|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name and strain | Abbreviation code | KEGG genome id | BTA pathway | Accession number | Reference |
| Acinetobacter defluvii WCHA30 | adv | T05474 | P3 | CP029389-CP029397 | [1] |
| Arabidopsis thaliana | ath | T00041 | - | GCF\_000001735 | \* |
| Azoarcus sp. KH32C | aza | T02502 | P2 | AP012304, AP012305 | [2] |
| Azoarcus sp. DN11 | azd | T05691 | P2 | CP021731 | [3] |
| Azoarcus sp. CIB | azi | T04019 | P2 | CP011072 | [4] |
| Burkholderia cepacia DDS 7H-2 | bced | T03302 | P3 | CP007785-CP007787 | [5] |
| Burkholderia vietnamiensis G4 | bvi | T00493 | P3 | CP000614-CP000621 | [6] |
| Cycloclasticus sp. P1 | cyq | T02265 | P3 | CP003230 | [7] |
| Cycloclasticus zancles 78-ME | cza | T02780 | P3 | CP005996 | [8] |
| Desulfosporosinus orientis DSM 765 | dor | T01675 | - | CP003108 | [9] |
| Aromatoleum aromaticum EbN1 | eba | T00222 | P2 | CR555306- CR5553068 | [10] |
| Latimeria chalumnae (coelacanth) | lcm | T02913 | - | GCF\_000225785 | \* |
| Magnetospirillum sp. XM-1 | magx | T04231 | P2 | LN997848- LN997849 | [11] |
| Paraburkholderia aromaticivorans BN5 | parb | T05169 | P3 | CP022989- CP022996 | [12] |
| Rhodococcus ruber P14 | rrz | T05142 | P3 | CP024315 | [13] |
| Sulfuritalea hydrogenivorans sk43H | shd | T03591 | P2 | AP012547 | [14] |
| Staphylococcus sciuri FDAARGOS 285 | sscu | T05176 | - | CP022046- CP022047 | [15] |
| Thauera sp. MZ1T | tmz | T00804 | P2, P3 | CP001281- CP001282 | [16] |

**Table S2.** Species names, strain and abbreviation codes used to validate OrtSuite. The genomic potential, based on KEGG database, to completely encode all proteins involved in a BTA pathway is identified in the column “BTA pathway” (P1 – Anaerobic conversion of benzoate to acetyl-CoA 1; P2 – Anaerobic conversion of benzoate to acetyl-CoA 2; P3 – Aerobic conversion of benzoate to acetyl-CoA) . The column OrtSuite\_result contains which BTA pathway(s) were identified as being completely performed by each species used for validation. Species without any reference found suggesting benzoate to acetyl-CoA conversion capabilities are marked by \*.

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