

## CoCoALib - CoCoALib Open Issues

#	Target version	Status	Subject	Updated	% Done	Priority	Assignee
<b>None (11)</b>							
6	CoCoALib-1.0	New	Sort out RingElem, RefRingElem, ConstRefRingElem mess	01 Aug 2014 08:59	0	High	John Abbott
1620		New	MinPolyQuot not documented	15 Oct 2021 14:24	0	Normal	
1654		New	New function IsInSymbols	12 May 2023 08:03	0	Normal	
1803	CoCoALib-0.99900	New	Improve trivial operations with ideal whose GBasis is [1]	25 Mar 2024 19:06	0	Normal	Anna Maria Bigatti
257	CoCoALib-1.0	New	Transcribe C4 code for GCD in QQ[x]	01 Aug 2014 08:59	0	Normal	
258	CoCoALib-1.0	New	Multivariate lifting	01 Aug 2014 08:59	0	Normal	
277	CoCoALib-1.0	New	Eliminate class RefPPMonoidElem?	01 Aug 2014 08:59	0	Normal	
281	CoCoALib-1.0	New	Store unique copy of FF(p) in GlobalManager	04 Apr 2014 17:10	0	Normal	
282	CoCoALib-1.0	New	Global setting: to use IsProbPrime in place of IsPrime	01 Aug 2014 08:59	0	Normal	
919	CoCoALib-1.0	New	Hilbert Driven GBasis	22 May 2017 14:11	0	Normal	
921	CoCoALib-1.0	New	Design GBMill	22 May 2017 14:11	0	Normal	
<b>Data Structures (20)</b>							
1414	CoCoALib-0.99880	In Progress	Make class RingElemVector?	25 Apr 2024 21:53	20	High	
871	CoCoALib-0.99880	New	Redesign ideals	31 Oct 2023 11:24	0	Normal	
1784	CoCoALib-0.99900	New	Add flag IhaveHomogGensValue for ideals in SparsePolyRing?	01 Mar 2024 14:36	0	Normal	
126	CoCoALib-1.0	New	New datastructures directory	13 May 2015 09:56	0	Normal	
130	CoCoALib-1.0	New	Design problem in ideals	13 May 2015 09:56	0	Normal	
396	CoCoALib-1.0	New	PPMonoidElemAlias: redesign PPMonoidElem the same way as RingElem?	13 May 2015 09:57	0	Normal	John Abbott
550	CoCoALib-1.0	New	add myResolution member field to ideal and (sub)module	13 May 2015 09:57	0	Normal	
826	CoCoALib-1.0	New	Sparse matrices	02 Dec 2015 18:24	0	Normal	
1381	CoCoALib-0.99880	In Progress	Type ideal for ZZ[x[1..n]]	16 Feb 2024 09:47	10	Normal	
1422	CoCoALib-0.99880	In Progress	Remove flag IhaveGBasisValue?	16 Feb 2024 17:56	10	Normal	Anna Maria Bigatti
1738	CoCoALib-0.99880	New	Suggestion about Graded polynomial rings	05 May 2023 08:47	10	Normal	
1744	CoCoALib-0.99880	In Progress	Implement GBMill (aka Groebner Framework)	25 May 2023 14:30	10	Normal	Anna Maria Bigatti
1767	CoCoALib-0.99900	In Progress	Finalize design for ideals in CoCoALib	08 Mar 2024 17:26	10	Normal	
427	CoCoALib-1.0	In Progress	Error names and error messages (current design)	11 May 2017 10:57	10	Normal	
729	CoCoALib-1.0	In Progress	Betti numbers, betti diagram	14 Jun 2018 15:54	10	Normal	
769	CoCoALib-1.0	In Progress	CoCoALib cone	27 Jan 2020 15:32	10	Normal	

#	Target version	Status	Subject	Updated	% Done	Priority	Assignee
1115	CoCoALib-0.99900	In Progress	New class: exterior algebra	31 Jan 2024 21:59	20	Normal	John Abbott
1168	CoCoALib-0.99900	In Progress	ideal: does const ourGetPtr really need to be private?	08 Mar 2024 17:26	40	Normal	
924	CoCoALib-0.99880	New	FlagManager for bool/bool3 flags	16 Feb 2024 17:57	50	Normal	Anna Maria Bigatti
832	CoCoALib-1.0	New	Generalize grading matrix	14 Mar 2024 11:29	20	Low	
<b>Documentation (35)</b>							
1561	CoCoALib-0.99880	New	Doc for module term orderings	08 Mar 2024 17:38	0	High	
26	CoCoALib-0.99900	In Progress	Redmine Administration	23 Feb 2024 10:59	80	High	Anna Maria Bigatti
1497	CoCoALib-0.99880	New	Doc for normaliz fns	08 Mar 2023 19:40	0	Normal	
1611	CoCoALib-0.99880	New	Documentation for PrimaryDecomposition	16 Feb 2024 09:42	0	Normal	
1664	CoCoALib-0.99880	New	geobucket: documentation	08 Mar 2023 19:44	0	Normal	
1665	CoCoALib-0.99880	New	Compilation on Windows: problems for normaliz	18 Mar 2024 09:27	0	Normal	Anna Maria Bigatti
1673	CoCoALib-0.99880	New	Review examples	08 Mar 2023 19:45	0	Normal	
1812	CoCoALib-0.99880	New	Documentation: indexXX.html should be recompiled if version has changed	29 Mar 2024 10:37	0	Normal	
1607	CoCoALib-0.99900	New	Coding guidelines	16 Feb 2024 10:02	0	Normal	
1672	CoCoALib-0.99900	New	Documentation: a good model to follow?	16 Feb 2024 09:33	0	Normal	
112	CoCoALib-1.0	New	automatic creation of all function signatures	07 Apr 2014 14:34	0	Normal	
161	CoCoALib-1.0	New	Convert old "task table" into redmine	07 Apr 2014 14:35	0	Normal	
196	CoCoALib-1.0	New	PPWithMask needs checking	04 Apr 2014 17:50	0	Normal	Anna Maria Bigatti
205	CoCoALib-1.0	New	Example for change of coordinates with coeffs in a matrix	14 Jul 2014 14:39	0	Normal	Anna Maria Bigatti
231	CoCoALib-1.0	New	Documentation for QBGenerator needs to be improved.	09 Jul 2014 18:06	0	Normal	
315	CoCoALib-1.0	New	Add doc for ApproxPts2	10 Jul 2014 16:23	0	Normal	
505	CoCoALib-1.0	New	Documentation: write doc for RingDenseUPolyClean	21 Sep 2016 17:15	0	Normal	Anna Maria Bigatti
569	CoCoALib-1.0	New	Documentation for ReductionCog	11 Jun 2014 16:04	0	Normal	
624	CoCoALib-1.0	New	Wikipedia	06 Nov 2017 13:40	0	Normal	Anna Maria Bigatti
353	CoCoALib-1.0	In Progress	Missing documentation and tests for myRecvTwinFloat	14 Jul 2014 14:40	0	Normal	John Abbott
788	CoCoALib-1.0	New	No doc for DistrMPolyInIFpPP	22 Oct 2015 13:49	0	Normal	
972	CoCoALib-1.0	New	ex-PolyIterator	17 Nov 2016 13:21	0	Normal	
1134	CoCoALib-1.0	New	Organize better the documentation for CoCoALib	09 Apr 2019 10:50	0	Normal	

#	Target version	Status	Subject	Updated	% Done	Priority	Assignee
1584	CoCoALib-1.0	New	Benchmarks?	08 Mar 2023 19:41	0	Normal	
1219	CoCoALib-0.99880	In Progress	Frobby version number	08 Mar 2023 19:40	10	Normal	
1809	CoCoALib-0.99880	New	Make ex-syz.C	28 Mar 2024 08:45	10	Normal	Anna Maria Bigatti
676	CoCoALib-1.0	In Progress	Credits to CoCoALib contributors	28 Apr 2017 11:06	10	Normal	Anna Maria Bigatti
1510	CoCoALib-0.99880	New	Documentation for SparsePolyOps?	18 Mar 2024 09:45	30	Normal	
1066	CoCoALib-0.99900	In Progress	Documentation: translation table	08 Mar 2024 18:16	30	Normal	Anna Maria Bigatti
1775		New	CoCoALib releases on redmine	03 May 2024 07:32	70	Normal	Anna Maria Bigatti
1662	CoCoALib-0.99880	Resolved	txt2tags: problem with filenames containing "_" or "-"	09 Apr 2024 14:21	80	Normal	Anna Maria Bigatti
76	CoCoALib-1.0	New	keywords in documentation	04 Apr 2014 17:51	0	Low	
926	CoCoALib-1.0	New	Documentation: check layout of history at end of generated HTML files (from the txt files)	21 Sep 2016 13:29	0	Low	
1096	CoCoALib-1.0	New	WEB SITE: HTML is not clean!	31 Aug 2017 10:05	0	Low	Anna Maria Bigatti
59	CoCoALib-1.0	New	List of all functions in CoCoALib	08 Mar 2023 19:44	10	Low	
<b>Improving (96)</b>							
1683	CoCoALib-0.99880	New	Islrred in ZZ[x,y]	16 Feb 2024 09:39	0	Immediate	John Abbott
743	CoCoALib-0.99880	In Progress	Better errors: give supplementary info about the error	15 Mar 2024 18:33	10	Urgent	
1667	CoCoALib-0.99880	In Progress	GBasis over ZZ: port to CoCoALib	29 Apr 2024 21:13	10	Urgent	
872	CoCoALib-0.99880	In Progress	LinSolve for matrices over FFp	08 Mar 2024 17:36	30	Urgent	John Abbott
1280	CoCoALib-0.99880	In Progress	Determinant & Inverse of matrix over non integral domain	21 Jan 2024 19:43	40	High	John Abbott
1057	CoCoALib-0.99880	In Progress	Slug: Polynomial ring constructor slow with (big) matrix ordering	22 Mar 2024 09:31	50	High	Anna Maria Bigatti
1255	CoCoALib-0.99880	New	Ideals with trivial GBasis	08 Mar 2023 19:49	0	Normal	
1485	CoCoALib-0.99880	New	Simple syntax for making a quotient ring?	08 Mar 2023 19:51	0	Normal	
1513	CoCoALib-0.99880	New	Better test for univariate-ness (and better conversion)	16 Mar 2024 21:38	0	Normal	
1643	CoCoALib-0.99880	New	rref slower than expected (maybe) [[reduced row echelon form]]	01 Mar 2024 09:54	0	Normal	
1657	CoCoALib-0.99880	New	Improve CertifyNotPower	31 Jan 2024 22:03	0	Normal	
1668	CoCoALib-0.99880	New	Generalize prim	31 Jan 2024 22:03	0	Normal	
1730	CoCoALib-0.99880	New	ApplySPRCodomain: relax power/exponent check	27 Nov 2023 20:30	0	Normal	
1757	CoCoALib-0.99880	New	gcd(f,f) is slow	16 Feb 2024 09:57	0	Normal	

#	Target version	Status	Subject	Updated	% Done	Priority	Assignee
1798	CoCoALib-0.99880	New	Computing in sub polyring	22 Mar 2024 09:30	0	Normal	
1582	CoCoALib-0.99900	New	Factorization in $K(a,b)[x,y]$	07 Mar 2024 20:23	0	Normal	
1802	CoCoALib-0.99900	New	Tidying ideal generators (for non-polynomial ideals)	25 Mar 2024 19:05	0	Normal	
329	CoCoALib-1.0	New	Why is DMPI slower than DMPClean?	13 May 2015 09:54	0	Normal	
420	CoCoALib-1.0	New	Allow user to give a name to a ring	13 May 2015 09:55	0	Normal	
740	CoCoALib-1.0	New	Addition of sparse (multivariate) polynomials	17 Jun 2016 14:35	0	Normal	
785	CoCoALib-1.0	New	finite fields: global register of fields already created?	15 Oct 2015 17:27	0	Normal	
837	CoCoALib-1.0	New	factor is very slow on some simple input polynomials	06 Jan 2016 14:40	0	Normal	
842	CoCoALib-1.0	New	PPMonoidSparse: comparisons are VERY SLOW	15 Feb 2016 13:57	0	Normal	
869	CoCoALib-1.0	New	SmallFpImpl: different repr for computation and for storage?	22 Apr 2016 15:14	0	Normal	
882	CoCoALib-1.0	New	Impl faster multiplication for DUP (dense univariate polys)	09 May 2016 22:10	0	Normal	
884	CoCoALib-1.0	New	DistrMPolyInIPP::myPushFront and DistrMPolyInIPP::myPushBack inefficient if arg is a PP	24 May 2016 15:25	0	Normal	
904	CoCoALib-1.0	New	SmallFpDouble: which impl of InvMod to use?	04 Jul 2016 13:45	0	Normal	
987	CoCoALib-1.0	New	GCD: add special case if args are monomials	28 Nov 2016 22:04	0	Normal	
1156	CoCoALib-1.0	New	Printing for RingElem	08 Jan 2020 23:02	0	Normal	
1187	CoCoALib-1.0	New	Matrix rank is slow (over QQ)	26 Jun 2018 11:29	0	Normal	
1266	CoCoALib-1.0	New	Make a poly ring $QQ[x,y,z]$ also contain a $ZZ[x,y,z]$	28 Mar 2019 16:42	0	Normal	
1269	CoCoALib-1.0	New	Ideal Ops: sort-cuts for trivial args?	04 Apr 2019 15:07	0	Normal	
1323	CoCoALib-1.0	New	Improve RealRoots: compute sqfr decomp	30 Sep 2019 16:14	0	Normal	
1359	CoCoALib-1.0	New	gcd: low degree but big coeffs can be slow	30 Oct 2019 22:23	0	Normal	
1378	CoCoALib-1.0	New	Create two separate radical fns (for 0-dim ideals)	03 Jul 2023 17:49	0	Normal	
1706	CoCoALib-1.0	New	slimgb: Brickenstein, singular	30 Oct 2022 20:30	0	Normal	
710	CoCoALib-0.99880	In Progress	Update normaliz interface?	16 Feb 2024 18:25	10	Normal	
777	CoCoALib-0.99880	In Progress	SLUG: elimination	22 Mar 2024 18:12	10	Normal	Anna Maria Bigatti
1337	CoCoALib-0.99880	In Progress	PrimaryDecomposition: a interesting/pathological example	08 Mar 2023 21:13	10	Normal	Anna Maria Bigatti
1349	CoCoALib-0.99880	In Progress	ideal ctor where given gens are a gbasis	16 Feb 2024 09:52	10	Normal	
1446	CoCoALib-0.99880	In Progress	Start using C++14 "move" capability	08 Mar 2024 18:00	10	Normal	
1559	CoCoALib-0.99880	In Progress	Default ctor for rings	13 Mar 2024 20:42	10	Normal	
1742	CoCoALib-0.99880	New	MinGens could be faster	18 May 2023 13:44	10	Normal	Anna Maria Bigatti
1685	CoCoALib-0.99880	In Progress	RingBase::mySwap needed?	07 Mar 2024 20:49	10	Normal	

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1645	CoCoALib-0.99900	In Progress	Implement monic0(f) for the case monic(0)?	16 Feb 2024 09:38	10	Normal	
1682	CoCoALib-0.99900	In Progress	swap for new classes	16 Feb 2024 09:35	10	Normal	
1786	CoCoALib-0.99900	New	Add new function for IsInRadical for monomial ideals? (RadicalMembership)	01 Mar 2024 18:37	10	Normal	Anna Maria Bigatti
1692	CoCoALib-0.99900	In Progress	Suggestion: Add "JumpTo" function to prime iterators	15 Feb 2024 22:39	10	Normal	
688	CoCoALib-1.0	New	PolyAlgebraHom (PolyRingHom) evaluate multivariate polynomials	22 Apr 2015 14:38	10	Normal	
1059	CoCoALib-1.0	New	Printing ring for ideals (or just for ideals 0 and 1)	05 May 2017 16:58	10	Normal	
1070	CoCoALib-1.0	New	Slug: MakeTermOrd (rk calls in RemoveRedundantRows)	17 May 2017 13:47	10	Normal	Anna Maria Bigatti
742	CoCoALib-1.0	In Progress	View PP exponent vector (and order vector?) as an array of long?	01 Sep 2015 12:08	10	Normal	
758	CoCoALib-1.0	In Progress	configure: have option to say to look for external libs	03 Sep 2015 11:41	10	Normal	
896	CoCoALib-1.0	In Progress	myIsEqual, myCmp: direct comparisons between RingElem and MachineInt, BigInt and BigRat?	25 Jun 2018 15:31	10	Normal	
968	CoCoALib-1.0	In Progress	Slow NF example	10 Nov 2016 21:33	10	Normal	
970	CoCoALib-1.0	In Progress	Weights in ElimMat?	11 Nov 2016 15:49	10	Normal	
974	CoCoALib-1.0	In Progress	QIR/RealRootRefine: improve behaviour if input interval has "nasty" endpoints	01 Mar 2021 21:25	10	Normal	
1069	CoCoALib-1.0	In Progress	GroebnerFan: ERROR: Matrix must be invertible	17 Dec 2018 15:16	10	Normal	
1117	CoCoALib-1.0	In Progress	Better printing of negative coeffs	23 Sep 2019 11:52	10	Normal	
1130	CoCoALib-1.0	In Progress	SqFreeFactor: should it work over ZZ?	05 Apr 2019 15:39	10	Normal	
1267	CoCoALib-1.0	In Progress	Ideal equality	09 Apr 2019 17:48	10	Normal	
1324	CoCoALib-1.0	In Progress	Improve RootBound	30 Oct 2019 21:44	10	Normal	
1417	CoCoALib-0.99880	In Progress	RadicalZeroDim with extra parameter for GBasis timeout	16 Mar 2024 21:42	20	Normal	Anna Maria Bigatti
1576	CoCoALib-0.99880	In Progress	cmp for machine integers	21 Jan 2024 20:23	20	Normal	John Abbott
1642	CoCoALib-0.99880	In Progress	interreduce: make monic if over finite field?	16 Feb 2024 20:44	20	Normal	John Abbott
1737	CoCoALib-0.99880	In Progress	Homogenization of an ideal with ZZ^1-grading	01 Feb 2024 19:59	20	Normal	Anna Maria Bigatti
1750	CoCoALib-0.99880	In Progress	IdealOfPoints: allow duplicate points?	08 Mar 2024 18:23	20	Normal	John Abbott
1518	CoCoALib-0.99900	In Progress	SLUG: Printing PPs with many indets	15 Feb 2024 22:45	20	Normal	
780	CoCoALib-1.0	In Progress	GroebnerFan/ExternalLib-GFan: improve package	21 Apr 2017 11:06	20	Normal	Anna Maria Bigatti
797	CoCoALib-1.0	In Progress	SmallFpImpl: make it faster	24 Apr 2024 23:04	20	Normal	John Abbott
846	CoCoALib-1.0	In Progress	Islrred: correct design?	26 Feb 2019 16:32	20	Normal	John Abbott
874	CoCoALib-1.0	In Progress	factor: too slow on largish multivariate poly	26 Feb 2019 16:29	20	Normal	John Abbott

#	Target version	Status	Subject	Updated	% Done	Priority	Assignee
1796	CoCoALib-0.99880	New	myFinalizeGBasis ("Final clean up") should be more flexible	22 Mar 2024 16:19	30	Normal	Anna Maria Bigatti
1103	CoCoALib-1.0	In Progress	Pseudo-zero-dim ideals	05 Nov 2021 16:09	30	Normal	Anna Maria Bigatti
598	CoCoALib-0.99880	In Progress	Szyzygy for modules: non-homogeneous module	27 Mar 2024 17:31	40	Normal	Anna Maria Bigatti
1756	CoCoALib-0.99880	In Progress	deg(f) is slow if f is long	21 Mar 2024 20:40	50	Normal	John Abbott
1793	CoCoALib-0.99880	In Progress	Use ErrorContext instead of string FnName	26 Mar 2024 11:50	60	Normal	
967	CoCoALib-0.99880	Resolved	Improve saturate	22 Mar 2024 10:18	70	Normal	Anna Maria Bigatti
1572	CoCoALib-0.99880	Resolved	Use noexcept	23 Apr 2024 21:57	70	Normal	John Abbott
1346	CoCoALib-0.99880	In Progress	C++14: use the new for loop syntax where appropriate (like cocoa's foreach)	22 Apr 2024 21:08	80	Normal	
1705	CoCoALib-0.99880	In Progress	ProgressReporter: prepare for new loop?	25 Apr 2024 21:40	80	Normal	John Abbott
1370	CoCoALib-0.99880	New	RingID counter increased inside some functions	31 Jan 2024 22:19	0	Low	
1492	CoCoALib-0.99900	New	submat of a submat	16 Feb 2024 17:28	0	Low	
1588	CoCoALib-0.99900	New	ElimMat is slow	22 Mar 2024 09:29	0	Low	
1637	CoCoALib-0.99900	New	Intersection of Ideals: has GBasis?	16 Feb 2024 17:25	0	Low	
775	CoCoALib-1.0	New	PPMonoid with 1 extra "exponent"?	15 Sep 2015 20:18	0	Low	
930	CoCoALib-1.0	New	Printing TwinFloat as (rational) coeff without brackets	24 Sep 2016 21:43	0	Low	
1419	CoCoALib-1.0	New	DynamicBitset::lamAll1s	03 Feb 2021 18:18	0	Low	
1118	CoCoALib-0.99880	In Progress	SLUG: factorization of $x^{9999}$	31 Jan 2024 22:20	10	Low	
1764	CoCoALib-0.99880	In Progress	Verbosity messages: avoid printing BIG values	25 Apr 2024 21:44	10	Low	
839	CoCoALib-1.0	In Progress	SparsePolyIter: make more compatible with STL	07 Mar 2024 20:01	10	Low	
1369	CoCoALib-1.0	In Progress	RandomUnimodularMat is slow with many iters	09 Jan 2020 12:19	10	Low	
1371	CoCoALib-1.0	In Progress	French students' example with GFan	27 Nov 2019 15:53	10	Low	
799	CoCoALib-1.0	In Progress	vector of "indets" in each PPMonoid?	11 Nov 2015 13:47	20	Low	John Abbott
1733	CoCoALib-0.99880	Resolved	FactorINT: funny order	22 Apr 2024 19:51	60	Low	John Abbott
1394	CoCoALib-0.99880	Resolved	Oddly slow GBasis computation (slow final cleanup)	16 Apr 2024 22:46	70	Low	Anna Maria Bigatti

### Makefile (2)

149	CoCoALib-1.0	New	Makefile dependencies	01 Aug 2014 08:59	0	Normal	
779	CoCoALib-1.0	New	Makefile: problem not seeing when files in TmpFactorDir need to be rebuilt	17 Sep 2015 22:10	0	Low	

### Maths Bugs (5)

1281	CoCoALib-0.99880	New	Factor of multivariate sometimes prints ERROR	21 Jan 2024 20:03	10	High	
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1740	CoCoALib-0.99880	In Progress	MinGens gives non minimal gens *if some deg=0*	22 Mar 2024 18:04	30	High	Anna Maria Bigatti
1233	CoCoALib-0.99880	Resolved	factor SEGV -- too large characteristic	14 Mar 2023 19:45	60	High	John Abbott
1026	CoCoALib-1.0	New	JanetBasis gives error indet index out of range	08 Mar 2017 15:26	0	Normal	
1571	CoCoALib-0.99880	New	ker_H needs care	16 Feb 2024 17:49	10	Normal	Anna Maria Bigatti
<b>New Function (106)</b>							
813	CoCoALib-0.99880	Feedback	Implement "elim" in CoCoALib	18 Mar 2024 15:58	90	Immediate	Anna Maria Bigatti
145	CoCoALib-1.0	New	Buchberger-Moeller: fast modular impl	10 Jul 2014 14:17	0	Urgent	John Abbott
147	CoCoALib-1.0	In Progress	Buchberger-Moeller: impl via modular reduction	10 Jul 2014 14:18	20	Urgent	John Abbott
206	CoCoALib-0.99880	In Progress	Matrix equation solving: LinKer	22 Mar 2024 09:42	30	Urgent	
143	CoCoALib-1.0	In Progress	Buchberger-Moeller (parent task)	10 Jul 2014 14:16	38	Urgent	John Abbott
802	CoCoALib-0.99880	In Progress	DivMask: extend interface?	08 Mar 2024 17:36	50	Urgent	John Abbott
664	CoCoALib-0.99880	Resolved	Impl small non-prime finite fields (using logs)	14 Mar 2023 19:49	80	Urgent	John Abbott
387	CoCoALib-1.0	New	implement algorithm(s) for resolutions	30 Jul 2014 17:04	0	High	Anna Maria Bigatti
399	CoCoALib-1.0	New	add myHilbertSeries member field to ideal and (sub)module	30 Jul 2014 17:04	0	High	Anna Maria Bigatti
409	CoCoALib-1.0	New	Minimal syzygies (optimized implementation)	31 Jul 2014 12:36	0	High	Anna Maria Bigatti
440	CoCoALib-1.0	New	Port RealRoots to C++	19 Oct 2016 10:26	0	High	John Abbott
817	CoCoALib-1.0	New	GenRepr in CoCoALib?	17 Nov 2016 14:12	0	High	
386	CoCoALib-1.0	In Progress	add resolution data type	11 Jun 2015 14:58	10	High	Anna Maria Bigatti
513	CoCoALib-1.0	In Progress	Quick/correct flag for bool3 fns	10 Jul 2014 16:30	10	High	
898	CoCoALib-0.99880	In Progress	New function: cardinality of finite field?	08 Mar 2024 17:45	20	High	Anna Maria Bigatti
313	CoCoALib-0.99880	In Progress	Elim(vector<long>) as PPOrderingCtor	22 Mar 2024 18:17	30	High	Anna Maria Bigatti
801	CoCoALib-0.99880	New	Test whether a symbol is in a ring	07 Mar 2024 21:36	0	Normal	
1132	CoCoALib-0.99880	New	Canonical homomorphism for (some) polynomial rings?	08 Mar 2024 18:01	0	Normal	Anna Maria Bigatti
1207	CoCoALib-0.99880	New	New function: SubmoduleOfGBasis	18 Mar 2024 09:33	0	Normal	
1254	CoCoALib-0.99880	New	New function: MinPoly for pseudo-zero-dimensional ideals	07 Mar 2024 20:25	0	Normal	Anna Maria Bigatti

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1444	CoCoALib-0.99880	New	HNF: Hermite Normal Form	16 Feb 2024 09:53	0	Normal	
1743	CoCoALib-0.99880	New	Implement Truncated GBases for homogeneous input	19 May 2023 15:42	0	Normal	Anna Maria Bigatti
949	CoCoALib-0.99900	New	New function: IdealWithIncrementalGBasis(l, f)	16 Feb 2024 18:03	0	Normal	Anna Maria Bigatti
1433	CoCoALib-0.99900	New	HilbertDriven Buchberger Algorithm	16 Feb 2024 18:02	0	Normal	Anna Maria Bigatti
1437	CoCoALib-0.99900	New	Filling matrix row/col from a vector	15 Feb 2024 22:46	0	Normal	
1441	CoCoALib-0.99900	New	GFan: port CoCoA_5 functions into CoCoALib	16 Feb 2024 17:54	0	Normal	Anna Maria Bigatti
1470	CoCoALib-0.99900	New	Get indexed indets from a polyring	07 Mar 2024 20:36	0	Normal	
1785	CoCoALib-0.99900	New	Add function IsHomog3(l)?	01 Mar 2024 14:53	0	Normal	
1797	CoCoALib-0.99900	New	Add a function CleanupGens making some easy cleaning on the generators?	25 Mar 2024 19:16	0	Normal	
123	CoCoALib-1.0	New	IdealOfPoints with generic coeffs	09 Jul 2014 18:15	0	Normal	
129	CoCoALib-1.0	New	Better GCD	09 Jul 2014 18:08	0	Normal	
134	CoCoALib-1.0	New	Convenience ring ctors and homs	11 Jul 2014 12:06	0	Normal	
146	CoCoALib-1.0	New	Buchberger-Moeller: input conversions	10 Jul 2014 14:17	0	Normal	
151	CoCoALib-1.0	New	Iterated CanonicalHom	13 May 2015 09:58	0	Normal	
174	CoCoALib-1.0	New	IsStdGraded: add for PPOrdering, PPMonoid, (Sparse)PolyRing..	01 Aug 2014 08:59	0	Normal	
227	CoCoALib-1.0	New	HilbertBasis from Normaliz: full-lattice or not?	31 Jul 2014 12:39	0	Normal	
229	CoCoALib-1.0	New	Generator for random ring elements	01 Aug 2014 08:59	0	Normal	
246	CoCoALib-1.0	New	Approx QIR	04 Apr 2014 17:16	0	Normal	
289	CoCoALib-1.0	New	PrimeField -- new fn?	01 Aug 2014 08:59	0	Normal	
337	CoCoALib-1.0	New	Module homs	31 Jul 2014 12:40	0	Normal	
400	CoCoALib-1.0	New	add myJBMill member field to ideal	15 Sep 2014 12:04	0	Normal	
436	CoCoALib-1.0	New	Improve UPoly eval at BigRat for binary rational	01 Aug 2014 08:59	0	Normal	
442	CoCoALib-1.0	New	Eigenvectors	09 Jul 2014 18:05	0	Normal	
515	CoCoALib-1.0	New	Fn to "flatten" multiple polynomial extns	10 Jul 2014 14:22	0	Normal	
570	CoCoALib-1.0	New	Allow use of RingElem instead of ring in some functions (e.g. PPM, CoeffRing)	16 Jul 2014 14:43	0	Normal	
583	CoCoALib-1.0	New	New function for printing with extra information	07 Jul 2014 11:48	0	Normal	
589	CoCoALib-1.0	New	Implement gin (generic initial ideal) in cocoalib	15 Jul 2014 18:17	0	Normal	Anna Maria Bigatti
627	CoCoALib-1.0	New	Gaussian integer and rationals ZZi, QQi	23 Sep 2014 16:30	0	Normal	
628	CoCoALib-1.0	New	Complex twin-floats	22 Sep 2014 18:16	0	Normal	
644	CoCoALib-1.0	New	Buchberger-Moeller: add option to stop as soon as 1 poly has been found	06 Nov 2017 13:58	0	Normal	John Abbott



#	Target version	Status	Subject	Updated	% Done	Priority	Assignee
661	CoCoALib-1.0	New	Laurent polynomials	23 Jan 2015 13:50	0	Normal	
667	CoCoALib-1.0	New	factor: multivariate + finite characteristic	04 Mar 2015 20:08	0	Normal	
690	CoCoALib-1.0	New	Fault tolerant rational reconstruction: implement simultaneous version	23 Apr 2015 19:12	0	Normal	
812	CoCoALib-1.0	New	PPMonoid pseudo-ctor without explicit ordering	24 Nov 2015 18:16	0	Normal	
913	CoCoALib-1.0	New	Read input from SymbolicData database	02 Aug 2016 10:55	0	Normal	Anna Maria Bigatti
914	CoCoALib-1.0	New	New function: quorem for univariate polynomials?	22 Aug 2016 16:45	0	Normal	
923	CoCoALib-1.0	New	Fn to read symbol range (SymbolRange)	16 Sep 2016 15:04	0	Normal	
992	CoCoALib-1.0	New	Poly ring homomorphism to change ordering	13 Dec 2016 18:04	0	Normal	
1150	CoCoALib-1.0	New	New fn: transform ideal with ring hom	22 Jun 2020 10:34	0	Normal	
1173	CoCoALib-1.0	New	Upper bound for value of poly in an interval	04 Apr 2018 11:55	0	Normal	
1198	CoCoALib-1.0	New	Non-standard DegRevLex (NonStdDegRevLex, WDegRevLex)	23 Sep 2019 12:44	0	Normal	
1227	CoCoALib-1.0	New	exgcd; solve Bezout equation	29 Aug 2019 14:55	0	Normal	
1278	CoCoALib-1.0	New	Port old "clever" code for matrix determinant over ZZ to CoCoALib	03 May 2019 11:42	0	Normal	
1339	CoCoALib-1.0	New	All PPs of given wdeg	16 Oct 2019 14:04	0	Normal	
947	CoCoALib-0.99880	In Progress	IsRadical for ideal?	23 Jan 2024 22:13	10	Normal	
1635	CoCoALib-0.99880	In Progress	NR for polys with coeffs in PID	16 Feb 2024 09:39	10	Normal	
1778	CoCoALib-0.99880	In Progress	Homogenizer	25 Apr 2024 21:54	10	Normal	
1808	CoCoALib-0.99880	In Progress	New constructor for PolyRing with elimination ordering	28 Mar 2024 07:35	10	Normal	Anna Maria Bigatti
1468	CoCoALib-0.99900	In Progress	Adjoin indets to a poly ring	15 Feb 2024 22:45	10	Normal	
1482	CoCoALib-0.99900	In Progress	Extended rationals: PlusInfinity and MinusInfinity	16 Feb 2024 18:02	10	Normal	
1532	CoCoALib-0.99900	In Progress	Convenient RingHom pseudo-ctors	07 Mar 2024 21:34	10	Normal	
1815	CoCoALib-0.99900	In Progress	JSON and UUID	02 May 2024 19:58	10	Normal	
113	CoCoALib-1.0	In Progress	Introduce PartialHom	09 Jul 2014 18:04	10	Normal	John Abbott
651	CoCoALib-1.0	In Progress	Optimized algorithms for implicitization (slicing algorithm, elim, subalgebra..)	12 Feb 2015 10:33	10	Normal	
665	CoCoALib-1.0	In Progress	Integrate Janet/Pommaret basis code	12 Jun 2018 18:36	10	Normal	John Abbott
703	CoCoALib-1.0	New	Add more operations between modules (CoCoALib)	27 Oct 2017 11:53	10	Normal	Anna Maria Bigatti
728	CoCoALib-1.0	In Progress	Noncommutative algebra "of solvable type"	09 Jul 2015 08:39	10	Normal	
738	CoCoALib-1.0	In Progress	Extend homomorphism to polynomial ring	25 Jun 2015 17:23	10	Normal	
803	CoCoALib-1.0	In Progress	PPOrdering: use it to compute WDeg?	06 Nov 2017 14:00	10	Normal	
838	CoCoALib-1.0	In Progress	Differential algebra	24 Oct 2016 15:32	10	Normal	
840	CoCoALib-1.0	In Progress	GINV: alex basis	31 Mar 2016 13:05	10	Normal	

#	Target version	Status	Subject	Updated	% Done	Priority	Assignee
873	CoCoALib-1.0	In Progress	bool3: add some logical operations?	21 Jun 2016 14:37	10	Normal	
885	CoCoALib-1.0	In Progress	Islrred3: fast 3-way irred test (returning bool3)	30 Apr 2019 17:19	10	Normal	
937	CoCoALib-1.0	In Progress	LinDepMill: Mill for linear dependencies	18 Apr 2024 16:38	10	Normal	Anna Maria Bigatti
1001	removed/duplicates	In Progress	CoCoALib: ideas for student projects	18 Feb 2022 16:57	10	Normal	
1306	CoCoALib-0.99880	In Progress	exgcd over integers (ZZ)	08 Mar 2024 17:57	20	Normal	
1282	CoCoALib-0.99900	New	subresultant	08 Mar 2024 17:54	20	Normal	
565	CoCoALib-1.0	In Progress	FloatApprox for TwinFloat values?	19 Jul 2016 22:44	20	Normal	John Abbott
620	CoCoALib-1.0	In Progress	Redesign CRTMill	21 Mar 2016 14:30	20	Normal	John Abbott
1022	CoCoALib-1.0	New	New "LF" function which is based on StdDeg	06 Mar 2017 19:37	20	Normal	
678	CoCoALib-1.0	In Progress	Accumulator (like a geobucket)	17 Nov 2016 19:03	20	Normal	
828	CoCoALib-1.0	In Progress	MachineInt: function for checking that value is greater than some lower limit (and below MAXLONG)	15 Apr 2024 10:08	20	Normal	John Abbott
297	CoCoALib-1.0	In Progress	Modules design: brainstorming	31 Jul 2014 14:55	30	Normal	
1197	CoCoALib-0.99880	In Progress	IsZeroDet: new fn	08 Mar 2024 17:58	40	Normal	John Abbott
125	CoCoALib-0.99880	In Progress	Matrix equation solving; linear system solving	18 Mar 2024 10:00	50	Normal	John Abbott
1094	CoCoALib-0.99880	In Progress	Revive code for SelfSaturating GBasis	22 Mar 2024 14:38	50	Normal	Anna Maria Bigatti
1176	CoCoALib-0.99880	In Progress	interval arithmetic	10 Mar 2023 17:46	50	Normal	John Abbott
127	CoCoALib-1.0	In Progress	Convert DUPFF code to C++	28 Sep 2022 15:04	50	Normal	John Abbott
383	CoCoALib-1.0	In Progress	Resolution/morse: integrate Mario Albert's code into CoCoALib	31 Jul 2014 14:57	60	Normal	John Abbott
958	CoCoALib-0.99880	Resolved	New function: multiplicity and dim	08 Mar 2024 18:15	80	Normal	Anna Maria Bigatti
1715	CoCoALib-0.99880	New	ProductBigInt (also ProductBigRat???)	23 Jan 2024 22:14	0	Low	
1602	CoCoALib-0.99900	New	Sparse matrix (SparseMat)	15 Feb 2024 22:42	0	Low	
459	CoCoALib-1.0	New	LinearSimplify: port to CoCoALib	20 May 2014 09:47	0	Low	
539	CoCoALib-1.0	New	Functions to clean up a factorization	22 Jan 2024 20:28	0	Low	
1472	CoCoALib-0.99900	In Progress	Idea for for loops	16 Feb 2024 09:55	10	Low	
1652	CoCoALib-0.99900	In Progress	Add LM to coccoalib ?	15 Feb 2024 22:41	10	Low	
<b>Portability (17)</b>							
1010	CoCoALib-1.0	New	C++11: Mario's Hilbert scheme code	20 Feb 2017 13:19	0	Urgent	
1225	CoCoALib-0.99900	In Progress	Move to C++14 (skipping C++11)	08 Mar 2024 17:46	30	High	
1670	CoCoALib-0.99880	New	Build also dynamic/shared library for CoCoALib?	07 Mar 2024 21:33	0	Normal	
1630	CoCoALib-0.99900	New	Signal handler not portable?	15 Feb 2024 22:42	0	Normal	

#	Target version	Status	Subject	Updated	% Done	Priority	Assignee
617	CoCoALib-1.0	New	configure: check all libraries for compatibility	09 Sep 2014 12:21	0	Normal	
752	CoCoALib-1.0	New	Investigate using Boost.build instead of make	28 Apr 2017 11:23	0	Normal	John Abbott
906	CoCoALib-1.0	New	External libraries: keep copy of compatible versions?	13 Jul 2016 11:19	0	Normal	
1632	CoCoALib-1.0	New	C++17: notes about updating	12 Nov 2021 18:11	0	Normal	
933	CoCoALib-0.99880	In Progress	Separate configure scripts for CoCoALib and CoCoA-5	23 Jan 2024 21:52	10	Normal	John Abbott
1699	CoCoALib-0.99880	In Progress	Shell scripts: Shebang line, etc	16 Feb 2024 10:01	10	Normal	
326	CoCoALib-1.0	In Progress	C++ nasty surprises	07 Apr 2014 18:13	10	Normal	
575	CoCoALib-1.0	In Progress	Investigate using cmake for configuration	13 Mar 2024 21:19	10	Normal	John Abbott
763	CoCoALib-1.0	In Progress	GlobalManager: initialization compatible with initialization of external libs	21 Mar 2016 16:55	10	Normal	
765	CoCoALib-1.0	In Progress	ExternalLib-CDD: (needed by GFan)	11 Sep 2019 13:47	10	Normal	Anna Maria Bigatti
302	CoCoALib-1.0	In Progress	Compilation on M\$Windows: Visual Studio	22 Mar 2024 23:13	60	Normal	
1804	CoCoALib-0.99900	In Progress	Use long long (at least sometimes)?	26 Apr 2024 21:09	80	Normal	John Abbott
591	CoCoALib-1.0	In Progress	Problem with template instantiation and order of include directives	09 Feb 2024 10:18	50	Low	

### Renaming (6)

308	CoCoALib-0.99880	In Progress	Error: ERR::NotNonZero instead of ERR::ZeroRingElem?	27 Mar 2024 17:37	40	High	
1807	CoCoALib-0.99880	New	Error codes: "Not..." for "blah must be ..." -- change prefix	26 Mar 2024 14:22	0	Normal	
150	CoCoALib-1.0	In Progress	RingOf rather than owner? (and than AmbientRing, ...)	30 Jul 2014 17:59	10	Normal	
1013	CoCoALib-1.0	New	GlobalManager: name of object in examples (and tests)	25 Feb 2017 11:11	10	Normal	
942	CoCoALib-0.99900	In Progress	Which names to use? Intersection/saturation vs intersect/saturate	22 Mar 2024 10:20	20	Normal	
1193	CoCoALib-0.99880	New	Naming convention mistakes	08 Mar 2023 20:52	0	Low	

### Safety (25)

1388	CoCoALib-0.99880	New	GlobalManager: create SignalWatcher internally?	01 Mar 2024 09:49	0	Normal	
1575	CoCoALib-0.99880	New	DynamicBitset missing arg checks	16 Feb 2024 09:46	0	Normal	Anna Maria Bigatti
1691	CoCoALib-0.99900	New	Random and threadsafe?	15 Feb 2024 22:38	0	Normal	
497	CoCoALib-1.0	New	Clang: automatic bug finding	04 Apr 2014 17:20	0	Normal	
551	CoCoALib-1.0	New	Reconsider overloaded virtual mem fns	09 Jul 2014 18:00	0	Normal	
562	CoCoALib-1.0	New	Subrings	29 Sep 2020 13:19	0	Normal	
647	CoCoALib-1.0	New	Unique copies of free modules?	10 Nov 2014 16:55	0	Normal	
787	CoCoALib-1.0	New	Remove refcounts from RingElem?	19 Oct 2015 17:08	0	Normal	
835	CoCoALib-1.0	New	Make Mario's new code threadsafe	09 Dec 2015 16:48	0	Normal	
1208	CoCoALib-1.0	New	New function: Threadsafe RandomLinearForm (CoCoALib)	01 Oct 2019 11:28	0	Normal	

#	Target version	Status	Subject	Updated	% Done	Priority	Assignee
1600	CoCoALib-0.99880	In Progress	Detect updated versions of external libs	16 Feb 2024 10:02	10	Normal	
1678	CoCoALib-0.99880	In Progress	Unsigned long for indexes (& sizes?)	07 Mar 2024 20:25	10	Normal	
1813	CoCoALib-0.99900	In Progress	Some tests have become slower	07 Apr 2024 21:53	10	Normal	
482	CoCoALib-1.0	In Progress	Unique copies of rings -- smart ctor	20 Oct 2015 14:33	10	Normal	
784	CoCoALib-1.0	In Progress	threadsafety: Scott Meyers's advice about cached values	18 Jan 2016 18:12	10	Normal	
894	CoCoALib-0.99880	In Progress	strict enum types: C++11 extension	25 Apr 2024 21:49	30	Normal	John Abbott
934	CoCoALib-0.99880	In Progress	MachineInt: change semantics?	22 Apr 2024 21:32	30	Normal	
1814	CoCoALib-0.99900	In Progress	Ensure tests do not need too much RAM	23 Apr 2024 22:14	30	Normal	
142	CoCoALib-0.99880	In Progress	Improve threadsafety	21 Mar 2024 20:29	50	Normal	
707	CoCoALib-0.99880	In Progress	MatrixOrderingMod32749Impl: test and write documentation!	25 Apr 2024 21:46	50	Normal	Anna Maria Bigatti
925	CoCoALib-0.99880	In Progress	MachineInt or long for args which are indices (yet again)	16 Apr 2024 22:29	50	Normal	
1703	CoCoALib-0.99880	Resolved	Threadsafety, multithreading: optional fn arg (or separate fn)	07 Mar 2024 20:04	80	Normal	John Abbott
639	CoCoALib-1.0	New	Shadow CoCoA namespace to help guarantee portability (without ambiguity)	28 Oct 2014 15:34	0	Low	
682	CoCoALib-1.0	New	PPMonoid: add fn to check for overflow in products	14 Apr 2015 11:23	0	Low	
986	CoCoALib-1.0	In Progress	GFan: require version newer than 0.6	22 Apr 2024 20:06	10	Low	

### Tidying (62)

385	CoCoALib-0.99900	In Progress	Design new errors using inheritance	09 Feb 2024 10:25	40	Urgent	John Abbott
263	CoCoALib-1.0	New	Move the various <matrix>::mySetEntry procedures into MatrixBase	01 Aug 2014 16:29	0	High	
685	CoCoALib-1.0	New	Use DivMask inside QBGenerator	02 Feb 2016 14:16	0	High	
1125	CoCoALib-0.99880	New	Separate install script for CoCoALib?	23 Jan 2024 21:54	0	Normal	John Abbott
1355	CoCoALib-0.99880	New	TmpLDP uses srand and time	01 Mar 2024 09:50	0	Normal	
1428	CoCoALib-0.99880	New	DenseMatrix: use template impl for ctors from vec-vec?	07 Mar 2024 20:49	0	Normal	
1464	CoCoALib-0.99880	New	What is the difference between InterruptReceived and InterruptedBySignal	01 Mar 2024 09:54	0	Normal	
1562	CoCoALib-0.99880	New	matrix.H and MatrixView.H	08 Mar 2023 19:56	0	Normal	
1669	CoCoALib-0.99880	New	Review File subtree hierarchy	08 Mar 2023 19:56	0	Normal	
1704	CoCoALib-0.99880	New	Symlink directory for external files needed by CoCoA-5	18 Mar 2024 09:29	0	Normal	Anna Maria Bigatti
1727	CoCoALib-0.99880	New	Cruft in ExtLibs-Normaliz.C	13 Mar 2023 19:01	0	Normal	
1736	CoCoALib-0.99880	New	Clean TmpGOperations, and remove Tmp prefix	28 Apr 2023 16:01	0	Normal	
1782	CoCoALib-0.99880	New	Make CoCoALib test file for radical	01 Mar 2024 09:44	0	Normal	Anna Maria Bigatti
1792	CoCoALib-0.99880	New	CpuTimeOut: arg of type ErrorContext?	18 Mar 2024 20:50	0	Normal	
1213	CoCoALib-0.99900	New	Create PolyOps-RingElem?	16 Feb 2024 09:48	0	Normal	

#	Target version	Status	Subject	Updated	% Done	Priority	Assignee
272	CoCoALib-1.0	New	Forward declarations	07 Apr 2014 18:14	0	Normal	
516	CoCoALib-1.0	New	Make squarefreefactor work in multiple polynomial extns	10 Jul 2014 14:21	0	Normal	
572	CoCoALib-1.0	New	Split SparsePolyRing.H into two files? Problem with circular includes.	17 May 2018 16:36	0	Normal	
640	CoCoALib-1.0	New	What is test-Dynamic1.C	29 Oct 2014 11:30	0	Normal	
316	CoCoALib-1.0	In Progress	submodule constructor different from ideal	10 Jul 2014 16:21	0	Normal	Anna Maria Bigatti
695	CoCoALib-1.0	New	Remove cruft from test files	08 May 2015 11:37	0	Normal	
791	CoCoALib-1.0	New	Clean code for DistrMPolyClean	02 Nov 2015 22:13	0	Normal	Anna Maria Bigatti
808	CoCoALib-1.0	New	Alg Extn by non-zero dim ideal	18 Nov 2015 23:29	0	Normal	
809	CoCoALib-1.0	New	FastCmp for degree -- useful?	27 Nov 2015 16:06	0	Normal	Anna Maria Bigatti
1098	CoCoALib-1.0	New	Ctors for exceptions/errors	06 Sep 2017 15:27	0	Normal	
778	CoCoALib-1.0	In Progress	CRTMill::myAddInfo accept modulus 1 or not?	21 Mar 2016 15:16	0	Normal	
1147	CoCoALib-1.0	New	mySquare and myPowerSmallExp	30 Apr 2019 17:18	0	Normal	
1160	CoCoALib-1.0	New	Clean up revised RatReconstructByContFrac code	26 Feb 2019 16:33	0	Normal	John Abbott
1491	CoCoALib-1.0	New	Unified Gaussian reduction impl	08 Mar 2023 19:55	0	Normal	
1799	CoCoALib-1.0	New	Clean out OLD CODE?	24 Mar 2024 10:52	0	Normal	
601	CoCoALib-0.99880	In Progress	LongRange: in which file should it be declared/defined?	08 Mar 2023 20:45	10	Normal	
849	CoCoALib-0.99880	In Progress	Cleanup MinPoly code	08 Mar 2024 18:15	10	Normal	Anna Maria Bigatti
1465	CoCoALib-0.99880	In Progress	mul(MAT,MAT,MAT)	16 Feb 2024 10:04	10	Normal	
1628	CoCoALib-0.99880	In Progress	Unused variables, params, data members	11 Mar 2023 12:29	10	Normal	
1677	CoCoALib-0.99880	In Progress	release-source script: use shell globbing?	16 Feb 2024 10:01	10	Normal	
1800	CoCoALib-0.99880	In Progress	Conversion from SmallPrime to UNSIGNED long?	15 Apr 2024 10:09	10	Normal	
1801	CoCoALib-0.99880	In Progress	BuildInfo	13 Apr 2024 22:18	10	Normal	
1666	CoCoALib-0.99900	In Progress	MachineInt: chase through ULL changes	16 Apr 2024 22:40	10	Normal	
1783	CoCoALib-0.99900	In Progress	Code & doc structure: one-big-file or many-small-files?	24 Feb 2024 18:34	10	Normal	
87	CoCoALib-1.0	New	Cleanup header for ring classes (so that they are e-diff-able)	10 Jul 2014 16:26	10	Normal	Anna Maria Bigatti
114	CoCoALib-1.0	In Progress	Ideals of polynomials	10 Jul 2014 14:26	10	Normal	
305	CoCoALib-1.0	In Progress	FreeModule: unique copy?	10 Dec 2023 20:43	10	Normal	
437	CoCoALib-1.0	In Progress	MemPool: order free blocks?	13 Apr 2015 23:31	10	Normal	
675	CoCoALib-1.0	In Progress	Matrix determinant over multivariate poly ring	22 May 2015 13:45	10	Normal	
818	CoCoALib-1.0	In Progress	F5 with 3 args?	24 Nov 2015 10:11	10	Normal	John Abbott

#	Target version	Status	Subject	Updated	% Done	Priority	Assignee
841	CoCoALib-1.0	In Progress	NewPolyRing: tidy up the many different versions	01 Sep 2017 11:30	10	Normal	
866	CoCoALib-0.99880	In Progress	implicit, ImplicitHypersurface: improve output verification	22 Mar 2024 09:43	20	Normal	
1179	CoCoALib-0.99880	In Progress	Clean up SparsePolyOps-MonomialIdeals	22 Mar 2024 09:33	20	Normal	Anna Maria Bigatti
1720	CoCoALib-0.99880	New	DivAlg in CoCoALib	25 Mar 2024 17:55	20	Normal	Anna Maria Bigatti
154	CoCoALib-1.0	In Progress	GCD normalization (e.g. monic)	24 Nov 2016 13:56	20	Normal	
686	CoCoALib-1.0	New	myAddMul in poly rings	20 Apr 2015 13:22	20	Normal	Anna Maria Bigatti
582	CoCoALib-0.99880	New	Error codes: use same code for "not poly ring" and "not elem poly ring"	26 Mar 2024 14:36	30	Normal	
1787	CoCoALib-0.99880	In Progress	Iterator design: compatible with C++STL? Advancing beyond end?	23 Apr 2024 22:26	30	Normal	John Abbott
1242	CoCoALib-0.99880	In Progress	C++14: Use type auto where appropriate	22 Apr 2024 21:08	40	Normal	
680	CoCoALib-0.99880	Resolved	DistrMPolyClean does not use MemPool for summands?	07 Mar 2023 20:49	70	Normal	John Abbott
1263	CoCoALib-0.99880	Resolved	Tidy CoCoALib test directory	07 Mar 2023 20:49	80	Normal	John Abbott
1811	CoCoALib-0.99880	Feedback	Check include guards	22 Apr 2024 20:15	90	Normal	John Abbott
1609	CoCoALib-0.99880	New	Clean time.C	08 Mar 2023 19:54	0	Low	
537	CoCoALib-1.0	New	FloatStr uses too much memory	16 Apr 2014 12:01	0	Low	
833	CoCoALib-1.0	New	UIBC: need include file in RingWeyl.C	08 Dec 2015 15:06	0	Low	
1702	CoCoALib-0.99900	In Progress	Use C++ attributes	22 Apr 2024 21:26	10	Low	
1014	CoCoALib-1.0	In Progress	RowMat, ColMat with arg an empty list/vector	24 Feb 2017 17:54	10	Low	
<b>Various (25)</b>							
262	CoCoALib-0.99880	New	Play with GIT	08 Mar 2023 19:54	0	Normal	
1521	CoCoALib-0.99880	New	Unexpectedly slow example with larger types for SmallExponent_t	08 Mar 2023 19:54	0	Normal	
1748	CoCoALib-0.99880	New	July 2023	08 Mar 2024 08:29	0	Normal	John Abbott
1777	CoCoALib-0.99880	New	VerificationLevel: just 3? Low, high, guaranteed?	16 Feb 2024 10:00	0	Normal	
1810	CoCoALib-0.99900	New	Release CoCoALib 0.99900	29 Mar 2024 09:00	0	Normal	
120	CoCoALib-1.0	New	LT over QQ: surprisingly slow	10 Jul 2014 16:26	0	Normal	
232	CoCoALib-1.0	New	No test for QBGenerator	15 Apr 2015 20:15	0	Normal	
360	CoCoALib-1.0	New	CoCoAServer: what future, what issues?	28 Apr 2017 11:19	0	Normal	
401	CoCoALib-1.0	New	NewFreeModule of dimension 0	31 Jul 2014 14:13	0	Normal	
455	CoCoALib-1.0	New	Which sets of generators in an ideal?	14 Jul 2014 15:17	0	Normal	
547	CoCoALib-1.0	New	elim using RingTwinFloat triggers error "SERIOUS"	15 Jun 2016 14:35	0	Normal	
564	CoCoALib-1.0	New	Temporary file for experimentation	16 Jul 2014 14:38	0	Normal	
92	CoCoALib-1.0	In Progress	Error Codes	19 Apr 2017 08:31	0	Normal	

#	Target version	Status	Subject	Updated	% Done	Priority	Assignee
725	CoCoALib-1.0	New	Example database: Slow ideal equality test	10 Jun 2015 14:24	0	Normal	
746	CoCoALib-1.0	New	Problem with GBasis in tower of alg extns	21 Mar 2016 14:29	0	Normal	
74	CoCoALib-1.0	New	printing polynomials	14 Jul 2014 11:07	10	Normal	
432	CoCoALib-1.0	In Progress	Semantics of IsPrintedWithMinus	14 Jul 2014 18:13	10	Normal	
438	CoCoALib-1.0	In Progress	Polynomial multiplication (product of RingElem)	10 Jul 2014 16:28	10	Normal	
1089	CoCoALib-1.0	In Progress	invalid pointer in "free"	20 Jul 2017 13:06	10	Normal	John Abbott
222	CoCoALib-0.99880	In Progress	Printing polynomials - spaces between terms	14 Mar 2023 21:27	30	Normal	
1542	CoCoALib-0.99880	In Progress	gfan does not "deinitialize"	08 Mar 2023 19:53	30	Normal	
1687	CoCoALib-0.99850	In Progress	Release CoCoALib 0.99850	29 Mar 2024 10:42	50	Normal	Anna Maria Bigatti
1711	CoCoALib-0.99880	Feedback	Development releases?	09 Mar 2023 20:56	90	Normal	Anna Maria Bigatti
681	CoCoALib-1.0	New	MemPool: make it easier to get just stats	13 Apr 2015 23:25	0	Low	
1049	CoCoALib-1.0	In Progress	GroebnerFan: slow examples	11 Mar 2024 11:12	10	Low	