| | FM-HF-BV | | FM-HF-R$^3$-15 | | FM-RLMN | | FM-HF-R$^3$-63 | |
|---|---|---|---|---|---|---|---|---|
| | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) |
| ENGLISH.200MB | 0.635 | 70 | 1.127 | 32 | 1.612 | 34 | 1.747 | 17 |
| DBLP.XML.200MB | 0.233 | 29 | 0.601 | 28 | 1.059 | 79 | 1.332 | 24 |
| DNA.200MB | 0.580 | 61 | 1.230 | 38 | 1.605 | 69 | 2.207 | 27 |
| PROTEINS.200MB | 0.533 | 56 | 1.332 | 53 | 1.501 | 89 | 2.787 | 48 |
| SOURCES.200MB | 0.735 | 73 | 1.451 | 39 | 1.721 | 53 | 2.452 | 26 |

Table 1: Time in $\mu$sec per pattern symbol in a count query. Index space as fraction of original file size. Compile options: `-DUSE_HP -msse4.2 -O9 -funroll-loops -fomit-frame-pointer -ffast-math -DNDEBUG`.

| | FM-HF-BV | | FM-HF-R$^3$-15 | | FM-RLMN | | FM-HF-R$^3$-63 | |
|---|---|---|---|---|---|---|---|---|
| | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) |
| ENGLISH.200MB | 0.839 | 70 | 1.135 | 32 | 2.619 | 34 | 1.761 | 17 |
| DBLP.XML.200MB | 0.312 | 29 | 0.593 | 28 | 1.236 | 79 | 1.334 | 24 |
| DNA.200MB | 0.747 | 61 | 1.232 | 38 | 1.911 | 69 | 2.204 | 27 |
| PROTEINS.200MB | 0.672 | 56 | 1.337 | 53 | 1.797 | 89 | 2.750 | 48 |
| SOURCES.200MB | 0.955 | 73 | 1.415 | 39 | 2.048 | 53 | 2.458 | 26 |

Table 2: Time in $\mu$sec per pattern symbol in a count query. Index space as fraction of original file size. Compile options: `-DPOPCOUNT_TL -O9 -funroll-loops -fomit-frame-pointer -ffast-math -DNDEBUG`.

| | FM-HF-BV | | FM-HF-R$^3$-15 | | FM-RLMN | | FM-HF-R$^3$-63 | |
|---|---|---|---|---|---|---|---|---|
| | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) |
| ENGLISH.200MB | 0.712 | 70 | 1.156 | 32 | 1.996 | 34 | 1.744 | 17 |
| DBLP.XML.200MB | 0.264 | 29 | 0.599 | 28 | 1.165 | 79 | 1.321 | 24 |
| DNA.200MB | 0.648 | 61 | 1.225 | 38 | 1.825 | 69 | 2.213 | 27 |
| PROTEINS.200MB | 0.578 | 56 | 1.294 | 53 | 1.729 | 89 | 2.790 | 48 |
| SOURCES.200MB | 0.800 | 73 | 1.409 | 39 | 1.935 | 53 | 2.465 | 26 |

Table 3: Time in $\mu$sec per pattern symbol in a count query. Index space as fraction of original file size. Compile options: `-O9 -funroll-loops -fomit-frame-pointer -ffast-math -DNDEBUG`.

| | FM-HF-BV | | FM-HF-R$^3$-15 | | FM-RLMN | | FM-HF-R$^3$-63 | |
|---|---|---|---|---|---|---|---|---|
| | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) |
| ENGLISH.200MB | 1.346 | 70 | 2.129 | 32 | 5.429 | 34 | 4.331 | 17 |
| DBLP.XML.200MB | 0.552 | 29 | 1.176 | 28 | 2.054 | 79 | 2.956 | 24 |
| DNA.200MB | 1.184 | 61 | 2.234 | 38 | 3.024 | 69 | 5.327 | 27 |
| PROTEINS.200MB | 1.083 | 56 | 2.473 | 53 | 2.805 | 89 | 5.998 | 48 |
| SOURCES.200MB | 1.443 | 73 | 2.543 | 39 | 3.374 | 53 | 5.914 | 26 |

Table 4: Time in $\mu$sec per pattern symbol in a count query. Index space as fraction of original file size. Compile options: `-O0 -DNDEBUG`.

| | FM-HF-BV | | FM-HF-R$^3$-15 | | FM-RLMN | | FM-HF-R$^3$-63 | |
|---|---|---|---|---|---|---|---|---|
| | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) |
| ENGLISH.200MB | 0.741 | 70 | 1.141 | 32 | 2.041 | 34 | 1.763 | 17 |
| DBLP.XML.200MB | 0.286 | 29 | 0.602 | 28 | 1.198 | 79 | 1.354 | 24 |
| DNA.200MB | 0.654 | 61 | 1.218 | 38 | 1.829 | 69 | 2.217 | 27 |
| PROTEINS.200MB | 0.590 | 56 | 1.291 | 53 | 1.742 | 89 | 2.682 | 48 |
| SOURCES.200MB | 0.816 | 73 | 1.450 | 39 | 1.952 | 53 | 2.457 | 26 |

Table 5: Time in $\mu$sec per pattern symbol in a count query. Index space as fraction of original file size. Compile options: `-O1 -DNDEBUG`.

| | FM-HF-BV | | FM-HF-R$^3$-15 | | FM-RLMN | | FM-HF-R$^3$-63 | |
|---|---|---|---|---|---|---|---|---|
| | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) | Time ($\mu s$) | Space (%) |
| ENGLISH.200MB | 0.625 | 70 | 1.127 | 32 | 1.579 | 34 | 1.744 | 17 |
| DBLP.XML.200MB | 0.226 | 29 | 0.585 | 28 | 1.098 | 79 | 1.330 | 24 |
| DNA.200MB | 0.577 | 61 | 1.217 | 38 | 1.612 | 69 | 2.217 | 27 |
| PROTEINS.200MB | 0.514 | 56 | 1.263 | 53 | 1.510 | 89 | 2.764 | 48 |
| SOURCES.200MB | 0.716 | 73 | 1.457 | 39 | 1.686 | 53 | 2.473 | 26 |

Table 6: Time in $\mu$sec per pattern symbol in a count query. Index space as fraction of original file size. Compile options: `-msse4.2 -O9 -funroll-loops -fomit-frame-pointer -ffast-math -DNDEBUG`.

| Identifier | sdsl type |
|---|---|
| FM-HF-BV | `csa_wt<wt_huff<bit_vector, rank_support_v5<>, select_support_scan<>, select_support_scan<0>>, 1<<20, 1<<20>` |
| FM-HF-R$^3$-15 | `csa_wt<wt_huff<rrr_vector<15>>, 1<<20, 1<<20>` |
| FM-RLMN | `csa_wt<wt_rlmn<>, 1<<20, 1<<20>` |
| FM-HF-R$^3$-63 | `csa_wt<wt_huff<rrr_vector<63>>, 1<<20, 1<<20>` |

Table 7: Index identifier and corresponding sdsl-type.