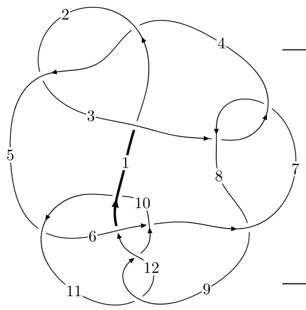
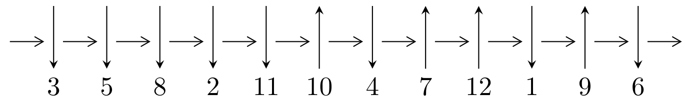
$12a_{0108}$ $(K12a_{0108})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -7.77659 \times 10^{312} u^{125} - 1.54560 \times 10^{313} u^{124} + \cdots + 7.56628 \times 10^{313} b - 1.03264 \times 10^{314}, \\ & -1.29367 \times 10^{314} u^{125} - 2.52409 \times 10^{314} u^{124} + \cdots + 1.66458 \times 10^{315} a + 2.23551 \times 10^{316}, \\ & u^{126} + 2u^{125} + \cdots + 192u + 64 \rangle \\ I_2^u = \langle & 3u^2 + b + u + 3,\ 6u^2 + a + 2u + 10,\ u^3 + u^2 + 2u + 1 \rangle \end{aligned}$$

$$I_1^v = \langle a,\ 31v^5 - 92v^4 + 163v^3 + 52v^2 + 69b + 81v - 64,\ v^6 - 3v^5 + 6v^4 + 5v^2 - v + 1 \rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 135 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. $\boldsymbol{I_1^u = \langle -7.78 \times 10^{312} u^{125} - 1.55 \times 10^{313} u^{124} + \cdots + 7.57 \times 10^{313} b - 1.03 \times 10^{314},\ -1.29 \times 10^{314} u^{125} - 2.52 \times 10^{314} u^{124} + \cdots + 1.66 \times 10^{315} a + 2.24 \times 10^{316},\ u^{126} + 2u^{125} + \cdots + 192u + 64 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0.0777175u^{125} + 0.151635u^{124} + \cdots - 12.0430u - 13.4298 \\ 0.102780u^{125} + 0.204274u^{124} + \cdots + 21.2752u + 1.36479 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.251458u^{125} - 0.504776u^{124} + \cdots - 62.6343u - 15.8172 \\ -0.125368u^{125} - 0.296640u^{124} + \cdots - 55.2984u - 10.6403 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.184749u^{125} + 0.229941u^{124} + \cdots + 26.0397u - 4.61527 \\ 0.128633u^{125} + 0.222528u^{124} + \cdots + 38.3890u + 5.67195 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.134423u^{125} + 0.249675u^{124} + \cdots - 15.7540u - 12.1955 \\ -0.0161903u^{125} - 0.0611574u^{124} + \cdots - 50.9747u - 14.3007 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.116123u^{125} + 0.204715u^{124} + \cdots - 22.9544u - 12.7987 \\ -0.0366348u^{125} - 0.0898334u^{124} + \cdots - 55.3988u - 14.3689 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.0236074u^{125} + 0.0498670u^{124} + \cdots - 20.2156u - 13.1289 \\ 0.150252u^{125} + 0.329184u^{124} + \cdots + 32.2910u + 2.86962 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.0842320u^{125} + 0.177889u^{124} + \cdots + 30.2985u + 3.33220 \\ -0.0501911u^{125} - 0.0717859u^{124} + \cdots + 46.0525u + 15.5277 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.597782u^{125} - 0.910341u^{124} + \cdots - 72.2510u + 19.0666$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{126} + 68u^{125} + \cdots - 17u + 1$
c_2, c_4	$u^{126} - 8u^{125} + \cdots - 9u + 1$
c_3, c_7	$u^{126} + 2u^{125} + \cdots + 192u + 64$
c_5	$u^{126} - 65u^{124} + \cdots + 4405u - 191$
c_6	$u^{126} + 4u^{125} + \cdots - 1174u - 44$
c_8	$u^{126} - 42u^{125} + \cdots - 118784u + 4096$
c_9, c_{11}	$u^{126} + 5u^{125} + \cdots - 43u - 1$
c_{10}	$u^{126} - 20u^{125} + \cdots + 124u + 8$
c_{12}	$u^{126} - 9u^{125} + \cdots + 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{126} - 12y^{125} + \cdots - 363y + 1$
c_2, c_4	$y^{126} - 68y^{125} + \cdots + 17y + 1$
c_3, c_7	$y^{126} + 42y^{125} + \cdots + 118784y + 4096$
c_5	$y^{126} - 130y^{125} + \cdots - 3185069y + 36481$
c_6	$y^{126} - 122y^{125} + \cdots - 141964y + 1936$
c_8	$y^{126} + 74y^{125} + \cdots - 125829120y + 16777216$
c_9, c_{11}	$y^{126} - 75y^{125} + \cdots - 971y + 1$
c_{10}	$y^{126} - 24y^{125} + \cdots - 8848y + 64$
c_{12}	$y^{126} + 15y^{125} + \cdots - 14y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.583149 + 0.813259I$ $a = -2.40429 - 0.88467I$ $b = -2.36089 + 0.71738I$	$0.84437 + 1.77385I$	0
$u = -0.583149 - 0.813259I$ $a = -2.40429 + 0.88467I$ $b = -2.36089 - 0.71738I$	$0.84437 - 1.77385I$	0
$u = 0.759752 + 0.658456I$ $a = 0.411118 + 0.209764I$ $b = -0.228083 - 0.339879I$	$-3.19646 + 2.28892I$	0
$u = 0.759752 - 0.658456I$ $a = 0.411118 - 0.209764I$ $b = -0.228083 + 0.339879I$	$-3.19646 - 2.28892I$	0
$u = -0.664545 + 0.755167I$ $a = -0.12102 + 2.46179I$ $b = 1.225020 + 0.310188I$	$-1.33049 + 2.05219I$	0
$u = -0.664545 - 0.755167I$ $a = -0.12102 - 2.46179I$ $b = 1.225020 - 0.310188I$	$-1.33049 - 2.05219I$	0
$u = 0.638089 + 0.779199I$ $a = 1.54419 + 1.11191I$ $b = 0.88077 + 1.29949I$	$-5.12052 - 2.76244I$	0
$u = 0.638089 - 0.779199I$ $a = 1.54419 - 1.11191I$ $b = 0.88077 - 1.29949I$	$-5.12052 + 2.76244I$	0
$u = 1.008890 + 0.070007I$ $a = 2.21899 + 0.03163I$ $b = 1.73462 + 0.26110I$	$2.18854 + 7.22641I$	0
$u = 1.008890 - 0.070007I$ $a = 2.21899 - 0.03163I$ $b = 1.73462 - 0.26110I$	$2.18854 - 7.22641I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.134506+1.012070I$ $a=-0.72834+1.25076I$ $b=\ \ 4.00557+0.08173I$	$3.77115+2.20092I$	0
$u=-0.134506-1.012070I$ $a=-0.72834-1.25076I$ $b=\ \ 4.00557-0.08173I$	$3.77115-2.20092I$	0
$u=-0.236806+0.993858I$ $a=\ \ 0.049581-0.414116I$ $b=-0.407535-0.842117I$	$1.90248+2.83956I$	0
$u=-0.236806-0.993858I$ $a=\ \ 0.049581+0.414116I$ $b=-0.407535+0.842117I$	$1.90248-2.83956I$	0
$u=-0.077039+1.019420I$ $a=-0.395957-0.895205I$ $b=-0.345162-0.284694I$	$2.60094+2.12761I$	0
$u=-0.077039-1.019420I$ $a=-0.395957+0.895205I$ $b=-0.345162+0.284694I$	$2.60094-2.12761I$	0
$u=-0.870239+0.437016I$ $a=\ \ 2.01350-0.73003I$ $b=\ \ 1.27645-0.83997I$	$-1.62685-0.40405I$	0
$u=-0.870239-0.437016I$ $a=\ \ 2.01350+0.73003I$ $b=\ \ 1.27645+0.83997I$	$-1.62685+0.40405I$	0
$u=-0.750514+0.607886I$ $a=-0.48073+2.04336I$ $b=-0.174005+0.510313I$	$0.258302-1.180800I$	0
$u=-0.750514-0.607886I$ $a=-0.48073-2.04336I$ $b=-0.174005-0.510313I$	$0.258302+1.180800I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.701966 + 0.759826I$ $a = 1.88316 - 0.88061I$ $b = 1.45456 - 1.13212I$	$-3.74921 - 4.56977I$	0
$u = -0.701966 - 0.759826I$ $a = 1.88316 + 0.88061I$ $b = 1.45456 + 1.13212I$	$-3.74921 + 4.56977I$	0
$u = 0.745954 + 0.737217I$ $a = 2.05866 - 4.11011I$ $b = 2.80767 - 0.70209I$	$-2.73974 + 0.70736I$	0
$u = 0.745954 - 0.737217I$ $a = 2.05866 + 4.11011I$ $b = 2.80767 + 0.70209I$	$-2.73974 - 0.70736I$	0
$u = -0.089485 + 0.946069I$ $a = 1.28925 - 1.00533I$ $b = -1.55692 + 0.09969I$	$0.43085 - 5.09047I$	0
$u = -0.089485 - 0.946069I$ $a = 1.28925 + 1.00533I$ $b = -1.55692 - 0.09969I$	$0.43085 + 5.09047I$	0
$u = -0.026963 + 0.943464I$ $a = -0.404065 + 0.007320I$ $b = -0.922484 + 0.758848I$	$2.41442 + 1.40190I$	0
$u = -0.026963 - 0.943464I$ $a = -0.404065 - 0.007320I$ $b = -0.922484 - 0.758848I$	$2.41442 - 1.40190I$	0
$u = -1.036680 + 0.220066I$ $a = 2.08600 - 0.38383I$ $b = 1.56493 - 0.14601I$	$1.84155 + 2.77321I$	0
$u = -1.036680 - 0.220066I$ $a = 2.08600 + 0.38383I$ $b = 1.56493 + 0.14601I$	$1.84155 - 2.77321I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.902790 + 0.575810I$ $a = 2.16135 + 0.69093I$ $b = 1.72111 + 0.92699I$	$0.07212 + 8.10921I$	0
$u = 0.902790 - 0.575810I$ $a = 2.16135 - 0.69093I$ $b = 1.72111 - 0.92699I$	$0.07212 - 8.10921I$	0
$u = 0.515649 + 0.940162I$ $a = -0.80683 - 1.94203I$ $b = 0.490259 - 0.645229I$	$4.07539 - 1.91046I$	0
$u = 0.515649 - 0.940162I$ $a = -0.80683 + 1.94203I$ $b = 0.490259 + 0.645229I$	$4.07539 + 1.91046I$	0
$u = 0.821210 + 0.696105I$ $a = -3.79378 + 1.02212I$ $b = -3.05665 - 0.68146I$	$-2.64594 + 1.92186I$	0
$u = 0.821210 - 0.696105I$ $a = -3.79378 - 1.02212I$ $b = -3.05665 + 0.68146I$	$-2.64594 - 1.92186I$	0
$u = 0.066247 + 1.075380I$ $a = -1.104920 - 0.720837I$ $b = 1.083610 - 0.383367I$	$6.12098 - 0.47562I$	0
$u = 0.066247 - 1.075380I$ $a = -1.104920 + 0.720837I$ $b = 1.083610 + 0.383367I$	$6.12098 + 0.47562I$	0
$u = -0.866742 + 0.650126I$ $a = -0.929827 + 0.051878I$ $b = -1.310250 + 0.281104I$	$-1.08056 - 4.64409I$	0
$u = -0.866742 - 0.650126I$ $a = -0.929827 - 0.051878I$ $b = -1.310250 - 0.281104I$	$-1.08056 + 4.64409I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.164623 + 1.090970I$ $a = -0.937838 - 0.153506I$ $b = 1.274750 + 0.205009I$	$5.90160 - 4.26455I$	0
$u = 0.164623 - 1.090970I$ $a = -0.937838 + 0.153506I$ $b = 1.274750 - 0.205009I$	$5.90160 + 4.26455I$	0
$u = -0.612029 + 0.921384I$ $a = 1.39754 + 3.67655I$ $b = 3.36533 + 0.62198I$	$1.22072 + 2.96447I$	0
$u = -0.612029 - 0.921384I$ $a = 1.39754 - 3.67655I$ $b = 3.36533 - 0.62198I$	$1.22072 - 2.96447I$	0
$u = 0.608068 + 0.939760I$ $a = 0.48099 + 2.26771I$ $b = -1.36323 + 1.12639I$	$-4.61530 - 2.13294I$	0
$u = 0.608068 - 0.939760I$ $a = 0.48099 - 2.26771I$ $b = -1.36323 - 1.12639I$	$-4.61530 + 2.13294I$	0
$u = -0.715251 + 0.862634I$ $a = -0.756830 + 0.170735I$ $b = 0.355188 + 0.261563I$	$-6.56601 + 3.77378I$	0
$u = -0.715251 - 0.862634I$ $a = -0.756830 - 0.170735I$ $b = 0.355188 - 0.261563I$	$-6.56601 - 3.77378I$	0
$u = -0.712315 + 0.865143I$ $a = 0.170620 + 0.028930I$ $b = -0.416168 + 0.527299I$	$-6.55718 + 1.68165I$	0
$u = -0.712315 - 0.865143I$ $a = 0.170620 - 0.028930I$ $b = -0.416168 - 0.527299I$	$-6.55718 - 1.68165I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.283809 + 1.084470I$ $a = -0.430557 + 0.774152I$ $b = -0.040161 + 0.255290I$	$1.79448 - 6.78921I$	0
$u = 0.283809 - 1.084470I$ $a = -0.430557 - 0.774152I$ $b = -0.040161 - 0.255290I$	$1.79448 + 6.78921I$	0
$u = -0.837606 + 0.789777I$ $a = 0.715847 - 0.779366I$ $b = 0.193028 - 0.396166I$	$-1.93800 + 2.88339I$	0
$u = -0.837606 - 0.789777I$ $a = 0.715847 + 0.779366I$ $b = 0.193028 + 0.396166I$	$-1.93800 - 2.88339I$	0
$u = -0.654600 + 0.951229I$ $a = -0.832909 + 0.532511I$ $b = -1.137890 + 0.549091I$	$-0.71690 + 3.08171I$	0
$u = -0.654600 - 0.951229I$ $a = -0.832909 - 0.532511I$ $b = -1.137890 - 0.549091I$	$-0.71690 - 3.08171I$	0
$u = 0.604520 + 0.985901I$ $a = -0.16855 - 1.64248I$ $b = 1.39968 - 0.21265I$	$2.96423 - 5.62025I$	0
$u = 0.604520 - 0.985901I$ $a = -0.16855 + 1.64248I$ $b = 1.39968 + 0.21265I$	$2.96423 + 5.62025I$	0
$u = -0.675660 + 0.951102I$ $a = 0.11728 - 2.78463I$ $b = -1.78102 - 1.05893I$	$-3.15580 + 9.87799I$	0
$u = -0.675660 - 0.951102I$ $a = 0.11728 + 2.78463I$ $b = -1.78102 + 1.05893I$	$-3.15580 - 9.87799I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.778808 + 0.875358I$ $a = 0.546248 + 0.475768I$ $b = 0.0584220 + 0.0928196I$	$-5.56540 - 7.22095I$	0
$u = 0.778808 - 0.875358I$ $a = 0.546248 - 0.475768I$ $b = 0.0584220 - 0.0928196I$	$-5.56540 + 7.22095I$	0
$u = -0.927777 + 0.716525I$ $a = 0.181729 - 0.399959I$ $b = -0.398777 + 0.187696I$	$-6.29832 - 6.58519I$	0
$u = -0.927777 - 0.716525I$ $a = 0.181729 + 0.399959I$ $b = -0.398777 - 0.187696I$	$-6.29832 + 6.58519I$	0
$u = 0.804790 + 0.868133I$ $a = 0.076332 + 0.809767I$ $b = -0.017738 + 0.432056I$	$-5.59394 + 1.30207I$	0
$u = 0.804790 - 0.868133I$ $a = 0.076332 - 0.809767I$ $b = -0.017738 - 0.432056I$	$-5.59394 - 1.30207I$	0
$u = -0.728276 + 0.935353I$ $a = 0.292431 - 0.682258I$ $b = 0.088734 - 0.582632I$	$-1.50108 + 2.95525I$	0
$u = -0.728276 - 0.935353I$ $a = 0.292431 + 0.682258I$ $b = 0.088734 + 0.582632I$	$-1.50108 - 2.95525I$	0
$u = 0.896738 + 0.785992I$ $a = 0.482925 + 0.897178I$ $b = -0.052130 + 0.488664I$	$-5.47055 + 1.59927I$	0
$u = 0.896738 - 0.785992I$ $a = 0.482925 - 0.897178I$ $b = -0.052130 - 0.488664I$	$-5.47055 - 1.59927I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.399196 + 0.700132I$ $a = -0.418821 - 0.419802I$ $b = -0.997317 - 0.308529I$	$1.88586 + 1.07699I$	$1.62389 - 3.53502I$
$u = 0.399196 - 0.700132I$ $a = -0.418821 + 0.419802I$ $b = -0.997317 + 0.308529I$	$1.88586 - 1.07699I$	$1.62389 + 3.53502I$
$u = 0.700027 + 0.968567I$ $a = -2.77865 + 0.09884I$ $b = -2.51167 - 1.19272I$	$-2.03372 - 6.21937I$	0
$u = 0.700027 - 0.968567I$ $a = -2.77865 - 0.09884I$ $b = -2.51167 + 1.19272I$	$-2.03372 + 6.21937I$	0
$u = 0.781482 + 0.172967I$ $a = 1.29236 + 0.58740I$ $b = 0.330603 - 0.091888I$	$-1.45891 + 3.00718I$	$-6.53766 - 7.29173I$
$u = 0.781482 - 0.172967I$ $a = 1.29236 - 0.58740I$ $b = 0.330603 + 0.091888I$	$-1.45891 - 3.00718I$	$-6.53766 + 7.29173I$
$u = 1.016950 + 0.656632I$ $a = 2.14399 + 1.13198I$ $b = 1.47418 + 1.22457I$	$-4.10359 + 4.97237I$	0
$u = 1.016950 - 0.656632I$ $a = 2.14399 - 1.13198I$ $b = 1.47418 - 1.22457I$	$-4.10359 - 4.97237I$	0
$u = 0.690126 + 1.005750I$ $a = -0.447053 + 0.050891I$ $b = 0.418051 - 0.078612I$	$-2.16358 - 7.80144I$	0
$u = 0.690126 - 1.005750I$ $a = -0.447053 - 0.050891I$ $b = 0.418051 + 0.078612I$	$-2.16358 + 7.80144I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.678688+1.020830I$ $a=-0.61288+1.97507I$ $b=\ \ 0.387426+0.911011I$	$1.45595+6.62892I$	0
$u=-0.678688-1.020830I$ $a=-0.61288-1.97507I$ $b=\ \ 0.387426-0.911011I$	$1.45595-6.62892I$	0
$u=-1.006940+0.706541I$ $a=\ \ 2.28472-0.87519I$ $b=\ \ 1.85509-1.10457I$	$-2.73943-12.79060I$	0
$u=-1.006940-0.706541I$ $a=\ \ 2.28472+0.87519I$ $b=\ \ 1.85509+1.10457I$	$-2.73943+12.79060I$	0
$u=\ \ 0.724342+1.011870I$ $a=\ \ 1.80502-3.43113I$ $b=\ \ 3.42838-0.94214I$	$-1.67836-7.71869I$	0
$u=\ \ 0.724342-1.011870I$ $a=\ \ 1.80502+3.43113I$ $b=\ \ 3.42838+0.94214I$	$-1.67836+7.71869I$	0
$u=-0.153007+1.240150I$ $a=\ \ 0.118355-0.383852I$ $b=-2.10059-0.27454I$	$7.35610+6.53099I$	0
$u=-0.153007-1.240150I$ $a=\ \ 0.118355+0.383852I$ $b=-2.10059+0.27454I$	$7.35610-6.53099I$	0
$u=-0.724716+1.045350I$ $a=\ \ 0.20991+1.64245I$ $b=\ \ 1.48746+0.30734I$	$0.13511+10.55390I$	0
$u=-0.724716-1.045350I$ $a=\ \ 0.20991-1.64245I$ $b=\ \ 1.48746-0.30734I$	$0.13511-10.55390I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.269690 + 1.247800I$ $a = -0.109494 + 1.094990I$ $b = -1.85754 + 0.41849I$	$6.88746 + 2.92032I$	0
$u = 0.269690 - 1.247800I$ $a = -0.109494 - 1.094990I$ $b = -1.85754 - 0.41849I$	$6.88746 - 2.92032I$	0
$u = 0.332493 + 1.237100I$ $a = -0.006022 + 1.079100I$ $b = -2.15220 + 0.54761I$	$6.38584 - 11.97810I$	0
$u = 0.332493 - 1.237100I$ $a = -0.006022 - 1.079100I$ $b = -2.15220 - 0.54761I$	$6.38584 + 11.97810I$	0
$u = 0.787834 + 1.012220I$ $a = 0.291926 + 0.593782I$ $b = 0.226779 + 0.567475I$	$-4.72827 - 7.84683I$	0
$u = 0.787834 - 1.012220I$ $a = 0.291926 - 0.593782I$ $b = 0.226779 - 0.567475I$	$-4.72827 + 7.84683I$	0
$u = 0.715508 + 1.083340I$ $a = -0.25215 + 2.51710I$ $b = -1.96241 + 1.12186I$	$1.6137 - 14.0645I$	0
$u = 0.715508 - 1.083340I$ $a = -0.25215 - 2.51710I$ $b = -1.96241 - 1.12186I$	$1.6137 + 14.0645I$	0
$u = -0.776257 + 1.050290I$ $a = -0.261775 + 0.072130I$ $b = 0.551281 + 0.082118I$	$-5.23670 + 12.86370I$	0
$u = -0.776257 - 1.050290I$ $a = -0.261775 - 0.072130I$ $b = 0.551281 - 0.082118I$	$-5.23670 - 12.86370I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.681519+1.116400I$ $a=-0.06483-2.22505I$ $b=-1.62801-1.29676I$	$0.33688+6.13842I$	0
$u=-0.681519-1.116400I$ $a=-0.06483+2.22505I$ $b=-1.62801+1.29676I$	$0.33688-6.13842I$	0
$u=-0.671958+0.032843I$ $a=1.73322-0.09355I$ $b=0.586846-0.184878I$	$-1.094370+0.027147I$	$-7.58274+0.49956I$
$u=-0.671958-0.032843I$ $a=1.73322+0.09355I$ $b=0.586846+0.184878I$	$-1.094370-0.027147I$	$-7.58274-0.49956I$
$u=0.670945+0.001703I$ $a=-0.118845+0.786074I$ $b=-0.901209-0.015610I$	$2.03745+1.42816I$	$2.53417-4.60053I$
$u=0.670945-0.001703I$ $a=-0.118845-0.786074I$ $b=-0.901209+0.015610I$	$2.03745-1.42816I$	$2.53417+4.60053I$
$u=0.092281+0.648619I$ $a=0.23936+1.95343I$ $b=-0.460292-0.261821I$	$-2.61100-1.34807I$	$-3.48651+4.76024I$
$u=0.092281-0.648619I$ $a=0.23936-1.95343I$ $b=-0.460292+0.261821I$	$-2.61100+1.34807I$	$-3.48651-4.76024I$
$u=-0.455105+1.272310I$ $a=-0.29244-1.52392I$ $b=-1.72190-0.80643I$	$5.46522+2.67251I$	0
$u=-0.455105-1.272310I$ $a=-0.29244+1.52392I$ $b=-1.72190+0.80643I$	$5.46522-2.67251I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.802002+1.094610I$ $a=-0.45501-2.65767I$ $b=-1.97178-1.24834I$	$-1.4825+19.3861I$	0
$u=-0.802002-1.094610I$ $a=-0.45501+2.65767I$ $b=-1.97178+1.24834I$	$-1.4825-19.3861I$	0
$u=\ \ 0.786293+1.115480I$ $a=-0.16433+2.46206I$ $b=-1.58922+1.46628I$	$-2.63820-11.52950I$	0
$u=\ \ 0.786293-1.115480I$ $a=-0.16433-2.46206I$ $b=-1.58922-1.46628I$	$-2.63820+11.52950I$	0
$u=-0.162781+1.386730I$ $a=-0.661077-0.561639I$ $b=-2.34852-0.39218I$	$4.49508+2.99438I$	0
$u=-0.162781-1.386730I$ $a=-0.661077+0.561639I$ $b=-2.34852+0.39218I$	$4.49508-2.99438I$	0
$u=-0.595624$ $a=\ \ 1.50825$ $b=\ \ 0.418502$	-1.09586	-8.62110
$u=\ \ 0.049191+0.593330I$ $a=\ \ 0.955093-0.531289I$ $b=\ \ 0.253912-0.874200I$	$-2.83015+0.66433I$	$-0.80758+1.62533I$
$u=\ \ 0.049191-0.593330I$ $a=\ \ 0.955093+0.531289I$ $b=\ \ 0.253912+0.874200I$	$-2.83015-0.66433I$	$-0.80758-1.62533I$
$u=-0.547594$ $a=-18.2084$ $b=-4.97465$	0.509050	-323.410

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.070102+0.510627I$ $a=\ \ 1.358090+0.350014I$ $b=\ \ 0.903119+0.640568I$	$-1.24958+5.86869I$	$5.67430-9.68755I$
$u=-0.070102-0.510627I$ $a=\ \ 1.358090-0.350014I$ $b=\ \ 0.903119-0.640568I$	$-1.24958-5.86869I$	$5.67430+9.68755I$
$u=\ \ 0.299663+0.400210I$ $a=-0.051668-0.210161I$ $b=-1.024470-0.220592I$	$1.85257+1.11176I$	$2.15039-2.20620I$
$u=\ \ 0.299663-0.400210I$ $a=-0.051668+0.210161I$ $b=-1.024470+0.220592I$	$1.85257-1.11176I$	$2.15039+2.20620I$
$u=-0.259122+0.378593I$ $a=\ \ 0.48178+8.59597I$ $b=\ \ 0.691501-0.498616I$	$0.359329-0.612109I$	$-2.0314-16.2217I$
$u=-0.259122-0.378593I$ $a=\ \ 0.48178-8.59597I$ $b=\ \ 0.691501+0.498616I$	$0.359329+0.612109I$	$-2.0314+16.2217I$

II. $\boldsymbol{I_2^u = \langle 3u^2 + b + u + 3,\ 6u^2 + a + 2u + 10,\ u^3 + u^2 + 2u + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -6u^2 - 2u - 10 \\ -3u^2 - u - 3 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -5u^2 - 2u - 9 \\ -2u^2 - u - 3 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ -u^2 - u - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 16u^2 + 7u + 29 \\ 5u^2 + 2u + 9 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1 \\ -u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^2 - 1 \\ -u^2 - u - 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -5u^2 - 2u - 9 \\ -2u^2 - u - 3 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 45u^2 + 24u + 84$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.215080 + 1.307140I$ $a = 0.404314 + 0.759395I$ $b = 2.20216 + 0.37970I$	$4.66906 + 2.82812I$	$4.03193 + 6.06881I$
$u = -0.215080 - 1.307140I$ $a = 0.404314 - 0.759395I$ $b = 2.20216 - 0.37970I$	$4.66906 - 2.82812I$	$4.03193 - 6.06881I$
$u = -0.569840$ $a = -10.8086$ $b = -3.40431$	0.531480	84.9360

III. $\boldsymbol{I_1^v = \langle a,\ 31v^5 - 92v^4 + \cdots + 69b - 64,\ v^6 - 3v^5 + 6v^4 + 5v^2 - v + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ -0.449275v^5 + 1.33333v^4 + \cdots - 1.17391v + 0.927536 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ \frac{55}{69}v^5 - \frac{7}{3}v^4 + \cdots + \frac{62}{23}v - \frac{49}{69} \end{pmatrix}$$
$$a_3 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} \frac{55}{69}v^5 - \frac{7}{3}v^4 + \cdots + \frac{62}{23}v + \frac{20}{69} \\ -0.782609v^5 + 2v^4 + \cdots - 4.17391v - 0.739130 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1.01449v^5 + 3.33333v^4 + \cdots - 3.52174v + 1.44928 \\ v^5 - 3v^4 + 6v^3 + 5v - 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -1.01449v^5 + 3.33333v^4 + \cdots - 2.52174v + 1.44928 \\ v^5 - 3v^4 + 6v^3 + 5v - 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} \frac{31}{69}v^5 - \frac{4}{3}v^4 + \cdots + \frac{27}{23}v - \frac{64}{69} \\ -0.449275v^5 + 1.33333v^4 + \cdots - 1.17391v + 0.927536 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1.01449v^5 - 3.33333v^4 + \cdots + 3.52174v - 1.44928 \\ -v^5 + 3v^4 - 6v^3 - 5v + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{17}{23}v^5 - 2v^4 + \frac{79}{23}v^3 + \frac{53}{23}v^2 + \frac{129}{23}v - \frac{274}{23}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = -0.344968 + 0.764807I$ $a = 0$ $b = 0.428243 + 0.664531I$	$-3.53554 - 0.92430I$	$-13.12292 + 1.33143I$
$v = -0.344968 - 0.764807I$ $a = 0$ $b = 0.428243 - 0.664531I$	$-3.53554 + 0.92430I$	$-13.12292 - 1.33143I$
$v = 0.158836 + 0.437639I$ $a = 0$ $b = 1.073950 - 0.558752I$	$-1.64493 - 5.69302I$	$-11.70582 + 2.69056I$
$v = 0.158836 - 0.437639I$ $a = 0$ $b = 1.073950 + 0.558752I$	$-1.64493 + 5.69302I$	$-11.70582 - 2.69056I$
$v = 1.68613 + 1.92635I$ $a = 0$ $b = -1.002190 + 0.295542I$	$0.245672 - 0.924305I$	$-5.17126 + 7.13914I$
$v = 1.68613 - 1.92635I$ $a = 0$ $b = -1.002190 - 0.295542I$	$0.245672 + 0.924305I$	$-5.17126 - 7.13914I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^6)(u^3-u^2+2u-1)(u^{126}+68u^{125}+\cdots-17u+1)$
c_2	$((u-1)^6)(u^3+u^2-1)(u^{126}-8u^{125}+\cdots-9u+1)$
c_3	$u^6(u^3-u^2+2u-1)(u^{126}+2u^{125}+\cdots+192u+64)$
c_4	$((u+1)^6)(u^3-u^2+1)(u^{126}-8u^{125}+\cdots-9u+1)$
c_5	$(u^3+2u^2-3u+1)(u^6+u^5-u^4-2u^3+u+1)$ $\cdot(u^{126}-65u^{124}+\cdots+4405u-191)$
c_6	$(u^3+2u^2-3u+1)(u^6+3u^5+5u^4+4u^3+2u^2+u+1)$ $\cdot(u^{126}+4u^{125}+\cdots-1174u-44)$
c_7	$u^6(u^3+u^2+2u+1)(u^{126}+2u^{125}+\cdots+192u+64)$
c_8	$u^6(u^3-3u^2+2u+1)(u^{126}-42u^{125}+\cdots-118784u+4096)$
c_9	$((u+1)^3)(u^6-u^5+\cdots-u+1)(u^{126}+5u^{125}+\cdots-43u-1)$
c_{10}	$u^3(u^6+u^5+\cdots+u+1)(u^{126}-20u^{125}+\cdots+124u+8)$
c_{11}	$((u-1)^3)(u^6+u^5+\cdots+u+1)(u^{126}+5u^{125}+\cdots-43u-1)$
c_{12}	$(u^3+3u^2+2u-1)(u^6+3u^5+5u^4+4u^3+2u^2+u+1)$ $\cdot(u^{126}-9u^{125}+\cdots+2u-1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^6)(y^3+3y^2+2y-1)(y^{126}-12y^{125}+\cdots-363y+1)$
c_2, c_4	$((y-1)^6)(y^3-y^2+2y-1)(y^{126}-68y^{125}+\cdots+17y+1)$
c_3, c_7	$y^6(y^3+3y^2+2y-1)(y^{126}+42y^{125}+\cdots+118784y+4096)$
c_5	$(y^3-10y^2+5y-1)(y^6-3y^5+5y^4-4y^3+2y^2-y+1)$ $\cdot(y^{126}-130y^{125}+\cdots-3185069y+36481)$
c_6	$(y^3-10y^2+5y-1)(y^6+y^5+5y^4+6y^2+3y+1)$ $\cdot(y^{126}-122y^{125}+\cdots-141964y+1936)$
c_8	$y^6(y^3-5y^2+10y-1)(y^{126}+74y^{125}+\cdots-1.25829\times10^8y+1.67772\times10^7)$
c_9, c_{11}	$(y-1)^3(y^6-3y^5+5y^4-4y^3+2y^2-y+1)$ $\cdot(y^{126}-75y^{125}+\cdots-971y+1)$
c_{10}	$y^3(y^6-3y^5+\cdots-y+1)(y^{126}-24y^{125}+\cdots-8848y+64)$
c_{12}	$(y^3-5y^2+10y-1)(y^6+y^5+5y^4+6y^2+3y+1)$ $\cdot(y^{126}+15y^{125}+\cdots-14y+1)$