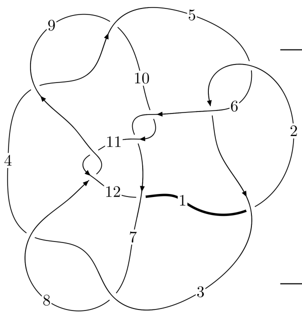
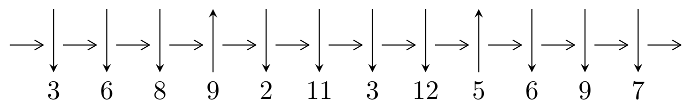
$12n_{0375}$ ($K12n_{0375}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle 339u^{19} - 3935u^{18} + \cdots + 809b + 2456,\ -1439u^{19} + 6826u^{18} + \cdots + 2427a + 13155,\\
&\quad u^{20} - 8u^{19} + \cdots + 12u - 3\rangle\\
I_2^u &= \langle -u^9a - 9u^9 + \cdots - a - 15,\ -5u^9a - u^9 + \cdots - 7a - 3,\\
&\quad u^{10} + 2u^9 + u^8 - 3u^7 - 2u^6 + 2u^5 + 3u^4 - 2u^3 - u^2 + 2u + 1\rangle\\
I_3^u &= \langle 2u^{10} + 9u^9 + 14u^8 + u^7 - 24u^6 - 23u^5 + 11u^4 + 29u^3 + 7u^2 + b - 13u - 5,\\
&\quad - 3u^{10} - 14u^9 - 22u^8 + 42u^6 + 38u^5 - 22u^4 - 50u^3 - 9u^2 + a + 24u + 7,\\
&\quad u^{11} + 5u^{10} + 9u^9 + 3u^8 - 13u^7 - 17u^6 + 2u^5 + 18u^4 + 9u^3 - 6u^2 - 5u - 1\rangle\\
I_4^u &= \langle b^2 + b - 1,\ a + 1,\ u - 1\rangle
\end{aligned}$$

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

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 54 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. $I^u_1 = \langle 339u^{19} - 3935u^{18} + \cdots + 809b + 2456,\ -1439u^{19} + 6826u^{18} + \cdots + 2427a + 13155,\ u^{20} - 8u^{19} + \cdots + 12u - 3\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.592913u^{19} - 2.81253u^{18} + \cdots + 12.5904u - 5.42027 \\ -0.419036u^{19} + 4.86403u^{18} + \cdots + 14.5278u - 3.03585 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.592913u^{19} - 2.81253u^{18} + \cdots + 12.5904u - 5.42027 \\ 1.53276u^{19} - 10.3375u^{18} + \cdots - 6.86279u + 2.75649 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -1.20231u^{19} + 7.31685u^{18} + \cdots - 4.78451u + 3.02596 \\ -1.03585u^{19} + 7.02967u^{18} + \cdots + 3.81211u - 0.846724 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -2.01937u^{19} + 15.3379u^{18} + \cdots + 15.4157u - 3.03214 \\ 2.30161u^{19} - 16.5600u^{18} + \cdots - 16.4536u + 3.60692 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.918830u^{19} + 5.81788u^{18} + \cdots + 10.5979u - 4.16316 \\ -1.93078u^{19} + 13.4944u^{18} + \cdots + 12.5352u - 1.77874 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.952616u^{19} + 6.38607u^{18} + \cdots + 9.11042u - 2.28307 \\ 0.817058u^{19} - 8.02101u^{18} + \cdots - 20.2002u + 6.05810 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0.753605u^{19} - 5.80758u^{18} + \cdots - 4.77421u + 2.27194 \\ -1.60939u^{19} + 12.5043u^{18} + \cdots + 19.8059u - 5.39431 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{277}{809}u^{19} + \frac{4609}{809}u^{18} + \cdots + \frac{33642}{809}u - \frac{32682}{809}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{20} + 8u^{19} + \cdots + 150u + 9$
c_2, c_5	$u^{20} + 8u^{19} + \cdots - 12u - 3$
c_3, c_7	$u^{20} - 2u^{19} + \cdots + u + 1$
c_4, c_9	$u^{20} - 8u^{18} + \cdots + 3u + 1$
c_6, c_{10}	$u^{20} + 6u^{18} + \cdots + 9u + 1$
c_8, c_{11}	$u^{20} - 7u^{19} + \cdots + 12u - 3$
c_{12}	$u^{20} + 21u^{19} + \cdots + 6656u + 512$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{20} + 16y^{19} + \cdots - 5202y + 81$
c_2, c_5	$y^{20} - 8y^{19} + \cdots - 150y + 9$
c_3, c_7	$y^{20} - 28y^{19} + \cdots + 7y + 1$
c_4, c_9	$y^{20} - 16y^{19} + \cdots + 5y + 1$
c_6, c_{10}	$y^{20} + 12y^{19} + \cdots - 21y + 1$
c_8, c_{11}	$y^{20} + 11y^{19} + \cdots - 132y + 9$
c_{12}	$y^{20} - 9y^{19} + \cdots - 2621440y + 262144$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.739766 + 0.810627I$ $a = -0.332052 - 0.863055I$ $b = -1.178040 - 0.181845I$	$-1.201950 + 0.670281I$	$-8.29063 + 0.06466I$
$u = 0.739766 - 0.810627I$ $a = -0.332052 + 0.863055I$ $b = -1.178040 + 0.181845I$	$-1.201950 - 0.670281I$	$-8.29063 - 0.06466I$
$u = 0.579374 + 0.935372I$ $a = -1.121180 - 0.363583I$ $b = -0.996152 + 0.778841I$	$6.00051 - 2.90762I$	$-6.41870 + 3.35662I$
$u = 0.579374 - 0.935372I$ $a = -1.121180 + 0.363583I$ $b = -0.996152 - 0.778841I$	$6.00051 + 2.90762I$	$-6.41870 - 3.35662I$
$u = 0.725363$ $a = 0.248162$ $b = -0.655437$	-1.32826	-7.40410
$u = -0.641694 + 0.281021I$ $a = 1.66993 - 0.14677I$ $b = 0.666818 - 0.229080I$	$2.15316 + 3.41819I$	$1.21797 - 1.44999I$
$u = -0.641694 - 0.281021I$ $a = 1.66993 + 0.14677I$ $b = 0.666818 + 0.229080I$	$2.15316 - 3.41819I$	$1.21797 + 1.44999I$
$u = 1.009590 + 0.838851I$ $a = 1.119650 + 0.309640I$ $b = 1.50399 - 1.02071I$	$-1.88231 - 6.91835I$	$-9.67007 + 4.45150I$
$u = 1.009590 - 0.838851I$ $a = 1.119650 - 0.309640I$ $b = 1.50399 + 1.02071I$	$-1.88231 + 6.91835I$	$-9.67007 - 4.45150I$
$u = 0.522186 + 0.274434I$ $a = 0.715817 + 0.493479I$ $b = 0.035362 - 0.930126I$	$-0.818282 - 1.020500I$	$-8.50734 + 6.76581I$

Solutions to I^u_1	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.522186 - 0.274434I$ $a = 0.715817 - 0.493479I$ $b = 0.035362 + 0.930126I$	$-0.818282 + 1.020500I$	$-8.50734 - 6.76581I$
$u = 0.82856 + 1.18903I$ $a = 0.665734 + 0.836247I$ $b = 1.275630 + 0.188413I$	$1.33376 + 6.29384I$	$-5.85142 - 3.79279I$
$u = 0.82856 - 1.18903I$ $a = 0.665734 - 0.836247I$ $b = 1.275630 - 0.188413I$	$1.33376 - 6.29384I$	$-5.85142 + 3.79279I$
$u = 1.28182 + 0.74255I$ $a = 0.465354 + 0.427519I$ $b = 1.176510 + 0.070724I$	$3.78911 - 3.43912I$	$-5.47667 + 2.61689I$
$u = 1.28182 - 0.74255I$ $a = 0.465354 - 0.427519I$ $b = 1.176510 - 0.070724I$	$3.78911 + 3.43912I$	$-5.47667 - 2.61689I$
$u = 1.14224 + 0.95656I$ $a = -1.149420 - 0.323355I$ $b = -1.65497 + 0.80309I$	$0.28633 - 13.95250I$	$-7.83055 + 7.44247I$
$u = 1.14224 - 0.95656I$ $a = -1.149420 + 0.323355I$ $b = -1.65497 - 0.80309I$	$0.28633 + 13.95250I$	$-7.83055 - 7.44247I$
$u = -1.65206 + 0.05162I$ $a = -0.199755 - 0.409902I$ $b = -0.127470 - 0.253935I$	$-9.08165 + 2.30266I$	$-5.04461 + 4.85763I$
$u = -1.65206 - 0.05162I$ $a = -0.199755 + 0.409902I$ $b = -0.127470 + 0.253935I$	$-9.08165 - 2.30266I$	$-5.04461 - 4.85763I$
$u = -0.344930$ $a = -2.91630$ $b = -0.747935$	-1.47402	-6.85190

II.

$\boldsymbol{I_2^u = \langle -u^9a - 9u^9 + \cdots - a - 15,\ -5u^9a - u^9 + \cdots - 7a - 3,\ u^{10} + 2u^9 + \cdots + 2u + 1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_{10} = \begin{pmatrix} a \\ \frac{1}{2}u^9a + \frac{9}{2}u^9 + \cdots + \frac{1}{2}a + \frac{15}{2} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} a \\ \frac{1}{2}u^9a + \frac{9}{2}u^9 + \cdots + \frac{1}{2}a + \frac{15}{2} \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 3u^9a + u^9 + \cdots + 5a + 1 \\ -\frac{1}{2}u^9a + \frac{1}{2}u^9 + \cdots - \frac{1}{2}a - \frac{1}{2} \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{9}{2}u^9a + \frac{1}{2}u^9 + \cdots + \frac{15}{2}a + \frac{3}{2} \\ -1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} -\frac{1}{2}u^9a - \frac{3}{2}u^9 + \cdots + \frac{1}{2}a - \frac{5}{2} \\ 3u^9 + 4u^8 - 9u^6 + u^5 + 7u^4 + 4u^3 + au - 10u^2 + 3u + 5 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 6u^9a + u^9 + \cdots + 10a + 2 \\ \frac{3}{2}u^9a - \frac{1}{2}u^9 + \cdots + \frac{5}{2}a + \frac{1}{2} \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 3u^9a + u^9 + \cdots + 5a + 2 \\ -\frac{1}{2}u^9a + \frac{1}{2}u^9 + \cdots - \frac{1}{2}a - \frac{1}{2} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -11u^9 - 17u^8 + 37u^6 + 3u^5 - 35u^4 - 20u^3 + 38u^2 - 3u - 35$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{10}+2u^9+9u^8+15u^7+28u^6+36u^5+35u^4+22u^3+15u^2+6u+1)^2$
c_2, c_5	$(u^{10}-2u^9+u^8+3u^7-2u^6-2u^5+3u^4+2u^3-u^2-2u+1)^2$
c_3, c_7	$u^{20}+2u^{19}+\cdots-19u+61$
c_4, c_9	$u^{20}-6u^{18}+\cdots-15u+85$
c_6, c_{10}	$u^{20}-3u^{19}+\cdots-108u+59$
c_8, c_{11}	$(u^{10}+3u^9+6u^8+7u^7+9u^6+9u^5+10u^4+6u^3+5u^2+3u+2)^2$
c_{12}	$(u-1)^{20}$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{10} + 14y^9 + \cdots - 6y + 1)^2$
c_2, c_5	$(y^{10} - 2y^9 + 9y^8 - 15y^7 + 28y^6 - 36y^5 + 35y^4 - 22y^3 + 15y^2 - 6y + 1)^2$
c_3, c_7	$y^{20} - 12y^{19} + \cdots - 40987y + 3721$
c_4, c_9	$y^{20} - 12y^{19} + \cdots - 97975y + 7225$
c_6, c_{10}	$y^{20} + 13y^{19} + \cdots + 76246y + 3481$
c_8, c_{11}	$(y^{10} + 3y^9 + \cdots + 11y + 4)^2$
c_{12}	$(y - 1)^{20}$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.975430 + 0.320615I$ $a = -1.065150 + 0.247050I$ $b = -1.63832 + 0.24814I$	$-3.87176 + 0.60085I$	$-13.31849 - 3.40041I$
$u = 0.975430 + 0.320615I$ $a = 0.880921 - 0.910530I$ $b = -0.559442 - 0.182706I$	$-3.87176 + 0.60085I$	$-13.31849 - 3.40041I$
$u = 0.975430 - 0.320615I$ $a = -1.065150 - 0.247050I$ $b = -1.63832 - 0.24814I$	$-3.87176 - 0.60085I$	$-13.31849 + 3.40041I$
$u = 0.975430 - 0.320615I$ $a = 0.880921 + 0.910530I$ $b = -0.559442 + 0.182706I$	$-3.87176 - 0.60085I$	$-13.31849 + 3.40041I$
$u = 0.541733 + 0.670646I$ $a = 1.294850 - 0.350726I$ $b = 1.70668 - 0.48449I$	$-2.20007 - 4.58635I$	$-7.79322 + 7.42430I$
$u = 0.541733 + 0.670646I$ $a = -0.49398 + 2.09684I$ $b = 0.312809 + 0.203725I$	$-2.20007 - 4.58635I$	$-7.79322 + 7.42430I$
$u = 0.541733 - 0.670646I$ $a = 1.294850 + 0.350726I$ $b = 1.70668 + 0.48449I$	$-2.20007 + 4.58635I$	$-7.79322 - 7.42430I$
$u = 0.541733 - 0.670646I$ $a = -0.49398 - 2.09684I$ $b = 0.312809 - 0.203725I$	$-2.20007 + 4.58635I$	$-7.79322 - 7.42430I$
$u = -0.876556 + 1.026090I$ $a = -0.533352 + 0.614318I$ $b = -1.129040 - 0.385187I$	$6.17677 + 1.75340I$	$-6.60526 + 0.85033I$
$u = -0.876556 + 1.026090I$ $a = 1.221340 - 0.556605I$ $b = 1.54773 + 0.26490I$	$6.17677 + 1.75340I$	$-6.60526 + 0.85033I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.876556-1.026090I$ $a=-0.533352-0.614318I$ $b=-1.129040+0.385187I$	$6.17677-1.75340I$	$-6.60526-0.85033I$
$u=-0.876556-1.026090I$ $a=\ \ 1.221340+0.556605I$ $b=\ \ 1.54773-0.26490I$	$6.17677-1.75340I$	$-6.60526-0.85033I$
$u=-0.580680+0.133301I$ $a=-0.062064+0.507460I$ $b=\ \ 0.18768+2.50740I$	$-4.85763+3.93250I$	$-20.2791-6.7139I$
$u=-0.580680+0.133301I$ $a=-1.04621+3.04432I$ $b=-0.411614-1.128030I$	$-4.85763+3.93250I$	$-20.2791-6.7139I$
$u=-0.580680-0.133301I$ $a=-0.062064-0.507460I$ $b=\ \ 0.18768-2.50740I$	$-4.85763-3.93250I$	$-20.2791+6.7139I$
$u=-0.580680-0.133301I$ $a=-1.04621-3.04432I$ $b=-0.411614+1.128030I$	$-4.85763-3.93250I$	$-20.2791+6.7139I$
$u=-1.059930+0.922349I$ $a=\ \ 0.797570-0.248575I$ $b=\ \ 1.51824+0.58719I$	$5.57516+5.36397I$	$-8.50388-6.50559I$
$u=-1.059930+0.922349I$ $a=-0.993922+0.803452I$ $b=-1.53472-0.22114I$	$5.57516+5.36397I$	$-8.50388-6.50559I$
$u=-1.059930-0.922349I$ $a=\ \ 0.797570+0.248575I$ $b=\ \ 1.51824-0.58719I$	$5.57516-5.36397I$	$-8.50388+6.50559I$
$u=-1.059930-0.922349I$ $a=-0.993922-0.803452I$ $b=-1.53472+0.22114I$	$5.57516-5.36397I$	$-8.50388+6.50559I$

III.

$$\boldsymbol{I_3^u = \langle 2u^{10}+9u^9+\cdots+b-5,\ -3u^{10}-14u^9+\cdots+a+7,\ u^{11}+5u^{10}+\cdots-5u-1\rangle}$$

(i) Arc colorings

$$a_2 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}3u^{10}+14u^9+22u^8-42u^6-38u^5+22u^4+50u^3+9u^2-24u-7\\-2u^{10}-9u^9+\cdots+13u+5\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}3u^{10}+14u^9+22u^8-42u^6-38u^5+22u^4+50u^3+9u^2-24u-7\\-2u^{10}-9u^9+\cdots+11u+4\end{pmatrix}$$
$$a_7 = \begin{pmatrix}u^{10}+5u^9+9u^8+3u^7-13u^6-17u^5+2u^4+18u^3+9u^2-7u-6\\u^{10}+4u^9+5u^8-2u^7-11u^6-6u^5+8u^4+9u^3-2u^2-4u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}u^9+4u^8+5u^7-2u^6-11u^5-6u^4+8u^3+10u^2-2u-6\\-u^3-u^2+1\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u^2+1\\-u^4\end{pmatrix}$$
$$a_5 = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}4u^{10}+18u^9+\cdots-29u-9\\-u^{10}-5u^9-9u^8-3u^7+13u^6+16u^5-4u^4-18u^3-6u^2+8u+3\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-u^{10}-4u^9-4u^8+5u^7+13u^6+2u^5-15u^4-9u^3+8u^2+8u-4\\u^{10}+4u^9+5u^8-2u^7-11u^6-6u^5+8u^4+10u^3-u^2-5u\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-u^{10}-5u^9-9u^8-3u^7+13u^6+17u^5-3u^4-20u^3-10u^2+8u+7\\-u^{10}-4u^9-5u^8+2u^7+10u^6+4u^5-9u^4-8u^3+3u^2+4u\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= u^{10}+6u^9+10u^8-u^7-24u^6-21u^5+17u^4+35u^3+5u^2-26u-14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{11} - 7u^{10} + \cdots + 13u - 1$
c_2	$u^{11} + 5u^{10} + \cdots - 5u - 1$
c_3	$u^{11} - u^{10} + \cdots + 6u - 1$
c_4	$u^{11} + u^{10} - u^9 - 2u^8 - 5u^7 + 4u^6 + 12u^5 - 4u^4 + u^3 + 5u^2 - 1$
c_5	$u^{11} - 5u^{10} + \cdots - 5u + 1$
c_6	$u^{11} + u^{10} + 5u^9 + 5u^8 + 9u^7 + 8u^6 + 6u^5 - u^3 - 6u^2 - 2u - 1$
c_7	$u^{11} + u^{10} + \cdots + 6u + 1$
c_8	$u^{11} - 4u^{10} + \cdots + 15u - 5$
c_9	$u^{11} - u^{10} - u^9 + 2u^8 - 5u^7 - 4u^6 + 12u^5 + 4u^4 + u^3 - 5u^2 + 1$
c_{10}	$u^{11} - u^{10} + 5u^9 - 5u^8 + 9u^7 - 8u^6 + 6u^5 - u^3 + 6u^2 - 2u + 1$
c_{11}	$u^{11} + 4u^{10} + \cdots + 15u + 5$
c_{12}	$u^{11} - 3u^{10} - u^8 + 8u^7 + 8u^6 + 10u^5 - 13u^4 - 17u^3 - 8u^2 + 11u + 5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{11} + y^{10} + \cdots - 11y - 1$
c_2, c_5	$y^{11} - 7y^{10} + \cdots + 13y - 1$
c_3, c_7	$y^{11} - 7y^{10} + \cdots + 8y - 1$
c_4, c_9	$y^{11} - 3y^{10} + \cdots + 10y - 1$
c_6, c_{10}	$y^{11} + 9y^{10} + \cdots - 8y - 1$
c_8, c_{11}	$y^{11} + 8y^{10} + \cdots - 65y - 25$
c_{12}	$y^{11} - 9y^{10} + \cdots + 201y - 25$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.888248 + 0.348807I$ $a = 1.094700 + 0.166339I$ $b = 0.518352 + 0.184714I$	$1.62880 - 3.55605I$	$-13.8351 + 4.8849I$
$u = 0.888248 - 0.348807I$ $a = 1.094700 - 0.166339I$ $b = 0.518352 - 0.184714I$	$1.62880 + 3.55605I$	$-13.8351 - 4.8849I$
$u = 0.865988$ $a = -0.906257$ $b = -0.420586$	-2.51061	-16.1470
$u = -0.794068 + 1.051540I$ $a = -1.013640 + 0.571990I$ $b = -1.35569 - 0.45895I$	$7.94404 + 2.78344I$	$-1.36367 - 2.55365I$
$u = -0.794068 - 1.051540I$ $a = -1.013640 - 0.571990I$ $b = -1.35569 + 0.45895I$	$7.94404 - 2.78344I$	$-1.36367 + 2.55365I$
$u = -1.12350 + 0.92492I$ $a = 0.823218 - 0.546732I$ $b = 1.52074 + 0.25018I$	$6.92380 + 4.41989I$	$-2.52937 - 2.98344I$
$u = -1.12350 - 0.92492I$ $a = 0.823218 + 0.546732I$ $b = 1.52074 - 0.25018I$	$6.92380 - 4.41989I$	$-2.52937 + 2.98344I$
$u = -1.56100 + 0.06449I$ $a = -0.120564 + 0.249710I$ $b = -0.383171 + 0.664642I$	$-9.38029 - 2.74226I$	$-13.9541 + 7.1206I$
$u = -1.56100 - 0.06449I$ $a = -0.120564 - 0.249710I$ $b = -0.383171 - 0.664642I$	$-9.38029 + 2.74226I$	$-13.9541 - 7.1206I$
$u = -0.342676 + 0.154468I$ $a = 1.16941 - 2.73498I$ $b = 0.41006 + 1.60424I$	$-4.21611 + 3.79963I$	$-5.24446 - 3.20279I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.342676 - 0.154468I$		
$a = 1.16941 + 2.73498I$	$-4.21611 - 3.79963I$	$-5.24446 + 3.20279I$
$b = 0.41006 - 1.60424I$		

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -7$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -1.00000$ $b = 0.618034$	-3.28987	-7.00000
$u = 1.00000$ $a = -1.00000$ $b = -1.61803$	-3.28987	-7.00000

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

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_{12} = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_8, c_{11}	y
c_3, c_4, c_6 c_7, c_9, c_{10} c_{12}	$y-1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = \ \ 1.00000$ $a = \ \ \ \ \ \ \ \ \ 0$ $b = -1.00000$	-1.64493	-6.00000

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u(u-1)^2$ $\cdot(u^{10}+2u^9+9u^8+15u^7+28u^6+36u^5+35u^4+22u^3+15u^2+6u+1)^2$ $\cdot(u^{11}-7u^{10}+\cdots+13u-1)(u^{20}+8u^{19}+\cdots+150u+9)$
c_2	$u(u-1)^2$ $\cdot(u^{10}-2u^9+u^8+3u^7-2u^6-2u^5+3u^4+2u^3-u^2-2u+1)^2$ $\cdot(u^{11}+5u^{10}+\cdots-5u-1)(u^{20}+8u^{19}+\cdots-12u-3)$
c_3	$(u+1)(u^2-u-1)(u^{11}-u^{10}+\cdots+6u-1)(u^{20}-2u^{19}+\cdots+u+1)$ $\cdot(u^{20}+2u^{19}+\cdots-19u+61)$
c_4	$(u+1)(u^2-u-1)$ $\cdot(u^{11}+u^{10}-u^9-2u^8-5u^7+4u^6+12u^5-4u^4+u^3+5u^2-1)$ $\cdot(u^{20}-8u^{18}+\cdots+3u+1)(u^{20}-6u^{18}+\cdots-15u+85)$
c_5	$u(u+1)^2$ $\cdot(u^{10}-2u^9+u^8+3u^7-2u^6-2u^5+3u^4+2u^3-u^2-2u+1)^2$ $\cdot(u^{11}-5u^{10}+\cdots-5u+1)(u^{20}+8u^{19}+\cdots-12u-3)$
c_6	$(u-1)^2(u+1)$ $\cdot(u^{11}+u^{10}+5u^9+5u^8+9u^7+8u^6+6u^5-u^3-6u^2-2u-1)$ $\cdot(u^{20}+6u^{18}+\cdots+9u+1)(u^{20}-3u^{19}+\cdots-108u+59)$
c_7	$(u+1)(u^2+u-1)(u^{11}+u^{10}+\cdots+6u+1)(u^{20}-2u^{19}+\cdots+u+1)$ $\cdot(u^{20}+2u^{19}+\cdots-19u+61)$
c_8	$u^3(u^{10}+3u^9+6u^8+7u^7+9u^6+9u^5+10u^4+6u^3+5u^2+3u+2)^2$ $\cdot(u^{11}-4u^{10}+\cdots+15u-5)(u^{20}-7u^{19}+\cdots+12u-3)$
c_9	$(u+1)(u^2+u-1)$ $\cdot(u^{11}-u^{10}-u^9+2u^8-5u^7-4u^6+12u^5+4u^4+u^3-5u^2+1)$ $\cdot(u^{20}-8u^{18}+\cdots+3u+1)(u^{20}-6u^{18}+\cdots-15u+85)$
c_{10}	$((u+1)^3)(u^{11}-u^{10}+\cdots-2u+1)$ $\cdot(u^{20}+6u^{18}+\cdots+9u+1)(u^{20}-3u^{19}+\cdots-108u+59)$
c_{11}	$u^3(u^{10}+3u^9+6u^8+7u^7+9u^6+9u^5+10u^4+6u^3+5u^2+3u+2)^2$ $\cdot(u^{11}+4u^{10}+\cdots+15u+5)(u^{20}-7u^{19}+\cdots+12u-3)$
c_{12}	$(u-1)^{20}(u+1)^3$ $\cdot(u^{11}-3u^{10}-u^8+8u^7+8u^6+10u^5-13u^4-17u^3-8u^2+11u+5)$ $\cdot(u^{20}+21u^{19}+\cdots+6656u+512)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y(y-1)^2(y^{10}+14y^9+\cdots-6y+1)^2(y^{11}+y^{10}+\cdots-11y-1)$ $\cdot(y^{20}+16y^{19}+\cdots-5202y+81)$
c_2, c_5	$y(y-1)^2$ $\cdot(y^{10}-2y^9+9y^8-15y^7+28y^6-36y^5+35y^4-22y^3+15y^2-6y+1)^2$ $\cdot(y^{11}-7y^{10}+\cdots+13y-1)(y^{20}-8y^{19}+\cdots-150y+9)$
c_3, c_7	$(y-1)(y^2-3y+1)(y^{11}-7y^{10}+\cdots+8y-1)(y^{20}-28y^{19}+\cdots+7y+1)$ $\cdot(y^{20}-12y^{19}+\cdots-40987y+3721)$
c_4, c_9	$(y-1)(y^2-3y+1)(y^{11}-3y^{10}+\cdots+10y-1)$ $\cdot(y^{20}-16y^{19}+\cdots+5y+1)(y^{20}-12y^{19}+\cdots-97975y+7225)$
c_6, c_{10}	$((y-1)^3)(y^{11}+9y^{10}+\cdots-8y-1)(y^{20}+12y^{19}+\cdots-21y+1)$ $\cdot(y^{20}+13y^{19}+\cdots+76246y+3481)$
c_8, c_{11}	$y^3(y^{10}+3y^9+\cdots+11y+4)^2(y^{11}+8y^{10}+\cdots-65y-25)$ $\cdot(y^{20}+11y^{19}+\cdots-132y+9)$
c_{12}	$((y-1)^{23})(y^{11}-9y^{10}+\cdots+201y-25)$ $\cdot(y^{20}-9y^{19}+\cdots-2621440y+262144)$