| Problem         | No. of | NSGA-III    |   | K-RVEA      |   | ε-MaSO      |   | MOEA/D-<br>EGO |   | KTA2        |   | ParEGO      |   | RECAS       |
|-----------------|--------|-------------|---|-------------|---|-------------|---|----------------|---|-------------|---|-------------|---|-------------|
|                 | Obj.   | $IGD_{avg}$ | Т | $IGD_{avg}$ | T | $IGD_{avg}$ | T | $IGD_{avg}$    | Т | $IGD_{avg}$ | T | $IGD_{avg}$ | T | $IGD_{avg}$ |
|                 | 2      | 3.27e+2     | _ | 2.85e+2     | _ | 2.60e+2     | _ | 3.01e+2        | _ | 2.53e+2     | ≈ | 3.29e+2     | _ | 1.48e+2     |
| DTLZ1           | 3      | 2.78e+2     | _ | 2.51e+2     | _ | 2.34e+2     | _ | 2.26e+2        | _ | 1.59e+2     | ≈ | 2.70e+2     | _ | 1.45e+2     |
| with 20         | 4      | 2.33e+2     | _ | 2.05e+2     | _ | 2.07e+2     | _ | 1.94e+2        | _ | 1.44e+2     | ≈ | 2.24e+2     | _ | 1.18e+2     |
| variables       | 6      | 1.96e+2     | _ | 1.64e+2     | _ | 1.74e+2     | _ | 1.57e+2        | _ | 1.22e+2     | _ | 2.06e+2     | _ | 8.69e+1     |
| (d = 20)        | 8      | 1.48e+2     | _ | 1.25e+2     | _ | 1.27e+2     | _ | 1.25e+2        | _ | 8.73e+1     | _ | 1.74e+2     | _ | 5.88e+1     |
|                 | 10     | 1.03e+2     | _ | 7.37e+1     | _ | 8.32e+1     | _ | 8.73e+1        | _ | 7.78e+1     | - | 1.25e+2     | - | 6.39e+1     |
|                 | 2      | 4.80e-1     | _ | 1.17e-1     | _ | 2.14e-2     | + | 5.25e-1        | _ | 9.29e-2     | _ | 2.12e-1     | _ | 2.39e-2     |
| DTLZ2           | 3      | 5.67e-1     | _ | 2.95e-1     | _ | 1.45e-1     | + | 5.80e-1        | _ | 1.52e-1     | + | 2.71e-1     | _ | 1.76e-1     |
| with 20         | 4      | 6.23e-1     | _ | 3.75e-1     | _ | 3.39e-1     | _ | 6.70e-1        | _ | 1.62e-1     | + | 3.92e-1     | _ | 2.82e-1     |
| variables       | 6      | 7.98e-1     | _ | 5.92e-1     | _ | 6.37e-1     | _ | 8.36e-1        | _ | 4.24e-1     | _ | 6.74e-1     | _ | 3.66e-1     |
| (d = 20)        | 8      | 8.12e-1     | _ | 6.29e-1     | _ | 7.02e-1     | _ | 8.85e-1        | _ | 5.24e-1     | _ | 8.52e-1     | _ | 4.78e-1     |
|                 | 10     | 8.34e-1     | _ | 6.79e-1     | _ | 7.30e-1     | _ | 8.90e-1        | _ | 5.70e-1     | ≈ | 9.11e-1     | - | 5.69e-1     |
|                 | 2      | 8.15e+2     | _ | 7.62e+2     | _ | 6.86e+2     | _ | 6.30e+2        | _ | 6.19e+2     | _ | 8.36e+2     | _ | 4.01e+2     |
| DTLZ3           | 3      | 7.94e+2     | _ | 7.32e+2     | _ | 6.58e+2     | _ | 4.95e+2        | _ | 4.81e+2     | _ | 8.49e+2     | _ | 4.06e+2     |
| with 20         | 4      | 7.35e+2     | _ | 5.95e+2     | _ | 6.13e+2     | _ | 4.32e+2        | _ | 5.07e+2     | _ | 8.20e+2     | _ | 3.61e + 2   |
| variables       | 6      | 6.40e+2     | _ | 5.25e+2     | _ | 6.04e+2     | _ | 3.93e+2        | _ | 4.79e+2     | _ | 6.18e+2     | _ | 3.06e + 2   |
| (d = 20)        | 8      | 5.57e+2     | _ | 4.25e+2     | _ | 4.39e+2     | _ | 3.34e+2        | _ | 4.31e+2     | _ | 5.01e+2     | _ | 2.48e+2     |
| , ,             | 10     | 4.25e+2     | _ | 2.88e+2     | _ | 3.10e+2     | _ | 2.66e+2        | _ | 3.02e+2     | _ | 3.72e+2     | _ | 1.43e + 2   |
|                 | 2      | 6.42e-1     | _ | 2.34e-1     | _ | 4.33e-1     | _ | 9.88e-1        | _ | 3.18e-1     | _ | 6.73e-1     | _ | 6.57e-2     |
| DTLZ4           | 3      | 8.30e-1     | _ | 5.50e-1     | _ | 4.81e-1     | _ | 1.09e+0        | _ | 6.14e-1     | _ | 6.61e-1     | _ | 4.01e-1     |
| with 20         | 4      | 7.74e-1     | _ | 6.22e-1     | _ | 6.04e-1     | _ | 1.18e+0        | _ | 8.13e-1     | _ | 8.53e-1     | _ | 4.82e-1     |
| variables       | 6      | 9.18e-1     | _ | 7.08e-1     | _ | 7.57e-1     | _ | 1.17e+0        | _ | 8.96e-1     | _ | 1.02e+0     | _ | 6.09e-1     |
| (d = 20)        | 8      | 9.57e-1     | _ | 7.46e-1     | _ | 8.44e-1     | _ | 1.12e+0        | _ | 8.52e-1     | _ | 1.12e+0     | _ | 7.03e-1     |
| ` ′             | 10     | 9.73e-1     | _ | 8.18e-1     | _ | 8.91e-1     | _ | 1.08e+0        | _ | 9.05e-1     | _ | 1.29e+0     | _ | 7.72e-1     |
|                 | 2      | 4.74e-1     | _ | 1.15e-1     | _ | 2.26e-2     | + | 5.41e-1        | _ | 2.19e-2     | + | 2.11e-1     | _ | 2.30e-2     |
| DTLZ5           | 3      | 5.01e-1     | _ | 2.38e-1     | _ | 2.15e-2     | + | 5.11e-1        | _ | 2.27e-2     | + | 1.27e-1     | _ | 2.63e-2     |
| with 20         | 4      | 5.20e-1     | _ | 2.09e-1     | _ | 1.31e-1     | _ | 4.69e-1        | _ | 1.14e-1     | _ | 1.48e-1     | _ | 2.67e-2     |
| variables       | 6      | 5.12e-1     | _ | 2.14e-1     | _ | 2.07e-1     | _ | 4.56e-1        | _ | 1.60e-1     | _ | 1.97e-1     | _ | 3.20e-2     |
| (d = 20)        | 8      | 4.57e-1     | _ | 1.81e-1     | _ | 2.25e-1     | _ | 3.99e-1        | _ | 2.11e-1     | _ | 2.26e-1     | _ | 2.86e-2     |
| , ,             | 10     | 3.55e-1     | _ | 1.36e-1     | _ | 1.77e-1     | _ | 3.39e-1        | _ | 1.78e-1     | _ | 2.07e-1     | _ | 3.10e-2     |
|                 | 2      | 1.40e+1     | _ | 9.16e+0     | _ | 1.15e+1     | _ | 7.89e+0        | _ | 6.19e+0     | _ | 6.77e+0     | _ | 1.35e-1     |
| DTLZ6           | 3      | 1.43e+1     | _ | 8.07e+0     | _ | 1.36e+1     | _ | 6.64e+0        | _ | 6.30e+0     | _ | 6.74e + 0   | _ | 8.28e-2     |
| with 20         | 4      | 1.38e+1     | _ | 7.09e+0     | _ | 1.33e+1     | _ | 6.30e+0        | _ | 6.46e+0     | _ | 6.40e+0     | _ | 4.67e-2     |
| variables       | 6      | 1.22e+1     | _ | 6.44e+0     | _ | 1.17e+1     | _ | 4.74e+0        | _ | 8.90e+0     | _ | 5.66e+0     | _ | 4.03e-2     |
| (d = 20)        | 8      | 1.03e+1     | _ | 5.64e+0     | _ | 1.01e+1     | _ | 4.66e+0        | _ | 8.27e+0     | _ | 4.95e+0     | _ | 5.34e-2     |
| , ,             | 10     | 8.67e+0     | _ | 4.81e+0     | _ | 7.87e+0     | _ | 4.11e+0        | _ | 7.51e+0     | _ | 4.14e+0     | _ | 9.51e-2     |
|                 | 2      | 3.33e+0     | _ | 6.26e-2     | + | 5.28e-2     | + | 3.05e+0        | _ | 4.13e-3     | + | 2.86e+0     | _ | 1.23e-1     |
| DTLZ7           | 3      | 5.54e+0     | _ | 1.00e-1     | + | 2.63e-1     | ≈ | 3.40e+0        | _ | 1.22e-1     | + | 5.01e+0     | _ | 2.95e-1     |
| with 20         | 4      | 6.59e+0     | _ | 2.35e-1     | + | 5.15e-1     | + | 3.30e+0        | _ | 3.15e-1     | + | 6.06e+0     | _ | 7.08e-1     |
| variables       | 6      | 1.31e+1     | _ | 5.69e-1     | + | 1.22e+0     | _ | 2.64e+0        | _ | 1.05e+0     | ≈ | 1.07e+1     | _ | 9.14e-1     |
| (d = 20)        | 8      | 1.83e+1     | _ | 8.83e-1     | + | 3.10e+0     | _ | 4.08e+0        | _ | 1.51e+0     | ≈ | 1.33e+1     | _ | 1.26e+0     |
|                 | 10     | 2.22e+1     | _ | 1.24e+0     | + | 3.73e+0     | _ | 4.34e+0        | _ | 2.30e+0     | _ | 1.46e+1     | _ | 1.29e+0     |
| Number of +/−/≈ |        | 0/42/0      |   | 6/36/0      |   | 6/35/1      |   | 0/42/0         |   | 7/29/6      |   | 0/42/0      |   |             |