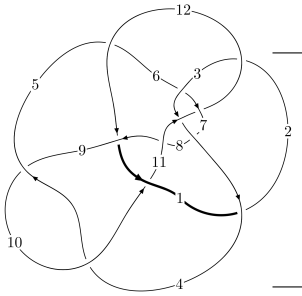
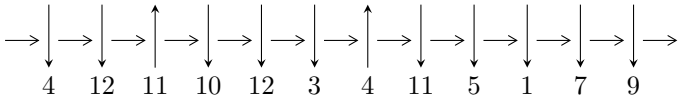
$12n_{0720}$ $(K12n_{0720})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$\underset{c_4}{4,10} \xrightarrow{} \underset{c_{10}}{1,5} \xrightarrow{} \underset{c_3}{11} \xrightarrow{} \underset{c_9}{3} \longrightarrow \underset{c_8}{9} \longrightarrow \underset{c_7}{8} \xrightarrow{} \underset{c_{12}}{7} \xrightarrow{} \underset{c_5}{12} \xrightarrow{} \underset{c_2}{6} \longrightarrow 2 \twoheadrightarrow c_1, c_6, c_{11}$$

Ideals for irreducible components[2]of $X_{\mathbf{par}}$

$$\begin{aligned} I_1^u = \langle & -3.07560 \times 10^{132} u^{71} + 1.26113 \times 10^{133} u^{70} + \cdots + 2.19169 \times 10^{132} b + 3.53314 \times 10^{134}, \\ & - 5.04578 \times 10^{133} u^{71} + 1.39574 \times 10^{133} u^{70} + \cdots + 3.72587 \times 10^{133} a + 1.11463 \times 10^{135}, \\ & u^{72} + 24u^{70} + \cdots + u + 17 \rangle \\ I_2^u = \langle & -6463690u^{21} - 7551941u^{20} + \cdots + 5470469b - 13759554, \\ & - 16456196u^{21} + 170258u^{20} + \cdots + 5470469a - 12909429,\ u^{22} - u^{21} + \cdots - 4u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 94 representations.

[1]The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2]All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I. $\boldsymbol{I_1^u = \langle -3.08 \times 10^{132} u^{71} + 1.26 \times 10^{133} u^{70} + \cdots + 2.19 \times 10^{132} b + 3.53 \times 10^{134},\ -5.05 \times 10^{133} u^{71} + 1.40 \times 10^{133} u^{70} + \cdots + 3.73 \times 10^{133} a + 1.11 \times 10^{135},\ u^{72} + 24 u^{70} + \cdots + u + 17 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1.35425u^{71} - 0.374609u^{70} + \cdots - 0.0210176u - 29.9160 \\ 1.40330u^{71} - 5.75416u^{70} + \cdots - 30.8710u - 161.206 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.25553u^{71} - 0.745166u^{70} + \cdots + 19.7594u - 26.2435 \\ -1.91303u^{71} - 0.436232u^{70} + \cdots - 47.9897u + 4.43250 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.701200u^{71} + 0.0578726u^{70} + \cdots + 47.0698u + 38.4140 \\ 1.03169u^{71} + 4.22675u^{70} + \cdots + 111.003u + 105.693 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.136773u^{71} + 0.391862u^{70} + \cdots - 1.59510u + 12.1738 \\ -3.37201u^{71} - 0.539374u^{70} + \cdots - 67.2143u + 17.8222 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 3.23524u^{71} + 0.931236u^{70} + \cdots + 65.6192u - 5.64844 \\ -3.37201u^{71} - 0.539374u^{70} + \cdots - 67.2143u + 17.8222 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.364800u^{71} + 2.58232u^{70} + \cdots - 18.9166u + 51.2212 \\ 1.51001u^{71} - 4.55294u^{70} + \cdots - 23.4995u - 130.337 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -2.19576u^{71} + 1.19016u^{70} + \cdots - 52.7840u + 45.5645 \\ 1.33590u^{71} - 2.38359u^{70} + \cdots + 7.26507u - 84.1876 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.0490483u^{71} + 5.37955u^{70} + \cdots + 30.8499u + 131.290 \\ 1.40330u^{71} - 5.75416u^{70} + \cdots - 30.8710u - 161.206 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -10.1241u^{71} + 9.90473u^{70} + \cdots - 214.226u + 268.653$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{72} - 9u^{71} + \cdots + 1961u - 77$
c_2	$u^{72} + 10u^{71} + \cdots - 907019u - 119125$
c_3	$u^{72} + 2u^{71} + \cdots + 60020u + 6341$
c_4, c_9	$u^{72} + 24u^{70} + \cdots + u + 17$
c_5	$u^{72} - 21u^{70} + \cdots + 35839731u - 10044233$
c_6	$u^{72} + 4u^{71} + \cdots + 28820u + 2887$
c_7	$u^{72} - 4u^{71} + \cdots + 157706u + 75839$
c_8	$u^{72} - 17u^{71} + \cdots - 149942054u + 20559187$
c_{10}	$u^{72} - u^{71} + \cdots + 7u - 1$
c_{11}	$u^{72} + 3u^{71} + \cdots - 12u + 1$
c_{12}	$u^{72} + u^{71} + \cdots + 865u - 575$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{72} - 29y^{71} + \cdots - 1058891y + 5929$
c_2	$y^{72} - 78y^{71} + \cdots + 24427750639y + 14190765625$
c_3	$y^{72} + 78y^{71} + \cdots - 240503656y + 40208281$
c_4, c_9	$y^{72} + 48y^{71} + \cdots + 6051y + 289$
c_5	$y^{72} - 42y^{71} + \cdots - 2956824736496503y + 100886616558289$
c_6	$y^{72} - 74y^{71} + \cdots - 527457400y + 8334769$
c_7	$y^{72} + 90y^{71} + \cdots - 90986257534y + 5751553921$
c_8	$y^{72} - 71y^{71} + \cdots - 12442914146716706y + 422680170100969$
c_{10}	$y^{72} - y^{71} + \cdots - 7y + 1$
c_{11}	$y^{72} + 5y^{71} + \cdots - 44y + 1$
c_{12}	$y^{72} - 5y^{71} + \cdots - 2688275y + 330625$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.477362+0.897642I$ $a=-0.067877-0.313856I$ $b=-1.151550-0.136492I$	$-1.61428+1.42833I$	0
$u=-0.477362-0.897642I$ $a=-0.067877+0.313856I$ $b=-1.151550+0.136492I$	$-1.61428-1.42833I$	0
$u=0.315889+0.926424I$ $a=0.432112-0.805014I$ $b=1.14826+2.39805I$	$-6.56364+2.44744I$	0
$u=0.315889-0.926424I$ $a=0.432112+0.805014I$ $b=1.14826-2.39805I$	$-6.56364-2.44744I$	0
$u=0.133880+0.943058I$ $a=-0.707754+1.162790I$ $b=-0.66351-1.47027I$	$-0.37726-3.40325I$	$-4.42658+3.83460I$
$u=0.133880-0.943058I$ $a=-0.707754-1.162790I$ $b=-0.66351+1.47027I$	$-0.37726+3.40325I$	$-4.42658-3.83460I$
$u=0.301550+0.900946I$ $a=-0.147062+1.390830I$ $b=-0.742542-0.916719I$	$-2.08548-1.83389I$	$-10.93305+0.I$
$u=0.301550-0.900946I$ $a=-0.147062-1.390830I$ $b=-0.742542+0.916719I$	$-2.08548+1.83389I$	$-10.93305+0.I$
$u=-0.215828+1.034000I$ $a=-1.77643-0.46095I$ $b=-0.933208+0.211167I$	$3.17186+2.86604I$	0
$u=-0.215828-1.034000I$ $a=-1.77643+0.46095I$ $b=-0.933208-0.211167I$	$3.17186-2.86604I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.377147 + 1.000300I$ $a = -0.60630 - 1.79537I$ $b = 0.491494 + 0.082853I$	$-6.71932 - 7.41916I$	0
$u = 0.377147 - 1.000300I$ $a = -0.60630 + 1.79537I$ $b = 0.491494 - 0.082853I$	$-6.71932 + 7.41916I$	0
$u = -0.433501 + 0.982102I$ $a = -0.464224 - 0.505661I$ $b = -0.40071 + 1.38684I$	$0.19065 + 4.37559I$	0
$u = -0.433501 - 0.982102I$ $a = -0.464224 + 0.505661I$ $b = -0.40071 - 1.38684I$	$0.19065 - 4.37559I$	0
$u = -0.502019 + 0.960993I$ $a = -0.38438 + 1.51469I$ $b = 0.472013 + 0.149646I$	$-6.73385 - 0.03465I$	0
$u = -0.502019 - 0.960993I$ $a = -0.38438 - 1.51469I$ $b = 0.472013 - 0.149646I$	$-6.73385 + 0.03465I$	0
$u = -0.871305 + 0.250604I$ $a = -1.134100 + 0.159082I$ $b = -0.910776 + 1.001180I$	$-3.47313 + 3.50227I$	$-18.3256 - 7.5930I$
$u = -0.871305 - 0.250604I$ $a = -1.134100 - 0.159082I$ $b = -0.910776 - 1.001180I$	$-3.47313 - 3.50227I$	$-18.3256 + 7.5930I$
$u = -1.101040 + 0.158588I$ $a = 0.860403 + 0.773355I$ $b = 1.230070 + 0.481564I$	$-10.34360 - 2.43121I$	0
$u = -1.101040 - 0.158588I$ $a = 0.860403 - 0.773355I$ $b = 1.230070 - 0.481564I$	$-10.34360 + 2.43121I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.027610 + 0.439052I$ $a = -0.144621 + 0.779286I$ $b = -0.540452 + 0.832986I$	$-1.51227 + 2.95975I$	0
$u = 1.027610 - 0.439052I$ $a = -0.144621 - 0.779286I$ $b = -0.540452 - 0.832986I$	$-1.51227 - 2.95975I$	0
$u = -0.298638 + 1.108140I$ $a = 0.589128 + 0.524624I$ $b = 1.68842 - 2.24180I$	$-4.91427 + 6.35505I$	0
$u = -0.298638 - 1.108140I$ $a = 0.589128 - 0.524624I$ $b = 1.68842 + 2.24180I$	$-4.91427 - 6.35505I$	0
$u = 0.461914 + 1.060090I$ $a = -1.41949 + 0.47743I$ $b = -1.32124 - 0.96303I$	$-1.40577 - 6.31505I$	0
$u = 0.461914 - 1.060090I$ $a = -1.41949 - 0.47743I$ $b = -1.32124 + 0.96303I$	$-1.40577 + 6.31505I$	0
$u = 1.158870 + 0.142308I$ $a = 0.786009 - 0.769271I$ $b = 1.173780 - 0.714165I$	$-10.2439 + 10.5771I$	0
$u = 1.158870 - 0.142308I$ $a = 0.786009 + 0.769271I$ $b = 1.173780 + 0.714165I$	$-10.2439 - 10.5771I$	0
$u = -0.091289 + 0.794865I$ $a = 1.00922 - 1.97778I$ $b = -0.130734 + 0.316777I$	$2.12580 - 1.30198I$	$-4.55096 - 6.52596I$
$u = -0.091289 - 0.794865I$ $a = 1.00922 + 1.97778I$ $b = -0.130734 - 0.316777I$	$2.12580 + 1.30198I$	$-4.55096 + 6.52596I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.249808 + 1.185040I$ $a = 0.975289 - 0.228857I$ $b = 0.368779 + 0.841330I$	$3.99365 + 0.15429I$	0
$u = 0.249808 - 1.185040I$ $a = 0.975289 + 0.228857I$ $b = 0.368779 - 0.841330I$	$3.99365 - 0.15429I$	0
$u = 0.120517 + 0.770120I$ $a = -0.162776 - 0.214456I$ $b = 3.44943 - 0.72600I$	$-7.47162 - 4.79394I$	$-20.2086 + 8.5185I$
$u = 0.120517 - 0.770120I$ $a = -0.162776 + 0.214456I$ $b = 3.44943 + 0.72600I$	$-7.47162 + 4.79394I$	$-20.2086 - 8.5185I$
$u = 0.620042 + 0.447810I$ $a = -0.64813 + 1.64366I$ $b = -0.950767 + 0.538188I$	$-3.27579 + 2.08206I$	$-17.7678 - 0.3325I$
$u = 0.620042 - 0.447810I$ $a = -0.64813 - 1.64366I$ $b = -0.950767 - 0.538188I$	$-3.27579 - 2.08206I$	$-17.7678 + 0.3325I$
$u = 0.233988 + 0.718232I$ $a = -0.897689 + 0.560342I$ $b = -1.67915 + 0.25556I$	$-2.73046 - 0.85081I$	$-9.21790 + 8.47139I$
$u = 0.233988 - 0.718232I$ $a = -0.897689 - 0.560342I$ $b = -1.67915 - 0.25556I$	$-2.73046 + 0.85081I$	$-9.21790 - 8.47139I$
$u = -0.285520 + 1.237420I$ $a = 0.909356 + 0.100600I$ $b = 0.419131 - 0.190885I$	$2.91597 + 2.97580I$	0
$u = -0.285520 - 1.237420I$ $a = 0.909356 - 0.100600I$ $b = 0.419131 + 0.190885I$	$2.91597 - 2.97580I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.674386+0.248008I$ $a=\ \ 0.258287-0.326727I$ $b=-0.732396-0.442297I$	$-1.74066-0.28469I$	$-7.78828-0.51945I$
$u=-0.674386-0.248008I$ $a=\ \ 0.258287+0.326727I$ $b=-0.732396+0.442297I$	$-1.74066+0.28469I$	$-7.78828+0.51945I$
$u=-0.335449+1.244040I$ $a=\ \ 0.946840+0.168434I$ $b=\ \ 0.381827-0.463105I$	$2.87885+3.03592I$	0
$u=-0.335449-1.244040I$ $a=\ \ 0.946840-0.168434I$ $b=\ \ 0.381827+0.463105I$	$2.87885-3.03592I$	0
$u=\ \ 0.667924+0.216904I$ $a=\ \ 1.260200+0.408081I$ $b=\ \ 0.523105+0.107419I$	$2.59475-2.25621I$	$-0.944475+0.319958I$
$u=\ \ 0.667924-0.216904I$ $a=\ \ 1.260200-0.408081I$ $b=\ \ 0.523105-0.107419I$	$2.59475+2.25621I$	$-0.944475-0.319958I$
$u=-1.31641$ $a=-0.552186$ $b=-1.00106$	-4.19770	0
$u=\ \ 0.396288+1.256520I$ $a=\ \ 0.850383-0.277855I$ $b=\ \ 1.30590+0.64512I$	$6.79619-6.17817I$	0
$u=\ \ 0.396288-1.256520I$ $a=\ \ 0.850383+0.277855I$ $b=\ \ 1.30590-0.64512I$	$6.79619+6.17817I$	0
$u=\ \ 0.638512+1.215610I$ $a=-1.076520+0.088288I$ $b=-0.76164-1.34841I$	$1.05057-8.98234I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.638512 - 1.215610I$ $a = -1.076520 - 0.088288I$ $b = -0.76164 + 1.34841I$	$1.05057 + 8.98234I$	0
$u = 0.211859 + 0.584522I$ $a = 0.413735 + 0.785763I$ $b = -0.755167 + 0.763418I$	$-1.03163 + 1.71552I$	$-5.97336 - 2.93223I$
$u = 0.211859 - 0.584522I$ $a = 0.413735 - 0.785763I$ $b = -0.755167 - 0.763418I$	$-1.03163 - 1.71552I$	$-5.97336 + 2.93223I$
$u = -0.449186 + 1.330600I$ $a = -0.990007 - 0.648279I$ $b = -0.80809 + 1.20012I$	$1.29689 + 8.20198I$	0
$u = -0.449186 - 1.330600I$ $a = -0.990007 + 0.648279I$ $b = -0.80809 - 1.20012I$	$1.29689 - 8.20198I$	0
$u = -0.59562 + 1.28747I$ $a = 1.008800 + 0.407018I$ $b = 1.47932 - 1.12490I$	$-6.83234 + 8.40177I$	0
$u = -0.59562 - 1.28747I$ $a = 1.008800 - 0.407018I$ $b = 1.47932 + 1.12490I$	$-6.83234 - 8.40177I$	0
$u = -0.411073 + 0.374057I$ $a = 2.18791 - 1.24049I$ $b = 1.376760 - 0.314484I$	$-8.24212 + 4.00105I$	$-12.46070 - 3.51515I$
$u = -0.411073 - 0.374057I$ $a = 2.18791 + 1.24049I$ $b = 1.376760 + 0.314484I$	$-8.24212 - 4.00105I$	$-12.46070 + 3.51515I$
$u = 0.61038 + 1.31809I$ $a = 1.060960 - 0.401433I$ $b = 1.32898 + 1.29138I$	$-6.5694 - 16.7734I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.61038 - 1.31809I$ $a = 1.060960 + 0.401433I$ $b = 1.32898 - 1.29138I$	$-6.5694 + 16.7734I$	0
$u = -0.63936 + 1.31443I$ $a = -0.671719 - 0.351431I$ $b = -1.05068 + 1.00047I$	$-0.37191 + 6.68129I$	0
$u = -0.63936 - 1.31443I$ $a = -0.671719 + 0.351431I$ $b = -1.05068 - 1.00047I$	$-0.37191 - 6.68129I$	0
$u = 0.261621 + 0.430282I$ $a = 2.82143 + 0.82812I$ $b = 1.402730 - 0.052584I$	$-8.34849 + 4.22802I$	$-12.83906 - 0.71232I$
$u = 0.261621 - 0.430282I$ $a = 2.82143 - 0.82812I$ $b = 1.402730 + 0.052584I$	$-8.34849 - 4.22802I$	$-12.83906 + 0.71232I$
$u = -0.484388$ $a = 1.12010$ $b = 0.0840423$	-0.873780	-11.6300
$u = 0.59538 + 1.39839I$ $a = -0.375797 + 0.018450I$ $b = -0.603812 - 0.400265I$	$4.97601 - 3.89570I$	0
$u = 0.59538 - 1.39839I$ $a = -0.375797 - 0.018450I$ $b = -0.603812 + 0.400265I$	$4.97601 + 3.89570I$	0
$u = -0.56370 + 1.70638I$ $a = 0.012157 + 0.317984I$ $b = 0.448416 - 0.201438I$	$-4.68702 + 3.51849I$	0
$u = -0.56370 - 1.70638I$ $a = 0.012157 - 0.317984I$ $b = 0.448416 + 0.201438I$	$-4.68702 - 3.51849I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.46249+1.84938I$		
$a=$	$-0.138376-0.192728I$	$-4.41396+4.27518I$	0
$b=$	$0.406510-0.107185I$		
$u=$	$0.46249-1.84938I$		
$a=$	$-0.138376+0.192728I$	$-4.41396-4.27518I$	0
$b=$	$0.406510+0.107185I$		

II.

$\boldsymbol{I_2^u = \langle -6.46\times 10^6 u^{21} - 7.55\times 10^6 u^{20} + \cdots + 5.47\times 10^6 b - 1.38\times 10^7,\ -1.65\times 10^7 u^{21} + 1.70\times 10^5 u^{20} + \cdots + 5.47\times 10^6 a - 1.29\times 10^7,\ u^{22} - u^{21} + \cdots - 4u + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 3.00819u^{21} - 0.0311231u^{20} + \cdots - 11.3724u + 2.35984 \\ 1.18156u^{21} + 1.38049u^{20} + \cdots - 14.0123u + 2.51524 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.537044u^{21} - 3.70196u^{20} + \cdots + 35.3077u - 9.76644 \\ -0.953189u^{21} + 0.862066u^{20} + \cdots + 1.08333u - 1.13292 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 2.10844u^{21} - 4.02584u^{20} + \cdots + 11.2325u - 0.0780423 \\ 0.373706u^{21} - 2.38305u^{20} + \cdots + 10.5890u - 2.03858 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -5.99193u^{21} + 8.34635u^{20} + \cdots - 22.3824u + 3.42673 \\ 1.49872u^{21} - 1.97473u^{20} + \cdots + 5.98233u - 0.526097 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -7.49065u^{21} + 10.3211u^{20} + \cdots - 28.3647u + 3.95283 \\ 1.49872u^{21} - 1.97473u^{20} + \cdots + 5.98233u - 0.526097 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 2.42473u^{21} - 0.488635u^{20} + \cdots - 5.92228u + 1.09391 \\ 1.23736u^{21} + 0.981295u^{20} + \cdots - 12.1427u + 2.29028 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -10.0766u^{21} + 9.72932u^{20} + \cdots - 12.2092u + 0.870113 \\ 0.0167594u^{21} + 2.37374u^{20} + \cdots - 15.6411u + 4.64844 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1.82663u^{21} - 1.41162u^{20} + \cdots + 2.63998u - 0.155403 \\ 1.18156u^{21} + 1.38049u^{20} + \cdots - 14.0123u + 2.51524 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{75092121}{5470469}u^{21} - \frac{34821641}{5470469}u^{20} + \cdots - \frac{92994051}{5470469}u - \frac{28848469}{5470469}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{22} - 6u^{21} + \cdots + 2u + 1$
c_2	$u^{22} + 11u^{21} + \cdots + 6u + 1$
c_3	$u^{22} + u^{21} + \cdots + u + 1$
c_4	$u^{22} - u^{21} + \cdots - 4u + 1$
c_5	$u^{22} + u^{21} + \cdots + 114u + 13$
c_6	$u^{22} - 3u^{21} + \cdots - 13u + 5$
c_7	$u^{22} - u^{21} + \cdots + 3u + 1$
c_8	$u^{22} + 6u^{21} + \cdots - 105u + 13$
c_9	$u^{22} + u^{21} + \cdots + 4u + 1$
c_{10}	$u^{22} + u^{20} + \cdots + 2u + 1$
c_{11}	$u^{22} + 6u^{20} + \cdots + u + 1$
c_{12}	$u^{22} + 5u^{20} + \cdots + 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{22} - 18y^{21} + \cdots - 12y + 1$
c_2	$y^{22} - 11y^{21} + \cdots + 10y + 1$
c_3	$y^{22} + 21y^{21} + \cdots + 15y + 1$
c_4, c_9	$y^{22} + 19y^{21} + \cdots + 2y + 1$
c_5	$y^{22} - 7y^{21} + \cdots - 2596y + 169$
c_6	$y^{22} - 19y^{21} + \cdots - 389y + 25$
c_7	$y^{22} + 17y^{21} + \cdots + y + 1$
c_8	$y^{22} - 20y^{21} + \cdots - 2887y + 169$
c_{10}	$y^{22} + 2y^{21} + \cdots + 12y + 1$
c_{11}	$y^{22} + 12y^{21} + \cdots + 3y + 1$
c_{12}	$y^{22} + 10y^{21} + \cdots - 8y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.388555 + 0.923513I$ $a = -0.853623 + 0.736114I$ $b = -1.20745 - 1.34705I$	$-1.50369 - 3.99443I$	$-12.16830 + 6.90515I$
$u = 0.388555 - 0.923513I$ $a = -0.853623 - 0.736114I$ $b = -1.20745 + 1.34705I$	$-1.50369 + 3.99443I$	$-12.16830 - 6.90515I$
$u = -0.055836 + 0.829858I$ $a = 0.943490 - 0.363773I$ $b = 2.63731 + 0.49911I$	$-7.05318 + 4.57510I$	$-3.48568 - 0.67518I$
$u = -0.055836 - 0.829858I$ $a = 0.943490 + 0.363773I$ $b = 2.63731 - 0.49911I$	$-7.05318 - 4.57510I$	$-3.48568 + 0.67518I$
$u = 0.217691 + 1.176020I$ $a = 1.43864 - 0.21091I$ $b = 0.308754 + 0.219854I$	$4.16265 - 2.72117I$	$2.10086 + 2.56105I$
$u = 0.217691 - 1.176020I$ $a = 1.43864 + 0.21091I$ $b = 0.308754 - 0.219854I$	$4.16265 + 2.72117I$	$2.10086 - 2.56105I$
$u = 0.751016 + 0.273791I$ $a = -0.83572 + 1.15453I$ $b = -0.790163 + 0.824931I$	$-2.63678 + 2.66212I$	$-11.56563 - 5.13370I$
$u = 0.751016 - 0.273791I$ $a = -0.83572 - 1.15453I$ $b = -0.790163 - 0.824931I$	$-2.63678 - 2.66212I$	$-11.56563 + 5.13370I$
$u = -0.763538 + 0.171279I$ $a = -1.196400 + 0.620756I$ $b = -0.832121 + 0.312002I$	$2.06710 + 2.62365I$	$-11.48407 - 6.35850I$
$u = -0.763538 - 0.171279I$ $a = -1.196400 - 0.620756I$ $b = -0.832121 - 0.312002I$	$2.06710 - 2.62365I$	$-11.48407 + 6.35850I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.064699+0.744144I$ $a=-1.58203-1.69510I$ $b=-0.500021+0.426948I$	$1.98210+1.78424I$	$-9.34784-7.39339I$
$u=-0.064699-0.744144I$ $a=-1.58203+1.69510I$ $b=-0.500021-0.426948I$	$1.98210-1.78424I$	$-9.34784+7.39339I$
$u=-0.434982+1.274440I$ $a=-0.885624-0.332093I$ $b=-1.37133+1.02552I$	$6.25032+7.01593I$	$-5.78583-8.24156I$
$u=-0.434982-1.274440I$ $a=-0.885624+0.332093I$ $b=-1.37133-1.02552I$	$6.25032-7.01593I$	$-5.78583+8.24156I$
$u=0.561065+1.277390I$ $a=-0.985213+0.422579I$ $b=-0.87768-1.25355I$	$0.64404-7.81110I$	$-11.10365+6.57562I$
$u=0.561065-1.277390I$ $a=-0.985213-0.422579I$ $b=-0.87768+1.25355I$	$0.64404+7.81110I$	$-11.10365-6.57562I$
$u=-0.48975+1.40212I$ $a=0.520962-0.101567I$ $b=0.260442-0.282393I$	$5.35239+3.50447I$	$0.732534+0.879738I$
$u=-0.48975-1.40212I$ $a=0.520962+0.101567I$ $b=0.260442+0.282393I$	$5.35239-3.50447I$	$0.732534-0.879738I$
$u=0.389749+0.230136I$ $a=-1.44318+0.91022I$ $b=-1.261020+0.016789I$	$-3.02242-0.02950I$	$-15.3029-0.2723I$
$u=0.389749-0.230136I$ $a=-1.44318-0.91022I$ $b=-1.261020-0.016789I$	$-3.02242+0.02950I$	$-15.3029+0.2723I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.00073 + 1.70029I$		
$a = -0.121295 - 0.083969I$	$-4.59759 - 3.98208I$	$-16.0895 + 3.9194I$
$b = 0.633280 + 0.100713I$		
$u = 0.00073 - 1.70029I$		
$a = -0.121295 + 0.083969I$	$-4.59759 + 3.98208I$	$-16.0895 - 3.9194I$
$b = 0.633280 - 0.100713I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{22}-6u^{21}+\cdots+2u+1)(u^{72}-9u^{71}+\cdots+1961u-77)$
c_2	$(u^{22}+11u^{21}+\cdots+6u+1)(u^{72}+10u^{71}+\cdots-907019u-119125)$
c_3	$(u^{22}+u^{21}+\cdots+u+1)(u^{72}+2u^{71}+\cdots+60020u+6341)$
c_4	$(u^{22}-u^{21}+\cdots-4u+1)(u^{72}+24u^{70}+\cdots+u+17)$
c_5	$(u^{22}+u^{21}+\cdots+114u+13)$ $\cdot(u^{72}-21u^{70}+\cdots+35839731u-10044233)$
c_6	$(u^{22}-3u^{21}+\cdots-13u+5)(u^{72}+4u^{71}+\cdots+28820u+2887)$
c_7	$(u^{22}-u^{21}+\cdots+3u+1)(u^{72}-4u^{71}+\cdots+157706u+75839)$
c_8	$(u^{22}+6u^{21}+\cdots-105u+13)$ $\cdot(u^{72}-17u^{71}+\cdots-149942054u+20559187)$
c_9	$(u^{22}+u^{21}+\cdots+4u+1)(u^{72}+24u^{70}+\cdots+u+17)$
c_{10}	$(u^{22}+u^{20}+\cdots+2u+1)(u^{72}-u^{71}+\cdots+7u-1)$
c_{11}	$(u^{22}+6u^{20}+\cdots+u+1)(u^{72}+3u^{71}+\cdots-12u+1)$
c_{12}	$(u^{22}+5u^{20}+\cdots+4u+1)(u^{72}+u^{71}+\cdots+865u-575)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{22}-18y^{21}+\cdots-12y+1)(y^{72}-29y^{71}+\cdots-1058891y+5929)$
c_2	$(y^{22}-11y^{21}+\cdots+10y+1)$ $\cdot(y^{72}-78y^{71}+\cdots+24427750639y+14190765625)$
c_3	$(y^{22}+21y^{21}+\cdots+15y+1)$ $\cdot(y^{72}+78y^{71}+\cdots-240503656y+40208281)$
c_4, c_9	$(y^{22}+19y^{21}+\cdots+2y+1)(y^{72}+48y^{71}+\cdots+6051y+289)$
c_5	$(y^{22}-7y^{21}+\cdots-2596y+169)$ $\cdot(y^{72}-42y^{71}+\cdots-2956824736496503y+100886616558289)$
c_6	$(y^{22}-19y^{21}+\cdots-389y+25)$ $\cdot(y^{72}-74y^{71}+\cdots-527457400y+8334769)$
c_7	$(y^{22}+17y^{21}+\cdots+y+1)$ $\cdot(y^{72}+90y^{71}+\cdots-90986257534y+5751553921)$
c_8	$(y^{22}-20y^{21}+\cdots-2887y+169)$ $\cdot(y^{72}-71y^{71}+\cdots-12442914146716706y+422680170100969)$
c_{10}	$(y^{22}+2y^{21}+\cdots+12y+1)(y^{72}-y^{71}+\cdots-7y+1)$
c_{11}	$(y^{22}+12y^{21}+\cdots+3y+1)(y^{72}+5y^{71}+\cdots-44y+1)$
c_{12}	$(y^{22}+10y^{21}+\cdots-8y+1)(y^{72}-5y^{71}+\cdots-2688275y+330625)$