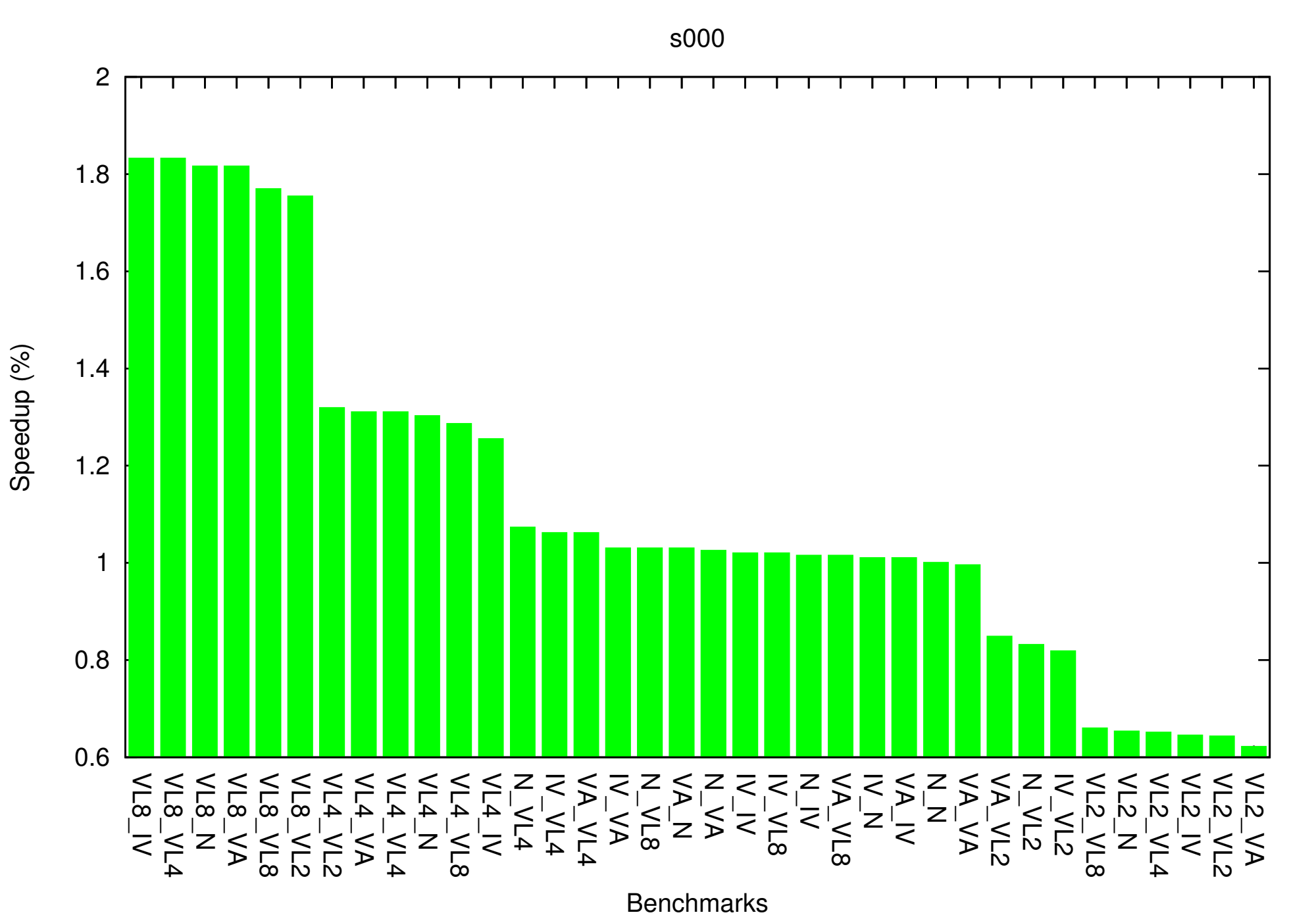
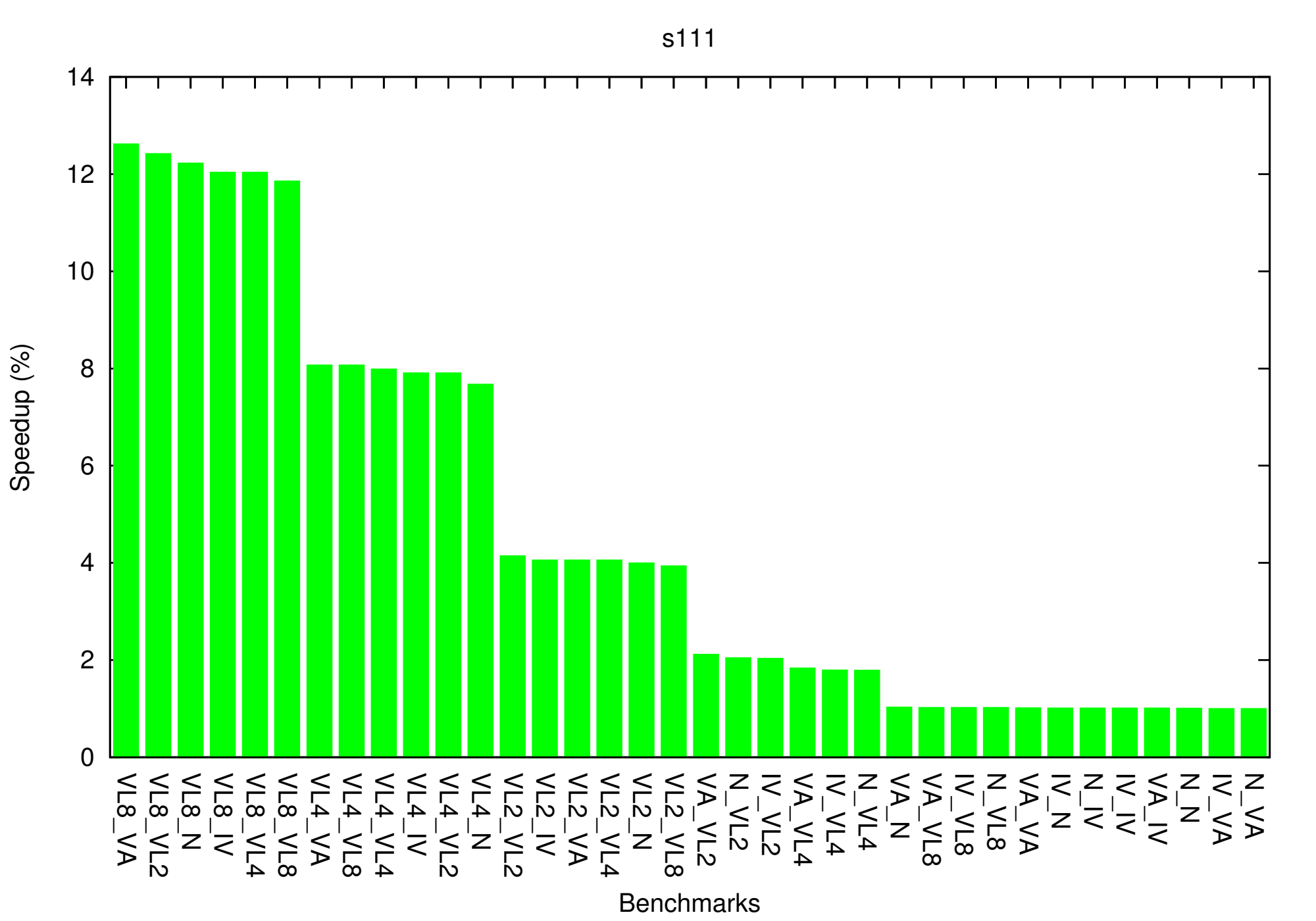
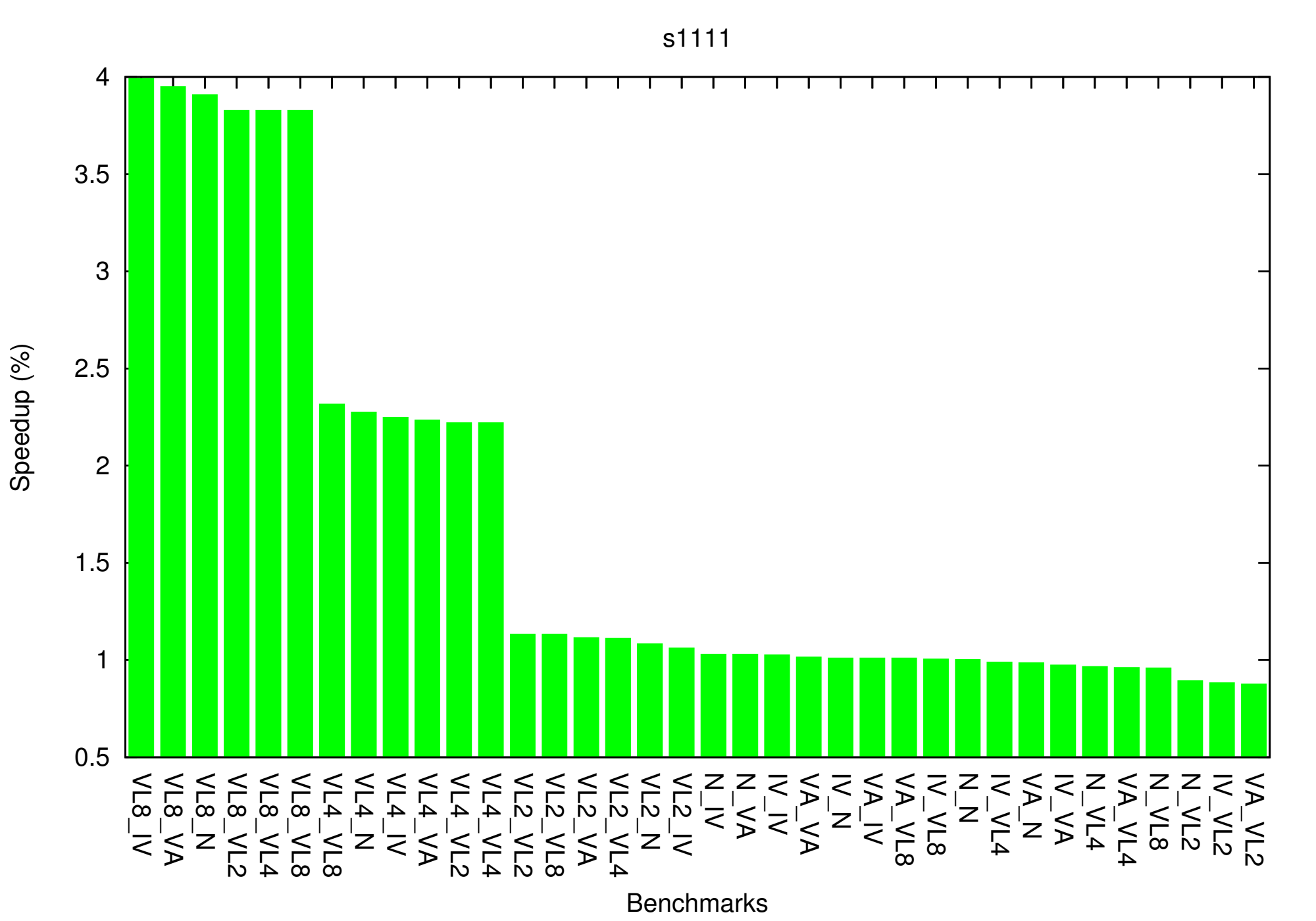
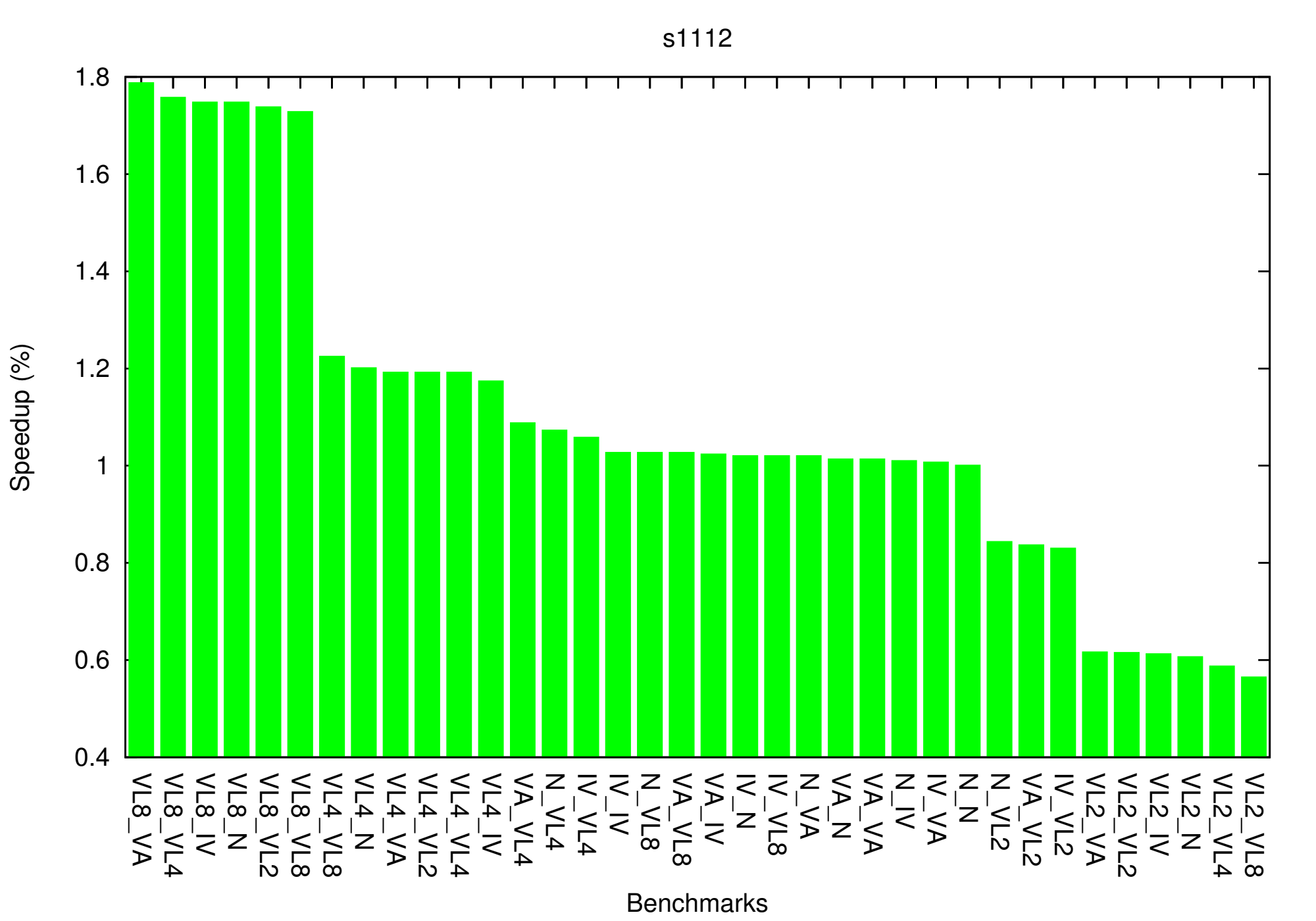
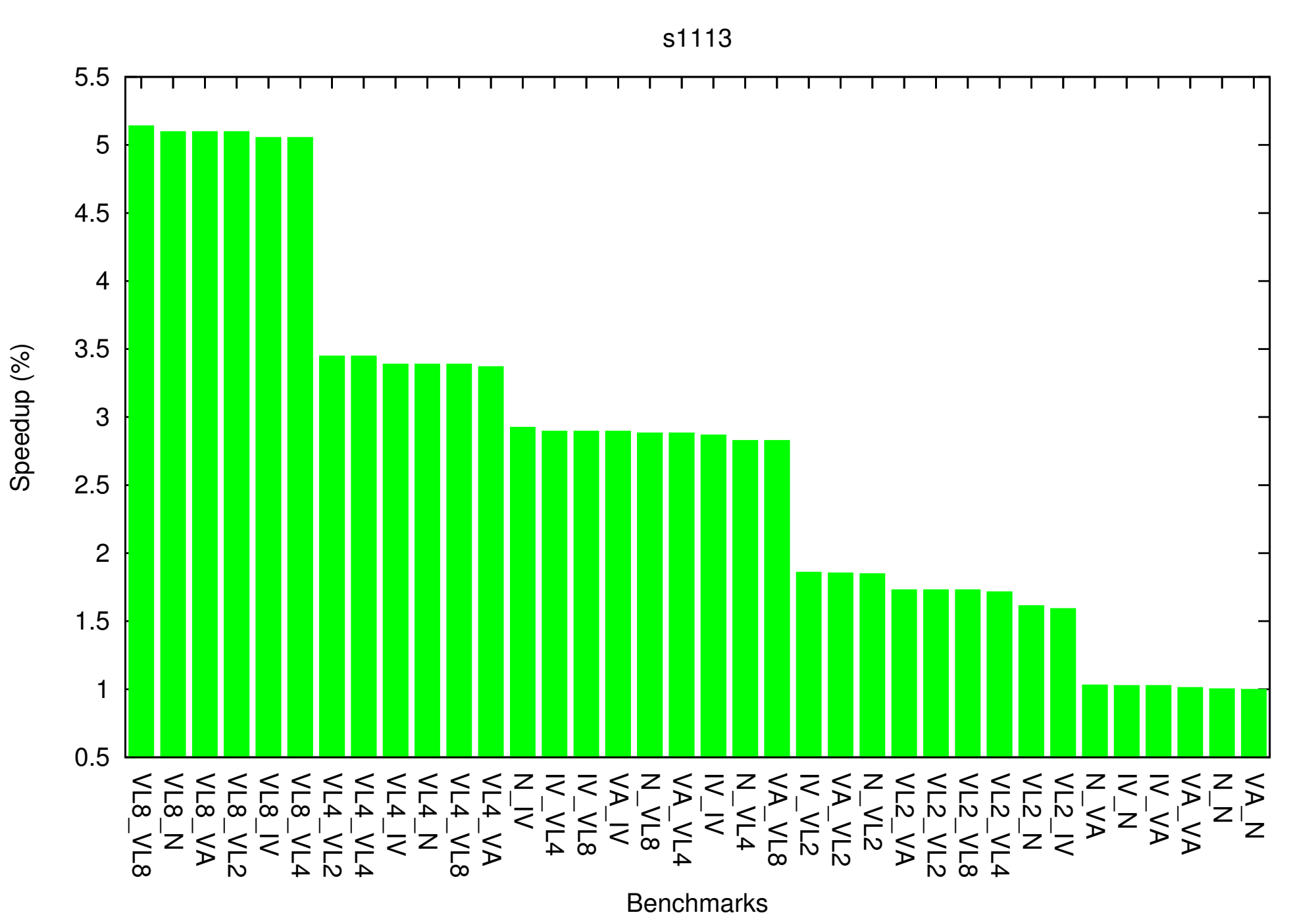
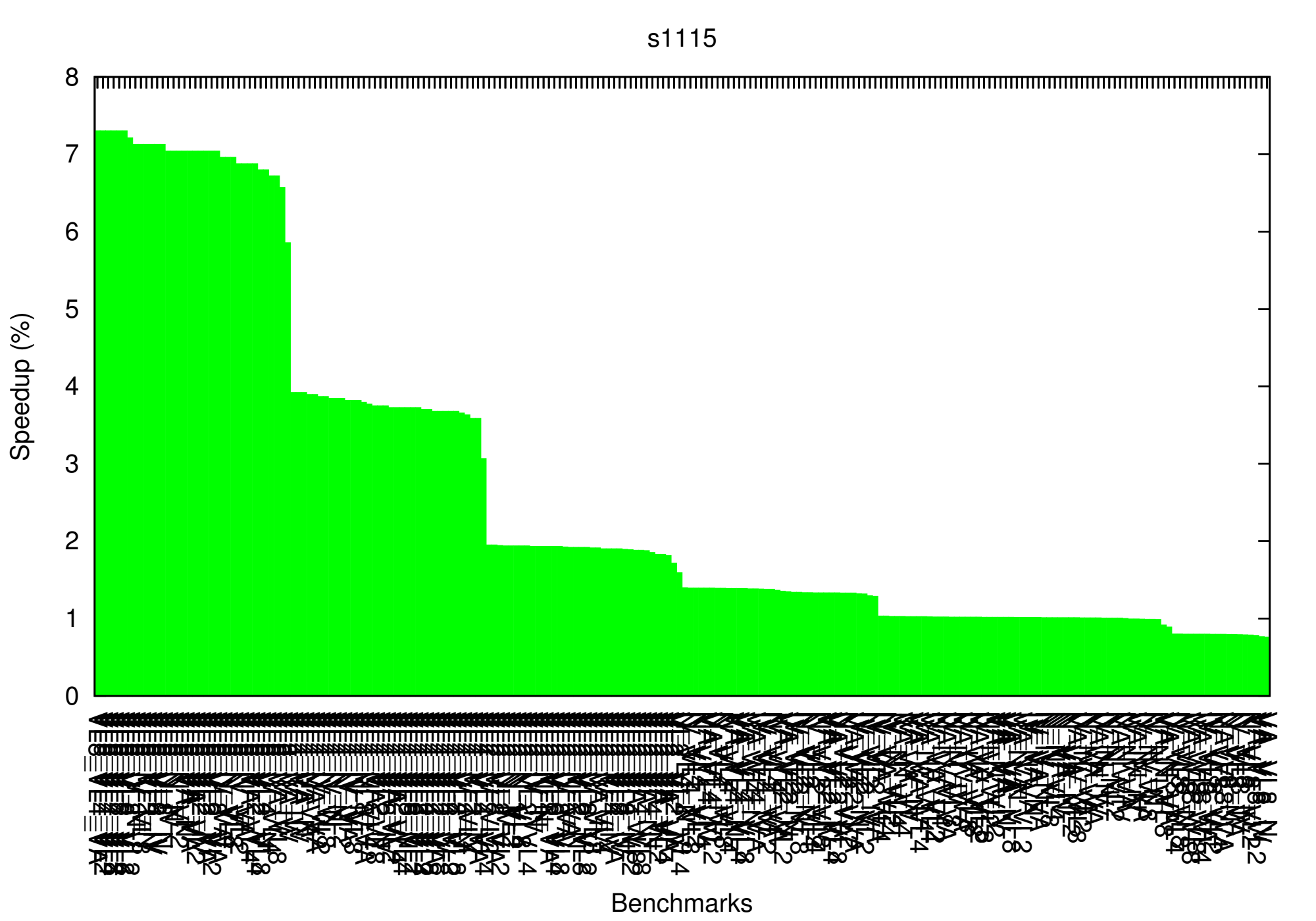

s000
Speedup (%)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
VL8_IV
VL8_VL4
VL8_N
VL8_VA
VL8_VL8
VL8_VL2
VL4_VL2
VL4_VA
VL4_VL4
VL4_N
VL4_VL8
VL4_IV
N_VL4
IV_VL4
VA_VL4
IV_VA
N_VL8
VA_N
N_VA
IV_IV
IV_VL8
N_IV
VA_VL8
IV_N
VA_IV
N_N
VA_VA
VA_VL2
N_VL2
IV_VL2
VL2_VL8
VL2_N
VL2_VL4
VL2_IV
VL2_VL2
VL2_VA
Benchmarks

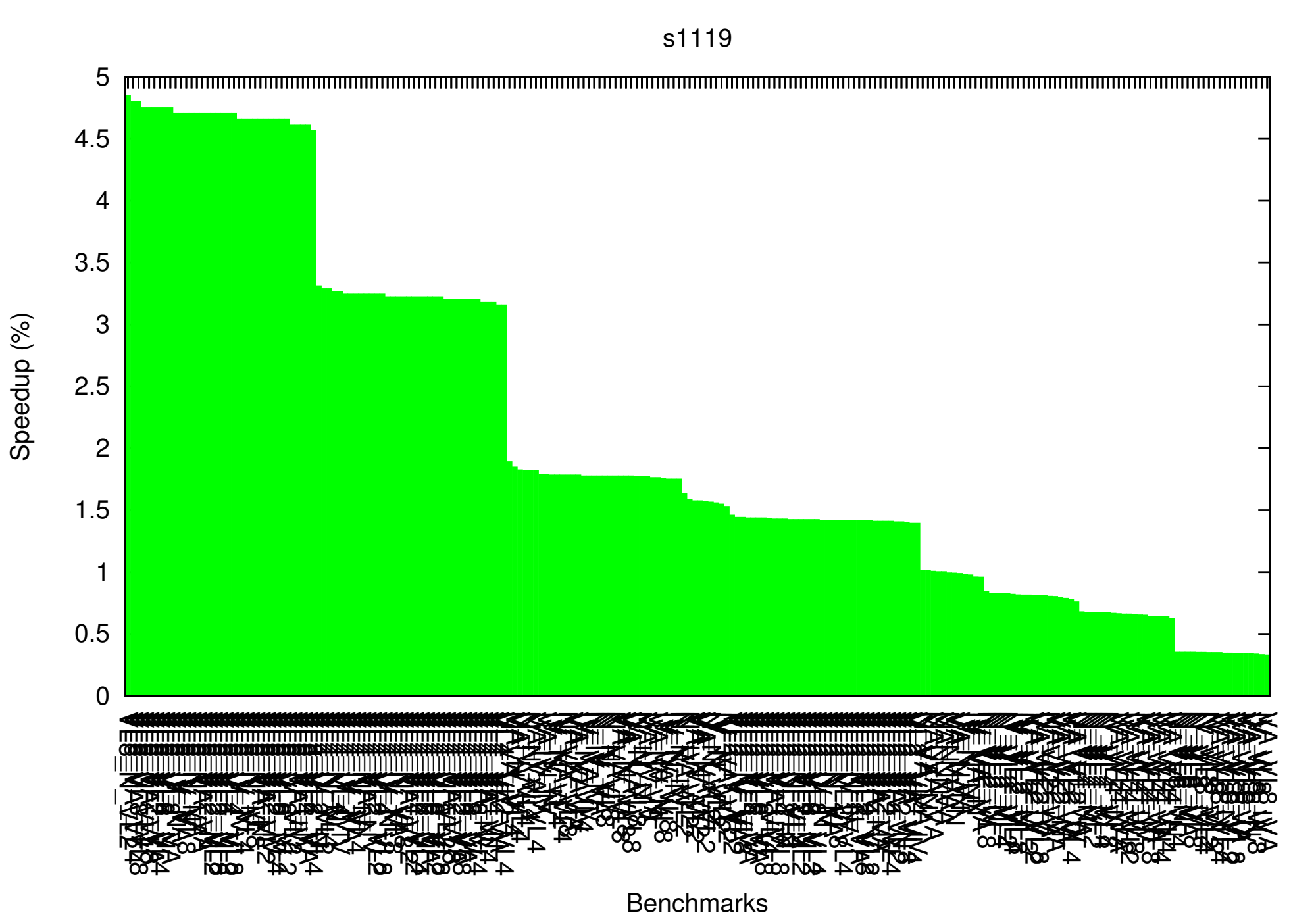

s111
Speedup (%)
0
2
4
6
8
10
12
14
VL8_VA
VL8_VL2
VL8_N
VL8_IV
VL8_VL4
VL8_VL8
VL4_VA
VL4_VL8
VL4_VL4
VL4_IV
VL4_VL2
VL4_N
VL2_VL2
VL2_IV
VL2_VA
VL2_VL4
VL2_N
VL2_VL8
VA_VL2
N_VL2
IV_VL2
VA_VL4
IV_VL4
N_VL4
VA_N
VA_VL8
IV_VL8
N_VL8
VA_VA
IV_N
N_IV
IV_IV
VA_IV
N_N
IV_VA
N_VA
Benchmarks

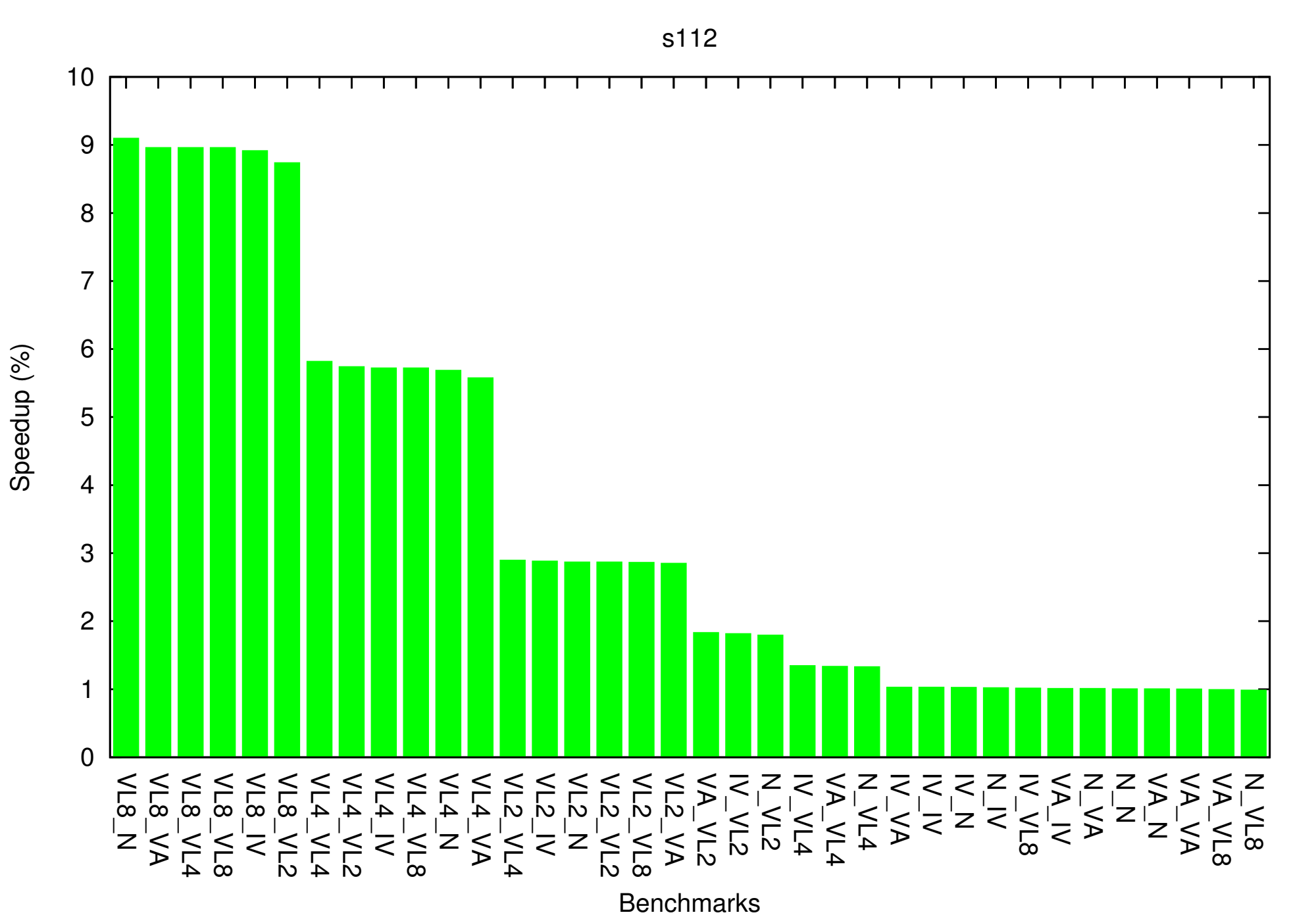

s1111
Speedup (%)
4
3.5
3
2.5
2
1.5
1
0.5
VL8_IV
VL8_VA
VL8_N
VL8_VL2
VL8_VL4
VL8_VL8
VL4_VL8
VL4_N
VL4_IV
VL4_VA
VL4_VL2
VL4_VL4
VL2_VL2
VL2_VL8
VL2_VA
VL2_VL4
VL2_N
VL2_IV
N_IV
N_VA
IV_IV
VA_VA
IV_N
VA_IV
VA_VL8
IV_VL8
N_N
IV_VL4
VA_N
IV_VA
N_VL4
VA_VL4
N_VL8
N_VL2
IV_VL2
VA_VL2
Benchmarks

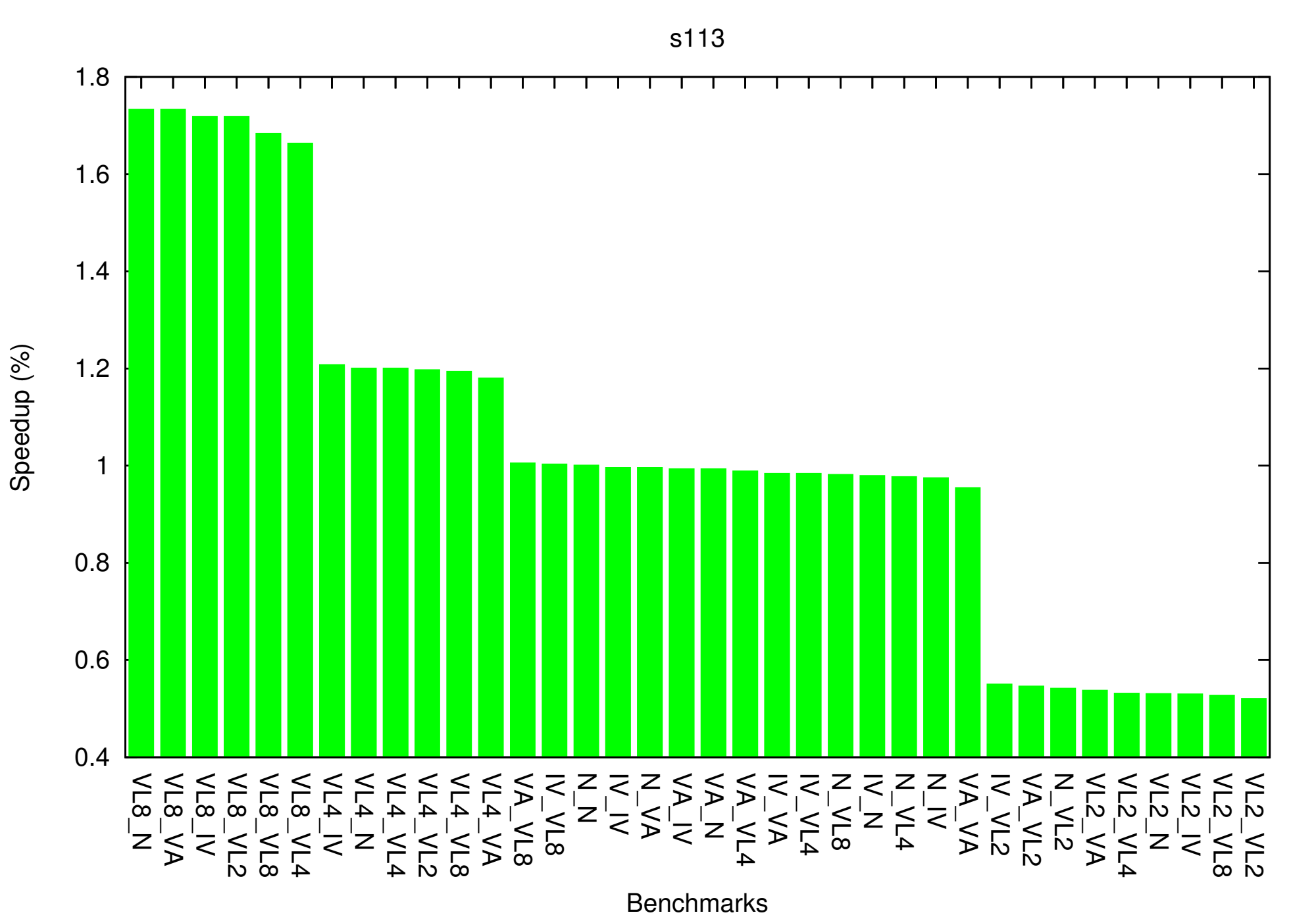

s1112
Speedup (%)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
VL8_VA
VL8_VL4
VL8_IV
VL8_N
VL8_VL2
VL8_VL8
VL4_VL8
VL4_N
VL4_VA
VL4_VL2
VL4_VL4
VL4_IV
VA_VL4
N_VL4
IV_VL4
IV_IV
N_VL8
VA_VL8
VA_IV
IV_N
IV_VL8
N_VA
VA_N
VA_VA
N_IV
IV_VA
N_N
N_VL2
VA_VL2
IV_VL2
VL2_VA
VL2_VL2
VL2_IV
VL2_N
VL2_VL4
VL2_VL8
Benchmarks

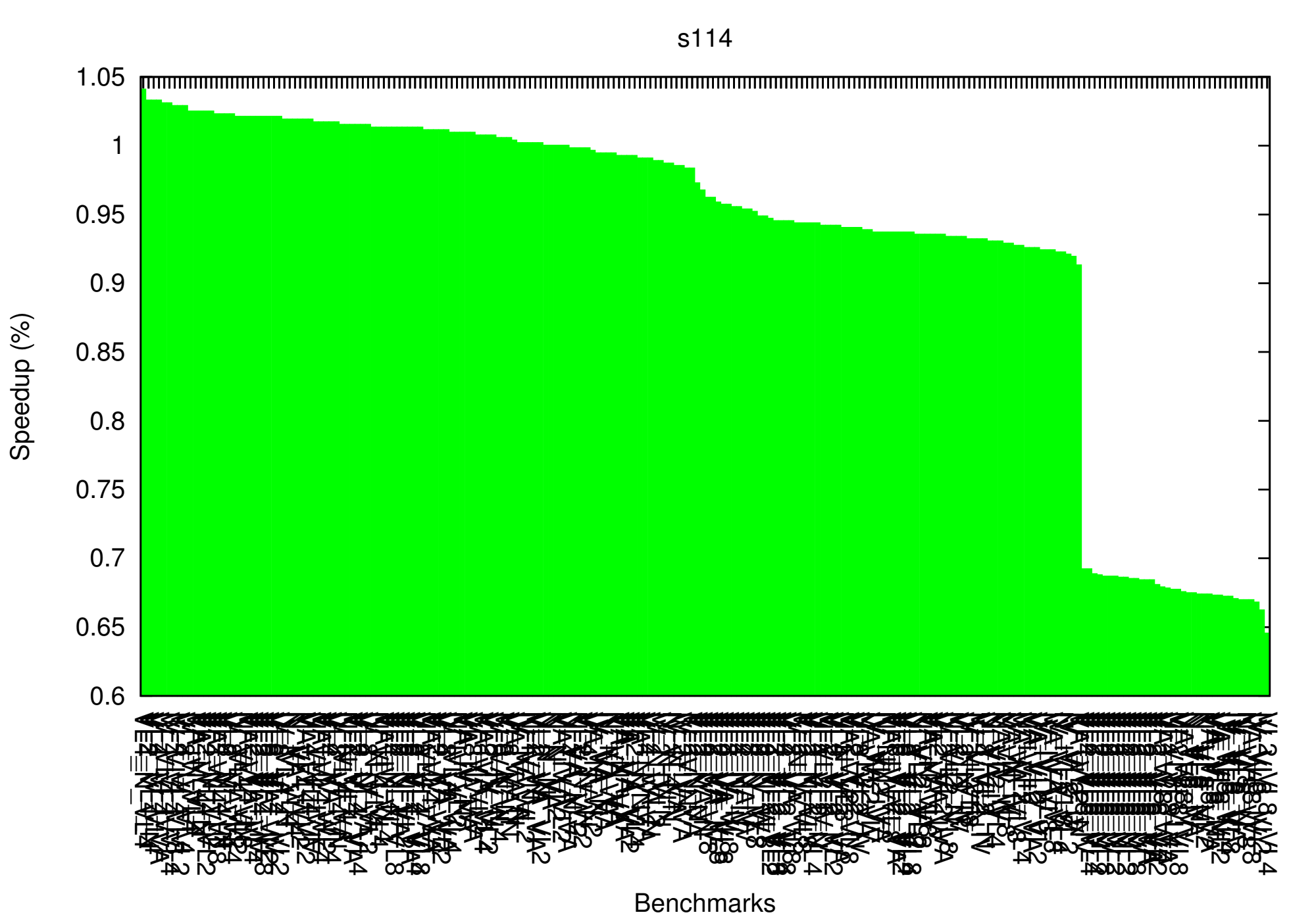

s1113
Speedup (%)
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
VL8_VL8
VL8_N
VL8_VA
VL8_VL2
VL8_IV
VL8_VL4
VL4_VL2
VL4_VL4
VL4_IV
VL4_N
VL4_VL8
VL4_VA
N_IV
IV_VL4
IV_VL8
VA_IV
N_VL8
VA_VL4
IV_IV
N_VL4
VA_VL8
IV_VL2
VA_VL2
N_VL2
VL2_VA
VL2_VL2
VL2_VL8
VL2_VL4
VL2_N
VL2_IV
N_VA
IV_N
IV_VA
VA_VA
N_N
VA_N
Benchmarks

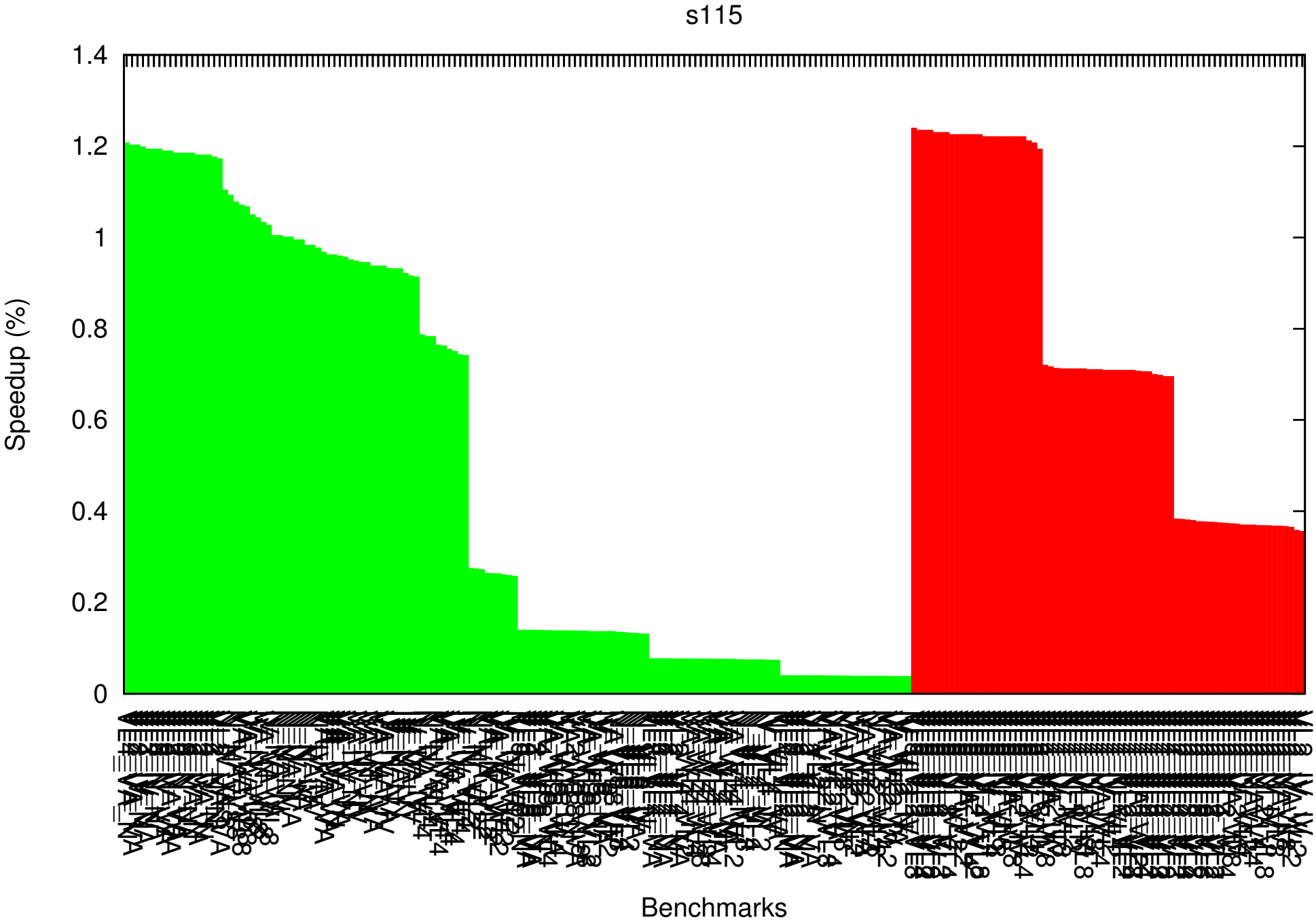

s1115
Speedup (%)
0
1
2
3
4
5
6
7
8
Benchmarks

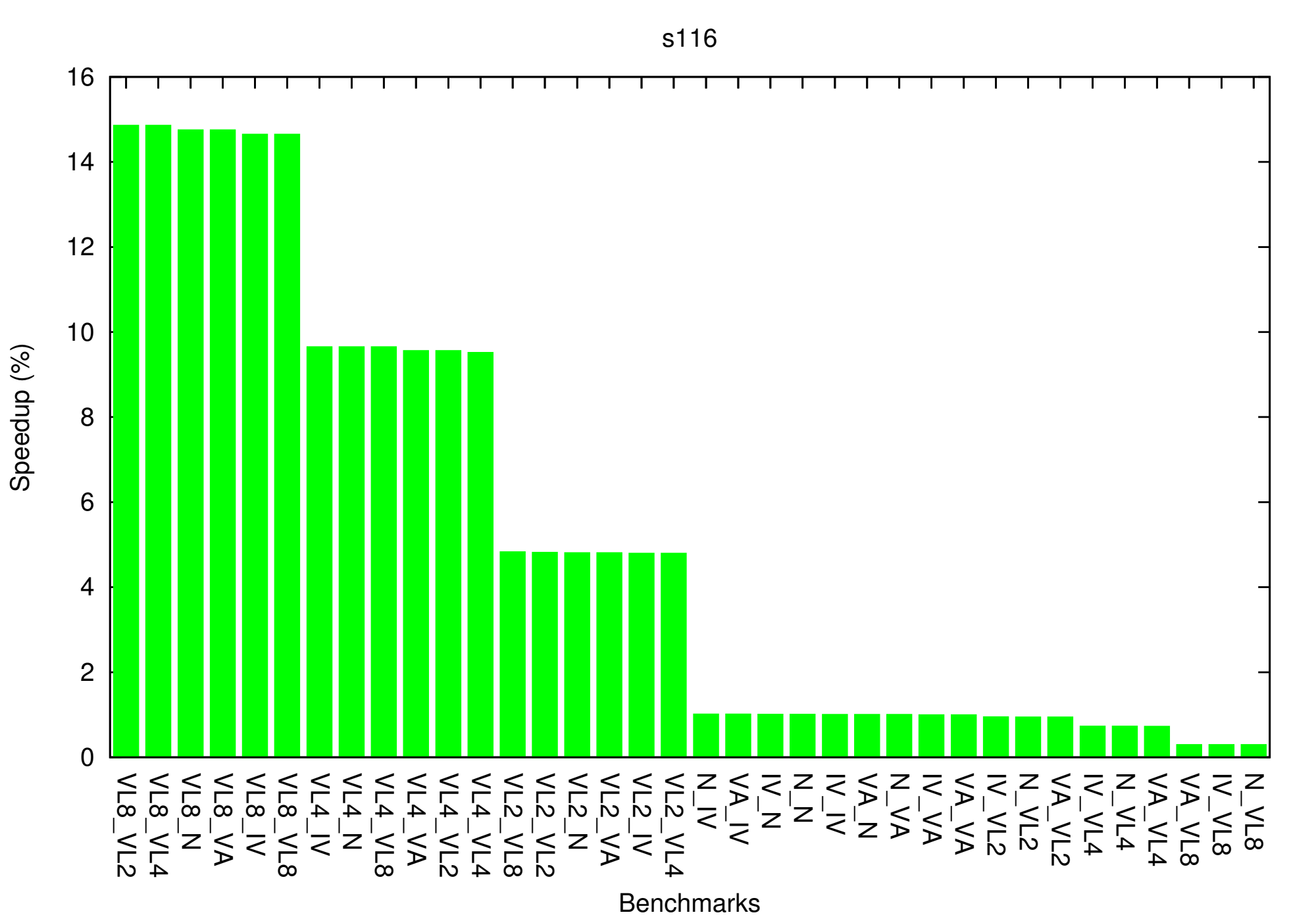

s1119
Speedup (%)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Benchmarks

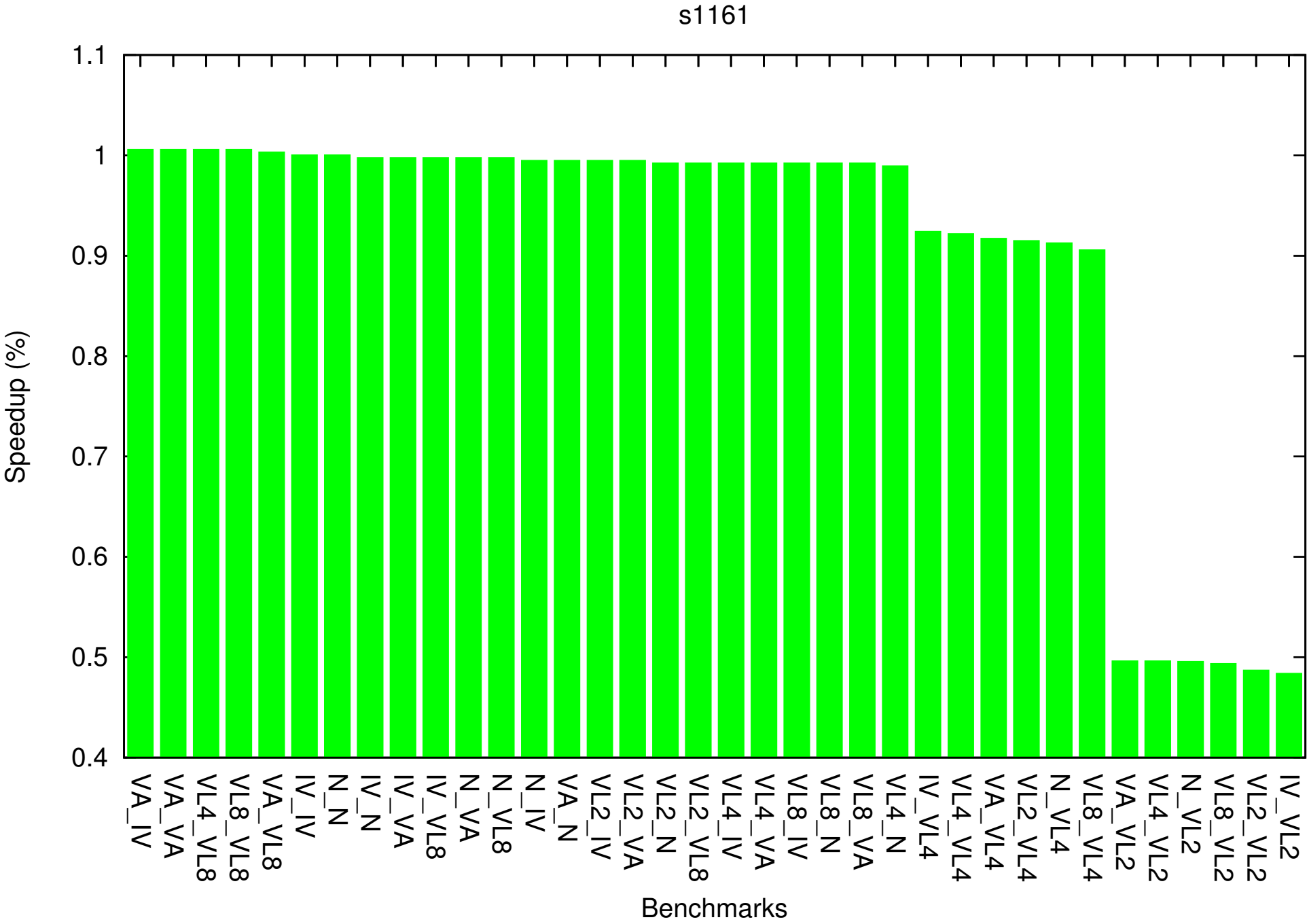

s112
Speedup (%)
0
1
2
3
4
5
6
7
8
9
10
VL8_N
VL8_VA
VL8_VL4
VL8_VL8
VL8_IV
VL8_VL2
VL4_VL4
VL4_VL2
VL4_IV
VL4_VL8
VL4_N
VL4_VA
VL2_VL4
VL2_IV
VL2_N
VL2_VL2
VL2_VL8
VL2_VA
VA_VL2
IV_VL2
N_VL2
IV_VL4
VA_VL4
N_VL4
IV_VA
IV_IV
IV_N
N_IV
IV_VL8
VA_IV
N_VA
N_N
VA_N
VA_VA
VA_VL8
N_VL8
Benchmarks

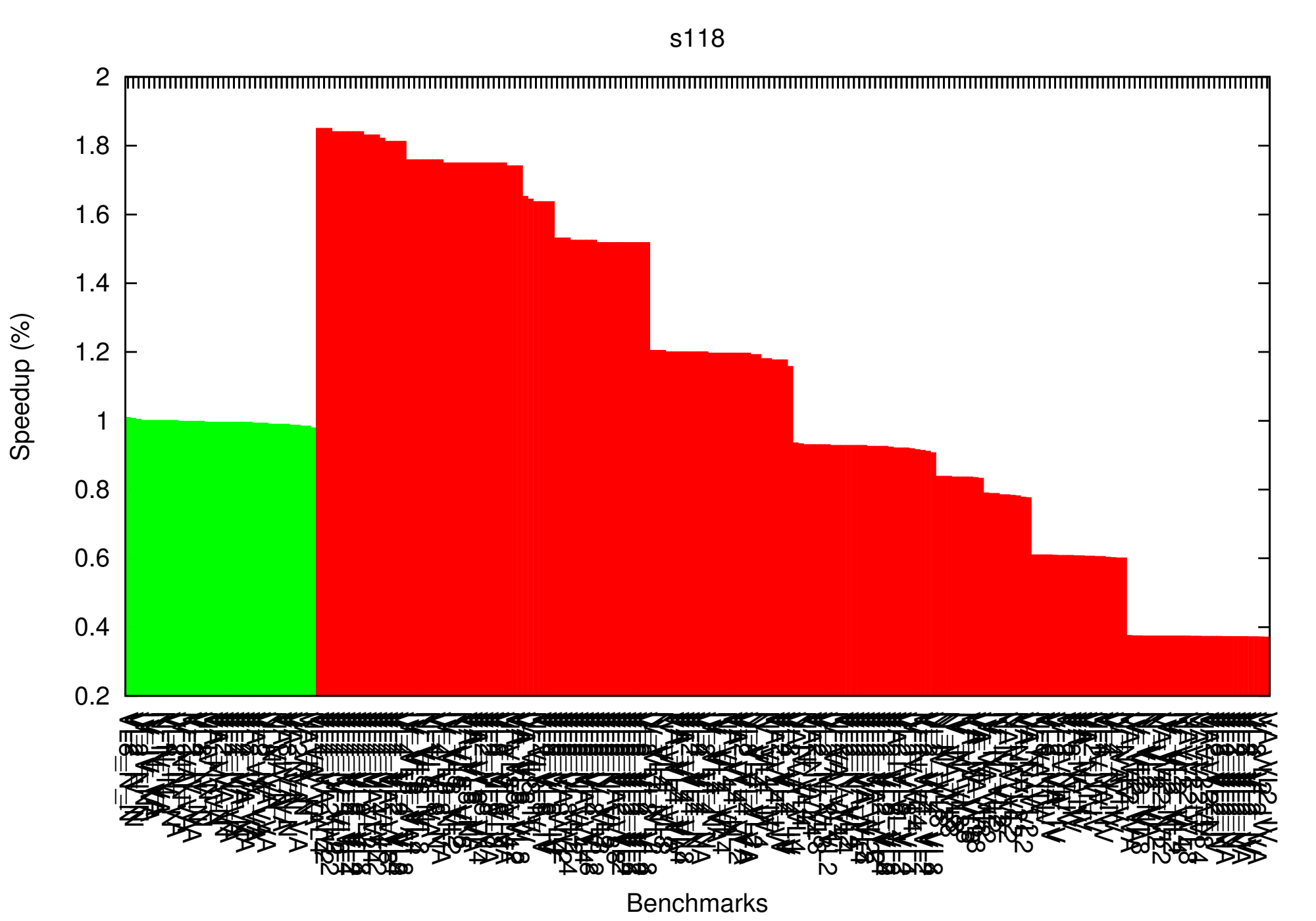

s113
Speedup (%)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
VL8_N
VL8_VA
VL8_IV
VL8_VL2
VL8_VL8
VL8_VL4
VL4_IV
VL4_N
VL4_VL4
VL4_VL2
VL4_VL8
VL4_VA
VA_VL8
IV_VL8
N_N
IV_IV
N_VA
VA_IV
VA_N
VA_VL4
IV_VA
IV_VL4
N_VL8
IV_N
N_VL4
N_IV
VA_VA
IV_VL2
VA_VL2
N_VL2
VL2_VA
VL2_VL4
VL2_N
VL2_IV
VL2_VL8
VL2_VL2
Benchmarks

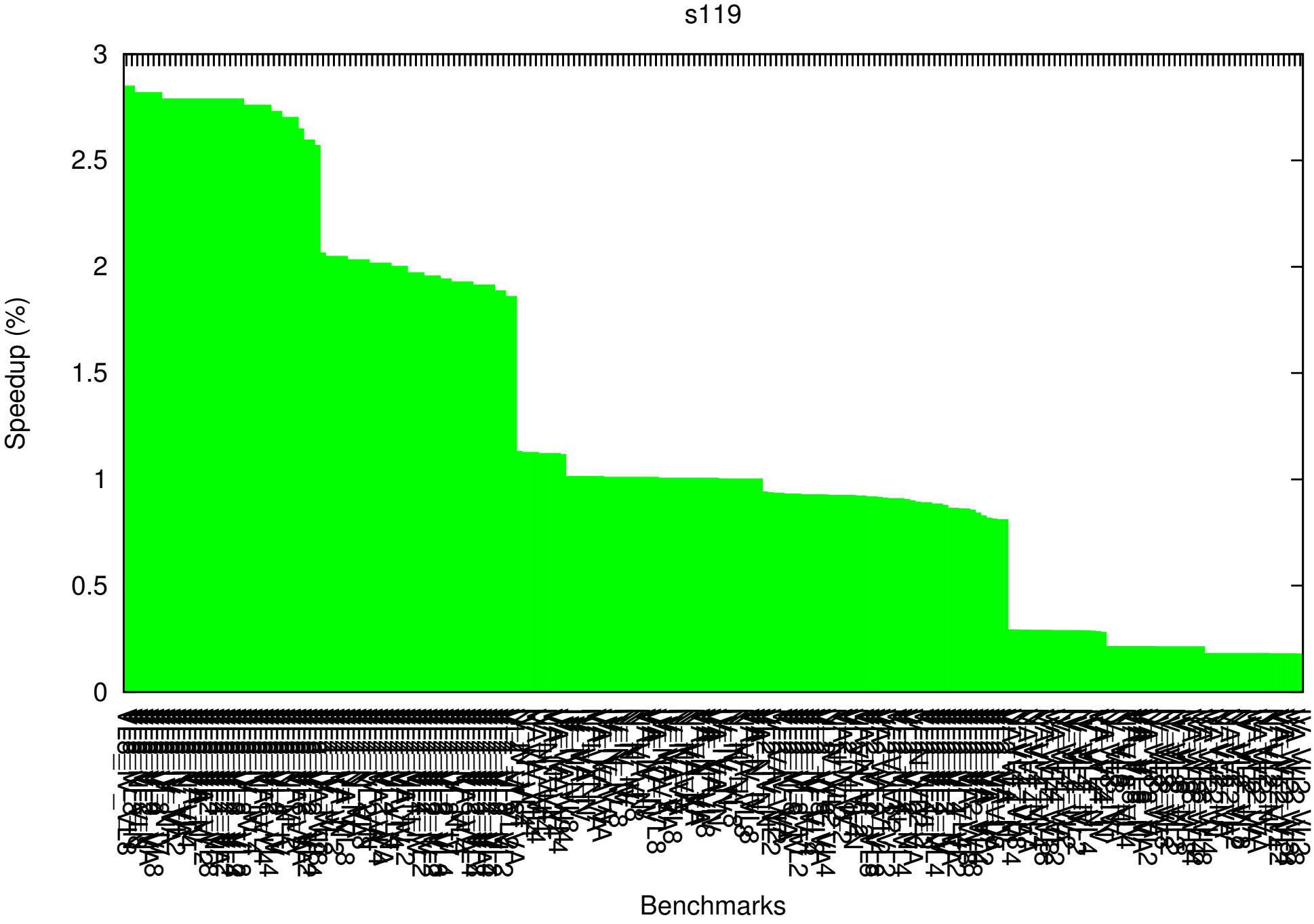

s114
Speedup (%)
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Benchmarks

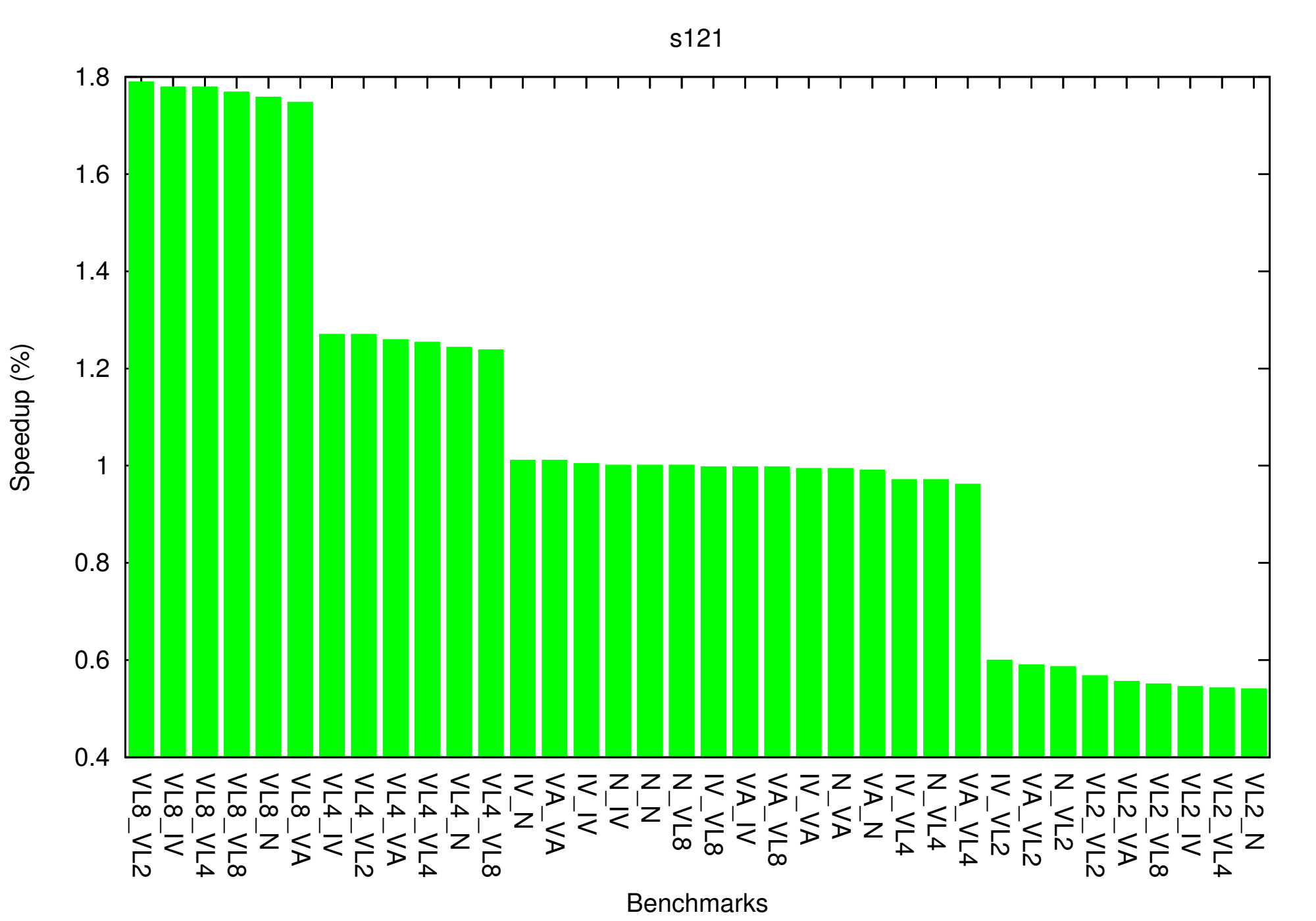

s115
Speedup (%)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Benchmarks

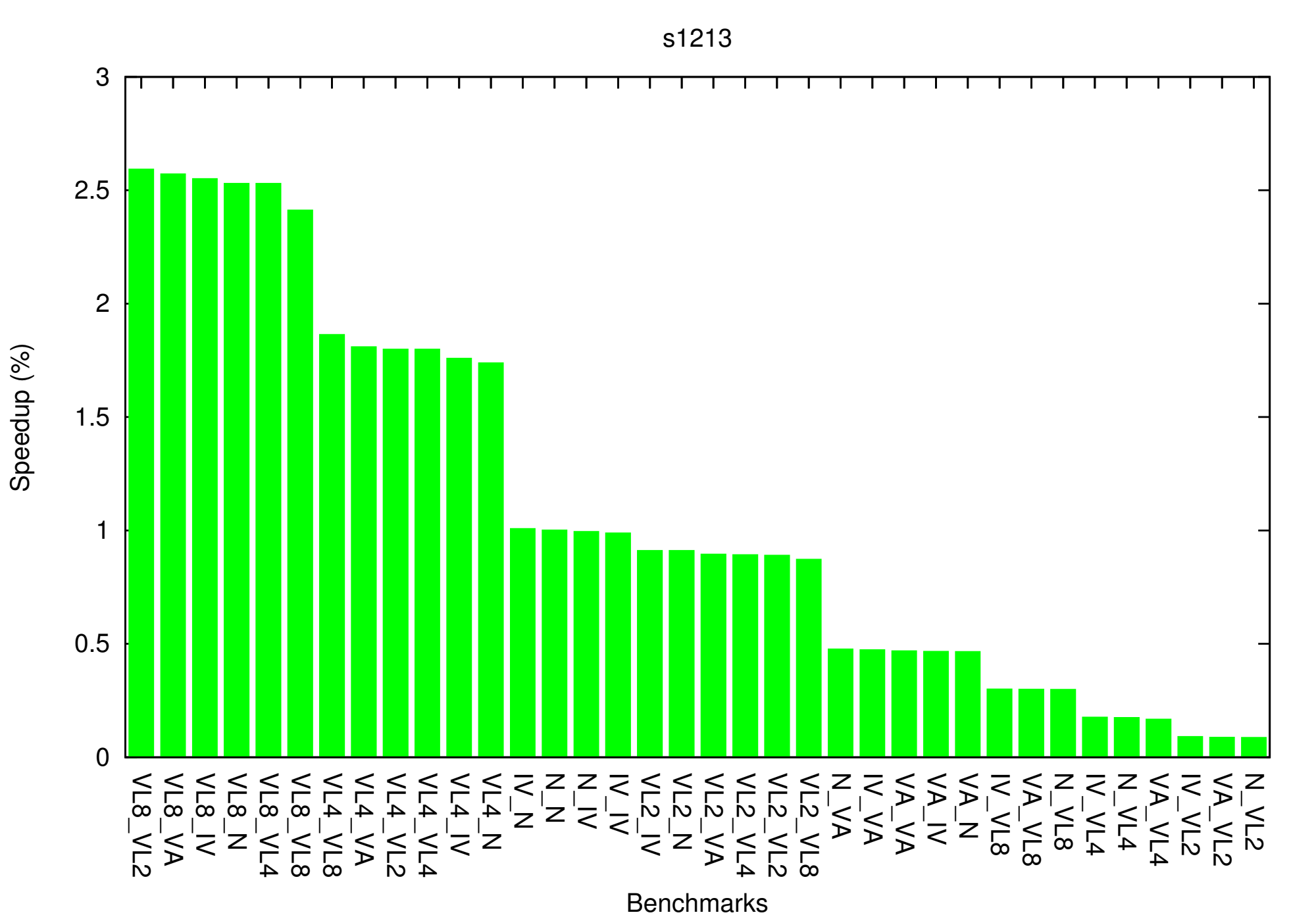

s116
Speedup (%)
0
2
4
6
8
10
12
14
16
VL8_VL2
VL8_VL4
VL8_N
VL8_VA
VL8_IV
VL8_VL8
VL4_IV
VL4_N
VL4_VL8
VL4_VA
VL4_VL2
VL4_VL4
VL2_VL8
VL2_VL2
VL2_N
VL2_VA
VL2_IV
VL2_VL4
N_IV
VA_IV
IV_N
N_N
IV_IV
VA_N
N_VA
IV_VA
VA_VA
IV_VL2
N_VL2
VA_VL2
IV_VL4
N_VL4
VA_VL4
VA_VL8
IV_VL8
N_VL8
Benchmarks

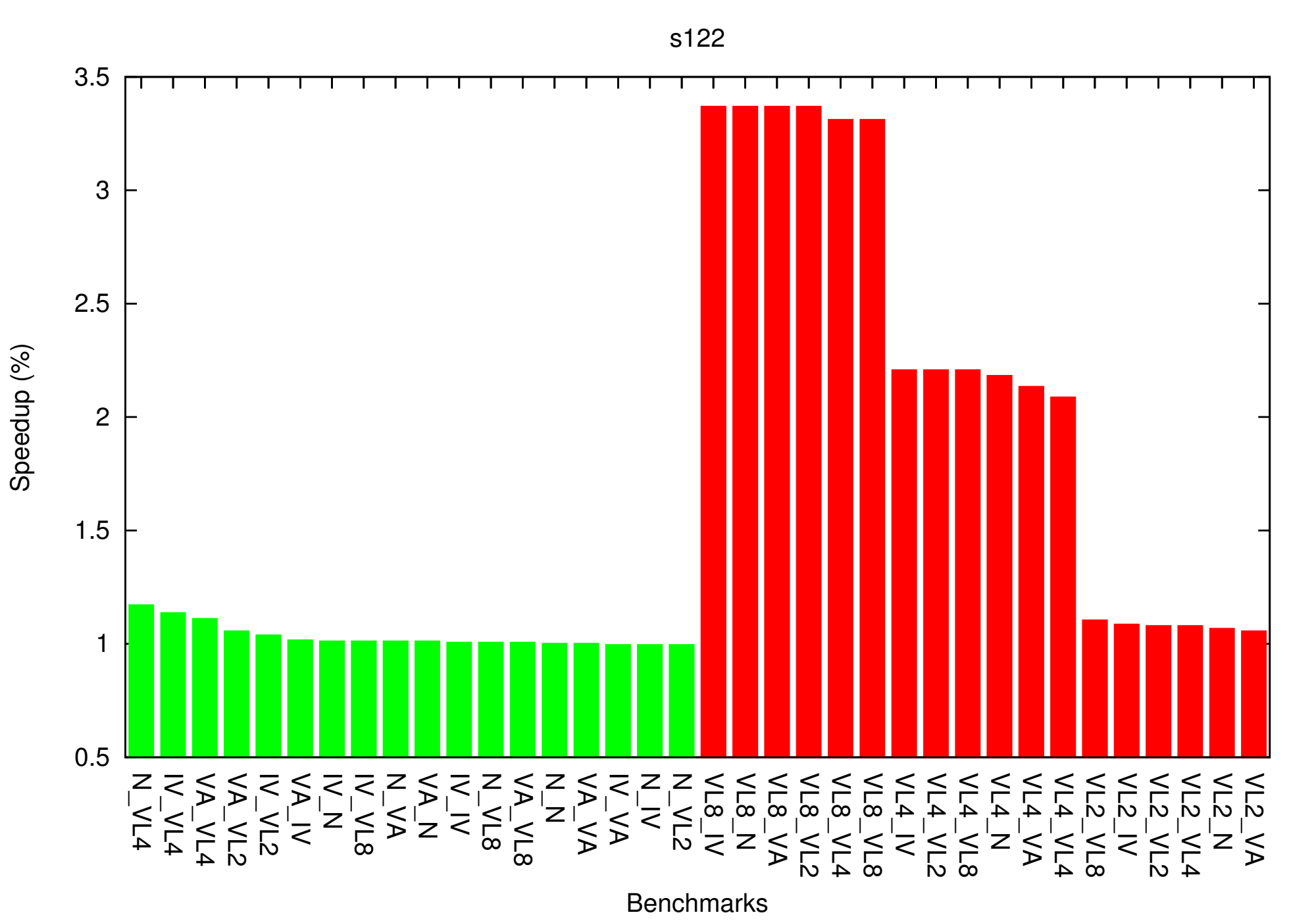

s1161
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
VA_IV
VA_VA
VL4_VL8
VL8_VL8
VA_VL8
IV_IV
N_N
IV_N
IV_VA
IV_VL8
N_VA
N_VL8
N_IV
VA_N
VL2_IV
VL2_VA
VL2_N
VL2_VL8
VL4_IV
VL4_VA
VL8_IV
VL8_N
VL8_VA
VL4_N
IV_VL4
VL4_VL4
VA_VL4
VL2_VL4
N_VL4
VL8_VL4
VA_VL2
VL4_VL2
N_VL2
VL8_VL2
VL2_VL2
IV_VL2
Benchmarks

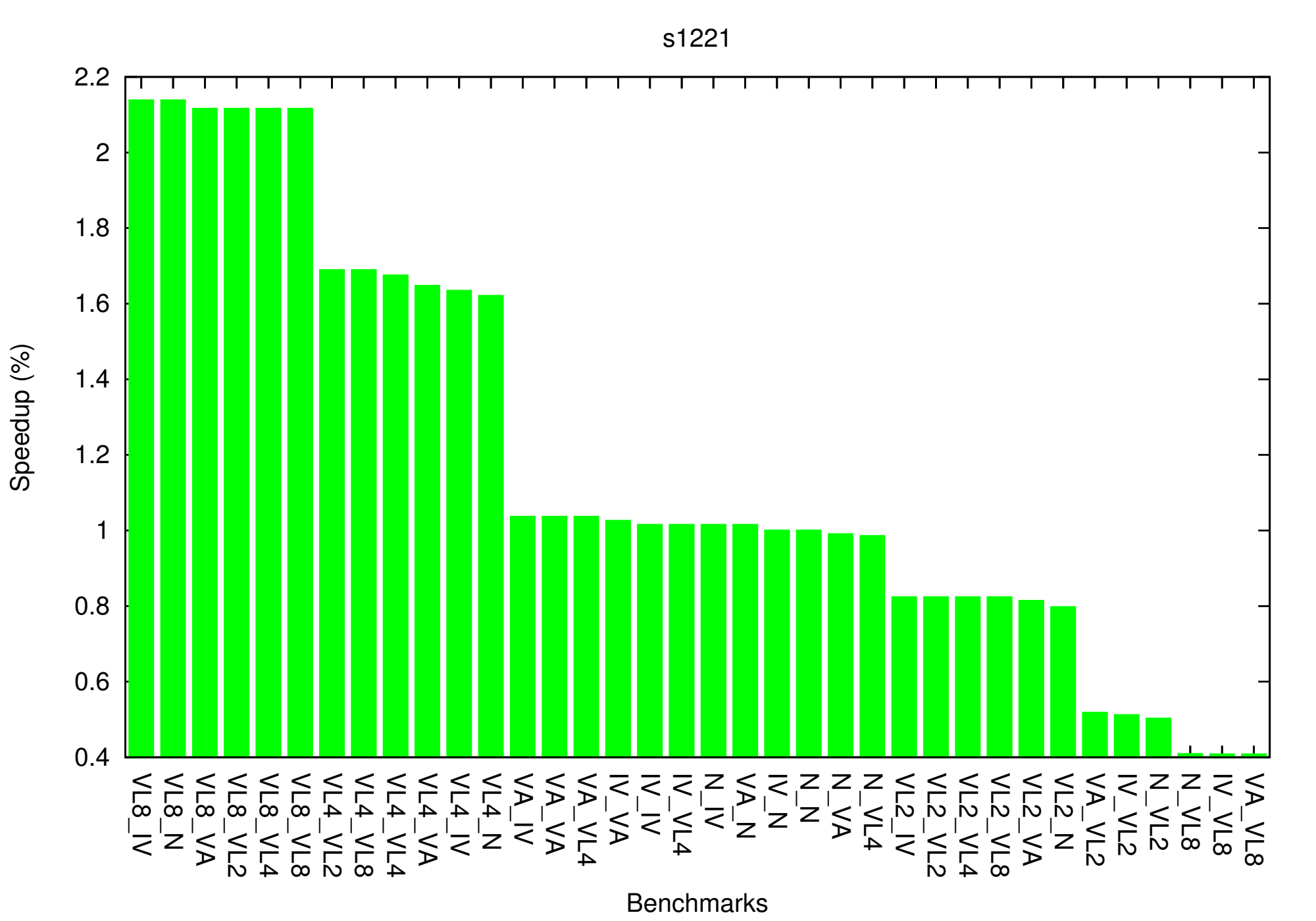

s118
Speedup (%)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
Benchmarks

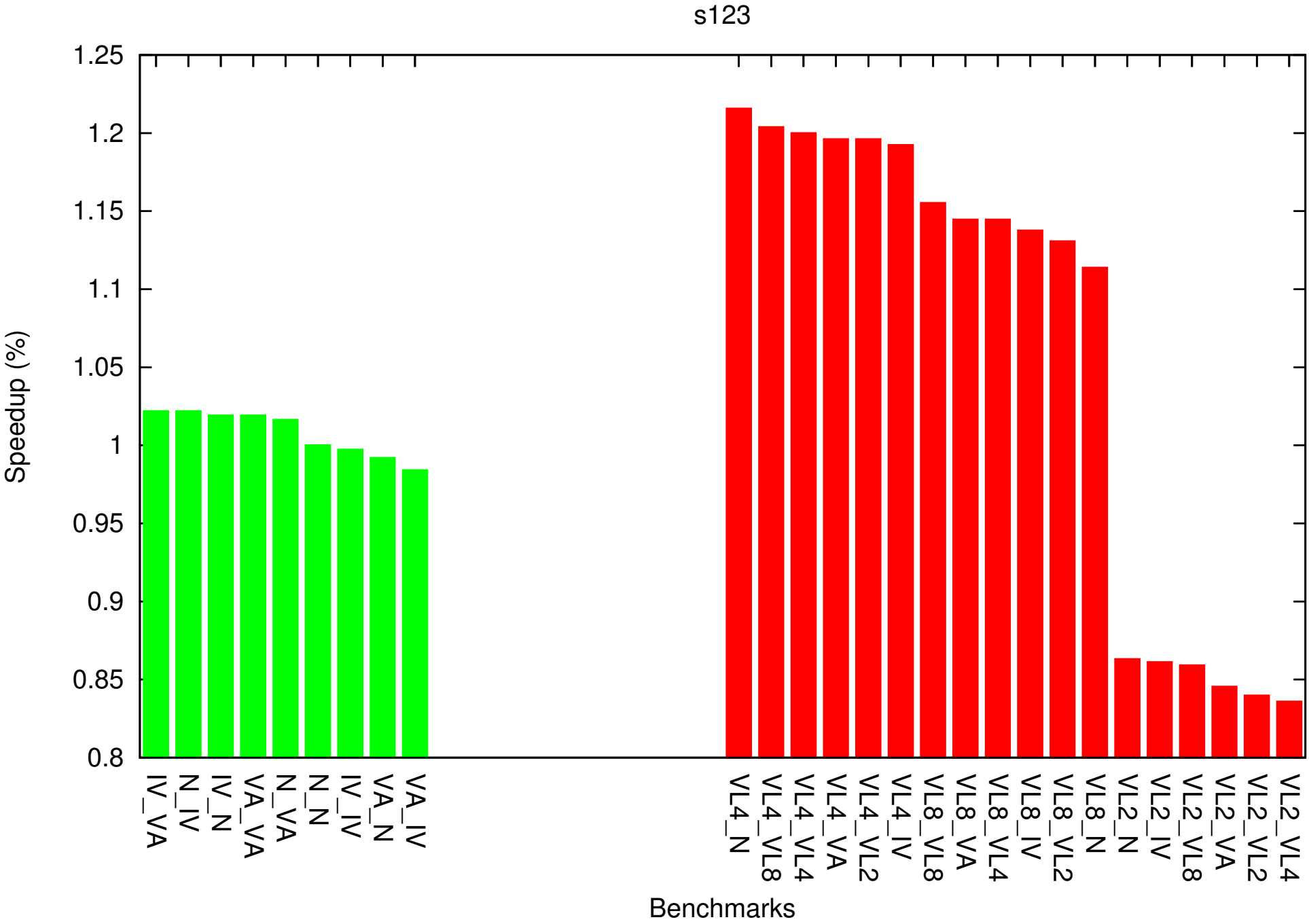

s119
Speedup (%)
3
2.5
2
1.5
1
0.5
0
Benchmarks

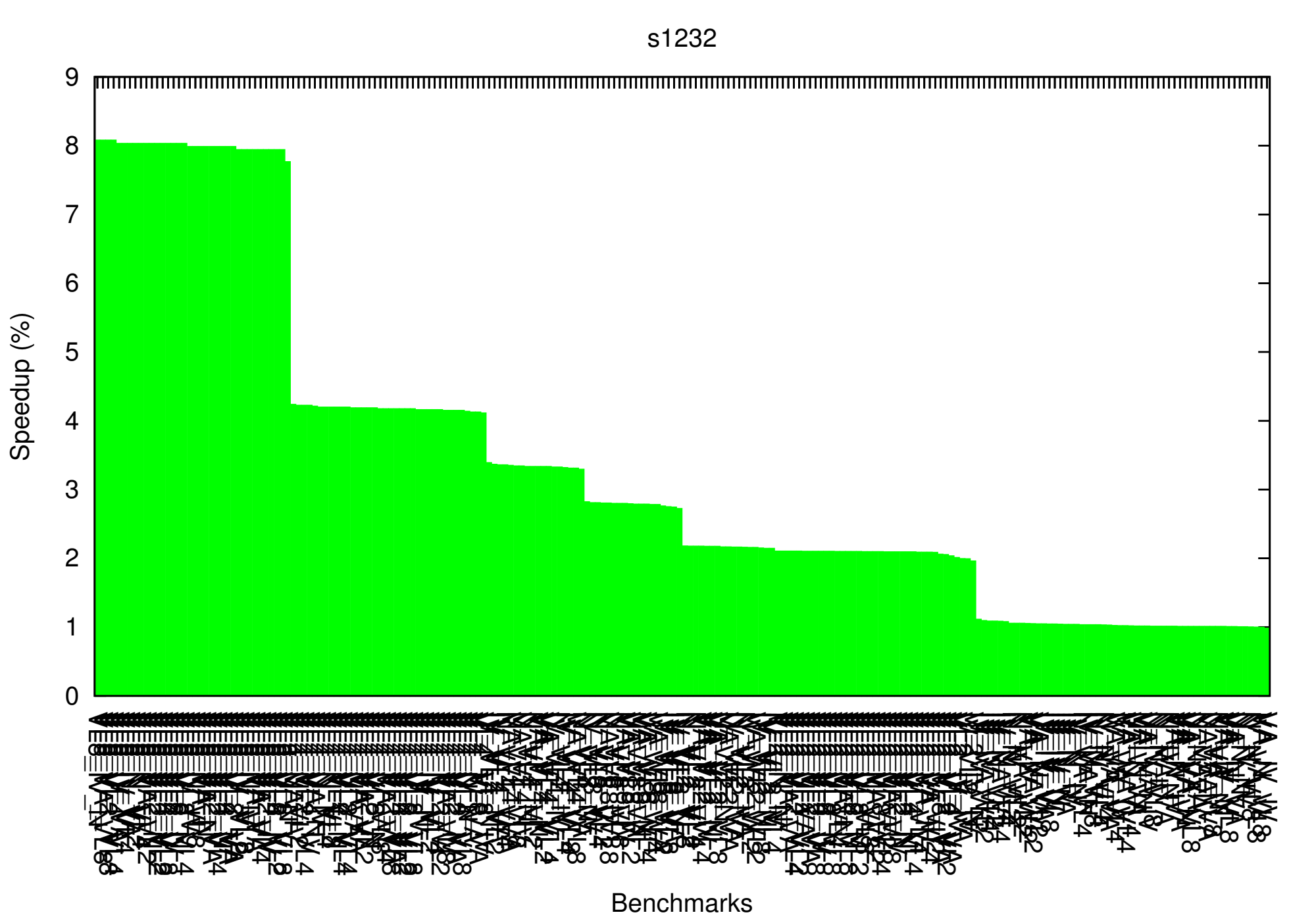

s121
Speedup (%)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
VL8_VL2
VL8_IV
VL8_VL4
VL8_VL8
VL8_N
VL8_VA
VL4_IV
VL4_VL2
VL4_VA
VL4_VL4
VL4_N
VL4_VL8
IV_N
VA_VA
IV_IV
N_IV
N_N
N_VL8
IV_VL8
VA_IV
VA_VL8
IV_VA
N_VA
VA_N
IV_VL4
N_VL4
VA_VL4
IV_VL2
VA_VL2
N_VL2
VL2_VL2
VL2_VA
VL2_VL8
VL2_IV
VL2_VL4
VL2_N
Benchmarks

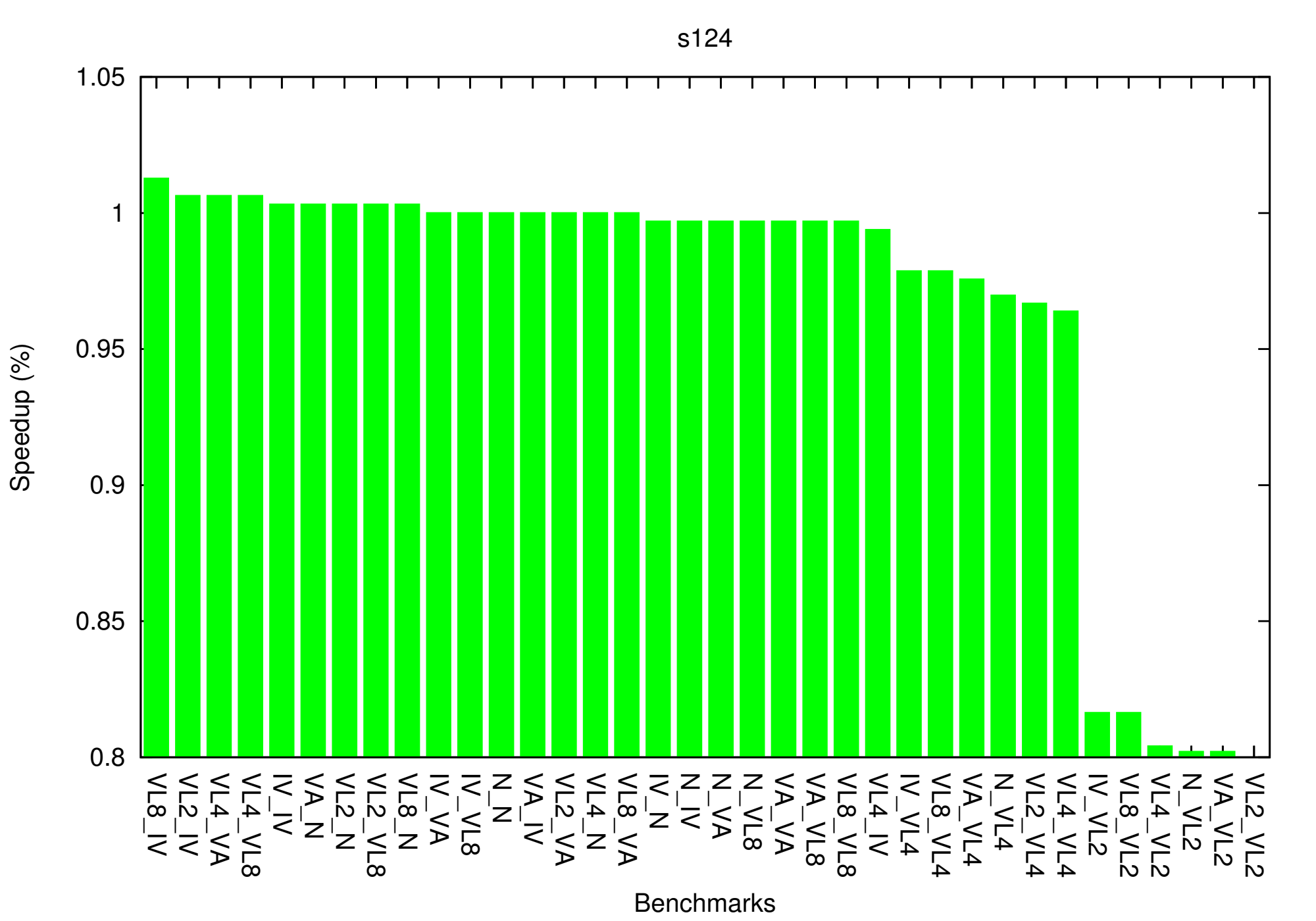

s1213
Speedup (%)
3
2.5
2
1.5
1
0.5
0
VL8_VL2
VL8_VA
VL8_IV
VL8_N
VL8_VL4
VL8_VL8
VL4_VL8
VL4_VA
VL4_VL2
VL4_VL4
VL4_IV
VL4_N
IV_N
N_N
N_IV
IV_IV
VL2_IV
VL2_N
VL2_VA
VL2_VL4
VL2_VL2
VL2_VL8
N_VA
IV_VA
VA_VA
VA_IV
VA_N
IV_VL8
VA_VL8
N_VL8
IV_VL4
N_VL4
VA_VL4
IV_VL2
VA_VL2
N_VL2
Benchmarks

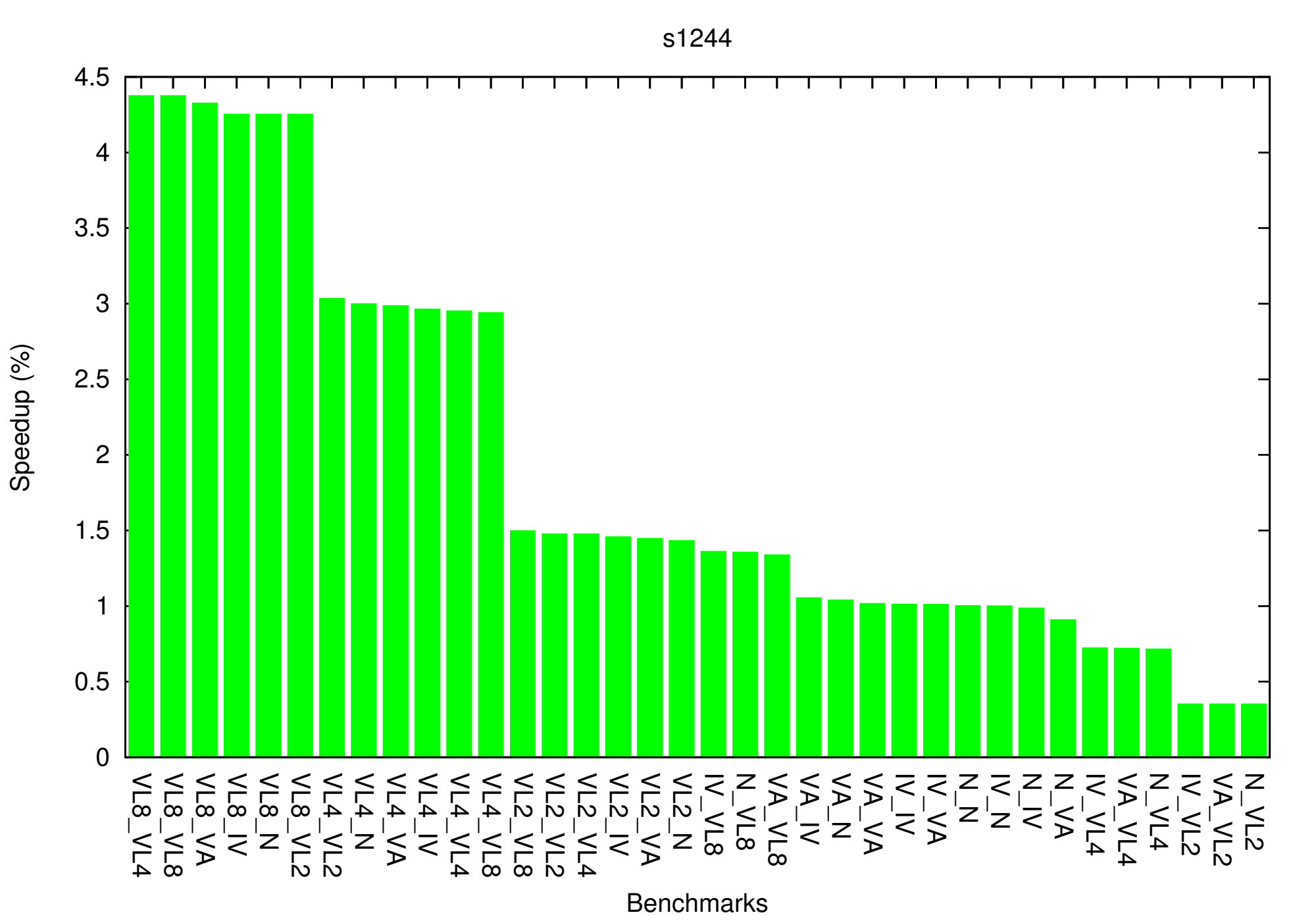

s122
Speedup (%)
3.5
3
2.5
2
1.5
1
0.5
N_VL4
IV_VL4
VA_VL4
VA_VL2
IV_VL2
VA_IV
IV_N
IV_VL8
N_VA
VA_N
IV_IV
N_VL8
VA_VL8
N_N
VA_VA
IV_VA
N_IV
N_VL2
VL8_IV
VL8_N
VL8_VA
VL8_VL2
VL8_VL4
VL8_VL8
VL4_IV
VL4_VL2
VL4_VL8
VL4_N
VL4_VA
VL4_VL4
VL2_VL8
VL2_IV
VL2_VL2
VL2_VL4
VL2_N
VL2_VA
Benchmarks

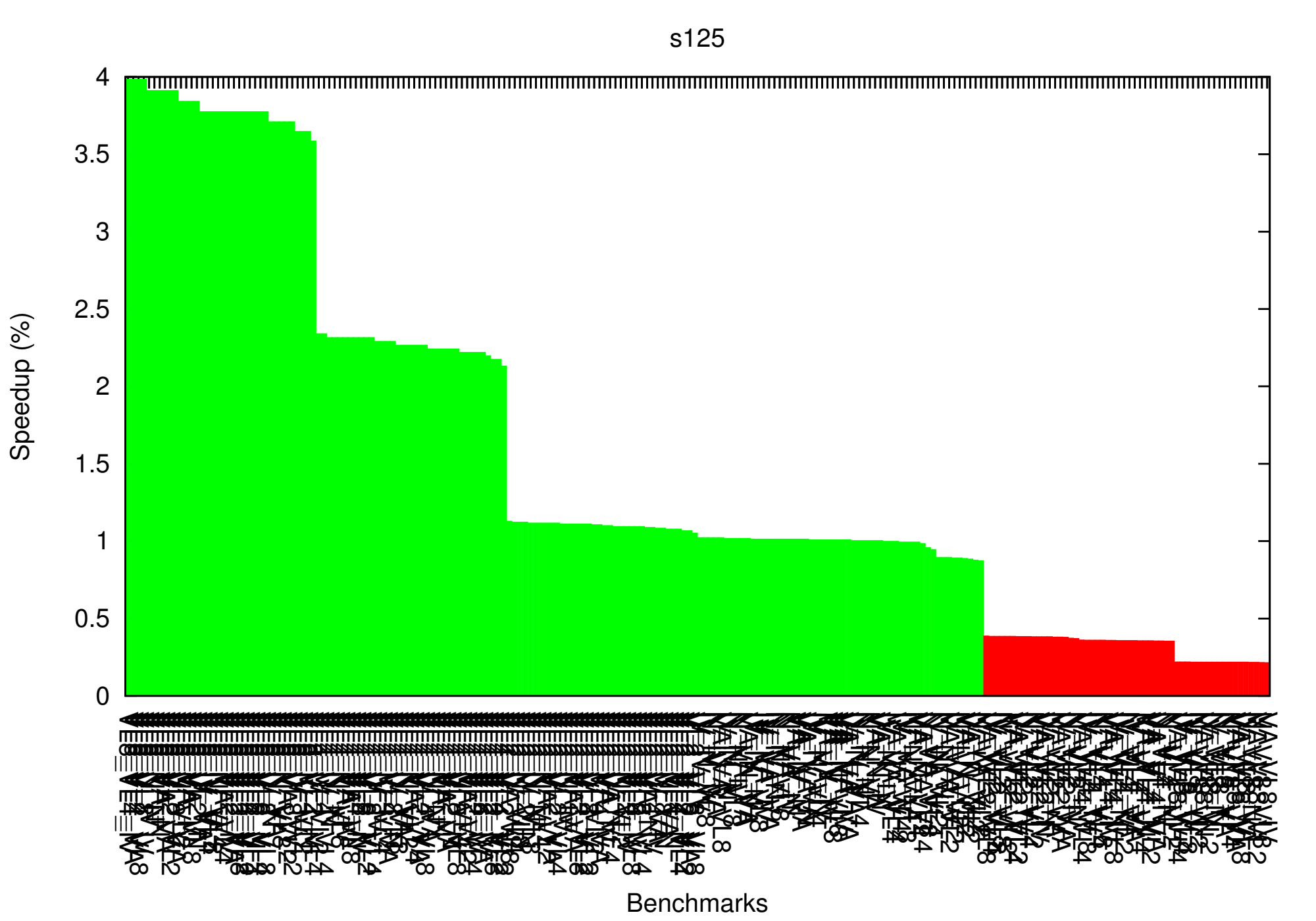

s1221
Speedup (%)
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
VL8_IV
VL8_N
VL8_VA
VL8_VL2
VL8_VL4
VL8_VL8
VL4_VL2
VL4_VL8
VL4_VL4
VL4_VA
VL4_IV
VL4_N
VA_IV
VA_VA
VA_VL4
IV_VA
IV_IV
IV_VL4
N_IV
VA_N
IV_N
N_N
N_VA
N_VL4
VL2_IV
VL2_VL2
VL2_VL4
VL2_VL8
VL2_VA
VL2_N
VA_VL2
IV_VL2
N_VL2
N_VL8
IV_VL8
VA_VL8
Benchmarks

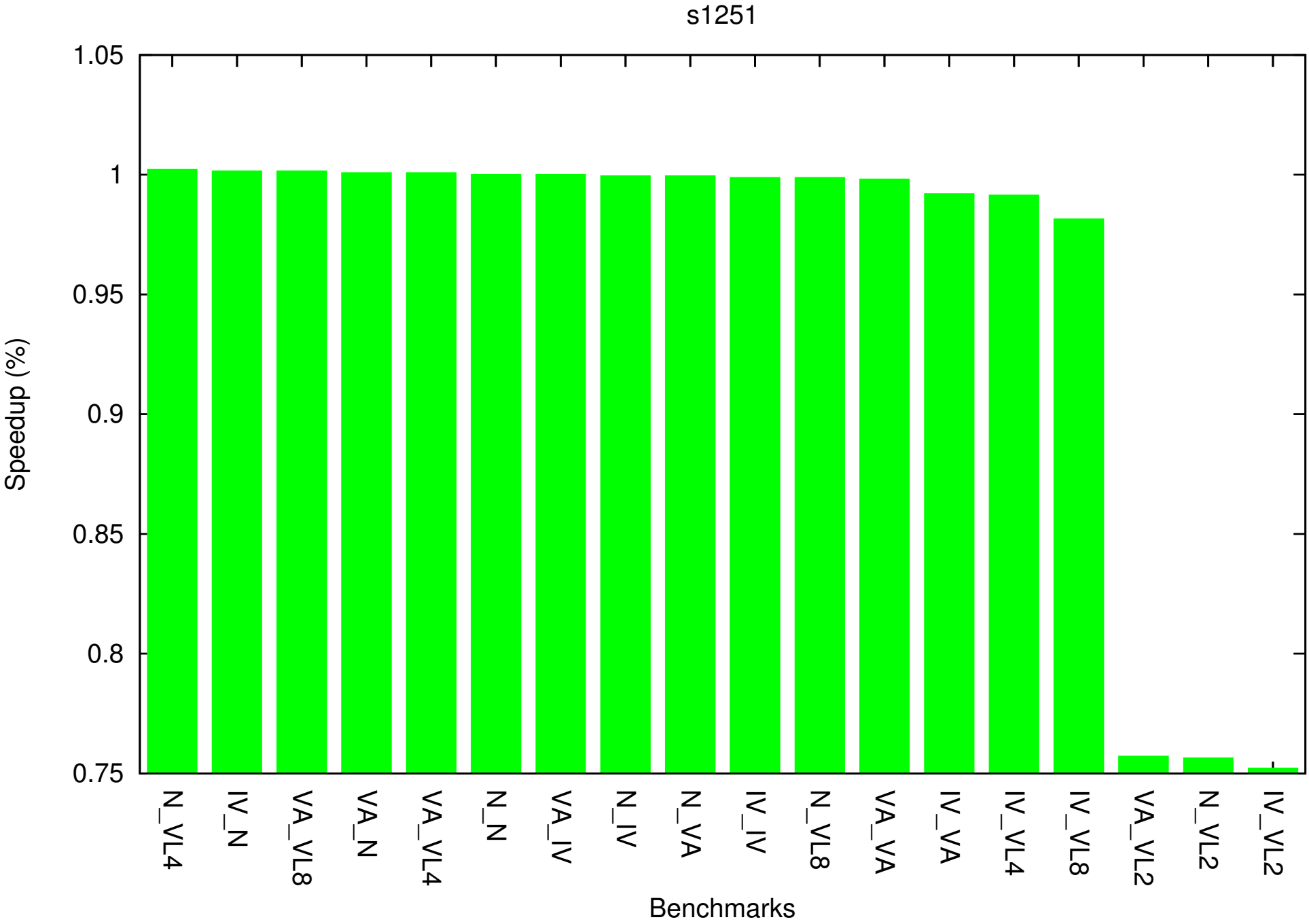

s123
Speedup (%)
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
IV_VA
N_IV
IV_N
VA_VA
N_VA
N_N
IV_IV
VA_N
VA_IV
VL4_N
VL4_VL8
VL4_VL4
VL4_VA
VL4_VL2
VL4_IV
VL8_VL8
VL8_VA
VL8_VL4
VL8_IV
VL8_VL2
VL8_N
VL2_N
VL2_IV
VL2_VL8
VL2_VA
VL2_VL2
VL2_VL4
Benchmarks

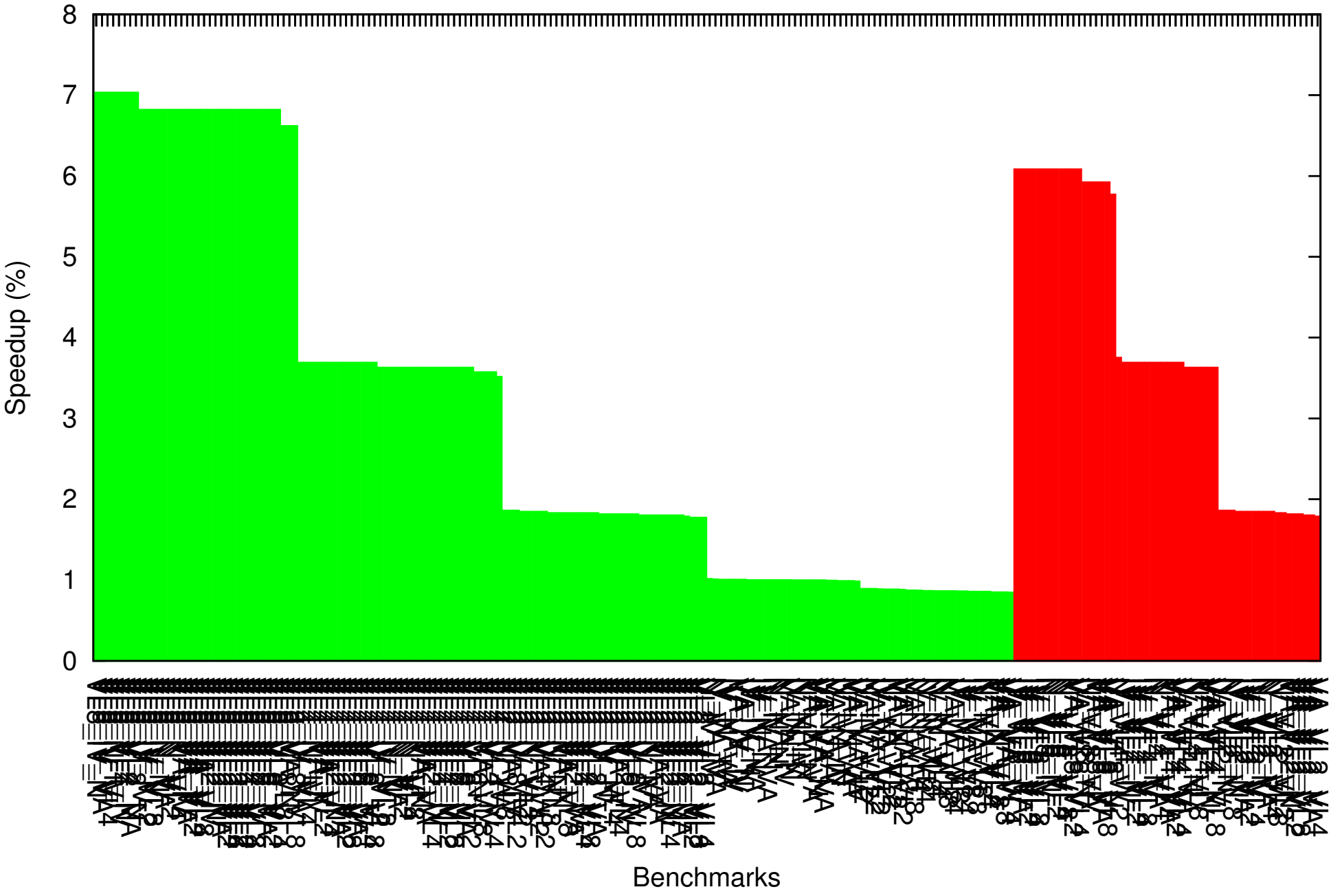

s1232
Speedup (%)
0
1
2
3
4
5
6
7
8
9
Benchmarks

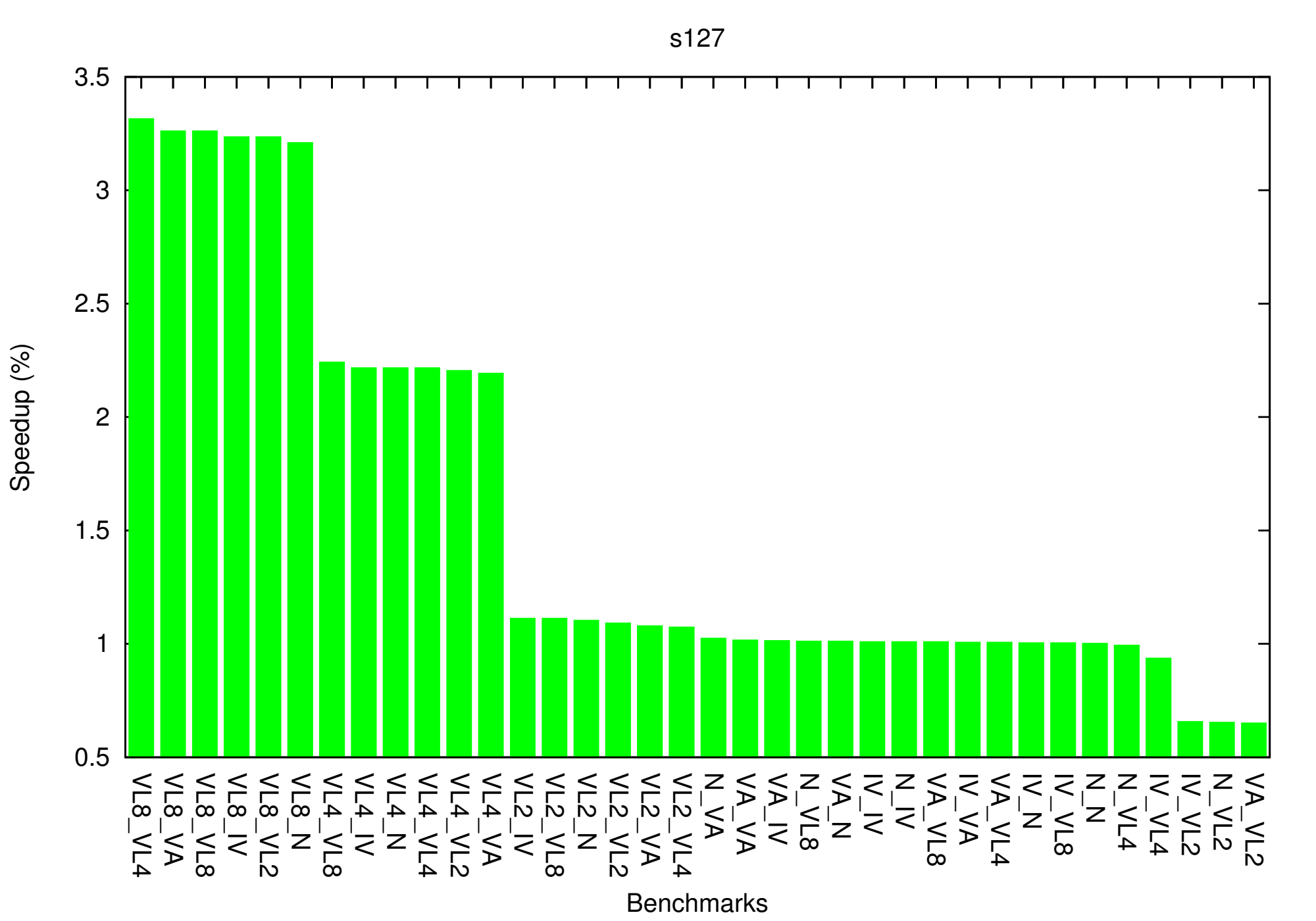

s124
Speedup (%)
1.05
1
0.95
0.9
0.85
0.8
VL8_IV
VL2_IV
VL4_VA
VL4_VL8
IV_IV
VA_N
VL2_N
VL2_VL8
VL8_N
IV_VA
IV_VL8
N_N
VA_IV
VL2_VA
VL4_N
VL8_VA
IV_N
N_IV
N_VA
N_VL8
VA_VA
VA_VL8
VL8_VL8
VL4_IV
IV_VL4
VL8_VL4
VA_VL4
N_VL4
VL2_VL4
VL4_VL4
IV_VL2
VL8_VL2
VL4_VL2
N_VL2
VA_VL2
VL2_VL2
Benchmarks

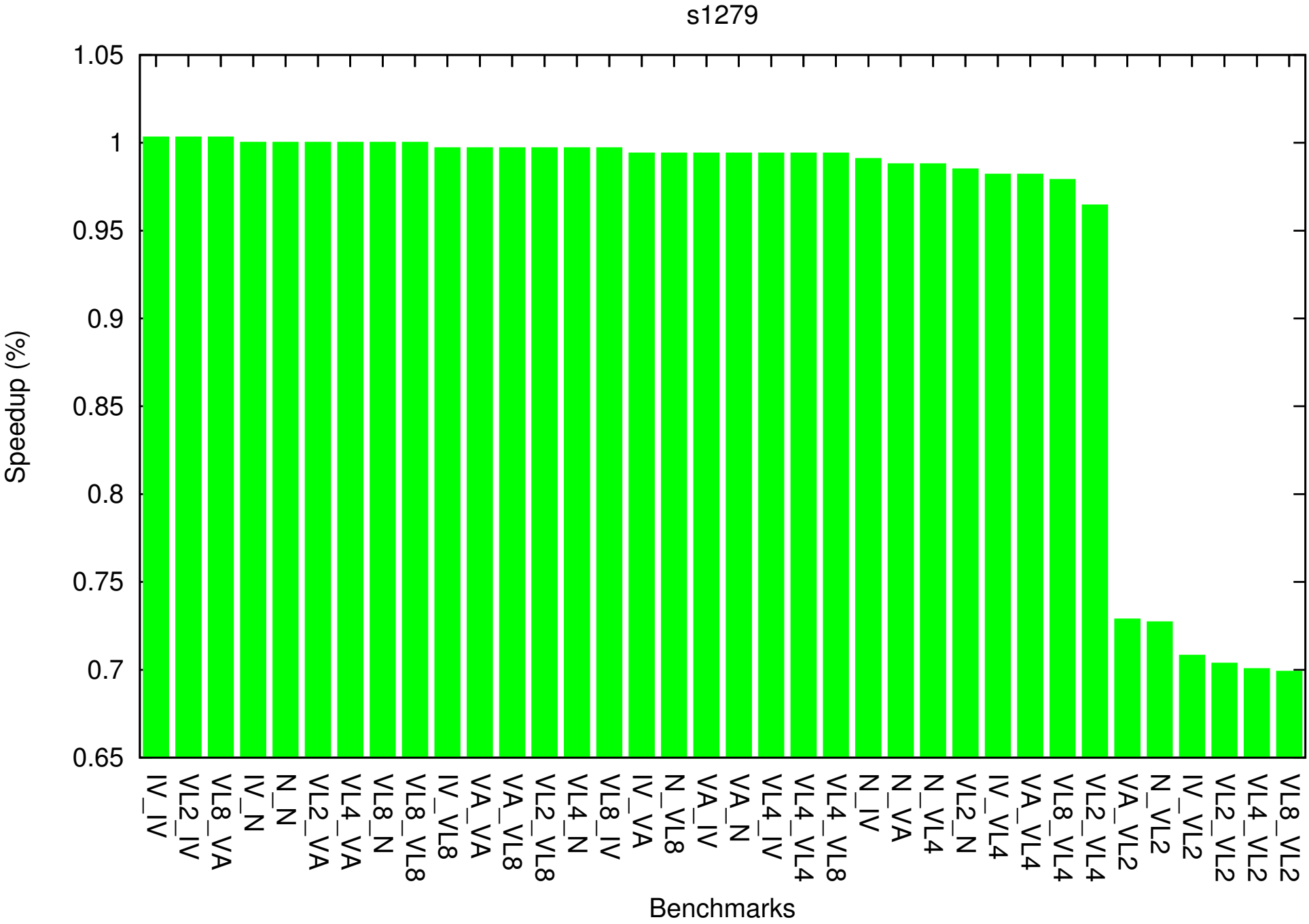

s1244
Speedup (%)
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
VL8_VL4
VL8_VL8
VL8_VA
VL8_IV
VL8_N
VL8_VL2
VL4_VL2
VL4_N
VL4_VA
VL4_IV
VL4_VL4
VL4_VL8
VL2_VL8
VL2_VL2
VL2_VL4
VL2_IV
VL2_VA
VL2_N
IV_VL8
N_VL8
VA_VL8
VA_IV
VA_N
VA_VA
IV_IV
IV_VA
N_N
IV_N
N_IV
N_VA
IV_VL4
VA_VL4
N_VL4
IV_VL2
VA_VL2
N_VL2
Benchmarks

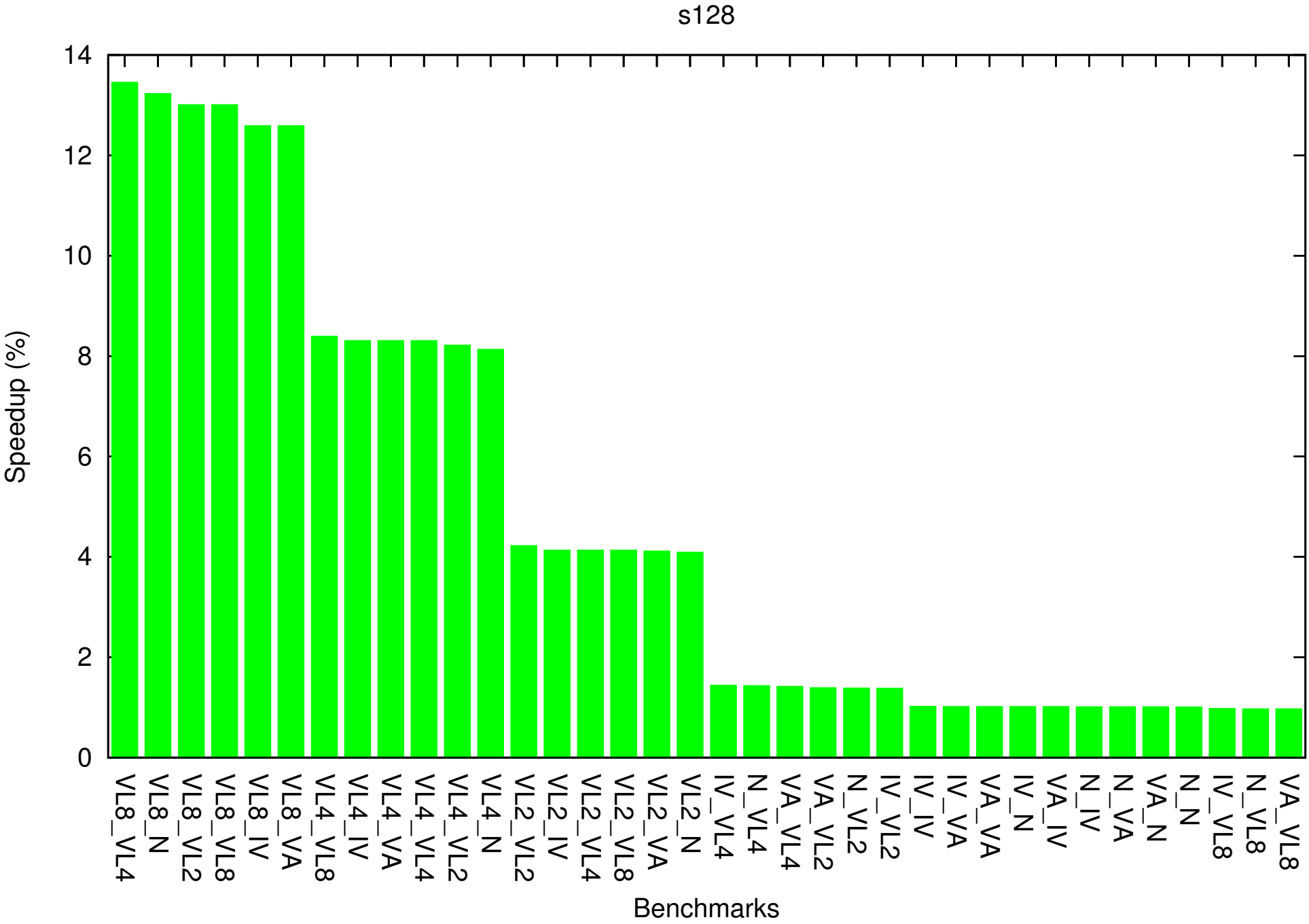

s125
Speedup (%)
4
3.5
3
2.5
2
1.5
1
0.5
0
Benchmarks

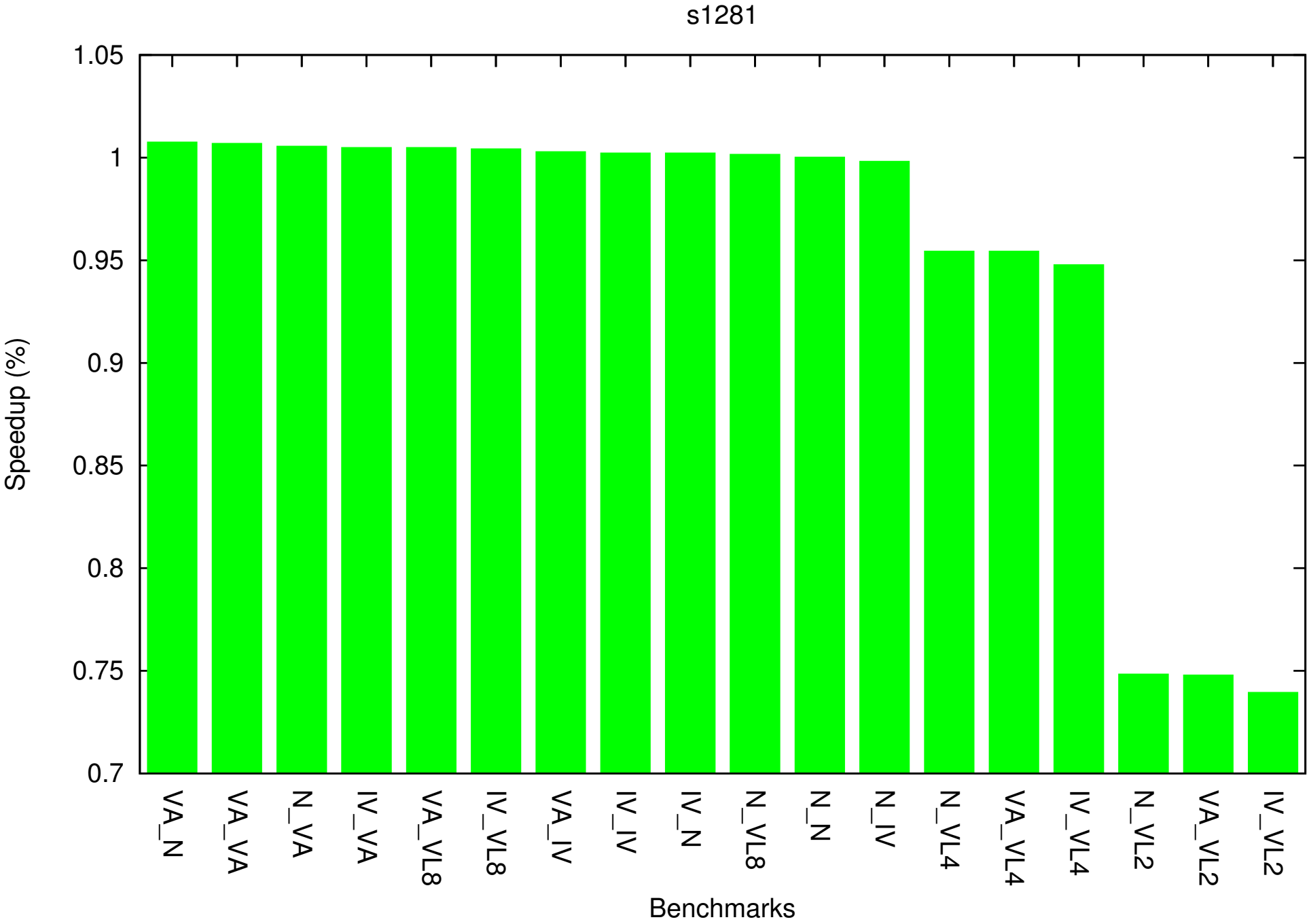

s1251
1.05
1
0.95
0.9
0.85
0.8
0.75
Speedup (%)
N_VL4
IV_N
VA_VL8
VA_N
VA_VL4
N_N
VA_IV
N_IV
N_VA
IV_IV
N_VL8
VA_VA
IV_VA
IV_VL4
IV_VL8
VA_VL2
N_VL2
IV_VL2
Benchmarks

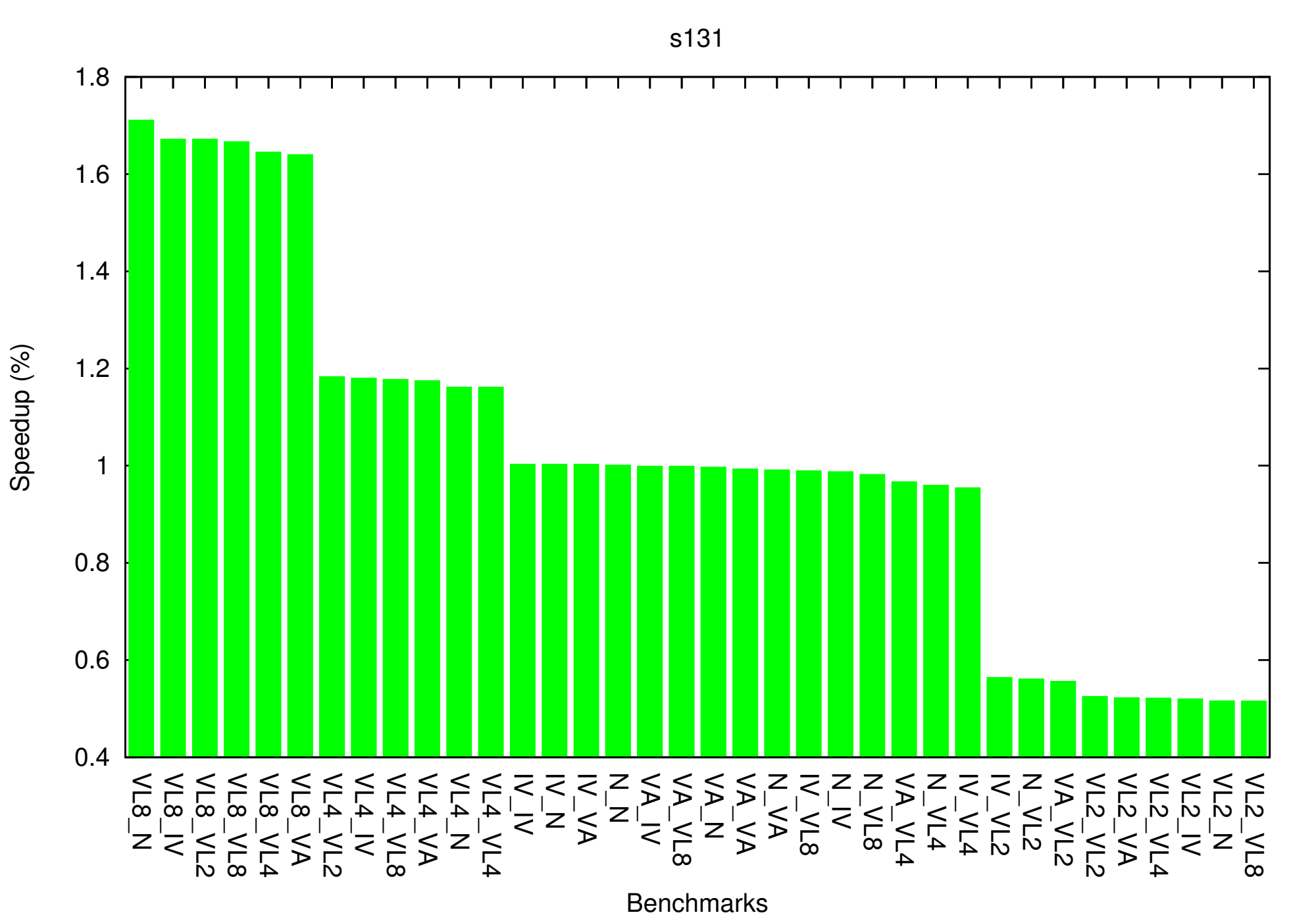

s126
Speedup (%)
8
7
6
5
4
3
2
1
0
Benchmarks

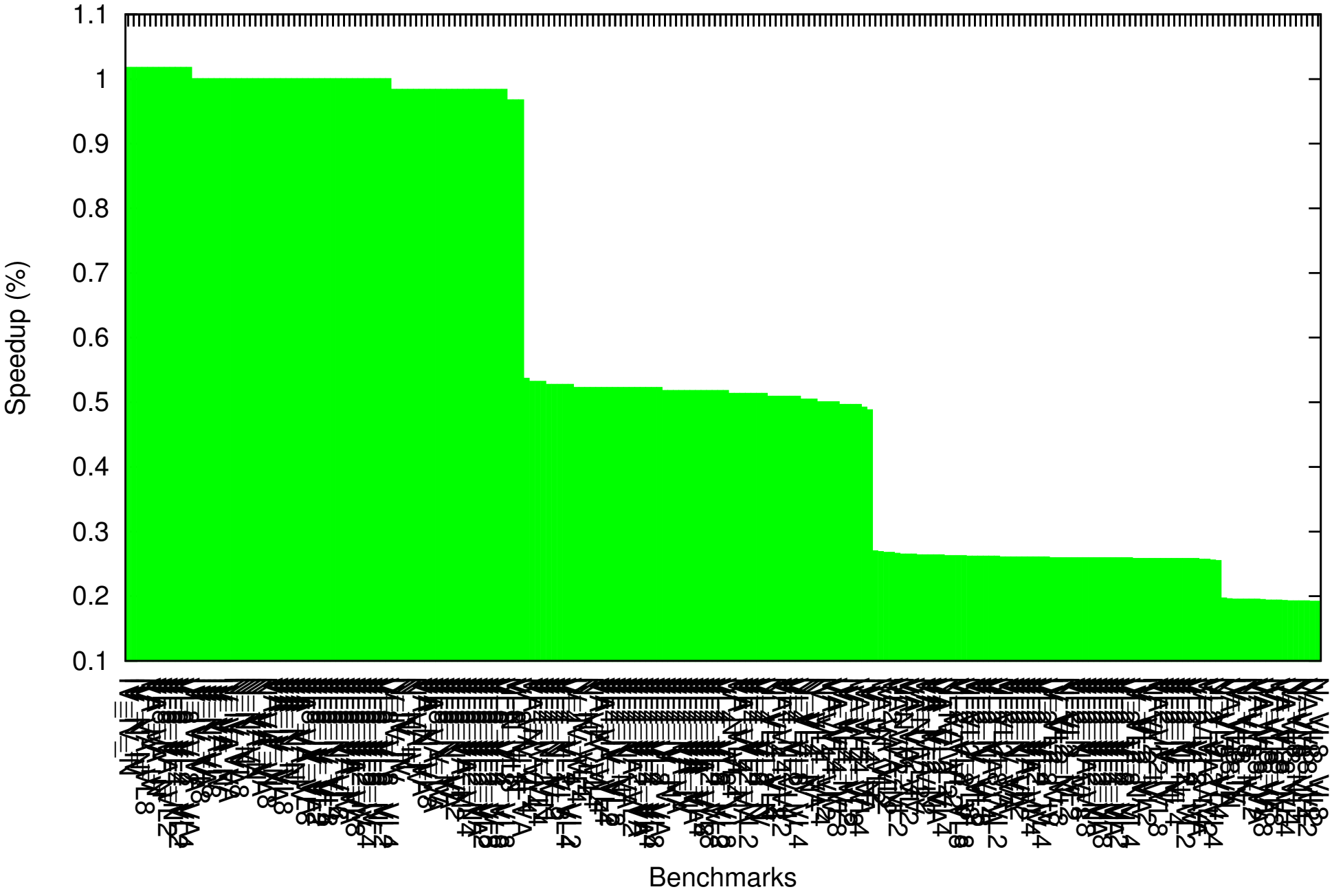

s127
Speedup (%)
3.5
3
2.5
2
1.5
1
0.5
VL8_VL4
VL8_VA
VL8_VL8
VL8_IV
VL8_VL2
VL8_N
VL4_VL8
VL4_IV
VL4_N
VL4_VL4
VL4_VL2
VL4_VA
VL2_IV
VL2_VL8
VL2_N
VL2_VL2
VL2_VA
VL2_VL4
N_VA
VA_VA
VA_IV
N_VL8
VA_N
IV_IV
N_IV
VA_VL8
IV_VA
VA_VL4
IV_N
IV_VL8
N_N
N_VL4
IV_VL4
IV_VL2
N_VL2
VA_VL2
Benchmarks

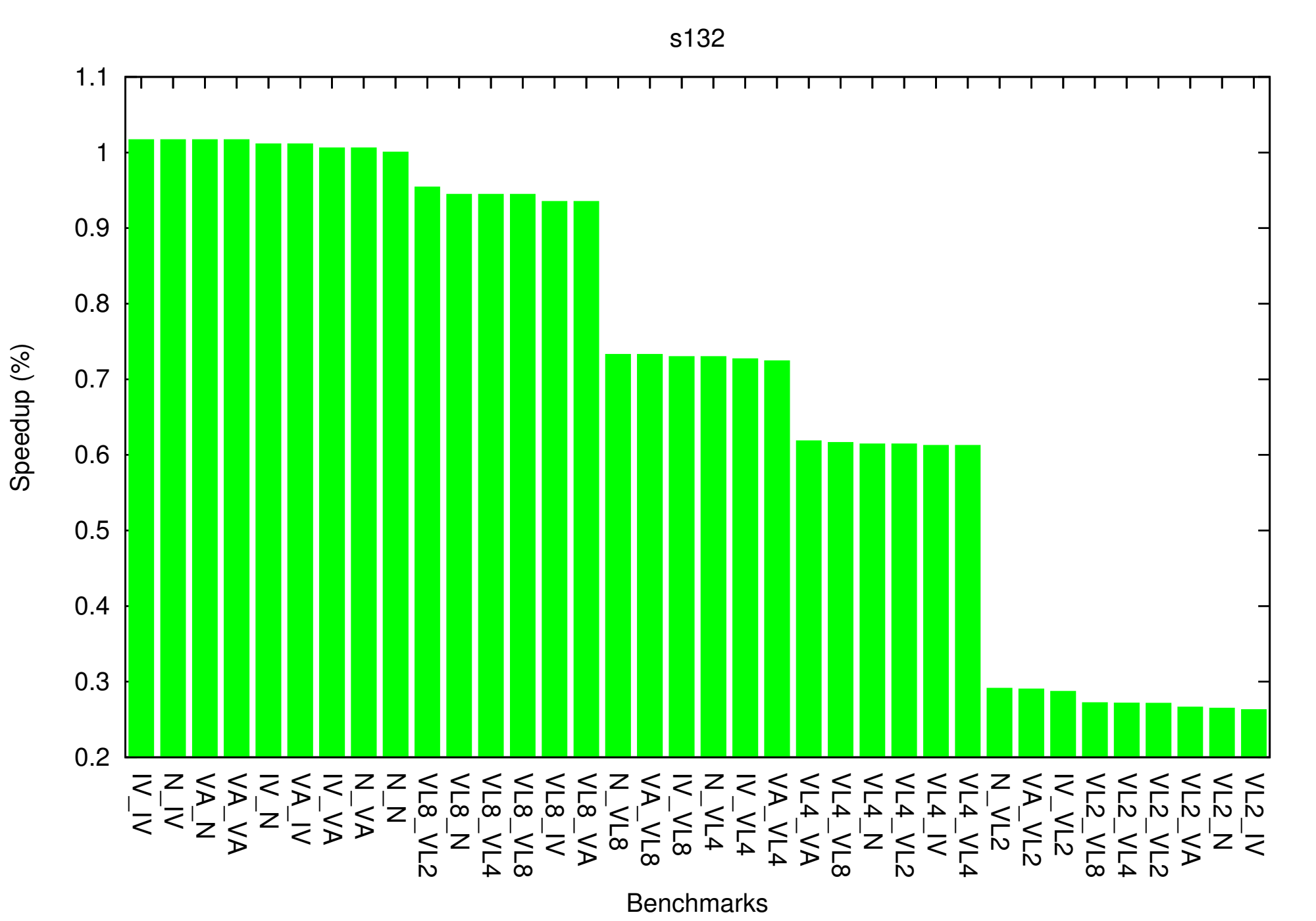

s1279
Speedup (%)
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
IV_IV
VL2_IV
VL8_VA
IV_N
N_N
VL2_VA
VL4_VA
VL8_N
VL8_VL8
IV_VL8
VA_VA
VA_VL8
VL2_VL8
VL4_N
VL8_IV
IV_VA
N_VL8
VA_IV
VA_N
VL4_IV
VL4_VL4
VL4_VL8
N_IV
N_VA
N_VL4
VL2_N
IV_VL4
VA_VL4
VL8_VL4
VL2_VL4
VA_VL2
N_VL2
IV_VL2
VL2_VL2
VL4_VL2
VL8_VL2
Benchmarks

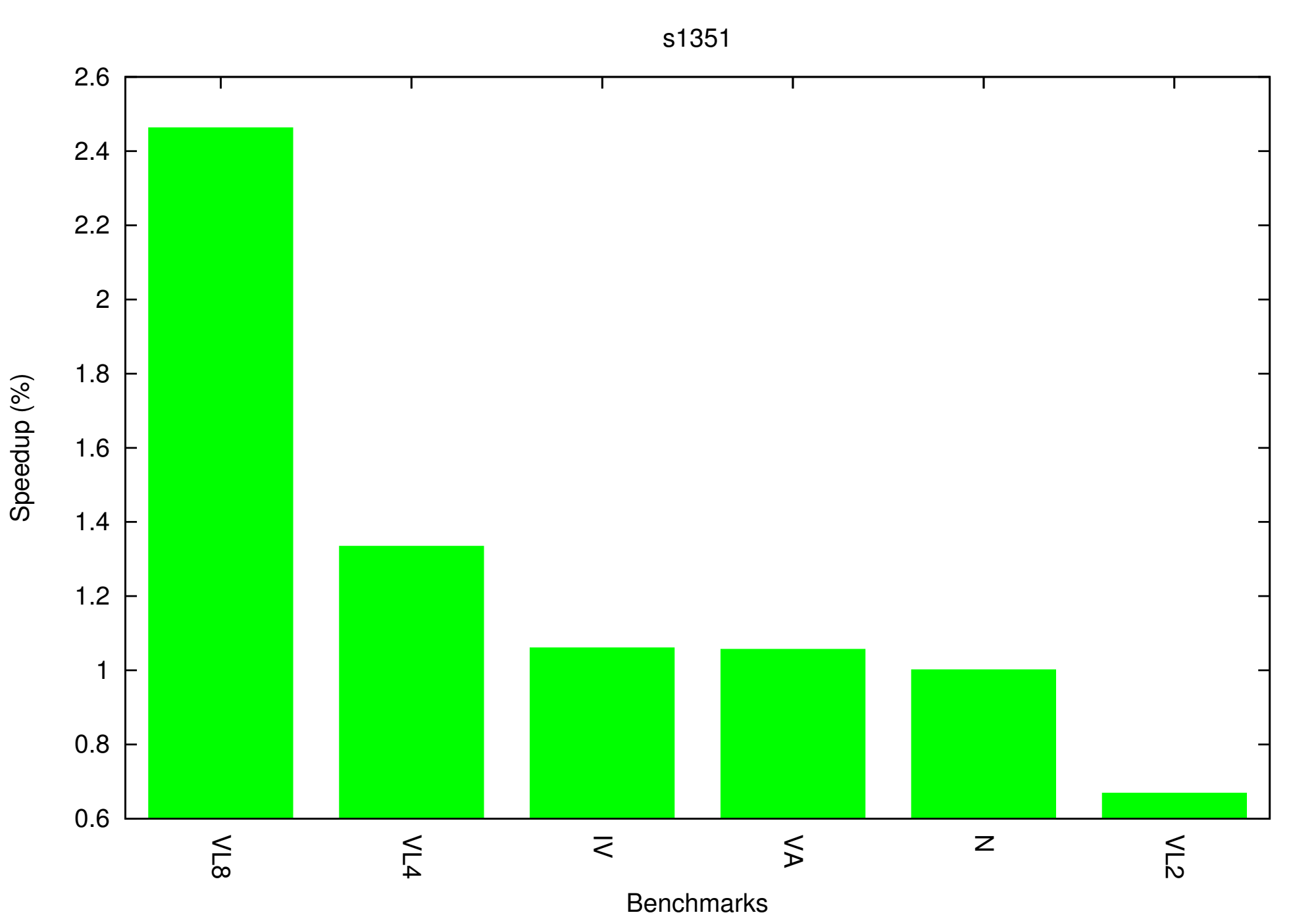

s128
Speedup (%)
0
2
4
6
8
10
12
14
VL8_VL4
VL8_N
VL8_VL2
VL8_VL8
VL8_IV
VL8_VA
VL4_VL8
VL4_IV
VL4_VA
VL4_VL4
VL4_VL2
VL4_N
VL2_VL2
VL2_IV
VL2_VL4
VL2_VL8
VL2_VA
VL2_N
IV_VL4
N_VL4
VA_VL4
VA_VL2
N_VL2
IV_VL2
IV_IV
IV_VA
VA_VA
IV_N
VA_IV
N_IV
N_VA
VA_N
N_N
IV_VL8
N_VL8
VA_VL8
Benchmarks

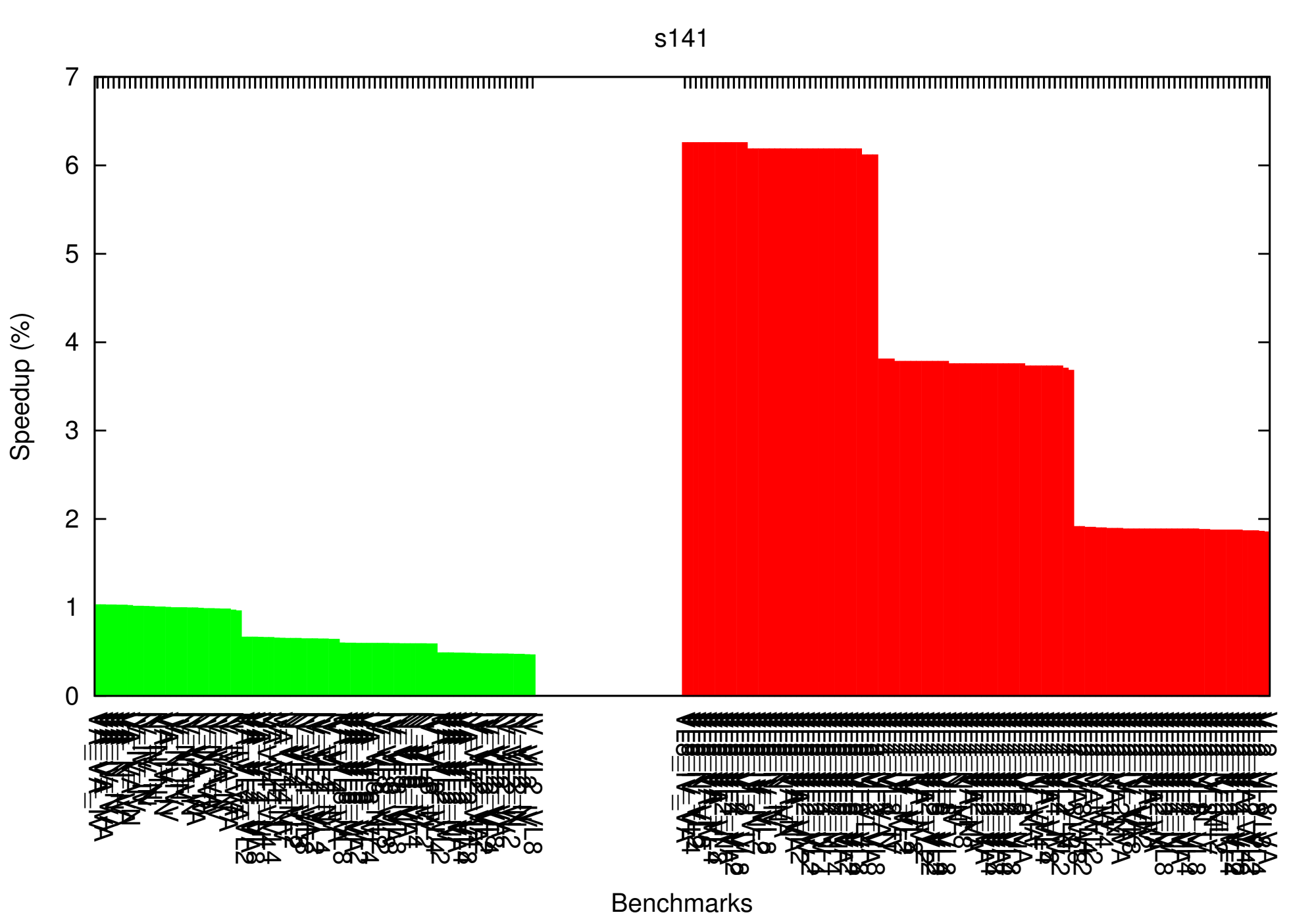

s1281
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
Speedup (%)
VA_N
VA_VA
N_VA
IV_VA
VA_VL8
IV_VL8
VA_IV
IV_IV
IV_N
N_VL8
N_N
N_IV
N_VL4
VA_VL4
IV_VL4
N_VL2
VA_VL2
IV_VL2
Benchmarks

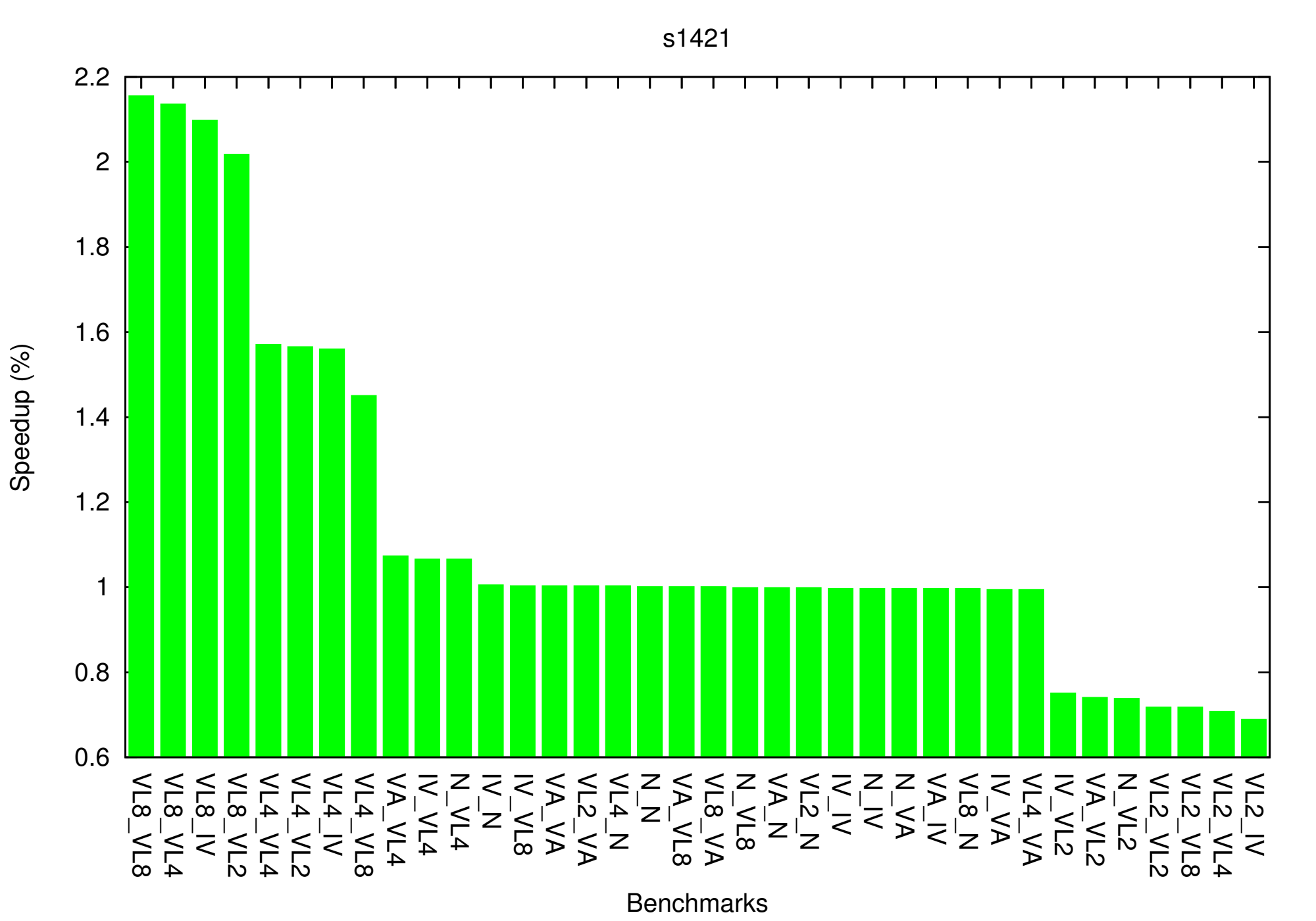

s131
Speedup (%)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
VL8_N
VL8_IV
VL8_VL2
VL8_VL8
VL8_VL4
VL8_VA
VL4_VL2
VL4_IV
VL4_VL8
VL4_VA
VL4_N
VL4_VL4
IV_IV
IV_N
IV_VA
N_N
VA_IV
VA_VL8
VA_N
VA_VA
N_VA
IV_VL8
N_IV
N_VL8
VA_VL4
N_VL4
IV_VL4
IV_VL2
N_VL2
VA_VL2
VL2_VL2
VL2_VA
VL2_VL4
VL2_IV
VL2_N
VL2_VL8
Benchmarks

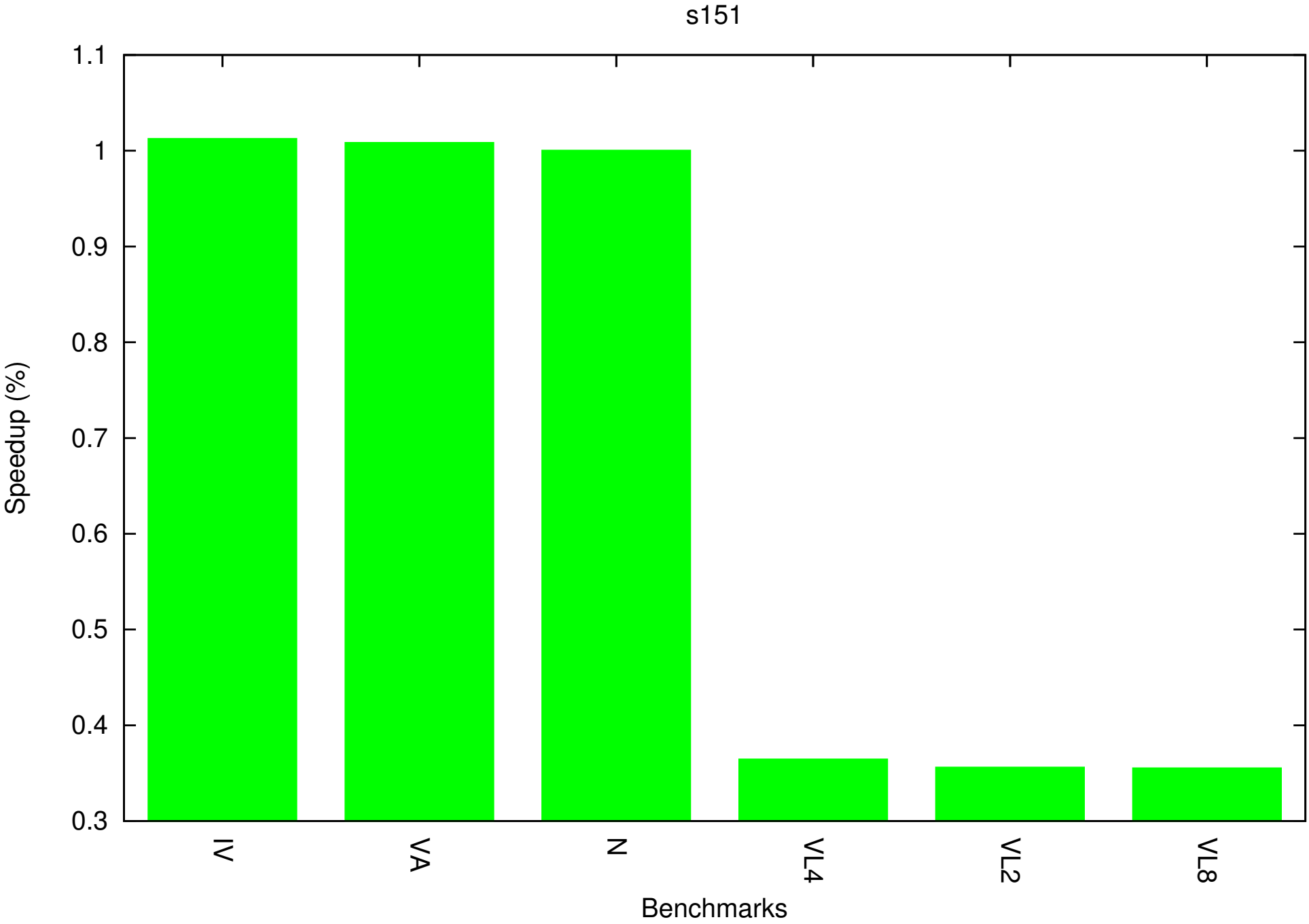

s13110
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Benchmarks

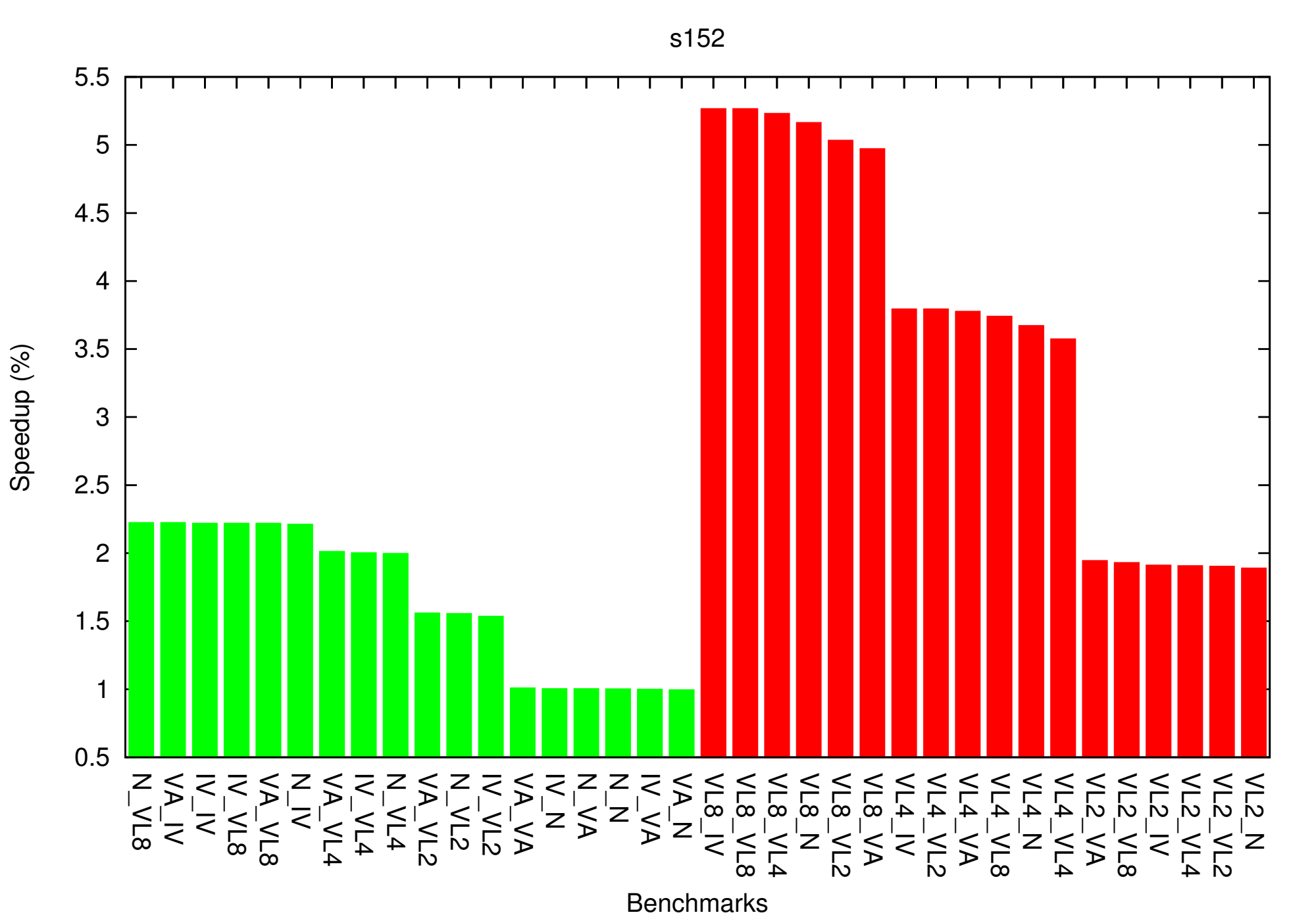

s132
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
IV_IV
N_IV
VA_N
VA_VA
IV_N
VA_IV
IV_VA
N_VA
N_N
VL8_VL2
VL8_N
VL8_VL4
VL8_VL8
VL8_IV
VL8_VA
N_VL8
VA_VL8
IV_VL8
N_VL4
IV_VL4
VA_VL4
VL4_VA
VL4_VL8
VL4_N
VL4_VL2
VL4_IV
VL4_VL4
N_VL2
VA_VL2
IV_VL2
VL2_VL8
VL2_VL4
VL2_VL2
VL2_VA
VL2_N
VL2_IV
Benchmarks

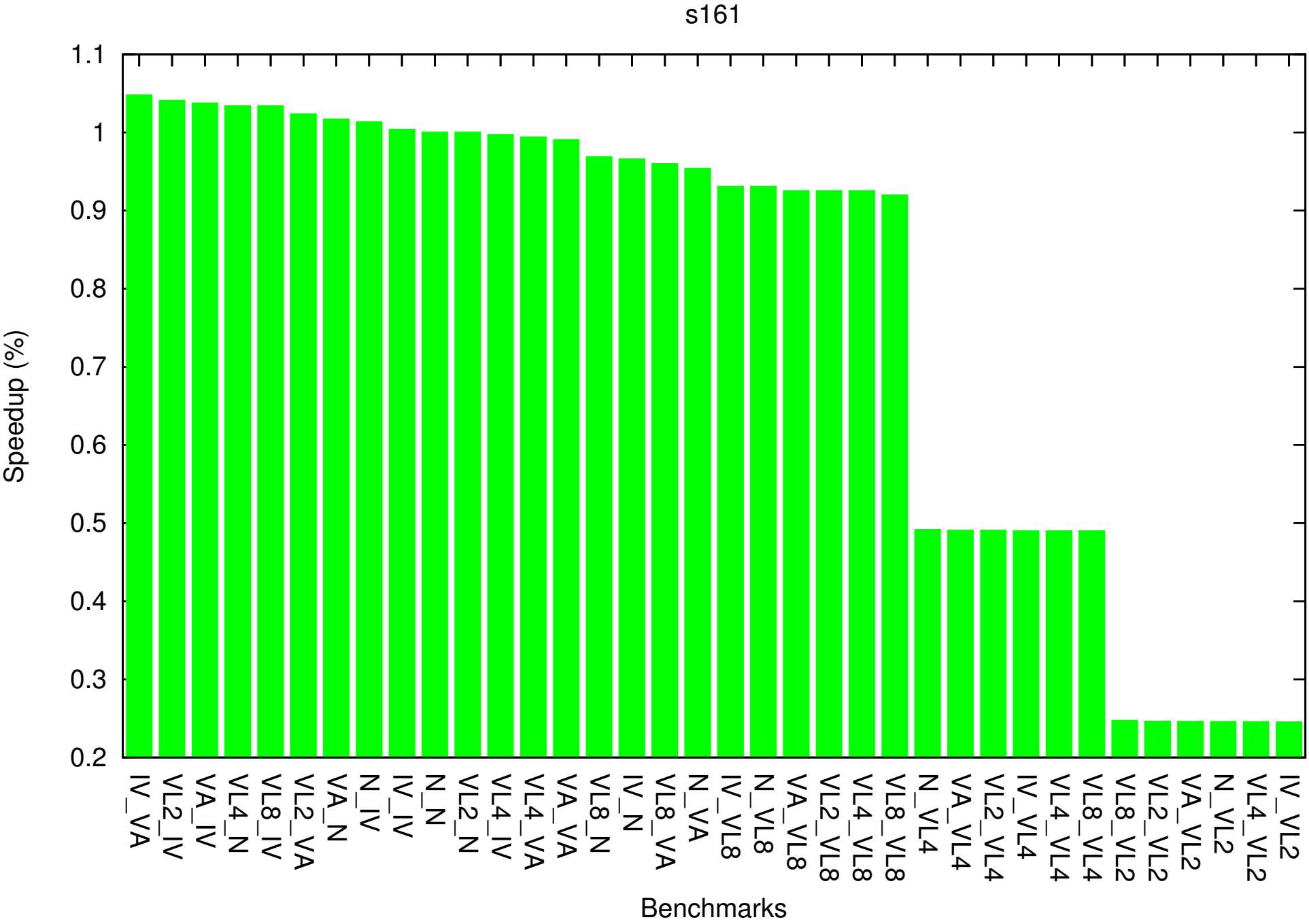

s1351
Speedup (%)
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
VL8
VL4
IV
VA
N
VL2
Benchmarks

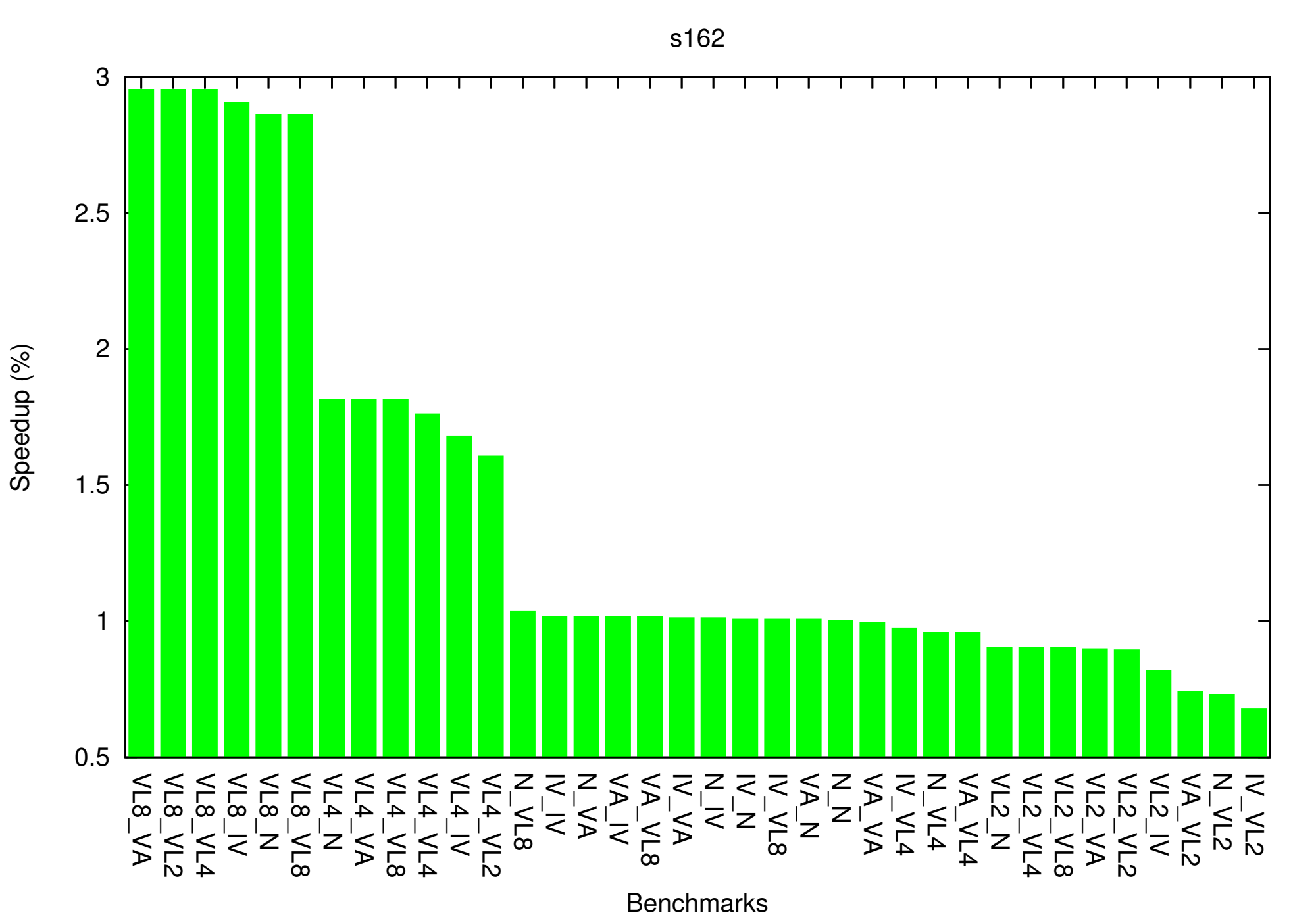

s141
Speedup (%)
0
1
2
3
4
5
6
7
Benchmarks

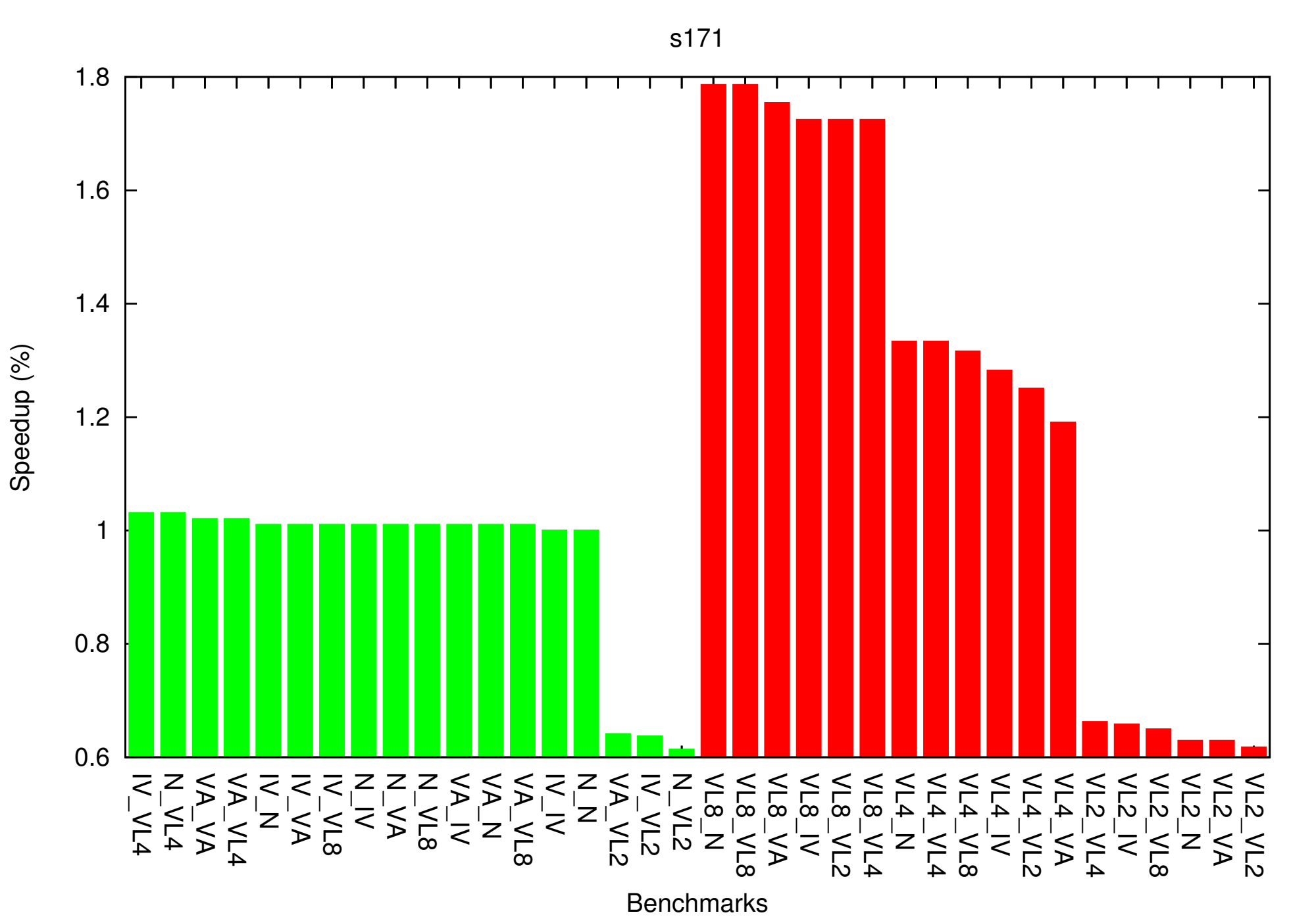

s1421
Speedup (%)
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
VL8_VL8
VL8_VL4
VL8_IV
VL8_VL2
VL4_VL4
VL4_VL2
VL4_IV
VL4_VL8
VA_VL4
IV_VL4
N_VL4
IV_N
IV_VL8
VA_VA
VL2_VA
VL4_N
N_N
VA_VL8
VL8_VA
N_VL8
VA_N
VL2_N
IV_IV
N_IV
N_VA
VA_IV
VL8_N
IV_VA
VL4_VA
IV_VL2
VA_VL2
N_VL2
VL2_VL2
VL2_VL8
VL2_VL4
VL2_IV
Benchmarks

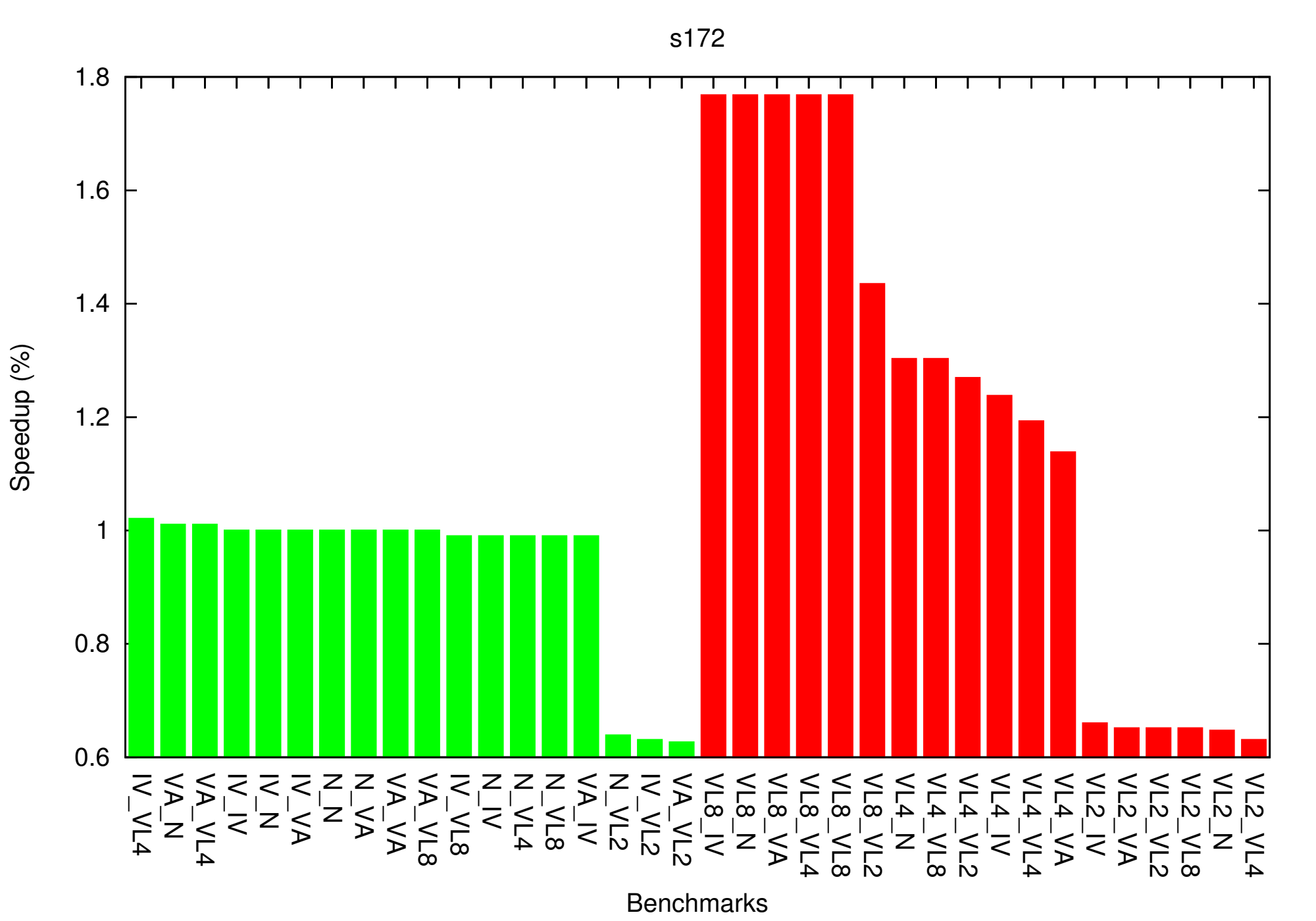

s151
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
Speedup (%)
IV
VA
N
VL4
VL2
VL8
Benchmarks

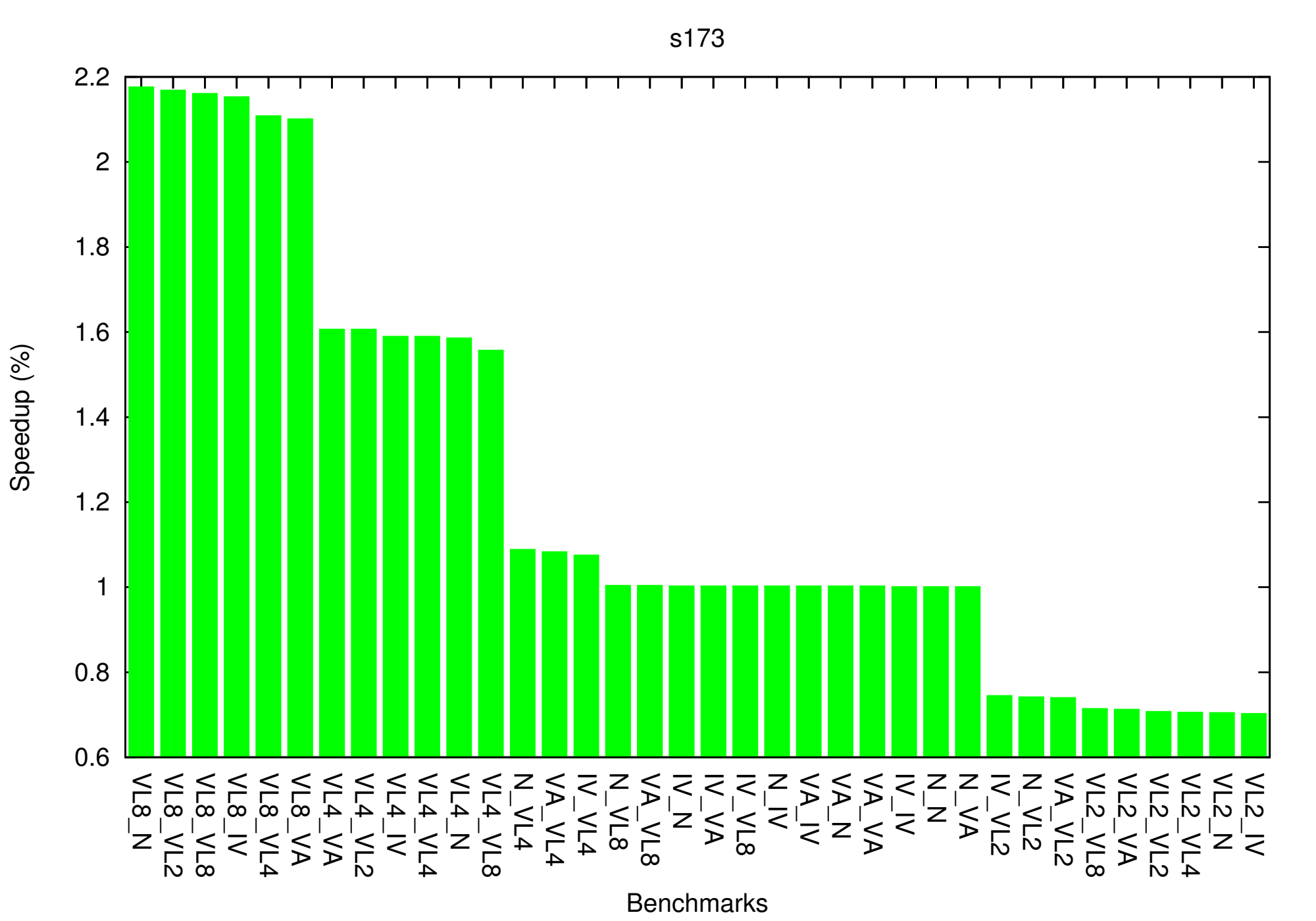

s152
Speedup (%)
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
N_VL8
VA_IV
IV_IV
IV_VL8
VA_VL8
N_IV
VA_VL4
IV_VL4
N_VL4
VA_VL2
N_VL2
IV_VL2
VA_VA
IV_N
N_VA
N_N
IV_VA
VA_N
VL8_IV
VL8_VL8
VL8_VL4
VL8_N
VL8_VL2
VL8_VA
VL4_IV
VL4_VL2
VL4_VA
VL4_VL8
VL4_N
VL4_VL4
VL2_VA
VL2_VL8
VL2_IV
VL2_VL4
VL2_VL2
VL2_N
Benchmarks

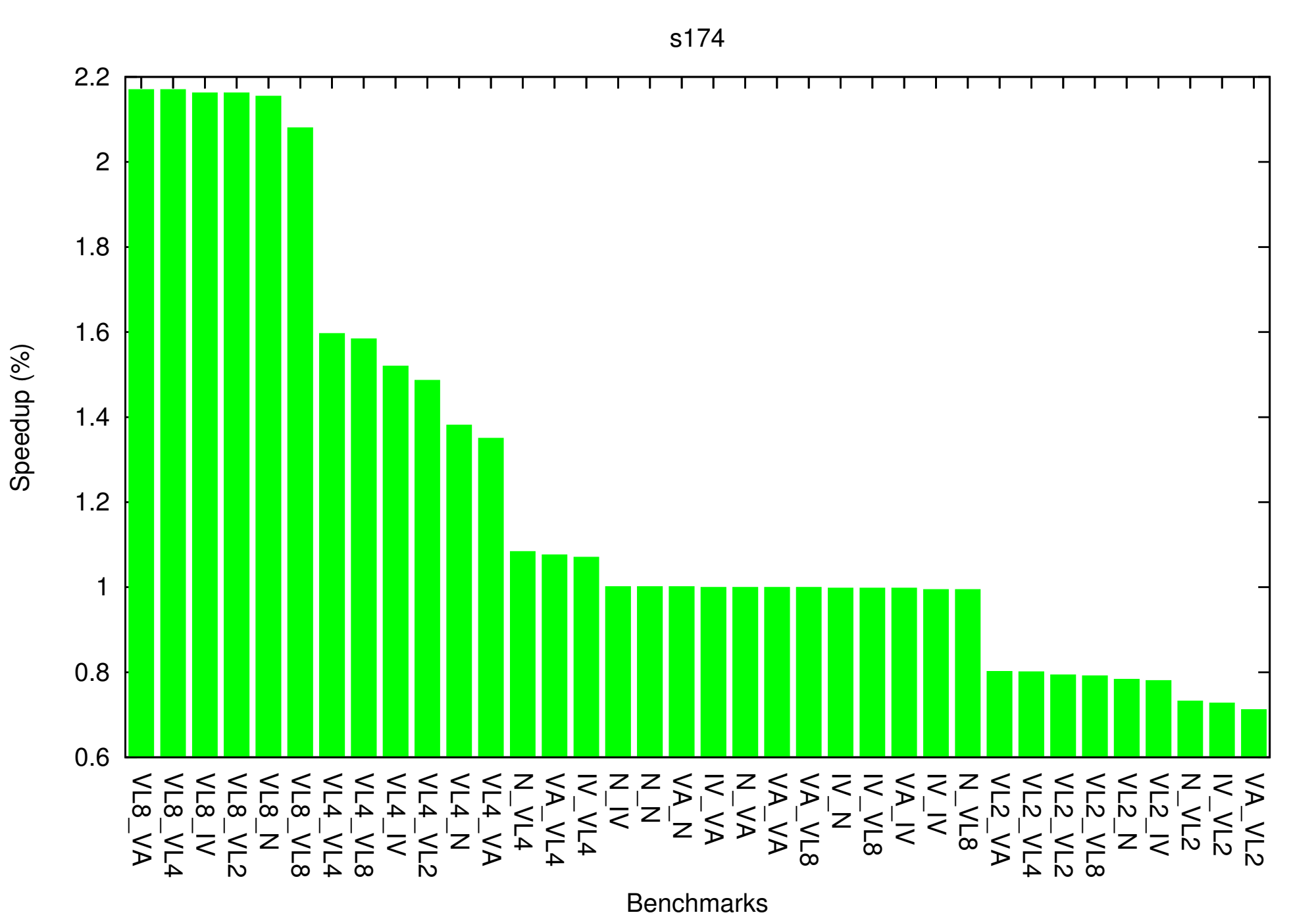

s161
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
IV_VA
VL2_IV
VA_IV
VL4_N
VL8_IV
VL2_VA
VA_N
N_IV
IV_IV
N_N
VL2_N
VL4_IV
VL4_VA
VA_VA
VL8_N
IV_N
VL8_VA
N_VA
IV_VL8
N_VL8
VA_VL8
VL2_VL8
VL4_VL8
VL8_VL8
N_VL4
VA_VL4
VL2_VL4
IV_VL4
VL4_VL4
VL8_VL4
VL8_VL2
VL2_VL2
VA_VL2
N_VL2
VL4_VL2
IV_VL2
Benchmarks

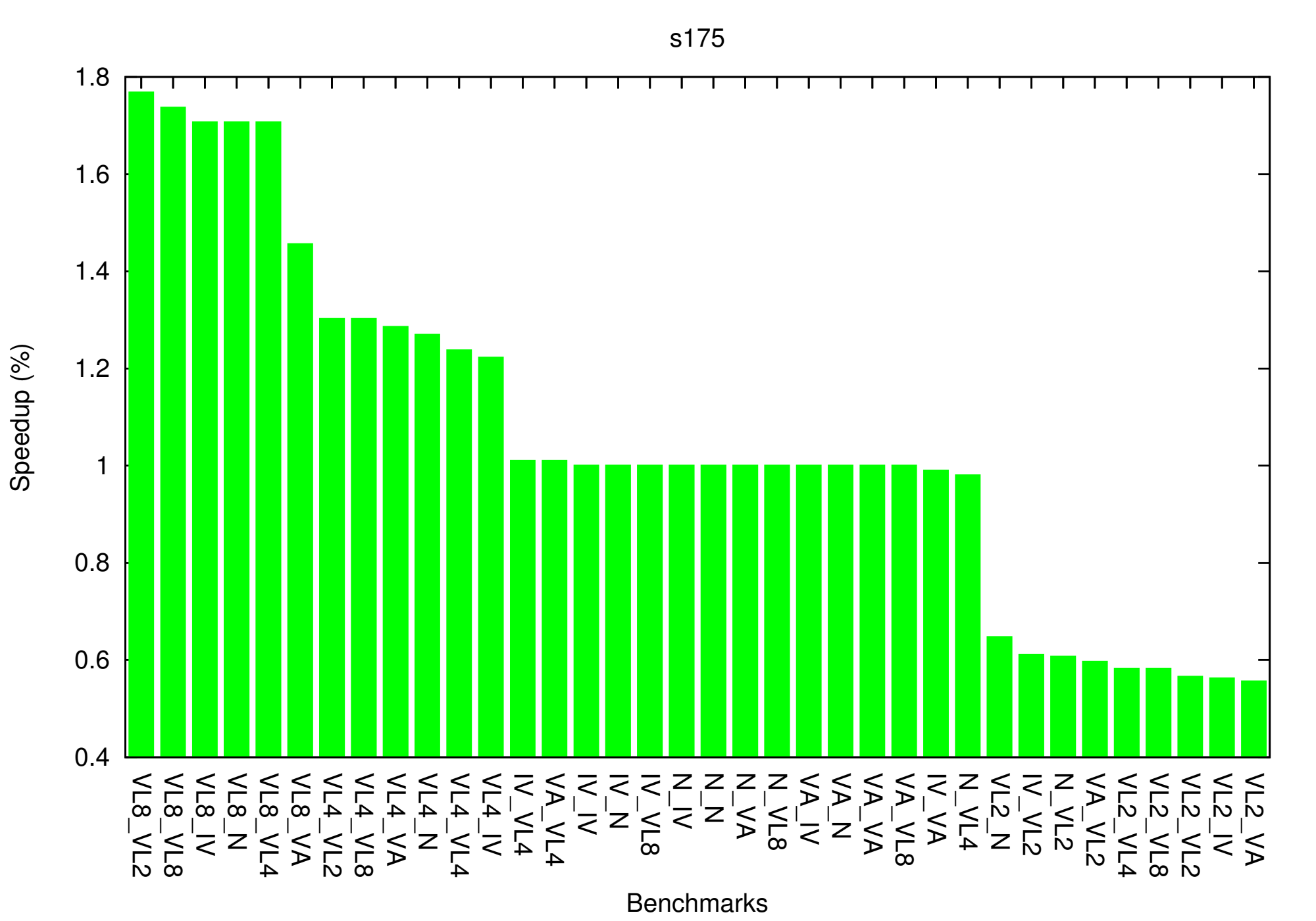

s162
Speedup (%)
3
2.5
2
1.5
1
0.5
VL8_VA
VL8_VL2
VL8_VL4
VL8_IV
VL8_N
VL8_VL8
VL4_N
VL4_VA
VL4_VL8
VL4_VL4
VL4_IV
VL4_VL2
N_VL8
IV_IV
N_VA
VA_IV
VA_VL8
IV_VA
N_IV
IV_N
IV_VL8
VA_N
N_N
VA_VA
IV_VL4
N_VL4
VA_VL4
VL2_N
VL2_VL4
VL2_VL8
VL2_VA
VL2_VL2
VL2_IV
VA_VL2
N_VL2
IV_VL2
Benchmarks

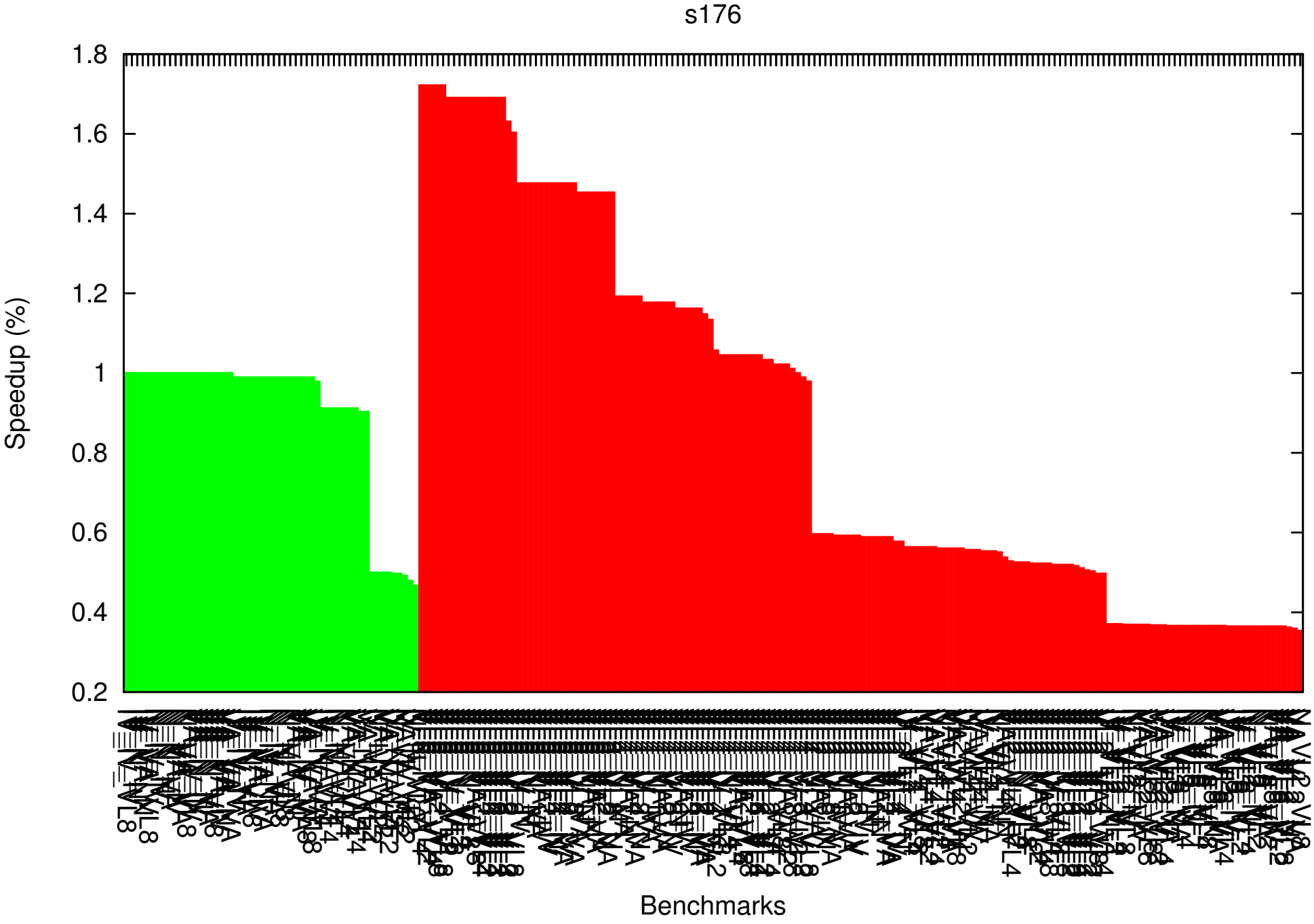

s171
Speedup (%)
1.8
1.6
1.4
1.2
1
0.8
0.6
IV_VL4
N_VL4
VA_VA
VA_VL4
IV_N
IV_VA
IV_VL8
N_IV
N_VA
N_VL8
VA_IV
VA_N
VA_VL8
IV_IV
N_N
VA_VL2
IV_VL2
N_VL2
VL8_N
VL8_VL8
VL8_VA
VL8_IV
VL8_VL2
VL8_VL4
VL4_N
VL4_VL4
VL4_VL8
VL4_IV
VL4_VL2
VL4_VA
VL2_VL4
VL2_IV
VL2_VL8
VL2_N
VL2_VA
VL2_VL2
Benchmarks

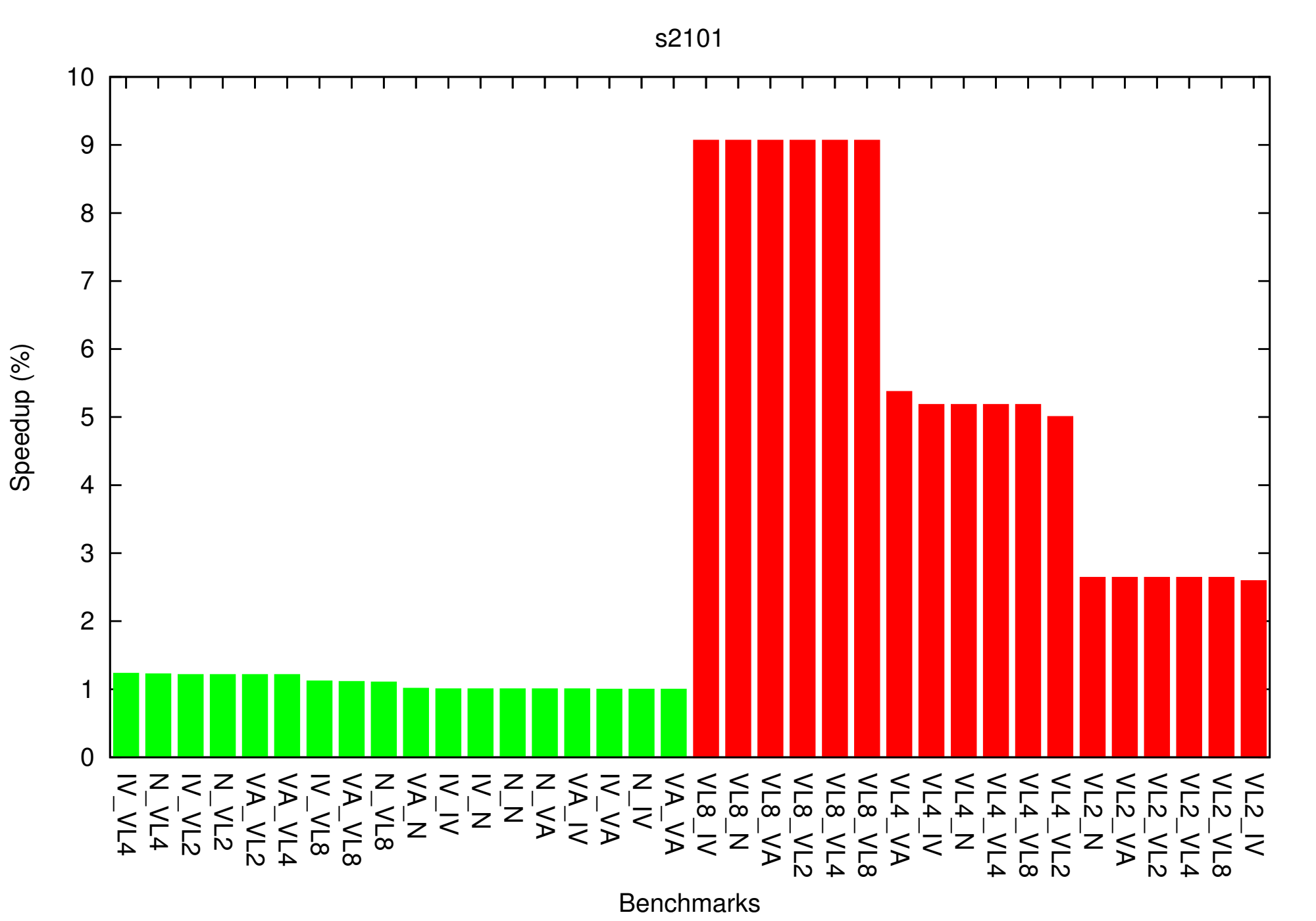

s172
Speedup (%)
1.8
1.6
1.4
1.2
1
0.8
0.6
IV_VL4
VA_N
VA_VL4
IV_IV
IV_N
IV_VA
N_N
N_VA
VA_VA
VA_VL8
IV_VL8
N_IV
N_VL4
N_VL8
VA_IV
N_VL2
IV_VL2
VA_VL2
VL8_IV
VL8_N
VL8_VA
VL8_VL4
VL8_VL8
VL8_VL2
VL4_N
VL4_VL8
VL4_VL2
VL4_IV
VL4_VL4
VL4_VA
VL2_IV
VL2_VA
VL2_VL2
VL2_VL8
VL2_N
VL2_VL4
Benchmarks

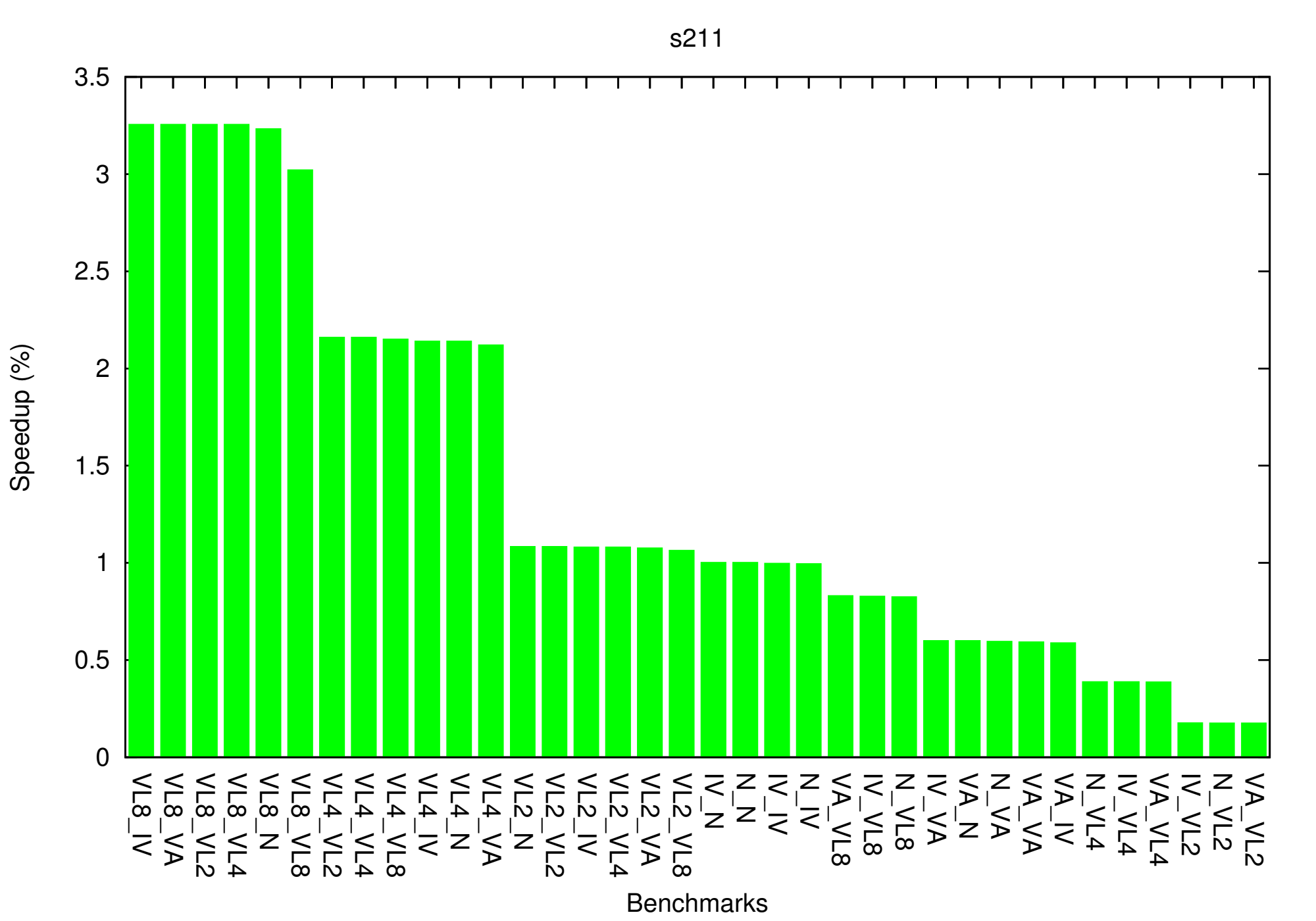

s173
Speedup (%)
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
VL8_N
VL8_VL2
VL8_VL8
VL8_IV
VL8_VL4
VL8_VA
VL4_VA
VL4_VL2
VL4_IV
VL4_VL4
VL4_N
VL4_VL8
N_VL4
VA_VL4
IV_VL4
N_VL8
VA_VL8
IV_N
IV_VA
IV_VL8
N_IV
VA_IV
VA_N
VA_VA
IV_IV
N_N
N_VA
IV_VL2
N_VL2
VA_VL2
VL2_VL8
VL2_VA
VL2_VL2
VL2_VL4
VL2_N
VL2_IV
Benchmarks

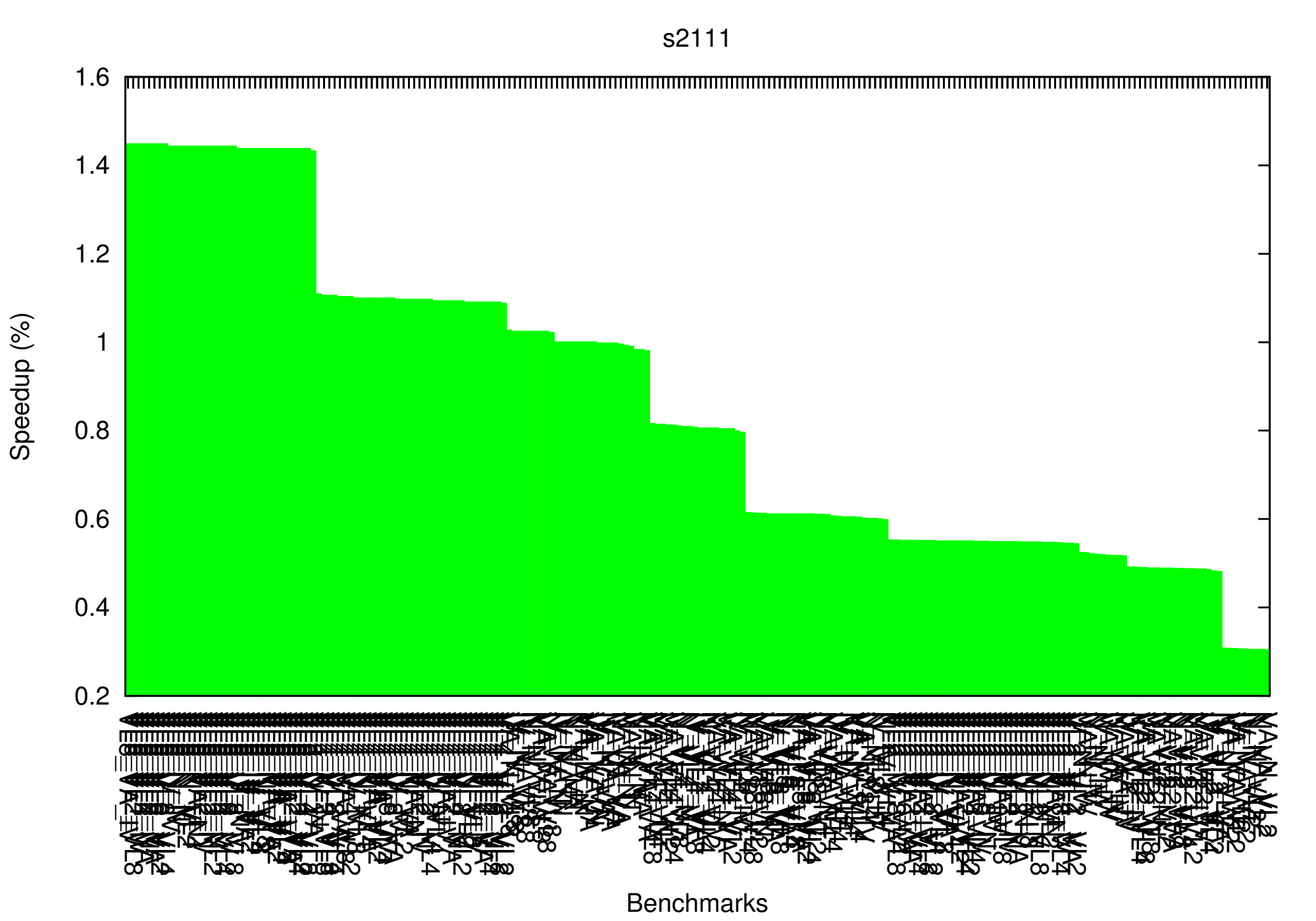

s174
Speedup (%)
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
VL8_VA
VL8_VL4
VL8_IV
VL8_VL2
VL8_N
VL8_VL8
VL4_VL4
VL4_VL8
VL4_IV
VL4_VL2
VL4_N
VL4_VA
N_VL4
VA_VL4
IV_VL4
N_IV
N_N
VA_N
IV_VA
N_VA
VA_VA
VA_VL8
IV_N
IV_VL8
VA_IV
IV_IV
N_VL8
VL2_VA
VL2_VL4
VL2_VL2
VL2_VL8
VL2_N
VL2_IV
N_VL2
IV_VL2
VA_VL2
Benchmarks

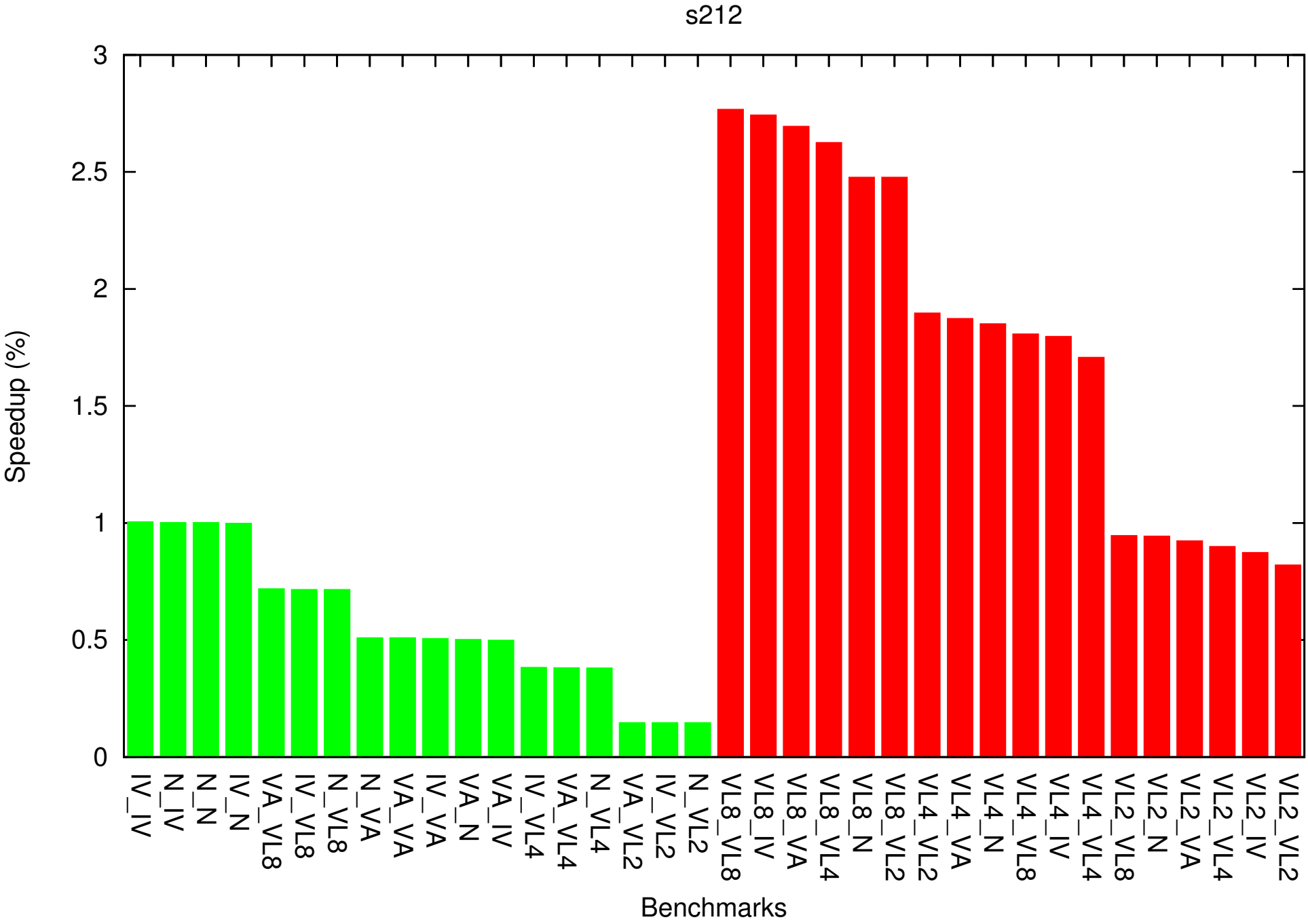

s175
Speedup (%)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
VL8_VL2
VL8_VL8
VL8_IV
VL8_N
VL8_VL4
VL8_VA
VL4_VL2
VL4_VL8
VL4_VA
VL4_N
VL4_VL4
VL4_IV
IV_VL4
VA_VL4
IV_IV
IV_N
IV_VL8
N_IV
N_N
N_VA
N_VL8
VA_IV
VA_N
VA_VA
VA_VL8
IV_VA
N_VL4
VL2_N
IV_VL2
N_VL2
VA_VL2
VL2_VL4
VL2_VL8
VL2_VL2
VL2_IV
VL2_VA
Benchmarks

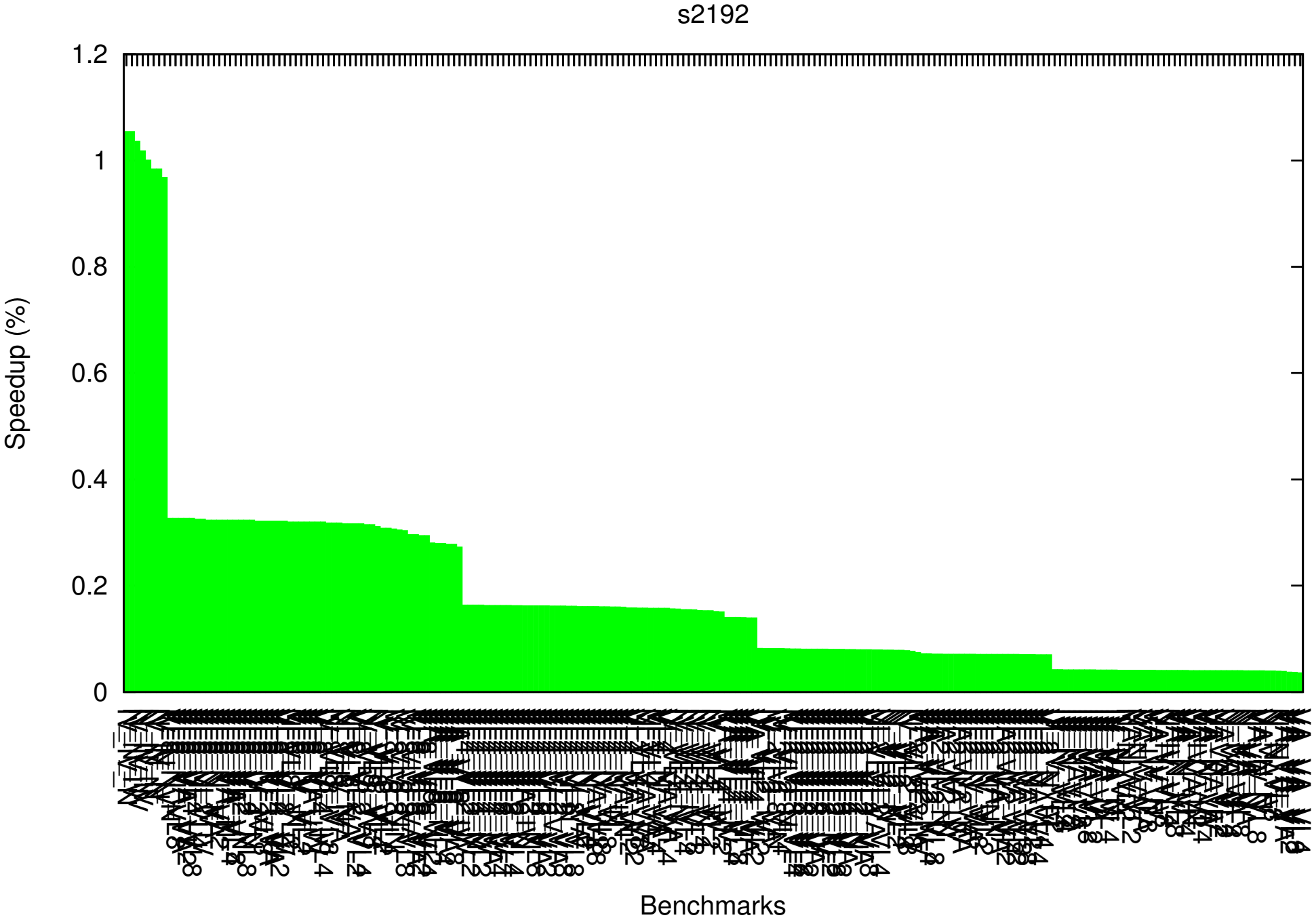

s176
Speedup (%)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
Benchmarks

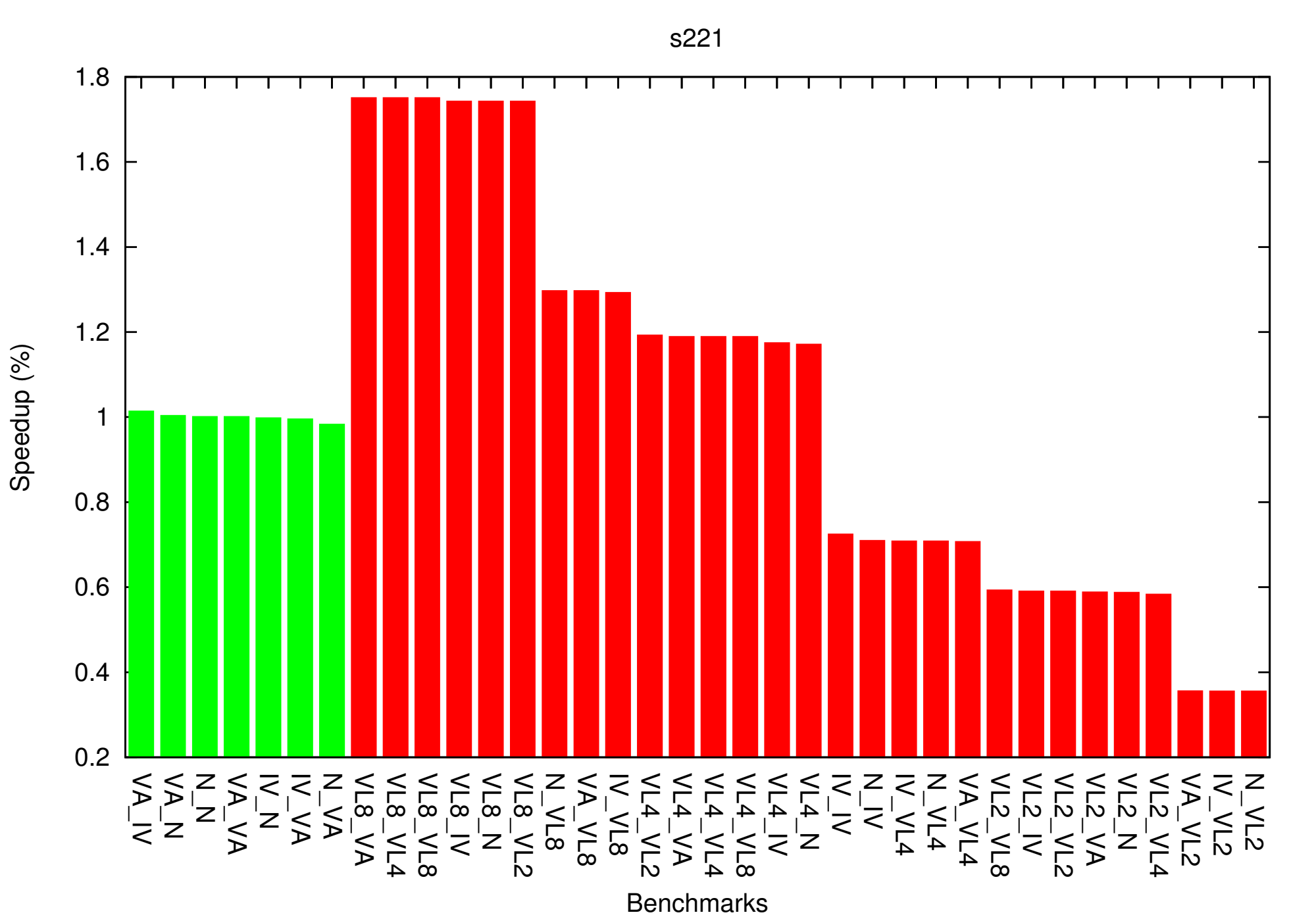

s2101
Speedup (%)
Benchmarks
0
1
2
3
4
5
6
7
8
9
10
IV_VL4
N_VL4
IV_VL2
N_VL2
VA_VL2
VA_VL4
IV_VL8
VA_VL8
N_VL8
VA_N
IV_IV
IV_N
N_N
N_VA
VA_IV
IV_VA
N_IV
VA_VA
VL8_IV
VL8_N
VL8_VA
VL8_VL2
VL8_VL4
VL8_VL8
VL4_VA
VL4_IV
VL4_N
VL4_VL4
VL4_VL8
VL4_VL2
VL2_N
VL2_VA
VL2_VL2
VL2_VL4
VL2_VL8
VL2_IV

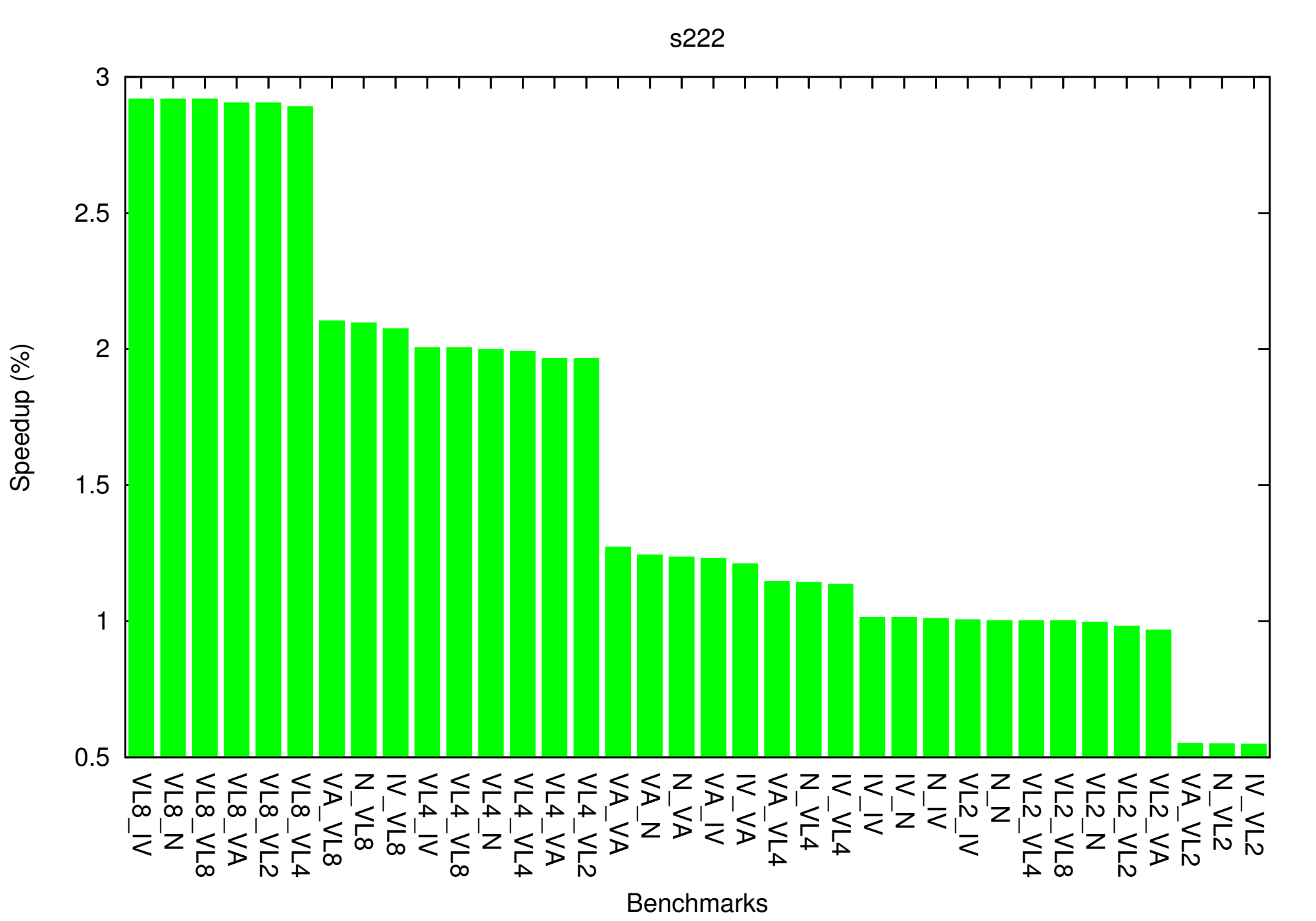

s211
Speedup (%)
3.5
3
2.5
2
1.5
1
0.5
0
VL8_IV
VL8_VA
VL8_VL2
VL8_VL4
VL8_N
VL8_VL8
VL4_VL2
VL4_VL4
VL4_VL8
VL4_IV
VL4_N
VL4_VA
VL2_N
VL2_VL2
VL2_IV
VL2_VL4
VL2_VA
VL2_VL8
IV_N
N_N
IV_IV
N_IV
VA_VL8
IV_VL8
N_VL8
IV_VA
VA_N
N_VA
VA_VA
VA_IV
N_VL4
IV_VL4
VA_VL4
IV_VL2
N_VL2
VA_VL2
Benchmarks

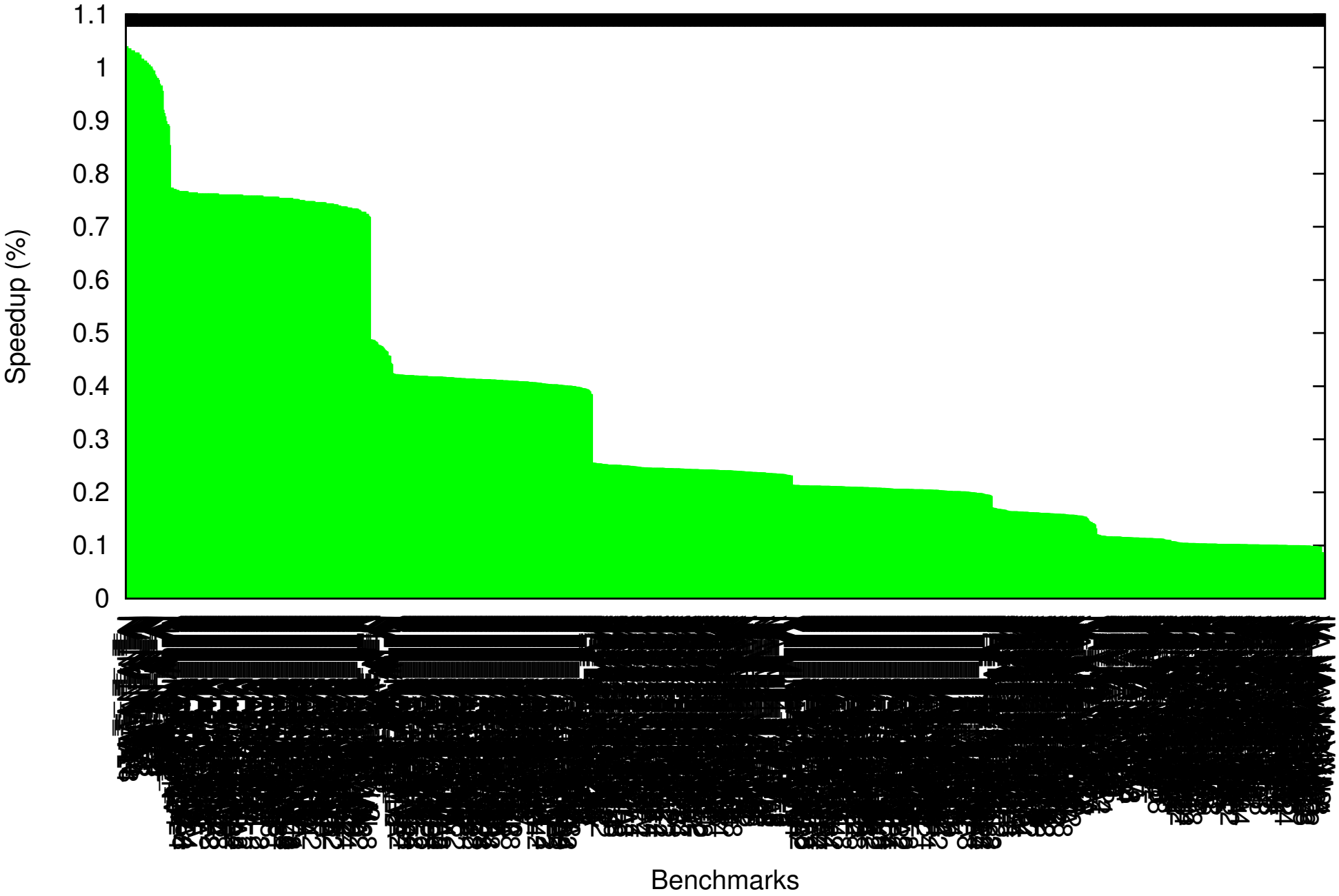

s2111
Speedup (%)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
Benchmarks

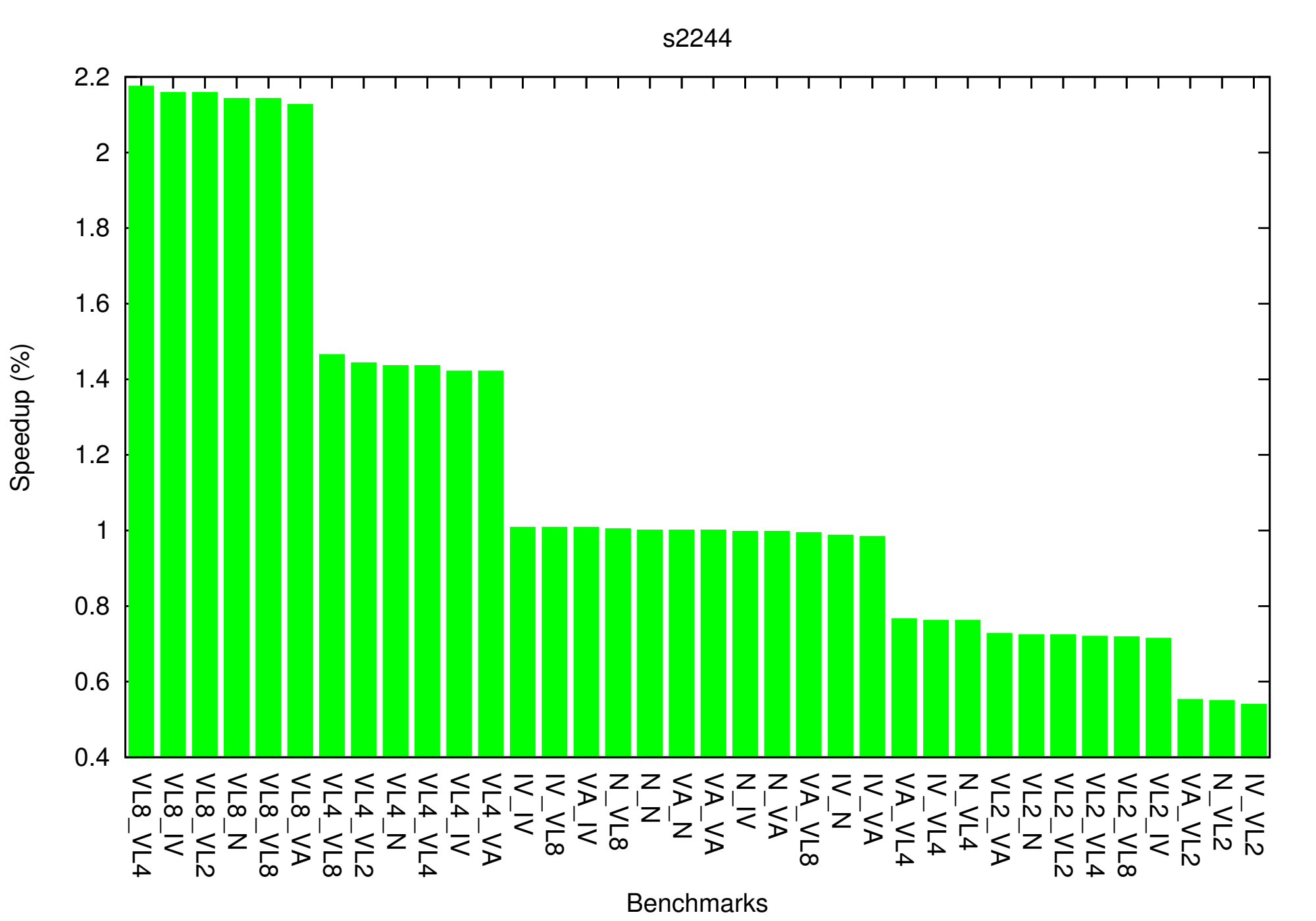

s212
Speedup (%)
3
2.5
2
1.5
1
0.5
0
IV_IV
N_IV
N_N
IV_N
VA_VL8
IV_VL8
N_VL8
N_VA
VA_VA
IV_VA
VA_N
VA_IV
IV_VL4
VA_VL4
N_VL4
VA_VL2
IV_VL2
N_VL2
VL8_VL8
VL8_IV
VL8_VA
VL8_VL4
VL8_N
VL8_VL2
VL4_VL2
VL4_VA
VL4_N
VL4_VL8
VL4_IV
VL4_VL4
VL2_VL8
VL2_N
VL2_VA
VL2_VL4
VL2_IV
VL2_VL2
Benchmarks

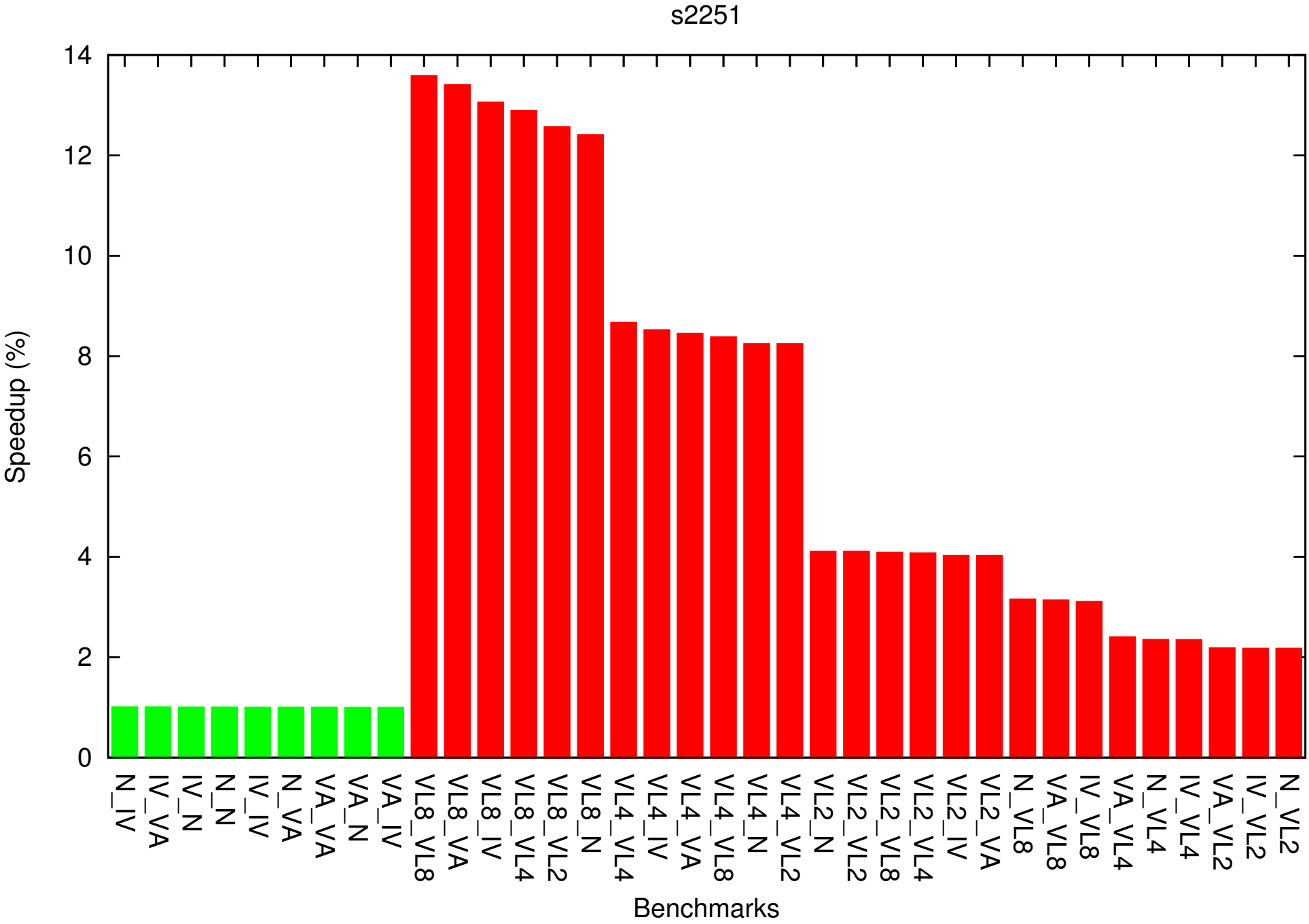

s2192
Speedup (%)
1.2
1
0.8
0.6
0.4
0.2
0
Benchmarks

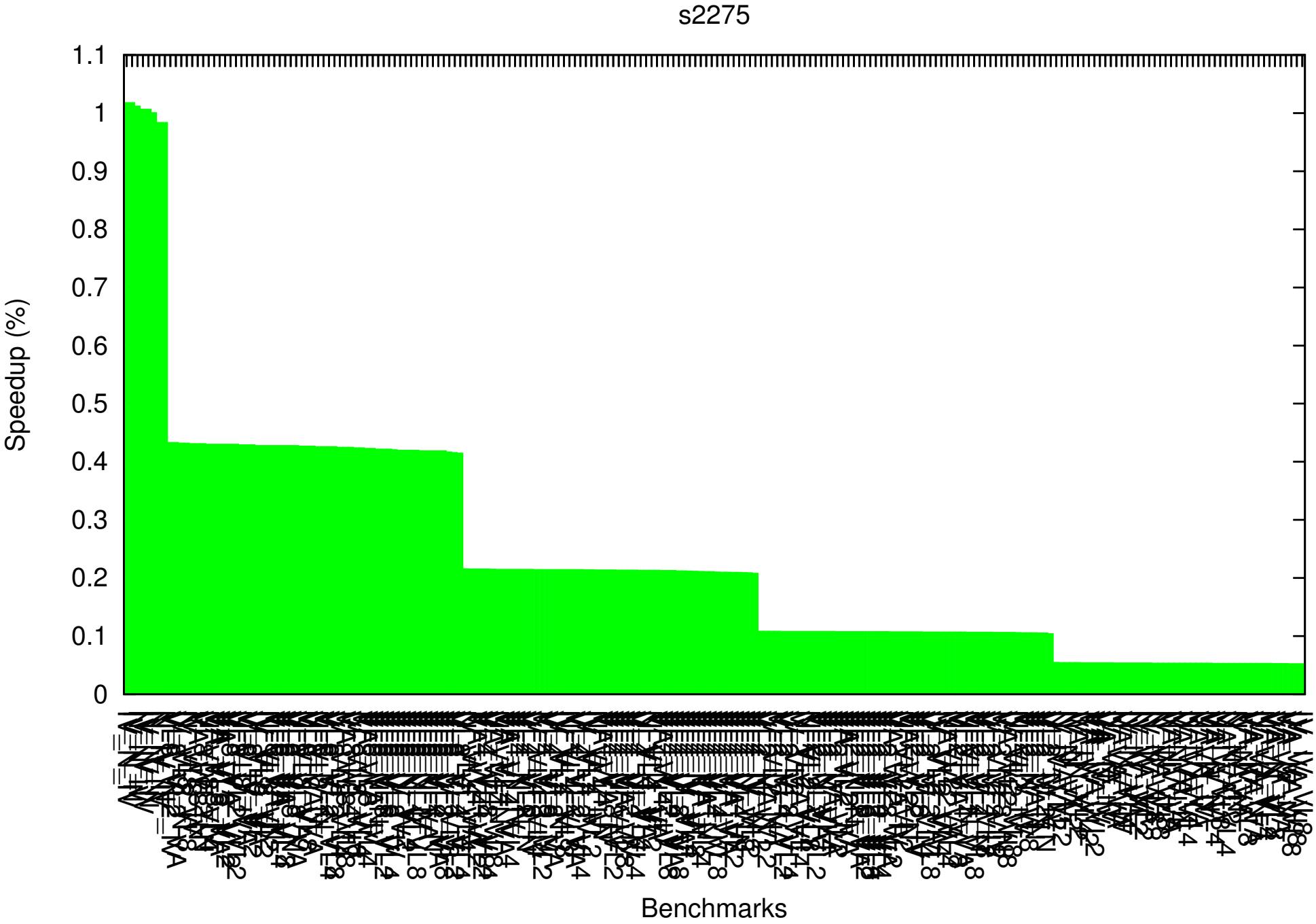

s221
Speedup (%)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
VA_IV
VA_N
N_N
VA_VA
IV_N
IV_VA
N_VA
VL8_VA
VL8_VL4
VL8_VL8
VL8_IV
VL8_N
VL8_VL2
N_VL8
VA_VL8
IV_VL8
VL4_VL2
VL4_VA
VL4_VL4
VL4_VL8
VL4_IV
VL4_N
IV_IV
N_IV
IV_VL4
N_VL4
VA_VL4
VL2_VL8
VL2_IV
VL2_VL2
VL2_VA
VL2_N
VL2_VL4
VA_VL2
IV_VL2
N_VL2
Benchmarks

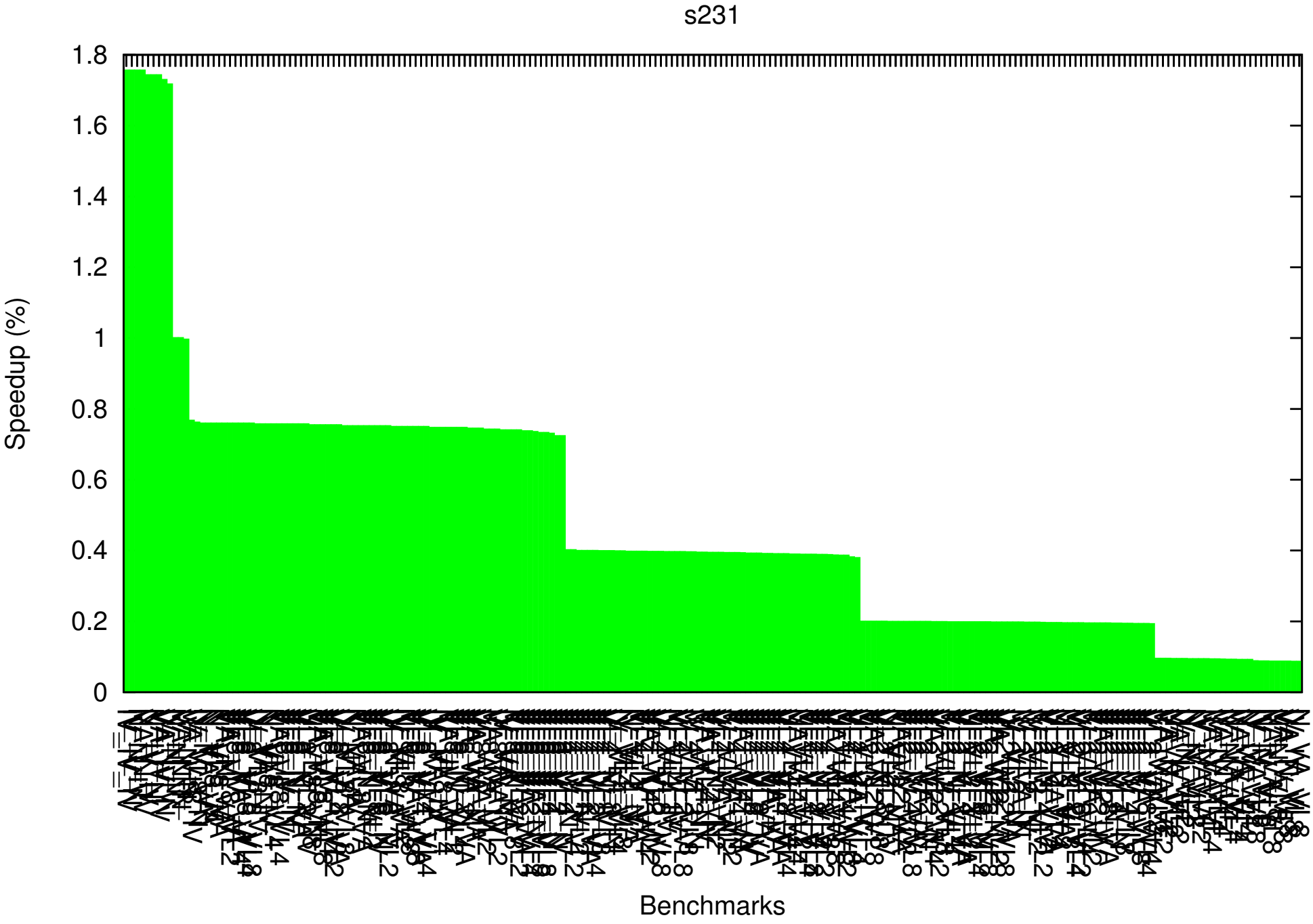

s222
Speedup (%)
3
2.5
2
1.5
1
0.5
VL8_IV
VL8_N
VL8_VL8
VL8_VA
VL8_VL2
VL8_VL4
VA_VL8
N_VL8
IV_VL8
VL4_IV
VL4_VL8
VL4_N
VL4_VL4
VL4_VA
VL4_VL2
VA_VA
VA_N
N_VA
VA_IV
IV_VA
VA_VL4
N_VL4
IV_VL4
IV_IV
IV_N
N_IV
VL2_IV
N_N
VL2_VL4
VL2_VL8
VL2_N
VL2_VL2
VL2_VA
VA_VL2
N_VL2
IV_VL2
Benchmarks

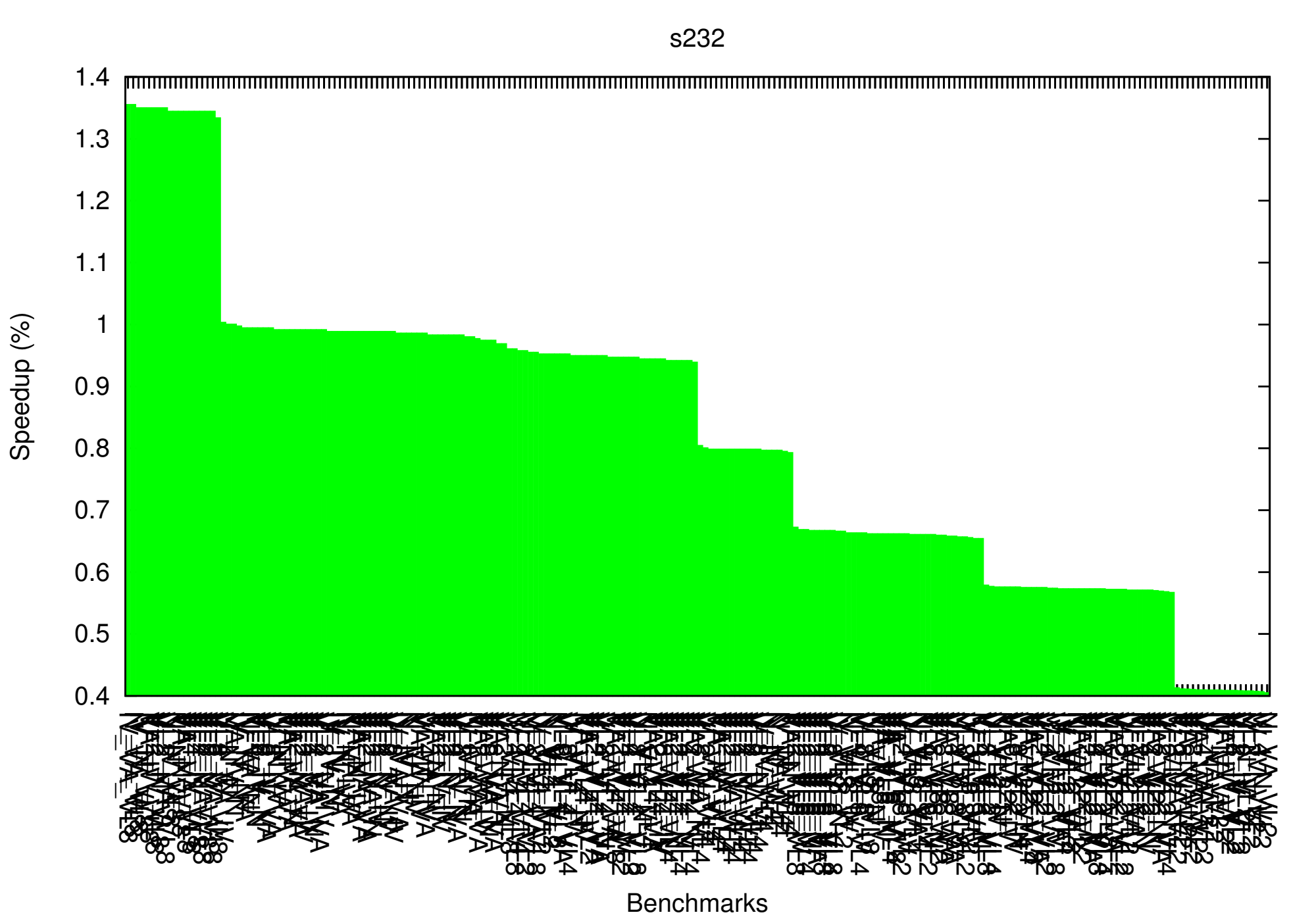

s2233
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Benchmarks

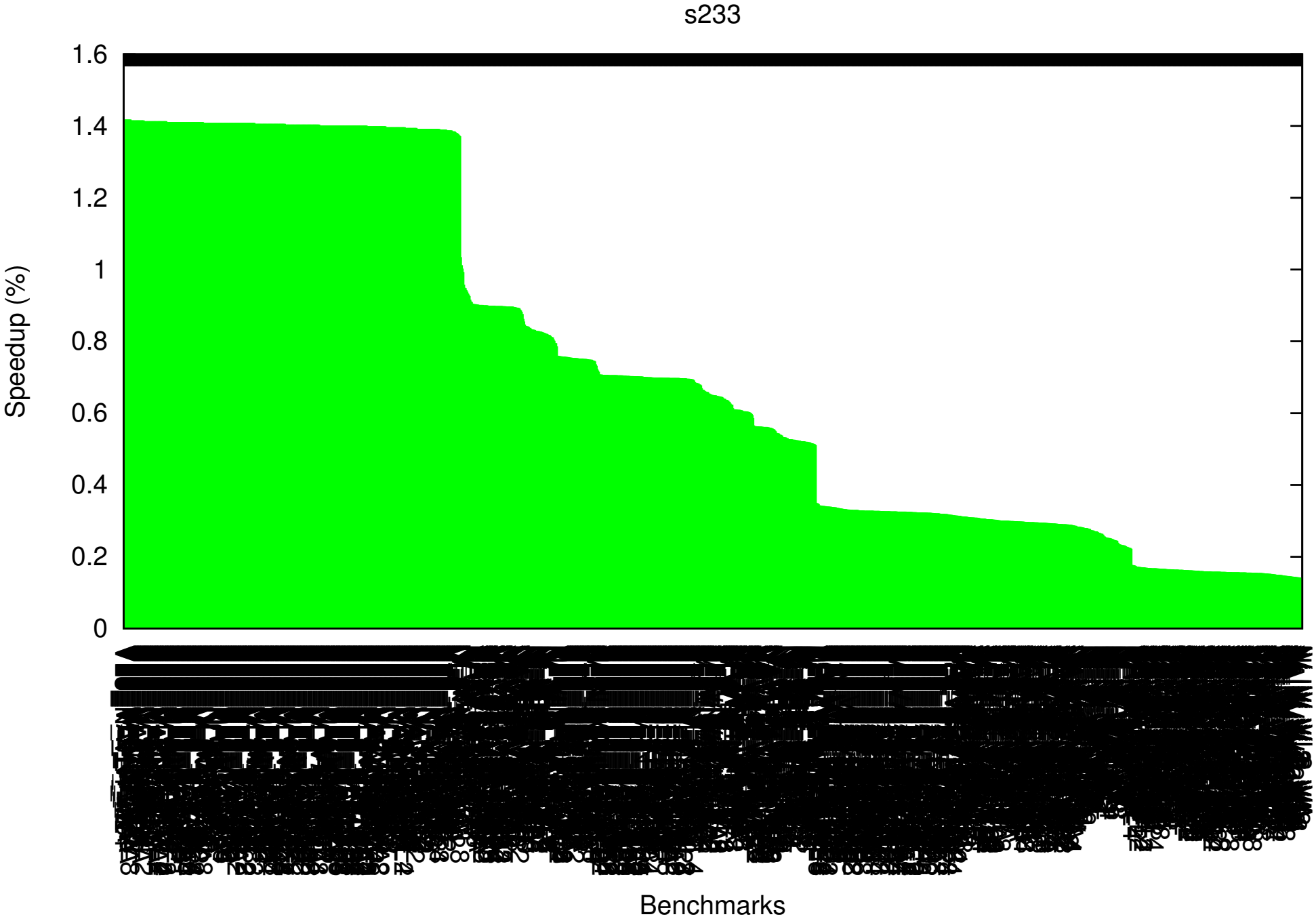

s2244
Speedup (%)
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
VL8_VL4
VL8_IV
VL8_VL2
VL8_N
VL8_VL8
VL8_VA
VL4_VL8
VL4_VL2
VL4_N
VL4_VL4
VL4_IV
VL4_VA
IV_IV
IV_VL8
VA_IV
N_VL8
N_N
VA_N
VA_VA
N_IV
N_VA
VA_VL8
IV_N
IV_VA
VA_VL4
IV_VL4
N_VL4
VL2_VA
VL2_N
VL2_VL2
VL2_VL4
VL2_VL8
VL2_IV
VA_VL2
N_VL2
IV_VL2
Benchmarks

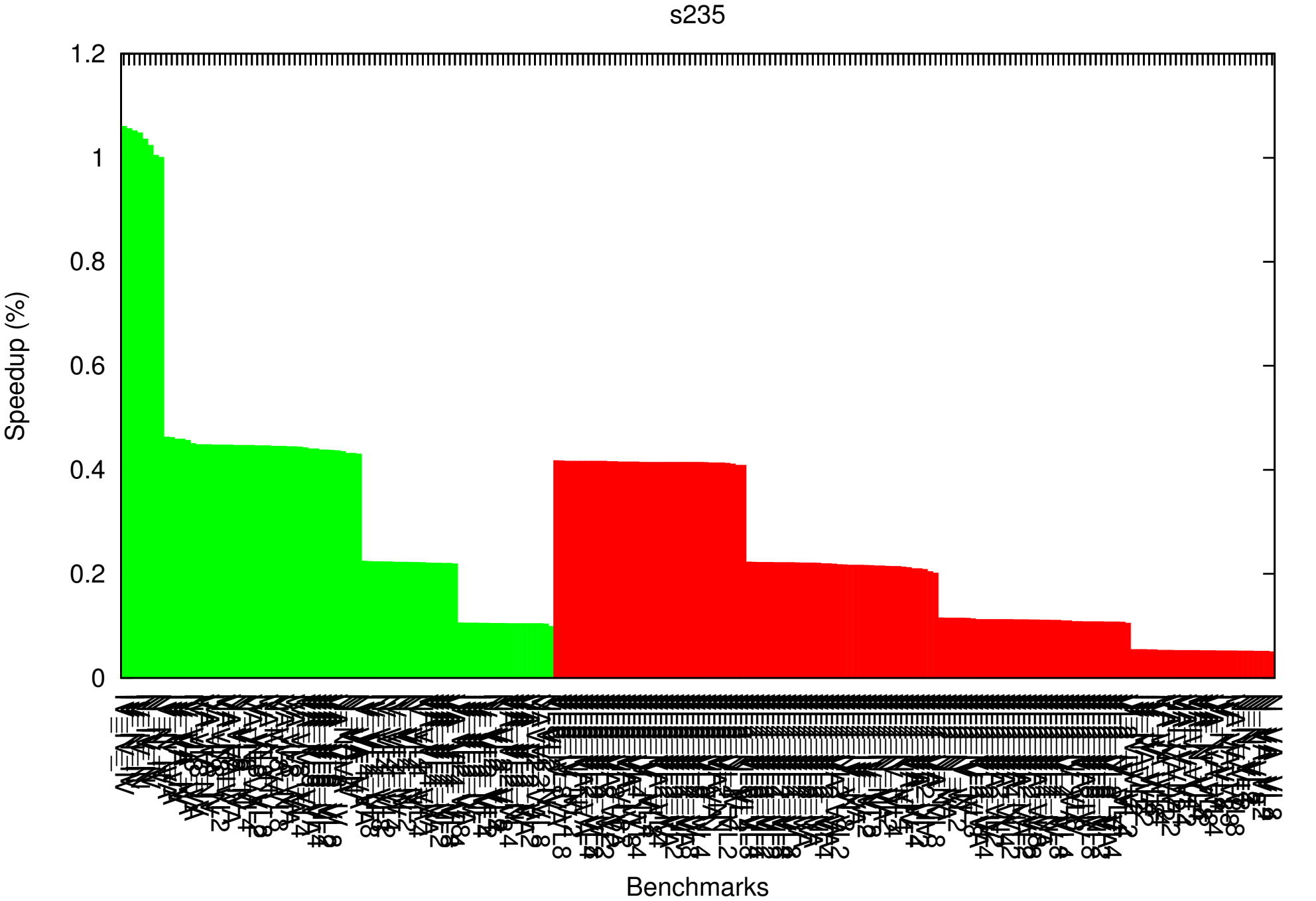

s2251
Speedup (%)
0
2
4
6
8
10
12
14
N_IV
IV_VA
IV_N
N_N
IV_IV
N_VA
VA_VA
VA_N
VA_IV
VL8_VL8
VL8_VA
VL8_IV
VL8_VL4
VL8_VL2
VL8_N
VL4_VL4
VL4_IV
VL4_VA
VL4_VL8
VL4_N
VL4_VL2
VL2_N
VL2_VL2
VL2_VL8
VL2_VL4
VL2_IV
VL2_VA
N_VL8
VA_VL8
IV_VL8
VA_VL4
N_VL4
IV_VL4
VA_VL2
IV_VL2
N_VL2
Benchmarks

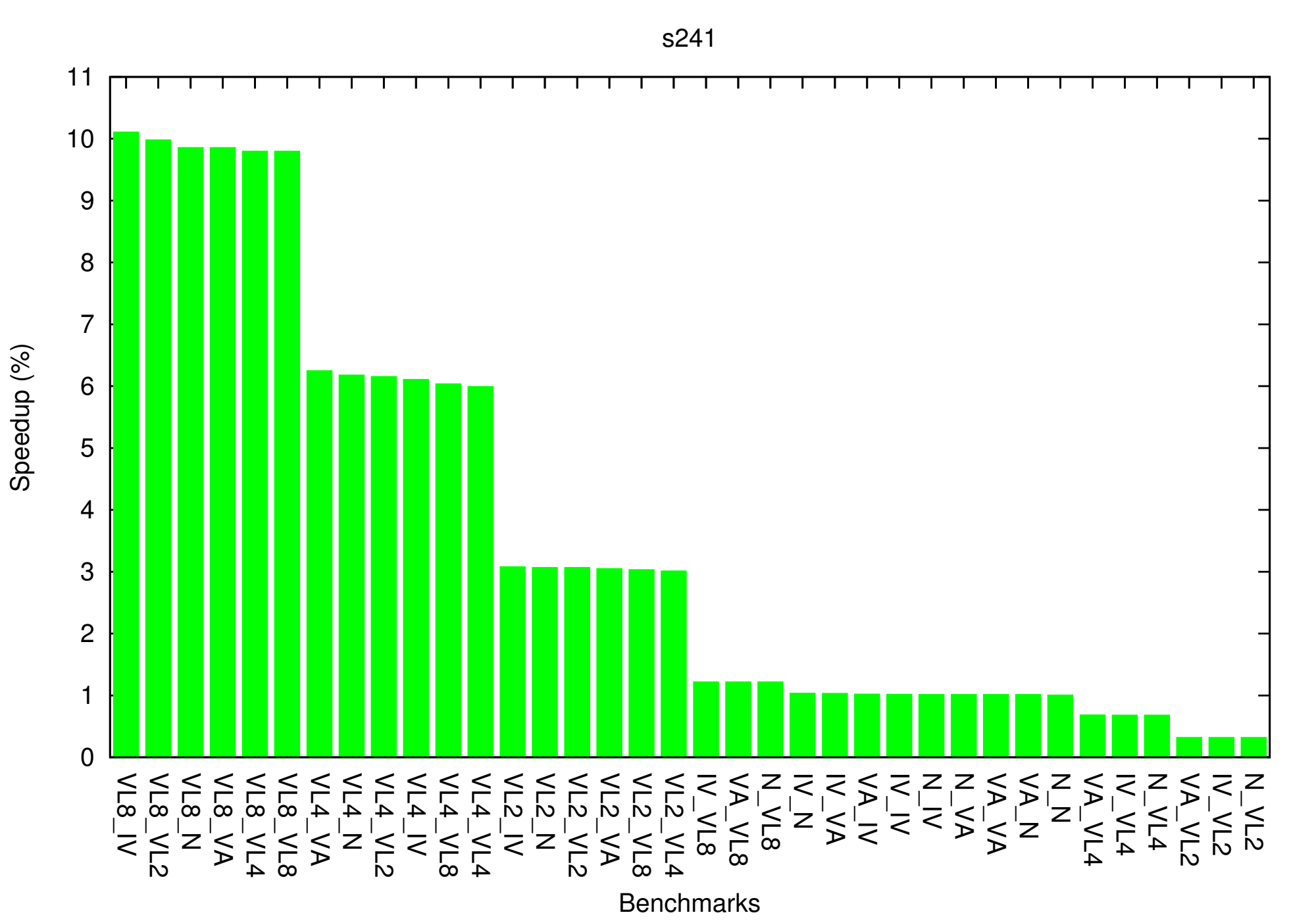

s2275
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Benchmarks

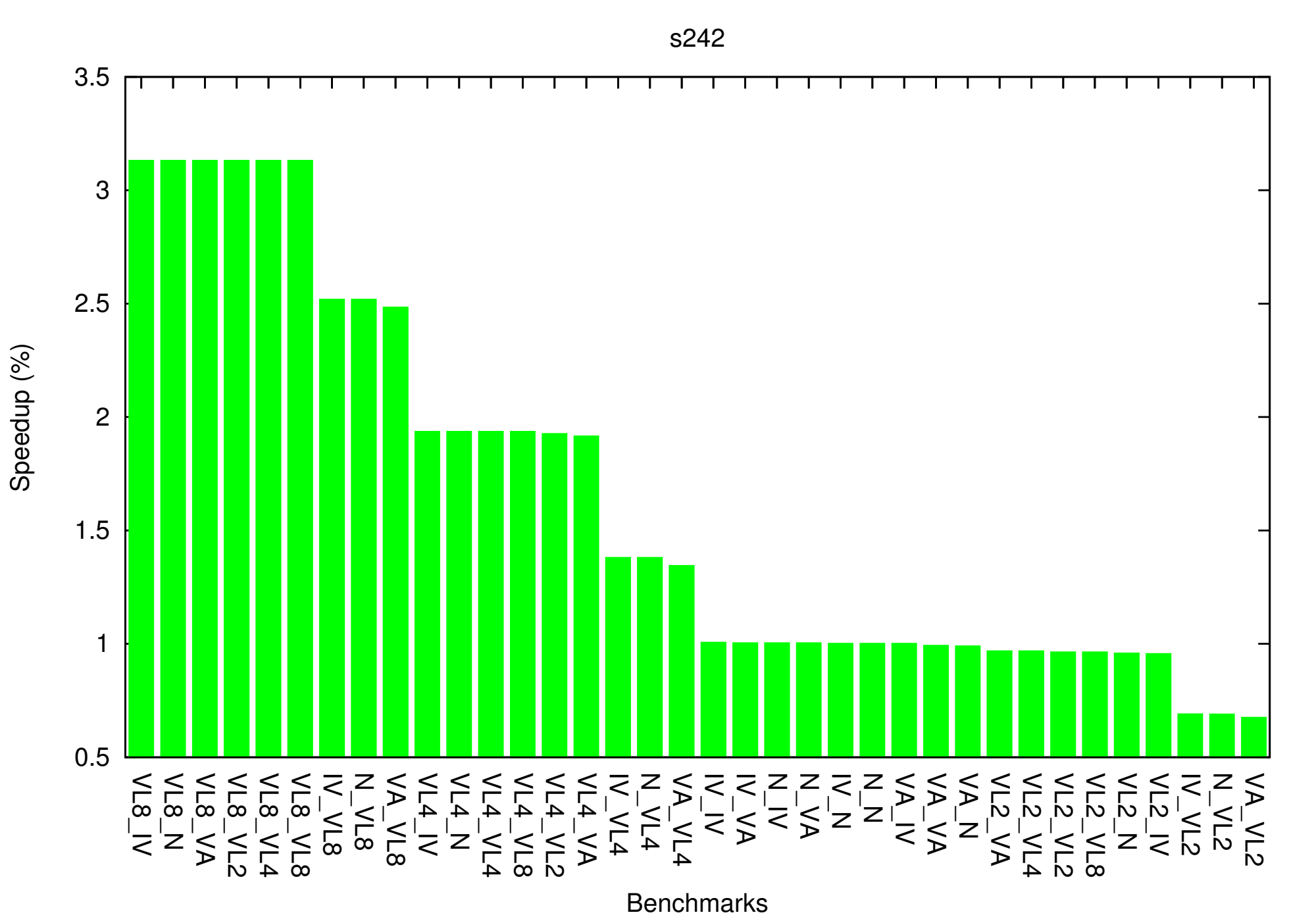

s231
Speedup (%)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Benchmarks

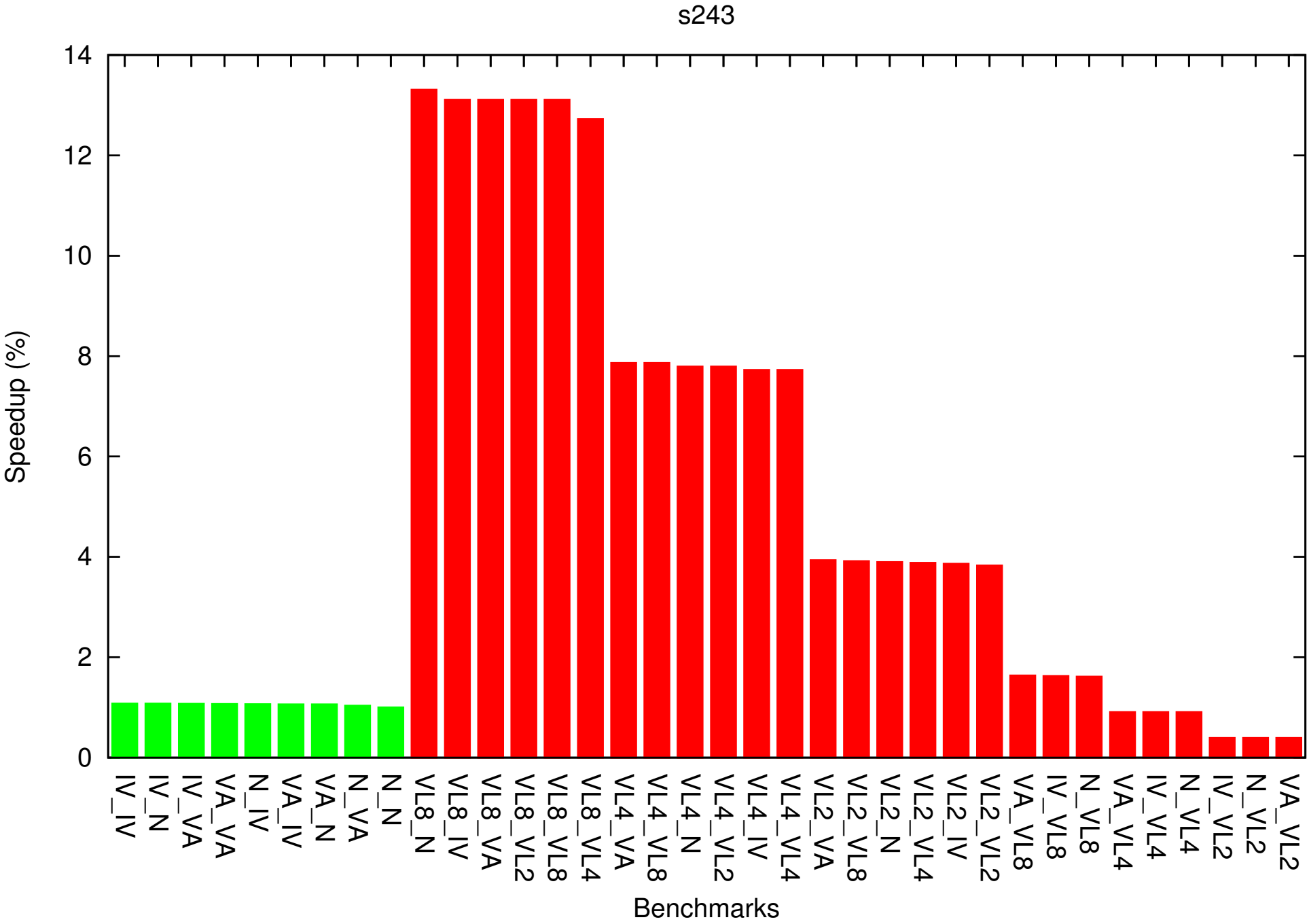

s232
Speedup (%)
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
Benchmarks

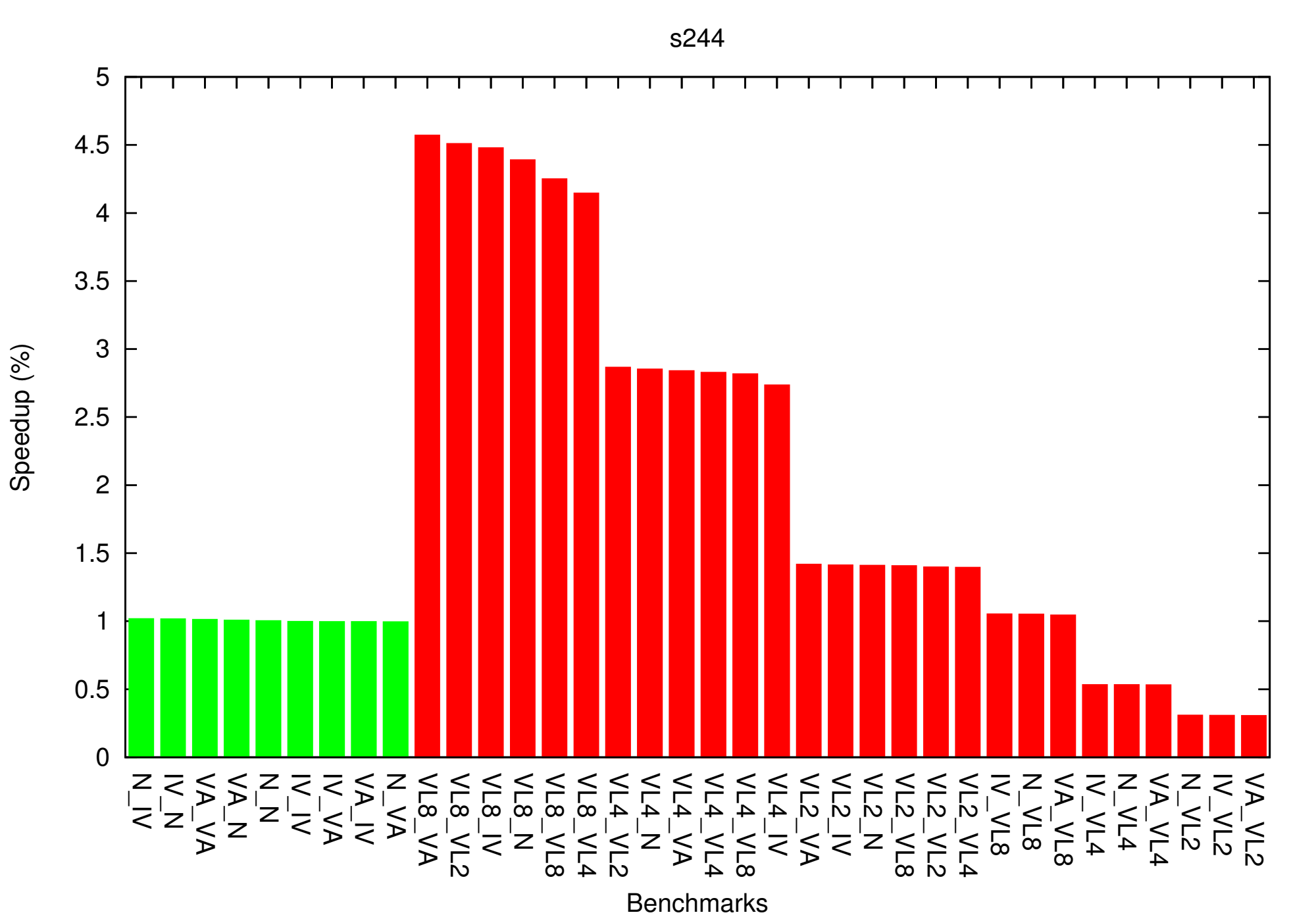

s233
Speedup (%)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Benchmarks

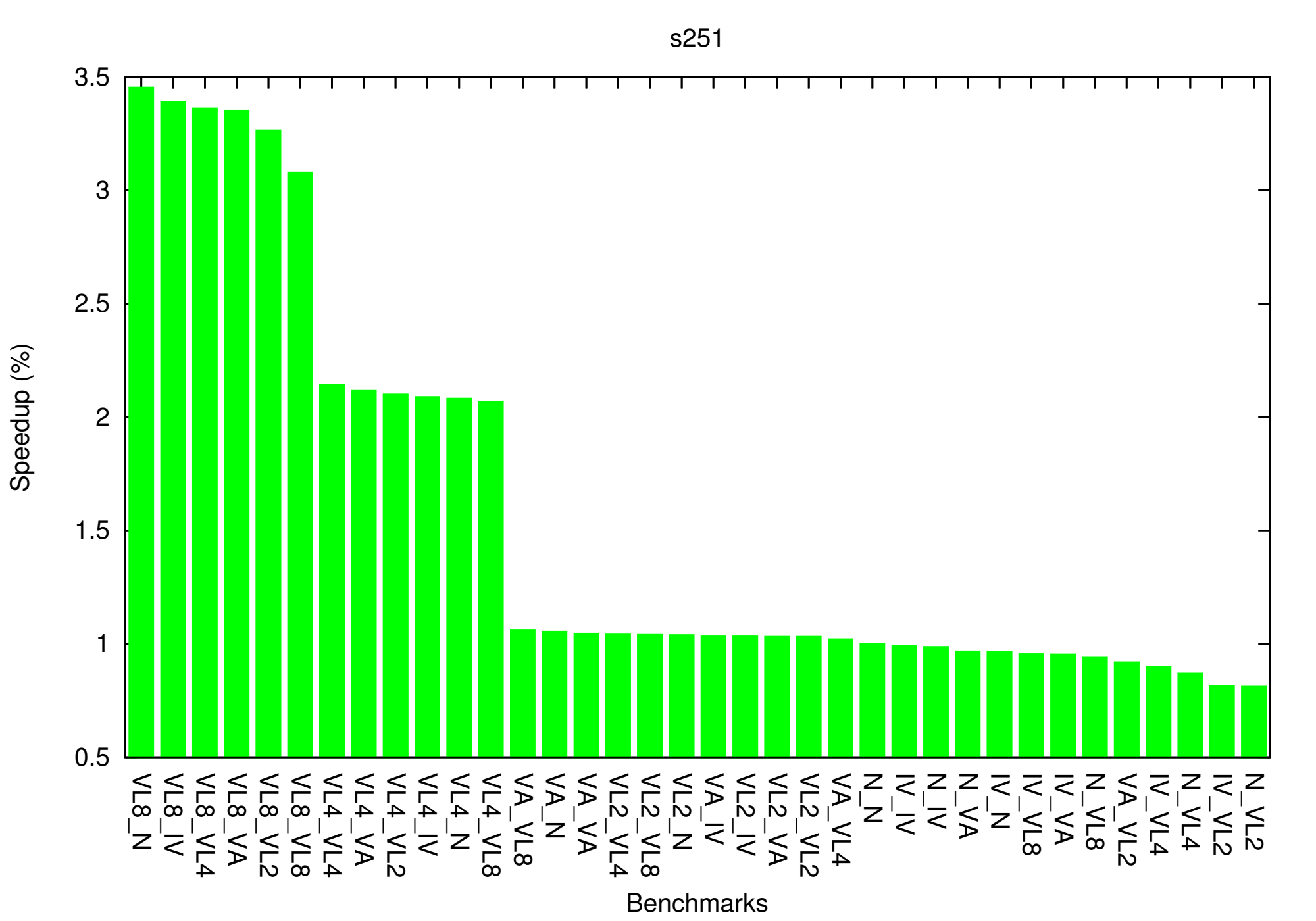

s235
Speedup (%)
1.2
1
0.8
0.6
0.4
0.2
0
Benchmarks

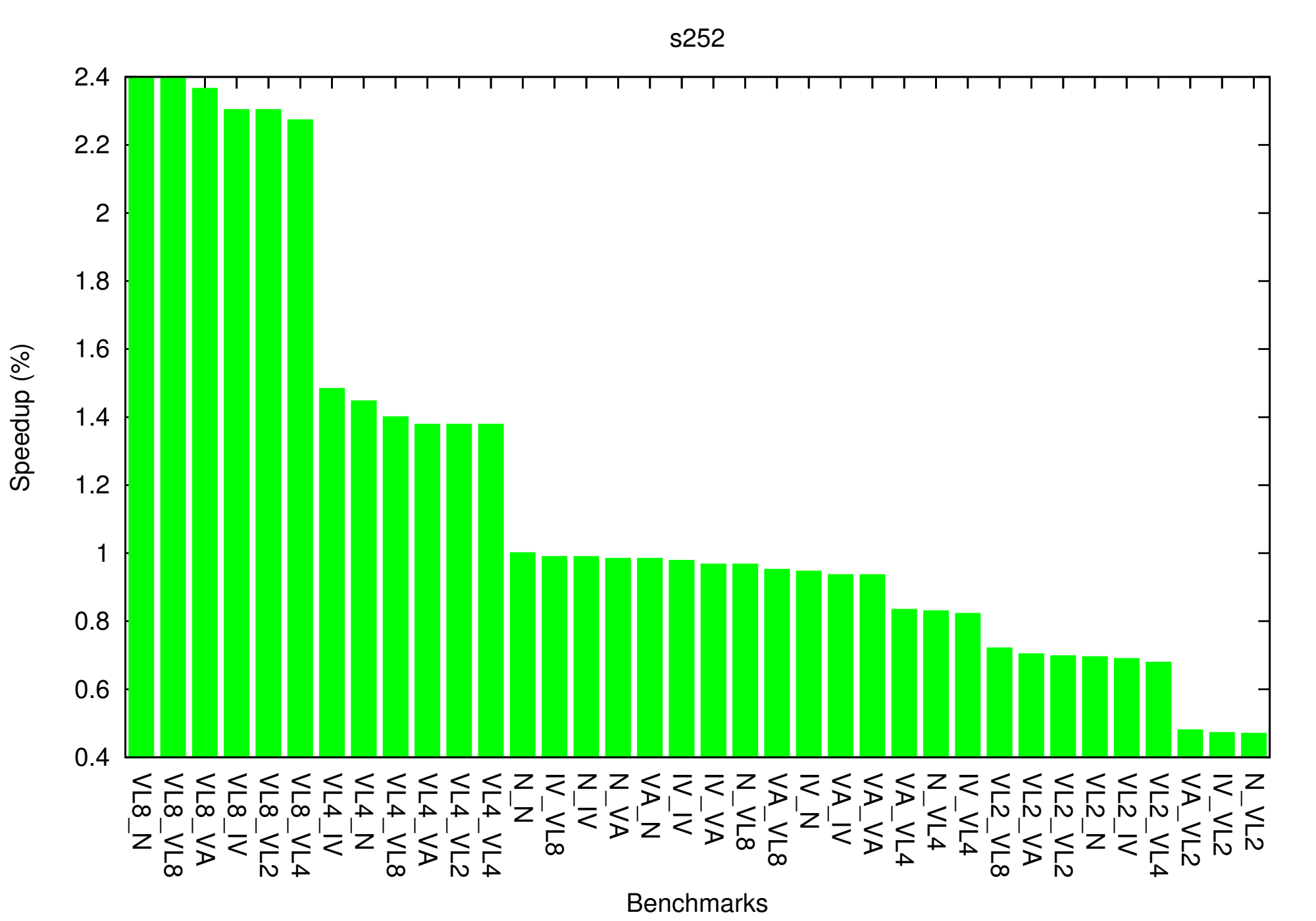

s241
Speedup (%)
Benchmarks
0
1
2
3
4
5
6
7
8
9
10
11
VL8_IV
VL8_VL2
VL8_N
VL8_VA
VL8_VL4
VL8_VL8
VL4_VA
VL4_N
VL4_VL2
VL4_IV
VL4_VL8
VL4_VL4
VL2_IV
VL2_N
VL2_VL2
VL2_VA
VL2_VL8
VL2_VL4
IV_VL8
VA_VL8
N_VL8
IV_N
IV_VA
VA_IV
IV_IV
N_IV
N_VA
VA_VA
VA_N
N_N
VA_VL4
IV_VL4
N_VL4
VA_VL2
IV_VL2
N_VL2

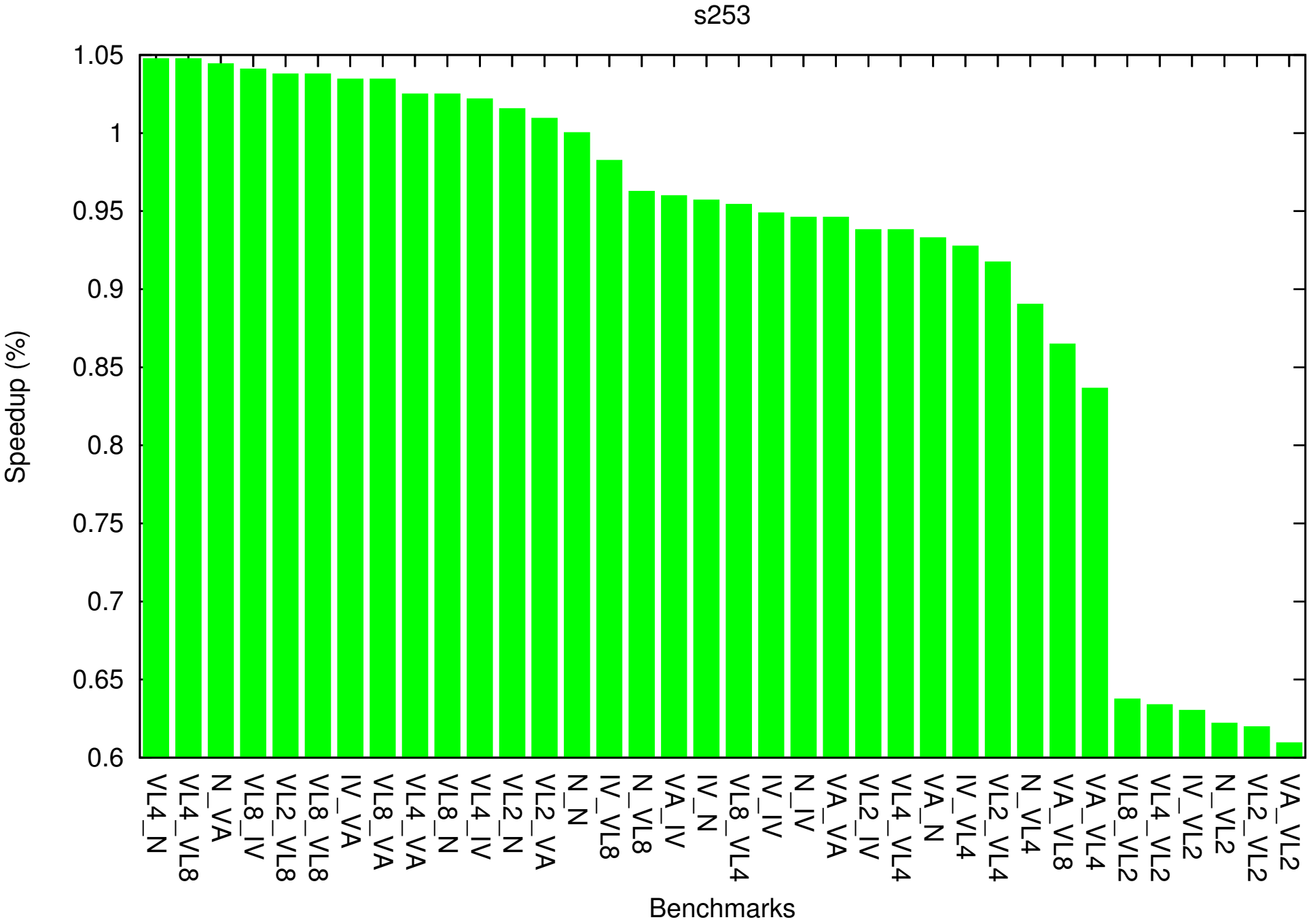

s242
Speedup (%)
3.5
3
2.5
2
1.5
1
0.5
VL8_IV
VL8_N
VL8_VA
VL8_VL2
VL8_VL4
VL8_VL8
IV_VL8
N_VL8
VA_VL8
VL4_IV
VL4_N
VL4_VL4
VL4_VL8
VL4_VL2
VL4_VA
IV_VL4
N_VL4
VA_VL4
IV_IV
IV_VA
N_IV
N_VA
IV_N
N_N
VA_IV
VA_VA
VA_N
VL2_VA
VL2_VL4
VL2_VL2
VL2_VL8
VL2_N
VL2_IV
IV_VL2
N_VL2
VA_VL2
Benchmarks

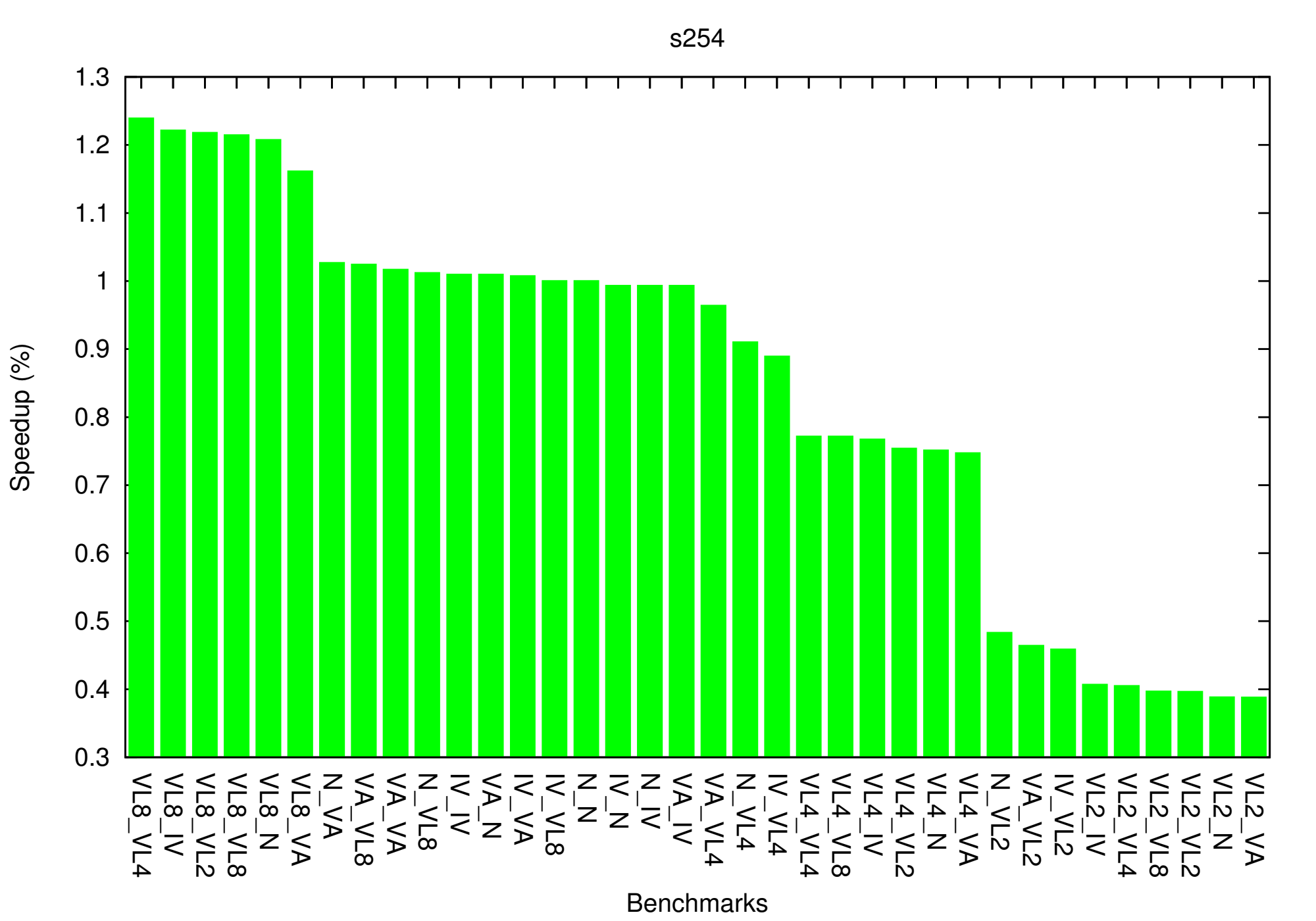

s243
Speedup (%)
0
2
4
6
8
10
12
14
IV_IV
IV_N
IV_VA
VA_VA
N_IV
VA_IV
VA_N
N_VA
N_N
VL8_N
VL8_IV
VL8_VA
VL8_VL2
VL8_VL8
VL8_VL4
VL4_VA
VL4_VL8
VL4_N
VL4_VL2
VL4_IV
VL4_VL4
VL2_VA
VL2_VL8
VL2_N
VL2_VL4
VL2_IV
VL2_VL2
VA_VL8
IV_VL8
N_VL8
VA_VL4
IV_VL4
N_VL4
IV_VL2
N_VL2
VA_VL2
Benchmarks

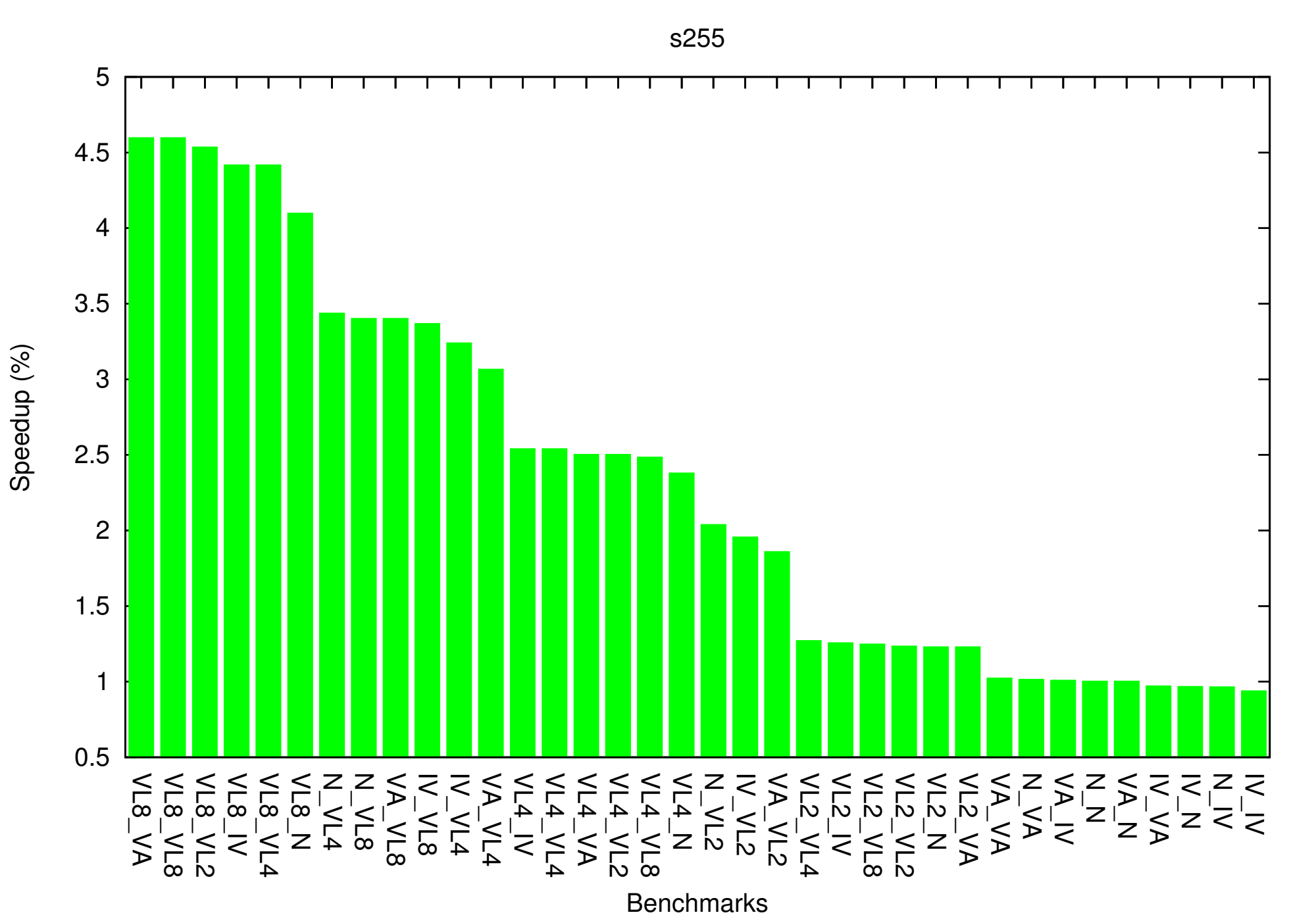

s244
Speedup (%)
Benchmarks
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
N_IV
IV_N
VA_VA
VA_N
N_N
IV_IV
IV_VA
VA_IV
N_VA
VL8_VA
VL8_VL2
VL8_IV
VL8_N
VL8_VL8
VL8_VL4
VL4_VL2
VL4_N
VL4_VA
VL4_VL4
VL4_VL8
VL4_IV
VL2_VA
VL2_IV
VL2_N
VL2_VL8
VL2_VL2
VL2_VL4
IV_VL8
N_VL8
VA_VL8
IV_VL4
N_VL4
VA_VL4
N_VL2
IV_VL2
VA_VL2

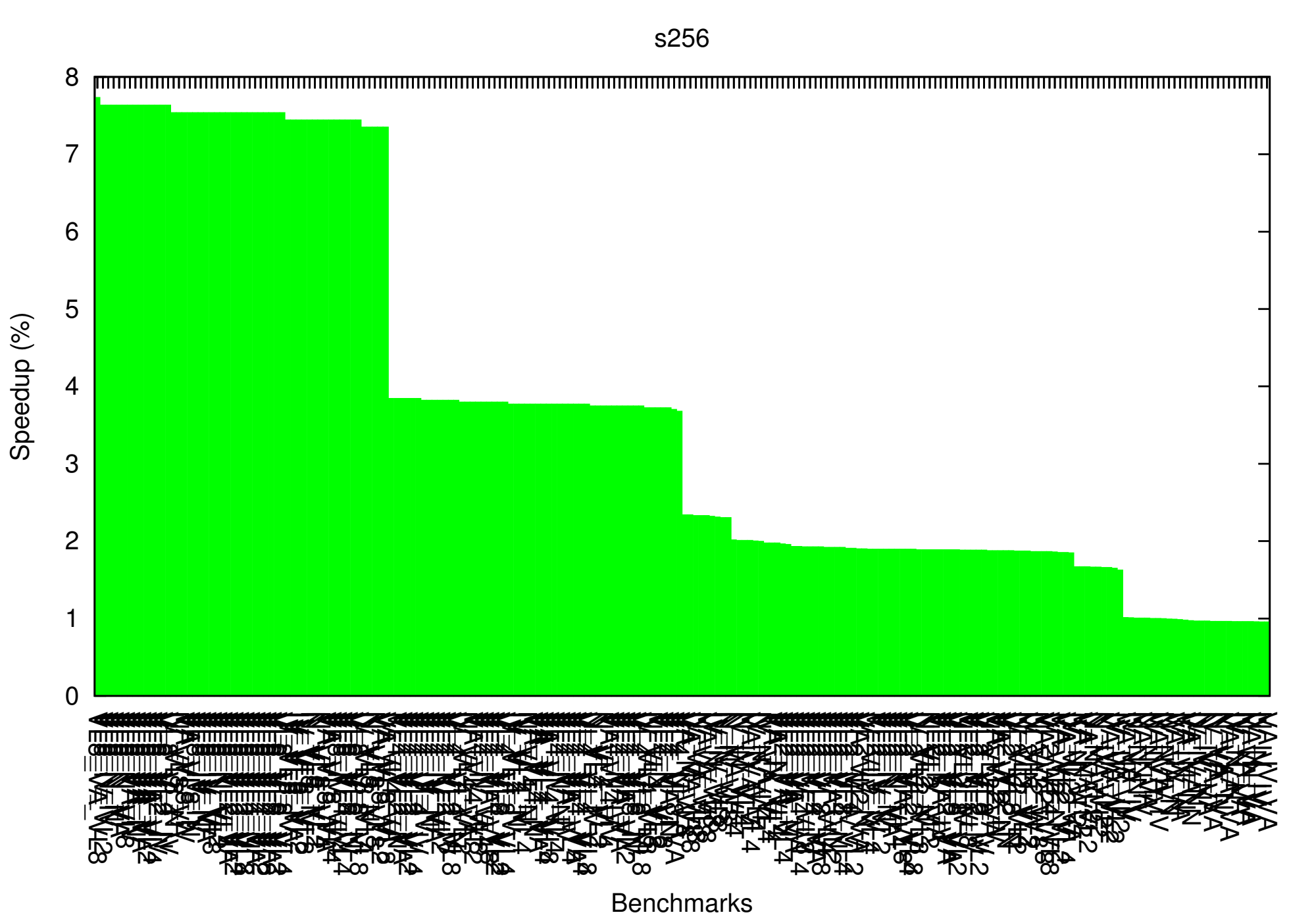

s251
Speedup (%)
3.5
3
2.5
2
1.5
1
0.5
VL8_N
VL8_IV
VL8_VL4
VL8_VA
VL8_VL2
VL8_VL8
VL4_VL4
VL4_VA
VL4_VL2
VL4_IV
VL4_N
VL4_VL8
VA_VL8
VA_N
VA_VA
VL2_VL4
VL2_VL8
VL2_N
VA_IV
VL2_IV
VL2_VA
VL2_VL2
VA_VL4
N_N
IV_IV
N_IV
N_VA
IV_N
IV_VL8
IV_VA
N_VL8
VA_VL2
IV_VL4
N_VL4
IV_VL2
N_VL2
Benchmarks

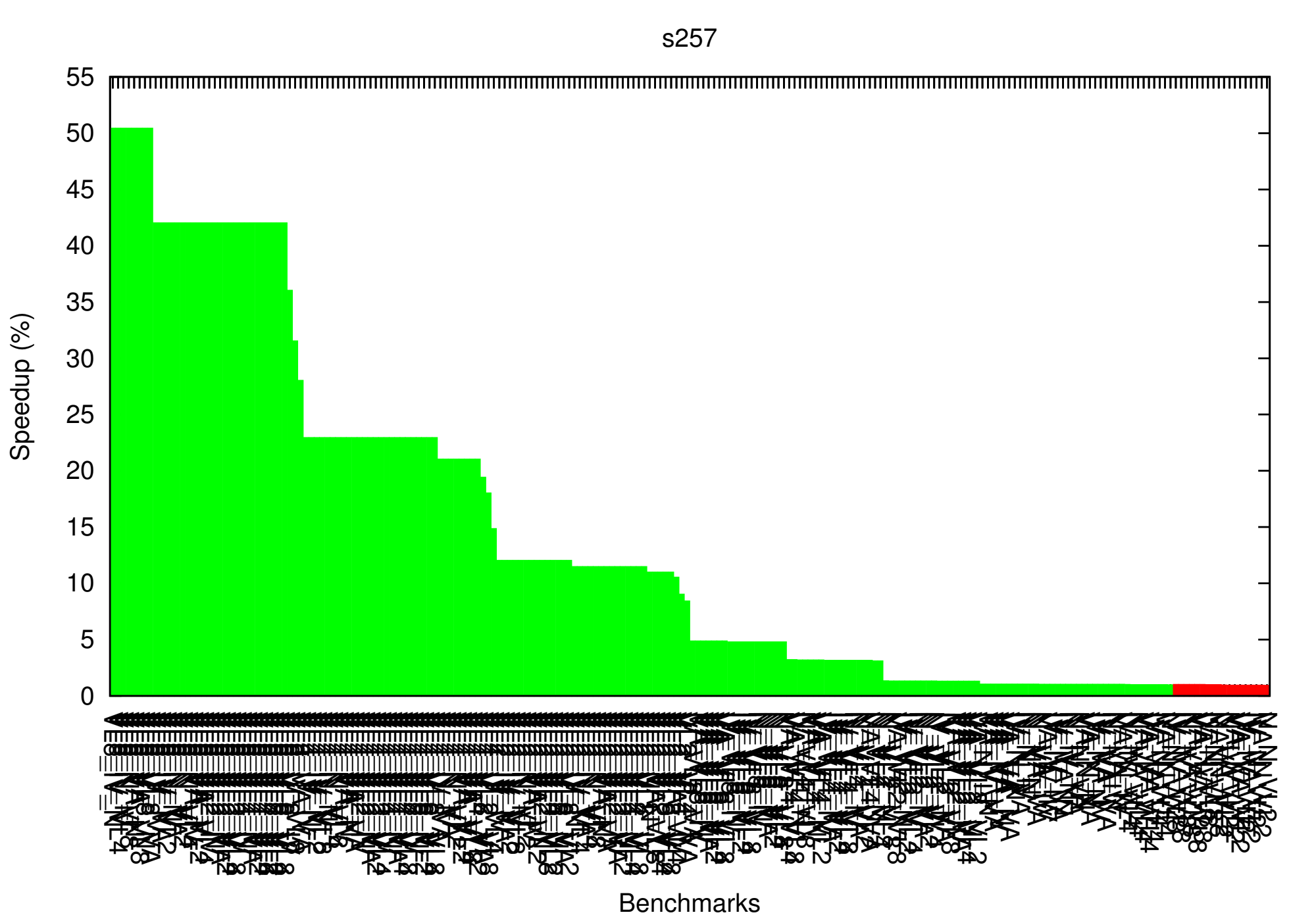

s252
Speedup (%)
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
VL8_N
VL8_VL8
VL8_VA
VL8_IV
VL8_VL2
VL8_VL4
VL4_IV
VL4_N
VL4_VL8
VL4_VA
VL4_VL2
VL4_VL4
N_N
IV_VL8
N_IV
N_VA
VA_N
IV_IV
IV_VA
N_VL8
VA_VL8
IV_N
VA_IV
VA_VA
VA_VL4
N_VL4
IV_VL4
VL2_VL8
VL2_VA
VL2_VL2
VL2_N
VL2_IV
VL2_VL4
VA_VL2
IV_VL2
N_VL2
Benchmarks

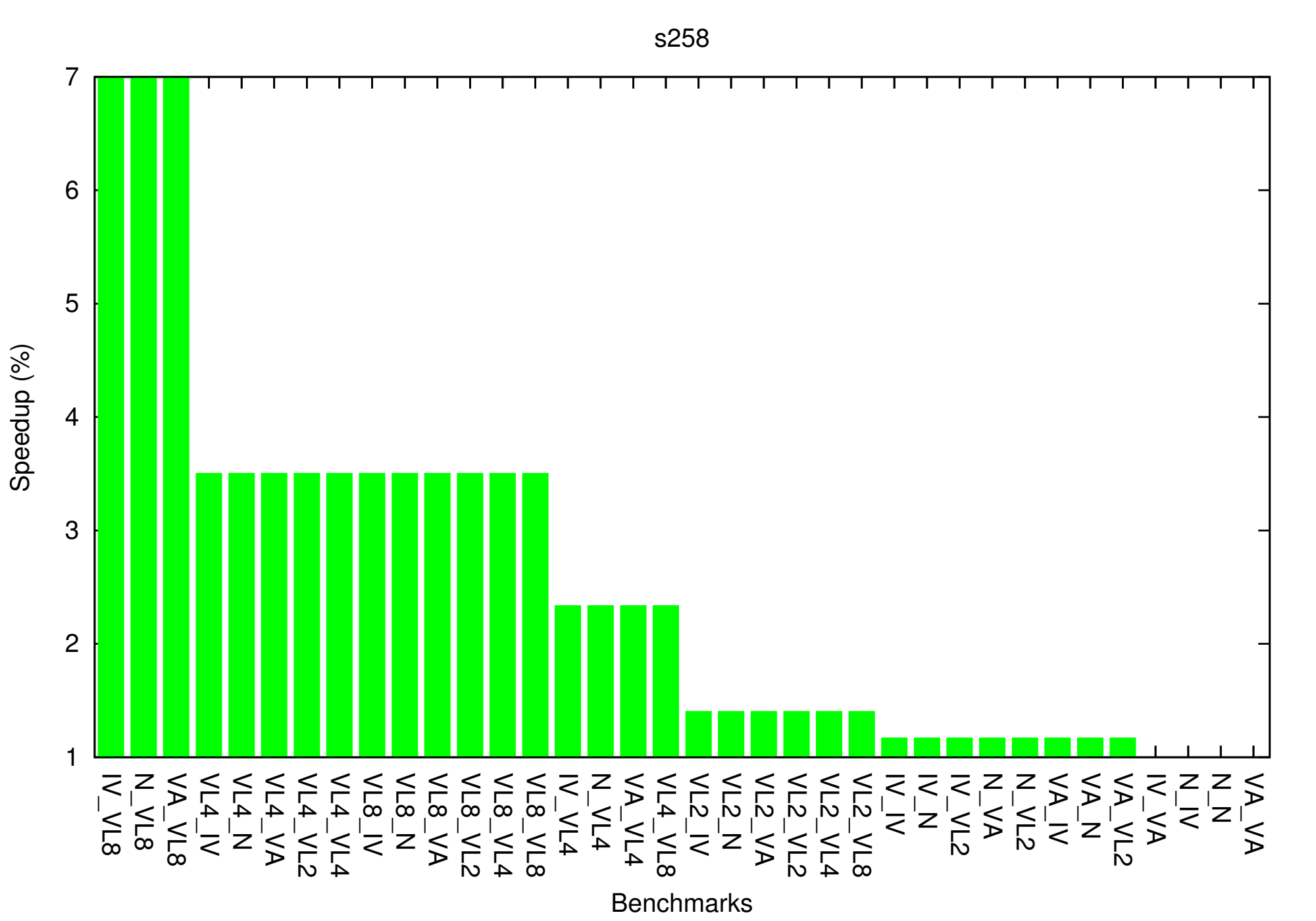

s253
Speedup (%)
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
VL4_N
VL4_VL8
N_VA
VL8_IV
VL2_VL8
VL8_VL8
IV_VA
VL8_VA
VL4_VA
VL8_N
VL4_IV
VL2_N
VL2_VA
N_N
IV_VL8
N_VL8
VA_IV
IV_N
VL8_VL4
IV_IV
N_IV
VA_VA
VL2_IV
VL4_VL4
VA_N
IV_VL4
VL2_VL4
N_VL4
VA_VL8
VA_VL4
VL8_VL2
VL4_VL2
IV_VL2
N_VL2
VL2_VL2
VA_VL2
Benchmarks

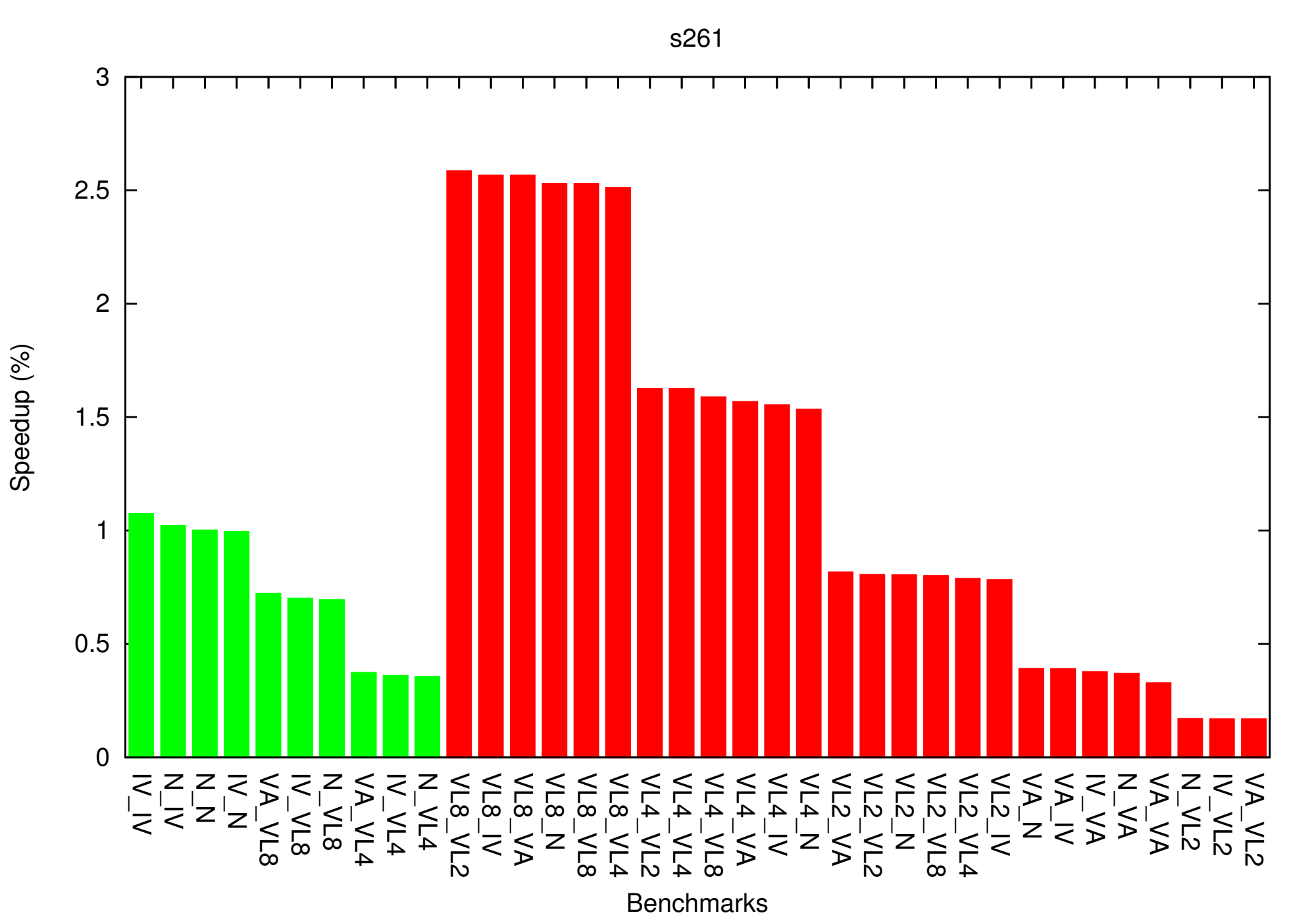

s254
Speedup (%)
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
VL8_VL4
VL8_IV
VL8_VL2
VL8_VL8
VL8_N
VL8_VA
N_VA
VA_VL8
VA_VA
N_VL8
IV_IV
VA_N
IV_VA
IV_VL8
N_N
IV_N
N_IV
VA_IV
VA_VL4
N_VL4
IV_VL4
VL4_VL4
VL4_VL8
VL4_IV
VL4_VL2
VL4_N
VL4_VA
N_VL2
VA_VL2
IV_VL2
VL2_IV
VL2_VL4
VL2_VL8
VL2_VL2
VL2_N
VL2_VA
Benchmarks

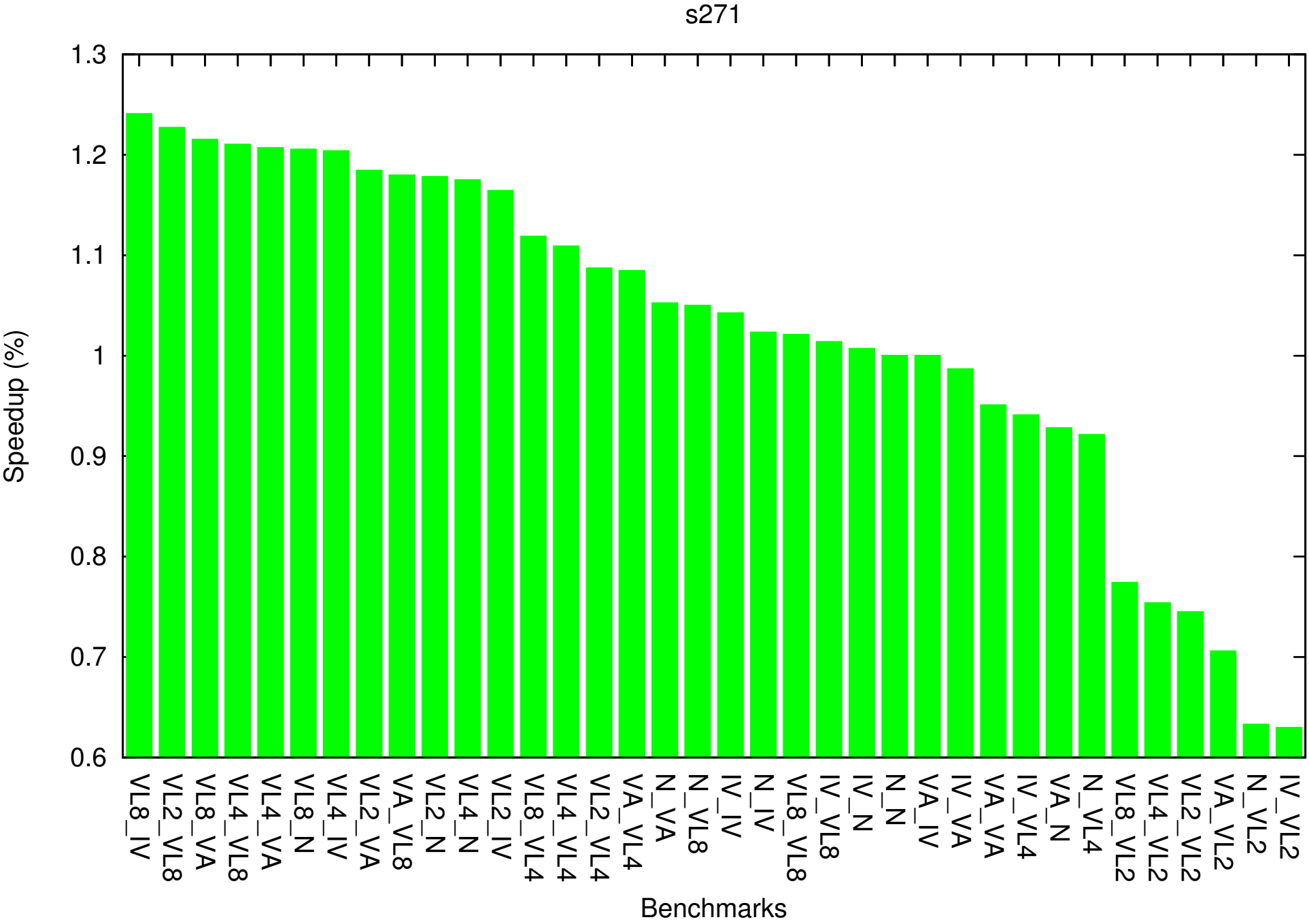

s255
Speedup (%)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
VL8_VA
VL8_VL8
VL8_VL2
VL8_IV
VL8_VL4
VL8_N
N_VL4
N_VL8
VA_VL8
IV_VL8
IV_VL4
VA_VL4
VL4_IV
VL4_VL4
VL4_VA
VL4_VL2
VL4_VL8
VL4_N
N_VL2
IV_VL2
VA_VL2
VL2_VL4
VL2_IV
VL2_VL8
VL2_VL2
VL2_N
VL2_VA
VA_VA
N_VA
VA_IV
N_N
VA_N
IV_VA
IV_N
N_IV
IV_IV
Benchmarks

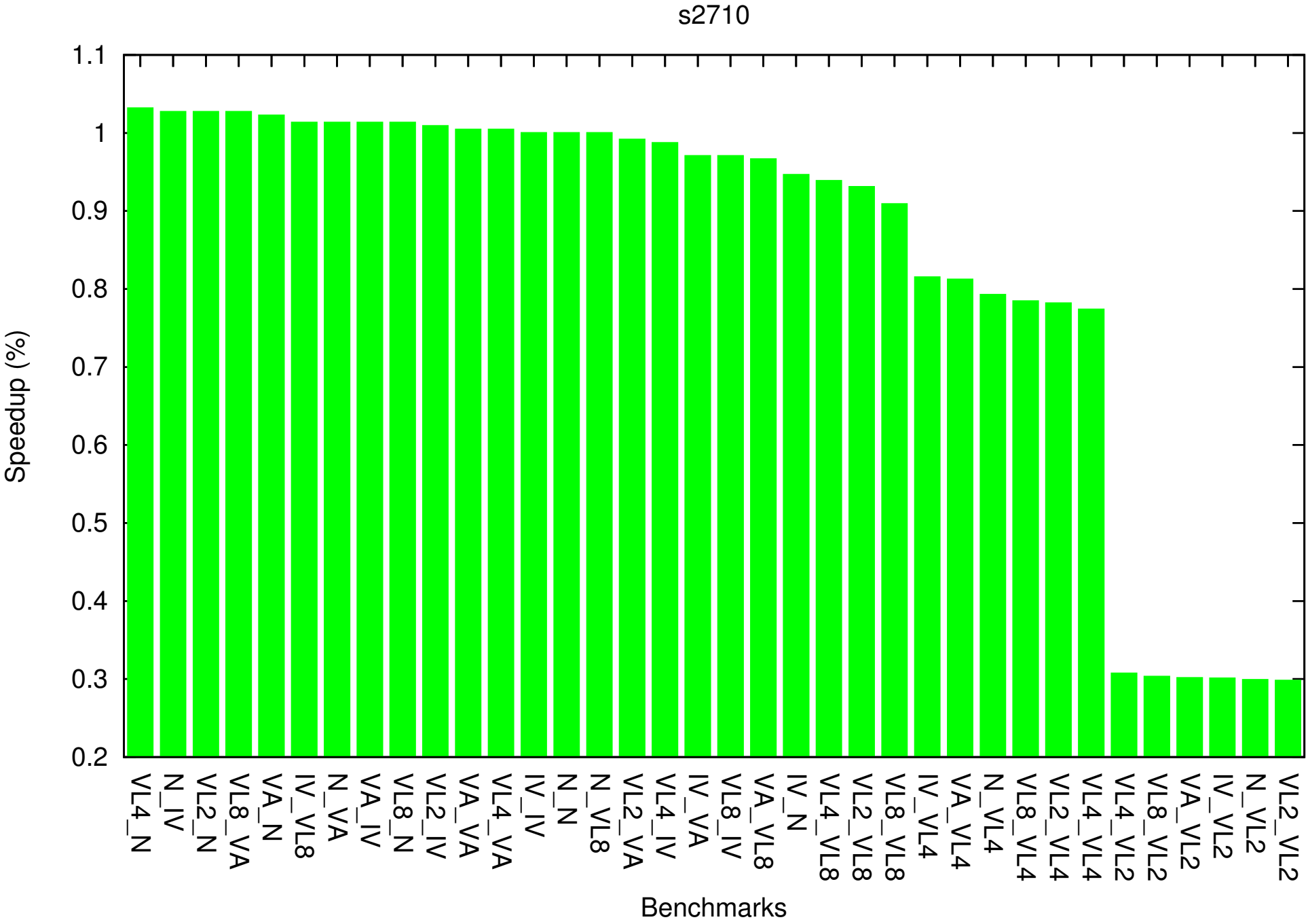

s256
Speedup (%)
0
1
2
3
4
5
6
7
8
Benchmarks

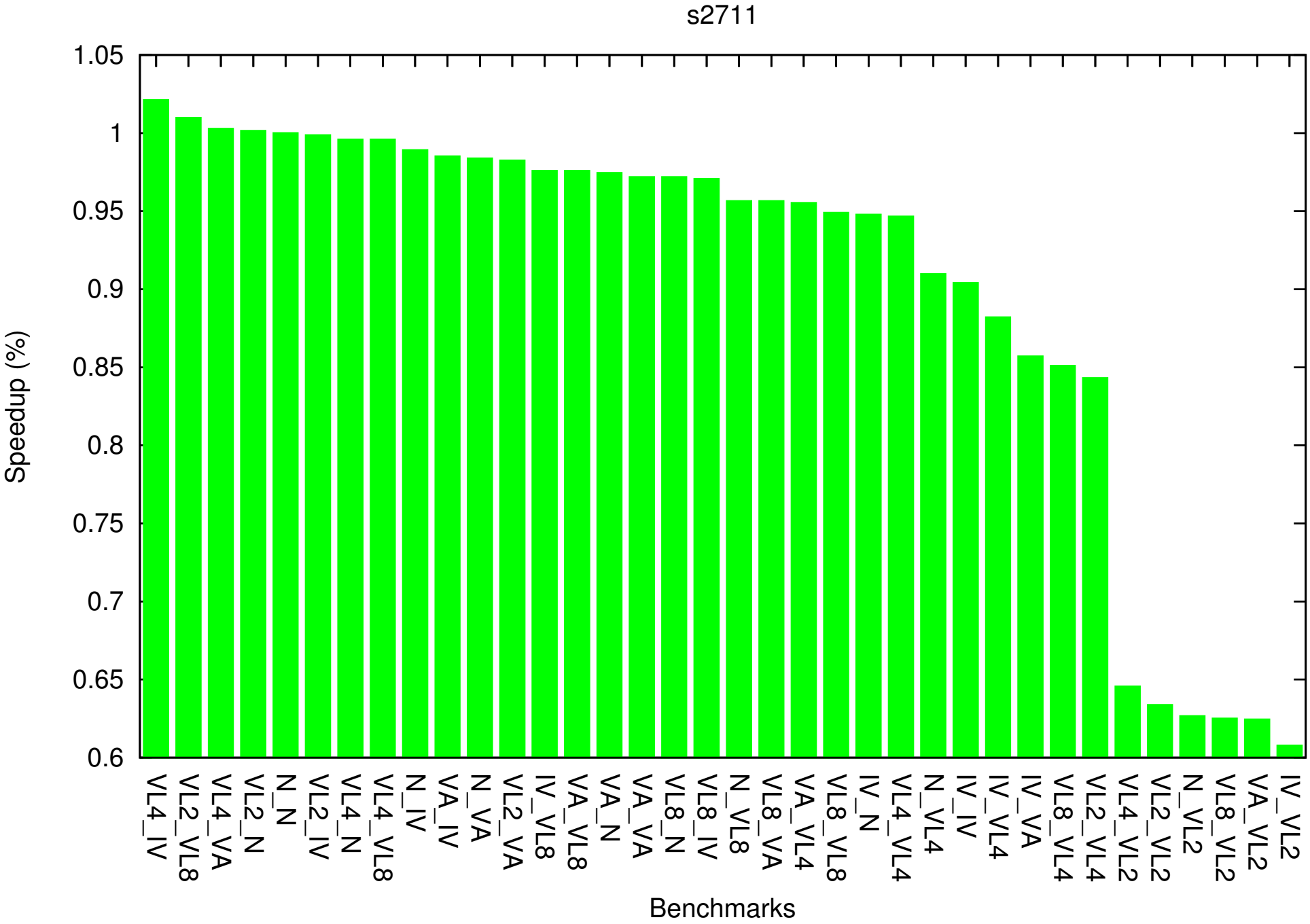

s257
Speedup (%)
55
50
45
40
35
30
25
20
15
10
5
0
Benchmarks

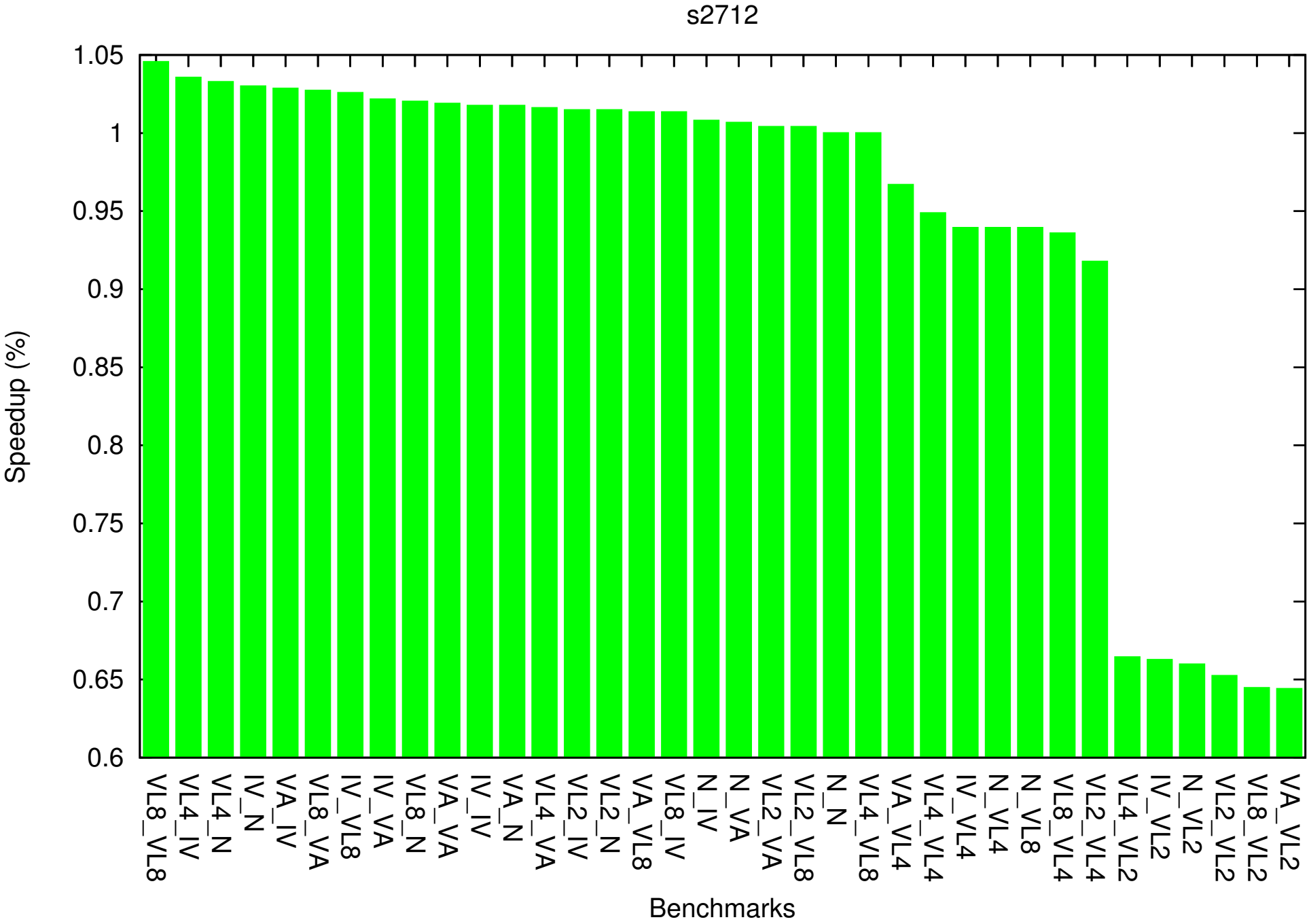

s258
Speedup (%)
7
6
5
4
3
2
1
IV_VL8
N_VL8
VA_VL8
VL4_IV
VL4_N
VL4_VA
VL4_VL2
VL4_VL4
VL8_IV
VL8_N
VL8_VA
VL8_VL2
VL8_VL4
VL8_VL8
IV_VL4
N_VL4
VA_VL4
VL4_VL8
VL2_IV
VL2_N
VL2_VA
VL2_VL2
VL2_VL4
VL2_VL8
IV_IV
IV_N
IV_VL2
N_VA
N_VL2
VA_IV
VA_N
VA_VL2
IV_VA
N_IV
N_N
VA_VA
Benchmarks

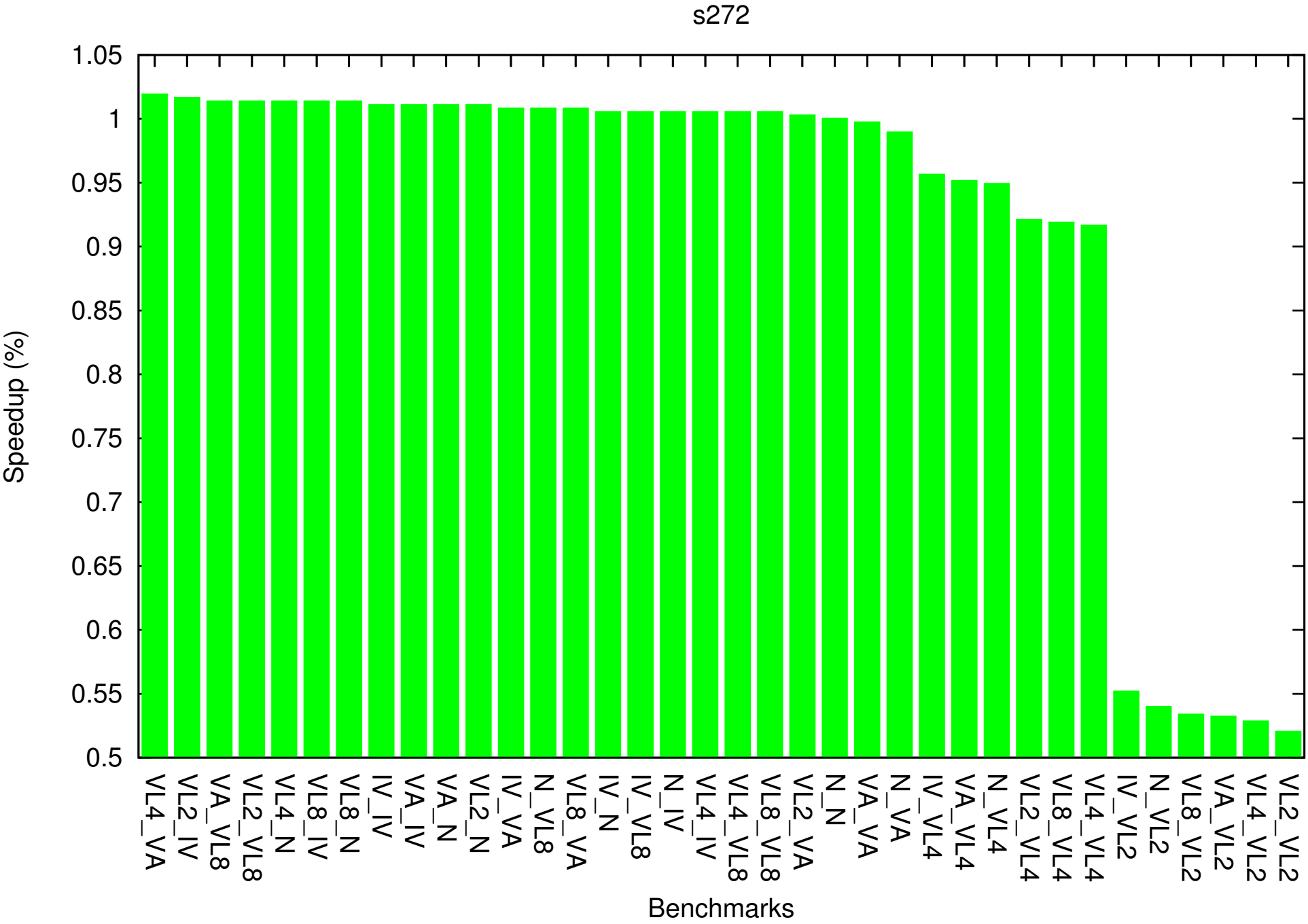

s261
Speedup (%)
Benchmarks
3
2.5
2
1.5
1
0.5
0
IV_IV
N_IV
N_N
IV_N
VA_VL8
IV_VL8
N_VL8
VA_VL4
IV_VL4
N_VL4
VL8_VL2
VL8_IV
VL8_VA
VL8_N
VL8_VL8
VL8_VL4
VL4_VL2
VL4_VL4
VL4_VL8
VL4_VA
VL4_IV
VL4_N
VL2_VA
VL2_VL2
VL2_N
VL2_VL8
VL2_VL4
VL2_IV
VA_N
VA_IV
IV_VA
N_VA
VA_VA
N_VL2
IV_VL2
VA_VL2

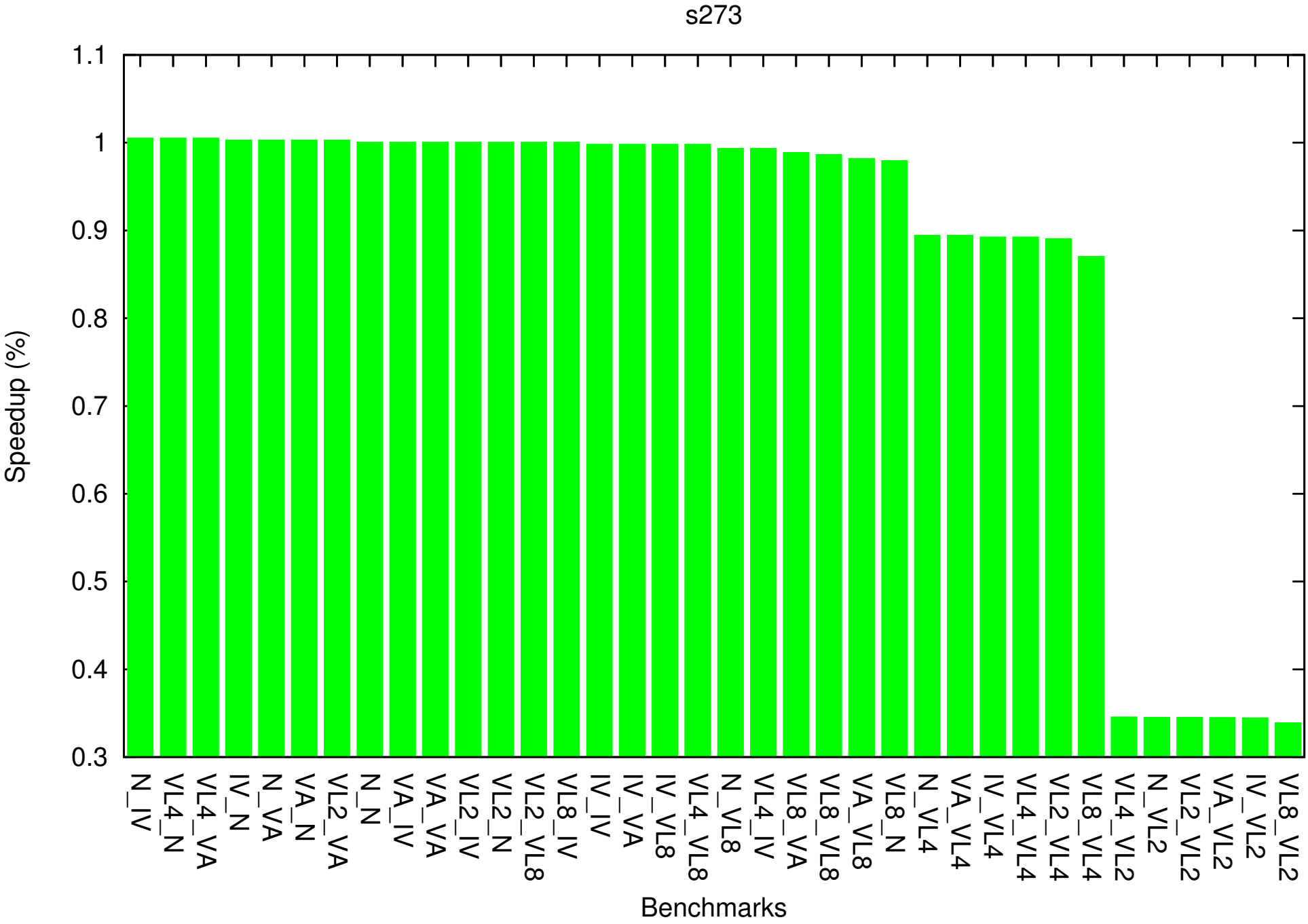

s271
Speedup (%)
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
VL8_IV
VL2_VL8
VL8_VA
VL4_VL8
VL4_VA
VL8_N
VL4_IV
VL2_VA
VA_VL8
VL2_N
VL4_N
VL2_IV
VL8_VL4
VL4_VL4
VL2_VL4
VA_VL4
N_VA
N_VL8
IV_IV
N_IV
VL8_VL8
IV_VL8
IV_N
N_N
VA_IV
IV_VA
VA_VA
IV_VL4
VA_N
N_VL4
VL8_VL2
VL4_VL2
VL2_VL2
VA_VL2
N_VL2
IV_VL2
Benchmarks

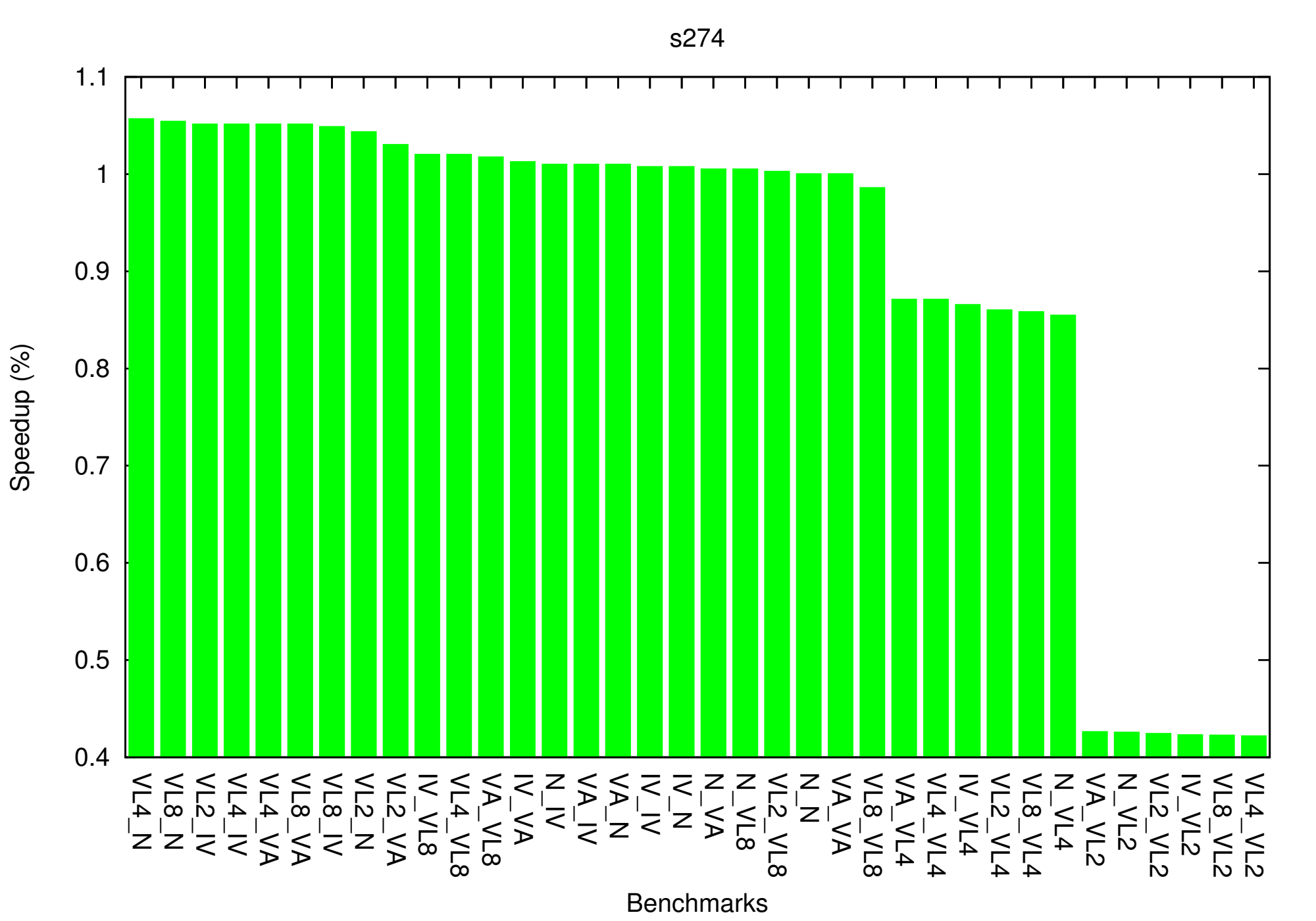

s2710
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
VL4_N
N_IV
VL2_N
VL8_VA
VA_N
IV_VL8
N_VA
VA_IV
VL8_N
VL2_IV
VA_VA
VL4_VA
IV_IV
N_N
N_VL8
VL2_VA
VL4_IV
IV_VA
VL8_IV
VA_VL8
IV_N
VL4_VL8
VL2_VL8
VL8_VL8
IV_VL4
VA_VL4
N_VL4
VL8_VL4
VL2_VL4
VL4_VL4
VL4_VL2
VL8_VL2
VA_VL2
IV_VL2
N_VL2
VL2_VL2
Benchmarks

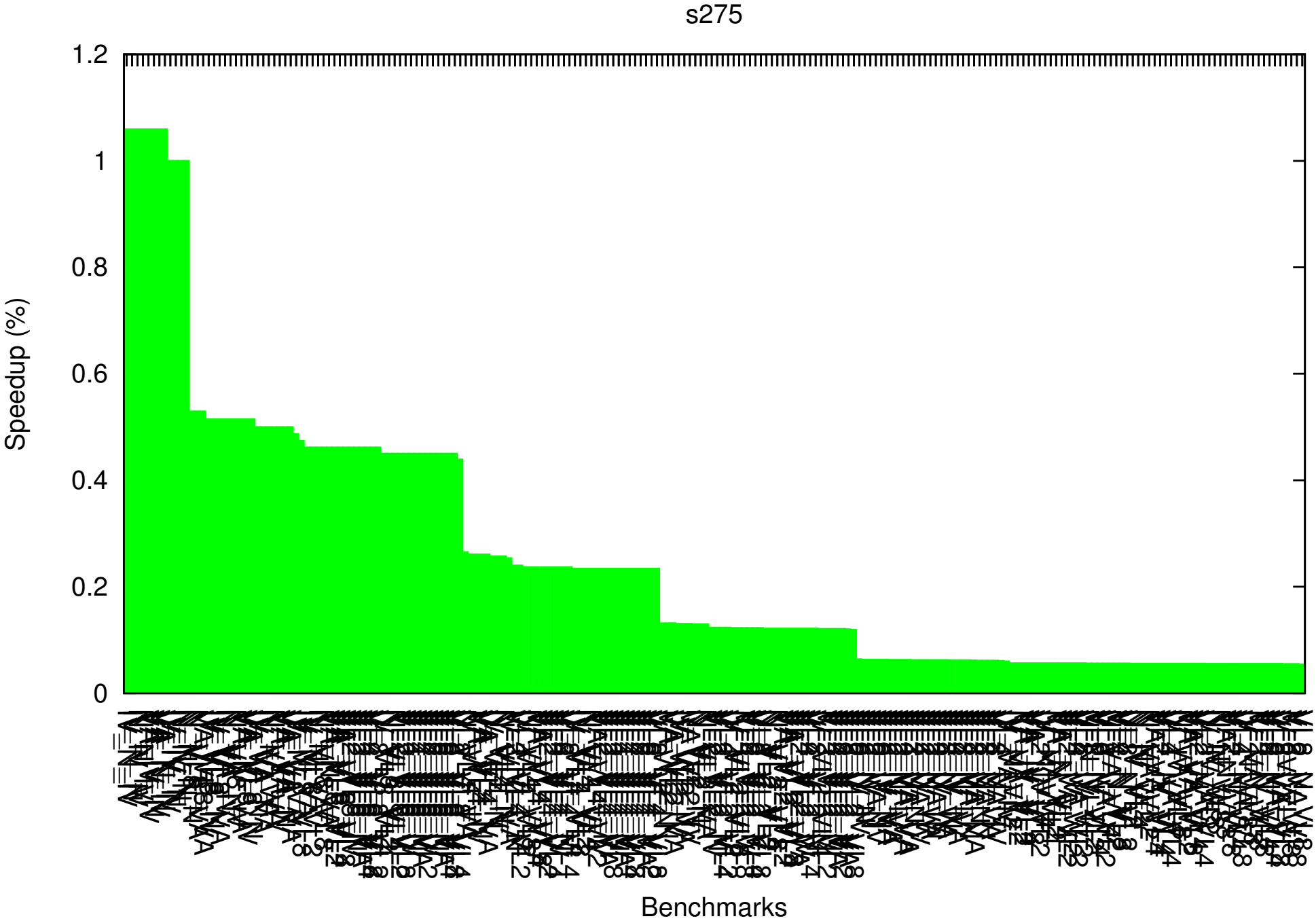

s2711
Speedup (%)
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
VL4_IV
VL2_VL8
VL4_VA
VL2_N
N_N
VL2_IV
VL4_N
VL4_VL8
N_IV
VA_IV
N_VA
VL2_VA
IV_VL8
VA_VL8
VA_N
VA_VA
VL8_N
VL8_IV
N_VL8
VL8_VA
VA_VL4
VL8_VL8
IV_N
VL4_VL4
N_VL4
IV_IV
IV_VL4
IV_VA
VL8_VL4
VL2_VL4
VL4_VL2
VL2_VL2
N_VL2
VL8_VL2
VA_VL2
IV_VL2
Benchmarks

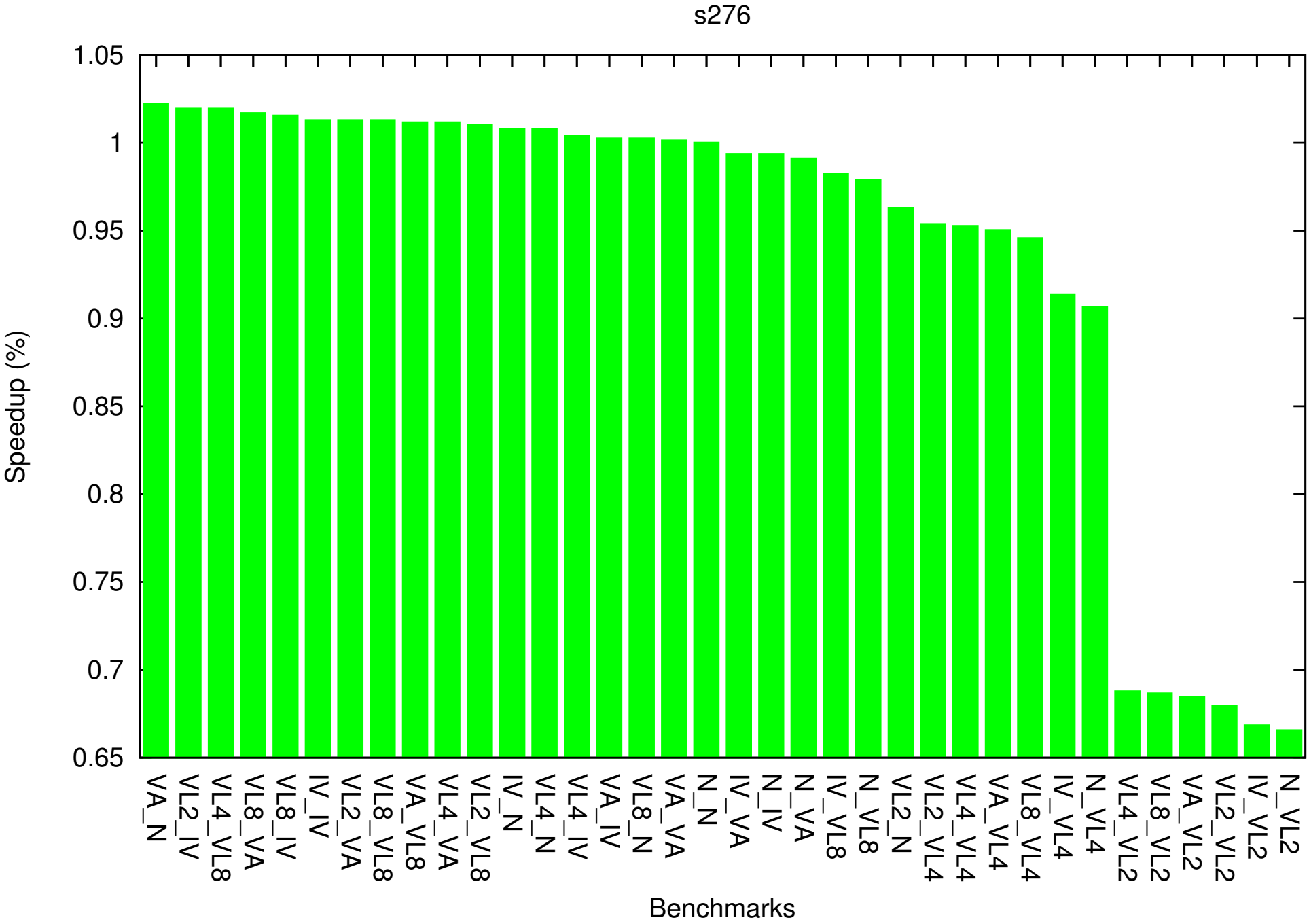

s2712
Speedup (%)
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
VL8_VL8
VL4_IV
VL4_N
IV_N
VA_IV
VL8_VA
IV_VL8
IV_VA
VL8_N
VA_VA
IV_IV
VA_N
VL4_VA
VL2_IV
VL2_N
VA_VL8
VL8_IV
N_IV
N_VA
VL2_VA
VL2_VL8
N_N
VL4_VL8
VA_VL4
VL4_VL4
IV_VL4
N_VL4
N_VL8
VL8_VL4
VL2_VL4
VL4_VL2
IV_VL2
N_VL2
VL2_VL2
VL8_VL2
VA_VL2
Benchmarks

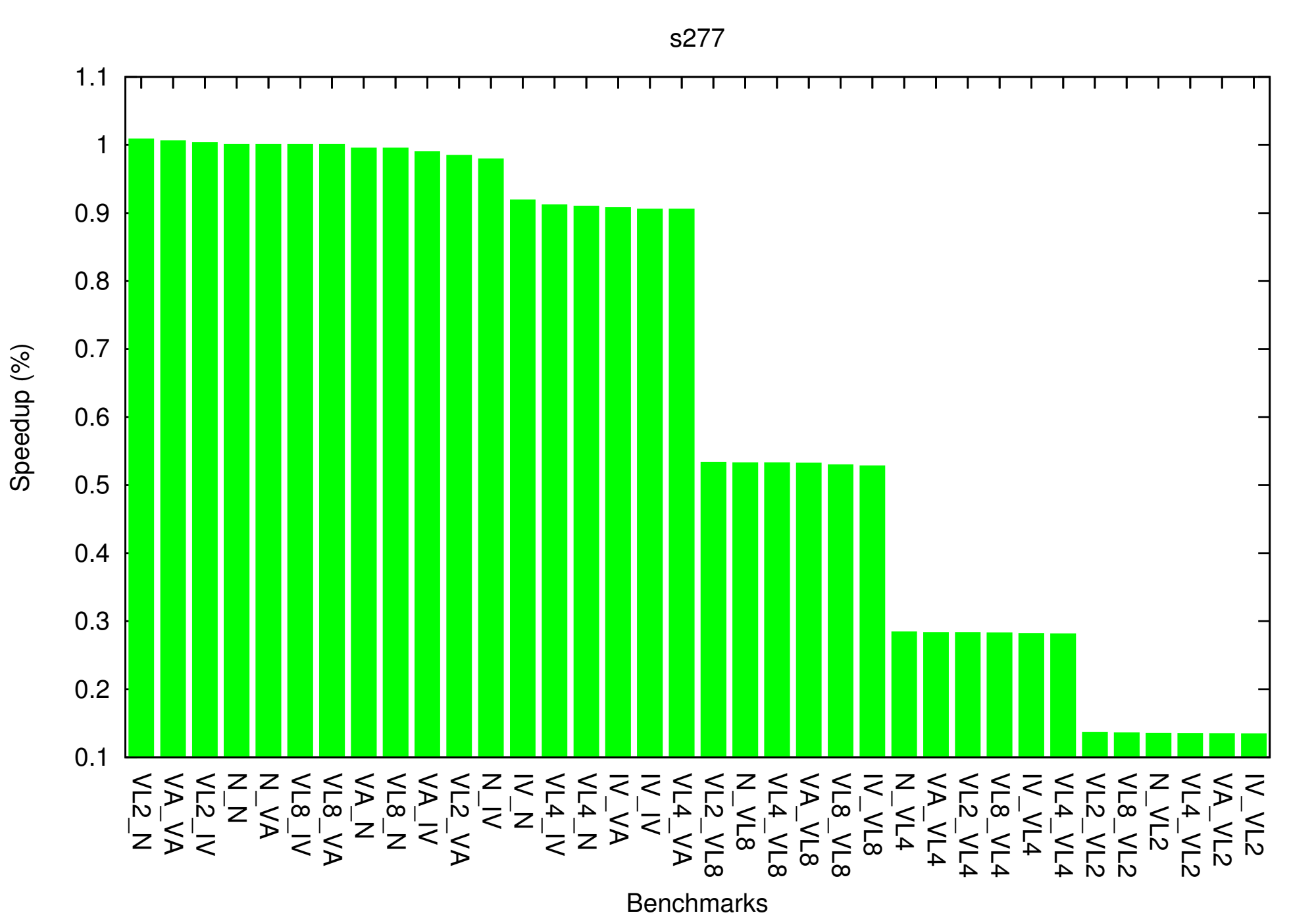

s272
Speedup (%)
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
VL4_VA
VL2_IV
VA_VL8
VL2_VL8
VL4_N
VL8_IV
VL8_N
IV_IV
VA_IV
VA_N
VL2_N
IV_VA
N_VL8
VL8_VA
IV_N
IV_VL8
N_IV
VL4_IV
VL4_VL8
VL8_VL8
VL2_VA
N_N
VA_VA
N_VA
IV_VL4
VA_VL4
N_VL4
VL2_VL4
VL8_VL4
VL4_VL4
IV_VL2
N_VL2
VL8_VL2
VA_VL2
VL4_VL2
VL2_VL2
Benchmarks

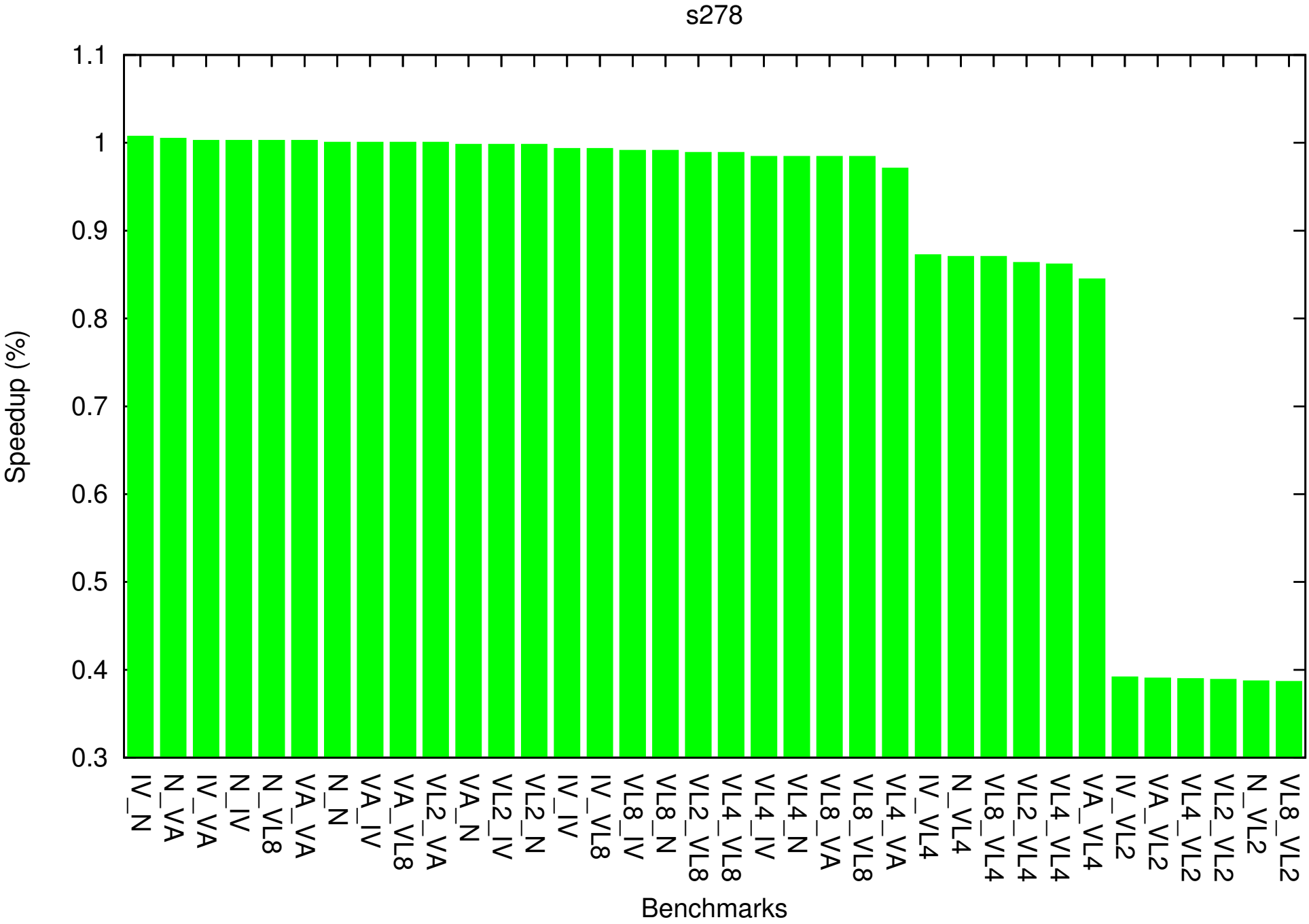

s273
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
N_IV
VL4_N
VL4_VA
IV_N
N_VA
VA_N
VL2_VA
N_N
VA_IV
VA_VA
VL2_IV
VL2_N
VL2_VL8
VL8_IV
IV_IV
IV_VA
IV_VL8
VL4_VL8
N_VL8
VL4_IV
VL8_VA
VL8_VL8
VA_VL8
VL8_N
N_VL4
VA_VL4
IV_VL4
VL4_VL4
VL2_VL4
VL8_VL4
VL4_VL2
N_VL2
VL2_VL2
VA_VL2
IV_VL2
VL8_VL2
Benchmarks

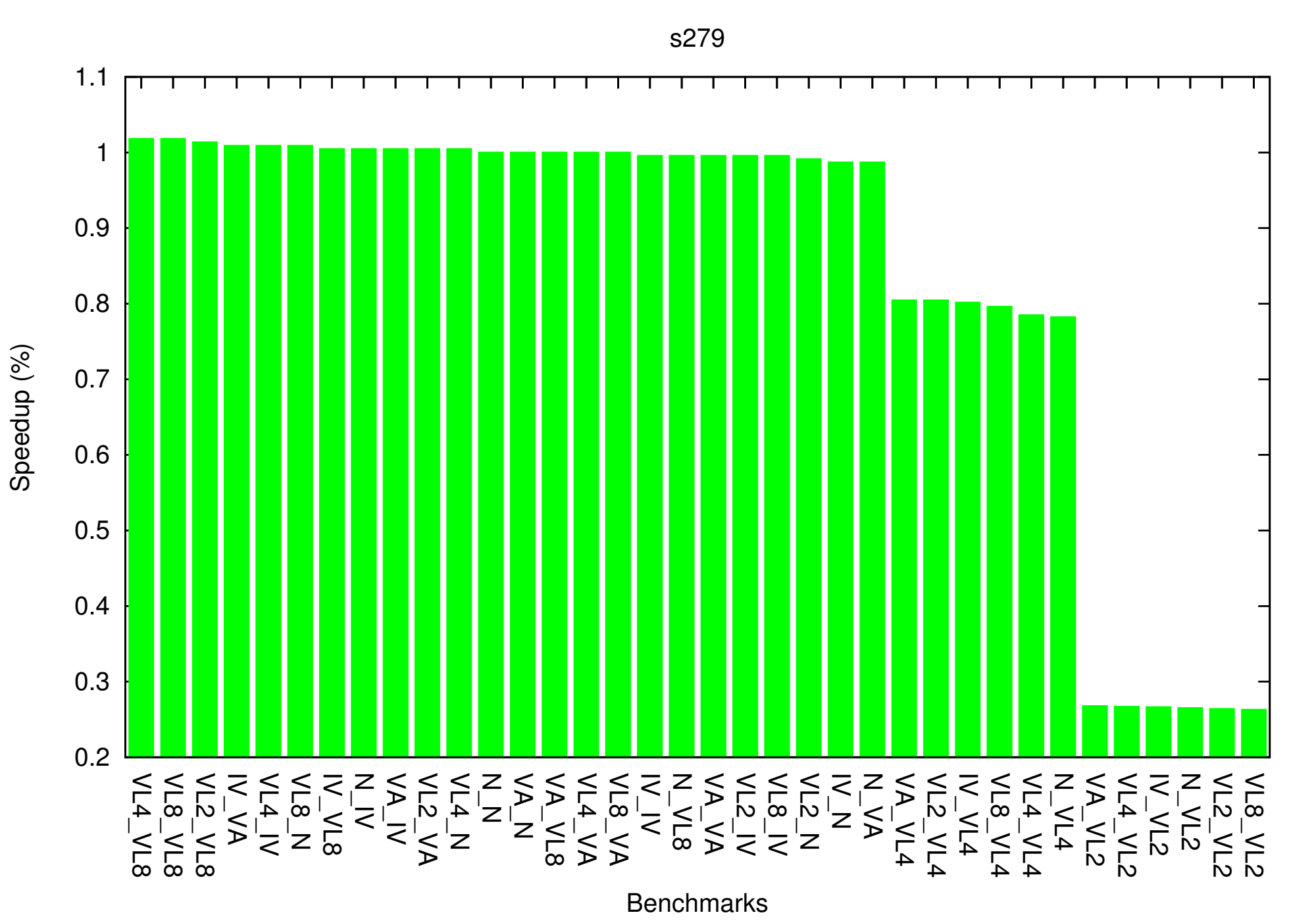

s274
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
VL4_N
VL8_N
VL2_IV
VL4_IV
VL4_VA
VL8_VA
VL8_IV
VL2_N
VL2_VA
IV_VL8
VL4_VL8
VA_VL8
IV_VA
N_IV
VA_IV
VA_N
IV_IV
IV_N
N_VA
N_VL8
VL2_VL8
N_N
VA_VA
VL8_VL8
VA_VL4
VL4_VL4
IV_VL4
VL2_VL4
VL8_VL4
N_VL4
VA_VL2
N_VL2
VL2_VL2
IV_VL2
VL8_VL2
VL4_VL2
Benchmarks

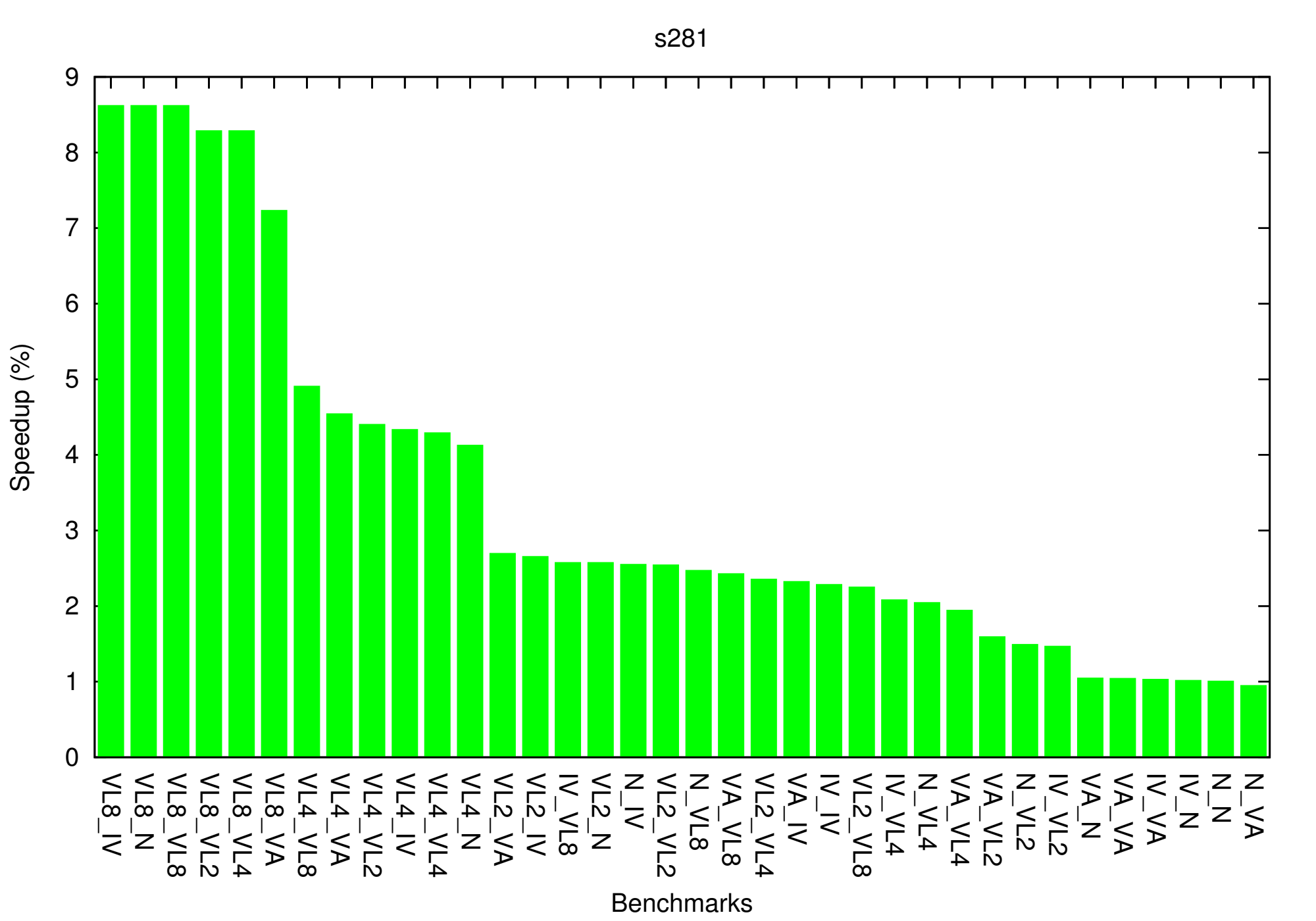

s275
1.2
1
0.8
0.6
0.4
0.2
0
Speedup (%)
Benchmarks

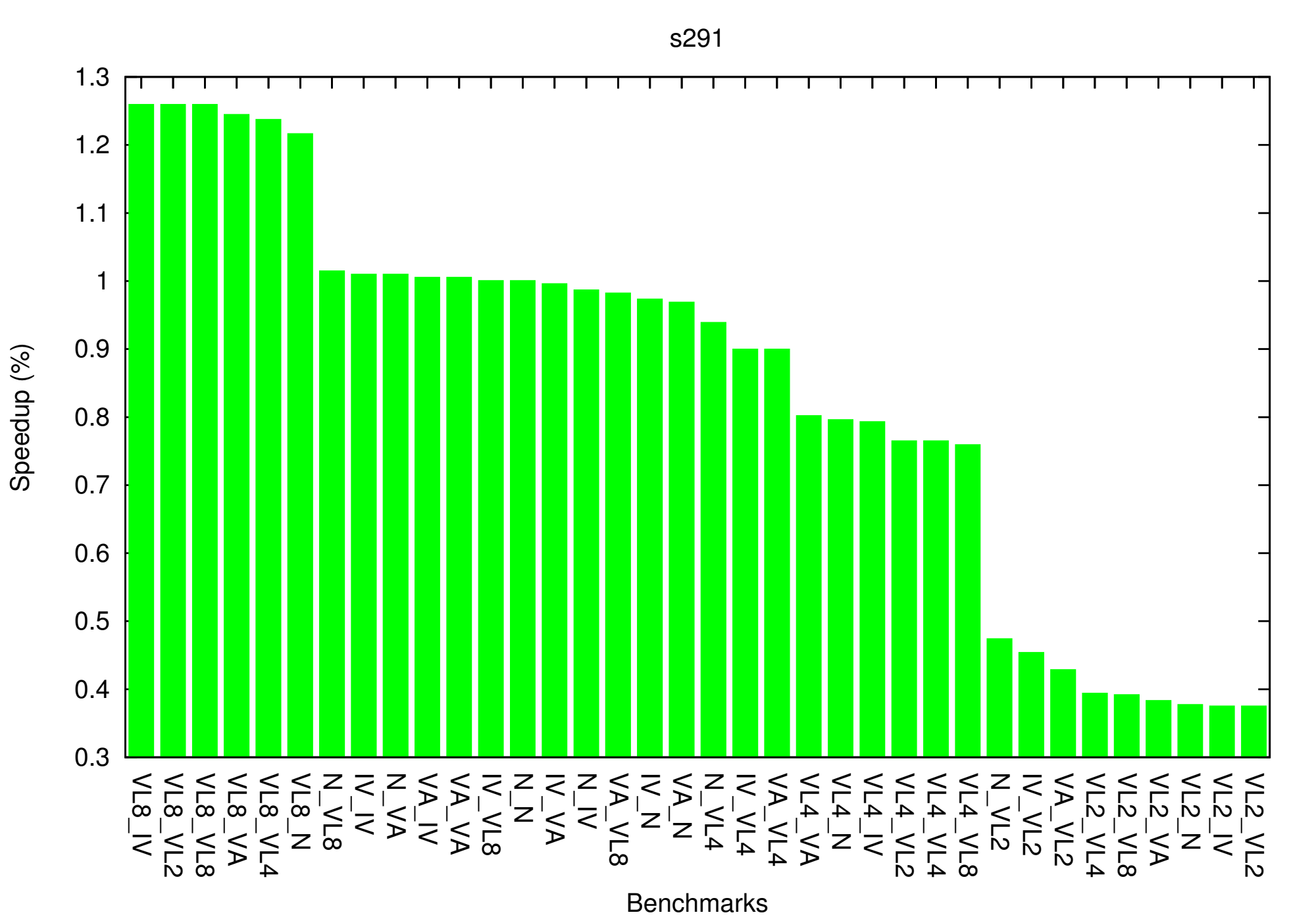

s276
Speedup (%)
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
VA_N
VL2_IV
VL4_VL8
VL8_VA
VL8_IV
IV_IV
VL2_VA
VL8_VL8
VA_VL8
VL4_VA
VL2_VL8
IV_N
VL4_N
VL4_IV
VA_IV
VL8_N
VA_VA
N_N
IV_VA
N_IV
N_VA
IV_VL8
N_VL8
VL2_N
VL2_VL4
VL4_VL4
VA_VL4
VL8_VL4
IV_VL4
N_VL4
VL4_VL2
VL8_VL2
VA_VL2
VL2_VL2
IV_VL2
N_VL2
Benchmarks

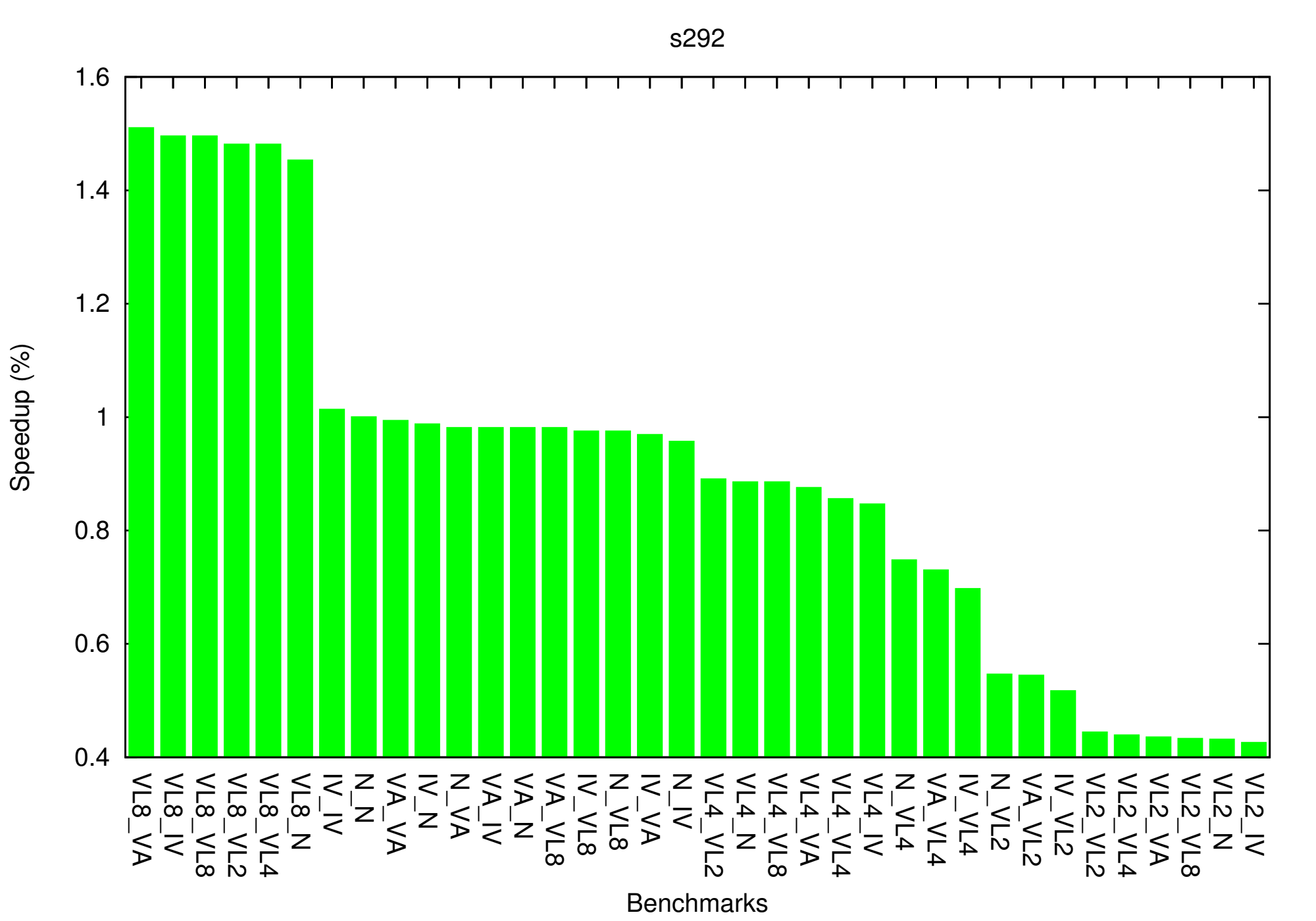

s277
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
VL2_N
VA_VA
VL2_IV
N_N
N_VA
VL8_IV
VL8_VA
VA_N
VL8_N
VA_IV
VL2_VA
N_IV
IV_N
VL4_IV
VL4_N
IV_VA
IV_IV
VL4_VA
VL2_VL8
N_VL8
VL4_VL8
VA_VL8
VL8_VL8
IV_VL8
N_VL4
VA_VL4
VL2_VL4
VL8_VL4
IV_VL4
VL4_VL4
VL2_VL2
VL8_VL2
N_VL2
VL4_VL2
VA_VL2
IV_VL2
Benchmarks

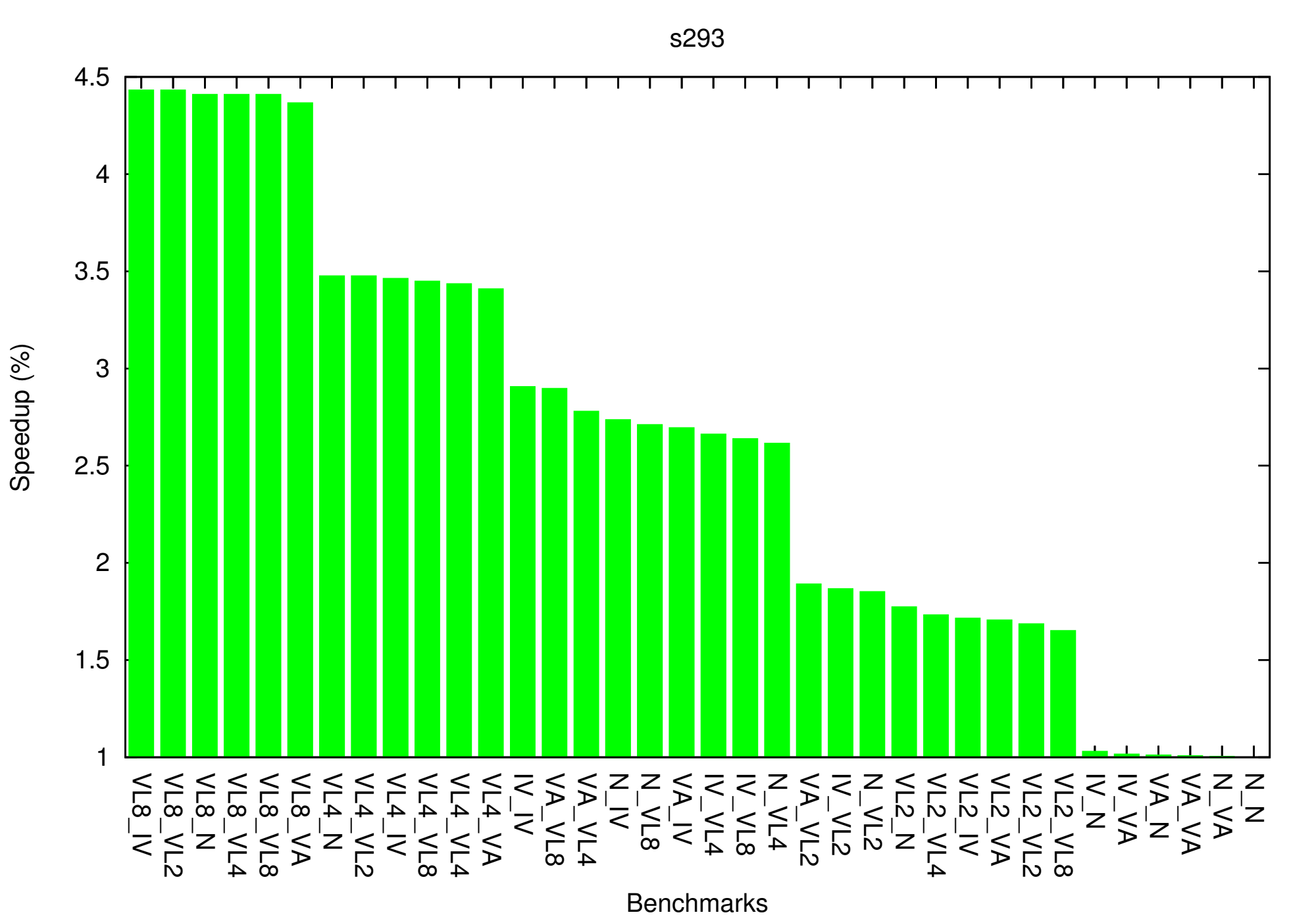

s278
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
IV_N
N_VA
IV_VA
N_IV
N_VL8
VA_VA
N_N
VA_IV
VA_VL8
VL2_VA
VA_N
VL2_IV
VL2_N
IV_IV
IV_VL8
VL8_IV
VL8_N
VL2_VL8
VL4_VL8
VL4_IV
VL4_N
VL8_VA
VL8_VL8
VL4_VA
IV_VL4
N_VL4
VL8_VL4
VL2_VL4
VL4_VL4
VA_VL4
IV_VL2
VA_VL2
VL4_VL2
VL2_VL2
N_VL2
VL8_VL2
Benchmarks

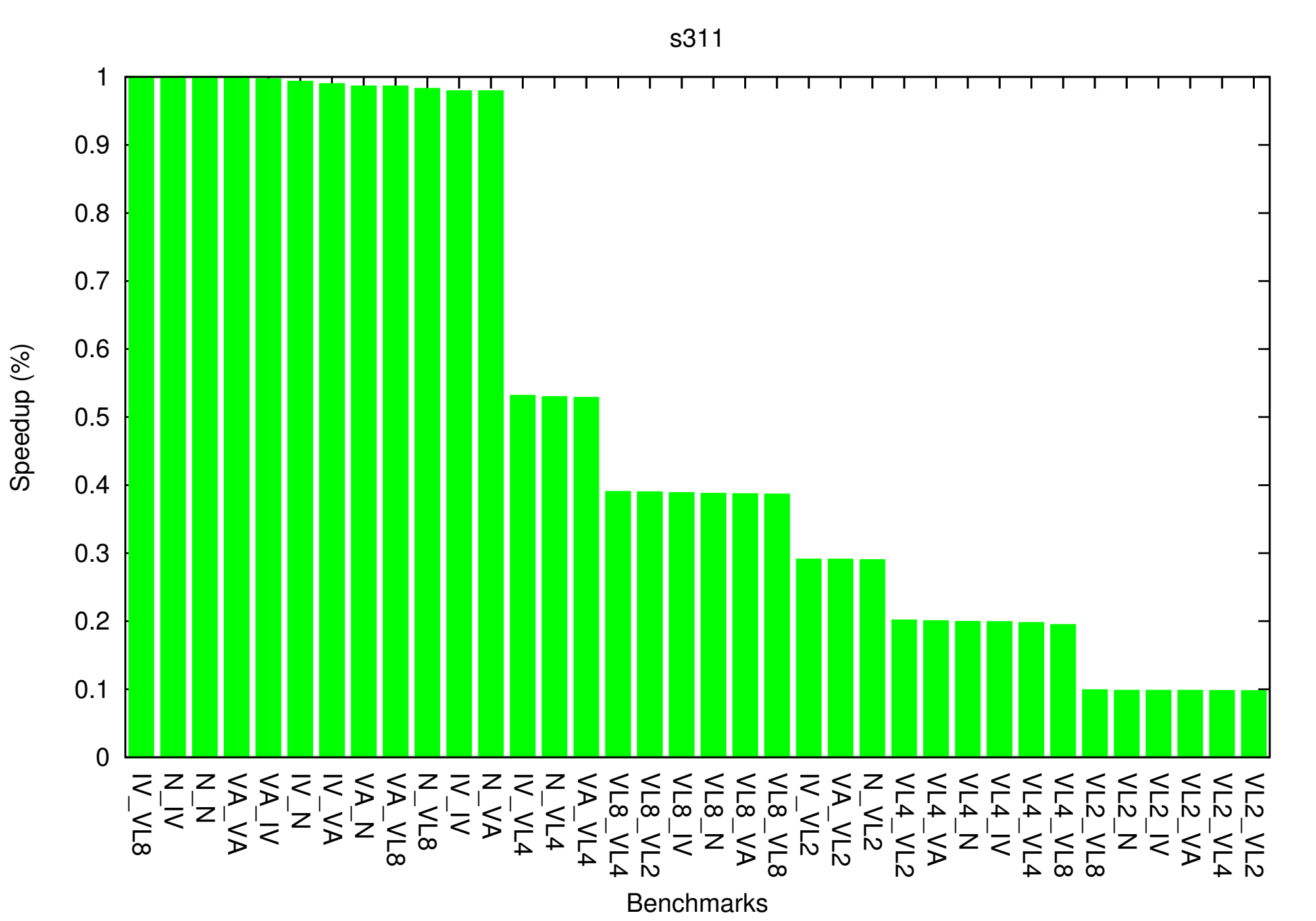

s279
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
VL4_VL8
VL8_VL8
VL2_VL8
IV_VA
VL4_IV
VL8_N
IV_VL8
N_IV
VA_IV
VL2_VA
VL4_N
N_N
VA_N
VA_VL8
VL4_VA
VL8_VA
IV_IV
N_VL8
VA_VA
VL2_IV
VL8_IV
VL2_N
IV_N
N_VA
VA_VL4
VL2_VL4
IV_VL4
VL8_VL4
VL4_VL4
N_VL4
VA_VL2
VL4_VL2
IV_VL2
N_VL2
VL2_VL2
VL8_VL2
Benchmarks

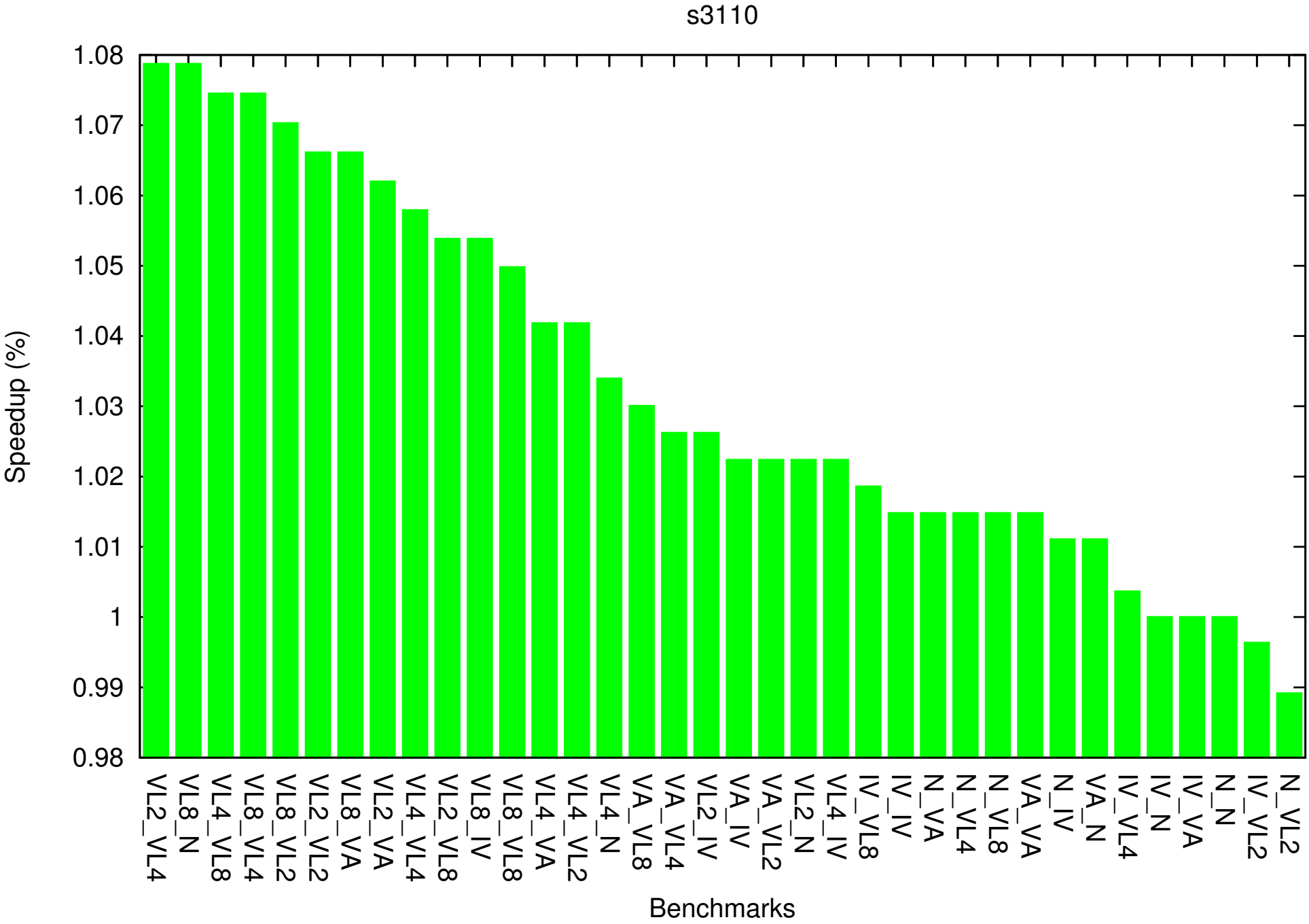

s281
Speedup (%)
0
1
2
3
4
5
6
7
8
9
VL8_IV
VL8_N
VL8_VL8
VL8_VL2
VL8_VL4
VL8_VA
VL4_VL8
VL4_VA
VL4_VL2
VL4_IV
VL4_VL4
VL4_N
VL2_VA
VL2_IV
IV_VL8
VL2_N
N_IV
VL2_VL2
N_VL8
VA_VL8
VL2_VL4
VA_IV
IV_IV
VL2_VL8
IV_VL4
N_VL4
VA_VL4
VA_VL2
N_VL2
IV_VL2
VA_N
VA_VA
IV_VA
IV_N
N_N
N_VA
Benchmarks

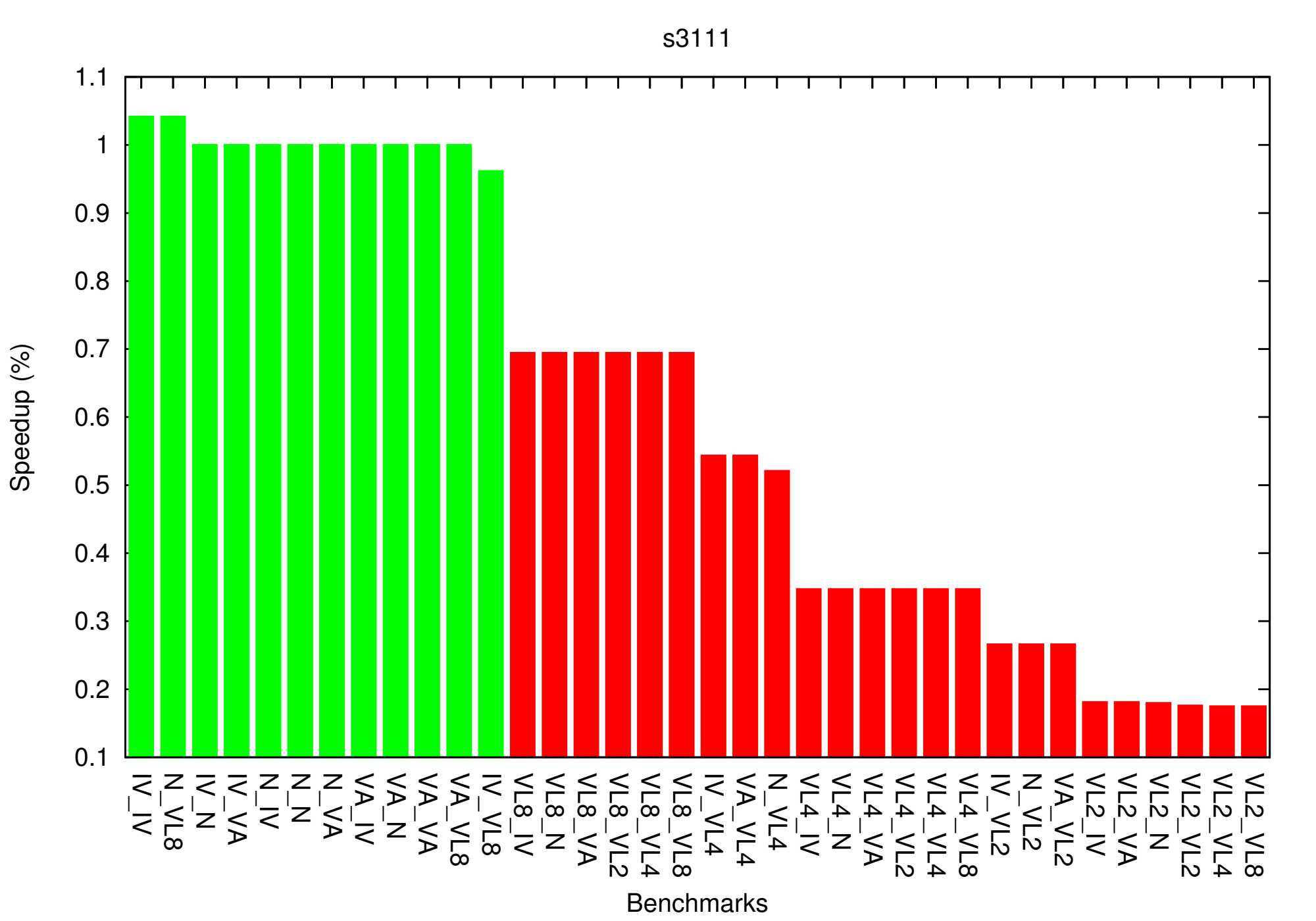

s291
Speedup (%)
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
VL8_IV
VL8_VL2
VL8_VL8
VL8_VA
VL8_VL4
VL8_N
N_VL8
IV_IV
N_VA
VA_IV
VA_VA
IV_VL8
N_N
IV_VA
N_IV
VA_VL8
IV_N
VA_N
N_VL4
IV_VL4
VA_VL4
VL4_VA
VL4_N
VL4_IV
VL4_VL2
VL4_VL4
VL4_VL8
N_VL2
IV_VL2
VA_VL2
VL2_VL4
VL2_VL8
VL2_VA
VL2_N
VL2_IV
VL2_VL2
Benchmarks

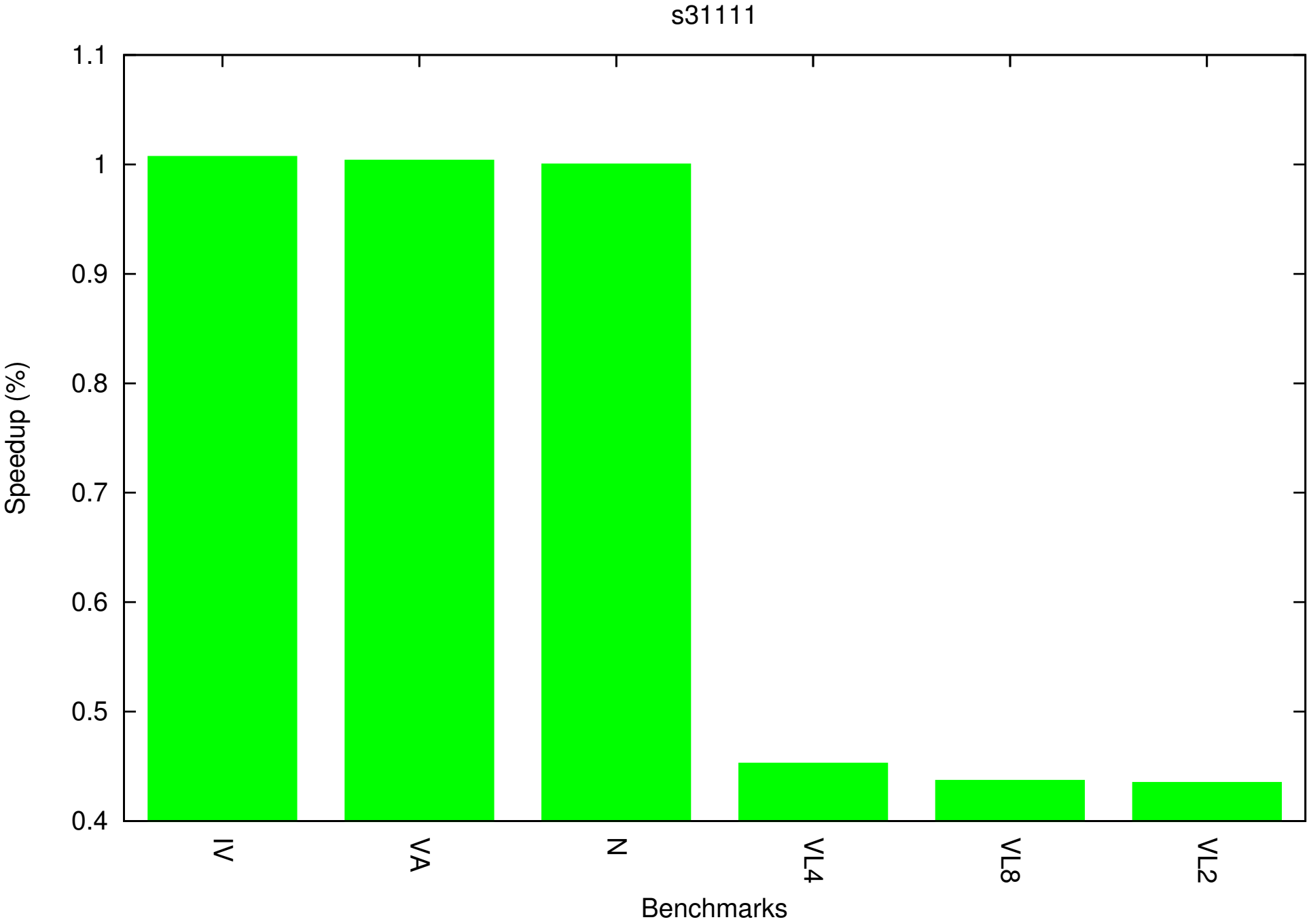

s292
Speedup (%)
1.6
1.4
1.2
1
0.8
0.6
0.4
VL8_VA
VL8_IV
VL8_VL8
VL8_VL2
VL8_VL4
VL8_N
IV_IV
N_N
VA_VA
IV_N
N_VA
VA_IV
VA_N
VA_VL8
IV_VL8
N_VL8
IV_VA
N_IV
VL4_VL2
VL4_N
VL4_VL8
VL4_VA
VL4_VL4
VL4_IV
N_VL4
VA_VL4
IV_VL4
N_VL2
VA_VL2
IV_VL2
VL2_VL2
VL2_VL4
VL2_VA
VL2_VL8
VL2_N
VL2_IV
Benchmarks

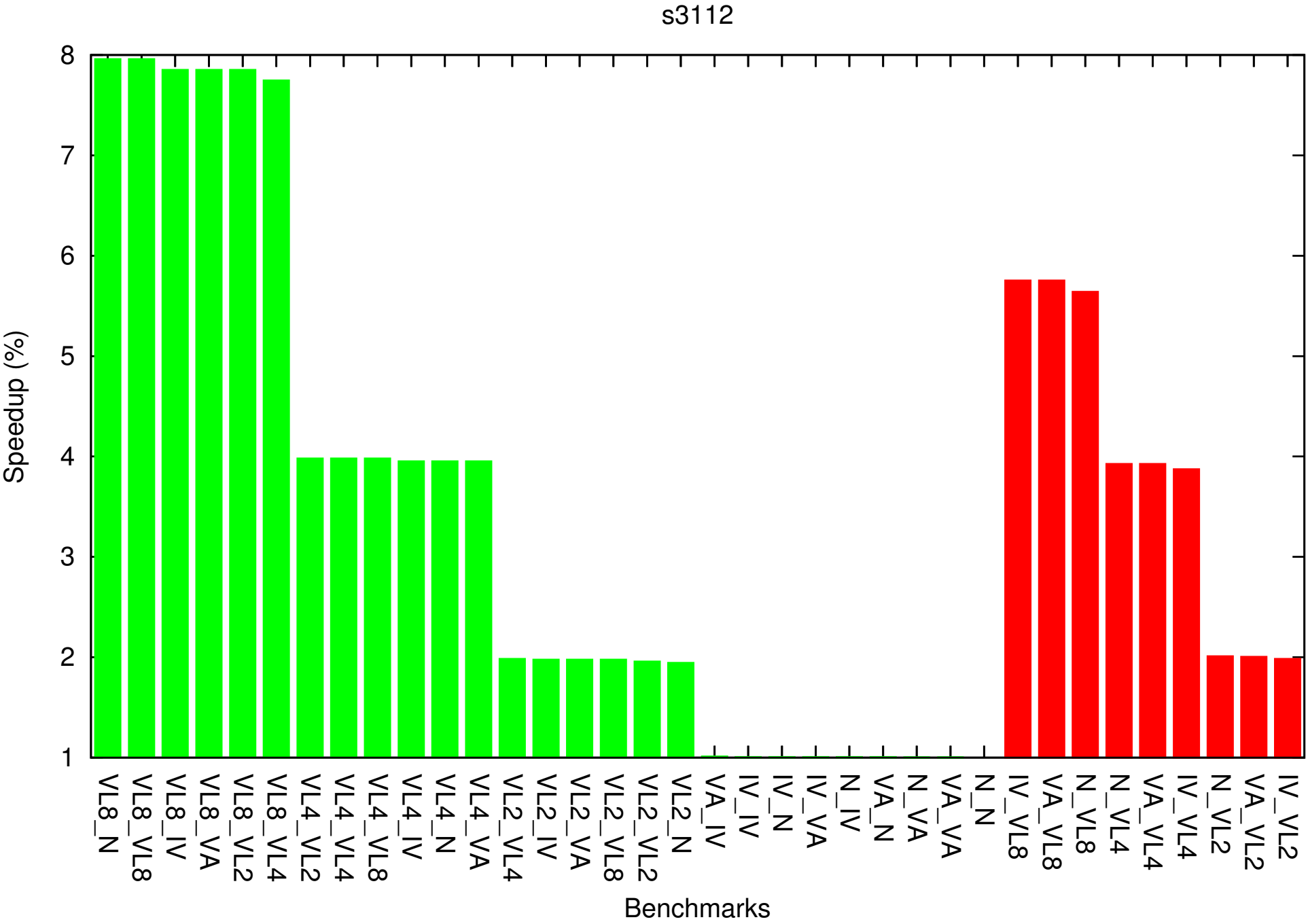

s293
Speedup (%)
4.5
4
3.5
3
2.5
2
1.5
1
VL8_IV
VL8_VL2
VL8_N
VL8_VL4
VL8_VL8
VL8_VA
VL4_N
VL4_VL2
VL4_IV
VL4_VL8
VL4_VL4
VL4_VA
IV_IV
VA_VL8
VA_VL4
N_IV
N_VL8
VA_IV
IV_VL4
IV_VL8
N_VL4
VA_VL2
IV_VL2
N_VL2
VL2_N
VL2_VL4
VL2_IV
VL2_VA
VL2_VL2
VL2_VL8
IV_N
IV_VA
VA_N
VA_VA
N_VA
N_N
Benchmarks

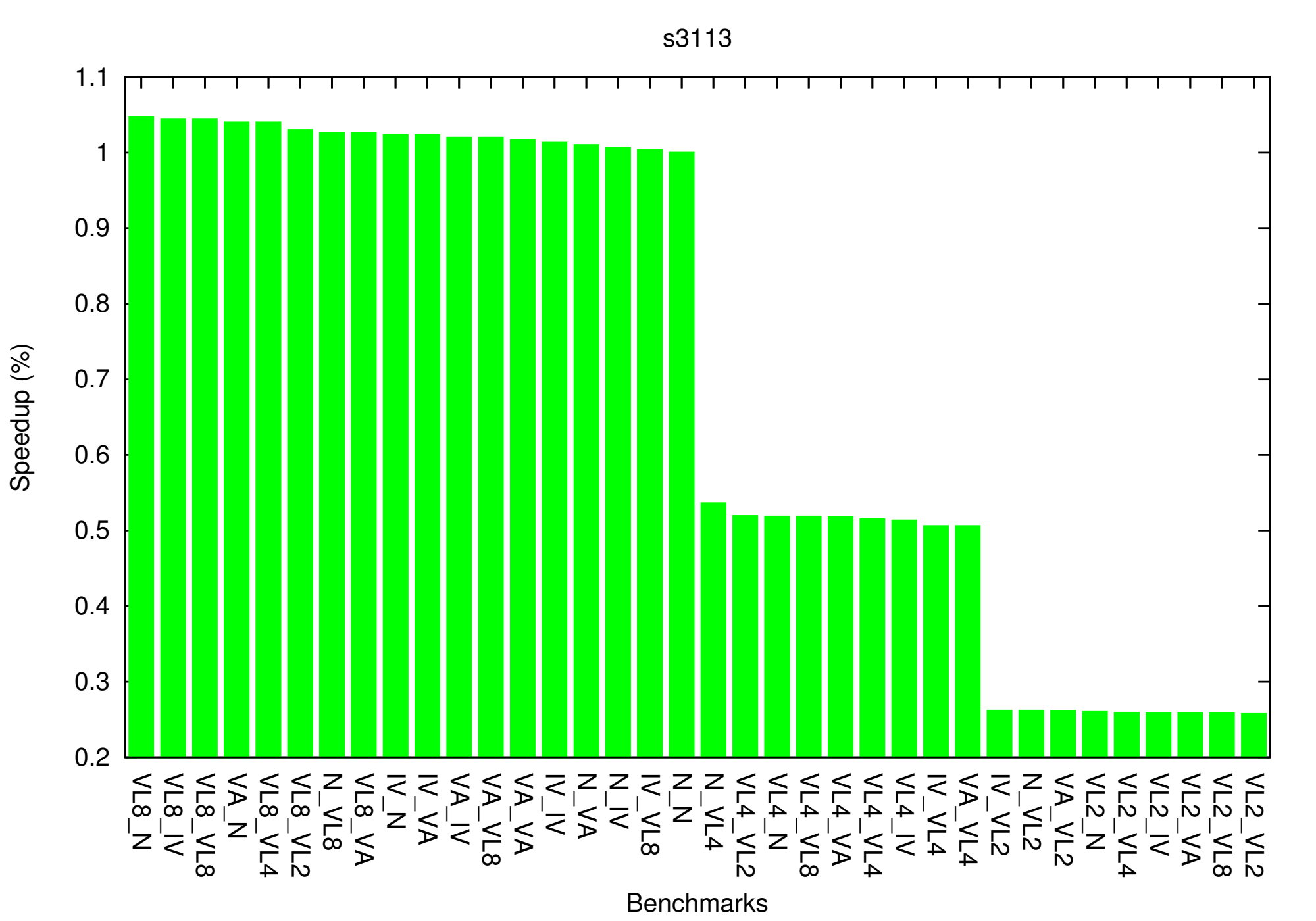

s311
Speedup (%)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
IV_VL8
N_IV
N_N
VA_VA
VA_IV
IV_N
IV_VA
VA_N
VA_VL8
N_VL8
IV_IV
N_VA
IV_VL4
N_VL4
VA_VL4
VL8_VL4
VL8_VL2
VL8_IV
VL8_N
VL8_VA
VL8_VL8
IV_VL2
VA_VL2
N_VL2
VL4_VL2
VL4_VA
VL4_N
VL4_IV
VL4_VL4
VL4_VL8
VL2_VL8
VL2_N
VL2_IV
VL2_VA
VL2_VL4
VL2_VL2
Benchmarks

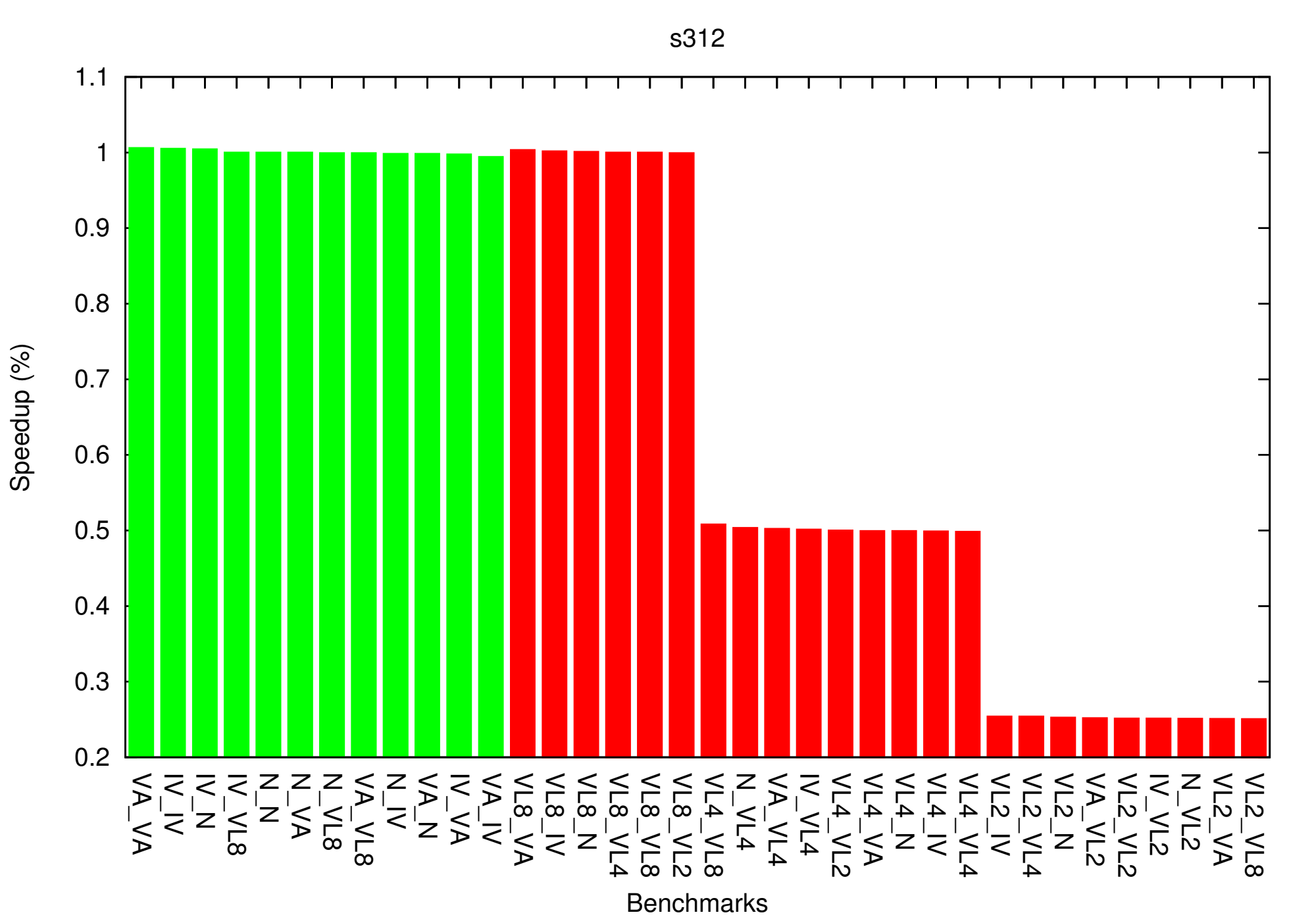

s3110
Speedup (%)
1.08
1.07
1.06
1.05
1.04
1.03
1.02
1.01
1
0.99
0.98
VL2_VL4
VL8_N
VL4_VL8
VL8_VL4
VL8_VL2
VL2_VL2
VL8_VA
VL2_VA
VL4_VL4
VL2_VL8
VL8_IV
VL8_VL8
VL4_VA
VL4_VL2
VL4_N
VA_VL8
VA_VL4
VL2_IV
VA_IV
VA_VL2
VL2_N
VL4_IV
IV_VL8
IV_IV
N_VA
N_VL4
N_VL8
VA_VA
N_IV
VA_N
IV_VL4
IV_N
IV_VA
N_N
IV_VL2
N_VL2
Benchmarks

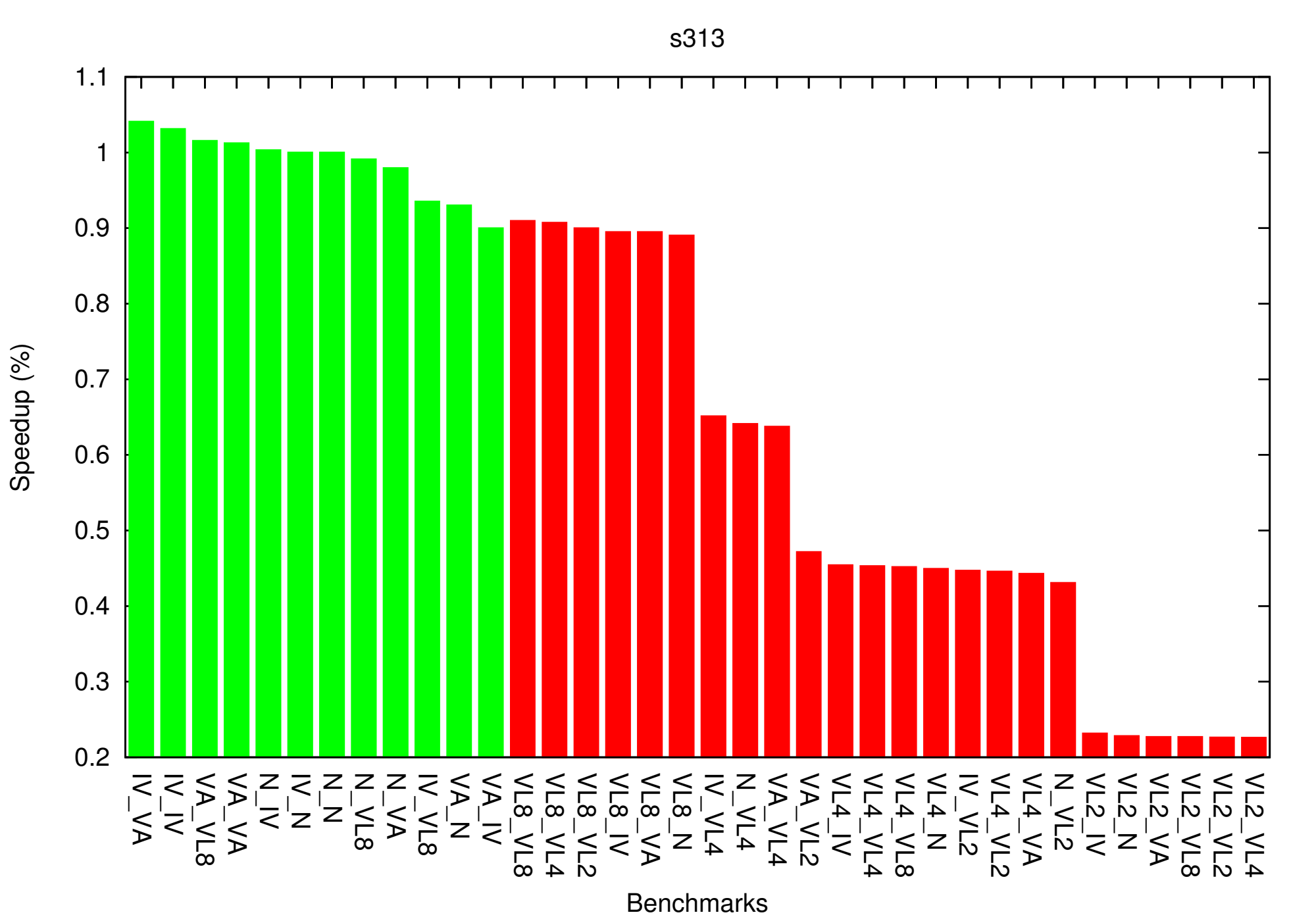

s3111
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
IV_IV
N_VL8
IV_N
IV_VA
N_IV
N_N
N_VA
VA_IV
VA_N
VA_VA
VA_VL8
IV_VL8
VL8_IV
VL8_N
VL8_VA
VL8_VL2
VL8_VL4
VL8_VL8
IV_VL4
VA_VL4
N_VL4
VL4_IV
VL4_N
VL4_VA
VL4_VL2
VL4_VL4
VL4_VL8
IV_VL2
N_VL2
VA_VL2
VL2_IV
VL2_VA
VL2_N
VL2_VL2
VL2_VL4
VL2_VL8
Benchmarks

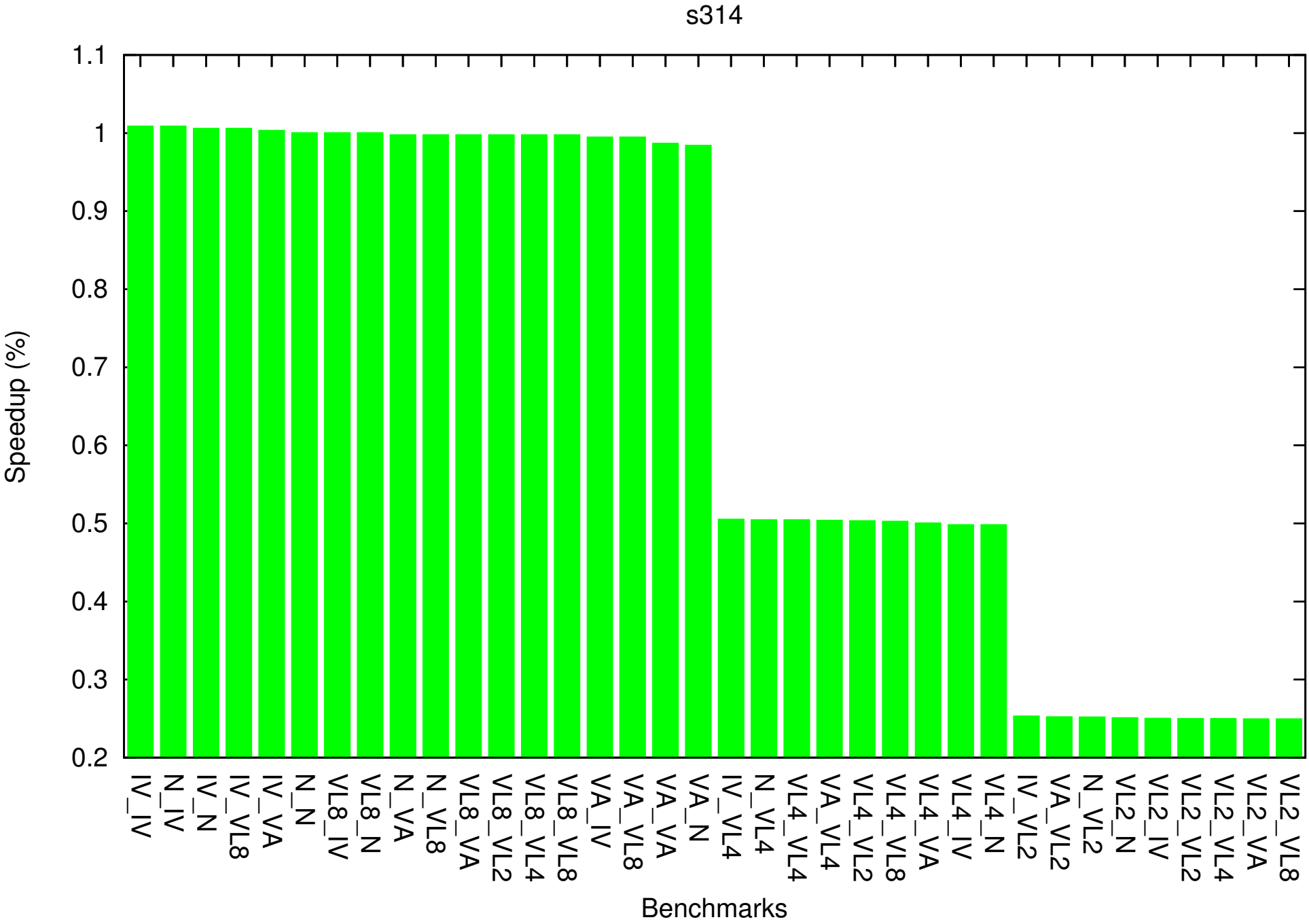

s31111
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
Speedup (%)
IV
VA
N
VL4
VL8
VL2
Benchmarks

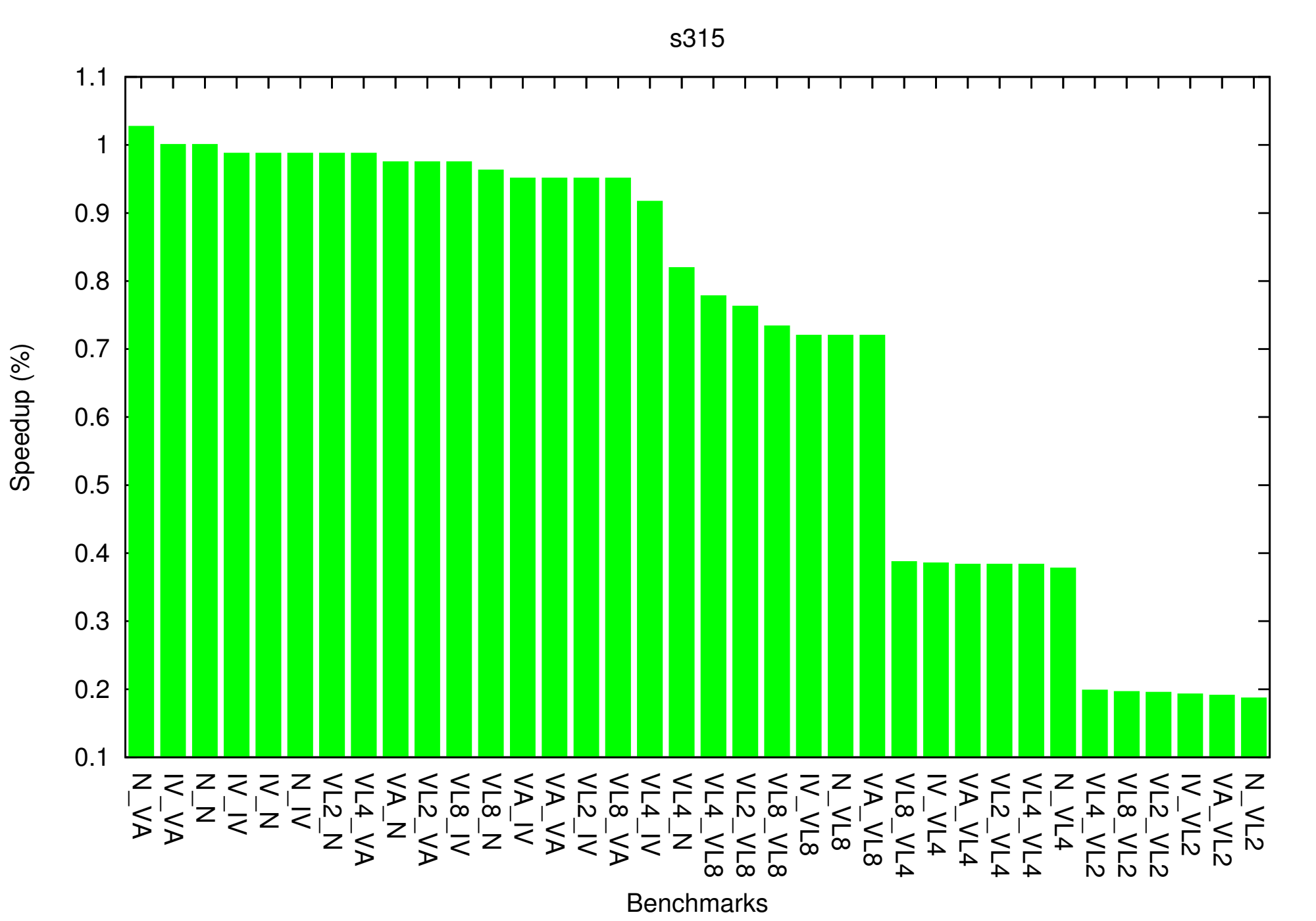

s3112
Speedup (%)
8
7
6
5
4
3
2
1
VL8_N
VL8_VL8
VL8_IV
VL8_VA
VL8_VL2
VL8_VL4
VL4_VL2
VL4_VL4
VL4_VL8
VL4_IV
VL4_N
VL4_VA
VL2_VL4
VL2_IV
VL2_VA
VL2_VL8
VL2_VL2
VL2_N
VA_IV
IV_IV
IV_N
IV_VA
N_IV
VA_N
N_VA
VA_VA
N_N
IV_VL8
VA_VL8
N_VL8
N_VL4
VA_VL4
IV_VL4
N_VL2
VA_VL2
IV_VL2
Benchmarks

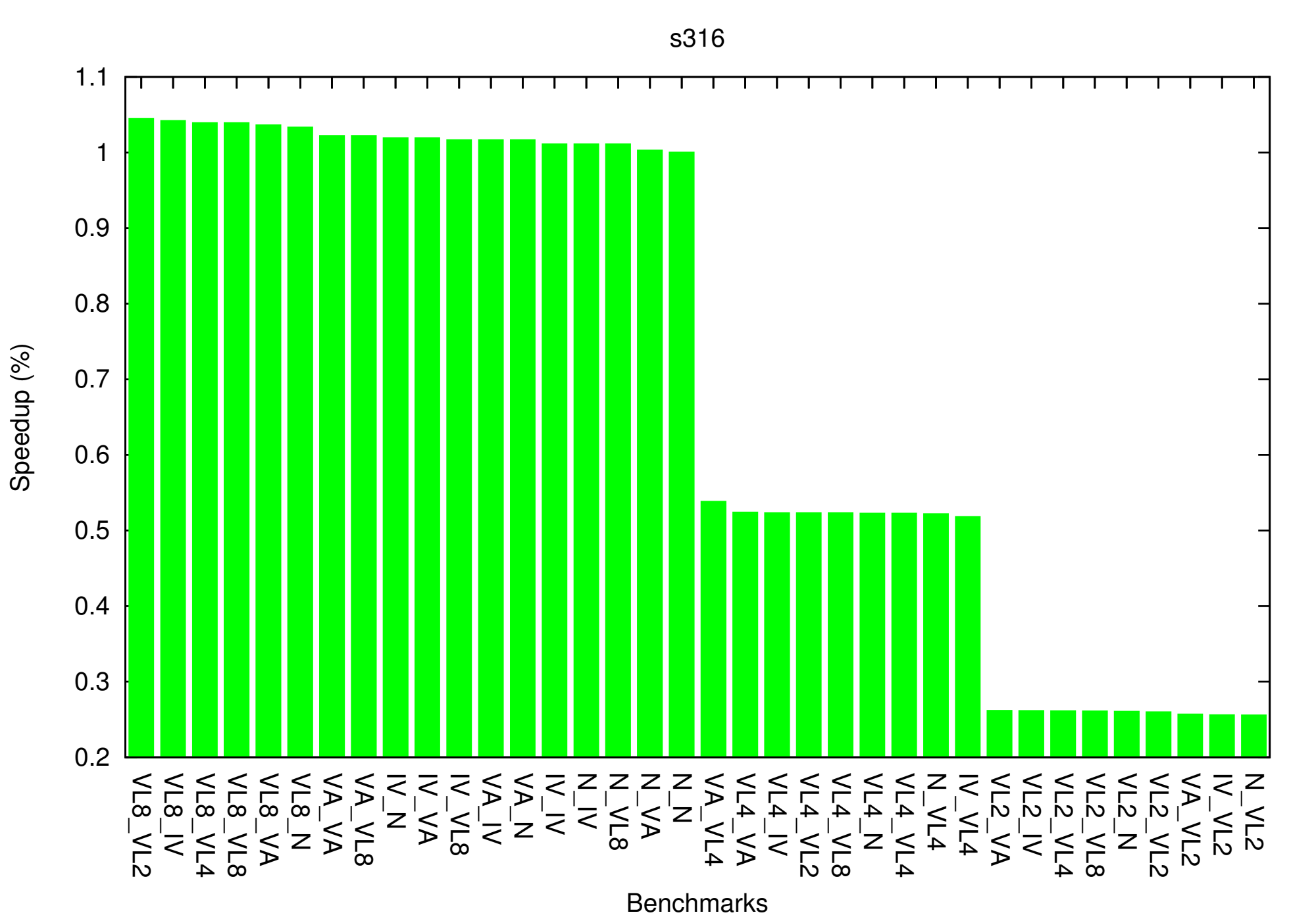

s3113
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
VL8_N
VL8_IV
VL8_VL8
VA_N
VL8_VL4
VL8_VL2
N_VL8
VL8_VA
IV_N
IV_VA
VA_IV
VA_VL8
VA_VA
IV_IV
N_VA
N_IV
IV_VL8
N_N
N_VL4
VL4_VL2
VL4_N
VL4_VL8
VL4_VA
VL4_VL4
VL4_IV
IV_VL4
VA_VL4
IV_VL2
N_VL2
VA_VL2
VL2_N
VL2_VL4
VL2_IV
VL2_VA
VL2_VL8
VL2_VL2
Benchmarks

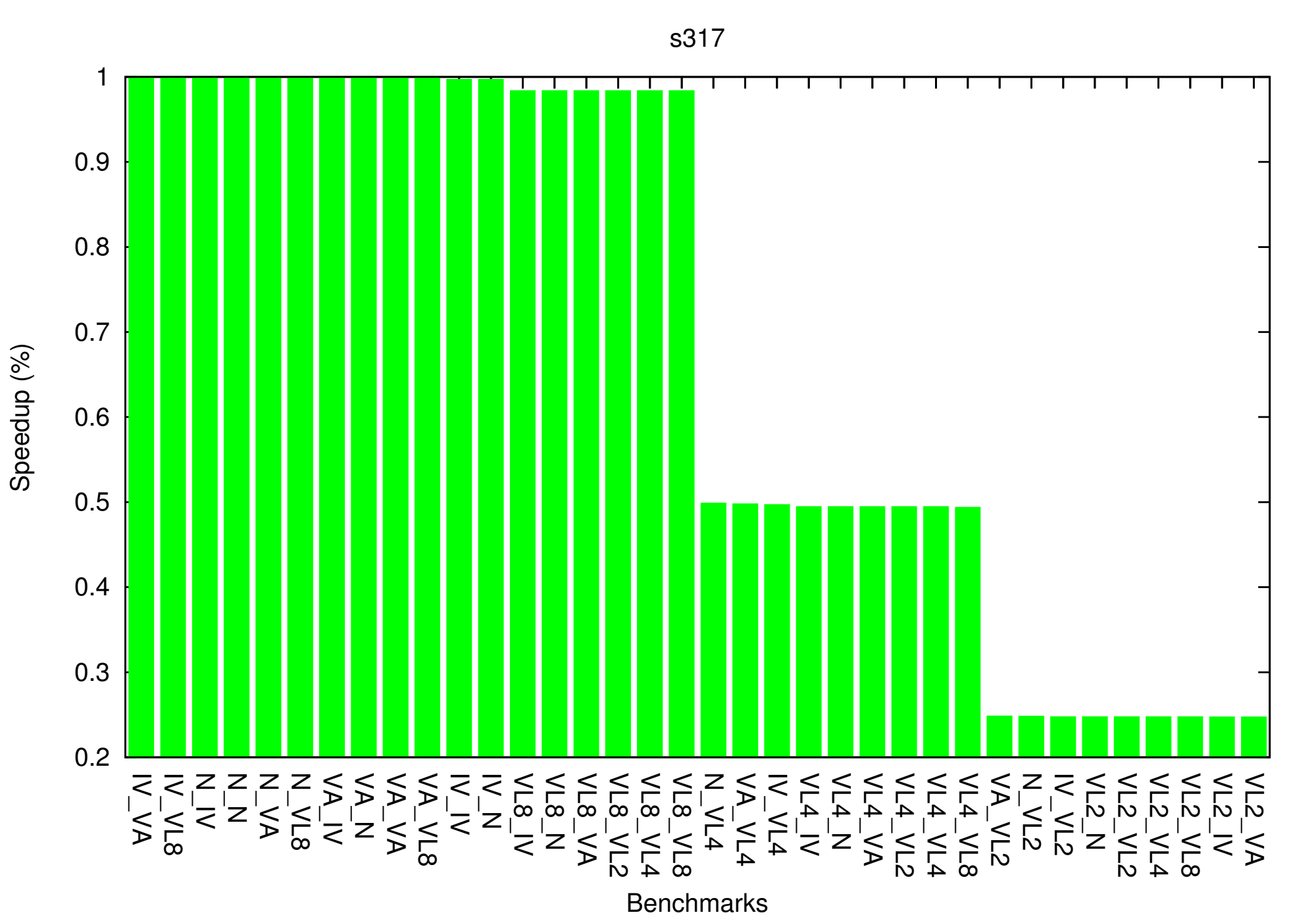

s312
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
VA_VA
IV_IV
IV_N
IV_VL8
N_N
N_VA
N_VL8
VA_VL8
N_IV
VA_N
IV_VA
VA_IV
VL8_VA
VL8_IV
VL8_N
VL8_VL4
VL8_VL8
VL8_VL2
VL4_VL8
N_VL4
VA_VL4
IV_VL4
VL4_VL2
VL4_VA
VL4_N
VL4_IV
VL4_VL4
VL2_IV
VL2_VL4
VL2_N
VA_VL2
VL2_VL2
IV_VL2
N_VL2
VL2_VA
VL2_VL8
Benchmarks

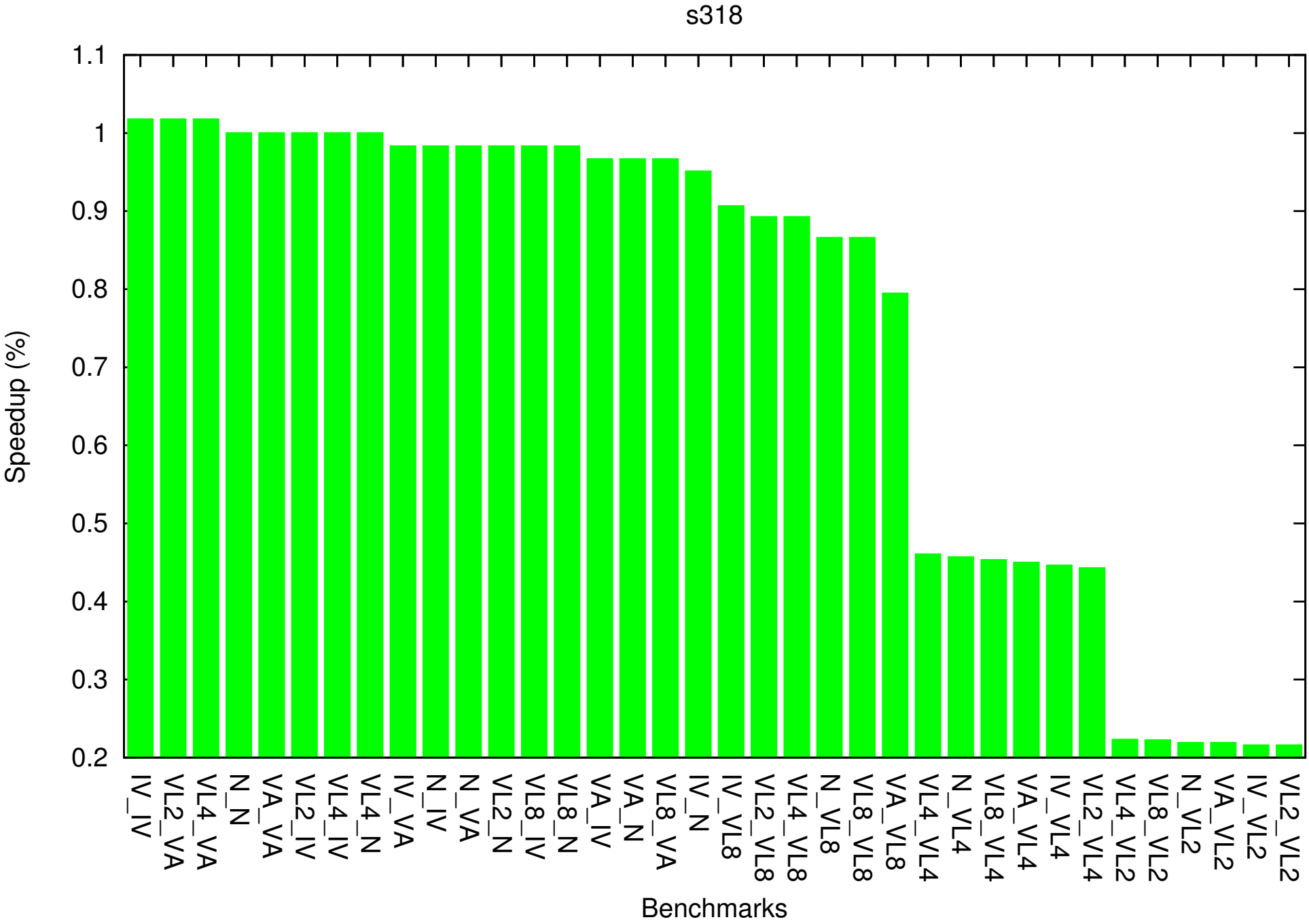

s313
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
IV_VA
IV_IV
VA_VL8
VA_VA
N_IV
IV_N
N_N
N_VL8
N_VA
IV_VL8
VA_N
VA_IV
VL8_VL8
VL8_VL4
VL8_VL2
VL8_IV
VL8_VA
VL8_N
IV_VL4
N_VL4
VA_VL4
VA_VL2
VL4_IV
VL4_VL4
VL4_VL8
VL4_N
IV_VL2
VL4_VL2
VL4_VA
N_VL2
VL2_IV
VL2_N
VL2_VA
VL2_VL8
VL2_VL2
VL2_VL4
Benchmarks

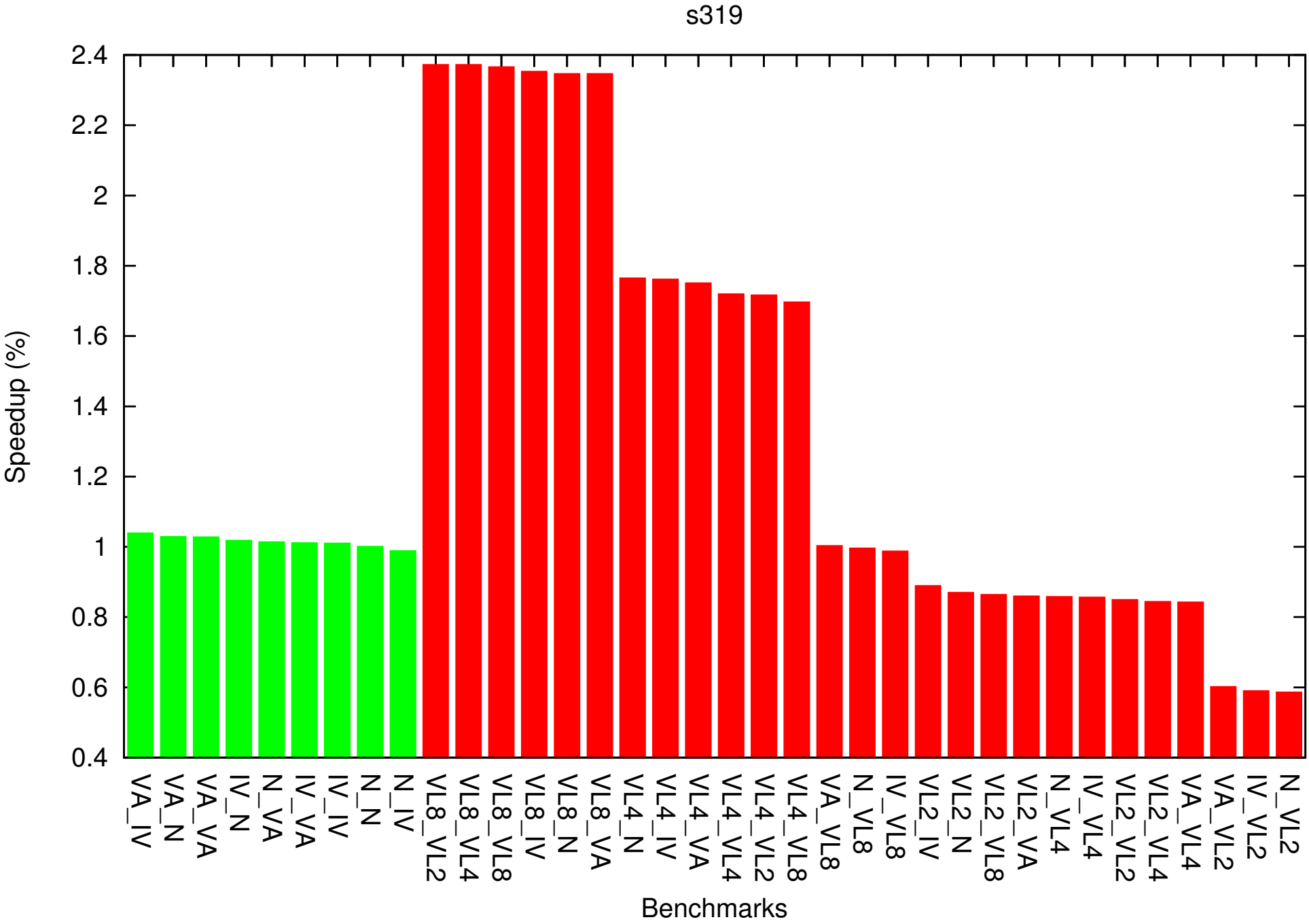

s314
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
IV_IV
N_IV
IV_N
IV_VL8
IV_VA
N_N
VL8_IV
VL8_N
N_VA
N_VL8
VL8_VA
VL8_VL2
VL8_VL4
VL8_VL8
VA_IV
VA_VL8
VA_VA
VA_N
IV_VL4
N_VL4
VL4_VL4
VA_VL4
VL4_VL2
VL4_VL8
VL4_VA
VL4_IV
VL4_N
IV_VL2
VA_VL2
N_VL2
VL2_N
VL2_IV
VL2_VL2
VL2_VL4
VL2_VA
VL2_VL8
Benchmarks

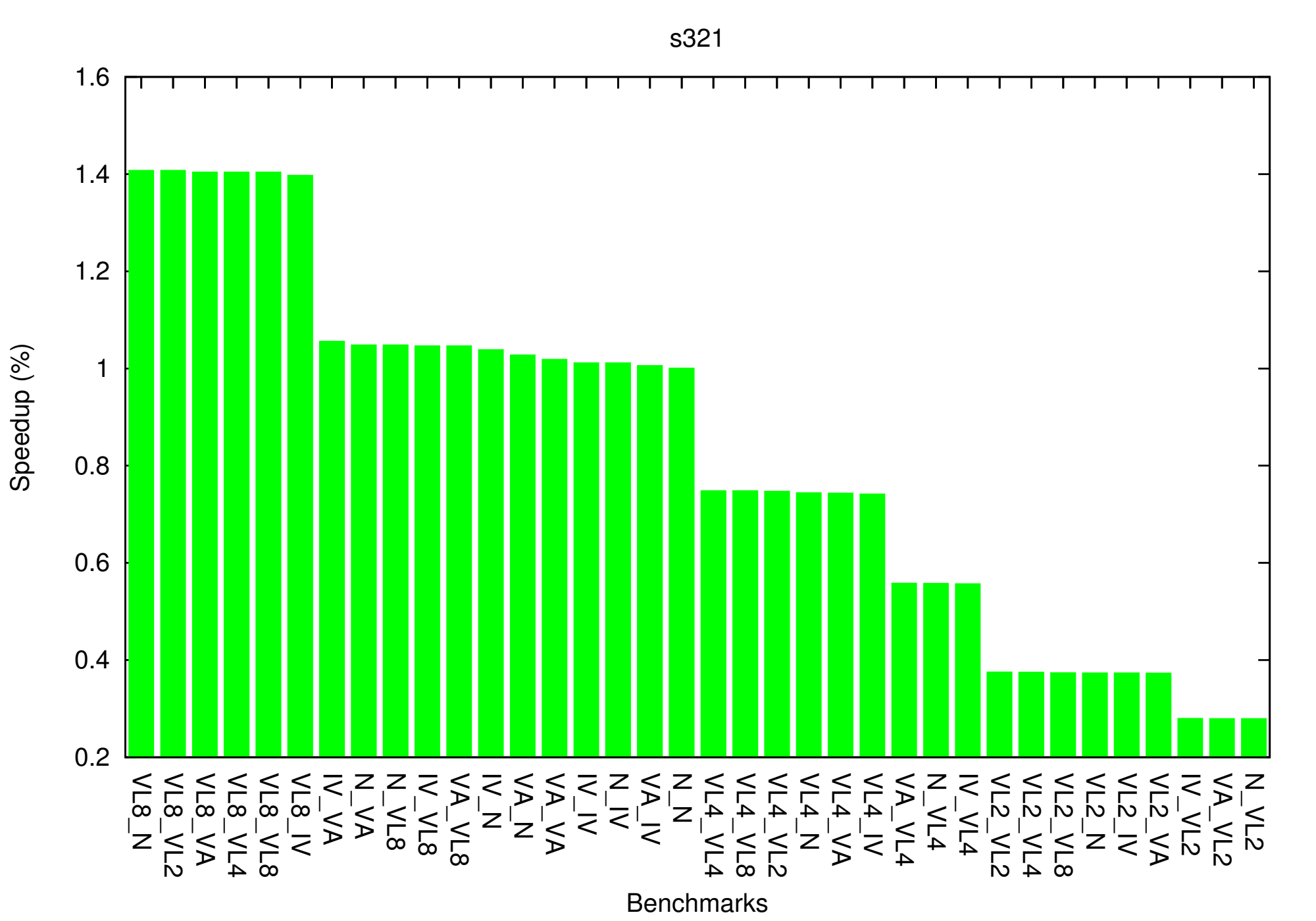

s315
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
N_VA
IV_VA
N_N
IV_IV
IV_N
N_IV
VL2_N
VL4_VA
VA_N
VL2_VA
VL8_IV
VL8_N
VA_IV
VA_VA
VL2_IV
VL8_VA
VL4_IV
VL4_N
VL4_VL8
VL2_VL8
VL8_VL8
IV_VL8
N_VL8
VA_VL8
VL8_VL4
IV_VL4
VA_VL4
VL2_VL4
VL4_VL4
N_VL4
VL4_VL2
VL8_VL2
VL2_VL2
IV_VL2
VA_VL2
N_VL2
Benchmarks

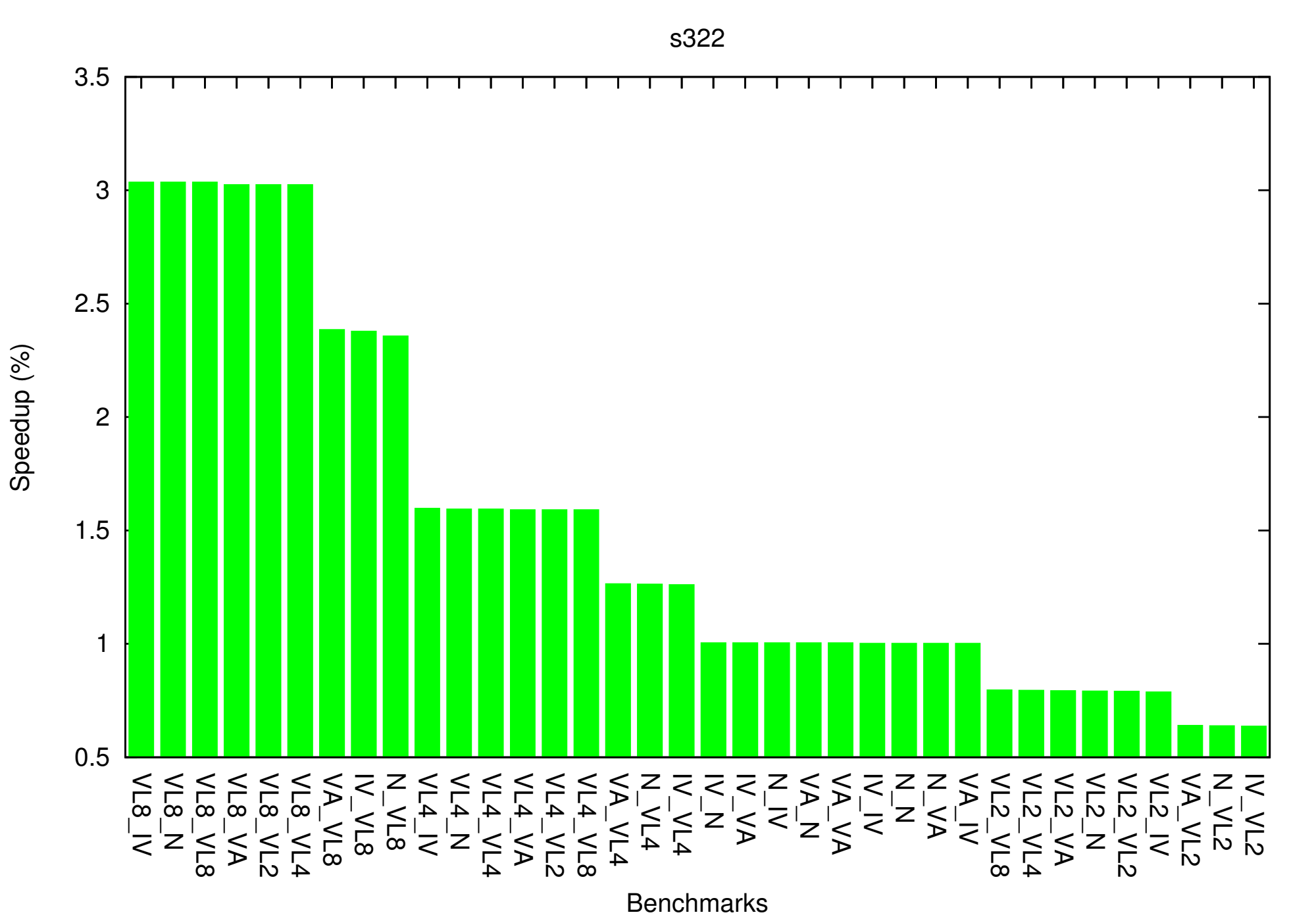

s316
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
VL8_VL2
VL8_IV
VL8_VL4
VL8_VL8
VL8_VA
VL8_N
VA_VA
VA_VL8
IV_N
IV_VA
IV_VL8
VA_IV
VA_N
IV_IV
N_IV
N_VL8
N_VA
N_N
VA_VL4
VL4_VA
VL4_IV
VL4_VL2
VL4_VL8
VL4_N
VL4_VL4
N_VL4
IV_VL4
VL2_VA
VL2_IV
VL2_VL4
VL2_VL8
VL2_N
VL2_VL2
VA_VL2
IV_VL2
N_VL2
Benchmarks

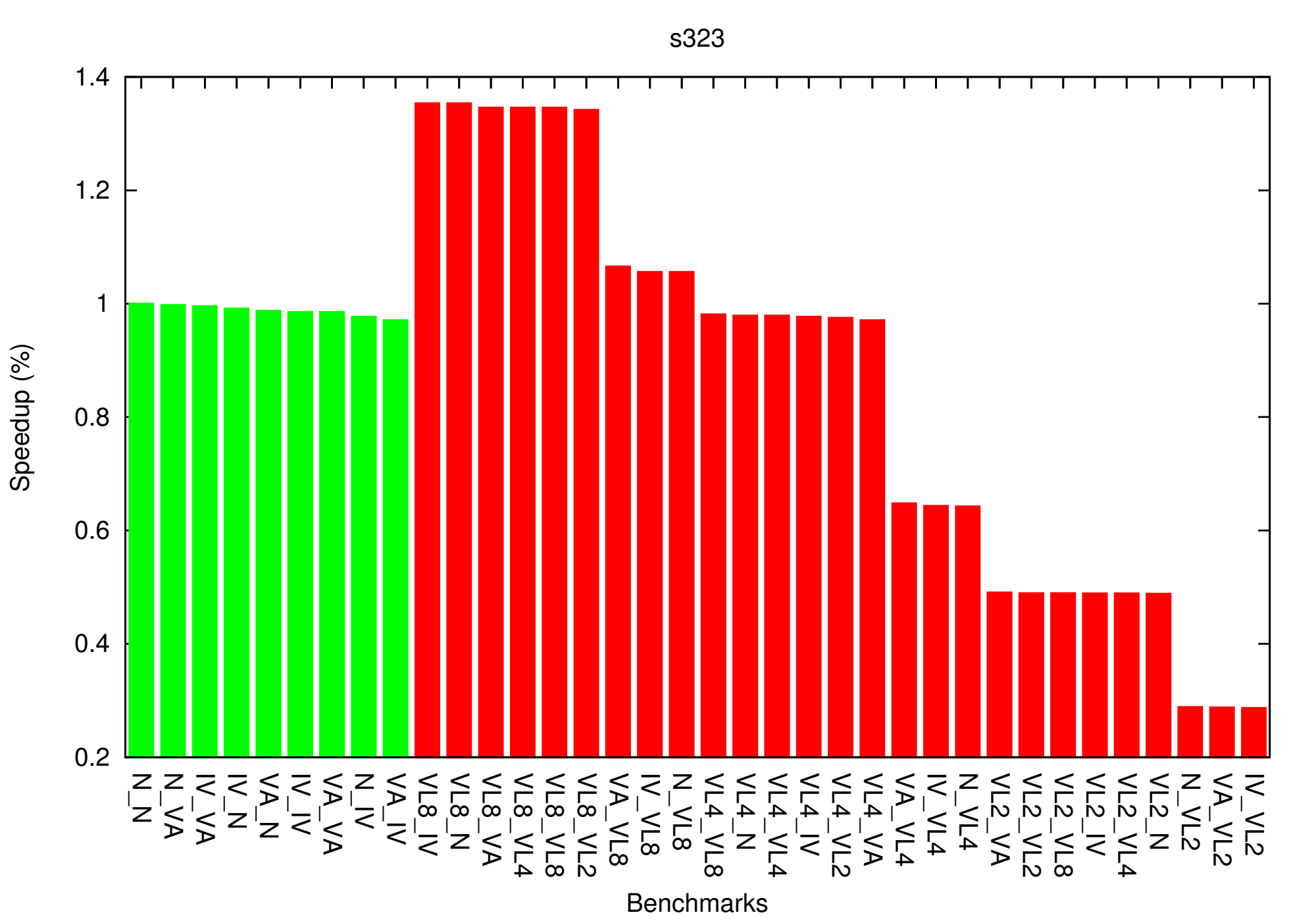

s317
Speedup (%)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
IV_VA
IV_VL8
N_IV
N_N
N_VA
N_VL8
VA_IV
VA_N
VA_VA
VA_VL8
IV_IV
IV_N
VL8_IV
VL8_N
VL8_VA
VL8_VL2
VL8_VL4
VL8_VL8
N_VL4
VA_VL4
IV_VL4
VL4_IV
VL4_N
VL4_VA
VL4_VL2
VL4_VL4
VL4_VL8
VA_VL2
N_VL2
IV_VL2
VL2_N
VL2_VL2
VL2_VL4
VL2_VL8
VL2_IV
VL2_VA
Benchmarks

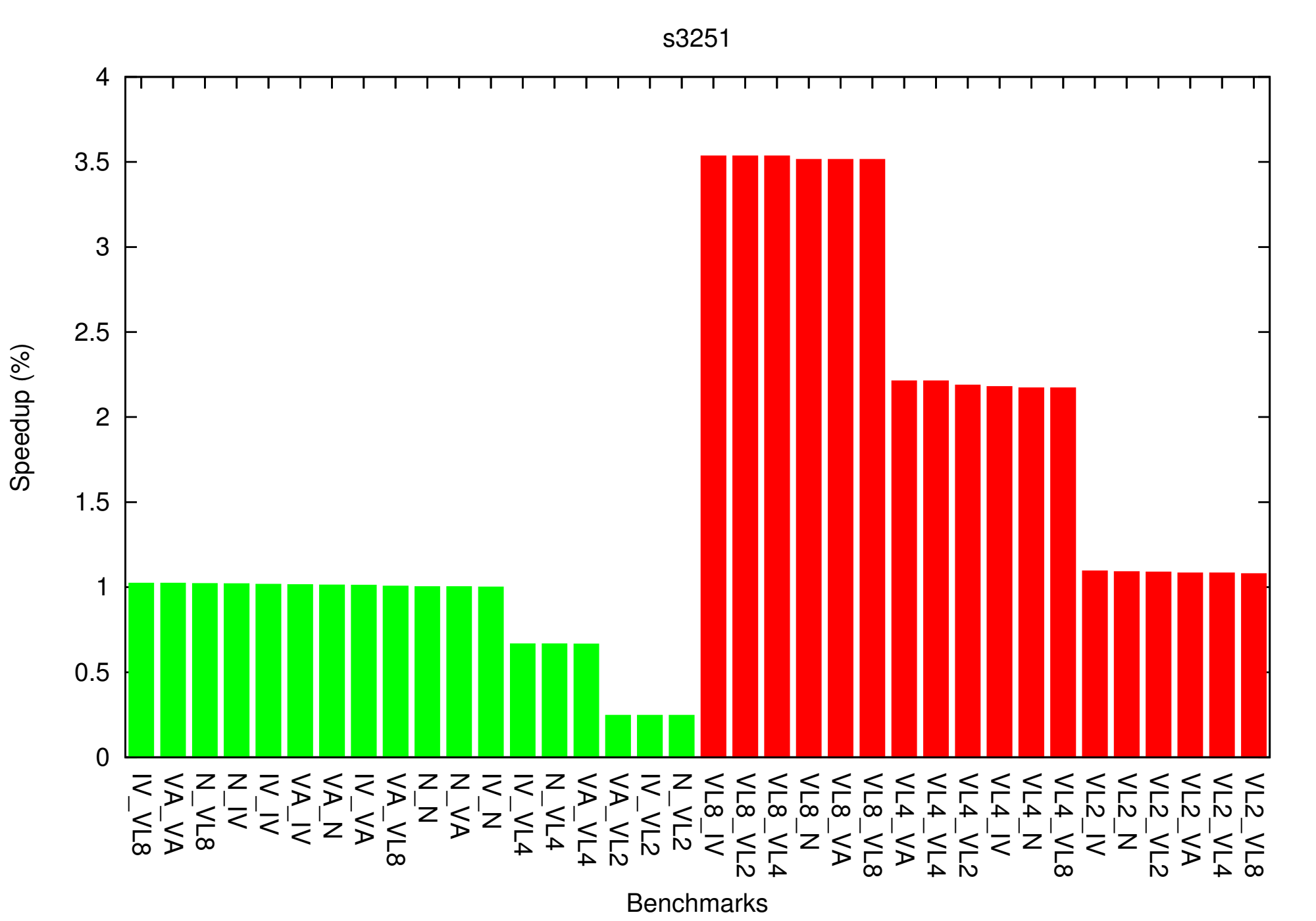

s318
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
IV_IV
VL2_VA
VL4_VA
N_N
VA_VA
VL2_IV
VL4_IV
VL4_N
IV_VA
N_IV
N_VA
VL2_N
VL8_IV
VL8_N
VA_IV
VA_N
VL8_VA
IV_N
IV_VL8
VL2_VL8
VL4_VL8
N_VL8
VL8_VL8
VA_VL8
VL4_VL4
N_VL4
VL8_VL4
VA_VL4
IV_VL4
VL2_VL4
VL4_VL2
VL8_VL2
N_VL2
VA_VL2
IV_VL2
VL2_VL2
Benchmarks

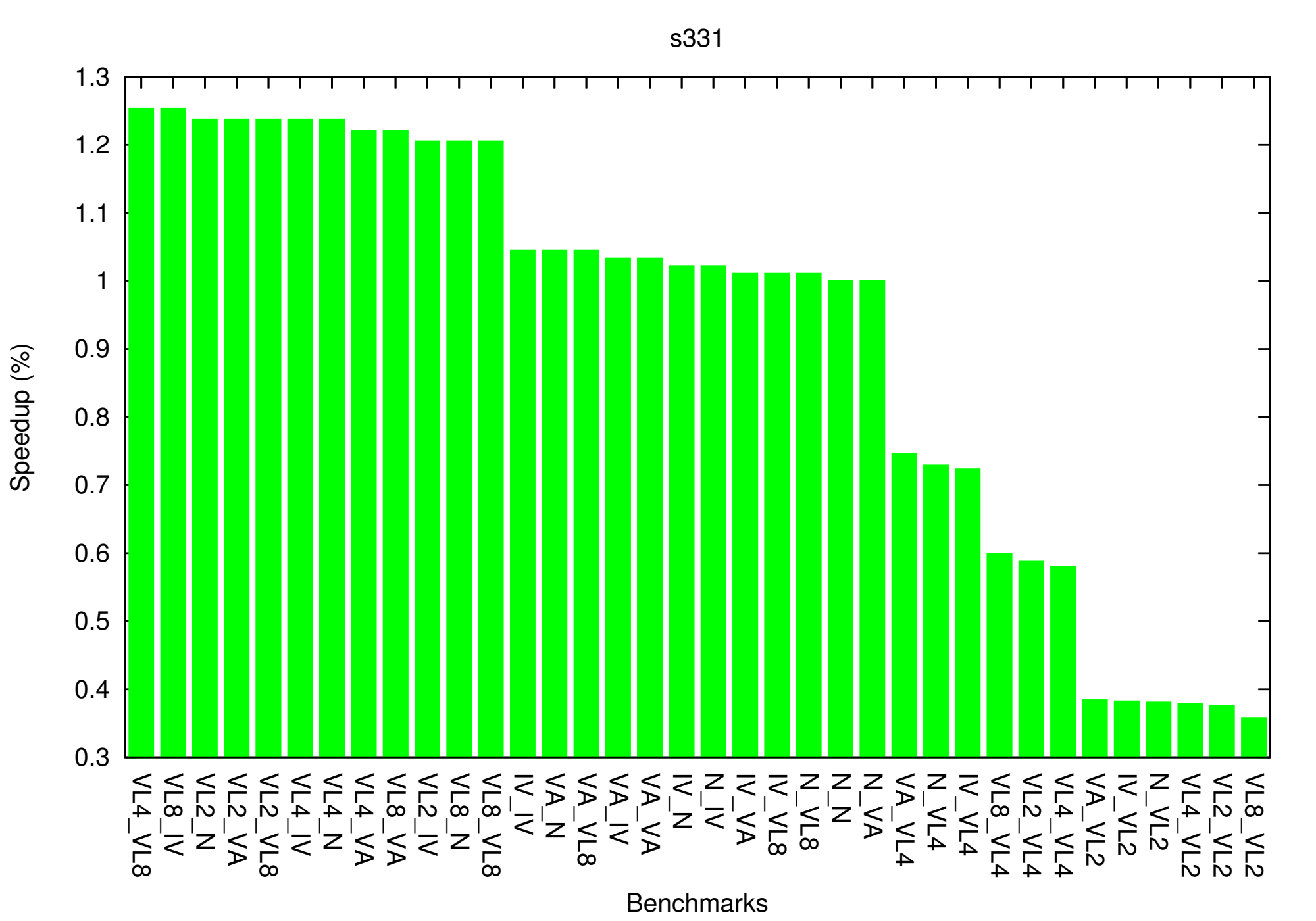

s319
Speedup (%)
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
VA_IV
VA_N
VA_VA
IV_N
N_VA
IV_VA
IV_IV
N_N
N_IV
VL8_VL2
VL8_VL4
VL8_VL8
VL8_IV
VL8_N
VL8_VA
VL4_N
VL4_IV
VL4_VA
VL4_VL4
VL4_VL2
VL4_VL8
VA_VL8
N_VL8
IV_VL8
VL2_IV
VL2_N
VL2_VL8
VL2_VA
N_VL4
IV_VL4
VL2_VL2
VL2_VL4
VA_VL4
VA_VL2
IV_VL2
N_VL2
Benchmarks

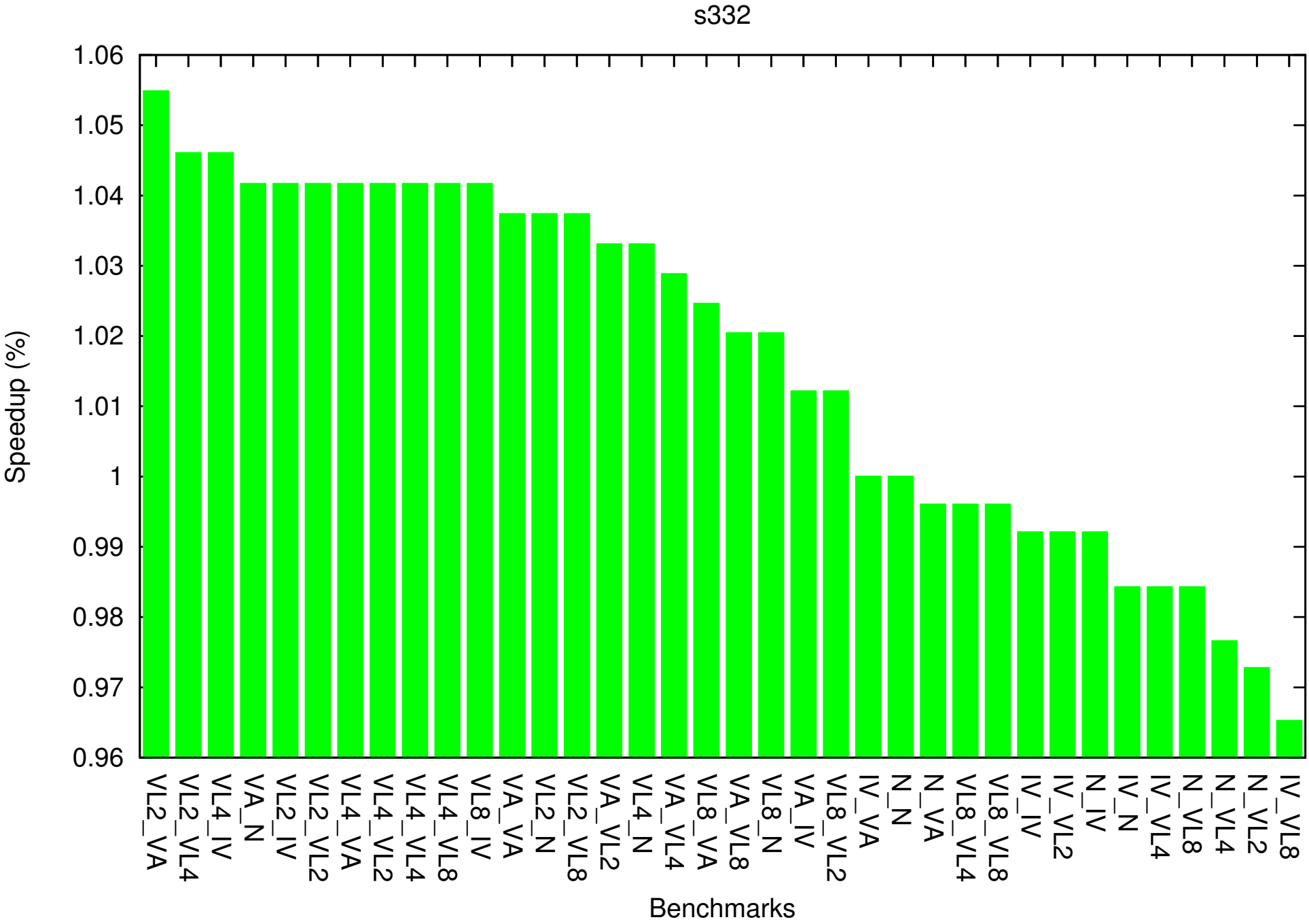

s321
Speedup (%)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
VL8_N
VL8_VL2
VL8_VA
VL8_VL4
VL8_VL8
VL8_IV
IV_VA
N_VA
N_VL8
IV_VL8
VA_VL8
IV_N
VA_N
VA_VA
IV_IV
N_IV
VA_IV
N_N
VL4_VL4
VL4_VL8
VL4_VL2
VL4_N
VL4_VA
VL4_IV
VA_VL4
N_VL4
IV_VL4
VL2_VL2
VL2_VL4
VL2_VL8
VL2_N
VL2_IV
VL2_VA
IV_VL2
VA_VL2
N_VL2
Benchmarks

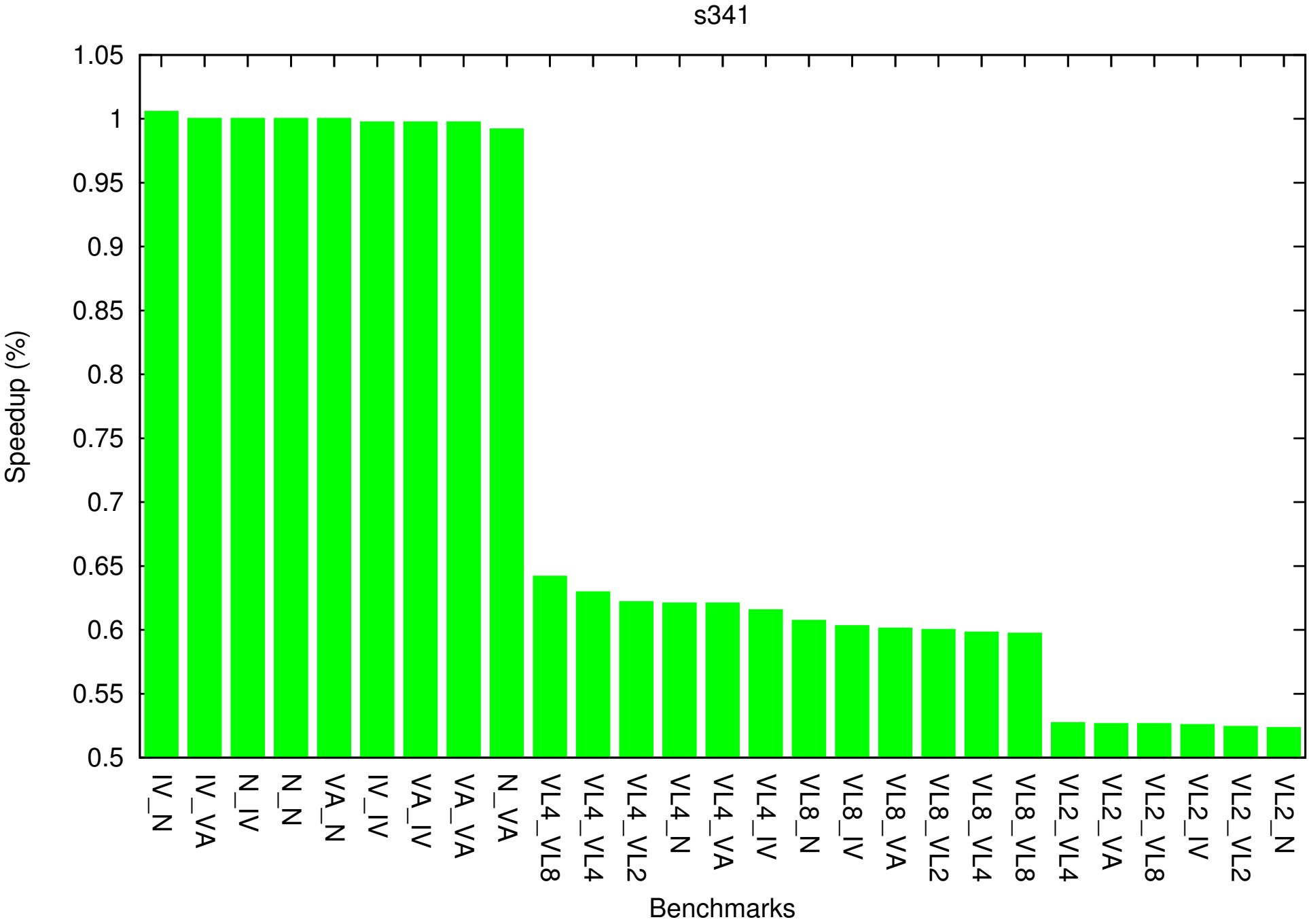

s322
Speedup (%)
3.5
3
2.5
2
1.5
1
0.5
VL8_IV
VL8_N
VL8_VL8
VL8_VA
VL8_VL2
VL8_VL4
VA_VL8
IV_VL8
N_VL8
VL4_IV
VL4_N
VL4_VL4
VL4_VA
VL4_VL2
VL4_VL8
VA_VL4
N_VL4
IV_VL4
IV_N
IV_VA
N_IV
VA_N
VA_VA
IV_IV
N_N
N_VA
VA_IV
VL2_VL8
VL2_VL4
VL2_VA
VL2_N
VL2_VL2
VL2_IV
VA_VL2
N_VL2
IV_VL2
Benchmarks

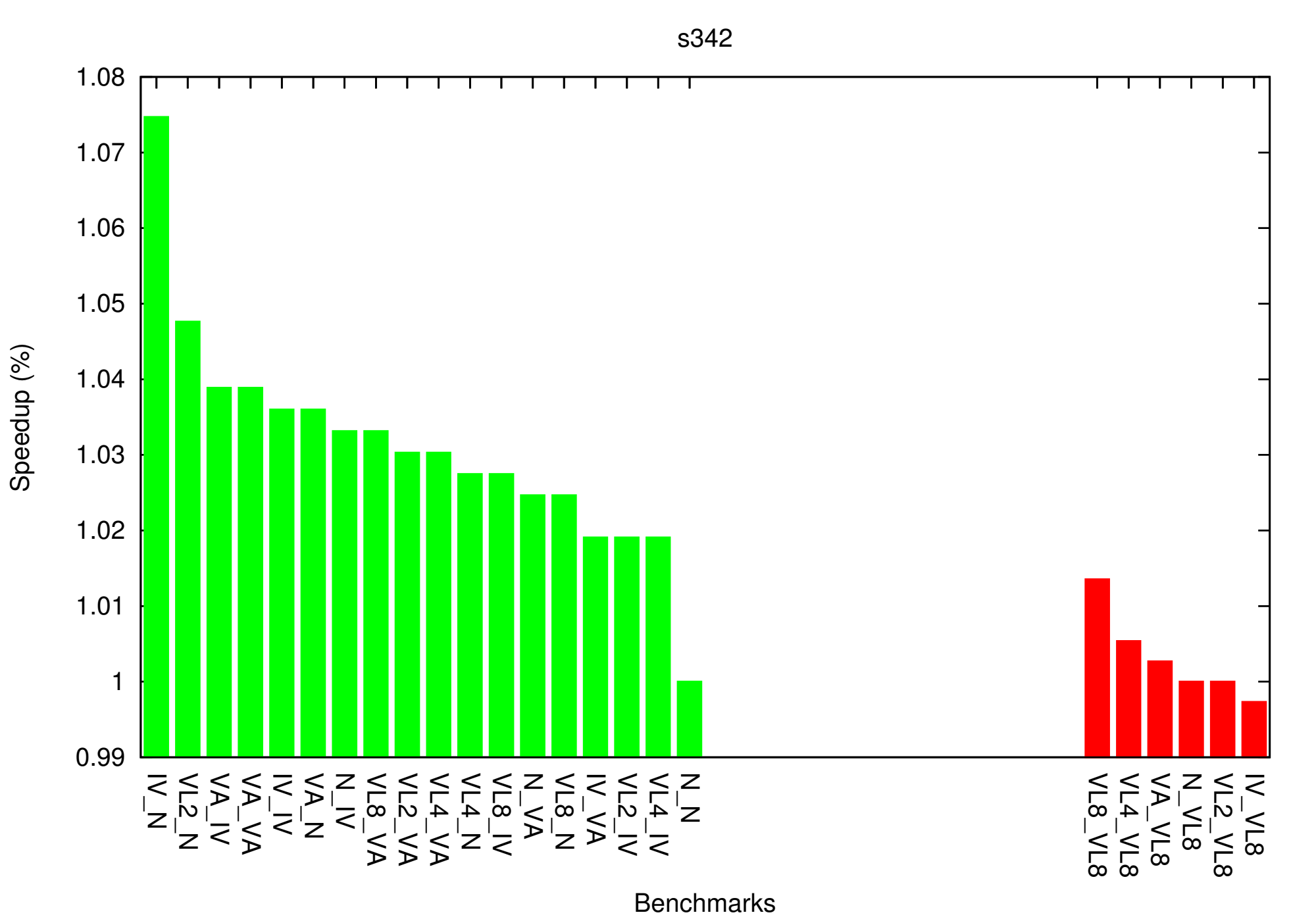

s323
Speedup (%)
1.4
1.2
1
0.8
0.6
0.4
0.2
N_N
N_VA
IV_VA
IV_N
VA_N
IV_IV
VA_VA
N_IV
VA_IV
VL8_IV
VL8_N
VL8_VA
VL8_VL4
VL8_VL8
VL8_VL2
VA_VL8
IV_VL8
N_VL8
VL4_VL8
VL4_N
VL4_VL4
VL4_IV
VL4_VL2
VL4_VA
VA_VL4
IV_VL4
N_VL4
VL2_VA
VL2_VL2
VL2_VL8
VL2_IV
VL2_VL4
VL2_N
N_VL2
VA_VL2
IV_VL2
Benchmarks

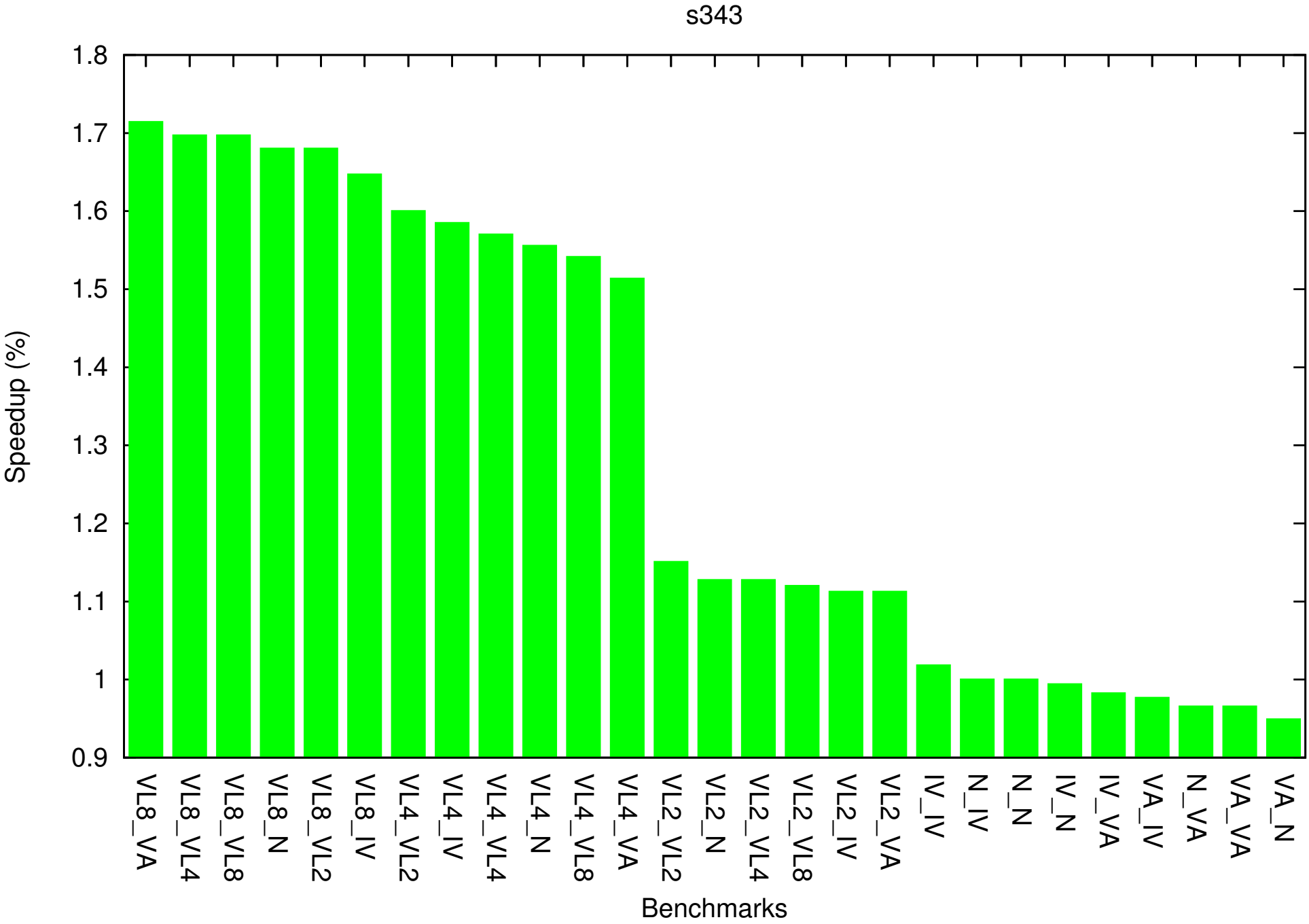

s3251
Speedup (%)
0
0.5
1
1.5
2
2.5
3
3.5
4
IV_VL8
VA_VA
N_VL8
N_IV
IV_IV
VA_IV
VA_N
IV_VA
VA_VL8
N_N
N_VA
IV_N
IV_VL4
N_VL4
VA_VL4
VA_VL2
IV_VL2
N_VL2
VL8_IV
VL8_VL2
VL8_VL4
VL8_N
VL8_VA
VL8_VL8
VL4_VA
VL4_VL4
VL4_VL2
VL4_IV
VL4_N
VL4_VL8
VL2_IV
VL2_N
VL2_VL2
VL2_VA
VL2_VL4
VL2_VL8
Benchmarks

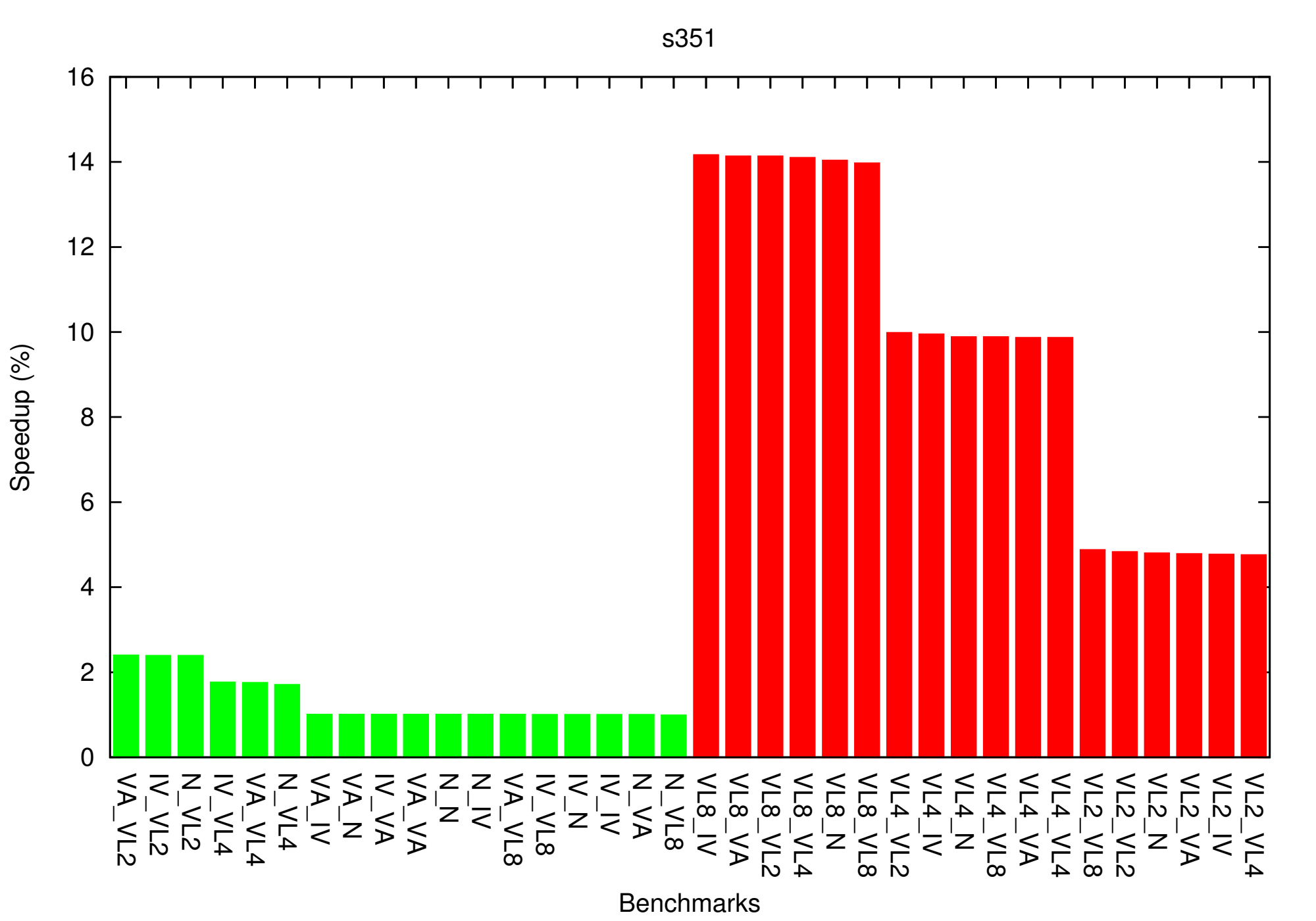

s331
Speedup (%)
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
VL4_VL8
VL8_IV
VL2_N
VL2_VA
VL2_VL8
VL4_IV
VL4_N
VL4_VA
VL8_VA
VL2_IV
VL8_N
VL8_VL8
IV_IV
VA_N
VA_VL8
VA_IV
VA_VA
IV_N
N_IV
IV_VA
IV_VL8
N_VL8
N_N
N_VA
VA_VL4
N_VL4
IV_VL4
VL8_VL4
VL2_VL4
VL4_VL4
VA_VL2
IV_VL2
N_VL2
VL4_VL2
VL2_VL2
VL8_VL2
Benchmarks

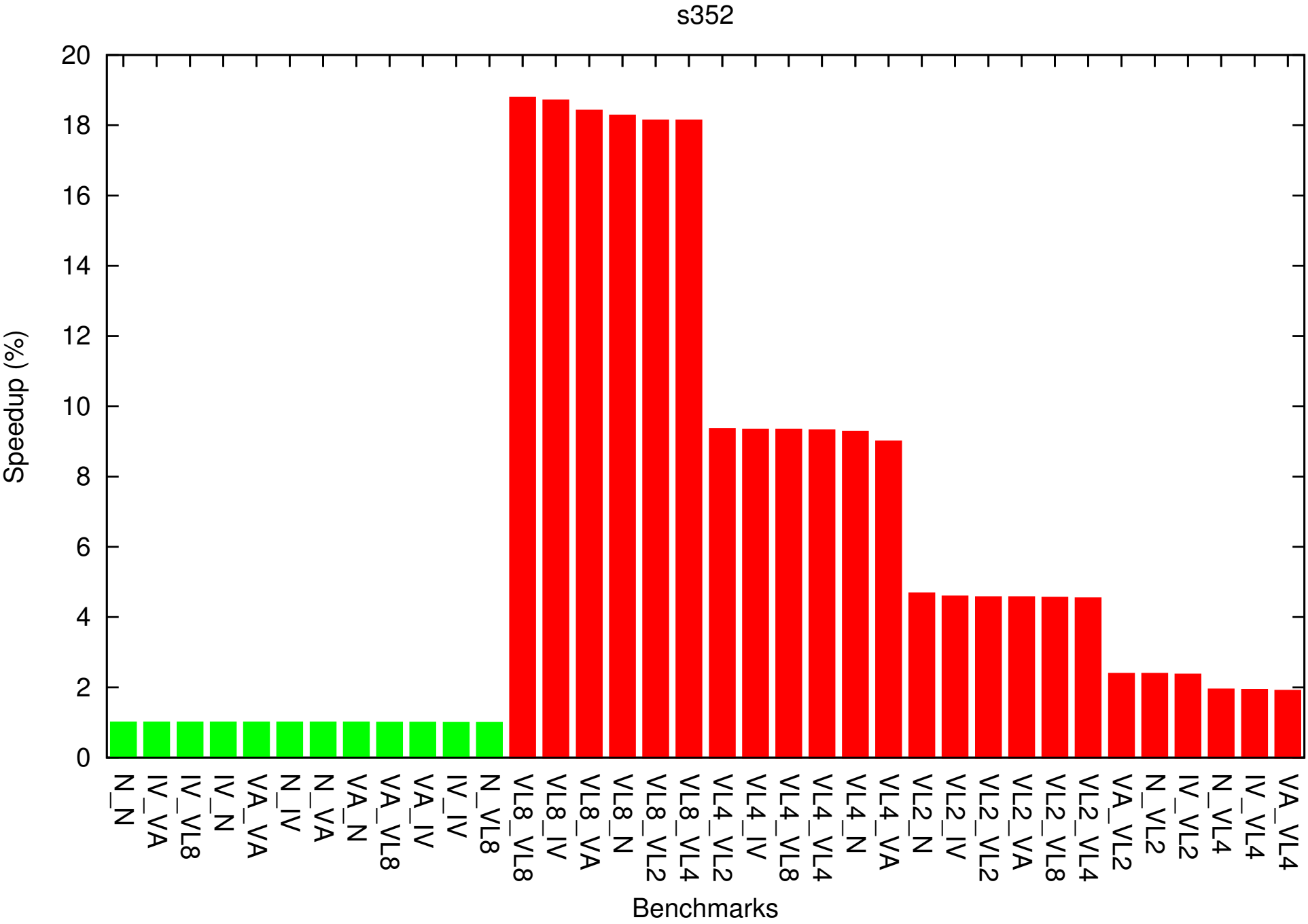

s332
Speedup (%)
1.06
1.05
1.04
1.03
1.02
1.01
1
0.99
0.98
0.97
0.96
VL2_VA
VL2_VL4
VL4_IV
VA_N
VL2_IV
VL2_VL2
VL4_VA
VL4_VL2
VL4_VL4
VL4_VL8
VL8_IV
VA_VA
VL2_N
VL2_VL8
VA_VL2
VL4_N
VA_VL4
VL8_VA
VA_VL8
VL8_N
VA_IV
VL8_VL2
IV_VA
N_N
N_VA
VL8_VL4
VL8_VL8
IV_IV
IV_VL2
N_IV
IV_N
IV_VL4
N_VL8
N_VL4
N_VL2
IV_VL8
Benchmarks

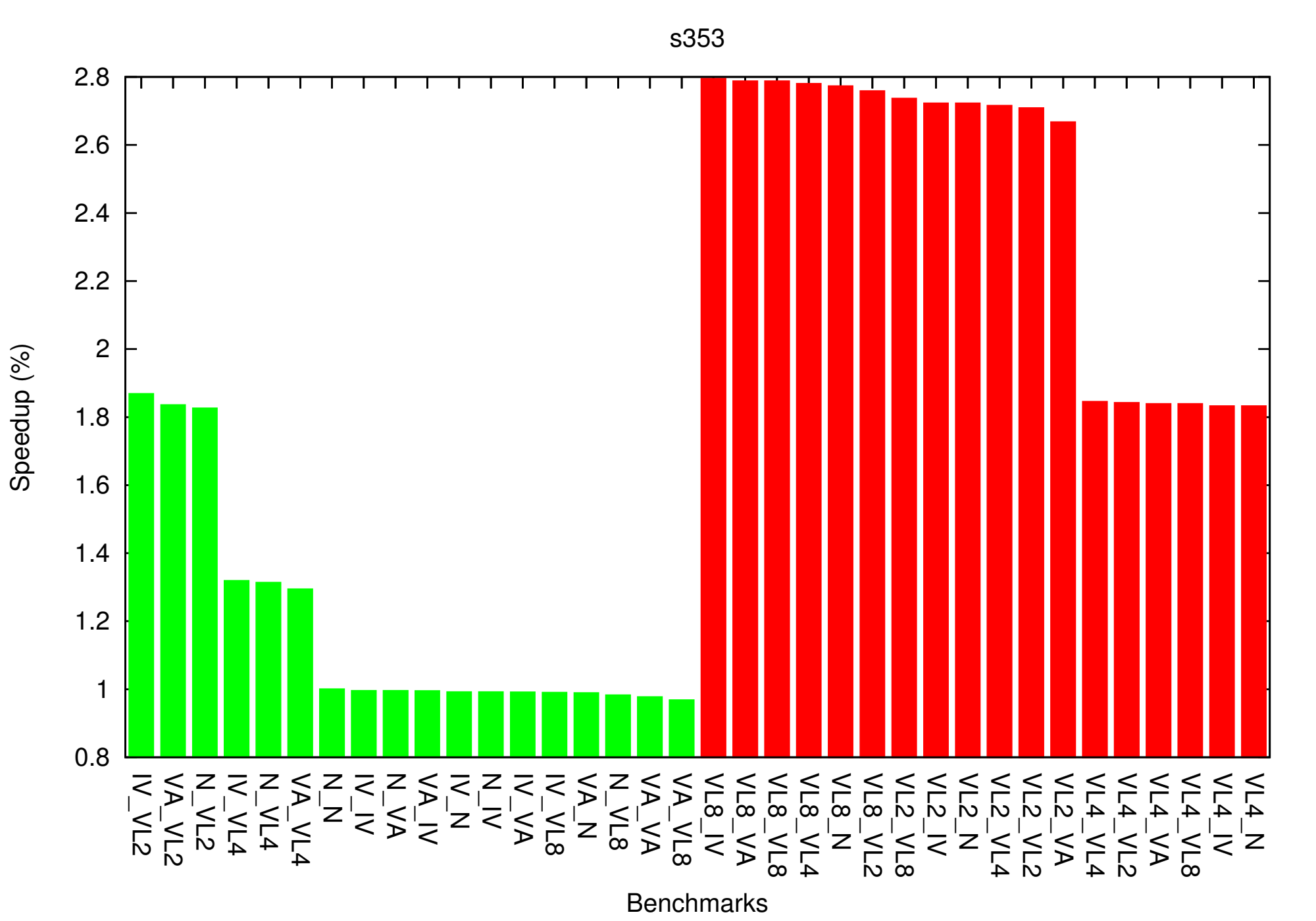

s341
Speedup (%)
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
IV_N
IV_VA
N_IV
N_N
VA_N
IV_IV
VA_IV
VA_VA
N_VA
VL4_VL8
VL4_VL4
VL4_VL2
VL4_N
VL4_VA
VL4_IV
VL8_N
VL8_IV
VL8_VA
VL8_VL2
VL8_VL4
VL8_VL8
VL2_VL4
VL2_VA
VL2_VL8
VL2_IV
VL2_VL2
VL2_N
Benchmarks

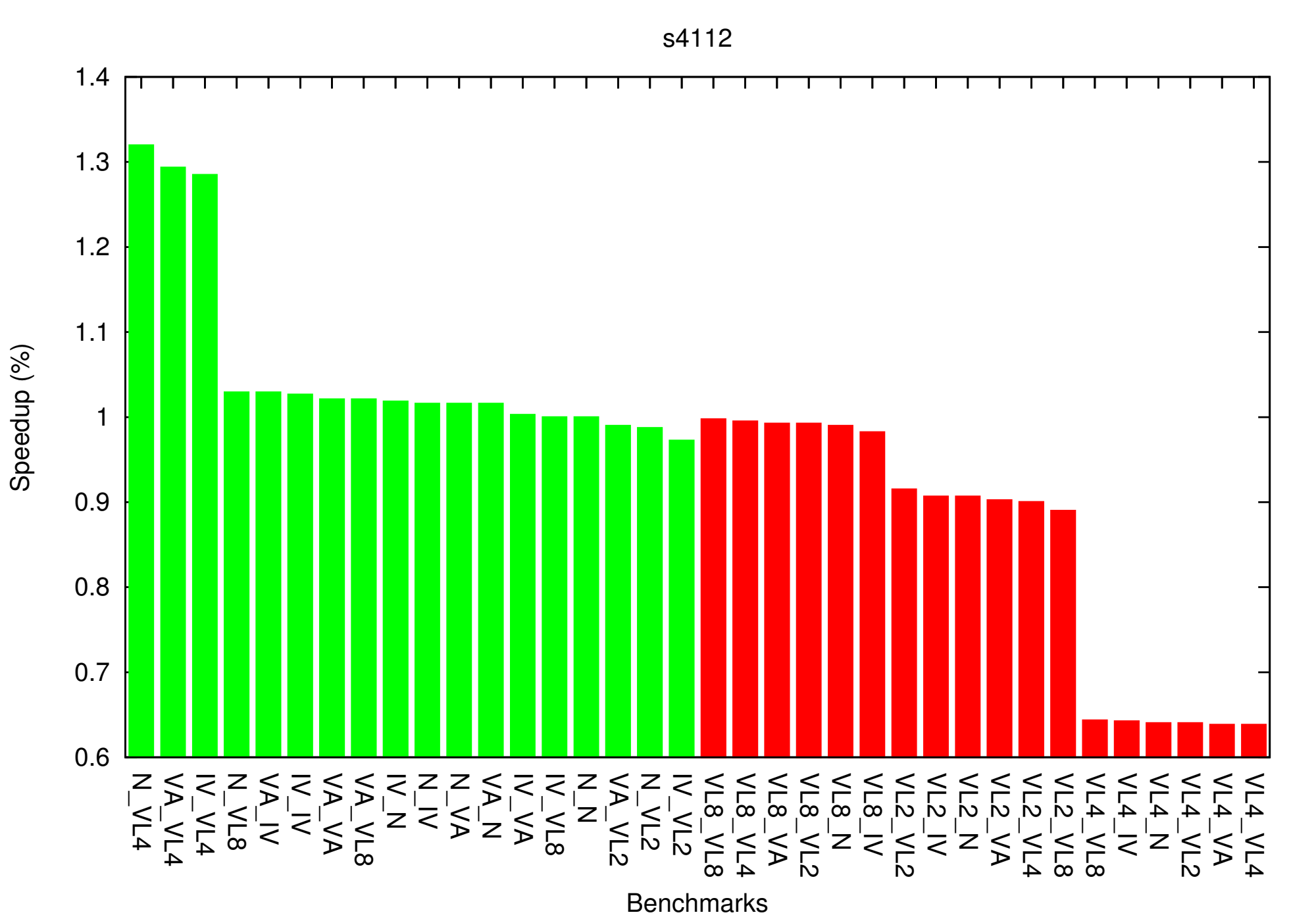

s342
Speedup (%)
1.08
1.07
1.06
1.05
1.04
1.03
1.02
1.01
1
0.99
IV_N
VL2_N
VA_IV
VA_VA
IV_IV
VA_N
N_IV
VL8_VA
VL2_VA
VL4_VA
VL4_N
VL8_IV
N_VA
VL8_N
IV_VA
VL2_IV
VL4_IV
N_N
VL8_VL8
VL4_VL8
VA_VL8
N_VL8
VL2_VL8
IV_VL8
Benchmarks

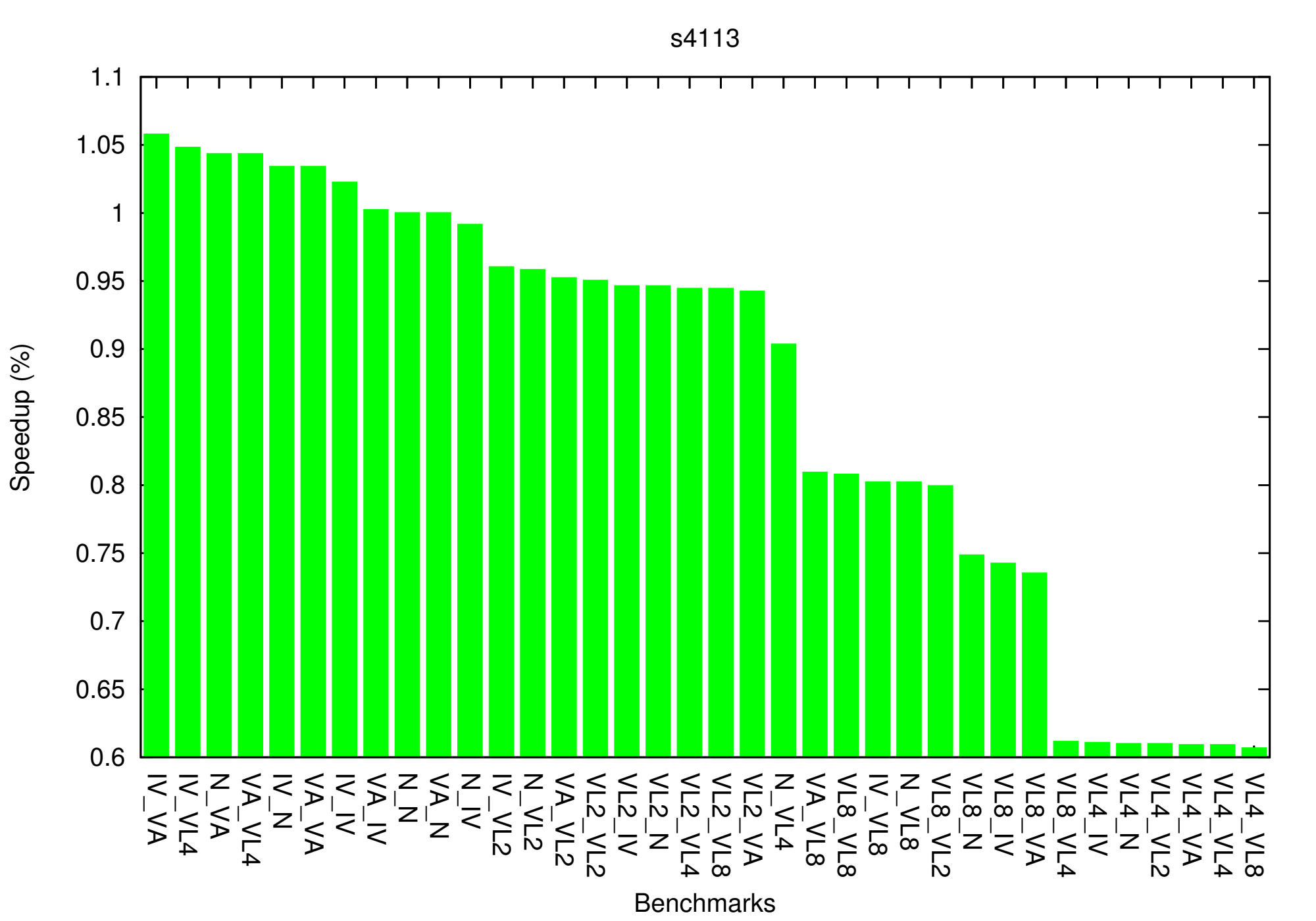

s343
Speedup (%)
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
VL8_VA
VL8_VL4
VL8_VL8
VL8_N
VL8_VL2
VL8_IV
VL4_VL2
VL4_IV
VL4_VL4
VL4_N
VL4_VL8
VL4_VA
VL2_VL2
VL2_N
VL2_VL4
VL2_VL8
VL2_IV
VL2_VA
IV_IV
N_IV
N_N
IV_N
IV_VA
VA_IV
N_VA
VA_VA
VA_N
Benchmarks

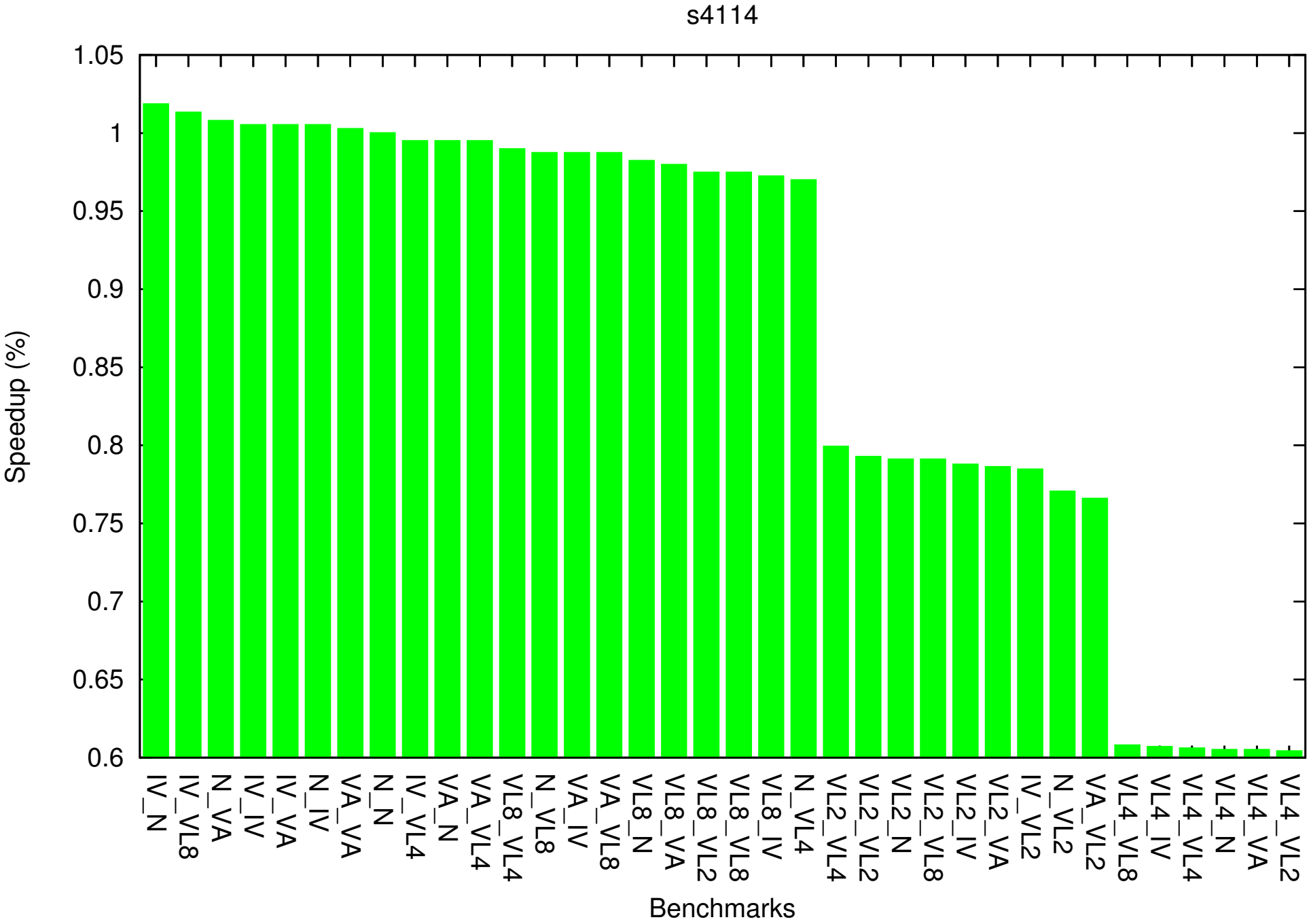

s351
Speedup (%)
Benchmarks
0
2
4
6
8
10
12
14
16
VA_VL2
IV_VL2
N_VL2
IV_VL4
VA_VL4
N_VL4
VA_IV
VA_N
IV_VA
VA_VA
N_N
N_IV
VA_VL8
IV_VL8
IV_N
IV_IV
N_VA
N_VL8
VL8_IV
VL8_VA
VL8_VL2
VL8_VL4
VL8_N
VL8_VL8
VL4_VL2
VL4_IV
VL4_N
VL4_VL8
VL4_VA
VL4_VL4
VL2_VL8
VL2_VL2
VL2_N
VL2_VA
VL2_IV
VL2_VL4

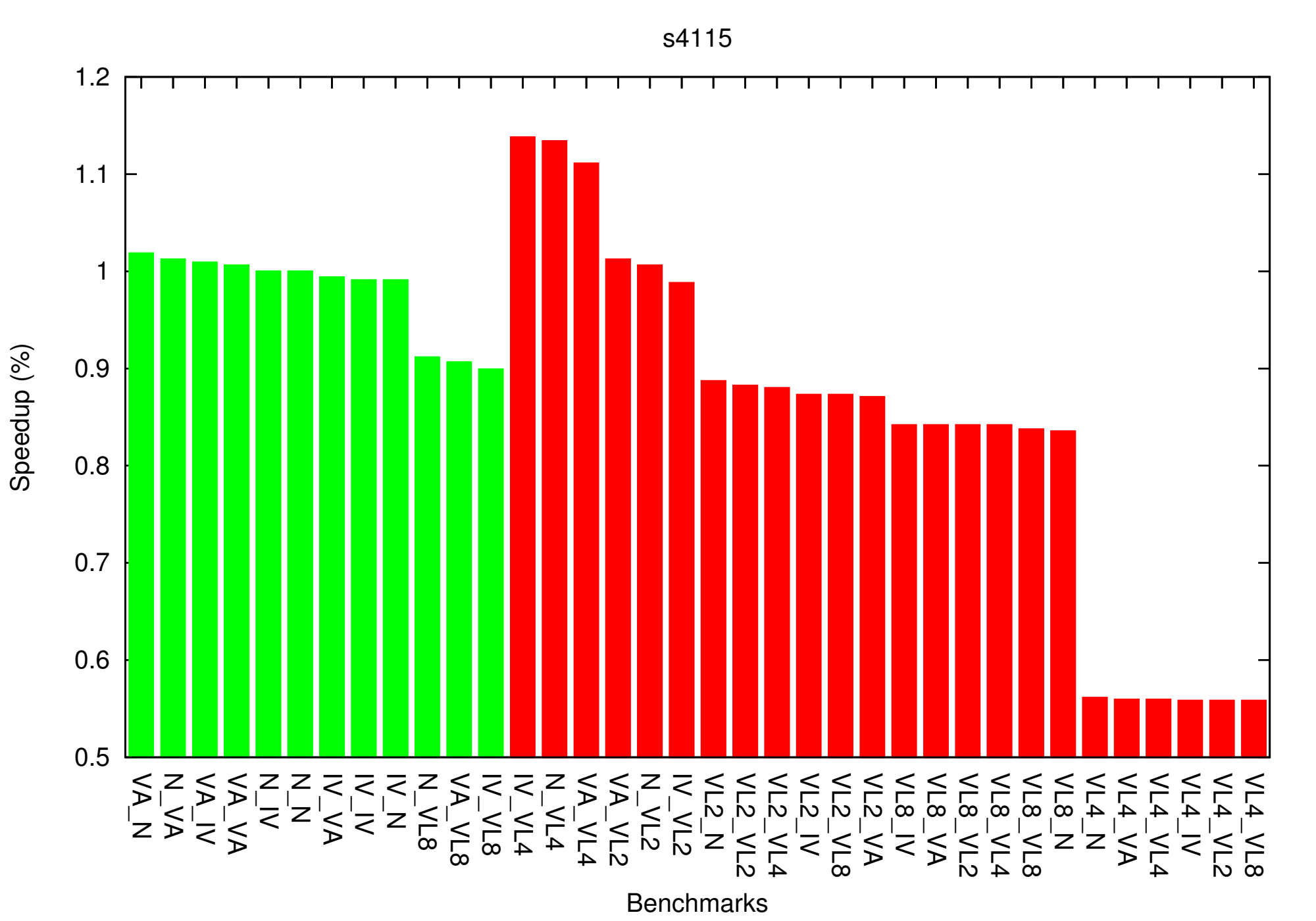

s352
Speedup (%)
0
2
4
6
8
10
12
14
16
18
20
N_N
IV_VA
IV_VL8
IV_N
VA_VA
N_IV
N_VA
VA_N
VA_VL8
VA_IV
IV_IV
N_VL8
VL8_VL8
VL8_IV
VL8_VA
VL8_N
VL8_VL2
VL8_VL4
VL4_VL2
VL4_IV
VL4_VL8
VL4_VL4
VL4_N
VL4_VA
VL2_N
VL2_IV
VL2_VL2
VL2_VA
VL2_VL8
VL2_VL4
VA_VL2
N_VL2
IV_VL2
N_VL4
IV_VL4
VA_VL4
Benchmarks

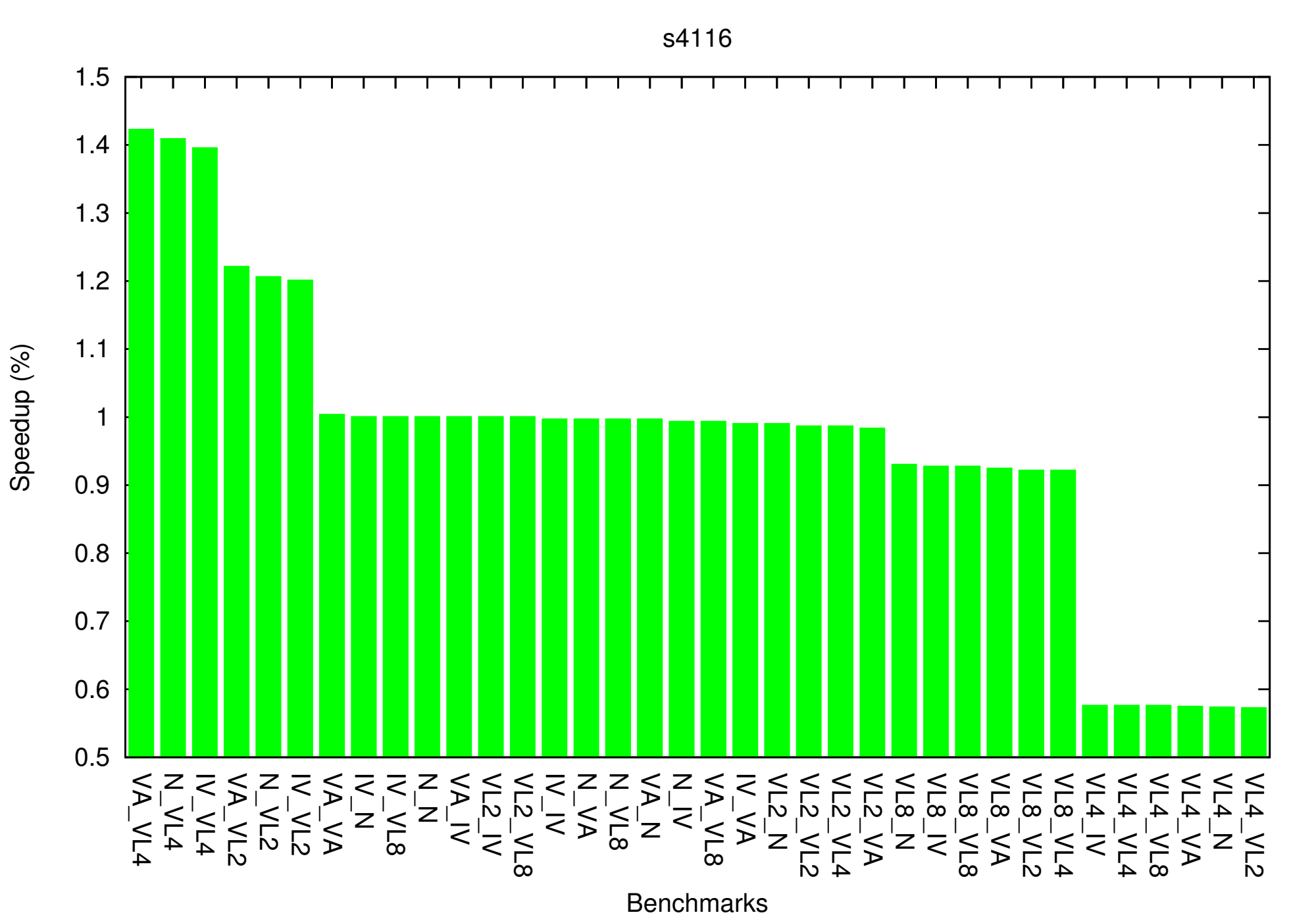

s353
Speedup (%)
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
IV_VL2
VA_VL2
N_VL2
IV_VL4
N_VL4
VA_VL4
N_N
IV_IV
N_VA
VA_IV
IV_N
N_IV
IV_VA
IV_VL8
VA_N
N_VL8
VA_VA
VA_VL8
VL8_IV
VL8_VA
VL8_VL8
VL8_VL4
VL8_N
VL8_VL2
VL2_VL8
VL2_IV
VL2_N
VL2_VL4
VL2_VL2
VL2_VA
VL4_VL4
VL4_VL2
VL4_VA
VL4_VL8
VL4_IV
VL4_N
Benchmarks

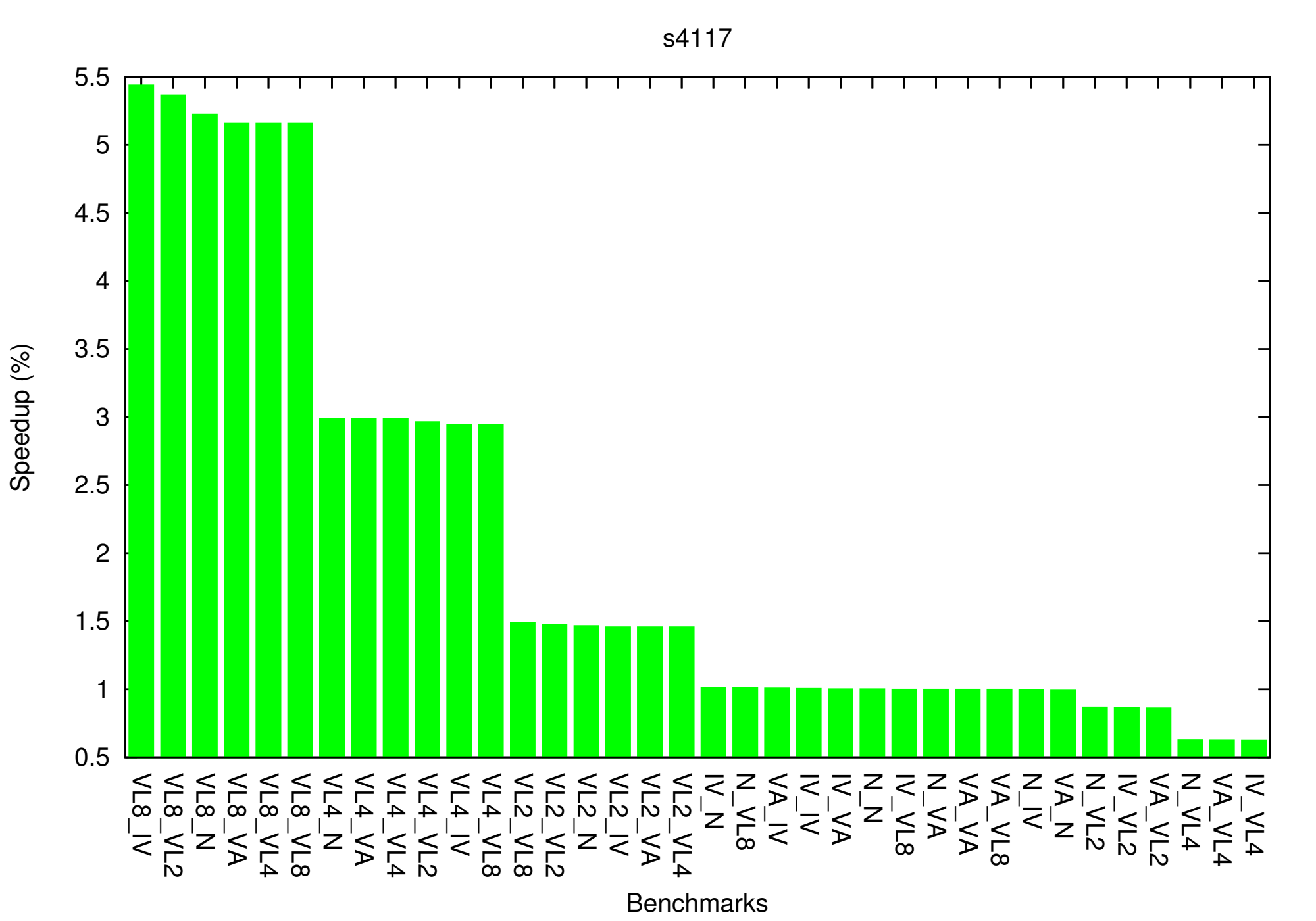

s4112
Speedup (%)
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
N_VL4
VA_VL4
IV_VL4
N_VL8
VA_IV
IV_IV
VA_VA
VA_VL8
IV_N
N_IV
N_VA
VA_N
IV_VA
IV_VL8
N_N
VA_VL2
N_VL2
IV_VL2
VL8_VL8
VL8_VL4
VL8_VA
VL8_VL2
VL8_N
VL8_IV
VL2_VL2
VL2_IV
VL2_N
VL2_VA
VL2_VL4
VL2_VL8
VL4_VL8
VL4_IV
VL4_N
VL4_VL2
VL4_VA
VL4_VL4
Benchmarks

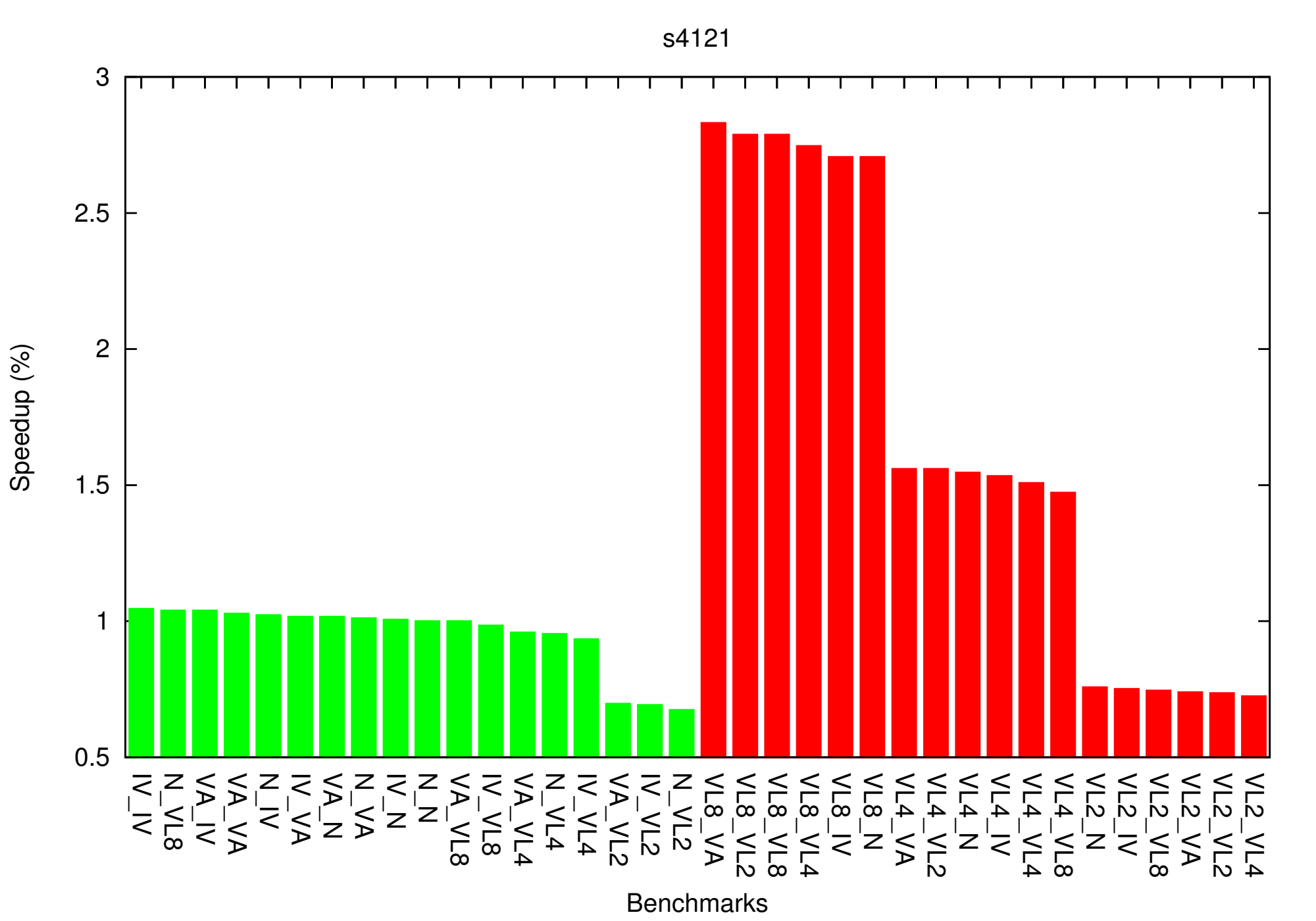

s4113
Speedup (%)
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
IV_VA
IV_VL4
N_VA
VA_VL4
IV_N
VA_VA
IV_IV
VA_IV
N_N
VA_N
N_IV
IV_VL2
N_VL2
VA_VL2
VL2_VL2
VL2_IV
VL2_N
VL2_VL4
VL2_VL8
VL2_VA
N_VL4
VA_VL8
VL8_VL8
IV_VL8
N_VL8
VL8_VL2
VL8_N
VL8_IV
VL8_VA
VL8_VL4
VL4_IV
VL4_N
VL4_VL2
VL4_VA
VL4_VL4
VL4_VL8
Benchmarks

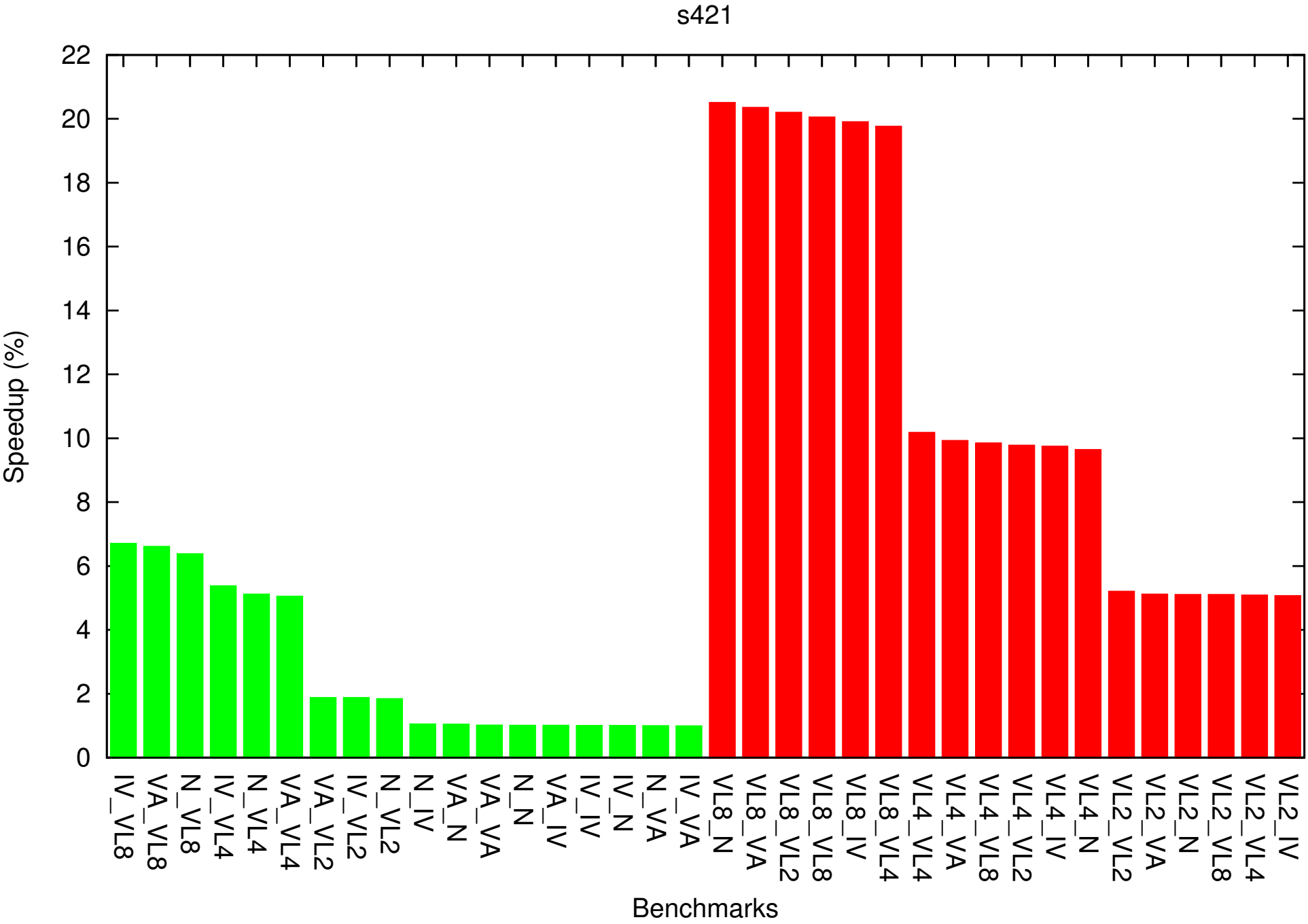

s4114
Speedup (%)
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
IV_N
IV_VL8
N_VA
IV_IV
IV_VA
N_IV
VA_VA
N_N
IV_VL4
VA_N
VA_VL4
VL8_VL4
N_VL8
VA_IV
VA_VL8
VL8_N
VL8_VA
VL8_VL2
VL8_VL8
VL8_IV
N_VL4
VL2_VL4
VL2_VL2
VL2_N
VL2_VL8
VL2_IV
VL2_VA
IV_VL2
N_VL2
VA_VL2
VL4_VL8
VL4_IV
VL4_VL4
VL4_N
VL4_VA
VL4_VL2
Benchmarks

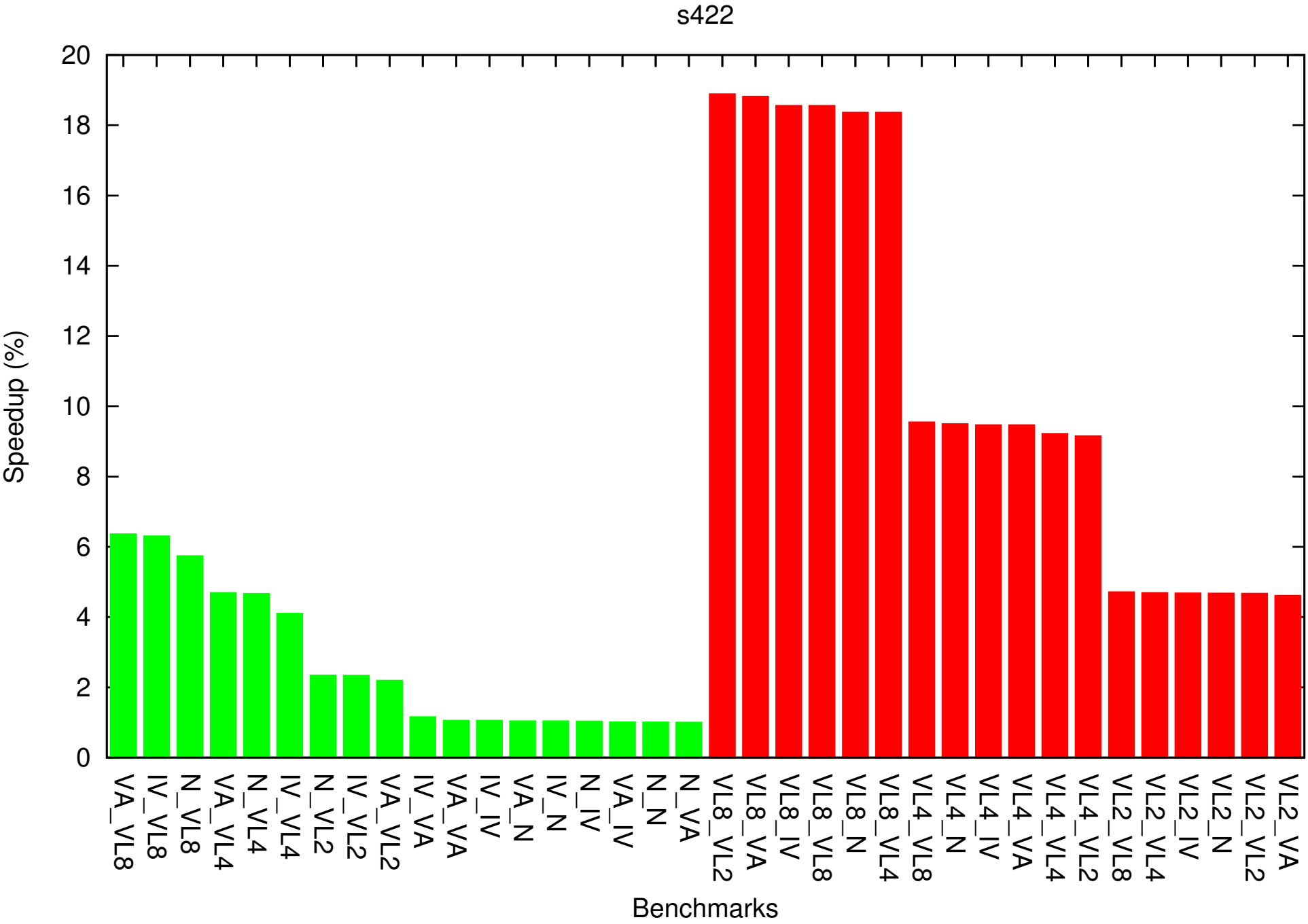

s4115
Speedup (%)
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
VA_N
N_VA
VA_IV
VA_VA
N_IV
N_N
IV_VA
IV_IV
IV_N
N_VL8
VA_VL8
IV_VL8
IV_VL4
N_VL4
VA_VL4
VA_VL2
N_VL2
IV_VL2
VL2_N
VL2_VL2
VL2_VL4
VL2_IV
VL2_VL8
VL2_VA
VL8_IV
VL8_VA
VL8_VL2
VL8_VL4
VL8_VL8
VL8_N
VL4_N
VL4_VA
VL4_VL4
VL4_IV
VL4_VL2
VL4_VL8
Benchmarks

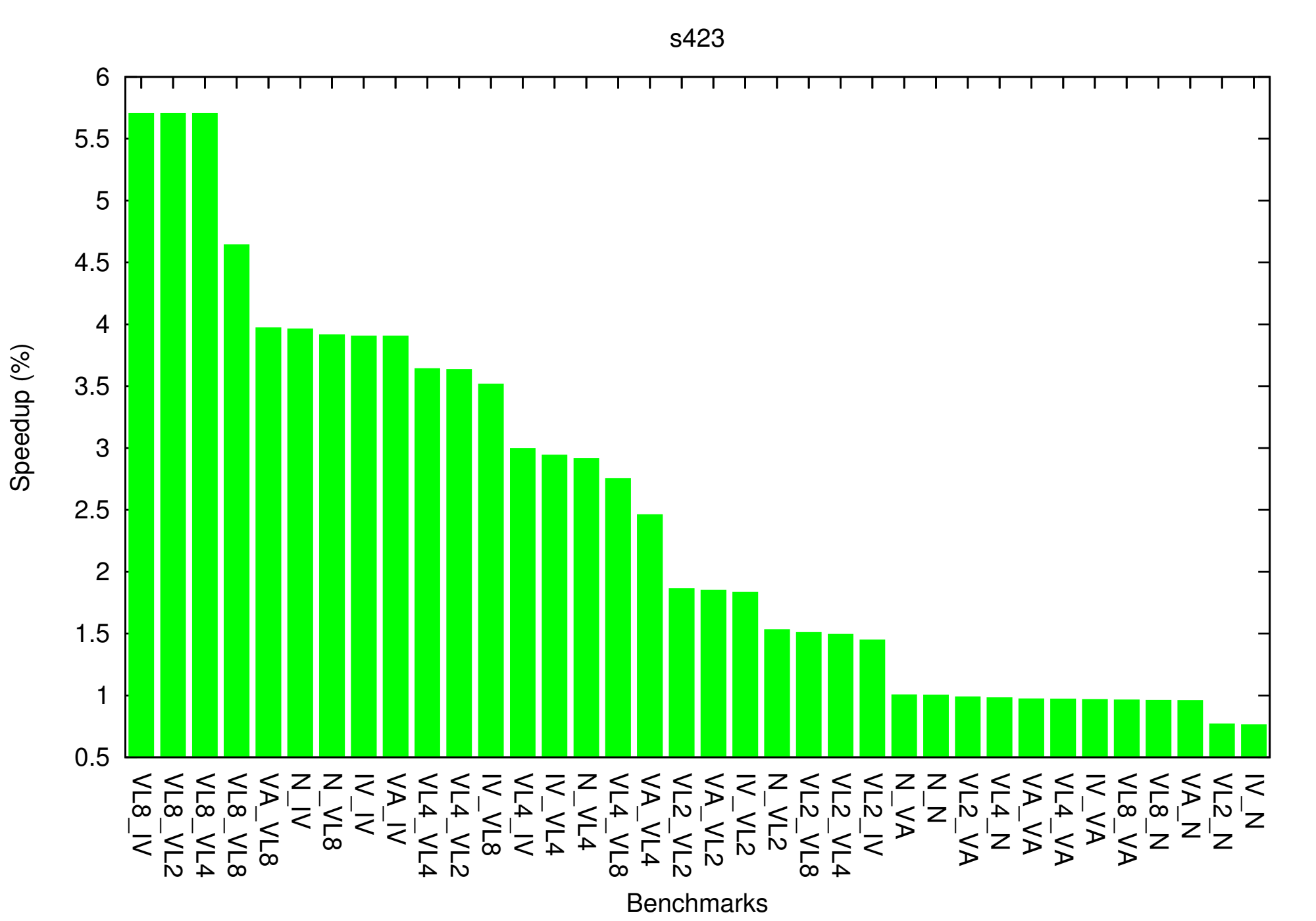

s4116
Speedup (%)
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
VA_VL4
N_VL4
IV_VL4
VA_VL2
N_VL2
IV_VL2
VA_VA
IV_N
IV_VL8
N_N
VA_IV
VL2_IV
VL2_VL8
IV_IV
N_VA
N_VL8
VA_N
N_IV
VA_VL8
IV_VA
VL2_N
VL2_VL2
VL2_VL4
VL2_VA
VL8_N
VL8_IV
VL8_VL8
VL8_VA
VL8_VL2
VL8_VL4
VL4_IV
VL4_VL4
VL4_VL8
VL4_VA
VL4_N
VL4_VL2
Benchmarks

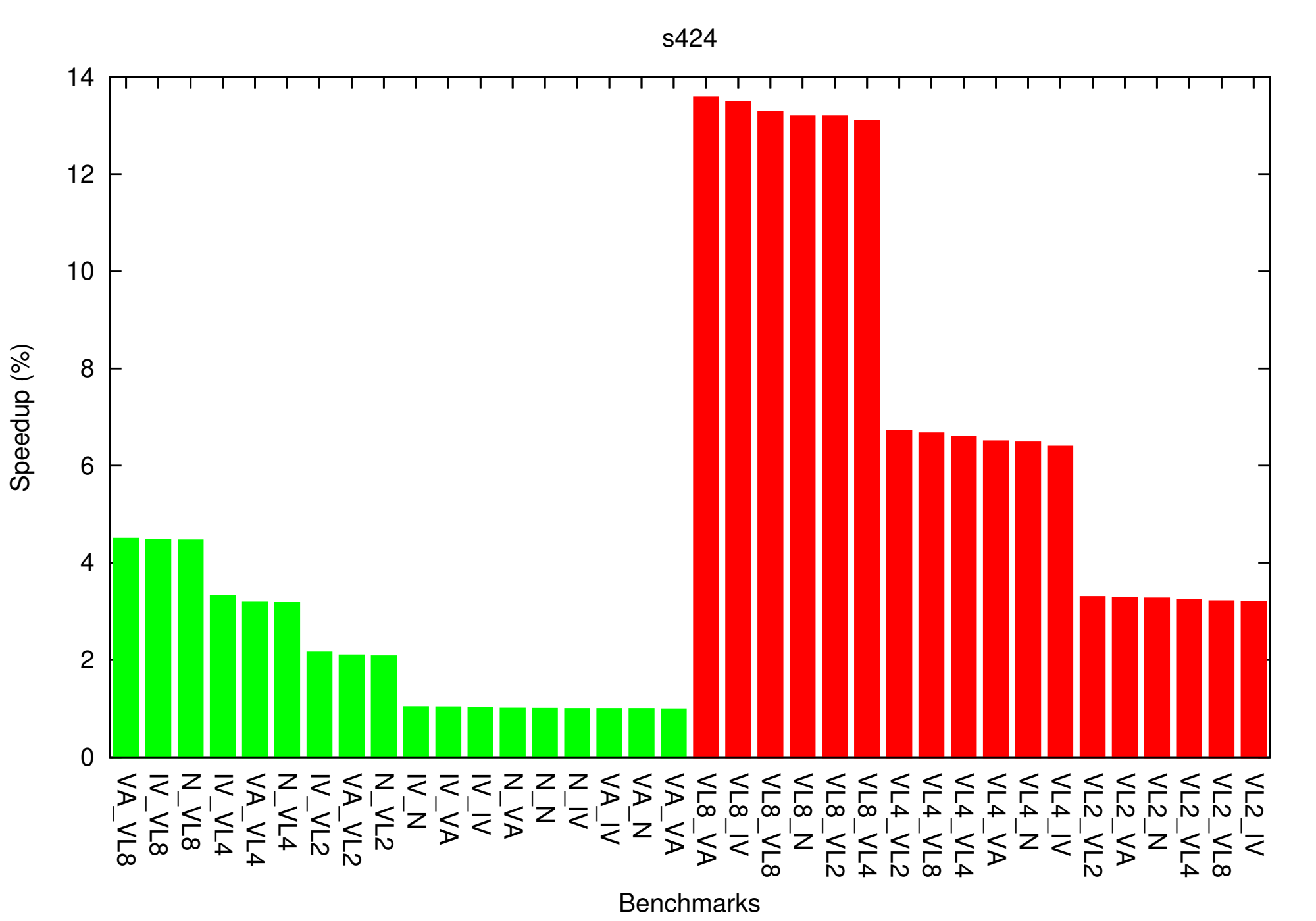

s4117
Speedup (%)
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
VL8_IV
VL8_VL2
VL8_N
VL8_VA
VL8_VL4
VL8_VL8
VL4_N
VL4_VA
VL4_VL4
VL4_VL2
VL4_IV
VL4_VL8
VL2_VL8
VL2_VL2
VL2_N
VL2_IV
VL2_VA
VL2_VL4
IV_N
N_VL8
VA_IV
IV_IV
IV_VA
N_N
IV_VL8
N_VA
VA_VA
VA_VL8
N_IV
VA_N
N_VL2
IV_VL2
VA_VL2
N_VL4
VA_VL4
IV_VL4
Benchmarks

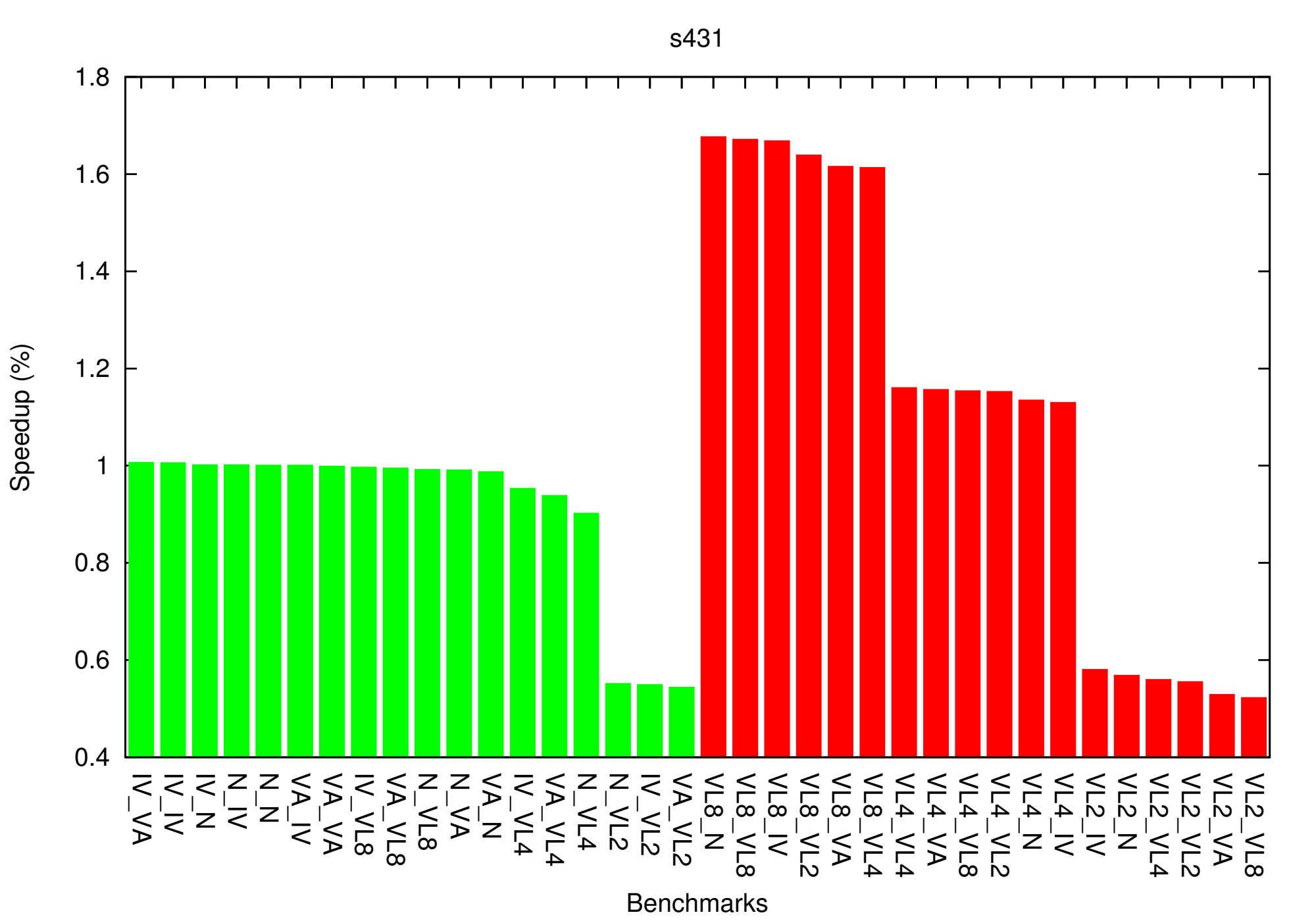

s4121
Speedup (%)
3
2.5
2
1.5
1
0.5
IV_IV
N_VL8
VA_IV
VA_VA
N_IV
IV_VA
VA_N
N_VA
IV_N
N_N
VA_VL8
IV_VL8
VA_VL4
N_VL4
IV_VL4
VA_VL2
IV_VL2
N_VL2
VL8_VA
VL8_VL2
VL8_VL8
VL8_VL4
VL8_IV
VL8_N
VL4_VA
VL4_VL2
VL4_N
VL4_IV
VL4_VL4
VL4_VL8
VL2_N
VL2_IV
VL2_VL8
VL2_VA
VL2_VL2
VL2_VL4
Benchmarks

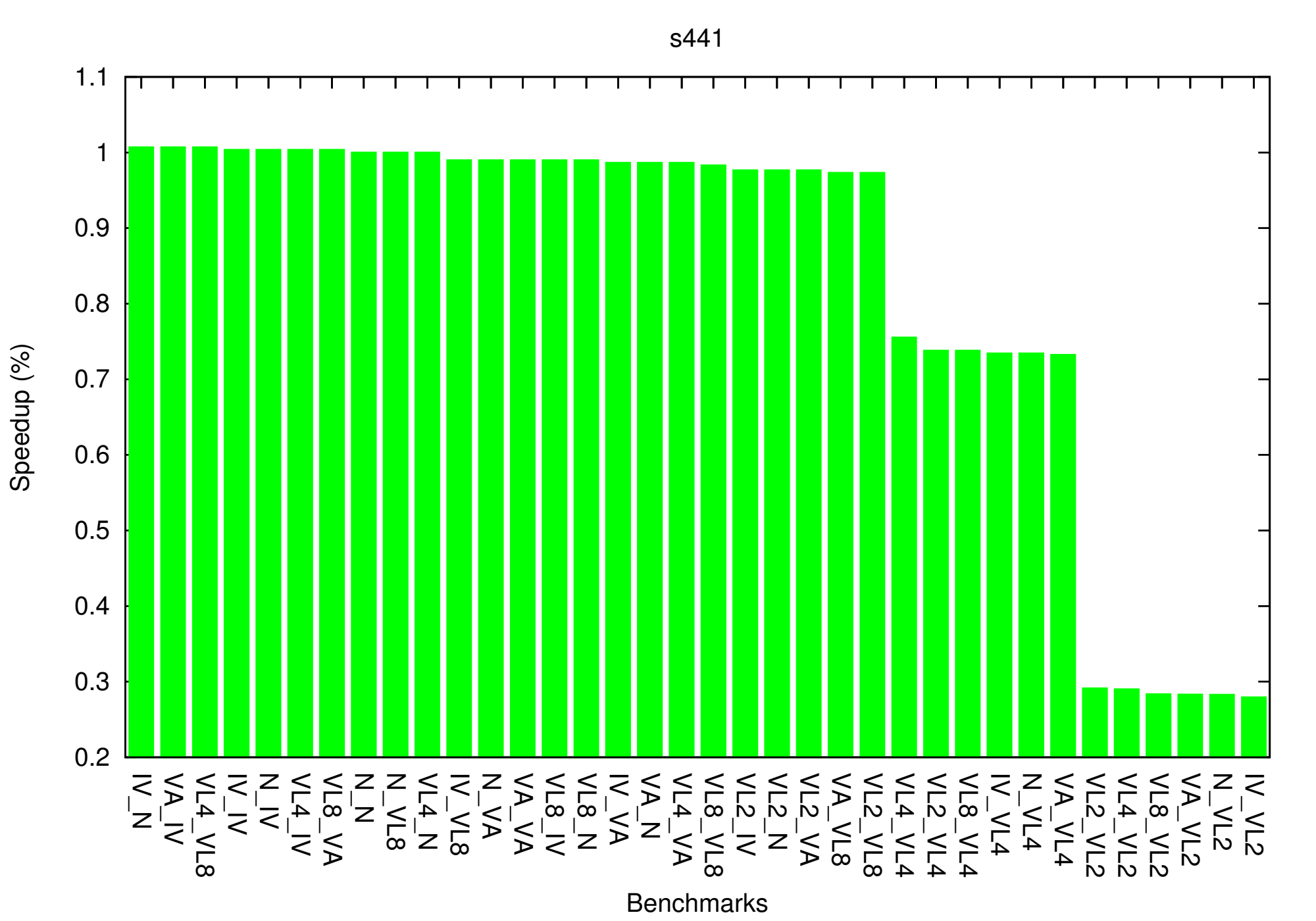

s421
Speedup (%)
Benchmarks
0
2
4
6
8
10
12
14
16
18
20
22
IV_VL8
VA_VL8
N_VL8
IV_VL4
N_VL4
VA_VL4
VA_VL2
IV_VL2
N_VL2
N_IV
VA_N
VA_VA
N_N
VA_IV
IV_IV
IV_N
N_VA
IV_VA
VL8_N
VL8_VA
VL8_VL2
VL8_VL8
VL8_IV
VL8_VL4
VL4_VL4
VL4_VA
VL4_VL8
VL4_VL2
VL4_IV
VL4_N
VL2_VL2
VL2_VA
VL2_N
VL2_VL8
VL2_VL4
VL2_IV

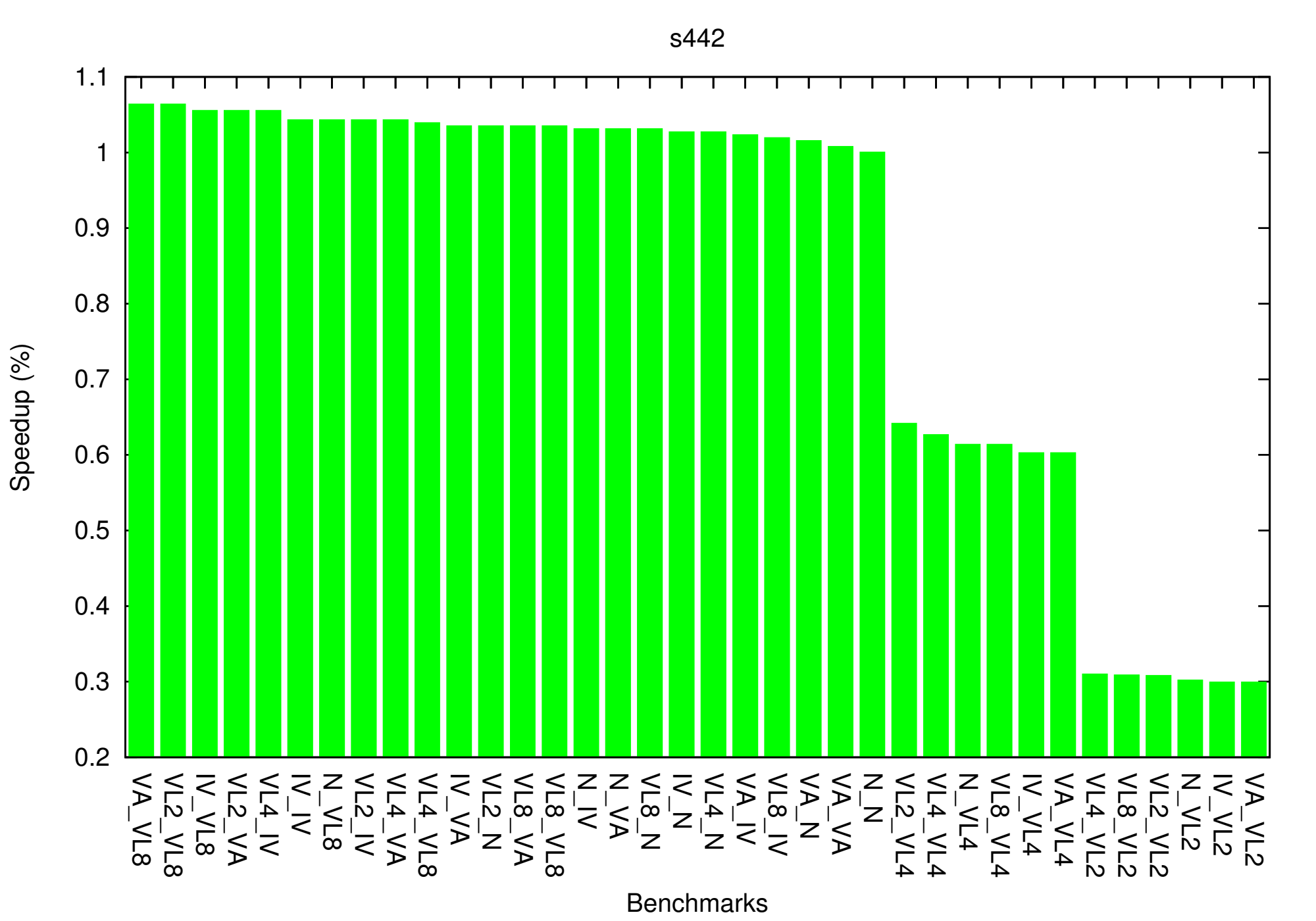

s422
Speedup (%)
Benchmarks
0
2
4
6
8
10
12
14
16
18
20
VA_VL8
IV_VL8
N_VL8
VA_VL4
N_VL4
IV_VL4
N_VL2
IV_VL2
VA_VL2
IV_VA
VA_VA
IV_IV
VA_N
IV_N
N_IV
VA_IV
N_N
N_VA
VL8_VL2
VL8_VA
VL8_IV
VL8_VL8
VL8_N
VL8_VL4
VL4_VL8
VL4_N
VL4_IV
VL4_VA
VL4_VL4
VL4_VL2
VL2_VL8
VL2_VL4
VL2_IV
VL2_N
VL2_VL2
VL2_VA

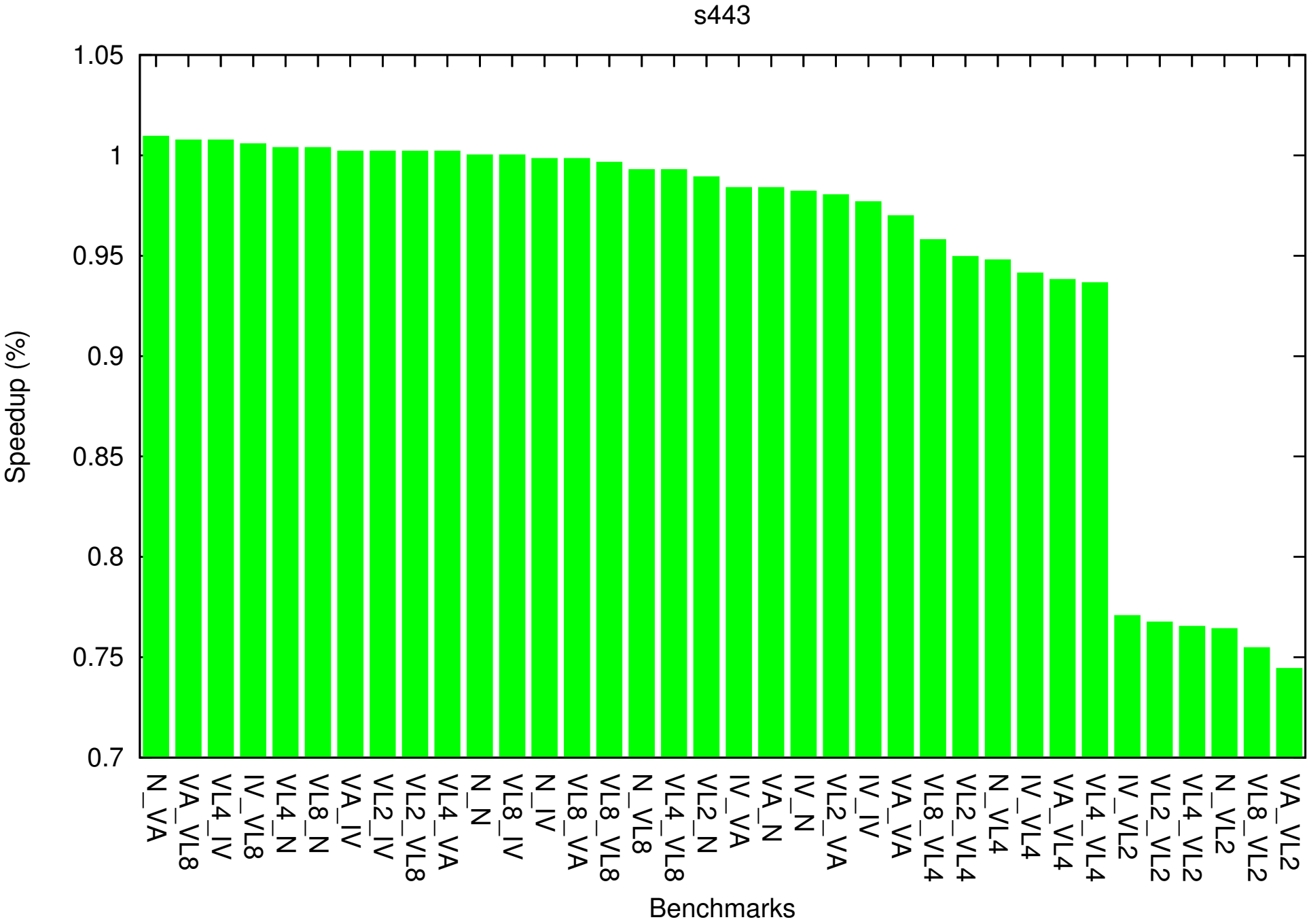

s423
Speedup (%)
6
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
VL8_IV
VL8_VL2
VL8_VL4
VL8_VL8
VA_VL8
N_IV
N_VL8
IV_IV
VA_IV
VL4_VL4
VL4_VL2
IV_VL8
VL4_IV
IV_VL4
N_VL4
VL4_VL8
VA_VL4
VL2_VL2
VA_VL2
IV_VL2
N_VL2
VL2_VL8
VL2_VL4
VL2_IV
N_VA
N_N
VL2_VA
VL4_N
VA_VA
VL4_VA
IV_VA
VL8_VA
VL8_N
VA_N
VL2_N
IV_N
Benchmarks

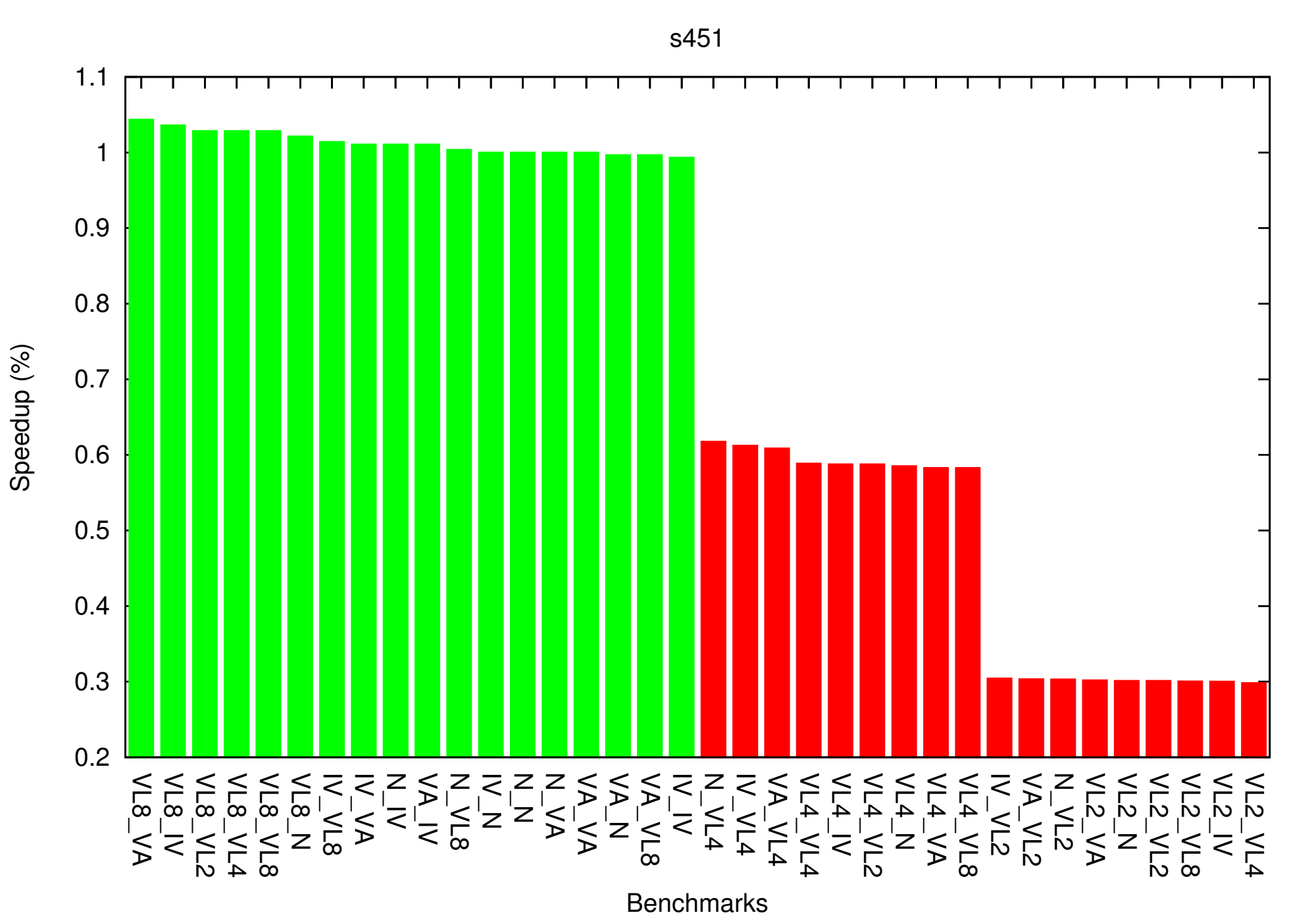

s424
Speedup (%)
0
2
4
6
8
10
12
14
VA_VL8
IV_VL8
N_VL8
IV_VL4
VA_VL4
N_VL4
IV_VL2
VA_VL2
N_VL2
IV_N
IV_VA
IV_IV
N_VA
N_N
N_IV
VA_IV
VA_N
VA_VA
VL8_VA
VL8_IV
VL8_VL8
VL8_N
VL8_VL2
VL8_VL4
VL4_VL2
VL4_VL8
VL4_VL4
VL4_VA
VL4_N
VL4_IV
VL2_VL2
VL2_VA
VL2_N
VL2_VL4
VL2_VL8
VL2_IV
Benchmarks

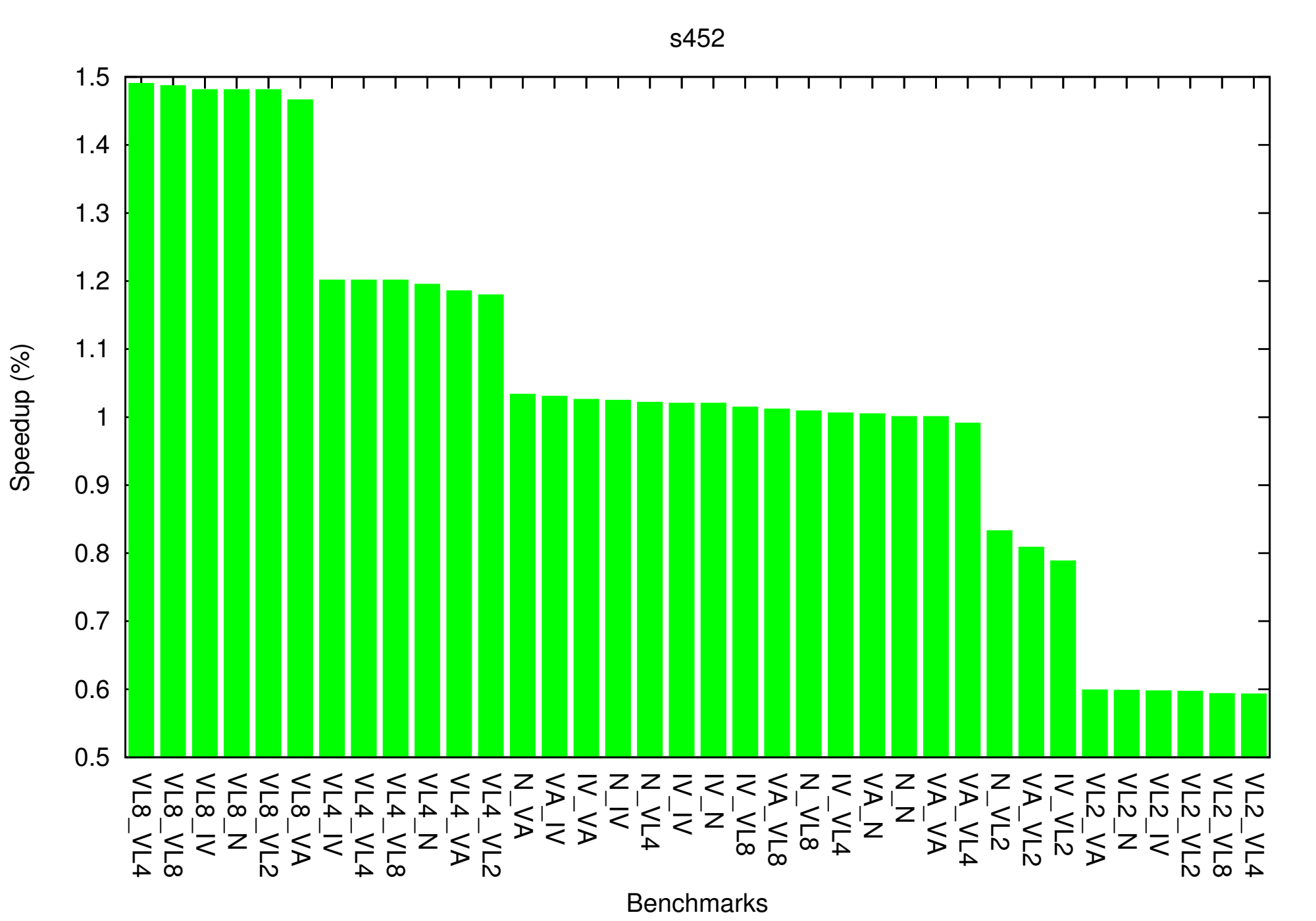

s431
Speedup (%)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
IV_VA
IV_IV
IV_N
N_IV
N_N
VA_IV
VA_VA
IV_VL8
VA_VL8
N_VL8
N_VA
VA_N
IV_VL4
VA_VL4
N_VL4
N_VL2
IV_VL2
VA_VL2
VL8_N
VL8_VL8
VL8_IV
VL8_VL2
VL8_VA
VL8_VL4
VL4_VL4
VL4_VA
VL4_VL8
VL4_VL2
VL4_N
VL4_IV
VL2_IV
VL2_N
VL2_VL4
VL2_VL2
VL2_VA
VL2_VL8
Benchmarks

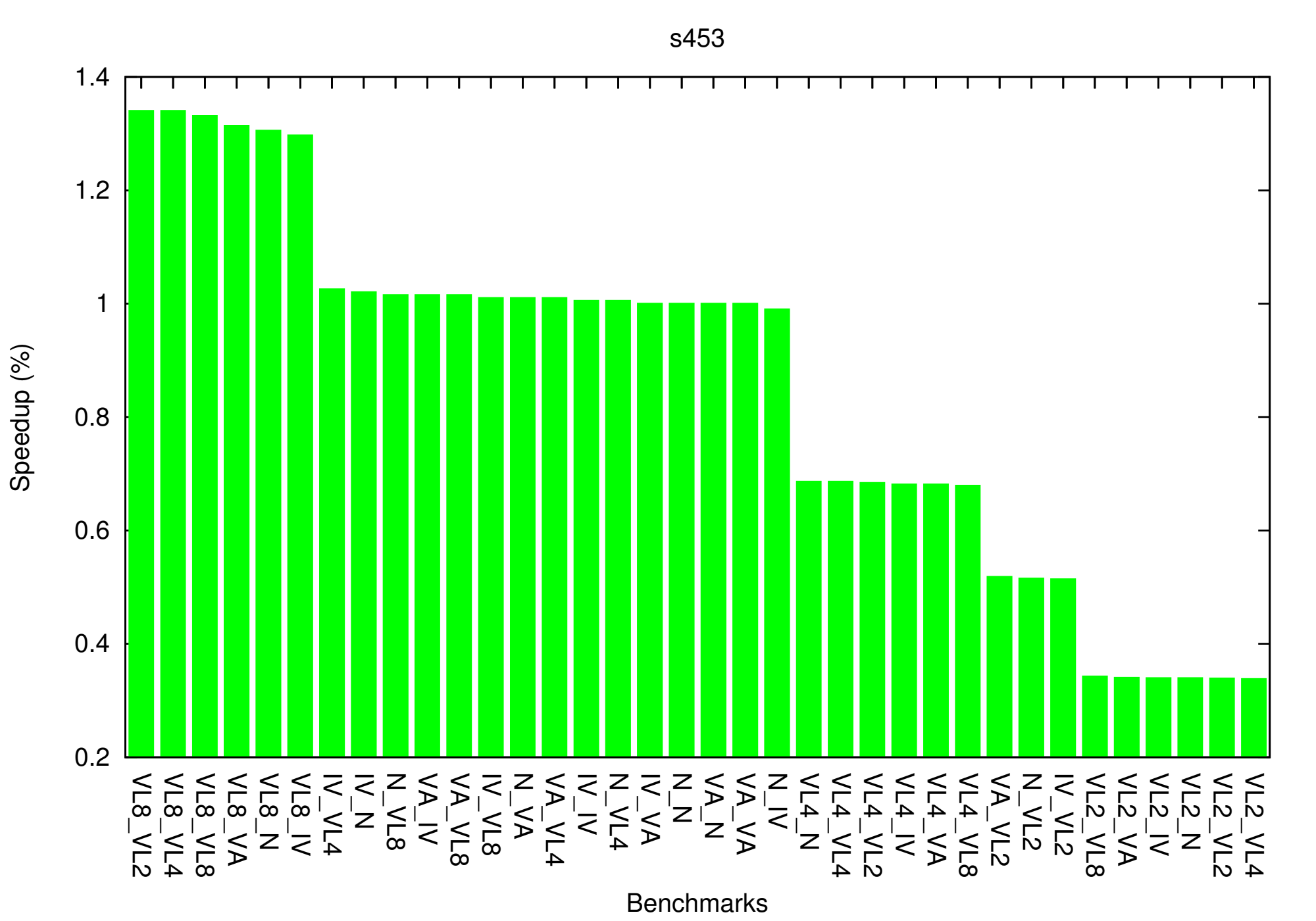

s441
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
IV_N
VA_IV
VL4_VL8
IV_IV
N_IV
VL4_IV
VL8_VA
N_N
N_VL8
VL4_N
IV_VL8
N_VA
VA_VA
VL8_IV
VL8_N
IV_VA
VA_N
VL4_VA
VL8_VL8
VL2_IV
VL2_N
VL2_VA
VA_VL8
VL2_VL8
VL4_VL4
VL2_VL4
VL8_VL4
IV_VL4
N_VL4
VA_VL4
VL2_VL2
VL4_VL2
VL8_VL2
VA_VL2
N_VL2
IV_VL2
Benchmarks

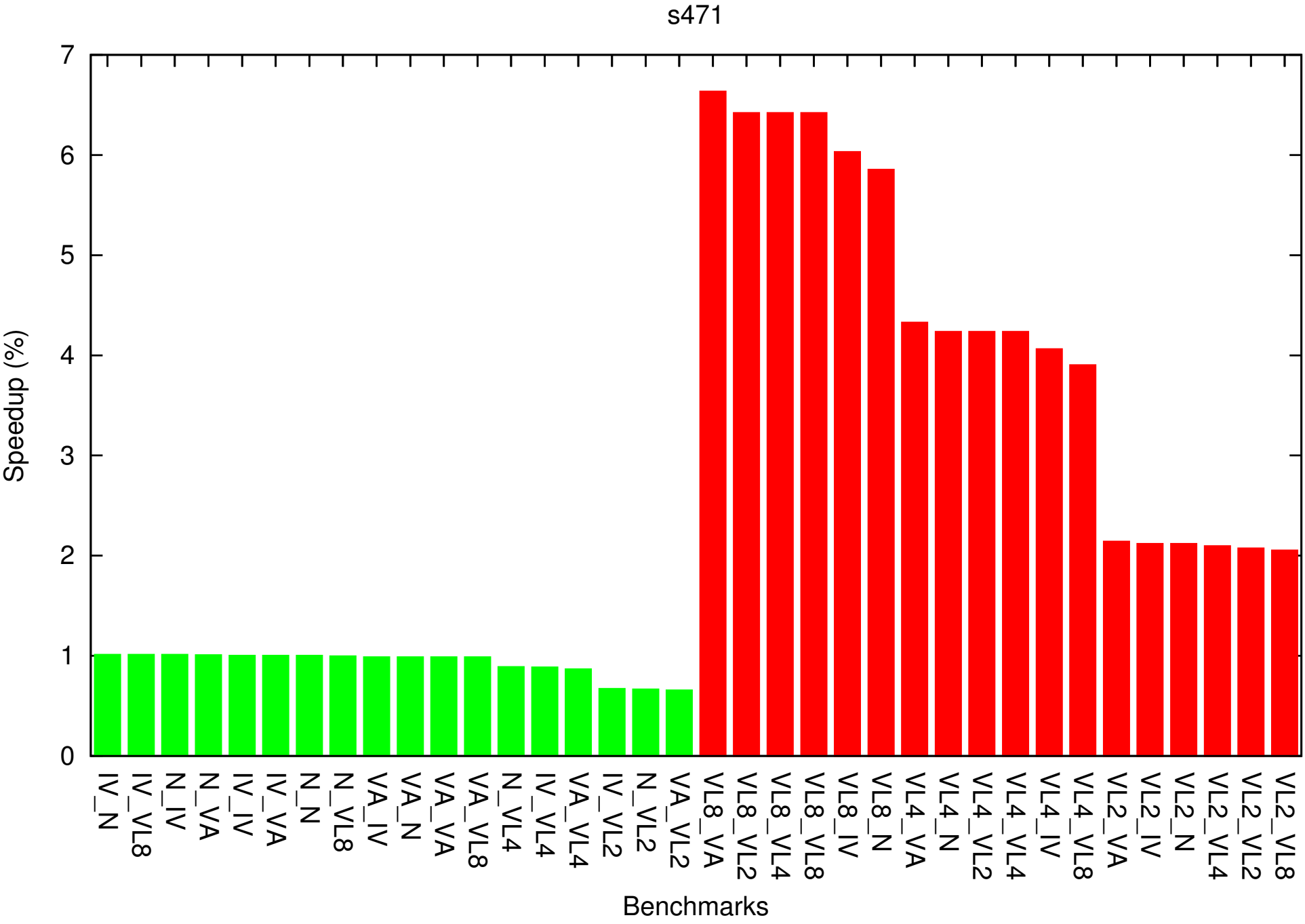

s442
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
VA_VL8
VL2_VL8
IV_VL8
VL2_VA
VL4_IV
IV_IV
N_VL8
VL2_IV
VL4_VA
VL4_VL8
IV_VA
VL2_N
VL8_VA
VL8_VL8
N_IV
N_VA
VL8_N
IV_N
VL4_N
VA_IV
VL8_IV
VA_N
VA_VA
N_N
VL2_VL4
VL4_VL4
N_VL4
VL8_VL4
IV_VL4
VA_VL4
VL4_VL2
VL8_VL2
VL2_VL2
N_VL2
IV_VL2
VA_VL2
Benchmarks

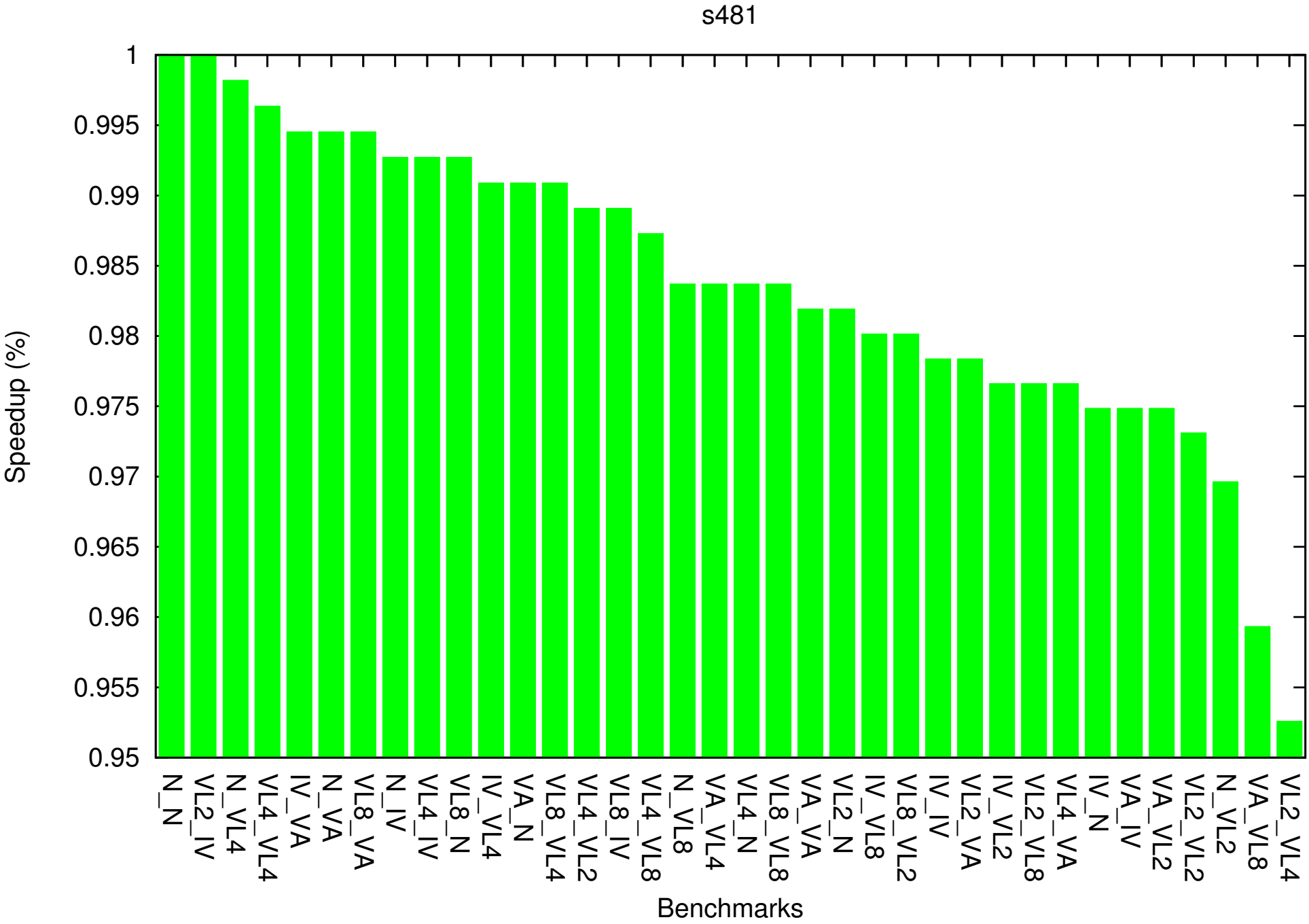

s443
Speedup (%)
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
N_VA
VA_VL8
VL4_IV
IV_VL8
VL4_N
VL8_N
VA_IV
VL2_IV
VL2_VL8
VL4_VA
N_N
VL8_IV
N_IV
VL8_VA
VL8_VL8
N_VL8
VL4_VL8
VL2_N
IV_VA
VA_N
IV_N
VL2_VA
IV_IV
VA_VA
VL8_VL4
VL2_VL4
N_VL4
IV_VL4
VA_VL4
VL4_VL4
IV_VL2
VL2_VL2
VL4_VL2
N_VL2
VL8_VL2
VA_VL2
Benchmarks

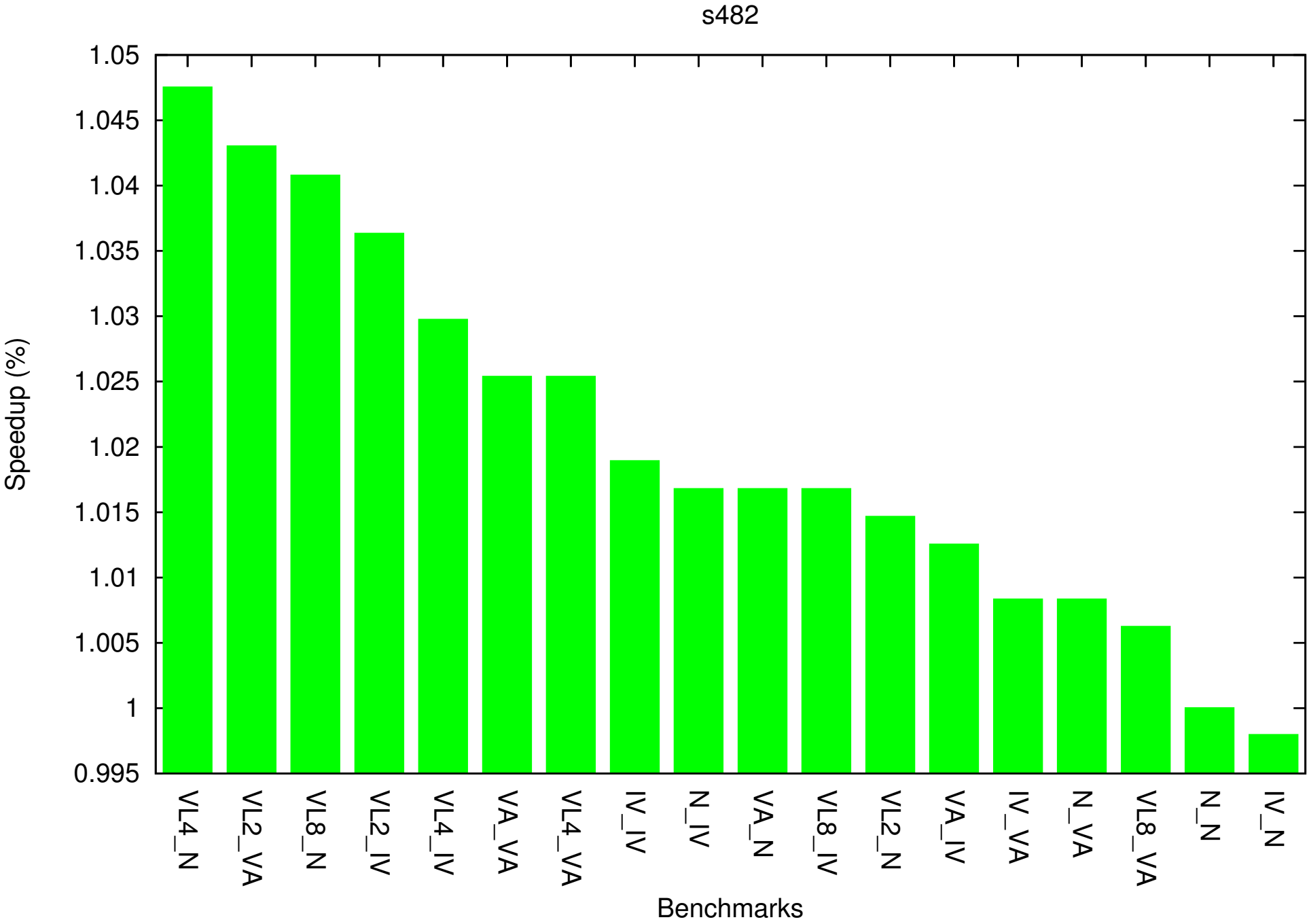

s451
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
VL8_VA
VL8_IV
VL8_VL2
VL8_VL4
VL8_VL8
VL8_N
IV_VL8
IV_VA
N_IV
VA_IV
N_VL8
IV_N
N_N
N_VA
VA_VA
VA_N
VA_VL8
IV_IV
N_VL4
IV_VL4
VA_VL4
VL4_VL4
VL4_IV
VL4_VL2
VL4_N
VL4_VA
VL4_VL8
IV_VL2
VA_VL2
N_VL2
VL2_VA
VL2_N
VL2_VL2
VL2_VL8
VL2_IV
VL2_VL4
Benchmarks

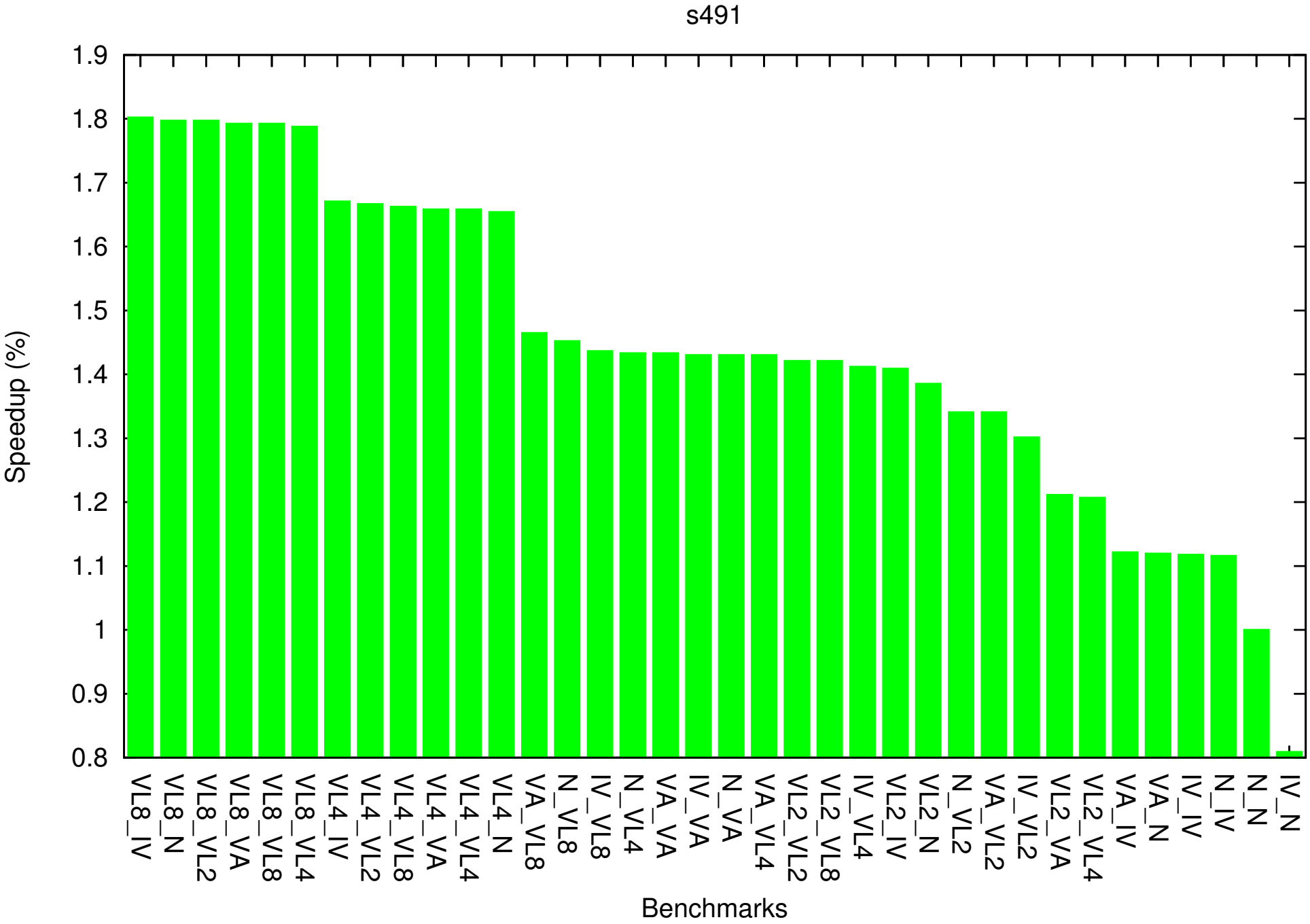

s452
Speedup (%)
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
VL8_VL4
VL8_VL8
VL8_IV
VL8_N
VL8_VL2
VL8_VA
VL4_IV
VL4_VL4
VL4_VL8
VL4_N
VL4_VA
VL4_VL2
N_VA
VA_IV
IV_VA
N_IV
N_VL4
IV_IV
IV_N
IV_VL8
VA_VL8
N_VL8
IV_VL4
VA_N
N_N
VA_VA
VA_VL4
N_VL2
VA_VL2
IV_VL2
VL2_VA
VL2_N
VL2_IV
VL2_VL2
VL2_VL8
VL2_VL4
Benchmarks

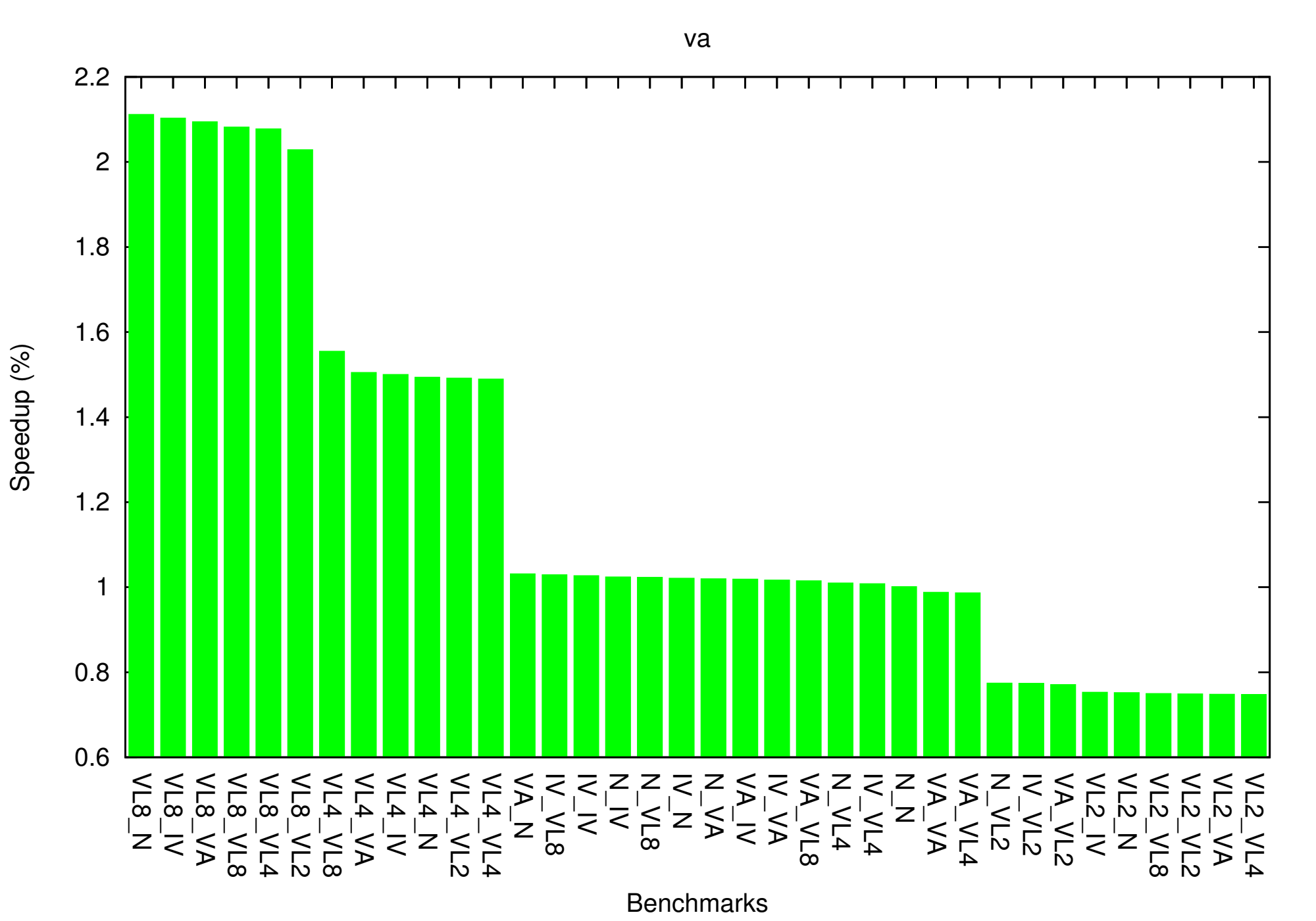

s453
Speedup (%)
1.4
1.2
1
0.8
0.6
0.4
0.2
VL8_VL2
VL8_VL4
VL8_VL8
VL8_VA
VL8_N
VL8_IV
IV_VL4
IV_N
N_VL8
VA_IV
VA_VL8
IV_VL8
N_VA
VA_VL4
IV_IV
N_VL4
IV_VA
N_N
VA_N
VA_VA
N_IV
VL4_N
VL4_VL4
VL4_VL2
VL4_IV
VL4_VA
VL4_VL8
VA_VL2
N_VL2
IV_VL2
VL2_VL8
VL2_VA
VL2_IV
VL2_N
VL2_VL2
VL2_VL4
Benchmarks

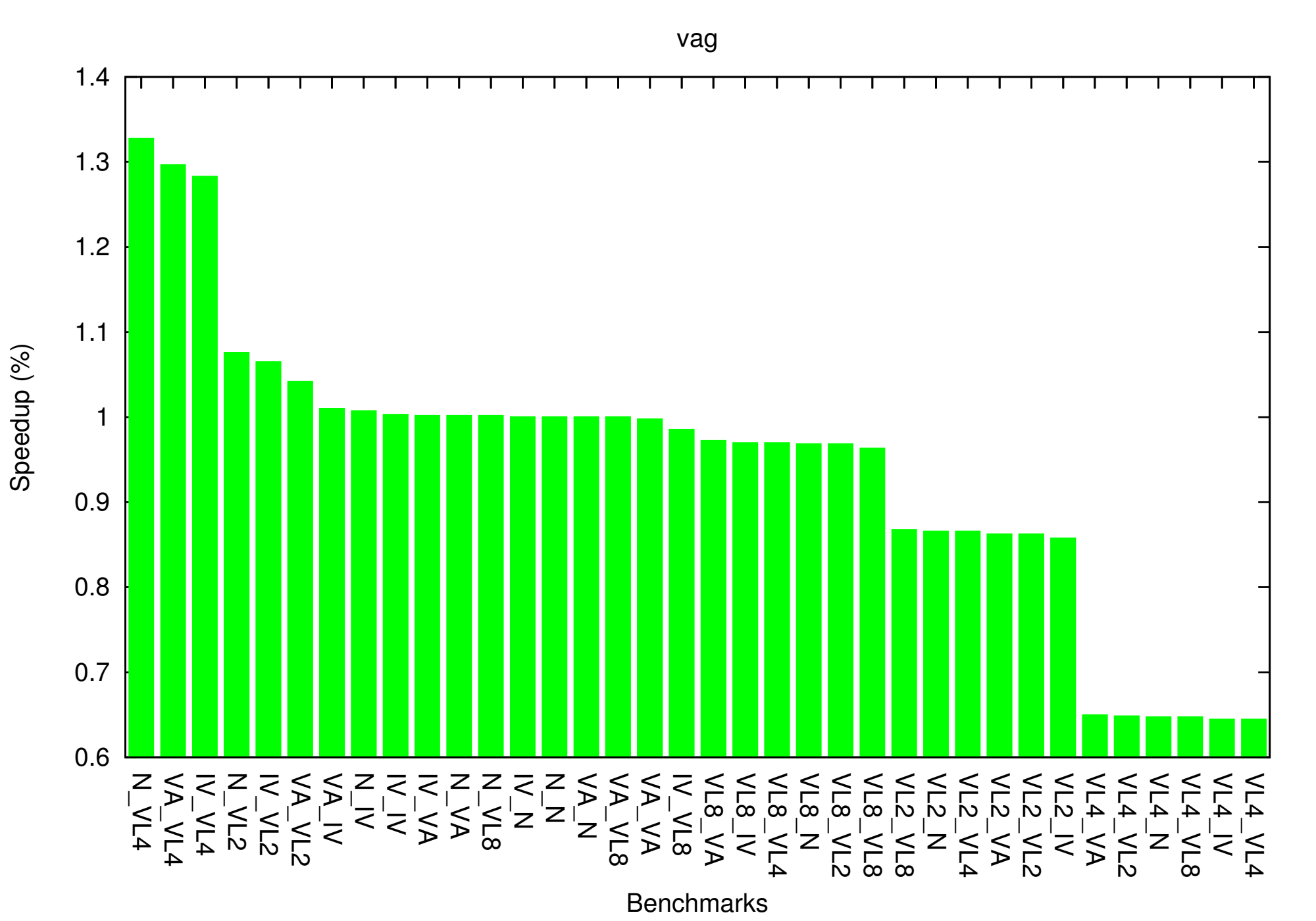

s471
Speedup (%)
0
1
2
3
4
5
6
7
IV_N
IV_VL8
N_IV
N_VA
IV_IV
IV_VA
N_N
N_VL8
VA_IV
VA_N
VA_VA
VA_VL8
N_VL4
IV_VL4
VA_VL4
IV_VL2
N_VL2
VA_VL2
VL8_VA
VL8_VL2
VL8_VL4
VL8_VL8
VL8_IV
VL8_N
VL4_VA
VL4_N
VL4_VL2
VL4_VL4
VL4_IV
VL4_VL8
VL2_VA
VL2_IV
VL2_N
VL2_VL4
VL2_VL2
VL2_VL8
Benchmarks

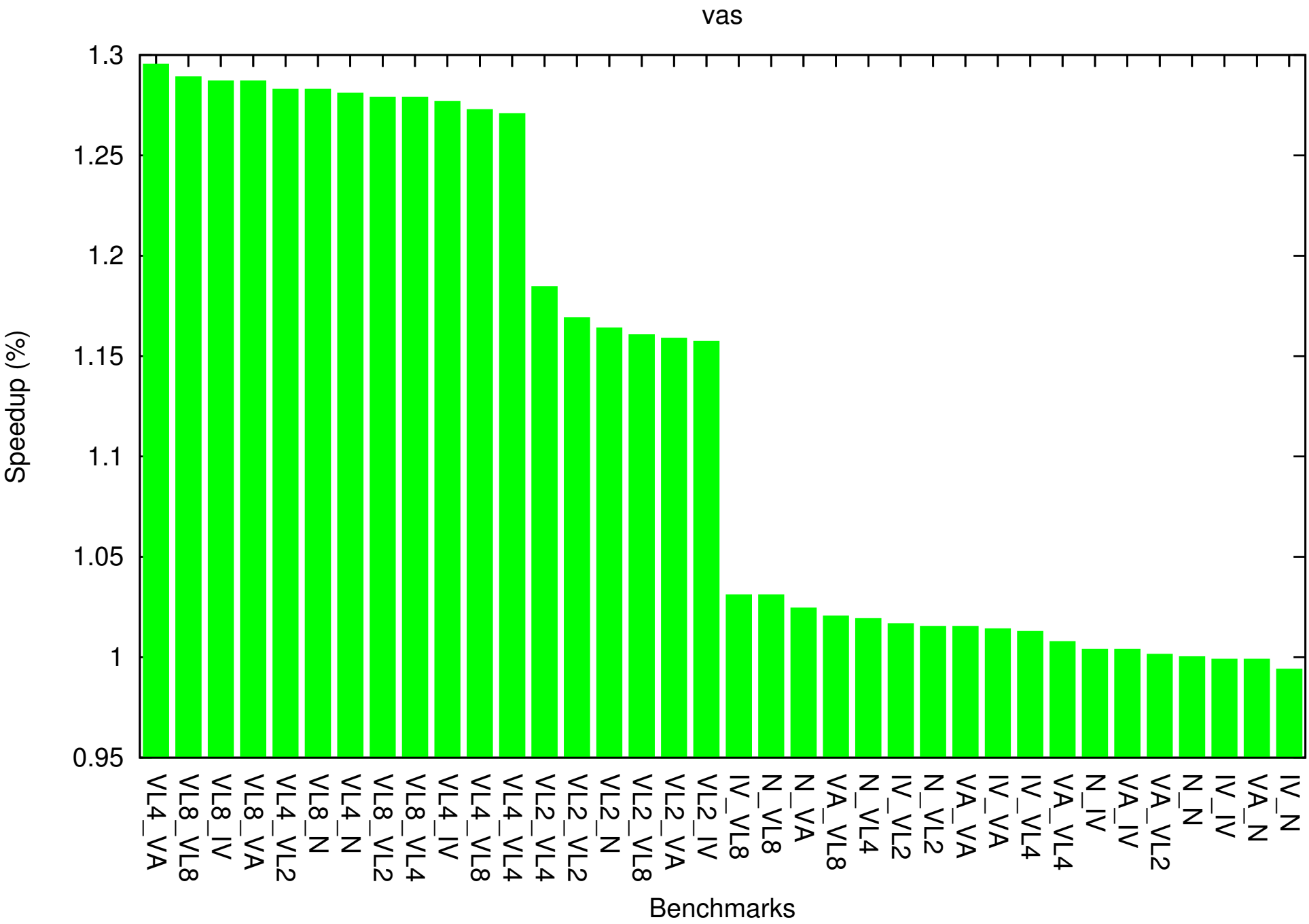

s481
Speedup (%)
1
0.995
0.99
0.985
0.98
0.975
0.97
0.965
0.96
0.955
0.95
N_N
VL2_IV
N_VL4
VL4_VL4
IV_VA
N_VA
VL8_VA
N_IV
VL4_IV
VL8_N
IV_VL4
VA_N
VL8_VL4
VL4_VL2
VL8_IV
VL4_VL8
N_VL8
VA_VL4
VL4_N
VL8_VL8
VA_VA
VL2_N
IV_VL8
VL8_VL2
VL2_VA
IV_VL2
VL2_VL8
VL4_VA
IV_N
VA_IV
VA_VL2
VL2_VL2
N_VL2
VA_VL8
VL2_VL4
Benchmarks

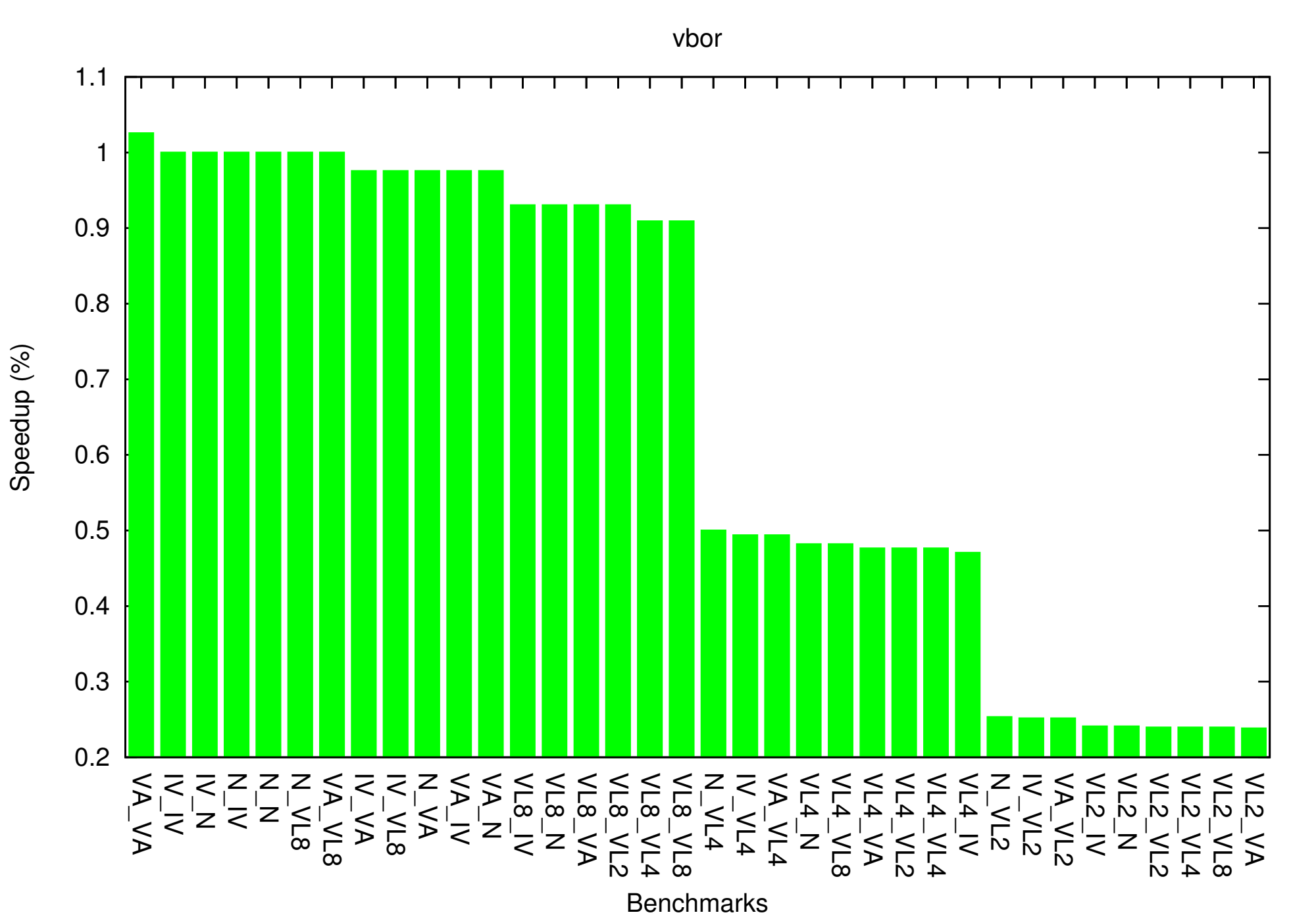

s482
Speedup (%)
1.05
1.045
1.04
1.035
1.03
1.025
1.02
1.015
1.01
1.005
1
0.995
VL4_N
VL2_VA
VL8_N
VL2_IV
VL4_IV
VA_VA
VL4_VA
IV_IV
N_IV
VA_N
VL8_IV
VL2_N
VA_IV
IV_VA
N_VA
VL8_VA
N_N
IV_N
Benchmarks

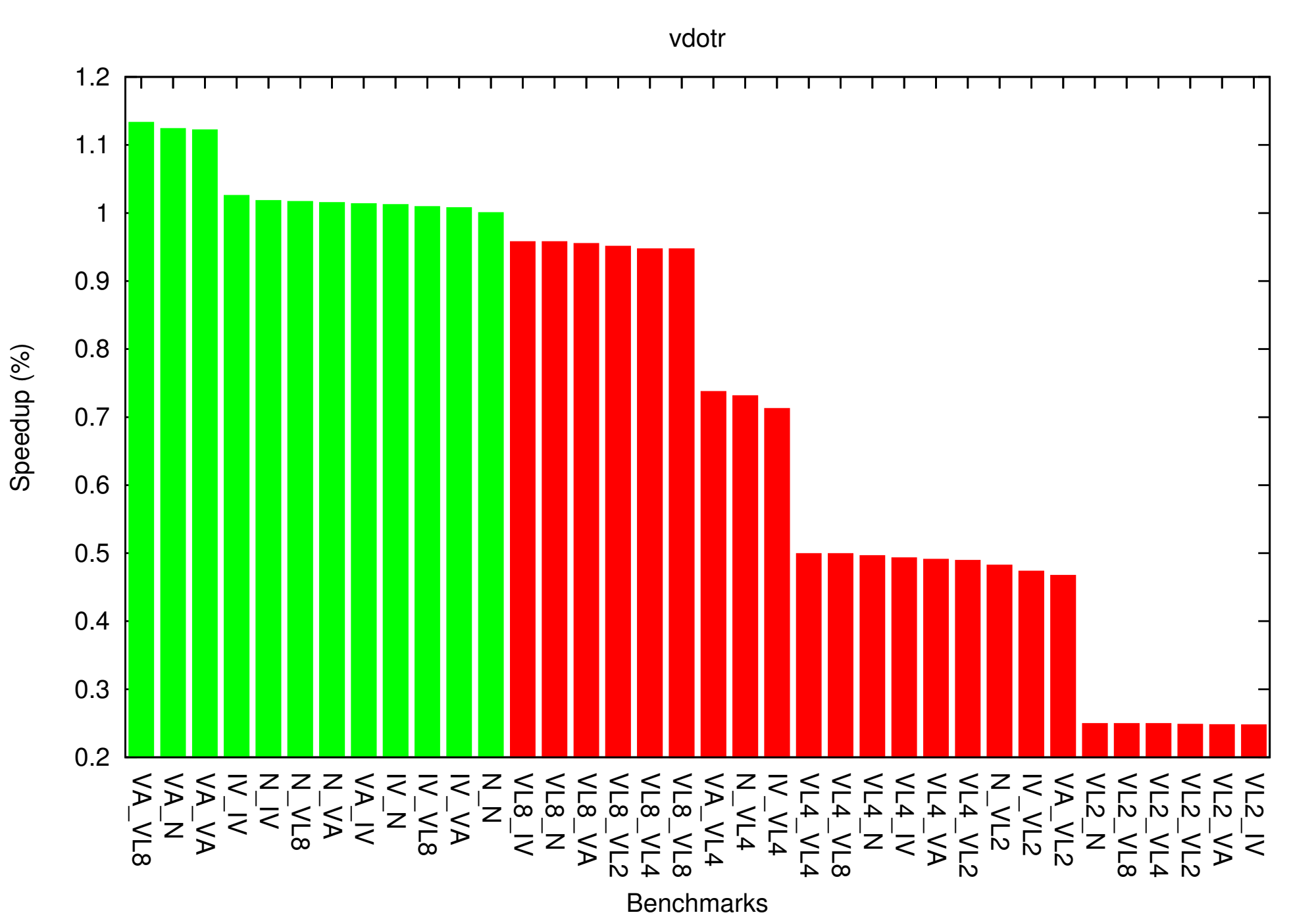

s491
Speedup (%)
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
VL8_IV
VL8_N
VL8_VL2
VL8_VA
VL8_VL8
VL8_VL4
VL4_IV
VL4_VL2
VL4_VL8
VL4_VA
VL4_VL4
VL4_N
VA_VL8
N_VL8
IV_VL8
N_VL4
VA_VA
IV_VA
N_VA
VA_VL4
VL2_VL2
VL2_VL8
IV_VL4
VL2_IV
VL2_N
N_VL2
VA_VL2
IV_VL2
VL2_VA
VL2_VL4
VA_IV
VA_N
IV_IV
N_IV
N_N
IV_N
Benchmarks

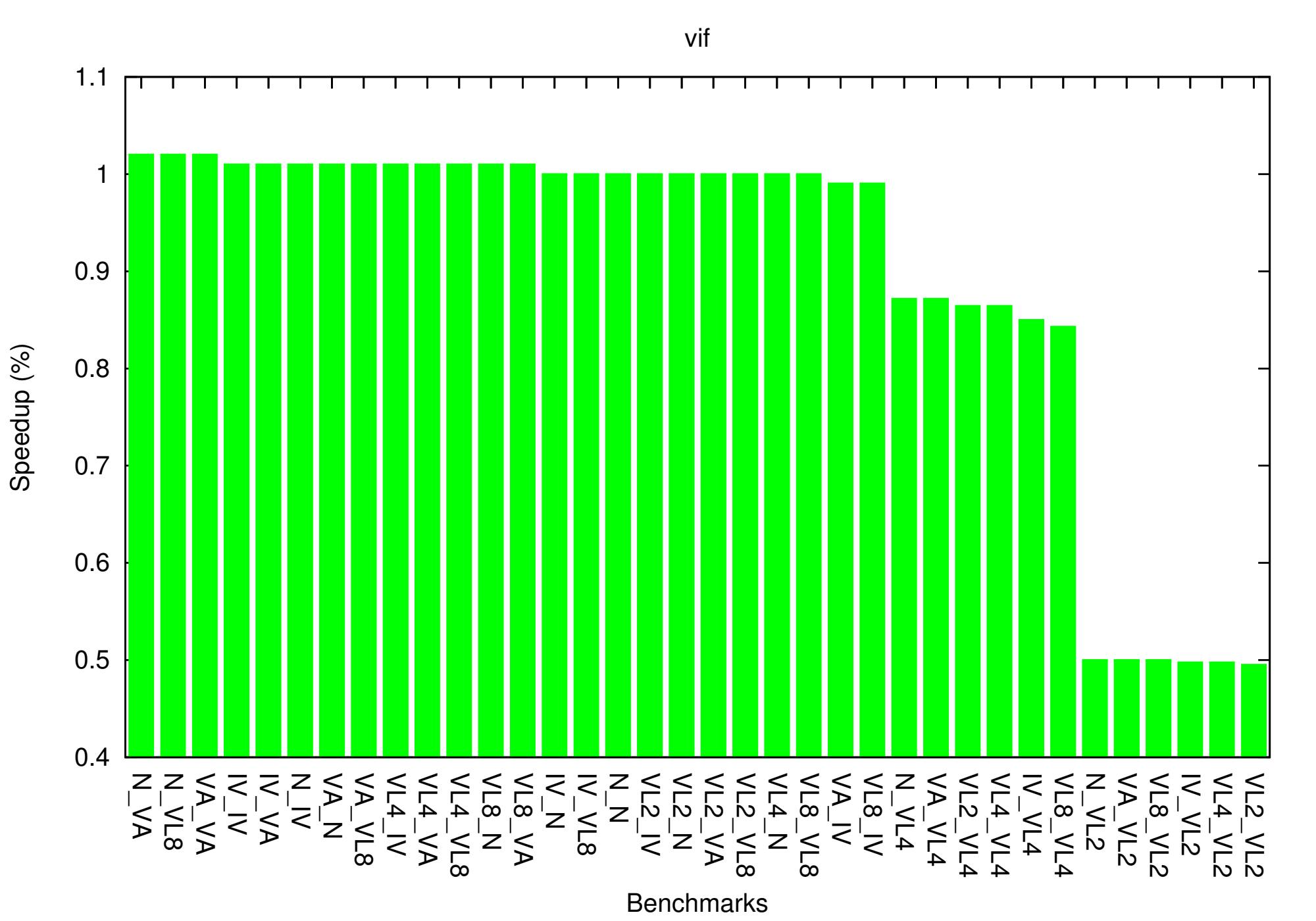

va
Speedup (%)
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
VL8_N
VL8_IV
VL8_VA
VL8_VL8
VL8_VL4
VL8_VL2
VL4_VL8
VL4_VA
VL4_IV
VL4_N
VL4_VL2
VL4_VL4
VA_N
IV_VL8
IV_IV
N_IV
N_VL8
IV_N
N_VA
VA_IV
IV_VA
VA_VL8
N_VL4
IV_VL4
N_N
VA_VA
VA_VL4
N_VL2
IV_VL2
VA_VL2
VL2_IV
VL2_N
VL2_VL8
VL2_VL2
VL2_VA
VL2_VL4
Benchmarks

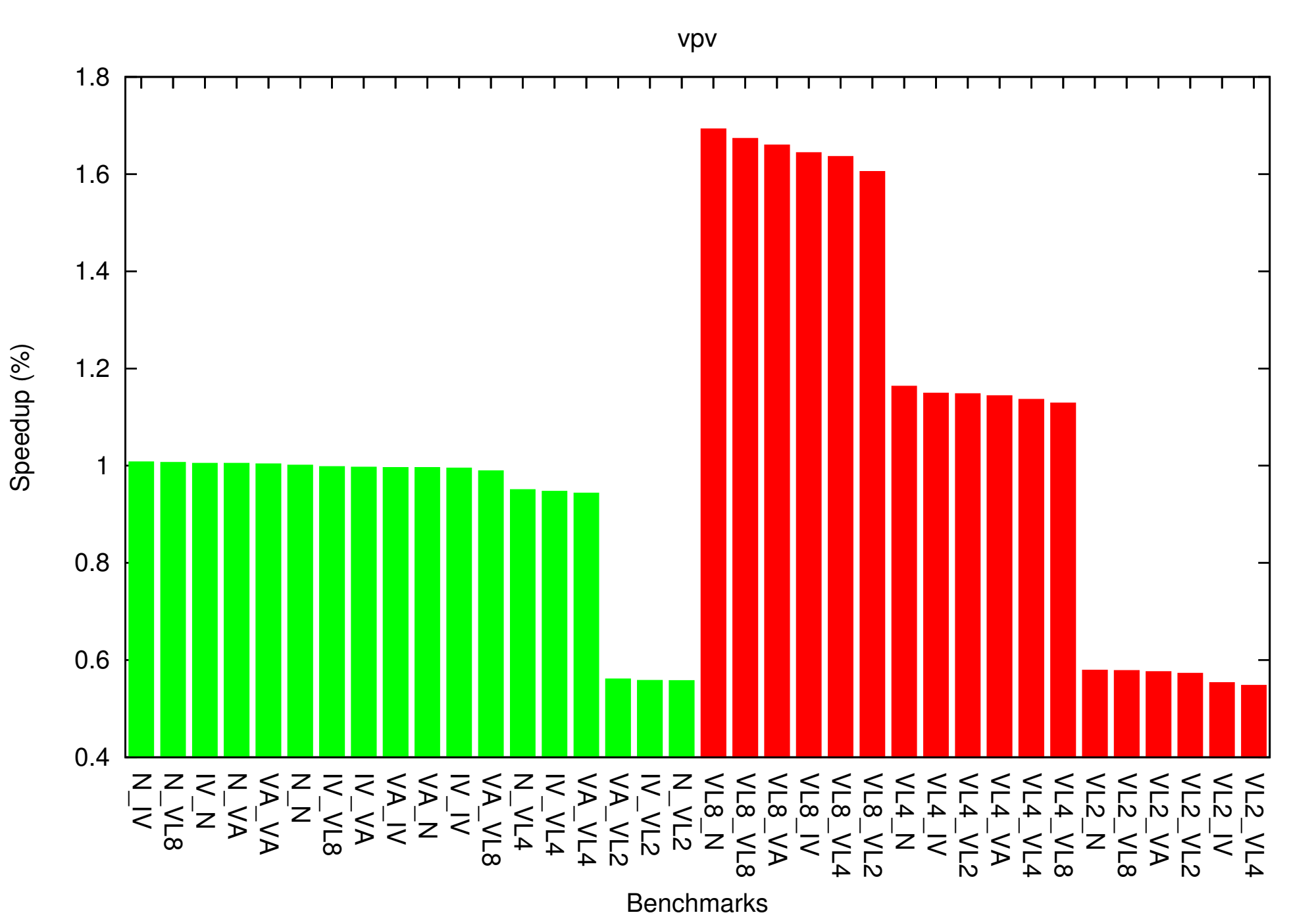

vag
Speedup (%)
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
N_VL4
VA_VL4
IV_VL4
N_VL2
IV_VL2
VA_VL2
VA_IV
N_IV
IV_IV
IV_VA
N_VA
N_VL8
IV_N
N_N
VA_N
VA_VL8
VA_VA
IV_VL8
VL8_VA
VL8_IV
VL8_VL4
VL8_N
VL8_VL2
VL8_VL8
VL2_VL8
VL2_N
VL2_VL4
VL2_VA
VL2_VL2
VL2_IV
VL4_VA
VL4_VL2
VL4_N
VL4_VL8
VL4_IV
VL4_VL4
Benchmarks

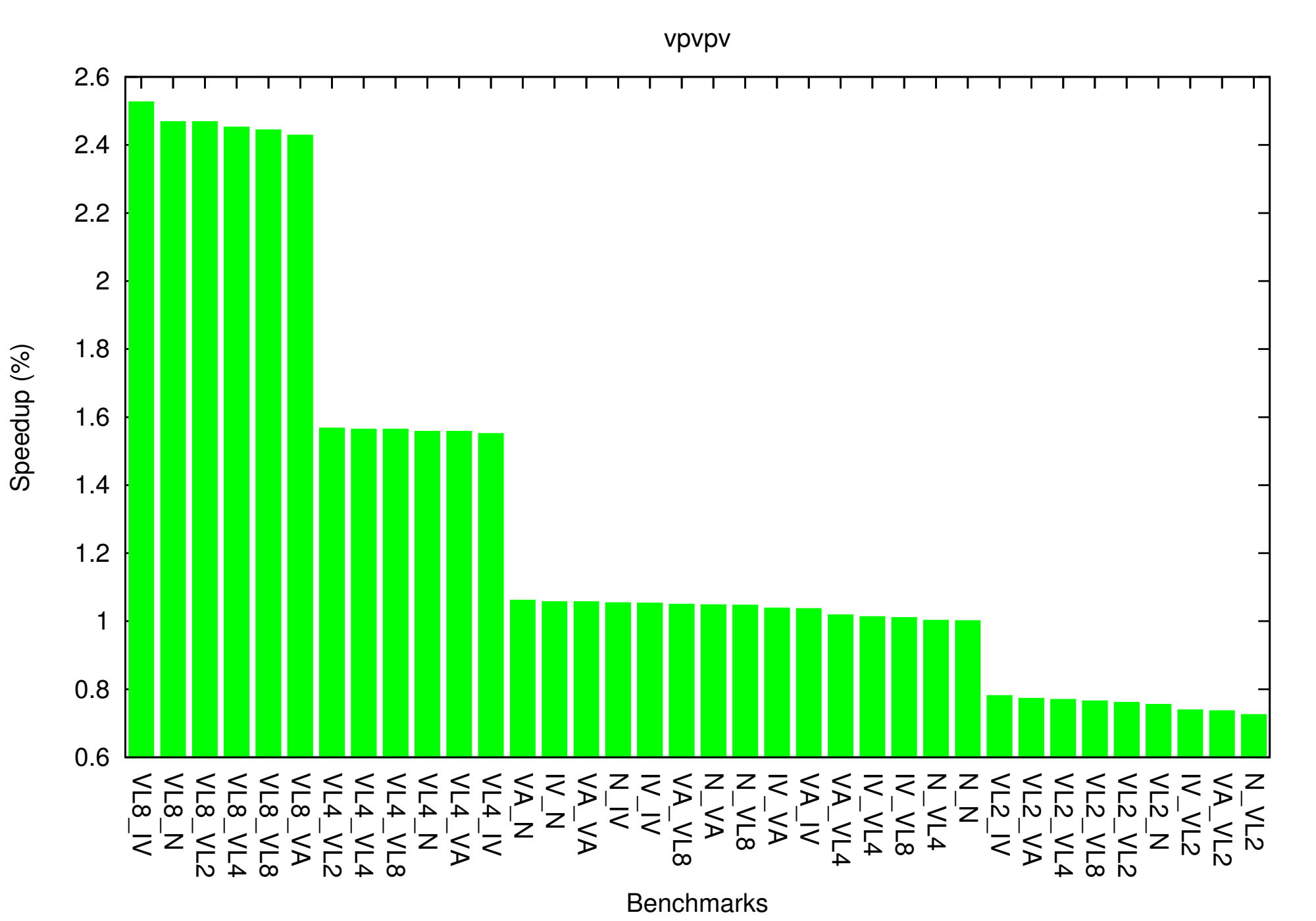

vas
Speedup (%)
1.3
1.25
1.2
1.15
1.1
1.05
1
0.95
VL4_VA
VL8_VL8
VL8_IV
VL8_VA
VL4_VL2
VL8_N
VL4_N
VL8_VL2
VL8_VL4
VL4_IV
VL4_VL8
VL4_VL4
VL2_VL4
VL2_VL2
VL2_N
VL2_VL8
VL2_VA
VL2_IV
IV_VL8
N_VL8
N_VA
VA_VL8
N_VL4
IV_VL2
N_VL2
VA_VA
IV_VA
IV_VL4
VA_VL4
N_IV
VA_IV
VA_VL2
N_N
IV_IV
VA_N
IV_N
Benchmarks

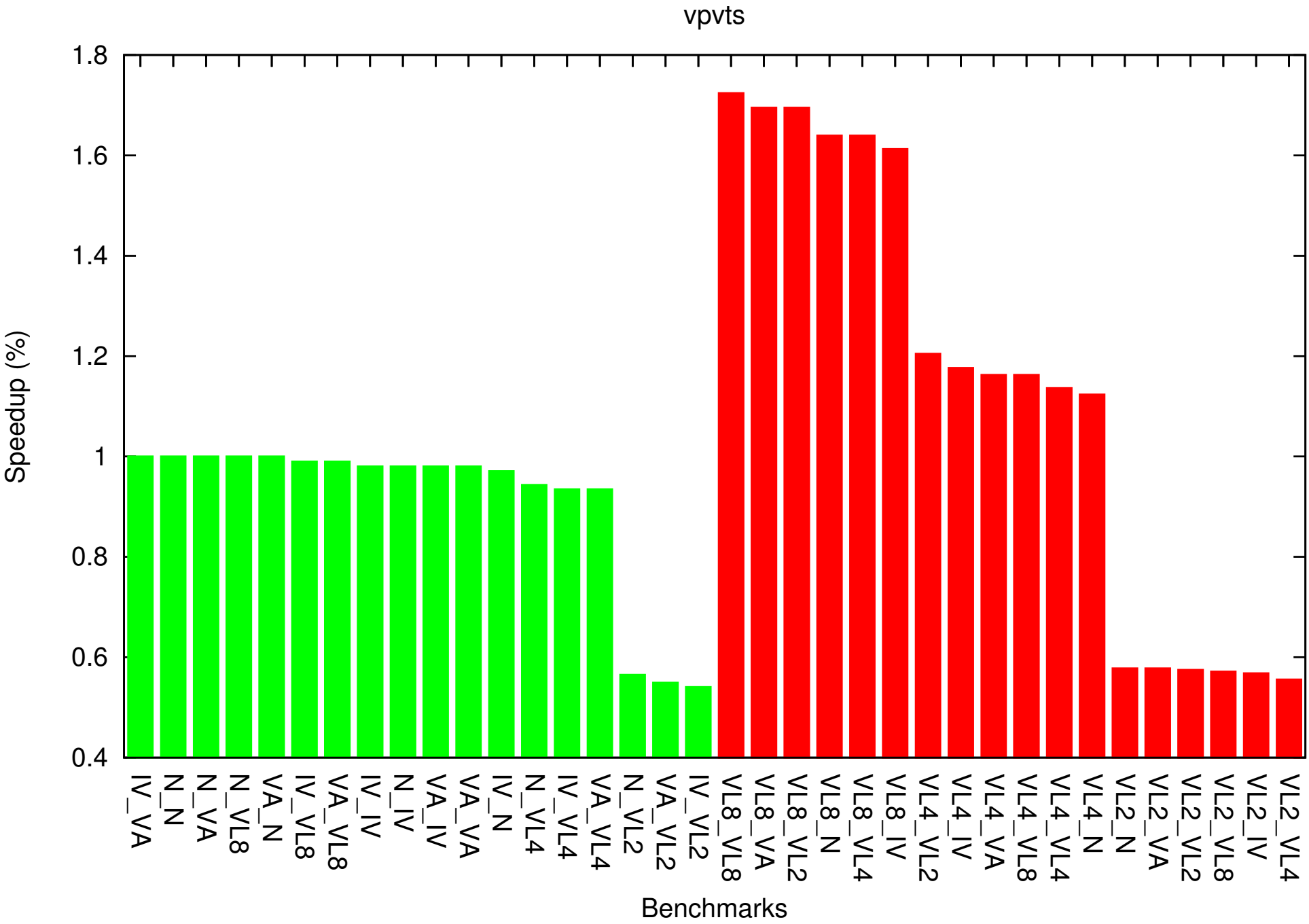

vbor
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
VA_VA
IV_IV
IV_N
IV_IV
N_N
N_VL8
VA_VL8
IV_VA
IV_VL8
N_VA
VA_IV
VA_N
VL8_IV
VL8_N
VL8_VA
VL8_VL2
VL8_VL4
VL8_VL8
N_VL4
IV_VL4
VA_VL4
VL4_N
VL4_VL8
VL4_VA
VL4_VL2
VL4_VL4
VL4_IV
N_VL2
IV_VL2
VA_VL2
VL2_IV
VL2_N
VL2_VL2
VL2_VL4
VL2_VL8
VL2_VA
Benchmarks

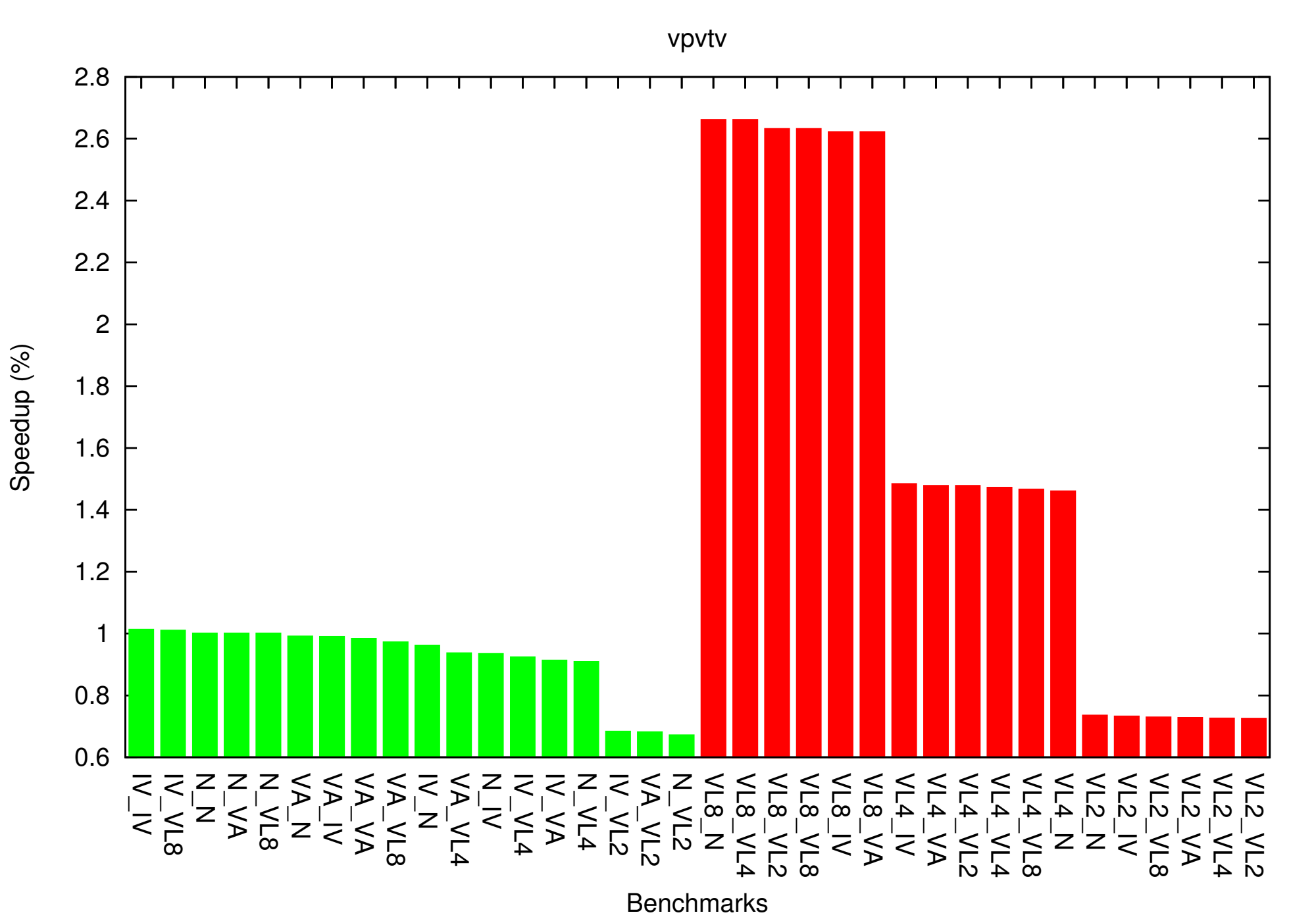

vdotr
Speedup (%)
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
VA_VL8
VA_N
VA_VA
IV_IV
N_IV
N_VL8
N_VA
VA_IV
IV_N
IV_VL8
IV_VA
N_N
VL8_IV
VL8_N
VL8_VA
VL8_VL2
VL8_VL4
VL8_VL8
VA_VL4
N_VL4
IV_VL4
VL4_VL4
VL4_VL8
VL4_N
VL4_IV
VL4_VA
VL4_VL2
N_VL2
IV_VL2
VA_VL2
VL2_N
VL2_VL8
VL2_VL4
VL2_VL2
VL2_VA
VL2_IV
Benchmarks

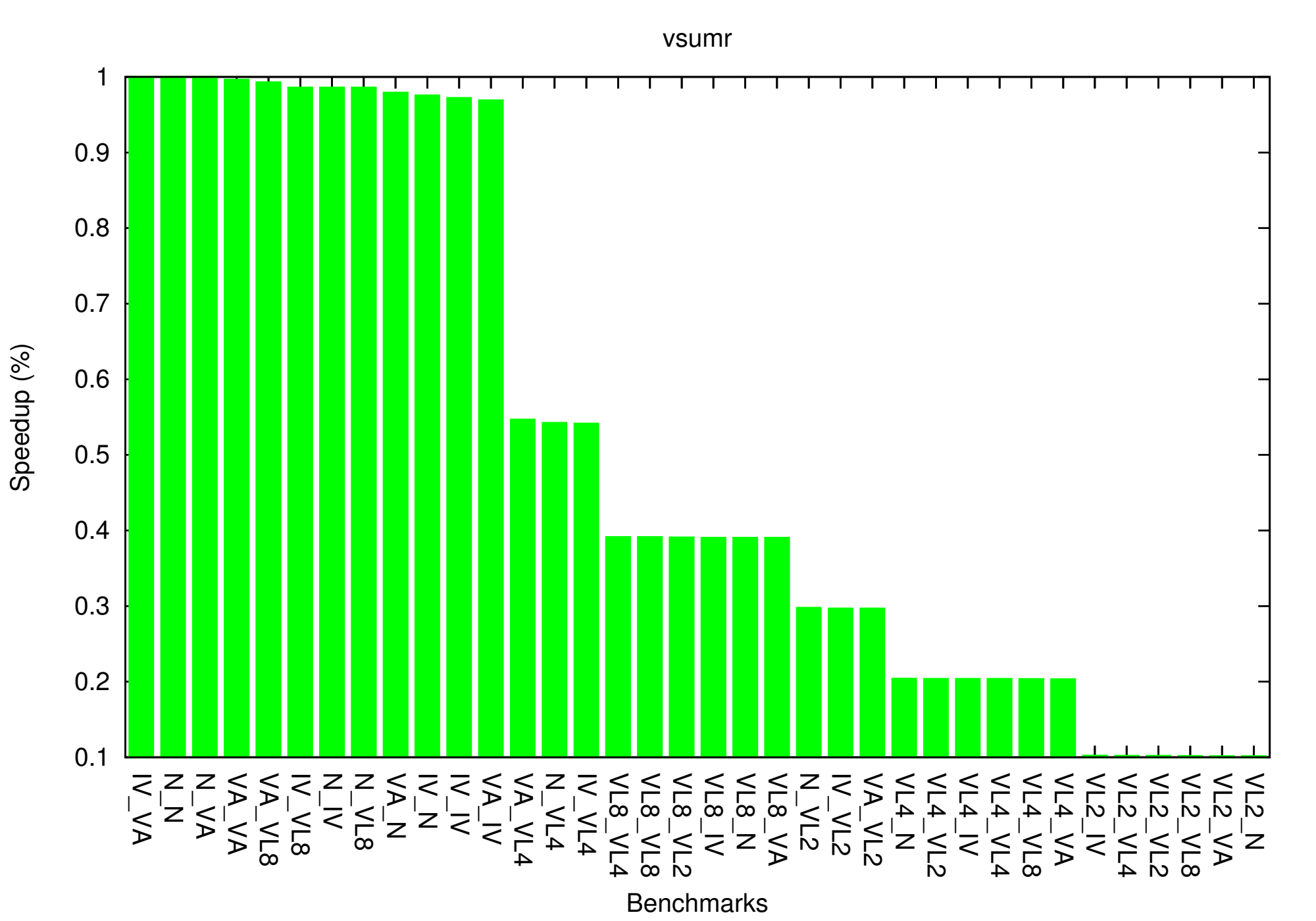

vif
Speedup (%)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
N_VA
N_VL8
VA_VA
IV_IV
IV_VA
N_IV
VA_N
VA_VL8
VL4_IV
VL4_VA
VL4_VL8
VL8_N
VL8_VA
IV_N
IV_VL8
N_N
VL2_IV
VL2_N
VL2_VA
VL2_VL8
VL4_N
VL8_VL8
VA_IV
VL8_IV
N_VL4
VA_VL4
VL2_VL4
VL4_VL4
IV_VL4
VL8_VL4
N_VL2
VA_VL2
VL8_VL2
IV_VL2
VL4_VL2
VL2_VL2
Benchmarks

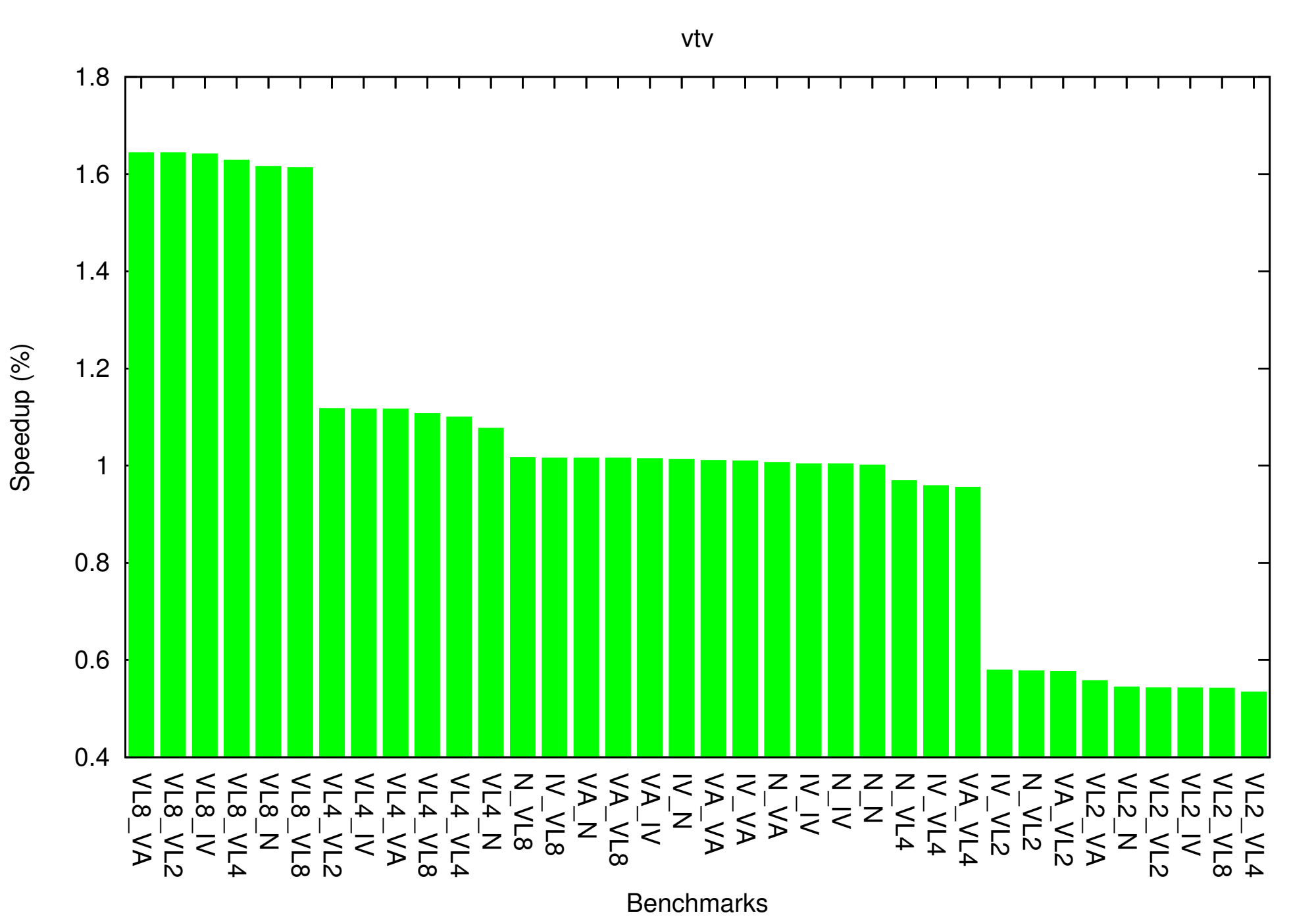

vpv
Speedup (%)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
N_IV
N_VL8
IV_N
N_VA
VA_VA
N_N
IV_VL8
IV_VA
VA_IV
VA_N
IV_IV
VA_VL8
N_VL4
IV_VL4
VA_VL4
VA_VL2
IV_VL2
N_VL2
VL8_N
VL8_VL8
VL8_VA
VL8_IV
VL8_VL4
VL8_VL2
VL4_N
VL4_IV
VL4_VL2
VL4_VA
VL4_VL4
VL4_VL8
VL2_N
VL2_VL8
VL2_VA
VL2_VL2
VL2_IV
VL2_VL4
Benchmarks

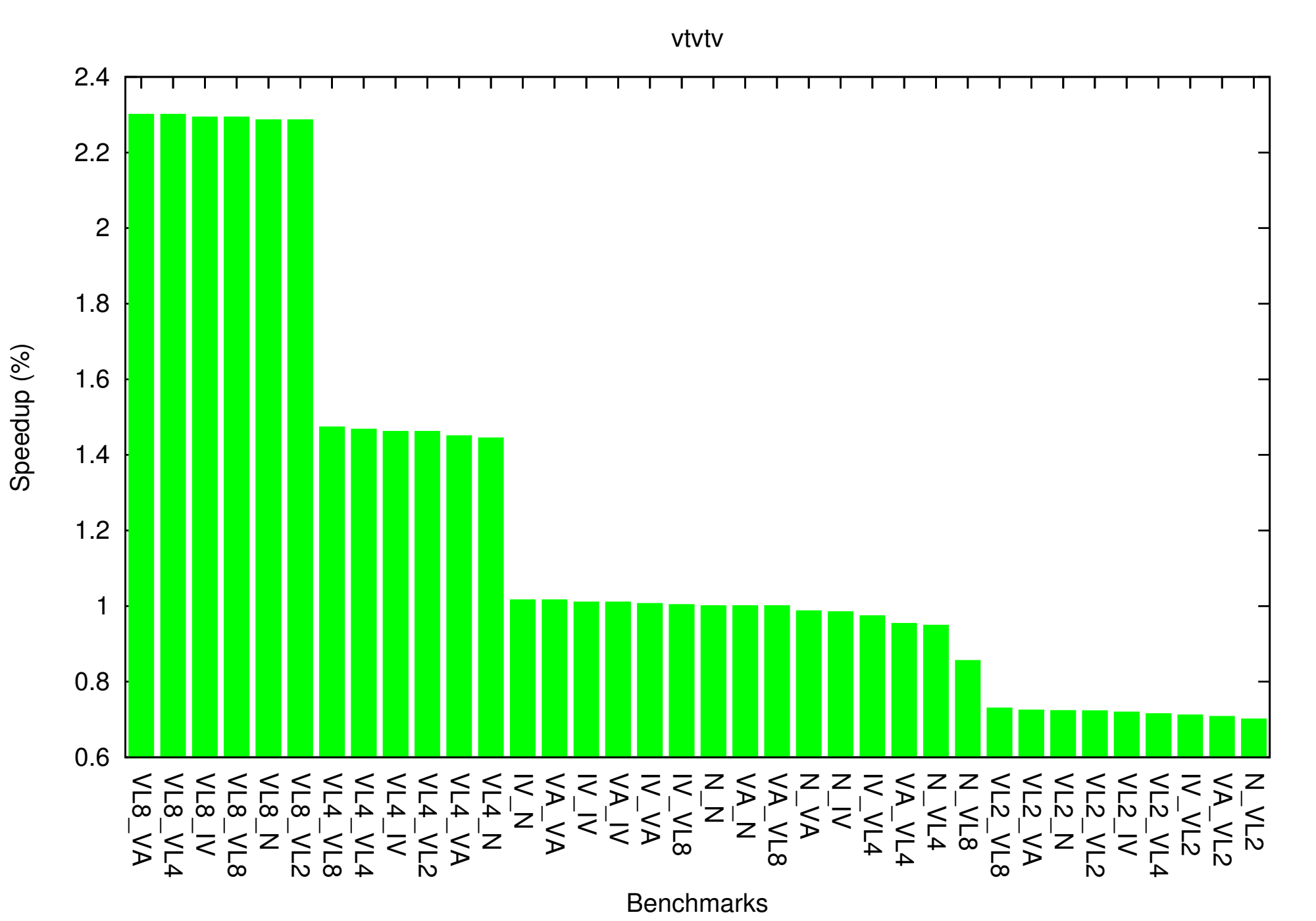

vpvpv
Speedup (%)
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
VL8_IV
VL8_N
VL8_VL2
VL8_VL4
VL8_VL8
VL8_VA
VL4_VL2
VL4_VL4
VL4_VL8
VL4_N
VL4_VA
VL4_IV
VA_N
IV_N
VA_VA
N_IV
IV_IV
VA_VL8
N_VA
N_VL8
IV_VA
VA_IV
VA_VL4
IV_VL4
IV_VL8
N_VL4
N_N
VL2_IV
VL2_VA
VL2_VL4
VL2_VL8
VL2_VL2
VL2_N
IV_VL2
VA_VL2
N_VL2
Benchmarks


vpvts
Speedup (%)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
IV_VA
N_N
N_VA
N_VL8
VA_N
IV_VL8
VA_VL8
IV_IV
N_IV
VA_IV
VA_VA
IV_N
N_VL4
IV_VL4
VA_VL4
N_VL2
VA_VL2
IV_VL2
VL8_VL8
VL8_VA
VL8_VL2
VL8_N
VL8_VL4
VL8_IV
VL4_VL2
VL4_IV
VL4_VA
VL4_VL8
VL4_VL4
VL4_N
VL2_N
VL2_VA
VL2_VL2
VL2_VL8
VL2_IV
VL2_VL4
Benchmarks


vpvtv
Speedup (%)
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
IV_IV
IV_VL8
N_N
N_VA
N_VL8
VA_N
VA_IV
VA_VA
VA_VL8
IV_N
VA_VL4
N_IV
IV_VL4
IV_VA
N_VL4
IV_VL2
VA_VL2
N_VL2
VL8_N
VL8_VL4
VL8_VL2
VL8_VL8
VL8_IV
VL8_VA
VL4_IV
VL4_VA
VL4_VL2
VL4_VL4
VL4_VL8
VL4_N
VL2_N
VL2_IV
VL2_VL8
VL2_VA
VL2_VL4
VL2_VL2
Benchmarks


vsumr
Speedup (%)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
IV_VA
N_N
N_VA
VA_VA
VA_VL8
IV_VL8
N_IV
N_VL8
VA_N
IV_N
IV_IV
VA_IV
VA_VL4
N_VL4
IV_VL4
VL8_VL4
VL8_VL8
VL8_VL2
VL8_IV
VL8_N
VL8_VA
N_VL2
IV_VL2
VA_VL2
VL4_N
VL4_VL2
VL4_IV
VL4_VL4
VL4_VL8
VL4_VA
VL2_IV
VL2_VL4
VL2_VL2
VL2_VL8
VL2_VA
VL2_N
Benchmarks


vtv
Speedup (%)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
VL8_VA
VL8_VL2
VL8_IV
VL8_VL4
VL8_N
VL8_VL8
VL4_VL2
VL4_IV
VL4_VA
VL4_VL8
VL4_VL4
VL4_N
N_VL8
IV_VL8
VA_N
VA_VL8
VA_IV
IV_N
VA_VA
IV_VA
N_VA
IV_IV
N_IV
N_N
N_VL4
IV_VL4
VA_VL4
IV_VL2
N_VL2
VA_VL2
VL2_VA
VL2_N
VL2_VL2
VL2_IV
VL2_VL8
VL2_VL4
Benchmarks


vtvtv
Speedup (%)
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
VL8_VA
VL8_VL4
VL8_IV
VL8_VL8
VL8_N
VL8_VL2
VL4_VL8
VL4_VL4
VL4_IV
VL4_VL2
VL4_VA
VL4_N
IV_N
VA_VA
IV_IV
VA_IV
IV_VA
IV_VL8
N_N
VA_N
VA_VL8
N_VA
N_IV
IV_VL4
VA_VL4
N_VL4
N_VL8
VL2_VL8
VL2_VA
VL2_N
VL2_VL2
VL2_IV
VL2_VL4
IV_VL2
VA_VL2
N_VL2
Benchmarks