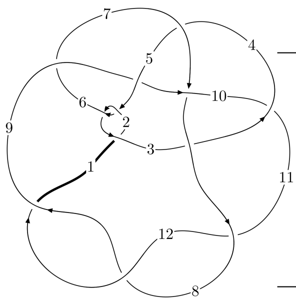
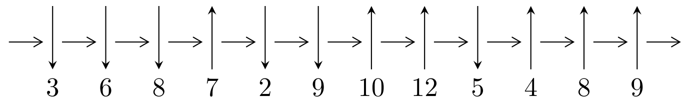
$12n_{0320}$ ($K12n_{0320}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 1.94964 \times 10^{382} u^{72} + 1.20690 \times 10^{383} u^{71} + \cdots + 5.33896 \times 10^{384} b - 1.10225 \times 10^{386}, \\
& - 1.84504 \times 10^{385} u^{72} - 1.15557 \times 10^{386} u^{71} + \cdots + 1.20981 \times 10^{387} a + 8.26575 \times 10^{388}, \\
& u^{73} + 6u^{72} + \cdots - 18561u + 1133 \rangle \\
I_2^u = \langle & -362677236u^{12} + 287880043u^{11} + \cdots + 2896442647b + 2924763966, \\
& - 938151764u^{12} - 1358804549u^{11} + \cdots + 2896442647a - 4249866059, \\
& u^{13} + u^{11} + 11u^{10} + 2u^9 + 8u^8 + 62u^7 - 17u^6 + 25u^5 - 7u^4 - 10u^3 + 2u^2 + 1 \rangle \\
I_3^u = \langle & u^4 + 2u^3 - u^2 + b - 2u,\ 2u^5 + 5u^4 - 2u^3 - 9u^2 + a + u + 4,\ u^6 + 3u^5 - 5u^3 - u^2 + 2u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 92 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. $\boldsymbol{I_1^u = \langle 1.95 \times 10^{382} u^{72} + 1.21 \times 10^{383} u^{71} + \cdots + 5.34 \times 10^{384} b - 1.10 \times 10^{386},\ -1.85 \times 10^{385} u^{72} - 1.16 \times 10^{386} u^{71} + \cdots + 1.21 \times 10^{387} a + 8.27 \times 10^{388},\ u^{73} + 6u^{72} + \cdots - 18561u + 1133 \rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0152507u^{72} + 0.0955166u^{71} + \cdots + 844.480u - 68.3229 \\ -0.00365172u^{72} - 0.0226055u^{71} + \cdots - 241.555u + 20.6453 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0115990u^{72} + 0.0729111u^{71} + \cdots + 602.925u - 47.6775 \\ -0.00365172u^{72} - 0.0226055u^{71} + \cdots - 241.555u + 20.6453 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.0167624u^{72} - 0.103452u^{71} + \cdots - 1190.73u + 109.121 \\ 0.00289105u^{72} + 0.0179807u^{71} + \cdots + 190.095u - 18.3749 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0184116u^{72} + 0.114807u^{71} + \cdots + 1089.39u - 91.6124 \\ -0.00601210u^{72} - 0.0371863u^{71} + \cdots - 388.300u + 34.2741 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.00271928u^{72} - 0.0151351u^{71} + \cdots - 390.211u + 41.7955 \\ 0.00573011u^{72} + 0.0357021u^{71} + \cdots + 366.128u - 31.6795 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0255847u^{72} + 0.159203u^{71} + \cdots + 1537.33u - 130.800 \\ -0.00565886u^{72} - 0.0350883u^{71} + \cdots - 371.217u + 32.7353 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0167624u^{72} - 0.103452u^{71} + \cdots - 1190.73u + 109.121 \\ 0.00250121u^{72} + 0.0155056u^{71} + \cdots + 155.679u - 15.1148 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.0117290u^{72} + 0.0727452u^{71} + \cdots + 719.230u - 62.4670 \\ -0.00246932u^{72} - 0.0152327u^{71} + \cdots - 178.421u + 16.4833 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0182906u^{72} - 0.113075u^{71} + \cdots - 1255.70u + 113.788 \\ 0.000808248u^{72} + 0.00493055u^{71} + \cdots + 38.6483u - 5.11399 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0291619u^{72} + 0.179368u^{71} + \cdots + 1994.61u - 181.670$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{73} + 40u^{72} + \cdots + 26772u + 121$
c_2, c_5	$u^{73} + 2u^{72} + \cdots + 146u - 11$
c_3	$u^{73} + 3u^{72} + \cdots + 31u - 1$
c_4	$u^{73} + 7u^{72} + \cdots - 96u + 64$
c_6	$u^{73} - 6u^{72} + \cdots - 18561u - 1133$
c_7	$u^{73} - 3u^{72} + \cdots - 12u - 1$
c_8, c_{11}, c_{12}	$u^{73} - u^{72} + \cdots - 11u - 1$
c_9	$u^{73} - u^{72} + \cdots - 11u - 19$
c_{10}	$u^{73} + 3u^{72} + \cdots - 23u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{73} - 8y^{72} + \cdots + 632441220y - 14641$
c_2, c_5	$y^{73} - 40y^{72} + \cdots + 26772y - 121$
c_3	$y^{73} - 71y^{72} + \cdots - 323y - 1$
c_4	$y^{73} + 29y^{72} + \cdots - 1084416y - 4096$
c_6	$y^{73} - 34y^{72} + \cdots + 64177063y - 1283689$
c_7	$y^{73} - 19y^{72} + \cdots + 32y - 1$
c_8, c_{11}, c_{12}	$y^{73} - 17y^{72} + \cdots - 37y - 1$
c_9	$y^{73} + 21y^{72} + \cdots - 26327y - 361$
c_{10}	$y^{73} + 53y^{72} + \cdots + 217y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.031340 + 0.008433I$ $a = -0.069808 + 1.084620I$ $b = 1.375400 - 0.230767I$	$-8.53900 - 6.42718I$	0
$u = -1.031340 - 0.008433I$ $a = -0.069808 - 1.084620I$ $b = 1.375400 + 0.230767I$	$-8.53900 + 6.42718I$	0
$u = 1.016880 + 0.247438I$ $a = 0.18301 + 1.43687I$ $b = -1.134700 - 0.389357I$	$-3.48643 - 1.34087I$	0
$u = 1.016880 - 0.247438I$ $a = 0.18301 - 1.43687I$ $b = -1.134700 + 0.389357I$	$-3.48643 + 1.34087I$	0
$u = -0.698200 + 0.781658I$ $a = -0.086270 - 0.883147I$ $b = 0.143676 + 0.967502I$	$2.76121 + 4.17164I$	0
$u = -0.698200 - 0.781658I$ $a = -0.086270 + 0.883147I$ $b = 0.143676 - 0.967502I$	$2.76121 - 4.17164I$	0
$u = 0.923453 + 0.507277I$ $a = -0.711008 - 0.775964I$ $b = 0.052883 + 0.873653I$	$-3.09395 - 3.25435I$	0
$u = 0.923453 - 0.507277I$ $a = -0.711008 + 0.775964I$ $b = 0.052883 - 0.873653I$	$-3.09395 + 3.25435I$	0
$u = 0.320327 + 1.015200I$ $a = 0.345566 + 1.000120I$ $b = 0.139397 - 0.696765I$	$1.29497 - 2.48132I$	0
$u = 0.320327 - 1.015200I$ $a = 0.345566 - 1.000120I$ $b = 0.139397 + 0.696765I$	$1.29497 + 2.48132I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.102722 + 0.909943I$ $a = 1.58395 - 1.09523I$ $b = -0.999021 + 0.236970I$	$-0.52366 + 1.44354I$	0
$u = -0.102722 - 0.909943I$ $a = 1.58395 + 1.09523I$ $b = -0.999021 - 0.236970I$	$-0.52366 - 1.44354I$	0
$u = -1.080410 + 0.103383I$ $a = -0.551852 + 0.897401I$ $b = -0.020100 - 0.900171I$	$-4.24460 - 3.95976I$	0
$u = -1.080410 - 0.103383I$ $a = -0.551852 - 0.897401I$ $b = -0.020100 + 0.900171I$	$-4.24460 + 3.95976I$	0
$u = -0.972563 + 0.495097I$ $a = -0.18790 + 1.67102I$ $b = 1.258500 - 0.462677I$	$-8.13571 + 8.75720I$	0
$u = -0.972563 - 0.495097I$ $a = -0.18790 - 1.67102I$ $b = 1.258500 + 0.462677I$	$-8.13571 - 8.75720I$	0
$u = 0.845098 + 0.817919I$ $a = 0.223034 + 0.772508I$ $b = 0.195678 - 0.647035I$	$0.02539 - 2.06580I$	0
$u = 0.845098 - 0.817919I$ $a = 0.223034 - 0.772508I$ $b = 0.195678 + 0.647035I$	$0.02539 + 2.06580I$	0
$u = 0.704242 + 0.317833I$ $a = -0.59265 - 2.07838I$ $b = 1.251460 + 0.483613I$	$-6.73334 - 1.65613I$	$-2.92629 + 0.79234I$
$u = 0.704242 - 0.317833I$ $a = -0.59265 + 2.07838I$ $b = 1.251460 - 0.483613I$	$-6.73334 + 1.65613I$	$-2.92629 - 0.79234I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.556762 + 0.475035I$ $a = 0.324680 + 0.714527I$ $b = -1.215180 - 0.518061I$	$-1.72177 - 1.34235I$	$1.77903 + 5.54028I$
$u = 0.556762 - 0.475035I$ $a = 0.324680 - 0.714527I$ $b = -1.215180 + 0.518061I$	$-1.72177 + 1.34235I$	$1.77903 - 5.54028I$
$u = -0.457882 + 1.231170I$ $a = -0.082528 - 0.200066I$ $b = 0.705147 + 0.340560I$	$1.30339 - 1.96383I$	0
$u = -0.457882 - 1.231170I$ $a = -0.082528 + 0.200066I$ $b = 0.705147 - 0.340560I$	$1.30339 + 1.96383I$	0
$u = 1.327210 + 0.201548I$ $a = -0.032088 - 0.895329I$ $b = 1.295440 + 0.256609I$	$-9.63449 - 0.84683I$	0
$u = 1.327210 - 0.201548I$ $a = -0.032088 + 0.895329I$ $b = 1.295440 - 0.256609I$	$-9.63449 + 0.84683I$	0
$u = 1.279340 + 0.555895I$ $a = 0.041703 - 1.054370I$ $b = -0.324932 + 0.913616I$	$-4.31900 - 2.85477I$	0
$u = 1.279340 - 0.555895I$ $a = 0.041703 + 1.054370I$ $b = -0.324932 - 0.913616I$	$-4.31900 + 2.85477I$	0
$u = -1.293390 + 0.552574I$ $a = 0.307125 - 0.021259I$ $b = 0.769443 + 0.511761I$	$3.52478 - 2.09880I$	0
$u = -1.293390 - 0.552574I$ $a = 0.307125 + 0.021259I$ $b = 0.769443 - 0.511761I$	$3.52478 + 2.09880I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.564547$ $a = 1.46692$ $b = 0.0693710$	1.42881	7.52280
$u = -1.19035 + 0.80455I$ $a = -0.040182 + 1.009980I$ $b = -0.285323 - 1.026970I$	$-2.73397 + 10.71610I$	0
$u = -1.19035 - 0.80455I$ $a = -0.040182 - 1.009980I$ $b = -0.285323 + 1.026970I$	$-2.73397 - 10.71610I$	0
$u = 0.82644 + 1.17623I$ $a = 0.666106 - 1.183330I$ $b = 0.932325 + 0.388293I$	$-0.79582 - 6.86751I$	0
$u = 0.82644 - 1.17623I$ $a = 0.666106 + 1.183330I$ $b = 0.932325 - 0.388293I$	$-0.79582 + 6.86751I$	0
$u = -0.529293 + 0.181821I$ $a = -0.639919 - 1.224910I$ $b = -1.275540 + 0.261362I$	$-2.37007 + 0.33063I$	$-5.36190 + 8.76599I$
$u = -0.529293 - 0.181821I$ $a = -0.639919 + 1.224910I$ $b = -1.275540 - 0.261362I$	$-2.37007 - 0.33063I$	$-5.36190 - 8.76599I$
$u = -1.42533 + 0.24670I$ $a = 0.050785 - 0.805780I$ $b = 0.891619 + 0.767472I$	$3.06820 - 2.89868I$	0
$u = -1.42533 - 0.24670I$ $a = 0.050785 + 0.805780I$ $b = 0.891619 - 0.767472I$	$3.06820 + 2.89868I$	0
$u = -1.19516 + 0.92757I$ $a = 0.115452 + 1.011240I$ $b = 1.249180 - 0.552747I$	$-0.61277 + 9.60861I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.19516 - 0.92757I$ $a = \quad 0.115452 - 1.011240I$ $b = \quad 1.249180 + 0.552747I$	$-0.61277 - 9.60861I$	0
$u = -1.40807 + 0.66939I$ $a = \quad 0.460393 + 0.498489I$ $b = \quad 0.913659 - 0.284641I$	$0.829050 + 0.928279I$	0
$u = -1.40807 - 0.66939I$ $a = \quad 0.460393 - 0.498489I$ $b = \quad 0.913659 + 0.284641I$	$0.829050 - 0.928279I$	0
$u = -0.37186 + 1.51517I$ $a = -0.603407 - 0.886155I$ $b = -0.791457 + 0.373687I$	$-0.66969 - 3.07517I$	0
$u = -0.37186 - 1.51517I$ $a = -0.603407 + 0.886155I$ $b = -0.791457 - 0.373687I$	$-0.66969 + 3.07517I$	0
$u = \quad 0.168757 + 0.338708I$ $a = -1.39461 - 1.59302I$ $b = \quad 0.849357 - 0.685739I$	$7.96391 + 2.63534I$	$10.53738 - 3.36691I$
$u = \quad 0.168757 - 0.338708I$ $a = -1.39461 + 1.59302I$ $b = \quad 0.849357 + 0.685739I$	$7.96391 - 2.63534I$	$10.53738 + 3.36691I$
$u = -1.60775 + 0.25073I$ $a = -0.058800 - 0.535382I$ $b = -1.270170 + 0.471642I$	$-8.07804 + 0.96725I$	0
$u = -1.60775 - 0.25073I$ $a = -0.058800 + 0.535382I$ $b = -1.270170 - 0.471642I$	$-8.07804 - 0.96725I$	0
$u = -1.62701 + 0.14118I$ $a = \quad 0.057887 + 1.157310I$ $b = -0.885594 - 0.751718I$	$4.19772 - 2.84969I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.62701 - 0.14118I$ $a = 0.057887 - 1.157310I$ $b = -0.885594 + 0.751718I$	$4.19772 + 2.84969I$	0
$u = 0.332878 + 0.028795I$ $a = -6.64477 + 4.14556I$ $b = -0.856356 + 0.076377I$	$0.469074 + 0.132162I$	$-52.8630 - 35.7017I$
$u = 0.332878 - 0.028795I$ $a = -6.64477 - 4.14556I$ $b = -0.856356 - 0.076377I$	$0.469074 - 0.132162I$	$-52.8630 + 35.7017I$
$u = 0.61123 + 1.63936I$ $a = -0.364083 + 0.786880I$ $b = 0.676939 - 0.447545I$	$0.01496 - 3.34458I$	0
$u = 0.61123 - 1.63936I$ $a = -0.364083 - 0.786880I$ $b = 0.676939 + 0.447545I$	$0.01496 + 3.34458I$	0
$u = 0.077199 + 0.194945I$ $a = -1.045320 + 0.356695I$ $b = -0.680238 + 1.054680I$	$0.55649 + 4.84325I$	$-9.6053 - 10.7522I$
$u = 0.077199 - 0.194945I$ $a = -1.045320 - 0.356695I$ $b = -0.680238 - 1.054680I$	$0.55649 - 4.84325I$	$-9.6053 + 10.7522I$
$u = 0.190020 + 0.008741I$ $a = 3.18173 + 0.88298I$ $b = -0.832237 - 0.401743I$	$-1.68584 - 0.75262I$	$-4.20696 + 3.02462I$
$u = 0.190020 - 0.008741I$ $a = 3.18173 - 0.88298I$ $b = -0.832237 + 0.401743I$	$-1.68584 + 0.75262I$	$-4.20696 - 3.02462I$
$u = 1.14874 + 1.41502I$ $a = -0.090176 - 0.812042I$ $b = 1.172430 + 0.484972I$	$-1.69151 - 6.95731I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.14874 - 1.41502I$ $a = -0.090176 + 0.812042I$ $b = 1.172430 - 0.484972I$	$-1.69151 + 6.95731I$	0
$u = -1.72102 + 0.61105I$ $a = -0.084879 - 0.409811I$ $b = -0.915829 - 0.198212I$	$4.61519 - 0.89594I$	0
$u = -1.72102 - 0.61105I$ $a = -0.084879 + 0.409811I$ $b = -0.915829 + 0.198212I$	$4.61519 + 0.89594I$	0
$u = 1.69805 + 0.77805I$ $a = 0.034519 + 1.038170I$ $b = -1.197940 - 0.626774I$	$-6.94494 - 8.52178I$	0
$u = 1.69805 - 0.77805I$ $a = 0.034519 - 1.038170I$ $b = -1.197940 + 0.626774I$	$-6.94494 + 8.52178I$	0
$u = 1.78485 + 0.62481I$ $a = -0.035007 + 0.478103I$ $b = -1.246140 - 0.443705I$	$-7.01799 - 7.84696I$	0
$u = 1.78485 - 0.62481I$ $a = -0.035007 - 0.478103I$ $b = -1.246140 + 0.443705I$	$-7.01799 + 7.84696I$	0
$u = -1.64823 + 1.00779I$ $a = 0.019327 - 0.971347I$ $b = -1.246010 + 0.626078I$	$-5.7190 + 16.6662I$	0
$u = -1.64823 - 1.00779I$ $a = 0.019327 + 0.971347I$ $b = -1.246010 - 0.626078I$	$-5.7190 - 16.6662I$	0
$u = 1.64963 + 1.05225I$ $a = 0.079258 - 0.840196I$ $b = 1.137360 + 0.514079I$	$-2.59231 - 6.57079I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.64963 - 1.05225I$ $a = 0.079258 + 0.840196I$ $b = 1.137360 - 0.514079I$	$-2.59231 + 6.57079I$	0
$u = 0.18175 + 2.19918I$ $a = 0.299156 + 0.533354I$ $b = -0.867813 - 0.323965I$	$-0.85745 - 6.14484I$	0
$u = 0.18175 - 2.19918I$ $a = 0.299156 - 0.533354I$ $b = -0.867813 + 0.323965I$	$-0.85745 + 6.14484I$	0

II.
$\boldsymbol{I_2^u = \langle -3.63 \times 10^8 u^{12} + 2.88 \times 10^8 u^{11} + \cdots + 2.90 \times 10^9 b + 2.92 \times 10^9,\ -9.38 \times 10^8 u^{12} - 1.36 \times 10^9 u^{11} + \cdots + 2.90 \times 10^9 a - 4.25 \times 10^9,\ u^{13} + u^{11} + \cdots + 2u^2 + 1 \rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0.323898u^{12} + 0.469129u^{11} + \cdots - 1.53927u + 1.46727 \\ 0.125215u^{12} - 0.0993909u^{11} + \cdots + 0.800156u - 1.00978 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.449113u^{12} + 0.369738u^{11} + \cdots - 0.739109u + 0.457493 \\ 0.125215u^{12} - 0.0993909u^{11} + \cdots + 0.800156u - 1.00978 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.728746u^{12} - 0.224556u^{11} + \cdots + 6.06123u + 0.869555 \\ -0.0551268u^{12} + 0.0473930u^{11} + \cdots - 0.349385u - 1.07001 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.224507u^{12} + 0.453099u^{11} + \cdots - 3.54904u + 1.34206 \\ 0.200391u^{12} - 0.149232u^{11} + \cdots + 1.25064u - 0.641494 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.728746u^{12} + 0.224556u^{11} + \cdots - 6.06123u - 0.869555 \\ 0.462877u^{12} + 0.0898353u^{11} + \cdots + 0.207205u + 0.575649 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.0112639u^{12} + 0.631242u^{11} + \cdots - 5.02419u + 1.53045 \\ 0.243853u^{12} - 0.165387u^{11} + \cdots + 1.48641u - 0.819637 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0.728746u^{12} - 0.224556u^{11} + \cdots + 6.06123u + 0.869555 \\ -0.239996u^{12} + 0.0841438u^{11} + \cdots - 1.07813u - 0.845449 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1.80021u^{12} - 0.278008u^{11} + \cdots + 8.51205u + 1.52154 \\ -0.477728u^{12} + 0.0168202u^{11} + \cdots - 1.73086u - 1.17273 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -2.02476u^{12} + 0.0931390u^{11} + \cdots - 7.64250u - 1.25029 \\ 0.737360u^{12} + 0.126794u^{11} + \cdots + 1.08449u + 1.08780 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{829234359}{2896442647}u^{12} + \frac{370579677}{413777521}u^{11} + \cdots - \frac{19569538353}{2896442647}u - \frac{2261800129}{2896442647}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{13} - 7u^{12} + \cdots + 7u - 1$
c_2	$u^{13} - u^{12} + \cdots - u - 1$
c_3	$u^{13} + 2u^{12} + \cdots - 4u - 1$
c_4	$u^{13} + 4u^{11} + \cdots + 317u - 19$
c_5	$u^{13} + u^{12} + \cdots - u + 1$
c_6	$u^{13} + u^{11} + \cdots + 2u^2 + 1$
c_7	$u^{13} + u^{12} + \cdots + 5u + 1$
c_8	$u^{13} - 8u^{12} + \cdots - 4u + 1$
c_9	$u^{13} + 4u^{11} + 5u^9 + u^8 + 2u^7 + 3u^6 - u^5 + 3u^4 - 2u^3 + 2u^2 + 1$
c_{10}	$u^{13} + 2u^{11} - 2u^{10} + 3u^9 - u^8 + 3u^7 + 2u^6 + u^5 + 5u^4 + 4u^2 + 1$
c_{11}, c_{12}	$u^{13} + 8u^{12} + \cdots - 4u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{13} + y^{12} + \cdots - 5y - 1$
c_2, c_5	$y^{13} - 7y^{12} + \cdots + 7y - 1$
c_3	$y^{13} - 14y^{12} + \cdots + 20y - 1$
c_4	$y^{13} + 8y^{12} + \cdots + 106151y - 361$
c_6	$y^{13} + 2y^{12} + \cdots - 4y - 1$
c_7	$y^{13} - 7y^{12} + \cdots + 9y - 1$
c_8, c_{11}, c_{12}	$y^{13} - 12y^{12} + \cdots - 4y - 1$
c_9	$y^{13} + 8y^{12} + \cdots - 4y - 1$
c_{10}	$y^{13} + 4y^{12} + \cdots - 8y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.034638 + 0.808086I$ $a = 0.111409 + 0.893993I$ $b = -0.526985 - 0.893318I$	$1.01859 - 4.74508I$	$7.57177 + 6.41095I$
$u = 0.034638 - 0.808086I$ $a = 0.111409 - 0.893993I$ $b = -0.526985 + 0.893318I$	$1.01859 + 4.74508I$	$7.57177 - 6.41095I$
$u = -0.551883$ $a = -2.82392$ $b = -0.786174$	0.523382	-4.29060
$u = 0.511807 + 0.159844I$ $a = 0.02485 + 1.62930I$ $b = -1.269700 - 0.400560I$	$-2.26904 - 0.89336I$	$-4.11638 + 1.75348I$
$u = 0.511807 - 0.159844I$ $a = 0.02485 - 1.62930I$ $b = -1.269700 + 0.400560I$	$-2.26904 + 0.89336I$	$-4.11638 - 1.75348I$
$u = -0.137123 + 0.367985I$ $a = 3.01835 - 0.41849I$ $b = -0.876022 + 0.657317I$	$7.06478 + 2.55494I$	$0.70865 - 2.59980I$
$u = -0.137123 - 0.367985I$ $a = 3.01835 + 0.41849I$ $b = -0.876022 - 0.657317I$	$7.06478 - 2.55494I$	$0.70865 + 2.59980I$
$u = 0.42965 + 1.86940I$ $a = 0.045461 + 0.869498I$ $b = 0.559964 - 0.334651I$	$-0.38012 - 4.16412I$	$-0.22979 + 8.48801I$
$u = 0.42965 - 1.86940I$ $a = 0.045461 - 0.869498I$ $b = 0.559964 + 0.334651I$	$-0.38012 + 4.16412I$	$-0.22979 - 8.48801I$
$u = -1.91064 + 0.61379I$ $a = 0.171924 + 0.034388I$ $b = 0.881456 + 0.333147I$	$5.04599 - 1.42504I$	$7.51174 + 5.79280I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.91064 - 0.61379I$ $a = 0.171924 - 0.034388I$ $b = 0.881456 - 0.333147I$	$5.04599 + 1.42504I$	$7.51174 - 5.79280I$
$u = 1.34760 + 1.54920I$ $a = 0.039967 - 0.870494I$ $b = 1.124380 + 0.455563I$	$-2.51722 - 7.71156I$	$-3.80070 + 11.12971I$
$u = 1.34760 - 1.54920I$ $a = 0.039967 + 0.870494I$ $b = 1.124380 - 0.455563I$	$-2.51722 + 7.71156I$	$-3.80070 - 11.12971I$

III. $\boldsymbol{I_3^u = \langle u^4 + 2u^3 - u^2 + b - 2u,\ 2u^5 + 5u^4 - 2u^3 - 9u^2 + a + u + 4,\ u^6 + 3u^5 - 5u^3 - u^2 + 2u + 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -2u^5 - 5u^4 + 2u^3 + 9u^2 - u - 4 \\ -u^4 - 2u^3 + u^2 + 2u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -2u^5 - 6u^4 + 10u^2 + u - 4 \\ -u^4 - 2u^3 + u^2 + 2u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^5 - 3u^4 + 5u^2 + u - 2 \\ u^2 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^5 - 2u^4 + 3u^3 + 6u^2 - 2u - 3 \\ u^4 + 2u^3 - u - 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^5 + 2u^4 - 3u^3 - 5u^2 + 4u + 3 \\ 2u + 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^5 - 2u^4 + 3u^3 + 6u^2 - 2u - 3 \\ u^4 + 2u^3 - u - 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^5 - 3u^4 + 5u^2 + u - 2 \\ u^2 + 2u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^5 + 3u^4 - 5u^2 - u + 2 \\ -u^2 - u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -2u^5 - 10u^4 - 8u^3 + 14u^2 + 7u + 1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3	$(u^3 - u^2 + 2u - 1)^2$
c_2	$(u^3 + u^2 - 1)^2$
c_4	u^6
c_5	$(u^3 - u^2 + 1)^2$
c_6, c_7	$u^6 + 3u^5 - 5u^3 - u^2 + 2u + 1$
c_8	$(u + 1)^6$
c_9, c_{10}	$u^6 + 2u^5 + 4u^4 + 5u^3 + 4u^2 + 2u + 1$
c_{11}, c_{12}	$(u - 1)^6$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3	$(y^3 + 3y^2 + 2y - 1)^2$
c_2, c_5	$(y^3 - y^2 + 2y - 1)^2$
c_4	y^6
c_6, c_7	$y^6 - 9y^5 + 28y^4 - 35y^3 + 21y^2 - 6y + 1$
c_8, c_{11}, c_{12}	$(y - 1)^6$
c_9, c_{10}	$y^6 + 4y^5 + 4y^4 + y^3 + 4y^2 + 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.897438 + 0.201182I$ $a = 0.347054 + 0.067998I$ $b = 0.877439 - 0.744862I$	$4.66906 + 2.82812I$	$7.93937 - 4.05868I$
$u = 0.897438 - 0.201182I$ $a = 0.347054 - 0.067998I$ $b = 0.877439 + 0.744862I$	$4.66906 - 2.82812I$	$7.93937 + 4.05868I$
$u = -0.500000 + 0.273346I$ $a = -1.82472 - 1.95694I$ $b = -0.754878$	0.531480	$0.40089 - 2.50363I$
$u = -0.500000 - 0.273346I$ $a = -1.82472 + 1.95694I$ $b = -0.754878$	0.531480	$0.40089 + 2.50363I$
$u = -1.89744 + 0.20118I$ $a = -0.022336 - 1.056560I$ $b = 0.877439 + 0.744862I$	$4.66906 - 2.82812I$	$13.15973 + 2.26538I$
$u = -1.89744 - 0.20118I$ $a = -0.022336 + 1.056560I$ $b = 0.877439 - 0.744862I$	$4.66906 + 2.82812I$	$13.15973 - 2.26538I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^3-u^2+2u-1)^2)(u^{13}-7u^{12}+\cdots+7u-1)$ $\cdot(u^{73}+40u^{72}+\cdots+26772u+121)$
c_2	$((u^3+u^2-1)^2)(u^{13}-u^{12}+\cdots-u-1)(u^{73}+2u^{72}+\cdots+146u-11)$
c_3	$((u^3-u^2+2u-1)^2)(u^{13}+2u^{12}+\cdots-4u-1)$ $\cdot(u^{73}+3u^{72}+\cdots+31u-1)$
c_4	$u^6(u^{13}+4u^{11}+\cdots+317u-19)(u^{73}+7u^{72}+\cdots-96u+64)$
c_5	$((u^3-u^2+1)^2)(u^{13}+u^{12}+\cdots-u+1)(u^{73}+2u^{72}+\cdots+146u-11)$
c_6	$(u^6+3u^5-5u^3-u^2+2u+1)(u^{13}+u^{11}+\cdots+2u^2+1)$ $\cdot(u^{73}-6u^{72}+\cdots-18561u-1133)$
c_7	$(u^6+3u^5-5u^3-u^2+2u+1)(u^{13}+u^{12}+\cdots+5u+1)$ $\cdot(u^{73}-3u^{72}+\cdots-12u-1)$
c_8	$((u+1)^6)(u^{13}-8u^{12}+\cdots-4u+1)(u^{73}-u^{72}+\cdots-11u-1)$
c_9	$(u^6+2u^5+4u^4+5u^3+4u^2+2u+1)$ $\cdot(u^{13}+4u^{11}+5u^9+u^8+2u^7+3u^6-u^5+3u^4-2u^3+2u^2+1)$ $\cdot(u^{73}-u^{72}+\cdots-11u-19)$
c_{10}	$(u^6+2u^5+4u^4+5u^3+4u^2+2u+1)$ $\cdot(u^{13}+2u^{11}-2u^{10}+3u^9-u^8+3u^7+2u^6+u^5+5u^4+4u^2+1)$ $\cdot(u^{73}+3u^{72}+\cdots-23u-1)$
c_{11}, c_{12}	$((u-1)^6)(u^{13}+8u^{12}+\cdots-4u-1)(u^{73}-u^{72}+\cdots-11u-1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^3+3y^2+2y-1)^2)(y^{13}+y^{12}+\cdots-5y-1)$ $\cdot(y^{73}-8y^{72}+\cdots+632441220y-14641)$
c_2, c_5	$((y^3-y^2+2y-1)^2)(y^{13}-7y^{12}+\cdots+7y-1)$ $\cdot(y^{73}-40y^{72}+\cdots+26772y-121)$
c_3	$((y^3+3y^2+2y-1)^2)(y^{13}-14y^{12}+\cdots+20y-1)$ $\cdot(y^{73}-71y^{72}+\cdots-323y-1)$
c_4	$y^6(y^{13}+8y^{12}+\cdots+106151y-361)$ $\cdot(y^{73}+29y^{72}+\cdots-1084416y-4096)$
c_6	$(y^6-9y^5+\cdots-6y+1)(y^{13}+2y^{12}+\cdots-4y-1)$ $\cdot(y^{73}-34y^{72}+\cdots+64177063y-1283689)$
c_7	$(y^6-9y^5+\cdots-6y+1)(y^{13}-7y^{12}+\cdots+9y-1)$ $\cdot(y^{73}-19y^{72}+\cdots+32y-1)$
c_8, c_{11}, c_{12}	$((y-1)^6)(y^{13}-12y^{12}+\cdots-4y-1)(y^{73}-17y^{72}+\cdots-37y-1)$
c_9	$(y^6+4y^5+4y^4+y^3+4y^2+4y+1)(y^{13}+8y^{12}+\cdots-4y-1)$ $\cdot(y^{73}+21y^{72}+\cdots-26327y-361)$
c_{10}	$(y^6+4y^5+4y^4+y^3+4y^2+4y+1)(y^{13}+4y^{12}+\cdots-8y-1)$ $\cdot(y^{73}+53y^{72}+\cdots+217y-1)$