

**Table S2. Summary of Mitochondrial Gene Content in Four *Dendrobium* Species**

| Functional Group                 | Genes                        | <i>D. lasianthera</i> | <i>D. tangerinum</i>  | <i>D. huoshanense</i>   | <i>D. chrysotoxum</i> |
|----------------------------------|------------------------------|-----------------------|-----------------------|-------------------------|-----------------------|
| ATP synthase                     | atp1, atp4, atp6, atp8, atp9 | ✓                     | atp1 (2), atp6 (2), ✓ | atp6 (2), atp9, ✓       | atp6(2), atp9, ✓      |
| Cytochrome c biogenesis          | ccmB, ccmC, ccmFc, ccmFn     | ✓                     | ✓                     | ccmFC (4), ✓            | ✓                     |
| Cytochrome oxidase               | cox1, cox2, cox3             | ✓                     | ✓                     | ✓                       | cox3(2), ✓            |
| Ubiquinol-cytochrome c reductase | cob                          | ✓                     | ✓                     | ✓                       | ✓                     |
| Maturase                         | matR                         | ✓                     | ✓                     | ✓                       | ✓                     |
| Membrane transport               | mttB                         | ✓                     | ✓                     | mttB (2)                | ✓                     |
| NADH dehydrogenase               | nad1–nad9 (with introns)     | ✓                     | ✓                     | nad3 (2), ✓             | nad9(2), ✓            |
| Ribosomal large subunit          | rpl5, rpl16                  | ✓                     | ✓                     | rpl5 (2), rpl16 (2)     | ✓                     |
| Ribosomal small subunit          | rps1–rps19                   | ✓                     | rps14 (2), ✓          | rps12 (3), rps14 (2), ✓ | ✓                     |
| Succinate dehydrogenase          | sdh4                         | sdh4 (2)              | sdh4 (2)              | sdh4 (2)                | sdh4 (2)              |
| rRNAs                            | rrn5, rrn18, rrn26           | ✓                     | ✓                     | ✓                       | ✓                     |
| tRNAs                            | 30–35 (incl. multi-copy)     | 33                    | 35                    | 38                      | 37                    |

**Note:** “✓” indicates presence of all expected genes in the group; numbers in parentheses indicate multiple gene copies; some genes contain introns (*nad*, *cox2*, *ccmFC*, etc.). Full gene lists and intron positions are available upon request.