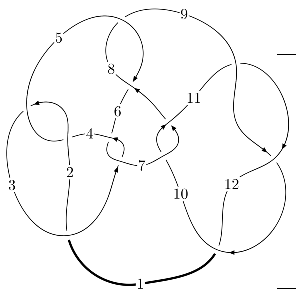
$12n_{0091}$ ($K12n_{0091}$)



A knot diagram[1]

Linearized knot diagam

$$\rightarrow\downarrow_{3}\rightarrow\downarrow_{5}\rightarrow\downarrow_{7}\rightarrow\downarrow_{2}\rightarrow\downarrow_{8}\rightarrow\downarrow_{4}\rightarrow\downarrow_{11}\rightarrow\downarrow_{5}\rightarrow\downarrow_{12}\rightarrow\downarrow_{7}\rightarrow\downarrow_{9}\rightarrow\downarrow_{10}\rightarrow$$

Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle &9.64531 \times 10^{104} u^{44} - 4.88193 \times 10^{105} u^{43} + \cdots + 3.96010 \times 10^{106} b + 2.98159 \times 10^{106}, \\
&- 2.00715 \times 10^{105} u^{44} - 1.57876 \times 10^{106} u^{43} + \cdots + 3.96010 \times 10^{106} a + 1.15179 \times 10^{108}, \\
&u^{45} - 5u^{44} + \cdots - 4u + 4\rangle \\
I_2^u = \langle &b,\ 6u^7 - 2u^6 - 8u^5 + 7u^4 + 11u^3 - 5u^2 + a - 4u + 9,\ u^8 - u^7 - u^6 + 2u^5 + u^4 - 2u^3 + 2u - 1\rangle \\
I_3^u = \langle &-7a^2u + 4a^2 - 16au + 5b + 7a - 5u,\ a^3 + a^2u + 4a^2 + 5au + 9a + 11u + 18,\ u^2 + u - 1\rangle
\end{aligned}$$

$$I_1^v = \langle a,\ 3b - v - 5,\ v^2 + 7v + 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 61 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. $\boldsymbol{I_1^u = \langle 9.65 \times 10^{104}u^{44} - 4.88 \times 10^{105}u^{43} + \cdots + 3.96 \times 10^{106}b + 2.98 \times 10^{106},\ -2.01 \times 10^{105}u^{44} - 1.58 \times 10^{106}u^{43} + \cdots + 3.96 \times 10^{106}a + 1.15 \times 10^{108},\ u^{45} - 5u^{44} + \cdots - 4u + 4\rangle}$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 0.0506843u^{44} + 0.398668u^{43} + \cdots + 188.945u - 29.0849 \\ -0.0243562u^{44} + 0.123278u^{43} + \cdots + 0.647937u - 0.752907 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 0.0263281u^{44} + 0.521945u^{43} + \cdots + 189.593u - 29.8378 \\ -0.0243562u^{44} + 0.123278u^{43} + \cdots + 0.647937u - 0.752907 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.578672u^{44} + 2.91168u^{43} + \cdots + 115.832u - 12.7171 \\ -0.0122192u^{44} + 0.0421916u^{43} + \cdots - 0.844080u - 0.0205202 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.523728u^{44} + 2.65934u^{43} + \cdots + 112.600u - 12.6643 \\ 0.0107063u^{44} - 0.0589316u^{43} + \cdots - 0.974335u - 0.110043 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.200885u^{44} + 0.997869u^{43} + \cdots + 26.7328u - 3.10717 \\ -0.0408682u^{44} + 0.220014u^{43} + \cdots + 3.28466u - 0.639926 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.160017u^{44} - 0.777856u^{43} + \cdots - 23.4481u + 2.46724 \\ -0.0408682u^{44} + 0.220014u^{43} + \cdots + 3.28466u - 0.639926 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.371834u^{44} - 1.26324u^{43} + \cdots + 112.115u - 20.4632 \\ 0.0107063u^{44} - 0.0589316u^{43} + \cdots - 0.974335u - 0.110043 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.176529u^{44} + 0.860569u^{43} + \cdots + 24.2254u - 2.44102 \\ 0.0243554u^{44} - 0.137300u^{43} + \cdots - 2.50734u + 0.666147 \end{pmatrix}$$

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -13.4312u^{44} + 61.0887u^{43} + \cdots + 779.429u - 36.2514$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{45} + 10u^{44} + \cdots + 930u + 1$
c_2, c_4	$u^{45} - 12u^{44} + \cdots - 26u - 1$
c_3, c_6	$u^{45} - 4u^{44} + \cdots - 640u - 256$
c_5, c_8	$u^{45} - 3u^{44} + \cdots + 32u - 64$
c_7, c_{10}	$u^{45} + 5u^{44} + \cdots - 4u - 4$
c_9, c_{11}, c_{12}	$u^{45} - 7u^{44} + \cdots + 12u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{45} + 62y^{44} + \cdots + 852778y - 1$
c_2, c_4	$y^{45} - 10y^{44} + \cdots + 930y - 1$
c_3, c_6	$y^{45} + 54y^{44} + \cdots + 4571136y - 65536$
c_5, c_8	$y^{45} + 33y^{44} + \cdots + 234496y - 4096$
c_7, c_{10}	$y^{45} + 3y^{44} + \cdots + 1256y - 16$
c_9, c_{11}, c_{12}	$y^{45} - 31y^{44} + \cdots - 142y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.915118 + 0.408726I$ $a = -0.325649 + 0.527673I$ $b = -0.009810 + 0.890868I$	$1.38833 + 3.58772I$	$-7.79003 - 7.62926I$
$u = -0.915118 - 0.408726I$ $a = -0.325649 - 0.527673I$ $b = -0.009810 - 0.890868I$	$1.38833 - 3.58772I$	$-7.79003 + 7.62926I$
$u = 0.365105 + 0.956372I$ $a = 0.783884 - 0.698913I$ $b = 0.189316 + 0.701955I$	$-1.23770 + 1.72442I$	$-9.34080 - 2.25647I$
$u = 0.365105 - 0.956372I$ $a = 0.783884 + 0.698913I$ $b = 0.189316 - 0.701955I$	$-1.23770 - 1.72442I$	$-9.34080 + 2.25647I$
$u = 0.024171 + 0.935812I$ $a = -0.223335 + 0.379731I$ $b = -1.200670 - 0.692757I$	$-0.018874 - 0.450301I$	$-9.70033 + 2.11767I$
$u = 0.024171 - 0.935812I$ $a = -0.223335 - 0.379731I$ $b = -1.200670 + 0.692757I$	$-0.018874 + 0.450301I$	$-9.70033 - 2.11767I$
$u = 0.966319 + 0.460827I$ $a = 0.530555 - 0.776754I$ $b = 0.560995 - 0.542777I$	$-0.360727 + 0.771902I$	$-10.39463 - 1.07835I$
$u = 0.966319 - 0.460827I$ $a = 0.530555 + 0.776754I$ $b = 0.560995 + 0.542777I$	$-0.360727 - 0.771902I$	$-10.39463 + 1.07835I$
$u = 0.377077 + 1.004800I$ $a = -0.126523 - 1.194160I$ $b = -0.51946 + 1.36700I$	$-0.90351 - 3.78658I$	$-11.20030 + 4.56976I$
$u = 0.377077 - 1.004800I$ $a = -0.126523 + 1.194160I$ $b = -0.51946 - 1.36700I$	$-0.90351 + 3.78658I$	$-11.20030 - 4.56976I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.087000 + 1.121450I$ $a = 0.024928 + 1.412560I$ $b = 0.00967 - 1.90333I$	$5.86522 - 1.45260I$	$-9.17004 + 0.I$
$u = 0.087000 - 1.121450I$ $a = 0.024928 - 1.412560I$ $b = 0.00967 + 1.90333I$	$5.86522 + 1.45260I$	$-9.17004 + 0.I$
$u = -0.401049 + 1.080630I$ $a = -0.302970 - 1.307030I$ $b = -0.62624 + 1.82528I$	$4.81861 + 6.30906I$	$-12.00000 - 5.34980I$
$u = -0.401049 - 1.080630I$ $a = -0.302970 + 1.307030I$ $b = -0.62624 - 1.82528I$	$4.81861 - 6.30906I$	$-12.00000 + 5.34980I$
$u = 1.068610 + 0.569431I$ $a = -0.186178 - 0.007842I$ $b = -0.179271 - 0.620523I$	$-3.67456 - 6.89597I$	$0. + 11.15950I$
$u = 1.068610 - 0.569431I$ $a = -0.186178 + 0.007842I$ $b = -0.179271 + 0.620523I$	$-3.67456 + 6.89597I$	$0. - 11.15950I$
$u = -0.482744 + 1.160890I$ $a = 0.263029 + 0.628730I$ $b = 1.16026 - 0.81675I$	$4.19700 + 1.34910I$	0
$u = -0.482744 - 1.160890I$ $a = 0.263029 - 0.628730I$ $b = 1.16026 + 0.81675I$	$4.19700 - 1.34910I$	0
$u = 0.659876 + 1.186580I$ $a = 0.013007 - 0.348897I$ $b = 1.58964 + 0.23048I$	$1.89448 - 6.79376I$	0
$u = 0.659876 - 1.186580I$ $a = 0.013007 + 0.348897I$ $b = 1.58964 - 0.23048I$	$1.89448 + 6.79376I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.617649$ $a = 11.3061$ $b = 0.157357$	-2.53079	-190.200
$u = 0.583689$ $a = 0.731156$ $b = -0.181306$	-0.821501	-11.8740
$u = -0.564571 + 0.051345I$ $a = 0.43377 - 4.24949I$ $b = -0.197314 - 1.345870I$	$1.89233 - 2.90725I$	$-43.5907 + 10.5695I$
$u = -0.564571 - 0.051345I$ $a = 0.43377 + 4.24949I$ $b = -0.197314 + 1.345870I$	$1.89233 + 2.90725I$	$-43.5907 - 10.5695I$
$u = -1.42658 + 0.31702I$ $a = 0.339255 + 0.288013I$ $b = -0.203375 - 1.016320I$	$-6.72932 + 1.63796I$	0
$u = -1.42658 - 0.31702I$ $a = 0.339255 - 0.288013I$ $b = -0.203375 + 1.016320I$	$-6.72932 - 1.63796I$	0
$u = 0.451637 + 0.254040I$ $a = -7.24829 + 2.01469I$ $b = -0.377187 - 0.281972I$	$-2.91440 + 0.52040I$	$-28.2057 + 17.3785I$
$u = 0.451637 - 0.254040I$ $a = -7.24829 - 2.01469I$ $b = -0.377187 + 0.281972I$	$-2.91440 - 0.52040I$	$-28.2057 - 17.3785I$
$u = -1.59963$ $a = 2.25479$ $b = 0.531548$	-10.0523	0
$u = -0.311546$ $a = -0.410463$ $b = 1.54859$	-10.6185	-59.2780

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.249076+0.150044I$ $a = 1.39946-0.69287I$ $b = -0.633876+0.017196I$	$-0.943845+0.013085I$	$-9.49805+0.60913I$
$u = 0.249076-0.150044I$ $a = 1.39946+0.69287I$ $b = -0.633876-0.017196I$	$-0.943845-0.013085I$	$-9.49805-0.60913I$
$u = 1.23028+1.20187I$ $a = 0.763456-1.051240I$ $b = 0.78255+1.69623I$	$7.5666-15.2974I$	0
$u = 1.23028-1.20187I$ $a = 0.763456+1.051240I$ $b = 0.78255-1.69623I$	$7.5666+15.2974I$	0
$u = 1.04398+1.38545I$ $a = -0.513899+1.027650I$ $b = -0.35731-1.99808I$	$9.42541-7.53688I$	0
$u = 1.04398-1.38545I$ $a = -0.513899-1.027650I$ $b = -0.35731+1.99808I$	$9.42541+7.53688I$	0
$u = -1.34253+1.18884I$ $a = 0.783841+0.869513I$ $b = 0.59331-1.89133I$	$12.3107+8.8025I$	0
$u = -1.34253-1.18884I$ $a = 0.783841-0.869513I$ $b = 0.59331+1.89133I$	$12.3107-8.8025I$	0
$u = -1.11393+1.42928I$ $a = -0.487625-0.860747I$ $b = 0.04895+2.08421I$	$13.18790+0.68473I$	0
$u = -1.11393-1.42928I$ $a = -0.487625+0.860747I$ $b = 0.04895-2.08421I$	$13.18790-0.68473I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.20457 + 1.40795I$ $a = -0.398410 + 0.717324I$ $b = 0.40058 - 1.86705I$	$7.92332 + 5.93163I$	0
$u = 1.20457 - 1.40795I$ $a = -0.398410 - 0.717324I$ $b = 0.40058 + 1.86705I$	$7.92332 - 5.93163I$	0
$u = -0.146565$ $a = -50.3293$ $b = -0.601818$	-2.67208	-212.850
$u = 1.44703 + 1.16617I$ $a = 0.701543 - 0.689210I$ $b = 0.24206 + 1.91261I$	$8.18611 - 1.85592I$	0
$u = 1.44703 - 1.16617I$ $a = 0.701543 + 0.689210I$ $b = 0.24206 - 1.91261I$	$8.18611 + 1.85592I$	0

II. $\boldsymbol{I_2^u = \langle b,\ 6u^7 - 2u^6 + \cdots + a + 9,\ u^8 - u^7 - u^6 + 2u^5 + u^4 - 2u^3 + 2u - 1\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -6u^7 + 2u^6 + 8u^5 - 7u^4 - 11u^3 + 5u^2 + 4u - 9 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -6u^7 + 2u^6 + 8u^5 - 7u^4 - 11u^3 + 5u^2 + 4u - 9 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^4 - u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^6 - u^4 + 2u^2 - 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -6u^7 + 2u^6 + 8u^5 - 7u^4 - 11u^3 + 6u^2 + 4u - 10 \\ u^4 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 - 1 \\ u^4 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 36u^7 - 15u^6 - 42u^5 + 45u^4 + 62u^3 - 34u^2 - 20u + 45$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^8$
c_3, c_6	y^8
c_5, c_8	$y^8 + 5y^7 + 11y^6 + 6y^5 - 17y^4 - 34y^3 - 22y^2 - 4y + 1$
c_7, c_{10}	$y^8 - 3y^7 + 7y^6 - 10y^5 + 11y^4 - 10y^3 + 6y^2 - 4y + 1$
c_9, c_{11}, c_{12}	$y^8 - 7y^7 + 19y^6 - 22y^5 + 3y^4 + 14y^3 - 6y^2 - 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.570868 + 0.730671I$ $a = 1.194470 - 0.635084I$ $b = 0$	$-2.68559 + 1.13123I$	$-14.0862 - 1.5750I$
$u = 0.570868 - 0.730671I$ $a = 1.194470 + 0.635084I$ $b = 0$	$-2.68559 - 1.13123I$	$-14.0862 + 1.5750I$
$u = -0.855237 + 0.665892I$ $a = 0.637416 - 0.344390I$ $b = 0$	$0.51448 + 2.57849I$	$-10.94521 - 2.41352I$
$u = -0.855237 - 0.665892I$ $a = 0.637416 + 0.344390I$ $b = 0$	$0.51448 - 2.57849I$	$-10.94521 + 2.41352I$
$u = -1.09818$ $a = -0.687555$ $b = 0$	-8.14766	-19.2760
$u = 1.031810 + 0.655470I$ $a = 0.286111 + 0.344558I$ $b = 0$	$-4.02461 - 6.44354I$	$-18.3815 + 0.5907I$
$u = 1.031810 - 0.655470I$ $a = 0.286111 - 0.344558I$ $b = 0$	$-4.02461 + 6.44354I$	$-18.3815 - 0.5907I$
$u = 0.603304$ $a = -7.54843$ $b = 0$	-2.48997	37.1020

III. $I_3^u =$
$\langle -7a^2u+4a^2-16au+5b+7a-5u,\ a^3+a^2u+4a^2+5au+9a+11u+18,\ u^2+u-1\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} a \\ \frac{7}{5}a^2u + \frac{16}{5}au + \cdots - \frac{4}{5}a^2 - \frac{7}{5}a \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u+1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} \frac{7}{5}a^2u + \frac{16}{5}au + \cdots - \frac{4}{5}a^2 - \frac{2}{5}a \\ \frac{7}{5}a^2u + \frac{16}{5}au + \cdots - \frac{4}{5}a^2 - \frac{7}{5}a \end{pmatrix}$$
$$a_6 = \begin{pmatrix} \frac{1}{5}a^2u + \frac{3}{5}au + \cdots - \frac{1}{5}a + 2 \\ \frac{4}{5}a^2u - \frac{3}{5}a^2 + \frac{7}{5}au - \frac{4}{5}a + 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} \frac{1}{5}a^2u + \frac{3}{5}au + \cdots - \frac{1}{5}a + 2 \\ \frac{4}{5}a^2u - \frac{3}{5}a^2 + \frac{7}{5}au - \frac{4}{5}a + 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ -u+1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u \\ -u+1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a^2u - a^2 + 2au - a + u + 1 \\ \frac{4}{5}a^2u - \frac{3}{5}a^2 + \frac{7}{5}au - \frac{4}{5}a + 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{62}{5}a^2u + \frac{34}{5}a^2 - \frac{56}{5}au + \frac{47}{5}a + 2u - 3$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_6	$(y^3 + 3y^2 + 2y - 1)^2$
c_2, c_4	$(y^3 - y^2 + 2y - 1)^2$
c_5, c_8	y^6
c_7, c_9, c_{10} c_{11}, c_{12}	$(y^2 - 3y + 1)^3$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = -0.68565 + 2.67728I$ $b = -0.215080 + 1.307140I$	$2.03717 + 2.82812I$	$2.32130 + 9.80499I$
$u = 0.618034$ $a = -0.68565 - 2.67728I$ $b = -0.215080 - 1.307140I$	$2.03717 - 2.82812I$	$2.32130 - 9.80499I$
$u = 0.618034$ $a = -3.24674$ $b = -0.569840$	-2.10041	-18.9130
$u = -1.61803$ $a = -0.204714 + 0.245578I$ $b = -0.215080 - 1.307140I$	$-5.85852 - 2.82812I$	$-12.36452 + 4.05775I$
$u = -1.61803$ $a = -0.204714 - 0.245578I$ $b = -0.215080 + 1.307140I$	$-5.85852 + 2.82812I$	$-12.36452 - 4.05775I$
$u = -1.61803$ $a = -1.97254$ $b = -0.569840$	-9.99610	44.0000

IV. $I_1^v = \langle a,\ 3b - v - 5,\ v^2 + 7v + 1\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0 \\ \frac{1}{3}v + \frac{5}{3} \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} \frac{1}{3}v + \frac{5}{3} \\ \frac{1}{3}v + \frac{5}{3} \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ -\frac{1}{3}v - \frac{8}{3} \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -\frac{1}{3}v - \frac{5}{3} \\ -\frac{1}{3}v - \frac{8}{3} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} \frac{2}{3}v + \frac{16}{3} \\ v + 7 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} \frac{1}{3}v - \frac{16}{3} \\ -v - 7 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -1 \\ -\frac{1}{3}v - \frac{8}{3} \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -\frac{2}{3}v - \frac{16}{3} \\ -v - 7 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} v \\ 0 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 29$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_8	$y^2 - 7y + 1$
c_2, c_3, c_4 c_6	$y^2 - 3y + 1$
c_7, c_{10}	y^2
c_9, c_{11}, c_{12}	$(y-1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -0.145898$ $a = 0$ $b = 1.61803$	-10.5276	29.0000
$v = -6.85410$ $a = 0$ $b = -0.618034$	-2.63189	29.0000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^8)(u^2-3u+1)(u^3-u^2+2u-1)^2(u^{45}+10u^{44}+\cdots+930u+1)$
c_2	$((u-1)^8)(u^2+u-1)(u^3+u^2-1)^2(u^{45}-12u^{44}+\cdots-26u-1)$
c_3	$u^8(u^2+u-1)(u^3-u^2+2u-1)^2(u^{45}-4u^{44}+\cdots-640u-256)$
c_4	$((u+1)^8)(u^2-u-1)(u^3-u^2+1)^2(u^{45}-12u^{44}+\cdots-26u-1)$
c_5	$u^6(u^2-3u+1)(u^8-3u^7+\cdots-4u+1)$ $\cdot(u^{45}-3u^{44}+\cdots+32u-64)$
c_6	$u^8(u^2-u-1)(u^3+u^2+2u+1)^2(u^{45}-4u^{44}+\cdots-640u-256)$
c_7	$u^2(u^2+u-1)^3(u^8-u^7-u^6+2u^5+u^4-2u^3+2u-1)$ $\cdot(u^{45}+5u^{44}+\cdots-4u-4)$
c_8	$u^6(u^2+3u+1)(u^8+3u^7+\cdots+4u+1)$ $\cdot(u^{45}-3u^{44}+\cdots+32u-64)$
c_9	$(u-1)^2(u^2+u-1)^3(u^8+u^7-3u^6-2u^5+3u^4+2u-1)$ $\cdot(u^{45}-7u^{44}+\cdots+12u+1)$
c_{10}	$u^2(u^2-u-1)^3(u^8+u^7-u^6-2u^5+u^4+2u^3-2u-1)$ $\cdot(u^{45}+5u^{44}+\cdots-4u-4)$
c_{11}, c_{12}	$(u+1)^2(u^2-u-1)^3(u^8-u^7-3u^6+2u^5+3u^4-2u-1)$ $\cdot(u^{45}-7u^{44}+\cdots+12u+1)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^8(y^2-7y+1)(y^3+3y^2+2y-1)^2$ $\cdot\,(y^{45}+62y^{44}+\cdots+852778y-1)$
c_2, c_4	$((y-1)^8)(y^2-3y+1)(y^3-y^2+2y-1)^2(y^{45}-10y^{44}+\cdots+930y-1)$
c_3, c_6	$y^8(y^2-3y+1)(y^3+3y^2+2y-1)^2$ $\cdot\,(y^{45}+54y^{44}+\cdots+4571136y-65536)$
c_5, c_8	$y^6(y^2-7y+1)(y^8+5y^7+\cdots-4y+1)$ $\cdot\,(y^{45}+33y^{44}+\cdots+234496y-4096)$
c_7, c_{10}	$y^2(y^2-3y+1)^3(y^8-3y^7+\cdots-4y+1)$ $\cdot\,(y^{45}+3y^{44}+\cdots+1256y-16)$
c_9, c_{11}, c_{12}	$(y-1)^2(y^2-3y+1)^3$ $\cdot\,(y^8-7y^7+19y^6-22y^5+3y^4+14y^3-6y^2-4y+1)$ $\cdot\,(y^{45}-31y^{44}+\cdots-142y-1)$