

Supplementary Table 1a General features of the *P. luminescens* genome

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| Genome size | 5,688,987 bp |
| G+C content | 42,8% |
| Protein coding genes | 4839 |
| Pseudogenes | 157 |
| Coding density | 84% |
| Average gene length | 969 bases |
| Ribosomal RNAs | 6 copies (16S-23S-5S) and one copy (16S-23S-5S-5S) |
| Transfer RNAs | 85 genes coding for 38 tRNAs |

Supplementary Table 1b Genes disrupted by insertion sequences (IS)

| CDS name | Note | Insertion sequences |
|--|---|----------------------------|
| <i>plu0358 and plu0356</i> | Hypothetical protein | <i>ISPlu9J</i> |
| <i>plu0572 and plu0574</i> | Hypothetical protein | <i>ISPlu6K</i> |
| <i>plu0855 and plu0853</i> | Colicin V secretion protein | <i>ISPlu1F</i> |
| <i>plu1071 and plu1073</i> | Hypothetical protein | <i>ISPlu9I</i> |
| <i>plu1113 and plu1115 and plu1117</i> | Peptide synthetase | <i>ISPlu9H and ISPlu6J</i> |
| <i>plu1362 and plu1360</i> | Putative DNA primase | <i>ISPlu9G</i> |
| <i>Plu1647 and plu1645</i> | Putative photopexin | <i>ISPlu6I</i> |
| <i>plu1745 and plu1747</i> | Putative amidase YcbB | <i>ISPlu4D</i> |
| <i>plu2413 and plu2415</i> | Putative adhesin | <i>ISPlu10F</i> |
| <i>plu3209 and plu3207</i> | RtxA toxin | <i>ISPlu6F</i> |
| <i>plu3267 and plu3265</i> | Alkaline metalloproteinase | <i>ISPlu3O</i> |
| <i>plu3321</i> | Putative prophage protein | <i>ISPlu7C</i> |
| <i>plu3354 and plu3352</i> | ABC transporter | <i>ISPlu3M</i> |
| <i>plu3723</i> | Transcriptional regulator (LuxR family) | <i>ISPlu3J</i> |
| <i>plu4157 and plu4155</i> | Histidine decarboxylase | <i>ISPlu2C</i> |
| <i>plu4162 and plu4166</i> | Insecticidal toxin (TccZ) | <i>ISplu12A</i> |
| <i>plu4209 and plu4207</i> | Unknown | <i>ISPlu9B</i> |
| <i>plu4338 and plu4340</i> | Isopentenyl-diphosphate delta-isomerase | <i>ISPlu6B</i> |
| <i>plu4456</i> | Hypothetical protein | <i>ISPlu8-p</i> |
| <i>plu4517 and plu4520</i> | Putative sensor kinase | <i>ISPlu7A</i> |

Supplementary Table 1c Genes disrupted by frameshift mutations and partial genes

| CDS name | Note |
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| <i>plu0063 and plu0062</i> | Transcriptional regulator (GntR family) |
| <i>plu0066 and plu0067</i> | Unknown protein encoded by ISEc8 |
| <i>plu0069 and plu0068</i> | Transposase |
| <i>plu0138</i> | Hypothetical protein |
| <i>plu0149</i> | Unknown |
| <i>plu0150</i> | Unknown |
| <i>plu0151</i> | Putative hemagglutinin/hemolysin |
| <i>plu0190</i> | Transposase |
| <i>plu0200</i> | Biotin biosynthesis protein BioH |
| <i>plu0227</i> | Binding protein (ABC transporter) |
| <i>plu0276</i> | Transposase (similar to Orf11 of W14 strain) |
| <i>plu0295</i> | Hypothetical protein |
| <i>plu0314 and plu0313</i> | Transposase, IS4 family |
| <i>plu0321</i> | Phosphotransferase – dependent sugar uptake |
| <i>plu0387</i> | Hypothetical protein |
| <i>plu0516</i> | Insecticidal toxin complex protein |
| <i>plu0529 and plu0530</i> | Transposase |
| <i>plu0595</i> | Transposase, IS982 family |
| <i>plu0596</i> | Putative prophage regulatory protein |
| <i>plu0616</i> | DNA polymerase II |
| <i>plu0821</i> | VgrG and VgrE related protein |
| <i>plu0823</i> | gp31 related protein |
| <i>plu0849 and plu0850</i> | Integrase |
| <i>plu0878</i> | Transposase B |
| <i>plu0887</i> | Pyocin |
| <i>plu0889</i> | Pyocin |
| <i>plu0953</i> | Probable transporter |
| <i>plu0954</i> | Putative short-chain dehydrogenase |
| <i>plu1014</i> | Hypothetical protein |
| <i>plu1017</i> | Unknown |
| <i>plu1017</i> | hypothetical protein |
| <i>plu1021 and plu1020 and plu1019</i> | Unknown |
| <i>plu1077 and plu1076</i> | Transposon resolvase |
| <i>plu1102 and plu1101</i> | Transposase, IS21 family |
| <i>plu1103</i> | Peptide synthetase |
| <i>plu1107</i> | Transposase, IS5 Family (ISPlu14-p) |
| <i>plu1108 and plu1109 and plu1112</i> | Unknown |

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| <i>plu1118</i> | Hypothetical proteins encoded in ISEc8 |
| <i>plu1221</i> | Diaminobutyrate-pyruvate aminotransferase |
| <i>plu1336 and plu1337</i> | RtxA toxin |
| <i>plu1339 and plu1340</i> | RtxA toxin |
| <i>plu1342 and plu1343</i> | RtxA toxin |
| <i>plu1348</i> | Unknown |
| <i>plu1349</i> | Unknown |
| <i>plu1404 and plu1403</i> | Hypothetical protein |
| <i>plu1448 and plu1447</i> | Unknown |
| <i>plu1481</i> | Transposase (similar to Orf11 of W14 strain) |
| <i>plu1521 and plu1520</i> | Transposase |
| <i>plu1528</i> | Transposase |
| <i>plu1534</i> | Similar to <i>Escherichia coli</i> DNA-binding protein (Dsp) |
| <i>plu1608 and plu1607</i> | Unknown |
| <i>plu1624</i> | Hypothetical protein |
| <i>plu1644</i> | Transposase |
| <i>plu1670</i> | Hypothetical protein |
| <i>plu1674 and plu1673</i> | Unknown |
| <i>plu1710</i> | Transposase |
| <i>plu1790</i> | Hypothetical protein |
| <i>plu1825</i> | Transposase, IS4 family (ISPlu9-p) |
| <i>plu1839 and plu1838</i> | Integrase |
| <i>plu1845 and plu1846</i> | Mg ²⁺ transport ATPase protein B |
| <i>plu1860</i> | Transposase, IS110 family |
| <i>plu1862 and plu1861</i> | Transposase, IS110 family |
| <i>plu1864 and plu1865</i> | Phosphoenolpyruvate phosphomutase |
| <i>plu1867 and plu1868</i> | Homocitrate synthase |
| <i>plu1892</i> | Pyocin |
| <i>plu1963</i> | Transposase |
| <i>plu1985 and plu1984</i> | Transcriptional regulator (LuxR family) |
| <i>plu1990</i> | Unknown |
| <i>plu2014</i> | Transcriptional regulator (LuxR family) |
| <i>plu2017</i> | Pyocin |
| <i>plu2100</i> | Unknown |
| <i>plu2188</i> | Unknown |
| <i>plu2190</i> | 2-hydroxypenta-2,4-dienoate hydratase |
| <i>plu2229</i> | Transposase, IS630 family (ISPlu3-p) |
| <i>plu2304</i> | Plasmid stability-like protein |
| <i>plu2307</i> | Plasmid stability-like protein |
| <i>plu2310</i> | DNA-invertase/resolvase |
| <i>plu2311</i> | Recombinase, resolvase family |

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| <i>plu2312</i> | Beta-lactamase |
| <i>plu2329</i> | Transposase |
| <i>plu2331 and plu2332</i> | ParE |
| <i>plu2333 and plu2334 and plu2335</i> | Insecticidal toxin complex protein |
| <i>plu2370</i> | Transposase |
| <i>plu2402</i> | Transposase |
| <i>plu2417</i> | Transposase |
| <i>plu2418</i> | Transposase |
| <i>plu2430</i> | Phosphatidylglycerophosphatase B |
| <i>plu2445 and plu2446</i> | Transposase, IS110 family (ISPlu13-p) |
| <i>plu2477</i> | Transposase, IS4 family |
| <i>plu2574</i> | Hcp-like protein |
| <i>plu2711</i> | Invertase/resolvase |
| <i>plu3000</i> | Ynfl |
| <i>plu3006</i> | Transposase, IS4 family |
| <i>plu3132</i> | Transposase |
| <i>plu3153</i> | Putative transposase |
| <i>plu3176</i> | Insecticidal toxin (TccZ) |
| <i>plu3259</i> | Hypothetical protein |
| <i>plu3299</i> | Transposase, IS982 family |
| <i>plu3305</i> | VgrG |
| <i>plu3334</i> | Tail fiber assembly protein |
| <i>plu3559</i> | Putative proton antiporter |
| <i>plu3571 and plu3570</i> | Unknown |
| <i>plu3575</i> | Unknown |
| <i>plu3595</i> | Hemolysin secretion/activation protein |
| <i>plu3632 and plu3633</i> | Unknown |
| <i>plu3634</i> | Outer membrane usher |
| <i>plu3635</i> | Unknown |
| <i>plu3809</i> | Transposase, IS630 family (ISPlu10-p) |
| <i>plu3810</i> | Transposase |
| <i>plu3883</i> | ThiJ |
| <i>plu3891 and plu3892</i> | Transposase, IS982 family |
| <i>plu3893</i> | Hypothetical protein |
| <i>plu3920</i> | Polyketide synthase |
| <i>plu4020 and plu4019</i> | Transposase |
| <i>plu4048 and plu4049</i> | Transcriptional regulator (Ner family) |
| <i>plu4053</i> | Unknown |
| <i>plu4055 and plu4054</i> | Bacteriophage protein |
| <i>plu4055 and plu4054 and plu4053</i> | Tail fiber assembly protein |
| <i>plu4114 and plu4113</i> | L-fuculokinase |

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| <i>plu4147</i> | Unknown |
| <i>plu4151 and plu4152</i> | Unknown |
| <i>plu4234</i> | Transposase, IS630 family |
| <i>plu4235</i> | Transposase, IS630 family |
| <i>plu4236</i> | Transposase, IS630 family |
| <i>plu4246</i> | Transposase (similar to Orf11 of W14 strain) |
| <i>plu4275</i> | Rhs-family protein |
| <i>plu4318</i> | Integrase |
| <i>plu4428 and plu4429</i> | Transposase |
| <i>plu4433 and plu4432</i> | Unknown |
| <i>plu4443</i> | Transposase, IS30 family |
| <i>plu4455</i> | Transposase, IS630 family (ISPlu8-p) |
| <i>plu4613 and plu4612</i> | Transposase, IS4 family |
| <i>plu4753 and plu4752</i> | Transposase, IS630 family (ISPlu3-p) |
| <i>plu4786 and plu4787</i> | Similar to killer suppression protein of <i>Proteus vulgaris</i> |
| <i>plu4826 and plu4827 and plu4828</i> | Transposase, IS110 family |
| <i>plu4829</i> | Transposase, IS30 family |
| <i>plu4886 and plu4887</i> | Formate dehydrogenase-O alpha subunit |