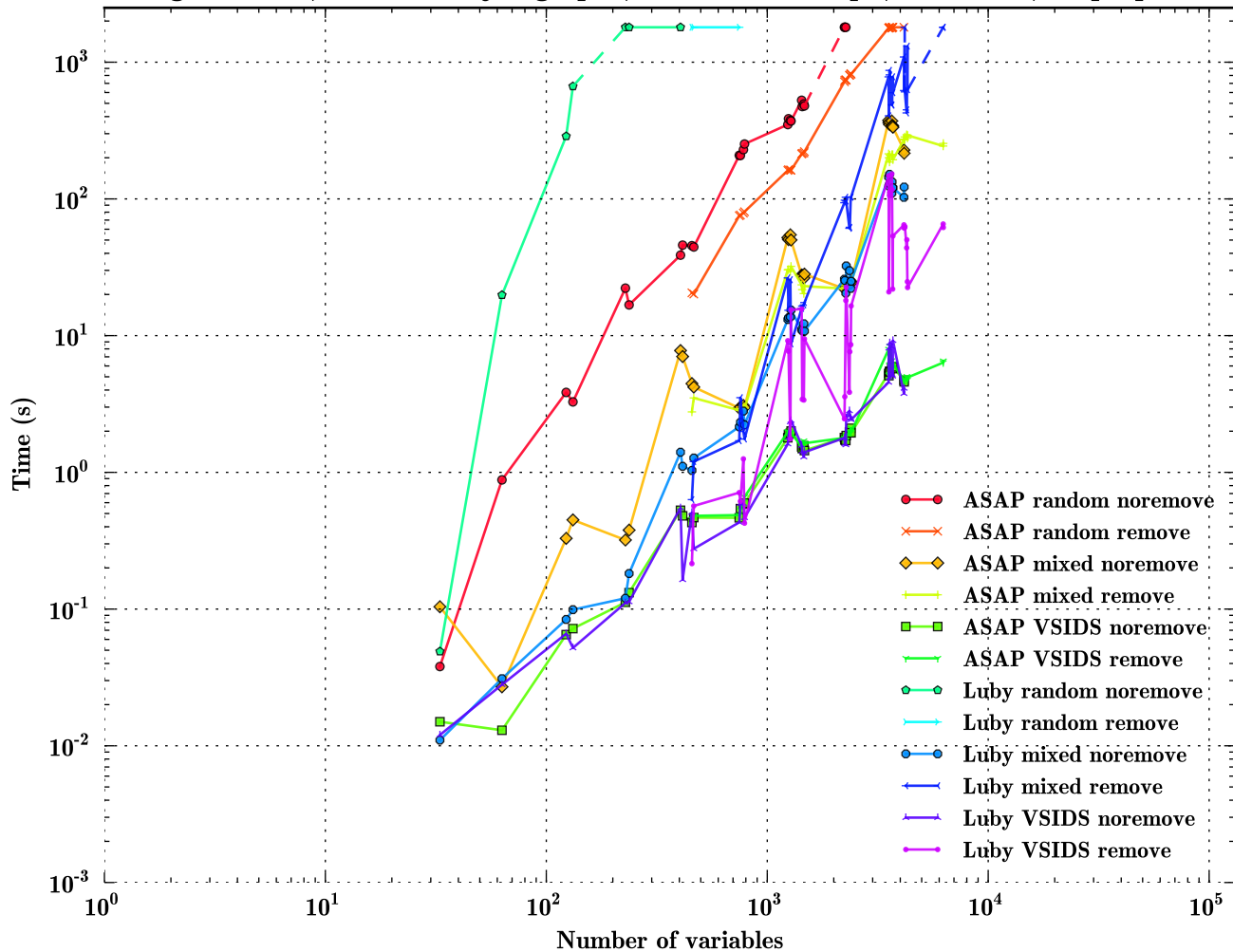
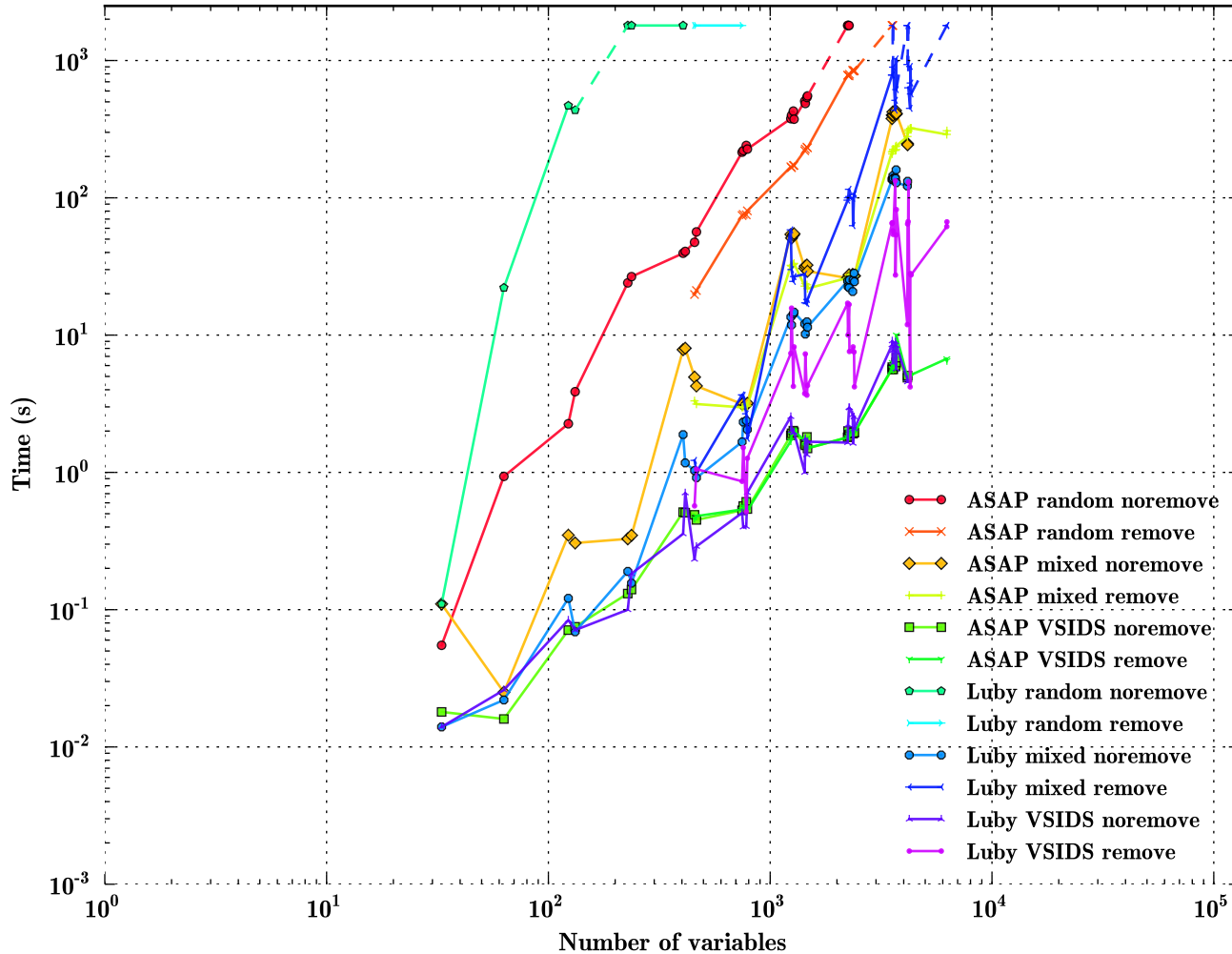


**Pebbling formulas with
substitution neq(not all equal)
of arity 3**

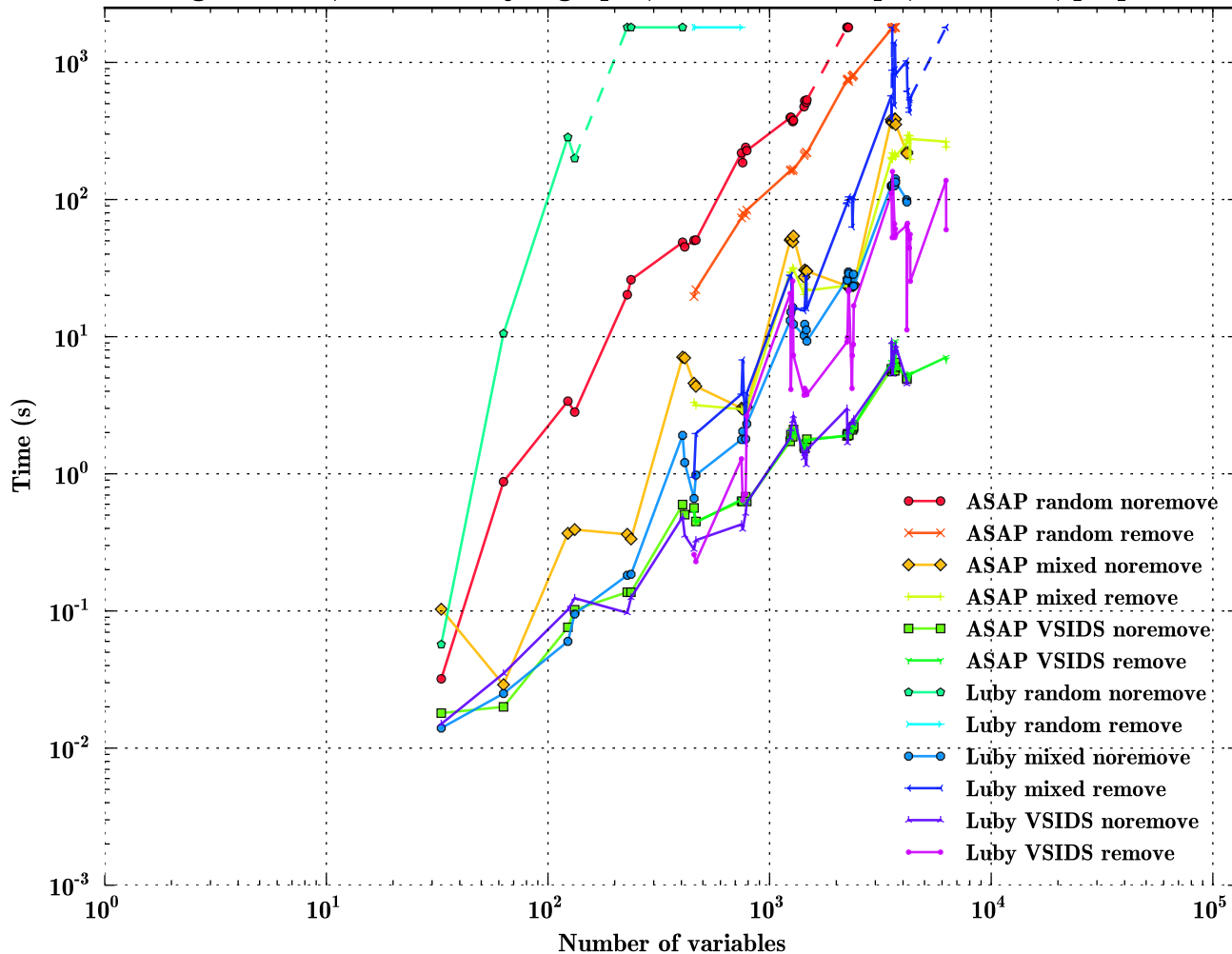
Pebbling formulas, Gilbert-Tarjan graphs, substitution neq 3, no shuffle, no preprocessing



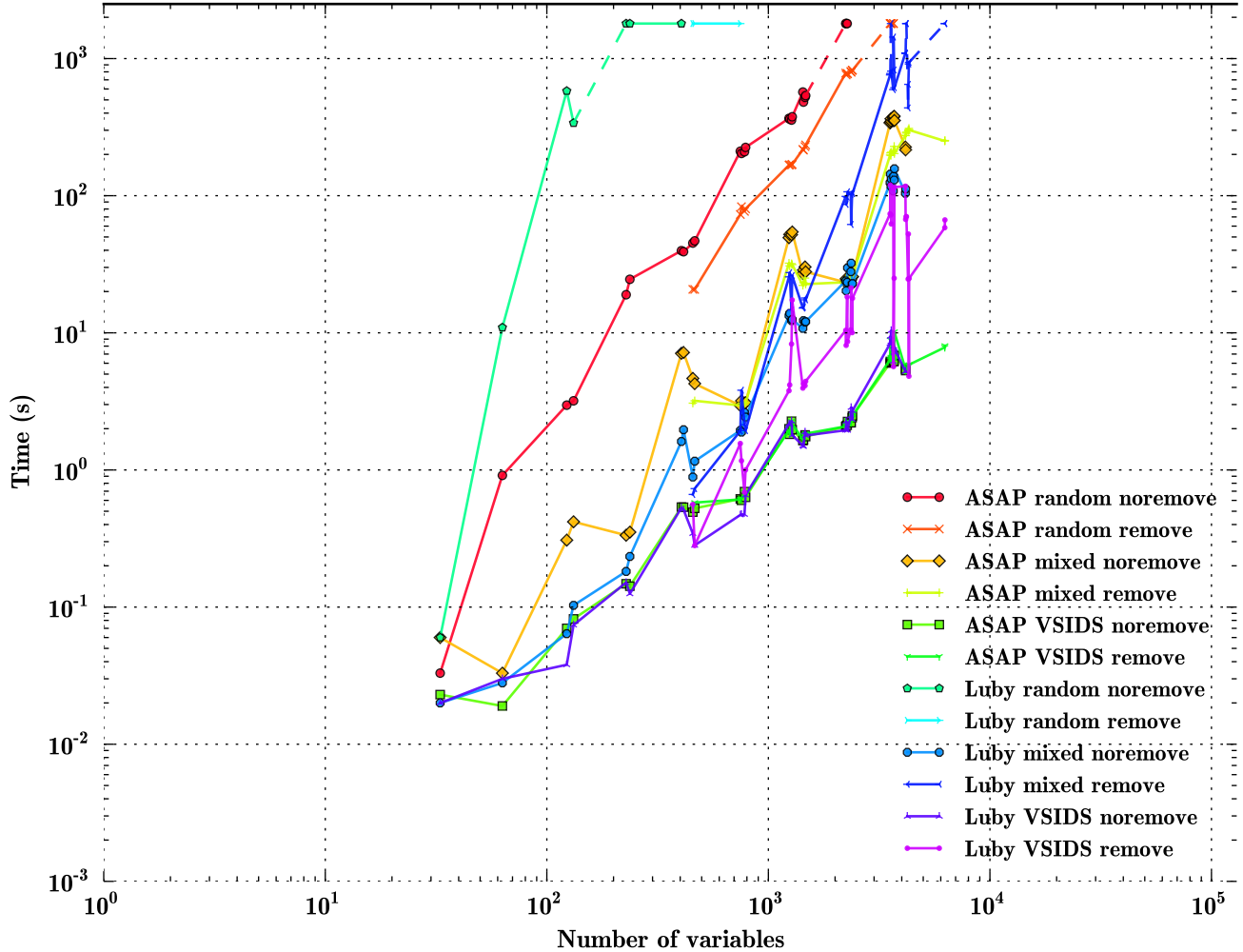
Pebbling formulas, Gilbert-Tarjan graphs, substitution neq 3, shuffle, no preprocessing



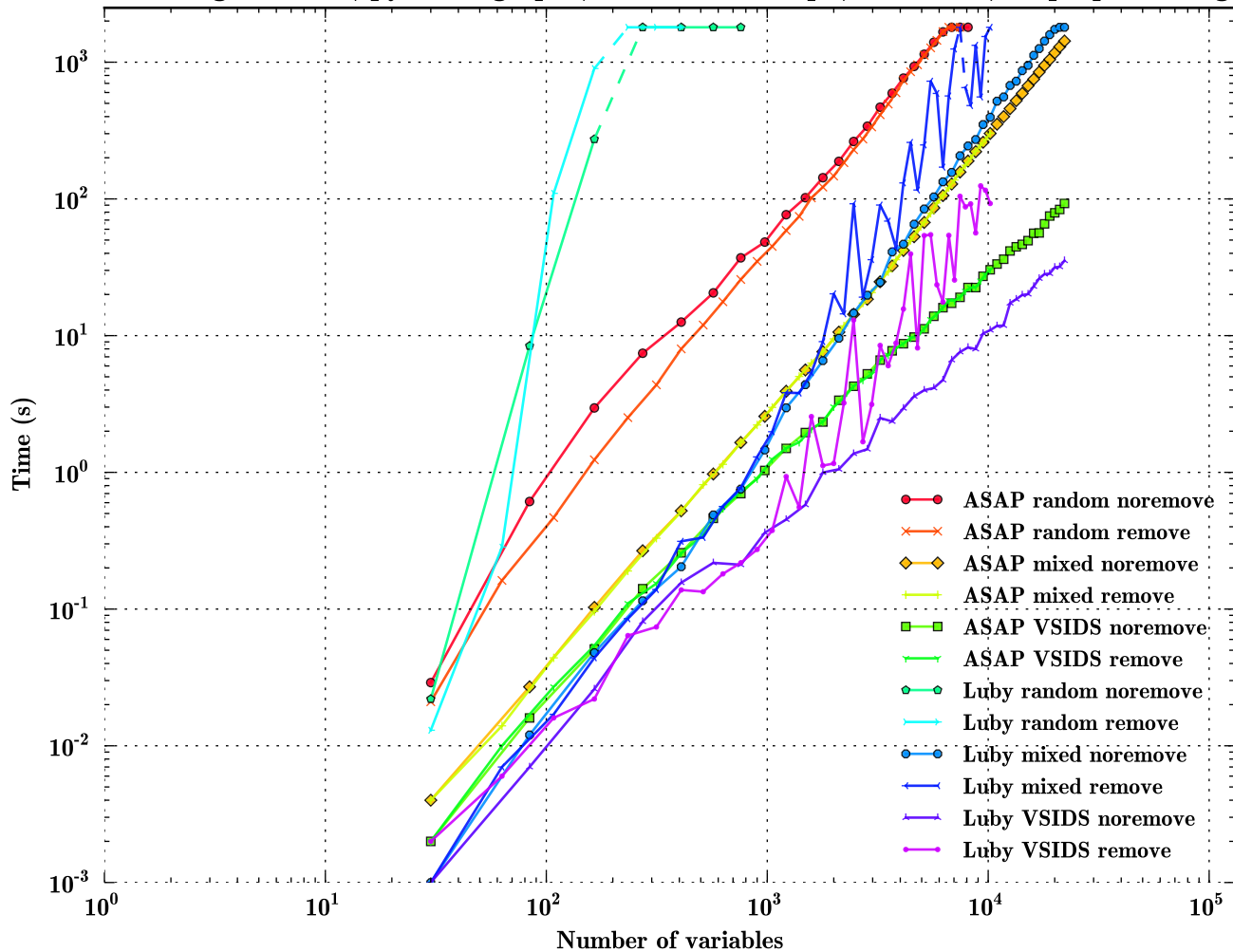
Pebbling formulas, Gilbert-Tarjan graphs, substitution neq 3, no shuffle, preprocessing



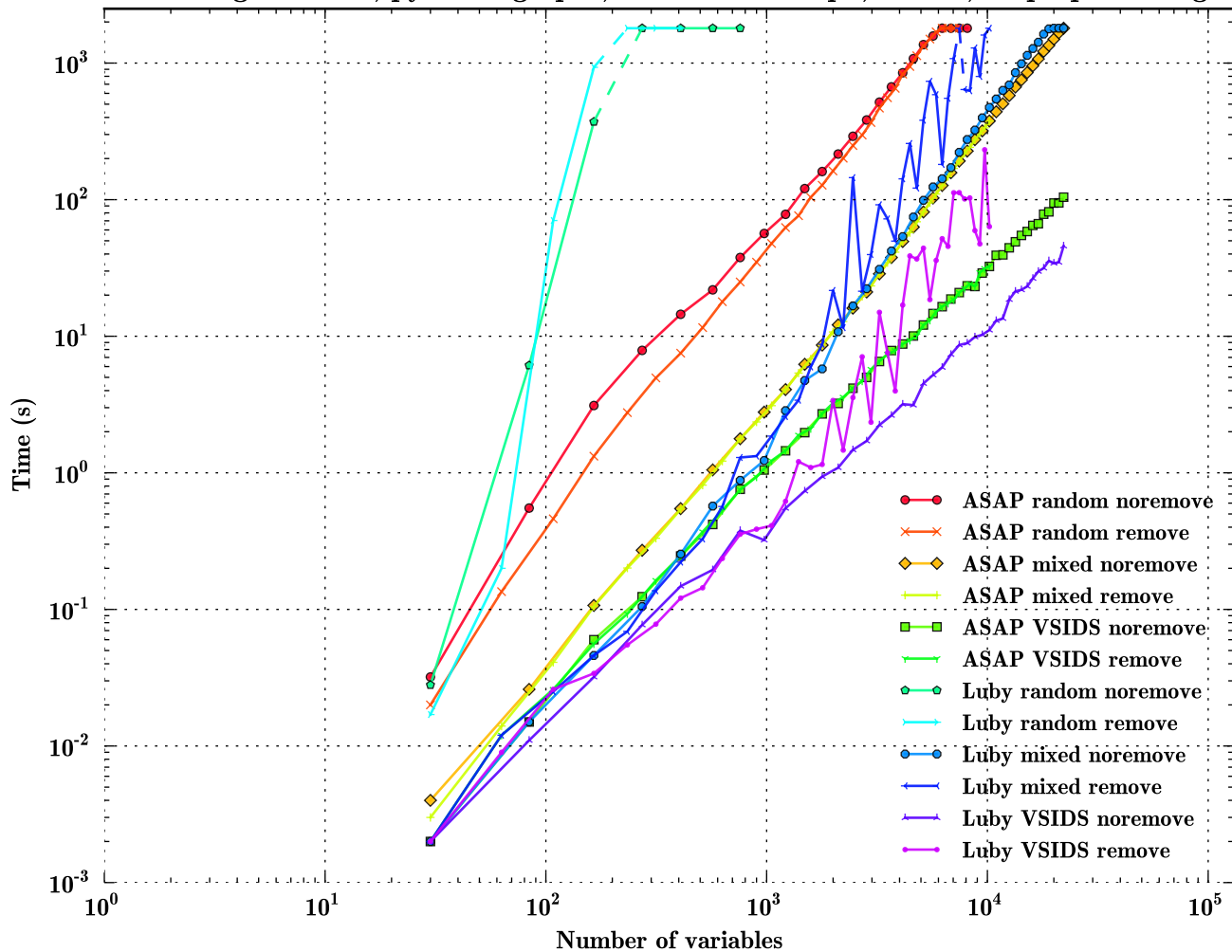
Pebbling formulas, Gilbert-Tarjan graphs, substitution neq 3, shuffle, preprocessing



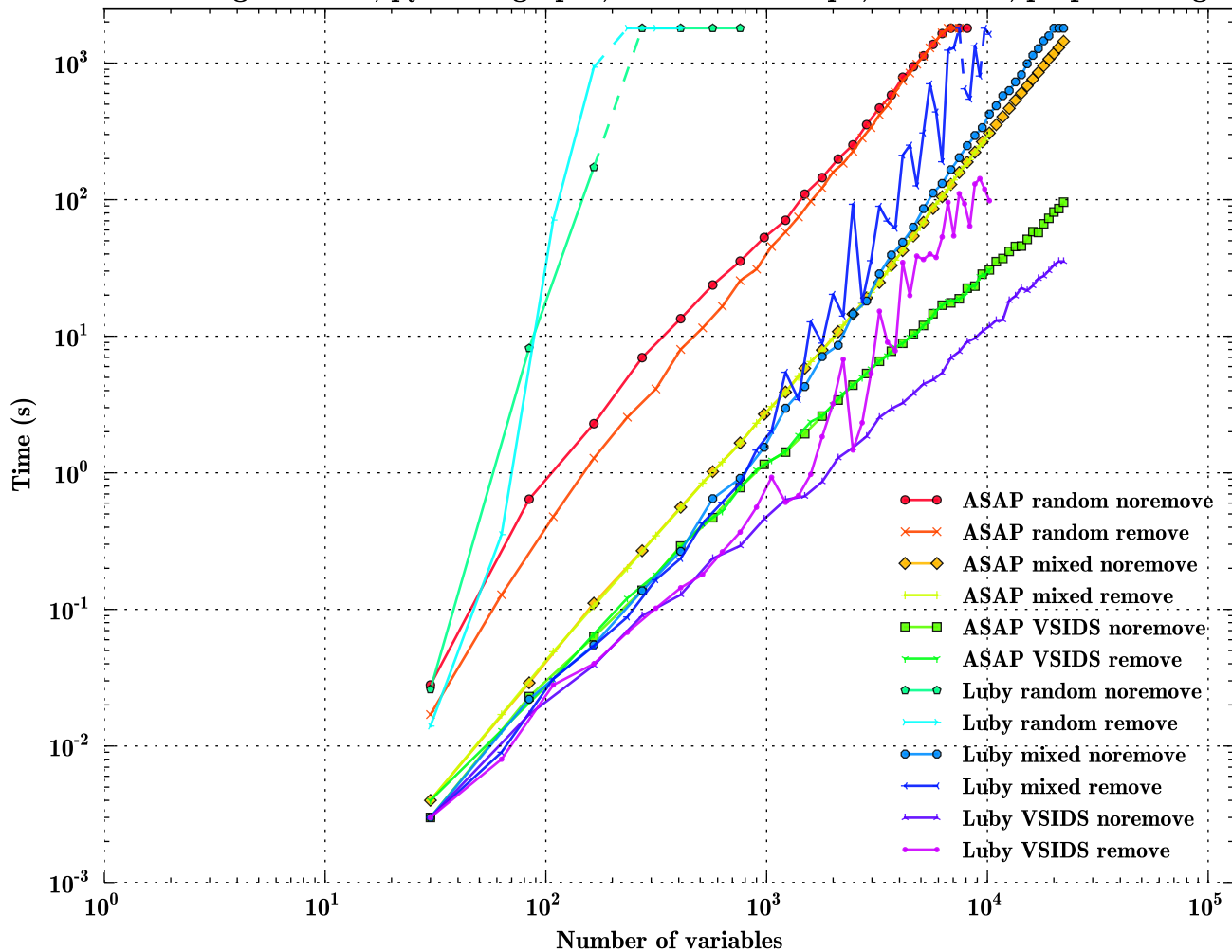
Pebbling formulas, pyramid graphs, substitution neq 3, no shuffle, no preprocessing



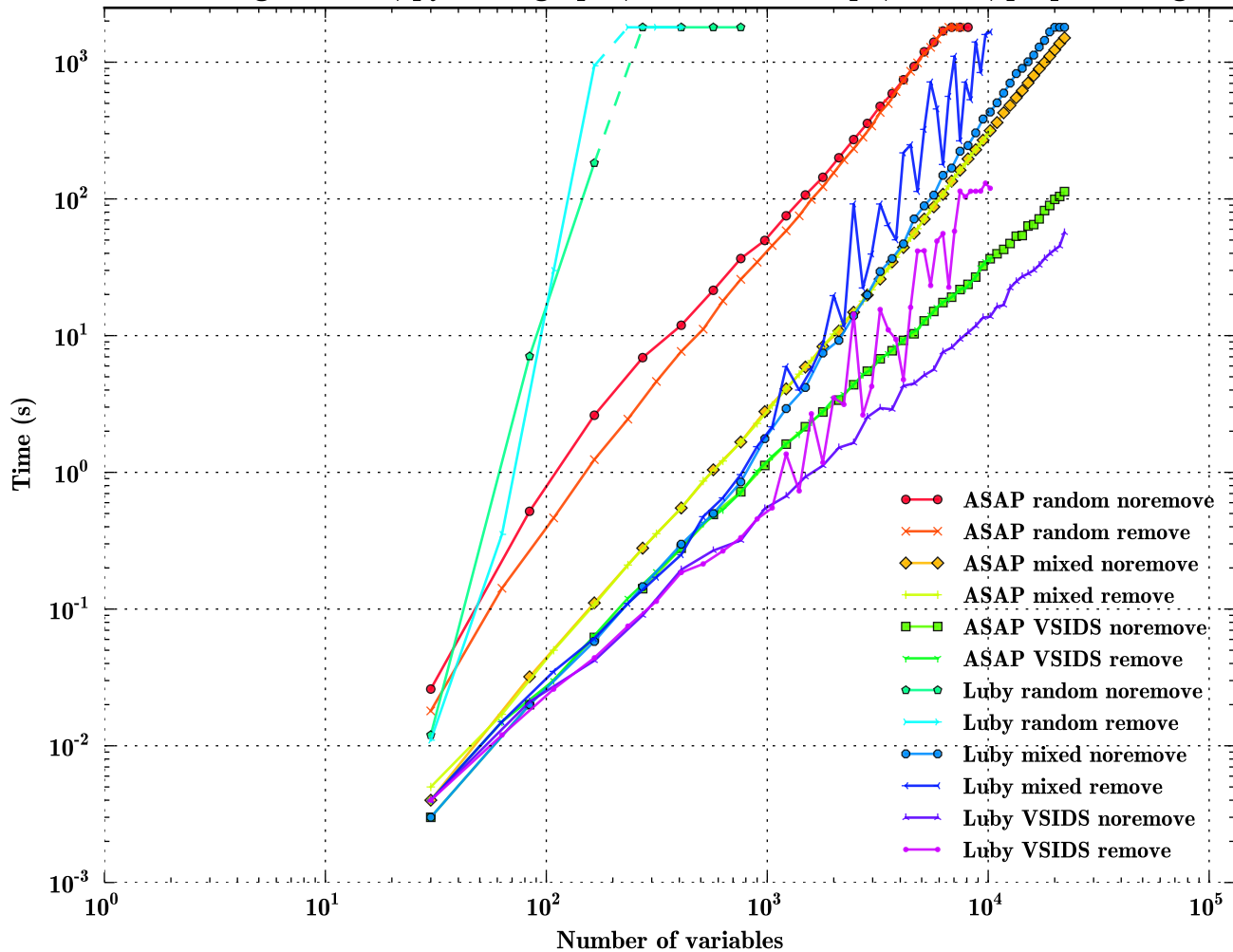
Pebbling formulas, pyramid graphs, substitution neq 3, shuffle, no preprocessing



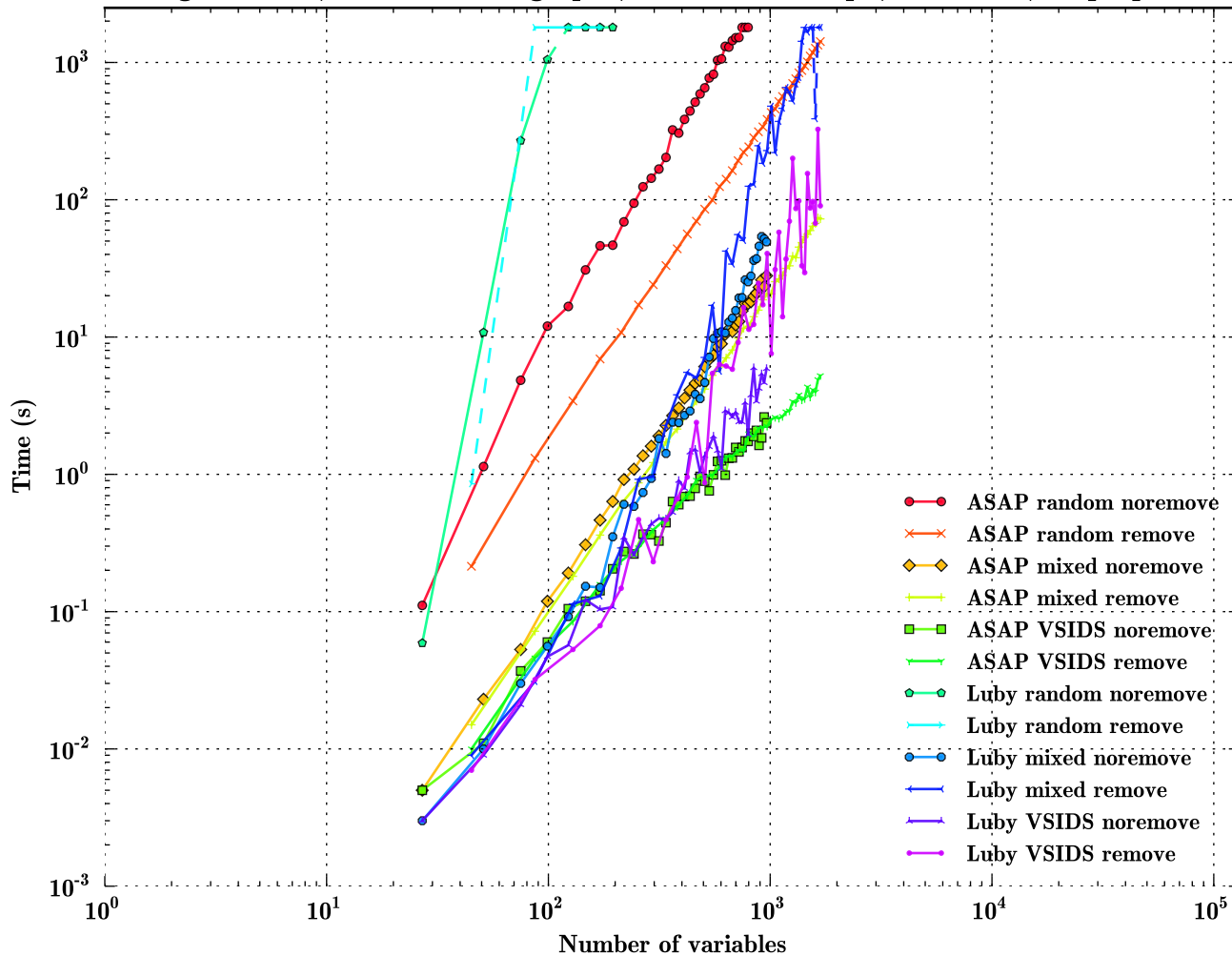
Pebbling formulas, pyramid graphs, substitution neq 3, no shuffle, preprocessing



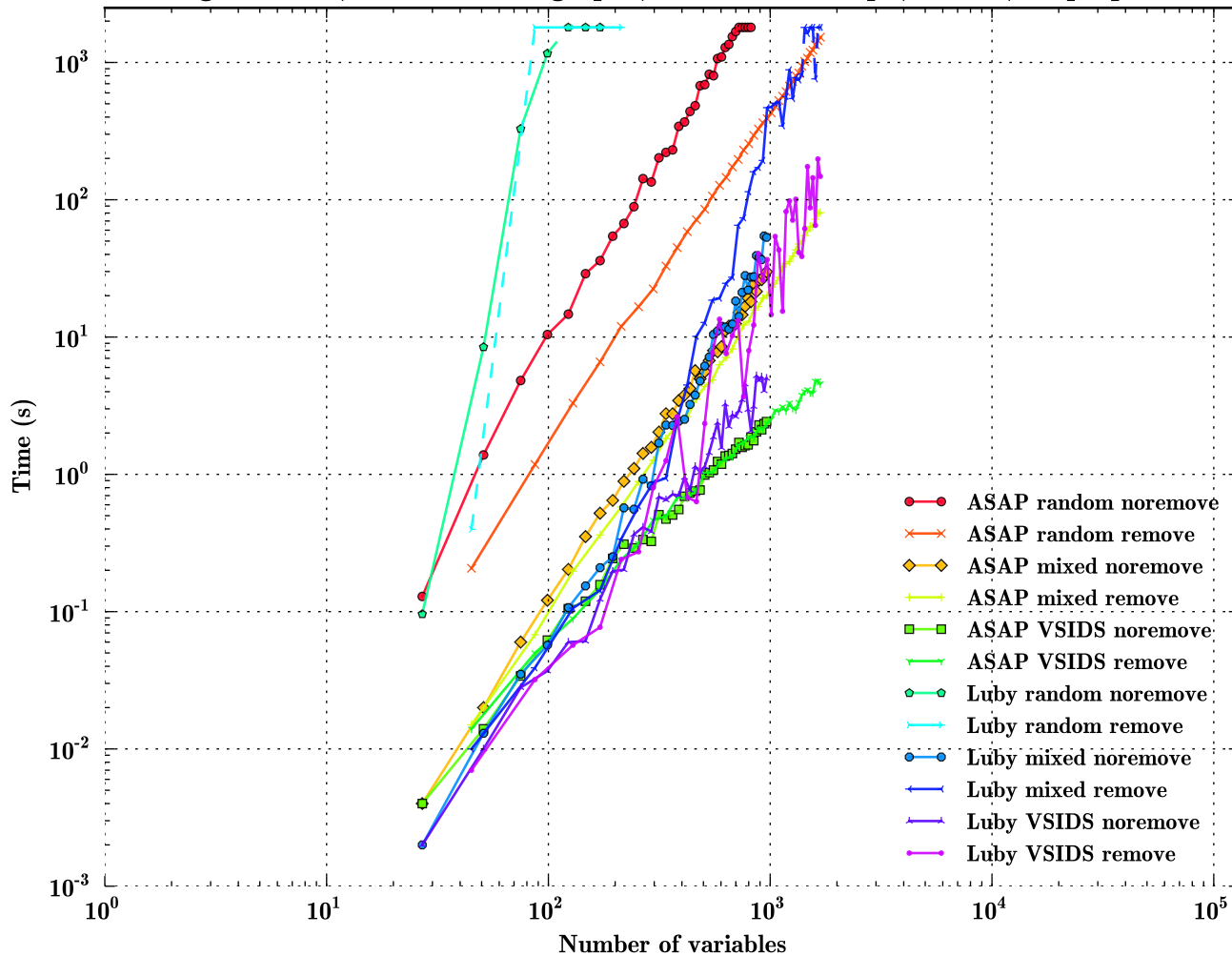
Pebbling formulas, pyramid graphs, substitution neq 3, shuffle, preprocessing



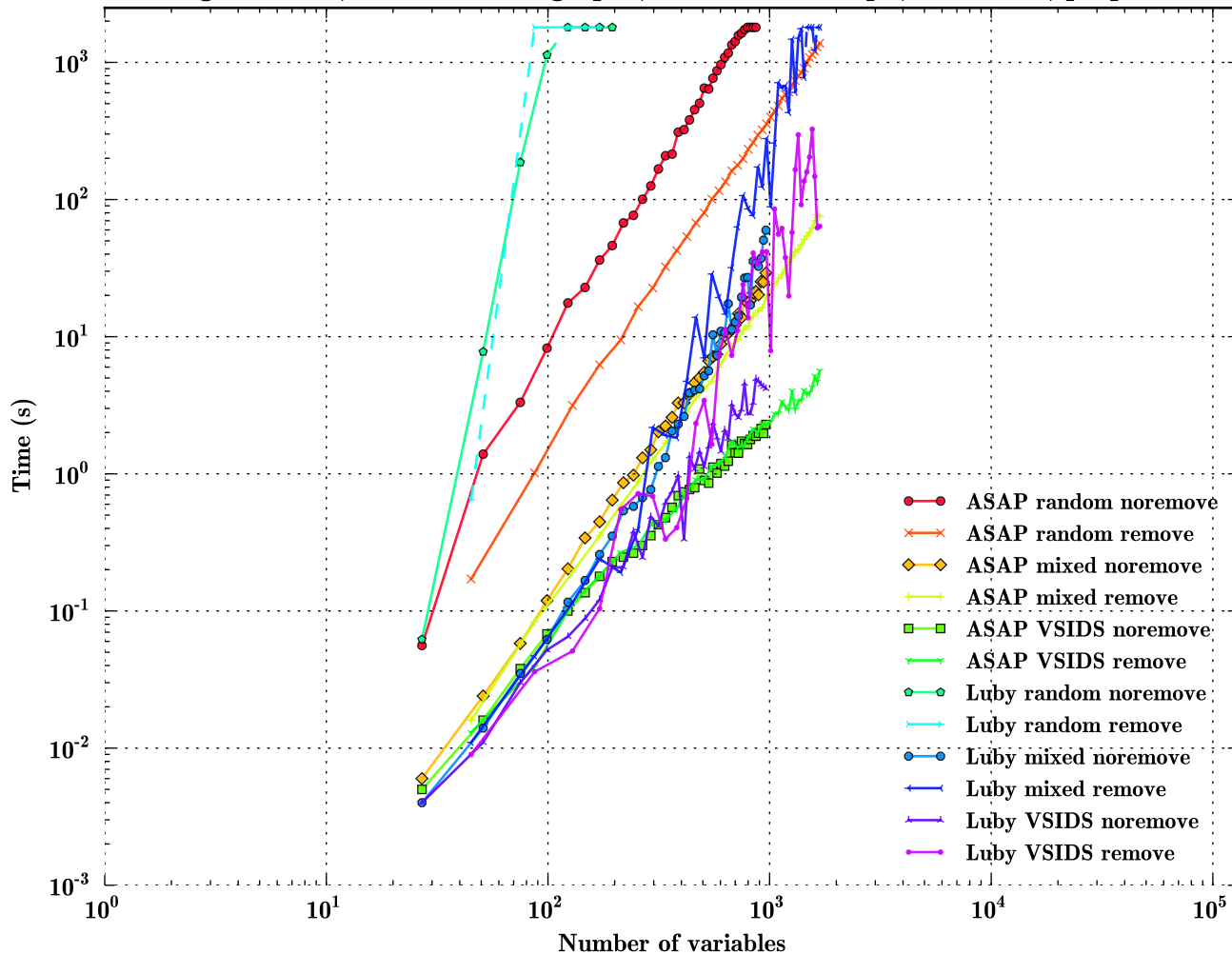
Pebbling formulas, width 2 chain graphs, substitution neq 3, no shuffle, no preprocessing



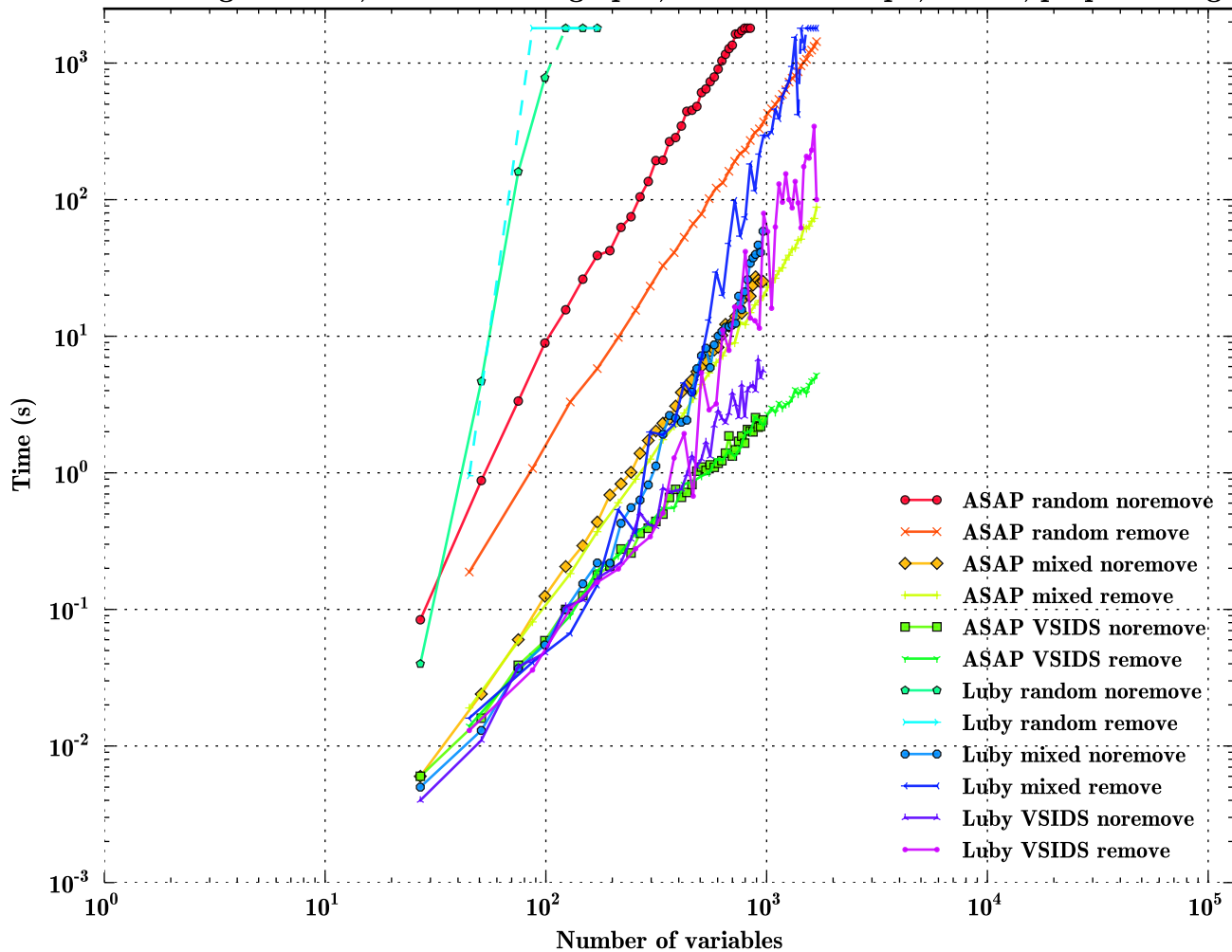
Pebbling formulas, width 2 chain graphs, substitution neq 3, shuffle, no preprocessing



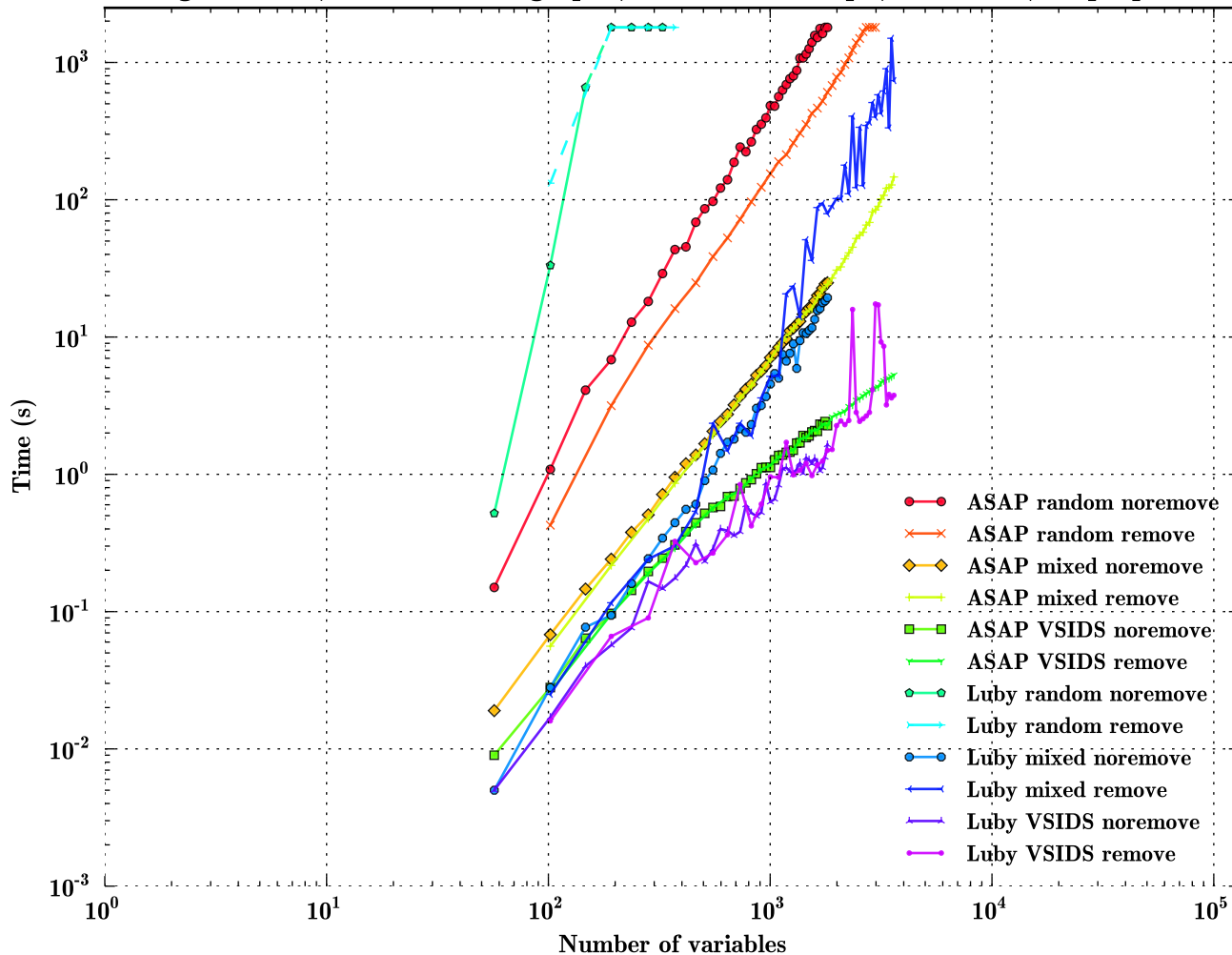
Pebbling formulas, width 2 chain graphs, substitution neq 3, no shuffle, preprocessing



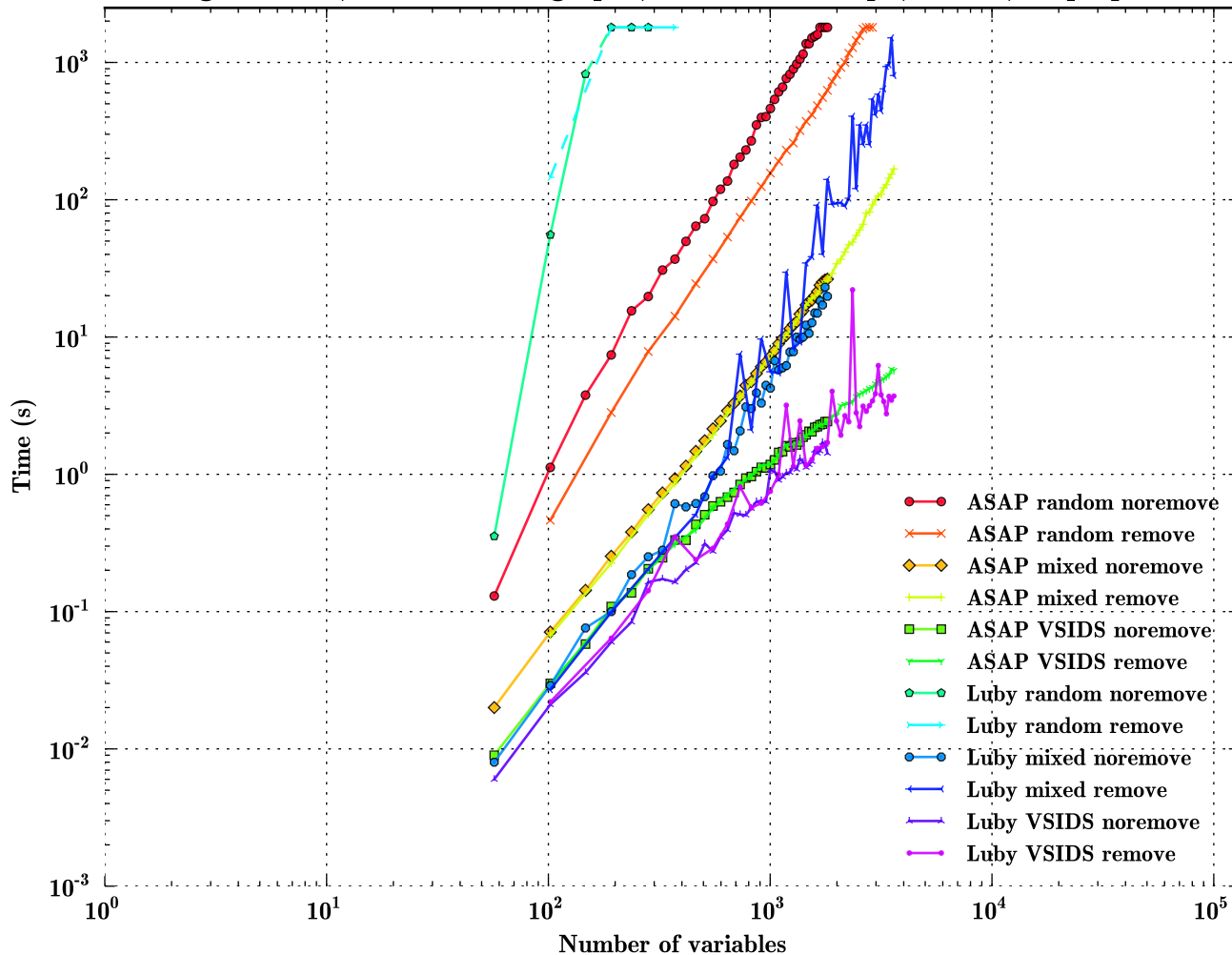
Pebbling formulas, width 2 chain graphs, substitution neq 3, shuffle, preprocessing



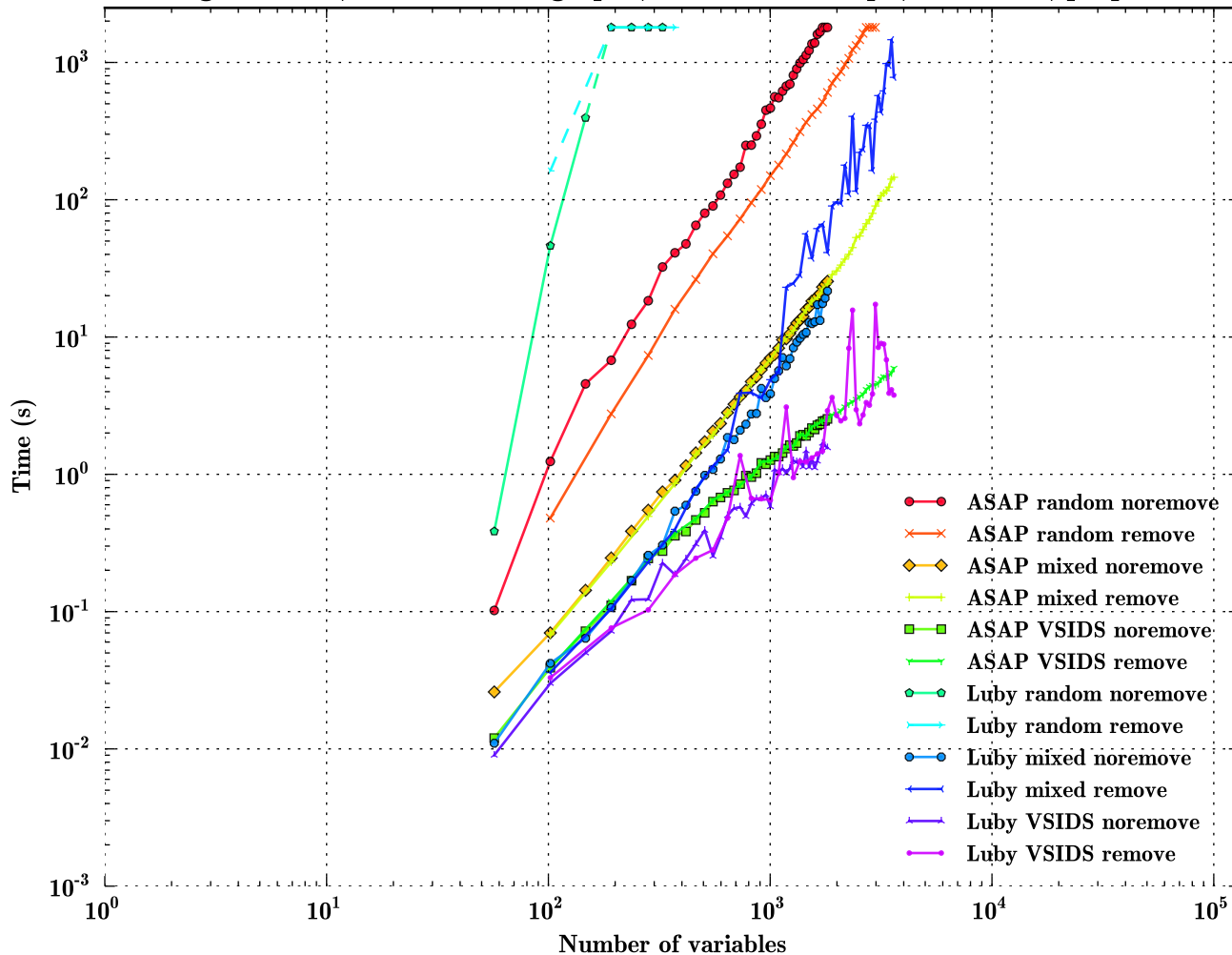
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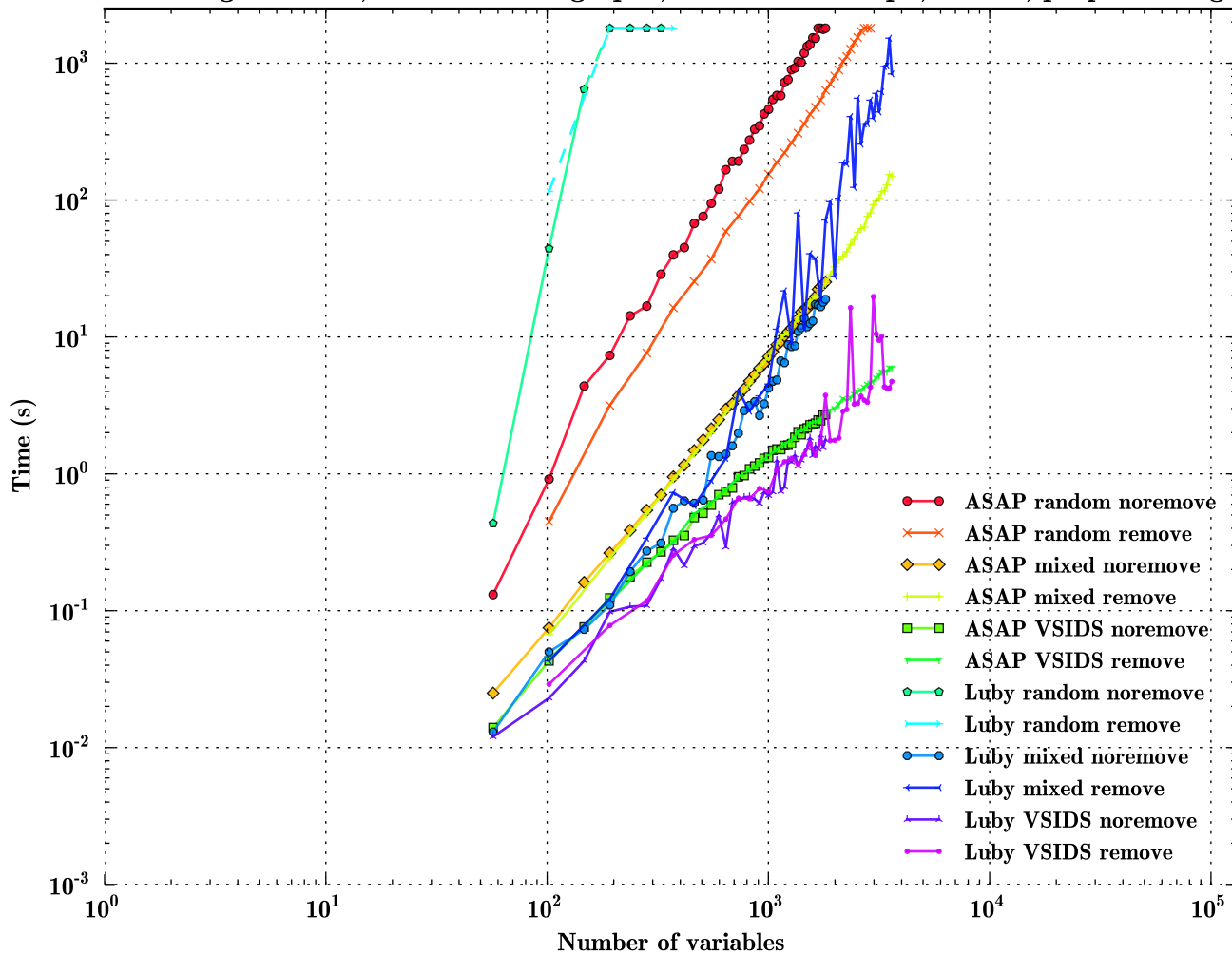
Pebbling formulas, width 5 chain graphs, substitution neq 3, shuffle, no preprocessing



Pebbling formulas, width 5 chain graphs, substitution neq 3, no shuffle, preprocessing

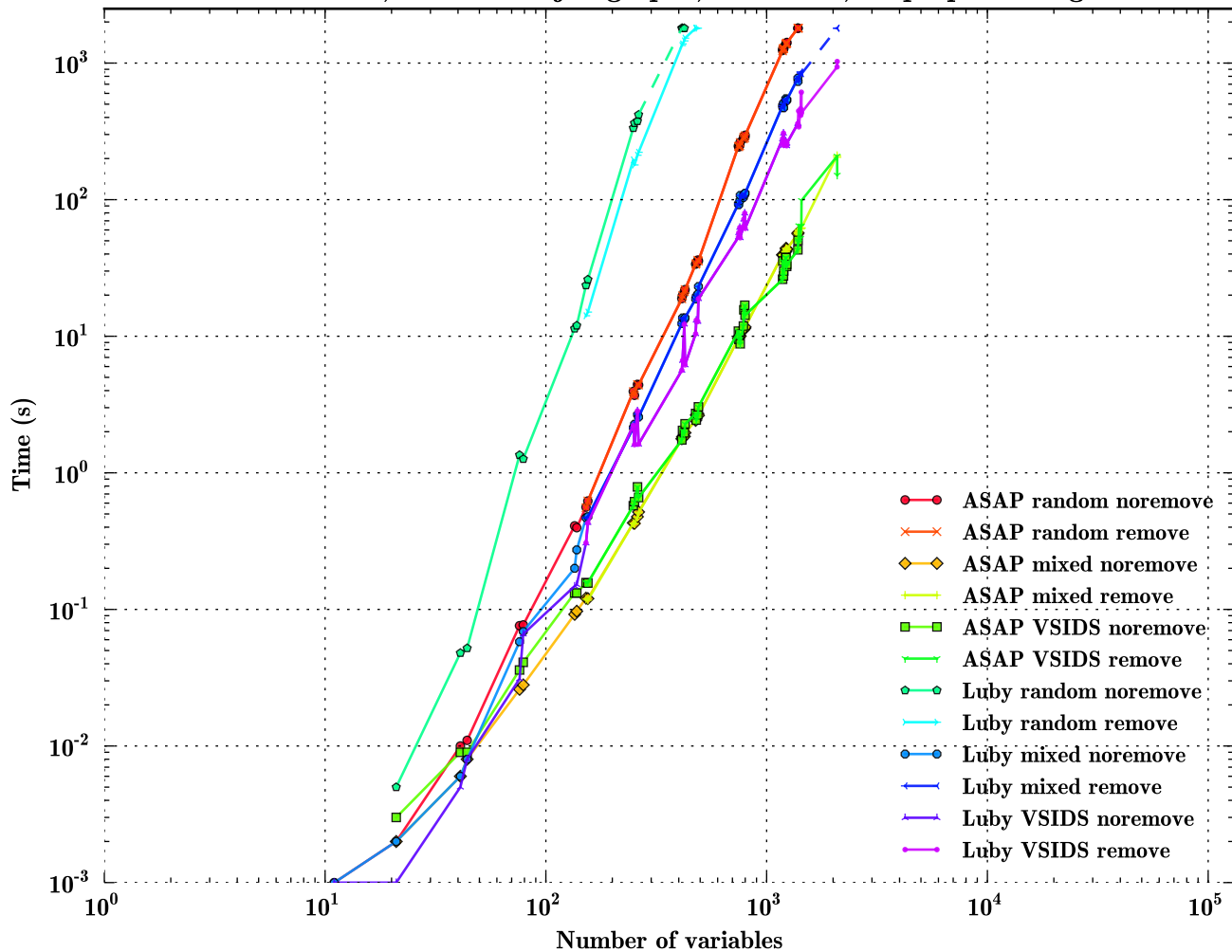


Pebbling formulas, width 5 chain graphs, substitution neq 3, shuffle, preprocessing

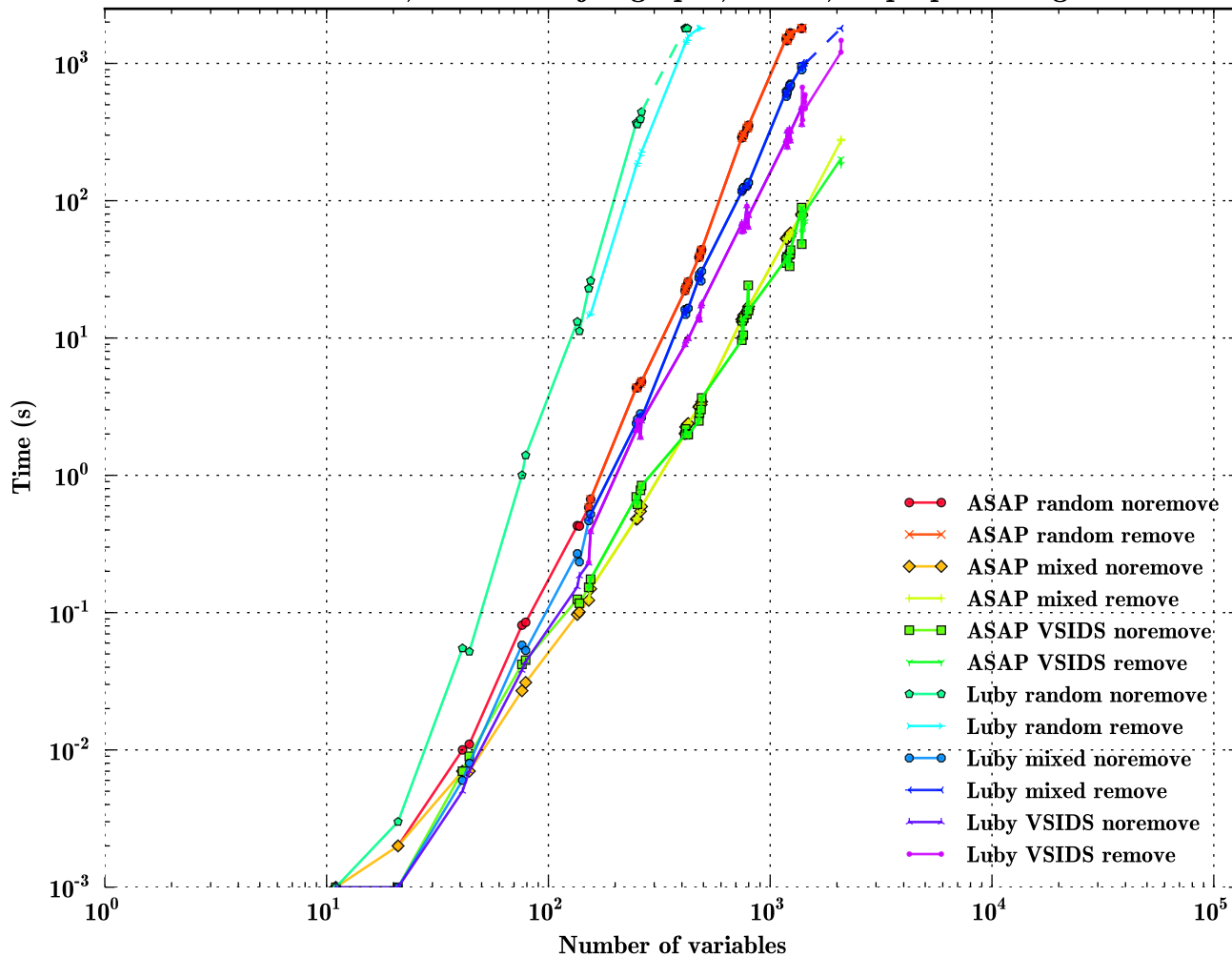


Cartesian products of vanilla pebbling formulas

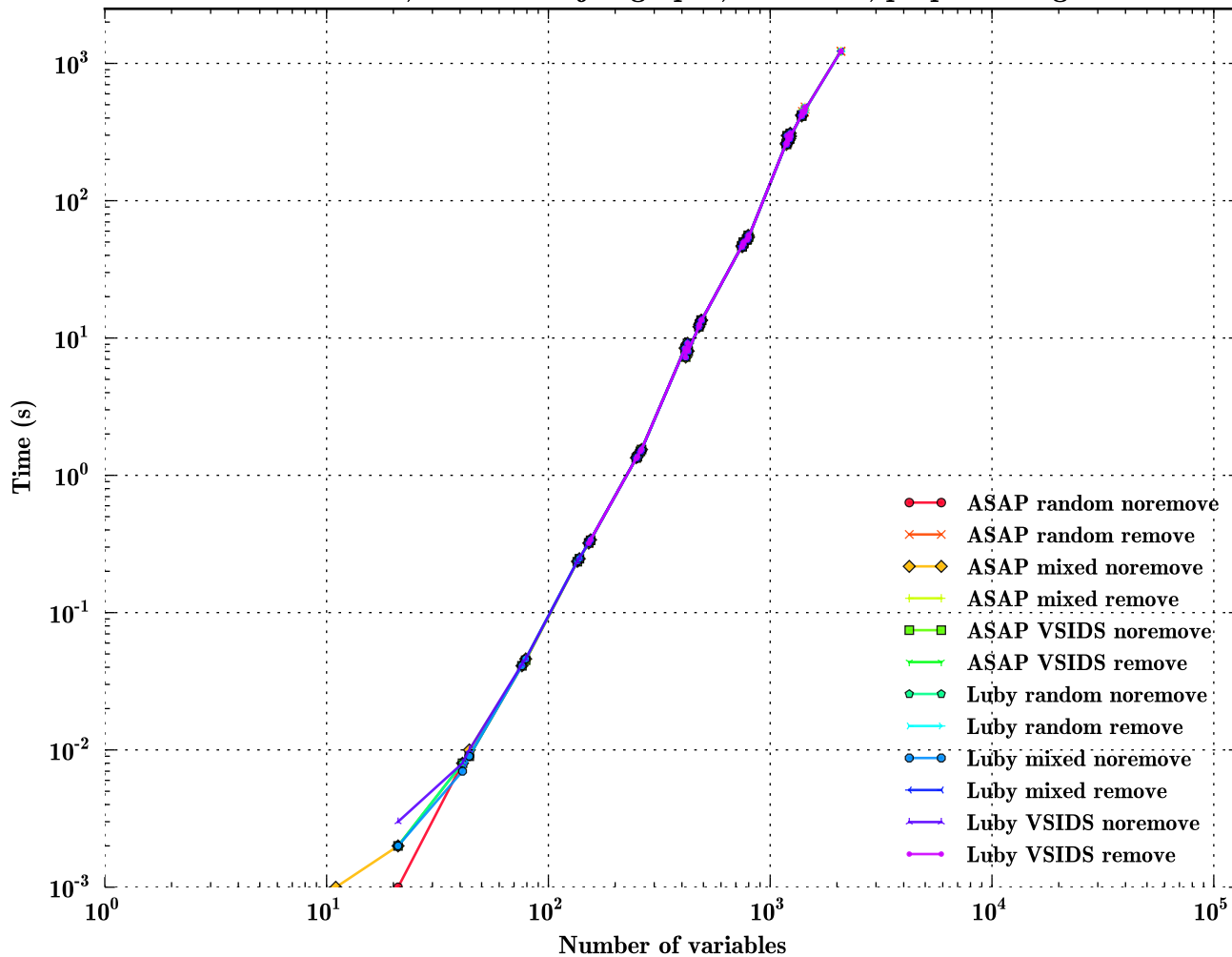
Cartesian, Gilbert-Tarjan graphs, no shuffle, no preprocessing



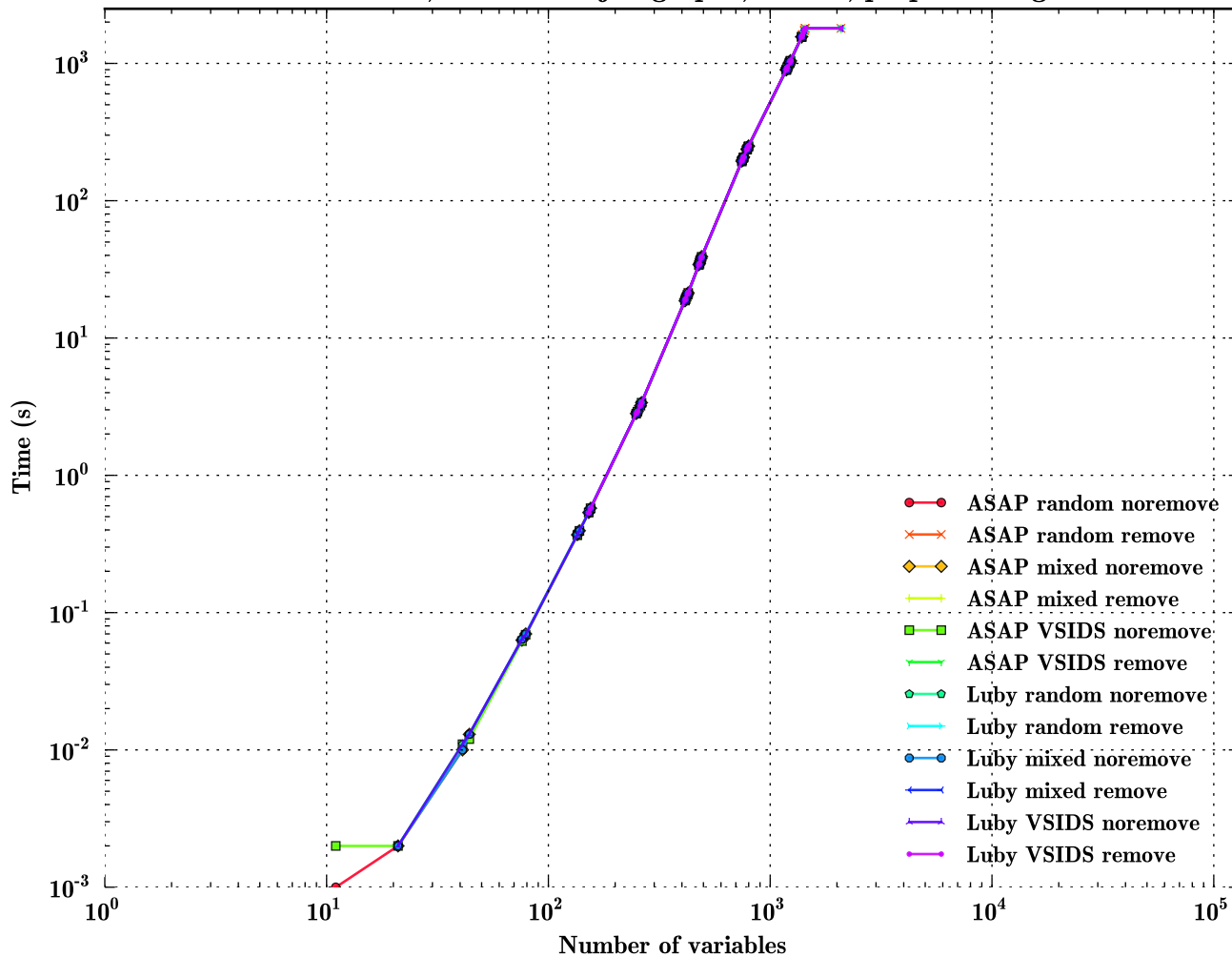
Cartesian, Gilbert-Tarjan graphs, shuffle, no preprocessing



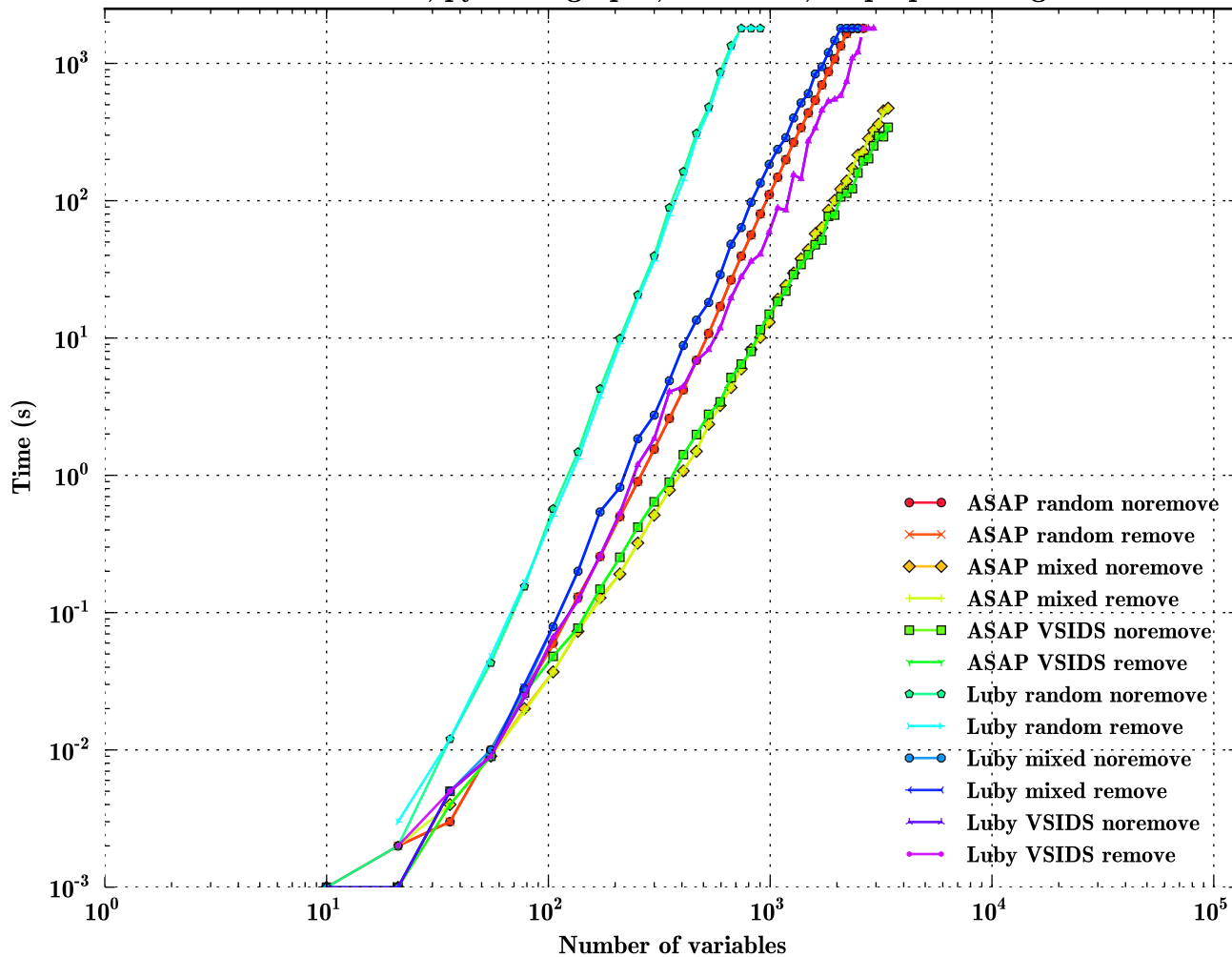
Cartesian, Gilbert-Tarjan graphs, no shuffle, preprocessing



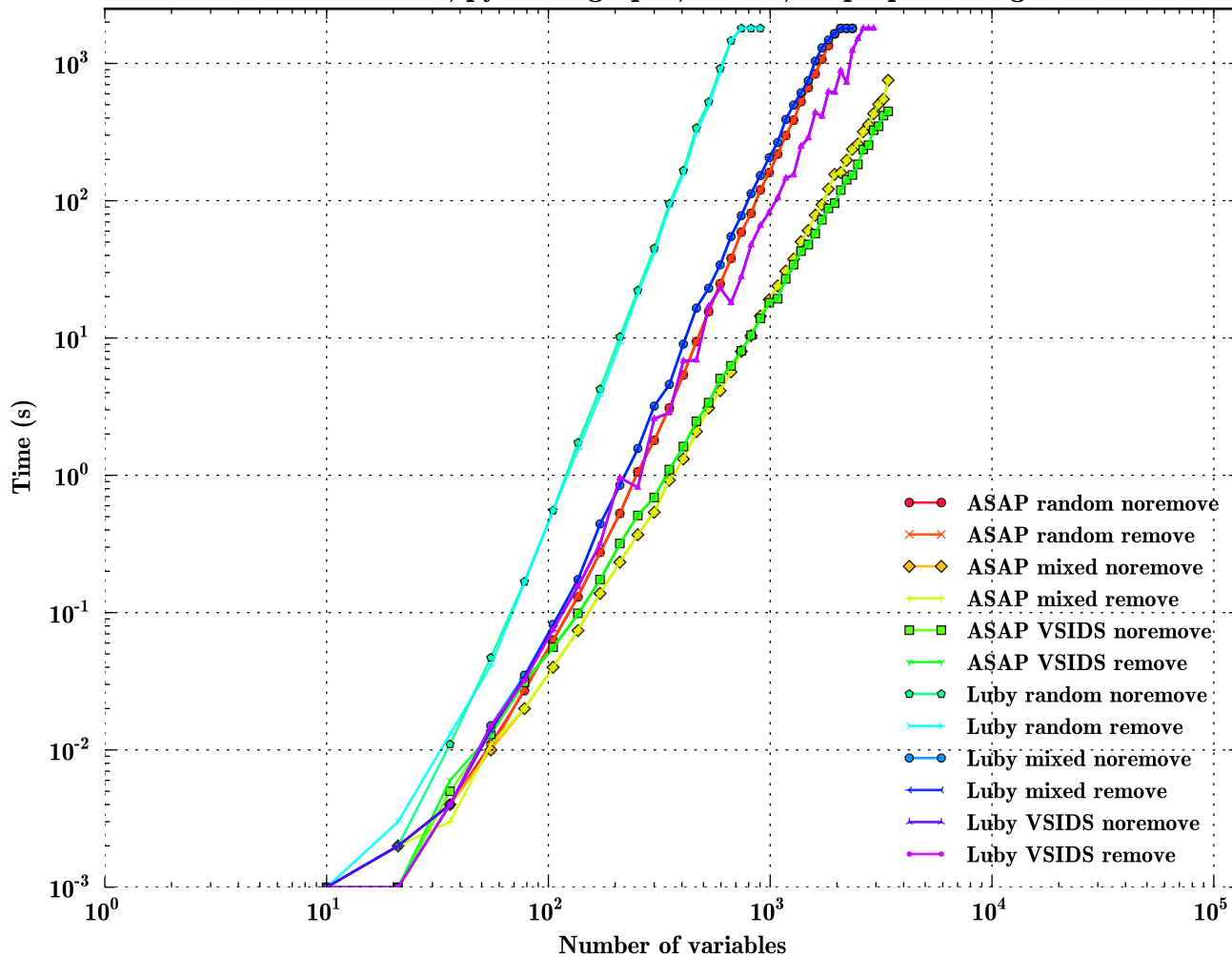
Cartesian, Gilbert-Tarjan graphs, shuffle, preprocessing



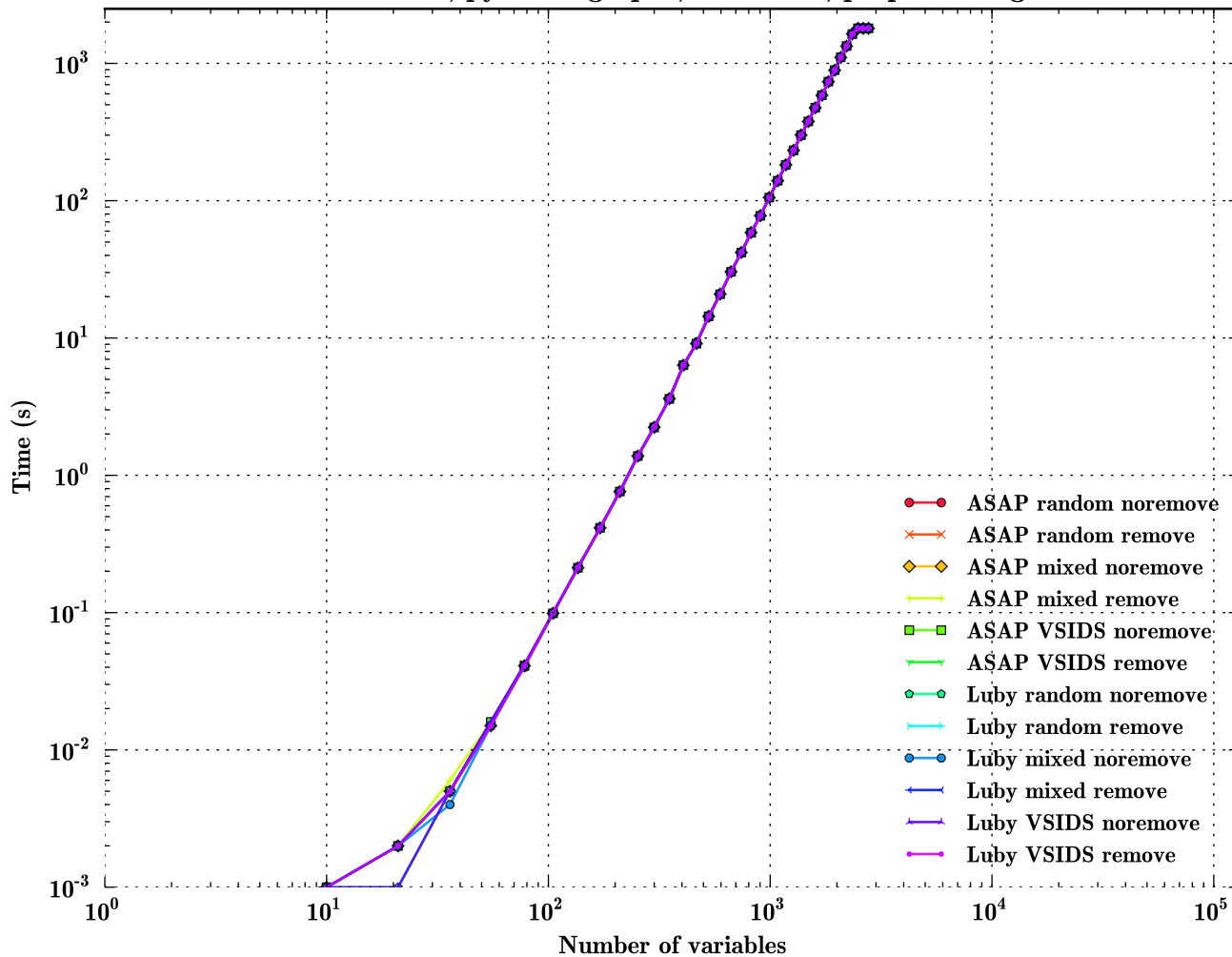
Cartesian, pyramid graphs, no shuffle, no preprocessing



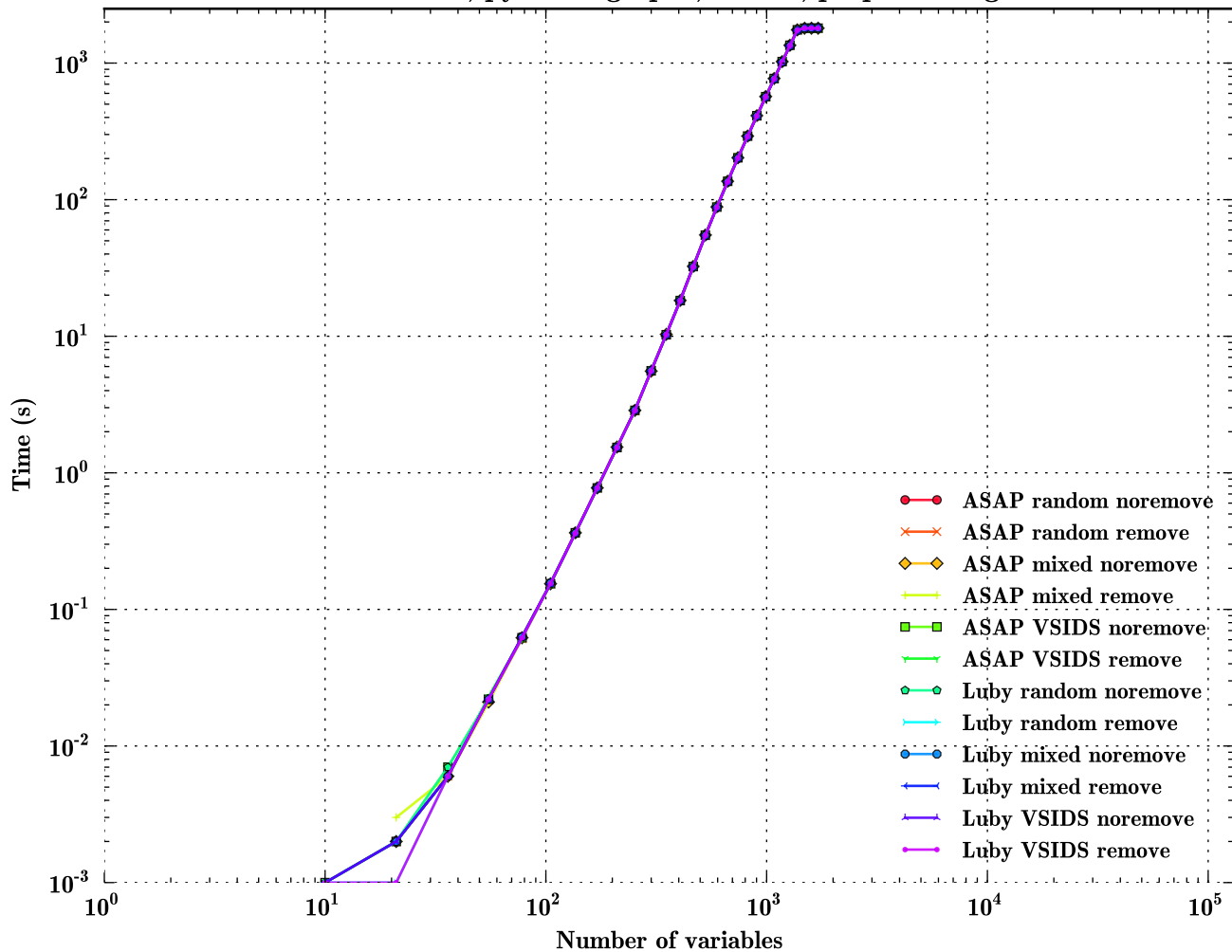
Cartesian, pyramid graphs, shuffle, no preprocessing



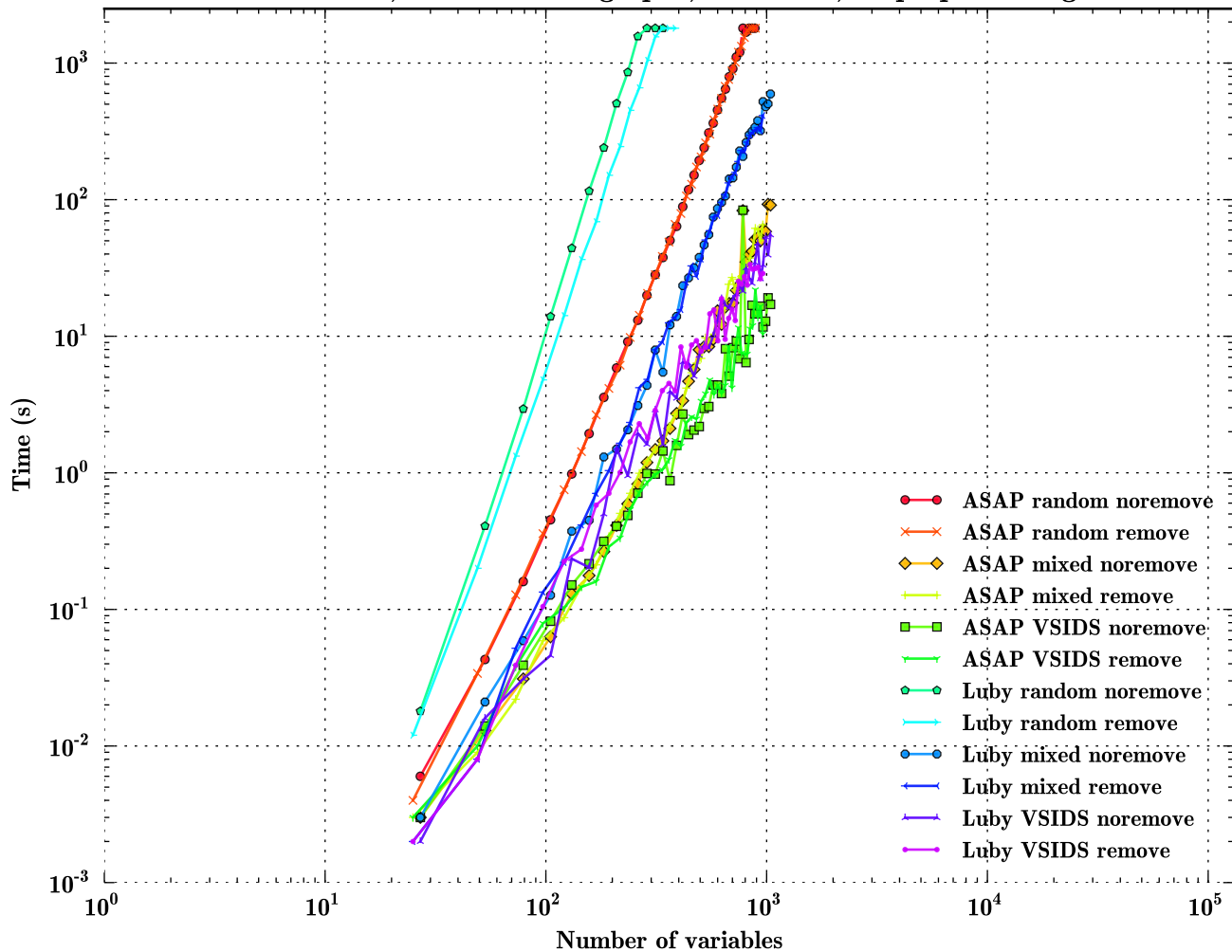
Cartesian, pyramid graphs, no shuffle, preprocessing



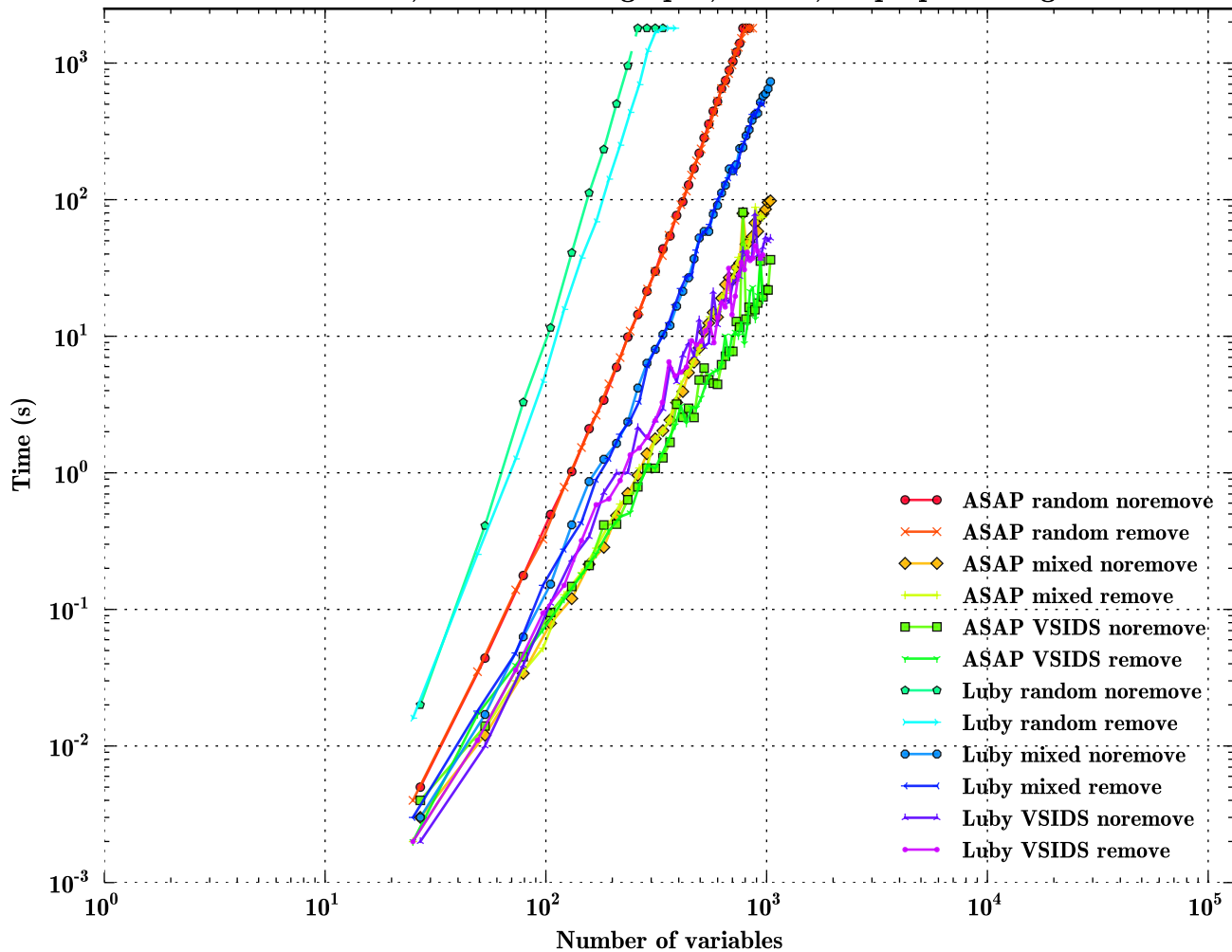
Cartesian, pyramid graphs, shuffle, preprocessing



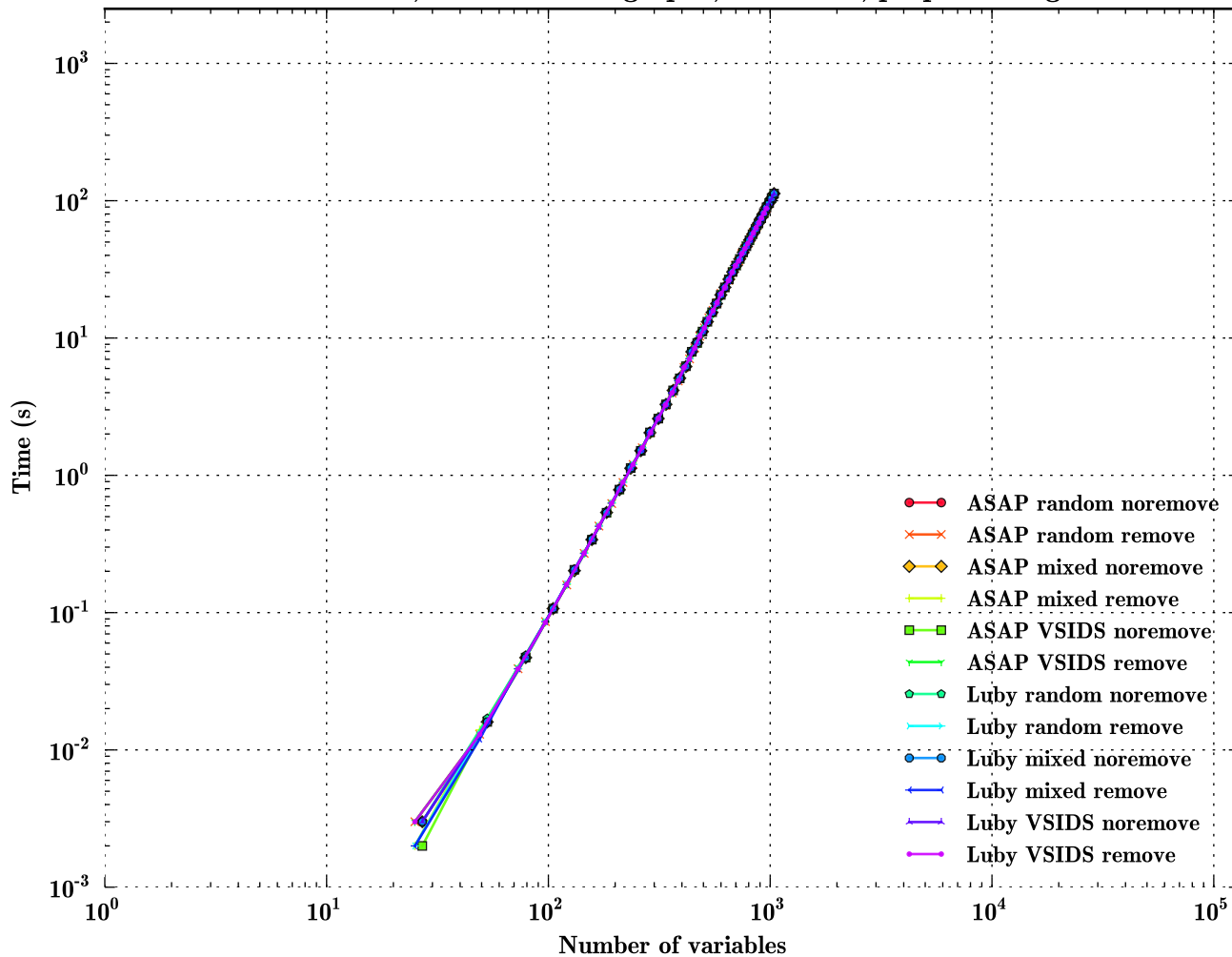
Cartesian, width 2 chain graphs, no shuffle, no preprocessing



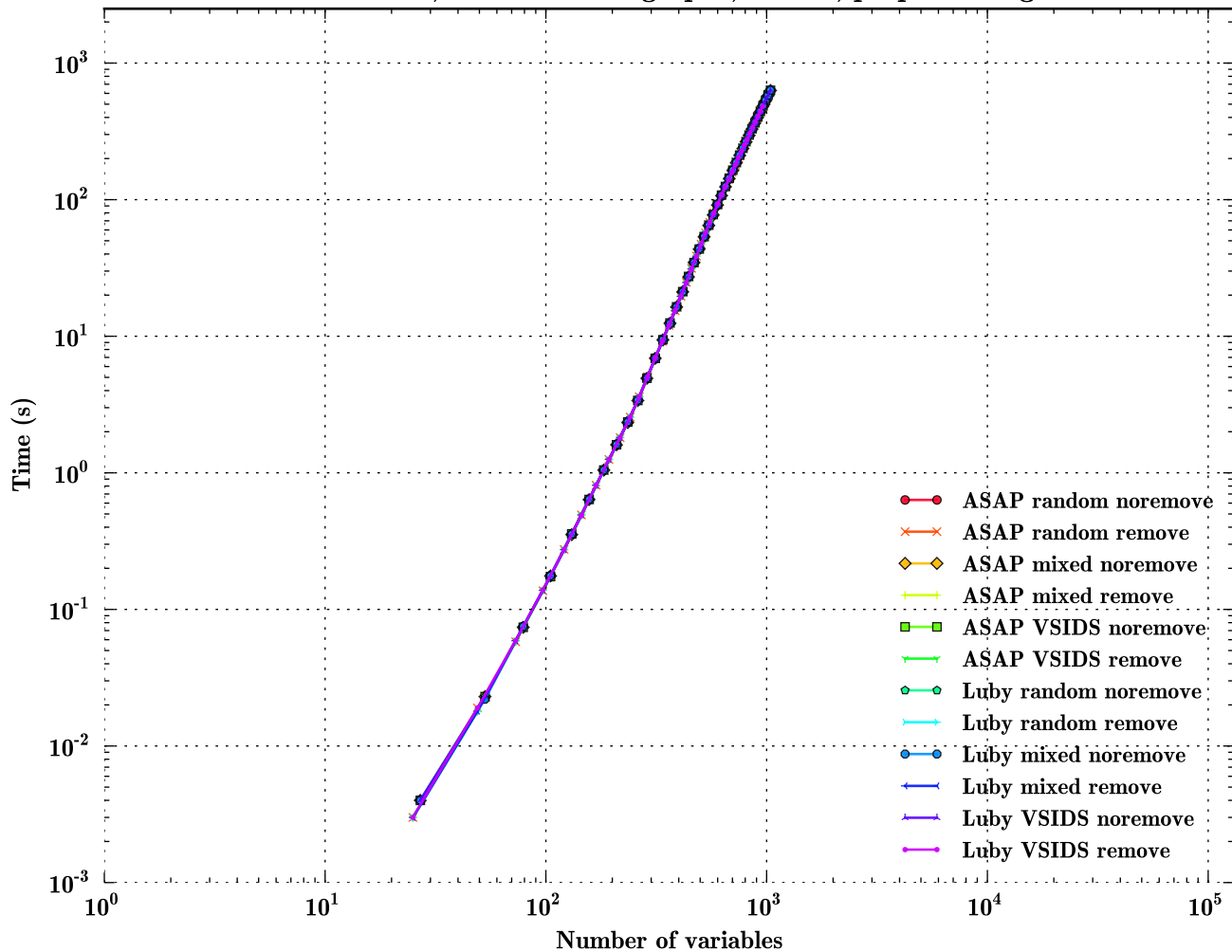
Cartesian, width 2 chain graphs, shuffle, no preprocessing



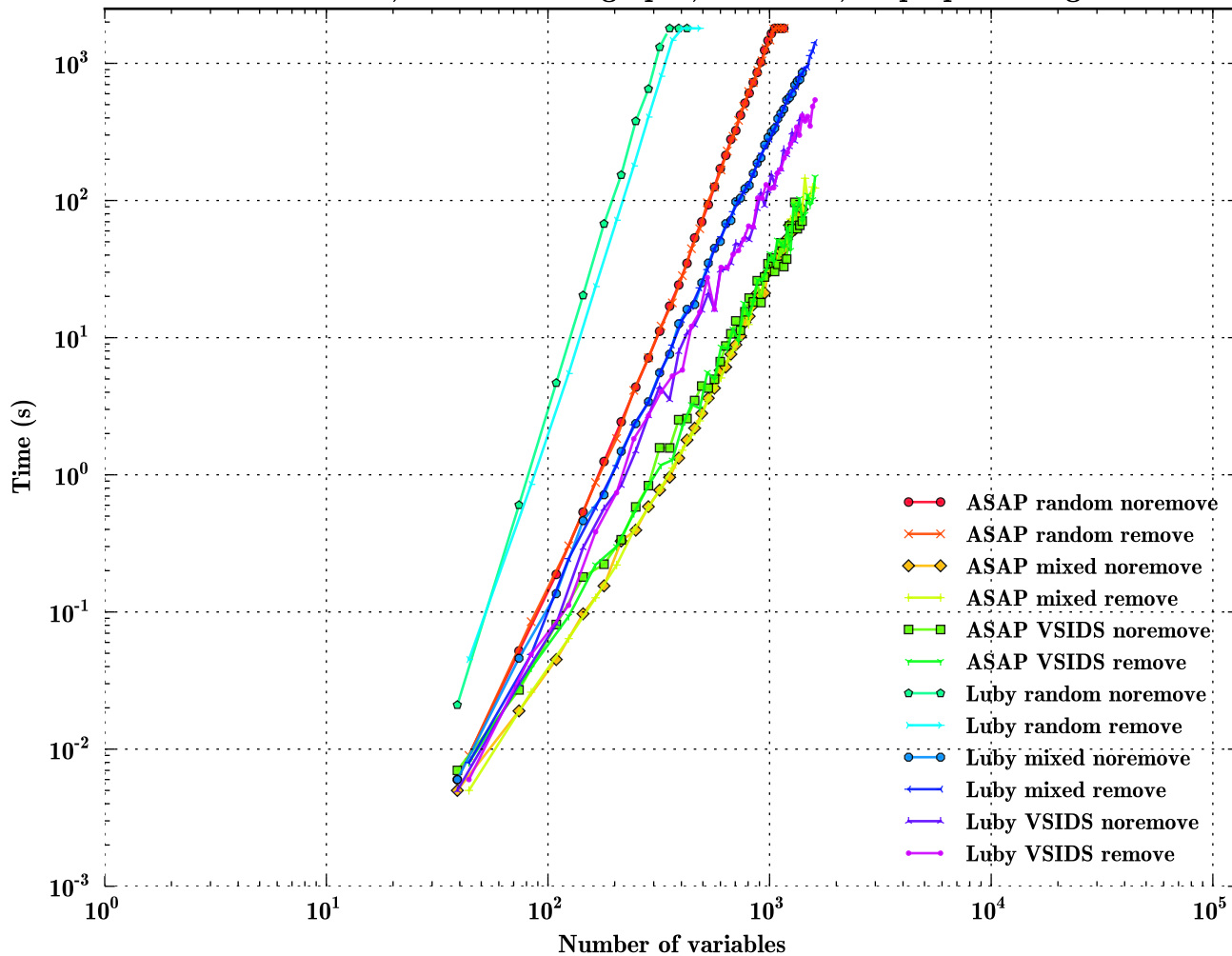
Cartesian, width 2 chain graphs, no shuffle, preprocessing



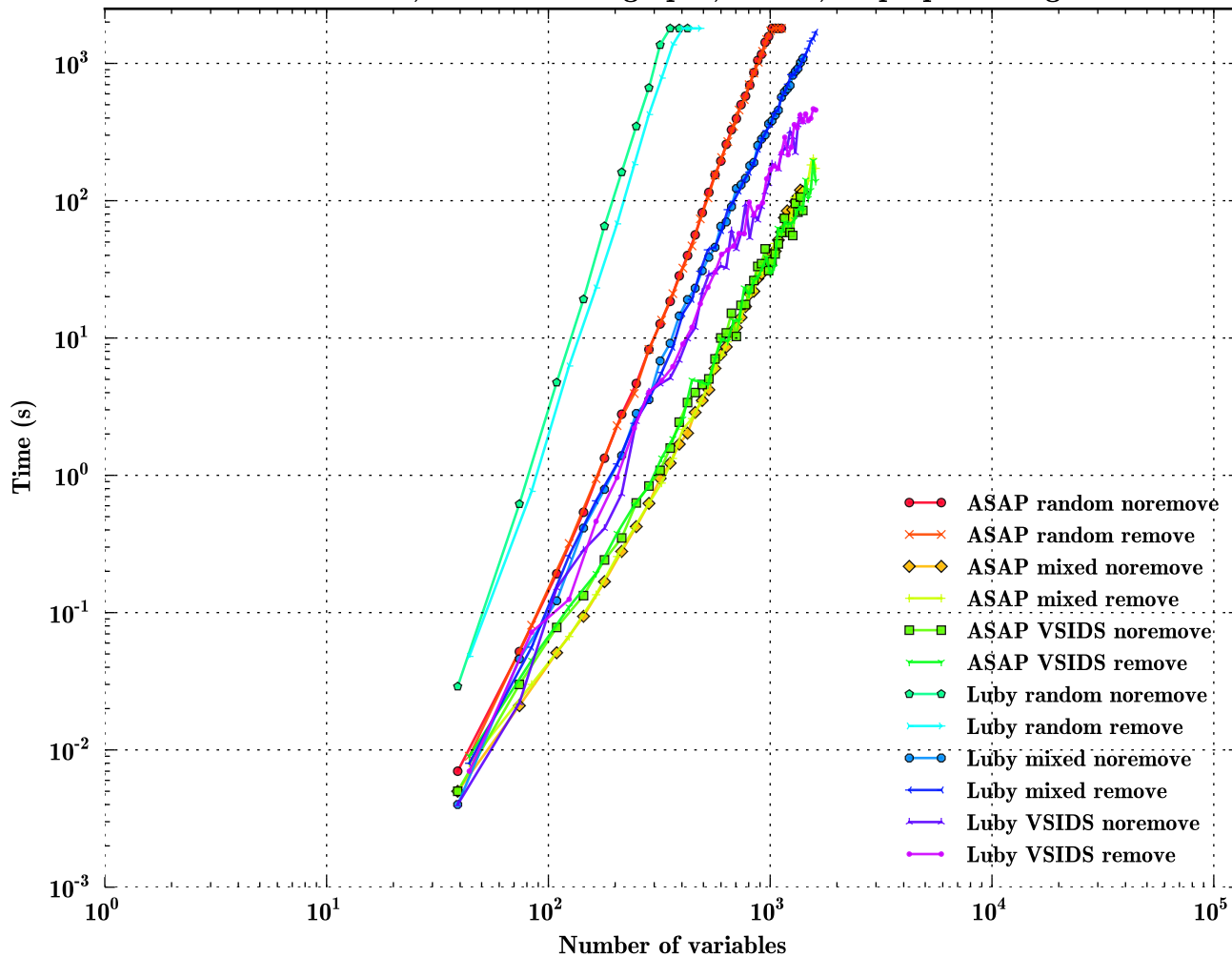
Cartesian, width 2 chain graphs, shuffle, preprocessing



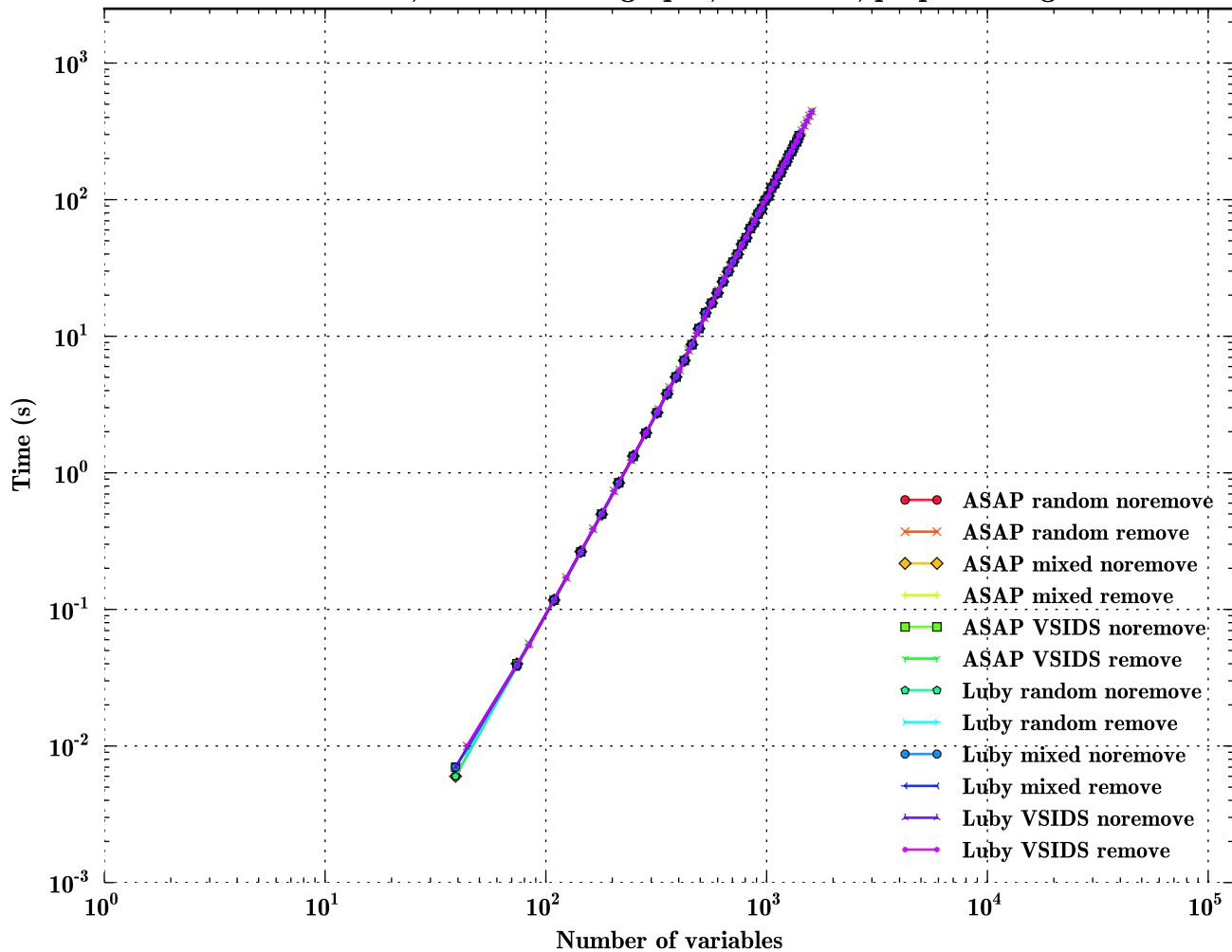
Cartesian, width 5 chain graphs, no shuffle, no preprocessing



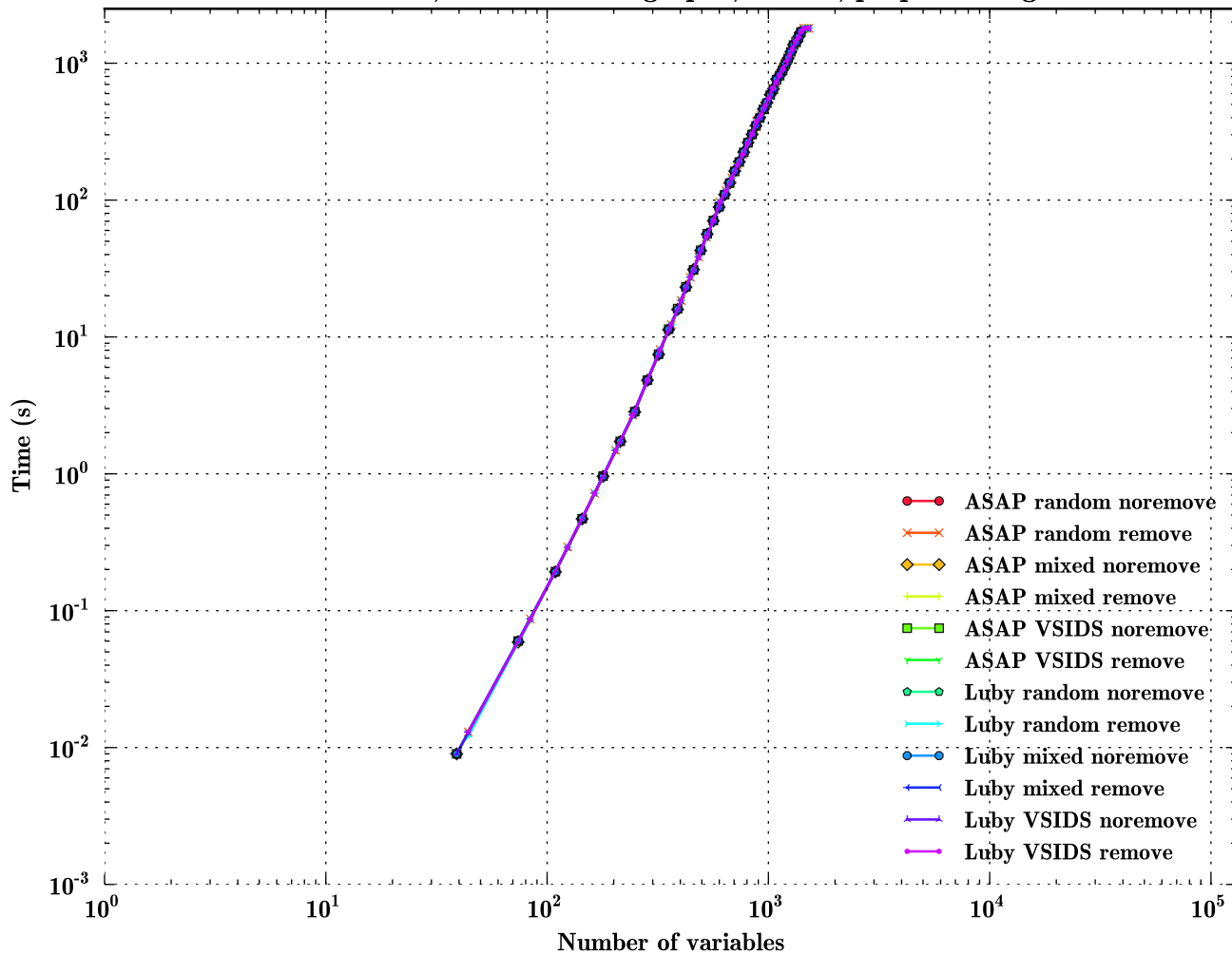
Cartesian, width 5 chain graphs, shuffle, no preprocessing



Cartesian, width 5 chain graphs, no shuffle, preprocessing

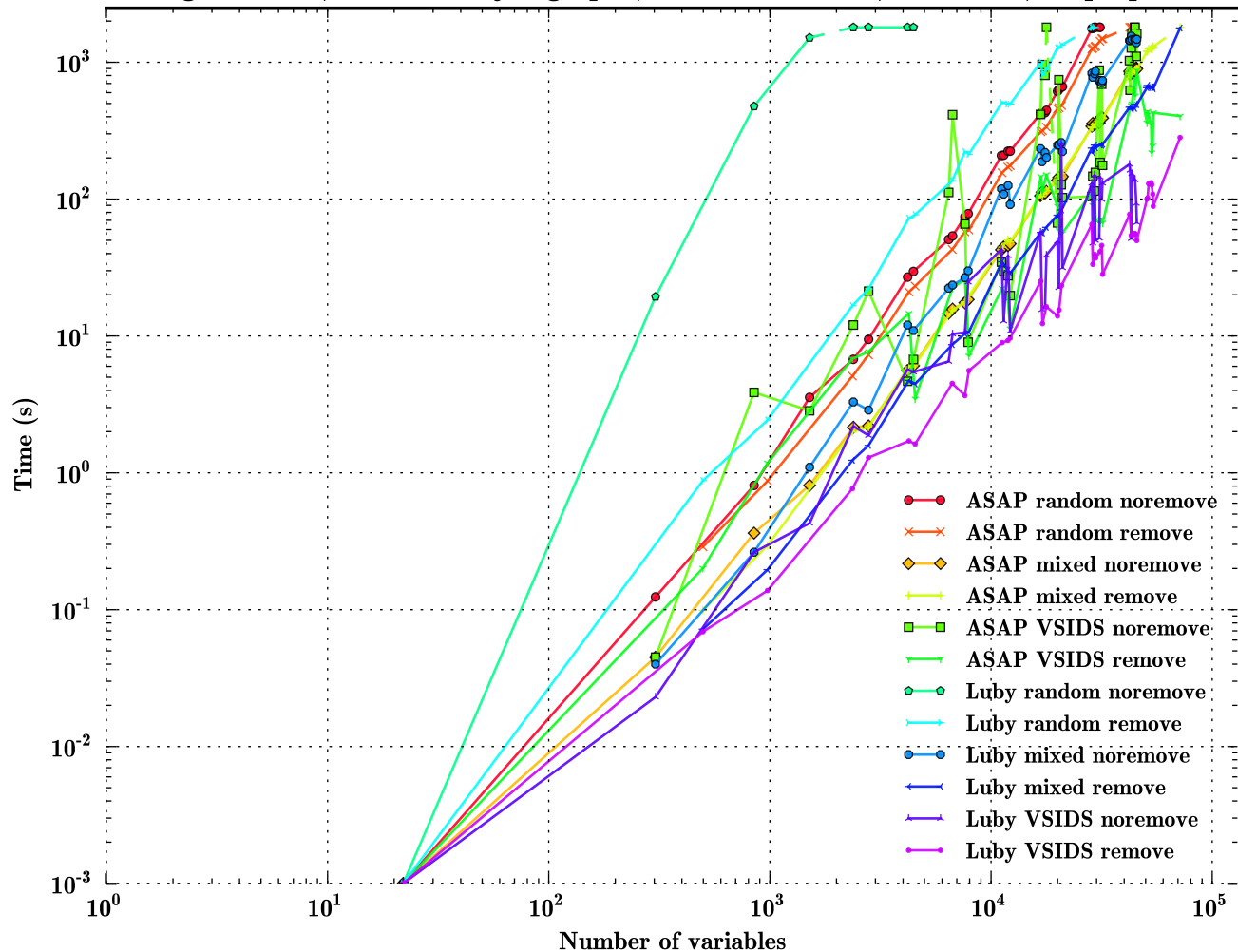


Cartesian, width 5 chain graphs, shuffle, preprocessing

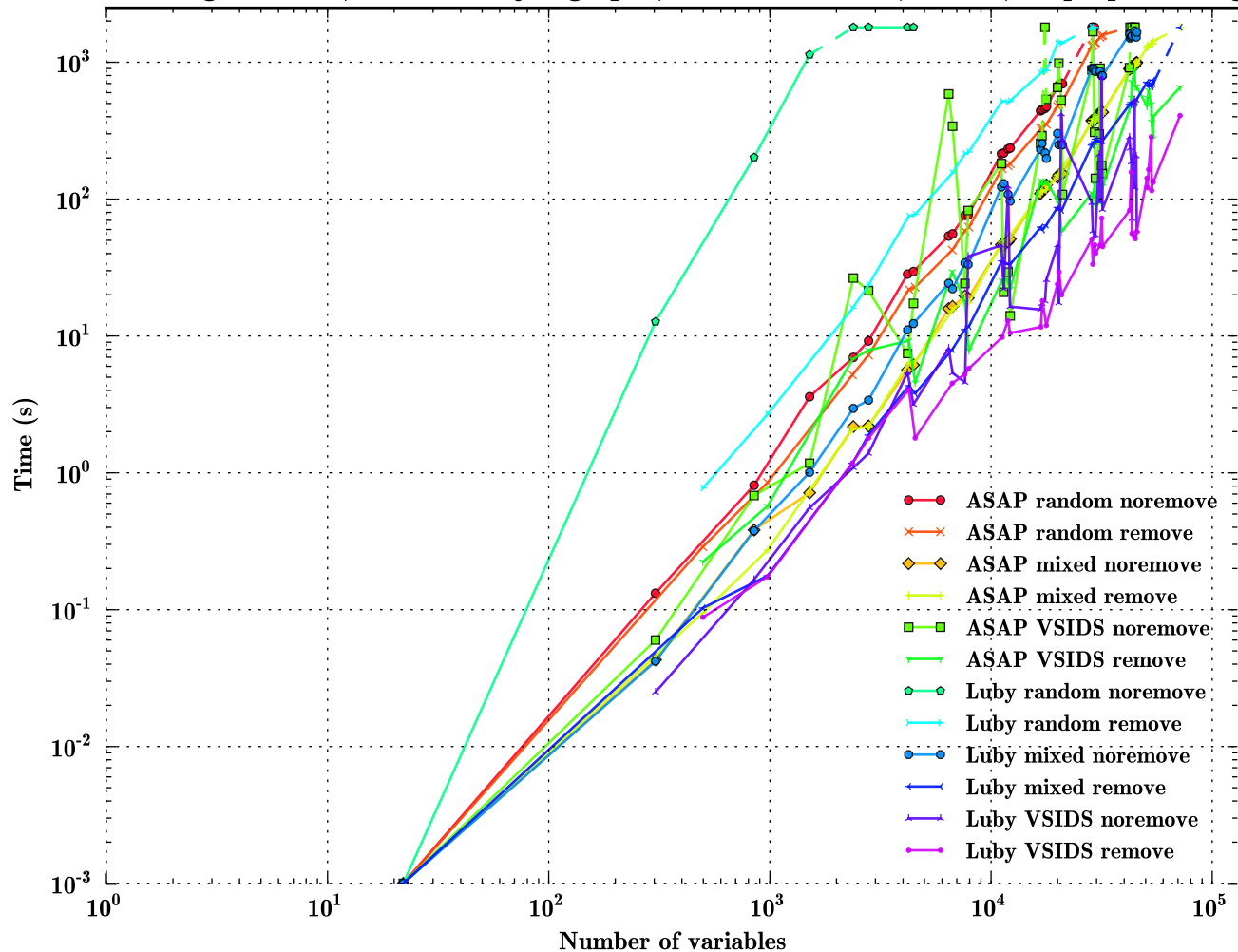


**Pebbling formulas with
substitution or of arity 2**

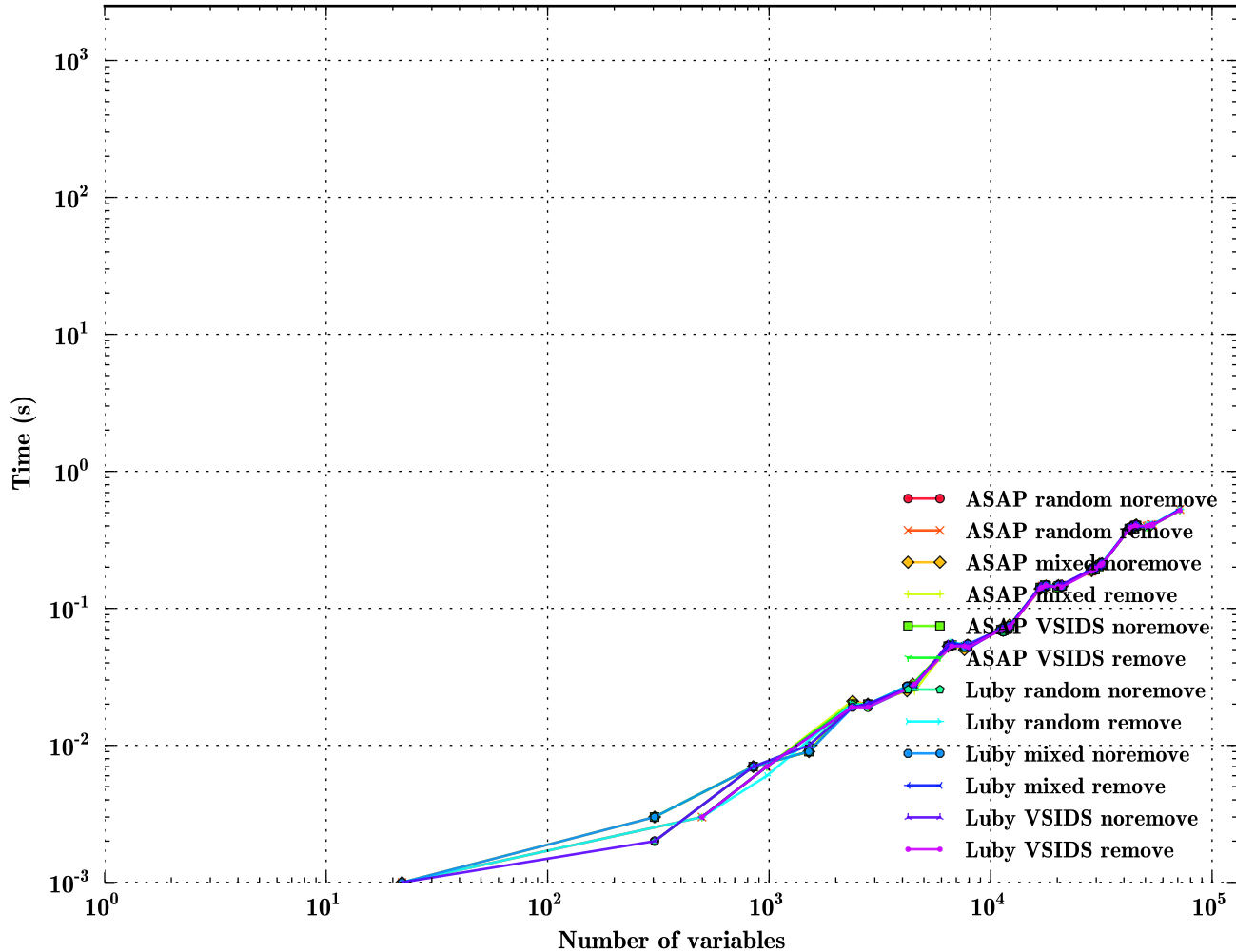
Pebbling formulas, Gilbert-Tarjan graphs, substitution or 2, no shuffle, no preprocessing



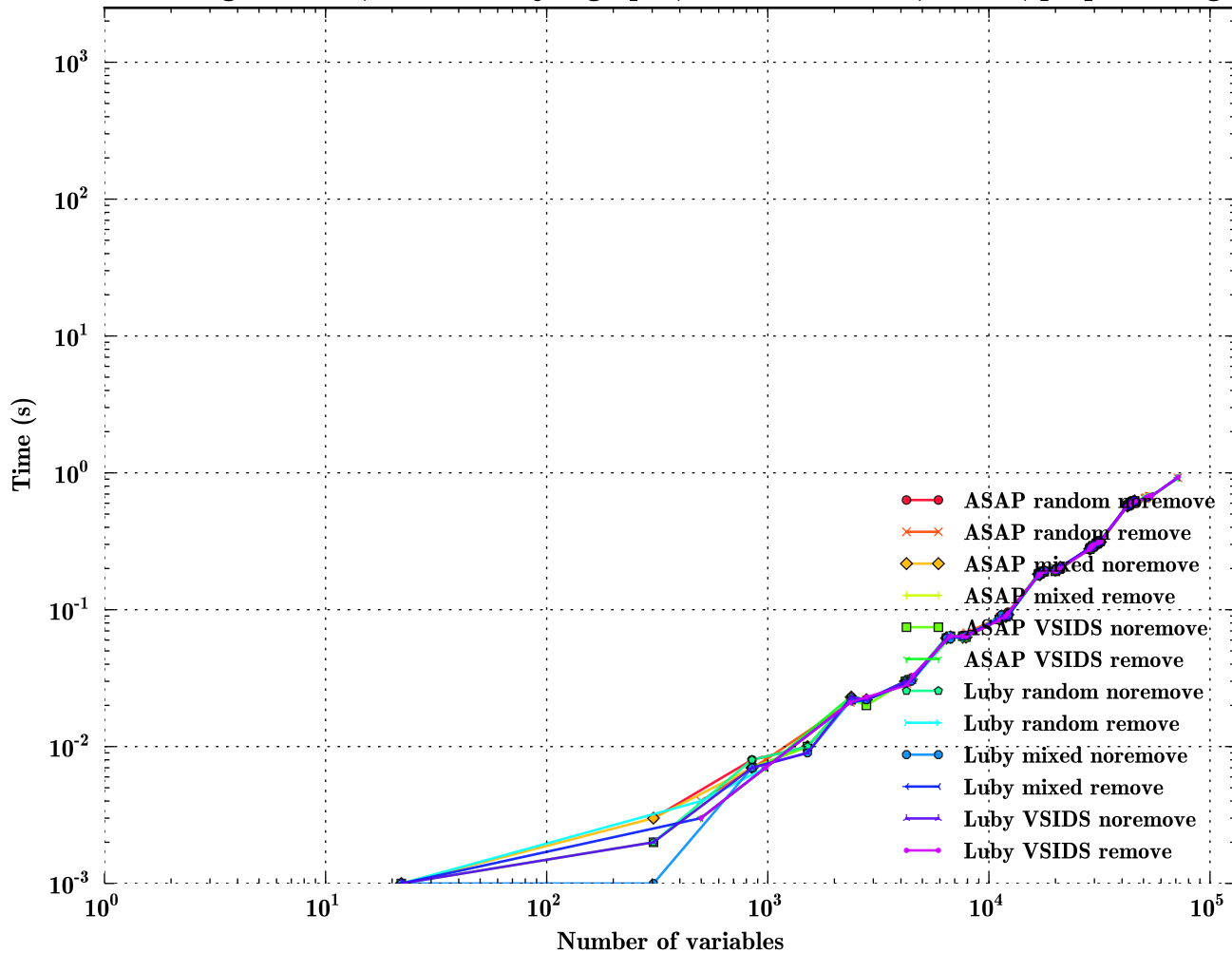
Pebbling formulas, Gilbert-Tarjan graphs, substitution or 2, shuffle, no preprocessing



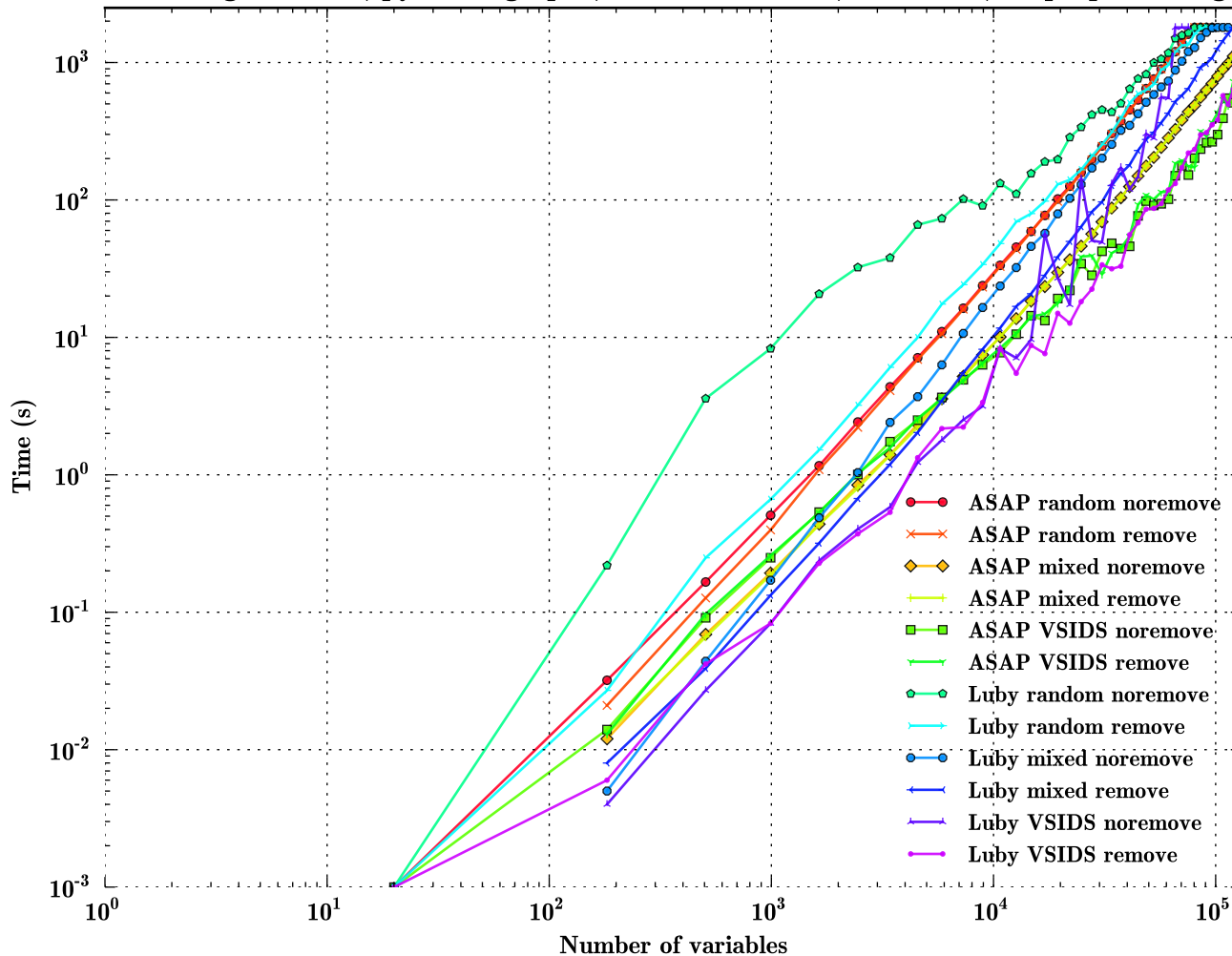
Pebbling formulas, Gilbert-Tarjan graphs, substitution or 2, no shuffle, preprocessing



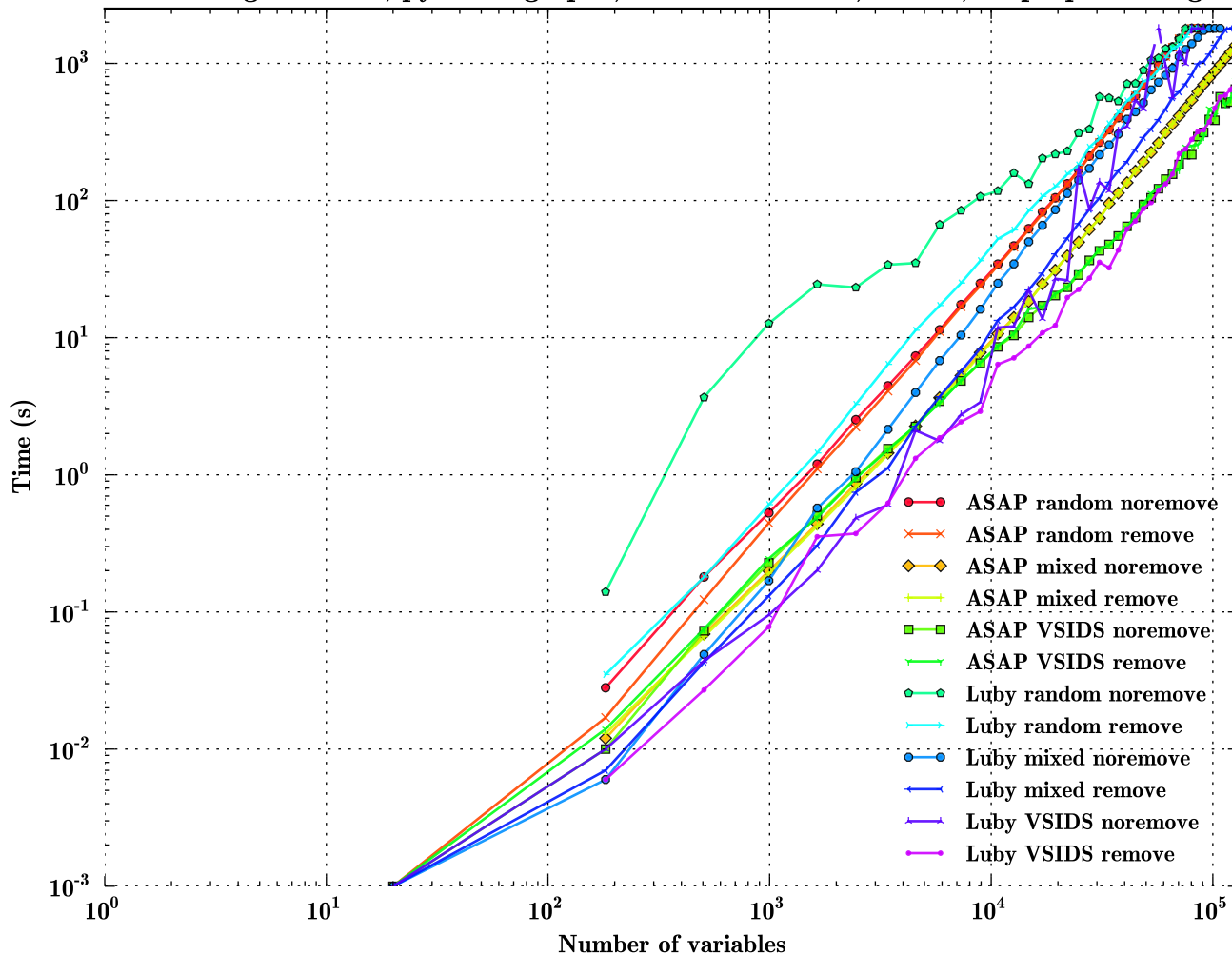
Pebbling formulas, Gilbert-Tarjan graphs, substitution or 2, shuffle, preprocessing



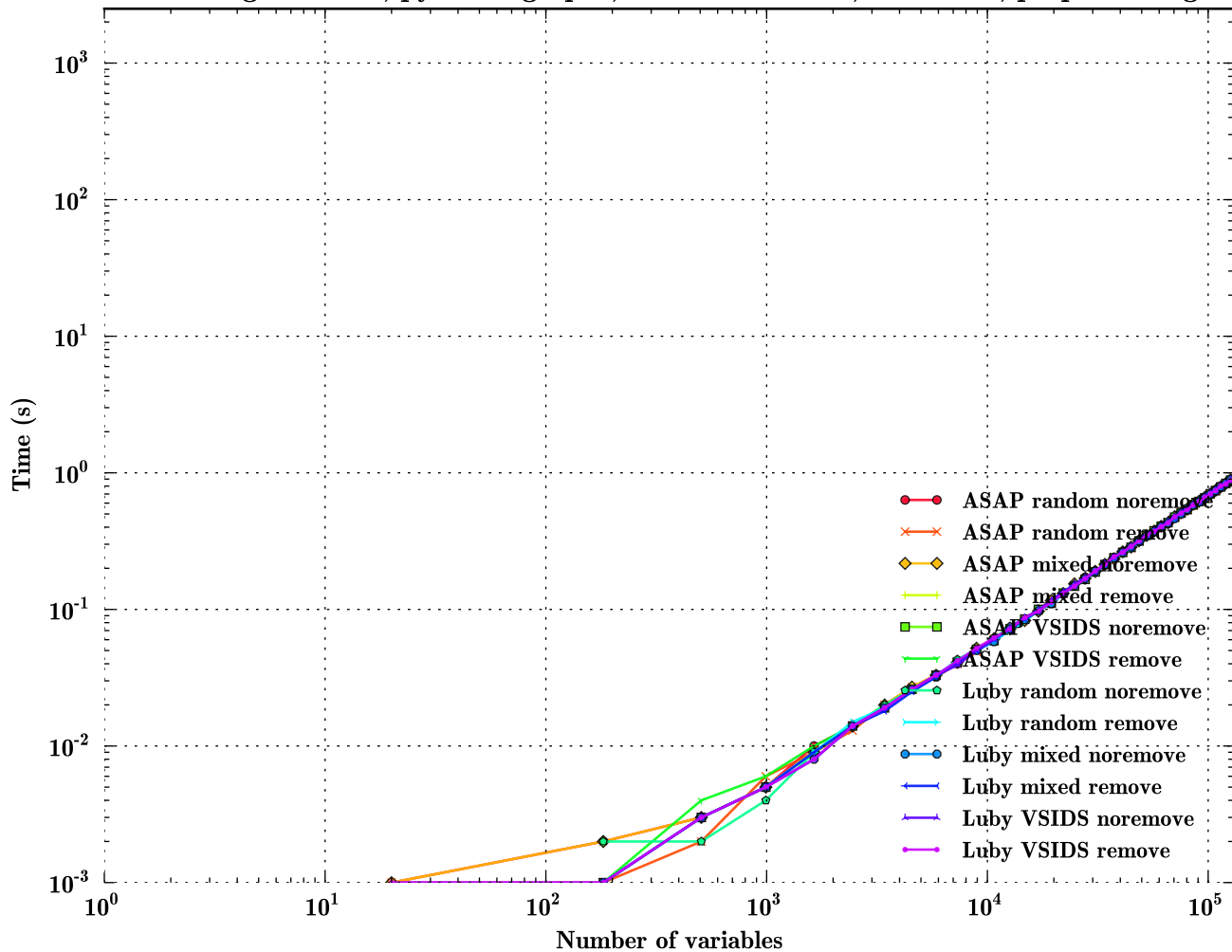
Pebbling formulas, pyramid graphs, substitution or 2, no shuffle, no preprocessing



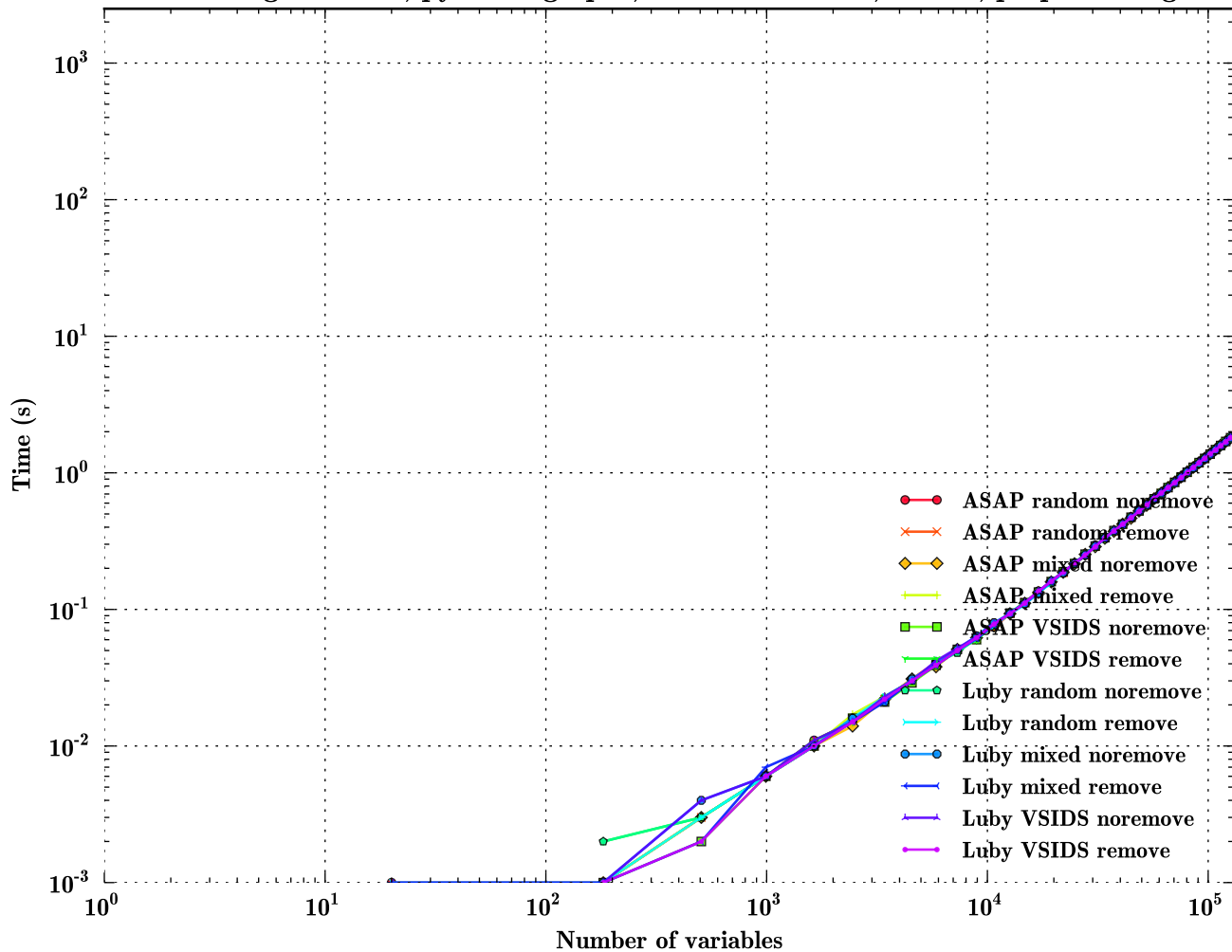
Pebbling formulas, pyramid graphs, substitution or 2, shuffle, no preprocessing



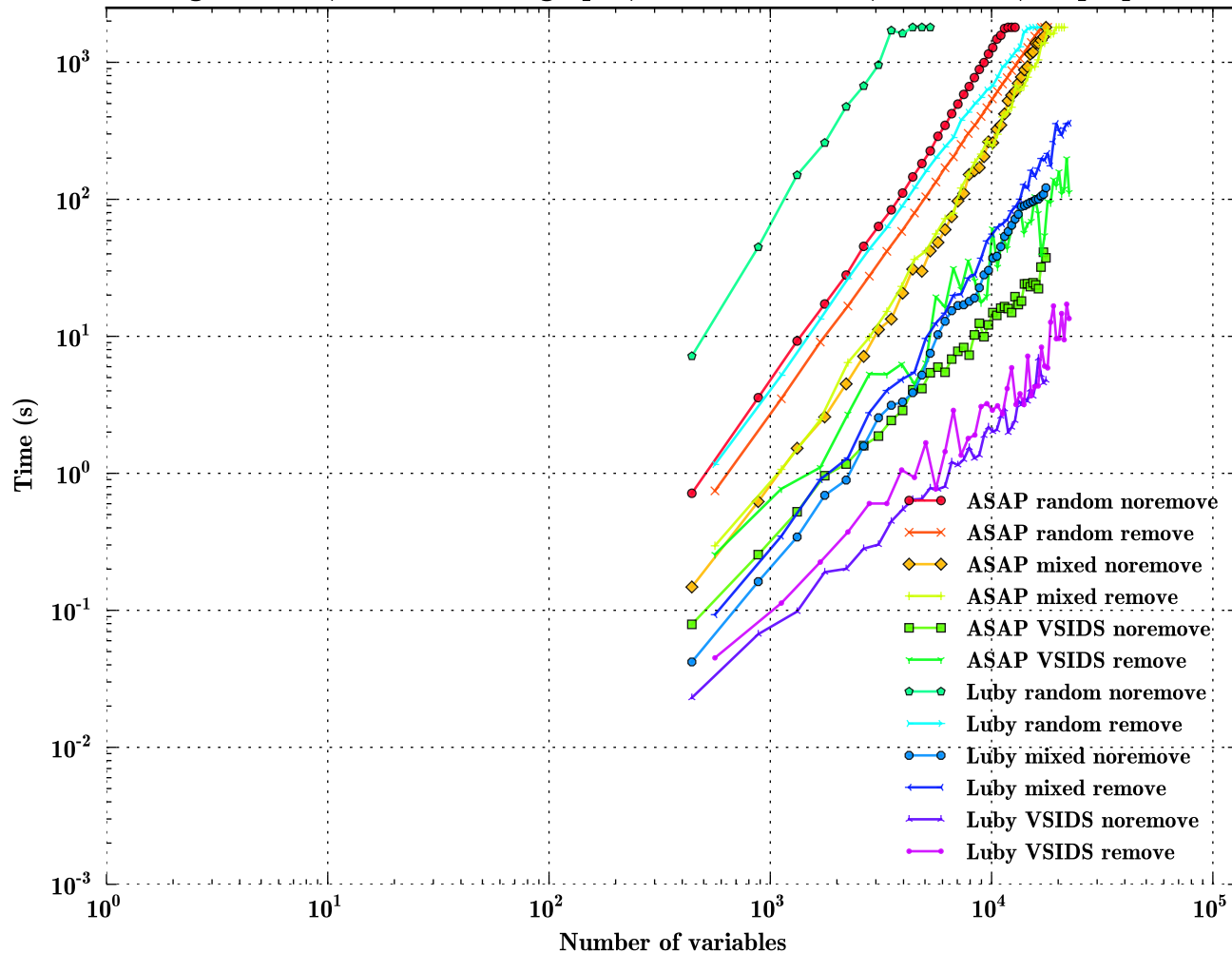
Pebbling formulas, pyramid graphs, substitution or 2, no shuffle, preprocessing



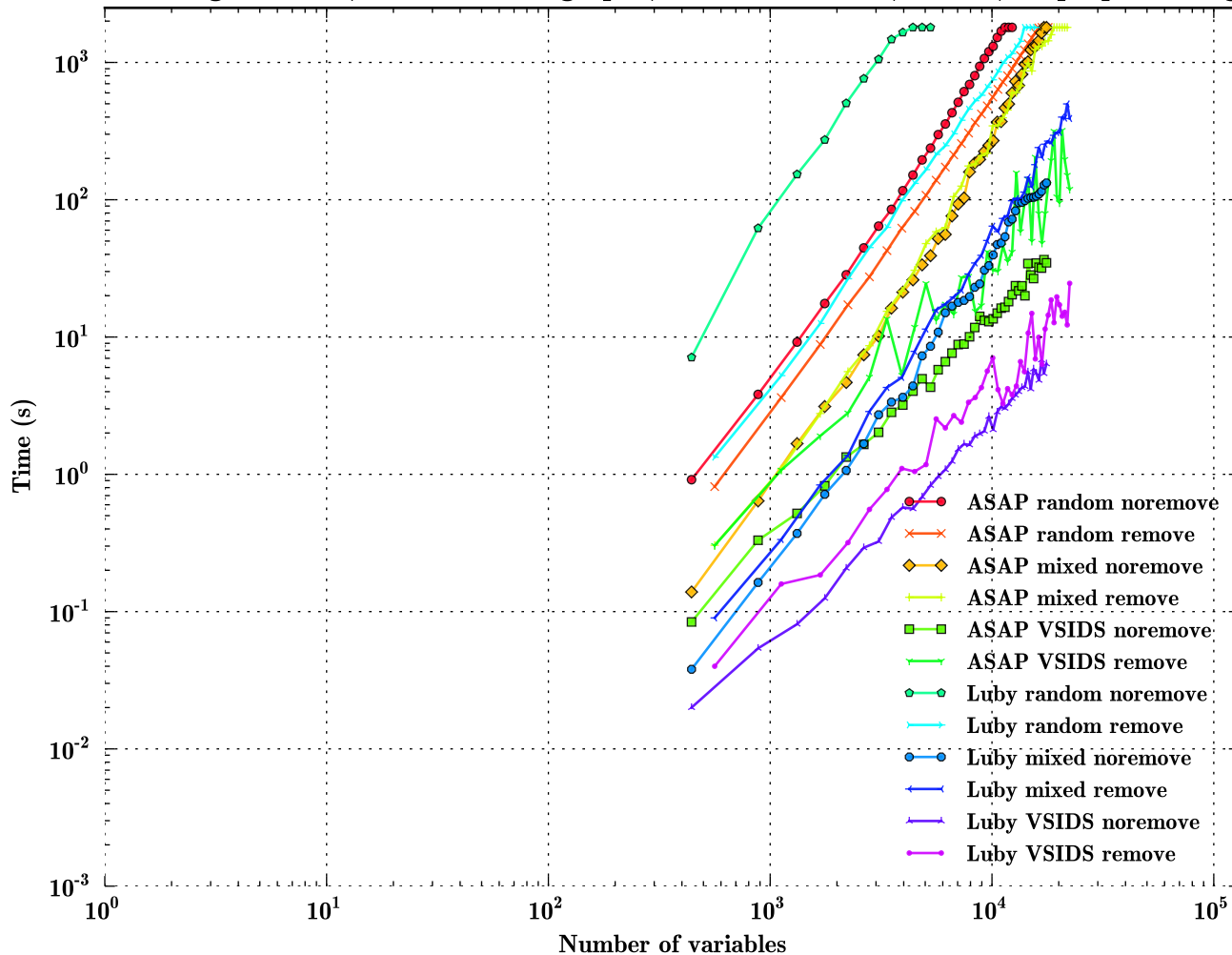
Pebbling formulas, pyramid graphs, substitution or 2, shuffle, preprocessing



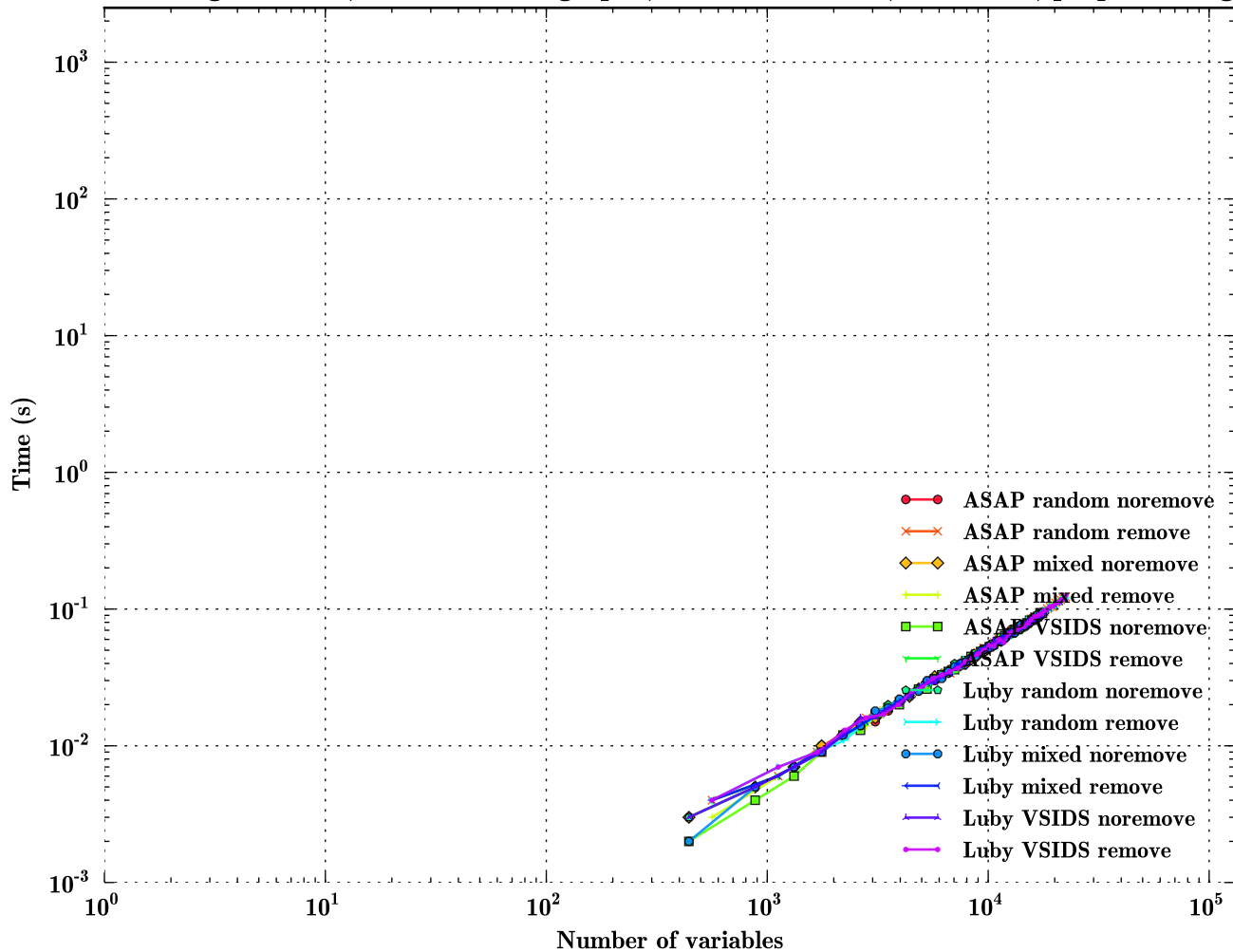
Pebbling formulas, width 2 chain graphs, substitution or 2, no shuffle, no preprocessing



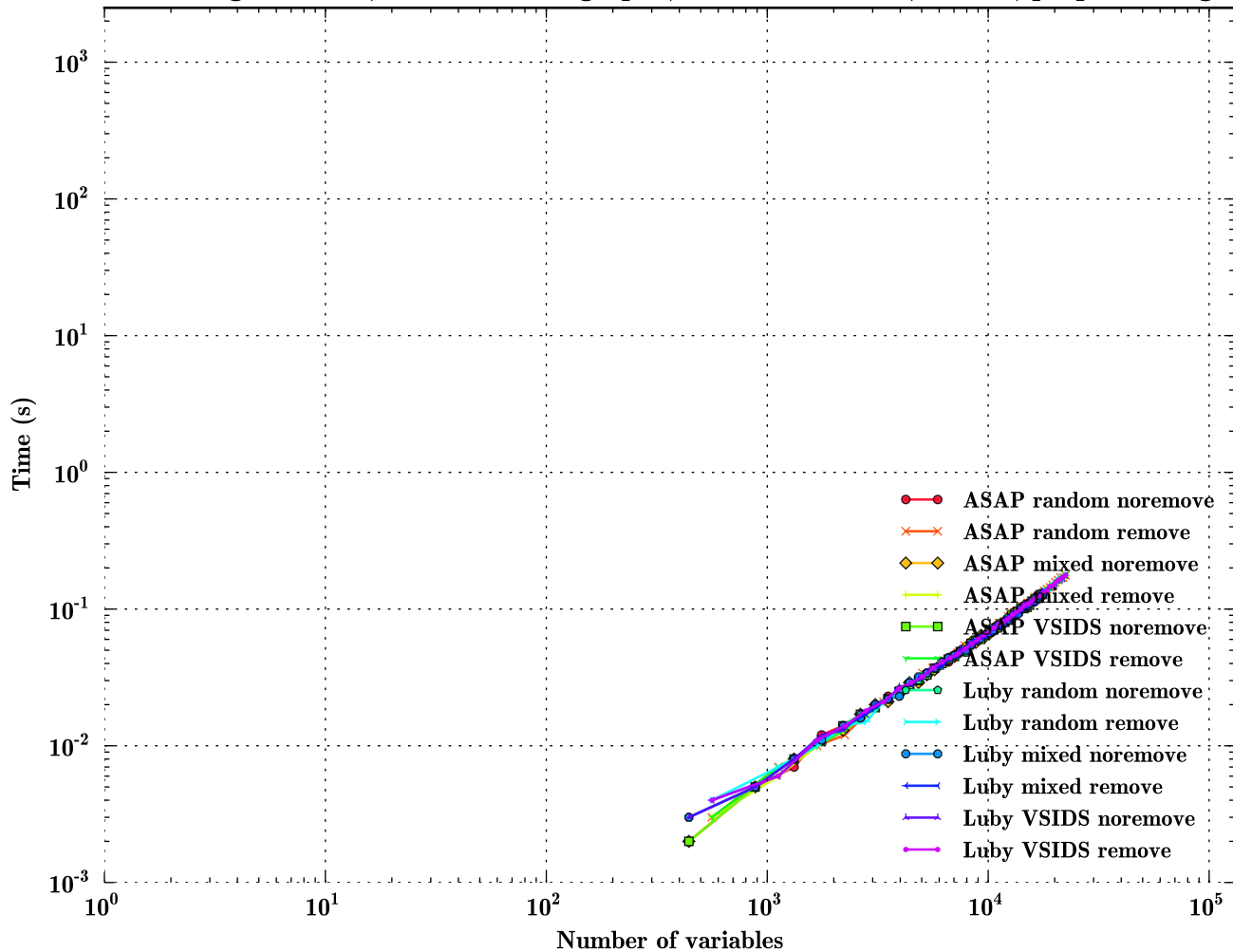
Pebbling formulas, width 2 chain graphs, substitution or 2, shuffle, no preprocessing



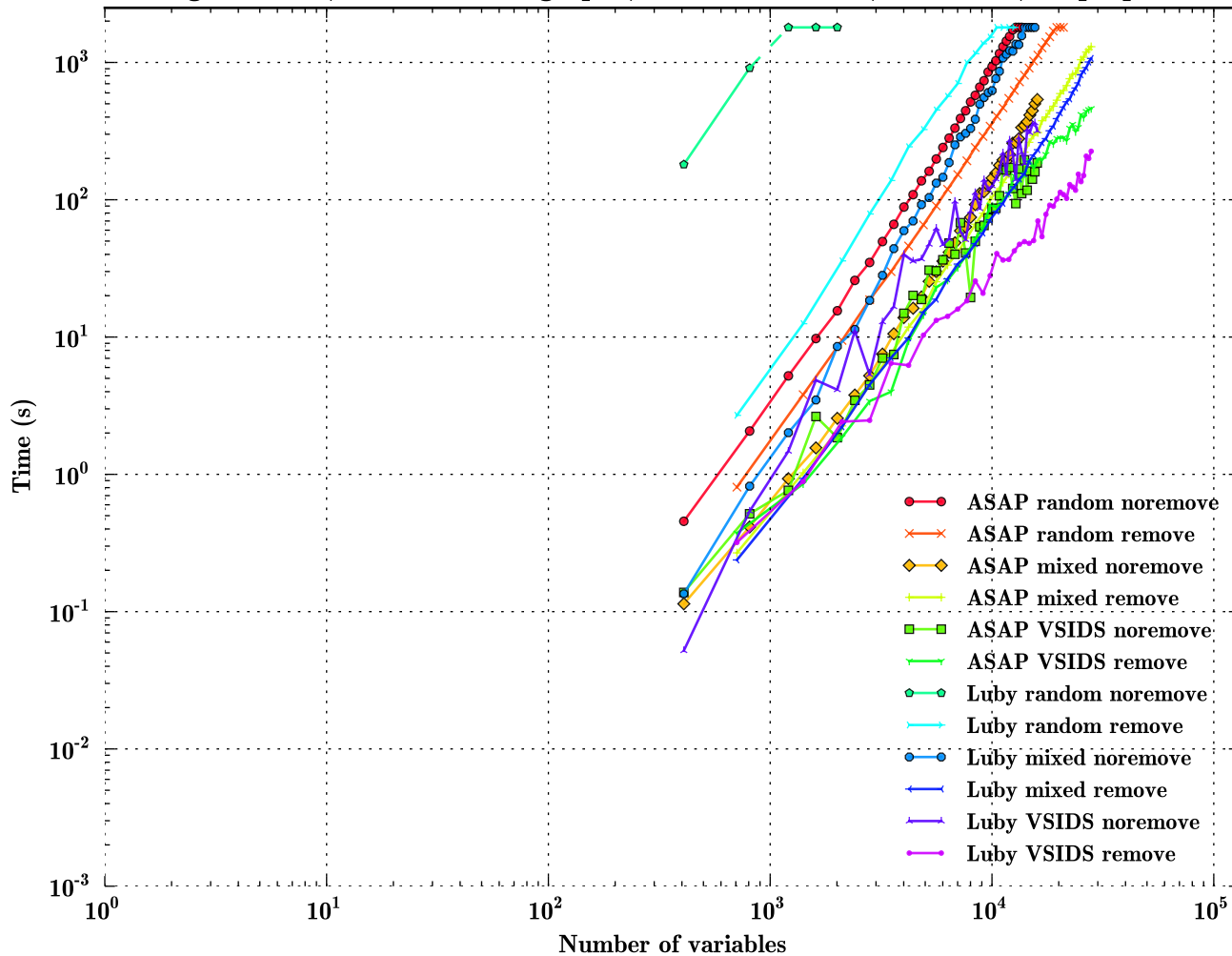
Pebbling formulas, width 2 chain graphs, substitution or 2, no shuffle, preprocessing



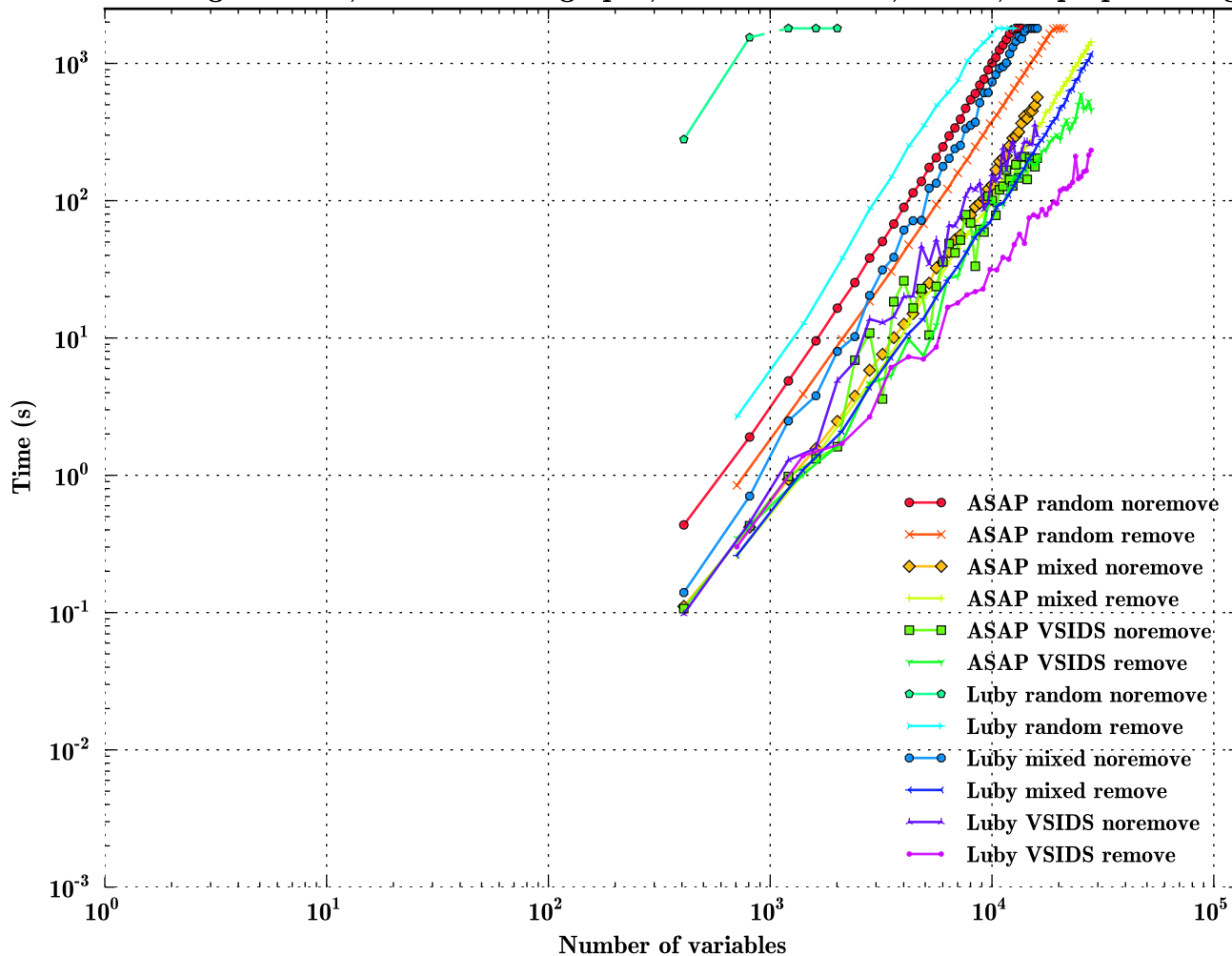
Pebbling formulas, width 2 chain graphs, substitution or 2, shuffle, preprocessing



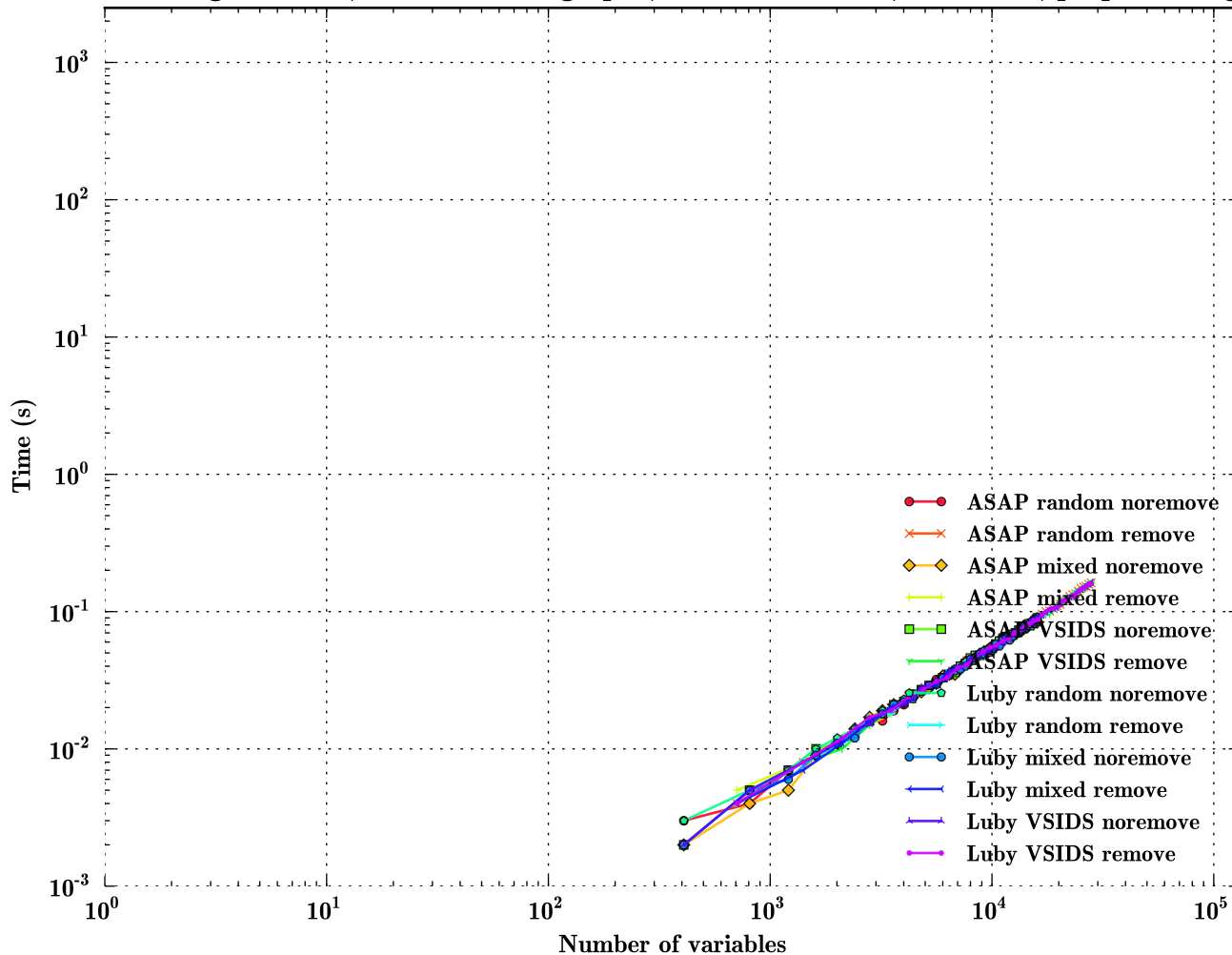
Pebbling formulas, width 5 chain graphs, substitution or 2, no shuffle, no preprocessing



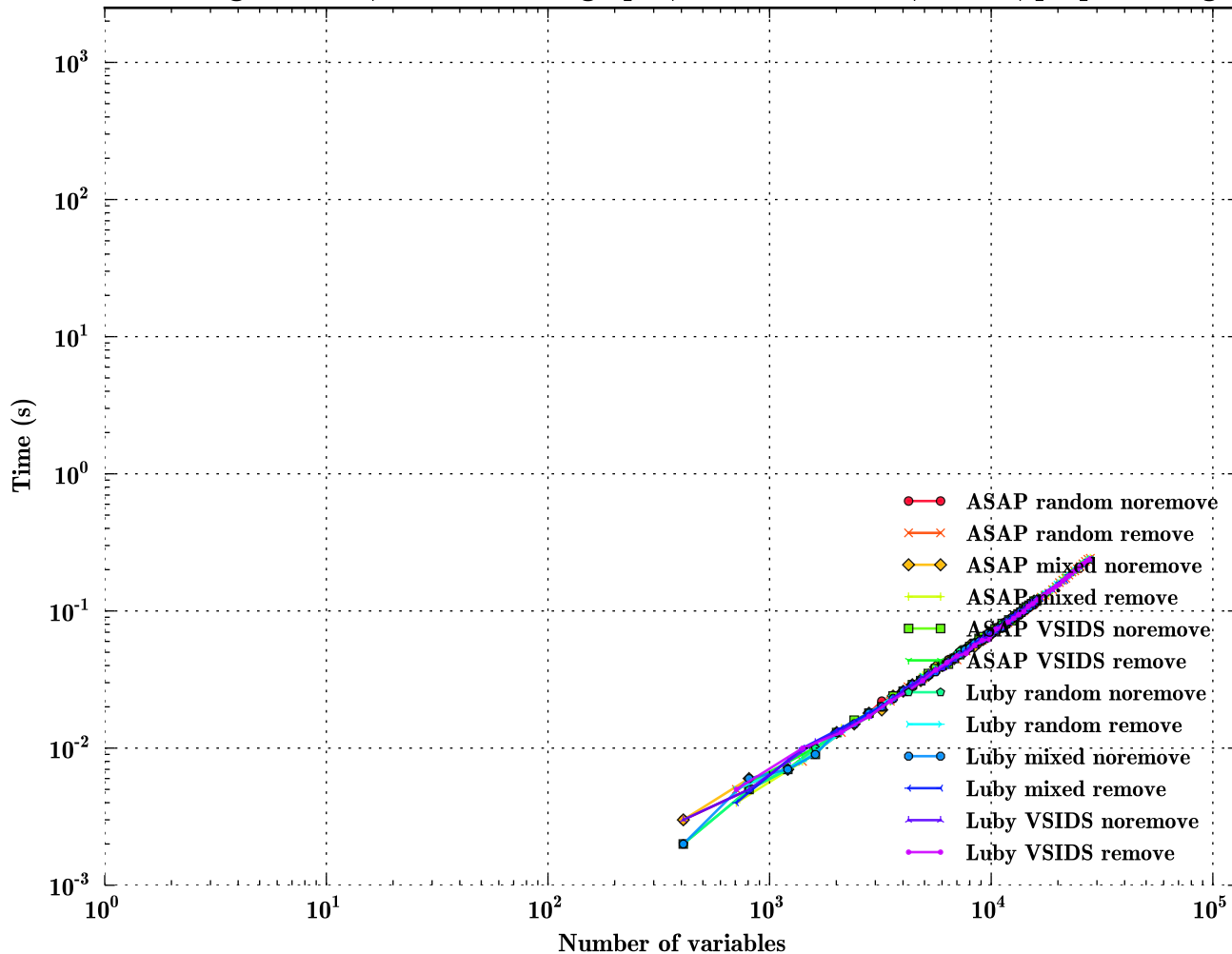
Pebbling formulas, width 5 chain graphs, substitution or 2, shuffle, no preprocessing



Pebbling formulas, width 5 chain graphs, substitution or 2, no shuffle, preprocessing

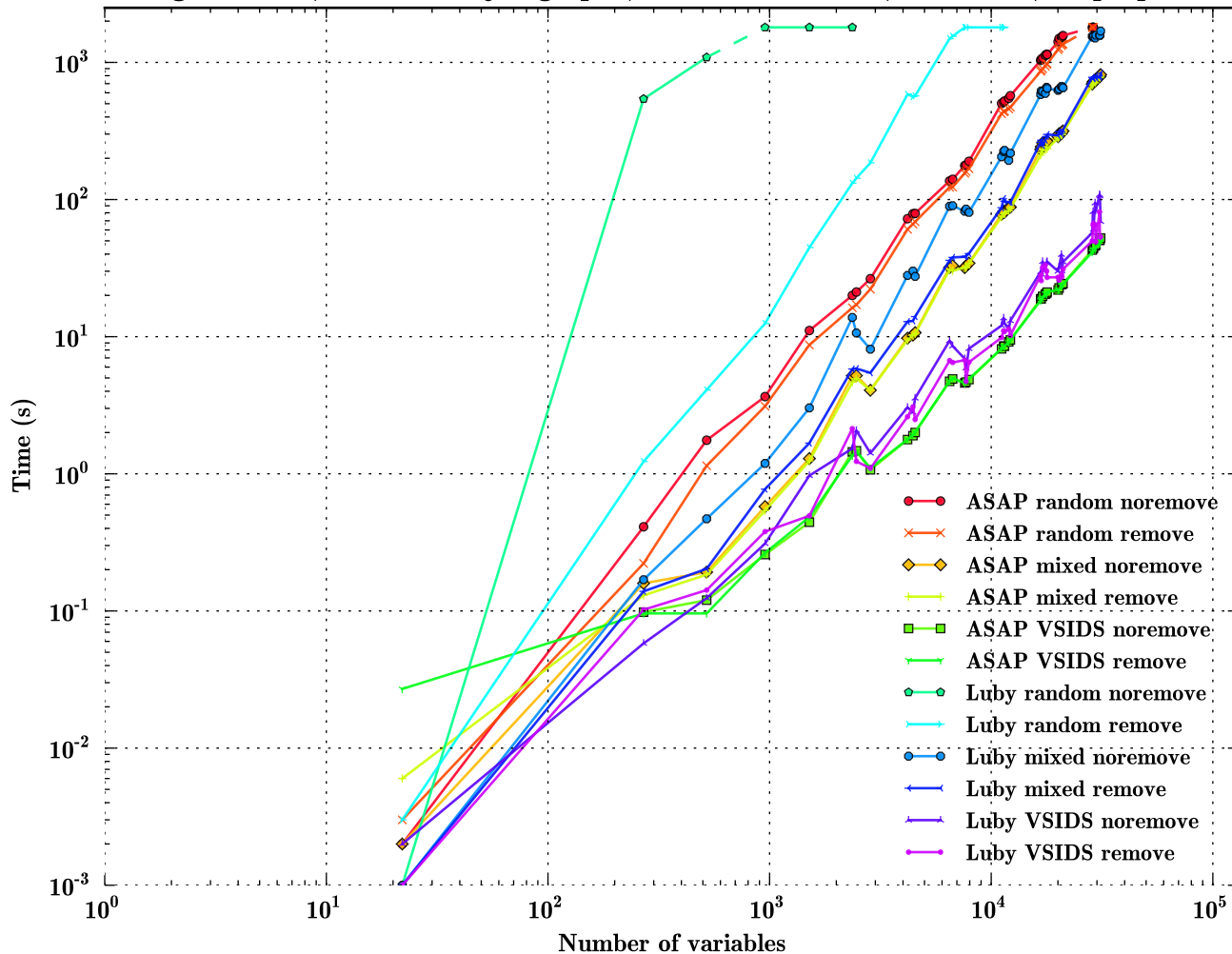


Pebbling formulas, width 5 chain graphs, substitution or 2, shuffle, preprocessing

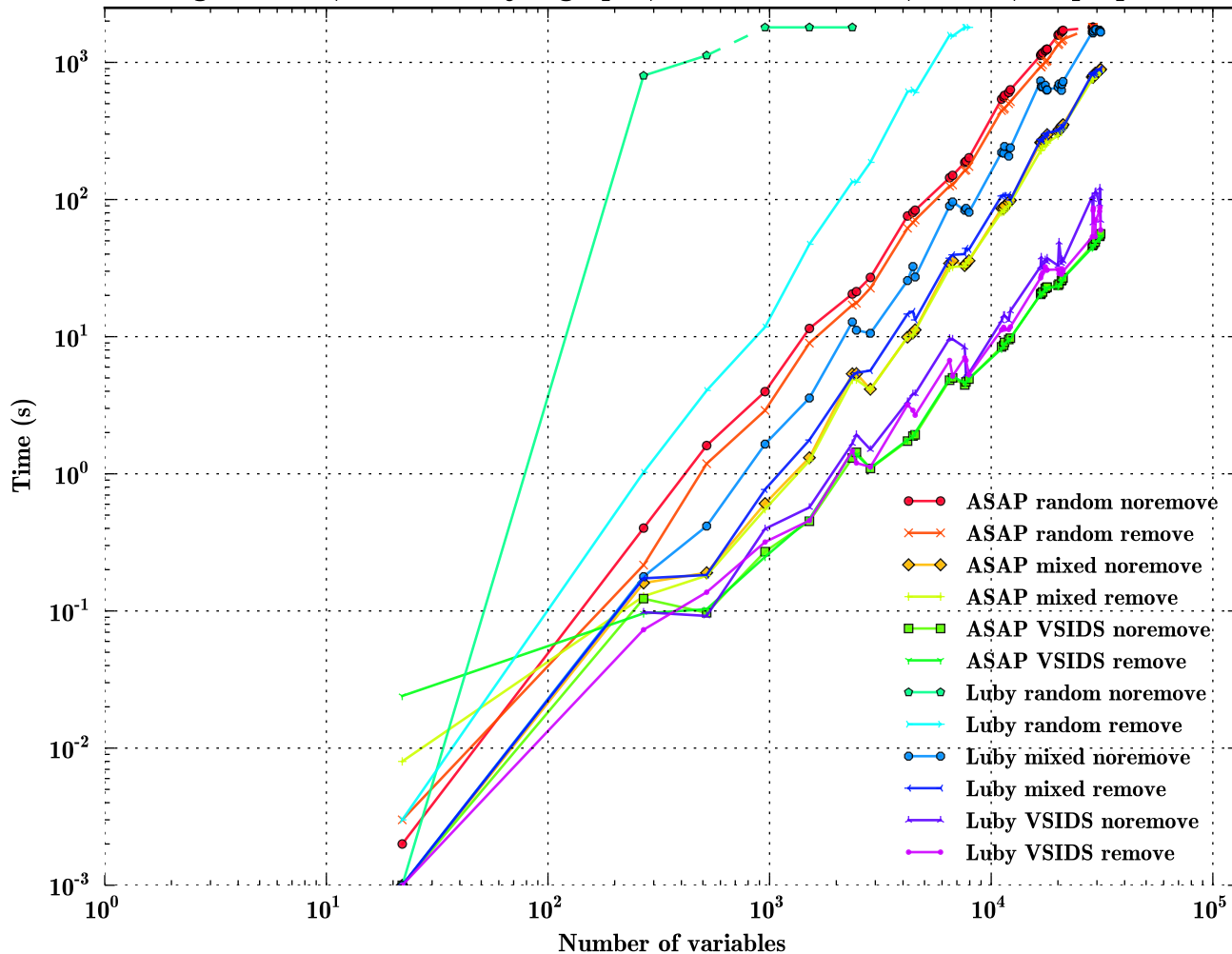


**Pebbling formulas with
substitution xor of arity 2**

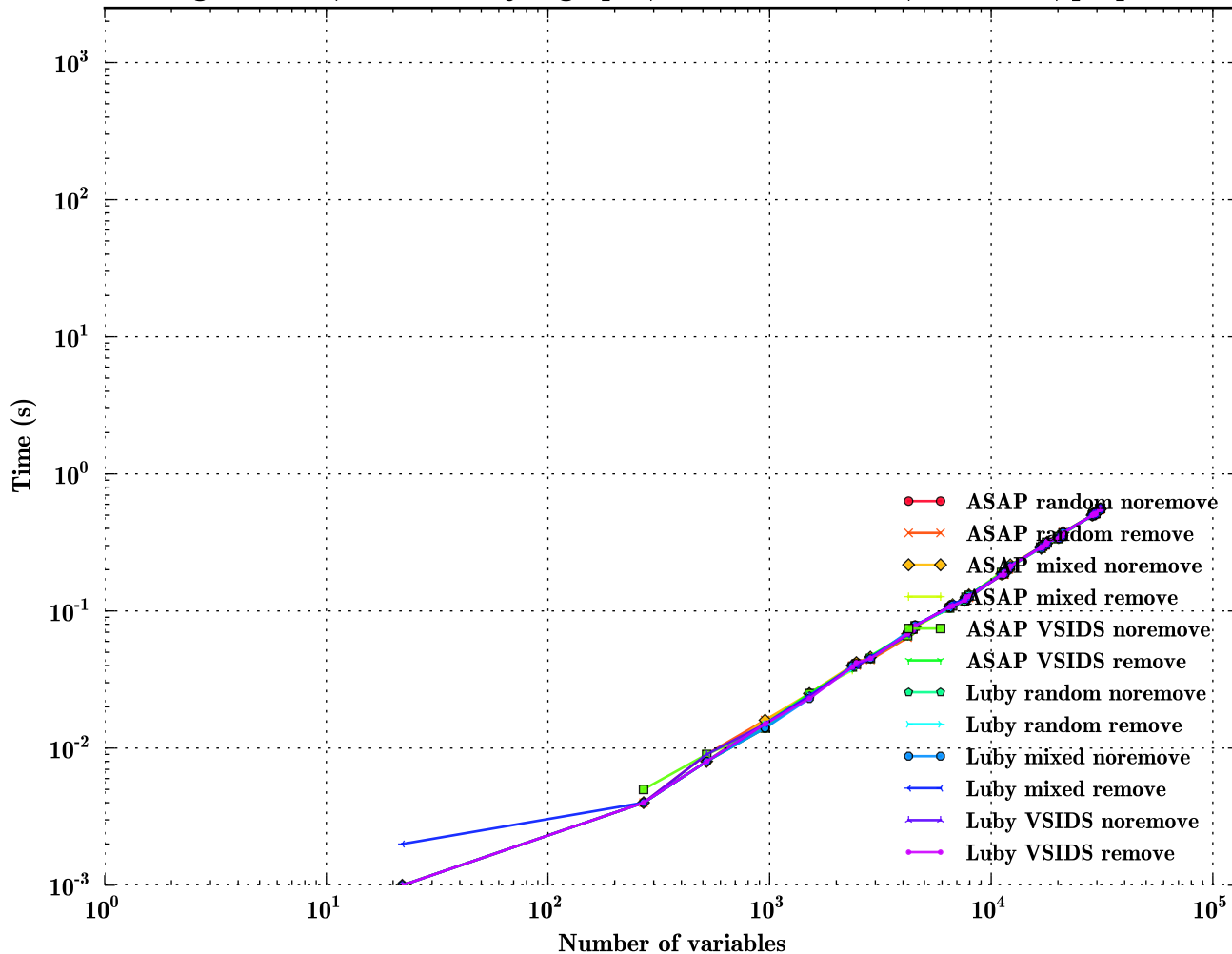
Pebbling formulas, Gilbert-Tarjan graphs, substitution xor 2, no shuffle, no preprocessing



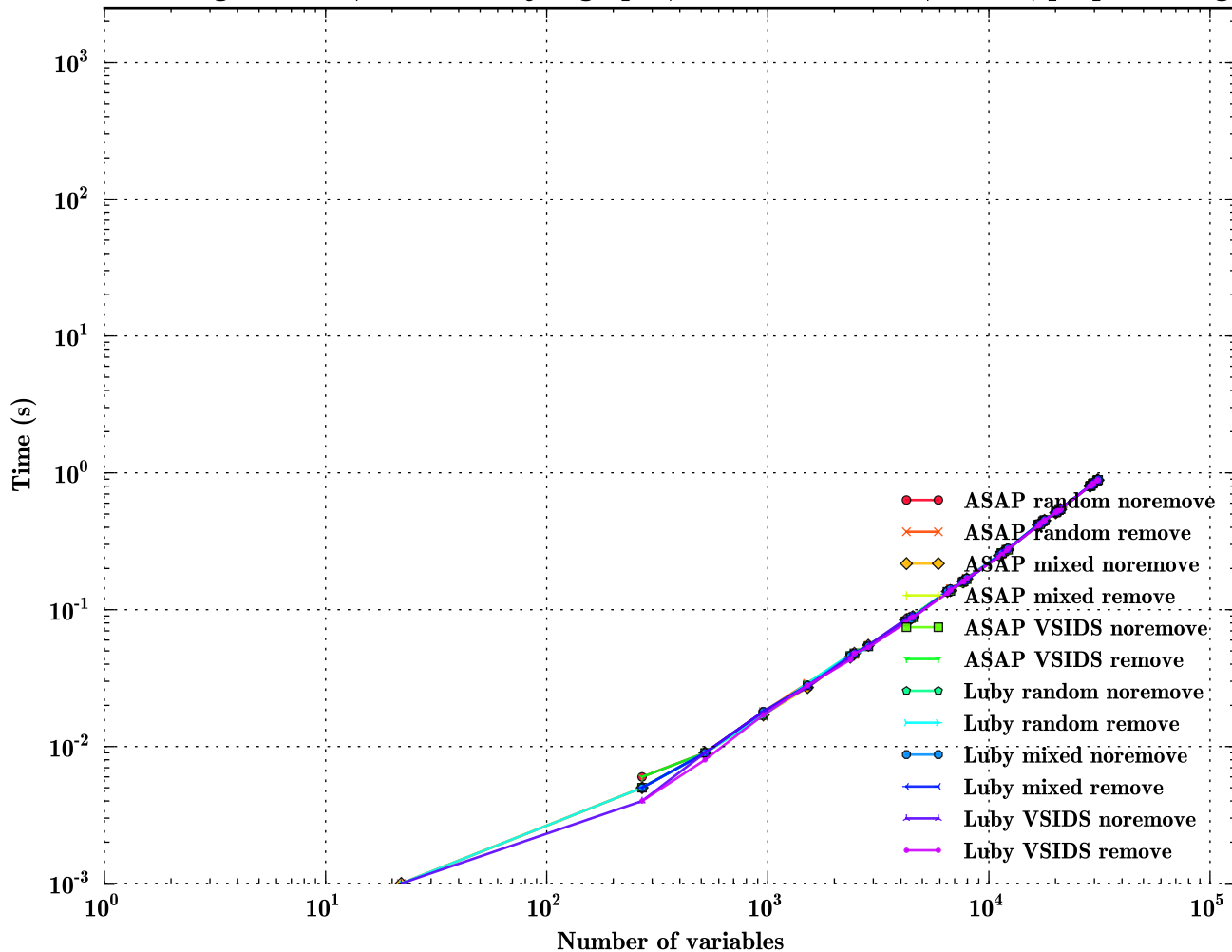
Pebbling formulas, Gilbert-Tarjan graphs, substitution xor 2, shuffle, no preprocessing



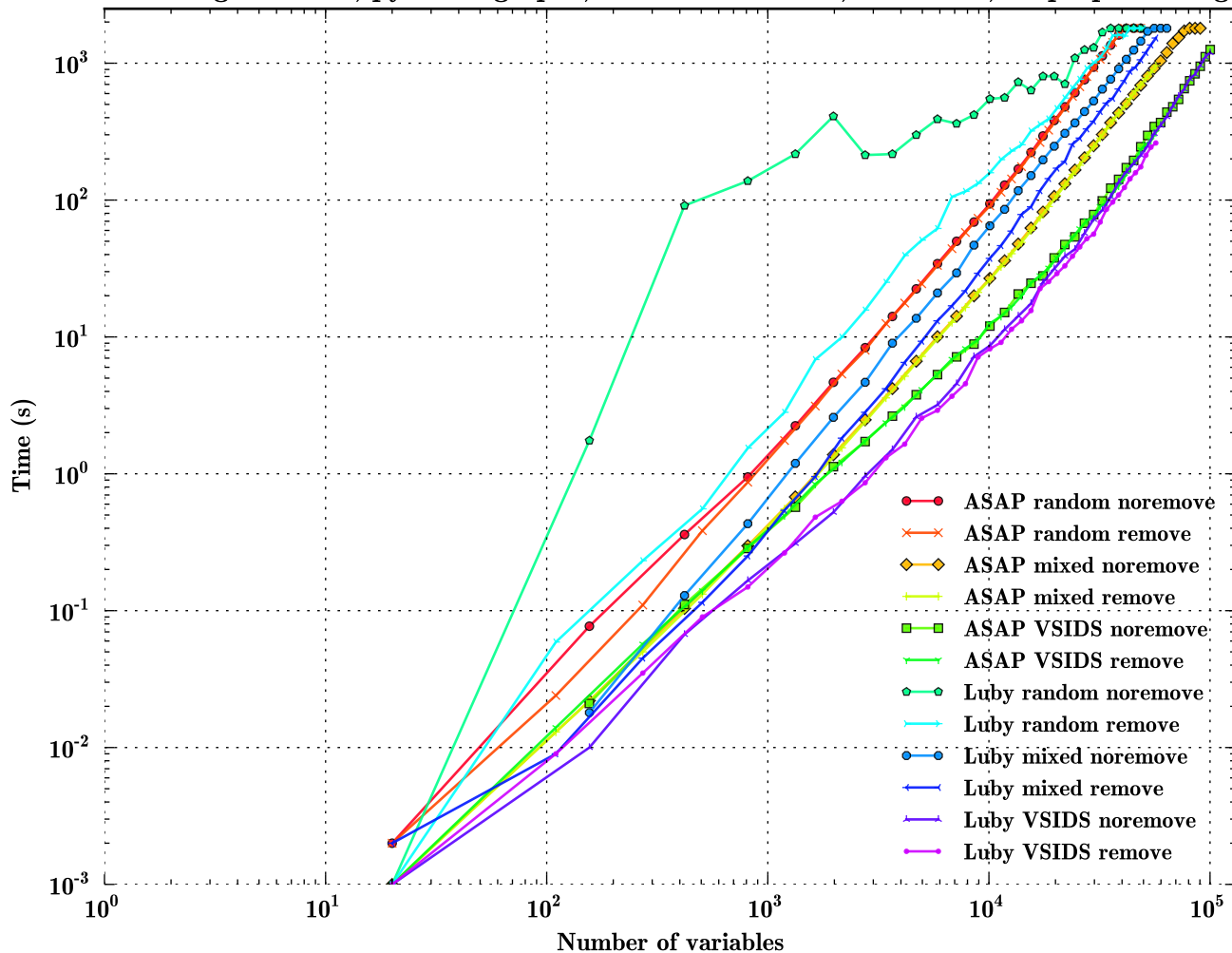
Pebbling formulas, Gilbert-Tarjan graphs, substitution xor 2, no shuffle, preprocessing



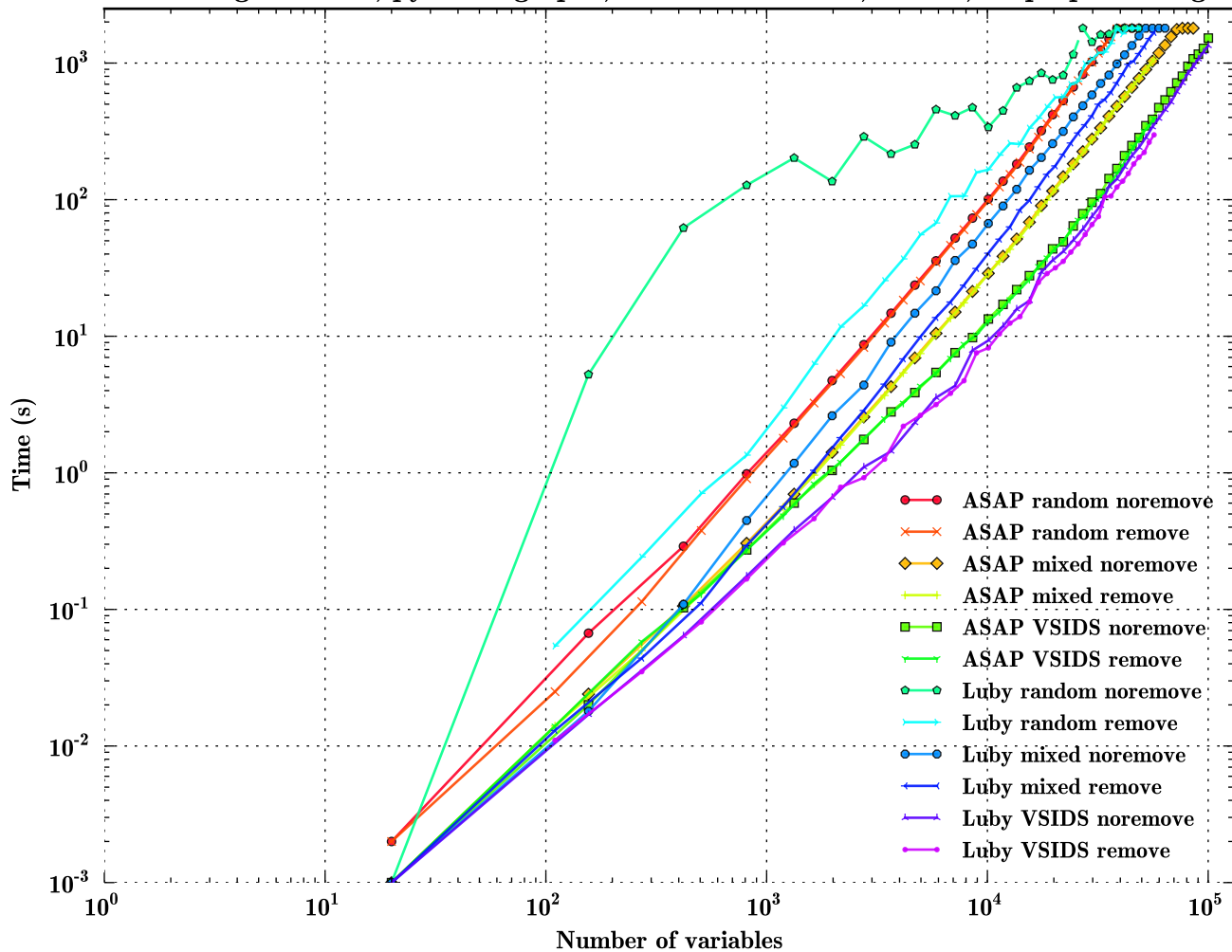
Pebbling formulas, Gilbert-Tarjan graphs, substitution xor 2, shuffle, preprocessing



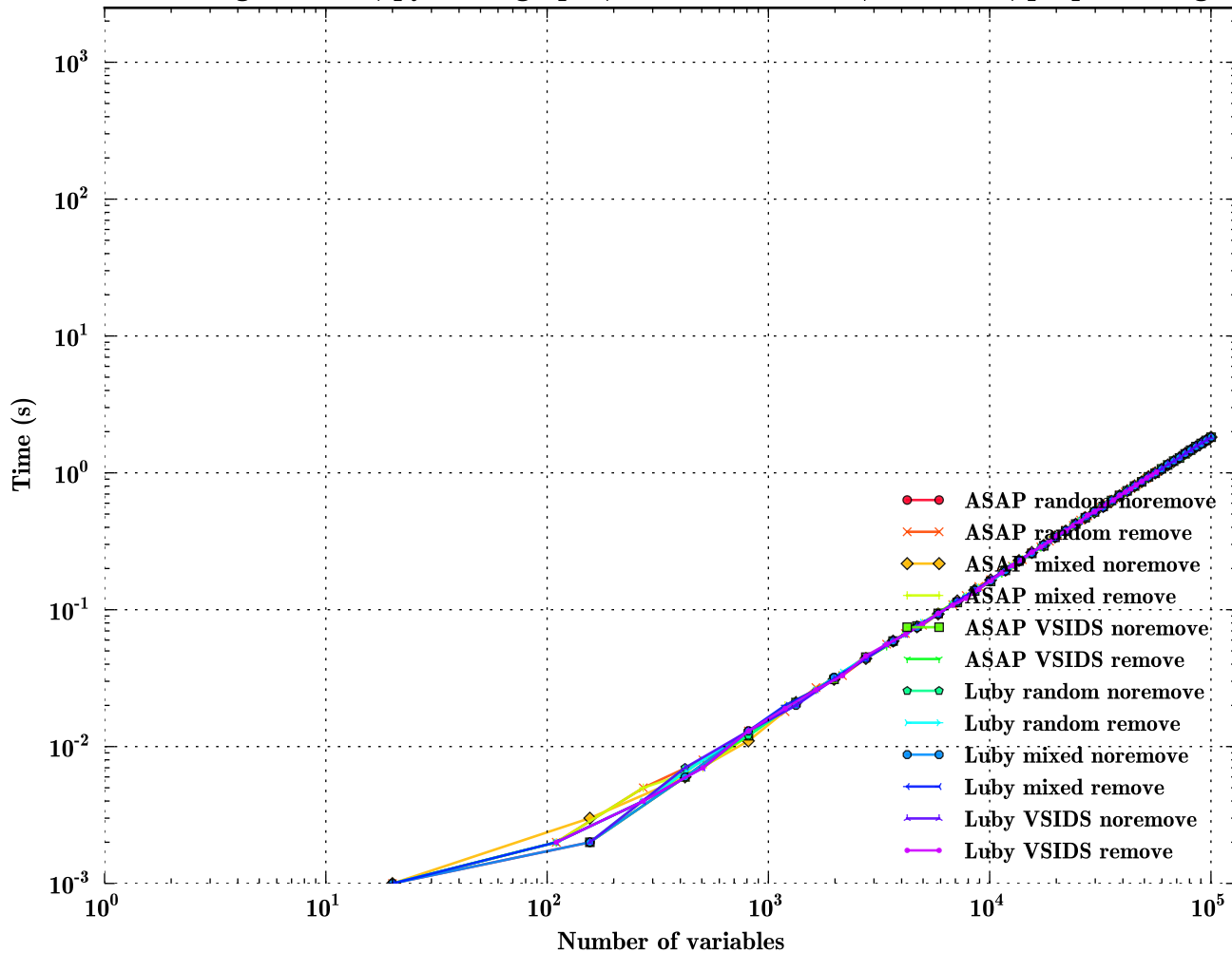
Pebbling formulas, pyramid graphs, substitution xor 2, no shuffle, no preprocessing



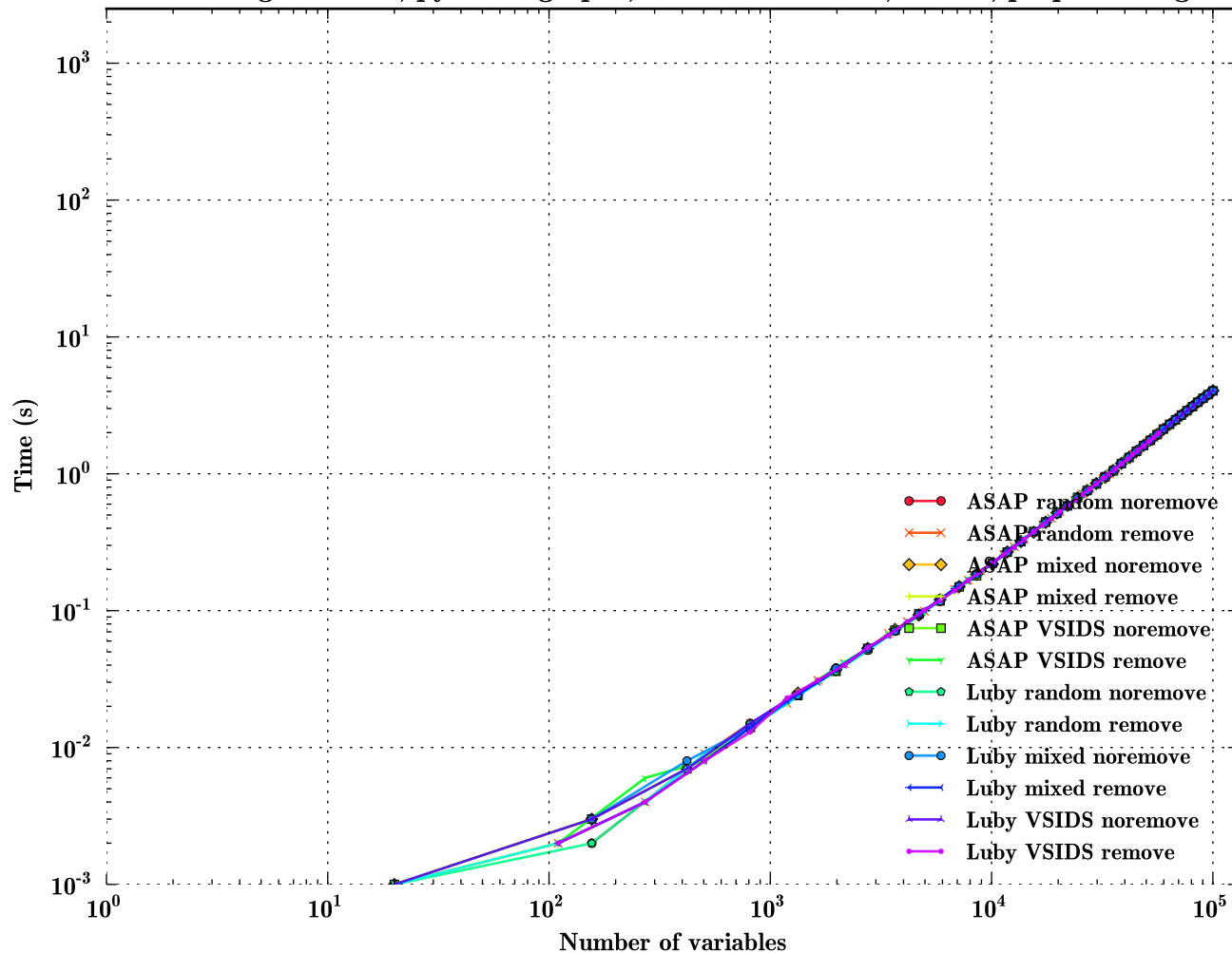
Pebbling formulas, pyramid graphs, substitution xor 2, shuffle, no preprocessing



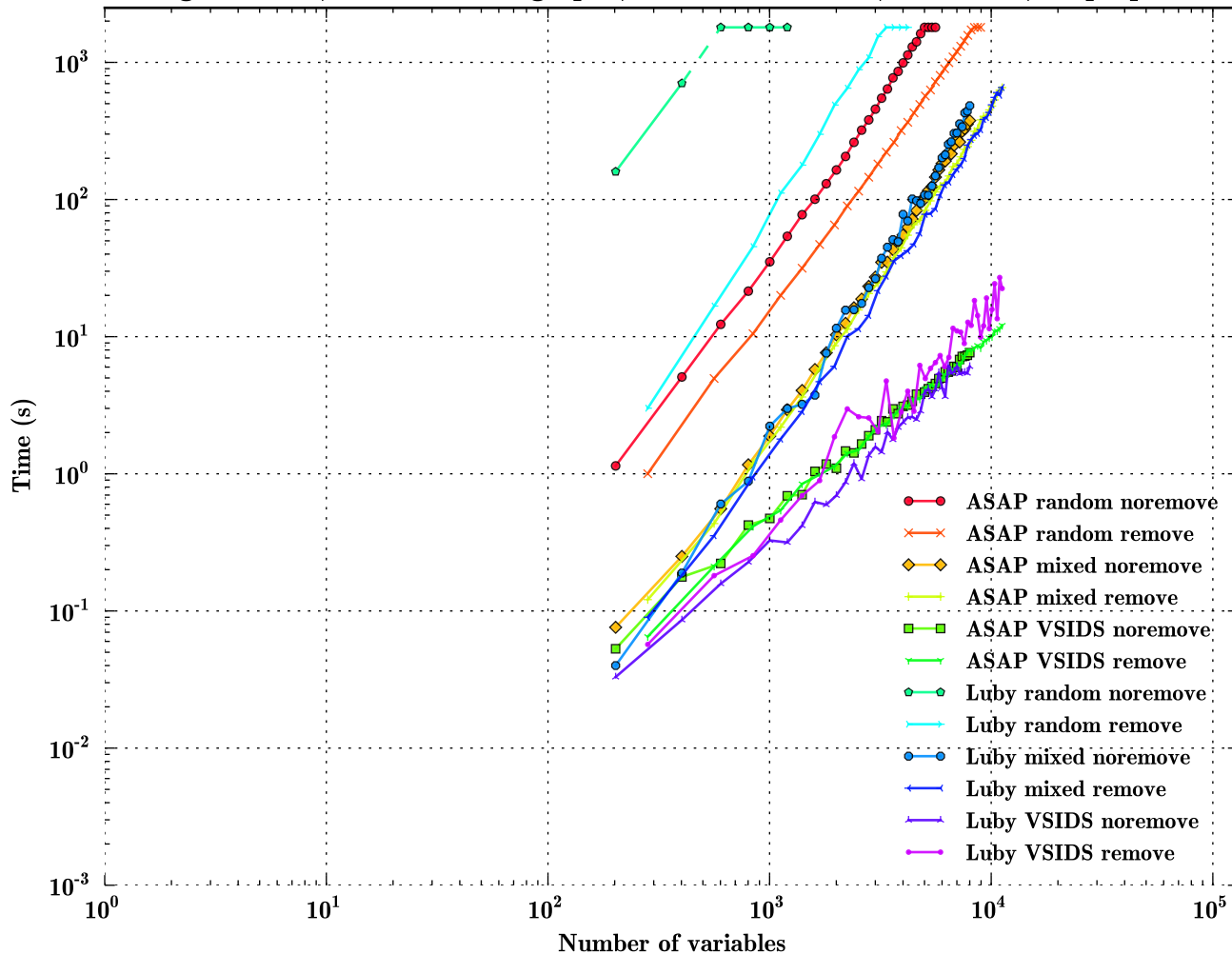
Pebbling formulas, pyramid graphs, substitution xor 2, no shuffle, preprocessing



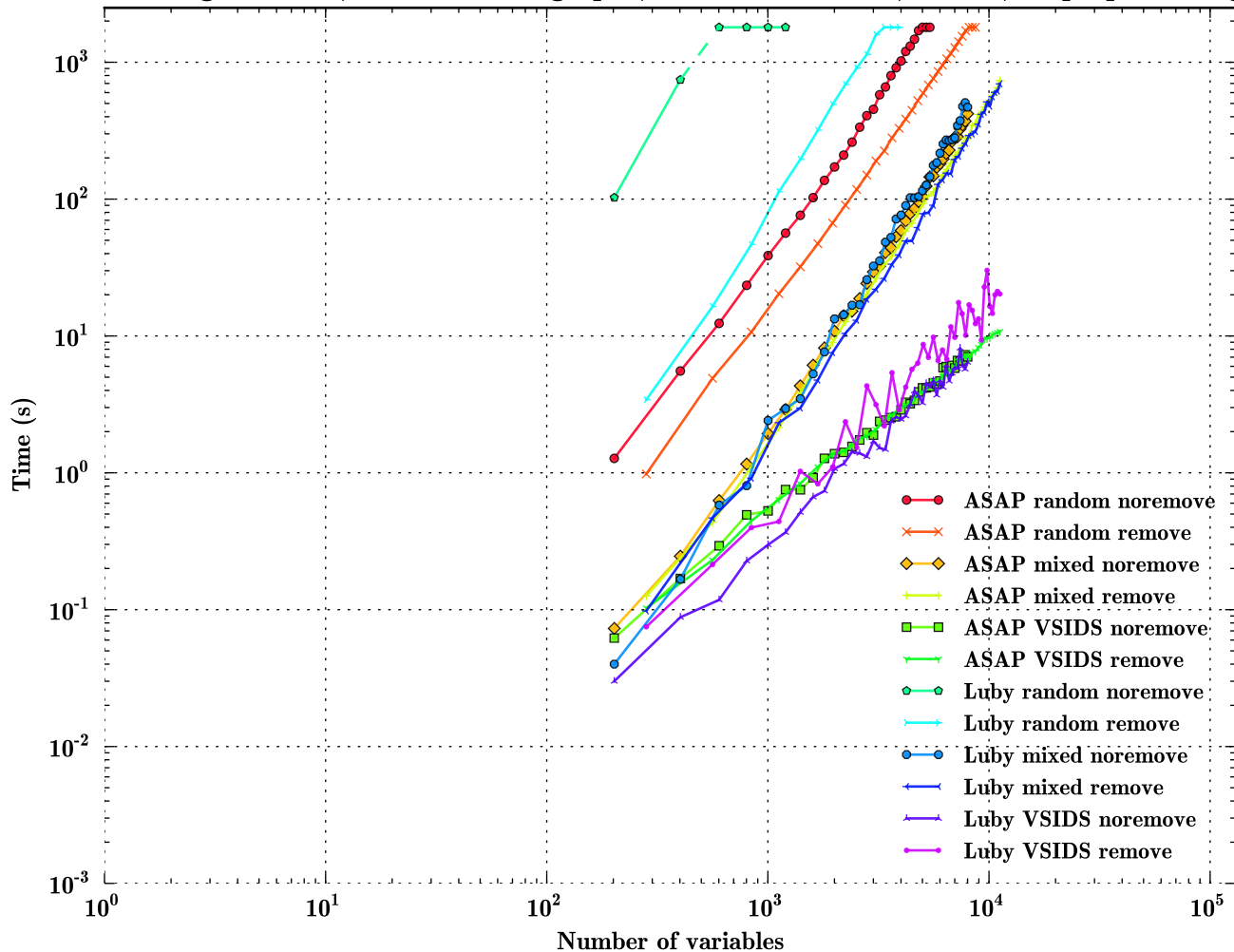
Pebbling formulas, pyramid graphs, substitution xor 2, shuffle, preprocessing



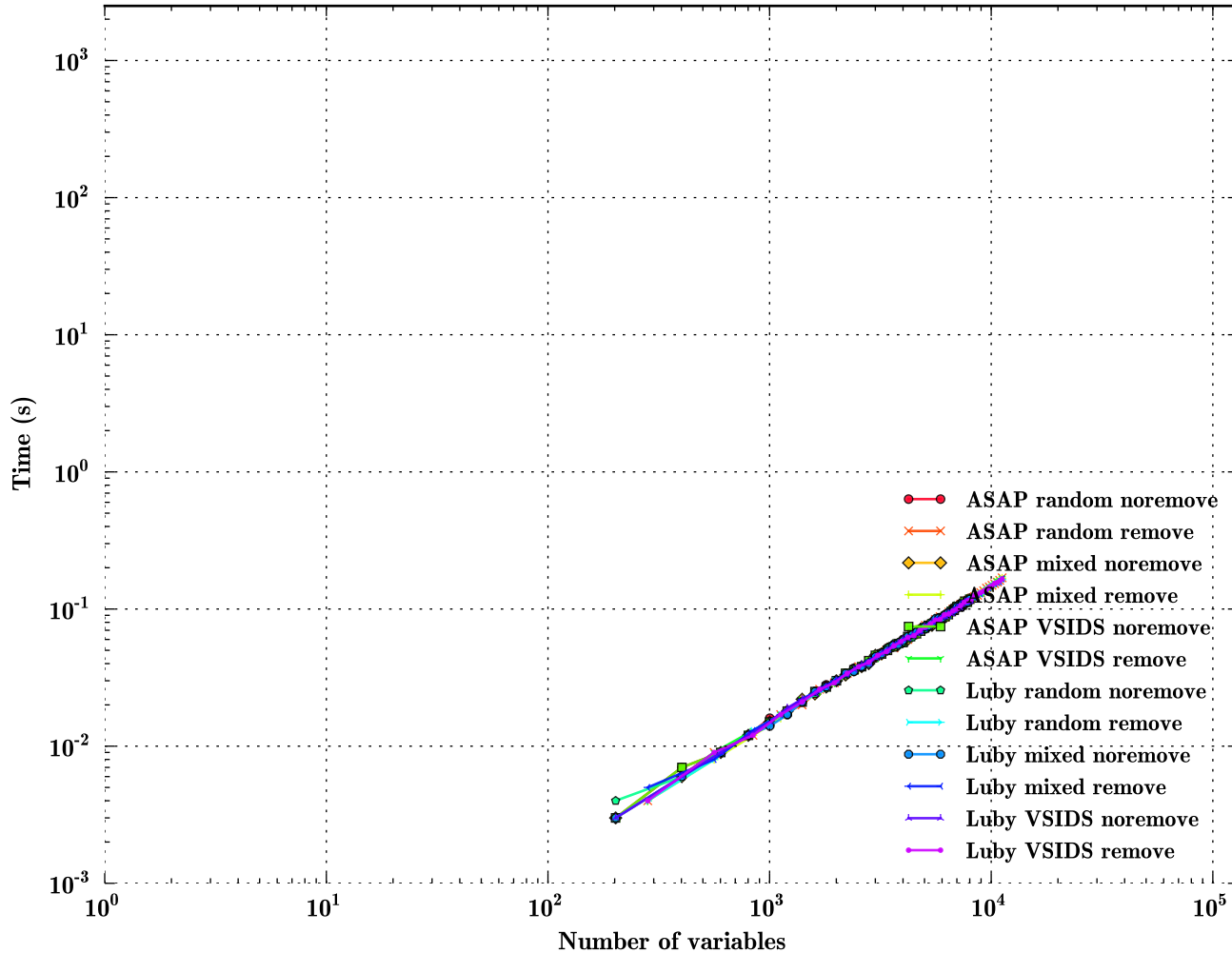
Pebbling formulas, width 2 chain graphs, substitution xor 2, no shuffle, no preprocessing



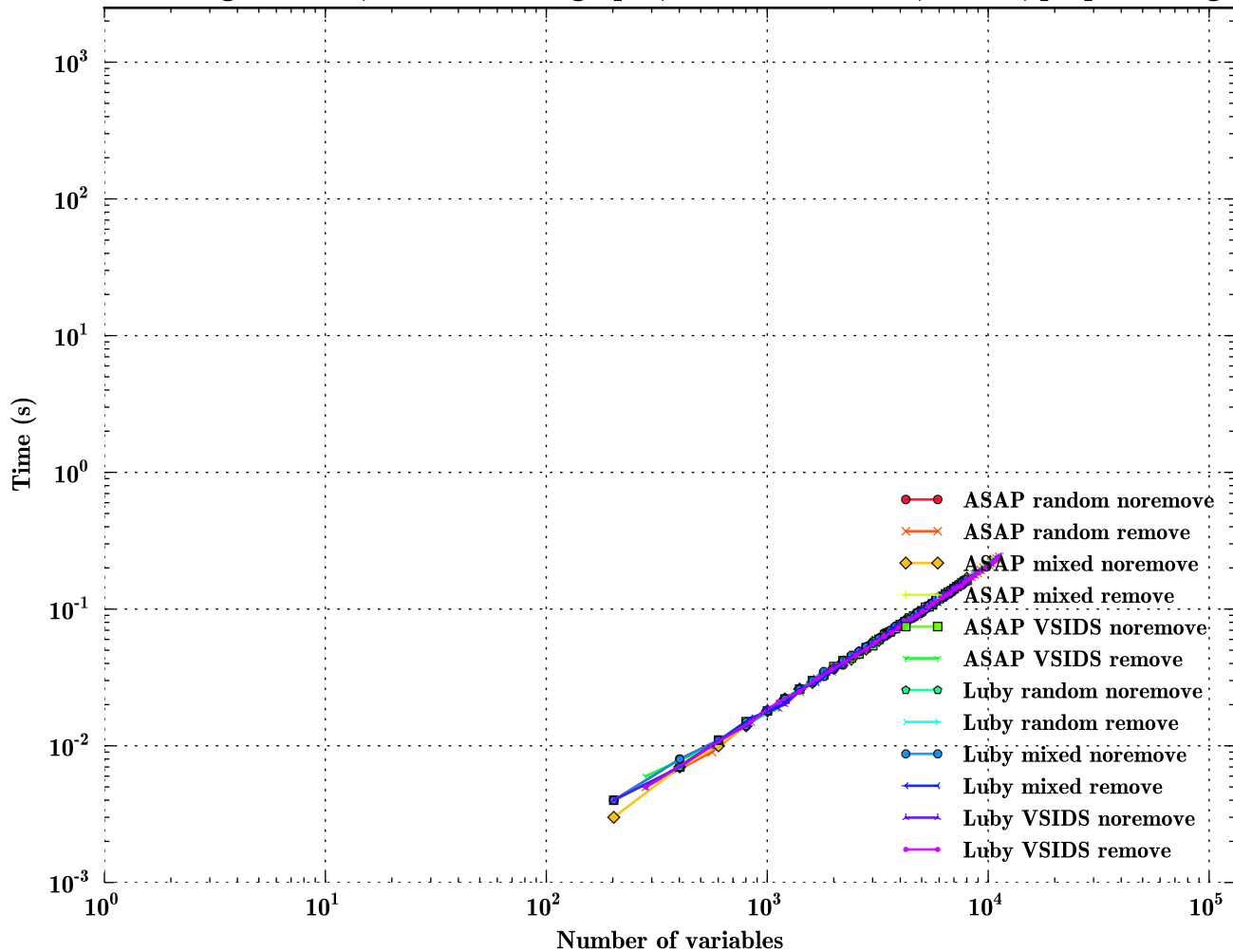
Pebbling formulas, width 2 chain graphs, substitution xor 2, shuffle, no preprocessing



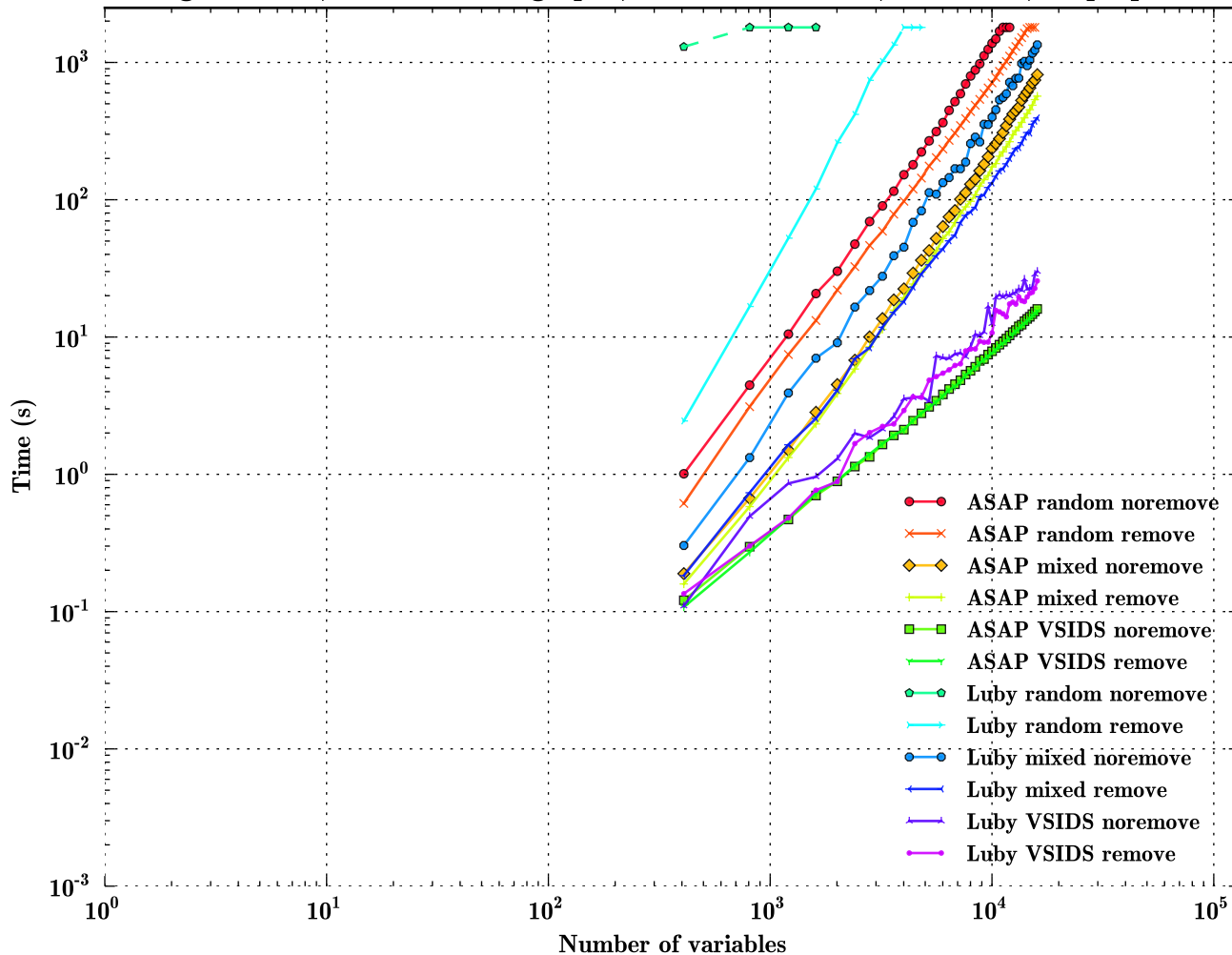
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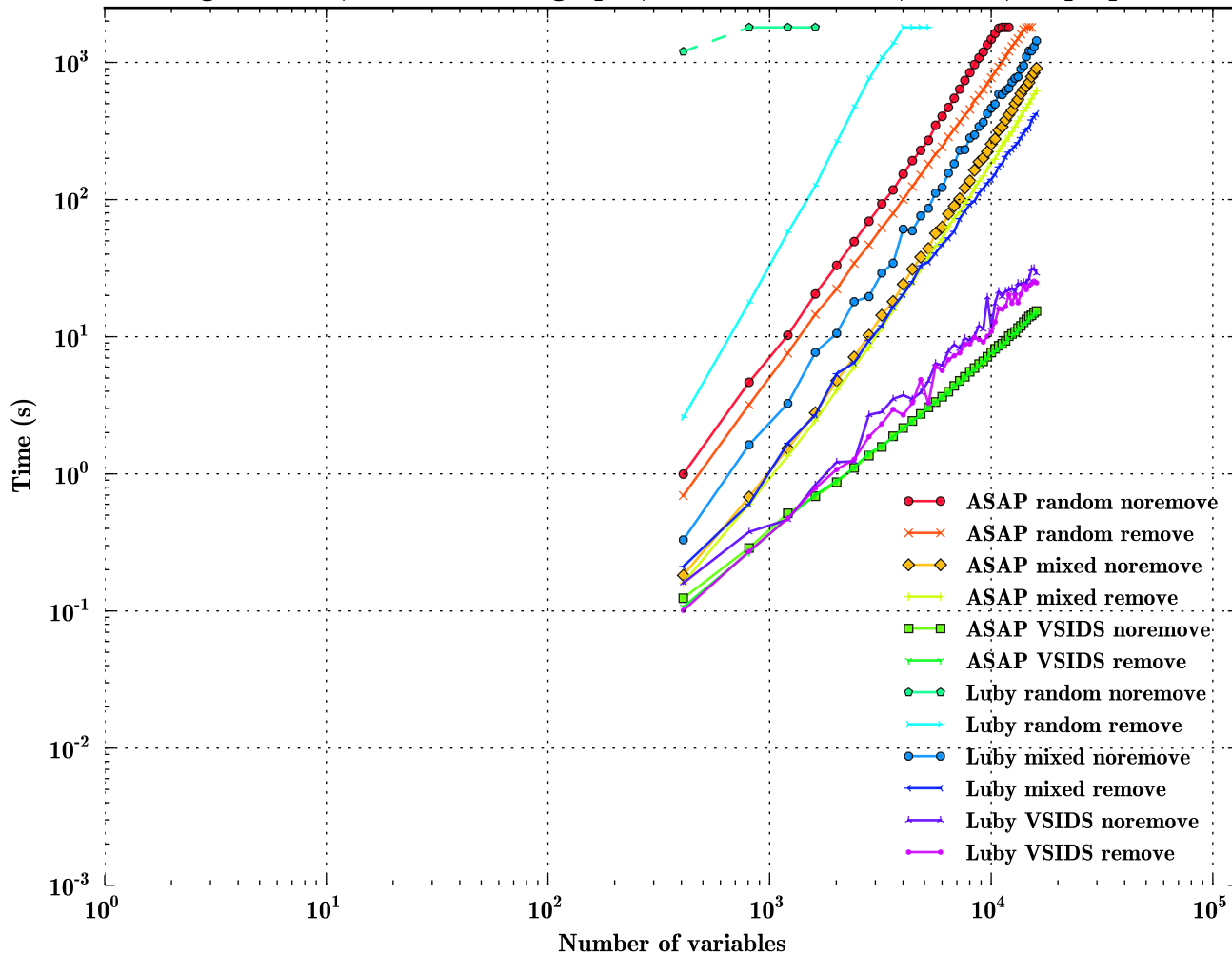
Pebbling formulas, width 2 chain graphs, substitution xor 2, shuffle, preprocessing



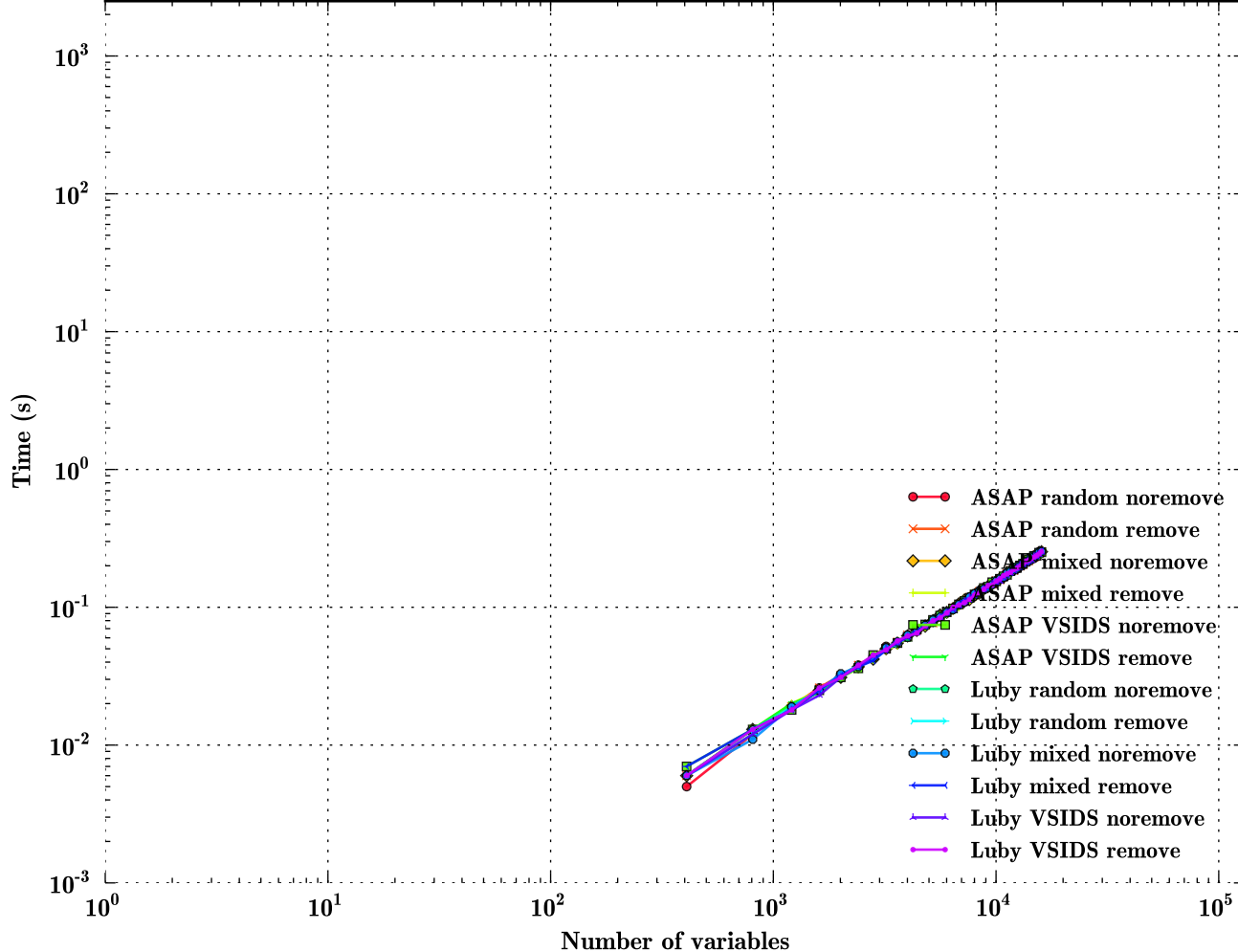
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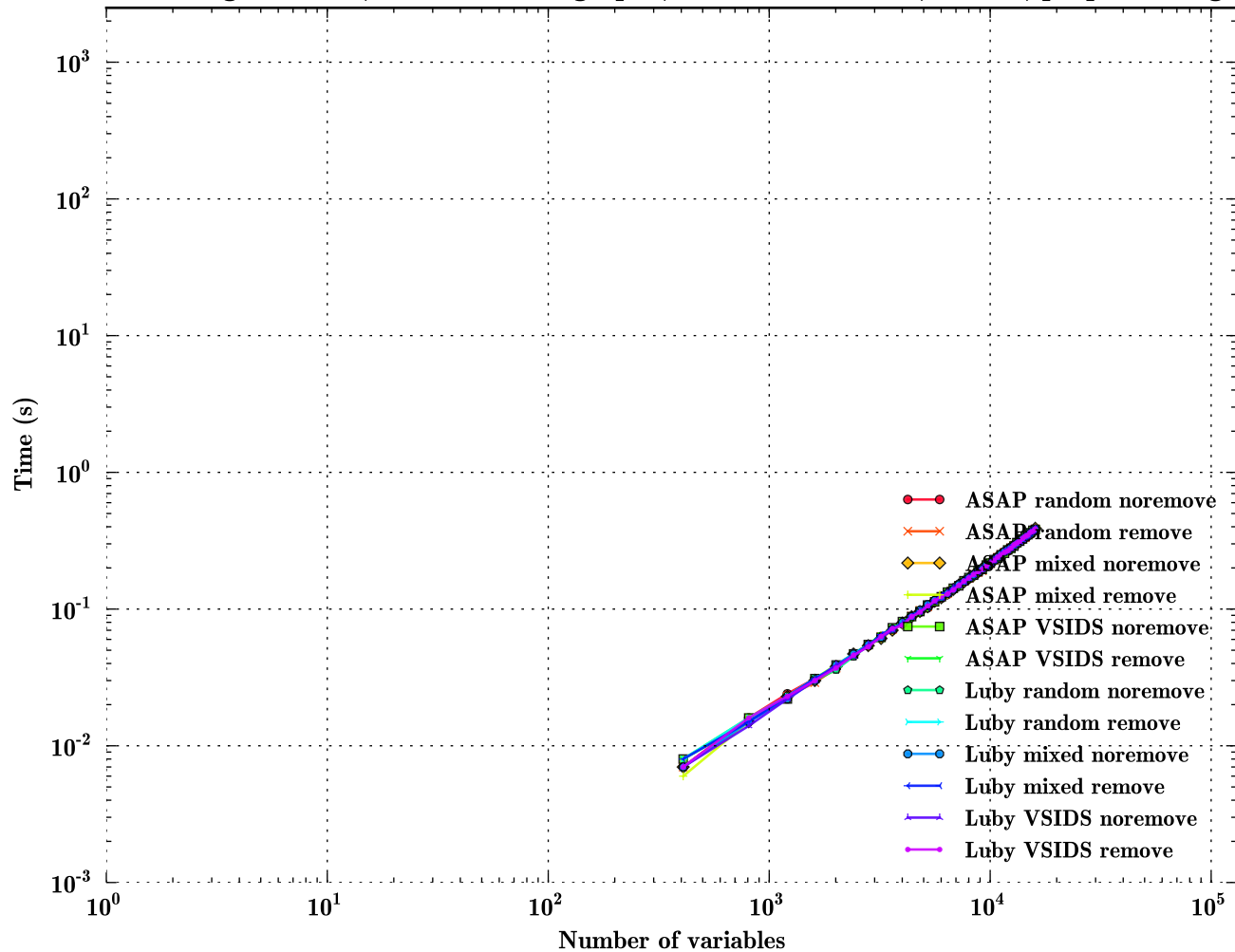
Pebbling formulas, width 5 chain graphs, substitution xor 2, shuffle, no preprocessing



Pebbling formulas, width 5 chain graphs, substitution xor 2, no shuffle, preprocessing

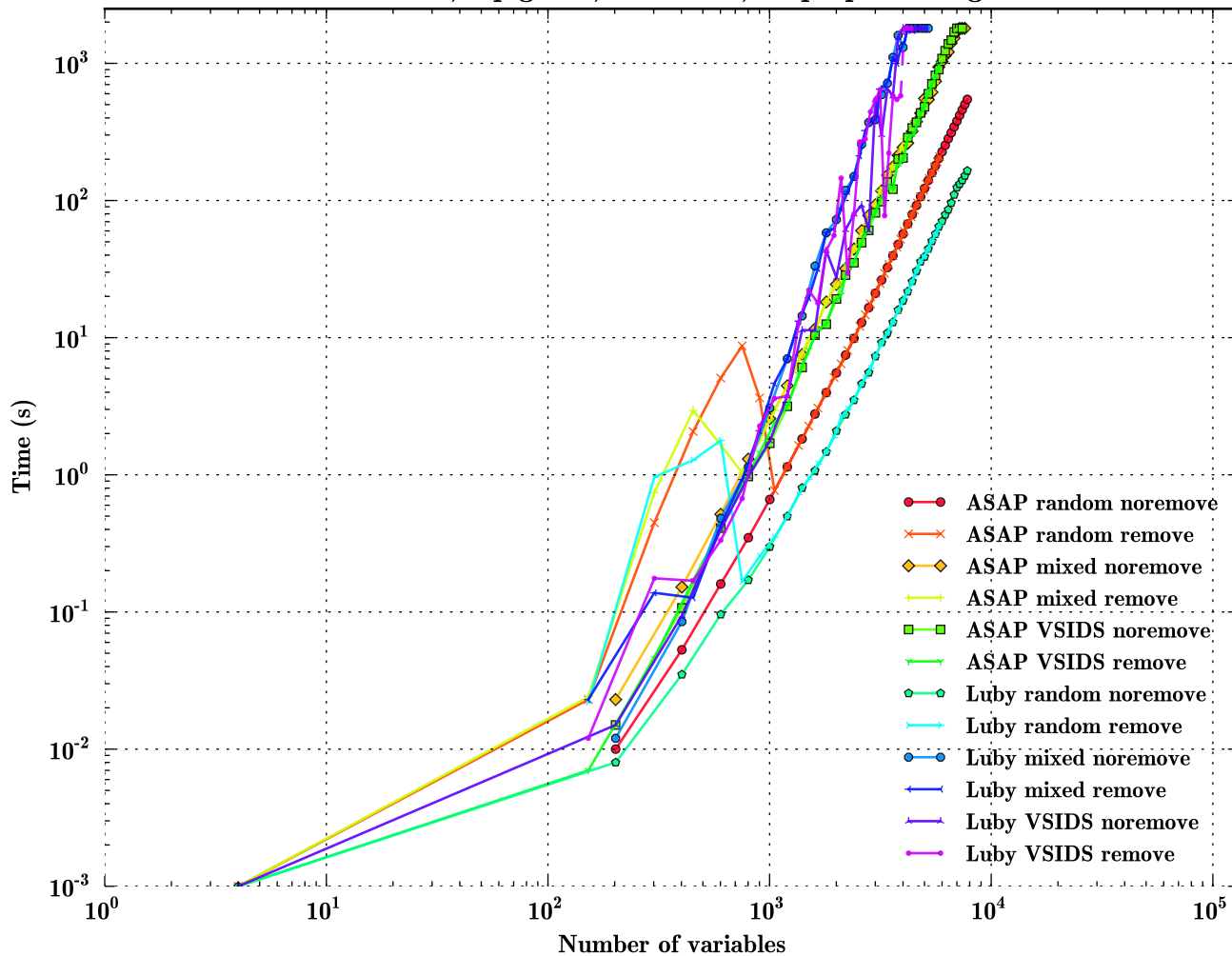


Pebbling formulas, width 5 chain graphs, substitution xor 2, shuffle, preprocessing

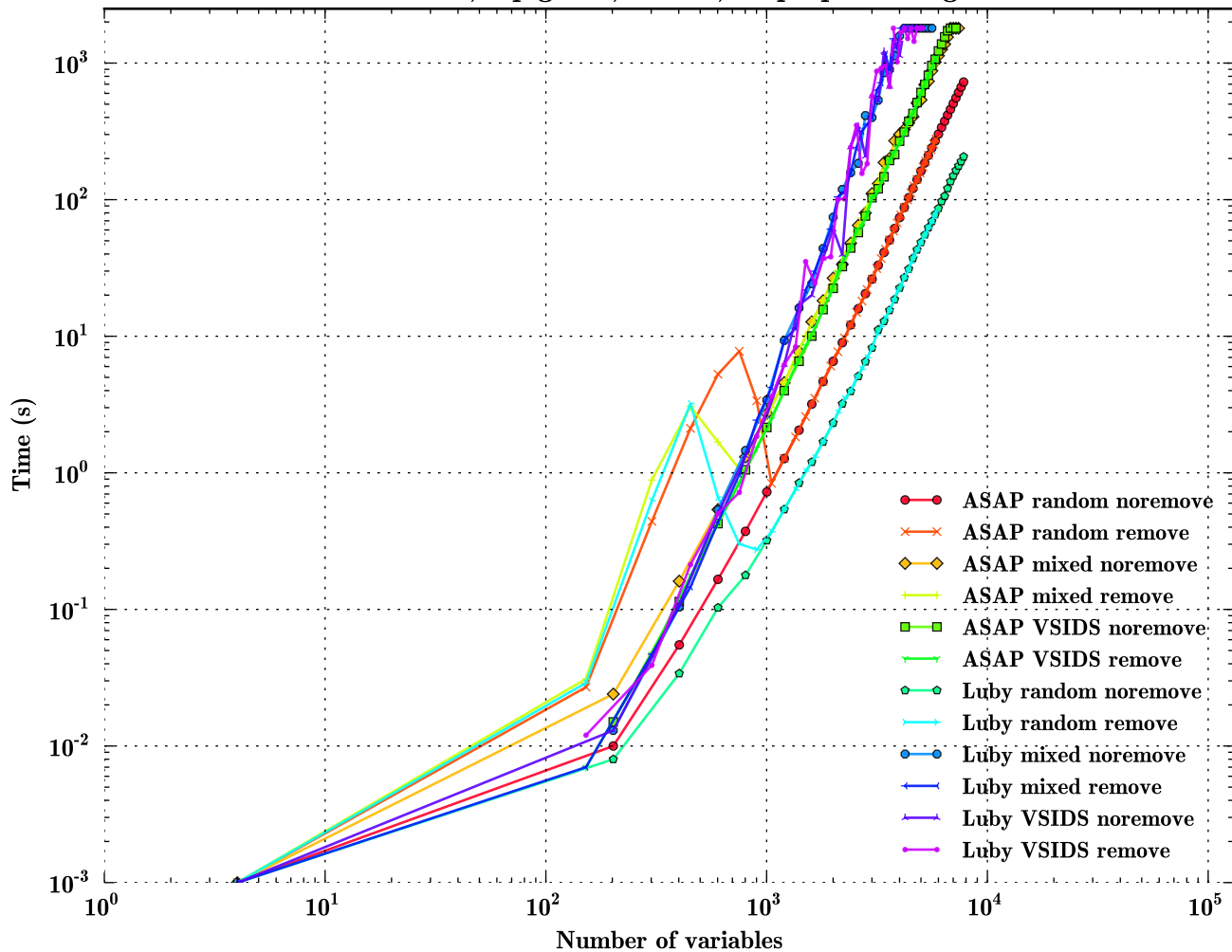


Relativized pigeonhole principle formulas (RPHP)

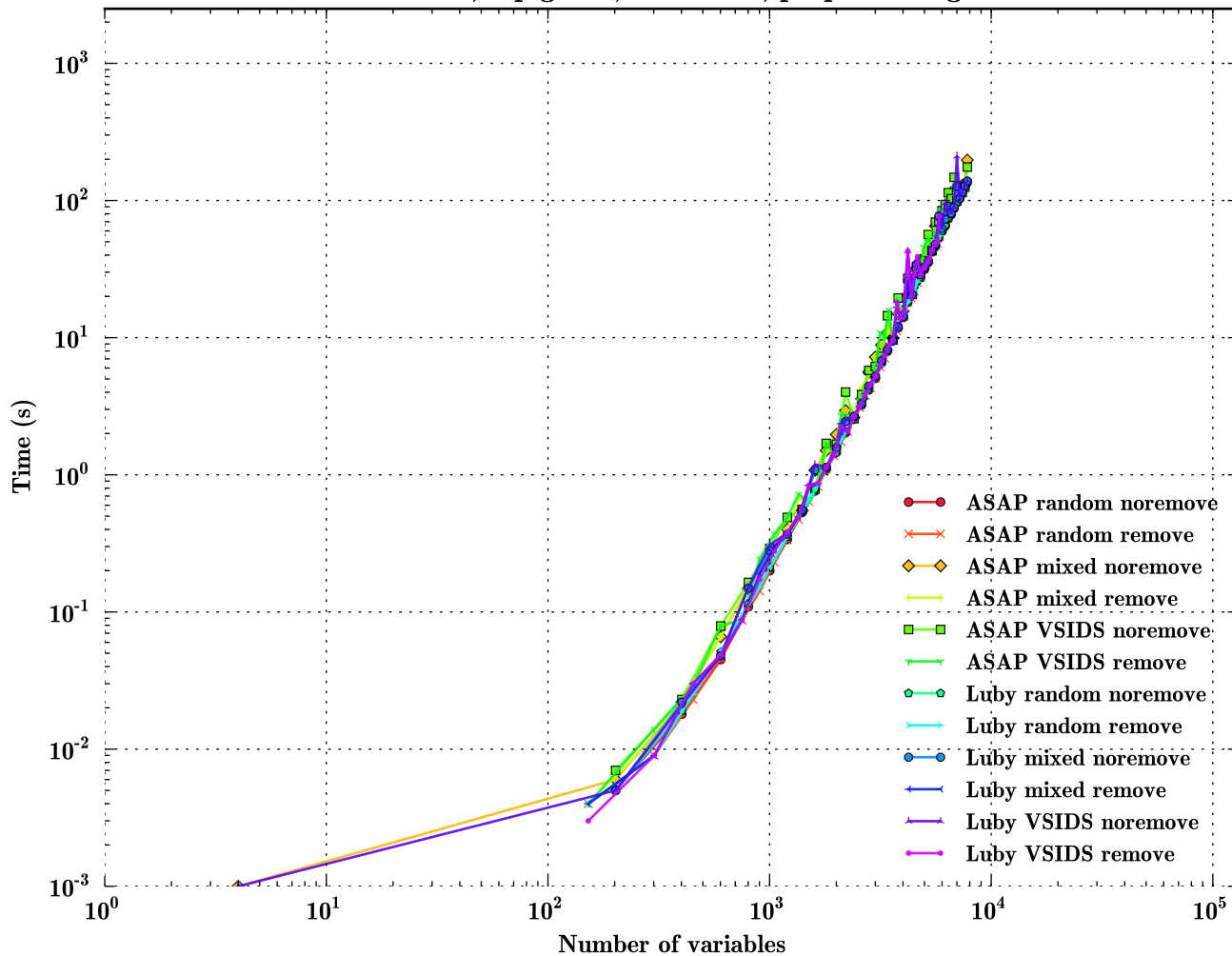
RPHP, 2 pigeons, no shuffle, no preprocessing



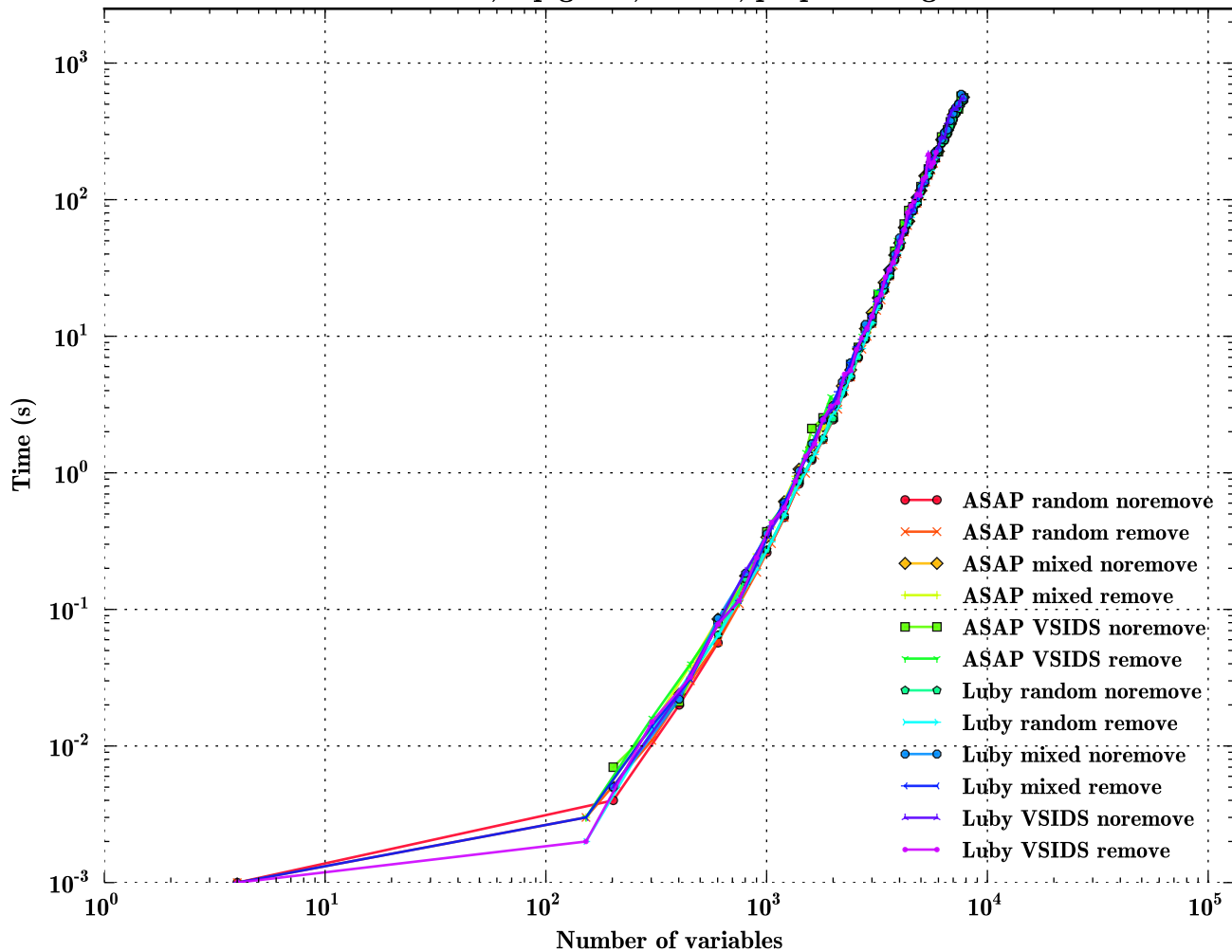
RPHP, 2 pigeons, shuffle, no preprocessing



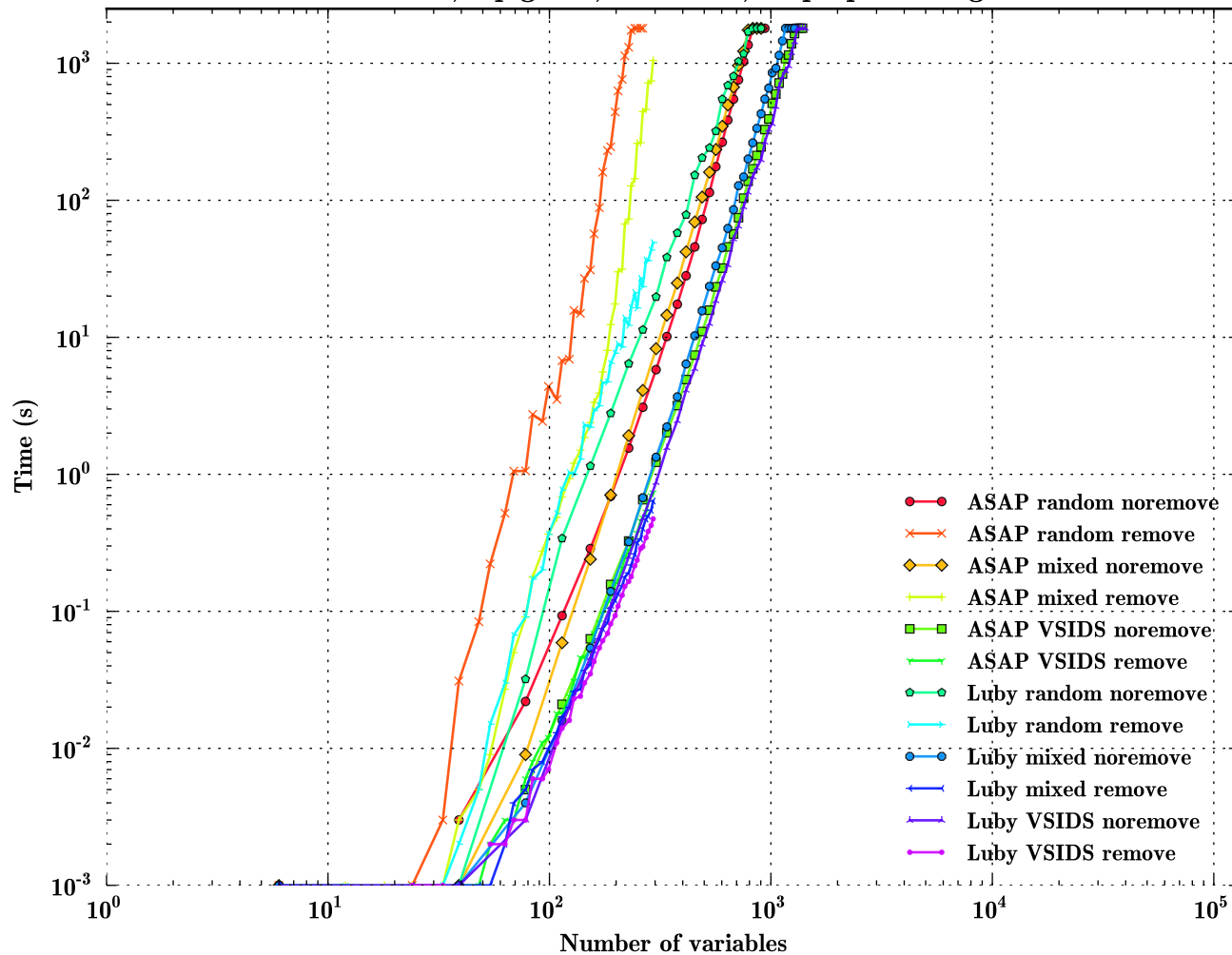
RPHP, 2 pigeons, no shuffle, preprocessing



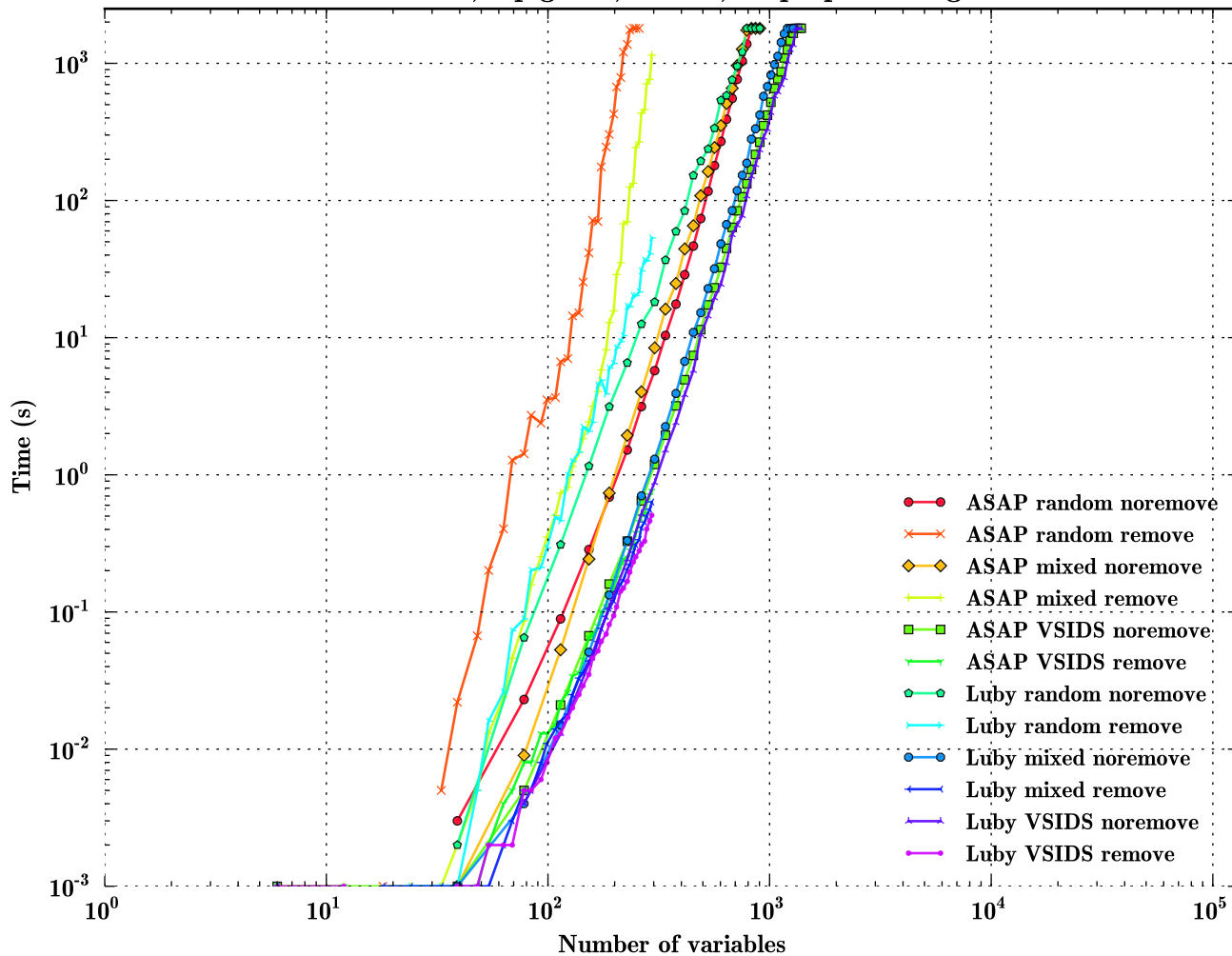
RPHP, 2 pigeons, shuffle, preprocessing



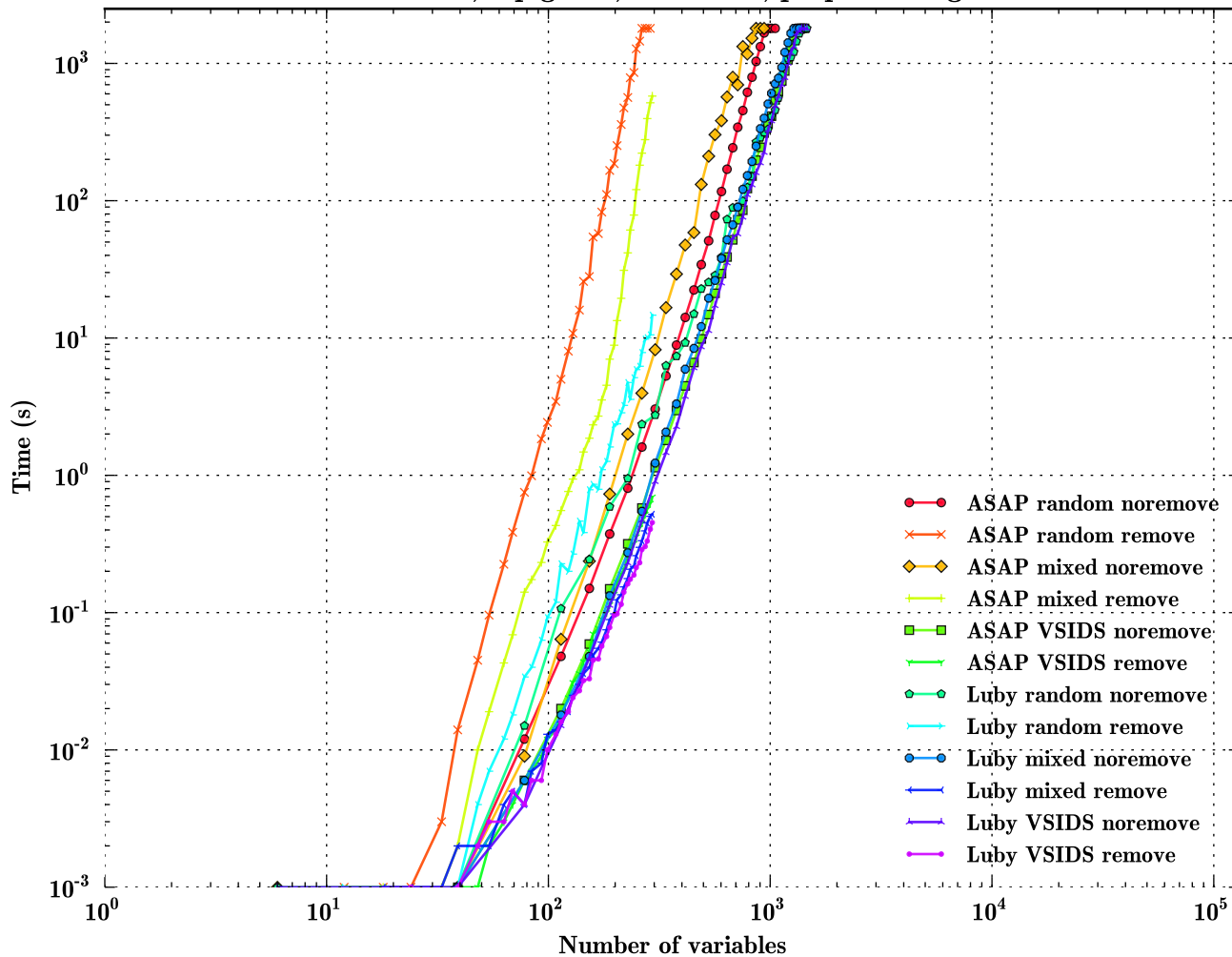
RPHP, 3 pigeons, no shuffle, no preprocessing



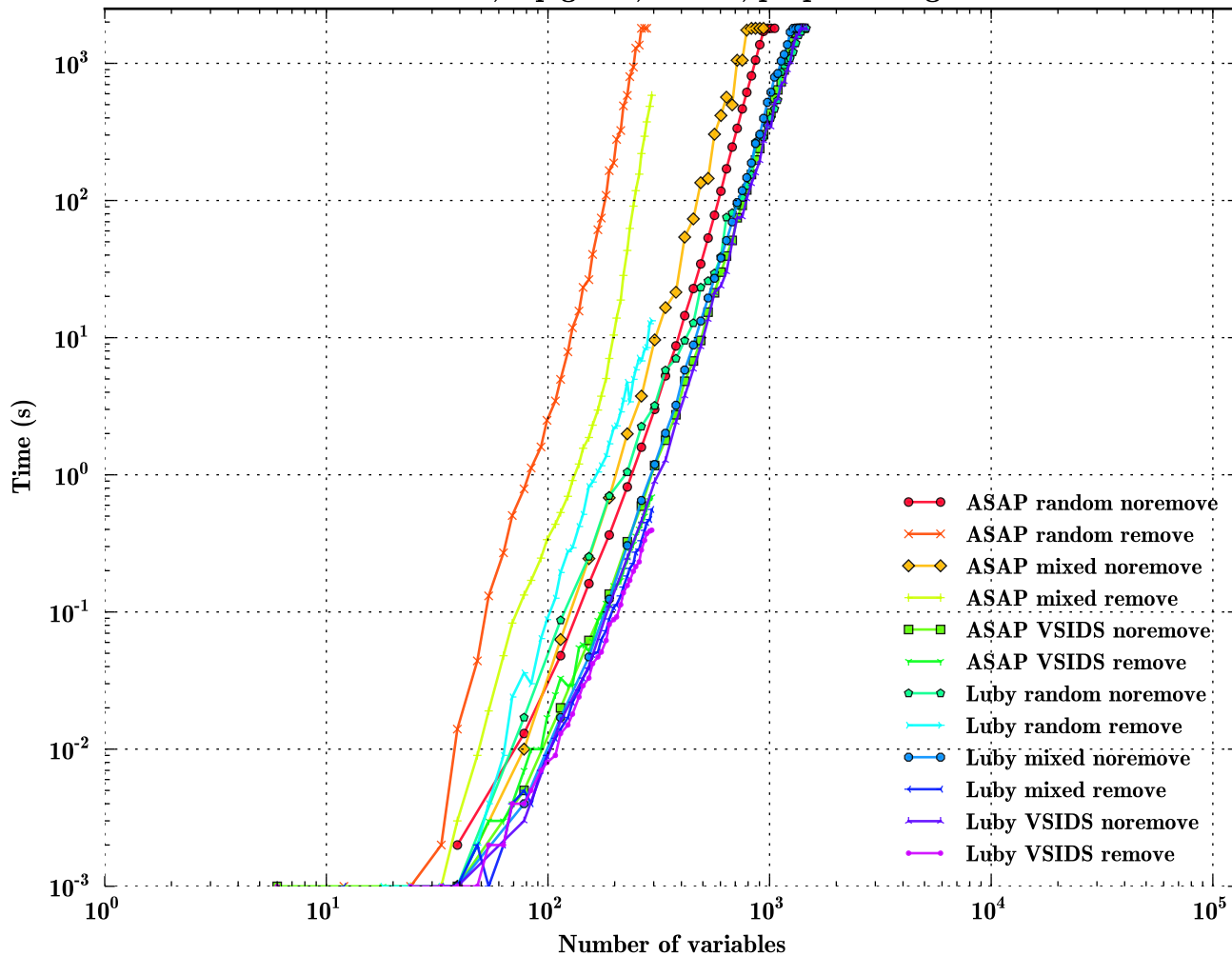
RPHP, 3 pigeons, shuffle, no preprocessing



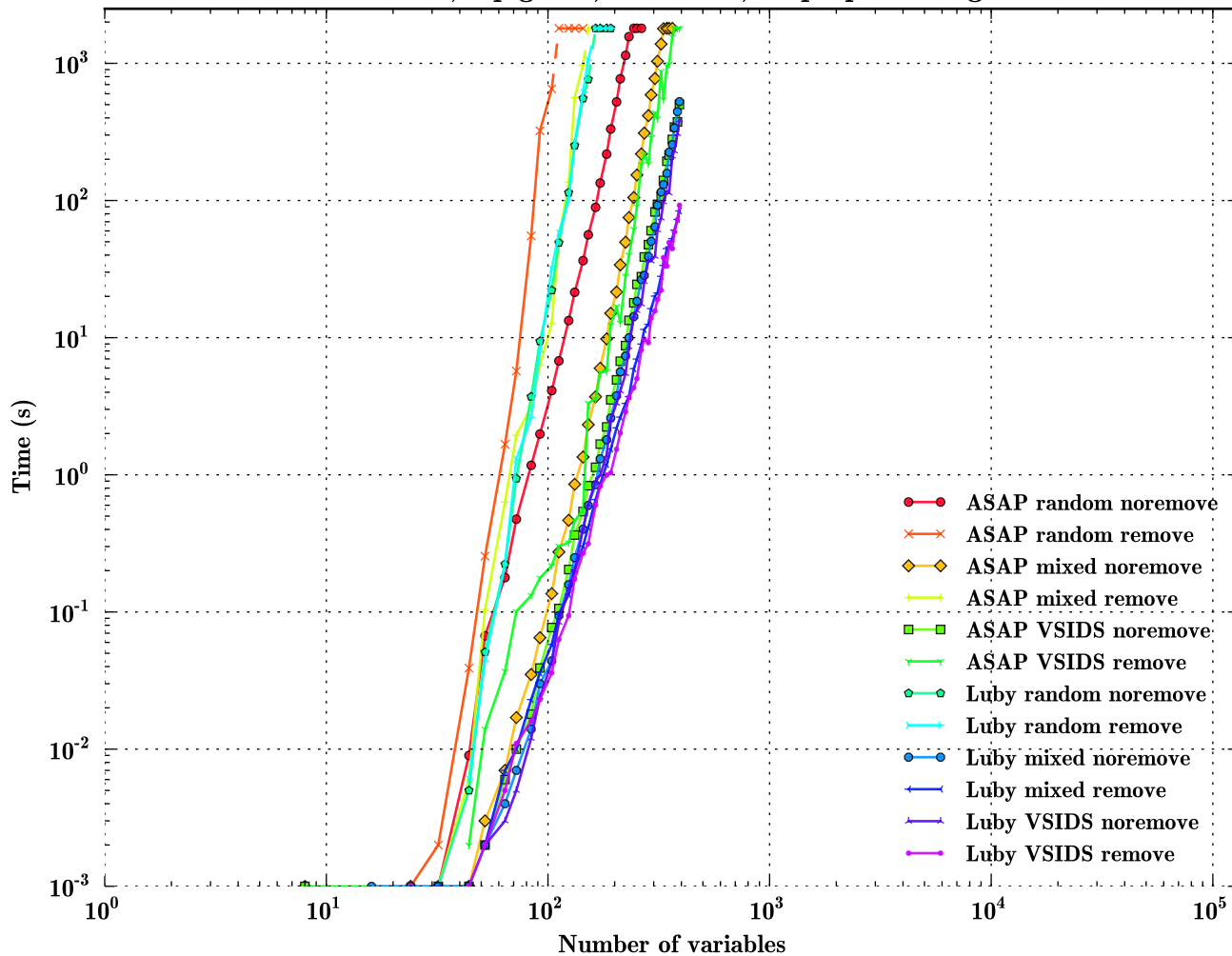
RPHP, 3 pigeons, no shuffle, preprocessing



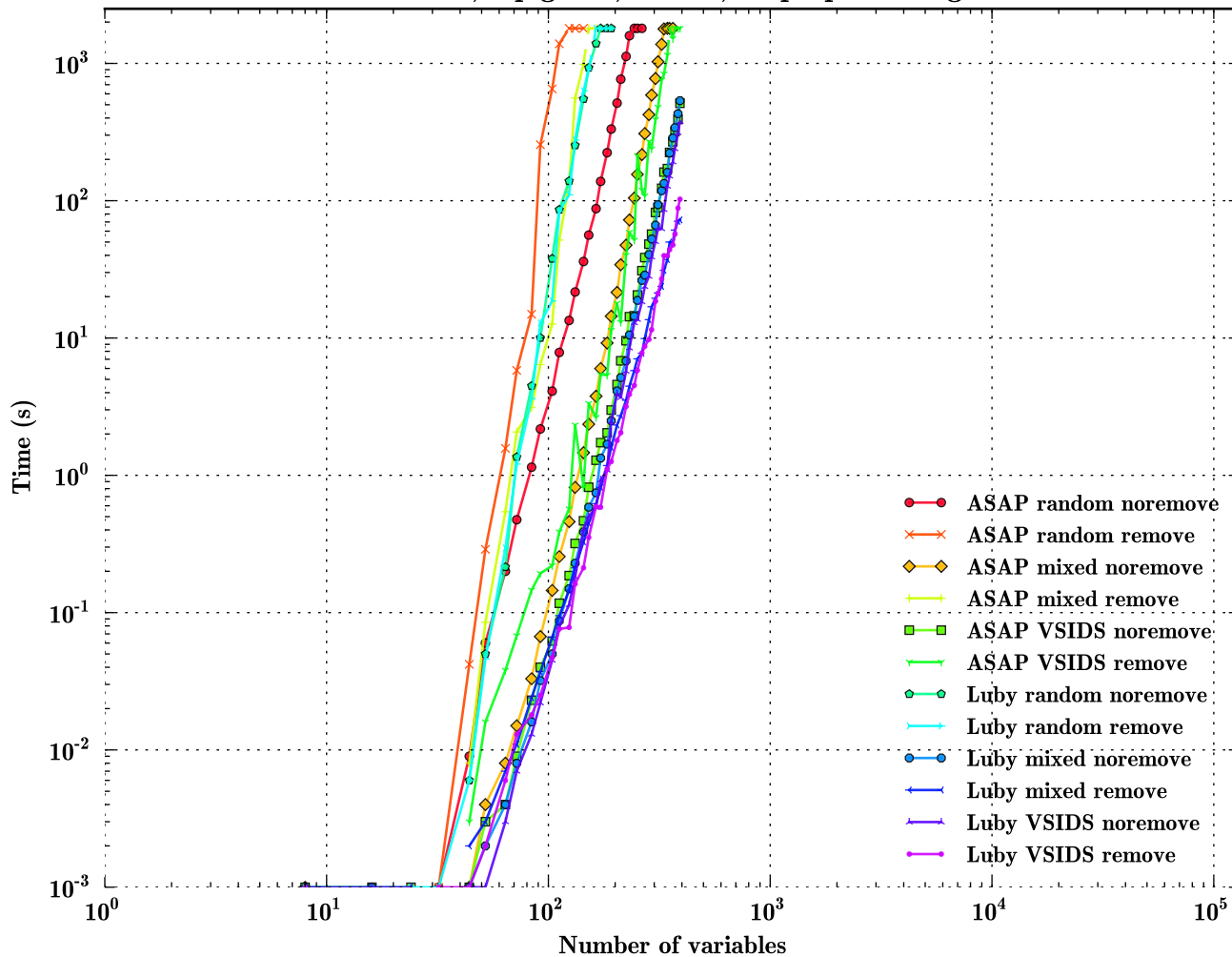
RPHP, 3 pigeons, shuffle, preprocessing



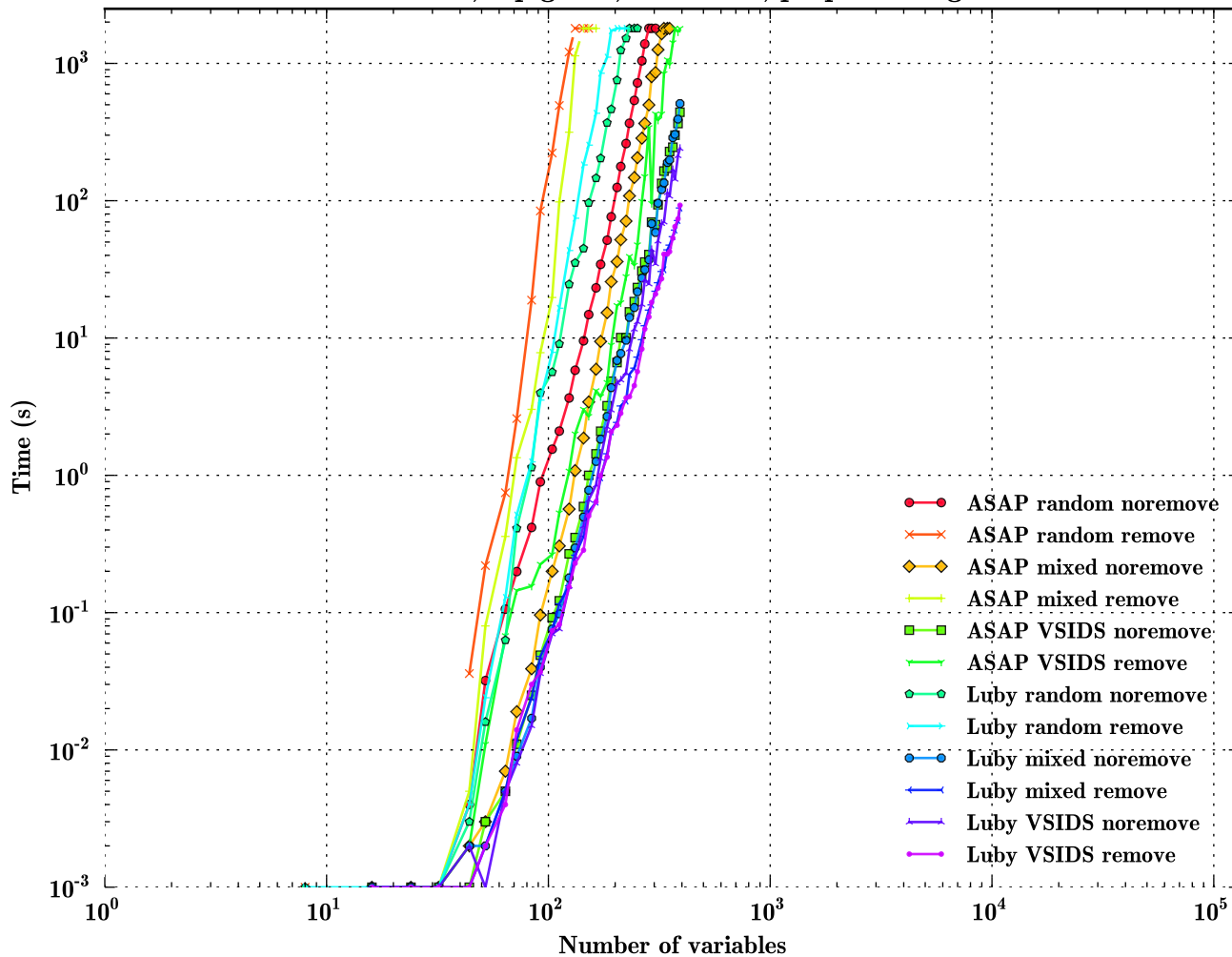
RPHP, 4 pigeons, no shuffle, no preprocessing



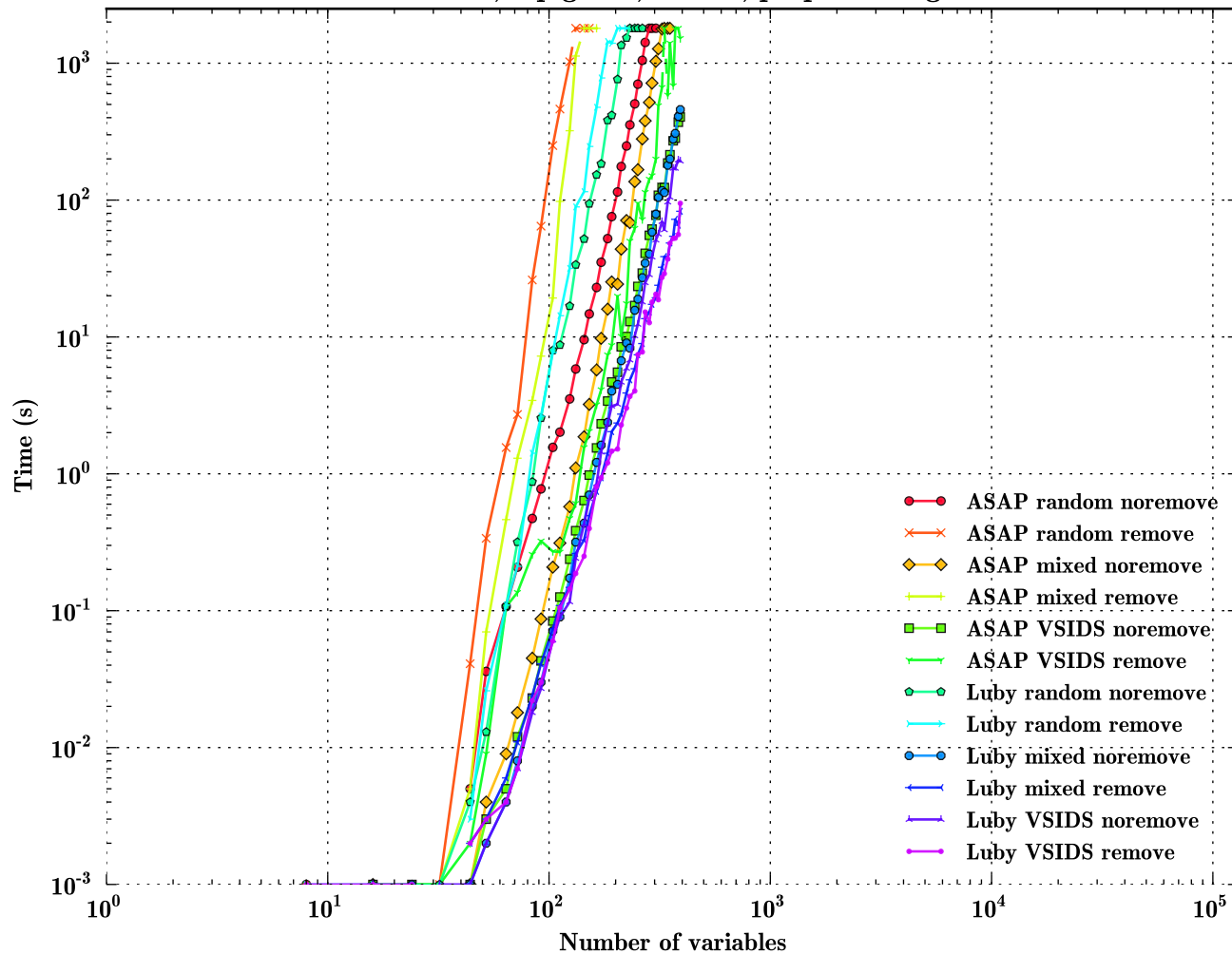
RPHP, 4 pigeons, shuffle, no preprocessing



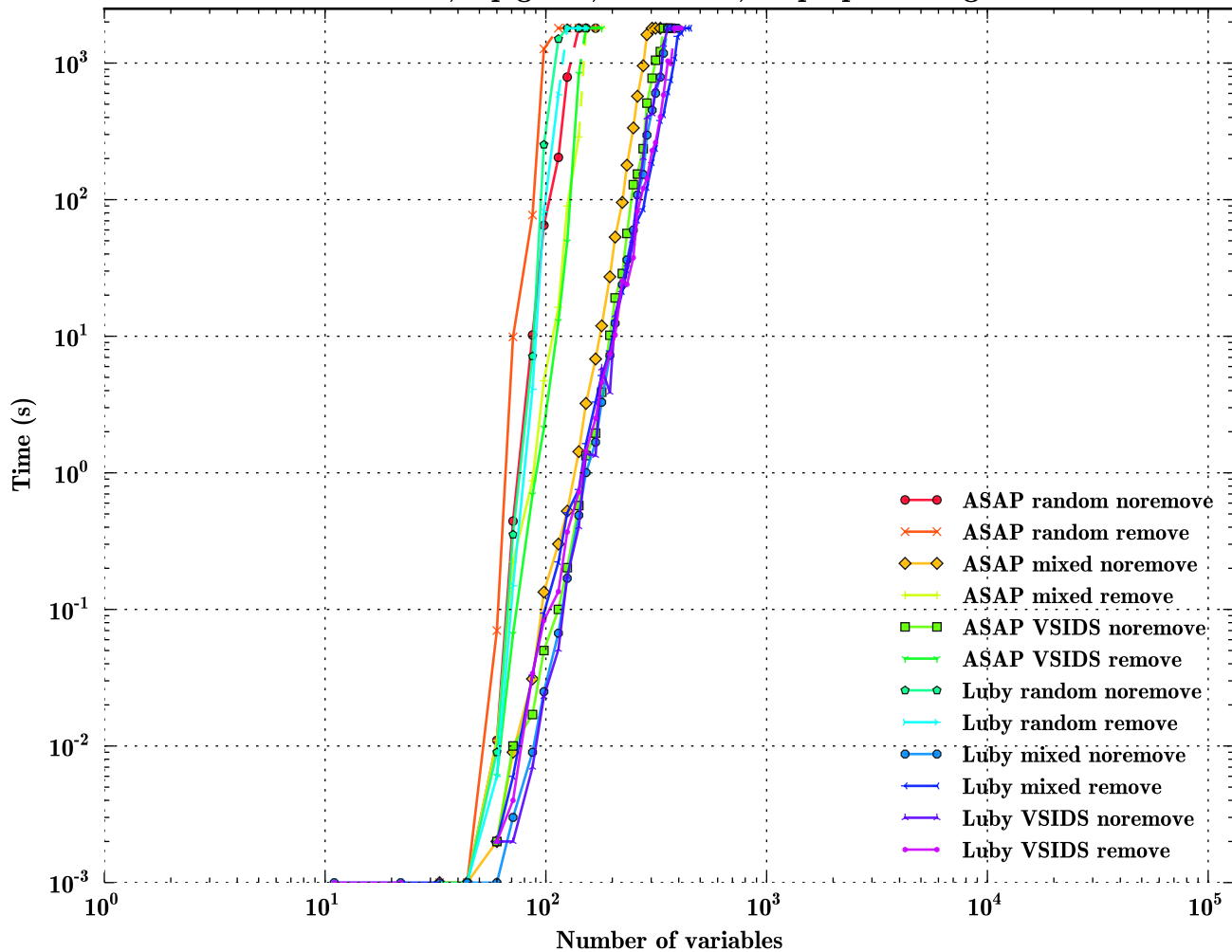
RPHP, 4 pigeons, no shuffle, preprocessing



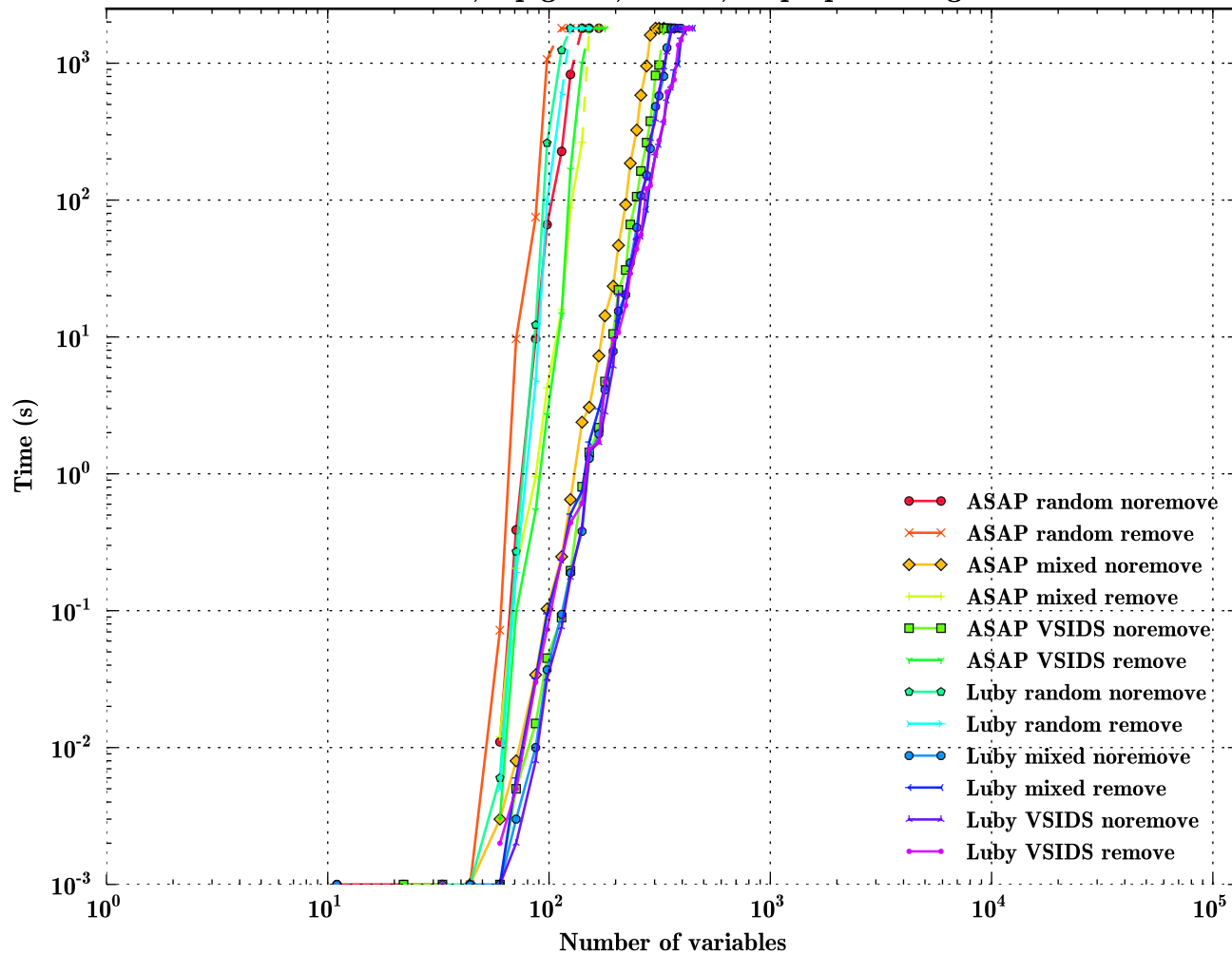
RPHP, 4 pigeons, shuffle, preprocessing



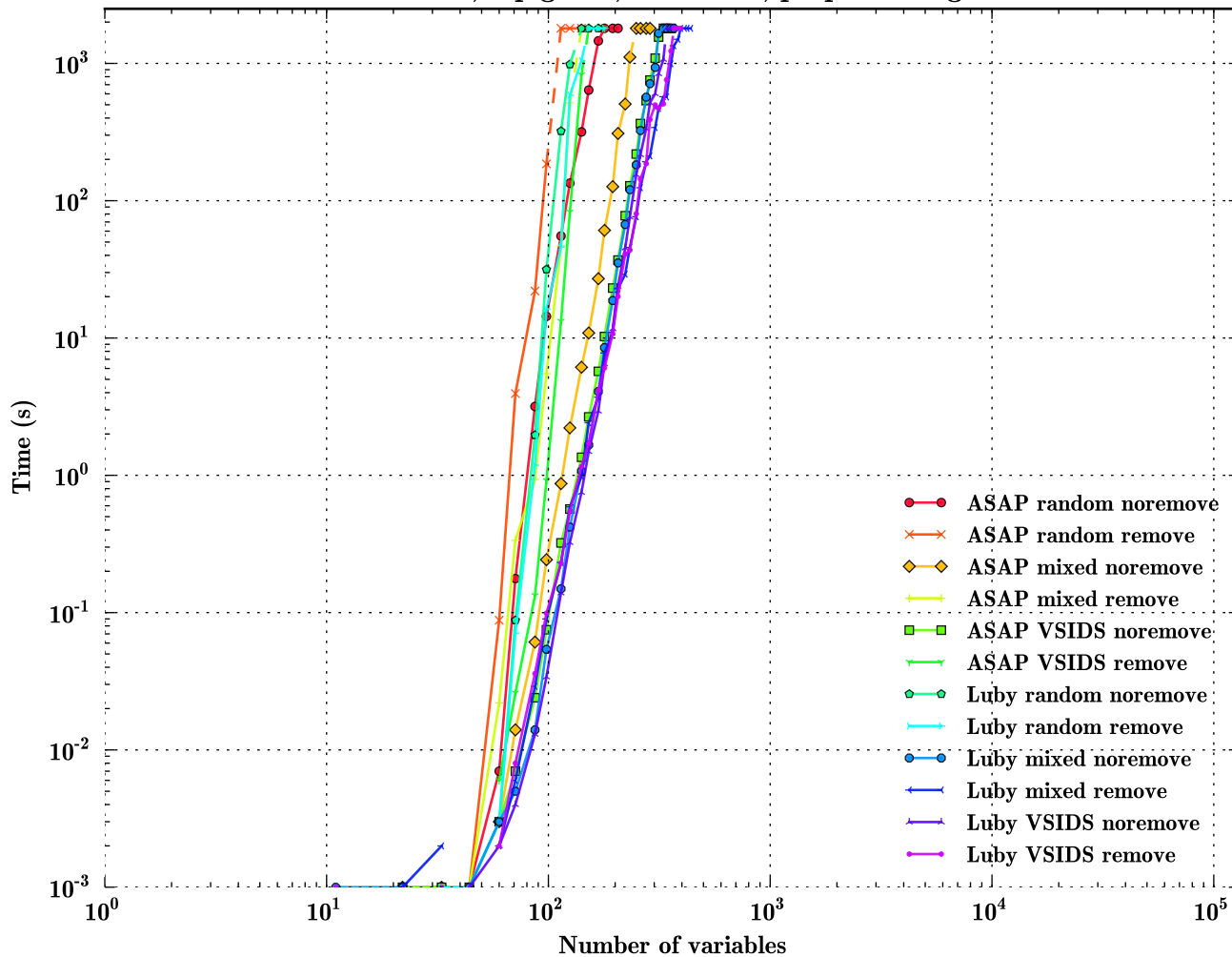
RPHP, 5 pigeons, no shuffle, no preprocessing



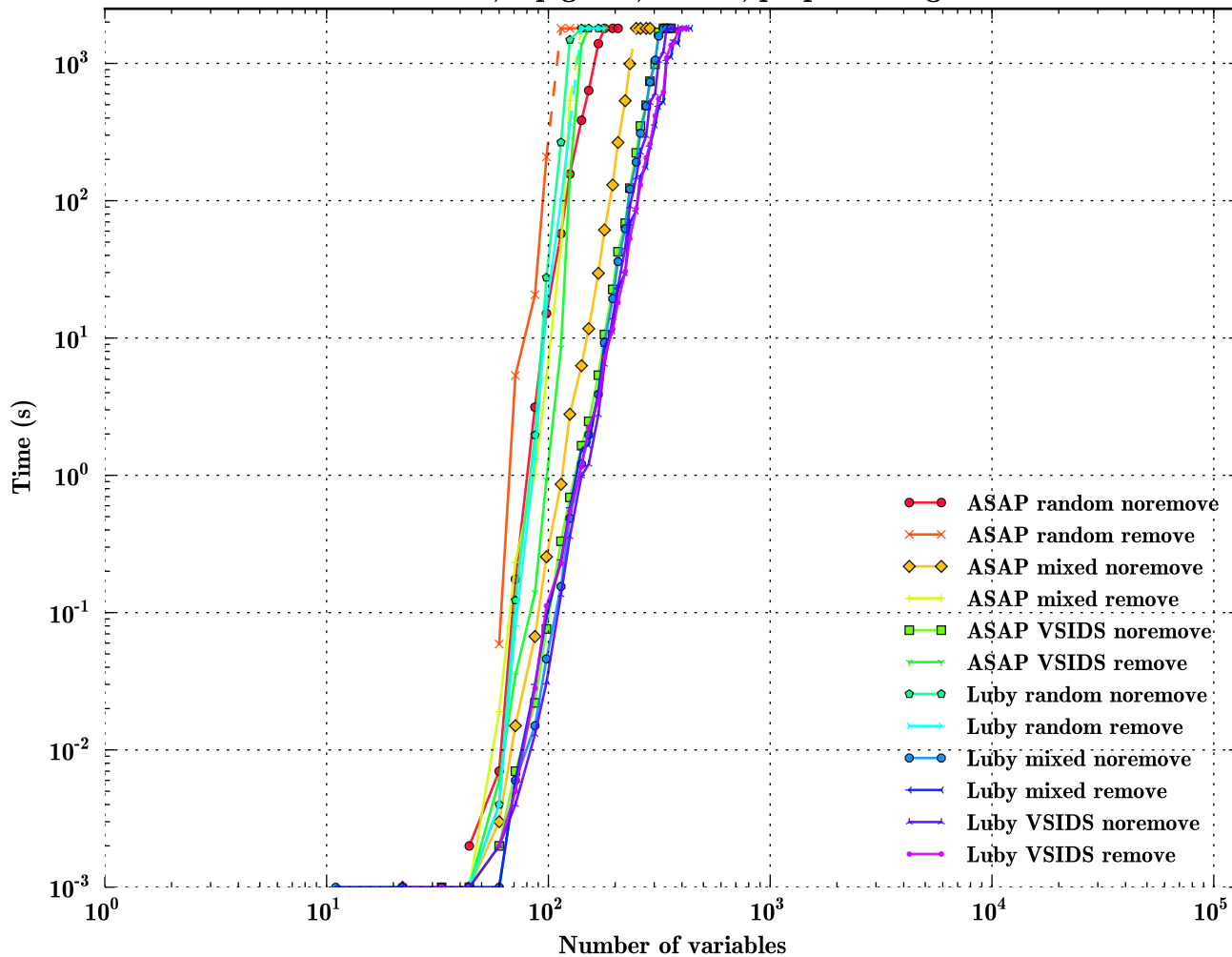
RPHP, 5 pigeons, shuffle, no preprocessing



RPHP, 5 pigeons, no shuffle, preprocessing

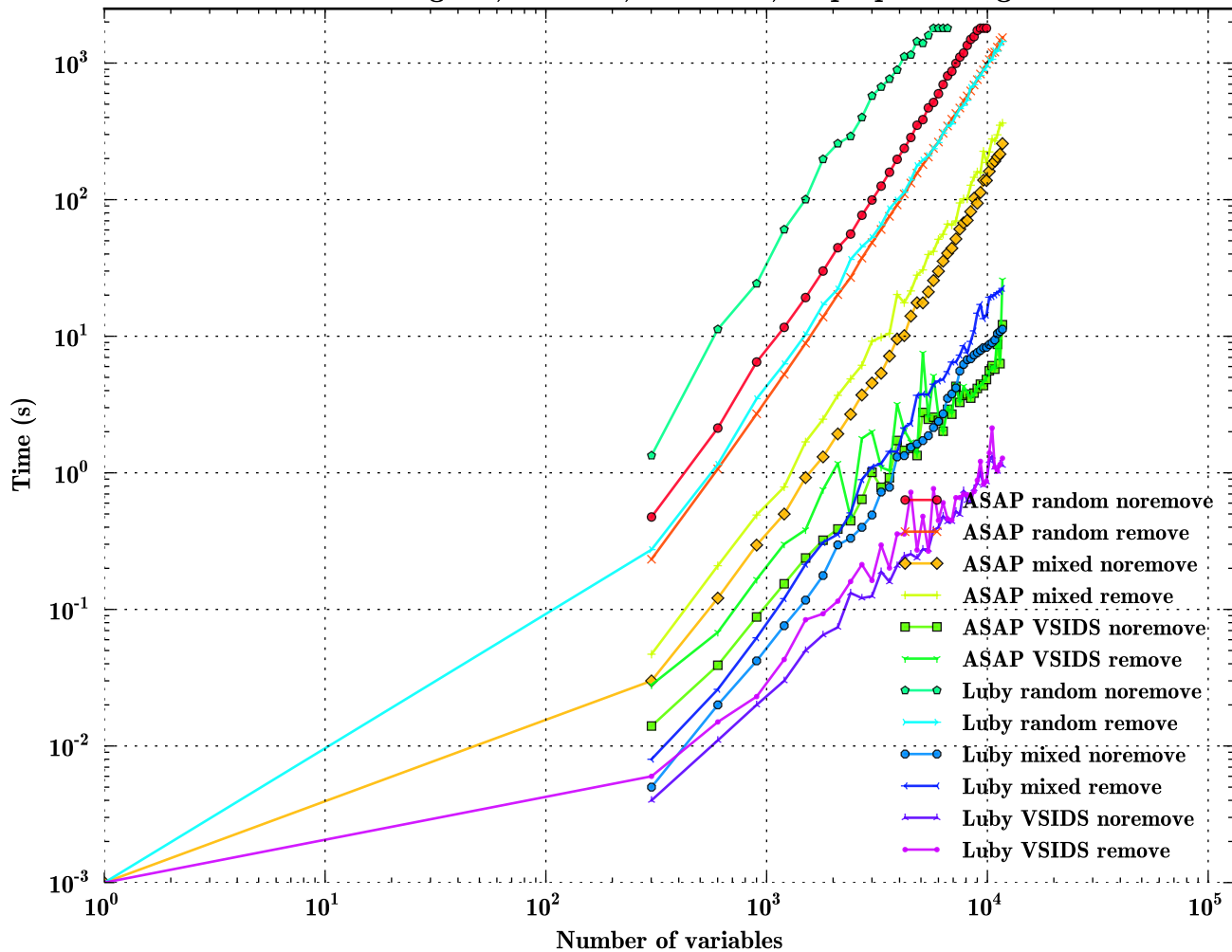


RPHP, 5 pigeons, shuffle, preprocessing

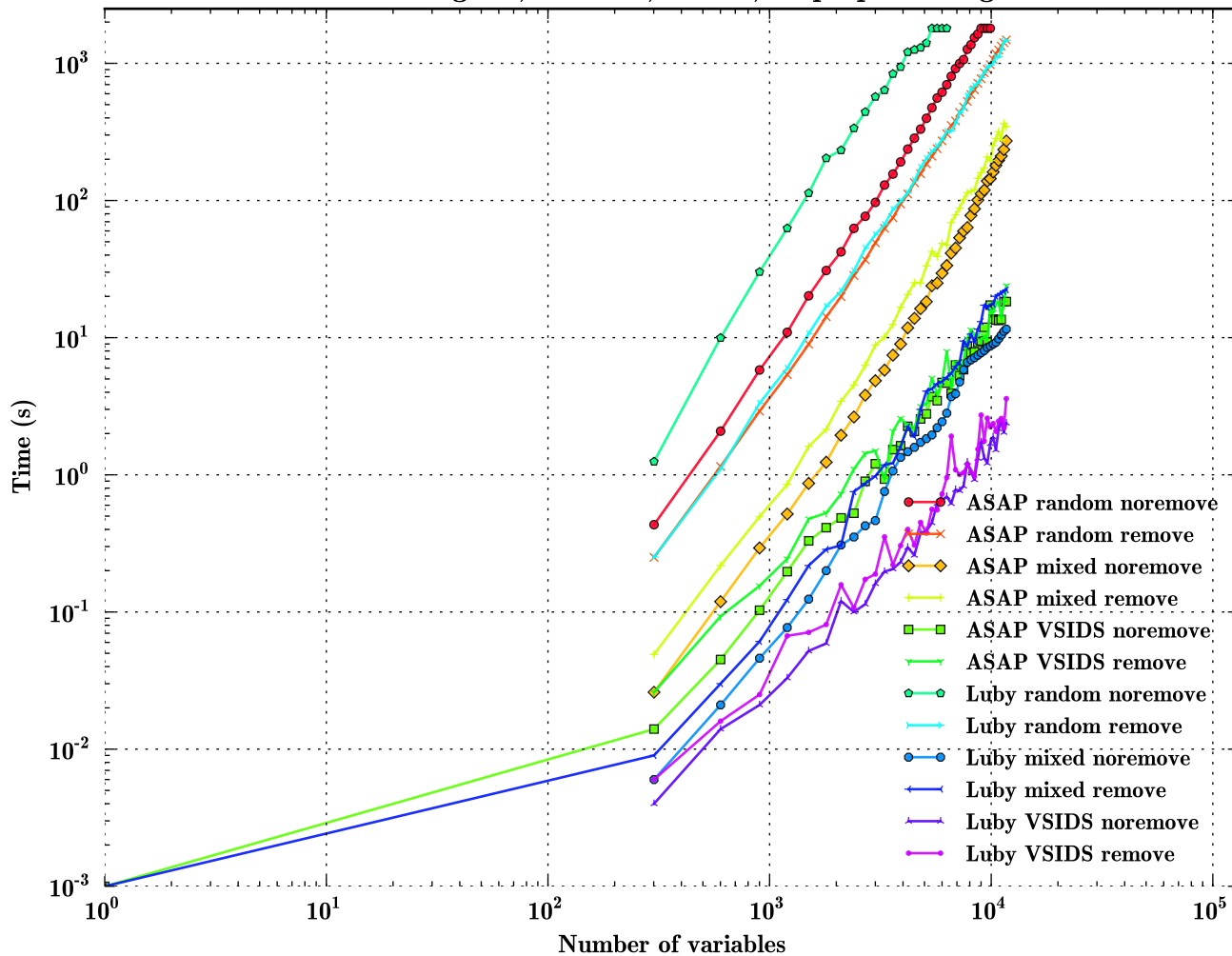


Tseitin grids

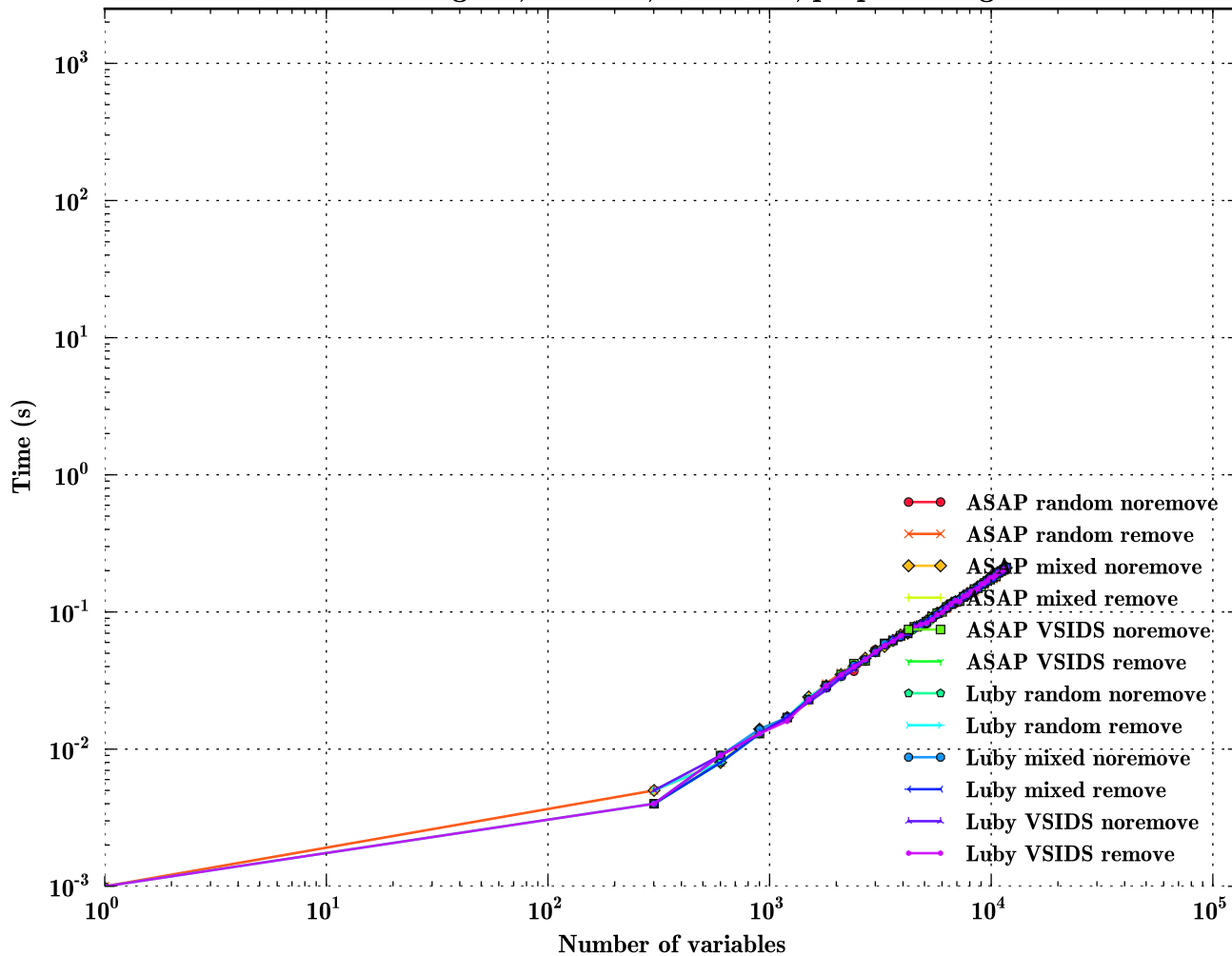
Tseitin grids, width: 2, no shuffle, no preprocessing



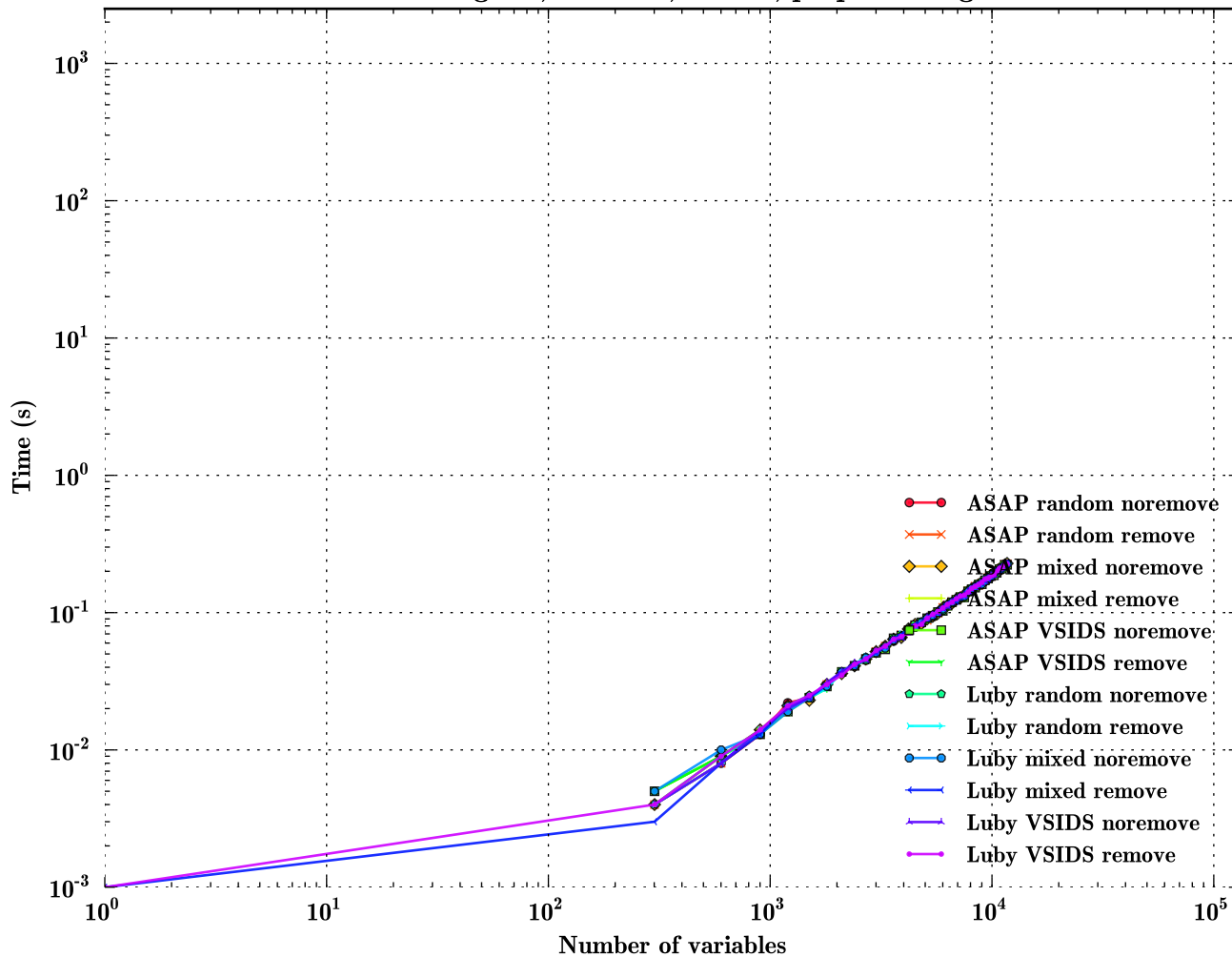
Tseitin grids, width: 2, shuffle, no preprocessing



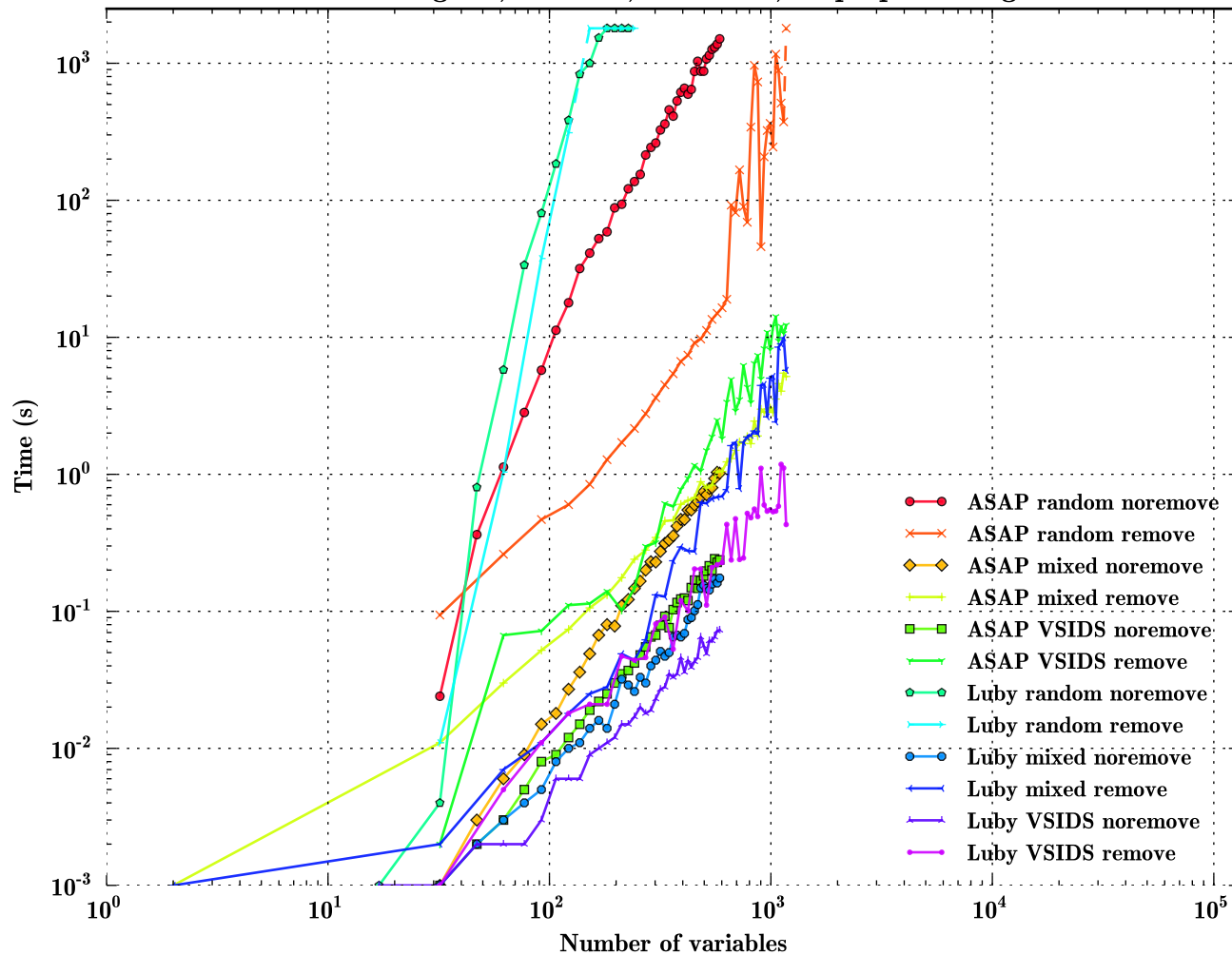
Tseitin grids, width: 2, no shuffle, preprocessing



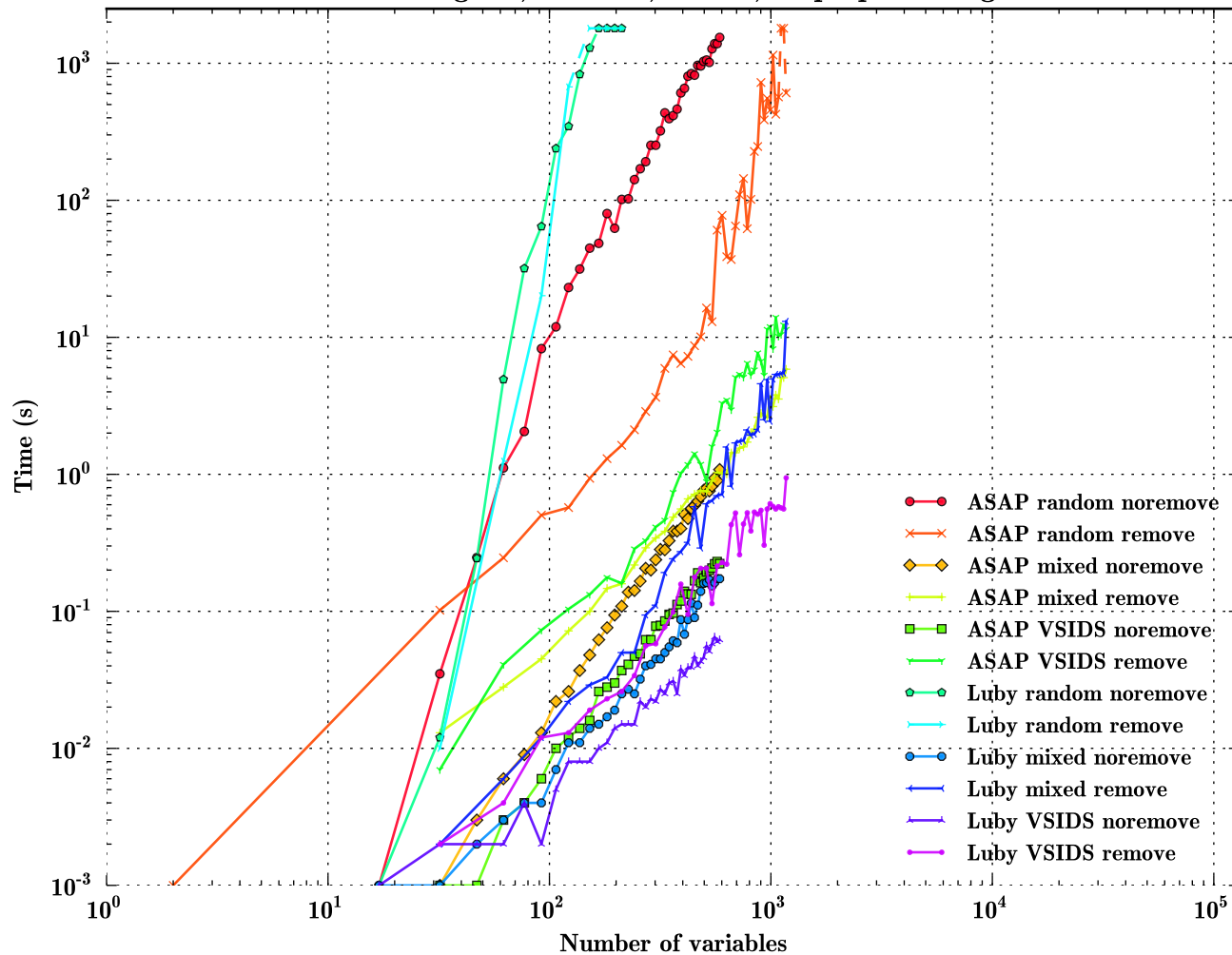
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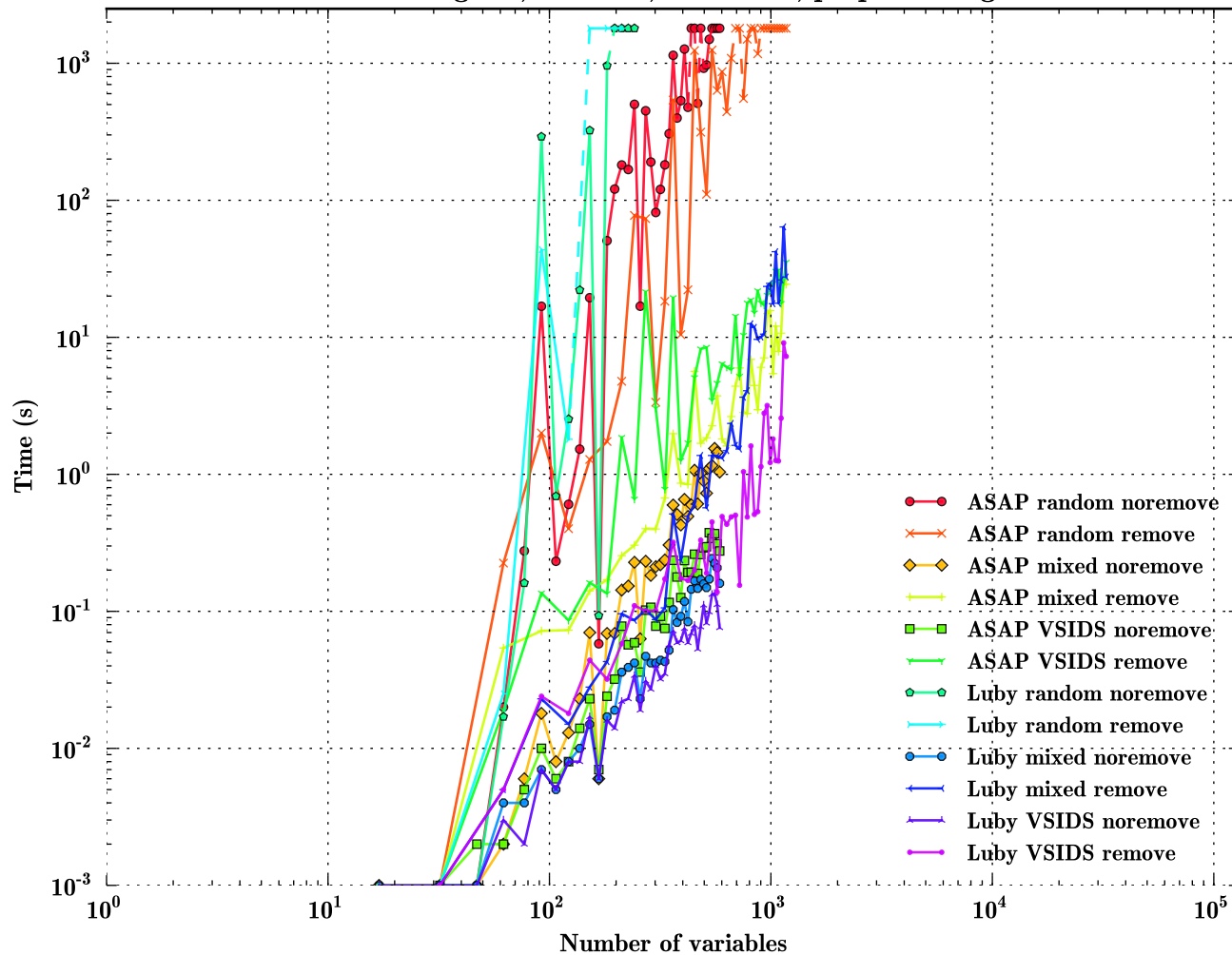
Tseitin grids, width: 3, no shuffle, no preprocessing



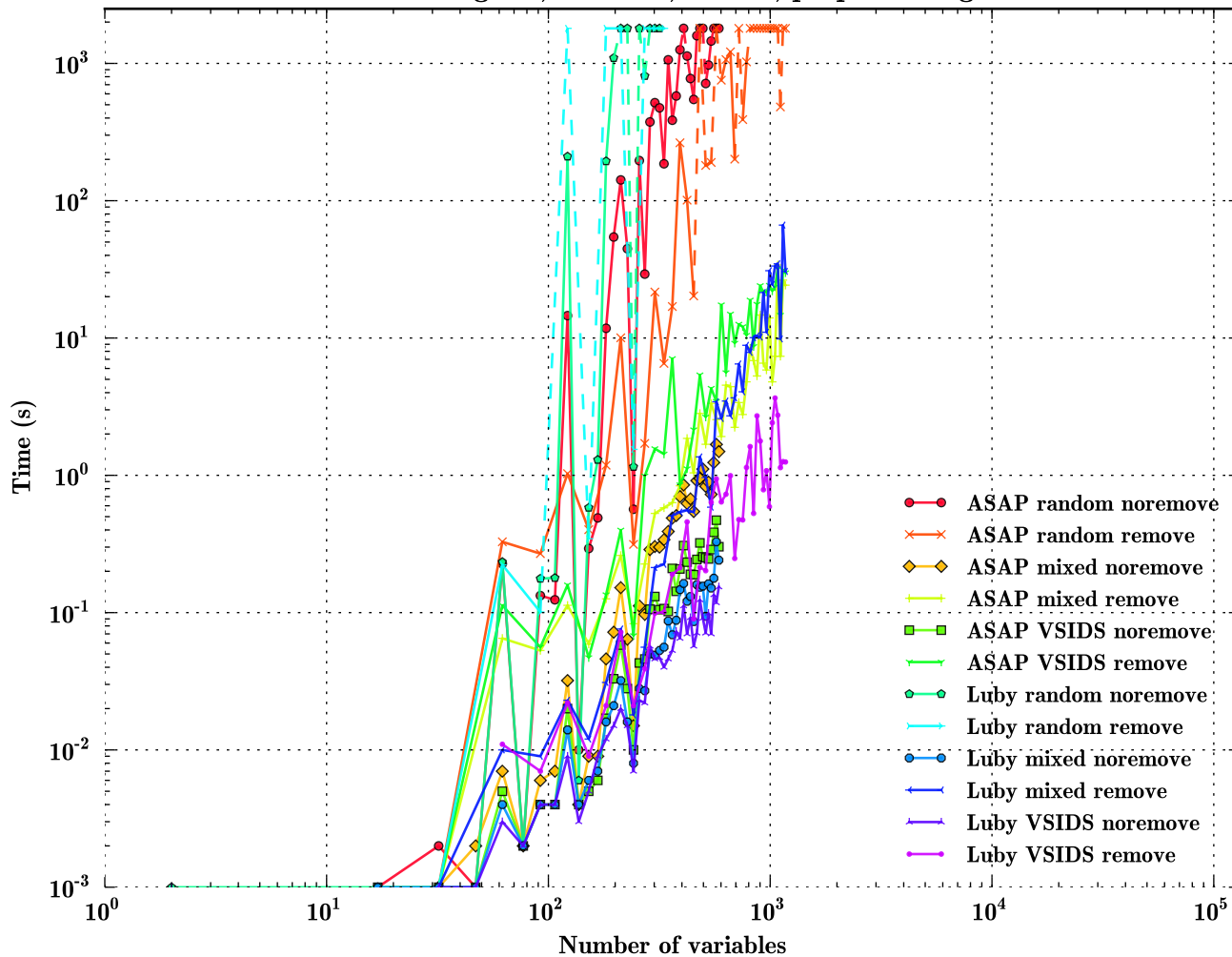
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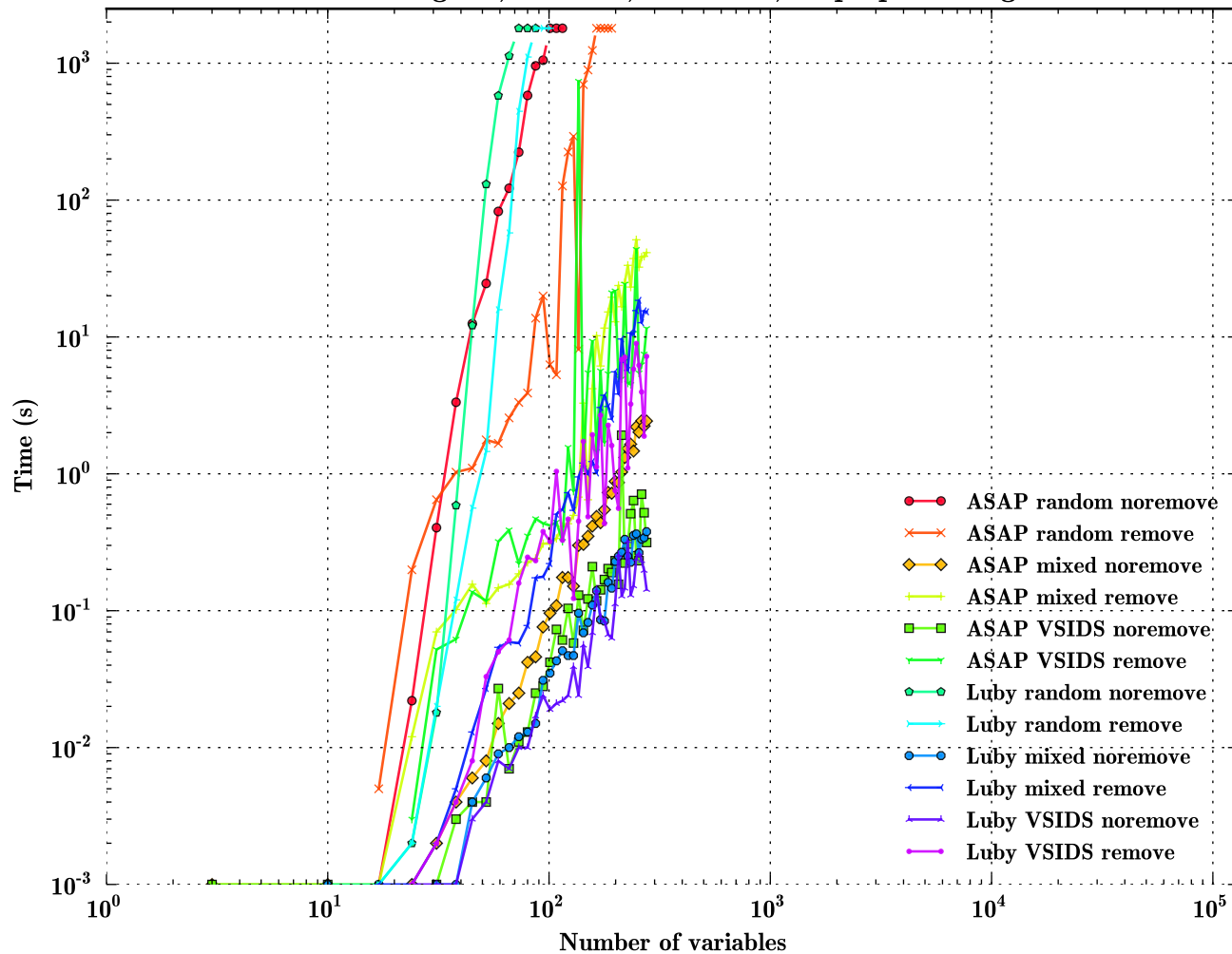
Tseitin grids, width: 3, no shuffle, preprocessing



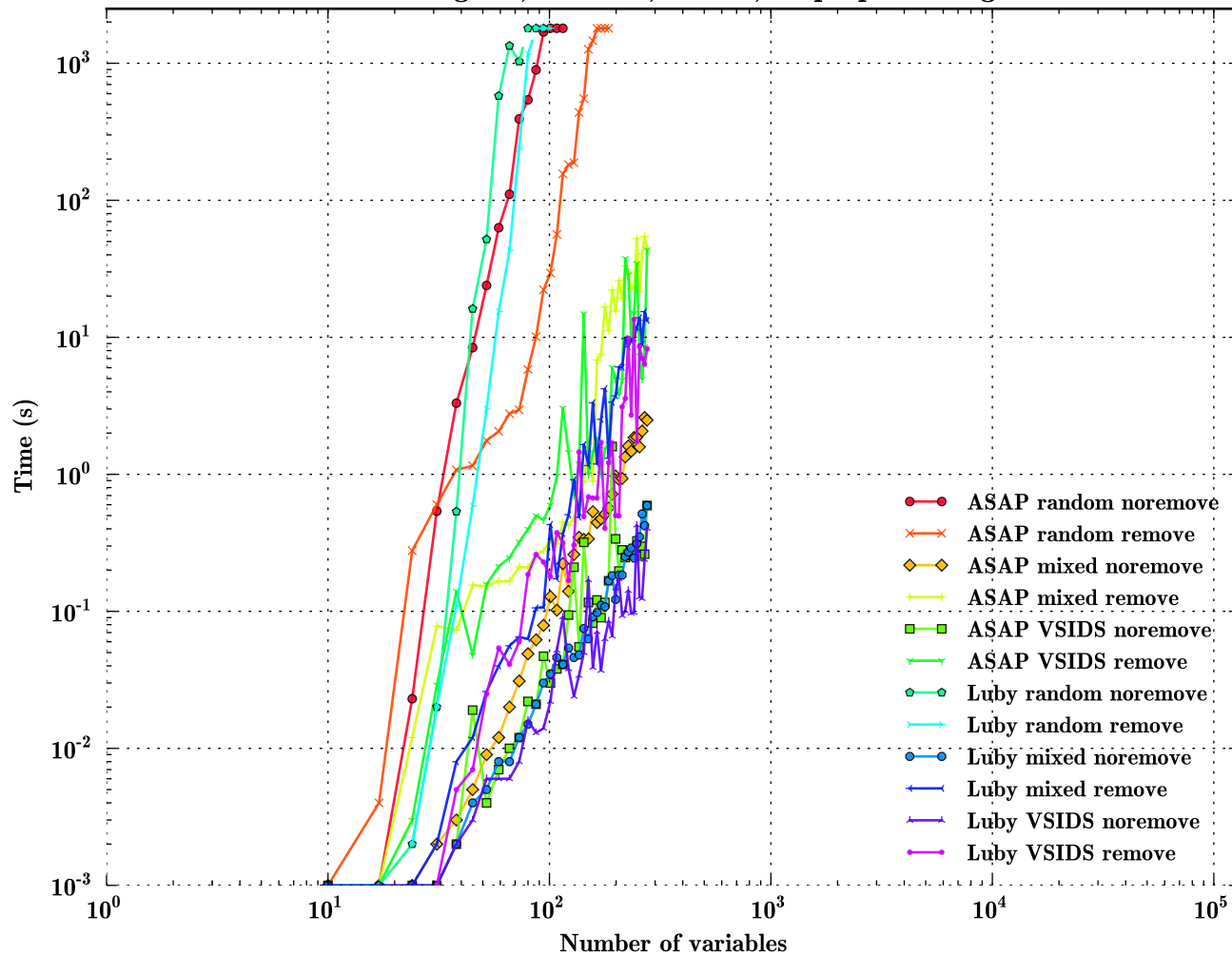
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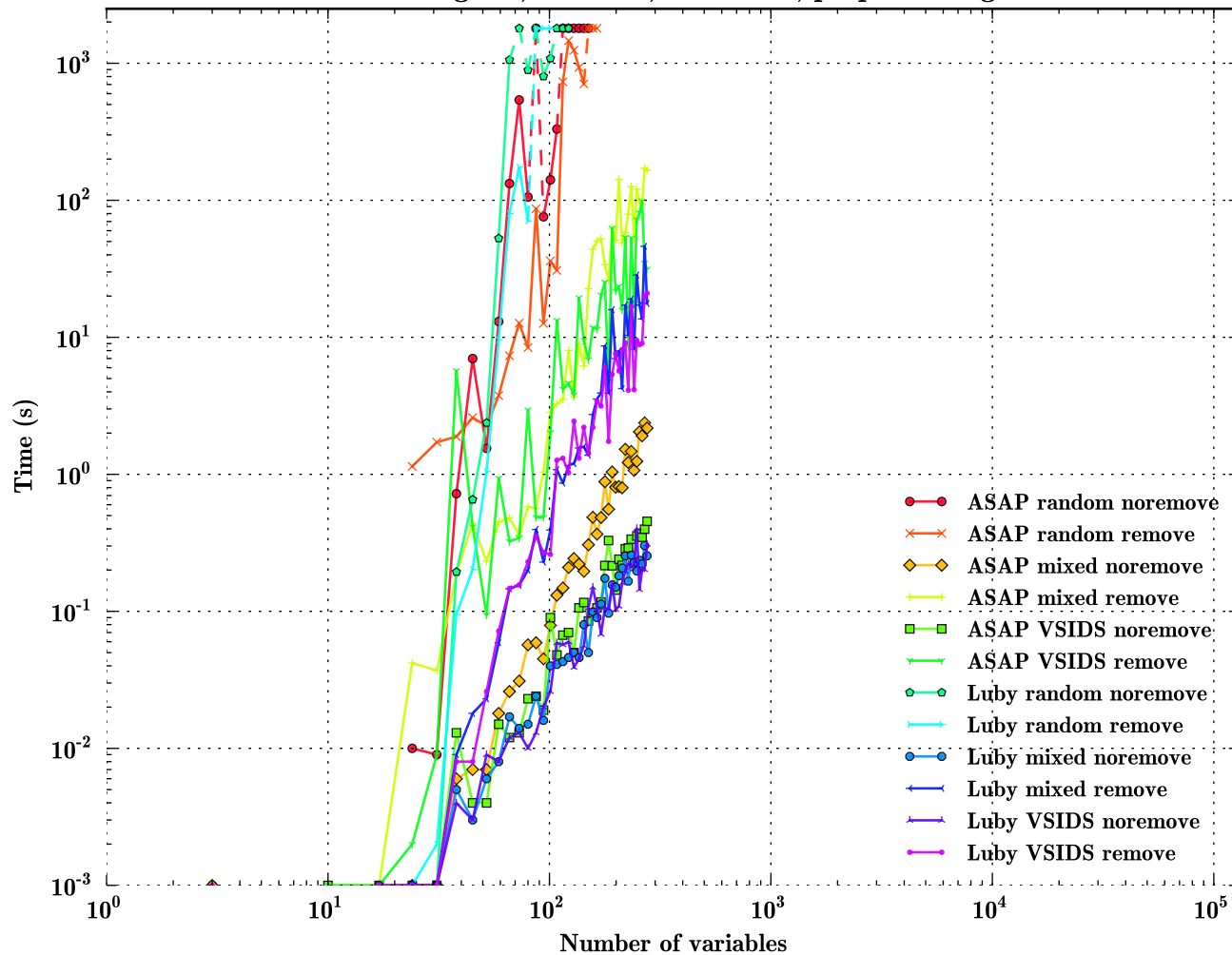
Tseitin grids, width: 4, no shuffle, no preprocessing



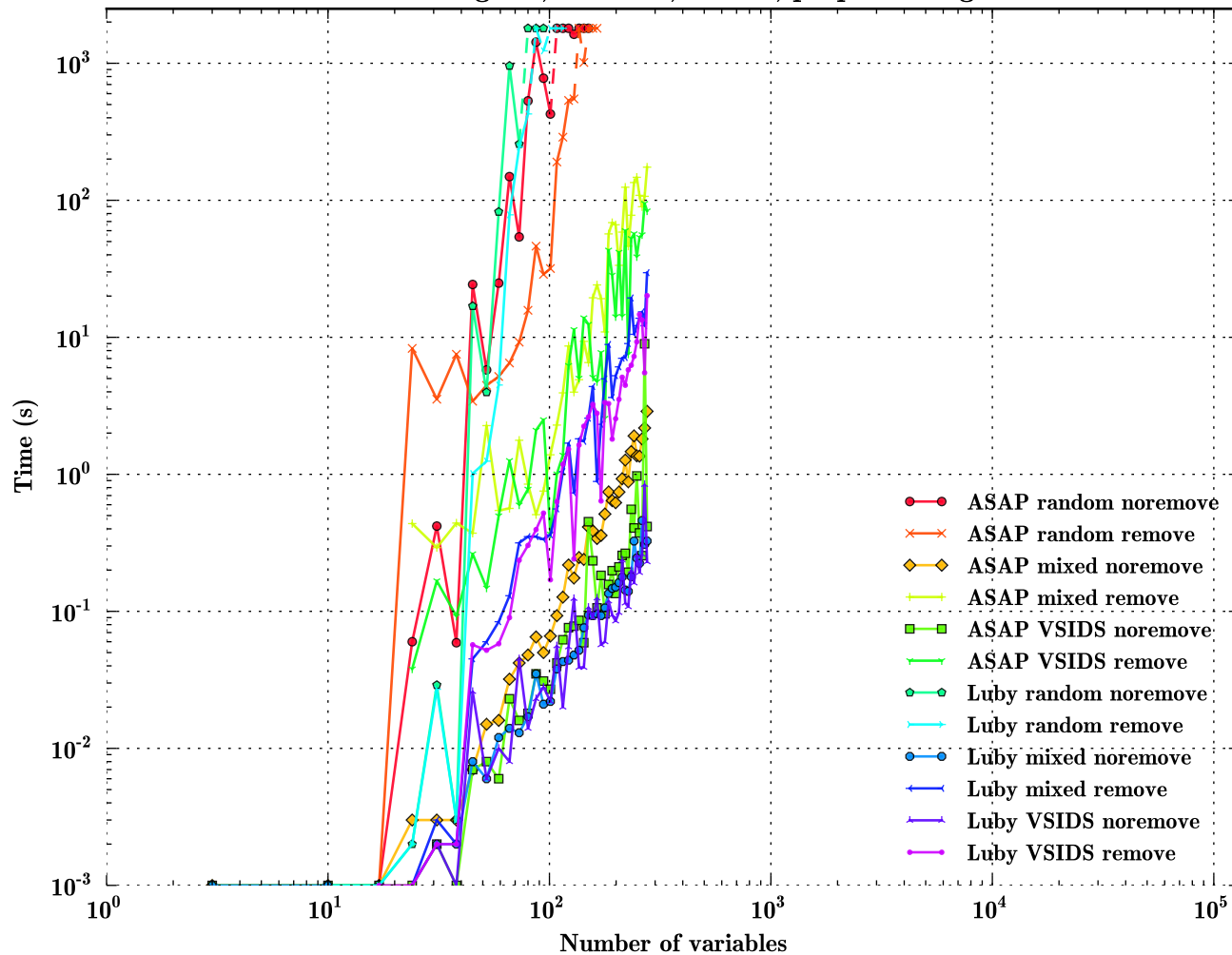
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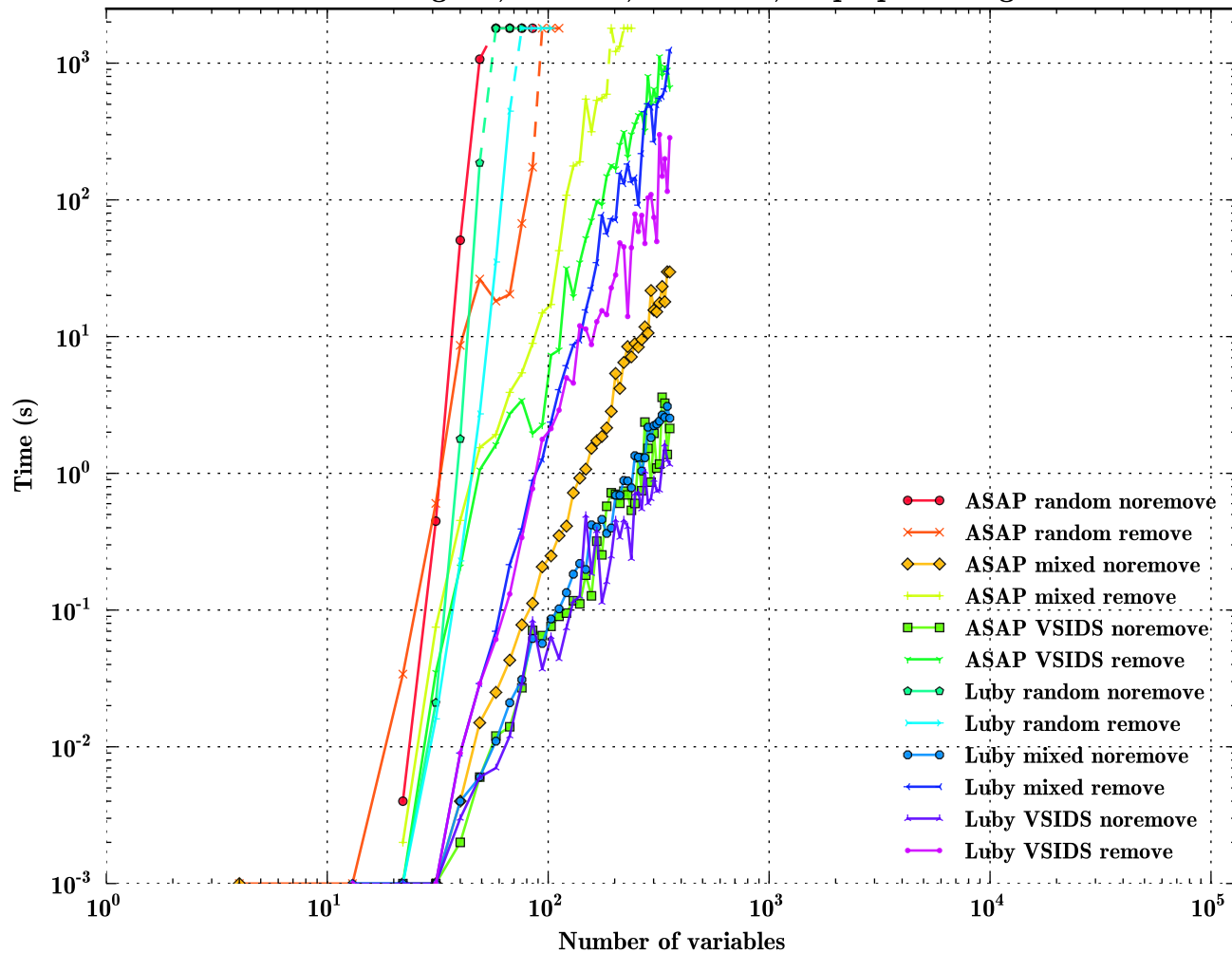
Tseitin grids, width: 4, no shuffle, preprocessing



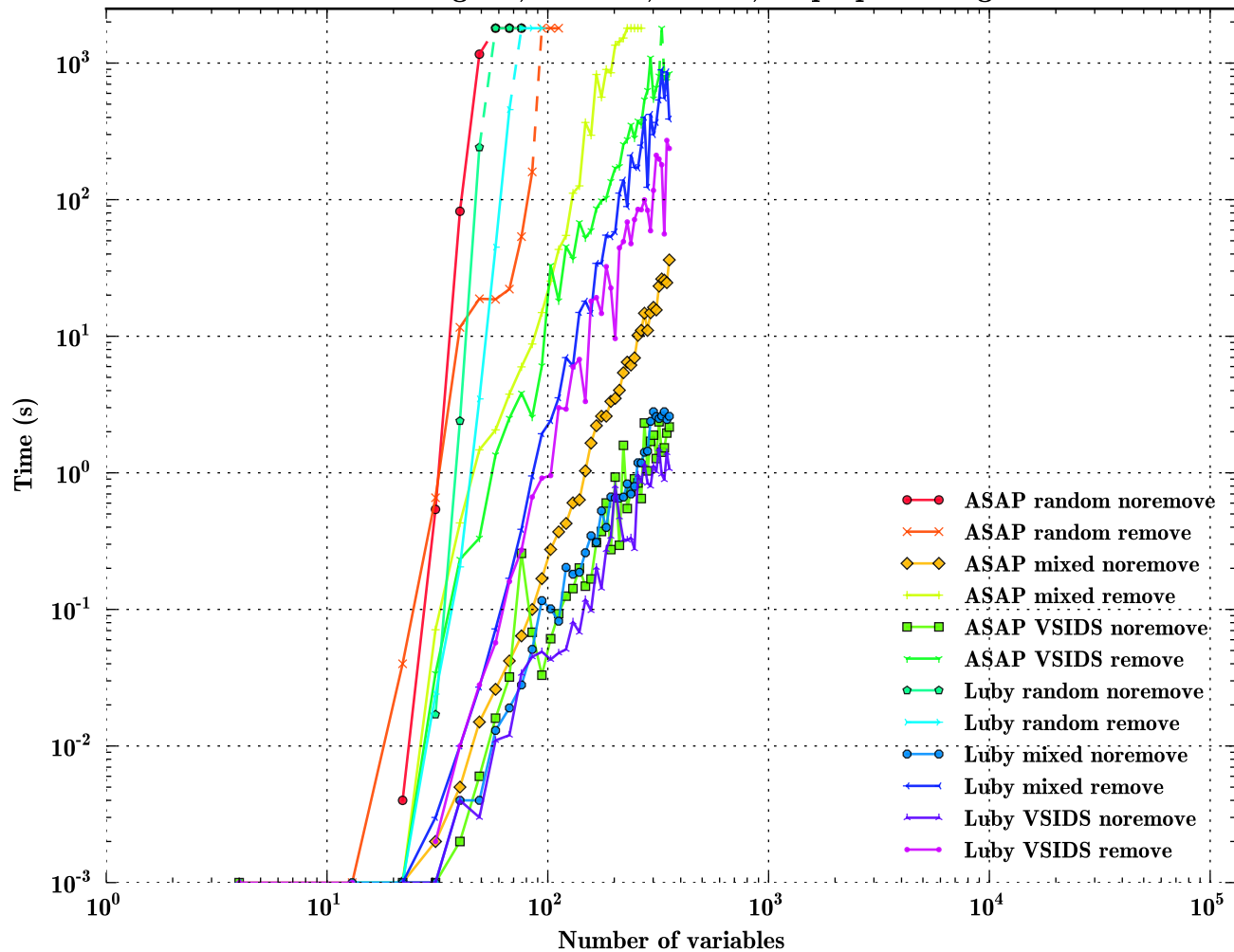
Tseitin grids, width: 4, shuffle, preprocessing



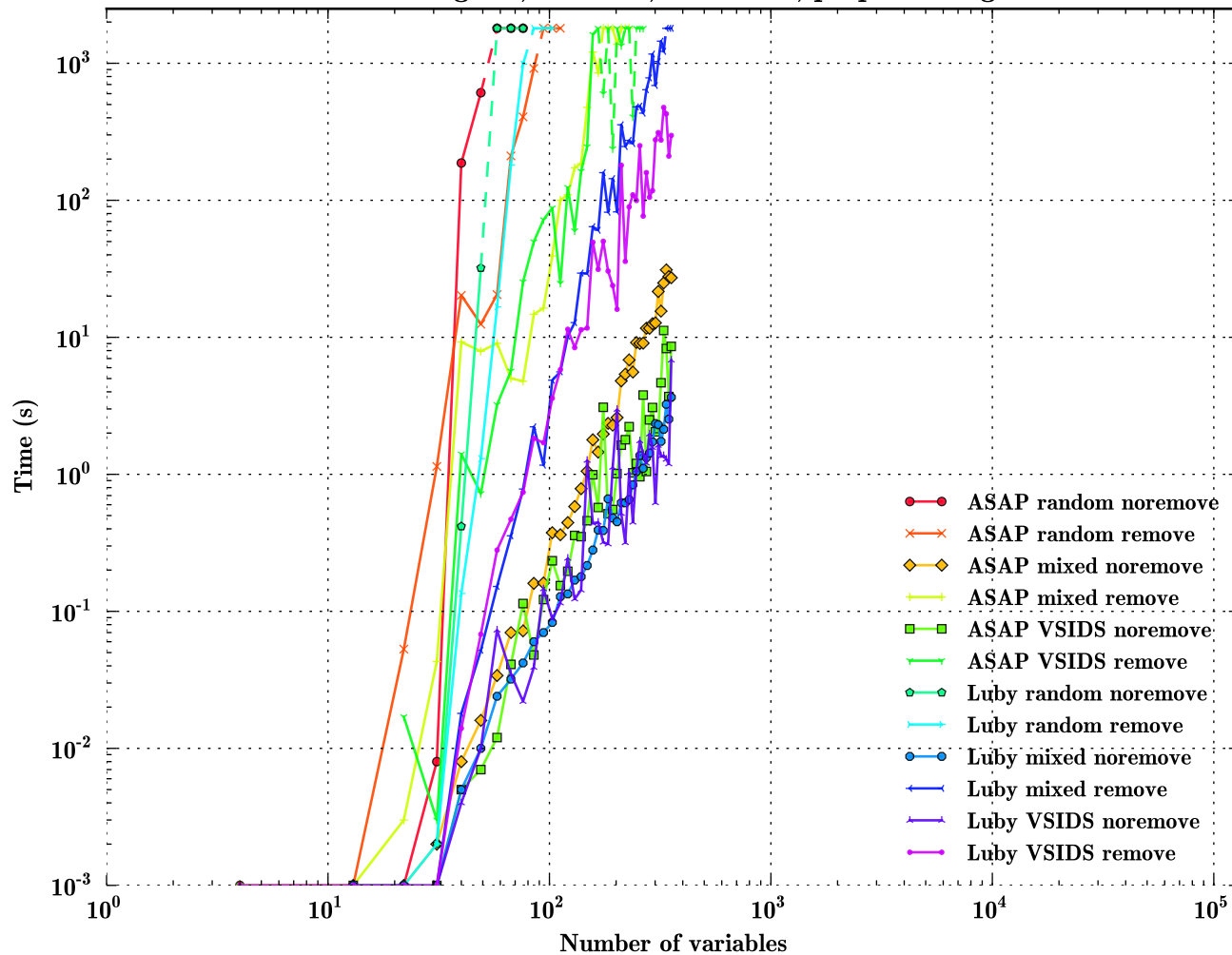
Tseitin grids, width: 5, no shuffle, no preprocessing



Tseitin grids, width: 5, shuffle, no preprocessing



Tseitin grids, width: 5, no shuffle, preprocessing



Tseitin grids, width: 5, shuffle, preprocessing

