|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | SSA | GWO | PSO | CIW-SSA |
| F1 | 1.7848E-32 | 1.3817E-07 | 1.4604E+02 | **9.8919E-112** |
| 9.5581E-32 | 2.6615E-07 | 6.2383E+01 | **5.2631E-111** |
| 7.6794E-78 | 1.3263E-10 | 4.1477E-06 | **0.0000E+00** |
| 4.1355E-77 | 2.2395E-10 | 6.1530E-06 | **0.0000E+00** |
| F2 | 1.7027E-34 | 2.9618E-09 | 2.4539E-07 | **1.1368E-99** |
| 9.1563E-34 | 4.9373E-09 | 2.8512E-07 | **6.1218E-99** |
| 2.4853E-69 | 1.8421E-12 | 3.4147E-21 | **0.0000E+00** |
| 1.3384E-68 | 3.0866E-12 | 6.5479E-21 | **0.0000E+00** |
| F3 | 2.0786E-42 | 1.0412E-06 | 6.6795E+02 | **5.7608E-104** |
| 9.7539E-42 | 1.8193E-06 | 5.1983E+02 | **2.1615E-103** |
| 4.1394E-71 | 2.4262E-09 | 6.2667E+02 | **0.0000E+00** |
| 2.2291E-70 | 3.6482E-09 | 5.3412E+02 | **0.0000E+00** |
| F4 | 7.3312E-18 | 1.7976E-03 | 4.4528E+01 | **9.2903E-44** |
| 3.9317E-17 | 1.9304E-03 | 1.8441E+01 | **5.0030E-43** |
| 4.0314E-34 | 3.5513E-05 | 3.1667E+01 | **2.0943E-310** |
| 2.1710E-33 | 3.7226E-05 | 1.6750E+01 | **0.0000E+00** |
| F5 | 6.1644E-32 | 1.8302E-05 | 1.1297E+06 | **5.8931E-107** |
| 2.7169E-31 | 2.2241E-05 | 8.3868E+05 | **3.1736E-106** |
| 3.9901E-73 | 1.4995E-08 | 1.0973E+06 | **0.0000E+00** |
| 2.1488E-72 | 2.1955E-08 | 8.5591E+05 | **0.0000E+00** |
| F6 | 1.5751E-19 | 3.6412E-05 | 3.2899E+01 | **1.9472E-56** |
| 8.0760E-19 | 3.3310E-05 | 6.2774E+00 | **7.5138E-56** |
| 7.1439E-25 | 9.9328E-07 | 9.0301E+00 | **6.4853E-315** |
| 3.8471E-24 | 6.4078E-07 | 2.7610E+00 | **0.0000E+00** |
| F7 | 1.1846E-35 | 1.9206E-04 | 5.2430E+02 | **4.1724E-91** |
| 4.5628E-35 | 3.1519E-04 | 7.3439E+01 | **2.2469E-90** |
| 1.7266E-65 | 1.7069E-07 | 1.2926E+02 | **0.0000E+00** |
| 8.9988E-65 | 2.9324E-07 | 5.4952E+01 | **0.0000E+00** |
| F8 | 2.4455E-79 | 8.8024E-10 | 1.6125E-02 | **1.4066E-140** |
| 1.3170E-78 | 2.4426E-09 | 1.2878E-02 | **7.5748E-140** |
| 1.1391E-137 | 4.1622E-14 | 4.7923E-03 | **0.0000E+00** |
| 6.1343E-137 | 7.2692E-14 | 3.8751E-03 | **0.0000E+00** |
| F9 | 9.4650E-11 | 3.7243E-07 | 1.8330E+03 | 1.6387E-10 |
| 1.2358E-10 | 8.2675E-07 | 3.6812E+03 | 3.8319E-10 |
| 3.4887E-12 | 3.7525E-10 | 1.6634E+03 | 1.3670E-10 |
| 8.2683E-12 | 7.4162E-10 | 3.7196E+03 | 3.4117E-10 |
| F10 | 4.5533E-63 | 3.4008E-10 | 6.1216E-05 | 8.3486E-173 |
| 2.4520E-62 | 7.5515E-10 | 1.2415E-04 | **0.0000E+00** |
| 6.4725E-138 | 2.8976E-16 | 6.1183E-51 | **0.0000E+00** |
| 3.4856E-137 | 8.5755E-16 | 1.9957E-50 | **0.0000E+00** |
| F11 | 7.6934E-06 | 5.8139E-06 | 1.7343E+02 | **1.9599E-08** |
| 2.8939E-05 | 7.7537E-06 | 2.1836E+02 | **1.0391E-07** |
| **4.0033E-11** | 7.9011E-09 | 1.2454E+02 | 2.9354E-10 |
| **8.4235E-11** | 1.5475E-08 | 2.1316E+02 | 1.1135E-09 |
| F12 | **0.0000E+00** | 8.3401E-06 | 1.8921E+02 | **0.0000E+00** |
| **0.0000E+00** | 1.4033E-05 | 3.0080E+01 | **0.0000E+00** |
| **0.0000E+00** | 2.4116E-08 | 9.7148E+01 | **0.0000E+00** |
| **0.0000E+00** | 3.2501E-08 | 3.1102E+01 | **0.0000E+00** |
| F13 | 1.1842E-16 | 1.9900E-04 | 1.3962E+01 | **0.0000E+00** |
| 6.3773E-16 | 1.8587E-04 | 7.3317E+00 | **0.0000E+00** |
| **0.0000E+00** | 5.9486E-06 | 1.2251E+01 | **0.0000E+00** |
| **0.0000E+00** | 5.6099E-06 | 9.4304E+00 | **0.0000E+00** |
| F14 | 1.0079E-07 | 8.2531E-05 | 1.1142E+01 | **3.4694E-18** |
| 5.4279E-07 | 7.0874E-05 | 4.0598E+00 | **1.8684E-17** |
| 3.6671E-37 | 5.6039E-06 | 5.5433E+00 | **1.6927E-122** |
| 1.9748E-36 | 7.9718E-06 | 3.8241E+00 | **9.1153E-122** |
| F15 | **1.6743E-06** | 3.0300E-03 | 1.9333E+00 | 1.7846E-05 |
| **2.8138E-06** | 6.0888E-03 | 3.5901E-01 | 8.3448E-05 |
| 3.0245E-08 | 2.0720E-04 | 1.9333E+00 | **2.8789E-11** |
| 6.2579E-08 | 2.4360E-04 | 3.5901E-01 | **1.5495E-10** |
| F16 | **-1.0536E+01** | **-1.0536E+01** | -7.9168E+00 | -1.0496E+01 |
| 7.9958E-04 | 8.1151E-05 | 3.1958E+00 | **1.6523E-01** |
| **-1.0536E+01** | **-1.0536E+01** | -9.0586E+00 | -1.0526E+01 |
| 6.6344E-04 | 1.4811E-07 | 2.7033E+00 | 3.6664E-02 |
| F17 | 9.6941E-57 | 1.6117E-10 | 2.9387E-14 | **1.8984E-84** |
| 5.2203E-56 | 4.3389E-10 | 8.9752E-14 | **1.0223E-83** |
| 1.5395E-207 | 1.8741E-13 | 1.1731E-49 | **0.0000E+00** |
| 0.0000E+00 | 4.9791E-13 | 5.2228E-49 | **0.0000E+00** |
| F18 | 1.3619E-44 | 1.9556E-08 | 5.1299E-14 | **7.5761E-95** |
| 7.3342E-44 | 3.2709E-08 | 8.8839E-14 | **4.0799E-94** |
| 3.9514E-181 | 2.2437E-11 | 1.7348E-53 | **0.0000E+00** |
| 0.0000E+00 | 3.2784E-11 | 5.1967E-53 | **0.0000E+00** |