|              | 1                       | 15% CS    |  |
|--------------|-------------------------|-----------|--|
|              | $\overline{	ext{PCCC}}$ | PCCC-N2-S |  |
| Dataset      |                         |           |  |
| n300-k10-s10 | 3.5                     | 0.5       |  |
| n300-k10-s20 | 7.1                     | 0.8       |  |
| n300-k10-s30 | 7.5                     | 1.2       |  |
| n300-k10-s40 | 10.1                    | 1.4       |  |
| n300-k10-s50 | 8.1                     | 0.9       |  |
| n300-k20-s10 | 11.6                    | 0.6       |  |
| n300-k20-s20 | 13.4                    | 0.6       |  |
| n300-k20-s30 | 14.2                    | 0.8       |  |
| n300-k20-s40 | 14.8                    | 1.1       |  |
| n300-k20-s50 | 11.9                    | 0.9       |  |
| n300-k50-s10 | 16.5                    | 0.4       |  |
| n300-k50-s20 | 22.3                    | 0.6       |  |
| n300-k50-s30 | 20.7                    | 0.6       |  |
| n300-k50-s40 | 21.5                    | 0.5       |  |
| n300-k50-s50 | 20.5                    | 0.5       |  |
| Sum          | 203.7                   | 11.5      |  |

Table W67: Average running times (in seconds) of the PCCC and the PCCC-N2-S algorithms for the constraint sets of size 15% CS. The lowest values are stated in bold. The column KMEANS reports the average running time of the unconstrained k-means algorithm. The hyphen indicates that the respective algorithm returned no solution within the time limit of 3,600 seconds.