

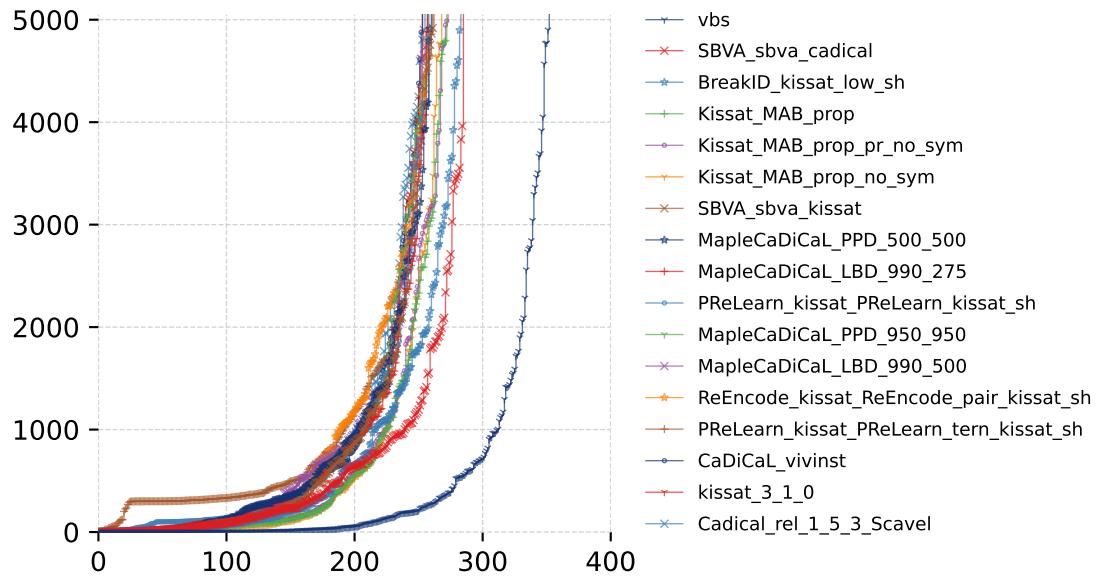
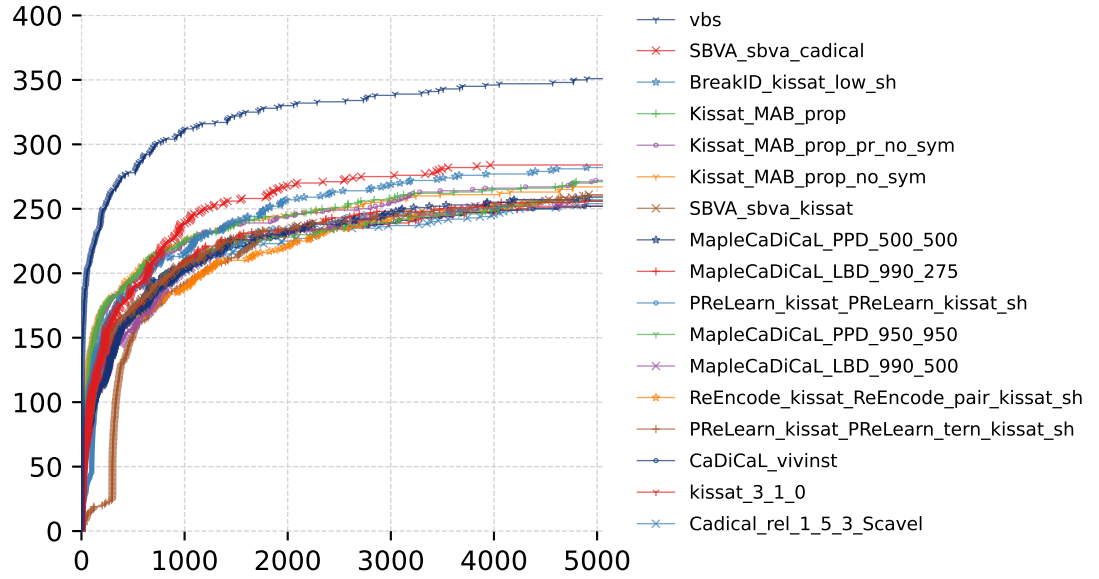
SAT Competition 2023

Markus Iser

Evaluation is based on solver runtimes in SAT Competition 2023 without the checker-timeout penalty in order to compare the pure proof-production performance of solvers.

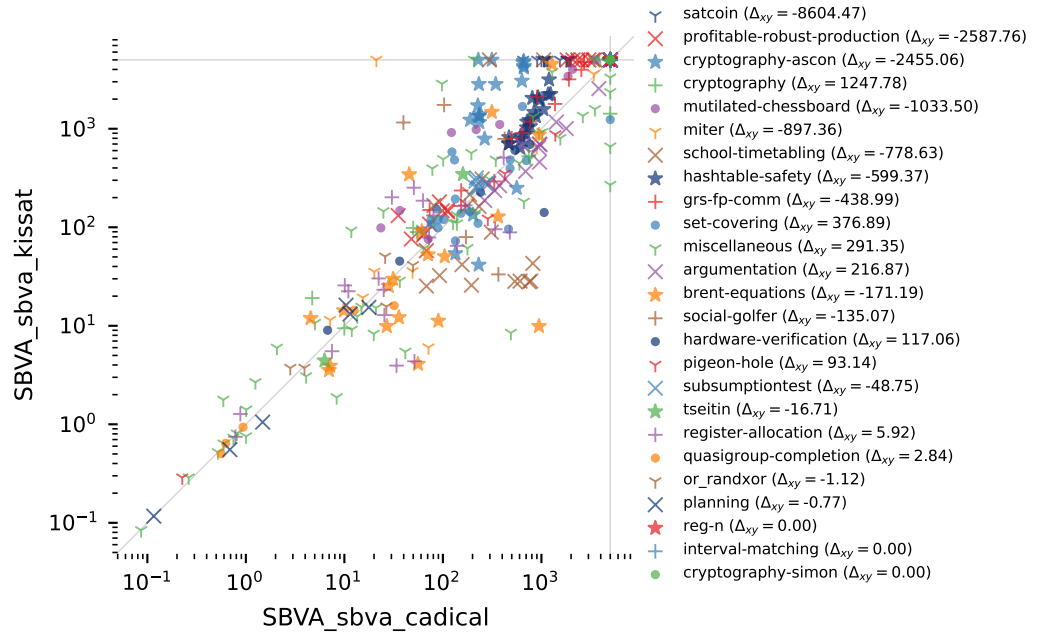
At the same time, this is a sample document for testing and showing how to use the evaluation functions in this repository.

1 CDF and Cactus Plots



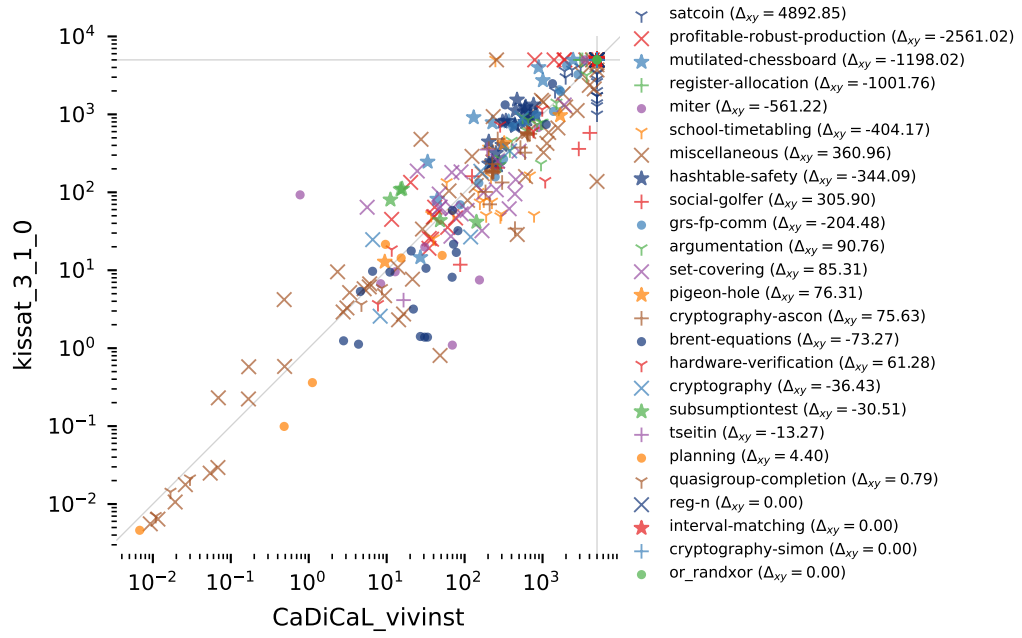
2 SBVA-CaDiCaL vs. SBVA-Kissat

Family	Count	SBVA CaDiCaL	SBVA Kissat	VBS
Satcoin	15	1395.53	10000.00	1151.09
Profitable-Robust-Production	20	2470.42	5058.18	1333.87
Cryptography-Ascon	20	356.82	2811.89	234.84
Cryptography	7	1578.46	330.68	269.45
Mutilated-Chessboard	12	3194.54	4228.03	1540.17
Miter	11	3134.91	4032.27	3012.37
School-Timetabling	19	1399.65	2178.28	1087.90
Hashtable-Safety	20	797.46	1396.84	179.58
Grs-Fp-Comm	17	3649.90	4088.89	1885.76
Set-Covering	20	722.01	345.13	2.88
Miscellaneous	70	3071.07	2779.72	490.37
Argumentation	20	3693.93	3477.05	3401.26
Brent-Equations	19	232.86	404.04	83.28
Social-Golfer	20	7555.16	7690.23	5654.50
Hardware-Verification	8	2832.05	2714.99	1443.63
Pigeon-Hole	8	5261.85	5168.71	5063.78
Subsumptiontest	5	230.22	278.97	4.89
Tseitin	11	8196.91	8213.62	249.27
Register-Allocation	20	101.20	95.28	1.61
Quasigroup-Completion	5	9.33	6.49	1.05
Or_Randxor	5	21.82	22.94	17.87
Planning	6	6.97	7.75	4.24
Reg-N	5	10000.00	10000.00	4766.27
Interval-Matching	20	10000.00	10000.00	0.15
Cryptography-Simon	17	10000.00	10000.00	9700.12
All	400	3257.62	3882.65	1548.15



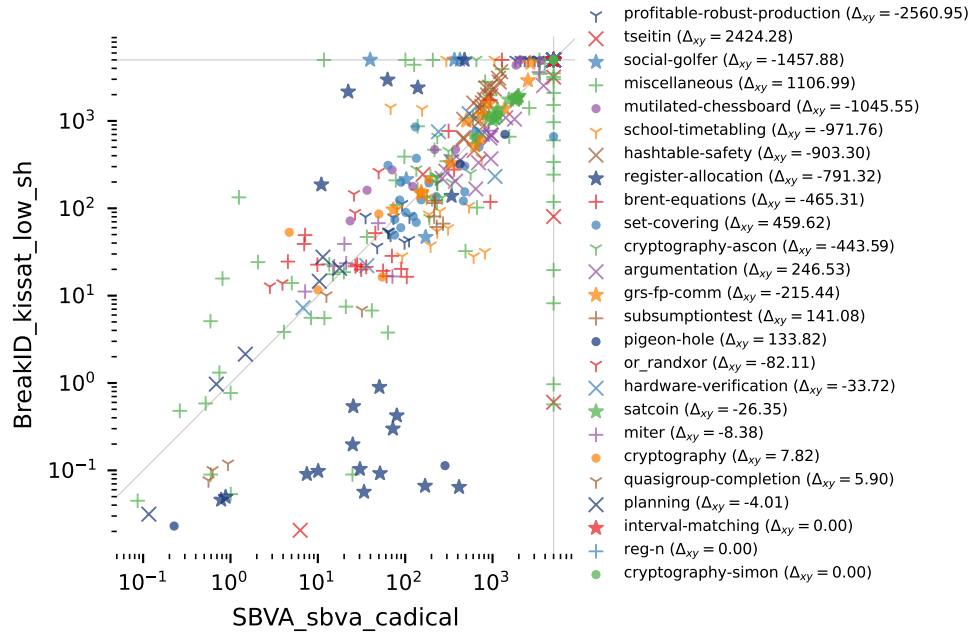
3 CaDiCaL-vivinst vs. Kissat-3.1.0

Family	Count	Cadical.Vivinst	Kissat_3.1.0	VBS
Satcoin	15	7388.71	2495.86	1151.09
Profitable-Robust-Production	20	2463.60	5024.62	1333.87
Mutilated-Chessboard	12	2933.52	4131.55	1540.17
Register-Allocation	20	8998.24	10000.00	1.61
Miter	11	3149.19	3710.41	3012.37
School-Timetabling	19	1264.86	1669.03	1087.90
Miscellaneous	70	3140.29	2779.33	490.37
Hashtable-Safety	20	460.96	805.04	179.58
Social-Golfer	20	7871.79	7565.89	5654.50
Grs-Fp-Comm	17	3659.80	3864.28	1885.76
Argumentation	20	3688.69	3597.93	3401.26
Set-Covering	20	259.73	174.42	2.88
Pigeon-Hole	8	6502.28	6425.97	5063.78
Cryptography-Ascon	20	378.92	303.29	234.84
Brent-Equations	19	176.54	249.81	83.28
Hardware-Verification	8	2893.13	2831.85	1443.63
Cryptography	7	1602.26	1638.69	269.45
Subsumptiontest	5	46.47	76.98	4.89
Tseitin	11	8201.03	8214.31	249.27
Planning	6	13.03	8.63	4.24
Quasigroup-Completion	5	2.70	1.91	1.05
Reg-N	5	10000.00	10000.00	4766.27
Interval-Matching	20	10000.00	10000.00	0.15
Cryptography-Simon	17	10000.00	10000.00	9700.12
Or_Randxor	5	10000.00	10000.00	17.87
All	400	4048.63	4050.74	1548.15



4 SBVA-CaDiCaL vs. BreakId

Family	Count	SBVA CaDiCaL	Breakid_Kissat_Low_Sh	VBS
Profitable-Robust-Production	20	2470.42	5031.37	1333.87
Tseitin	11	8196.91	5772.63	249.27
Social-Golfer	20	7555.16	9013.05	5654.50
Miscellaneous	70	3071.07	1964.08	490.37
Mutilated-Chessboard	12	3194.54	4240.09	1540.17
School-Timetabling	19	1399.65	2371.42	1087.90
Hashtable-Safety	20	797.46	1700.77	179.58
Register-Allocation	20	101.20	892.52	1.61
Brent-Equations	19	232.86	698.16	83.28
Set-Covering	20	722.01	262.39	2.88
Cryptography-Ascon	20	356.82	800.41	234.84
Argumentation	20	3693.93	3447.39	3401.26
Grs-Fp-Comm	17	3649.90	3865.34	1885.76
Subsumptiontest	5	230.22	89.14	4.89
Pigeon-Hole	8	5261.85	5128.03	5063.78
Or_Randxor	5	21.82	103.93	17.87
Hardware-Verification	8	2832.05	2865.77	1443.63
Satcoin	15	1395.53	1421.87	1151.09
Miter	11	3134.91	3143.29	3012.37
Cryptography	7	1578.46	1570.64	269.45
Quasigroup-Completion	5	9.33	3.43	1.05
Planning	6	6.97	10.98	4.24
Interval-Matching	20	10000.00	10000.00	0.15
Reg-N	5	10000.00	10000.00	4766.27
Cryptography-Simon	17	10000.00	10000.00	9700.12
All	400	3257.62	3376.88	1548.15



5 Family-wise CDF Plots

