| File             | NNH    | NNH + 2-opt | NNH + Node Shift | NNH + Node Swap |
|------------------|--------|-------------|------------------|-----------------|
| a280_out.tsp     | 3406.3 | 2768.37     | 3101.55          | 2937.93         |
| berlin52_out.tsp | 22263  | 8302.1      | 8183.43          | 10513.4         |
| bier127_out.tsp  | 418626 | 129874      | 142984           | 184420          |
| ch130_out.tsp    | 48404  | 6719.41     | 7951.82          | 12784.6         |
| ch150_out.tsp    | 52834  | 7373.75     | 8126.11          | 12419.7         |
| eil101_out.tsp   | 2105.1 | 743.274     | 781.182          | 975.086         |
| eil51_out.tsp    | 1406.5 | 463.339     | 494.457          | 635.913         |
| eil76_out.tsp    | 2035.7 | 608.422     | 615.164          | 772.846         |
| kroA100_out.tsp  | 194153 | 24098       | 26532.7          | 55011.8         |
| kroB100_out.tsp  | 157587 | 24014.4     | 27895.6          | 40108.8         |
| kroC100_out.tsp  | 183891 | 22679.7     | 26132.5          | 45732.2         |
| kroD100_out.tsp  | 166110 | 23557.9     | 24564.2          | 46699.2         |
| kroE100_out.tsp  | 183384 | 23692.6     | 25092.3          | 43599.1         |
| lin105_out.tsp   | 36640  | 16325.4     | 16756.6          | 24584.1         |
| lin318_out.tsp   | 120043 | 47094.9     | 60813            | 80086.8         |
| pr124_out.tsp    | 116736 | 73328.2     | 98206.6          | 107148          |
| pr144_out.tsp    | 104283 | 71520.6     | 91067.3          | 103078          |
| pr76_out.tsp     | 151298 | 112677      | 139350           | 151298          |
| rat195_out.tsp   | 4056.5 | 2491.03     | 2654.67          | 3620.99         |
| rat99_out.tsp    | 2143   | 1350.88     | 1382.34          | 1999.74         |
| st70_out.tsp     | 3546.3 | 738.322     | 932.69           | 1297.51         |
|                  |        |             |                  |                 |

| Random Insertion | Random Insertion + 2-opt | Random Insertion + Node Shift |
|------------------|--------------------------|-------------------------------|
| 3040.39          | 2887.79                  | 2873.55                       |
| 8102.06          | 7986.42                  | 7979.52                       |
| 136964           | 141894                   | 141710                        |
| 6873.28          | 6535.56                  | 6522.44                       |
| 7162.71          | 7085.14                  | 7019.47                       |
| 712.206          | 689.484                  | 690.512                       |
| 469.891          | 471.666                  | 449.598                       |
| 610.501          | 604.4                    | 592.58                        |
| 22906.7          | 22181.2                  | 21567                         |
| 25922.7          | 23513.7                  | 23255.7                       |
| 22053.1          | 21375.1                  | 21714.8                       |
| 25741.7          | 23506.4                  | 22521.7                       |
| 27766.2          | 23461.5                  | 24649.1                       |
| 16422            | 16092.2                  | 15979.6                       |
| 46186.6          | 45957.8                  | 45484.9                       |
| 73505.3          | 73288.7                  | 73208                         |
| 72008.4          | 70891.4                  | 71216.1                       |
| 120457           | 115733                   | 119973                        |
| 2588.83          | 2574.06                  | 2488.01                       |
| 1414.51          | 1326.6                   | 1314.34                       |
| 881.645          | 709.859                  | 788.824                       |

| Random Insertion + Node Swap | Greedy approach | Greedy approach + 2-opt |
|------------------------------|-----------------|-------------------------|
| 2977.95                      | 5095.26         | 3065.73                 |
| 7993.5                       | 28059.9         | 8106.15                 |
| 141110                       | 577255          | 128583                  |
| 6546.51                      | 46273.5         | 6656.93                 |
| 7116.82                      | 51018           | 7348.36                 |
| 699.889                      | 2827.75         | 727.867                 |
| 471.666                      | 1731.18         | 476.972                 |
| 607.272                      | 2404.87         | 607.657                 |
| 22243.8                      | 157139          | 25371                   |
| 23713.3                      | 183332          | 26933.7                 |
| 21375.1                      | 159563          | 22159.2                 |
| 23746.1                      | 164029          | 25372.5                 |
| 24764.5                      | 174304          | 25998.7                 |
| 16244.2                      | 57979.7         | 15090.1                 |
| 45972.4                      | 193384          | 46434.2                 |
| 73288.7                      | 194076          | 74506.3                 |
| 72008.4                      | 187265          | 72274.2                 |
| 120053                       | 231769          | 116613                  |
| 2581.93                      | 5289.63         | 2598.45                 |
| 1378.23                      | 2773.02         | 1324.71                 |
| 802.35                       | 3538.01         | 768.823                 |
|                              |                 |                         |

| Greedy approach + Node Shift | Greedy approach + Node Swap |  |  |
|------------------------------|-----------------------------|--|--|
| 3337                         | 3986.38                     |  |  |
| 8704.45                      | 13017.5                     |  |  |
| 139926                       | 197521                      |  |  |
| 7930.98                      | 12061.3                     |  |  |
| 8697.85                      | 12305.3                     |  |  |
| 739.588                      | 906.132                     |  |  |
| 494.068                      | 576.914                     |  |  |
| 653.567                      | 777.494                     |  |  |
| 29829.3                      | 54893.3                     |  |  |
| 31652.5                      | 44881                       |  |  |
| 26570.2                      | 44965                       |  |  |
| 29061.7                      | 38316.4                     |  |  |
| 30243.4                      | 43363.8                     |  |  |
| 17414.6                      | 21793.6                     |  |  |
| 60690.7                      | 74301.4                     |  |  |
| 76208.3                      | 80710                       |  |  |
| 83579.5                      | 102149                      |  |  |
| 132456                       | 154485                      |  |  |
| 2667.56                      | 3303.65                     |  |  |
| 1424.89                      | 1605.91                     |  |  |
| 821.38                       | 1178.68                     |  |  |