| Log                |          |              | Full Approach |        | Without Step 1 |        | Without Step 2 & 3 |        | Without Step 4 |        | Garcia-Banuelos et. al.<br>Additional |        |               |
|--------------------|----------|--------------|---------------|--------|----------------|--------|--------------------|--------|----------------|--------|---------------------------------------|--------|---------------|
| 200                |          |              | Precision     | Recall | Precision      | Recall | Precision          | Recall | Precision      | Recall | Precision                             | Recall | Replacements  |
|                    |          | inserted     | 1.00          | 1.00   | 0.60           | 1.00   | 0.24               | 1.00   | 1.00           | 1.00   | 0.06                                  | 0.83   |               |
| Hosseinpour & Jans |          | missing      | 1.00          | 1.00   | 1.00           | 1.00   | 0.42               | 1.00   | 1.00           | 0.90   | 0.24                                  | 1.00   | 0             |
|                    |          | repeated     | 1.00          | 1.00   | 1.00           | 0.67   | 0.00               | 0.00   | 1.00           | 1.00   | 0.27                                  | 0.55   |               |
|                    |          | replace      | 1.00          | 1.00   | 1.00           | 1.00   | 0.00               | 0.00   | 1.00           | 1.00   | 0.33                                  | 1.00   |               |
|                    |          | swap         | 1.00          | 1.00   | 1.00           | 1.00   | 0.00               | 0.00   | 1.00           | 1.00   | 0.27                                  | 1.00   |               |
|                    | Gigantic | inserted     | 1.00          | 1.00   | 0.86           | 1.00   | 0.49               | 1.00   | 1.00           | 1.00   | 0.42                                  | 1.00   | 26            |
| BINet              |          | missing      | 1.00          | 1.00   | 1.00           | 1.00   | 0.48               | 1.00   | 1.00           | 0.57   | 0.24                                  | 1.00   |               |
|                    |          | repeated     | 1.00          | 1.00   | 1.00           | 0.71   | 0.00               | 0.00   | 1.00           | 1.00   | 0.43                                  | 1.00   |               |
|                    |          | replace      | 0.00          | 0.00   | 0.00           | 0.00   | 0.00               | 0.00   | 0.00           | 0.00   | 0.00                                  | 0.00   |               |
|                    |          | swap         | 1.00          | 1.00   | 1.00           | 1.00   | 0.00               | 0.00   | 1.00           | 1.00   | 0.56                                  | 0.41   |               |
|                    | Huge     | inserted     | 1.00          | 1.00   | 0.94           | 1.00   | 0.46               | 1.00   | 1.00           | 1.00   | 0.46                                  | 1.00   | 8<br>1 8      |
|                    |          | missing      | 1.00          | 1.00   | 1.00           | 1.00   | 0.41               | 1.00   | 1.00           | 0.55   | 0.41                                  | 1.00   |               |
|                    |          | repeated     | 1.00          | 1.00   | 1.00           | 0.88   | 0.00               | 0.00   | 1.00           | 1.00   | 0.44                                  | 1.00   |               |
|                    |          | replace      | 0.00          | 0.00   | 0.00           | 0.00   | 0.00               | 0.00   | 0.00           | 0.00   | 0.00                                  | 0.00   |               |
|                    |          | swap         | 1.00          | 1.00   | 1.00           | 1.00   | 0.00               | 0.00   | 1.00           | 1.00   | 0.61                                  | 0.41   |               |
|                    | Large    | inserted     | 1.00          | 1.00   | 0.81           | 1.00   | 0.37               | 1.00   | 1.00           | 1.00   | 0.38                                  | 1.00   | 0             |
|                    |          | missing      | 1.00          | 1.00   | 1.00           | 1.00   | 0.45               | 1.00   | 1.00           | 0.52   | 0.29                                  | 1.00   |               |
|                    |          | repeated     | 1.00          | 1.00   | 1.00           | 0.78   | 0.00               | 0.00   | 1.00           | 1.00   | 0.42                                  | 1.00   |               |
|                    |          | replace      | 0.00          | 0.00   | 0.00           | 0.00   | 0.00               | 0.00   | 0.00           | 0.00   | 0.00                                  | 0.00   |               |
|                    |          | swap         | 1.00          | 1.00   | 1.00           | 1.00   | 0.00               | 0.00   | 1.00           | 1.00   | 0.60                                  | 0.48   |               |
|                    | Medium   | inserted     | 1.00          | 1.00   | 0.87           | 1.00   | 0.44               | 1.00   | 1.00           | 1.00   | 0.36                                  | 1.00   | 0             |
|                    |          | missing      | 1.00          | 1.00   | 1.00           | 1.00   | 0.41               | 1.00   | 1.00           | 0.54   | 0.22                                  | 1.00   |               |
|                    |          | repeated     | 1.00          | 1.00   | 1.00           | 0.79   | 0.00               | 0.00   | 1.00           | 1.00   | 0.45                                  | 1.00   |               |
|                    |          | replace      | 0.00          | 0.00   | 0.00           | 0.00   | 0.00               | 0.00   | 0.00           | 0.00   | 0.00                                  | 0.00   |               |
|                    |          | swap         | 1.00          | 1.00   | 1.00           | 1.00   | 0.00               | 0.00   | 1.00           | 1.00   | 0.60                                  | 0.35   |               |
|                    | P2P      | inserted     | 1.00          | 1.00   | 0.87           | 1.00   | 0.56               | 1.00   | 1.00           | 1.00   | 0.45                                  | 1.00   | 3<br>) 0<br>) |
|                    |          | missing      | 1.00          | 1.00   | 1.00           | 1.00   | 0.37               | 1.00   | 1.00           | 0.77   | 0.70                                  | 0.98   |               |
|                    |          | repeated     | 1.00          | 1.00   | 1.00           | 0.69   | 0.00               | 0.00   | 1.00           | 1.00   | 0.42                                  | 1.00   |               |
|                    |          | replace      | 0.00          | 0.00   | 0.00           | 0.00   | 0.00               | 0.00   | 0.00           | 0.00   | 0.00                                  | 0.00   |               |
|                    |          | swap         | 1.00          | 1.00   | 1.00           | 1.00   | 0.00               | 0.00   | 1.00           | 1.00   | 0.76                                  | 0.35   |               |
|                    | Paper    | inserted     | 1.00          | 1.00   | 0.86           | 1.00   | 0.47               | 1.00   | 1.00           | 1.00   | 0.37                                  | 1.00   | 3<br>) 0<br>) |
|                    |          | missing      | 1.00          | 1.00   | 1.00           | 1.00   | 0.35               | 1.00   | 1.00           | 0.83   | 0.29                                  | 0.93   |               |
|                    |          | repeated     | 1.00          | 1.00   | 1.00           | 0.75   | 0.00               | 0.00   | 1.00           | 1.00   | 0.39                                  | 1.00   |               |
|                    |          | replace      | 0.00          | 0.00   | 0.00           | 0.00   | 0.00               | 0.00   | 0.00           | 0.00   | 0.00                                  | 0.00   |               |
|                    |          | swap         | 1.00          | 1.00   | 1.00           | 1.00   | 0.00               | 0.00   | 1.00           | 1.00   | 0.67                                  | 0.42   |               |
|                    | Small    | inserted     | 1.00          | 1.00   | 0.86           | 1.00   | 0.50               | 1.00   | 1.00           | 1.00   | 0.48                                  | 1.00   | 0             |
|                    |          | missing      | 1.00          | 1.00   | 1.00           | 1.00   | 0.39               | 1.00   | 1.00           | 0.82   | 0.61                                  | 1.00   |               |
|                    |          | repeated     | 1.00          | 1.00   | 1.00           | 0.70   | 0.00               | 0.00   | 1.00           | 1.00   | 0.44                                  | 1.00   |               |
|                    |          | replace      | 0.00          | 0.00   | 0.00           | 0.00   | 0.00               | 0.00   | 0.00           | 0.00   | 0.00                                  | 0.00   |               |
|                    |          | swap         | 1.00          | 1.00   | 1.00           | 1.00   | 0.00               | 0.00   | 1.00           | 1.00   | 0.72                                  | 0.40   |               |
|                    | Wide     | inserted<br> | 1.00          | 1.00   | 0.88           | 1.00   | 0.58               | 1.00   | 1.00           | 1.00   | 0.47                                  | 1.00   | 0 0           |
|                    |          | missing      | 1.00          | 1.00   | 1.00           | 1.00   | 0.48               | 1.00   | 1.00           | 0.55   | 0.31                                  | 1.00   |               |
| ì                  |          | repeated     | 1.00          | 1.00   | 1.00           | 0.69   | 0.00               | 0.00   | 1.00           | 1.00   | 0.45                                  | 1.00   |               |
|                    |          | replace      | 0.00          | 0.00   | 0.00           | 0.00   | 0.00               | 0.00   | 0.00           | 0.00   | 0.00                                  | 0.00   |               |
|                    |          | swap         | 1.00          | 1.00   | 1.00           | 1.00   | 0.00               | 0.00   | 1.00           | 1.00   | 0.62                                  | 0.33   |               |