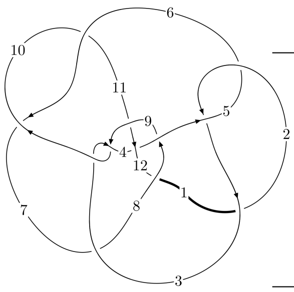
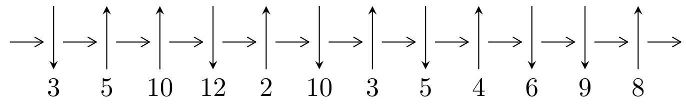
$12n_{0394}$ ($K12n_{0394}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 5u^{16} + 50u^{15} + \cdots + 23b - 101,\ -166u^{16} - 487u^{15} + \cdots + 69a + 216,\ u^{17} + 4u^{16} + \cdots - 6u - 3\rangle$$
$$I_2^u = \langle u^2 + b - u - 2,\ a - 2u + 2,\ u^3 - 2u^2 + u + 1\rangle$$
$$I_3^u = \langle b + 1,\ -2u^4a + 2u^4 + 2u^2a - u^3 + a^2 - 2au - 3a + 2u + 3,\ u^5 - u^4 + u^2 + u - 1\rangle$$
$$I_4^u = \langle b + 1,\ -2u^4a + 8u^4 + 2u^2a + 3u^3 + a^2 + 2au - 2u^2 - 3a - 8u + 11,\ u^5 + u^4 - u^2 + u + 1\rangle$$
$$I_5^u = \langle b - u - 1,\ a - u,\ u^2 - u + 1\rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 42 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. $\boldsymbol{I_1^u = \langle 5u^{16} + 50u^{15} + \cdots + 23b - 101,\ -166u^{16} - 487u^{15} + \cdots + 69a + 216,\ u^{17} + 4u^{16} + \cdots - 6u - 3\rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2.40580u^{16} + 7.05797u^{15} + \cdots - 7.44928u - 3.13043 \\ -0.217391u^{16} - 2.17391u^{15} + \cdots + 2.34783u + 4.39130 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1.53623u^{16} + 6.36232u^{15} + \cdots - 7.05797u - 8.56522 \\ 1.39130u^{16} + 4.91304u^{15} + \cdots - 5.82609u - 3.30435 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.144928u^{16} + 1.44928u^{15} + \cdots - 1.23188u - 5.26087 \\ 1.39130u^{16} + 4.91304u^{15} + \cdots - 5.82609u - 3.30435 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1.89855u^{16} + 6.98551u^{15} + \cdots - 9.63768u - 6.21739 \\ 0.304348u^{16} + 0.0434783u^{15} + \cdots - 0.0869565u + 2.65217 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.971014u^{16} - 2.71014u^{15} + \cdots + 2.75362u + 4.34783 \\ 0.782609u^{16} + 1.82609u^{15} + \cdots - 1.65217u - 0.608696 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1.01449u^{16} + 2.14493u^{15} + \cdots - 1.62319u + 0.173913 \\ -1.13043u^{16} - 3.30435u^{15} + \cdots + 2.60870u + 2.43478 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.115942u^{16} - 1.15942u^{15} + \cdots + 0.985507u + 2.60870 \\ -1.13043u^{16} - 3.30435u^{15} + \cdots + 2.60870u + 2.43478 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1.60870u^{16} - 5.08696u^{15} + \cdots + 9.17391u + 5.69565 \\ 1.82609u^{16} + 5.26087u^{15} + \cdots - 5.52174u - 5.08696 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -2.40580u^{16} - 7.05797u^{15} + \cdots + 9.44928u + 7.13043 \\ 0.652174u^{16} + 2.52174u^{15} + \cdots - 3.04348u - 2.17391 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{117}{23}u^{16} + \frac{365}{23}u^{15} + \cdots - \frac{592}{23}u - \frac{459}{23}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{17} + 16u^{16} + \cdots + 10u - 1$
c_2, c_3, c_5 c_9	$u^{17} + 8u^{15} + \cdots + 4u + 1$
c_4	$u^{17} + 4u^{16} + \cdots - 6u - 3$
c_6, c_8, c_{10}	$u^{17} + u^{16} + \cdots - 5u + 3$
c_7	$u^{17} - u^{16} + \cdots - 32u + 32$
c_{11}	$u^{17} - 4u^{16} + \cdots - 20u + 4$
c_{12}	$u^{17} - u^{16} + \cdots - 8u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{17} + 12y^{16} + \cdots + 582y - 1$
c_2, c_3, c_5 c_9	$y^{17} + 16y^{16} + \cdots + 10y - 1$
c_4	$y^{17} - 4y^{16} + \cdots + 30y - 9$
c_6, c_8, c_{10}	$y^{17} + 9y^{16} + \cdots - 77y - 9$
c_7	$y^{17} + 49y^{16} + \cdots + 512y - 1024$
c_{11}	$y^{17} + 28y^{15} + \cdots + 192y - 16$
c_{12}	$y^{17} - 13y^{16} + \cdots + 16y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.646906+0.777899I$ $a=\ \ 0.092542+0.678674I$ $b=-0.777189+0.739752I$	$0.36478+1.63051I$	$1.33246-2.97241I$
$u=-0.646906-0.777899I$ $a=\ \ 0.092542-0.678674I$ $b=-0.777189-0.739752I$	$0.36478-1.63051I$	$1.33246+2.97241I$
$u=\ \ 0.784984+0.477130I$ $a=-1.94672-0.49177I$ $b=\ \ 0.452575+0.318517I$	$-11.20970-1.90455I$	$-7.06546+3.61390I$
$u=\ \ 0.784984-0.477130I$ $a=-1.94672+0.49177I$ $b=\ \ 0.452575-0.318517I$	$-11.20970+1.90455I$	$-7.06546-3.61390I$
$u=\ \ 0.026724+0.844372I$ $a=\ \ 0.015923+0.426626I$ $b=\ \ 0.443696+0.862498I$	$0.663995+1.197200I$	$5.46705-5.78482I$
$u=\ \ 0.026724-0.844372I$ $a=\ \ 0.015923-0.426626I$ $b=\ \ 0.443696-0.862498I$	$0.663995-1.197200I$	$5.46705+5.78482I$
$u=-0.773893+0.309967I$ $a=\ \ 0.41469-3.18002I$ $b=\ \ 1.333190+0.341589I$	$-12.05840+1.31476I$	$-5.96182-5.42781I$
$u=-0.773893-0.309967I$ $a=\ \ 0.41469+3.18002I$ $b=\ \ 1.333190-0.341589I$	$-12.05840-1.31476I$	$-5.96182+5.42781I$
$u=-0.843845+0.979007I$ $a=\ \ 0.448751-0.339775I$ $b=\ \ 1.69118-0.70021I$	$7.61133-5.51913I$	$-0.22086+1.92858I$
$u=-0.843845-0.979007I$ $a=\ \ 0.448751+0.339775I$ $b=\ \ 1.69118+0.70021I$	$7.61133+5.51913I$	$-0.22086-1.92858I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.657862$ $a = 2.09899$ $b = -1.11320$	-2.54119	-9.83580
$u = -1.029550 + 0.876363I$ $a = 0.93274 - 1.67101I$ $b = 1.75470 + 0.71072I$	$7.0039 + 12.3137I$	$-1.13721 - 6.03542I$
$u = -1.029550 - 0.876363I$ $a = 0.93274 + 1.67101I$ $b = 1.75470 - 0.71072I$	$7.0039 - 12.3137I$	$-1.13721 + 6.03542I$
$u = 1.244670 + 0.558531I$ $a = 0.23880 + 1.74740I$ $b = 1.68522 - 1.34789I$	$-3.20455 - 6.53546I$	$-6.86200 + 8.35748I$
$u = 1.244670 - 0.558531I$ $a = 0.23880 - 1.74740I$ $b = 1.68522 + 1.34789I$	$-3.20455 + 6.53546I$	$-6.86200 - 8.35748I$
$u = -1.091120 + 0.825988I$ $a = -0.746214 + 0.856671I$ $b = -1.026770 - 0.956290I$	$-1.06020 + 4.55876I$	$-2.13426 - 7.08307I$
$u = -1.091120 - 0.825988I$ $a = -0.746214 - 0.856671I$ $b = -1.026770 + 0.956290I$	$-1.06020 - 4.55876I$	$-2.13426 + 7.08307I$

II. $I_2^u = \langle u^2 + b - u - 2,\ a - 2u + 2,\ u^3 - 2u^2 + u + 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 6u^2 - 6u + 3$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.23279 + 0.79255I$ $a = 0.46557 + 1.58510I$ $b = 2.34116 - 1.16154I$	$-2.26573 - 6.33267I$	$0.95302 + 6.96925I$
$u = 1.23279 - 0.79255I$ $a = 0.46557 - 1.58510I$ $b = 2.34116 + 1.16154I$	$-2.26573 + 6.33267I$	$0.95302 - 6.96925I$
$u = -0.465571$ $a = -2.93114$ $b = 1.31767$	-2.04827	7.09400

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^4+4u^2-4u-7$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{10} - 7u^9 + \cdots + 3u + 1$
c_2, c_3, c_5 c_9	$u^{10} + u^9 - 3u^8 - 2u^7 + 10u^6 + 7u^5 - 4u^4 + u^3 + 6u^2 + 3u + 1$
c_4	$(u^5 - u^4 + u^2 + u - 1)^2$
c_6, c_8, c_{10}	$u^{10} + 3u^9 + \cdots + 102u + 21$
c_7	$(u^5 + u^4 + 4u^3 + 3u^2 + 3u + 1)^2$
c_{11}	$u^{10} - u^9 + 8u^8 + 6u^7 + 19u^6 + 54u^5 + 22u^4 + 51u^3 + 47u^2 - 61u + 43$
c_{12}	$u^{10} + u^9 + \cdots + 87u + 43$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{10} + 17y^9 + \cdots + 35y + 1$
c_2, c_3, c_5 c_9	$y^{10} - 7y^9 + \cdots + 3y + 1$
c_4	$(y^5 - y^4 + 4y^3 - 3y^2 + 3y - 1)^2$
c_6, c_8, c_{10}	$y^{10} + 21y^9 + \cdots + 852y + 441$
c_7	$(y^5 + 7y^4 + 16y^3 + 13y^2 + 3y - 1)^2$
c_{11}	$y^{10} + 15y^9 + \cdots + 321y + 1849$
c_{12}	$y^{10} - 25y^9 + \cdots + 3009y + 1849$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.758138+0.584034I$ $a=-0.221420+0.189697I$ $b=-1.00000$	$0.17487+2.21397I$	$-0.11432-4.22289I$
$u=-0.758138+0.584034I$ $a=-0.22142+1.92175I$ $b=-1.00000$	$0.17487+2.21397I$	$-0.11432-4.22289I$
$u=-0.758138-0.584034I$ $a=-0.221420-0.189697I$ $b=-1.00000$	$0.17487-2.21397I$	$-0.11432+4.22289I$
$u=-0.758138-0.584034I$ $a=-0.22142-1.92175I$ $b=-1.00000$	$0.17487-2.21397I$	$-0.11432+4.22289I$
$u=\ 0.935538+0.903908I$ $a=-0.479684+0.275456I$ $b=-1.00000$	$9.31336-3.33174I$	$0.91874+2.36228I$
$u=\ 0.935538+0.903908I$ $a=-0.47968-1.45659I$ $b=-1.00000$	$9.31336-3.33174I$	$0.91874+2.36228I$
$u=\ 0.935538-0.903908I$ $a=-0.479684-0.275456I$ $b=-1.00000$	$9.31336+3.33174I$	$0.91874-2.36228I$
$u=\ 0.935538-0.903908I$ $a=-0.47968+1.45659I$ $b=-1.00000$	$9.31336+3.33174I$	$0.91874-2.36228I$
$u=\ 0.645200$ $a=\ 1.90221+0.86603I$ $b=-1.00000$	-2.52712	-8.60880
$u=\ 0.645200$ $a=\ 1.90221-0.86603I$ $b=-1.00000$	-2.52712	-8.60880

IV. $I_4^u = \langle b+1,\ -2u^4a + 8u^4 + \cdots - 3a + 11,\ u^5 + u^4 - u^2 + u + 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4u^4 + 4u^2 + 4u - 7$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{10} - 13u^9 + \cdots - 59u + 9$
c_2, c_9	$u^{10} - u^9 + 7u^8 - 6u^7 + 18u^6 - 13u^5 + 22u^4 - 13u^3 + 14u^2 - 5u + 3$
c_3, c_5	$u^{10} + u^9 + 7u^8 + 6u^7 + 18u^6 + 13u^5 + 22u^4 + 13u^3 + 14u^2 + 5u + 3$
c_4	$(u^5 + u^4 - u^2 + u + 1)^2$
c_6	$u^{10} + 3u^9 + u^8 - 2u^7 + 2u^6 + 3u^5 - u^4 + u^3 + 2u^2 - 2u + 1$
c_7	$u^{10} + 19u^8 + 112u^6 + 161u^4 - 253u^2 + 203$
c_8, c_{10}	$u^{10} - 3u^9 + u^8 + 2u^7 + 2u^6 - 3u^5 - u^4 - u^3 + 2u^2 + 2u + 1$
c_{11}	$u^{10} + u^9 - 4u^8 + 2u^7 + 19u^6 + 2u^5 - 24u^4 + 5u^3 + 41u^2 + 21u + 7$
c_{12}	$u^{10} - u^9 + 4u^8 - u^7 + 5u^6 - 2u^5 + u^4 + u^3 + 5u^2 - 7u + 3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{10} - 23y^9 + \cdots + 83y + 81$
c_2, c_3, c_5 c_9	$y^{10} + 13y^9 + \cdots + 59y + 9$
c_4	$(y^5 - y^4 + 4y^3 - 3y^2 + 3y - 1)^2$
c_6, c_8, c_{10}	$y^{10} - 7y^9 + 17y^8 - 20y^7 + 12y^6 + 9y^5 - 3y^4 + 11y^3 + 6y^2 + 1$
c_7	$(y^5 + 19y^4 + 112y^3 + 161y^2 - 253y + 203)^2$
c_{11}	$y^{10} - 9y^9 + \cdots + 133y + 49$
c_{12}	$y^{10} + 7y^9 + \cdots - 19y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.758138 + 0.584034I$ $a = 1.022550 - 0.582879I$ $b = -1.00000$	$-9.69473 - 2.21397I$	$-0.11432 + 4.22289I$
$u = 0.758138 + 0.584034I$ $a = -1.46539 - 1.52857I$ $b = -1.00000$	$-9.69473 - 2.21397I$	$-0.11432 + 4.22289I$
$u = 0.758138 - 0.584034I$ $a = 1.022550 + 0.582879I$ $b = -1.00000$	$-9.69473 + 2.21397I$	$-0.11432 - 4.22289I$
$u = 0.758138 - 0.584034I$ $a = -1.46539 + 1.52857I$ $b = -1.00000$	$-9.69473 + 2.21397I$	$-0.11432 - 4.22289I$
$u = -0.935538 + 0.903908I$ $a = -0.575673 + 0.840559I$ $b = -1.00000$	$-0.55625 + 3.33174I$	$0.91874 - 2.36228I$
$u = -0.935538 + 0.903908I$ $a = -0.383695 + 0.340581I$ $b = -1.00000$	$-0.55625 + 3.33174I$	$0.91874 - 2.36228I$
$u = -0.935538 - 0.903908I$ $a = -0.575673 - 0.840559I$ $b = -1.00000$	$-0.55625 - 3.33174I$	$0.91874 + 2.36228I$
$u = -0.935538 - 0.903908I$ $a = -0.383695 - 0.340581I$ $b = -1.00000$	$-0.55625 - 3.33174I$	$0.91874 + 2.36228I$
$u = -0.645200$ $a = 1.90221 + 3.50588I$ $b = -1.00000$	-12.3967	-8.60880
$u = -0.645200$ $a = 1.90221 - 3.50588I$ $b = -1.00000$	-12.3967	-8.60880

V. $I_5^u = \langle b - u - 1,\ a - u,\ u^2 - u + 1\rangle$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ -u+1 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} u \\ u \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} 1 \\ -u+1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1 \\ u-1 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.500000 + 0.866025I$		
$a =$	$0.500000 + 0.866025I$	0	0
$b =$	$1.50000 + 0.86603I$		
$u =$	$0.500000 - 0.866025I$		
$a =$	$0.500000 - 0.866025I$	0	0
$b =$	$1.50000 - 0.86603I$		

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u+1)(u^3-2u^2+u+1)(u^{10}-13u^9+\cdots-59u+9)$ $\cdot(u^{10}-7u^9+\cdots+3u+1)(u^{17}+16u^{16}+\cdots+10u-1)$
c_2, c_9	$(u^2+u+1)(u^3+u+1)$ $\cdot(u^{10}-u^9+7u^8-6u^7+18u^6-13u^5+22u^4-13u^3+14u^2-5u+3)$ $\cdot(u^{10}+u^9-3u^8-2u^7+10u^6+7u^5-4u^4+u^3+6u^2+3u+1)$ $\cdot(u^{17}+8u^{15}+\cdots+4u+1)$
c_3, c_5	$(u^2-u+1)(u^3+u-1)$ $\cdot(u^{10}+u^9-3u^8-2u^7+10u^6+7u^5-4u^4+u^3+6u^2+3u+1)$ $\cdot(u^{10}+u^9+7u^8+6u^7+18u^6+13u^5+22u^4+13u^3+14u^2+5u+3)$ $\cdot(u^{17}+8u^{15}+\cdots+4u+1)$
c_4	$(u^2-u+1)(u^3-2u^2+u+1)(u^5-u^4+u^2+u-1)^2$ $\cdot((u^5+u^4-u^2+u+1)^2)(u^{17}+4u^{16}+\cdots-6u-3)$
c_6	$(u^2-u+1)(u^3-u^2-1)$ $\cdot(u^{10}+3u^9+u^8-2u^7+2u^6+3u^5-u^4+u^3+2u^2-2u+1)$ $\cdot(u^{10}+3u^9+\cdots+102u+21)(u^{17}+u^{16}+\cdots-5u+3)$
c_7	$u^5(u^5+u^4+4u^3+3u^2+3u+1)^2$ $\cdot(u^{10}+19u^8+112u^6+161u^4-253u^2+203)$ $\cdot(u^{17}-u^{16}+\cdots-32u+32)$
c_8, c_{10}	$(u^2+u+1)(u^3+u^2+1)$ $\cdot(u^{10}-3u^9+u^8+2u^7+2u^6-3u^5-u^4-u^3+2u^2+2u+1)$ $\cdot(u^{10}+3u^9+\cdots+102u+21)(u^{17}+u^{16}+\cdots-5u+3)$
c_{11}	$u^2(u^3+3u^2+4u+3)$ $\cdot(u^{10}-u^9+8u^8+6u^7+19u^6+54u^5+22u^4+51u^3+47u^2-61u+43)$ $\cdot(u^{10}+u^9-4u^8+2u^7+19u^6+2u^5-24u^4+5u^3+41u^2+21u+7)$ $\cdot(u^{17}-4u^{16}+\cdots-20u+4)$
c_{12}	$(u+1)^3(u^2-u+1)$ $\cdot(u^{10}-u^9+4u^8-u^7+5u^6-2u^5+u^4+u^3+5u^2-7u+3)$ $\cdot(u^{10}+u^9+\cdots+87u+43)(u^{17}-u^{16}+\cdots-8u^2+1)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^2+y+1)(y^3-2y^2+5y-1)(y^{10}-23y^9+\cdots+83y+81)$ $\cdot(y^{10}+17y^9+\cdots+35y+1)(y^{17}+12y^{16}+\cdots+582y-1)$
c_2, c_3, c_5 c_9	$(y^2+y+1)(y^3+2y^2+y-1)(y^{10}-7y^9+\cdots+3y+1)$ $\cdot(y^{10}+13y^9+\cdots+59y+9)(y^{17}+16y^{16}+\cdots+10y-1)$
c_4	$(y^2+y+1)(y^3-2y^2+5y-1)(y^5-y^4+4y^3-3y^2+3y-1)^4$ $\cdot(y^{17}-4y^{16}+\cdots+30y-9)$
c_6, c_8, c_{10}	$(y^2+y+1)(y^3-y^2-2y-1)$ $\cdot(y^{10}-7y^9+17y^8-20y^7+12y^6+9y^5-3y^4+11y^3+6y^2+1)$ $\cdot(y^{10}+21y^9+\cdots+852y+441)(y^{17}+9y^{16}+\cdots-77y-9)$
c_7	$y^5(y^5+7y^4+16y^3+13y^2+3y-1)^2$ $\cdot(y^5+19y^4+112y^3+161y^2-253y+203)^2$ $\cdot(y^{17}+49y^{16}+\cdots+512y-1024)$
c_{11}	$y^2(y^3-y^2-2y-9)(y^{10}-9y^9+\cdots+133y+49)$ $\cdot(y^{10}+15y^9+\cdots+321y+1849)(y^{17}+28y^{15}+\cdots+192y-16)$
c_{12}	$((y-1)^3)(y^2+y+1)(y^{10}-25y^9+\cdots+3009y+1849)$ $\cdot(y^{10}+7y^9+\cdots-19y+9)(y^{17}-13y^{16}+\cdots+16y-1)$