**Table S1 The primers and PCR conditions of five DNA barcodes.**

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| primers | base（5'-3'） | amplification conditions |
| ITS2 | 2F | ATGCGATACTTGGTGTGAAT | 94℃，5min94℃，30s；56℃，30s；72℃，45s. 35 circles72℃，10min |
| 3R | GACGCTTCTCCAGACTACAAT |
| *psbA-trnH* | fwd PA | GTTATGCATGAACGTAATGCTC | 94℃，4min94℃，30s；55℃，1min；72℃，1min. 35 circles72℃，10min |
| rev TH | CGCGCATGGTGGATTCACAATCC |
| *matK* | 3F\_KIM | CGTACAGTACTTTTGTGTTTACGAG | 94℃，1min94℃，30s；52℃，20s；72℃，50s. 35 circles72℃，5min |
| 1R\_KIM | ACCCAGTCCATCTGGAAATCTTGGTTC |
| *rbcL* | 1F | ATGTCACCACAAACAGAAAC | 95℃，4min94℃，1min；55℃，1min；72℃，2min. 38 circles72℃，7min |
| 724R | TCGCATGTACCTGCAGTAGC |
| ITS | 5F | GGAAGTAAAAGTCGTAACAAGG | 94℃，5min94℃，1min；50℃，1min；72℃，1min30s. 30 circles72℃，7min |
| 4R | TCCTCCGCTTATTGATATGC |