

query bank	protein vs protein			protein vs DNA			DNA vs protein		
	BLASTP	PLASTP	speedup	TBLASTN	TPLASTN	speedup	BLASTX	PLASTX	speedup
1K	8,151	2,704	3.01	1,444	573	2.53	4,458	1,074	4.15
3K	19,910	5,024	3.96	4,256	1,053	4.04	13,716	3,085	4.44
10K	92,973	24,359	3.81	14,380	2,810	5.11	42,569	9,710	4.38

Table 1: Comparison of performance of BLAST and PLAST families running with single-threaded. The E-value cutoff is set to 10^{-3} and option “-m8” of BLAST is enabled. Execution times are given in seconds.

query bank	protein vs protein			protein vs DNA			DNA vs protein		
	BLASTP	PLASTP*	speedup	TBLASTN	TPLASTN*	speedup	BLASTX	PLASTX*	speedup
1K	8,151	9,737	0.84	1,444	1,904	0.76	4,458	5,553	0.80
3K	19,910	22,161	0.90	4,256	5,502	0.77	13,716	17,424	0.79
10K	92,973	104,124	0.89	14,380	18,323	0.78	42,569	56,055	0.76

Table 2: Comparison of performance of BLAST and PLAST (**without SSE instructions**) families running with single-threaded. The E-value cutoff is set to 10^{-3} and option “-m8” of BLAST is enabled. Execution times are given in seconds. (*) represents PLAST without SSE instructions. It’s clear that speedup is bought by SSE instructions and that the structure of the algorithm is interesting only if such instructions are available.