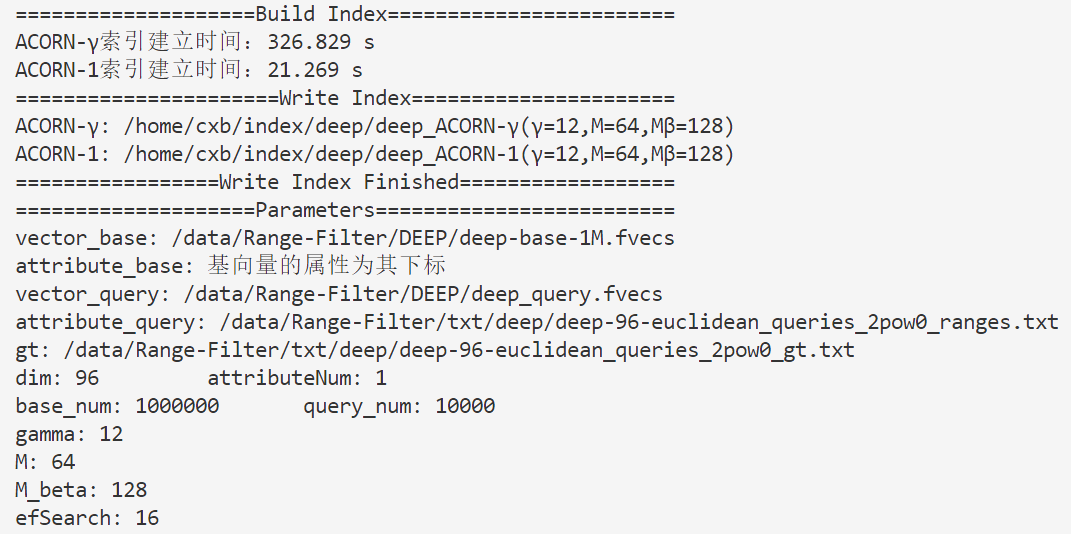
**范围长度分数：1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Index（γ=12） | M | Mβ | 查询时间(s) | QPS | Recall@10 | Recall@100 |
| ACORN-γ(efs=8) | 32 | 64 | 1.45194 | 6887.32 | 0.60053 |  |
| ACORN-1(efs=8) | 32 | 64 | 1.78231 | 5610.69 | 0.17355 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=16) | 32 | 64 | 2.03269 | 4919.59 | 0.72177 |  |
| ACORN-1(efs=16) | 32 | 64 | 2.58838 | 3863.42 | 0.28238 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=32) | 32 | 64 | 3.36593 | 2970.95 | 0.837 |  |
| ACORN-1(efs=32) | 32 | 64 | 4.52918 | 2207.91 | 0.46563 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=64) | 32 | 64 | 5.71625 | 1749.4 | 0.90233 |  |
| ACORN-1(efs=64) | 32 | 64 | 8.02859 | 1245.55 | 0.62543 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=80) | 32 | 64 | 6.72866 | 1486.18 | 0.91709 |  |
| ACORN-1(efs=80) | 32 | 64 | 9.63195 | 1038.21 | 0.66831 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=120) | 32 | 64 | 9.11122 | 1097.55 | 0.93776 |  |
| ACORN-1(efs=120) | 32 | 64 | 13.3706 | 747.909 | 0.73484 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=200) | 32 | 64 | 13.9935 | 714.616 | 0.95658 |  |
| ACORN-1(efs=200) | 32 | 64 | 20.312 | 492.32 | 0.80244 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=400) | 32 | 64 | 24.4647 | 408.753 | 0.97397 |  |
| ACORN-1(efs=400) | 32 | 64 | 36.5346 | 273.713 | 0.86989 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=800) | 32 | 64 | 45.9084 | 217.825 | 0.98516 |  |
| ACORN-1(efs=800) | 32 | 64 | 67.9355 | 147.198 | 0.91829 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=2000) | 32 | 64 | 126.892 | 78.8071 | 0.99336 |  |
| ACORN-1(efs=2000) | 32 | 64 | 171.087 | 58.4499 | 0.95833 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=4000) | 32 | 64 | 325.544 | 30.7178 | 0.99656 |  |
| ACORN-1(efs=4000) | 32 | 64 | 418.114 | 23.9169 | 0.9757 |  |



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| --- | --- | --- | --- | --- | --- | --- |
| Index（γ=12） | M | Mβ | 查询时间(s) | QPS | Recall@10 | Recall@100 |
| ACORN-γ(efs=8) | 64 | 128 | 2.55553 | 3913.08 | 0.71552 |  |
| ACORN-1(efs=8) | 64 | 128 | 3.42333 | 2921.13 | 0.26698 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=16) | 64 | 128 | 3.54029 | 2824.62 | 0.80821 |  |
| ACORN-1(efs=16) | 64 | 128 | 4.96482 | 2014.17 | 0.39866 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=32) | 64 | 128 | 5.72404 | 1747.02 | 0.89048 |  |
| ACORN-1(efs=32) | 64 | 128 | 8.58539 | 1164.77 | 0.59242 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=64) | 64 | 128 | 9.35781 | 1068.63 | 0.93614 |  |
| ACORN-1(efs=64) | 64 | 128 | 14.9084 | 14.9084 | 0.74073 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=80) | 64 | 128 | 11.0409 | 905.72 | 0.94639 |  |
| ACORN-1(efs=80) | 64 | 128 | 17.828 | 560.915 | 0.7784 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=120) | 64 | 128 | 14.6718 | 681.58 | 0.96085 |  |
| ACORN-1(efs=120) | 64 | 128 | 24.5087 | 408.019 | 0.83512 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=200) | 64 | 128 | 21.3709 | 467.926 | 0.97269 |  |
| ACORN-1(efs=200) | 64 | 128 | 36.5655 | 273.482 | 0.88868 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=400) | 64 | 128 | 36.1267 | 276.803 | 0.98397 |  |
| ACORN-1(efs=400) | 64 | 128 | 63.2668 | 158.061 | 0.93855 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=800) | 64 | 128 | 64.2916 | 155.541 | 0.99123 |  |
| ACORN-1(efs=800) | 64 | 128 | 110.244 | 90.7082 | 0.96853 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=2000) | 64 | 128 | 159.775 | 62.5878 | 0.9964 |  |
| ACORN-1(efs=2000) | 64 | 128 | 247.211 | 40.4513 | 0.98885 |  |

**范围长度分数：1/2**

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| --- | --- | --- | --- | --- | --- | --- |
| Index（γ=12） | M | Mβ | 查询时间(s) | QPS | Recall@10 | Recall@100 |
| ACORN-γ(efs=8) | 32 | 64 | 1.70445 | 5867.01 | 0.58681 |  |
| ACORN-1(efs=8) | 32 | 64 | 2.29979 | 4348.22 | 0.34946 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=16) | 32 | 64 | 2.41834 | 4135.06 | 0.73098 |  |
| ACORN-1(efs=16) | 32 | 64 | 3.35161 | 2983.64 | 0.49063 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=32) | 32 | 64 | 4.10427 | 2436.49 | 0.85641 |  |
| ACORN-1(efs=32) | 32 | 64 | 5.995 | 1668.06 | 0.67177 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=64) | 32 | 64 | 7.09237 | 1409.97 | 0.92538 |  |
| ACORN-1(efs=64) | 32 | 64 | 11.0716 | 903.212 | 0.80088 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=80) | 32 | 64 | 8.41969 | 1187.69 | 0.93986 |  |
| ACORN-1(efs=80) | 32 | 64 | 13.5377 | 738.677 | 0.83389 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=120) | 32 | 64 | 11.6672 | 857.102 | 0.95967 |  |
| ACORN-1(efs=120) | 32 | 64 | 19.7205 | 507.088 | 0.87821 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=200) | 32 | 64 | 17.5628 | 569.387 | 0.97622 |  |
| ACORN-1(efs=200) | 32 | 64 | 32.4125 | 308.523 | 0.92035 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=400) | 32 | 64 | 31.369 | 318.786 | 0.98972 |  |
| ACORN-1(efs=400) | 32 | 64 | 63.2604 | 158.077 | 0.9585 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=800) | 32 | 64 | 58.9726 | 169.57 | 0.9962 |  |
| ACORN-1(efs=800) | 32 | 64 | 130.23 | 76.7871 | 0.97893 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=2000) | 32 | 64 | 156.654 | 63.8348 | 0.99913 |  |
| ACORN-1(efs=2000) | 32 | 64 | 361.228 | 27.6833 | 0.9924 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=4000) | 32 | 64 | 387.326 | 25.818 | 0.9997 |  |
| ACORN-1(efs=4000) | 32 | 64 | 836.942 | 11.9483 | 0.99701 |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Index（γ=12） | M | Mβ | 查询时间(s) | QPS | Recall@10 | Recall@100 |
| ACORN-γ(efs=8) | 64 | 128 | 2.95596 | 3383 | 0.73777 |  |
| ACORN-1(efs=8) | 64 | 128 | 4.17352 | 2396.06 | 0.45958 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=16) | 64 | 128 | 4.15499 | 2406.75 | 0.83425 |  |
| ACORN-1(efs=16) | 64 | 128 | 6.06619 | 1648.48 | 0.61487 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=32) | 64 | 128 | 6.90441 | 1448.35 | 0.91421 |  |
| ACORN-1(efs=32) | 64 | 128 | 10.9536 | 912.94 | 0.78604 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=64) | 64 | 128 | 11.5775 | 863.745 | 0.9557 |  |
| ACORN-1(efs=64) | 64 | 128 | 21.1113 | 473.679 | 0.89193 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=80) | 64 | 128 | 13.6921 | 730.35 | 0.96479 |  |
| ACORN-1(efs=80) | 64 | 128 | 26.542 | 376.762 | 0.91533 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=120) | 64 | 128 | 18.6143 | 537.221 | 0.97703 |  |
| ACORN-1(efs=120) | 64 | 128 | 40.7509 | 245.393 | 0.94713 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=200) | 64 | 128 | 27.627 | 361.965 | 0.98711 |  |
| ACORN-1(efs=200) | 64 | 128 | 71.8023 | 139.271 | 0.97194 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=400) | 64 | 128 | 48.3234 | 206.939 | 0.99465 |  |
| ACORN-1(efs=400) | 64 | 128 | 159.092 | 62.8566 | 0.98965 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=800) | 64 | 128 | 88.0965 | 113.512 | 0.99826 |  |
| ACORN-1(efs=800) | 64 | 128 | 355.15 | 28.1571 | 0.99674 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=2000) | 64 | 128 | 220.65 | 45.3206 | 0.99972 |  |
| ACORN-1(efs=2000) | 64 | 128 | 1036.36 | 9.64918 | 0.99937 |  |

**范围长度分数：1/4**

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| --- | --- | --- | --- | --- | --- | --- |
| Index（γ=12） | M | Mβ | 查询时间(s) | QPS | Recall@10 | Recall@100 |
| ACORN-γ(efs=8) | 32 | 64 | 1.74649 | 5725.77 | 0.64324 |  |
| ACORN-1(efs=8) | 32 | 64 | 2.68937 | 3718.34 | 0.52972 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=16) | 32 | 64 | 2.51403 | 3977.68 | 0.78214 |  |
| ACORN-1(efs=16) | 32 | 64 | 4.08352 | 2448.87 | 0.66349 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=32) | 32 | 64 | 4.35654 | 2295.4 | 0.8987 |  |
| ACORN-1(efs=32) | 32 | 64 | 7.67789 | 1302.44 | 0.80722 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=64) | 32 | 64 | 7.58775 | 1317.91 | 0.95555 |  |
| ACORN-1(efs=64) | 32 | 64 | 14.5627 | 686.688 | 0.89161 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=80) | 32 | 64 | 9.04817 | 1105.2 | 0.96656 |  |
| ACORN-1(efs=80) | 32 | 64 | 17.9351 | 557.565 | 0.91147 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=120) | 32 | 64 | 12.5697 | 795.561 | 0.98052 |  |
| ACORN-1(efs=120) | 32 | 64 | 26.109 | 383.009 | 0.9394 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=200) | 32 | 64 | 19.0368 | 525.297 | 0.99035 |  |
| ACORN-1(efs=200) | 32 | 64 | 42.1643 | 237.168 | 0.96381 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=400) | 32 | 64 | 34.2349 | 292.1 | 0.99629 |  |
| ACORN-1(efs=400) | 32 | 64 | 82.3049 | 121.499 | 0.98263 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=800) | 32 | 64 | 64.9222 | 154.031 | 0.99872 |  |
| ACORN-1(efs=800) | 32 | 64 | 166.016 | 60.235 | 0.99227 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=2000) | 32 | 64 | 172.26 | 58.0517 | 0.99973 |  |
| ACORN-1(efs=2000) | 32 | 64 | 444.234 | 22.5107 | 0.99787 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=4000) | 32 | 64 | 419.546 | 23.8353 | 0.99989 |  |
| ACORN-1(efs=4000) | 32 | 64 | 999.344 | 10.0066 | 0.99934 |  |

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| --- | --- | --- | --- | --- | --- | --- |
| Index（γ=12） | M | Mβ | 查询时间(s) | QPS | Recall@10 | Recall@100 |
| ACORN-γ(efs=8) | 64 | 128 | 3.07477 | 3252.28 | 0.80609 |  |
| ACORN-1(efs=8) | 64 | 128 | 4.70321 | 2126.21 | 0.65512 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=16) | 64 | 128 | 4.38628 | 2279.84 | 0.89278 |  |
| ACORN-1(efs=16) | 64 | 128 | 7.38004 | 1355.01 | 0.78397 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=32) | 64 | 128 | 7.44505 | 1343.17 | 0.95682 |  |
| ACORN-1(efs=32) | 64 | 128 | 14.8801 | 672.04 | 0.89808 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=64) | 64 | 128 | 12.6317 | 791.658 | 0.98492 |  |
| ACORN-1(efs=64) | 64 | 128 | 30.8147 | 324.52 | 0.95736 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=80) | 64 | 128 | 14.9338 | 669.622 | 0.98937 |  |
| ACORN-1(efs=80) | 64 | 128 | 38.9489 | 256.747 | 0.96774 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=120) | 64 | 128 | 20.3022 | 492.559 | 0.9949 |  |
| ACORN-1(efs=120) | 64 | 128 | 59.7099 | 167.477 | 0.98151 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=200) | 64 | 128 | 30.2455 | 330.627 | 0.99794 |  |
| ACORN-1(efs=200) | 64 | 128 | 103.396 | 96.7156 | 0.99168 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=400) | 64 | 128 | 53.5795 | 186.639 | 0.99951 |  |
| ACORN-1(efs=400) | 64 | 128 | 221.048 | 45.239 | 0.99746 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=800) | 64 | 128 | 98.1105 | 101.926 | 0.99989 |  |
| ACORN-1(efs=800) | 64 | 128 | 467.867 | 21.3736 | 0.99947 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=2000) | 64 | 128 | 246.4 | 40.5845 | 0.99999 |  |
| ACORN-1(efs=2000) | 64 | 128 | 1296.86 | 7.71092 | 0.99986 |  |

**范围长度分数：1/16**

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| --- | --- | --- | --- | --- | --- | --- |
| Index（γ=12） | M | Mβ | 查询时间(s) | QPS | Recall@10 | Recall@100 |
| ACORN-γ(efs=8) | 32 | 64 | 2.10862 | 4742.44 | 0.69124 |  |
| ACORN-1(efs=8) | 32 | 64 | 4.70554 | 2125.16 | 0.77379 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=16) | 32 | 64 | 3.01642 | 3315.19 | 0.81692 |  |
| ACORN-1(efs=16) | 32 | 64 | 6.69332 | 1494.03 | 0.85337 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=32) | 32 | 64 | 5.12652 | 1950.64 | 0.91918 |  |
| ACORN-1(efs=32) | 32 | 64 | 11.0432 | 905.537 | 0.9246 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=64) | 32 | 64 | 8.73116 | 1145.32 | 0.96601 |  |
| ACORN-1(efs=64) | 32 | 64 | 18.5953 | 537.77 | 0.96186 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=80) | 32 | 64 | 10.3931 | 962.18 | 0.97503 |  |
| ACORN-1(efs=80) | 32 | 64 | 22.1614 | 451.235 | 0.9698 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=120) | 32 | 64 | 14.15164 | 706.393 | 0.98529 |  |
| ACORN-1(efs=120) | 32 | 64 | 30.7022 | 325.71 | 0.98006 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=200) | 32 | 64 | 21.2323 | 470.981 | 0.99286 |  |
| ACORN-1(efs=200) | 32 | 64 | 47.2291 | 211.734 | 0.98884 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=400) | 32 | 64 | 38.4158 | 260.309 | 0.99779 |  |
| ACORN-1(efs=400) | 32 | 64 | 87.8831 | 113.787 | 0.99564 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=800) | 32 | 64 | 74.0509 | 135.042 | 0.99922 |  |
| ACORN-1(efs=800) | 32 | 64 | 170.863 | 58.5263 | 0.99809 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=2000) | 32 | 64 | 197.181 | 50.7147 | 0.9998 |  |
| ACORN-1(efs=2000) | 32 | 64 | 444.558 | 22.4942 | 0.99952 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=4000) | 32 | 64 | 476.118 | 21.0032 | 0.99989 |  |
| ACORN-1(efs=4000) | 32 | 64 | 991.037 | 10.0904 | 0.99982 |  |

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| --- | --- | --- | --- | --- | --- | --- |
| Index（γ=12） | M | Mβ | 查询时间(s) | QPS | Recall@10 | Recall@100 |
| ACORN-γ(efs=8) | 64 | 128 | 3.74111 | 2673 | 0.85712 |  |
| ACORN-1(efs=8) | 64 | 128 | 9.57745 | 1044.12 | 0.91246 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=16) | 64 | 128 | 5.27377 | 1896.18 | 0.92797 |  |
| ACORN-1(efs=16) | 64 | 128 | 14.1034 | 709.051 | 0.95482 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=32) | 64 | 128 | 8.69915 | 1149.54 | 0.9752 |  |
| ACORN-1(efs=32) | 64 | 128 | 24.3754 | 410.25 | 0.98277 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=64) | 64 | 128 | 14.2648 | 701.029 | 0.99283 |  |
| ACORN-1(efs=64) | 64 | 128 | 43.6977 | 228.845 | 0.99445 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=80) | 64 | 128 | 16.8517 | 593.412 | 0.99521 |  |
| ACORN-1(efs=80) | 64 | 128 | 53.1233 | 188.241 | 0.99619 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=120) | 64 | 128 | 22.9208 | 436.284 | 0.99786 |  |
| ACORN-1(efs=120) | 64 | 128 | 76.3971 | 130.895 | 0.99812 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=200) | 64 | 128 | 34.6079 | 288.951 | 0.99913 |  |
| ACORN-1(efs=200) | 64 | 128 | 122.608 | 81.561 | 0.99922 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=400) | 64 | 128 | 63.0995 | 158.48 | 0.9998 |  |
| ACORN-1(efs=400) | 64 | 128 | 241.099 | 41.4768 | 0.99981 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=800) | 64 | 128 | 121.508 | 82.2989 | 0.99999 |  |
| ACORN-1(efs=800) | 64 | 128 | 490.424 | 20.3905 | 0.99998 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=2000) | 64 | 128 |  |  |  |  |
| ACORN-1(efs=2000) | 64 | 128 |  |  |  |  |

**范围长度分数：1/64**

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| --- | --- | --- | --- | --- | --- | --- |
| Index（γ=12） | M | Mβ | 查询时间(s) | QPS | Recall@10 | Recall@100 |
| ACORN-γ(efs=8) | 32 | 64 | 2.41412 | 4142.3 | 0.52475 |  |
| ACORN-1(efs=8) | 32 | 64 | 4.74242 | 2108.63 | 0.69125 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=16) | 32 | 64 | 3.45313 | 2895.92 | 0.69822 |  |
| ACORN-1(efs=16) | 32 | 64 | 6.60037 | 1515.07 | 0.80132 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=32) | 32 | 64 | 5.86681 | 1704.5 | 0.85845 |  |
| ACORN-1(efs=32) | 32 | 64 | 10.6137 | 942.175 | 0.89758 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=64) | 32 | 64 | 9.70216 | 1030.7 | 0.93616 |  |
| ACORN-1(efs=64) | 32 | 64 | 17.6082 | 567.916 | 0.95004 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=80) | 32 | 64 | 11.5548 | 865.441 | 0.95117 |  |
| ACORN-1(efs=80) | 32 | 64 | 21.1054 | 473.813 | 0.96068 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=120) | 32 | 64 | 16.1114 | 620.678 | 0.96935 |  |
| ACORN-1(efs=120) | 32 | 64 | 29.262 | 341.74 | 0.97438 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=200) | 32 | 64 | 23.7037 | 421.875 | 0.98249 |  |
| ACORN-1(efs=200) | 32 | 64 | 45.3078 | 220.713 | 0.98533 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=400) | 32 | 64 | 43.6603 | 229.041 | 0.99091 |  |
| ACORN-1(efs=400) | 32 | 64 | 85.1465 | 117.445 | 0.99367 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=800) | 32 | 64 | 85.0118 | 117.631 | 0.99465 |  |
| ACORN-1(efs=800) | 32 | 64 | 168.227 | 59.4436 | 0.99748 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=2000) | 32 | 64 | 228.525 | 43.7589 | 0.99623 |  |
| ACORN-1(efs=2000) | 32 | 64 | 441.688 | 22.6404 | 0.99917 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=4000) | 32 | 64 | 534.569 | 18.7067 | 0.9965 |  |
| ACORN-1(efs=4000) | 32 | 64 | 968.624 | 10.3239 | 0.99964 |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Index（γ=12） | M | Mβ | 查询时间(s) | QPS | Recall@10 | Recall@100 |
| ACORN-γ(efs=8) | 64 | 128 | 4.74244 | 2108.62 | 0.83451 |  |
| ACORN-1(efs=8) | 64 | 128 | 10.2808 | 972.689 | 0.92185 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=16) | 64 | 128 | 6.56629 | 1522.93 | 0.91877 |  |
| ACORN-1(efs=16) | 64 | 128 | 14.7442 | 678.231 | 0.96053 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=32) | 64 | 128 | 10.528 | 949.845 | 0.97284 |  |
| ACORN-1(efs=32) | 64 | 128 | 24.3151 | 411.267 | 0.98566 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=64) | 64 | 128 | 17.6009 | 568.152 | 0.99112 |  |
| ACORN-1(efs=64) | 64 | 128 | 42.8506 | 233.369 | 0.99524 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=80) | 64 | 128 | 21.0696 | 474.617 | 0.99394 |  |
| ACORN-1(efs=80) | 64 | 128 | 56.111 | 178.218 | 0.9969 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=120) | 64 | 128 | 35.6337 | 280.633 | 0.99719 |  |
| ACORN-1(efs=120) | 64 | 128 | 88.5728 | 112.901 | 0.99865 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=200) | 64 | 128 | 55.6831 | 179.588 | 0.99868 |  |
| ACORN-1(efs=200) | 64 | 128 | 137.758 | 72.5908 | 0.99946 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=400) | 64 | 128 | 105.467 | 94.8168 | 0.99948 |  |
| ACORN-1(efs=400) | 64 | 128 | 278.44 | 35.9144 | 0.99992 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=800) | 64 | 128 | 193.62 | 51.6475 | 0.99953 |  |
| ACORN-1(efs=800) | 64 | 128 | 481.96 | 20.7486 | 0.99999 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=2000) | 64 | 128 |  |  |  |  |
| ACORN-1(efs=2000) | 64 | 128 |  |  |  |  |

**范围长度分数：1/256**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Index（γ=12） | M | Mβ | 查询时间(s) | QPS | Recall@10 | Recall@100 |
| ACORN-γ(efs=8) | 32 | 64 | 2.11222 | 4734.35 | 0.12634 |  |
| ACORN-1(efs=8) | 32 | 64 | 4.45728 | 2243.52 | 0.32682 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=16) | 32 | 64 | 3.11192 | 3213.45 | 0.22564 |  |
| ACORN-1(efs=16) | 32 | 64 | 6.25818 | 1597.91 | 0.47314 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=32) | 32 | 64 | 5.32372 | 1878.39 | 0.43104 |  |
| ACORN-1(efs=32) | 32 | 64 | 10.1512 | 985.101 | 0.67586 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=64) | 32 | 64 | 8.69692 | 1149.83 | 0.62383 |  |
| ACORN-1(efs=64) | 32 | 64 | 16.9459 | 590.114 | 0.82015 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=80) | 32 | 64 | 10.2053 | 979.881 | 0.6695 |  |
| ACORN-1(efs=80) | 32 | 64 | 20.226 | 494.413 | 0.85256 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=120) | 32 | 64 | 13.8154 | 723.83 | 0.73359 |  |
| ACORN-1(efs=120) | 32 | 64 | 28.3176 | 353.138 | 0.89606 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=200) | 32 | 64 | 21.1266 | 473.337 | 0.78483 |  |
| ACORN-1(efs=200) | 32 | 64 | 44.4738 | 224.851 | 0.93236 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=400) | 32 | 64 | 39.1248 | 255.592 | 0.82445 |  |
| ACORN-1(efs=400) | 32 | 64 | 84.8684 | 117.829 | 0.9585 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=800) | 32 | 64 | 76.5754 | 130.59 | 0.84256 |  |
| ACORN-1(efs=800) | 32 | 64 | 167.901 | 59.5588 | 0.97122 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=2000) | 32 | 64 | 200.616 | 49.8465 | 0.85183 |  |
| ACORN-1(efs=2000) | 32 | 64 | 436.427 | 22.9133 | 0.97713 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=4000) | 32 | 64 | 379.319 | 26.3631 | 0.8539 |  |
| ACORN-1(efs=4000) | 32 | 64 | 866.13 | 11.5456 | 0.97835 |  |

M=32，Mβ=64时，对于范围长度分数为1/256的范围查询，效果不好。

M、Mβ越大，查询时间越长，QPS越低。

M=64，Mβ=128时，对于范围长度分数为1/256的范围查询，效果不错。

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Index（γ=12） | M | Mβ | 查询时间(s) | QPS | Recall@10 | Recall@100 |
| ACORN-γ(efs=8) | 64 | 128 | 5.38723 | 1856.24 | 0.57268 |  |
| ACORN-1(efs=8) | 64 | 128 | 10.1353 | 986.65 | 0.78735 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=16) | 64 | 128 | 7.28499 | 1372.68 | 0.74868 |  |
| ACORN-1(efs=16) | 64 | 128 | 14.3734 | 695.731 | 0.88267 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=32) | 64 | 128 | 11.8678 | 842.619 | 0.89543 |  |
| ACORN-1(efs=32) | 64 | 128 | 24.3666 | 410.398 | 0.95314 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=64) | 64 | 128 | 20.3514 | 491.367 | 0.95342 |  |
| ACORN-1(efs=64) | 64 | 128 | 43.0333 | 232.378 | 0.98366 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=80) | 64 | 128 | 24.336 | 410.913 | 0.96285 |  |
| ACORN-1(efs=80) | 64 | 128 | 53.1169 | 188.264 | 0.98877 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=120) | 64 | 128 | 34.3113 | 291.449 | 0.97411 |  |
| ACORN-1(efs=120) | 64 | 128 | 76.7881 | 130.228 | 0.99422 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=200) | 64 | 128 | 53.0133 | 188.632 | 0.98097 |  |
| ACORN-1(efs=200) | 64 | 128 | 122.312 | 81.758 | 0.99749 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=400) | 64 | 128 | 102.609 | 97.4576 | 0.98464 |  |
| ACORN-1(efs=400) | 64 | 128 | 241.246 | 41.4515 | 0.99913 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=800) | 64 | 128 | 211.466 | 47.2889 | 0.98578 |  |
| ACORN-1(efs=800) | 64 | 128 | 487.75 | 20.5023 | 0.99955 |  |
|  |  |  |  |  |  |  |
| ACORN-γ(efs=2000) | 64 | 128 |  |  |  |  |
| ACORN-1(efs=2000) | 64 | 128 |  |  |  |  |