**Supplementary materials**

***Luteorhabdos pelagi* gen. nov., sp. nov., a novel member of the family *Flavobacteriaceae*, isolated from the West Pacific Ocean**

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**Supplementary Table S1** Genomic features of A3-108T and its reference strains.

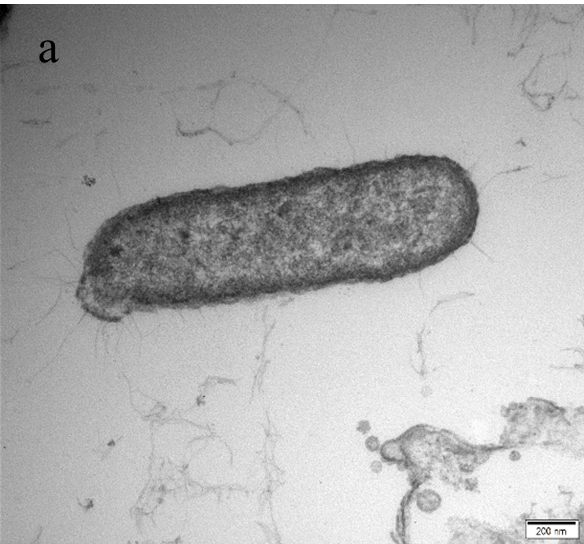
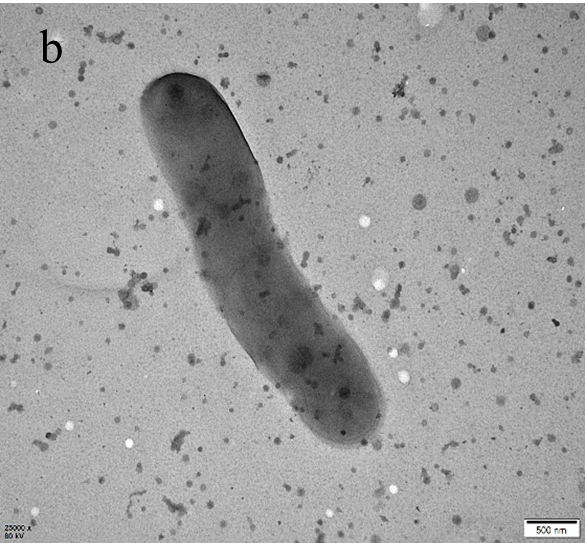
Strains/species: 1, strain A3-108T; 2, *Marinirhabdus gelatinilytica* NH83T; 3, *Galbibacter mesophilus* CGMCC 1.15663T; 4, *Marixanthomonas ophiurae* JCM 14121T.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 |
| Size (Mb) | 3.40 | 3.29 | 3.77 | 3.30 |
| Contigs | 99 | 24 | 10 | 6 |
| G+C (%) | 41.0 | 41.3 | 37.3 | 35.9 |
| Coding genes | 3250 | 3146 | 3362 | 3097 |
| Protein | 3208 | 3111 | 3318 | 3060 |
| rRNA | 5 | 2 | 3 | 1 |
| tRNA | 37 | 33 | 41 | 36 |
| Accession | JAECMS01 | QRAO01 | JAERQH01 | QVID01 |

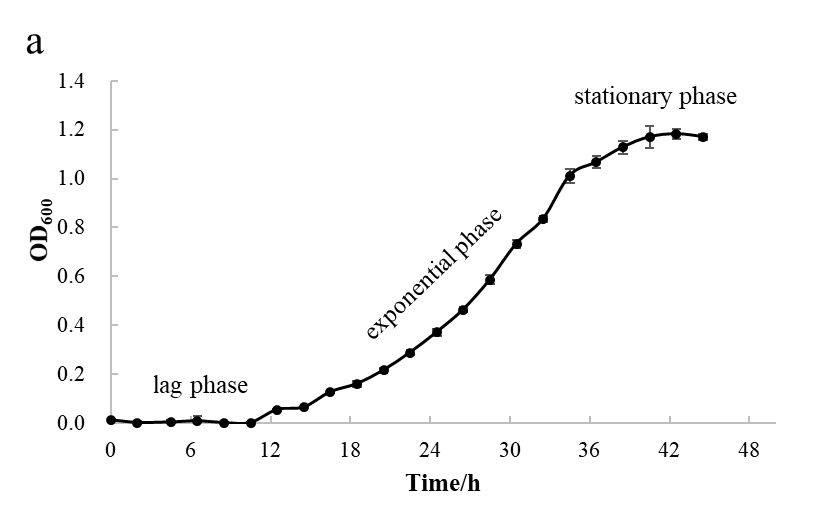
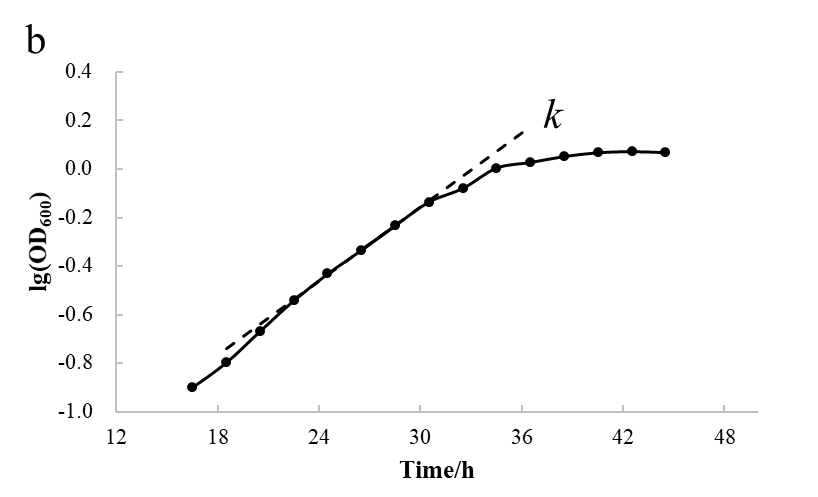
**Supplementary** **Table S2** The ANI, DDH and AAI values among the genomes of strain A3-108T with the reference strains.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | ANIb | OrthoANI | *in silico* DDH | AAI | Accession number |
| 1, strain A3-108T | / | / | / | / | JAECMS01 |
| 2, *Marinirhabdus gelatinilytica* NH83T | 69.5 | 70.1 | 22.1 | 68.0 | QRAO01 |
| 3, *Galbibacter mesophilus* CGMCC 1.15663T | 67.3 | 67.7 | 18.7 | 58.8 | JAERQH01 |
| 4, *Marixanthomonas ophiurae* JCM 14121T | 71.1 | 71.5 | 18.9 | 71.4 | QVID01 |

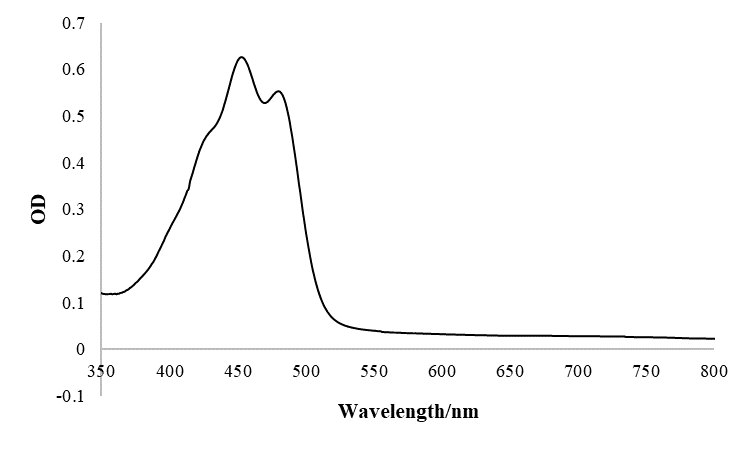
**Supplementary Fig. S1.** Transmission electron micrographs showing the cell morphology and ultrastructure of strain A3-108T (a and b). Bars, 0.2 μm (a) and 0.5 μm (b).

**Supplementary Fig. S2.** The growth curve of strain A3-18T (a) and the curve of log10(OD600) (b), showing that the lag phase, the exponential and the stationary phases were 0-16 h, 16-40 h and exceed 40 h, respectively. On the basis of formulas, the doubling time and specific growth rate for strain A3-108T were 6.2 h and 0.16 h-1, respectively. Doubling time (*td*/h) = ln2/*k*; *k* represents relative growth rate (slope of the curve); specific growth rate (*μ*/h-1) = 1/*td*.

**Supplementary Fig. S3.** Absorption profiles of carotenoids produced by strain A3-108T. UV-visible absorption spectrum of crude extract indicate strain A3-108T comprised carotenoids through typical absorption peaks around 470 nm detection wavelength.



**Supplementary Fig. S4.** Thin-layer chromatograms of strain A3-108T after staining with molybdatophosphoric acid, molybdenum blue reagent, ninhydrin reagent and α-naphthol reagent (a-d). APL, aminophospholipid; AGL, aminoglycolipid; PE, phosphatidylethanolamine; AL, aminolipid; GL, glycolipid; L, lipid.

