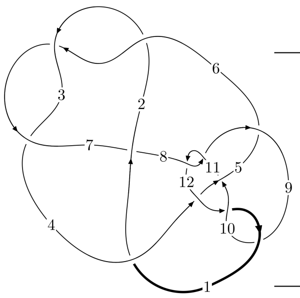
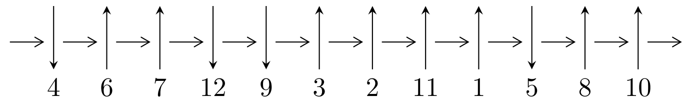
$12a_{0886}$ ($K12a_{0886}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 5.07214 \times 10^{121} u^{41} - 1.29009 \times 10^{122} u^{40} + \cdots + 1.79683 \times 10^{124} b - 2.09627 \times 10^{125}, \\
& 1.21110 \times 10^{125} u^{41} - 3.08153 \times 10^{125} u^{40} + \cdots + 3.67991 \times 10^{127} a - 5.44579 \times 10^{128}, \\
& u^{42} - 3u^{41} + \cdots - 7680u + 2048 \rangle \\
I_2^u = \langle & -u^2 a + b - 1,\ -4u^{32} a - 6u^{31} a + \cdots + a + 8,\ u^{33} + 2u^{32} + \cdots - 2u - 1 \rangle \\
I_3^u = \langle & b - a - 1,\ a^2 + a + 2,\ u - 1 \rangle \\
I_4^u = \langle & b - u,\ a - 1,\ u^2 + 1 \rangle
\end{aligned}$$

$$I_1^v = \langle a,\ b + 1,\ 32v^5 + 16v^4 + 16v^3 + 4v^2 + 2v + 1 \rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 117 representations.

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[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. $\boldsymbol{I^u_1 = \langle 5.07 \times 10^{121} u^{41} - 1.29 \times 10^{122} u^{40} + \cdots + 1.80 \times 10^{124} b - 2.10 \times 10^{125},\ 1.21 \times 10^{125} u^{41} - 3.08 \times 10^{125} u^{40} + \cdots + 3.68 \times 10^{127} a - 5.45 \times 10^{128},\ u^{42} - 3u^{41} + \cdots - 7680u + 2048 \rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.00329111u^{41} + 0.00837392u^{40} + \cdots - 21.9426u + 14.7987 \\ -0.00282282u^{41} + 0.00717978u^{40} + \cdots - 18.7314u + 11.6665 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.000468286u^{41} + 0.00119414u^{40} + \cdots - 3.21121u + 3.13219 \\ 0.00274209u^{41} - 0.00695770u^{40} + \cdots + 18.0721u - 11.2349 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.000392195u^{41} - 0.00107102u^{40} + \cdots + 1.79714u - 2.03513 \\ -0.00149906u^{41} + 0.00367622u^{40} + \cdots - 10.2811u + 6.35866 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.00329111u^{41} + 0.00837392u^{40} + \cdots - 21.9426u + 14.7987 \\ 0.00208209u^{41} - 0.00535290u^{40} + \cdots + 13.9562u - 8.59570 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.000468286u^{41} + 0.00119414u^{40} + \cdots - 3.21121u + 3.13219 \\ -0.00282282u^{41} + 0.00717978u^{40} + \cdots - 18.7314u + 11.6665 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.000392195u^{41} + 0.00107102u^{40} + \cdots - 1.79714u + 2.03513 \\ -0.00147930u^{41} + 0.00368763u^{40} + \cdots - 10.2886u + 6.57486 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.00305058u^{41} + 0.00802983u^{40} + \cdots - 20.7780u + 15.1603 \\ -0.00409737u^{41} + 0.0103081u^{40} + \cdots - 27.3367u + 16.8188 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.00676311u^{41} + 0.0172674u^{40} + \cdots - 46.9837u + 30.8098 \\ -0.00457559u^{41} + 0.0113420u^{40} + \cdots - 32.3525u + 17.7346 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.00676311u^{41} + 0.0172674u^{40} + \cdots - 46.9837u + 30.8098 \\ 0.00331935u^{41} - 0.00806990u^{40} + \cdots + 22.9950u - 11.5457 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.0230966u^{41} + 0.0573171u^{40} + \cdots - 173.318u + 88.0642$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{42} - 10u^{41} + \cdots - 11111u + 1504$
c_2, c_3, c_6	$u^{42} - 2u^{41} + \cdots + 7u - 4$
c_4, c_5	$32(32u^{42} + 48u^{41} + \cdots + 20u^2 + 2)$
c_7	$u^{42} - 2u^{40} + \cdots + 1136u - 448$
c_8, c_9, c_{11} c_{12}	$u^{42} - 5u^{41} + \cdots - u - 1$
c_{10}	$u^{42} - 3u^{41} + \cdots - 7680u + 2048$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{42} + 14y^{41} + \cdots + 62115215y + 2262016$
c_2, c_3, c_6	$y^{42} - 38y^{41} + \cdots - y + 16$
c_4, c_5	$1024(1024y^{42} - 1280y^{41} + \cdots + 80y + 4)$
c_7	$y^{42} - 4y^{41} + \cdots - 2874624y + 200704$
c_8, c_9, c_{11} c_{12}	$y^{42} + 17y^{41} + \cdots + 9y + 1$
c_{10}	$y^{42} - 9y^{41} + \cdots - 69468160y + 4194304$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.314188+1.053170I$ $a=\ \ 0.027002+0.483467I$ $b=-0.594138+0.750449I$	$5.98291-1.19095I$	$10.40868+3.12372I$
$u=-0.314188-1.053170I$ $a=\ \ 0.027002-0.483467I$ $b=-0.594138-0.750449I$	$5.98291+1.19095I$	$10.40868-3.12372I$
$u=\ \ 0.820994+0.197858I$ $a=\ \ 0.95965+1.29956I$ $b=\ \ 0.291149+0.470080I$	$6.19589-3.49276I$	$6.51052+0.13763I$
$u=\ \ 0.820994-0.197858I$ $a=\ \ 0.95965-1.29956I$ $b=\ \ 0.291149-0.470080I$	$6.19589+3.49276I$	$6.51052-0.13763I$
$u=-0.577314+0.526253I$ $a=-0.108552+0.213642I$ $b=-1.121680+0.508475I$	$8.12984-3.40777I$	$9.67454-1.62361I$
$u=-0.577314-0.526253I$ $a=-0.108552-0.213642I$ $b=-1.121680-0.508475I$	$8.12984+3.40777I$	$9.67454+1.62361I$
$u=-0.991104+0.788632I$ $a=\ \ 0.430066-0.979780I$ $b=\ \ 0.048227-0.652088I$	$0.103272+0.890316I$	$7.21863-1.89711I$
$u=-0.991104-0.788632I$ $a=\ \ 0.430066+0.979780I$ $b=\ \ 0.048227+0.652088I$	$0.103272-0.890316I$	$7.21863+1.89711I$
$u=\ \ 0.650573+0.315344I$ $a=-0.150923-0.123948I$ $b=-1.306350-0.336680I$	$7.29715-5.25882I$	$4.50219+8.83294I$
$u=\ \ 0.650573-0.315344I$ $a=-0.150923+0.123948I$ $b=-1.306350+0.336680I$	$7.29715+5.25882I$	$4.50219-8.83294I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.375562 + 0.527351I$ $a = 0.695747 - 0.521764I$ $b = -0.077418 - 0.331511I$	$0.199443 + 0.975184I$	$4.03278 - 6.08768I$
$u = -0.375562 - 0.527351I$ $a = 0.695747 + 0.521764I$ $b = -0.077418 + 0.331511I$	$0.199443 - 0.975184I$	$4.03278 + 6.08768I$
$u = -1.354830 + 0.085427I$ $a = 0.20811 + 1.54932I$ $b = 0.374024 + 0.802773I$	$5.97161 + 6.59731I$	$7.43283 - 8.44870I$
$u = -1.354830 - 0.085427I$ $a = 0.20811 - 1.54932I$ $b = 0.374024 - 0.802773I$	$5.97161 - 6.59731I$	$7.43283 + 8.44870I$
$u = -0.570711 + 0.284785I$ $a = -0.119513 + 0.107746I$ $b = -1.237960 + 0.273860I$	$1.86047 + 2.11675I$	$-0.90328 - 11.17612I$
$u = -0.570711 - 0.284785I$ $a = -0.119513 - 0.107746I$ $b = -1.237960 - 0.273860I$	$1.86047 - 2.11675I$	$-0.90328 + 11.17612I$
$u = 0.442682 + 0.457127I$ $a = -0.050983 - 0.171060I$ $b = -1.041130 - 0.367914I$	$2.47985 + 1.01844I$	$7.66650 + 3.92369I$
$u = 0.442682 - 0.457127I$ $a = -0.050983 + 0.171060I$ $b = -1.041130 + 0.367914I$	$2.47985 - 1.01844I$	$7.66650 - 3.92369I$
$u = 0.522304$ $a = -0.110575$ $b = -1.24864$	3.67439	-7.95490
$u = 1.54341 + 0.23309I$ $a = 0.243734 + 1.309960I$ $b = 0.237641 + 0.802950I$	$-0.35149 + 3.39390I$	$0. - 8.80504I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.54341 - 0.23309I$ $a = 0.243734 - 1.309960I$ $b = 0.237641 - 0.802950I$	$-0.35149 - 3.39390I$	$0. + 8.80504I$
$u = 0.433072$ $a = 1.51195$ $b = 0.203807$	2.70015	1.03960
$u = -1.32959 + 0.84020I$ $a = -0.48736 + 1.45749I$ $b = 0.570490 + 1.221150I$	$2.85618 + 8.34848I$	0
$u = -1.32959 - 0.84020I$ $a = -0.48736 - 1.45749I$ $b = 0.570490 - 1.221150I$	$2.85618 - 8.34848I$	0
$u = 1.29599 + 0.93912I$ $a = -0.58004 - 1.38071I$ $b = 0.59672 - 1.32586I$	$0.1604 - 18.2186I$	$0. + 9.92364I$
$u = 1.29599 - 0.93912I$ $a = -0.58004 + 1.38071I$ $b = 0.59672 + 1.32586I$	$0.1604 + 18.2186I$	$0. - 9.92364I$
$u = -1.32065 + 0.93583I$ $a = -0.55241 + 1.37129I$ $b = 0.56978 + 1.31805I$	$-5.4682 + 14.4315I$	0
$u = -1.32065 - 0.93583I$ $a = -0.55241 - 1.37129I$ $b = 0.56978 - 1.31805I$	$-5.4682 - 14.4315I$	0
$u = 1.35470 + 0.90995I$ $a = -0.50581 - 1.37917I$ $b = 0.539500 - 1.285140I$	$-4.16980 - 10.14610I$	0
$u = 1.35470 - 0.90995I$ $a = -0.50581 + 1.37917I$ $b = 0.539500 + 1.285140I$	$-4.16980 + 10.14610I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.60722 + 1.63895I$ $a = -0.090576 - 0.705861I$ $b = -0.372413 - 1.065220I$	$2.41336 + 9.70431I$	0
$u = 0.60722 - 1.63895I$ $a = -0.090576 + 0.705861I$ $b = -0.372413 + 1.065220I$	$2.41336 - 9.70431I$	0
$u = 1.47227 + 0.94822I$ $a = -0.421850 - 1.297470I$ $b = 0.426915 - 1.286100I$	$-5.57375 - 10.06480I$	0
$u = 1.47227 - 0.94822I$ $a = -0.421850 + 1.297470I$ $b = 0.426915 + 1.286100I$	$-5.57375 + 10.06480I$	0
$u = -1.57270 + 0.94944I$ $a = -0.352961 + 1.267110I$ $b = 0.360707 + 1.251940I$	$-8.85361 + 5.99722I$	0
$u = -1.57270 - 0.94944I$ $a = -0.352961 - 1.267110I$ $b = 0.360707 - 1.251940I$	$-8.85361 - 5.99722I$	0
$u = -0.47063 + 1.78264I$ $a = -0.047981 + 0.738048I$ $b = -0.312174 + 1.017260I$	$-2.89576 - 5.73091I$	0
$u = -0.47063 - 1.78264I$ $a = -0.047981 - 0.738048I$ $b = -0.312174 - 1.017260I$	$-2.89576 + 5.73091I$	0
$u = 0.00561 + 1.91712I$ $a = 0.046167 - 0.779412I$ $b = -0.229375 - 0.915905I$	$-0.81742 + 1.38862I$	0
$u = 0.00561 - 1.91712I$ $a = 0.046167 + 0.779412I$ $b = -0.229375 + 0.915905I$	$-0.81742 - 1.38862I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.70614 + 0.93966I$ $a = -0.279714 - 1.240500I$ $b = 0.299896 - 1.205740I$	$-4.72570 - 1.89699I$	0
$u = 1.70614 - 0.93966I$ $a = -0.279714 + 1.240500I$ $b = 0.299896 + 1.205740I$	$-4.72570 + 1.89699I$	0

II.

$$I_2^u = \langle -u^2a + b - 1,\ -4u^{32}a - 6u^{31}a + \cdots + a + 8,\ u^{33} + 2u^{32} + \cdots - 2u - 1\rangle$$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} a \\ u^2a + 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 4u^{32} + 6u^{31} + \cdots - a - 2u \\ u^4a - u^4 + u^2 - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -2u^{32}a + u^{32} + \cdots + 4a - 4 \\ -2u^{32} - 4u^{31} + \cdots + 9u + 4 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 4u^{32} + 6u^{31} + \cdots - a - 1 \\ -1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^2a + a - 1 \\ u^2a + 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -2u^{32}a + 3u^{32} + \cdots + 4a - 8 \\ -2u^{32} - 4u^{31} + \cdots + 9u + 4 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -4u^{32} - 6u^{31} + \cdots + 3a - 7 \\ -u^{12}a + u^{12} + \cdots - 7u^2 + 3 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{24}a - 5u^{22}a + \cdots + a - 8 \\ u^{26}a - 4u^{24}a + \cdots - 6u^2 + 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 4u^{32} + 6u^{31} + \cdots - a + 3 \\ u^{24}a - u^{24} + \cdots + 6u^2 - 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= 4u^{32} - 20u^{30} - 4u^{29} + 72u^{28} + 16u^{27} - 180u^{26} - 56u^{25} + 360u^{24} + 128u^{23} - 580u^{22} - 248u^{21} + 772u^{20} + 384u^{19} - 848u^{18} - 500u^{17} + 760u^{16} + 548u^{15} - 532u^{14} - 496u^{13} + 264u^{12} + 372u^{11} - 52u^{10} - 220u^9 - 48u^8 + 92u^7 + 56u^6 - 24u^5 - 28u^4 - 4u^3 + 4u^2 + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{33} - 6u^{32} + \cdots + 128u - 23)^2$
c_2, c_3, c_6	$(u^{33} - 2u^{32} + \cdots + u^2 + 1)^2$
c_4, c_5	$u^{66} - u^{65} + \cdots - 115818u + 36557$
c_7	$(u^{33} + 3u^{32} + \cdots + 32u + 7)^2$
c_8, c_9, c_{11} c_{12}	$u^{66} + 10u^{65} + \cdots + 4u + 1$
c_{10}	$(u^{33} + 2u^{32} + \cdots - 2u - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{33} + 14y^{32} + \cdots - 2062y - 529)^2$
c_2, c_3, c_6	$(y^{33} - 30y^{32} + \cdots - 2y - 1)^2$
c_4, c_5	$y^{66} - 27y^{65} + \cdots - 41121383020y + 1336414249$
c_7	$(y^{33} - 3y^{32} + \cdots + 394y - 49)^2$
c_8, c_9, c_{11} c_{12}	$y^{66} + 40y^{65} + \cdots + 20y + 1$
c_{10}	$(y^{33} - 10y^{32} + \cdots - 2y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.014300 + 0.118417I$ $a = -0.596166 + 1.043440I$ $b = 0.645673 + 1.202080I$	$-6.89406 + 3.13953I$	$-4.34254 - 5.36114I$
$u = -1.014300 + 0.118417I$ $a = -0.27011 - 1.48522I$ $b = 0.36912 - 1.44230I$	$-6.89406 + 3.13953I$	$-4.34254 - 5.36114I$
$u = -1.014300 - 0.118417I$ $a = -0.596166 - 1.043440I$ $b = 0.645673 - 1.202080I$	$-6.89406 - 3.13953I$	$-4.34254 + 5.36114I$
$u = -1.014300 - 0.118417I$ $a = -0.27011 + 1.48522I$ $b = 0.36912 + 1.44230I$	$-6.89406 - 3.13953I$	$-4.34254 + 5.36114I$
$u = -0.877024 + 0.414488I$ $a = -0.765285 + 0.116859I$ $b = 0.627802 + 0.626194I$	$-0.262282 - 0.735872I$	$3.32687 - 0.76984I$
$u = -0.877024 + 0.414488I$ $a = 0.41594 - 1.75908I$ $b = -0.030432 - 1.353230I$	$-0.262282 - 0.735872I$	$3.32687 - 0.76984I$
$u = -0.877024 - 0.414488I$ $a = -0.765285 - 0.116859I$ $b = 0.627802 - 0.626194I$	$-0.262282 + 0.735872I$	$3.32687 + 0.76984I$
$u = -0.877024 - 0.414488I$ $a = 0.41594 + 1.75908I$ $b = -0.030432 + 1.353230I$	$-0.262282 + 0.735872I$	$3.32687 + 0.76984I$
$u = 1.039060 + 0.162429I$ $a = -0.558017 - 0.929889I$ $b = 0.726138 - 1.167780I$	$-1.75770 - 6.51294I$	$1.10617 + 5.98872I$
$u = 1.039060 + 0.162429I$ $a = -0.16397 + 1.48174I$ $b = 0.32713 + 1.50533I$	$-1.75770 - 6.51294I$	$1.10617 + 5.98872I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.039060 - 0.162429I$ $a = -0.558017 + 0.929889I$ $b = 0.726138 + 1.167780I$	$-1.75770 + 6.51294I$	$1.10617 - 5.98872I$
$u = 1.039060 - 0.162429I$ $a = -0.16397 - 1.48174I$ $b = 0.32713 - 1.50533I$	$-1.75770 + 6.51294I$	$1.10617 - 5.98872I$
$u = 0.705062 + 0.789522I$ $a = 0.921945 + 0.609371I$ $b = 0.205194 + 0.949502I$	$-0.79038 + 2.85888I$	$4.03469 - 3.31371I$
$u = 0.705062 + 0.789522I$ $a = 0.279153 + 1.164250I$ $b = -0.331425 + 0.163823I$	$-0.79038 + 2.85888I$	$4.03469 - 3.31371I$
$u = 0.705062 - 0.789522I$ $a = 0.921945 - 0.609371I$ $b = 0.205194 - 0.949502I$	$-0.79038 - 2.85888I$	$4.03469 + 3.31371I$
$u = 0.705062 - 0.789522I$ $a = 0.279153 - 1.164250I$ $b = -0.331425 - 0.163823I$	$-0.79038 - 2.85888I$	$4.03469 + 3.31371I$
$u = -0.752029 + 0.757937I$ $a = 0.361706 - 0.918628I$ $b = -0.050445 - 0.404144I$	$0.112103 + 0.911954I$	$6.34870 - 3.13722I$
$u = -0.752029 + 0.757937I$ $a = 0.652021 - 0.835679I$ $b = 0.041525 - 0.735838I$	$0.112103 + 0.911954I$	$6.34870 - 3.13722I$
$u = -0.752029 - 0.757937I$ $a = 0.361706 + 0.918628I$ $b = -0.050445 + 0.404144I$	$0.112103 - 0.911954I$	$6.34870 + 3.13722I$
$u = -0.752029 - 0.757937I$ $a = 0.652021 + 0.835679I$ $b = 0.041525 + 0.735838I$	$0.112103 - 0.911954I$	$6.34870 + 3.13722I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.930115$ $a = -0.65592 + 1.44435I$ $b = 0.432557 + 1.249530I$	-5.02884	-0.712880
$u = 0.930115$ $a = -0.65592 - 1.44435I$ $b = 0.432557 - 1.249530I$	-5.02884	-0.712880
$u = 0.906723 + 0.575511I$ $a = 0.56023 + 1.45906I$ $b = -0.247726 + 1.300990I$	$-4.48415 - 2.21654I$	$-2.16344 + 2.48417I$
$u = 0.906723 + 0.575511I$ $a = -0.298340 + 0.110070I$ $b = 0.738659 - 0.257328I$	$-4.48415 - 2.21654I$	$-2.16344 + 2.48417I$
$u = 0.906723 - 0.575511I$ $a = 0.56023 - 1.45906I$ $b = -0.247726 - 1.300990I$	$-4.48415 + 2.21654I$	$-2.16344 - 2.48417I$
$u = 0.906723 - 0.575511I$ $a = -0.298340 - 0.110070I$ $b = 0.738659 + 0.257328I$	$-4.48415 + 2.21654I$	$-2.16344 - 2.48417I$
$u = -0.703249 + 0.821130I$ $a = 0.928128 - 0.470465I$ $b = 0.289870 - 0.987370I$	$4.82578 - 6.26770I$	$8.18982 + 3.24511I$
$u = -0.703249 + 0.821130I$ $a = 0.334947 - 1.220330I$ $b = -0.469566 - 0.167548I$	$4.82578 - 6.26770I$	$8.18982 + 3.24511I$
$u = -0.703249 - 0.821130I$ $a = 0.928128 + 0.470465I$ $b = 0.289870 + 0.987370I$	$4.82578 + 6.26770I$	$8.18982 - 3.24511I$
$u = -0.703249 - 0.821130I$ $a = 0.334947 + 1.220330I$ $b = -0.469566 + 0.167548I$	$4.82578 + 6.26770I$	$8.18982 - 3.24511I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.789844 + 0.799846I$ $a = 0.487617 + 1.144040I$ $b = -0.453252 + 0.597917I$	$6.34781 - 3.04389I$	$9.82618 + 2.90426I$
$u = 0.789844 + 0.799846I$ $a = 0.532299 + 0.438608I$ $b = 0.437352 + 0.665590I$	$6.34781 - 3.04389I$	$9.82618 + 2.90426I$
$u = 0.789844 - 0.799846I$ $a = 0.487617 - 1.144040I$ $b = -0.453252 - 0.597917I$	$6.34781 + 3.04389I$	$9.82618 - 2.90426I$
$u = 0.789844 - 0.799846I$ $a = 0.532299 - 0.438608I$ $b = 0.437352 - 0.665590I$	$6.34781 + 3.04389I$	$9.82618 - 2.90426I$
$u = -0.963141 + 0.632636I$ $a = 0.50716 - 1.36612I$ $b = -0.397323 - 1.338550I$	$-1.26824 + 5.40417I$	$2.83191 - 6.21521I$
$u = -0.963141 + 0.632636I$ $a = -0.1053880 - 0.0161506I$ $b = 0.924735 + 0.119912I$	$-1.26824 + 5.40417I$	$2.83191 - 6.21521I$
$u = -0.963141 - 0.632636I$ $a = 0.50716 + 1.36612I$ $b = -0.397323 + 1.338550I$	$-1.26824 - 5.40417I$	$2.83191 + 6.21521I$
$u = -0.963141 - 0.632636I$ $a = -0.1053880 + 0.0161506I$ $b = 0.924735 - 0.119912I$	$-1.26824 - 5.40417I$	$2.83191 + 6.21521I$
$u = -0.600852 + 0.549903I$ $a = -0.86327 - 1.33884I$ $b = 0.064649 + 0.491972I$	$-0.353626 - 0.577287I$	$5.08869 + 0.00847I$
$u = -0.600852 + 0.549903I$ $a = 1.59685 - 1.66405I$ $b = -0.006019 - 1.152790I$	$-0.353626 - 0.577287I$	$5.08869 + 0.00847I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.600852 - 0.549903I$ $a = -0.86327 + 1.33884I$ $b = 0.064649 - 0.491972I$	$-0.353626 + 0.577287I$	$5.08869 - 0.00847I$
$u = -0.600852 - 0.549903I$ $a = 1.59685 + 1.66405I$ $b = -0.006019 + 1.152790I$	$-0.353626 + 0.577287I$	$5.08869 - 0.00847I$
$u = -0.965280 + 0.710510I$ $a = 0.510940 - 1.295900I$ $b = -0.559425 - 1.254120I$	$-0.54191 + 4.66940I$	$4.86326 - 2.61989I$
$u = -0.965280 + 0.710510I$ $a = 0.0753159 - 0.0333818I$ $b = 0.986366 - 0.117562I$	$-0.54191 + 4.66940I$	$4.86326 - 2.61989I$
$u = -0.965280 - 0.710510I$ $a = 0.510940 + 1.295900I$ $b = -0.559425 + 1.254120I$	$-0.54191 - 4.66940I$	$4.86326 + 2.61989I$
$u = -0.965280 - 0.710510I$ $a = 0.0753159 + 0.0333818I$ $b = 0.986366 + 0.117562I$	$-0.54191 - 4.66940I$	$4.86326 + 2.61989I$
$u = 0.950716 + 0.751979I$ $a = 0.514981 + 1.266800I$ $b = -0.637045 + 1.165010I$	$5.85251 - 2.78863I$	$8.90822 + 2.57820I$
$u = 0.950716 + 0.751979I$ $a = 0.171542 + 0.057779I$ $b = 0.975434 + 0.264829I$	$5.85251 - 2.78863I$	$8.90822 + 2.57820I$
$u = 0.950716 - 0.751979I$ $a = 0.514981 - 1.266800I$ $b = -0.637045 - 1.165010I$	$5.85251 + 2.78863I$	$8.90822 - 2.57820I$
$u = 0.950716 - 0.751979I$ $a = 0.171542 - 0.057779I$ $b = 0.975434 - 0.264829I$	$5.85251 + 2.78863I$	$8.90822 - 2.57820I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.998168 + 0.717071I$ $a = 0.488348 + 1.291390I$ $b = -0.61319 + 1.32172I$	$-1.67944 - 8.54919I$	$2.18347 + 8.15424I$
$u = 0.998168 + 0.717071I$ $a = 0.0890290 - 0.0366137I$ $b = 1.095340 + 0.109793I$	$-1.67944 - 8.54919I$	$2.18347 + 8.15424I$
$u = 0.998168 - 0.717071I$ $a = 0.488348 - 1.291390I$ $b = -0.61319 - 1.32172I$	$-1.67944 + 8.54919I$	$2.18347 - 8.15424I$
$u = 0.998168 - 0.717071I$ $a = 0.0890290 + 0.0366137I$ $b = 1.095340 - 0.109793I$	$-1.67944 + 8.54919I$	$2.18347 - 8.15424I$
$u = -1.009690 + 0.731074I$ $a = 0.482190 - 1.282250I$ $b = -0.65913 - 1.33376I$	$3.89061 + 12.09090I$	$6.43573 - 8.11579I$
$u = -1.009690 + 0.731074I$ $a = 0.1161080 + 0.0594886I$ $b = 1.144140 - 0.142559I$	$3.89061 + 12.09090I$	$6.43573 - 8.11579I$
$u = -1.009690 - 0.731074I$ $a = 0.482190 + 1.282250I$ $b = -0.65913 + 1.33376I$	$3.89061 - 12.09090I$	$6.43573 + 8.11579I$
$u = -1.009690 - 0.731074I$ $a = 0.1161080 - 0.0594886I$ $b = 1.144140 + 0.142559I$	$3.89061 - 12.09090I$	$6.43573 + 8.11579I$
$u = -0.129012 + 0.620035I$ $a = 1.84776 - 3.41708I$ $b = -0.226286 + 0.961189I$	$1.97739 + 4.07711I$	$8.72201 - 3.88410I$
$u = -0.129012 + 0.620035I$ $a = 3.72482 + 1.42811I$ $b = -0.141514 - 1.121170I$	$1.97739 + 4.07711I$	$8.72201 - 3.88410I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.129012 - 0.620035I$ $a = 1.84776 + 3.41708I$ $b = -0.226286 - 0.961189I$	$1.97739 - 4.07711I$	$8.72201 + 3.88410I$
$u = -0.129012 - 0.620035I$ $a = 3.72482 - 1.42811I$ $b = -0.141514 + 1.121170I$	$1.97739 - 4.07711I$	$8.72201 + 3.88410I$
$u = 0.159946 + 0.484229I$ $a = 1.35528 + 5.45781I$ $b = -0.128533 - 0.930176I$	$-3.28246 - 1.28200I$	$3.99671 + 5.16805I$
$u = 0.159946 + 0.484229I$ $a = 5.82216 - 0.87708I$ $b = -0.080363 + 1.085080I$	$-3.28246 - 1.28200I$	$3.99671 + 5.16805I$
$u = 0.159946 - 0.484229I$ $a = 1.35528 - 5.45781I$ $b = -0.128533 + 0.930176I$	$-3.28246 + 1.28200I$	$3.99671 - 5.16805I$
$u = 0.159946 - 0.484229I$ $a = 5.82216 + 0.87708I$ $b = -0.080363 - 1.085080I$	$-3.28246 + 1.28200I$	$3.99671 - 5.16805I$

III. $I_3^u = \langle b - a - 1,\ a^2 + a + 2,\ u - 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} a \\ a+1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -1 \\ a-1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1 \\ a \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -a-1 \\ -1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -1 \\ a+1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -a \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a+1 \\ 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ a+1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -a-1 \\ -1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$(u-1)^2$
c_2, c_3, c_4 c_5, c_6	$(u+1)^2$
c_7	u^2
c_8, c_9, c_{11} c_{12}	u^2+u+2

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_6 c_{10}	$(y-1)^2$
c_7	y^2
c_8, c_9, c_{11} c_{12}	$y^2 + 3y + 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -0.50000 + 1.32288I$ $b = 0.50000 + 1.32288I$	-4.93480	-2.00000
$u = 1.00000$ $a = -0.50000 - 1.32288I$ $b = 0.50000 - 1.32288I$	-4.93480	-2.00000

IV. $I_4^u = \langle b - u,\ a - 1,\ u^2 + 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u+1 \\ -1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 2 \\ 2u-1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u-1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u+1 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 2 \\ 2u-1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -1 \\ -u+1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u-1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_3	$(u+1)^2$
c_4	$u^2 + 2u + 2$
c_5	$u^2 - 2u + 2$
c_6	$(u-1)^2$
c_7	u^2
c_8, c_9, c_{10} c_{11}, c_{12}	$u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_6	$(y-1)^2$
c_4, c_5	y^2+4
c_7	y^2
c_8, c_9, c_{10} c_{11}, c_{12}	$(y+1)^2$

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_4^u		$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$		$1.000000I$		
$a =$	1.00000		-1.64493	0
$b =$		$1.000000I$		
$u =$		$-1.000000I$		
$a =$	1.00000		-1.64493	0
$b =$		$-1.000000I$		

V. $I_1^v = \langle a,\ b+1,\ 32v^5+16v^4+16v^3+4v^2+2v+1\rangle$

(i) Arc colorings

$a_5 = \begin{pmatrix} v \\ 0 \end{pmatrix}$

$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_1 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_9 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$

$a_6 = \begin{pmatrix} 2v \\ v \end{pmatrix}$

$a_8 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$

$a_{12} = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$

$a_4 = \begin{pmatrix} 2v \\ -v \end{pmatrix}$

$a_2 = \begin{pmatrix} 4v^2 \\ -2v^2-1 \end{pmatrix}$

$a_3 = \begin{pmatrix} -16v^4 \\ -8v^4-4v^2-1 \end{pmatrix}$

$a_7 = \begin{pmatrix} -16v^4 \\ 8v^4+4v^2+1 \end{pmatrix}$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 64v^4+32v^3+33v^2+10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^5+u^4+2u^3+u^2+u+1$
c_2, c_3	$u^5-u^4-2u^3+u^2+u+1$
c_4	$32(32u^5-16u^4+16u^3-4u^2+2u-1)$
c_5	$32(32u^5+16u^4+16u^3+4u^2+2u+1)$
c_6	$u^5+u^4-2u^3-u^2+u-1$
c_7	$u^5-3u^4+4u^3-u^2-u+1$
c_8, c_9	$(u+1)^5$
c_{10}	u^5
c_{11}, c_{12}	$(u-1)^5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^5 + 3y^4 + 4y^3 + y^2 - y - 1$
c_2, c_3, c_6	$y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1$
c_4, c_5	$1024(1024y^5 + 768y^4 + 256y^3 + 16y^2 - 4y - 1)$
c_7	$y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1$
c_8, c_9, c_{11} c_{12}	$(y-1)^5$
c_{10}	y^5

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -0.227849 + 0.600076I$ $a = 0$ $b = -1.00000$	$7.51750 + 4.40083I$	$8.62066 - 2.16111I$
$v = -0.227849 - 0.600076I$ $a = 0$ $b = -1.00000$	$7.51750 - 4.40083I$	$8.62066 + 2.16111I$
$v = 0.169555 + 0.411188I$ $a = 0$ $b = -1.00000$	$1.97403 - 1.53058I$	$2.78903 + 1.00704I$
$v = 0.169555 - 0.411188I$ $a = 0$ $b = -1.00000$	$1.97403 + 1.53058I$	$2.78903 - 1.00704I$
$v = -0.383413$ $a = 0$ $b = -1.00000$	4.04602	14.4310

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^2(u+1)^2(u^5+u^4+2u^3+u^2+u+1)$ $\cdot((u^{33}-6u^{32}+\cdots+128u-23)^2)(u^{42}-10u^{41}+\cdots-11111u+1504)$
c_2, c_3	$((u+1)^4)(u^5-u^4+\cdots+u+1)(u^{33}-2u^{32}+\cdots+u^2+1)^2$ $\cdot(u^{42}-2u^{41}+\cdots+7u-4)$
c_4	$1024(u+1)^2(u^2+2u+2)(32u^5-16u^4+16u^3-4u^2+2u-1)$ $\cdot(32u^{42}+48u^{41}+\cdots+20u^2+2)(u^{66}-u^{65}+\cdots-115818u+36557)$
c_5	$1024(u+1)^2(u^2-2u+2)(32u^5+16u^4+16u^3+4u^2+2u+1)$ $\cdot(32u^{42}+48u^{41}+\cdots+20u^2+2)(u^{66}-u^{65}+\cdots-115818u+36557)$
c_6	$(u-1)^2(u+1)^2(u^5+u^4-2u^3-u^2+u-1)$ $\cdot((u^{33}-2u^{32}+\cdots+u^2+1)^2)(u^{42}-2u^{41}+\cdots+7u-4)$
c_7	$u^4(u^5-3u^4+\cdots-u+1)(u^{33}+3u^{32}+\cdots+32u+7)^2$ $\cdot(u^{42}-2u^{40}+\cdots+1136u-448)$
c_8, c_9	$((u+1)^5)(u^2+1)(u^2+u+2)(u^{42}-5u^{41}+\cdots-u-1)$ $\cdot(u^{66}+10u^{65}+\cdots+4u+1)$
c_{10}	$u^5(u-1)^2(u^2+1)(u^{33}+2u^{32}+\cdots-2u-1)^2$ $\cdot(u^{42}-3u^{41}+\cdots-7680u+2048)$
c_{11}, c_{12}	$((u-1)^5)(u^2+1)(u^2+u+2)(u^{42}-5u^{41}+\cdots-u-1)$ $\cdot(u^{66}+10u^{65}+\cdots+4u+1)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^4(y^5+3y^4+4y^3+y^2-y-1)$ $\cdot(y^{33}+14y^{32}+\cdots-2062y-529)^2$ $\cdot(y^{42}+14y^{41}+\cdots+62115215y+2262016)$
c_2, c_3, c_6	$((y-1)^4)(y^5-5y^4+\cdots-y-1)(y^{33}-30y^{32}+\cdots-2y-1)^2$ $\cdot(y^{42}-38y^{41}+\cdots-y+16)$
c_4, c_5	$1048576(y-1)^2(y^2+4)(1024y^5+768y^4+\cdots-4y-1)$ $\cdot(1024y^{42}-1280y^{41}+\cdots+80y+4)$ $\cdot(y^{66}-27y^{65}+\cdots-41121383020y+1336414249)$
c_7	$y^4(y^5-y^4+\cdots+3y-1)(y^{33}-3y^{32}+\cdots+394y-49)^2$ $\cdot(y^{42}-4y^{41}+\cdots-2874624y+200704)$
c_8, c_9, c_{11} c_{12}	$((y-1)^5)(y+1)^2(y^2+3y+4)(y^{42}+17y^{41}+\cdots+9y+1)$ $\cdot(y^{66}+40y^{65}+\cdots+20y+1)$
c_{10}	$y^5(y-1)^2(y+1)^2(y^{33}-10y^{32}+\cdots-2y-1)^2$ $\cdot(y^{42}-9y^{41}+\cdots-69468160y+4194304)$