

## Supporting information

# Influence of *Citrus sunki* and *Poncirus trifoliata* Root Extracts on Metabolome of *Phytophthora parasitica*

Héros José Maximo <sup>1,2,\*</sup>, Francisca Diana da Silva Araújo <sup>3,4</sup>, Carolina Clepf Pagotto <sup>3</sup>, Leonardo Pires Boava <sup>1,5</sup>, Ronaldo José Durigan Dalio <sup>1</sup>, Gustavo Henrique Bueno Duarte <sup>3</sup>, Marcos Nogueira Eberlin <sup>3,6</sup> and Marcos Antonio Machado <sup>1</sup>

<sup>1</sup> Biotechnology Laboratory, Centro de Citricultura Sylvio Moreira, Agronomic Institute, Cordeirópolis, SP 13490-970, Brazil; leonardo.boava@unar.edu.br (L.P.B.); rdalio@ideelab.com.br (R.J.D.D.); marcos@ccsm.br (M.A.M.)

<sup>2</sup> BioXyz Biotecnologia Microbiana e Bioprocessos e Industriais Ltda., Piracicaba, SP 13414-224, Brazil

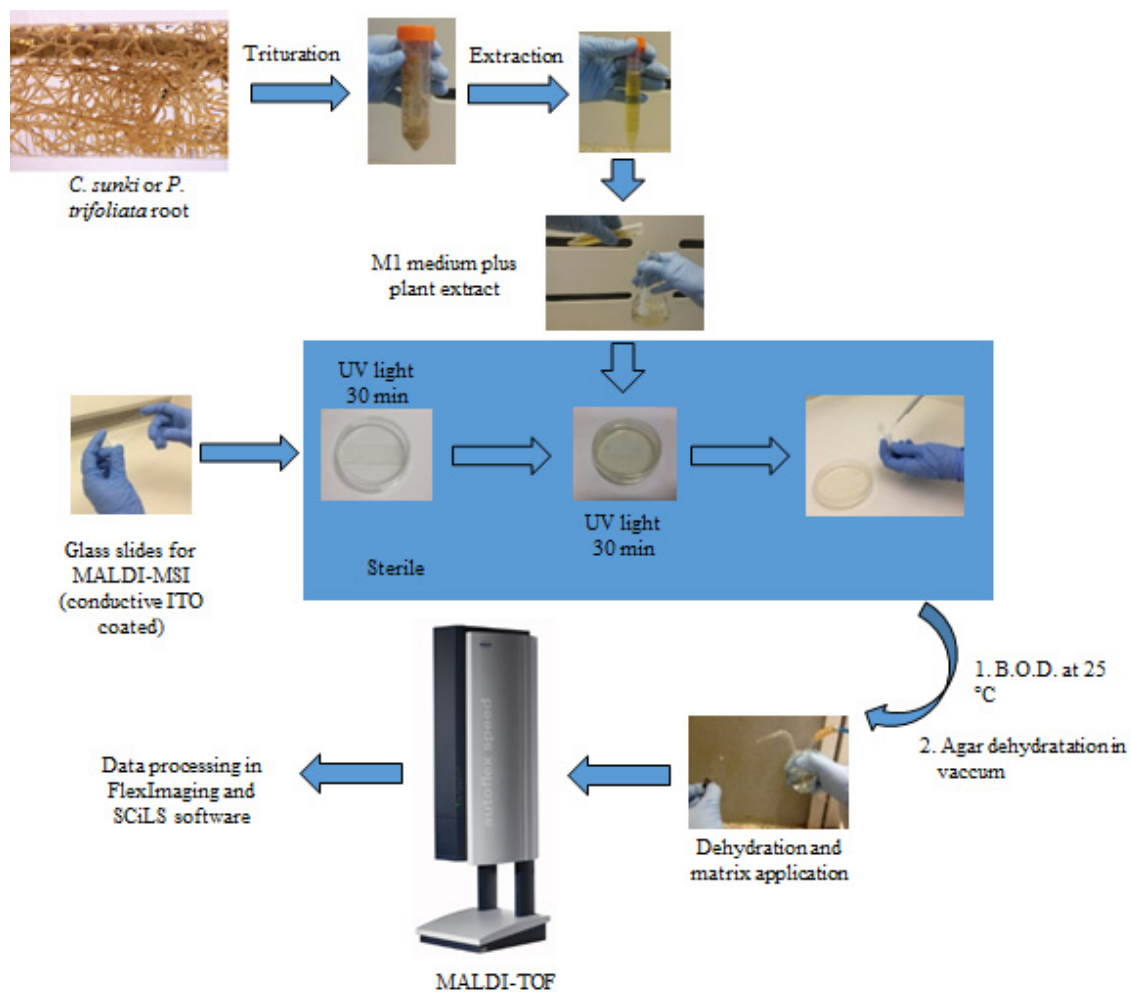
<sup>3</sup> ThoMSon Mass Spectrometry Laboratory, Chemistry Institute, University of Campinas, UNICAMP, Campinas, SP 13083-970, Brazil; diana.araujo@ufpi.edu.br (F.D.d.S.A.); carolcpagotto@gmail.com (C.C.P.); gustavo\_duarte95@hotmail.com (G.H.B.D.); marcos.eberlin@mackenzie.br (M.N.E.)

<sup>4</sup> Campus Professora Cinobelina Elvas, Federal University of Piauí, Bom Jesus, PI 64900-000, Brazil

<sup>5</sup> Centro Universitário 'Dr. Edmundo Ulson' – UNAR, Araras, SP 13603-112, Brazil

<sup>6</sup> School of Material Engineering and Nanotechnology, MackMass Laboratory, Mackenzie Presbyterian University, São Paulo, SP 01302-907, Brazil

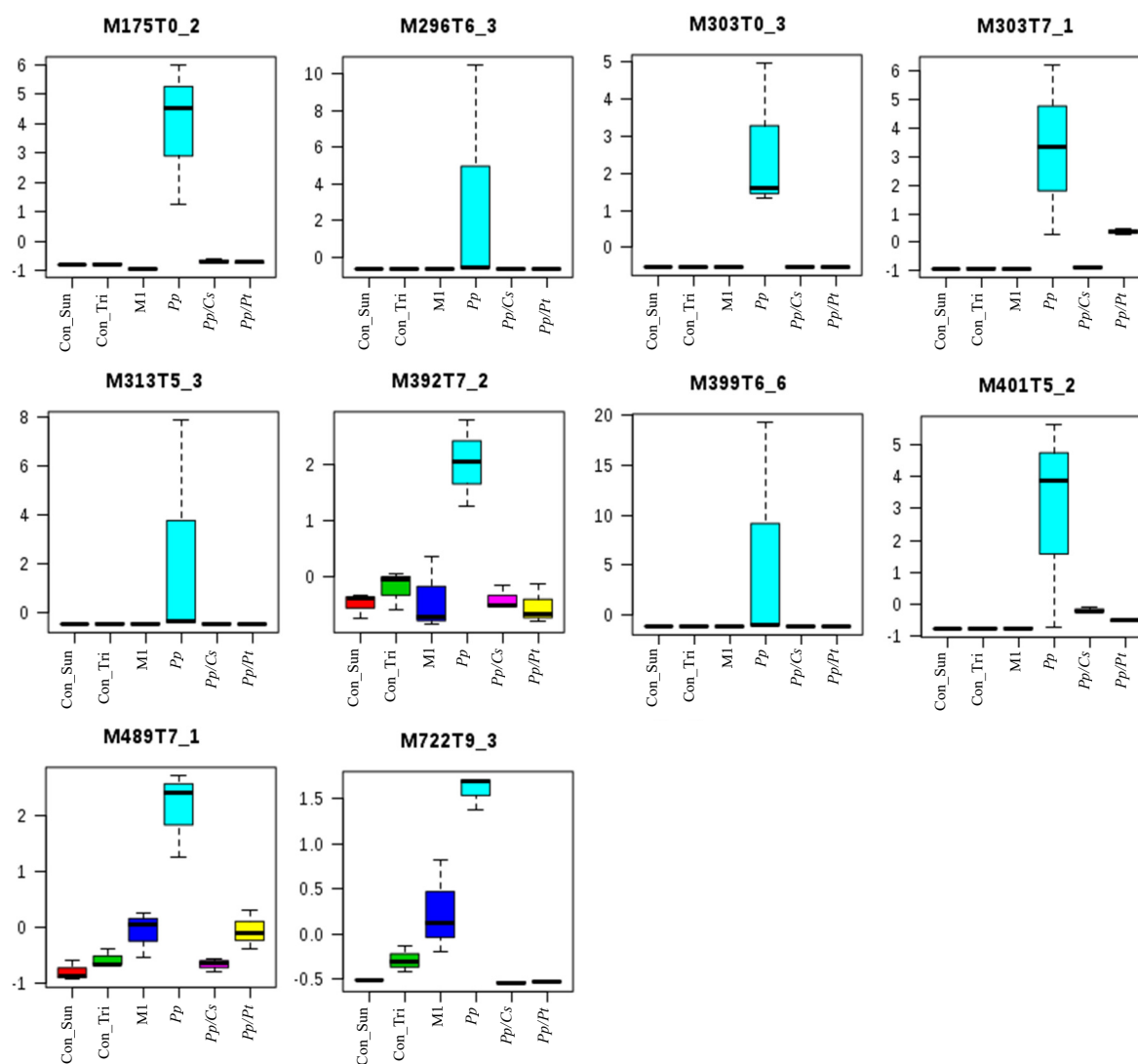
\* Correspondence: heros@bioxyz.com.br; Tel.: +55-19-999829900



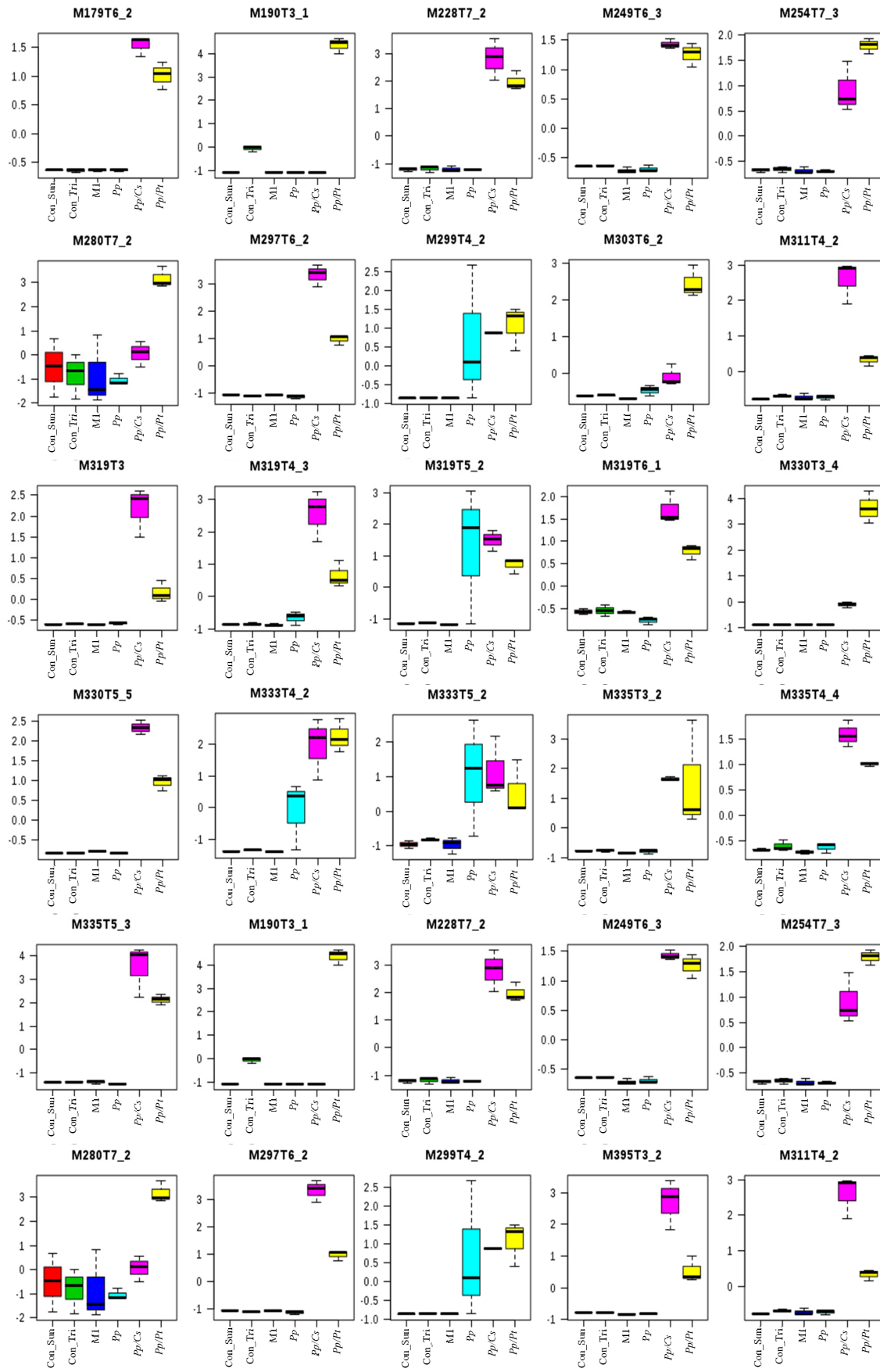
**Scheme S-1.** Steps for microbial MALDI-MSI developed in this work.

**Table S-1.** Specific metabolites of *P. parasitica* detected by MALDI-MSI.

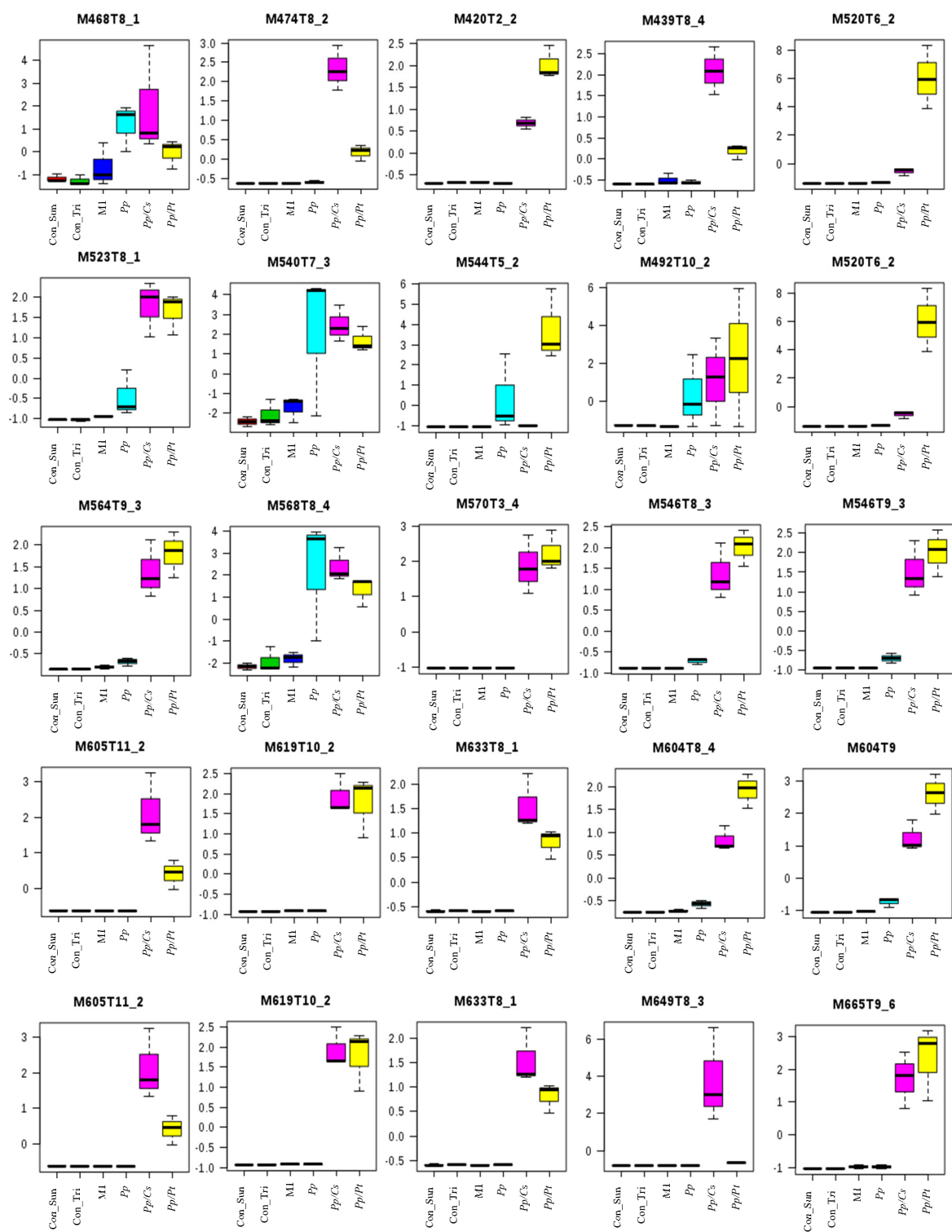
MALDI-MSI	ESI-FT-ICR-MS	MS/MS fragment masses	Type of ion	Molecular formula	Putative assignments	$\Delta$ (ppm)
152	152.0941	-	-	-	No match	-
156	156.1210	156, 117, 104, 70, 60	-	-	No match	-
200	200.1724	-	-	-	No match	-
246	246.1558	246, 229, 212, 132, 112, 70, 60	[M + H] <sup>+</sup>	C <sub>9</sub> H <sub>19</sub> N <sub>5</sub> O <sub>3</sub>	Arg-Ala	1
258	258.1737	-	-	-	No match	-
459	459.3078	458, 441, 315, 291, 165, 133, 89	-	-	No match	-
468	468.3891	468, 400, 373, 317, 285, 174, 114, 58	-	-	No match	-
517	517.3705	-	-	-	No match	-
542	542.2656	541, 509, 461, 355, 300, 121	-	-	No match	-
620	620.6166	-	-	-	No match	-



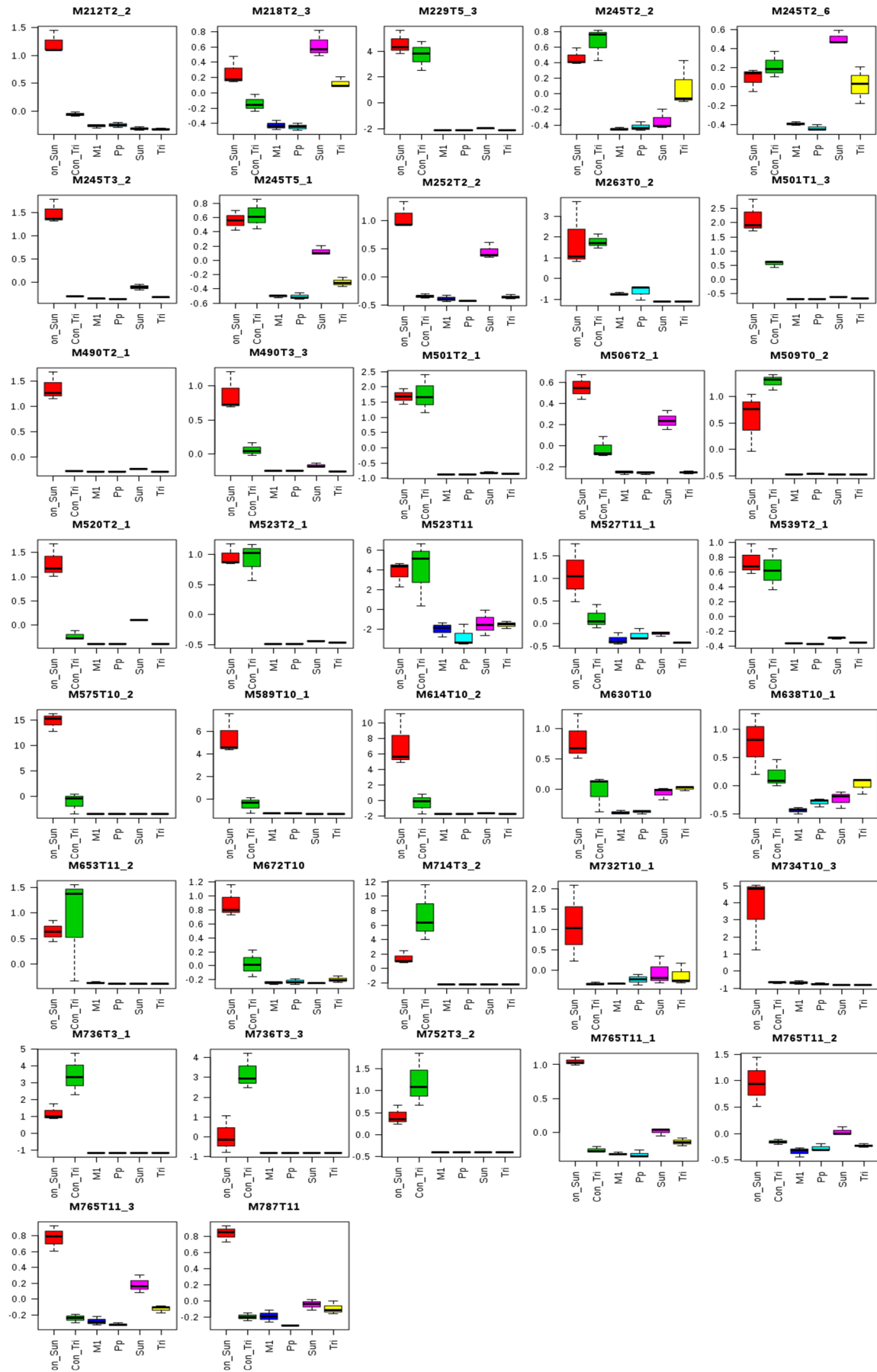
**Figure S-1.** Box plot of the signal intensity of *P. parasitica* metabolites detected by UHPLC-ESI-Q-TOF-MS and selected by PLS-DA loading plot.



**Figure S-2.** Discriminant metabolites of *Pp/Pt* and *Pp/Cs* samples.



**Figure S-3.** Discriminant metabolites of *Pp/Pt* and *Pp/Cs* samples (continuation).



**Figure S-4.** Discriminant metabolites of Con\_*Pt* and Con\_*Cs* samples. Sun=*Pt*/*Cs*;  
Tri=*Pp*/*Pt*.