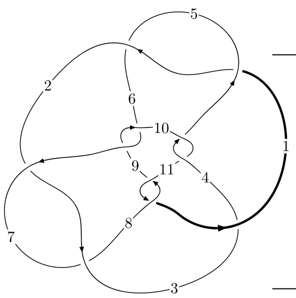
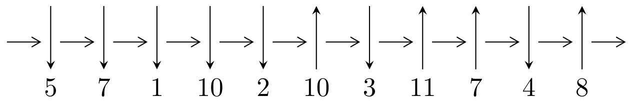
$11n_{167}$ ($K11n_{167}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$1{,}4 \underset{c_3}{\longrightarrow} 3{,}8 \underset{c_7}{\longrightarrow} 7 \underset{c_2}{\longrightarrow} 2 \underset{c_{11}}{\longrightarrow} 11 \underset{c_{10}}{\longrightarrow} 10 \underset{c_4}{\longrightarrow} 5 \underset{c_5}{\longrightarrow} 6 \underset{c_9}{\longrightarrow} 9 \longrightarrow\!\!\!\!\rightarrow c_1, c_6, c_8$$

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

$$\begin{aligned}
I_1^u = \langle &-22089881u^{18} - 37947869u^{17} + \cdots + 2424894626b + 98525885, \\
&-61574971u^{18} + 98525885u^{17} + \cdots + 2424894626a + 1067204433,\ u^{19} - 8u^{17} + \cdots - 5u + 1\rangle \\
I_2^u = \langle &1.77398 \times 10^{18}u^{23} + 2.26651 \times 10^{18}u^{22} + \cdots + 4.24873 \times 10^{18}b - 7.44747 \times 10^{18}, \\
&-1.90928 \times 10^{19}u^{23} - 2.27388 \times 10^{19}u^{22} + \cdots + 2.12437 \times 10^{19}a + 1.14920 \times 10^{20},\ u^{24} + u^{23} + \cdots - 8u + \\
I_3^u = \langle &-u^7 + u^6 + 2u^5 - u^3 - u^2 + b - 2u - 1,\ -u^6 + u^5 + u^4 + a - 2,\ u^8 - 2u^6 - 2u^5 + u^3 + 3u^2 + 3u + 1\rangle \\
I_4^u = \langle &-u^3 - u^2 + b - 1,\ u^3 + 2u^2 + 2a + u,\ u^4 + 2u^3 - u^2 - 2u + 2\rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 55 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.

$$I_1^u = \langle -2.21\times 10^7 u^{18} - 3.79\times 10^7 u^{17} + \cdots + 2.42\times 10^8 b + 9.85\times 10^7,\ -6.16\times 10^7 u^{18} + 9.85\times 10^7 u^{17} + \cdots + 2.42\times 10^8 a + 1.07\times 10^9,\ u^{19} - 8u^{17} + \cdots - 5u + 1\rangle$$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} 0.253928u^{18} - 0.406310u^{17} + \cdots - 1.98160u - 4.40103 \\ 0.0910963u^{18} + 0.156493u^{17} + \cdots + 3.28548u - 0.406310 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.253928u^{18} - 0.406310u^{17} + \cdots - 0.981600u - 4.40103 \\ 0.0910963u^{18} + 0.156493u^{17} + \cdots + 3.28548u - 0.406310 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.406310u^{18} + 0.0910963u^{17} + \cdots + 3.13139u + 1.25393 \\ -0.156493u^{18} - 0.188283u^{17} + \cdots - 0.0491713u + 0.0910963 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.610280u^{18} - 0.343192u^{17} + \cdots - 10.3730u - 2.60824 \\ 0.370173u^{18} + 0.142628u^{17} + \cdots + 4.39116u - 0.749502 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.240107u^{18} - 0.200564u^{17} + \cdots - 5.98180u - 3.35775 \\ 0.370173u^{18} + 0.142628u^{17} + \cdots + 4.39116u - 0.749502 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.655534u^{18} - 0.0971700u^{17} + \cdots - 12.7360u + 2.59475 \\ -0.0593229u^{18} - 0.229893u^{17} + \cdots + 0.633751u - 0.564438 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -1.21860u^{18} + 0.176434u^{17} + \cdots - 14.2029u + 4.08632 \\ 0.00607376u^{18} - 0.198103u^{17} + \cdots - 1.60256u - 0.249224 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.365855u^{18} - 0.499533u^{17} + \cdots - 17.4546u - 5.30364 \\ 0.418084u^{18} - 0.0169879u^{17} + \cdots + 6.52297u - 1.24903 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.365855u^{18} - 0.499533u^{17} + \cdots - 17.4546u - 5.30364 \\ 0.418084u^{18} - 0.0169879u^{17} + \cdots + 6.52297u - 1.24903 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{261922646}{121244731}u^{18} + \frac{40889015}{121244731}u^{17} + \cdots + \frac{452208248}{121244731}u + \frac{720534416}{121244731}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{19} + 8u^{18} + \cdots + 13u + 2$
c_2, c_3, c_7	$u^{19} - 8u^{17} + \cdots - 5u + 1$
c_4, c_{10}	$u^{19} + 8u^{17} + \cdots + 4u + 1$
c_6, c_9	$u^{19} + 2u^{18} + \cdots + 11u + 2$
c_8, c_{11}	$u^{19} + 7u^{18} + \cdots + 47u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{19} - 4y^{18} + \cdots - 27y - 4$
c_2, c_3, c_7	$y^{19} - 16y^{18} + \cdots + 19y - 1$
c_4, c_{10}	$y^{19} + 16y^{18} + \cdots - 12y - 1$
c_6, c_9	$y^{19} - 16y^{18} + \cdots + 81y - 4$
c_8, c_{11}	$y^{19} + 7y^{18} + \cdots + 1025y - 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.953283 + 0.590186I$ $a = 0.497813 - 0.825854I$ $b = -0.30300 + 1.61317I$	$-3.36214 + 0.48881I$	$-6.63793 - 2.65665I$
$u = -0.953283 - 0.590186I$ $a = 0.497813 + 0.825854I$ $b = -0.30300 - 1.61317I$	$-3.36214 - 0.48881I$	$-6.63793 + 2.65665I$
$u = 0.978082 + 0.672701I$ $a = 1.070170 - 0.278653I$ $b = 0.071909 - 0.595075I$	$5.37613 - 7.26815I$	$-2.70960 + 5.48443I$
$u = 0.978082 - 0.672701I$ $a = 1.070170 + 0.278653I$ $b = 0.071909 + 0.595075I$	$5.37613 + 7.26815I$	$-2.70960 - 5.48443I$
$u = -1.124820 + 0.396400I$ $a = 0.225058 - 0.730978I$ $b = -0.72235 + 1.40708I$	$-3.09782 + 0.05780I$	$-6.02643 + 0.15389I$
$u = -1.124820 - 0.396400I$ $a = 0.225058 + 0.730978I$ $b = -0.72235 - 1.40708I$	$-3.09782 - 0.05780I$	$-6.02643 - 0.15389I$
$u = -1.054220 + 0.617800I$ $a = -1.066300 + 0.064508I$ $b = -0.360174 - 0.818216I$	$4.51703 - 0.89042I$	$-2.37683 + 0.17113I$
$u = -1.054220 - 0.617800I$ $a = -1.066300 - 0.064508I$ $b = -0.360174 + 0.818216I$	$4.51703 + 0.89042I$	$-2.37683 - 0.17113I$
$u = 0.741245 + 0.208527I$ $a = -0.51834 - 1.73606I$ $b = 0.466823 + 1.247140I$	$-2.65661 + 3.10000I$	$-6.27419 - 4.22218I$
$u = 0.741245 - 0.208527I$ $a = -0.51834 + 1.73606I$ $b = 0.466823 - 1.247140I$	$-2.65661 - 3.10000I$	$-6.27419 + 4.22218I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.46886 + 0.25961I$ $a = 0.273323 - 0.690530I$ $b = 0.37094 + 1.49448I$	$-8.71916 - 2.37470I$	$-12.53850 - 4.28279I$
$u = 1.46886 - 0.25961I$ $a = 0.273323 + 0.690530I$ $b = 0.37094 - 1.49448I$	$-8.71916 + 2.37470I$	$-12.53850 + 4.28279I$
$u = -0.477001$ $a = -0.253883$ $b = -0.419235$	-0.803589	-12.4280
$u = -1.39506 + 0.83246I$ $a = -0.053021 - 0.851335I$ $b = 0.64874 + 1.77620I$	$3.02325 + 5.91409I$	$-2.64836 - 3.66933I$
$u = -1.39506 - 0.83246I$ $a = -0.053021 + 0.851335I$ $b = 0.64874 - 1.77620I$	$3.02325 - 5.91409I$	$-2.64836 + 3.66933I$
$u = 1.38951 + 0.89919I$ $a = -0.052745 - 0.891369I$ $b = -0.77871 + 2.03128I$	$2.6009 - 14.2087I$	$-4.30199 + 7.64083I$
$u = 1.38951 - 0.89919I$ $a = -0.052745 + 0.891369I$ $b = -0.77871 - 2.03128I$	$2.6009 + 14.2087I$	$-4.30199 - 7.64083I$
$u = 0.188175 + 0.151731I$ $a = -4.24902 + 1.30686I$ $b = 0.315435 + 0.378179I$	$1.89777 + 1.11232I$	$4.22795 - 4.88598I$
$u = 0.188175 - 0.151731I$ $a = -4.24902 - 1.30686I$ $b = 0.315435 - 0.378179I$	$1.89777 - 1.11232I$	$4.22795 + 4.88598I$

II.
$\boldsymbol{I^u_2 = \langle 1.77\times10^{18}u^{23}+2.27\times10^{18}u^{22}+\cdots+4.25\times10^{18}b-7.45\times10^{18},\ -1.91\times10^{19}u^{23}-2.27\times10^{19}u^{22}+\cdots+2.12\times10^{19}a+1.15\times10^{20},\ u^{24}+u^{23}+\cdots-8u+2\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_3 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_8 = \begin{pmatrix}0.898752u^{23}+1.07038u^{22}+\cdots+12.0912u-5.40961\\-0.417531u^{23}-0.533456u^{22}+\cdots-3.66675u+1.75287\end{pmatrix}$$
$$a_7 = \begin{pmatrix}\frac{1}{2}u^{23}+\frac{1}{2}u^{22}+\cdots+8u-4\\-0.398752u^{23}-0.570379u^{22}+\cdots-3.09123u+1.40961\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-0.704807u^{23}-1.10356u^{22}+\cdots-6.67794u+2.54722\\-0.244696u^{23}-0.273474u^{22}+\cdots-2.26972u+0.601506\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}1.24995u^{23}+1.72388u^{22}+\cdots+14.2509u-5.98658\\-0.507773u^{23}-0.801281u^{22}+\cdots-2.45122u+1.52483\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0.742173u^{23}+0.922597u^{22}+\cdots+11.7997u-4.46175\\-0.507773u^{23}-0.801281u^{22}+\cdots-2.45122u+1.52483\end{pmatrix}$$
$$a_5 = \begin{pmatrix}0.239284u^{23}+0.478472u^{22}+\cdots+2.29165u-1.06026\\-0.596088u^{23}-0.741810u^{22}+\cdots-5.97824u+2.40135\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0.359990u^{23}+0.826922u^{22}+\cdots+1.48988u-0.206011\\-0.282468u^{23}-0.307556u^{22}+\cdots-2.91950u+1.66220\end{pmatrix}$$
$$a_9 = \begin{pmatrix}2.18922u^{23}+3.04082u^{22}+\cdots+25.5796u-11.0724\\-0.844038u^{23}-1.26644u^{22}+\cdots-5.33860u+3.13224\end{pmatrix}$$
$$a_9 = \begin{pmatrix}2.18922u^{23}+3.04082u^{22}+\cdots+25.5796u-11.0724\\-0.844038u^{23}-1.26644u^{22}+\cdots-5.33860u+3.13224\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{4484056006391387816}{2124366145116320153}u^{23}+\frac{6874045510728739710}{2124366145116320153}u^{22}+\cdots+\frac{1996227031420812626 2}{2124366145116320153}u-\frac{11397374893510619150}{2124366145116320153}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u^{12} - 3u^{11} + \cdots - 3u + 1)^2$
c_2, c_3, c_7	$u^{24} + u^{23} + \cdots - 8u + 2$
c_4, c_{10}	$u^{24} + u^{23} + \cdots - 60u + 10$
c_6, c_9	$u^{24} + 3u^{23} + \cdots + 192u + 17$
c_8, c_{11}	$(u^{12} - 3u^{11} + \cdots - 5u + 3)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^{12} - y^{11} + \cdots + 3y + 1)^2$
c_2, c_3, c_7	$y^{24} - 3y^{23} + \cdots - 36y^2 + 4$
c_4, c_{10}	$y^{24} + 21y^{23} + \cdots + 3560y + 100$
c_6, c_9	$y^{24} - 21y^{23} + \cdots - 16090y + 289$
c_8, c_{11}	$(y^{12} + 7y^{11} + \cdots + 35y + 9)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.787408 + 0.597220I$ $a = 0.219391 - 0.993794I$ $b = 1.46372 + 2.07332I$	$5.39798 + 5.66008I$	$-4.22997 - 6.14268I$
$u = -0.787408 - 0.597220I$ $a = 0.219391 + 0.993794I$ $b = 1.46372 - 2.07332I$	$5.39798 - 5.66008I$	$-4.22997 + 6.14268I$
$u = -0.600013 + 0.769421I$ $a = -0.539028 + 1.257780I$ $b = -0.117110 - 0.655487I$	$-0.77344 + 4.75233I$	$-0.57550 - 5.65227I$
$u = -0.600013 - 0.769421I$ $a = -0.539028 - 1.257780I$ $b = -0.117110 + 0.655487I$	$-0.77344 - 4.75233I$	$-0.57550 + 5.65227I$
$u = 0.920865 + 0.478649I$ $a = 0.235557 + 1.372650I$ $b = -0.02624 - 1.98543I$	$-3.09418 - 6.13442I$	$-10.3699 + 10.2596I$
$u = 0.920865 - 0.478649I$ $a = 0.235557 - 1.372650I$ $b = -0.02624 + 1.98543I$	$-3.09418 + 6.13442I$	$-10.3699 - 10.2596I$
$u = 0.839992 + 0.703903I$ $a = -0.124749 - 0.804667I$ $b = -1.49997 + 1.70732I$	$5.86114 + 1.98712I$	$-2.94340 + 1.27592I$
$u = 0.839992 - 0.703903I$ $a = -0.124749 + 0.804667I$ $b = -1.49997 - 1.70732I$	$5.86114 - 1.98712I$	$-2.94340 - 1.27592I$
$u = 1.169280 + 0.449583I$ $a = -0.145064 + 1.055900I$ $b = 0.67915 - 1.84712I$	$-0.77344 - 4.75233I$	$-0.57550 + 5.65227I$
$u = 1.169280 - 0.449583I$ $a = -0.145064 - 1.055900I$ $b = 0.67915 + 1.84712I$	$-0.77344 + 4.75233I$	$-0.57550 - 5.65227I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.418416 + 0.516472I$ $a = 0.80019 + 1.21965I$ $b = -1.146740 - 0.284708I$	$-4.41600 - 1.23001I$	$-6.02056 + 5.25591I$
$u = 0.418416 - 0.516472I$ $a = 0.80019 - 1.21965I$ $b = -1.146740 + 0.284708I$	$-4.41600 + 1.23001I$	$-6.02056 - 5.25591I$
$u = -1.09051 + 0.92826I$ $a = -0.389136 + 0.931266I$ $b = -0.83707 - 1.57150I$	$-3.09418 + 6.13442I$	$-10.3699 - 10.2596I$
$u = -1.09051 - 0.92826I$ $a = -0.389136 - 0.931266I$ $b = -0.83707 + 1.57150I$	$-3.09418 - 6.13442I$	$-10.3699 + 10.2596I$
$u = 0.488121 + 0.138133I$ $a = -1.77306 + 0.99449I$ $b = 0.399018 - 0.436599I$	$1.95930 - 1.10762I$	$2.13937 + 5.92060I$
$u = 0.488121 - 0.138133I$ $a = -1.77306 - 0.99449I$ $b = 0.399018 + 0.436599I$	$1.95930 + 1.10762I$	$2.13937 - 5.92060I$
$u = -0.57462 + 1.39073I$ $a = -0.586220 - 0.089711I$ $b = 0.043111 - 0.376940I$	$5.86114 + 1.98712I$	$-2.94340 + 1.27592I$
$u = -0.57462 - 1.39073I$ $a = -0.586220 + 0.089711I$ $b = 0.043111 + 0.376940I$	$5.86114 - 1.98712I$	$-2.94340 - 1.27592I$
$u = -0.123712 + 0.457725I$ $a = 0.06216 + 2.17412I$ $b = 0.253968 + 0.291137I$	$1.95930 + 1.10762I$	$2.13937 - 5.92060I$
$u = -0.123712 - 0.457725I$ $a = 0.06216 - 2.17412I$ $b = 0.253968 - 0.291137I$	$1.95930 - 1.10762I$	$2.13937 + 5.92060I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.58682 + 1.60527I$ $a = 0.586529 - 0.047705I$ $b = 0.432171 - 0.614303I$	$5.39798 + 5.66008I$	$-4.22997 - 6.14268I$
$u = 0.58682 - 1.60527I$ $a = 0.586529 + 0.047705I$ $b = 0.432171 + 0.614303I$	$5.39798 - 5.66008I$	$-4.22997 + 6.14268I$
$u = -1.74722 + 0.05067I$ $a = 0.153439 + 0.533057I$ $b = -0.14400 - 2.11524I$	$-4.41600 + 1.23001I$	$-6.02056 - 5.25591I$
$u = -1.74722 - 0.05067I$ $a = 0.153439 - 0.533057I$ $b = -0.14400 + 2.11524I$	$-4.41600 - 1.23001I$	$-6.02056 + 5.25591I$

III. $\boldsymbol{I^u_3 = \langle -u^7 + u^6 + 2u^5 - u^3 - u^2 + b - 2u - 1,\ -u^6 + u^5 + u^4 + a - 2,\ u^8 - 2u^6 - 2u^5 + u^3 + 3u^2 + 3u + 1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^6 - u^5 - u^4 + 2 \\ u^7 - u^6 - 2u^5 + u^3 + u^2 + 2u + 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^6 - u^5 - u^4 - u + 2 \\ u^7 - u^6 - 2u^5 + 2u^3 + u^2 + 2u + 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^7 - u^6 - u^5 - u^2 + 2u + 1 \\ -u^7 + 2u^5 + 2u^4 - 2u^2 - 2u - 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^7 + 2u^6 - u^3 - 2u + 1 \\ u^7 - u^6 - u^5 - u^4 + u^2 + 3u + 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^6 - u^5 - u^4 - u^3 + u^2 + u + 2 \\ u^7 - u^6 - u^5 - u^4 + u^2 + 3u + 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 2u^7 - u^6 - 4u^5 - 2u^4 + 2u^3 + 2u^2 + 5u + 3 \\ u^2 - u - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 2u^7 - u^6 - 4u^5 - u^4 + 2u^3 + 3u + 3 \\ -u^6 + 2u^4 + 2u^3 - 2u - 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -2u^7 + 3u^6 + u^5 + u^4 - 2u^3 - 5u + 1 \\ 2u^7 - 2u^6 - 3u^5 - u^4 + 2u^3 + u^2 + 4u + 2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -2u^7 + 3u^6 + u^5 + u^4 - 2u^3 - 5u + 1 \\ 2u^7 - 2u^6 - 3u^5 - u^4 + 2u^3 + u^2 + 4u + 2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -5u^7 + u^6 + 12u^5 + 9u^4 - 4u^3 - 6u^2 - 18u - 18$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^8 - 5y^7 + 10y^6 - 22y^5 + 27y^4 + 11y^3 + 14y^2 + 4y + 1$
c_2, c_3, c_7	$y^8 - 4y^7 + 4y^6 + 2y^5 - 6y^4 + 7y^3 + 3y^2 - 3y + 1$
c_4, c_{10}	$y^8 + 4y^7 + 8y^6 + 15y^5 + 26y^4 + 20y^3 + 12y^2 + 4y + 1$
c_6, c_9	$y^8 - 8y^7 + 28y^6 - 54y^5 + 62y^4 - 41y^3 + 11y^2 + y + 1$
c_8, c_{11}	$y^8 + 2y^7 + 3y^6 - 2y^5 + 7y^4 + 2y^3 + 26y^2 - 5y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.047355 + 0.955386I$ $a = 0.250346 - 0.387349I$ $b = 0.145540 - 1.330730I$	$5.86099 + 3.83824I$	$-2.61527 - 2.77290I$
$u = 0.047355 - 0.955386I$ $a = 0.250346 + 0.387349I$ $b = 0.145540 + 1.330730I$	$5.86099 - 3.83824I$	$-2.61527 + 2.77290I$
$u = -0.923072 + 0.606984I$ $a = -0.288078 + 1.324400I$ $b = -0.42170 - 1.57032I$	$-2.20821 + 5.58533I$	$-2.91572 - 6.03344I$
$u = -0.923072 - 0.606984I$ $a = -0.288078 - 1.324400I$ $b = -0.42170 + 1.57032I$	$-2.20821 - 5.58533I$	$-2.91572 + 6.03344I$
$u = -0.595163 + 0.229046I$ $a = 1.91573 + 0.00857I$ $b = 0.014742 + 0.290671I$	$1.46644 - 0.78325I$	$-8.36606 - 3.84221I$
$u = -0.595163 - 0.229046I$ $a = 1.91573 - 0.00857I$ $b = 0.014742 - 0.290671I$	$1.46644 + 0.78325I$	$-8.36606 + 3.84221I$
$u = 1.47088 + 0.19586I$ $a = -0.377996 + 0.744591I$ $b = -0.23859 - 1.56042I$	$-8.40909 - 2.81417I$	$-3.60294 + 7.34570I$
$u = 1.47088 - 0.19586I$ $a = -0.377996 - 0.744591I$ $b = -0.23859 + 1.56042I$	$-8.40909 + 2.81417I$	$-3.60294 - 7.34570I$

IV. $I_4^u = \langle -u^3 - u^2 + b - 1,\ u^3 + 2u^2 + 2a + u,\ u^4 + 2u^3 - u^2 - 2u + 2\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

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

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

$$a_{11} = \begin{pmatrix} -\frac{1}{2}u^3 - u^2 + \frac{1}{2}u + 1 \\ u^3 + 2u^2 - 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{1}{2}u^3 + u^2 + \frac{1}{2}u \\ u^3 + 2u^2 - 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{1}{2}u^3 + u^2 - \frac{1}{2}u - 1 \\ -u^2 - 2u - 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0 \\ -u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0 \\ u^3 + u^2 - u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0 \\ u^3 + u^2 - u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y-1)^4$
c_2, c_3, c_7	$y^4 - 6y^3 + 13y^2 - 8y + 4$
c_4, c_{10}	$y^4 + 6y^3 + 13y^2 + 8y + 4$
c_6, c_8, c_9 c_{11}	$(y+1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.693897 + 0.418797I$ $a = -0.637550 - 1.056350I$ $b = 1.27510 + 1.11269I$	-4.93480	-12.0000
$u = 0.693897 - 0.418797I$ $a = -0.637550 + 1.056350I$ $b = 1.27510 - 1.11269I$	-4.93480	-12.0000
$u = -1.69390 + 0.41880I$ $a = 0.137550 - 0.556347I$ $b = -0.27510 + 2.11269I$	-4.93480	-12.0000
$u = -1.69390 - 0.41880I$ $a = 0.137550 + 0.556347I$ $b = -0.27510 - 2.11269I$	-4.93480	-12.0000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^4(u^8+5u^7+10u^6+10u^5+5u^4+3u^3+4u^2+2u+1)$ $\cdot((u^{12}-3u^{11}+\cdots-3u+1)^2)(u^{19}+8u^{18}+\cdots+13u+2)$
c_2	$(u^4-2u^3-u^2+2u+2)(u^8-2u^6+2u^5-u^3+3u^2-3u+1)$ $\cdot(u^{19}-8u^{17}+\cdots-5u+1)(u^{24}+u^{23}+\cdots-8u+2)$
c_3, c_7	$(u^4+2u^3-u^2-2u+2)(u^8-2u^6-2u^5+u^3+3u^2+3u+1)$ $\cdot(u^{19}-8u^{17}+\cdots-5u+1)(u^{24}+u^{23}+\cdots-8u+2)$
c_4	$(u^4+3u^2-2u+2)(u^8+2u^6-u^5+2u^4+2u^3+4u^2+2u+1)$ $\cdot(u^{19}+8u^{17}+\cdots+4u+1)(u^{24}+u^{23}+\cdots-60u+10)$
c_5	$(u+1)^4(u^8-5u^7+10u^6-10u^5+5u^4-3u^3+4u^2-2u+1)$ $\cdot((u^{12}-3u^{11}+\cdots-3u+1)^2)(u^{19}+8u^{18}+\cdots+13u+2)$
c_6	$(u^2+1)^2(u^8+2u^7-2u^6-6u^5+5u^3+u^2-u+1)$ $\cdot(u^{19}+2u^{18}+\cdots+11u+2)(u^{24}+3u^{23}+\cdots+192u+17)$
c_8	$(u^2+1)^2(u^8+4u^7+9u^6+12u^5+9u^4+2u^3-2u^2-u+1)$ $\cdot((u^{12}-3u^{11}+\cdots-5u+3)^2)(u^{19}+7u^{18}+\cdots+47u+4)$
c_9	$(u^2+1)^2(u^8-2u^7-2u^6+6u^5-5u^3+u^2+u+1)$ $\cdot(u^{19}+2u^{18}+\cdots+11u+2)(u^{24}+3u^{23}+\cdots+192u+17)$
c_{10}	$(u^4+3u^2+2u+2)(u^8+2u^6+u^5+2u^4-2u^3+4u^2-2u+1)$ $\cdot(u^{19}+8u^{17}+\cdots+4u+1)(u^{24}+u^{23}+\cdots-60u+10)$
c_{11}	$(u^2+1)^2(u^8-4u^7+9u^6-12u^5+9u^4-2u^3-2u^2+u+1)$ $\cdot((u^{12}-3u^{11}+\cdots-5u+3)^2)(u^{19}+7u^{18}+\cdots+47u+4)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y-1)^4(y^8-5y^7+10y^6-22y^5+27y^4+11y^3+14y^2+4y+1)$ $\cdot((y^{12}-y^{11}+\cdots+3y+1)^2)(y^{19}-4y^{18}+\cdots-27y-4)$
c_2, c_3, c_7	$(y^4-6y^3+13y^2-8y+4)$ $\cdot(y^8-4y^7+4y^6+2y^5-6y^4+7y^3+3y^2-3y+1)$ $\cdot(y^{19}-16y^{18}+\cdots+19y-1)(y^{24}-3y^{23}+\cdots-36y^2+4)$
c_4, c_{10}	$(y^4+6y^3+13y^2+8y+4)$ $\cdot(y^8+4y^7+8y^6+15y^5+26y^4+20y^3+12y^2+4y+1)$ $\cdot(y^{19}+16y^{18}+\cdots-12y-1)(y^{24}+21y^{23}+\cdots+3560y+100)$
c_6, c_9	$(y+1)^4(y^8-8y^7+28y^6-54y^5+62y^4-41y^3+11y^2+y+1)$ $\cdot(y^{19}-16y^{18}+\cdots+81y-4)(y^{24}-21y^{23}+\cdots-16090y+289)$
c_8, c_{11}	$(y+1)^4(y^8+2y^7+3y^6-2y^5+7y^4+2y^3+26y^2-5y+1)$ $\cdot((y^{12}+7y^{11}+\cdots+35y+9)^2)(y^{19}+7y^{18}+\cdots+1025y-16)$