Supplementary Table 1. Homologs of nitrogen fixation genes in the genome of *Paraburkholderia* and *Burkholderia* species, including *P. sp. Suichang626 (Sui)*. $\$: Plant beneficial bacteria; $\$: plant/animal pathogenic bacteria; -: No hit.

|       | Pphy | Pxn  | Puna | Pban | Psac | Sui | Bamb | Bvle | Bglu | Bmal | Bpse | Bcen | Bcep |
|-------|------|------|------|------|------|-----|------|------|------|------|------|------|------|
| *nifH* | - 1 1 | - 1 | - 1 | - 1 | 1 1 | 1 1 | 1 1 | - 1 | 2 2 | 1 1 | 1 1 | - 1 | - 1 |
| *nifK* | - 1 1 | - 1 | - 1 | - 1 | 1 1 | 1 1 | 1 1 | - 1 | 2 2 | 1 1 | 1 1 | - 1 | - 1 |
| *nifD* | - 2 2 | - 2 | - 2 | - 2 | 2 2 | 2 2 | 2 2 | - 2 | 3 3 | 2 2 | 3 3 | - 2 | - 2 |
| 4Fe-4S | 2 2 | 4 3 | 3 3 | 2 2 | 2 2 | 2 2 | 3 3 | 2 2 | 3 3 | 2 2 | 3 3 | - 2 | - 2 |
| 2Fe-2S | 1 2 | 2 1 | 1 1 | - 1 | 2 1 | 1 1 | 1 1 | 1 1 | 1 1 | 1 1 | 1 1 | - 1 | - 1 |

Supplementary Table 2. Secondary metabolite gene clusters in the genome of *Paraburkholderia* and *Burkholderia* species, including *P. sp. Suichang626 (Sui)*. Siderophore of Puna moved to NRPs. $\$: Plant beneficial bacteria; $\$: plant/animal pathogenic bacteria; -: No hit.

|       | $\$ | $\$ | $\$ | $\$ | $\$ | $\$ | $\$ | $\$ | $\$ | $\$ | $\$ | $\$ | $\$ |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Terpene | 3 3 | 5 4 | 5 5 | 4 5 | 5 5 | 4 3 | 3 3 | 4 4 | 4 4 | 5 6 | 5 6 | 5 6 | 5 6 |
| NRPs   | 2 2 | 1 1 | 3 3 | 2 2 | 1 1 | 2 2 | 7 7 | 7 7 | 11 3 | 3 3 | 1 1 | 1 1 | 1 1 |
| PKs    | - - | - - | 3 1 | 1 1 | 1 1 | 2 2 | 7 7 | 8 8 | 1 1 | 1 1 | 1 1 | 1 1 | 1 1 |
| Lasso peptide | - - | - - | - - | - - | - - | - - | 1 1 | 1 1 | - - | - - | - - | - - | - - |
| Bacteriocin | 2 2 | 3 3 | 4 4 | 3 3 | 1 1 | 2 2 | 2 2 | 3 3 | 1 1 | 1 1 | 1 1 | 1 1 | 1 1 |
| Phosphonate | 2 2 | 1 1 | - - | 1 1 | 1 1 | 1 1 | 1 1 | 1 1 | 1 1 | 1 1 | 1 1 | 1 1 | 1 1 |
| Hserlactone | 2 2 | 1 1 | - - | 1 1 | 1 1 | 3 3 | 2 2 | 3 3 | 1 1 | 1 1 | 1 1 | 1 1 | 1 1 |
| Ladderane | - - | - - | - - | 1 1 | - - | - - | - - | - - | - - | - - | - - | - - | - - |
| Batalactone | - - | - - | - - | 1 1 | - - | - - | - - | - - | - - | - - | - - | - - | - - |
| Arylpolyene | - - | - - | - - | 1 1 | 2 2 | 2 2 | 1 1 | - - | - - | - - | - - | - - | - - |
| Phenazine | - - | - - | - - | - - | - - | - - | - - | - - | - - | - - | - - | - - | - - | - - |