



Keyword Index for Volume 63

Visit www.sciencedirect.com to perform free full text searches of *Phytochemistry*.

- Abiotic reaction 617
Acanthaceae 457, 491
Acanthus ilicifolius 491
6 α -Acetoxy-15,16-epoxylabda-8,13(16),14-trien-7-one 409
6 β -Acetoxy-15,16-epoxylabda-8,13(16),14-trien-7-one 409
Acetyl-CoA carboxylase 533
Actinidiaceae 285
Actinidia arguta 285
Activity visualization 523
Acyl sucroses 485
Acyl sugars 485
1-Acylglycerol-3-phosphate acyltransferase 139
Acylresorcinol 603
Aerial and root parts 825
Agnucastoides A–C 959
Alatae 265
Alatoside 835
Aldehydes 285
Aldoximes 265
Aliphatic alcohol glycoside 491
Alisma orientalis 877
Alismataceae 877
Alkaline extraction 617
Alkaloid 475, 711
Alkyl glycoside 479, 609
Alkylation 145
2-Alkyl-4(1*H*)-quinolones 185
Allelopathy 551, 577
Alternaria brassicae 89
Alticinae 69
American fern 869
Amylopectin 53
Amylose 53
 α - and β -glucans 967
Anise 609
Andrographis lineata 457
Anthocyanin 15
Anthocyanins 783
Anthonomus grandis 343
Antifeedant 41
Antigenotoxicity 199
Antimicrobial activity 81, 789
Antioxidant 155, 795
Antioxidants 97
Apiaceae 883
Apocynaceae 625
Apoptosis 209
Aporphine alkaloids 377
Aquatic plant 361
Arabidopsis thaliana (Brassicaceae) 653
Araliaceae 401, 777
Argentilactone 221
Aristolochia argentina 221
Aristolochia pubescens 953
Aristolochiaceae 221, 953
Aristolochic acids 953
Aristolochic esters 953
Aroma compounds 285
Aromatic compound glucoside 609
Arylbenzofuran 597
Asparagales 351
Aspartate 475
Asteraceae 61, 841
Asymmetric synthesis 47
ATP-diphosphohydrolase 7
Aucubin 959
Authentication 555
Autumn sage 859
Avena sativa 249
Averrhoa carambola 131
Avesin A 249
Awa 193
Awaine 193
Baby kiwifruit 285
Bacillariophyta 155
Ballota africana 409
Ballota aucheri 409
Banana 243, 679
Barbarea 69
Basic subunit 1
Basidiomycete 919
Basil 555
Bazzania japonica 581
Benzaldehydes 505
Benzofuranester 939
Bergapten 41
Biflavonoids 427
Bignoniaceae 887
Bignoniaceae 925
Biodiversity 69
Biosynthesis 25, 771
Biotransformations 663
Bisindole alkaloids 625
Bitter gourd 643
Black poplar 109
Black-eyed pea trypsin/chymotrypsin inhibitor 343
Blechnaceae 931
Botrytis cinerea 687
Bran 899
Brassicaceae 69
Brassica crops 89
Brassica napus L 765
Brassica oleracea L. var. *acephala* 765
Brassinosteroids 771
Brown algae 669
Bryophyte 227
Buckwheat 1
Burtinonedehydrate 445
 $\delta^{13}\text{C}$ 361
Caesalpinia pulcherrima 789
Caffeoyl esters 905
1-*O*-caffeoyl- β -xylose 905
Camellia sinensis 817
Canellaceae 497

- Capsicum annuum* 893
 Carbon-13 solid state NMR 177
 2-(4-Carboxy-3-methoxystyryl)-2-methoxysuccinic acid 433
 Carcinogenic α,β -unsaturated lactones 221
 Carotenoids 131, 155
 Caryophyllaceae 15
 Catechin 199
 CD 825
 Cell wall 543
 cGMP 635
 Charminarone 383
 “Charrúa” 221
 Chemical correlation 825
 Chemical ecology 699
 Chemometrics 705
 Chemosystematics 61, 185
 Chemotaxonomy 69, 145, 555, 699, 783, 863
 Chenopodiaceae 693
Chlorella vulgaris 739
 Chlorinated bisbibenzyl 227
 Chloro-alkanes 693
Chlorophyceae 739
 Chrysomelidae 69
cis- and *trans*-diploindonesins B 913
Citrus paradisi 177
¹³C-labelling 25
Clerodendrum inerme 415
 Co-pigment 15
 Coleoptera 69
Colletotrichum trifolii 47
 Combretaceae 81
Combretum imberbe 81
 Complexation 817
 Compositae 383, 835
 Composition 687
 Conjugation 653
 Convolvulaceae 635, 721
 Cotton 343
 Coumarins 471
 Cowpea 343
 Cress 577
 Cruciferae 765
 Cucurbitaceae 643
 Cumin 479
Cuminum cyminum fruit 479
 Cuminoside A, B 479
 Cupressaceae 105
 Cutin monomers 47
 Cyanogenesis 699
 Cyanogenic glycoside 699
 Cyclohexenone glucosides 931
Cymbopogon martinii 257, 569
 Cytochrome *c* 817
 Cytokines 209
 Cytotoxic and anti-cancer activity 471

 δ D 361
 2D NMR 905
 Daidzein 209
 Defence 699
 Dehydroabietanol 663
 1-Deoxy-L-erythritol 3-*O*- β -D-glucopyranoside 609
 Desaturase 739
 Desaturation 145
 Desirée and Pimpernel isoapyrases 7
 Detoxification 653
 Deuterium labeling 771
 Development 543, 765
 DHPA 47
Dianthus caryophyllus 15
 Diatom 155
 3,6-di-*O*-caffeoyl-(α/β)-glucose 905
 Dichloroaniline 653
Dictyoloma vandellianum 185
 Dihydroimpranine 115
 10-*seco*-Dihydroisoparthenin 1 383
 1,9-Dihydroxyeudesm-3-en-12,6-olide 9-*O*- β -D-glucopyranoside 479
 Dihydroxyhexadecanoic acid 47
 4,8-Dimethoxy-7-hydroxy-2-oxo-2H-1-benzopyran-5,6-dicarboxylic acid 433
 Dimethylcyclodecatene 105
 Dinophyceae 145
 10-dione 383
 Dipterocarpaceae 913
 Diterpene esters 953
 Diterpene 409
 Diterpenes 663
 Diterpenoid 457, 859, 883
Dracula chimaera 783
Dracula cordobae 783
 Drimane-type sesquiterpene glycosides 497
 Droseraceae 309
Drosera rotundifolia L 309
Dryobalanops oblongifolia 913
 Drypearmoraceins A and B 453
Drypetes armoracia 453
 Dusky kaki color 721

 EC 3.2.1.26) 125
 Egonol 939
 Elaeocarpaceae 335
 ELISA 303
 Ellagitannin 795
Emericella varicolor 437
ent-Kauranes 391
 Environmental temperature 53
 Enzyme expression 745
 Enzyme purification 125
 Epigallocatechin gallate 817
 Epoxides 771
 3 $\alpha,4\alpha$ -Epoxy-5 β -pipermethystine 193
 Erypogins F–J 597
Erythrina burtii 445
Erythrina poeppigiana 597
 ESI-MS 905
 Essential oil 221, 257
 Esters 285
 Estrogen 209
 Ethane-1,2-diol 1-*O*- β -D-apiofuranosyl-(1 $\rightarrow$ 6)- β -D-glucopyranoside 479
Eucalyptus nobilis (Myrtaceae) 699
 Eudesmane 835
 Euphorbiaceae 421, 453, 825, 985
Euphorbiaceae 517
Euphorbia stygiana 421
 Evairiquinone 437
 Export 653
 External flavones 555
 Extracellular matrix 687

 Fabaceae 753
Fagopyrum esculentum 1
 Fatty acid 145, 739
 Ferredoxin 303
Ferula persica 965
 Ferulates 543
 Ferulic acid 505
 Ferulic acid trimer 899
 Fetisinine 115
 Flavanoids 789
 Flavanone 3-Hydroxylase 753
 Flavanone 445
 Flavodoxin 303
 Flavone C-glycosides 449
 Flavone penta- and hexa-*O*-glycosides 589
 Flavone-polysaccharide 589
 Flavonoid 3',5'-hydroxylase 15
 Flavonoids 457, 893
 Flavonol glycoside 463

- Flavonol glycosides 497
 Flavonol 727
 Flavumones A and B 427
 Floral scent 265
 Flower color development 721
 Flowering 765
 Flowers 285, 783
 Foliage 105
 Fractionation 617
 Free radicals 97
Fritillaria imperialis 115
 Fructan 351
 Fruit ripening 243
 Fruit 131, 285
 Fungi 919
 Fungicide 89
 Furanocoumarins 41
 Furanolabdane 409
 Furanone derivative 887
 Fusarium wilt 679

 Galactomannans 967
Garcinia merguensis 467
 GC/MS 109, 285
Gemmae populi 109
 Genistein 209
 Genotoxicity 199
 Geraniol 257, 569
 Geranyl acetate esterase 257
 Geranyl acetate 569
 Geranyloxyporalen 41
 Ginsenosides 777
 Glansrins A–C 795
 Glucide 609
 β -glucosidase 699
 Glucoside 727
 Glucosinolates 69
 Glucosyltransferase 653
 Glutamate receptor antagonist 315
Glycine max 753
 Glycine max (Fabaceae) soybean 653
 Glycoside 977
 Glycosides of deoxysugars 945
Gossypium hirsutum 343
 Gramineae 569
 Gramineae 53, 249, 257, 771
 Graminicides 533
 Grey mold 687
 Growth inhibitor 551, 577
 Growth phase 145
 Guaiane 877
 Guttiferae 467
Gymnodinium sp 145

Haliclona valliculata 437
Halimione portulacoides 693
 Halophytes 693
 Hamamelidaceae 199
Hamamelis virginiana L 199
 Hawkmoths 265
 Headspace 285
 Headspace analysis 265
Helicoverpa armigera 523, 643
Heliothis virescens 41
 Hemispherical photography 777
 Hep G2 cells 199
 Herbal extracts 97
 Herbicide metabolism 653
Hevea brasiliensis 517
 2,3-*O*-hexahydroxydiphenoyl-4,6-*O*-sanguisorboyl-(α/β)-glucose 905
 Hexane-1,5-diol 1-*O*- β -D-glucopyranoside 609
 Hispanolone 409
 Hispanone 409
 Homoiso flavanoids 789

 HPLC–NMR coupling 437
 Hydrocarbon fractions 693
 Hydrolysable tannin 817
 (*S*)-12-Hydroperoxy arachidonic acid 669
 (*S*)-15-Hydroperoxy arachidonic acid 669
 Hydroxyanthraquinone 453
 Hydroxycinnamic acids 315
 6 α -Hydroxy-15,16-epoxylabda-8,13(16),14-trien-7-one 409
 6 β -Hydroxy-15,16-epoxylabda-8,13(16),14-trien-7-one 409
 7-Hydroxyemodin 437
 10-Hydroxyguaia-3,7(11)-dien-12,6-olide β -D-glucopyranoside 479
 6 α -Hydroxypterocarpan 597

 Illicifoliosides A and B 491
 Impranane-type steroidal alkaloids 115
 Impranine 115
 Intraspecific variability 555
 Insect gut proteinases 523
 Insect resistance 69
 Insect toxicity 803
 Inter-specific competition 705
 Intraspecific competition 155
 Intrinsic and extrinsic fluorescence 7
 β -Ionone 131
Ipomoea nil cv. Danjuro 721
 Iridoid glucosides 397, 959
 Iridoids 887
 Iron deficiency 303
 Isoemicellin 437
 Isoflavone 445, 753
 Isoflavonoid glucosides 449
 Isoflavonoids 597
 Isolariciresinol glycoside 985
 Isolation and identification 249
 Isopentenyl diphosphate 25
 Isopimpinellin 41
 Isoprenoids 25
 Isovaleryl sucrose esters 841
 Isozymes of AIV 125

Jamesoniella colorata 227
 Jamesoniellides 227
 Japanese morning glory 635
 Japanese pear (*Pyrus serotina*) fruit 125
 Juglandaceae 795
Juglans regia 795
Juniperus erectopatens 105

 Kaurane diterpenes 953
 Kava 193
Kigelia pinnata DC 887
 Kinetic isotope effects 739
 Knots 165

 Labdanes 227
 Labiatae 859
 Lachrymator 37
Laggera alata 835
 Lamiaceae 139, 409, 555, 977
Laminaria angustata 669
 Laminariaceae 669
 Leaf waxes 693
 Leaves 497
 Legumin 1
 Leguminosae 445, 449, 463, 471, 523, 577, 597, 789, 853
 Lepidolaenaceae 25
Lepidolaena hodgsoniae 25
 Lepidoptera 523
Leptosphaeria maculans 89
 Lichenized fungi 967
 Lichens 967
 Light intensity 777
 Light quality 777
 Lignan glycoside 985

- Lignans 825, 953
 Lignin carbohydrate complexes 617
 Lignin 617, 679, 765
 Lilac alcohols 285
 Lilac aldehydes 285
 Linolenate 739
 α -Linolenic acid 139
 Lipid peroxidation 97
 Lipids 145
 Lipid synthesis 533
 Lipoxygenase–hydroperoxide lyase pathway 669
 Liverwort 227, 581, 589
 Liverwort tissue culture 25
 Lupanes 421
Lupinus hartwegii 449
Lupinus oreophilus 853
 Lutoid-bodies 517
 Lycogala epidendrum 945
Lycopersicon esculentum 47
 Lysine 1
- Macrocyclic 727
 Madeiranese 421
 Maize 543, 899
 Malonyltransferase 653
 Megastigmane 835
 Megastigmane glycoside 985
 Melanin 687
 Menispermaceae 711
 Merguene 467
 Metabolic engineering 505
 Metabolic fingerprinting 705
 Methionine 1
 (2*R*,3*R*)-*trans*-7-methoxy-3,5,8-trihydroxyflavanone 335
 6-Methoxyluteolin 7,4'-*O*-glycosides 589
 Methyl jasmonate 171
 Methylerythritol phosphate pathway 25
 7-Methyljuglone 309
 7-*O*-Methyluteone 445
 Micro-spectrophotometry 721
 Microalga 739
Milletia pervilleana 471
 Mineral nutrition 171
 Mobility 765
 Momilactone B 551
Momordica charantia L. 643
 Monimiaceae 377
Monoclea forsteri 589
 Monocleales 589
 Monoterpenoids 257
 MS 783
Mucor plumbeus 663
Mulinum spinosum 883
 Mulin-11-ene-13- α ,14- α -dihydroxy-20-oic acid 883
 Mulin-12-ene-14-one-20-oic acid 883
 Mulinane derivatives 883
Muntingia calabura 335
Musa acuminata 243, 679
 Musaceae 243, 679
 Mussaenosidic acid 959
 Myxomyxetes 945
 Myzodendrone 959
- n*-Alkane 361
 Naphthoquinones 309
neo-Clerodane 977
 Neurotoxins 315
Nitzschia microcephala 155
n-Hexanal 669
 NMR 783
 NMR data 427, 711
 Noctuidae 523
 Nonenal 669
 Norsesquiterpene hydrocarbons 581
- North American fern 931
 Nymphaeaceae 727
Nymphaea lotus 727
- Oat 249
 Ochnaceae 427
O. x citriodorum 555
Ocimum americanum var. *americanum* 555
Ocimum americanum var. *pilosum* 555
 Olfactive properties 221
 Oligostilbenes 913
 Orchidaceae 783
 Orientalol E and F 877
Oryza sativa 551
 Osteoblast 209
Ouratea flava 427
 Oxidative cleavage 131
 Oxidative stress 155
 Oxirene 939
 Oxygenated sesquiterpenes 581
 Oxylipin 89
Oyedaea verbesinoides 391
- Palmarosa inflorescence 257
 Palmarosa oil 569
Panax quinquefolius L. 777
Parthenium hysterophorus 383
 Patatin 517
 Pathogen 89
p-Coumaroyl 727
 Pectate lyase 243
 Pentacyclic triterpenes 421
 Pentacyclic triterpenoids 81
 Pentagalloylglucose 817
Peperomia sui 603
Perilla frutescens 139
 Pervillanin 471
 Pervilline 471
 Pervillinine 471
Petiveria alliacea 37
Petunia nyctaginiflora 485
Pharbitis nil 635
 Phenolic acid 899, 893
 Phenolic acids 433
 Phenolic compounds 679
 Phenolic extractives 165
 Phenolic glycosides 217
 Phenylethanoid 977
 Phenylethanoid glycoside 491
 Phenylpropanoid 505
 Phosphodiesterase I 217
Phyllanthus urinaria 825
Phyllotreta nemorum 69
 Phylogenetic analysis 1
 Phytolaccaceae 37
 Phytoplankton 303
 Phytotoxicity 577
Pimpinella anisum fruit 609
 Pilocarpine 171
Pilocarpus jaborandi 171
 Piperaceae 193, 603
 Piperidine alkaloids 193
Piper methysticum 193
 Pipermethystine 193
 Plant defence 177
 Plant defense 343
 Plant ecology 705
Plasmodium falciparum 377
 Pleurothallidinae 783
 Poaceae 543
 Poaceae 551
Podospermum 61
 Polyamines 315
 Polygalacturonase 243

- Polyketide 603
 Polymorphism 699
 Polypeptide 249
 Polyphenol 817
 Polyphenol oxidase 745
 Polypropionate lactones 945
 Polysaccharides 967
Populus nigra L 109
 Potato apyrase 7
 Potato tuber 745
 Pregeijerene B 105
 Proanthocyanidin 817
 Proanthocyanidins 199
 Protein kinase 635
 Protein phosphorylation 635
 Protein purification 635
 Proteinase inhibitors 523, 643
 Proton-selective microelectrode 721
 Prunasin 699
Psophocarpus tetragonolobus 523
 Pterocarpan 471
Pueraria thunbergiana 577
 Purification 745
 Pyrdo[1,2-*a*]azepines 803
 Pyrrolo[1,2-*a*]azepines 803

 Quantitative ¹³C NMR spectroscopy 25
 Quinolinone 475
 Quinone reductase induction assay 335

 Radical scavenger 795
 Rat aorta 391
Ramalina dendriscoidea 967
Ramalina fraxinea 967
Ramalina gracilis 967
Ramalina peruviana 967
Randia spinosa 397
 Relaxation times 177
 Rice 551
 Rice (*Oryza sativa* L.) 53
 Root exudate 551
 Roots 653, 965
 Rosaceae 433, 905
 Round-leaved sundew 309
 Rouyolides 863
Rouya polygama 863
 Rubber latex 517
 Rubiaceae 397
Rubus sanctus 905
 Rutaceae 41, 171, 177, 185

Saccharomyces cerevisiae 569
 Salicaceae 109, 165
 Salicylic acid 171
Salix caprea 165
 Salt stress 171
Salvia greggii 859
 Salvigresin 859
Sanguisorba minor 433
 Saponins 777
Sarcocornia fruticosa 693
 Sauroposide 985
Sauropus androgynus 985
 SCGE assay 199
Schefflera arboricola 401
Sclerotinia sclerotiorum 89
 Sclerotiniaceae 687
S. cochinchinensis 803
Scorzonera 61
S. curtisii 803
Secale cereale 771
 Secasterol 771
 Secasterone 771
seco-Clerodanes 227

seco-Pseudoguaianolide 383
 Secondary metabolite production 309
 Seed 463
 Serine proteinases 343
 Serum albumin 817
 Sesquiterpene 105
 Sesquiterpenoid 25
 Sesquiterpenoid glucoside 479
 Sesquiterpenoids 377, 863, 877
 Shamixanthone 437
Siparuna pauciflora 377
 Smooth muscle 391
 SOD-like effect 795
 Solanaceae 7, 265, 387, 485, 745
Solanum tuberosum 7, 745
 Solid-state NMR 765
 Solonaceae 47
 Soluble acid invertase (AIV) 125
 Solvent 285
Sophora japonica 463
 Soybean isoflavones 209
 SPME 265
Spodoptera littoralis 41
Spodoptera littoralis 803
Spodoptera litura 643
 Sponge derived fungus 437
S. species indet 803
Staphania bancroftii 711
 Starch biosynthesis 53
 Starch branching enzyme 53
 Starch synthase 53
 Stem bark 427, 445, 453
Stemona alkaloids 803
Stemona kerrii 803
 Stemonaceae 803
Stephania aculeata 711
Stephania japonica 711
 Sterculiaceae 475
Sterculia lychnophora 475
Stereospermum personatum 925
 Stereostructure 877
 Sterequinone-A 925
 Sterequinone-B 925
 Sterequinone-C 925
 Sterequinone-D 925
 Sterequinone-E 925
 Sterols 145, 415
 Stigmastane derivatives 841
 Stromemycin 437
 Structural elucidation 437
 Structure 351
 Structure elucidation 853
 Structure–activity relationships 803
 Styracaceae 939
Styrax officinalis 939
Suaeda vera 693
 Subtribe Scorzonerinae 61
 Sudan 727
 Sulfine 37
 Sulfur containing derivatives 965
 Sunflecks 777
 Suranone 603
 Surinone A 603
 Surinone B 603
 Surinone C 603
 Symplocaceae 217
Symplocos racemosa Roxb 217

Tabernaemontana species 625
 Tannin 905
 Tannins 199
 Taraxeranes 421
 Tea 817
 Teideadiol 663

- Terminalia stuhlmannii* 81
Terpenes 285
Terrestrial plant 361
Test system for herbicides 533
Tetradium daniellii 41
Teucroside 977
Teucrium chamaedrys 977
Thapsia 863
Theaceae 817
Thelephantin 919
Thelephora aurantiotincta 919
Thelephoraceae 919
Thiamine 155
Thiobenzaldehyde *S*-oxide 37
Tissue cultures 533
Tomato 47
Tragopogon 61
Transcription Factor 753
Transgenic plant 15
Triacylglycerol 139
Triacylglycerols 145
Tribe Lactuceae 61
Trichomes 69
2,3,4-tri (5-methylhexanoyl)- α -D-glucopyranosyl- β -D-fructofuranoside
and 2,3,4-tri (6-methylheptanoyl)- α -D-glucopyranosyl- β -D-
fructofuranoside 485
Trinorsterterpene glycoside 869
Triterpene saponins 853
Triterpenoid saponin 401
True slime molds 945
Tumor necrosis factor- α 209
Two-dimensional gel electrophoresis 523
Tyrolbibenzyls 61

Umbelliferae 479, 609, 863, 965
Undecatrienes 221
Uronic acids 617

Vacuolar pH 721
Vacuoles 517
Vanillin 505
Vanilla 505
Verbenaceae 415, 959
Vernonia guineensis 841
Verticillium longisporum 89
Vitamin 155
Vitex agnus-castus 959
Volatiles 109

Waitziacuminone 227
Walnuts 795
Warburgia stuhlmannii 497
Water lily 727
Water-soluble carbohydrate 351
Wheat straw 617
White gum 699
Withania coagulans 387
Whole plant 457, 603
Winged bean 523
Withacoagulin 387
Withanolides 387
Wood 165
Woodwardia virginica 869, 931
Wound-induced material 177
Wound 171

X-ray analysis 859
Xanthones 467
Xanthotoxin 41
Xanthoxin 577

Zea mays 543
Zea mays L 899