

|              | Sole | Callaway  | Flammini  | Vazquez   | Kim  | Grindrod sym  | Barabasi  | Erdos   | Klemm  | Small World   | Bianconi   |
|--------------|------|---|---|---|--|---|---|---|--|---|--|
| Sole         |      | nnz(AAAAA)<br>$L_{tst} = 0.3\%$<br>$L_{tr} = 0.5\%$ | nnz(AAAAA)<br>$L_{tst} = 3.8\%$<br>$L_{tr} = 2.5\%$ | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$      | nnz(ADA)<br>$L_{tst} = 7.2\%$<br>$L_{tr} = 5.2\%$      | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$          | nnz D(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$    | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$        | nnz D(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$     | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$          | nnz D(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$     |
| Callaway     |      |   | nnz(AAAAA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$ | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$      | nnz(ADATAUAA)<br>$L_{tst} = 3.0\%$<br>$L_{tr} = 5.2\%$ | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$          | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$      | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$        | nnz D(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$     | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$          | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$       |
| Flammini     |      |   |   | nnz D(AAUAA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.1\%$ | nnz D(AAA)<br>$L_{tst} = 13.8\%$<br>$L_{tr} = 11.1\%$  | nnz U(ATADAAA)<br>$L_{tst} = 14.0\%$<br>$L_{tr} = 13.4\%$ | nnz D(AAUAA)<br>$L_{tst} = 0.2\%$<br>$L_{tr} = 0.1\%$ | sum(ADAAA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$     | nnz D(AAUAA)<br>$L_{tst} = 0.5\%$<br>$L_{tr} = 0.2\%$  | sum D(AAUAA)<br>$L_{tst} = 8.5\%$<br>$L_{tr} = 8.9\%$     | nnz(AAA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$      |
| Vazquez      |      |   |   |   | nnz D(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$     | nnz D(ATAUAA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$    | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$      | nnz D(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$      | sum D(AAA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$    | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$          | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$       |
| Kim          |      |   |   |   |  | nnz(AAAAA)<br>$L_{tst} = 0.8\%$<br>$L_{tr} = 0.6\%$       | nnz D(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$    | sum U(ATADAA)<br>$L_{tst} = 8.0\%$<br>$L_{tr} = 9.2\%$  | nnz D(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$     | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$          | nnz D(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$     |
| Grindrod sym |      |   |   |   |  |   | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$      | nnz D(ATAUAAA)<br>$L_{tst} = 0.3\%$<br>$L_{tr} = 0.1\%$ | nnz(ADATAUAA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$ | nnz D(ATAUAAA)<br>$L_{tst} = 18.5\%$<br>$L_{tr} = 19.2\%$ | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$       |
| Barabasi     |      |   |   |   |  |   |   | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$        | nnz D(ATAUAA)<br>$L_{tst} = 2.0\%$<br>$L_{tr} = 2.7\%$ | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$          | nnz D(ATAUAA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$ |
| Erdos        |      |   |   |   |  |   |   |   | nnz D(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$     | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$          | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$       |
| Klemm        |      |   |   |   |  |   |   |   |  | nnz D(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$        | nnz D(ATAUAA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$ |
| Small World  |      |   |   |   |  |   |   |   |  | nnz D(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$        | nnz D(ATAUAA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$ |
| Bianconi     |      |   |   |   |  |   |   |   |  |   | nnz(AA)<br>$L_{tst} = 0.0\%$<br>$L_{tr} = 0.0\%$       |

TABLE I: Most discriminative words for the *S. cerevisiae* training data based on lowest test loss by 1-dimensional splitting for every pair of models.  $L_{tst}$  is the test loss and  $L_{tr}$  the training loss.