

I-TLBO Results

| Problem | I-TLBO(*) | Generations | I-TLBO | Generations | I-TLBO'(*) | Generations | I-TLBO' | Generations |
|--------------|----------------|-------------|----------------|-------------|---------------|-------------|----------------|-------------|
| I01-I13 | 2.72 | 42.4 | 2.54 | 39.5 | 2.47 | 34.5 | 2.44 | 37.9 |
| MMKP01 | 0.00811 | 6.9 | 0.00811 | 6.03 | 0.0338 | 7.53 | 0.00811 | 4.47 |
| MMKP02 | 0.108 | 24.8 | 0.182 | 18.9 | 0.247 | 20.7 | 0.199 | 21.4 |
| MMKP03 | 1.22 | 47.2 | 1.1 | 47.9 | 1.04 | 43.6 | 1.23 | 50.9 |
| MMKP04 | 0.279 | 8.63 | 0.0984 | 7.4 | 0.212 | 11.4 | 0.149 | 7.57 |
| MMKP05 | 0.4 | 24.2 | 0.224 | 21.1 | 0.226 | 25.8 | 0.215 | 23.9 |
| MMKP06 | 1.78 | 47.4 | 1.65 | 51.4 | 1.71 | 50.5 | 1.75 | 53.1 |
| MMKP07 | 0.949 | 12.9 | 0.789 | 8.7 | 0.442 | 13.7 | 0.184 | 9.73 |
| MMKP08 | 0.988 | 37.4 | 0.726 | 31.6 | 0.873 | 39.1 | 0.704 | 30.8 |
| MMKP09 | 3.52 | 50.3 | 3.26 | 49.3 | 3.23 | 50.3 | 3.4 | 49.2 |
| MMKP10 | 2.02 | 51.7 | 2.88 | 53.8 | 2.74 | 53.6 | 3.15 | 53.1 |
| MMKP11 | 5.7 | 57.7 | 6.07 | 55.8 | 5.4 | 50.5 | 6.34 | 55.8 |
| MMKP12 | 4.15 | 54.8 | 5.62 | 55.7 | 4.56 | 54.3 | 5.96 | 56.7 |
| MMKP13 | 4.98 | 56.4 | 6.93 | 56.6 | 5.3 | 57.8 | 6.79 | 55.9 |
| MMKP14 | 4.71 | 58.1 | 6.76 | 58.6 | 5.17 | 53 | 7.18 | 56.2 |
| MMKP15 | 3.41 | 58.6 | 5.91 | 57.9 | 3.44 | 58.1 | 5.54 | 57.4 |
| MMKP16 | 2.79 | 58.5 | 4.82 | 58.5 | 2.81 | 56.6 | 5.2 | 59.5 |
| MMKP17 | 2.45 | 57.7 | 4.42 | 59 | 2.46 | 57.2 | 4.68 | 57.6 |
| MMKP18 | 2.05 | 58.9 | 3.66 | 59.2 | 2.02 | 56.7 | 4 | 59.7 |
| MMKP19 | 1.76 | 59.4 | 5.38 | 53.6 | 2.07 | 59.5 | 5.83 | 47.8 |
| MMKP20 | 0.585 | 59.6 | 2.5 | 59.2 | 0.54 | 59.5 | 2.82 | 59.2 |
| Average Dev: | 2.22 | 44.5 | 3.12 | 43.3 | 2.24 | 43.5 | 3.23 | 43.2 |

Learning through tutorial, and self-motivated learning.