|                 | 10% CS                  |        |       |     |      |     |        |                     |
|-----------------|-------------------------|--------|-------|-----|------|-----|--------|---------------------|
|                 | $\overline{	ext{PCCC}}$ | PCCC-R | COPKM | CSC | DILS | LCC | KMEANS | $\operatorname{GT}$ |
| Dataset         |                         |        |       |     |      |     |        |                     |
| Appendicitis    | 0                       | 0      | _     | 11  | 0    | 5   | 5      | 0                   |
| Breast Cancer   | 0                       | 0      | _     | 717 | 0    | 85  | 133    | 0                   |
| Bupa            | 0                       | 0      | _     | 261 | 0    | 44  | 211    | 0                   |
| Circles         | 0                       | 0      | _     | 0   | 0    | 39  | 109    | 0                   |
| Ecoli           | 0                       | 0      | 0     | 74  | 1    | 3   | 34     | 0                   |
| Glass           | 0                       | 0      | 0     | 118 | 0    | 13  | 57     | 0                   |
| Haberman        | 0                       | 0      | 0     | 159 | 0    | 21  | 92     | 0                   |
| Hayesroth       | 0                       | 0      | _     | 69  | 0    | 11  | 31     | 0                   |
| Heart           | 0                       | 0      | _     | 156 | 0    | 75  | 44     | 0                   |
| Ionosphere      | 0                       | 0      | _     | 245 | 0    | 93  | 126    | 0                   |
| Iris            | 0                       | 0      | 0     | 21  | 0    | 0   | 1      | 0                   |
| Led7Digit       | 0                       | 0      | 0     | 512 | 4    | 24  | 85     | 0                   |
| Monk2           | 0                       | 0      | 0     | 0   | 0    | 99  | 239    | 0                   |
| Moons           | 0                       | 0      | _     | 0   | 0    | 19  | 78     | 0                   |
| Movement Libras | 0                       | 0      | 0     | 68  | 0    | 7   | 24     | 0                   |
| Newthyroid      | 0                       | 0      | 0     | 69  | 1    | 21  | 33     | 0                   |
| Saheart         | 0                       | 0      | 0     | 52  | 0    | 118 | 226    | 0                   |
| Sonar           | 0                       | 0      | _     | 108 | 0    | 32  | 65     | 0                   |
| Soybean         | 0                       | 0      | 0     | 5   | 0    | 0   | 0      | 0                   |
| Spectfheart     | 0                       | 0      | _     | 113 | 0    | 31  | 93     | 0                   |
| Spiral          | 0                       | 0      | _     | 84  | 1    | 45  | 95     | 0                   |
| Tae             | 0                       | 0      | _     | 51  | 0    | 5   | 24     | 0                   |
| Vehicle         | 0                       | 0      | _     | 303 | 164  | _   | 760    | 0                   |
| Wine            | 0                       | 0      | 0     | 24  | 0    | 1   | 8      | 0                   |
| Zoo             | 0                       | 0      | 0     | 13  | 0    | 0   | 0      | 0                   |
| Mean            | 0                       | 0      | 0*    | 129 | 7    | 33* | 103    | 0                   |

<sup>\*</sup>Nan values (-) are ignored when computing the sum.

Table W14: Average number of cannot-link constraint violations of the PCCC and the PCCC-R algorithms and the four state-of-the-art algorithms (COPKM, CSC, DILS, LCC) for the constraint sets of size 10% CS. The lowest values are stated in bold. The column KMEANS reports the average number of cannot-link constraint violations obtained with the k-means algorithm. The hyphen indicates that the respective algorithm returned no solution within the time limit of 1,800 seconds.