

**Supplementary information**

**A Comprehensive Review of Structural Diversity, Biosynthesis and Chemical Synthesis of *Lasiodiplodia* spp. Natural Products**

Maria Michela Salvatore, Marco Masi, Marina DellaGreca and Anna Andolfi

Table S1. Main bioactivities of compounds from *Lasiodiplodia* spp.

Compound (Code)	Bioactivity	Concentration	Further details	Ref.
Theobroxide (1)	Potato micro-tuber-inducing activity	10 <sup>-5</sup> M	<i>S. tuberosum</i>	1
	Phytotoxic	0.5 mM	Seed of <i>N. tabacum</i> (growth inhibition)	2
(4 <i>S</i> ,5 <i>S</i> )-4,5-Dihydroxy-2-methyl-cyclohex-2-enone (2)	Phytotoxic	0.5 mM	Seed of <i>N. tabacum</i> (growth inhibition)	2
(4 <i>R</i> ,5 <i>R</i> )-4,5-Dihydroxy-3-methylcyclohex-2-enone (3)	Phytotoxic	0.5 mM	Seed of <i>N. tabacum</i> (growth inhibition)	2
(4 <i>S</i> ,5 <i>S</i> )-4,5-Dihydroxy-3-methylcyclohex-2-enone (4)	Phytotoxic	0.5 mM	Seed of <i>N. tabacum</i> (growth inhibition)	2
	Potato micro-tuber-inducing activity	10 <sup>-3</sup> M	<i>S. tuberosum</i>	3
(3 <i>aR</i> ,4 <i>S</i> ,5 <i>R</i> ,7 <i>aS</i> )-4,5-Dihydroxy-6-methyl-3 <i>a</i> ,4,5,7 <i>a</i> -tetrahydrobenzo[d][1,3]dioxol-2-one (5)	Potato micro-tuber-inducing activity	10 <sup>-3</sup> M	<i>S. tuberosum</i>	4
(3 <i>aS</i> ,4 <i>R</i> ,5 <i>S</i> ,7 <i>aR</i> )-4,5-Dihydroxy-7-methyl-3 <i>a</i> ,4,5,7 <i>a</i> -tetrahydrobenzo[1,3]dioxol-2-one (6)	Potato micro-tuber-inducing activity	10 <sup>-3</sup> M	<i>S. tuberosum</i>	3
Aldsulfon (7)	Antibacterial	2.5 µg mL <sup>-1</sup> 16 µg mL <sup>-1</sup> 6 µg mL <sup>-1</sup>	<i>M. haemolytica</i> KB345 (MIC) <i>M. haemolytica</i> KB346 (MIC) <i>P. multocida</i> KB348 (MIC)	5
Cyclo-(Trp-Ala) (11)	Cytotoxic	1 mg mL <sup>-1</sup> 1 mg mL <sup>-1</sup>	Vero (cell viability: 70%) 3T3 (cell viability: 70%)	6
Lasiodipline E (17)	Antibacterial	0.25 µg mL <sup>-1</sup> 32.0 µg mL <sup>-1</sup> 0.12 µg mL <sup>-1</sup> 0.12 µg mL <sup>-1</sup> 0.12 µg mL <sup>-1</sup>	<i>V. parvula</i> (MIC) <i>A. israelii</i> (MIC) <i>Streptococcus</i> sp. (MIC) <i>B. vulgatus</i> (MIC) <i>Peptostreptococcus</i> sp. (MIC)	7
Lasiodipline G (19)	Cytotoxic	5.8 µM 8.4 µM 6.3 µM 3.9 µM 3.9 µM 2.9 µM 12.6 µM	L929 (IC <sub>50</sub> ) KB3.1 (IC <sub>50</sub> ) PC-3 (IC <sub>50</sub> ) MCF-7 (IC <sub>50</sub> ) SKOV-3 (IC <sub>50</sub> ) A431 (IC <sub>50</sub> ) A549 (IC <sub>50</sub> )	8
	Antibacterial	87.4 µM	<i>S. aureus</i> (MIC)	
Lasiosan (30)	Immunomodulatory	100 ng mL <sup>-1</sup> 100 ng mL <sup>-1</sup>	NO production (70.2%) ROS production (82.4%)	9
	Anti-biofilm		<i>S. aureus</i> MTCC96 (inhibition: 88.2%) <i>S. aureus</i> MLS16 MTCC 2940 (inhibition: 89.2%) <i>B. subtilis</i> MTCC 121 (inhibition: 75.0%) <i>M. luteus</i> MTCC 2470 (inhibition: 90.2%) <i>K. planticola</i> MTCC 530 (inhibition: 80.8%) <i>E. coli</i> MTCC 739 (inhibition: 78.9%) <i>P. aeruginosa</i> MTCC 2453 (inhibition: 60.0%) <i>C. violaceum</i> MTCC 2526 (inhibition: 80.0%)	9
	Ergosterol biosynthesis inhibitory	10 ng mL <sup>-1</sup> 10 ng mL <sup>-1</sup> 10 ng mL <sup>-1</sup> 10 ng mL <sup>-1</sup>	<i>C. albicans</i> MTCC183 (content: 60%) <i>C. albicans</i> MTCC127 (content: 60%) <i>C. albicans</i> MTCC854 (content: 60%) <i>C. albicans</i> MTCC4748 (content: 77%) <i>C. albicans</i> MTCC7315 (content: 65%)	9
	Antimicrobial	9.37 µg mL <sup>-1</sup> 9.37 µg mL <sup>-1</sup> 9.37 µg mL <sup>-1</sup> 18.75 µg mL <sup>-1</sup> 9.37 µg mL <sup>-1</sup> 9.37 µg mL <sup>-1</sup> 9.37 µg mL <sup>-1</sup> 9.37 µg mL <sup>-1</sup> 18.75 µg mL <sup>-1</sup> 9.37 µg mL <sup>-1</sup> 9.37 µg mL <sup>-1</sup> 18.75 µg mL <sup>-1</sup> 18.75 µg mL <sup>-1</sup> 18.75 µg mL <sup>-1</sup>	<i>S. aureus</i> MTCC96 (MIC) <i>S. aureus</i> MLS16 MTCC 2940 (MIC) <i>S. aureus</i> ATCC 6538P (MIC) <i>B. subtilis</i> MTCC 121 (MIC) <i>M. luteus</i> MTCC 2470 (MIC) <i>K. planticola</i> MTCC 530 (MIC) <i>E. coli</i> MTCC 739 (MIC) <i>P. aeruginosa</i> MTCC 2453 (MIC) <i>C. violaceum</i> MTCC 2526 (MIC) <i>E. fecalis</i> MTCC2729 (MIC) <i>A. viscosus</i> ATCC 15987 (MIC) <i>C. albicans</i> MTCC183 (MIC) <i>C. albicans</i> MTCC127 (MIC)	9

		18.75 $\mu\text{g mL}^{-1}$ 18.75 $\mu\text{g mL}^{-1}$ 18.75 $\mu\text{g mL}^{-1}$	<i>C. albicans</i> MTCC854 (MIC) <i>C. albicans</i> MTCC4748 (MIC) <i>C. albicans</i> MTCC7315 (MIC)	
Lasiodiplodan (31)	Antiviral	7 $\mu\text{g mL}^{-1}$	hRSV in Hep-2 (CC <sub>50</sub> )	10
	Cytotoxic	100 $\mu\text{g mL}^{-1}$	MCF-7 (IC <sub>50</sub> )	11
	Cytotoxic	14.2 $\mu\text{g mL}^{-1}$	Hep-2 (CC <sub>50</sub> )	10
Botryosphaerans (32)	Anticoagulant	1-20 mg mL <sup>-1</sup>	Activated partial thromboplastin time (65.5-54.7s) Thrombin time (15.6-13.5s) Prothrombin time (15.7-19.8s)	12
	Anticlastogenic	15-30 mg Kg <sup>-1</sup>	Polychromatic erythrocytes of bone marrow and reticulocytes in peripheral blood (frequency: 78-82%)	13
	Hypoglycemic	12 mg Kg <sup>-1</sup>	Diabetic rats	14
	Hypocholesterolemic	12 mg Kg <sup>-1</sup>	Hyperlipidemic rats	14
	Toxicological	1.25-125 mg Kg <sup>-1</sup>	Rats	15
Methyl hexadecanoate (35)	Plant growth regulation	0.2 mg mL <sup>-1</sup>	Seeds of <i>N. tabacum</i>	16
Ethyl hexadecanoate (36)	Plant growth regulation	0.2 mg mL <sup>-1</sup>	Seeds of <i>N. tabacum</i>	16
2-Methylpropyl hexadecanoate (37)	Plant growth regulation	0.2 mg mL <sup>-1</sup>	Seeds of <i>N. tabacum</i>	16
9-Methyl (Z)-9-octadecenoate (42)	Plant growth regulation	0.2 mg mL <sup>-1</sup>	Seeds of <i>N. tabacum</i>	16
Ethyl octadecenoate (43)	Plant growth regulation	0.2 mg mL <sup>-1</sup>	Seeds of <i>N. tabacum</i>	16
Ethyl (Z)-9-octadecenoate (44)	Plant growth regulation	0.2 mg mL <sup>-1</sup>	Seeds of <i>N. tabacum</i>	16
Ethyl (E)-9-octadecenoate (45)	Plant growth regulation	0.2 mg mL <sup>-1</sup>	Seeds of <i>N. tabacum</i>	16
Methyl (Z,Z)-9,12-octadecadienoate (47)	Plant growth regulation	0.2 mg mL <sup>-1</sup>	Seed of <i>N. tabacum</i>	16
Ethyl-(Z,Z)-9,12-octadecadienoate (48)	Plant growth regulation	0.2 mg mL <sup>-1</sup>	Seed of <i>N. tabacum</i>	16
Ethyl-(Z,Z,Z)-9,12,15-octadecatrienoate (51)	Plant growth regulation	0.2 mg mL <sup>-1</sup>	Seed of <i>N. tabacum</i>	16
Indole-3-carbaldehyde (55)	Phytotoxic	2500-156.25 $\mu\text{g mL}^{-1}$	Leaves of <i>B. graminis</i> (Disease severity: ~85%)	17
Indole-3-carboxylic acid (56)	Phytotoxic	1 mg mL <sup>-1</sup>	Leaves of <i>S. lycopersicum</i> (2.3 mm)	6
	Cytotoxic	0.5 mg mL <sup>-1</sup> 1 mg mL <sup>-1</sup>	Vero (cell viability: 55%) 3T3 (cell viability: 60%)	
	Phytotoxic	2500-156.25 $\mu\text{g mL}^{-1}$	Leaves of <i>B. graminis</i> (Disease severity: ~85%)	17
(-)-Mellein (58)	Cytotoxic	124.8 $\mu\text{g mL}^{-1}$ 248.5 $\mu\text{g mL}^{-1}$	MCF-7 (IC <sub>50</sub> ) CV-1 (IC <sub>50</sub> )	18
	Antibacterial	> 128 $\mu\text{g mL}^{-1}$ > 128 $\mu\text{g mL}^{-1}$	<i>S. aureus</i> ATCC 25922 (MIC) <i>S. aureus</i> MRSA (MIC)	19
	Potato micro-tuber-inducing activity	10 <sup>-4</sup> M	<i>S. tuberosum</i>	1
	Phytotoxic	1 mg mL <sup>-1</sup>	Leaves of <i>T. procumbens</i> (inhibition: 100%) Leaves of <i>S. italica</i> (inhibition: 56.7%) Leaves of <i>L. perenne</i> (inhibition: 25%) Leaves of <i>Bromus</i> sp. (inhibition: 21.6%) Leaves of <i>C. dactylon</i> (inhibition: 53.3%) Leaves of <i>A. compressus</i> (inhibition: 58.3%) Leaves of <i>Valerianaceae</i> (inhibition: 66.7%)	20
	Bioherbicidal	0.1-2.5 mg mL <sup>-1</sup>	<i>Echinochloa crusgalli</i> and cowpea	
	Antimicrobial	1.9 $\mu\text{g mL}^{-1}$ 3.9 $\mu\text{g mL}^{-1}$ 3.9 $\mu\text{g mL}^{-1}$ 15.6 $\mu\text{g mL}^{-1}$ 7.8 $\mu\text{g mL}^{-1}$ 7.8 $\mu\text{g mL}^{-1}$ 15.6 $\mu\text{g mL}^{-1}$ 7.8 $\mu\text{g mL}^{-1}$	<i>M. luteus</i> MTCC 2470 (MIC) <i>S. aureus</i> MTCC 96 (MIC) <i>B. subtilis</i> MTCC 121 (MIC) <i>E. coli</i> MTCC 739 (MIC) <i>P. aeruginosa</i> MTCC 2453 (MIC) <i>K. planticola</i> MTCC 530 (MIC) <i>C. albicans</i> MTCC 3017 (MIC) <i>C. albicans</i> MTCC 3018 (MIC)	21

		7.8 µg mL <sup>-1</sup> 1.9 µg mL <sup>-1</sup> 1.9 µg mL <sup>-1</sup> 7.8 µg mL <sup>-1</sup> 1.9 µg mL <sup>-1</sup> 7.8 µg mL <sup>-1</sup> 15.6 µg mL <sup>-1</sup> 31.25 µg mL <sup>-1</sup> 7.8 µg mL <sup>-1</sup> 3.9 µg mL <sup>-1</sup> 3.9 µg mL <sup>-1</sup> 31.25 µg mL <sup>-1</sup>	<i>C. glabrata</i> MTCC 3019 (MIC) <i>X. oryzae</i> pv. <i>oryzae</i> BXO43 (MIC) <i>X. oryzae</i> pv. <i>oryzicola</i> Y2 (MIC) <i>X. oryzae</i> pv. <i>oryzae</i> TNAU-2 (MIC) <i>X. campestris</i> pv. <i>vesicatoria</i> XIS (MIC) <i>X. campestris</i> pv. <i>vesicatoria</i> 65-10 (MIC) <i>X. campestris</i> pv. <i>vesicatoria</i> 85-10 (MIC) <i>X. campestris</i> pv. <i>vesicatoria</i> 8004 (MIC) <i>X. campestris</i> pv. <i>citri</i> C1 (MIC) <i>X. campestris</i> pv. <i>campestris</i> TNAU-1 (MIC) <i>X. campestris</i> pv. <i>campestris</i> MTCC 2286 (MIC) <i>X. axonopodis</i> pv. <i>malvaceum</i> TNAU-3 (MIC)	
(-)-(3 <i>R</i> ,4 <i>R</i> )-4-Hydroxymellein (59)	Antibacterial	> 128 µg mL <sup>-1</sup> > 128 µg mL <sup>-1</sup>	<i>S. aureus</i> ATCC 25922 (MIC) <i>S. aureus</i> MRSA (MIC)	19
(-)-(3 <i>R</i> ,4 <i>S</i> )-4-Hydroxymellein (60)	Antibacterial	> 128 µg mL <sup>-1</sup> > 128 µg mL <sup>-1</sup>	<i>S. aureus</i> ATCC 25922 (MIC) <i>S. aureus</i> MRSA (MIC)	19
(-)-(3 <i>R</i> )-5-Hydroxymellein (61)	Antibacterial	> 128 µg mL <sup>-1</sup> > 128 µg mL <sup>-1</sup>	<i>S. aureus</i> ATCC 25922 (MIC) <i>S. aureus</i> MRSA (MIC)	19
(-)-Jasmonic acid (65)	Phytotoxic	5 µg	Leaves of <i>Rosa</i> species	22
	Phytotoxic	1 mg mL <sup>-1</sup>	Leaves of <i>S. lycopersicum</i> (4.7 mm)	6
	Cytotoxic	0.5 mg mL <sup>-1</sup> 1 mg mL <sup>-1</sup>	Vero (cell viability: 55%) 3T3 (cell viability: 50%)	
	Phytotoxic	1 mg mL <sup>-1</sup>	Leaves of <i>V. vinifera</i> cv. <i>Inzolia</i> (5.9 mm <sup>2</sup> )	23
	Phytotoxic	1 mg mL <sup>-1</sup>	Leaves of <i>Q. suber</i> (11.96 mm <sup>2</sup> ) Leaves of <i>V. vinifera</i> cv. <i>Cannonau</i> (7.04 mm <sup>2</sup> )	24
	Phytotoxic	2500-156.25 µg mL <sup>-1</sup>	Leaves of <i>B. graminis</i> (Disease severity: ~85%)	17
	Potato micro-tuber-inducing activity	10 <sup>-6</sup> M	<i>S. tuberosum</i>	1
(-)-Botryodiplodin (89)	Antimicrobial	20 µg mL <sup>-1</sup>	<i>E. coli</i> DRL K30	25
		20 µg mL <sup>-1</sup>	<i>P. vulgaris</i> B-26-2	
		20 µg mL <sup>-1</sup>	<i>S. typhosa</i> NCTC 3111	
		20 µg mL <sup>-1</sup>	<i>S. typhosa</i> NCTC 3112	
		50 µg mL <sup>-1</sup>	<i>S. enteritidis</i> NCTC 125	
		20 µg mL <sup>-1</sup>	<i>S. paratyphi</i> A NCTC 2756	
		50 µg mL <sup>-1</sup>	<i>S. paratyphi</i> B NCTC14	
		20 µg mL <sup>-1</sup>	<i>S. dysenteriae</i> NCTC8217	
		100 µg mL <sup>-1</sup>	<i>S. flexneri</i> NCTC 3	
		50 µg mL <sup>-1</sup>	<i>K. pneumoniae</i> NCTC 204	
		20 µg mL <sup>-1</sup>	<i>V. comma</i> B-53-2	
		100 µg mL <sup>-1</sup>	<i>V. comma</i> B-53-1	
		50 µg mL <sup>-1</sup>	<i>P. aeruginosa</i> B-27-2	
		50 µg mL <sup>-1</sup>	<i>S. aureus</i> NCTC 6571	
		50 µg mL <sup>-1</sup>	<i>S. albus</i> NCTC 3094	
		50 µg mL <sup>-1</sup>	<i>M. flavus</i> NCTC 7743	
		100 µg mL <sup>-1</sup>	<i>S. faecalis</i> NCTC 370	
50 µg mL <sup>-1</sup>	<i>B. subtilis</i> DRL K-6			
50 µg mL <sup>-1</sup>	<i>B. bronchiseptica</i> NCTC 8344			
50 µg mL <sup>-1</sup>	<i>S. lutea</i> DRL K-42			
20 µg mL <sup>-1</sup>	<i>S. cerevisiae</i> DRL 845			
100 µg mL <sup>-1</sup>	<i>C. albicans</i> DRL 969			
	Cytotoxic	1 mg mL <sup>-1</sup> 1 mg mL <sup>-1</sup>	Vero (cell viability: 50%) 3T3 (cell viability: 8%)	26
3- <i>epi</i> -Botryodiplodin (90)	Phytotoxic	1 mg mL <sup>-1</sup>	Leaves of <i>S. lycopersicum</i> (0.73 mm)	26
	Cytotoxic	1 mg mL <sup>-1</sup> 1 mg mL <sup>-1</sup>	Vero (cell viability: 0%) 3T3 (cell viability: 0%)	
(3 <i>R</i> ,4 <i>S</i> )-4-Acetyl-3-methylhydrofuran-2(3 <i>H</i> )-one (91)	Phytotoxic	1 mg mL <sup>-1</sup>	Leaves of <i>S. lycopersicum</i> (0.50 mm)	26
	Cytotoxic	0.5 mg mL <sup>-1</sup> 1 mg mL <sup>-1</sup>	Vero (cell viability: 10%) 3T3 (cell viability: 5%)	
(3 <i>S</i> ,4 <i>S</i> )-4-Acetyl-3-methylhydrofuran-2(3 <i>H</i> )-one (92)	Cytotoxic	1 mg mL <sup>-1</sup> 1 mg mL <sup>-1</sup>	Vero (cell viability: 10%) 3T3 (cell viability: 0%)	26
Nigrosphaerilactone (3 <i>S</i> ,4 <i>R</i> ,5 <i>R</i> )-4-(Hydroxymethyl)-3,5-dimethylhydrofuran-2(3 <i>H</i> )-one (94)	Cytotoxic	0.5 mg mL <sup>-1</sup> 0.5 mg mL <sup>-1</sup>	Vero (cell viability: 60%) 3T3 (cell viability: 50%)	6
	Cytotoxic	0.5 mg mL <sup>-1</sup> 0.5 mg mL <sup>-1</sup>	Vero (cell viability: 65%) 3T3 (cell viability: 50%)	26

	Phytotoxic	1 mg mL <sup>-1</sup>	<i>V. vinifera</i> cv. <i>Inzolia</i> (2.25 mm <sup>2</sup> )	23
	Enzymatic inhibitory	0.38 µg mL <sup>-1</sup>	Xanthine oxidase (IC <sub>50</sub> )	27
Botryosphaerilactone A (95)	Cytotoxic	1 mg mL <sup>-1</sup> 0.5 mg mL <sup>-1</sup>	Vero (cell viability: 0%) 3T3 (cell viability: 60%)	6
Lasiolactol A (102)	Cytotoxic	1 mg mL <sup>-1</sup> 1 mg mL <sup>-1</sup>	Vero (cell viability: 70%) 3T3 (cell viability: 50%)	26
	Phytotoxic	1 mg mL <sup>-1</sup>	<i>V. vinifera</i> cv. <i>Inzolia</i> (0.84 mm <sup>2</sup> )	23
Lasiolactol B (103)	Cytotoxic	1 mg mL <sup>-1</sup> 1 mg mL <sup>-1</sup>	Vero (cell viability: 70%) 3T3 (cell viability: 50%)	26
	Phytotoxic	1 mg mL <sup>-1</sup>	<i>V. vinifera</i> cv. <i>Inzolia</i> (0.84 mm <sup>2</sup> )	23
(3 <i>S</i> ,4 <i>R</i> )-3-Carboxy-2-methylene-heptan-4-olide (104)	Phytotoxic	18 µg	<i>M. acuminata</i>	28
Lasdiplactone (108)	Enzymatic inhibitory	2.81 µg mL <sup>-1</sup>	Xanthine oxidase (IC <sub>50</sub> )	27
(4 <i>R</i> *,6 <i>R</i> *)-4-Hydroxy-6- <i>N</i> -propyl-1-oxacyclohexan-2-one (111)	Cytotoxic	480.2 µg/mL 15.9 µg/mL	MCF-7 (IC <sub>50</sub> ) CV-1 (IC <sub>50</sub> )	18
Lasiodione A (116)	Cytotoxic	18.3 µM 45.7 µM	HepG-2 (IC <sub>50</sub> ) MCF-7 (IC <sub>50</sub> )	29
3-Methyl-3,4-dihydro-1 <i>H</i> -isochromene-1,8(7 <i>H</i> )-dione (117)	Antibacterial	128 µg mL <sup>-1</sup> 128 µg mL <sup>-1</sup> 128 µg mL <sup>-1</sup> 128 µg mL <sup>-1</sup>	<i>E. coli</i> (MIC) <i>S. aureus</i> (MIC) <i>S. thypi</i> (MIC) <i>B. subtilis</i> (MIC)	30
3-Hydroxy-4(hydroxy(4-hydroxyphenyl)methyl)- $\gamma$ -butyrolactone (118)	Antibacterial	32 µg mL <sup>-1</sup> 64 µg mL <sup>-1</sup> 32 µg mL <sup>-1</sup> 32 µg mL <sup>-1</sup>	<i>E. coli</i> (MIC) <i>S. aureus</i> (MIC) <i>S. thypi</i> (MIC) <i>B. subtilis</i> (MIC)	30
	Antioxidant	20.9 µg mL <sup>-1</sup>	DPPH (IC <sub>50</sub> )	
Tyrosol (129)	Cytotoxic	59.64 µg mL <sup>-1</sup> 155.2 µg mL <sup>-1</sup>	MCF-7 (IC <sub>50</sub> ) CV-1 (IC <sub>50</sub> )	18
	Phytotoxic	100 mg mL <sup>-1</sup>	<i>D. aegyptium</i> (Lesion severity: 14.8%)	31
2-Phenylethanol (130)	Cytotoxic	996.4 µg mL <sup>-1</sup> 1000 µg mL <sup>-1</sup>	MCF-7 (IC <sub>50</sub> ) CV-1 (IC <sub>50</sub> )	18
4-Hydroxyphenyl acetic acid (133)	Phytotoxic	100 mg mL <sup>-1</sup>	<i>D. aegyptium</i> (Lesion severity: 7.6%)	31
Chloropreussomerin A (150)	Cytotoxic	8.5 µM 13 µM 19 µM 5.9 µM 4.8 µM	A549 (IC <sub>50</sub> ) HepG2 (IC <sub>50</sub> ) HeLa (IC <sub>50</sub> ) MCF-7 (IC <sub>50</sub> ) HEK293T (IC <sub>50</sub> )	32
	Antibacterial	6.2 µg mL <sup>-1</sup> 50 µg mL <sup>-1</sup>	<i>S. aureus</i> (MIC) <i>B. subtilis</i> (MIC)	
Chloropreussomerin B (151)	Cytotoxic	8.9 µM 7.7 µM 27 µM 6.2 µM 11 µM	A549 (IC <sub>50</sub> ) HepG2 (IC <sub>50</sub> ) HeLa (IC <sub>50</sub> ) MCF-7 (IC <sub>50</sub> ) HEK293T (IC <sub>50</sub> )	32
	Antibacterial	3.2 µg mL <sup>-1</sup> 25 µg mL <sup>-1</sup>	<i>S. aureus</i> (MIC) <i>B. subtilis</i> (MIC)	
Preussomerin A (152)	Cytotoxic	40.2 µM 71 µM	A549 (IC <sub>50</sub> ) MCF-7 (IC <sub>50</sub> )	32
	Antibacterial	6.2 µg mL <sup>-1</sup> 13 µg mL <sup>-1</sup>	<i>S. aureus</i> (MIC) <i>B. subtilis</i> (MIC)	
Preussomerin B (153)	Immunomodulatory	5.9 µM	NO production (IC <sub>50</sub> )	33
Preussomerin D (155)	Cytotoxic	6.6 µM 38 µM 21 µM 9.8 µM 24 µM	A549 (IC <sub>50</sub> ) HepG2 (IC <sub>50</sub> ) HeLa (IC <sub>50</sub> ) MCF-7 (IC <sub>50</sub> ) HEK293T (IC <sub>50</sub> )	32
Preussomerin F (156)	Cytotoxic	7.7 µM 3.6 µM 18 µM 3.1 µM 6.9 µM	A549 (IC <sub>50</sub> ) HepG2 (IC <sub>50</sub> ) HeLa (IC <sub>50</sub> ) MCF-7 (IC <sub>50</sub> ) HEK293T (IC <sub>50</sub> )	32
	Antibacterial	13 µg mL <sup>-1</sup> 25 µg mL <sup>-1</sup>	<i>S. aureus</i> (MIC) <i>B. subtilis</i> (MIC)	
Preussomerin G (157)	Cytotoxic	6.2 µM	A549 (IC <sub>50</sub> )	32

		8.5 $\mu\text{M}$ 14 $\mu\text{M}$ 4.2 $\mu\text{M}$ 17 $\mu\text{M}$	HepG2 (IC <sub>50</sub> ) HeLa (IC <sub>50</sub> ) MCF-7 (IC <sub>50</sub> ) HEK293T (IC <sub>50</sub> )	
	Antibacterial	13 $\mu\text{g mL}^{-1}$ 50 $\mu\text{g mL}^{-1}$	<i>S. aureus</i> (MIC) <i>B. subtilis</i> (MIC)	
Preussomerin H (158)	Cytotoxic	9.4 $\mu\text{M}$ 4.4 $\mu\text{M}$ 19 $\mu\text{M}$ 2.6 $\mu\text{M}$ 12 $\mu\text{M}$	A549 (IC <sub>50</sub> ) HepG2 (IC <sub>50</sub> ) HeLa (IC <sub>50</sub> ) MCF-7 (IC <sub>50</sub> ) HEK293T (IC <sub>50</sub> )	32
	Antibacterial	1.6 $\mu\text{g mL}^{-1}$ 13 $\mu\text{g mL}^{-1}$	<i>S. aureus</i> (MIC) <i>B. subtilis</i> (MIC)	
Preussomerin K (159)	Cytotoxic	5.4 $\mu\text{M}$ 3.8 $\mu\text{M}$ 15 $\mu\text{M}$ 2.5 $\mu\text{M}$ 9.4 $\mu\text{M}$	A549 (IC <sub>50</sub> ) HepG2 (IC <sub>50</sub> ) HeLa (IC <sub>50</sub> ) MCF-7 (IC <sub>50</sub> ) HEK293T (IC <sub>50</sub> )	32
	Antibacterial	50 $\mu\text{g mL}^{-1}$ 25 $\mu\text{g mL}^{-1}$	<i>S. aureus</i> (MIC) <i>B. subtilis</i> (MIC)	
Preussomerin M (160)	Cytotoxic	36.1 $\mu\text{M}$ 83 $\mu\text{M}$ 13 $\mu\text{M}$ 83 $\mu\text{M}$	A549 (IC <sub>50</sub> ) HepG2 (IC <sub>50</sub> ) MCF-7 (IC <sub>50</sub> ) HEK293T (IC <sub>50</sub> )	32
Ymf 1029 E (161)	Cytotoxic	76.2 $\mu\text{M}$ 86 $\mu\text{M}$	A549 (IC <sub>50</sub> ) HEK293T (IC <sub>50</sub> )	32
Preussomerin SA1 (164)	Immunomodulatory	12.8 $\mu\text{M}$	NO production (IC <sub>50</sub> )	33
Palmarumycin LP1 (168)	Cytotoxic	2.39 $\mu\text{M}$	HL-60 (IC <sub>50</sub> )	34
Sch 50676 (170)	Cytotoxic	1.41 $\mu\text{M}$	HL-60 (IC <sub>50</sub> )	34
Cladospirone B (171)	Antitrypanosomal	17.8 $\mu\text{M}$	<i>T. brucei brucei</i> (MIC)	35
	Cytotoxic	10.91 $\mu\text{M}$	HL-60 (IC <sub>50</sub> )	34
Lasiodiplodiapyrone A (172)	Immunomodulatory	4.8 $\mu\text{M}$	NO production (IC <sub>50</sub> )	33
Lasiodiplodiapyrone B (173)	Immunomodulatory	8.5 $\mu\text{M}$	NO production (IC <sub>50</sub> )	33
(R)-Lasiodiplodin (177)	Antifungal	15.50 $\mu\text{g mL}^{-1}$ 27.45 $\mu\text{g mL}^{-1}$ 17.55 $\mu\text{g mL}^{-1}$ 52.30 $\mu\text{g mL}^{-1}$ 40.35 $\mu\text{g mL}^{-1}$ 15.90 $\mu\text{g mL}^{-1}$	<i>E. turcicum</i> (MIC) <i>C. paradoxa</i> (MIC) <i>P. theae</i> (MIC) <i>A. oleracea</i> (MIC) <i>A. citri</i> (MIC) <i>C. capsica</i> (MIC)	36
		Phytotoxic	1 mg mL <sup>-1</sup>	Leaves of <i>S. lycopersicum</i> (3.3 mm)
	Cytotoxic	1 mg mL <sup>-1</sup> 1 mg mL <sup>-1</sup>	Vero (cell viability: 0%) 3T3 (cell viability: 0%)	
	Antimicrobial	25 $\mu\text{g mL}^{-1}$ 50 $\mu\text{g mL}^{-1}$ 100 $\mu\text{g mL}^{-1}$	<i>S. aureus</i> ATCC27154 (MIC) <i>B. subtilis</i> ATCC 6633 (MIC) <i>F. oxysporum</i> f. sp. cubense (MIC)	37
(S)-Lasiodiplodin (178)	Antibacterial	64 $\mu\text{g mL}^{-1}$ 128 $\mu\text{g mL}^{-1}$	<i>S. aureus</i> ATCC 25922 (MIC) <i>S. aureus</i> MRSA (MIC)	19
(3R,4S)-4-Hydroxy-lasiodiplodin (179)	Potato micro-tuber-inducing activity	10 <sup>-4</sup> M	<i>S. tuberosum</i>	38
(3R,5R)-5-Hydroxy-lasiodiplodin (180)	Potato micro-tuber-inducing activity	10 <sup>-4</sup> M	<i>S. tuberosum</i>	38
	Potato micro-tuber-inducing activity	10 <sup>-3</sup> M	<i>S. tuberosum</i>	39
(3R,5S)-5-Hydroxy-lasiodiplodin (181)	Potato micro-tuber-inducing activity	10 <sup>-3</sup> M	<i>S. tuberosum</i>	39
(3R,6S)-6-Hydroxy-lasiodiplodin (182)	Potato micro-tuber-inducing activity	10 <sup>-4</sup> M	<i>S. tuberosum</i>	40
Botryosphaeriodiplodin (184)	Phytotoxic	1 mg mL <sup>-1</sup>	<i>V. vinifera</i> cv. <i>Inzolia</i> (0.8 mm <sup>2</sup> )	23
	Antibacterial		<i>S. aureus</i> (inhibition: 29 mm)	41
(3R)-De-O-methyl-lasiodiplodin (185)	Cytotoxic	~10 $\mu\text{M}$ ~10 $\mu\text{M}$ ~30 $\mu\text{M}$	MMQ (IC <sub>50</sub> ) GH3 (IC <sub>50</sub> ) RPC (IC <sub>50</sub> )	42
	Antimicrobial	6.5 $\mu\text{g mL}^{-1}$ 12.5 $\mu\text{g mL}^{-1}$ 12.5 $\mu\text{g mL}^{-1}$ 100 $\mu\text{g mL}^{-1}$ 50 $\mu\text{g mL}^{-1}$	<i>S. aureus</i> ATCC 27154 (MIC) <i>B. subtilis</i> ATCC 6633 (MIC) <i>S. enteritidis</i> ATCC 13076 (MIC) <i>C. albicans</i> ATCC 10231 (MIC) <i>F. oxysporum</i> f. sp. cubense (MIC)	37

	Antitrypanosomal	22.5 $\mu\text{M}$	<i>T. brucei brucei</i> (MIC)	35
	Antiproliferative	10 $\mu\text{g mL}^{-1}$	L5178Y (weak activity)	43
	Antibacterial	25 $\mu\text{g mL}^{-1}$	<i>S. aureus</i> ATCC 29213 (MIC)	
		25 $\mu\text{g mL}^{-1}$	<i>S. aureus</i> ATCC 700699 (MIC)	
		25 $\mu\text{g mL}^{-1}$	<i>E. faecium</i> ATCC 35667 (MIC)	
(3 <i>R</i> ,5 <i>R</i> )-5-Hydroxy-de- <i>O</i> -methylsiasiodiplodin ( <b>187</b> )	Antimicrobial	100 $\mu\text{g mL}^{-1}$	<i>S. aureus</i> ATCC 27154 (MIC)	37
(6 <i>R</i> )-6-Hydroxy-de- <i>O</i> -methylsiasiodiplodin ( <b>188</b> )	Potato micro-tuber-inducing	10 <sup>-4</sup> M	<i>S. tuberosum</i>	38
(3 <i>S</i> )-7-Oxo-de- <i>O</i> -methylsiasiodiplodin ( <b>191</b> )	Phytotoxic	25-100 $\mu\text{g mL}^{-1}$	<i>D. ciliaris</i> (growth inhibition) <i>L. sativa</i> (growth inhibition)	44
(3 <i>S</i> ,7 <i>R</i> )-9-Etheno-7-hydroxy-13- <i>O</i> -methyl-de- <i>O</i> -methylsiasiodiplodin ( <b>193</b> )	Phytotoxic	25-100 $\mu\text{g mL}^{-1}$	<i>D. ciliaris</i> (growth inhibition) <i>L. sativa</i> (growth inhibition)	44
Lasiodiplactone A ( <b>196</b> )	Immunomodulatory	23.5 $\mu\text{M}$	NO production (IC <sub>50</sub> )	45
	Enzymatic inhibitory	29.4 $\mu\text{M}$	$\alpha$ -Glucosidase (IC <sub>50</sub> )	
<i>(R)</i> -Zearalenone ( <b>199</b> )	Cytotoxic	~20 $\mu\text{M}$	MMQ (IC <sub>50</sub> )	42
		~10 $\mu\text{M}$	GH3 (IC <sub>50</sub> )	
		~30 $\mu\text{M}$	RPC (IC <sub>50</sub> )	
2,4-Dihydroxy-6-nonylbenzoate ( <b>200</b> )	Cytotoxic	5.29 $\mu\text{M}$	MMQ (IC <sub>50</sub> )	42
		13.05 $\mu\text{M}$	GH3 (IC <sub>50</sub> )	
		~20 $\mu\text{M}$	RPC (IC <sub>50</sub> )	
Ethyl (5 <i>S</i> )-2,4-dihydroxy-6-(8-hydroxynonyl)benzoate ( <b>201</b> )	Phytotoxic	25-100 $\mu\text{g mL}^{-1}$	<i>D. ciliaris</i> (growth inhibition) <i>L. sativa</i> (growth inhibition)	44
	Phytotoxic	25-100 $\mu\text{g mL}^{-1}$	<i>D. ciliaris</i> (growth inhibition) <i>L. sativa</i> (growth stimulation)	46
	Cytotoxic	10.13 $\mu\text{M}$	MDA-MB-435 (IC <sub>50</sub> )	47
		12.50 $\mu\text{M}$	HepG2 (IC <sub>50</sub> )	
11.92 $\mu\text{M}$		HCT-116 (IC <sub>50</sub> )		
		13.31 $\mu\text{M}$	A549 (IC <sub>50</sub> )	
		39.74 $\mu\text{M}$	THP1 (IC <sub>50</sub> )	
Ethyl 2,4-dihydroxy-6-(8-hydroxyheptyl)benzoate ( <b>202</b> )	Phytotoxic	25-100 $\mu\text{g mL}^{-1}$	<i>D. ciliaris</i> (growth inhibition) <i>L. sativa</i> (growth inhibition)	44
	Phytotoxic	25-100 $\mu\text{g mL}^{-1}$	<i>D. ciliaris</i> (growth inhibition) <i>L. sativa</i> (growth stimulation)	46
Ethyl 2,4-dihydroxy-6-(4-methoxycarbonylbutyl)benzoate ( <b>203</b> )	Phytotoxic	25-100 $\mu\text{g mL}^{-1}$	<i>D. ciliaris</i> (growth inhibition) <i>L. sativa</i> (growth stimulation)	46
Isobutyl ( <i>S</i> )-2,4-dihydroxy-6-(8-hydroxynonyl)benzoate ( <b>204</b> )	Phytotoxic	25-100 $\mu\text{g mL}^{-1}$	<i>D. ciliaris</i> (growth inhibition) <i>L. sativa</i> (growth stimulation)	46
Ethyl 2,4-dihydroxy-6-(8-oxononyl)benzoate ( <b>205</b> )	Phytotoxic	25-100 $\mu\text{g mL}^{-1}$	<i>D. ciliaris</i> (growth inhibition) <i>L. sativa</i> (growth inhibition)	44
	Phytotoxic	25-100 $\mu\text{g mL}^{-1}$	<i>D. ciliaris</i> (growth inhibition) <i>L. sativa</i> (growth stimulation)	46
	Cytotoxic	~20 $\mu\text{M}$ ~30 $\mu\text{M}$ ~30 $\mu\text{M}$	MMQ (IC <sub>50</sub> ) GH3 (IC <sub>50</sub> ) RPC (IC <sub>50</sub> )	42
(3 <i>S</i> ,7 <i>R</i> )-7-Hydroxy-13- <i>O</i> -methyl-de- <i>O</i> -methylsiasiodiplodin ( <b>206</b> )	Phytotoxic	25-100 $\mu\text{g mL}^{-1}$	<i>D. ciliaris</i> (growth inhibition) <i>L. sativa</i> (growth inhibition)	44
(15 <i>S</i> )-De- <i>O</i> -methylsiasiodiplodin ( <b>207</b> )	Phytotoxic	25-100 $\mu\text{g mL}^{-1}$	<i>D. ciliaris</i> (growth inhibition) <i>L. sativa</i> (growth stimulation)	46
	Antifungal	8 $\mu\text{g mL}^{-1}$	<i>S. rolfisii</i> (MIC)	48
(14 <i>S</i> ,15 <i>S</i> )-14-Hydroxy-de- <i>O</i> -methylsiasiodiplodin ( <b>209</b> )	Phytotoxic	25-100 $\mu\text{g mL}^{-1}$	<i>D. ciliaris</i> (growth inhibition) <i>L. sativa</i> (growth stimulation)	46
(13 <i>R</i> ,14 <i>S</i> ,15 <i>S</i> )-13,14-Dihydroxy-de- <i>O</i> -methylsiasiodiplodin ( <b>210</b> )	Phytotoxic	25-100 $\mu\text{g mL}^{-1}$	<i>D. ciliaris</i> (growth inhibition) <i>L. sativa</i> (growth stimulation)	46
Ergosterol ( <b>217</b> )	Cytotoxic	0.34 $\mu\text{M}$	HeLa (IC <sub>50</sub> )	49
Ergosterol peroxide ( <b>218</b> )	Cytotoxic	0.28 $\mu\text{M}$	HeLa (IC <sub>50</sub> )	49
Stigmasterol ( <b>219</b> )	Cytotoxic	27.32 $\mu\text{M}$	HeLa (IC <sub>50</sub> )	49
(22 <i>E</i> ,24 <i>R</i> )-4 $\alpha$ ,5 $\alpha$ -Epoxyergosta-9 $\alpha$ ,14 $\beta$ -dihydroxy-7,22-diene-3,6-dione ( <b>220</b> )	Cytotoxic	15.8 $\mu\text{M}$	SU-DHL-2 (IC <sub>50</sub> )	50
		17.1 $\mu\text{M}$	HL-60 (IC <sub>50</sub> )	
	Neuroprotective	10/20/40 $\mu\text{M}$	glutamate-treated SH-SY5YSH-SY5Y	50
(22 <i>E</i> ,24 <i>R</i> )-4 $\alpha$ ,5 $\alpha$ -Epoxyergosta-9 $\alpha$ ,14 $\alpha$ -dihydroxy-7,22-diene-3,6-dione ( <b>221</b> )	Neuroprotective	10/20/40 $\mu\text{M}$	glutamate-treated SH-SY5YSH-SY5Y	50
12 $\alpha$ -Hydroxyergosta-7,22,24(28)-triene-3-one ( <b>222</b> )	Neuroprotective	10/20/40 $\mu\text{M}$	glutamate-treated SH-SY5YSH-SY5Y	50
3 $\beta$ ,12 $\alpha$ -Dihydroxyergosta-7,24(28)-diene ( <b>223</b> )	Neuroprotective	10/20/40 $\mu\text{M}$	glutamate-treated SH-SY5YSH-SY5Y	50
(22 <i>E</i> ,24 <i>R</i> )-9 $\alpha$ ,14 $\beta$ -Dihydroxyergosta-	Cytotoxic	7.5 $\mu\text{M}$	SU-DHL-2 (IC <sub>50</sub> )	50

4,7,22-triene-3,6-dione (224)		8.8 $\mu\text{M}$ 18.6 $\mu\text{M}$ 30.2 $\mu\text{M}$ 31.4 $\mu\text{M}$	HL-60 (IC <sub>50</sub> ) HepG2 (IC <sub>50</sub> ) RKO (IC <sub>50</sub> ) A549 (IC <sub>50</sub> )	
	Neuroprotective	10/20/40 $\mu\text{M}$	glutamate-treated SH-SY5YSH-SY5Y	
Colletopeptide B (234)	Cytotoxic	310 $\mu\text{g mL}^{-1}$ 630 $\mu\text{g mL}^{-1}$	MCF-7 (IC <sub>50</sub> ) CV-1 (IC <sub>50</sub> )	18
Taxol (235)	Anticancer Antioxidant		7, 12 dimethyl benz(a)anthracene (DMBA)- induced mammary gland	51
	Cytotoxic	300 $\mu\text{g}$	MCF-7 (IC <sub>50</sub> )	52 53
Lasiodiplin (238)	Phytotoxic	100 mg/mL	<i>D. aegyptium</i> (Lesion severity: 4.3%)	31
Lasiodione B (251)	Cytotoxic	2.4 $\mu\text{M}$ 16.3 $\mu\text{M}$	HepG-2 (IC <sub>50</sub> ) MCF-7 (IC <sub>50</sub> )	29
Lasdiploic acid (252)	Enzymatic inhibitory	0.41 $\mu\text{g mL}^{-1}$	Xanthine oxidase (IC <sub>50</sub> )	27
Uracil (265)	Phytotoxic	10 mg mL <sup>-1</sup>	<i>D. aegyptium</i> (Lesion severity: 5.6%)	31

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