Chl a fluorescence yield
Data obtained at an internal temperature of t °C (F) was converted to that at 20 °C (F) by assuming that a 1°C increase results in a 1% decrease in the measuring light intensity: $F_{20} = F_t (1-0.01)^{0.4}$

| No. | Treatment | t (°C) | $F_{a20}$ | $F_{m20}$ | Night temperature | t (°C) | $F_{a20}$ | $F_{m20}$ |
|-----|-----------|--------|-----------|-----------|------------------|--------|-----------|-----------|
| 102 | C1        | 21     | 230       | 1031      | 5 °C             | 21     | 238       | 844       |
| 105 | C1        | 22     | 240       | 950       | 5 °C             | 22     | 246       | 749       |
| 114 | C1        | 23     | 257       | 1139      | 5 °C             | 23     | 245       | 802       |
| 116 | C1        | 24     | 240       | 1136      | 5 °C             | 24     | 242       | 931       |
| 118 | C1        | 25     | 249       | 1205      | 5 °C             | 25     | 244       | 930       |
| 121 | C1        | 25     | 240       | 1123      | 5 °C             | 25     | 227       | 919       |
| 101 | C1        | 23     | 254       | 1141      | -8 °C (min)      | 23     | 255       | 811       |
| 104 | C1        | 23     | 234       | 1035      | -8 °C (min)      | 23     | 234       | 784       |
| 107 | C1        | 24     | 251       | 1236      | -8 °C (min)      | 24     | 255       | 916       |
| 110 | C1        | 25     | 251       | 1213      | -8 °C (min)      | 25     | 246       | 896       |
| 111 | C1        | 25     | 253       | 1085      | -8 °C (min)      | 25     | 252       | 774       |
| 120 | C1        | 26     | 263       | 1251      | -8 °C (min)      | 26     | 274       | 906       |
| 302 | Su        | 21     | 255       | 1180      | 5 °C             | 21     | 242       | 868       |
| 305 | Su        | 22     | 246       | 1152      | 5 °C             | 22     | 243       | 910       |
| 309 | Su        | 24     | 270       | 1243      | 5 °C             | 24     | 264       | 965       |
| 311 | Su        | 24     | 279       | 1288      | 5 °C             | 24     | 276       | 1037      |
| 315 | Su        | 25     | 286       | 1393      | 5 °C             | 25     | 283       | 1018      |
| 320 | Su        | 25     | 283       | 1365      | 5 °C             | 25     | 276       | 1075      |
| 303 | Su        | 23     | 275       | 1254      | -8 °C (min)      | 23     | 295       | 938       |
| 308 | Su        | 23     | 256       | 1146      | -8 °C (min)      | 23     | 266       | 897       |
| 310 | Su        | 25     | 299       | 1407      | -8 °C (min)      | 25     | 286       | 951       |
| 312 | Su        | 25     | 269       | 1226      | -8 °C (min)      | 25     | 273       | 956       |
| 313 | Su        | 26     | 288       | 1300      | -8 °C (min)      | 25     | 286       | 1003      |
| 317 | Su        | 26     | 290       | 1260      | -8 °C (min)      | 26     | 291       | 1035      |
| 205 | Au        | 21     | 236       | 1156      | 5 °C             | 21     | 233       | 895       |
| 206 | Au        | 22     | 242       | 1193      | 5 °C             | 23     | 237       | 931       |
| 211 | Au        | 23     | 267       | 1262      | 5 °C             | 24     | 259       | 956       |
| 214 | Au        | 24     | 251       | 1047      | 5 °C             | 24     | 245       | 866       |
| 215 | Au        | 25     | 267       | 1248      | 5 °C             | 25     | 263       | 939       |
| 217 | Au        | 25     | 257       | 1217      | 5 °C             | 25     | 249       | 997       |
| 203 | Au        | 23     | 252       | 1203      | -8 °C (min)      | 23     | 271       | 927       |
| 207 | Au        | 23     | 264       | 1246      | -8 °C (min)      | 23     | 277       | 909       |
| 208 | Au        | 25     | 268       | 1290      | -8 °C (min)      | 24     | 274       | 913       |
| 212 | Au        | 25     | 260       | 1321      | -8 °C (min)      | 24     | 263       | 980       |
| 213 | Au        | 26     | 264       | 1216      | -8 °C (min)      | 26     | 278       | 917       |
| 218 | Au        | 26     | 275       | 1306      | -8 °C (min)      | 26     | 276       | 1047      |
| 402 | SA        | 22     | 245       | 1257      | 5 °C             | 22     | 255       | 966       |
| 405 | SA        | 23     | 284       | 1139      | 5 °C             | 23     | 278       | 948       |
| 406 | SA        | 24     | 256       | 1284      | 5 °C             | 24     | 251       | 946       |
| 410 | SA        | 24     | 275       | 1426      | 5 °C             | 24     | 274       | 1123      |
| 414 | SA        | 25     | 266       | 1198      | 5 °C             | 25     | 259       | 953       |
| 420 | SA        | 25     | 285       | 1313      | 5 °C             | 25     | 284       | 1060      |
| 401 | SA        | 23     | 268       | 1314      | -8 °C (min)      | 23     | 293       | 913       |
| 407 | SA        | 23     | 261       | 1320      | -8 °C (min)      | 23     | 271       | 1006      |
| 409 | SA        | 24     | 267       | 1127      | -8 °C (min)      | 25     | 271       | 895       |
| 411 | SA        | 25     | 280       | 1314      | -8 °C (min)      | 25     | 299       | 977       |
| 419 | SA        | 25     | 285       | 1444      | -8 °C (min)      | 26     | 310       | 1016      |
| 421 | SA        | 26     | 277       | 1252      | -8 °C (min)      | 26     | 287       | 1014      |
### Measurement of $F$ and $F_\text{m}}$ in January

Data obtained when PPFD >1100 µmol m$^{-2}$ s$^{-1}$ are shown in red.

| No. | Treatment | PPFD (µmol m$^{-2}$ s$^{-1}$) | t (°C) | $F_{20}$ | $F_{m_{20}}$ |
|-----|-----------|-----------------|--------|----------|-------------|
|     | Night     | 1    | 2    | 3    | 1    | 2    | 3    | 1    | 2    | 3    |
| 102 | C1 5 °C   | 1080 | 1058 | 1243 | 17   | 25   | 29   | 185  | 193  | 188  |
| 105 | C1 5 °C   | 1006 | 1035 | 1278 | 18   | 26   | 29   | 193  | 216  | 212  |
| 114 | C1 5 °C   | 1066 | 1048 | 1219 | 19   | 27   | 30   | 223  | 259  | 250  |
| 116 | C1 5 °C   | 1086 | 1004 | 1212 | 20   | 28   | 30   | 236  | 235  | 212  |
| 118 | C1 5 °C   | 1065 | 1145 | 1272 | 23   | 28   | 30   | 211  | 231  | 215  |
| 121 | C1 5 °C   | 897  | 1152 | 1198 | 23   | 28   | 30   | 222  | 212  | 208  |
|     | -8 °C (min) | 1031 | 1065 | 1263 | 18   | 27   | 29   | 163  | 185  | 188  |
| 104 | C1 -8 °C (min) | 1061 | 1093 | 1289 | 19   | 27   | 29   | 140  | 175  | 172  |
| 107 | C1 -8 °C (min) | 1101 | 1018 | 1245 | 21   | 28   | 30   | 157  | 187  | 186  |
| 110 | C1 -8 °C (min) | 1060 | 932  | 1234 | 22   | 28   | 30   | 152  | 196  | 209  |
| 111 | C1 -8 °C (min) | 904  | 1176 | 1202 | 24   | 28   | 31   | 189  | 205  | 203  |
| 120 | C1 -8 °C (min) | 997  | 1213 | 1228 | 25   | 28   | 31   | 190  | 191  | 201  |
| 302 | Su 5 °C   | 1023 | 1039 | 1277 | 17   | 26   | 29   | 248  | 262  | 247  |
| 305 | Su 5 °C   | 1008 | 1010 | 1286 | 18   | 26   | 29   | 219  | 219  | 219  |
| 309 | Su 5 °C   | 1026 | 1008 | 1298 | 20   | 28   | 30   | 243  | 247  | 230  |
| 311 | Su 5 °C   | 1053 | 999  | 1201 | 20   | 28   | 30   | 254  | 260  | 249  |
| 315 | Su 5 °C   | 960  | 1144 | 1163 | 23   | 28   | 30   | 252  | 266  | 251  |
| 320 | Su 5 °C   | 937  | 1203 | 1279 | 24   | 28   | 30   | 270  | 236  | 221  |
| 303 | Su -8 °C (min) | 998  | 1098 | 1269 | 18   | 27   | 29   | 172  | 226  | 212  |
| 308 | Su -8 °C (min) | 1065 | 1033 | 1321 | 19   | 27   | 29   | 165  | 209  | 199  |
| 310 | Su -8 °C (min) | 1114 | 947  | 1229 | 21   | 28   | 30   | 222  | 237  | 229  |
| 312 | Su -8 °C (min) | 1092 | 1065 | 1261 | 23   | 28   | 30   | 209  | 257  | 233  |
| 313 | Su -8 °C (min) | 913  | 1197 | 1279 | 25   | 28   | 31   | 227  | 194  | 214  |
| 317 | Su -8 °C (min) | 931  | 1236 | 1263 | 25   | 28   | 31   | 219  | 196  | 228  |
| 205 | Au 5 °C   | 1059 | 1059 | 1294 | 17   | 26   | 29   | 236  | 246  | 229  |
| 206 | Au 5 °C   | 1029 | 1032 | 1312 | 18   | 26   | 29   | 259  | 255  | 248  |
| 211 | Au 5 °C   | 1019 | 1059 | 1247 | 20   | 28   | 30   | 239  | 251  | 233  |
| 214 | Au 5 °C   | 1078 | 932  | 1268 | 20   | 29   | 30   | 253  | 280  | 260  |
| 215 | Au 5 °C   | 995  | 1137 | 1278 | 23   | 28   | 30   | 247  | 259  | 236  |
| 217 | Au 5 °C   | 919  | 1129 | 1228 | 24   | 28   | 30   | 263  | 270  | 259  |
| 203 | Au -8 °C (min) | 1027 | 1040 | 1233 | 18   | 27   | 29   | 170  | 227  | 218  |
| 207 | Au -8 °C (min) | 1017 | 1043 | 1310 | 19   | 27   | 30   | 227  | 238  | 221  |
| 208 | Au -8 °C (min) | 1055 | 922  | 1261 | 21   | 28   | 30   | 230  | 258  | 228  |
| 212 | Au -8 °C (min) | 1050 | 943  | 1218 | 22   | 28   | 30   | 254  | 248  | 237  |
| 213 | Au -8 °C (min) | 898  | 1176 | 1272 | 25   | 28   | 31   | 234  | 221  | 211  |
| 218 | Au -8 °C (min) | 942  | 1179 | 1302 | 25   | 28   | 31   | 245  | 224  | 243  |

#### Note

*PPFD >1100 µmol m$^{-2}$ s$^{-1}$ are shown in red.*
Measurement of $F_o$ and $F_m$ in March at nearly unstressed state

| No. | Treatment | $t$ (°C) | $F_{o \, 20}$ | $F_{m \, 20}$ |
|-----|-----------|----------|--------------|--------------|
| 502 | C2        | 19       | 181          | 905          |
| 503 | C2        | 22       | 166          | 743          |
| 505 | C2        | 18       | 191          | 987          |
| 506 | C2        | 21       | 172          | 829          |
| 509 | C2        | 17       | 170          | 721          |
| 510 | C2        | 22       | 173          | 853          |
| 511 | C2        | 19       | 193          | 796          |
| 512 | C2        | 21       | 171          | 718          |
| 513 | C2        | 20       | 183          | 889          |
| 514 | C2        | 23       | 197          | 929          |
| 521 | C2        | 23       | 202          | 966          |
| 522 | C2        | 18       | 170          | 701          |
| 601 | Wi        | 22       | 185          | 908          |
| 602 | Wi        | 21       | 183          | 721          |
| 604 | Wi        | 23       | 162          | 717          |
| 605 | Wi        | 23       | 163          | 688          |
| 608 | Wi        | 17       | 205          | 879          |
| 610 | Wi        | 20       | 201          | 947          |
| 613 | Wi        | 21       | 199          | 1042         |
| 614 | Wi        | 19       | 205          | 1021         |
| 615 | Wi        | 22       | 187          | 886          |
| 618 | Wi        | 20       | 183          | 907          |
| 619 | Wi        | 18       | 201          | 962          |
| 621 | Wi        | 19       | 205          | 1053         |
| 701 | SW        | 22       | 188          | 881          |
| 702 | SW        | 23       | 211          | 1107         |
| 703 | SW        | 21       | 221          | 1157         |
| 704 | SW        | 19       | 197          | 900          |
| 705 | SW        | 23       | 234          | 1245         |
| 706 | SW        | 23       | 187          | 839          |
| 708 | SW        | 17       | 215          | 1101         |
| 710 | SW        | 19       | 218          | 1149         |
| 715 | SW        | 20       | 201          | 982          |
| 716 | SW        | 21       | 230          | 1143         |
| 717 | SW        | 21       | 207          | 1011         |
| 719 | SW        | 18       | 230          | 1106         |