food Chemistry*, 2014,153: 265-271 (SCI)
8. Fan F, Tao NG\*, Jia L, He XL. Use of citral incorporated in postharvest wax of citrus fruit as a botanical fungicide against *Penicillium digitatum*. *Postharvest Biology and Technology*, 2014, 90: 52-55 (SCI)
9. Tao NG\*, Fan F, Jia L, Zhang ML. Octanal incorporated in postharvest wax of Satsuma mandarin fruit as a botanical fungicide against *Penicillium digitatum*. *Food Control*, 2014, 45: 56-61(SCI)
10. Tao NG\*, Ouyang QL, Jia L. Citral inhibits mycelial growth of *Penicillium italicum* by a membrane damage mechanism. *Food Control*, 2014, 41: 116-121(SCI)

11. Zhou HE, Tao NG\*, Jia L. Antifungal activity of citral, octanal and  $\alpha$ -terpineol against *Geotrichum citri-aurantii*. *Food Control*, 2014, 37: 277-283 (SCI)
12. Tao NG\*, Jia L, Zhou HE, He XL. Effect of octanal on the mycelial growth of *Penicillium italicum* and *P. digitatum*. *World Journal of Microbiology and Biotechnology*, 2014, 30(4): 1169-1175 (SCI)
13. Tao NG\*, Wang CF, Xu J, Cheng YJ. Carotenoid accumulation in postharvest "Cara Cara" navel orange (*Citrus sinensis* Osbeck) fruits stored at different temperatures was transcriptionally regulated in a tissue-dependent manner. *Plant Cell Reports*, 2012, 31(9): 1667-1676(SCI)
14. Tao NG\*, Ao TT, Liu YJ, Huang SR. Effect of sucrose-based polymers on quality of Satsuma mandarin fruit (*Citrus unshiu* Marc. cv. Miyagawa Wase). *International Journal of Food Science & Technology*, 2012, 47(5): 997-1003(SCI)
15. Tao NG\*, Liu YJ. Chemical composition and antimicrobial activity of the essential oil from the peel of Shatian pummelo (*Citrus grandis* Osbeck). *International Journal of Food Properties*, 2012, 15(3): 709-716 (SCI)
16. Wang H, Tao NG\*, Huang SR, Liu YJ. Effect of Shatangju (*Citrus reticulata* Blanco) essential oil on spore germination and mycelium growth of *Penicillium digitatum* and *P. italicum*. *Journal of Essential Oil Bearing Plants*, 2012 15: 715- 723(SCI)
17. Tao NG\*, Shi WQ, Liu YJ, Huang SR. Production of feed enzymes from citrus processing waste by solid-state fermentation with *Eupenicillium javanicum*. *International Journal of Food Science & Technology*, 2011, 46(5): 1073-1079(SCI)
18. Tao NG\*, Gao YM, Liu YJ. Isolation and characterization of a *Pichia anomala* strain: a promising candidate for bioethanol production. *Brazilian Journal of Microbiology*, 2011, 42(2): 668-675. (SCI)
19. Tao NG\*, Gao YM, Liu YJ, Zhang JH. Extraction of high-quality RNA and construction a cDNA library from fruits of *Lycium barbarum* Linnaeus (*Fructus Lycii*). *Biotechnology & Biotechnological Equipment*, 2010, 24(1): 1569-1572( SCI)
20. Gao YM, Tao NG\*, Liu YJ, Gei F, Feng B. Antimicrobial activity of the essential oil from the peel of Ponkan (*Citrus reticulata* Blanco). *Journal of Essential Oil Bearing Plants*, 2010, 13(2): 230-236 (SCI)
21. Tao NG\*, Liu YJ, Zhang ML. Chemical composition and antimicrobial activities of essential oil from the peel of bingtang sweet orange (*Citrus sinensis* Osbeck). *International Journal of Food Science & Technology*, 2009, 44(7): 1281-1285 (SCI)
22. Tao NG\*, Liu YJ, Tang YF, Zhang JH, Zhang ML, Zeng HY. Essential oil composition and antimicrobial activity of *Citrus reticulata*. *Chemistry of Natural Compounds*, 2009, 45(3): 437-438 (SCI)
23. Tao NG\*, Liu YJ, Zhang JH, Zeng HY, Tang YF, Zhang ML. Chemical composition of essential oil from the peel of Satsuma Mandarin. *African Journal of Biotechnology*, 2008, 7(9): 1261-1264(SCI)
24. Tao NG, Hu ZY, Liu Q, Xu J, Cheng YJ, Guo LL, Guo WW and Deng XX\*. Expression of phytoene synthase gene (*Psy*) is enhanced during fruit ripening of Cara Cara navel orange (*Citrus sinensis* Osbeck). *Plant Cell Reports*, 2007, 26:837-843 (SCI)
25. Tao NG, Xu J, Cheng YJ and Deng XX\*. Construction and characterization of a cDNA library from the pulp of Cara Cara navel orange (*Citrus sinensis* Osbeck). *Journal of Integrative Plant Biology*, 2006, 48(3): 315-319 (SCI)
26. Tao NG, Wei J, Liu YZ, Cheng YJ and Deng XX\*. Copia-like retrotransposons in a precocious mutant of trifoliolate orange [*Poncirus trifoliata* (L.) Raf]. *Journal of Horticultural Science & Biotechnology*, 2006, 81 (6) 1038-1042 (SCI)
27. Tao NG, Xu J, Cheng YJ and Deng XX\*. Lycopene- $\epsilon$ -cyclase pre-mRNA is alternatively spliced in Cara Cara navel Orange (*Citrus sinensis* Osbeck). *Biotechnology Letters*, 2005, 27:779-782 (SCI)
28. Tao NG, Xu J, Cheng YJ, Hong L, Guo WW, Yi HL and Deng XX\*. Isolation and characterization of copia-like retrotransposons from 12 sweet orange (*Citrus sinensis* Osbeck) cultivars. *Journal of Integrative Plant Biology*, 2005, 47(12): 1507-1515 (SCI)
29. Tao NG, Cheng YJ, Xu J, Xu Q and Deng XX\*. An effective protocol for the isolation of RNA from the pulp of ripening citrus fruits. *Plant Molecular Biology Reporter*, 2004, 22(3): 305a-305f (SCI)
30. 欧阳秋丽, 贾雷, 陶能国\*. 柠檬醛对指状青霉菌丝体膜脂过氧化物的影响. *食品科学*, 2016, 37(23): 32-37 (EI)
31. 陶能国\*, 郑世菊, 敬国兴, 王笑. 柠檬醛对指状青霉菌糖酵解的影响. *现代食品科技*, 2015, 31(12): 172-176 (EI)
32. 陶能国\*, 段小芳, 凡凤, 黄师荣. 柠檬醛和辛醛混合物对指状青霉的抑制作用. *现代食品科技*, 2015, 31(6): 73-77 (EI)
33. 欧阳秋丽, 贾雷, 陶能国\*, 何湘丽.  $\alpha$ -松油醇对意大利青霉的抑制作用. *食品科学*, 2014, 35(11): 32-35(CSCD)
34. 贾雷, 何湘丽, 陶能国\*, 周海恩. 不同发育期柑桔精油对意大利青霉和指状青霉的抑制作用. *食品工业科技*, 2013, 34(7): 68-72(CSCD)

35. 王华, 陶能国\*, 王长锋. 桉柑精油对指状青霉的抑制作用. 食品科学, 2012, 33(13): 130-133(CSCD)
36. 王华, 陶能国\*, 王长锋, 凡凤. 桉柑精油及其主要抑菌组分对菌核青霉的抑制作用. 中国生物工程杂志, 2012, 32(3): 53-58(CSCD)
37. 王长锋, 陶能国\*, 黄师荣. 贮藏温度对红肉脐橙(Citrus sinensis Osbeck)果实类胡萝卜素含量的影响. 食品科学, 2013,34(4): 255-260(CSCD)

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