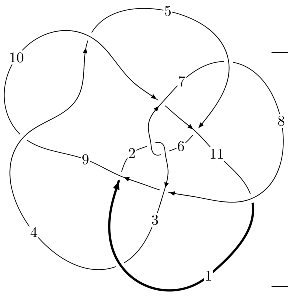
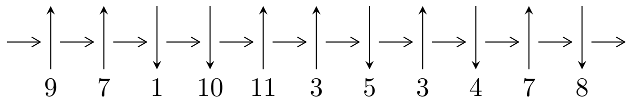
$11n_{182}$ ($K11n_{182}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle &-20148888016u^{22} - 749797203535u^{21} + \cdots + 2663810305417b - 383665719756,\\
&-10534409632231u^{22} + 12986341631640u^{21} + \cdots + 2663810305417a - 72898377806205,\\
&u^{23} - u^{22} + \cdots + 5u + 1\rangle\\
I_2^u = \langle &-4.69374 \times 10^{59}u^{39} + 1.06924 \times 10^{60}u^{38} + \cdots + 3.76856 \times 10^{59}b + 1.45903 \times 10^{61},\\
&6.35380 \times 10^{61}u^{39} - 1.40886 \times 10^{62}u^{38} + \cdots + 5.46442 \times 10^{61}a - 2.06339 \times 10^{63},\ u^{40} - 3u^{39} + \cdots - 25u +\\
I_3^u = \langle &-45306u^{13} - 181273u^{12} + \cdots + 142097b + 321146,\\
&803669u^{13} + 4740916u^{12} + \cdots + 142097a + 1220228,\\
&u^{14} + 6u^{13} + 12u^{12} + 6u^{11} - 3u^{10} + 23u^9 + 59u^8 + 22u^7 - 43u^6 - 45u^5 - 7u^4 + 16u^3 + 14u^2 + 5u + 1\rangle\\
I_4^u = \langle &b + u + 1,\ a,\ u^3 + u^2 - 1\rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 80 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.
$\boldsymbol{I_1^u = \langle -2.01\times10^{10}u^{22} - 7.50\times10^{11}u^{21} + \cdots + 2.66\times10^{12}b - 3.84\times10^{11},\ -1.05\times10^{13}u^{22} + 1.30\times10^{13}u^{21} + \cdots + 2.66\times10^{12}a - 7.29\times10^{13},\ u^{23} - u^{22} + \cdots + 5u + 1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 3.95464u^{22} - 4.87510u^{21} + \cdots - 45.3209u + 27.3662 \\ 0.00756394u^{22} + 0.281475u^{21} + \cdots + 1.99017u + 0.144029 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 3.96220u^{22} - 4.59362u^{21} + \cdots - 43.3307u + 27.5102 \\ 0.00756394u^{22} + 0.281475u^{21} + \cdots + 1.99017u + 0.144029 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 4.19771u^{22} - 4.99533u^{21} + \cdots - 46.1260u + 27.9976 \\ -0.296345u^{22} + 0.358714u^{21} + \cdots + 2.58565u + 0.310226 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -22.8331u^{22} + 26.1180u^{21} + \cdots + 253.774u - 151.915 \\ 0.0861032u^{22} - 0.0646937u^{21} + \cdots - 0.600147u + 0.912866 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -22.0355u^{22} + 25.3812u^{21} + \cdots + 246.765u - 147.718 \\ 0.0237345u^{22} - 0.319401u^{21} + \cdots - 2.39210u + 0.616521 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -22.0593u^{22} + 25.7006u^{21} + \cdots + 249.157u - 148.334 \\ 0.0237345u^{22} - 0.319401u^{21} + \cdots - 2.39210u + 0.616521 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -22.6866u^{22} + 26.0341u^{21} + \cdots + 251.311u - 149.997 \\ 0.0604215u^{22} - 0.0191991u^{21} + \cdots + 0.136923u + 1.00555 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -122.419u^{22} + 140.753u^{21} + \cdots + 1356.31u - 817.081 \\ 0.550132u^{22} - 0.666197u^{21} + \cdots - 5.81233u + 4.35302 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -122.419u^{22} + 140.753u^{21} + \cdots + 1356.31u - 817.081 \\ 0.550132u^{22} - 0.666197u^{21} + \cdots - 5.81233u + 4.35302 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{943104975389 71}{2663810305417}u^{22} - \frac{105799611203026}{2663810305417}u^{21} + \cdots - \frac{1045853706856708}{2663810305417}u + \frac{633409804939426}{2663810305417}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{23} - 6u^{21} + \cdots - 40u - 4$
c_2, c_6	$u^{23} - 3u^{22} + \cdots + 47u - 8$
c_3, c_7	$u^{23} - u^{22} + \cdots + 5u + 1$
c_4, c_9	$u^{23} - 9u^{22} + \cdots - 40u + 16$
c_5, c_8	$u^{23} - 6u^{22} + \cdots + 22u - 5$
c_{11}	$u^{23} + 4u^{22} + \cdots - 7u - 34$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{23} - 12y^{22} + \cdots + 448y - 16$
c_2, c_6	$y^{23} - 13y^{22} + \cdots + 1233y - 64$
c_3, c_7	$y^{23} - 5y^{22} + \cdots + 41y - 1$
c_4, c_9	$y^{23} - 43y^{22} + \cdots - 1088y - 256$
c_5, c_8	$y^{23} - 46y^{22} + \cdots + 344y - 25$
c_{11}	$y^{23} + 6y^{22} + \cdots - 12055y - 1156$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.555624 + 0.905584I$ $a = 0.910105 - 0.864749I$ $b = -1.40913 + 1.48491I$	$1.86354 - 5.26744I$	$5.28915 + 6.74191I$
$u = 0.555624 - 0.905584I$ $a = 0.910105 + 0.864749I$ $b = -1.40913 - 1.48491I$	$1.86354 + 5.26744I$	$5.28915 - 6.74191I$
$u = 1.08075$ $a = -0.674705$ $b = 2.01594$	5.56139	-4.10580
$u = 0.501300 + 0.715167I$ $a = -0.703633 - 0.411741I$ $b = 1.46848 - 0.46020I$	$6.01384 - 1.36939I$	$7.91646 + 4.62007I$
$u = 0.501300 - 0.715167I$ $a = -0.703633 + 0.411741I$ $b = 1.46848 + 0.46020I$	$6.01384 + 1.36939I$	$7.91646 - 4.62007I$
$u = 0.728418 + 0.872189I$ $a = -0.297023 + 0.916259I$ $b = -0.631160 - 0.422833I$	$3.37848 + 2.40469I$	$1.77991 - 2.36658I$
$u = 0.728418 - 0.872189I$ $a = -0.297023 - 0.916259I$ $b = -0.631160 + 0.422833I$	$3.37848 - 2.40469I$	$1.77991 + 2.36658I$
$u = -1.049550 + 0.569449I$ $a = 0.978794 + 0.476256I$ $b = -0.827795 - 0.239786I$	$-5.59031 + 2.93906I$	$-3.96701 - 3.47635I$
$u = -1.049550 - 0.569449I$ $a = 0.978794 - 0.476256I$ $b = -0.827795 + 0.239786I$	$-5.59031 - 2.93906I$	$-3.96701 + 3.47635I$
$u = -0.704512 + 0.984779I$ $a = 0.736671 + 0.559489I$ $b = -0.414106 - 1.231940I$	$-2.32908 + 5.49763I$	$-4.79992 - 7.26042I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.704512 - 0.984779I$ $a = 0.736671 - 0.559489I$ $b = -0.414106 + 1.231940I$	$-2.32908 - 5.49763I$	$-4.79992 + 7.26042I$
$u = 0.929406 + 0.853194I$ $a = 0.740478 + 0.793412I$ $b = -1.091640 + 0.630699I$	$5.11296 - 9.53315I$	$2.57549 + 7.49079I$
$u = 0.929406 - 0.853194I$ $a = 0.740478 - 0.793412I$ $b = -1.091640 - 0.630699I$	$5.11296 + 9.53315I$	$2.57549 - 7.49079I$
$u = 0.734602$ $a = 1.84769$ $b = -0.838790$	-3.46093	0.434270
$u = -1.000300 + 0.806208I$ $a = 0.146523 - 0.473900I$ $b = -0.602615 - 0.205653I$	$-0.46558 + 3.81570I$	$4.70967 - 3.05268I$
$u = -1.000300 - 0.806208I$ $a = 0.146523 + 0.473900I$ $b = -0.602615 + 0.205653I$	$-0.46558 - 3.81570I$	$4.70967 + 3.05268I$
$u = -0.188306 + 0.473727I$ $a = -1.261830 + 0.253849I$ $b = 0.271244 + 0.415630I$	$0.294559 + 1.131280I$	$2.80927 - 6.63257I$
$u = -0.188306 - 0.473727I$ $a = -1.261830 - 0.253849I$ $b = 0.271244 - 0.415630I$	$0.294559 - 1.131280I$	$2.80927 + 6.63257I$
$u = -1.33922 + 0.68743I$ $a = -0.831149 - 0.099202I$ $b = 1.41488 + 0.83581I$	$-3.36043 + 7.89416I$	$-1.16388 - 6.61187I$
$u = -1.33922 - 0.68743I$ $a = -0.831149 + 0.099202I$ $b = 1.41488 - 0.83581I$	$-3.36043 - 7.89416I$	$-1.16388 + 6.61187I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.23451 + 0.89988I$ $a = -0.999661 + 0.218042I$ $b = 1.34140 - 1.32358I$	$0.6169 - 16.3897I$	$-0.60357 + 8.49133I$
$u = 1.23451 - 0.89988I$ $a = -0.999661 - 0.218042I$ $b = 1.34140 + 1.32358I$	$0.6169 + 16.3897I$	$-0.60357 - 8.49133I$
$u = -0.150085$ $a = 36.9885$ $b = -0.216243$	-0.0107219	320.580

II. $\boldsymbol{I_2^u = \langle -4.69 \times 10^{59} u^{39} + 1.07 \times 10^{60} u^{38} + \cdots + 3.77 \times 10^{59} b + 1.46 \times 10^{61},\ 6.35 \times 10^{61} u^{39} - 1.41 \times 10^{62} u^{38} + \cdots + 5.46 \times 10^{61} a - 2.06 \times 10^{63},\ u^{40} - 3u^{39} + \cdots - 25u + 29 \rangle}$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -1.16276u^{39} + 2.57824u^{38} + \cdots + 15.4232u + 37.7606 \\ 1.24550u^{39} - 2.83726u^{38} + \cdots - 21.4581u - 38.7159 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0827388u^{39} - 0.259017u^{38} + \cdots - 6.03488u - 0.955344 \\ 1.24550u^{39} - 2.83726u^{38} + \cdots - 21.4581u - 38.7159 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1.18195u^{39} + 2.57423u^{38} + \cdots + 12.7538u + 38.0738 \\ 0.434159u^{39} - 1.02128u^{38} + \cdots - 8.80280u - 10.8518 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.296393u^{39} - 0.547600u^{38} + \cdots + 8.50789u - 11.9654 \\ 0.237025u^{39} - 0.603121u^{38} + \cdots - 13.2225u - 4.41074 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -1.03486u^{39} + 2.43611u^{38} + \cdots + 28.2109u + 46.3778 \\ 0.440164u^{39} - 0.996927u^{38} + \cdots - 8.56472u - 15.8344 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.47503u^{39} + 3.43303u^{38} + \cdots + 36.7756u + 62.2122 \\ 0.440164u^{39} - 0.996927u^{38} + \cdots - 8.56472u - 15.8344 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.246893u^{39} - 0.444760u^{38} + \cdots + 0.0495641u - 2.02219 \\ -0.286524u^{39} + 0.705961u^{38} + \cdots + 6.76415u + 14.3540 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1.94454u^{39} - 4.32792u^{38} + \cdots - 27.3144u - 65.7640 \\ -0.600066u^{39} + 1.33935u^{38} + \cdots + 6.52606u + 22.9357 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1.94454u^{39} - 4.32792u^{38} + \cdots - 27.3144u - 65.7640 \\ -0.600066u^{39} + 1.33935u^{38} + \cdots + 6.52606u + 22.9357 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 2.41432u^{39} - 4.79564u^{38} + \cdots + 14.4984u - 64.7958$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{40} + 9u^{38} + \cdots + 244u - 44$
c_2, c_6	$(u^{20} + 2u^{19} + \cdots + 8u + 1)^2$
c_3, c_7	$u^{40} - 3u^{39} + \cdots - 25u + 29$
c_4, c_9	$(u^{20} + u^{19} + \cdots - 25u - 11)^2$
c_5, c_8	$u^{40} + u^{39} + \cdots - 47u - 169$
c_{11}	$(u^{20} - u^{19} + \cdots + 7u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{40} + 18y^{39} + \cdots - 94208y + 1936$
c_2, c_6	$(y^{20} - 14y^{19} + \cdots + 40y + 1)^2$
c_3, c_7	$y^{40} - 19y^{39} + \cdots - 12747y + 841$
c_4, c_9	$(y^{20} - 13y^{19} + \cdots - 1021y + 121)^2$
c_5, c_8	$y^{40} + 7y^{39} + \cdots - 530503y + 28561$
c_{11}	$(y^{20} + 3y^{19} + \cdots - 35y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.843881 + 0.602804I$ $a = 0.232508 + 0.949215I$ $b = -1.042200 + 0.656943I$	$5.13837 - 3.10653I$	$2.77090 + 3.27458I$
$u = 0.843881 - 0.602804I$ $a = 0.232508 - 0.949215I$ $b = -1.042200 - 0.656943I$	$5.13837 + 3.10653I$	$2.77090 - 3.27458I$
$u = -0.724639 + 0.605856I$ $a = -0.421379 - 0.634087I$ $b = 0.15696 + 1.84987I$	$0.78911 + 3.05252I$	$1.27188 - 4.35560I$
$u = -0.724639 - 0.605856I$ $a = -0.421379 + 0.634087I$ $b = 0.15696 - 1.84987I$	$0.78911 - 3.05252I$	$1.27188 + 4.35560I$
$u = -0.893885 + 0.284008I$ $a = -1.55376 + 0.35417I$ $b = 0.232385 + 1.342720I$	$-1.76779 + 6.66107I$	$-3.08867 - 6.78923I$
$u = -0.893885 - 0.284008I$ $a = -1.55376 - 0.35417I$ $b = 0.232385 - 1.342720I$	$-1.76779 - 6.66107I$	$-3.08867 + 6.78923I$
$u = 0.424536 + 0.808576I$ $a = -0.90087 - 1.19479I$ $b = 0.545954 + 0.038305I$	$0.703344 + 0.559674I$	$1.56320 - 4.51761I$
$u = 0.424536 - 0.808576I$ $a = -0.90087 + 1.19479I$ $b = 0.545954 - 0.038305I$	$0.703344 - 0.559674I$	$1.56320 + 4.51761I$
$u = -1.048820 + 0.339914I$ $a = 0.806845 + 0.261493I$ $b = -0.420413 - 1.165930I$	-4.78547	$-5.34389 + 0.I$
$u = -1.048820 - 0.339914I$ $a = 0.806845 - 0.261493I$ $b = -0.420413 + 1.165930I$	-4.78547	$-5.34389 + 0.I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.773777 + 0.786429I$ $a = -0.789062 - 0.060278I$ $b = 0.747156 + 0.918386I$	$0.28152 + 2.20542I$	$2.09891 - 2.63579I$
$u = -0.773777 - 0.786429I$ $a = -0.789062 + 0.060278I$ $b = 0.747156 - 0.918386I$	$0.28152 - 2.20542I$	$2.09891 + 2.63579I$
$u = 0.778748 + 0.245271I$ $a = -1.255710 + 0.087033I$ $b = 0.33399 - 1.89842I$	$-7.62987 - 1.01721I$	$5.24970 + 11.81252I$
$u = 0.778748 - 0.245271I$ $a = -1.255710 - 0.087033I$ $b = 0.33399 + 1.89842I$	$-7.62987 + 1.01721I$	$5.24970 - 11.81252I$
$u = 0.795151$ $a = 1.84930$ $b = -2.27654$	-2.04716	-7.60150
$u = 0.733508 + 0.115684I$ $a = -2.02000 + 0.04989I$ $b = 1.102660 - 0.124486I$	$-6.94055 - 4.65557I$	$9.06224 - 2.69200I$
$u = 0.733508 - 0.115684I$ $a = -2.02000 - 0.04989I$ $b = 1.102660 + 0.124486I$	$-6.94055 + 4.65557I$	$9.06224 + 2.69200I$
$u = 1.009230 + 0.784248I$ $a = -0.998258 + 0.225230I$ $b = 1.23888 - 1.42271I$	$2.54638 - 8.54122I$	$0. + 7.30579I$
$u = 1.009230 - 0.784248I$ $a = -0.998258 - 0.225230I$ $b = 1.23888 + 1.42271I$	$2.54638 + 8.54122I$	$0. - 7.30579I$
$u = 0.937408 + 0.876311I$ $a = -0.714914 - 0.335707I$ $b = 1.346930 + 0.090646I$	$5.13837 + 3.10653I$	$2.77090 - 3.27458I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.937408 - 0.876311I$ $a = -0.714914 + 0.335707I$ $b = 1.346930 - 0.090646I$	$5.13837 - 3.10653I$	$2.77090 + 3.27458I$
$u = 0.804574 + 1.002740I$ $a = 0.211768 - 0.517712I$ $b = 0.292544 - 0.313955I$	$0.78911 - 3.05252I$	$0. + 4.35560I$
$u = 0.804574 - 1.002740I$ $a = 0.211768 + 0.517712I$ $b = 0.292544 + 0.313955I$	$0.78911 + 3.05252I$	$0. - 4.35560I$
$u = 1.28977$ $a = 1.14010$ $b = 0.165534$	-2.04716	-7.60150
$u = -0.139241 + 0.695732I$ $a = 0.611135 - 1.068020I$ $b = -0.574331 - 0.269819I$	$0.28152 - 2.20542I$	$2.09891 + 2.63579I$
$u = -0.139241 - 0.695732I$ $a = 0.611135 + 1.068020I$ $b = -0.574331 + 0.269819I$	$0.28152 + 2.20542I$	$2.09891 - 2.63579I$
$u = -0.603347 + 0.367132I$ $a = -1.61538 + 1.06505I$ $b = 0.082291 + 0.853240I$	$0.703344 + 0.559674I$	$1.56320 - 4.51761I$
$u = -0.603347 - 0.367132I$ $a = -1.61538 - 1.06505I$ $b = 0.082291 - 0.853240I$	$0.703344 - 0.559674I$	$1.56320 + 4.51761I$
$u = -0.570217 + 0.118702I$ $a = -1.71022 - 0.71186I$ $b = 1.03717 + 2.48340I$	$-0.39627 - 4.88151I$	$-5.90664 + 1.87878I$
$u = -0.570217 - 0.118702I$ $a = -1.71022 + 0.71186I$ $b = 1.03717 - 2.48340I$	$-0.39627 + 4.88151I$	$-5.90664 - 1.87878I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.23114 + 0.76536I$ $a = 1.030760 - 0.025210I$ $b = -1.28074 + 0.75129I$	$-1.76779 - 6.66107I$	0
$u = 1.23114 - 0.76536I$ $a = 1.030760 + 0.025210I$ $b = -1.28074 - 0.75129I$	$-1.76779 + 6.66107I$	0
$u = 0.65753 + 1.37826I$ $a = -0.005515 + 0.856499I$ $b = -0.615352 - 0.430269I$	$2.54638 + 8.54122I$	0
$u = 0.65753 - 1.37826I$ $a = -0.005515 - 0.856499I$ $b = -0.615352 + 0.430269I$	$2.54638 - 8.54122I$	0
$u = 1.29816 + 1.03823I$ $a = 0.574100 - 0.302843I$ $b = -1.04929 + 0.95851I$	$-0.39627 - 4.88151I$	0
$u = 1.29816 - 1.03823I$ $a = 0.574100 + 0.302843I$ $b = -1.04929 - 0.95851I$	$-0.39627 + 4.88151I$	0
$u = -1.31598 + 1.12343I$ $a = 0.727776 + 0.471526I$ $b = -0.461214 - 1.201270I$	$-6.94055 + 4.65557I$	0
$u = -1.31598 - 1.12343I$ $a = 0.727776 - 0.471526I$ $b = -0.461214 + 1.201270I$	$-6.94055 - 4.65557I$	0
$u = -2.19127 + 0.09123I$ $a = 0.450657 + 0.128384I$ $b = -0.617875 - 0.033077I$	$-7.62987 - 1.01721I$	0
$u = -2.19127 - 0.09123I$ $a = 0.450657 - 0.128384I$ $b = -0.617875 + 0.033077I$	$-7.62987 + 1.01721I$	0

III.

$\boldsymbol{I^u_3 = \langle -4.53\times 10^4 u^{13} - 1.81\times 10^5 u^{12} + \cdots + 1.42\times 10^5 b + 3.21\times 10^5,\ 8.04\times 10^5 u^{13} + 4.74\times 10^6 u^{12} + \cdots + 1.42\times 10^5 a + 1.22\times 10^6,\ u^{14} + 6u^{13} + \cdots + 5u + 1\rangle}$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$

$$a_8 = \begin{pmatrix}1\\u^2\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}-5.65578u^{13} - 33.3639u^{12} + \cdots - 56.1552u - 8.58729\\0.318839u^{13} + 1.27570u^{12} + \cdots - 4.67346u - 2.26005\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}-5.33694u^{13} - 32.0882u^{12} + \cdots - 60.8286u - 10.8473\\0.318839u^{13} + 1.27570u^{12} + \cdots - 4.67346u - 2.26005\end{pmatrix}$$

$$a_1 = \begin{pmatrix}-4.51223u^{13} - 27.0057u^{12} + \cdots - 50.4852u - 8.52068\\0.190356u^{13} + 0.431761u^{12} + \cdots - 6.16986u - 2.39439\end{pmatrix}$$

$$a_4 = \begin{pmatrix}-5.25817u^{13} - 25.6393u^{12} + \cdots + 29.6480u + 19.5162\\1.06661u^{13} + 5.25611u^{12} + \cdots - 0.837358u - 0.336939\end{pmatrix}$$

$$a_3 = \begin{pmatrix}-5.69548u^{13} - 27.1106u^{12} + \cdots + 33.8647u + 23.0100\\-1.82155u^{13} - 10.4029u^{12} + \cdots - 13.0398u - 1.99691\end{pmatrix}$$

$$a_2 = \begin{pmatrix}-3.87393u^{13} - 16.7077u^{12} + \cdots + 46.9046u + 25.0069\\-1.82155u^{13} - 10.4029u^{12} + \cdots - 13.0398u - 1.99691\end{pmatrix}$$

$$a_6 = \begin{pmatrix}-3.82170u^{13} - 18.0285u^{12} + \cdots + 29.6178u + 20.3626\\0.369860u^{13} + 2.35460u^{12} + \cdots + 2.80717u + 1.18340\end{pmatrix}$$

$$a_9 = \begin{pmatrix}-34.2887u^{13} - 201.354u^{12} + \cdots - 347.739u - 55.6924\\-1.64859u^{13} - 10.2510u^{12} + \cdots - 23.4938u - 6.08505\end{pmatrix}$$

$$a_9 = \begin{pmatrix}-34.2887u^{13} - 201.354u^{12} + \cdots - 347.739u - 55.6924\\-1.64859u^{13} - 10.2510u^{12} + \cdots - 23.4938u - 6.08505\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{851937}{142097}u^{13} - \frac{3765455}{142097}u^{12} + \cdots + \frac{763404}{142097}u - \frac{615113}{142097}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{14} + 3u^{13} + \cdots + 8u + 4$
c_2	$(u^7 - 2u^6 + 2u^5 - 3u^4 + 3u^2 - u + 1)^2$
c_3, c_7	$u^{14} + 6u^{13} + \cdots + 5u + 1$
c_4, c_9	$u^{14} - 3u^{12} - 17u^{10} + 114u^8 - 277u^6 + 352u^4 - 236u^2 + 67$
c_5, c_8	$u^{14} + 9u^{12} + \cdots - 3u + 1$
c_6	$(u^7 + 2u^6 + 2u^5 + 3u^4 - 3u^2 - u - 1)^2$
c_{11}	$(u^7 - 2u^6 + 3u^5 - 3u^4 - 5u^3 + 2u^2 + 5u + 3)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{14} + 15y^{13} + \cdots + 96y + 16$
c_2, c_6	$(y^7 - 8y^5 + y^4 + 18y^3 - 3y^2 - 5y - 1)^2$
c_3, c_7	$y^{14} - 12y^{13} + \cdots + 3y + 1$
c_4, c_9	$(y^7 - 3y^6 - 17y^5 + 114y^4 - 277y^3 + 352y^2 - 236y + 67)^2$
c_5, c_8	$y^{14} + 18y^{13} + \cdots + 11y + 1$
c_{11}	$(y^7 + 2y^6 - 13y^5 - 21y^4 + 79y^3 - 36y^2 + 13y - 9)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.841811 + 0.182190I$ $a = 1.69734 + 0.14987I$ $b = -1.095480 - 0.201335I$	$-7.19586 + 4.79737I$	$-15.3799 - 10.7291I$
$u = -0.841811 - 0.182190I$ $a = 1.69734 - 0.14987I$ $b = -1.095480 + 0.201335I$	$-7.19586 - 4.79737I$	$-15.3799 + 10.7291I$
$u = 0.807415 + 0.203980I$ $a = -1.293990 + 0.103857I$ $b = 0.54475 - 1.78373I$	$-7.86115 - 0.79658I$	$-13.7450 - 5.5444I$
$u = 0.807415 - 0.203980I$ $a = -1.293990 - 0.103857I$ $b = 0.54475 + 1.78373I$	$-7.86115 + 0.79658I$	$-13.7450 + 5.5444I$
$u = -0.328860 + 0.493680I$ $a = -1.54515 - 1.23007I$ $b = 0.15112 + 2.21331I$	$0.20871 + 5.48705I$	$1.09915 - 7.96619I$
$u = -0.328860 - 0.493680I$ $a = -1.54515 + 1.23007I$ $b = 0.15112 - 2.21331I$	$0.20871 - 5.48705I$	$1.09915 + 7.96619I$
$u = 1.04271 + 1.08370I$ $a = -0.685924 + 0.369272I$ $b = 1.05349 - 1.00763I$	$0.20871 - 5.48705I$	$1.09915 + 7.96619I$
$u = 1.04271 - 1.08370I$ $a = -0.685924 - 0.369272I$ $b = 1.05349 + 1.00763I$	$0.20871 + 5.48705I$	$1.09915 - 7.96619I$
$u = -0.198097 + 0.363970I$ $a = 5.02166 - 2.73312I$ $b = -0.121264 - 0.413302I$	0.0877733	$-6.94848 + 0.I$
$u = -0.198097 - 0.363970I$ $a = 5.02166 + 2.73312I$ $b = -0.121264 + 0.413302I$	0.0877733	$-6.94848 + 0.I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.36446+1.14498I$ $a=-0.692299-0.446761I$ $b=\ \ 0.459655+1.110540I$	$-7.19586+4.79737I$	$-15.3799-10.7291I$
$u=-1.36446-1.14498I$ $a=-0.692299+0.446761I$ $b=\ \ 0.459655-1.110540I$	$-7.19586-4.79737I$	$-15.3799+10.7291I$
$u=-2.11690+0.04289I$ $a=-0.501625-0.095237I$ $b=\ \ 0.507720+0.269988I$	$-7.86115-0.79658I$	$-13.7450-5.5444I$
$u=-2.11690-0.04289I$ $a=-0.501625+0.095237I$ $b=\ \ 0.507720-0.269988I$	$-7.86115+0.79658I$	$-13.7450+5.5444I$

IV. $I_4^u = \langle b+u+1,\ a,\ u^3+u^2-1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 7u^2+7u$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.877439 + 0.744862I$ $a = 0$ $b = -0.122561 - 0.744862I$	$-1.45094 + 3.77083I$	$-4.63651 - 3.93596I$
$u = -0.877439 - 0.744862I$ $a = 0$ $b = -0.122561 + 0.744862I$	$-1.45094 - 3.77083I$	$-4.63651 + 3.93596I$
$u = 0.754878$ $a = 0$ $b = -1.75488$	6.19175	9.27300

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$(u^3-2u^2+u-1)(u^{14}+3u^{13}+\cdots+8u+4)(u^{23}-6u^{21}+\cdots-40u-4)$ $\cdot(u^{40}+9u^{38}+\cdots+244u-44)$
c_2	$(u^3+2u^2+u+1)(u^7-2u^6+2u^5-3u^4+3u^2-u+1)^2$ $\cdot((u^{20}+2u^{19}+\cdots+8u+1)^2)(u^{23}-3u^{22}+\cdots+47u-8)$
c_3, c_7	$(u^3+u^2-1)(u^{14}+6u^{13}+\cdots+5u+1)(u^{23}-u^{22}+\cdots+5u+1)$ $\cdot(u^{40}-3u^{39}+\cdots-25u+29)$
c_4, c_9	$u^3(u^{14}-3u^{12}-17u^{10}+114u^8-277u^6+352u^4-236u^2+67)$ $\cdot((u^{20}+u^{19}+\cdots-25u-11)^2)(u^{23}-9u^{22}+\cdots-40u+16)$
c_5, c_8	$(u^3-u-1)(u^{14}+9u^{12}+\cdots-3u+1)(u^{23}-6u^{22}+\cdots+22u-5)$ $\cdot(u^{40}+u^{39}+\cdots-47u-169)$
c_6	$(u^3-2u^2+u-1)(u^7+2u^6+2u^5+3u^4-3u^2-u-1)^2$ $\cdot((u^{20}+2u^{19}+\cdots+8u+1)^2)(u^{23}-3u^{22}+\cdots+47u-8)$
c_{11}	$(u^3+u^2-1)(u^7-2u^6+3u^5-3u^4-5u^3+2u^2+5u+3)^2$ $\cdot((u^{20}-u^{19}+\cdots+7u+1)^2)(u^{23}+4u^{22}+\cdots-7u-34)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$(y^3-2y^2-3y-1)(y^{14}+15y^{13}+\cdots+96y+16)$ $\cdot(y^{23}-12y^{22}+\cdots+448y-16)(y^{40}+18y^{39}+\cdots-94208y+1936)$
c_2, c_6	$(y^3-2y^2-3y-1)(y^7-8y^5+y^4+18y^3-3y^2-5y-1)^2$ $\cdot((y^{20}-14y^{19}+\cdots+40y+1)^2)(y^{23}-13y^{22}+\cdots+1233y-64)$
c_3, c_7	$(y^3-y^2+2y-1)(y^{14}-12y^{13}+\cdots+3y+1)$ $\cdot(y^{23}-5y^{22}+\cdots+41y-1)(y^{40}-19y^{39}+\cdots-12747y+841)$
c_4, c_9	$y^3(y^7-3y^6-17y^5+114y^4-277y^3+352y^2-236y+67)^2$ $\cdot(y^{20}-13y^{19}+\cdots-1021y+121)^2$ $\cdot(y^{23}-43y^{22}+\cdots-1088y-256)$
c_5, c_8	$(y^3-2y^2+y-1)(y^{14}+18y^{13}+\cdots+11y+1)$ $\cdot(y^{23}-46y^{22}+\cdots+344y-25)(y^{40}+7y^{39}+\cdots-530503y+28561)$
c_{11}	$(y^3-y^2+2y-1)(y^7+2y^6+\cdots+13y-9)^2$ $\cdot((y^{20}+3y^{19}+\cdots-35y+1)^2)(y^{23}+6y^{22}+\cdots-12055y-1156)$