

Table 1: Effectiveness results.

| Method | Yelp2018 | | Amazon-Book | | MIND | |
|----------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | Recall | NDCG | Recall | NDCG | Recall | NDCG |
| LightGCN | 0.0682 | 0.0443 | 0.1398 | 0.0736 | 0.1033 | 0.0520 |
| SimGCL | <u>0.0811</u> | <u>0.0530</u> | 0.1579 | 0.0848 | <u>0.1111</u> | <u>0.0594</u> |
| KGCL | 0.0756 | 0.0493 | 0.1496 | 0.0793 | 0.1073 | 0.0551 |
| MCCLK | 0.0668 | 0.0428 | 0.1368 | 0.0717 | – | – |
| CKER | 0.0691 | 0.0433 | <u>0.1591</u> | <u>0.0851</u> | 0.0969 | 0.0485 |
| KACL | 0.0658 | 0.0430 | 0.1520 | 0.0812 | 0.1077 | 0.0553 |
| SimKGCL | 0.0864 | 0.0567 | 0.1739 | 0.0948 | 0.1258 | 0.0662 |

Table 2: The training time comparison.

| Methods | Component | Yelp2018(s) | Amazon-Book(s) | MIND(s) |
|----------|-----------------------|----------------------|---------------------|-------------------|
| LightGCN | Single epoch time | 12.94 | 8.33 | 82.59 |
| | Total training epochs | 180 | 207 | 52 |
| | Total training time | 2,329.20 (1×) | 1,724.31 (1×) | 4,294.68 (1×) |
| KGCL | Single epoch time | 383.82 | 196.11 | 1103.31 |
| | Total training epochs | 30 | 22 | 18 |
| | Total training time | 11,514.60 (4.94×) | 4,314.42 (2.50×) | 19,859.58 (4.62×) |
| KACL | Single epoch time | 118.28 | 70.25 | 154.80 |
| | Total training epochs | 36 | 139 | 157 |
| | Total training time | 4,258.08 (1.83×) | 9,764.75 (5.66×) | 24,303.60(5.66×) |
| MCCLK | Single epoch time | 3562.53 | 876.20 | – |
| | Total training epochs | 71 | 148 | – |
| | Total training time | 252,939.63 (108.60×) | 129,784.60 (75.21×) | – |
| CKER | Single epoch time | 15.53 | 30.03 | 87.69x61=5959.09 |
| | Total training epochs | 136 | 137 | 61 |
| | Total training time | 2,112.08 (0.91×) | 4,114.11 (2.38×) | 5959.09 (1.39×) |
| SimKGCL | Single epoch time | 144.33 | 232.06 | 324.55 |
| | Total training epochs | 22 | 6 | 2 |
| | Total training time | 3175.26 (1.36×) | 1392.36 (0.81×) | 649.10 (0.15×) |