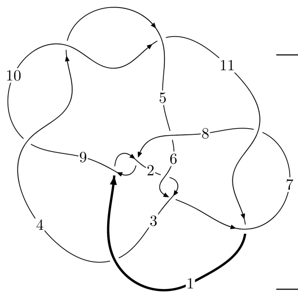
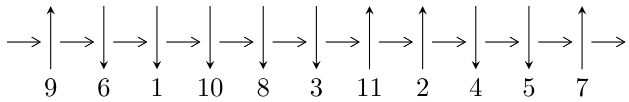
$11a_{346}$ ($K11a_{346}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 1008847383871263u^{22} - 3396732854999791u^{21} + \cdots + 1810887744001286b + 21567640743990884,$$
$$6.16209 \times 10^{15}u^{22} - 2.06878 \times 10^{16}u^{21} + \cdots + 1.44871 \times 10^{15}a + 1.32864 \times 10^{17},\ u^{23} - 3u^{22} + \cdots + 32u +$$
$$I_2^u = \langle -3u^{14}a + 3u^{14} + \cdots - 4a + 11,\ 4u^{13}a - 10u^{14} + \cdots - 7a + 9,$$
$$u^{15} + u^{14} - 8u^{13} - 7u^{12} + 24u^{11} + 16u^{10} - 34u^9 - 11u^8 + 26u^7 - 2u^6 - 14u^5 + 4u^3 - 2u^2 - 2u + 1\rangle$$
$$I_3^u = \langle -u^3 + b,\ -2u^3 - u^2 + 3a - 2u + 2,\ u^4 - u^2 + 1\rangle$$
$$I_4^u = \langle b - 1,\ 4a - u - 2,\ u^2 - 2\rangle$$

$$I_1^v = \langle a,\ b + 1,\ 2v - 1\rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 60 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. $\boldsymbol{I_1^u} =$
$\langle 1.01\times10^{15}u^{22}-3.40\times10^{15}u^{21}+\cdots+1.81\times10^{14}b+2.16\times10^{16},\ 6.16\times10^{15}u^{22}-2.07\times10^{16}u^{21}+\cdots+1.45\times10^{15}a+1.33\times10^{17},\ u^{23}-3u^{22}+\cdots+32u+8\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-4.25350u^{22}+14.2802u^{21}+\cdots-118.218u-91.7123\\-5.57101u^{22}+18.7573u^{21}+\cdots-156.448u-119.100\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-u^2+1\\-u^4+2u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}1.31751u^{22}-4.47711u^{21}+\cdots+38.2301u+27.3876\\-5.57101u^{22}+18.7573u^{21}+\cdots-156.448u-119.100\end{pmatrix}$$
$$a_3 = \begin{pmatrix}1.61065u^{22}-5.45740u^{21}+\cdots+46.8384u+34.3216\\-3.62502u^{22}+12.1065u^{21}+\cdots-98.5783u-76.1785\end{pmatrix}$$
$$a_8 = \begin{pmatrix}4.41830u^{22}-14.8886u^{21}+\cdots+124.465u+95.9089\\-5.10401u^{22}+17.3034u^{21}+\cdots-145.763u-110.227\end{pmatrix}$$
$$a_6 = \begin{pmatrix}2.20822u^{22}-7.37326u^{21}+\cdots+58.8694u+46.8606\\-3.43785u^{22}+11.6995u^{21}+\cdots-99.4184u-75.1934\end{pmatrix}$$
$$a_7 = \begin{pmatrix}9.17396u^{22}-30.9875u^{21}+\cdots+260.065u+198.655\\-3.69653u^{22}+12.5177u^{21}+\cdots-104.337u-79.2171\end{pmatrix}$$
$$a_7 = \begin{pmatrix}9.17396u^{22}-30.9875u^{21}+\cdots+260.065u+198.655\\-3.69653u^{22}+12.5177u^{21}+\cdots-104.337u-79.2171\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{210957735837741443}{724355097600512}u^{22} - \frac{709098320696661843}{724355097600512}u^{21} + \cdots + \frac{2919427284219646 29}{362177548800256}u + \frac{1102222141526426 77}{181088774400128}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7, c_8 c_{11}	$u^{23} + u^{22} + \cdots - 14u - 1$
c_2, c_6	$u^{23} + 2u^{22} + \cdots + 71u + 8$
c_3, c_5	$8(8u^{23} - 20u^{22} + \cdots - u - 1)$
c_4, c_9, c_{10}	$u^{23} - 3u^{22} + \cdots + 32u + 8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_8 c_{11}	$y^{23} + 19y^{22} + \cdots + 112y - 1$
c_2, c_6	$y^{23} - 14y^{22} + \cdots + 5473y - 64$
c_3, c_5	$64(64y^{23} - 1392y^{22} + \cdots - 37y - 1)$
c_4, c_9, c_{10}	$y^{23} - 23y^{22} + \cdots + 672y - 64$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.047880 + 0.229903I$ $a = 0.109158 + 1.230280I$ $b = -0.386436 + 0.666877I$	$-2.01223 - 3.75776I$	$-5.33334 + 8.56871I$
$u = 1.047880 - 0.229903I$ $a = 0.109158 - 1.230280I$ $b = -0.386436 - 0.666877I$	$-2.01223 + 3.75776I$	$-5.33334 - 8.56871I$
$u = -0.692389 + 0.871381I$ $a = 0.897014 - 0.766268I$ $b = -0.39680 - 1.43332I$	$-10.7273 + 10.3813I$	$-10.18639 - 6.73732I$
$u = -0.692389 - 0.871381I$ $a = 0.897014 + 0.766268I$ $b = -0.39680 + 1.43332I$	$-10.7273 - 10.3813I$	$-10.18639 + 6.73732I$
$u = -1.102990 + 0.279147I$ $a = -0.429797 + 0.902073I$ $b = -0.420512 + 0.719649I$	$-2.03566 + 0.84759I$	$-5.54570 + 1.19524I$
$u = -1.102990 - 0.279147I$ $a = -0.429797 - 0.902073I$ $b = -0.420512 - 0.719649I$	$-2.03566 - 0.84759I$	$-5.54570 - 1.19524I$
$u = -0.541402 + 1.015810I$ $a = 0.411809 - 0.360048I$ $b = 0.19561 - 1.40284I$	$-10.15960 - 4.19504I$	$-11.29932 + 2.35235I$
$u = -0.541402 - 1.015810I$ $a = 0.411809 + 0.360048I$ $b = 0.19561 + 1.40284I$	$-10.15960 + 4.19504I$	$-11.29932 - 2.35235I$
$u = 0.730490 + 1.031710I$ $a = 0.548976 + 0.681598I$ $b = -0.109506 + 1.309220I$	$-5.14680 - 3.47388I$	$-11.56230 + 3.97702I$
$u = 0.730490 - 1.031710I$ $a = 0.548976 - 0.681598I$ $b = -0.109506 - 1.309220I$	$-5.14680 + 3.47388I$	$-11.56230 - 3.97702I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.39374$ $a=-0.389467$ $b=-0.880255$	-3.32968	-1.46420
$u=\ 1.39683$ $a=\ 0.773044$ $b=-0.0971819$	-6.54656	-14.0370
$u=\ 0.050314+0.470724I$ $a=-0.460344+0.114610I$ $b=\ 0.565086+0.372468I$	$0.87976+1.13203I$	$3.15244-4.47998I$
$u=\ 0.050314-0.470724I$ $a=-0.460344-0.114610I$ $b=\ 0.565086-0.372468I$	$0.87976-1.13203I$	$3.15244+4.47998I$
$u=\ 1.53229$ $a=-0.978209$ $b=-1.69273$	-6.97375	-13.5440
$u=-0.373071$ $a=-0.558791$ $b=\ 1.23682$	-0.342193	-19.7630
$u=-0.370526$ $a=-1.73277$ $b=-0.310175$	-1.09471	-11.6780
$u=\ 1.61554+0.28548I$ $a=-0.64560-1.80607I$ $b=\ 0.54587-1.52621I$	$-18.3248-14.6898I$	$-11.82186+6.64707I$
$u=\ 1.61554-0.28548I$ $a=-0.64560+1.80607I$ $b=\ 0.54587+1.52621I$	$-18.3248+14.6898I$	$-11.82186-6.64707I$
$u=-1.66263+0.29375I$ $a=-0.52389+1.66284I$ $b=\ 0.33582+1.42592I$	$-13.1520+8.3676I$	$-10.67653-4.81997I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.66263 - 0.29375I$ $a = -0.52389 - 1.66284I$ $b = 0.33582 - 1.42592I$	$-13.1520 - 8.3676I$	$-10.67653 + 4.81997I$
$u = 1.65930 + 0.36622I$ $a = -0.58924 - 1.42409I$ $b = 0.04263 - 1.48432I$	$-17.3595 - 1.0921I$	$-13.73412 + 0.I$
$u = 1.65930 - 0.36622I$ $a = -0.58924 + 1.42409I$ $b = 0.04263 + 1.48432I$	$-17.3595 + 1.0921I$	$-13.73412 + 0.I$

II. $\boldsymbol{I_2^u =}$
$\boldsymbol{\langle -3u^{14}a+3u^{14}+\cdots-4a+11,\ 4u^{13}a-10u^{14}+\cdots-7a+9,\ u^{15}+u^{14}+\cdots-2u+1\rangle}$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} a \\ \frac{3}{7}u^{14}a - \frac{3}{7}u^{14} + \cdots + \frac{4}{7}a - \frac{11}{7} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{3}{7}u^{14}a + \frac{3}{7}u^{14} + \cdots + \frac{3}{7}a + \frac{11}{7} \\ \frac{3}{7}u^{14}a - \frac{3}{7}u^{14} + \cdots + \frac{4}{7}a - \frac{11}{7} \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -2.28571au^{14} - 2.71429u^{14} + \cdots + 1.28571a - 3.28571 \\ -\frac{8}{7}u^{14}a - \frac{6}{7}u^{14} + \cdots - \frac{6}{7}a - \frac{22}{7} \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{3}{7}u^{14}a + \frac{25}{7}u^{14} + \cdots + \frac{11}{7}a - \frac{25}{7} \\ -\frac{3}{7}u^{14}a + \frac{3}{7}u^{14} + \cdots - \frac{4}{7}a - \frac{3}{7} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{6}{7}u^{14}a + \frac{43}{7}u^{14} + \cdots + \frac{22}{7}a - \frac{8}{7} \\ \frac{12}{7}u^{14}a + \frac{16}{7}u^{14} + \cdots + \frac{9}{7}a - \frac{9}{7} \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{3}{7}u^{14}a + \frac{25}{7}u^{14} + \cdots + \frac{11}{7}a - \frac{32}{7} \\ -1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{3}{7}u^{14}a + \frac{25}{7}u^{14} + \cdots + \frac{11}{7}a - \frac{32}{7} \\ -1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= 4u^{13} - 32u^{11} + 92u^9 - 4u^8 - 112u^7 + 20u^6 + 56u^5 - 28u^4 - 20u^3 + 8u^2 + 4u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7, c_8 c_{11}	$u^{30} - 3u^{29} + \cdots + 8u + 13$
c_2, c_6	$(u^{15} + u^{14} + \cdots - 2u - 1)^2$
c_3, c_5	$u^{30} + 3u^{29} + \cdots - 67460u + 14279$
c_4, c_9, c_{10}	$(u^{15} + u^{14} + \cdots - 2u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_8 c_{11}	$y^{30} + 23y^{29} + \cdots - 1572y + 169$
c_2, c_6	$(y^{15} - 13y^{14} + \cdots + 8y - 1)^2$
c_3, c_5	$y^{30} - 21y^{29} + \cdots - 2895344340y + 203889841$
c_4, c_9, c_{10}	$(y^{15} - 17y^{14} + \cdots + 8y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.837202$ $a = \quad 0.948699 + 0.418317I$ $b = -0.455272 + 1.273510I$	-8.81535	-13.0390
$u = -0.837202$ $a = \quad 0.948699 - 0.418317I$ $b = -0.455272 - 1.273510I$	-8.81535	-13.0390
$u = \quad 0.616241 + 0.538656I$ $a = -0.877744 - 0.781079I$ $b = \quad 0.37957 - 1.41365I$	$-5.47316 - 5.45324I$	$-7.99532 + 6.35130I$
$u = \quad 0.616241 + 0.538656I$ $a = \quad 0.634060 + 0.127928I$ $b = -0.991485 + 0.204855I$	$-5.47316 - 5.45324I$	$-7.99532 + 6.35130I$
$u = \quad 0.616241 - 0.538656I$ $a = -0.877744 + 0.781079I$ $b = \quad 0.37957 + 1.41365I$	$-5.47316 + 5.45324I$	$-7.99532 - 6.35130I$
$u = \quad 0.616241 - 0.538656I$ $a = \quad 0.634060 - 0.127928I$ $b = -0.991485 - 0.204855I$	$-5.47316 + 5.45324I$	$-7.99532 - 6.35130I$
$u = -0.486836 + 0.521522I$ $a = -0.982556 + 0.802109I$ $b = \quad 0.186786 + 1.050900I$	$-1.11561 + 1.81248I$	$-2.14381 - 4.33913I$
$u = -0.486836 + 0.521522I$ $a = \quad 0.275176 + 0.534678I$ $b = -0.373462 + 0.000206I$	$-1.11561 + 1.81248I$	$-2.14381 - 4.33913I$
$u = -0.486836 - 0.521522I$ $a = -0.982556 - 0.802109I$ $b = \quad 0.186786 - 1.050900I$	$-1.11561 - 1.81248I$	$-2.14381 + 4.33913I$
$u = -0.486836 - 0.521522I$ $a = \quad 0.275176 - 0.534678I$ $b = -0.373462 - 0.000206I$	$-1.11561 - 1.81248I$	$-2.14381 + 4.33913I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.309525 + 0.567792I$ $a = -1.61115 + 0.22060I$ $b = -0.116215 - 1.234430I$	$-4.58881 + 1.64925I$	$-5.60633 - 0.16522I$
$u = 0.309525 + 0.567792I$ $a = -0.47283 - 1.80977I$ $b = 0.497171 + 0.372159I$	$-4.58881 + 1.64925I$	$-5.60633 - 0.16522I$
$u = 0.309525 - 0.567792I$ $a = -1.61115 - 0.22060I$ $b = -0.116215 + 1.234430I$	$-4.58881 - 1.64925I$	$-5.60633 + 0.16522I$
$u = 0.309525 - 0.567792I$ $a = -0.47283 + 1.80977I$ $b = 0.497171 - 0.372159I$	$-4.58881 - 1.64925I$	$-5.60633 + 0.16522I$
$u = -1.48203 + 0.05428I$ $a = -1.80599 + 0.58512I$ $b = 0.312806 + 0.818632I$	$-10.05370 + 0.15908I$	$-9.79403 + 0.85194I$
$u = -1.48203 + 0.05428I$ $a = 0.39717 - 3.25376I$ $b = 0.085684 - 1.202650I$	$-10.05370 + 0.15908I$	$-9.79403 + 0.85194I$
$u = -1.48203 - 0.05428I$ $a = -1.80599 - 0.58512I$ $b = 0.312806 - 0.818632I$	$-10.05370 - 0.15908I$	$-9.79403 - 0.85194I$
$u = -1.48203 - 0.05428I$ $a = 0.39717 + 3.25376I$ $b = 0.085684 + 1.202650I$	$-10.05370 - 0.15908I$	$-9.79403 - 0.85194I$
$u = 1.52656 + 0.13829I$ $a = 0.104118 - 0.130246I$ $b = 0.839538 - 0.236157I$	$-7.81260 - 4.11725I$	$-6.59688 + 3.71929I$
$u = 1.52656 + 0.13829I$ $a = 0.49462 + 2.01049I$ $b = -0.298420 + 1.343440I$	$-7.81260 - 4.11725I$	$-6.59688 + 3.71929I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.52656 - 0.13829I$ $a = 0.104118 + 0.130246I$ $b = 0.839538 + 0.236157I$	$-7.81260 + 4.11725I$	$-6.59688 - 3.71929I$
$u = 1.52656 - 0.13829I$ $a = 0.49462 - 2.01049I$ $b = -0.298420 - 1.343440I$	$-7.81260 + 4.11725I$	$-6.59688 - 3.71929I$
$u = -1.57098 + 0.16034I$ $a = 0.532723 + 0.450416I$ $b = 1.381210 + 0.203773I$	$-12.8088 + 8.0168I$	$-11.04132 - 4.89679I$
$u = -1.57098 + 0.16034I$ $a = 0.31812 - 1.99419I$ $b = -0.55486 - 1.65691I$	$-12.8088 + 8.0168I$	$-11.04132 - 4.89679I$
$u = -1.57098 - 0.16034I$ $a = 0.532723 - 0.450416I$ $b = 1.381210 - 0.203773I$	$-12.8088 - 8.0168I$	$-11.04132 + 4.89679I$
$u = -1.57098 - 0.16034I$ $a = 0.31812 + 1.99419I$ $b = -0.55486 + 1.65691I$	$-12.8088 - 8.0168I$	$-11.04132 + 4.89679I$
$u = 0.404272$ $a = 2.91327 + 2.87968I$ $b = -0.150080 + 1.033230I$	-3.88780	-12.6280
$u = 0.404272$ $a = 2.91327 - 2.87968I$ $b = -0.150080 - 1.033230I$	-3.88780	-12.6280
$u = 1.60797$ $a = 0.13231 + 1.72692I$ $b = 0.75703 + 1.64902I$	-17.0919	-13.9770
$u = 1.60797$ $a = 0.13231 - 1.72692I$ $b = 0.75703 - 1.64902I$	-17.0919	-13.9770

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

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{2}{3}u^3 + \frac{1}{3}u^2 + \frac{2}{3}u - \frac{2}{3} \\ u^3 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} -\frac{1}{3}u^3 + \frac{1}{3}u^2 + \frac{2}{3}u - \frac{2}{3} \\ u^3 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -\frac{1}{3}u^3 + \frac{2}{3}u - \frac{2}{3} \\ \frac{2}{3}u^3 - \frac{2}{3}u^2 + \frac{2}{3}u + \frac{1}{3} \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -\frac{1}{3}u^3 + \frac{2}{3}u^2 - \frac{1}{3}u - \frac{1}{3} \\ -1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u - \frac{1}{3} \\ -\frac{2}{3}u^3 - \frac{1}{3}u^2 + \frac{1}{3}u - \frac{1}{3} \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -\frac{1}{3}u^3 + \frac{2}{3}u^2 - \frac{4}{3}u - \frac{1}{3} \\ -2u^3 + u - 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -\frac{1}{3}u^3 + \frac{2}{3}u^2 - \frac{4}{3}u - \frac{1}{3} \\ -2u^3 + u - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4u^2 - 12$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7, c_8 c_{11}	$(u^2+1)^2$
c_2	$(u^2-u+1)^2$
c_3	$9(9u^4+18u^3+9u^2+1)$
c_4, c_9, c_{10}	u^4-u^2+1
c_5	$9(9u^4-18u^3+9u^2+1)$
c_6	$(u^2+u+1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_8 c_{11}	$(y+1)^4$
c_2, c_6	$(y^2+y+1)^2$
c_3, c_5	$81(81y^4-162y^3+99y^2+18y+1)$
c_4, c_9, c_{10}	$(y^2-y+1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.866025 + 0.500000I$ $a = 0.077350 + 1.288680I$ $b = 1.000000I$	$-3.28987 - 2.02988I$	$-10.00000 + 3.46410I$
$u = 0.866025 - 0.500000I$ $a = 0.077350 - 1.288680I$ $b = -1.000000I$	$-3.28987 + 2.02988I$	$-10.00000 - 3.46410I$
$u = -0.866025 + 0.500000I$ $a = -1.077350 + 0.711325I$ $b = 1.000000I$	$-3.28987 + 2.02988I$	$-10.00000 - 3.46410I$
$u = -0.866025 - 0.500000I$ $a = -1.077350 - 0.711325I$ $b = -1.000000I$	$-3.28987 - 2.02988I$	$-10.00000 + 3.46410I$

IV. $I_4^u = \langle b-1,\ 4a-u-2,\ u^2-2\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ -u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} \frac{1}{4}u + \frac{1}{2} \\ 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} \frac{1}{4}u - \frac{1}{2} \\ 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} \frac{3}{8}u - \frac{1}{2} \\ \frac{1}{2}u + \frac{1}{2} \end{pmatrix}$$
$$a_8 = \begin{pmatrix} \frac{1}{4}u + \frac{3}{2} \\ 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -\frac{1}{8}u + 1 \\ -\frac{1}{2}u + \frac{1}{2} \end{pmatrix}$$
$$a_7 = \begin{pmatrix} \frac{1}{4}u + \frac{1}{2} \\ 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} \frac{1}{4}u + \frac{1}{2} \\ 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_6 c_7, c_8, c_{11}	$(y-1)^2$
c_3, c_5	$16(16y^2 - 24y + 1)$
c_4, c_9, c_{10}	$(y-2)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.41421$ $a = 0.853553$ $b = 1.00000$	-4.93480	-8.00000
$u = -1.41421$ $a = 0.146447$ $b = 1.00000$	-4.93480	-8.00000

V. $I_1^v = \langle a,\ b+1,\ 2v-1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0.5 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.5 \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -0.5 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0.5 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4.5$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 0.500000$ $a = 0$ $b = -1.00000$	0	4.50000

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$(u-1)(u+1)^2(u^2+1)^2(u^{23}+u^{22}+\cdots-14u-1)$ $\cdot(u^{30}-3u^{29}+\cdots+8u+13)$
c_2	$(u-1)(u+1)^2(u^2-u+1)^2(u^{15}+u^{14}+\cdots-2u-1)^2$ $\cdot(u^{23}+2u^{22}+\cdots+71u+8)$
c_3	$576(2u+1)(4u^2+4u-1)(9u^4+18u^3+9u^2+1)$ $\cdot(8u^{23}-20u^{22}+\cdots-u-1)(u^{30}+3u^{29}+\cdots-67460u+14279)$
c_4, c_9, c_{10}	$u(u^2-2)(u^4-u^2+1)(u^{15}+u^{14}+\cdots-2u+1)^2$ $\cdot(u^{23}-3u^{22}+\cdots+32u+8)$
c_5	$576(2u-1)(4u^2-4u-1)(9u^4-18u^3+9u^2+1)$ $\cdot(8u^{23}-20u^{22}+\cdots-u-1)(u^{30}+3u^{29}+\cdots-67460u+14279)$
c_6	$((u-1)^2)(u+1)(u^2+u+1)^2(u^{15}+u^{14}+\cdots-2u-1)^2$ $\cdot(u^{23}+2u^{22}+\cdots+71u+8)$
c_7, c_8	$((u-1)^2)(u+1)(u^2+1)^2(u^{23}+u^{22}+\cdots-14u-1)$ $\cdot(u^{30}-3u^{29}+\cdots+8u+13)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_8 c_{11}	$((y-1)^3)(y+1)^4(y^{23}+19y^{22}+\cdots+112y-1)$ $\cdot\,(y^{30}+23y^{29}+\cdots-1572y+169)$
c_2, c_6	$((y-1)^3)(y^2+y+1)^2(y^{15}-13y^{14}+\cdots+8y-1)^2$ $\cdot\,(y^{23}-14y^{22}+\cdots+5473y-64)$
c_3, c_5	$331776(4y-1)(16y^2-24y+1)(81y^4-162y^3+\cdots+18y+1)$ $\cdot\,(64y^{23}-1392y^{22}+\cdots-37y-1)$ $\cdot\,(y^{30}-21y^{29}+\cdots-2895344340y+203889841)$
c_4, c_9, c_{10}	$y(y-2)^2(y^2-y+1)^2(y^{15}-17y^{14}+\cdots+8y-1)^2$ $\cdot\,(y^{23}-23y^{22}+\cdots+672y-64)$