

FreeProductsExtendedProfile

July 16, 2018

Group : $C_2 * C_3$

Searching up to index : 2500

How many normal groups are found : 527

Total Time in s : 503.0

Total Magma-Time in s : 402.63

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
0	0.0	0.0	0.0	0.0	EpimorphismPGroup
1706	0.0	0.0	426.1	0.0	NextPrimeInt
5720	0.5	0.0	115298.0	399.6	GroupHomomorphismByImagesNC
35124	0.6	0.0	76644.0	0.0	GModuleByMats
863	1.1	0.0	302526.6	0.0	NaturalHomomorphismBySubspace
509862	1.2	0.0	208575.6	557.6	Index
2382743	2.4	0.1	32871.1	0.0	GeneratorsOfMagmaWithInverses
367184	5.5	0.3	1364693.6	14308.8	Intersection
2	5.7	0.0	1507012.8	702.1	LowIndexSubgroupsFpGroup
5032	7.3	5.3	1924282.5	1350633.8	Core
313377	7.9	0.0	4404499.0	0.0	ExponentSum
526	8.1	7.8	4146491.7	4118216.2	FindIntersections
189576	11.7	0.1	6256709.6	165.9	PreImagesRepresentative
1	13.7	13.6	3585325.6	3585322.9	FindTQuotients
501344	19.0	0.2	10947949.5	309.4	Image
863	21.7	4.4	10453869.8	2447785.8	PullBackH
1095	30.2	0.2	13426879.6	5336.2	IsomorphismFpGroup
11316	33.4	0.8	28872566.0	125747.2	PreImage
863	33.4	33.3	28877838.0	28870431.0	Kernel
994	60.5	0.1	17410550.3	24419.3	SMTX_BasesMaximalSubmodules
2620	90.6	0.2	72208895.7	1884.4	IsSubgroup

1059	298.6	91.8	244671050.8	72281791.2	AddGroup
527	481.2	472.9	332516963.4	330233536.3	FindPQuotients
1	503.0	503.0	340248780.9	340248780.8	LowIndexNormal

Group : $C_2 * C_{12}$

Searching up to index : 150

How many normal groups are found : 355

Total Time in s : 57.3

Total Magma-Time in s : 270.79

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
0	0.0	0.0	0.0	0.0	EpimorphismPGroup
494	0.0	0.0	71.7	0.0	NextPrimeInt
22	0.0	0.0	1039.2	586.6	Core
2	0.0	0.0	886.5	4.7	LowIndexSubgroupsFpGroup
1	0.0	0.0	8506.5	8506.1	FindTQuotients
8884	0.1	0.0	15065.3	0.0	GModuleByMats
3536	0.1	0.0	25899.5	230.7	GroupHomomorphismByImagesNC
119610	0.2	0.0	12338.7	262.8	Intersection
674	0.2	0.0	43735.7	0.0	NaturalHomomorphismBySubspace
49960	0.4	0.0	189120.1	0.0	ExponentSum
241250	0.5	0.0	61611.6	437.8	Index
35168	0.8	0.0	297717.9	70.4	PreImagesRepresentative
1192670	1.2	0.0	14555.4	0.0	GeneratorsOfMagmaWithInverses
674	1.4	0.2	528605.9	111495.0	PullBackH
136136	1.9	0.0	459139.2	203.7	Image
1392	2.9	0.4	803465.4	49094.7	PreImage
674	3.0	2.9	809380.0	803556.9	Kernel
711	3.6	0.0	1168519.3	2925.0	IsomorphismFpGroup
387	4.1	0.0	767916.8	7858.4	SMTX_BasesMaximalSubmodules
354	4.2	4.0	1150617.2	1127010.4	FindIntersections
5862	16.4	0.3	6173749.8	4007.1	IsSubgroup
748	39.1	17.4	13742254.6	6206271.8	AddGroup
355	53.0	50.8	17273965.8	16792550.2	FindPQuotients
1	57.3	57.3	18433089.7	18433089.6	LowIndexNormal

Group : $C_2 * C_4$

Searching up to index : 500

How many normal groups are found : 688

Total Time in s : 240.6

Total Magma-Time in s : 470.73

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
0	0.0	0.0	0.0	0.0	EpimorphismPGroup
1182	0.0	0.0	197.4	0.0	NextPrimeInt
2	0.0	0.0	4816.4	24.3	LowIndexSubgroupsFpGroup
199	0.0	0.0	14168.8	9239.8	Core
1	0.1	0.1	43142.1	43140.9	FindTQuotients
22438	0.2	0.0	39344.7	0.0	GModuleByMats
7311	0.5	0.0	78237.7	484.8	GroupHomomorphismByImagesNC
459746	0.7	0.0	45646.2	537.1	Intersection
1362	0.7	0.0	191323.0	0.0	NaturalHomomorphismBySubspace
892357	1.5	0.0	189590.5	872.0	Index
2268212	2.3	0.1	21821.0	0.0	GeneratorsOfMagmaWithInverses
210644	3.2	0.0	1541182.7	0.0	ExponentSum
114726	5.0	0.1	2147677.7	166.4	PreImagesRepresentative
687	9.5	8.8	3439064.7	3348229.3	FindIntersections
374430	10.5	0.1	4238623.3	422.9	Image
1362	10.9	2.0	4598223.4	916525.4	PullBackH
2940	15.9	1.0	7186747.7	128799.9	PreImage
1362	16.0	15.9	7198440.1	7186788.2	Kernel
1377	16.3	0.2	6772269.3	6004.2	IsomorphismFpGroup
955	34.5	0.1	12713942.3	17371.8	SMTX_BasesMaximalSubmodules
6166	47.4	0.4	29408228.9	4375.1	IsSubgroup
1522	138.0	49.5	78267831.8	29501723.0	AddGroup
688	230.8	225.5	114979643.9	113493607.7	FindPQuotients
1	240.6	240.6	118461851.0	118461850.8	LowIndexNormal

Group : $C_2 * C_5$

Searching up to index : 2000

How many normal groups are found : 205

Total Time in s : 515.3

Total Magma-Time in s : 266.68

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
0	0.0	0.0	0.0	0.0	EpimorphismPGroup
894	0.0	0.0	228.2	0.0	NextPrimeInt
2018	0.2	0.0	57024.3	152.0	GroupHomomorphismByImagesNC
204	0.2	0.2	72517.6	69894.0	FindIntersections
18352	0.2	0.0	31317.4	0.0	GModuleByMats
231	0.5	0.0	167218.4	0.0	NaturalHomomorphismBySubspace
295110	0.7	0.0	71300.4	140.8	Index
992288	0.9	0.0	14590.0	0.0	GeneratorsOfMagmaWithInverses
2	1.0	0.0	284382.5	252.7	LowIndexSubgroupsFpGroup
84342	2.1	0.1	443971.2	6343.2	Intersection
3194	2.8	2.1	636673.5	444508.4	Core
133540	5.0	0.0	2822319.7	0.0	ExponentSum
1	5.1	5.1	1260415.7	1260413.2	FindTQuotients
97152	7.8	0.0	4254173.4	57.2	PreImagesRepresentative
231	8.2	8.2	4944456.5	4942442.7	Kernel
4566	8.2	0.2	4943332.9	40825.6	PreImage
244642	10.2	0.1	4474416.5	96.1	Image
231	13.2	2.5	6837104.9	1462107.8	PullBackH
411	24.1	0.0	10695949.8	2215.3	IsomorphismFpGroup
1798	41.7	0.1	28810223.4	1210.2	IsSubgroup
369	96.9	42.0	66930833.1	28817338.2	AddGroup
349	279.9	0.0	84454261.4	12921.8	SMTX_BasesMaximalSubmodules
205	509.9	443.1	211439475.3	183812858.3	FindPQuotients
1	515.3	515.3	212772408.9	212772408.7	LowIndexNormal

Group : $C_2 * C_6$

Searching up to index : 500

How many normal groups are found : 862

Total Time in s : 381.4

Total Magma-Time in s : 917.5

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
0	0.0	0.0	0.0	0.0	EpimorphismPGroup

1344	0.0	0.0	220.6	0.0	NextPrimeInt
2	0.0	0.0	10416.1	32.1	LowIndexSubgroupsFpGroup
400	0.1	0.1	34840.7	23145.8	Core
31718	0.3	0.0	51710.0	0.0	GModuleByMats
1	0.7	0.7	128805.4	128803.9	FindTQuotients
1665	0.9	0.0	224269.2	0.0	NaturalHomomorphismBySubspace
8857	1.0	0.0	102750.2	603.1	GroupHomomorphismByImagesNC
728852	1.1	0.0	78018.8	959.4	Intersection
1387327	2.1	0.0	265615.1	1100.1	Index
3856753	3.9	0.2	36096.1	0.0	GeneratorsOfMagmaWithInverses
278083	4.0	0.0	1945316.8	0.0	ExponentSum
135018	5.5	0.1	2452344.5	188.7	PreImagesRepresentative
489954	11.1	0.2	3956824.6	518.5	Image
1665	14.0	2.6	5882014.3	1246783.0	PullBackH
861	17.8	16.6	6736001.5	6607626.8	FindIntersections
3742	19.1	1.2	8902824.2	164202.9	PreImage
1665	19.2	19.1	8917077.3	8902822.8	Kernel
1725	24.1	0.4	9749868.2	7684.2	IsomorphismFpGroup
1090	30.9	0.1	8627815.7	25357.4	SMTX_BasesMaximalSubmodules
12381	98.1	0.9	58802775.1	8439.4	IsSubgroup
1896	260.2	101.5	136911966.1	58949190.0	AddGroup
862	362.8	352.0	174318408.1	170885305.6	FindPQuotients
1	381.4	381.4	181183215.2	181183215.1	LowIndexNormal

Group : $C_2 * C_7$

Searching up to index : 1000

How many normal groups are found : 63

Total Time in s : 19.7

Total Magma-Time in s : 46.2

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
0	0.0	0.0	0.0	0.0	EpimorphismPGroup
385	0.0	0.0	98.6	0.0	NextPrimeInt
62	0.0	0.0	5532.8	5321.1	FindIntersections
2716	0.0	0.0	4358.9	0.0	GModuleByMats
679	0.0	0.0	10704.1	45.0	GroupHomomorphismByImagesNC

10756	0.0	0.0	8560.8	35.9	Index
59	0.0	0.0	18936.5	0.0	NaturalHomomorphismBySubspace
2	0.0	0.0	24195.0	32.5	LowIndexSubgroupsFpGroup
142460	0.1	0.0	2117.9	0.0	GeneratorsOfMagmaWithInverses
9180	0.2	0.0	49611.1	819.7	Intersection
518	0.3	0.2	71720.1	49719.8	Core
19748	0.4	0.0	256102.8	0.0	ExponentSum
1	0.4	0.4	116406.8	116406.2	FindTQuotients
13316	0.7	0.0	373810.9	15.8	PreImagesRepresentative
34834	1.0	0.0	422843.6	23.6	Image
634	1.0	0.0	431424.0	7143.8	PreImage
59	1.0	1.0	431881.7	431335.7	Kernel
59	1.3	0.2	660920.9	140346.0	PullBackH
178	2.0	0.0	1595283.6	127.9	IsSubgroup
127	2.6	0.0	1232824.2	601.7	IsomorphismFpGroup
92	3.7	0.0	1211493.8	1843.1	SMTX_BasesMaximalSubmodules
83	6.6	2.0	4508554.5	1596113.1	AddGroup
63	19.2	17.4	9666874.2	8965512.3	FindPQuotients
1	19.7	19.7	9788814.1	9788814.0	LowIndexNormal

Group : $C_2 * C_8$

Searching up to index : 500

How many normal groups are found : 1187

Total Time in s : 1142.5

Total Magma-Time in s : 2765.47

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
0	0.0	0.0	0.0	0.0	EpimorphismPGroup
1581	0.0	0.0	248.7	0.0	NextPrimeInt
2	0.0	0.0	11837.6	37.4	LowIndexSubgroupsFpGroup
415	0.1	0.1	36068.3	23609.1	Core
1	0.6	0.6	148915.1	148913.3	FindTQuotients
57544	0.7	0.0	110933.5	0.0	GModuleByMats
12697	1.2	0.0	152063.5	853.7	GroupHomomorphismByImagesNC
1380292	1.8	0.0	132694.8	1270.8	Intersection
2484	2.1	0.0	598363.7	0.0	NaturalHomomorphismBySubspace

2896544	4.0	0.2	499482.0	1581.6	Index
511527	10.1	0.0	5344886.6	0.0	ExponentSum
11258618	11.4	0.6	84308.7	0.0	GeneratorsOfMagmaWithInverses
319824	15.9	0.2	7320108.3	241.4	PreImagesRepresentative
1131466	28.2	0.5	11066477.6	755.5	Image
2484	34.4	6.2	15886045.1	3281385.7	PullBackH
5400	41.6	2.1	17879415.5	280767.5	PreImage
2484	41.9	41.6	17900599.2	17879410.2	Kernel
1186	47.3	44.8	19500588.8	19134056.6	FindIntersections
2375	84.4	0.5	28461180.1	10701.1	IsomorphismFpGroup
1337	116.2	0.3	45286390.4	52492.6	SMTX_BasesMaximalSubmodules
39611	326.7	3.6	180466559.0	26546.2	IsSubgroup
2779	786.0	335.2	390075783.0	180771498.0	AddGroup
1187	1094.4	1070.2	508278038.1	499699324.9	FindPQuotients
1	1142.5	1142.5	527927542.2	527927542.1	LowIndexNormal

Group : $C_2 * C_{10}$

Searching up to index : 500

How many normal groups are found : 469

Total Time in s : 115.0

Total Magma-Time in s : 243.42

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
0	0.0	0.0	0.0	0.0	EpimorphismPGroup
951	0.0	0.0	171.2	0.0	NextPrimeInt
2	0.0	0.0	6258.7	13.9	LowIndexSubgroupsFpGroup
188	0.0	0.0	19391.6	12957.9	Core
1	0.1	0.1	34511.3	34510.7	FindTQuotients
13378	0.2	0.0	39512.0	0.0	GModuleByMats
877	0.3	0.0	93477.4	0.0	NaturalHomomorphismBySubspace
4959	0.3	0.0	68551.2	315.0	GroupHomomorphismByImagesNC
214366	0.3	0.0	28430.3	390.0	Intersection
384349	0.8	0.0	110339.9	555.1	Index
1059920	1.0	0.0	11273.7	0.0	GeneratorsOfMagmaWithInverses
160569	1.8	0.0	976608.0	0.0	ExponentSum
468	2.3	2.0	763099.8	733817.2	FindIntersections

68068	3.1	0.0	1431799.8	128.9	PreImagesRepresentative
228252	5.5	0.1	2219218.6	271.4	Image
877	6.8	1.1	3184474.7	578735.2	PullBackH
2002	9.5	0.6	5303089.1	88979.1	PreImage
877	9.6	9.5	5310636.8	5303000.6	Kernel
718	13.0	0.0	4112473.2	10276.1	SMTX_BasesMaximalSubmodules
2435	15.1	0.1	10519061.5	1723.2	IsSubgroup
979	16.7	0.1	7124191.9	4355.2	IsomorphismFpGroup
944	51.4	15.9	31395225.5	10558815.9	AddGroup
469	112.5	106.2	56866766.1	54623747.8	FindPQuotients
1	115.0	115.0	57664377.4	57664377.3	LowIndexNormal

Group : $C_2 * C_{11}$

Searching up to index : 1000

How many normal groups are found : 21

Total Time in s : 10.9

Total Magma-Time in s : 58.27

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
0	0.0	0.0	0.0	0.0	EpimorphismPGroup
317	0.0	0.0	93.8	0.0	NextPrimeInt
20	0.0	0.0	36.4	17.5	FindIntersections
378	0.0	0.0	674.8	0.0	GModuleByMats
17	0.0	0.0	765.7	0.0	NaturalHomomorphismBySubspace
401	0.0	0.0	4242.7	22.6	GroupHomomorphismByImagesNC
3602	0.0	0.0	15714.7	0.0	ExponentSum
1980	0.0	0.0	31310.0	5.2	PreImagesRepresentative
17	0.0	0.0	26593.8	6561.7	PullBackH
17	0.1	0.0	33032.0	32842.0	Kernel
30108	0.1	0.0	18868.7	9.5	Index
5462	0.1	0.0	32256.4	6.6	Image
6526	0.1	0.0	34321.0	1119.9	PreImage
76	0.5	0.0	274095.9	54.4	IsSubgroup
606988	0.5	0.0	18939.0	0.0	GeneratorsOfMagmaWithInverses
34	0.5	0.0	146964.9	236.3	SMTX_BasesMaximalSubmodules
43	0.7	0.0	335820.5	191.8	IsomorphismFpGroup

29	1.0	0.5	631877.7	274208.1	AddGroup
2	1.5	0.0	335296.8	373.4	LowIndexSubgroupsFpGroup
21	3.5	2.7	1519531.1	1244036.1	FindPQuotients
85746	4.0	0.2	830366.5	12155.5	Intersection
6494	5.7	4.2	1201219.3	836482.7	Core
1	7.4	7.3	1564131.4	1564130.9	FindTQuotients
1	10.9	10.9	3083699.1	3083699.0	LowIndexNormal