| tol    | С      | max_iter | training accuracy | valid accuracy |
|--------|--------|----------|-------------------|----------------|
| 0.01   | 1e-05  | 500      | 0.5427            | 0.5407         |
| 0.01   | 1e-05  | 1000     | 0.5427            | 0.5407         |
| 0.01   | 1e-05  | 2000     | 0.5427            | 0.5407         |
| 0.01   | 3e-05  | 500      | 0.5904            | 0.5885         |
| 0.01   | 3e-05  | 1000     | 0.5904            | 0.5885         |
| 0.01   | 3e-05  | 2000     | 0.5904            | 0.5885         |
| 0.01   | 0.0001 | 500      | 0.6083            | 0.6053         |
| 0.01   | 0.0001 | 1000     | 0.6083            | 0.6053         |
| 0.01   | 0.0001 | 2000     | 0.6083            | 0.6053         |
| 0.01   | 0.0003 | 500      | 0.618             | 0.614          |
| 0.01   | 0.0003 | 1000     | 0.618             | 0.614          |
| 0.01   | 0.0003 | 2000     | 0.618             | 0.614          |
| 0.01   | 0.001  | 500      | 0.6337            | 0.6274         |
| 0.01   | 0.001  | 1000     | 0.6337            | 0.6274         |
| 0.01   | 0.001  | 2000     | 0.6337            | 0.6274         |
| 0.001  | 1e-05  | 500      | 0.5427            | 0.5407         |
| 0.001  | 1e-05  | 1000     | 0.5427            | 0.5407         |
| 0.001  | 1e-05  | 2000     | 0.5427            | 0.5407         |
| 0.001  | 3e-05  | 500      | 0.5904            | 0.5885         |
| 0.001  | 3e-05  | 1000     | 0.5904            | 0.5885         |
| 0.001  | 3e-05  | 2000     | 0.5904            | 0.5885         |
| 0.001  | 0.0001 | 500      | 0.6083            | 0.6053         |
| 0.001  | 0.0001 | 1000     | 0.6083            | 0.6053         |
| 0.001  | 0.0001 | 2000     | 0.6083            | 0.6053         |
| 0.001  | 0.0003 | 500      | 0.618             | 0.614          |
| 0.001  | 0.0003 | 1000     | 0.618             | 0.614          |
| 0.001  | 0.0003 | 2000     | 0.618             | 0.614          |
| 0.001  | 0.001  | 500      | 0.6337            | 0.6274         |
| 0.001  | 0.001  | 1000     | 0.6337            | 0.6274         |
| 0.001  | 0.001  | 2000     | 0.6337            | 0.6274         |
| 0.0001 | 1e-05  | 500      | 0.5427            | 0.5407         |
| 0.0001 | 1e-05  | 1000     | 0.5427            | 0.5407         |
| 0.0001 | 1e-05  | 2000     | 0.5427            | 0.5407         |
| 0.0001 | 3e-05  | 500      | 0.5904            | 0.5885         |
| 0.0001 | 3e-05  | 1000     | 0.5904            | 0.5885         |
| 0.0001 | 3e-05  | 2000     | 0.5904            | 0.5885         |
| 0.0001 | 0.0001 | 500      | 0.6083            | 0.6053         |
| 0.0001 | 0.0001 | 1000     | 0.6083            | 0.6053         |
| 0.0001 | 0.0001 | 2000     | 0.6083            | 0.6053         |
| 0.0001 | 0.0003 | 500      | 0.618             | 0.614          |
| 0.0001 | 0.0003 | 1000     | 0.618             | 0.614          |
| 0.0001 | 0.0003 | 2000     | 0.618             | 0.614          |
| 0.0001 | 0.001  | 500      | 0.6337            | 0.6274         |
| 0.0001 | 0.001  | 1000     | 0.6337            | 0.6274         |
| 0.0001 | 0.001  | 2000     | 0.6337            | 0.6274         |

| tol  | С     | $\max_{}$ iter | training accuracy | valid accuracy | test accuracy | test precision | test recall | test F1 |
|------|-------|----------------|-------------------|----------------|---------------|----------------|-------------|---------|
| 0.01 | 0.001 | 500            | 0.6337            | 0.6274         | 0.6289        | 0.6665         | 0.526       | 0.588   |