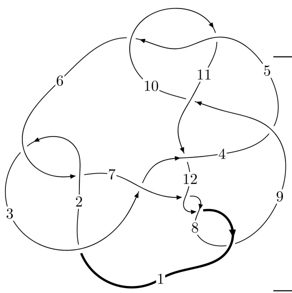
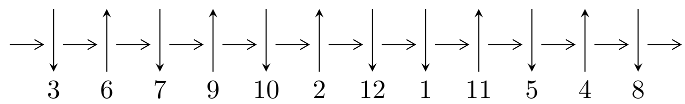
$12a_{0220}$ $(K12a_{0220})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$
\begin{aligned}
I_1^u = \langle & -1.49096 \times 10^{181} u^{106} + 9.13411 \times 10^{180} u^{105} + \cdots + 5.06627 \times 10^{181} b - 7.23078 \times 10^{182}, \\
& 6.06637 \times 10^{182} u^{106} - 1.74049 \times 10^{183} u^{105} + \cdots + 1.31723 \times 10^{183} a - 2.71243 \times 10^{184}, \\
& u^{107} - 3u^{106} + \cdots - 111u - 13 \rangle \\
I_2^u = \langle & b^2 - b + 1,\ a^4 - 2a^2 + 2,\ u + 1 \rangle \\
I_3^u = \langle & b^2 + b + 1,\ a^3,\ u - 1 \rangle
\end{aligned}
$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 121 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. $\boldsymbol{I^u_1 = \langle -1.49 \times 10^{181} u^{106} + 9.13 \times 10^{180} u^{105} + \cdots + 5.07 \times 10^{181} b - 7.23 \times 10^{182},\ 6.07 \times 10^{182} u^{106} - 1.74 \times 10^{183} u^{105} + \cdots + 1.32 \times 10^{183} a - 2.71 \times 10^{184},\ u^{107} - 3u^{106} + \cdots - 111u - 13 \rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.460540u^{106} + 1.32132u^{105} + \cdots + 177.538u + 20.5919 \\ 0.294291u^{106} - 0.180293u^{105} + \cdots + 132.884u + 14.2724 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.339961u^{106} + 1.59337u^{105} + \cdots + 324.599u + 34.4376 \\ 0.183891u^{106} - 0.141636u^{105} + \cdots + 110.762u + 12.7655 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.166249u^{106} + 1.14103u^{105} + \cdots + 310.421u + 34.8643 \\ 0.294291u^{106} - 0.180293u^{105} + \cdots + 132.884u + 14.2724 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.813218u^{106} + 2.47693u^{105} + \cdots + 392.711u + 41.8323 \\ -0.137167u^{106} + 0.176247u^{105} + \cdots - 14.8599u - 0.292318 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.455592u^{106} - 2.01489u^{105} + \cdots + 4.63244u + 13.1807 \\ 0.102062u^{106} + 0.00933752u^{105} + \cdots - 49.6066u - 10.5866 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.832717u^{106} + 1.95875u^{105} + \cdots + 267.318u + 30.0119 \\ -0.325817u^{106} + 0.776598u^{105} + \cdots + 23.5117u + 1.24472 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.816162u^{106} + 2.12713u^{105} + \cdots + 317.788u + 27.2416 \\ 0.127653u^{106} - 0.129996u^{105} + \cdots - 43.6773u - 7.17967 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.703236u^{106} + 1.11367u^{105} + \cdots + 8.19553u + 10.4291$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{107} + 54u^{106} + \cdots - 8u - 1$
c_2, c_6	$u^{107} - 2u^{106} + \cdots + 2u - 1$
c_3	$u^{107} + 2u^{106} + \cdots - 188610u - 36209$
c_4	$u^{107} + u^{106} + \cdots + 3876u + 3764$
c_5, c_{10}	$u^{107} - u^{106} + \cdots + 4u + 4$
c_7, c_8, c_{12}	$u^{107} + 3u^{106} + \cdots - 111u + 13$
c_9	$u^{107} - 51u^{106} + \cdots - 80u + 16$
c_{11}	$u^{107} - 5u^{106} + \cdots - 692004u + 563884$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{107} + 6y^{106} + \cdots + 40y - 1$
c_2, c_6	$y^{107} + 54y^{106} + \cdots - 8y - 1$
c_3	$y^{107} - 42y^{106} + \cdots + 2264493656y - 1311091681$
c_4	$y^{107} - 21y^{106} + \cdots + 424757360y - 14167696$
c_5, c_{10}	$y^{107} + 51y^{106} + \cdots - 80y - 16$
c_7, c_8, c_{12}	$y^{107} - 103y^{106} + \cdots - 9207y - 169$
c_9	$y^{107} + 15y^{106} + \cdots - 2304y - 256$
c_{11}	$y^{107} + 39y^{106} + \cdots - 10755598905296y - 317965165456$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.904262 + 0.431584I$ $a = -0.133296 - 0.339278I$ $b = 0.530938 - 0.189035I$	$-1.99885 + 5.17052I$	0
$u = -0.904262 - 0.431584I$ $a = -0.133296 + 0.339278I$ $b = 0.530938 + 0.189035I$	$-1.99885 - 5.17052I$	0
$u = 0.787760 + 0.643206I$ $a = 0.871626 + 0.708841I$ $b = -1.096750 + 0.335060I$	$-4.40852 + 2.42869I$	0
$u = 0.787760 - 0.643206I$ $a = 0.871626 - 0.708841I$ $b = -1.096750 - 0.335060I$	$-4.40852 - 2.42869I$	0
$u = -0.956946 + 0.360565I$ $a = -0.597535 + 0.227282I$ $b = 0.958606 + 0.767416I$	$-0.373093 - 0.971380I$	0
$u = -0.956946 - 0.360565I$ $a = -0.597535 - 0.227282I$ $b = 0.958606 - 0.767416I$	$-0.373093 + 0.971380I$	0
$u = -0.358282 + 0.896448I$ $a = -1.10747 + 1.21913I$ $b = 1.41980 - 0.65124I$	$-1.00079 + 12.66400I$	0
$u = -0.358282 - 0.896448I$ $a = -1.10747 - 1.21913I$ $b = 1.41980 + 0.65124I$	$-1.00079 - 12.66400I$	0
$u = 0.992483 + 0.309368I$ $a = -0.160962 - 0.486626I$ $b = -0.269567 - 0.291149I$	$-3.00656 - 1.10116I$	0
$u = 0.992483 - 0.309368I$ $a = -0.160962 + 0.486626I$ $b = -0.269567 + 0.291149I$	$-3.00656 + 1.10116I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.608114 + 0.728544I$ $a = -0.691648 + 0.449361I$ $b = 1.128540 - 0.315477I$	$-2.81110 + 0.44680I$	0
$u = -0.608114 - 0.728544I$ $a = -0.691648 - 0.449361I$ $b = 1.128540 + 0.315477I$	$-2.81110 - 0.44680I$	0
$u = 1.033090 + 0.207124I$ $a = -0.748487 - 0.391269I$ $b = 0.001488 - 0.410585I$	$-1.89971 - 0.44446I$	0
$u = 1.033090 - 0.207124I$ $a = -0.748487 + 0.391269I$ $b = 0.001488 + 0.410585I$	$-1.89971 + 0.44446I$	0
$u = 0.391004 + 0.857866I$ $a = 0.99548 + 1.11660I$ $b = -1.36178 - 0.60152I$	$-3.15539 - 7.60366I$	0
$u = 0.391004 - 0.857866I$ $a = 0.99548 - 1.11660I$ $b = -1.36178 + 0.60152I$	$-3.15539 + 7.60366I$	0
$u = -0.541436 + 0.770509I$ $a = -0.741344 + 1.076260I$ $b = 0.858958 - 0.011904I$	$-2.59503 + 4.68959I$	0
$u = -0.541436 - 0.770509I$ $a = -0.741344 - 1.076260I$ $b = 0.858958 + 0.011904I$	$-2.59503 - 4.68959I$	0
$u = 0.606025 + 0.712743I$ $a = 0.766219 + 0.966722I$ $b = -0.916895 + 0.108302I$	$-4.40673 + 0.22528I$	0
$u = 0.606025 - 0.712743I$ $a = 0.766219 - 0.966722I$ $b = -0.916895 - 0.108302I$	$-4.40673 - 0.22528I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.023130 + 0.308756I$ $a = \quad 0.835122 + 0.060413I$ $b = -0.362952 - 0.673846I$	$1.30429 + 3.26731I$	0
$u = -1.023130 - 0.308756I$ $a = \quad 0.835122 - 0.060413I$ $b = -0.362952 + 0.673846I$	$1.30429 - 3.26731I$	0
$u = \quad 0.517016 + 0.772169I$ $a = \quad 0.775725 + 0.721111I$ $b = -1.220000 - 0.429494I$	$-4.10761 - 5.28481I$	0
$u = \quad 0.517016 - 0.772169I$ $a = \quad 0.775725 - 0.721111I$ $b = -1.220000 + 0.429494I$	$-4.10761 + 5.28481I$	0
$u = -0.873419 + 0.646269I$ $a = -0.961755 + 0.599798I$ $b = \quad 1.201530 + 0.414908I$	$-2.58534 - 7.32575I$	0
$u = -0.873419 - 0.646269I$ $a = -0.961755 - 0.599798I$ $b = \quad 1.201530 - 0.414908I$	$-2.58534 + 7.32575I$	0
$u = -1.073390 + 0.173489I$ $a = \quad 1.185970 - 0.495544I$ $b = \quad 0.025415 - 0.404365I$	$0.62750 - 3.83015I$	0
$u = -1.073390 - 0.173489I$ $a = \quad 1.185970 + 0.495544I$ $b = \quad 0.025415 + 0.404365I$	$0.62750 + 3.83015I$	0
$u = -0.347205 + 0.789149I$ $a = \quad 0.98779 - 1.36315I$ $b = -0.998853 + 0.689661I$	$1.55865 + 7.81274I$	0
$u = -0.347205 - 0.789149I$ $a = \quad 0.98779 + 1.36315I$ $b = -0.998853 - 0.689661I$	$1.55865 - 7.81274I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.697681 + 0.486866I$ $a = 1.017260 - 0.382052I$ $b = -0.787593 - 0.084239I$	$0.26585 - 3.31149I$	0
$u = -0.697681 - 0.486866I$ $a = 1.017260 + 0.382052I$ $b = -0.787593 + 0.084239I$	$0.26585 + 3.31149I$	0
$u = -0.305416 + 0.776614I$ $a = -0.73060 + 1.37269I$ $b = 1.24517 - 0.72111I$	$1.49738 + 5.20503I$	0
$u = -0.305416 - 0.776614I$ $a = -0.73060 - 1.37269I$ $b = 1.24517 + 0.72111I$	$1.49738 - 5.20503I$	0
$u = 0.366231 + 0.724436I$ $a = -0.89880 - 1.21010I$ $b = 0.918174 + 0.589822I$	$-0.58468 - 2.93122I$	0
$u = 0.366231 - 0.724436I$ $a = -0.89880 + 1.21010I$ $b = 0.918174 - 0.589822I$	$-0.58468 + 2.93122I$	0
$u = -1.193830 + 0.133951I$ $a = 1.186440 + 0.254501I$ $b = 0.478845 - 0.410517I$	$1.09290 + 3.87383I$	0
$u = -1.193830 - 0.133951I$ $a = 1.186440 - 0.254501I$ $b = 0.478845 + 0.410517I$	$1.09290 - 3.87383I$	0
$u = 1.201360 + 0.183444I$ $a = 0.419710 - 0.338240I$ $b = -0.79913 + 1.21442I$	$-0.18627 + 3.28365I$	0
$u = 1.201360 - 0.183444I$ $a = 0.419710 + 0.338240I$ $b = -0.79913 - 1.21442I$	$-0.18627 - 3.28365I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.24303$ $a = -0.920747$ $b = -0.643030$	-2.16232	0
$u = -0.222910 + 0.706813I$ $a = 0.57898 - 1.45300I$ $b = -0.731318 + 0.783769I$	$3.66702 + 0.52581I$	$4.89543 - 0.81246I$
$u = -0.222910 - 0.706813I$ $a = 0.57898 + 1.45300I$ $b = -0.731318 - 0.783769I$	$3.66702 - 0.52581I$	$4.89543 + 0.81246I$
$u = 0.504839 + 0.540212I$ $a = -0.851823 - 0.684157I$ $b = 0.771656 + 0.223252I$	$-1.33042 - 1.16536I$	$-4.57238 + 3.59666I$
$u = 0.504839 - 0.540212I$ $a = -0.851823 + 0.684157I$ $b = 0.771656 - 0.223252I$	$-1.33042 + 1.16536I$	$-4.57238 - 3.59666I$
$u = 1.245520 + 0.201441I$ $a = -0.458006 + 0.563615I$ $b = 0.050412 - 1.311980I$	$0.58850 - 1.75903I$	0
$u = 1.245520 - 0.201441I$ $a = -0.458006 - 0.563615I$ $b = 0.050412 + 1.311980I$	$0.58850 + 1.75903I$	0
$u = -1.346650 + 0.022218I$ $a = -0.127155 - 0.744802I$ $b = 0.49820 + 1.55717I$	$-3.79047 - 1.76476I$	0
$u = -1.346650 - 0.022218I$ $a = -0.127155 + 0.744802I$ $b = 0.49820 - 1.55717I$	$-3.79047 + 1.76476I$	0
$u = -1.349610 + 0.062394I$ $a = -1.345650 + 0.408342I$ $b = -1.030110 + 0.398339I$	$-1.64321 - 0.63614I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.349610-0.062394I$ $a=-1.345650-0.408342I$ $b=-1.030110-0.398339I$	$-1.64321+0.63614I$	0
$u=-1.356410+0.112287I$ $a=\ \ 0.202197+0.820758I$ $b=\ \ 0.17434-1.59862I$	$-3.53567+3.73820I$	0
$u=-1.356410-0.112287I$ $a=\ \ 0.202197-0.820758I$ $b=\ \ 0.17434+1.59862I$	$-3.53567-3.73820I$	0
$u=-1.358470+0.143026I$ $a=-1.353580-0.228884I$ $b=-1.160700+0.526570I$	$-1.26765+7.94095I$	0
$u=-1.358470-0.143026I$ $a=-1.353580+0.228884I$ $b=-1.160700-0.526570I$	$-1.26765-7.94095I$	0
$u=\ \ 1.368360+0.085834I$ $a=\ \ 0.290701-0.765642I$ $b=-0.64968+1.59002I$	$-2.02551-3.00487I$	0
$u=\ \ 1.368360-0.085834I$ $a=\ \ 0.290701+0.765642I$ $b=-0.64968-1.59002I$	$-2.02551+3.00487I$	0
$u=\ \ 1.379890+0.160353I$ $a=-0.317648+0.896210I$ $b=-0.05306-1.66215I$	$-1.56942-8.60645I$	0
$u=\ \ 1.379890-0.160353I$ $a=-0.317648-0.896210I$ $b=-0.05306+1.66215I$	$-1.56942+8.60645I$	0
$u=\ \ 1.390970+0.096096I$ $a=\ \ 1.103970+0.103885I$ $b=\ \ 1.152920+0.397138I$	$-4.97509-3.82300I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.390970 - 0.096096I$ $a = 1.103970 - 0.103885I$ $b = 1.152920 - 0.397138I$	$-4.97509 + 3.82300I$	0
$u = -0.037503 + 0.596397I$ $a = 0.36414 - 1.92620I$ $b = 0.261674 + 1.022480I$	$4.52566 - 1.15109I$	$6.23436 + 0.38594I$
$u = -0.037503 - 0.596397I$ $a = 0.36414 + 1.92620I$ $b = 0.261674 - 1.022480I$	$4.52566 + 1.15109I$	$6.23436 - 0.38594I$
$u = 1.40667 + 0.26184I$ $a = -0.485247 + 0.970070I$ $b = -1.141110 - 0.816619I$	$-1.56131 - 4.01030I$	0
$u = 1.40667 - 0.26184I$ $a = -0.485247 - 0.970070I$ $b = -1.141110 + 0.816619I$	$-1.56131 + 4.01030I$	0
$u = -0.298161 + 0.443295I$ $a = -0.549122 + 0.963108I$ $b = 0.444626 + 0.356044I$	$-0.15371 - 1.58994I$	$-1.42624 + 1.98288I$
$u = -0.298161 - 0.443295I$ $a = -0.549122 - 0.963108I$ $b = 0.444626 - 0.356044I$	$-0.15371 + 1.58994I$	$-1.42624 - 1.98288I$
$u = 1.46362 + 0.17385I$ $a = 0.304404 - 1.032320I$ $b = 0.846992 + 0.221001I$	$-6.17519 - 0.76182I$	0
$u = 1.46362 - 0.17385I$ $a = 0.304404 + 1.032320I$ $b = 0.846992 - 0.221001I$	$-6.17519 + 0.76182I$	0
$u = -0.155990 + 0.497529I$ $a = 1.04483 - 2.35071I$ $b = 0.015047 + 1.085040I$	$3.36815 + 6.26844I$	$3.96391 - 7.68382I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.155990 - 0.497529I$ $a = 1.04483 + 2.35071I$ $b = 0.015047 - 1.085040I$	$3.36815 - 6.26844I$	$3.96391 + 7.68382I$
$u = 1.44935 + 0.30104I$ $a = 0.526429 - 1.065710I$ $b = 1.52911 + 0.71038I$	$-4.15695 - 9.12120I$	0
$u = 1.44935 - 0.30104I$ $a = 0.526429 + 1.065710I$ $b = 1.52911 - 0.71038I$	$-4.15695 + 9.12120I$	0
$u = -1.46542 + 0.27690I$ $a = 0.254920 + 1.037850I$ $b = 1.32007 - 0.86889I$	$-6.50073 + 6.60004I$	0
$u = -1.46542 - 0.27690I$ $a = 0.254920 - 1.037850I$ $b = 1.32007 + 0.86889I$	$-6.50073 - 6.60004I$	0
$u = 1.46386 + 0.30484I$ $a = -0.263373 + 1.147230I$ $b = -1.31153 - 0.95461I$	$-4.27302 - 11.79580I$	0
$u = 1.46386 - 0.30484I$ $a = -0.263373 - 1.147230I$ $b = -1.31153 + 0.95461I$	$-4.27302 + 11.79580I$	0
$u = -1.48495 + 0.19479I$ $a = 0.167816 + 0.722945I$ $b = 1.38966 - 0.61548I$	$-7.76705 + 3.90228I$	0
$u = -1.48495 - 0.19479I$ $a = 0.167816 - 0.722945I$ $b = 1.38966 + 0.61548I$	$-7.76705 - 3.90228I$	0
$u = 1.49176 + 0.14550I$ $a = -0.134205 + 0.537263I$ $b = -1.41496 - 0.46095I$	$-6.68330 + 1.19848I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.49176 - 0.14550I$ $a = -0.134205 - 0.537263I$ $b = -1.41496 + 0.46095I$	$-6.68330 - 1.19848I$	0
$u = 0.066760 + 0.486078I$ $a = -0.41695 + 2.46615I$ $b = -0.881052 - 0.937770I$	$3.30433 - 5.76662I$	$3.79923 + 6.91273I$
$u = 0.066760 - 0.486078I$ $a = -0.41695 - 2.46615I$ $b = -0.881052 + 0.937770I$	$3.30433 + 5.76662I$	$3.79923 - 6.91273I$
$u = 1.48454 + 0.34898I$ $a = 0.254201 - 1.213360I$ $b = 1.65526 + 0.76856I$	$-6.9227 - 17.1759I$	0
$u = 1.48454 - 0.34898I$ $a = 0.254201 + 1.213360I$ $b = 1.65526 - 0.76856I$	$-6.9227 + 17.1759I$	0
$u = -1.49146 + 0.32588I$ $a = -0.272333 - 1.094210I$ $b = -1.64360 + 0.71264I$	$-9.2253 + 11.9036I$	0
$u = -1.49146 - 0.32588I$ $a = -0.272333 + 1.094210I$ $b = -1.64360 - 0.71264I$	$-9.2253 - 11.9036I$	0
$u = 0.066503 + 0.460813I$ $a = -1.13702 - 1.73349I$ $b = -0.034938 + 0.934134I$	$0.95866 - 1.83427I$	$0.73406 + 3.89858I$
$u = 0.066503 - 0.460813I$ $a = -1.13702 + 1.73349I$ $b = -0.034938 - 0.934134I$	$0.95866 + 1.83427I$	$0.73406 - 3.89858I$
$u = -1.52227 + 0.25706I$ $a = -0.251276 - 0.717849I$ $b = -1.62467 + 0.53247I$	$-10.77400 + 9.01109I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.52227-0.25706I$ $a=-0.251276+0.717849I$ $b=-1.62467-0.53247I$	$-10.77400-9.01109I$	0
$u=1.53098+0.21479I$ $a=0.265871-0.505711I$ $b=1.58794+0.43363I$	$-9.84860-3.77356I$	0
$u=1.53098-0.21479I$ $a=0.265871+0.505711I$ $b=1.58794-0.43363I$	$-9.84860+3.77356I$	0
$u=1.52612+0.24737I$ $a=0.153500-1.100690I$ $b=0.833157+0.473629I$	$-9.36969-8.34998I$	0
$u=1.52612-0.24737I$ $a=0.153500+1.100690I$ $b=0.833157-0.473629I$	$-9.36969+8.34998I$	0
$u=-1.53189+0.21291I$ $a=-0.156064-1.042910I$ $b=-0.907267+0.417953I$	$-11.43450+3.06093I$	0
$u=-1.53189-0.21291I$ $a=-0.156064+1.042910I$ $b=-0.907267-0.417953I$	$-11.43450-3.06093I$	0
$u=-1.55684+0.12305I$ $a=-0.148490-0.836226I$ $b=-1.116250+0.286900I$	$-12.31450+0.01828I$	0
$u=-1.55684-0.12305I$ $a=-0.148490+0.836226I$ $b=-1.116250-0.286900I$	$-12.31450-0.01828I$	0
$u=1.56528+0.07740I$ $a=0.149063-0.704571I$ $b=1.211780+0.210713I$	$-11.02690+5.25826I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.56528 - 0.07740I$ $a = 0.149063 + 0.704571I$ $b = 1.211780 - 0.210713I$	$-11.02690 - 5.25826I$	0
$u = -0.154957 + 0.386807I$ $a = -0.836798 + 0.702949I$ $b = 0.264901 + 0.471924I$	$-0.14462 - 1.60637I$	$-1.48281 + 3.72848I$
$u = -0.154957 - 0.386807I$ $a = -0.836798 - 0.702949I$ $b = 0.264901 - 0.471924I$	$-0.14462 + 1.60637I$	$-1.48281 - 3.72848I$
$u = -0.156750 + 0.282652I$ $a = 2.02349 + 1.65973I$ $b = 0.732640 - 0.821272I$	$0.05214 + 2.40475I$	$-0.47032 - 3.52067I$
$u = -0.156750 - 0.282652I$ $a = 2.02349 - 1.65973I$ $b = 0.732640 + 0.821272I$	$0.05214 - 2.40475I$	$-0.47032 + 3.52067I$
$u = -0.048155 + 0.266320I$ $a = -1.69653 + 4.39859I$ $b = -0.672555 - 0.967240I$	$2.63765 + 1.71529I$	$3.42382 - 0.87900I$
$u = -0.048155 - 0.266320I$ $a = -1.69653 - 4.39859I$ $b = -0.672555 + 0.967240I$	$2.63765 - 1.71529I$	$3.42382 + 0.87900I$

II. $I_2^u = \langle b^2 - b + 1,\ a^4 - 2a^2 + 2,\ u + 1 \rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} a \\ b \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} a \\ b - a \end{pmatrix}$$
$$a_3 = \begin{pmatrix} b + a \\ b \end{pmatrix}$$
$$a_2 = \begin{pmatrix} ba + b \\ b - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -a \\ -b \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} a^2 \\ ba - 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 2a^2 - 2 \\ a^3 b - a^2 + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4a^2 + 4b$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u^2 - u + 1)^4$
c_3, c_6	$(u^2 + u + 1)^4$
c_4, c_{11}	$(u^4 - 2u^2 + 2)^2$
c_5, c_{10}	$(u^4 + 2u^2 + 2)^2$
c_7, c_8	$(u + 1)^8$
c_9	$(u^2 + 2u + 2)^4$
c_{12}	$(u - 1)^8$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = 1.098680 + 0.455090I$ $b = 0.500000 + 0.866025I$	$0.82247 + 1.63398I$	$-2.00000 - 0.53590I$
$u = -1.00000$ $a = 1.098680 + 0.455090I$ $b = 0.500000 - 0.866025I$	$0.82247 + 5.69375I$	$-2.00000 - 7.46410I$
$u = -1.00000$ $a = 1.098680 - 0.455090I$ $b = 0.500000 + 0.866025I$	$0.82247 - 5.69375I$	$-2.00000 + 7.46410I$
$u = -1.00000$ $a = 1.098680 - 0.455090I$ $b = 0.500000 - 0.866025I$	$0.82247 - 1.63398I$	$-2.00000 + 0.53590I$
$u = -1.00000$ $a = -1.098680 + 0.455090I$ $b = 0.500000 + 0.866025I$	$0.82247 - 5.69375I$	$-2.00000 + 7.46410I$
$u = -1.00000$ $a = -1.098680 + 0.455090I$ $b = 0.500000 - 0.866025I$	$0.82247 - 1.63398I$	$-2.00000 + 0.53590I$
$u = -1.00000$ $a = -1.098680 - 0.455090I$ $b = 0.500000 + 0.866025I$	$0.82247 + 1.63398I$	$-2.00000 - 0.53590I$
$u = -1.00000$ $a = -1.098680 - 0.455090I$ $b = 0.500000 - 0.866025I$	$0.82247 + 5.69375I$	$-2.00000 - 7.46410I$

III. $I_3^u = \langle b^2 + b + 1,\ a^3,\ u - 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 2a^2 - 4b - 8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_6	$(u^2 - u + 1)^3$
c_2	$(u^2 + u + 1)^3$
c_4, c_5, c_9 c_{10}, c_{11}	u^6
c_7, c_8	$(u - 1)^6$
c_{12}	$(u + 1)^6$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_6	$(y^2 + y + 1)^3$
c_4, c_5, c_9 c_{10}, c_{11}	y^6
c_7, c_8, c_{12}	$(y - 1)^6$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = 0$ $b = -0.500000 + 0.866025I$	$-1.64493 + 2.02988I$	$-6.00000 - 3.46410I$
$u = 1.00000$ $a = 0$ $b = -0.500000 + 0.866025I$	$-1.64493 + 2.02988I$	$-6.00000 - 3.46410I$
$u = 1.00000$ $a = 0$ $b = -0.500000 + 0.866025I$	$-1.64493 + 2.02988I$	$-6.00000 - 3.46410I$
$u = 1.00000$ $a = 0$ $b = -0.500000 - 0.866025I$	$-1.64493 - 2.02988I$	$-6.00000 + 3.46410I$
$u = 1.00000$ $a = 0$ $b = -0.500000 - 0.866025I$	$-1.64493 - 2.02988I$	$-6.00000 + 3.46410I$
$u = 1.00000$ $a = 0$ $b = -0.500000 - 0.866025I$	$-1.64493 - 2.02988I$	$-6.00000 + 3.46410I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^7)(u^{107}+54u^{106}+\cdots-8u-1)$
c_2	$((u^2-u+1)^4)(u^2+u+1)^3(u^{107}-2u^{106}+\cdots+2u-1)$
c_3	$((u^2-u+1)^3)(u^2+u+1)^4(u^{107}+2u^{106}+\cdots-188610u-36209)$
c_4	$u^6(u^4-2u^2+2)^2(u^{107}+u^{106}+\cdots+3876u+3764)$
c_5, c_{10}	$u^6(u^4+2u^2+2)^2(u^{107}-u^{106}+\cdots+4u+4)$
c_6	$((u^2-u+1)^3)(u^2+u+1)^4(u^{107}-2u^{106}+\cdots+2u-1)$
c_7, c_8	$((u-1)^6)(u+1)^8(u^{107}+3u^{106}+\cdots-111u+13)$
c_9	$u^6(u^2+2u+2)^4(u^{107}-51u^{106}+\cdots-80u+16)$
c_{11}	$u^6(u^4-2u^2+2)^2(u^{107}-5u^{106}+\cdots-692004u+563884)$
c_{12}	$((u-1)^8)(u+1)^6(u^{107}+3u^{106}+\cdots-111u+13)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^7)(y^{107}+6y^{106}+\cdots+40y-1)$
c_2, c_6	$((y^2+y+1)^7)(y^{107}+54y^{106}+\cdots-8y-1)$
c_3	$((y^2+y+1)^7)(y^{107}-42y^{106}+\cdots+2.26449\times10^9y-1.31109\times10^9)$
c_4	$y^6(y^2-2y+2)^4(y^{107}-21y^{106}+\cdots+4.24757\times10^8y-1.41677\times10^7)$
c_5, c_{10}	$y^6(y^2+2y+2)^4(y^{107}+51y^{106}+\cdots-80y-16)$
c_7, c_8, c_{12}	$((y-1)^{14})(y^{107}-103y^{106}+\cdots-9207y-169)$
c_9	$y^6(y^2+4)^4(y^{107}+15y^{106}+\cdots-2304y-256)$
c_{11}	$y^6(y^2-2y+2)^4$ $\cdot\,(y^{107}+39y^{106}+\cdots-10755598905296y-317965165456)$