**Table S7.** Likelihood assignment of parentage of 152 cacao clones from Ghana based on 45 SNP markers with LOD scores above 80% probability

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | Offspring | Assigned parenta | Parent type | LOD scoreb |
| 1 | CRG01/110 | IMC 6 | Iquitos | 6.83 |
| 2 | CRG1018/102 | RIM 189 | Trinitario | 7.94 |
| 3 | CRG1018/107 | PR76 | Amelonado | 14.49 |
| 4 | CRG1019/101 | PR76 | Amelonado | 10.84 |
| 5 | CRG1019/109 | PR76 | Amelonado | 14.68 |
| 6 | CRG1019/110 | PR76 | Amelonado | 15.39 |
| 7 | CRG2024/101 | POUND 1/B | Nanay | 5.81 |
| 8 | CRG2024/401 | IMC 6 | Iquitos | 8.05 |
| 9 | CRG2029/506 | PA 191 | Marañón | 6.95 |
| 10 | CRG2029/508 | PA 191 | Marañón | 7.63 |
| 11 | CRG6020/109 | Ucayali 35 | Contamana | 2.98 |
| 12 | CRG6035/103 | Ucayali 35 | Contamana | 8.79 |
| 13 | CRG6035/110 | Ucayali 35 | Contamana | 7.22 |
| 14 | CRG8214/319 | PA 150 | Marañón | 4.17 |
| 15 | CRG8220/106 | Ucayali 35 | Contamana | 3.76 |
| 16 | CRG8305/425 | ICS 40 | Trinitario | 3.46 |
| 17 | CRG8914/409 | SC 02 Belize | Amelonado | 12.00 |
| 18 | CRG9001/108 | PA 191 | Marañón | 3.81 |
| 19 | CRG9006/109 | KER 5 | Guiana | 5.22 |
| 20 | CRG1065 | PA 299 | Marañón | 3.17 |
| 21 | CRG2001 | KER 5 | Guiana | 8.57 |
| 22 | CRG2039 | IMC 38 | Iquitos | 1.55 |
| 23 | CRG2044 | PA 150 | Marañón | 5.36 |
| 24 | CRG2061 | ICS 40 | Trinitario | 0.63 |
| 25 | CRG2066 | PA 150 | Marañón | 1.25 |
| 26 | CRG2067 | Ucayali 4 | Contamana | 7.73 |
| 27 | CRG2068 | Ucayali 4 | Contamana | 3.66 |
| 28 | CRG2069 | PA 299 | Marañón | 1.57 |
| 29 | CRG2072 | Ucayali 4 | Contamana | 11.45 |
| 30 | CRG2093 | PA 150 | Marañón | 3.48 |
| 31 | CRG2106 | PA 150 | Marañón | 2.62 |
| 32 | CRG2120 | GU 254/A | Guiana | 5.23 |
| 33 | CRG2241 | Ucayali 4 | Contamana | 9.69 |
| 34 | CRG2242 | PA 299 | Marañón | 7.64 |
| 35 | CRG2267 | PA 299 | Marañón | 0.89 |
| 36 | K137\_19 | Ucayali 4 | Contamana | 5.93 |
| 37 | K138\_14 | Ucayali 4 | Contamana | 8.26 |
| 38 | K138\_7 | Ucayali 4 | Contamana | 8.69 |
| 39 | K138\_8 | Ucayali 35 | Contamana | 9.85 |
| 40 | K208\_10 | Ucayali 4 | Contamana | 3.94 |
| 41 | K208\_13 | Ucayali 4 | Contamana | 6.95 |
| 42 | K220\_11 | Ucayali 66 | Contamana | 11.14 |
| 43 | K220\_19 | Ucayali 66 | Contamana | 8.85 |
| 44 | K220\_3 | Ucayali 66 | Contamana | 10.07 |
| 45 | K335\_1 | Ucayali 4 | Contamana | 10.79 |
| 46 | K335\_10 | Ucayali 66 | Contamana | 8.72 |
| 47 | K335\_2 | Ucayali 35 | Contamana | 8.08 |
| 48 | K335\_5 | Ucayali 66 | Contamana | 8.69 |
| 49 | K335\_6 | Ucayali 66 | Contamana | 11.47 |
| 50 | K338\_10 | Ucayali 4 | Contamana | 11.57 |
| 51 | K338\_2 | Ucayali 4 | Contamana | 1.04 |
| 52 | K338\_4 | Ucayali 4 | Contamana | 9.64 |
| 53 | K338\_6 | Ucayali 4 | Contamana | 1.75 |
| 54 | K338\_7 | LCT EEN 411 | Purús | 5.93 |
| 55 | K338\_9 | Ucayali 4 | Contamana | 5.85 |
| 56 | K408\_4 | Ucayali 4 | Contamana | 7.49 |
| 57 | K408\_5 | Ucayali 4 | Contamana | 4.60 |
| 58 | K441\_10 | Ucayali 35 | Contamana | 12.00 |
| 59 | K441\_12 | Ucayali 66 | Contamana | 7.77 |
| 60 | K441\_13 | Ucayali 4 | Contamana | 9.14 |
| 61 | K441\_14 | Ucayali 66 | Contamana | 5.43 |
| 62 | K441\_15 | Ucayali 4 | Contamana | 9.27 |
| 63 | K441\_16 | Ucayali 66 | Contamana | 9.93 |
| 64 | K441\_17 | LCT EEN 411 | Purús | 5.58 |
| 65 | K441\_20 | Ucayali 4 | Contamana | 10.40 |
| 66 | K441\_3 | Ucayali 66 | Contamana | 10.78 |
| 67 | K441\_6 | Ucayali 66 | Contamana | 4.88 |
| 68 | K441\_7 | Ucayali 35 | Contamana | 8.79 |
| 69 | K441\_9 | Ucayali 66 | Contamana | 4.86 |
| 70 | PA150\_GU175 | PA 191 | Marañón | 4.48 |
| 71 | PA175\_PA150 | PA 299 | Marañón | 3.08 |
| 72 | PA7\_GU125C | GU 254/A | Guiana | 9.91 |
| 73 | PA7\_GU341 | PA 191 | Marañón | 2.76 |
| 74 | RIM41\_T60 | DR2 | Trinitario | 9.93 |
| 75 | T60\_GU341 | GU 254/A | Guiana | 3.14 |
| 76 | CRG0134/209 | PA 191 | Marañón | 2.36 |
| 77 | CRG0228/105 | NA 756 | Nanay | 6.24 |
| 78 | CRG0312/113 | IMC 6 | Iquitos | 3.00 |
| 79 | CRG0333/101 | KER 5 | Guiana | 3.80 |
| 80 | CRG0338/412 | KER 5 | Guiana | 5.80 |
| 81 | CRG0347/413 | GU 254/A | Guiana | 4.65 |
| 82 | CRG1018/2 | PR76 | Amelonado | 14.70 |
| 83 | CRG2029\_EQX78 | PA 299 | Marañón | 2.27 |
| 84 | CRG8914\_PA7A | PA 299 | Marañón | 2.33 |
| 85 | CRG8914\_PA 7B | PA 191 | Marañón | 2.43 |
| 86 | CRG9001/103 | PA 191 | Marañón | 3.12 |
| 87 | CRG9001/107 | PA 299 | Marañón | 4.23 |
| 88 | CRG9006\_T17/524A | IMC 31 | Iquitos | 2.25 |
| 89 | CRG9006\_T17/524B | IMC 31 | Iquitos | 1.91 |
| 90 | CRG9006\_T17/524F | Ucayali 4 | Contamana | 6.19 |
| 91 | CRG9006\_T17/524H | Ucayali 4 | Contamana | 2.52 |
| 92 | CRG9006\_T17/524I | IMC 6 | Iquitos | 1.82 |
| 93 | GU144C\_EQX78A | GU 254/A | Guiana | 3.61 |
| 94 | GU144C\_EQX78B | ELP7 A | Guiana | 9.55 |
| 95 | GU144C\_EQX78C | ELP7 A | Guiana | 10.91 |
| 96 | GU144C\_EQX78D | ELP7 A | Guiana | 9.29 |
| 97 | GU144C\_EQX78E | ELP7 A | Guiana | 7.51 |
| 98 | GU144C\_EQX78F | ELP7 A | Guiana | 12.27 |
| 99 | GU144C\_EQX78G | ELP7 A | Guiana | 12.28 |
| 100 | GU144C\_EQX78H | ELP7 A | Guiana | 2.82 |
| 101 | GU144C\_EQX78I | ELP7 A | Guiana | 10.23 |
| 102 | GU144C\_EQX78J | ELP7 A | Guiana | 10.92 |
| 103 | GU144C\_EQX78K | GU 254/A | Guiana | 7.61 |
| 104 | GU144C\_EQX78L | ELP7 A | Guiana | 2.83 |
| 105 | GU144C\_EQX78M | ELP7 A | Guiana | 6.82 |
| 106 | GU144C\_EQX78N | ELP7 A | Guiana | 6.15 |
| 107 | GU144C\_EQX78O | ELP7 A | Guiana | 9.56 |
| 108 | PA150\_C1018/102A | PA 150 | Marañón | 3.10 |
| 109 | PA150\_C1018/102B | ES 03 Belize | Amelonado | 9.53 |
| 110 | PA150\_C1018/102C | PA 150 | Marañón | 2.87 |
| 111 | PA150\_C1018/102D | PA 150 | Marañón | 4.77 |
| 112 | PA150\_C1018/102E | ES 03 Belize | Amelonado | 9.63 |
| 113 | PA150\_C1018/102F | ES 03 Belize | Amelonado | 7.37 |
| 114 | PA150\_C1018/102G | PA 191 | Marañón | 6.86 |
| 115 | PA7\_A1/154A | GU 254/A | Guiana | 5.49 |
| 116 | PA7\_A1/154B | KER 5 | Guiana | 10.81 |
| 117 | PA7\_C1018/102A | SC 02 Belize | Amelonado | 5.96 |
| 118 | PA7\_C1018/102B | PR76 | Amelonado | 3.70 |
| 119 | PA7\_C1018/102C | SC 02 Belize | Amelonado | 7.48 |
| 120 | PA7\_C1018/102D | SC 02 Belize | Amelonado | 7.72 |
| 121 | PA7\_CRG8914A | PA 191 | Marañón | 4.19 |
| 122 | PA7\_CRG8914B | PA 191 | Marañón | 5.10 |
| 123 | PA7\_CRG8914C | PA 191 | Marañón | 2.34 |
| 124 | PA7\_CRG8914D | PA 150 | Marañón | 3.60 |
| 125 | PA7\_CRG/T12A | IMC 31 | Iquitos | 6.18 |
| 126 | PA7\_CRG/T12B | IMC 31 | Iquitos | 5.25 |
| 127 | PA7\_CRG/T12C | IMC 31 | Iquitos | 6.63 |
| 128 | PA7\_CRG/T17A | IMC 38 | Iquitos | 5.27 |
| 129 | PA7\_CRG/T17B | PA 191 | Marañón | 4.27 |
| 130 | PA7\_CRG/T17C | PA 191 | Marañón | 1.60 |
| 131 | PA7\_CRG/T19 | IMC 6 | Iquitos | 6.30 |
| 132 | PA7\_CRG/T24A | IMC 38 | Iquitos | 6.99 |
| 133 | PA7\_CRG/T24B | IMC 38 | Iquitos | 6.98 |
| 134 | PA7\_EQX78 | Ucayali 35 | Contamana | 6.75 |
| 135 | PA7\_Pound10A | PA 150 | Marañón | 8.61 |
| 136 | PA7\_Pound10B | PA 191 | Marañón | 8.34 |
| 137 | T23 | ICS 40 | Trinitario | 1.28 |
| 138 | T24 | RIM 189 | Trinitario | 5.76 |
| 139 | T27 | DR2 | Trinitario | 4.84 |
| 140 | T36 | DR2 | Trinitario | 8.92 |
| 141 | T40 | PR76 | Amelonado | 7.64 |
| 142 | T48 | PR76 | Amelonado | 3.19 |
| 143 | T57 | PA 191 | Marañón | 4.64 |
| 144 | T59 | NA 286 | Nanay | 13.07 |
| 145 | T60/887\_PA150A | PA 150 | Marañón | 4.03 |
| 146 | T60/887\_PA150B | PA 191 | Marañón | 5.88 |
| 147 | T60/887\_PA150C | PA 191 | Marañón | 4.72 |
| 148 | T63/967\_PA7A | PA 150 | Marañón | 4.95 |
| 149 | T63/967\_PA7B | PA 191 | Marañón | 6.71 |
| 150 | T63/967\_PA7C | PA 191 | Marañón | 3.87 |
| 151 | T69 | IMC 31 | Iquitos | 3.76 |
| 152 | T79/501\_CRG9006 | KER 5 | Guiana | 8.10 |

a Putative parental accessions used in the present analysis. Only putative parents with significant LOD scores were listed. b Critical LOD (the natural logarithm of the likelihood) ratios for assignment of maternity/paternity are 4.17 at >95% confidence and 0.33 at >80% confidence.