

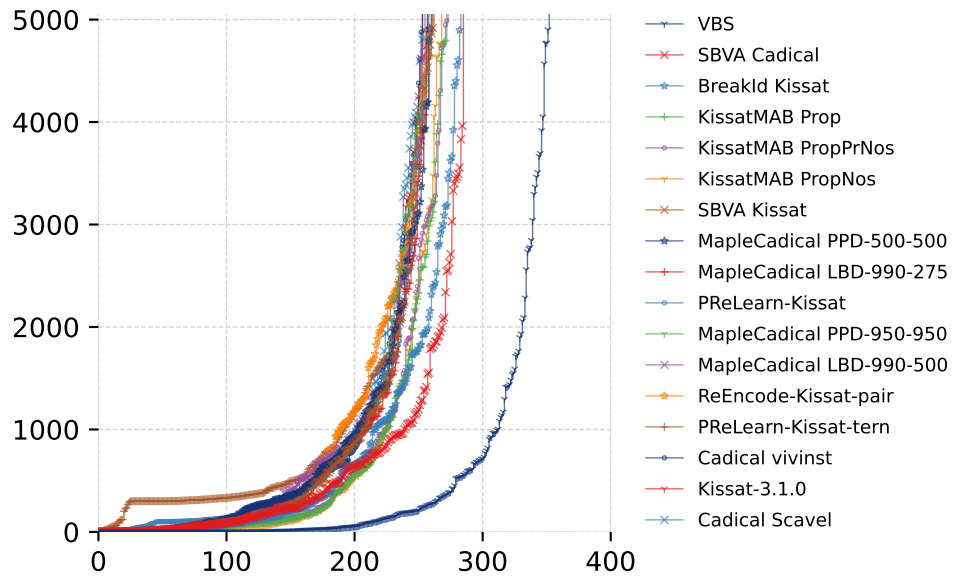
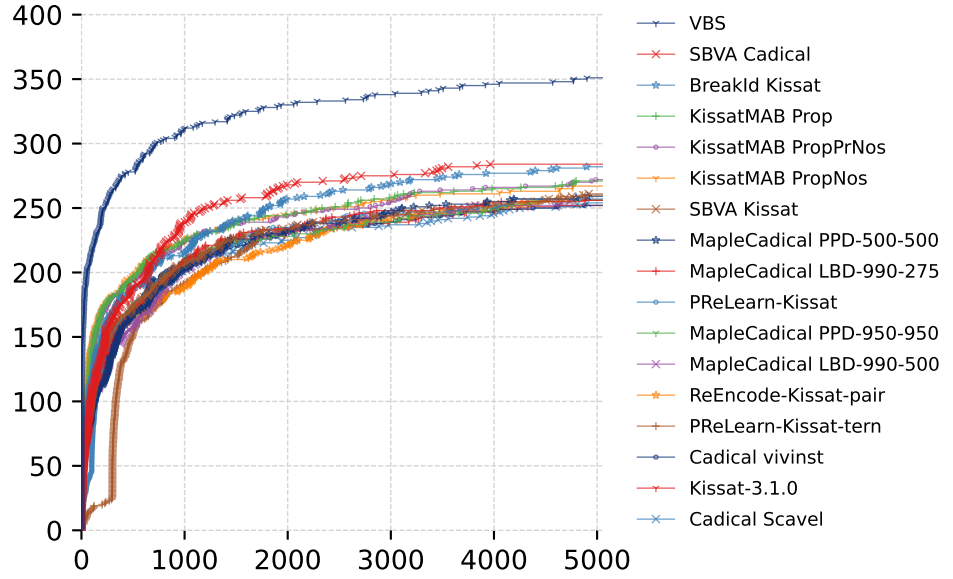
SAT Competition 2023

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.

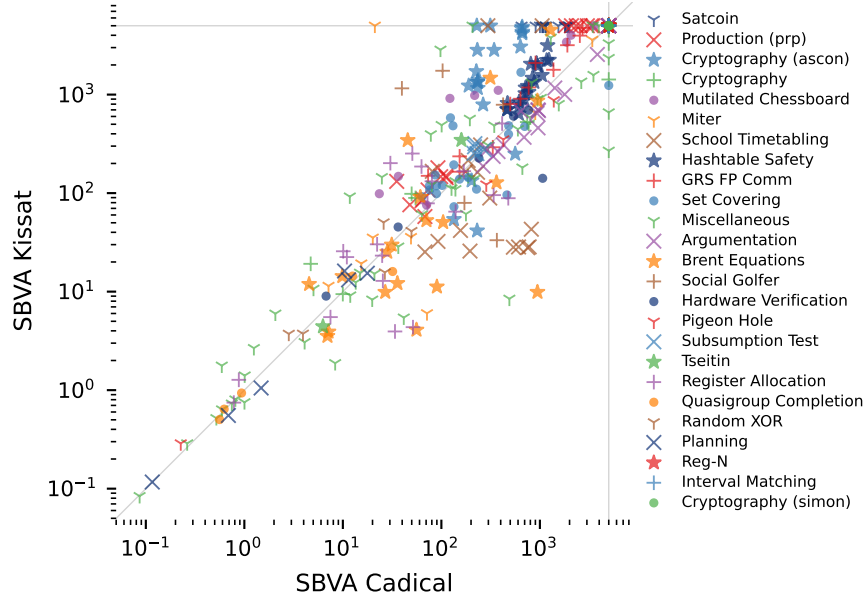
At the same time, this is a sample document for testing and showing how to use the evaluation functions in this repository.

1 CDF and Cactus Plots



2 SBVA-CaDiCaL vs. SBVA-Kissat

Family	#	SBVA Cadical	SBVA Kissat	VBS
Satcoin	15	1395.53	10000.00	1151.09
Production (prp)	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
Subsumption Test	5	230.22	278.97	4.89
Tseitin	11	8196.91	8213.62	249.27
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 Portfolio Analysis

K	Portfolio	Score
1	SBVA Cadical	3257.62
1	BreakId Kissat	3376.88
1	KissatMAB Prop	3575.78
2	BreakId Kissat, KissatMAB PropPrNos	2192.67
2	BreakId Kissat, KissatMAB PropNos	2233.91
2	BreakId Kissat, KissatMAB Prop	2283.26
3	BreakId Kissat, KissatMAB PropPrNos, Cadical Scavel	2015.44
3	BreakId Kissat, KissatMAB PropPrNos, SBVA Cadical	2029.28
3	BreakId Kissat, KissatMAB PropPrNos, MinisatXor	2030.71

Family	#	BreakId Kissat	KissatMAB PropPrNos	Cadical Scavel	VBS
Interval Matching	20	10000.00	0.15	10000.00	0.15
Random XOR	5	103.93	10000.00	10000.00	17.87
Register Allocation	20	892.52	5.50	9135.93	1.61
Satcoin	15	1421.87	10000.00	7446.36	1151.09
Set Covering	20	262.39	5761.57	218.58	2.88
Cryptography (ascon)	20	800.41	5628.35	404.02	234.84
Reg-N	5	10000.00	6295.16	10000.00	4766.27
Mutilated Chessboard	12	4240.09	1656.50	3138.80	1540.17
Production (prp)	20	5031.37	3946.63	2468.35	1333.87
Tseitin	11	5772.63	8193.40	8199.26	249.27
Hashtable Safety	20	1700.77	194.75	478.24	179.58
Social Golfer	20	9013.05	7665.62	7522.35	5654.50
Pigeon Hole	8	5128.03	6381.16	6482.43	5063.78
Hardware Verification	8	2865.77	1558.52	2851.32	1443.63
School Timetabling	19	2371.42	1266.09	2345.57	1087.90
Miscellaneous	70	1964.08	2470.82	2921.43	490.37
Argumentation	20	3447.39	4144.27	3698.40	3401.26
Brent Equations	19	698.16	408.33	154.07	83.28
GRS FP Comm	17	3865.34	3435.82	3752.92	1885.76
Cryptography (simon)	17	10000.00	10000.00	9700.12	9700.12
Cryptography	7	1570.64	1577.96	1661.79	269.45
All	400	3376.88	3580.43	4050.95	1548.15