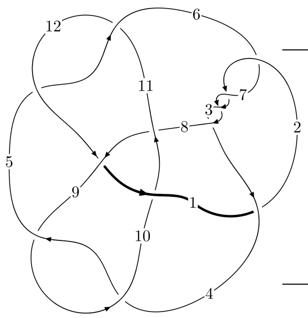
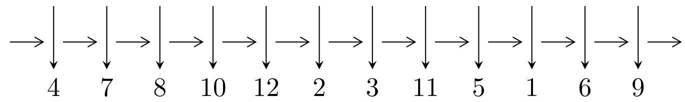
$12a_{1035}$ ($K12a_{1035}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle -181u^{30} - 802u^{29} + \cdots + 2b + 456,\ -133u^{30} - 587u^{29} + \cdots + 2a + 329,\ u^{31} + 6u^{30} + \cdots + 14u - 4\rangle \\
I_2^u &= \langle 22271u^{14}a^3 - 122677u^{14}a^2 + \cdots + 165657a - 109901,\ -u^{14}a^2 + 7u^{14}a + \cdots - 30a + 28, \\
&\quad u^{15} - u^{14} - 8u^{13} + 7u^{12} + 24u^{11} - 16u^{10} - 34u^9 + 11u^8 + 26u^7 + 2u^6 - 14u^5 + 4u^3 + 2u^2 - 2u - 1\rangle \\
I_3^u &= \langle -u^{13} + 7u^{11} + u^{10} - 17u^9 - 4u^8 + 16u^7 + 2u^6 - 7u^5 + 5u^4 + 7u^3 - u^2 + b, \\
&\quad - u^{12} + 8u^{10} - 22u^8 + 24u^6 - 2u^5 - 11u^4 + 6u^3 + 7u^2 + a - 3u, \\
&\quad u^{14} - u^{13} - 8u^{12} + 7u^{11} + 24u^{10} - 17u^9 - 33u^8 + 17u^7 + 21u^6 - 10u^5 - 7u^4 + 9u^3 + 2u^2 - u - 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 105 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. $\boldsymbol{I_1^u = \langle -181u^{30} - 802u^{29} + \cdots + 2b + 456,\ -133u^{30} - 587u^{29} + \cdots + 2a + 329,\ u^{31} + 6u^{30} + \cdots + 14u - 4\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} \frac{133}{2}u^{30} + \frac{587}{2}u^{29} + \cdots + 686u - \frac{329}{2} \\ \frac{181}{2}u^{30} + 401u^{29} + \cdots + \frac{1881}{2}u - 228 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -\frac{79}{4}u^{30} - 89u^{29} + \cdots - \frac{885}{4}u + 52 \\ -\frac{59}{2}u^{30} - 132u^{29} + \cdots - \frac{639}{2}u + 77 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^6 + 3u^4 - 2u^2 + 1 \\ -u^8 + 4u^6 - 4u^4 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} \frac{21}{2}u^{30} + \frac{83}{2}u^{29} + \cdots + 79u - \frac{37}{2} \\ \frac{69}{2}u^{30} + 149u^{29} + \cdots + \frac{667}{2}u - 82 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -\frac{49}{4}u^{30} - 54u^{29} + \cdots - \frac{479}{4}u + 30 \\ -\frac{21}{2}u^{30} - 48u^{29} + \cdots - \frac{241}{2}u + 29 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{30} + \frac{1}{2}u^{29} + \cdots + \frac{57}{2}u - \frac{9}{2} \\ \frac{7}{2}u^{30} + 20u^{29} + \cdots + \frac{141}{2}u - 16 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -81u^{30} - 353u^{29} + 499u^{28} + 3872u^{27} - 74u^{26} - 17898u^{25} - 4528u^{24} + 48948u^{23} + 3960u^{22} - 97075u^{21} + 31813u^{20} + 144406u^{19} - 112024u^{18} - 128297u^{17} + 202242u^{16} + 19409u^{15} - 222196u^{14} + 102946u^{13} + 118470u^{12} - 155647u^{11} - 3449u^{10} + 92237u^9 - 51860u^8 - 22781u^7 + 31120u^6 - 7025u^5 - 7682u^4 + 4279u^3 - 14u^2 - 756u + 170$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{31} - 6u^{30} + \cdots + 17032u + 3008$
c_2, c_3, c_6 c_7	$u^{31} - 6u^{30} + \cdots + 14u + 4$
c_4, c_5, c_9 c_{11}	$u^{31} + 12u^{29} + \cdots + 2u + 1$
c_8, c_{10}	$u^{31} + 2u^{30} + \cdots + 11u + 1$
c_{12}	$u^{31} + 33u^{30} + \cdots + 655360u + 32768$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{31} + 14y^{30} + \cdots + 194260160y - 9048064$
c_2, c_3, c_6 c_7	$y^{31} - 34y^{30} + \cdots + 268y - 16$
c_4, c_5, c_9 c_{11}	$y^{31} + 24y^{30} + \cdots + 12y - 1$
c_8, c_{10}	$y^{31} + 2y^{30} + \cdots + 29y - 1$
c_{12}	$y^{31} + 3y^{30} + \cdots + 20401094656y - 1073741824$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.689568 + 0.711824I$ $a = 0.130088 - 0.331811I$ $b = 1.002630 + 0.498746I$	$5.82989 - 3.44362I$	$-5.04834 + 9.30785I$
$u = 0.689568 - 0.711824I$ $a = 0.130088 + 0.331811I$ $b = 1.002630 - 0.498746I$	$5.82989 + 3.44362I$	$-5.04834 - 9.30785I$
$u = 0.644371 + 0.613769I$ $a = -0.242643 + 0.183681I$ $b = -1.78223 - 0.62081I$	$8.1222 - 13.5080I$	$-8.59420 + 9.11815I$
$u = 0.644371 - 0.613769I$ $a = -0.242643 - 0.183681I$ $b = -1.78223 + 0.62081I$	$8.1222 + 13.5080I$	$-8.59420 - 9.11815I$
$u = -1.052860 + 0.374486I$ $a = 0.147933 + 0.319672I$ $b = 0.749156 - 0.604636I$	$2.99598 + 5.86638I$	$-8.62905 - 10.38587I$
$u = -1.052860 - 0.374486I$ $a = 0.147933 - 0.319672I$ $b = 0.749156 + 0.604636I$	$2.99598 - 5.86638I$	$-8.62905 + 10.38587I$
$u = 0.246593 + 0.835945I$ $a = -0.706404 - 0.362266I$ $b = 0.645159 - 0.082571I$	$7.12015 - 1.65223I$	$4.05704 + 1.14509I$
$u = 0.246593 - 0.835945I$ $a = -0.706404 + 0.362266I$ $b = 0.645159 + 0.082571I$	$7.12015 + 1.65223I$	$4.05704 - 1.14509I$
$u = 0.326413 + 0.688470I$ $a = 0.76255 + 1.47066I$ $b = -0.692232 + 0.121974I$	$9.06712 + 9.13286I$	$-6.46930 - 3.89273I$
$u = 0.326413 - 0.688470I$ $a = 0.76255 - 1.47066I$ $b = -0.692232 - 0.121974I$	$9.06712 - 9.13286I$	$-6.46930 + 3.89273I$

Solutions to I^u_1	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.561340 + 0.467670I$ $a = 0.213153 + 0.590915I$ $b = 0.929737 - 0.172994I$	$-0.79381 - 3.44032I$	$-15.0997 + 6.5409I$
$u = 0.561340 - 0.467670I$ $a = 0.213153 - 0.590915I$ $b = 0.929737 + 0.172994I$	$-0.79381 + 3.44032I$	$-15.0997 - 6.5409I$
$u = -1.322110 + 0.192020I$ $a = -0.001468 - 0.451220I$ $b = 0.130828 + 0.618327I$	$3.87543 - 5.94393I$	$-9.66825 + 3.93876I$
$u = -1.322110 - 0.192020I$ $a = -0.001468 + 0.451220I$ $b = 0.130828 - 0.618327I$	$3.87543 + 5.94393I$	$-9.66825 - 3.93876I$
$u = -0.590937 + 0.161479I$ $a = -0.626188 - 0.664332I$ $b = -1.351820 - 0.247148I$	$-2.73754 + 0.38412I$	$-17.5394 - 12.3371I$
$u = -0.590937 - 0.161479I$ $a = -0.626188 + 0.664332I$ $b = -1.351820 + 0.247148I$	$-2.73754 - 0.38412I$	$-17.5394 + 12.3371I$
$u = 0.380886 + 0.410622I$ $a = 0.376186 - 0.990063I$ $b = -0.338423 - 0.093255I$	$-0.260092 + 0.248902I$	$-13.42836 + 0.35598I$
$u = 0.380886 - 0.410622I$ $a = 0.376186 + 0.990063I$ $b = -0.338423 + 0.093255I$	$-0.260092 - 0.248902I$	$-13.42836 - 0.35598I$
$u = -1.54304 + 0.09101I$ $a = -1.153730 - 0.253473I$ $b = -1.60000 - 0.46649I$	$-6.90265 + 1.26668I$	0
$u = -1.54304 - 0.09101I$ $a = -1.153730 + 0.253473I$ $b = -1.60000 + 0.46649I$	$-6.90265 - 1.26668I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.55633 + 0.13225I$ $a = 1.87141 + 0.87299I$ $b = 2.39850 + 1.02474I$	$-7.92003 + 5.59839I$	0
$u = -1.55633 - 0.13225I$ $a = 1.87141 - 0.87299I$ $b = 2.39850 - 1.02474I$	$-7.92003 - 5.59839I$	0
$u = 1.57004 + 0.04724I$ $a = -2.37428 + 0.51267I$ $b = -2.70859 + 0.17576I$	$-10.13910 - 1.16704I$	0
$u = 1.57004 - 0.04724I$ $a = -2.37428 - 0.51267I$ $b = -2.70859 - 0.17576I$	$-10.13910 + 1.16704I$	0
$u = -1.58052 + 0.19018I$ $a = -2.71394 - 0.04037I$ $b = -3.15957 + 0.84008I$	$0.6908 + 16.4865I$	0
$u = -1.58052 - 0.19018I$ $a = -2.71394 + 0.04037I$ $b = -3.15957 - 0.84008I$	$0.6908 - 16.4865I$	0
$u = -1.58443 + 0.22713I$ $a = 1.47735 + 0.07070I$ $b = 1.64032 - 0.65576I$	$-1.67379 + 6.94665I$	0
$u = -1.58443 - 0.22713I$ $a = 1.47735 - 0.07070I$ $b = 1.64032 + 0.65576I$	$-1.67379 - 6.94665I$	0
$u = 1.64692 + 0.06572I$ $a = 1.42991 + 0.89247I$ $b = 1.75616 + 1.56825I$	$-6.18258 - 7.30230I$	0
$u = 1.64692 - 0.06572I$ $a = 1.42991 - 0.89247I$ $b = 1.75616 - 1.56825I$	$-6.18258 + 7.30230I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.328219$ $a = 0.820145$ $b = -0.239259$	-0.539109	-18.1900

II. $I_2^u = \langle 2.23 \times 10^4 a^3 u^{14} - 1.23 \times 10^5 a^2 u^{14} + \cdots + 1.66 \times 10^5 a - 1.10 \times 10^5,\ -u^{14}a^2 + 7u^{14}a + \cdots - 30a + 28,\ u^{15} - u^{14} + \cdots - 2u - 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} a \\ -0.545443a^3u^{14} + 3.00451a^2u^{14} + \cdots - 4.05714a + 2.69161 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.172687a^3u^{14} - 0.897529a^2u^{14} + \cdots + 1.26455a - 0.490853 \\ 0.172687a^3u^{14} + 0.264872a^2u^{14} + \cdots + 1.26455a - 1.43082 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^6 + 3u^4 - 2u^2 + 1 \\ -u^8 + 4u^6 - 4u^4 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0.292743a^3u^{14} - 0.897529a^2u^{14} + \cdots + 4.26595a - 2.49085 \\ -0.252700a^3u^{14} + 2.10698a^2u^{14} + \cdots - 0.791188a + 0.200754 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.610247a^3u^{14} - 0.567779a^2u^{14} + \cdots + 0.0456516a + 0.594989 \\ 0.772893a^3u^{14} + 2.14653a^2u^{14} + \cdots + 0.848644a - 2.81041 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1.24011a^3u^{14} + 0.00279200a^2u^{14} + \cdots + 0.997208a + 1.06980 \\ -1.85256a^3u^{14} - 0.317504a^2u^{14} + \cdots - 1.73513a + 2.64135 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{293736}{40831}u^{14}a^3 + \frac{28204}{40831}u^{14}a^2 + \cdots - \frac{79780}{40831}a - \frac{605790}{40831}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{15}-3u^{14}+\cdots+4u^2-1)^4$
c_2, c_3, c_6 c_7	$(u^{15}+u^{14}+\cdots-2u+1)^4$
c_4, c_5, c_9 c_{11}	$u^{60}-u^{59}+\cdots-4u+7$
c_8, c_{10}	$u^{60}-17u^{59}+\cdots-42774u+2977$
c_{12}	$(u^2-u+1)^{30}$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{15} + 7y^{14} + \cdots + 8y - 1)^4$
c_2, c_3, c_6 c_7	$(y^{15} - 17y^{14} + \cdots + 8y - 1)^4$
c_4, c_5, c_9 c_{11}	$y^{60} + 51y^{59} + \cdots + 4212y + 49$
c_8, c_{10}	$y^{60} + 19y^{59} + \cdots + 124785424y + 8862529$
c_{12}	$(y^2 + y + 1)^{30}$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.837202$ $a = 0.093012 + 0.540038I$ $b = -0.884228 + 0.470380I$	$-0.59068 + 2.02988I$	$-15.0394 - 3.4641I$
$u = 0.837202$ $a = 0.093012 - 0.540038I$ $b = -0.884228 - 0.470380I$	$-0.59068 - 2.02988I$	$-15.0394 + 3.4641I$
$u = 0.837202$ $a = 0.367613 + 0.257786I$ $b = 0.566476 - 1.020740I$	$-0.59068 + 2.02988I$	$-15.0394 - 3.4641I$
$u = 0.837202$ $a = 0.367613 - 0.257786I$ $b = 0.566476 + 1.020740I$	$-0.59068 - 2.02988I$	$-15.0394 + 3.4641I$
$u = -0.616241 + 0.538656I$ $a = -0.019747 + 0.571805I$ $b = 0.120120 + 0.478574I$	$2.75151 + 3.42335I$	$-9.99532 - 2.88720I$
$u = -0.616241 + 0.538656I$ $a = -0.234673 - 0.495636I$ $b = 1.121840 + 0.294991I$	$2.75151 + 7.48312I$	$-9.99532 - 9.81541I$
$u = -0.616241 + 0.538656I$ $a = -0.486462 + 0.014976I$ $b = -1.79976 + 0.86947I$	$2.75151 + 7.48312I$	$-9.99532 - 9.81541I$
$u = -0.616241 + 0.538656I$ $a = -0.035949 + 0.293046I$ $b = 1.227290 - 0.473717I$	$2.75151 + 3.42335I$	$-9.99532 - 2.88720I$
$u = -0.616241 - 0.538656I$ $a = -0.019747 - 0.571805I$ $b = 0.120120 - 0.478574I$	$2.75151 - 3.42335I$	$-9.99532 + 2.88720I$
$u = -0.616241 - 0.538656I$ $a = -0.234673 + 0.495636I$ $b = 1.121840 - 0.294991I$	$2.75151 - 7.48312I$	$-9.99532 + 9.81541I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.616241 - 0.538656I$ $a = -0.486462 - 0.014976I$ $b = -1.79976 - 0.86947I$	$2.75151 - 7.48312I$	$-9.99532 + 9.81541I$
$u = -0.616241 - 0.538656I$ $a = -0.035949 - 0.293046I$ $b = 1.227290 + 0.473717I$	$2.75151 - 3.42335I$	$-9.99532 + 2.88720I$
$u = 0.486836 + 0.521522I$ $a = -0.946967 + 0.660142I$ $b = -2.18118 - 0.52953I$	$7.10906 + 0.21740I$	$-4.14381 + 0.87503I$
$u = 0.486836 + 0.521522I$ $a = -0.467835 - 0.365440I$ $b = 1.81439 + 0.42746I$	$7.10906 - 3.84236I$	$-4.14381 + 7.80323I$
$u = 0.486836 + 0.521522I$ $a = -0.40009 - 1.79957I$ $b = 0.712411 + 0.380582I$	$7.10906 + 0.21740I$	$-4.14381 + 0.87503I$
$u = 0.486836 + 0.521522I$ $a = 0.15459 + 2.10173I$ $b = -1.20900 + 0.91901I$	$7.10906 - 3.84236I$	$-4.14381 + 7.80323I$
$u = 0.486836 - 0.521522I$ $a = -0.946967 - 0.660142I$ $b = -2.18118 + 0.52953I$	$7.10906 - 0.21740I$	$-4.14381 - 0.87503I$
$u = 0.486836 - 0.521522I$ $a = -0.467835 + 0.365440I$ $b = 1.81439 - 0.42746I$	$7.10906 + 3.84236I$	$-4.14381 - 7.80323I$
$u = 0.486836 - 0.521522I$ $a = -0.40009 + 1.79957I$ $b = 0.712411 - 0.380582I$	$7.10906 - 0.21740I$	$-4.14381 - 0.87503I$
$u = 0.486836 - 0.521522I$ $a = 0.15459 - 2.10173I$ $b = -1.20900 - 0.91901I$	$7.10906 + 3.84236I$	$-4.14381 - 7.80323I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.309525 + 0.567792I$ $a = 0.698451 + 0.145972I$ $b = 0.514606 - 0.126396I$	$3.63586 + 0.38063I$	$-7.60633 - 3.29888I$
$u = -0.309525 + 0.567792I$ $a = 0.128105 + 1.336890I$ $b = -0.279055 - 0.409922I$	$3.63586 - 3.67914I$	$-7.60633 + 3.62932I$
$u = -0.309525 + 0.567792I$ $a = -0.93586 + 1.08283I$ $b = 0.565939 - 0.059075I$	$3.63586 + 0.38063I$	$-7.60633 - 3.29888I$
$u = -0.309525 + 0.567792I$ $a = 1.05477 - 1.74569I$ $b = -0.421840 - 0.433122I$	$3.63586 - 3.67914I$	$-7.60633 + 3.62932I$
$u = -0.309525 - 0.567792I$ $a = 0.698451 - 0.145972I$ $b = 0.514606 + 0.126396I$	$3.63586 - 0.38063I$	$-7.60633 + 3.29888I$
$u = -0.309525 - 0.567792I$ $a = 0.128105 - 1.336890I$ $b = -0.279055 + 0.409922I$	$3.63586 + 3.67914I$	$-7.60633 - 3.62932I$
$u = -0.309525 - 0.567792I$ $a = -0.93586 - 1.08283I$ $b = 0.565939 + 0.059075I$	$3.63586 - 0.38063I$	$-7.60633 + 3.29888I$
$u = -0.309525 - 0.567792I$ $a = 1.05477 + 1.74569I$ $b = -0.421840 + 0.433122I$	$3.63586 + 3.67914I$	$-7.60633 - 3.62932I$
$u = 1.48203 + 0.05428I$ $a = 0.958296 + 0.658858I$ $b = 1.068010 - 0.257137I$	$-1.82904 + 1.87081I$	$-11.79403 - 4.31605I$
$u = 1.48203 + 0.05428I$ $a = 0.653190 + 0.048914I$ $b = 0.708901 + 1.031320I$	$-1.82904 - 2.18896I$	$-11.79403 + 2.61216I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.48203 + 0.05428I$ $a = -0.66166 + 1.71009I$ $b = -1.25751 + 2.21680I$	$-1.82904 + 1.87081I$	$-11.79403 - 4.31605I$
$u = 1.48203 + 0.05428I$ $a = 1.25006 - 1.49028I$ $b = 1.08297 - 1.84703I$	$-1.82904 - 2.18896I$	$-11.79403 + 2.61216I$
$u = 1.48203 - 0.05428I$ $a = 0.958296 - 0.658858I$ $b = 1.068010 + 0.257137I$	$-1.82904 - 1.87081I$	$-11.79403 + 4.31605I$
$u = 1.48203 - 0.05428I$ $a = 0.653190 - 0.048914I$ $b = 0.708901 - 1.031320I$	$-1.82904 + 2.18896I$	$-11.79403 - 2.61216I$
$u = 1.48203 - 0.05428I$ $a = -0.66166 - 1.71009I$ $b = -1.25751 - 2.21680I$	$-1.82904 - 1.87081I$	$-11.79403 + 4.31605I$
$u = 1.48203 - 0.05428I$ $a = 1.25006 + 1.49028I$ $b = 1.08297 + 1.84703I$	$-1.82904 + 2.18896I$	$-11.79403 - 2.61216I$
$u = -1.52656 + 0.13829I$ $a = 0.546171 - 0.537531I$ $b = 0.30609 - 1.68944I$	$0.41207 + 2.08737I$	$-8.59688 - 0.25519I$
$u = -1.52656 + 0.13829I$ $a = -0.53041 - 1.95768I$ $b = -0.643723 - 1.088220I$	$0.41207 + 6.14713I$	$-8.59688 - 7.18339I$
$u = -1.52656 + 0.13829I$ $a = 3.09108 + 0.04871I$ $b = 3.70952 - 0.90997I$	$0.41207 + 6.14713I$	$-8.59688 - 7.18339I$
$u = -1.52656 + 0.13829I$ $a = -3.47972 - 0.72559I$ $b = -3.56947 + 0.03348I$	$0.41207 + 2.08737I$	$-8.59688 - 0.25519I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.52656-0.13829I$ $a=\ 0.546171+0.537531I$ $b=\ 0.30609+1.68944I$	$0.41207-2.08737I$	$-8.59688+0.25519I$
$u=-1.52656-0.13829I$ $a=-0.53041+1.95768I$ $b=-0.643723+1.088220I$	$0.41207-6.14713I$	$-8.59688+7.18339I$
$u=-1.52656-0.13829I$ $a=\ 3.09108-0.04871I$ $b=\ 3.70952+0.90997I$	$0.41207-6.14713I$	$-8.59688+7.18339I$
$u=-1.52656-0.13829I$ $a=-3.47972+0.72559I$ $b=-3.56947-0.03348I$	$0.41207-2.08737I$	$-8.59688+0.25519I$
$u=\ 1.57098+0.16034I$ $a=-0.474753-0.384814I$ $b=-0.525989-0.241777I$	$-4.58415-5.98693I$	$-13.04132+1.43269I$
$u=\ 1.57098+0.16034I$ $a=\ 2.00920+0.00458I$ $b=\ 2.40901+0.68627I$	$-4.58415-5.98693I$	$-13.04132+1.43269I$
$u=\ 1.57098+0.16034I$ $a=\ 1.97730-0.92306I$ $b=\ 2.84371-0.89022I$	$-4.58415-10.04670I$	$-13.0413+8.3609I$
$u=\ 1.57098+0.16034I$ $a=-3.07382-0.21569I$ $b=-3.40028-0.96277I$	$-4.58415-10.04670I$	$-13.0413+8.3609I$
$u=\ 1.57098-0.16034I$ $a=-0.474753+0.384814I$ $b=-0.525989+0.241777I$	$-4.58415+5.98693I$	$-13.04132-1.43269I$
$u=\ 1.57098-0.16034I$ $a=\ 2.00920-0.00458I$ $b=\ 2.40901-0.68627I$	$-4.58415+5.98693I$	$-13.04132-1.43269I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.57098 - 0.16034I$ $a = 1.97730 + 0.92306I$ $b = 2.84371 + 0.89022I$	$-4.58415 + 10.04670I$	$-13.0413 - 8.3609I$
$u = 1.57098 - 0.16034I$ $a = -3.07382 + 0.21569I$ $b = -3.40028 + 0.96277I$	$-4.58415 + 10.04670I$	$-13.0413 - 8.3609I$
$u = -0.404272$ $a = 1.36497 + 0.92368I$ $b = 0.31033 - 1.75866I$	$4.33687 - 2.02988I$	$-14.6282 + 3.4641I$
$u = -0.404272$ $a = 1.36497 - 0.92368I$ $b = 0.31033 + 1.75866I$	$4.33687 + 2.02988I$	$-14.6282 - 3.4641I$
$u = -0.404272$ $a = 0.13282 + 3.51793I$ $b = 0.767965 + 0.109009I$	$4.33687 + 2.02988I$	$-14.6282 - 3.4641I$
$u = -0.404272$ $a = 0.13282 - 3.51793I$ $b = 0.767965 - 0.109009I$	$4.33687 - 2.02988I$	$-14.6282 + 3.4641I$
$u = -1.60797$ $a = 1.28440 + 1.48571I$ $b = 1.45852 + 2.07683I$	$-8.86719 - 2.02988I$	$-15.9771 + 3.4641I$
$u = -1.60797$ $a = 1.28440 - 1.48571I$ $b = 1.45852 - 2.07683I$	$-8.86719 + 2.02988I$	$-15.9771 - 3.4641I$
$u = -1.60797$ $a = -2.01610 + 0.21838I$ $b = -2.63607 + 0.03726I$	$-8.86719 + 2.02988I$	$-15.9771 - 3.4641I$
$u = -1.60797$ $a = -2.01610 - 0.21838I$ $b = -2.63607 - 0.03726I$	$-8.86719 - 2.02988I$	$-15.9771 + 3.4641I$

III.

$\boldsymbol{I_3^u = \langle -u^{13}+7u^{11}+\cdots-u^2+b,\ -u^{12}+8u^{10}+\cdots+a-3u,\ u^{14}-u^{13}+\cdots-u-1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_7 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-u^2+1\\-u^4+2u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}u^{12}-8u^{10}+22u^8-24u^6+2u^5+11u^4-6u^3-7u^2+3u\\u^{13}-7u^{11}-u^{10}+17u^9+4u^8-16u^7-2u^6+7u^5-5u^4-7u^3+u^2\end{pmatrix}$$
$$a_9 = \begin{pmatrix}u^{13}-u^{12}+\cdots-2u-2\\u^{11}-6u^9+12u^7-9u^5+u^4+3u^3-2u^2-u\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u^6+3u^4-2u^2+1\\-u^8+4u^6-4u^4\end{pmatrix}$$
$$a_6 = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-u^{13}+u^{12}+\cdots-8u^2+2u\\-u^8+4u^6+u^5-4u^4-2u^3-u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}u^{11}-u^{10}-6u^9+5u^8+13u^7-8u^6-13u^5+6u^4+7u^3-5u^2-2u+2\\u^{13}-7u^{11}-u^{10}+18u^9+5u^8-21u^7-7u^6+13u^5+2u^4-7u^3+2u\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}u^{12}-7u^{10}+17u^8-17u^6+2u^5+9u^4-5u^3-6u^2+u\\u^{13}-7u^{11}+17u^9-u^8-16u^7+5u^6+7u^5-7u^4-7u^3+2u^2\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= -u^{13}-2u^{12}+10u^{11}+13u^{10}-35u^9-29u^8+53u^7+25u^6-36u^5-8u^4+17u^3+2u^2-8u-7$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{14} + 3u^{13} + \cdots - u - 1$
c_2, c_3	$u^{14} - u^{13} + \cdots - u - 1$
c_4, c_{11}	$u^{14} + 8u^{12} + \cdots + 3u - 1$
c_5, c_9	$u^{14} + 8u^{12} + \cdots - 3u - 1$
c_6, c_7	$u^{14} + u^{13} + \cdots + u - 1$
c_8, c_{10}	$u^{14} + 2u^{13} + \cdots + 2u + 1$
c_{12}	$u^{14} - 2u^{13} + \cdots - 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{14} + 7y^{13} + \cdots + 11y + 1$
c_2, c_3, c_6 c_7	$y^{14} - 17y^{13} + \cdots - 5y + 1$
c_4, c_5, c_9 c_{11}	$y^{14} + 16y^{13} + \cdots - 33y + 1$
c_8, c_{10}	$y^{14} + 2y^{13} + \cdots + 2y + 1$
c_{12}	$y^{14} + 2y^{13} + \cdots + 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.718088 + 0.503923I$ $a = -0.205716 + 0.112452I$ $b = 0.818488 - 0.600589I$	$3.57950 + 4.67648I$	$-6.79955 - 7.09639I$
$u = -0.718088 - 0.503923I$ $a = -0.205716 - 0.112452I$ $b = 0.818488 + 0.600589I$	$3.57950 - 4.67648I$	$-6.79955 + 7.09639I$
$u = 0.426851 + 0.612202I$ $a = -0.355495 - 0.949467I$ $b = 1.170670 - 0.055723I$	$6.26107 - 2.12457I$	$-6.16651 + 3.75177I$
$u = 0.426851 - 0.612202I$ $a = -0.355495 + 0.949467I$ $b = 1.170670 + 0.055723I$	$6.26107 + 2.12457I$	$-6.16651 - 3.75177I$
$u = 0.557327$ $a = -0.908845$ $b = -1.22260$	-2.52431	-9.36780
$u = -1.50662 + 0.13345I$ $a = 1.78609 + 0.99935I$ $b = 2.01136 + 0.06834I$	$-0.03745 + 4.54103I$	$-10.18751 - 2.61697I$
$u = -1.50662 - 0.13345I$ $a = 1.78609 - 0.99935I$ $b = 2.01136 - 0.06834I$	$-0.03745 - 4.54103I$	$-10.18751 + 2.61697I$
$u = 1.51391 + 0.07655I$ $a = -1.20822 + 1.22102I$ $b = -1.47982 + 2.09790I$	$-1.196780 + 0.352553I$	$-9.60347 + 0.25501I$
$u = 1.51391 - 0.07655I$ $a = -1.20822 - 1.22102I$ $b = -1.47982 - 2.09790I$	$-1.196780 - 0.352553I$	$-9.60347 - 0.25501I$
$u = -0.301894 + 0.325169I$ $a = -1.62327 + 1.87128I$ $b = -0.189143 - 0.685382I$	$5.09564 - 1.64107I$	$-3.64136 - 1.51727I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.301894-0.325169I$ $a=-1.62327-1.87128I$ $b=-0.189143+0.685382I$	$5.09564+1.64107I$	$-3.64136+1.51727I$
$u=-1.57402$ $a=-2.05566$ $b=-2.30452$	-9.91641	-16.7860
$u=\ 1.59419+0.16791I$ $a=\ 1.58886+0.31397I$ $b=\ 1.93200+0.84118I$	$-4.19176-7.28281I$	$-11.02487+7.66069I$
$u=\ 1.59419-0.16791I$ $a=\ 1.58886-0.31397I$ $b=\ 1.93200-0.84118I$	$-4.19176+7.28281I$	$-11.02487-7.66069I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{14}+3u^{13}+\cdots-u-1)(u^{15}-3u^{14}+\cdots+4u^2-1)^4$ $\cdot(u^{31}-6u^{30}+\cdots+17032u+3008)$
c_2, c_3	$(u^{14}-u^{13}+\cdots-u-1)(u^{15}+u^{14}+\cdots-2u+1)^4$ $\cdot(u^{31}-6u^{30}+\cdots+14u+4)$
c_4, c_{11}	$(u^{14}+8u^{12}+\cdots+3u-1)(u^{31}+12u^{29}+\cdots+2u+1)$ $\cdot(u^{60}-u^{59}+\cdots-4u+7)$
c_5, c_9	$(u^{14}+8u^{12}+\cdots-3u-1)(u^{31}+12u^{29}+\cdots+2u+1)$ $\cdot(u^{60}-u^{59}+\cdots-4u+7)$
c_6, c_7	$(u^{14}+u^{13}+\cdots+u-1)(u^{15}+u^{14}+\cdots-2u+1)^4$ $\cdot(u^{31}-6u^{30}+\cdots+14u+4)$
c_8, c_{10}	$(u^{14}+2u^{13}+\cdots+2u+1)(u^{31}+2u^{30}+\cdots+11u+1)$ $\cdot(u^{60}-17u^{59}+\cdots-42774u+2977)$
c_{12}	$((u^2-u+1)^{30})(u^{14}-2u^{13}+\cdots-2u+1)$ $\cdot(u^{31}+33u^{30}+\cdots+655360u+32768)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{14}+7y^{13}+\cdots+11y+1)(y^{15}+7y^{14}+\cdots+8y-1)^4$ $\cdot(y^{31}+14y^{30}+\cdots+194260160y-9048064)$
c_2, c_3, c_6 c_7	$(y^{14}-17y^{13}+\cdots-5y+1)(y^{15}-17y^{14}+\cdots+8y-1)^4$ $\cdot(y^{31}-34y^{30}+\cdots+268y-16)$
c_4, c_5, c_9 c_{11}	$(y^{14}+16y^{13}+\cdots-33y+1)(y^{31}+24y^{30}+\cdots+12y-1)$ $\cdot(y^{60}+51y^{59}+\cdots+4212y+49)$
c_8, c_{10}	$(y^{14}+2y^{13}+\cdots+2y+1)(y^{31}+2y^{30}+\cdots+29y-1)$ $\cdot(y^{60}+19y^{59}+\cdots+124785424y+8862529)$
c_{12}	$((y^2+y+1)^{30})(y^{14}+2y^{13}+\cdots+2y+1)$ $\cdot(y^{31}+3y^{30}+\cdots+20401094656y-1073741824)$