SUPPLEMENTARY MATERIAL

A

B

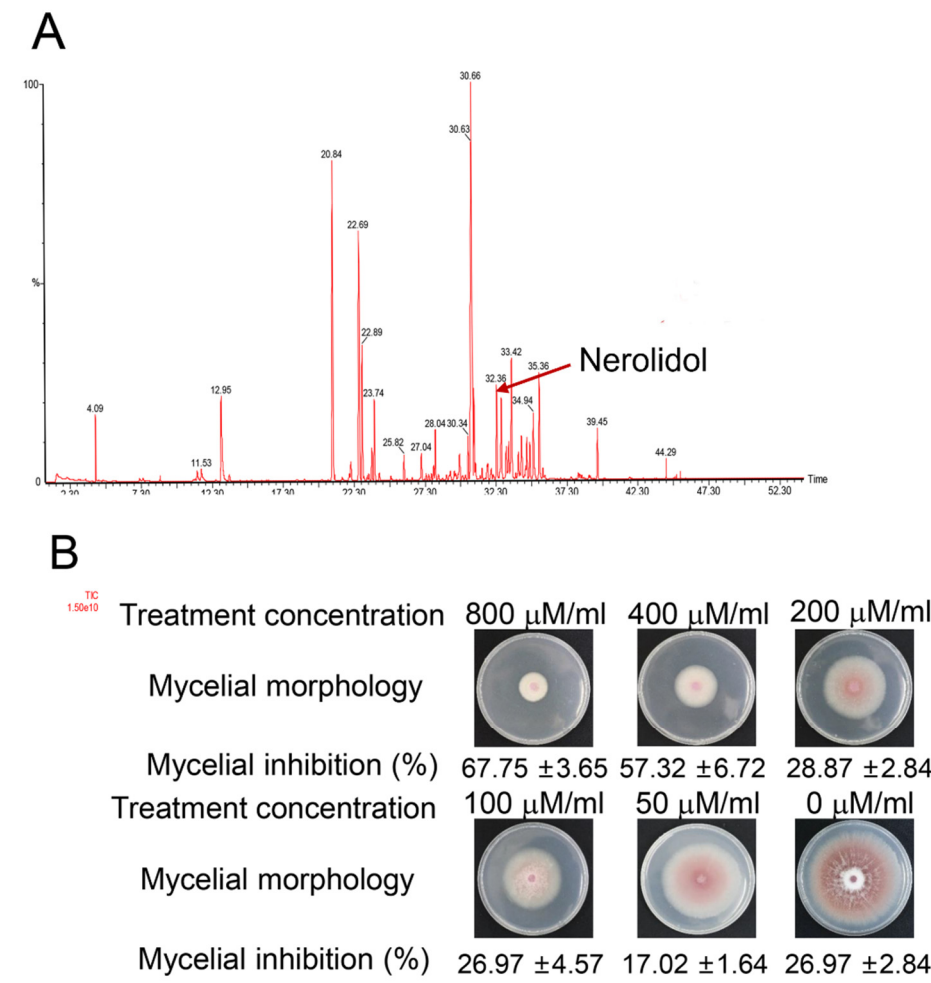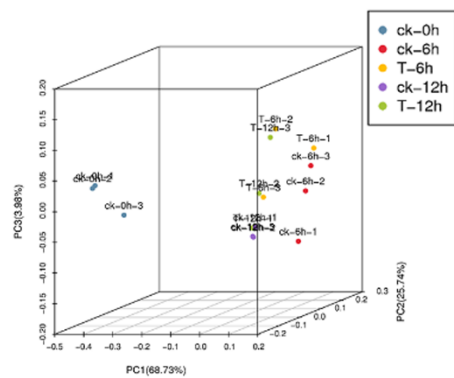| Treatment concentration	800 μM/ml	400 μM/ml	200 μM/ml
Mycelial morphology			
Mycelial inhibition (%)	67.75 ±3.65	57.32 ±6.72	28.87 ±2.84
Treatment concentration	100 μM/ml	50 μM/ml	0 μM/ml
Mycelial morphology			
Mycelial inhibition (%)	26.97 ±4.57	17.02 ±1.64	26.97 ±2.84

Figure S1 | Determination and analysis of VOCs of strain Y1-14 and validation of active components.
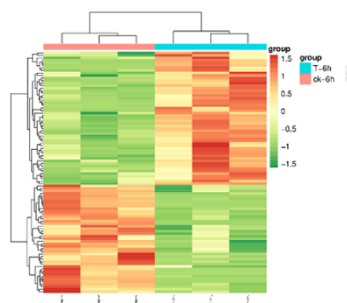
(A) Total ion current chromatograms of VOCs of strain Y1-14. The red arrow represents nerolidol.

(B) Antifungal activity against Foc TR4 of different concentrations of Nerolidol.
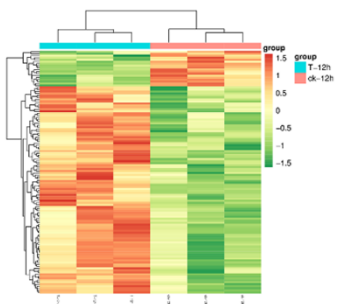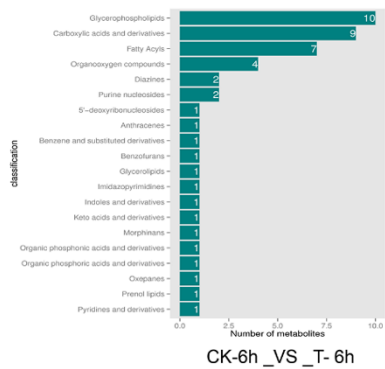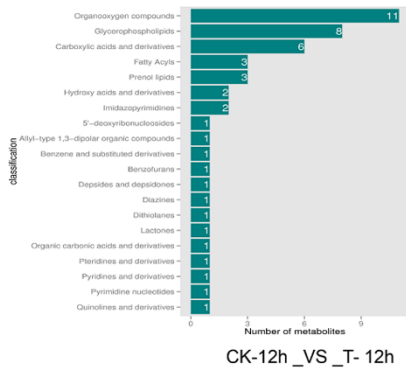
A

PC1(68.73%)
PC2(25.74%)
PC3(3.98%)

ck-0h
ck-6h
T-6h
ck-12h
T-12h

T-6h-2
T-12h-3
T-6h-1
ck-6h-3
ck-6h-2
T-12h-2
ck-0h-1
ck-0h-3
T-12h-3
ck-12h-1
ck-12h-3
ck-6h-1

B

group
T-6h
ck-6h

C

group
T-12h
ck-12h

D

classification	Number of metabolites
Glycerophospholipids	10
Carboxylic acids and derivatives	9
Fatty Acyls	7
Organooxygen compounds	4
Diazines	2
Purine nucleosides	2
5'-deoxyribonucleosides	1
Anthracenes	1
Benzene and substituted derivatives	1
Benzofurans	1
Glycerolipids	1
Imidazopyrimidines	1
Indoles and derivatives	1
Keto acids and derivatives	1
Morphinans	1
Organic phosphonic acids and derivatives	1
Organic phosphoric acids and derivatives	1
Oxepanes	1
Prenol lipids	1
Pyridines and derivatives	1

CK-6h _VS _T- 6h

E

classification	Number of metabolites
Organooxygen compounds	11
Glycerophospholipids	8
Carboxylic acids and derivatives	6
Fatty Acyls	3
Prenol lipids	3
Hydroxy acids and derivatives	2
Imidazopyrimidines	2
5'-deoxyribonucleosides	1
Allyl-type 1,3-dipolar organic compounds	1
Benzene and substituted derivatives	1
Benzofurans	1
Depsides and depsidones	1
Diazines	1
Dithiolanes	1
Lactones	1
Organic carbonic acids and derivatives	1
Pteridines and derivatives	1
Pyridines and derivatives	1
Pyrimidine nucleotides	1
Quinolines and derivatives	1

CK-12h _VS _T- 12h

Figure S2 | Effects of strain Y1-14 Extracts on Foc TR4 Metabolites. (A) PCA-3D diagram of all samples. (B-C) Heatmap based on the metabolome data of Foc TR4 treated with extracts of Y1-14 and untreated at 6h and 12h. (D-E) HMDB classification diagram of different metabolites in each group.

Table S1. Growth characteristics of strain Y1-14 on different solid culture media

Medium	Aerial mycelium	Vegetative mycelium	Soluble pigment	Growth	Colony
ISP3	Mint cream	White	None	++	
ISP4	Mint cream	Burlywood	Grey	++	
ISP5	Beige	Mint cream	None	++	
ISP6	Mint cream	Wheat	Pink	+	
ISP7	Mint cream	Burlywood	None	++	
PDA	Mint cream	lemon yellow	None	++	

+ good growth; ++ better growth; +++ best growth

Table S2. Physiological and biochemical characteristics of strain Y1-14

Characteristics	Results
pH range for growth	4-10
NaCl tolerance for growth (%)	0-5
H_2S production	+
Milk peptonization	+
Starch hydrolysis	+
Cellulose hydrolysis	+
Gelatin liquefaction	-
Nitrate reduction	-

+, Positive reaction; −, Negative reaction

Table S3. Carbon and nitrogen utilization characteristics of strain Y1-14

Nitrogen Source Utiliziton		Carbon Source Utilizition	
Nitrogen Source	Result	Carbon Source	Result
L-arginine	+	Salicylicin	-
Tyrosine	+	D-Cellobiose	+
Aspartamide	+	Raffinose	+
Thiine	+	D-Galactose	+
ammonium nitrate	+	D-Glucose	+
L-Glutamic acid	-	Sorbitol	+
L (+)-cysteine	+	D-Sorbitol	+
Phenylalanine	+	D-Fructose	+
D-Mannitol	+	Soluble starch	+
Inositol	-	Trisaccharide	+
Rhamnose	+	Anhydrous amino acid	-
Sodium propionate	+	Ribose	+

+, Positive reaction; −, Negative reaction