

**Extended Data Table 12|The RDS evaluation metrics corresponding to the six selected non-inferior solution sets in Step5**

| $x_j^p$ | $j=12$  | $j=27$  | $j=45$  | $j=105$ | $j=107$ | $j=111$ |
|---------|---------|---------|---------|---------|---------|---------|
| $\Re$   | 30.7038 | 31.8893 | 32.1175 | 26.5425 | 30.3483 | 25.5392 |

The numerical results of the decision index  $\Re$  of six non-inferior solutions, shown in **Extended Data Table 11**, can be obtained by bringing the calculation results of the g-solution into Methods Eq.(31). When  $j = 45$ , the value of  $\Re$  is the largest. Therefore, the optimal solution in the six non-inferior solutions is [x1=0.058, x2=0.193, x3=0.268].