



Graphical Abstracts/Fitoterapia 140 (2020) iii-ix

REVIEWS

Acmella oleracea for pain management

Fitoterapia 140 (2020) 104419

Mariangela Rondanelli^{a,b}, Federica Fossari^c, Viviana Vecchio^c, Valentina Braschi^c, Antonella Riva^d, Pietro Allegrini^d, Giovanna Petrangolini^d, Giancarlo Iannello^e, Milena Anna Faliva^c, Gabriella Peroni^c, Mara Nichetti^c, Clara Gasparri^c, Daniele Spadaccini^c, Vittoria Infantino^f, Sakina Mustafa^g, Tariq Alalwan^g, Simone Perna^g

^aIRCCS Mondino Foundation, Pavia 27100, Italy

^bDepartment of Public Health, Experimental and Forensic Medicine, University of Pavia, Pavia 27100, Italy

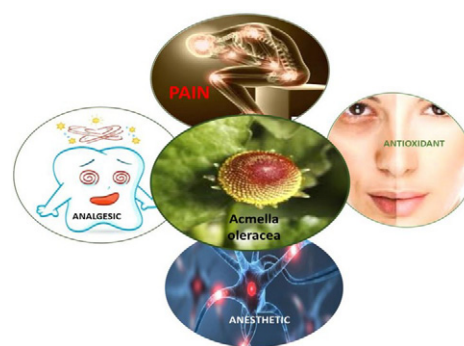
^cEndocrinology and Nutrition Unit, Azienda di Servizi alla Persona "Istituto Santa Margherita", University of Pavia, Pavia 27100, Italy

^dResearch and Development Unit, Indena, Milan 20139, Italy

^eGeneral Management, Azienda di Servizi alla Persona "Istituto Santa Margherita", Pavia 27100, Italy

^fUniversity of Bari, Department of Biomedical Science and Human Oncology, Bari 70121, Italy

^gDepartment of Biology, College of Science, University of Bahrain, Sakhir Campus P. O., Box 32038, Bahrain



A review of the pharmacology and toxicology of aucubin

Fitoterapia 140 (2020) 104443

Xiangchang Zeng^{a,b,c,d}, Fei Guo^{a,b,c,d,e}, Dongsheng Ouyang^{a,b,c,d,e}

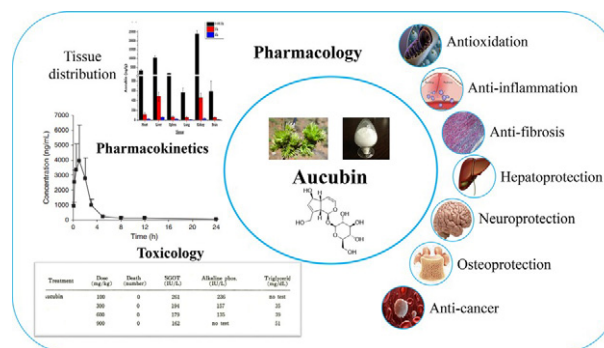
^aDepartment of Clinical Pharmacology, Xiangya Hospital, Central South University, 87 Xiangya Road, Changsha 410008, PR China

^bInstitute of Clinical Pharmacology, Central South University, Hunan Key Laboratory of Pharmacogenetics, 110 Xiangya Road, Changsha 410078, PR China

^cEngineering Research Center of Applied Technology of Pharmacogenomics, Ministry of Education, 110 Xiangya Road, Changsha 410078, PR China

^dNational Clinical Research Center for Geriatric Disorders, 87 Xiangya Road, Changsha 410008, Hunan, PR China

^eHunan Key Laboratory for Bioanalysis of Complex Matrix Samples, Changsha Duxact Biotech Co., Ltd., Changsha 411000, PR China

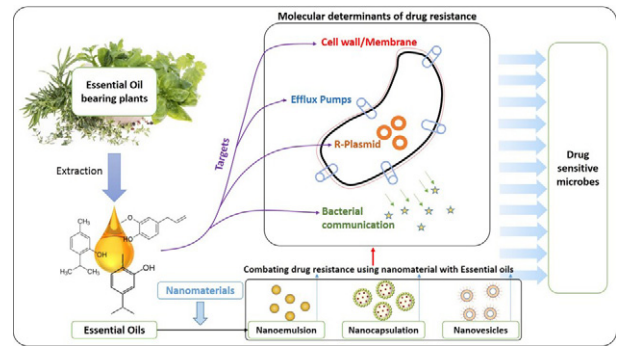


The alarming antimicrobial resistance in ESKAPEE pathogens: Can essential oils come to the rescue?

Fitoterapia 140 (2020) 104433

Zhihui Yu^{a,b}, Jie Tang^b, Tushar Khare^{c,d}, Vinay Kumar^{c,d}

^aJilin Agricultural Science and Technology College, School of Agronomy, Jilin 132101, China
^bCollege of New Energy and Environment, Jilin University, Changchun 130012, China
^cDepartment of Biotechnology, Modern College of Arts, Science and Commerce (Savitribai Phule Pune University), Ganeshkhind, Pune 411016, India
^dDepartment of Environmental Science, Savitribai Phule Pune University, Pune 411007, India



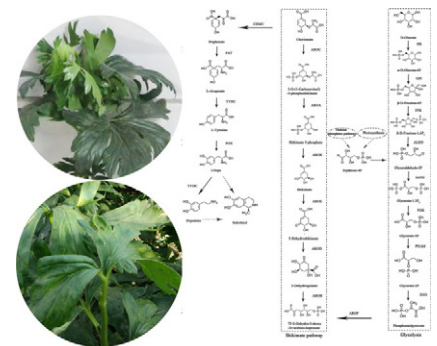
ORIGINAL ARTICLES

Transcriptome analysis of *Aconitum carmichaelii* and exploration of the salsolinol biosynthetic pathway

Fitoterapia 140 (2020) 104412

Yuxia Yang^b, Ping Hu^b, Xianjian Zhou^b, Ping Wu^b, Xinxin Si^{b,c}, Bo Lu^b, Yanxi Zhu^{a,2}, Yanli Xia^{a,2}

^aCollege of Pharmacy and Biological Engineering of Chengdu University, Chengdu 610106, PR China
^bSichuan Provincial Key Laboratory of Quality and Innovation Research of Chinese Materia Medica, Sichuan Academy of Traditional Chinese Medicine Sciences, Chengdu 610041, PR China
^cSichuan Agricultural University, Chengdu 611134, PR China



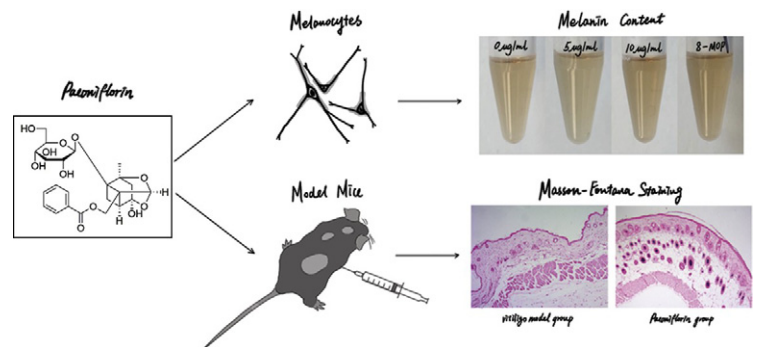
Leaves transcriptome analysis of two varieties *Aconitum carmichaelii* were investigated. Salsolinol biosynthetic pathway was concluded in *A. carmichaelii*, and differentially expressed genes were found to be involved in the formation of C19-diterpenoid alkaloids and salsolinol between two varieties.

The melanogenic effects and underlying mechanism of paeoniflorin in human melanocytes and vitiligo mice

Fitoterapia 140 (2020) 104416

Murong Hu^a, Cunguo Chen^a, Jingjing Liu^a, Lei Cai^a, Junyi Shao^a, Zhixia Chen^c, Lele Lin^a, Tianyin Zheng^a, Xiaoxia Ding^b, Zhiming Li^a

^aDepartment of Dermatology and Venereology, The First Affiliated Hospital of Wenzhou Medical University, Wenzhou, Zhejiang 325000, China
^bDepartment of Dermatology and Venereology, Zhejiang Provincial People's Hospital, Hangzhou, Zhejiang 310000, China
^cDepartment of Urinary Surgery, The First Affiliated Hospital of Wenzhou Medical University, Wenzhou, Zhejiang 325000, China



Fitoterapia 140 (2020) 104417

Inhibition of IL-6 expression by lignans and other constituents isolated from *Schefflera rubriflora* C. J. Tseng & G. Hoo

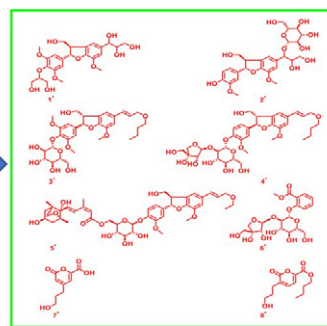
Fenghua Li^a, Zhengyu Cao^b, Hongqing Wang^a,
Changkang Li^a, Jia Fu^a, Jun Xie^a, Baoming Li^a,
Ruoyun Chen^a, Jie Kang^a

^aState Key Laboratory of Bioactive Substance and Function of Natural Medicines, Institute of Materia Medica, Chinese Academy of Medical Sciences & Peking Union Medical College, No. 1 Xiannongtan Street, Beijing 100050, China

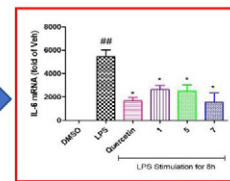
^bState Key Laboratory of Natural Medicines and Department of Pharmacology, School of Traditional Chinese Pharmacy, China Pharmaceutical University, Nanjing 211198, China



Schefflera rubriflora



New Compounds



IL-6 inhibition

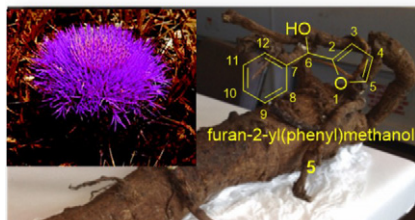
Fitoterapia 140 (2020) 104420

2-furyl(phenyl)methanol isolated from *Atractilis gummifera* rhizome exhibits anti-leishmanial activity

Solene Deiva^a, Lindsay Ferguson^a, Mostafa E. Rateb^a,
Roderick Williams^a, Federico Brucoli^b

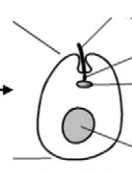
^aSchool of Computing, Engineering & Physical Sciences, University of the West of Scotland, Paisley PA1 2BE, Scotland, UK

^bLeicester School of Pharmacy, De Montfort University, Leicester LE1 9BH, UK

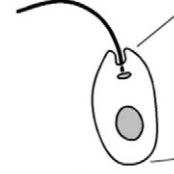


furan-2-yl(phenyl)methanol

Leishmania donovani



Amastigote



Promastigote

1.00 mM

0.029 mM

Fitoterapia 140 (2020) 104422

Peniterester, a carotane-type antibacterial sesquiterpene from an artificial mutant *Penicillium* sp. T2-M20

Rong-Ting Duan, Rui-Ning Yang, Hong-Tao Li,
Lin-Huan Tang, Tao Liu, Ya-Bin Yang, Hao Zhou,
Zhong-Tao Ding

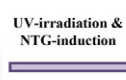
Key Laboratory of Functional Molecules Analysis and Biotransformation of Universities in Yunnan Province, Key Laboratory of Medicinal Chemistry for Natural Resource, Ministry of Education, School of Chemical Science and Technology, Yunnan University, Kunming 650091, PR China



Gastrodia elata

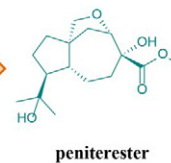


endophytic fungus
Penicillium sp. T2-8



UV-irradiation &
NTG-induction

mutant
Penicillium sp. T2-M20



peniterester

Five new 5,6- β -epoxywithanolides from *Physalis minima*

Fitoterapia 140 (2020) 104413

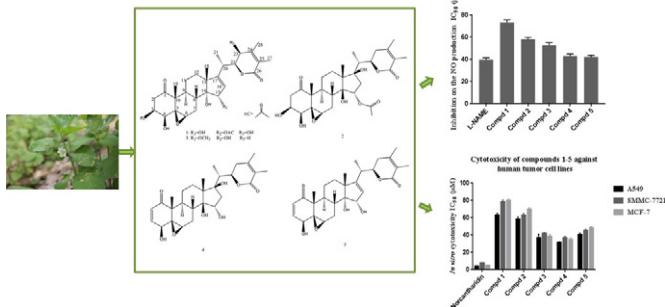
Jiangping Wu^a, Tao Zhang^a, Jinguang Si^a, Qiongmeng Xu^b, Yucheng Gu^c,
Shilin Yang^{b,d}, Zhongmei Zou^a

^aInstitute of Medicinal Plant Development, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100193, China

^bCollege of Pharmaceutical Science, Soochow University, Suzhou 215123, China

^cSyngenta, Jealott's Hill International Research Centre, Berkshire RE42 6EY, UK

^dCollege of Pharmaceutical Science, College of Pharmaceutical Science, Jiangxi University of Traditional Chinese Medicine, Nanchang 330006, China



Sesquiterpenes from cultures of the fungus *Phellinus igniarius* and their Cytotoxicities

Fitoterapia 140 (2020) 104415

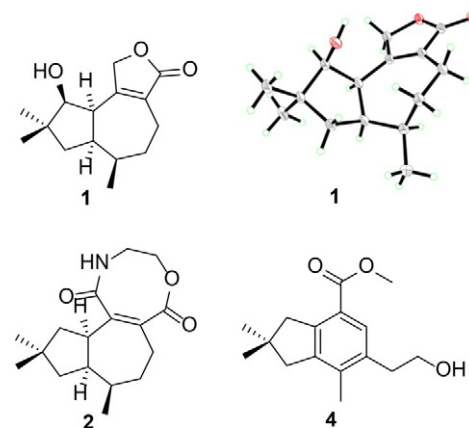
Pan-Feng Wu^{a,b}, Ru Ding^{a,b}, Rong Tan^c, Juan Liu^d, En-Ming Hu^{a,b}, Chun-Yan Li^{a,b},
Guang-Yan Liang^{a,b}, Ping Yi^{a,b}

^aState Key Laboratory of Functions and Applications of Medicinal Plants, Guizhou Medical University, Guiyang 550014, PR China

^bThe Key Laboratory of Chemistry for Natural Products of Guizhou Province and Chinese Academy of Sciences/Guizhou Provincial Engineering Research Center for Natural Drugs, Guiyang 550014, PR China

^cPharmacy Affiliated Hospital of Guizhou Medical University, Guiyang 550001, PR China

^dGraduate School, Guizhou Medical University, University Town, Gui'an New District, Guiyang 550025, PR China



New quinoline alkaloid and bisabolane-type sesquiterpenoid derivatives from the deep-sea-derived fungus *Aspergillus* sp. SCSIO06786

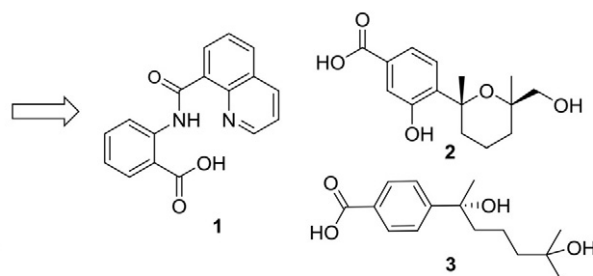
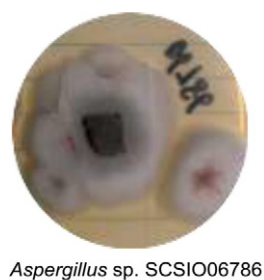
Fitoterapia 140 (2020) 104406

Xiaoyan Pang^{a,b,c}, Xiuping Lin^b, Xuefeng Zhou^b,
Bin Yang^b, Xinpeng Tian^b, Junfeng Wang^b, Shihai Xu^a,
Yonghong Liu^b

^aCollege of Chemistry and Materials Science, Jinan University, Guangzhou 510632, China

^bCAS Key Laboratory of Tropical Marine Bio-resources and Ecology/Guangdong Key Laboratory of Marine MateriaMedica, South China Sea Institute of Oceanology, Chinese Academy of Sciences, Guangzhou 510301, China

^cCollege of Pharmacy, Jinan University, Guangzhou 510632, China



Two novel nornemoralisin-type diterpenoids from *Aphanamixis polystachya* (Wall.) R. Parker

Fitoterapia 140 (2020) 104431

Xiao-Zhen Wu, Fu-Hu Fang, Wen-Jun Huang, Ying-Ying Shi, Hong-Qian Pan, Lu Ning, Cheng-Shan Yuan

State Key Laboratory of Applied Organic Chemistry, College of Chemistry and Chemical Engineering, Lanzhou University, Lanzhou 730000, China

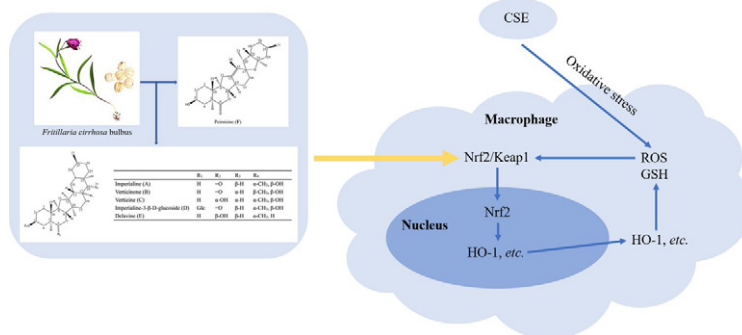
Isosteroid alkaloids from *Fritillaria cirrhosa* bulbus as inhibitors of cigarette smoke-induced oxidative stress

Fitoterapia 140 (2020) 104432

Simei Liu^a, Tiechui Yang^b, Tse Wai Ming^b, Tse Kathy Wai Gaun^b, Ting Zhotu^a, Shu Wang^a, Bengui Ye^a

^aKey Laboratory of Drug-Targeting, Drug Delivery System of the Education Ministry and Sichuan Province, Sichuan Engineering Laboratory for Plant-Sourced Drug, Sichuan Research Center for Drug Precision Industrial Technology, West China School of Pharmacy, Sichuan University, Chengdu 610041, China

^bNin Jiom Medicine Manufactory (H.K.) Limited, Hongkong, China



Cytotoxic lignans from fruits of *Cleistanthus tonkinensis*

Fitoterapia 140 (2020) 104432

Lam Hong Nguyen^{a,b}, Van Nam Vu^a, Dao Phi Thi^a, Viet Hung Tran^c, Marc Litaudon^d, Fanny Roussi^d, Van Hung Nguyen^a, Van Minh Chau^a, Huong Doan Thi Mai^{a,e}, Van Cuong Pham^{a,e}

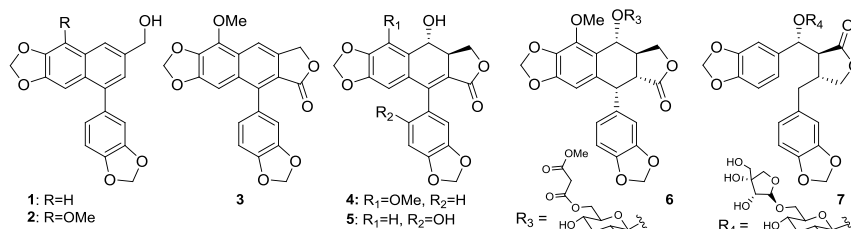
^aAdvanced Center for Bioorganic Chemistry, Institute of Marine Biochemistry of the Vietnam Academy of Science and Technology (VAST), 18 Hoang Quoc Viet, Cau Giay, Hanoi, Viet Nam

^bHanoi University of Pharmacy, 13 Le Thanh Tong, Hoankiem, Hanoi, Viet Nam

^cInstitute of Drug Quality Control – Ho Chi Minh City, 200 Co Bac Street, Co Giang Ward, District 1, Ho Chi Minh City, Viet Nam

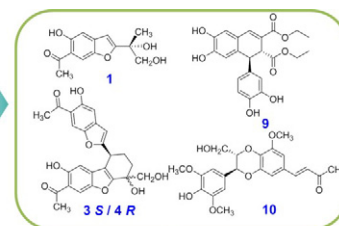
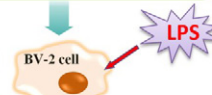
^dInstitut de Chimie des Substances Naturelles, CNRS-ICSN, UPR 2301, Univ. Paris-Sud, 91198 Gif-sur-Yvette, France

^eGraduate University of Science and Technology, VAST, 18 Hoang Quoc Viet, Cau Giay, Hanoi, Viet Nam



Fitoterapia 140 (2020) 104440

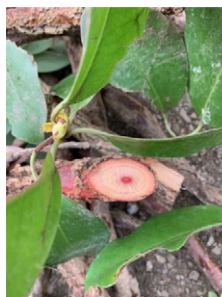
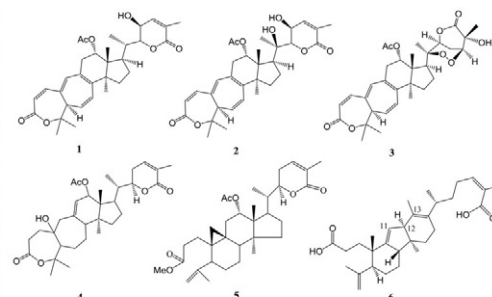
Anti-neuroinflammatory benzofurans and lignans from *Praxelis clematidea*

Lu Xiao^a, Yuying Huang^a, Yihai Wang^{a,b}, Jingwen Xu^{a,b}, Xiangjiu He^{a,b}^aSchool of Pharmacy, Guangdong Pharmaceutical University, Guangzhou 510006, China^bGuangdong Engineering Research Center for Lead Compounds & Drug Discovery, Guangzhou 510006, China*Praxelis clematidea* (Asteraceae)Inhibitory Effects on NO production (IC₅₀)Inhibited expression of iNOS/COX-2/IL-1 β Decreases nuclear translocation of NF- κ B

Pronounced Anti-neuroinflammatory Activities

Triterpenoids from stems of *Kadsura heteroclita*

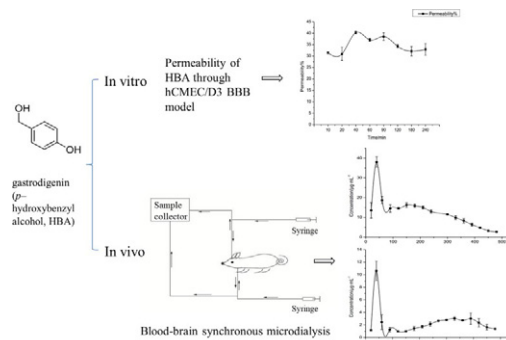
Fitoterapia 140 (2020) 104441

Liang Cao^{a,b}, Bin Li^a, Nuzhat Shehla^{a,c}, Li-min Gong^a, Yu-Qing Jian^a, Cai-Yun Peng^a, Wen-Bing Sheng^a, Le-Ping Liu^a, Xiong Cai^a, Rong-Yong Man^d, Duan-Fang Liao^a, Xiao-Qi Zhu^b, M. Iqbal Choudhary^c, Atta-ur Rahman^c, Wei Wang^a^aTCM and Ethnomedicine Innovation & Development International Laboratory, Academician Atta-ur-Rahman Belt and Road Traditional Medicine Research Center, Innovative Materia Medica Research Institute, School of Pharmacy, Hunan University of Chinese Medicine, Changsha 410208, People's Republic of China^bInstitute of Agriculture Environment and Agroecology, Hunan Academy of Agriculture Sciences, Changsha 410125, People's Republic of China^cH.E.J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi, Karachi 75270, Pakistan^dClinic Experimental Research Center, The First People's Hospital of Huaihua, Huaihua 418000, People's Republic of China.*Kadsura heteroclita*

Six unreported triterpenoids isolated

Studies of blood-brain barrier permeability of gastrodigenin *in vitro* and *in vivo*

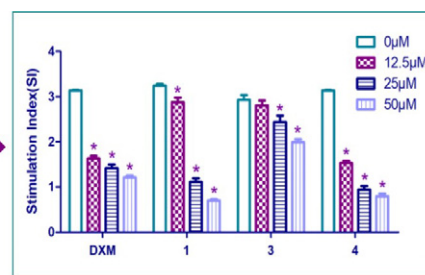
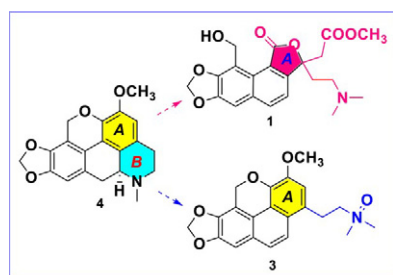
Fitoterapia 140 (2020) 104447

Yahui Mi^a, Yukang Mao^{a,b}, Huan Cheng^a, Guohan Ke^a, Mingping Liu^a, Chunping Fang^a, Qian Wang^a^aSchool of Pharmacy, Guangzhou University of Chinese Medicine, Guangzhou, China^bGuangdong Shunde Innovative Design Institute, Foshan, China

Racemic immunosuppressive *seco*-aporphine derivatives from *Thalictrum wangii*

Qiong Jin^{a,b}, Xin Wei^{a,c}, Xu-Jie Qin^a, Fei Gao^b,
Pei-Feng Zhu^a, Hai-Lian Yuan^{a,b},
Guy Sedar Singor Njateng^a, Zhi Dai^{a,b}, Ya-Ping Liu^a,
Xiao-Dong Luo^{a,b}

^aState Key Laboratory of Phytochemistry and Plant Resources in West China, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming 650201, PR China
^bKey Laboratory of Medicinal Chemistry for Natural Resource, Ministry of Education and Yunnan Province, School of Chemical Science and Technology, Yunnan University, Kunming 650091, PR China
^cGuizhou University of Traditional Chinese Medicine, Guiyang 550025, PR China

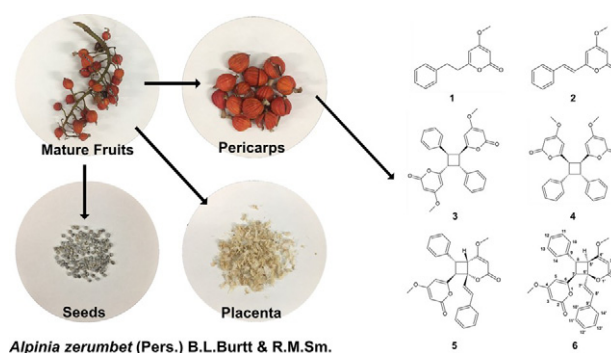


Anti-inflammatory kavalactones from *Alpinia zerumbet*

Yuto Nishidono^a, Ryo Okada^b, Yuuna Iwama^a, Tetsuya Okuyama^b,
Mikio Nishizawa^b, Ken Tanaka^a

^aCollege of Pharmaceutical Sciences, Ritsumeikan University, 1-1-1 Noji-Higashi, Kusatsu, Shiga 525-8577, Japan

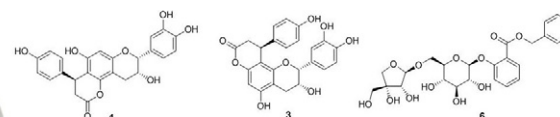
^bDepartment of Biomedical Sciences, College of Life Sciences, Ritsumeikan University, 1-1-1 Noji-Higashi, Kusatsu, Shiga 525-8577, Japan



Flavan-3-ols and 2-diglycosyloxybenzoates from the leaves of *Averrhoa carambola*

Yue Yang^{a,b}, Haihui Xie^a, Yueming Jiang^a,
Xiaoyi Wei^a

^aGuangdong Provincial Key Laboratory of Applied Botany, Key Laboratory of South China Agricultural Plant Molecular Analysis and Genetic Improvement, and South China Branch of Innovation Academy for Drug Discovery and Development, South China Botanical Garden, Chinese Academy of Sciences, Guangzhou, China
^bUniversity of Chinese Academy of Sciences, Beijing 100049, China



Compound	ABTS (IC ₅₀ , μM)	DPPH (IC ₅₀ , μM)	FRAP (mmol/g)	α-Glucosidase (IC ₅₀ , μM)	Lipase (IC ₅₀ , μM)
1	4.7 ± 0.2	14.3 ± 0.3	13.8 ± 0.2		41.8 ± 0.9
3	4.0 ± 0.1	18.9 ± 0.6	15.1 ± 0.2	9.6 ± 0.4	
6	> 50	> 50	8.6 ± 0.1		
L-Ascorbic acid	23.1 ± 0.2	44.5 ± 2.9	10.0 ± 0.1		
Corosolic acid				10.0 ± 0.2	
Orlistat					4.5 ± 0.3