Residue	<sup>1</sup> H	<sup>13</sup> C	Residue	<sup>1</sup> H	<sup>13</sup> C
HOA-C-2	2.67/2.47	42.56	Ser <sup>3</sup> -NH	8.05	
HOA-C-3	3.98	71.42	Ser <sup>3</sup> -Ca	4.33	-
HOA-C-4	1.45/1.36	39.91	Ser <sup>3</sup> -Cβ	3.82/3.75	64.13
HOA-C-5	1.25	34.58	Orn⁴(N <sup>δ</sup> -OH)- NH <sup>3+</sup>	8.14/8.04	
HOA-C-6	1.25	28.13	Orn⁴(N <sup>δ</sup> -OH)- Cα	4.20/4.18	52.74
HOA-C-7	1.25	25.48	Orn⁴(N <sup>δ</sup> -OH)- Cβ	1.68/1.60 1.73/1.66	25.54 22.87
HOA-C-8	0.85	16.65	Orn <sup>4</sup> (N <sup>δ</sup> -OH)-Cγ	1.68/1.60 1.83/1.74	30.85
Orn <sup>1</sup> (N <sup>δ</sup> -OH)- NH <sup>3+</sup>	-	-	Orn⁴(N <sup>δ</sup> -OH)- Cδ	3.48/3.17	53.14
Orn¹(N <sup>δ</sup> -OH)- Cα	4.08	56.09	Nδ-formyl		
Orn¹(N <sup>δ</sup> -OH)- Cβ	1.55	24.33	Put-NH	7.77	
Orn¹(N <sup>δ</sup> -OH)- Cγ	1.77	31.25	Put-C-1	3.14	41.79
Orn¹(N <sup>δ</sup> -OH)- Cδ	3.74/3.47	50.23	Put-C-2	1.47	28.65
Asp²(β-OH)- NH	8.57	-	Put-C-3	1.53	27.36
Asp <sup>2</sup> (β-OH)-Cα	4.89	59.70	Put-C-4	2.88	42.56
Asp <sup>2</sup> (β-OH)-Cβ	4.60	74.38	Put-NH <sup>3+</sup>	7.42	

**Suppl. Table 1.** Chemical shift values for the siderophore product ornibactin



the mutation location 357. The vertical arrow indicates the location of the transposon inthe mutant MT357.





13 the mutation location 577. The vertical arrow indicates the location of the transposon in

the mutant MT577.



Suppl. Fig. 3. Constitutive expression of the LuxR homolog gene could restore the antibacterial activity against E. amylavora. A 5-µl aliquot of bacterial suspension (OD<sub>420</sub>=0.3) was inoculated onto the center of NBY plates. After the plates were incubated for 3 days at 28°C, the NBY plates were oversprayed with suspension of the indicator bacterium *E. amylavora* ( $OD_{420}=0.3$ ). The inhibition zone is the indicator of antibacterial activity. MT357: the LuxR mutant; MT357+pMSL-7: MT375 containing the empty vector pMSL-7; and MT357+pMSL-7+LuxR: MT357 contacting the plasmid pDP357-2 with a functional *luxR*.



**Suppl. Fig. 4.** COSY60 NMR Spectrum of Ornibactin recorded at 600 MHz in (50:50)





**Suppl. Fig. 5.** TOCSY60 NMR Spectrum of Ornibactin recorded at 600 MHz in (50:50)





42 Suppl. Fig. 6. NOESY400 NMR Spectrum of Ornibactin recorded at 600 MHz in (50:50)

43 acetonitrile-d<sub>3</sub>.

44



**Suppl. Fig. 7.** <sup>13</sup>C-HSQC NMR Spectrum of Ornibactin recorded at 600 MHz in (50:50)

47 acetonitrile- $d_3$ .



Suppl. Fig 8. TOCSY spin system correlations of the siderophore product. Fingerprint
region (NH correlations), alpha to side chain correlations and side chain correlations are
shown. Abbreviation are: ornithine (Orn), putrescine (Put), and hydroxyoctanoic acid
(HOA).



**Suppl. Fig. 9.** Sequential NOE contacts in ornibactin-F found in NOESY spectra.





Suppl. Fig 10. Covalent structure of ornibactin-F. The position of each amino acid is
labeled in the tetrapeptide. The location of the 3-hydroxyoctanoic acid (HOA), putrescine
(Put), and Nδ-formyl are demarcated.