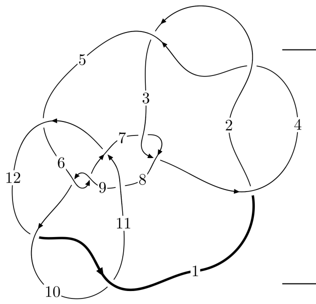
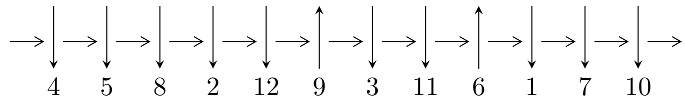
$12a_{0832}$ ($K12a_{0832}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I^u_1 = \langle & 1.82100 \times 10^{145} u^{106} + 1.76856 \times 10^{146} u^{105} + \cdots + 2.34604 \times 10^{144} b + 1.63398 \times 10^{145}, \\
& - 9.00860 \times 10^{144} u^{106} - 8.87315 \times 10^{145} u^{105} + \cdots + 3.11583 \times 10^{143} a - 8.18986 \times 10^{144}, \\
& u^{107} + 11u^{106} + \cdots - u + 1 \rangle \\
I^u_2 = \langle & b^9 - b^8 - 2b^7 + 3b^6 + b^5 - 3b^4 + 2b^3 - b + 1,\ a - 1,\ u - 1 \rangle \\
I^u_3 = \langle & b + 1,\ -12u^2 + 17a - 11u + 8,\ u^3 + u^2 - 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 119 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. $\boldsymbol{I_1^u = \langle 1.82\times10^{145}u^{106} + 1.77\times10^{146}u^{105} + \cdots + 2.35\times10^{144}b + 1.63\times10^{145},\ -9.01\times10^{144}u^{106} - 8.87\times10^{145}u^{105} + \cdots + 3.12\times10^{143}a - 8.19\times10^{144},\ u^{107} + 11u^{106} + \cdots - u + 1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_4 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-u^2+1\\-u^4+2u^2\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}28.9123u^{106} + 284.776u^{105} + \cdots - 57.4382u + 26.2847\\-7.76201u^{106} - 75.3850u^{105} + \cdots + 12.3022u - 6.96486\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}35.3044u^{106} + 346.752u^{105} + \cdots - 60.1629u + 30.1321\\11.0948u^{106} + 107.535u^{105} + \cdots - 11.2109u + 7.50499\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-225.444u^{106} - 2126.33u^{105} + \cdots + 217.402u - 139.053\\-3.47317u^{106} - 15.3113u^{105} + \cdots - 22.8525u + 7.66552\end{pmatrix}$$
$$a_9 = \begin{pmatrix}152.968u^{106} + 1511.32u^{105} + \cdots - 222.234u + 128.653\\85.3954u^{106} + 812.499u^{105} + \cdots - 90.9059u + 55.8114\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-4.74413u^{106} - 45.0876u^{105} + \cdots + 1.45576u - 3.57826\\-1.77398u^{106} - 16.9646u^{105} + \cdots + 0.374396u - 0.558079\end{pmatrix}$$
$$a_8 = \begin{pmatrix}4.11969u^{106} + 39.2305u^{105} + \cdots - 8.20858u + 1.92021\\2.41999u^{106} + 24.9542u^{105} + \cdots - 5.96901u + 3.00759\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}36.6743u^{106} + 360.161u^{105} + \cdots - 69.7404u + 33.2495\\-7.76201u^{106} - 75.3850u^{105} + \cdots + 12.3022u - 6.96486\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -205.058u^{106} - 2014.48u^{105} + \cdots + 295.936u - 174.019$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4	$u^{107} - 11u^{106} + \cdots - u - 1$
c_3, c_7	$u^{107} - 2u^{106} + \cdots - 512u + 512$
c_5	$17(17u^{107} + 96u^{106} + \cdots - 2.67194 \times 10^8 u + 4.35330 \times 10^7)$
c_6, c_9	$u^{107} + 3u^{106} + \cdots - 3u - 1$
c_8	$17(17u^{107} + 61u^{106} + \cdots + 4.98410 \times 10^7 u - 2813417)$
c_{10}, c_{12}	$u^{107} - 5u^{106} + \cdots - 5466u - 289$
c_{11}	$u^{107} + 2u^{106} + \cdots - 10404u + 2312$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^{107} - 99y^{106} + \cdots - 29y - 1$
c_3, c_7	$y^{107} - 54y^{106} + \cdots + 7340032y - 262144$
c_5	$289(289y^{107} - 19076y^{106} + \cdots + 8.77063 \times 10^{16}y - 1.89512 \times 10^{15})$
c_6, c_9	$y^{107} + 73y^{106} + \cdots + 55y - 1$
c_8	$289 \cdot (289y^{107} - 7971y^{106} + \cdots + 1153422073109755y - 7915315215889)$
c_{10}, c_{12}	$y^{107} - 81y^{106} + \cdots + 6093612y - 83521$
c_{11}	$y^{107} - 18y^{106} + \cdots + 277740560y - 5345344$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_1	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.346089 + 0.926510I$ $a = 0.488603 - 1.149700I$ $b = 1.44877 + 0.53359I$	$-7.4189 - 13.7965I$	0
$u = 0.346089 - 0.926510I$ $a = 0.488603 + 1.149700I$ $b = 1.44877 - 0.53359I$	$-7.4189 + 13.7965I$	0
$u = 0.369955 + 0.942148I$ $a = 0.573386 - 0.891132I$ $b = 1.249130 + 0.376668I$	$-2.55413 - 8.13238I$	0
$u = 0.369955 - 0.942148I$ $a = 0.573386 + 0.891132I$ $b = 1.249130 - 0.376668I$	$-2.55413 + 8.13238I$	0
$u = 0.928095 + 0.328024I$ $a = 1.067700 - 0.348911I$ $b = 0.122990 + 0.398571I$	$-0.769990 - 0.237218I$	0
$u = 0.928095 - 0.328024I$ $a = 1.067700 + 0.348911I$ $b = 0.122990 - 0.398571I$	$-0.769990 + 0.237218I$	0
$u = 0.319909 + 1.003060I$ $a = 0.300455 - 0.534456I$ $b = 1.246370 + 0.010174I$	$-6.46600 - 1.47782I$	0
$u = 0.319909 - 1.003060I$ $a = 0.300455 + 0.534456I$ $b = 1.246370 - 0.010174I$	$-6.46600 + 1.47782I$	0
$u = 0.945816$ $a = 2.59957$ $b = -0.936011$	-3.02083	0
$u = 1.049800 + 0.152492I$ $a = 2.59795 + 1.35800I$ $b = -1.182570 - 0.120195I$	$-5.90093 - 0.77524I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.049800 - 0.152492I$ $a = 2.59795 - 1.35800I$ $b = -1.182570 + 0.120195I$	$-5.90093 + 0.77524I$	0
$u = 0.771747 + 0.482029I$ $a = 1.166080 - 0.347003I$ $b = -0.311412 + 1.048800I$	$-3.78091 + 2.99219I$	0
$u = 0.771747 - 0.482029I$ $a = 1.166080 + 0.347003I$ $b = -0.311412 - 1.048800I$	$-3.78091 - 2.99219I$	0
$u = -0.828331 + 0.756192I$ $a = 0.891464 + 0.459958I$ $b = 1.003920 - 0.044300I$	$1.38178 + 2.91494I$	0
$u = -0.828331 - 0.756192I$ $a = 0.891464 - 0.459958I$ $b = 1.003920 + 0.044300I$	$1.38178 - 2.91494I$	0
$u = 0.343042 + 0.788869I$ $a = -0.336263 + 0.963037I$ $b = -0.149645 - 1.288650I$	$-2.37272 - 7.54825I$	0
$u = 0.343042 - 0.788869I$ $a = -0.336263 - 0.963037I$ $b = -0.149645 + 1.288650I$	$-2.37272 + 7.54825I$	0
$u = 0.922174 + 0.690097I$ $a = 0.581180 - 0.416925I$ $b = 1.43011 - 0.44307I$	$-9.14754 + 8.24261I$	0
$u = 0.922174 - 0.690097I$ $a = 0.581180 + 0.416925I$ $b = 1.43011 + 0.44307I$	$-9.14754 - 8.24261I$	0
$u = 0.448171 + 0.709899I$ $a = -0.18414 + 1.45497I$ $b = -1.55514 - 0.73695I$	$-6.91732 - 4.41662I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.448171 - 0.709899I$ $a = -0.18414 - 1.45497I$ $b = -1.55514 + 0.73695I$	$-6.91732 + 4.41662I$	0
$u = 0.557495 + 0.610684I$ $a = 0.362867 + 0.478199I$ $b = -1.65203 + 0.47475I$	$-7.33756 - 0.07613I$	0
$u = 0.557495 - 0.610684I$ $a = 0.362867 - 0.478199I$ $b = -1.65203 - 0.47475I$	$-7.33756 + 0.07613I$	0
$u = 0.759499 + 0.321795I$ $a = 1.330620 + 0.358278I$ $b = -0.378863 - 0.498684I$	$-3.58750 - 2.31232I$	0
$u = 0.759499 - 0.321795I$ $a = 1.330620 - 0.358278I$ $b = -0.378863 + 0.498684I$	$-3.58750 + 2.31232I$	0
$u = 0.289663 + 0.766909I$ $a = 0.002340 + 0.697636I$ $b = 0.077224 - 0.771549I$	$1.09835 - 3.92237I$	0
$u = 0.289663 - 0.766909I$ $a = 0.002340 - 0.697636I$ $b = 0.077224 + 0.771549I$	$1.09835 + 3.92237I$	0
$u = 0.926197 + 0.743885I$ $a = 0.720813 - 0.394658I$ $b = 1.217190 - 0.229736I$	$-4.18081 + 2.37986I$	0
$u = 0.926197 - 0.743885I$ $a = 0.720813 + 0.394658I$ $b = 1.217190 + 0.229736I$	$-4.18081 - 2.37986I$	0
$u = -1.195860 + 0.071246I$ $a = 0.834976 + 0.099978I$ $b = 1.081680 - 0.553383I$	$-5.80226 + 7.40735I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.195860-0.071246I$ $a=\ \ 0.834976-0.099978I$ $b=\ \ 1.081680+0.553383I$	$-5.80226-7.40735I$	0
$u=-0.319822+0.706800I$ $a=\ \ 0.185472+0.770438I$ $b=\ \ 1.180450+0.258145I$	$-3.77986-4.80948I$	0
$u=-0.319822-0.706800I$ $a=\ \ 0.185472-0.770438I$ $b=\ \ 1.180450-0.258145I$	$-3.77986+4.80948I$	0
$u=\ \ 1.012440+0.691885I$ $a=\ \ 0.826522-0.541378I$ $b=\ \ 1.304000+0.146196I$	$-8.58798-4.36356I$	0
$u=\ \ 1.012440-0.691885I$ $a=\ \ 0.826522+0.541378I$ $b=\ \ 1.304000-0.146196I$	$-8.58798+4.36356I$	0
$u=\ \ 0.391589+0.655721I$ $a=-0.43938+1.82965I$ $b=-1.073250-0.329860I$	$-2.56341-2.94691I$	0
$u=\ \ 0.391589-0.655721I$ $a=-0.43938-1.82965I$ $b=-1.073250+0.329860I$	$-2.56341+2.94691I$	0
$u=\ \ 0.316249+0.663493I$ $a=\ \ 1.258330+0.584184I$ $b=-0.209859+0.022387I$	$-2.30486-1.44330I$	0
$u=\ \ 0.316249-0.663493I$ $a=\ \ 1.258330-0.584184I$ $b=-0.209859-0.022387I$	$-2.30486+1.44330I$	0
$u=-1.263060+0.081449I$ $a=\ \ 0.824442+0.083550I$ $b=\ \ 0.727801-0.763902I$	$-0.72189+2.74860I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.263060 - 0.081449I$ $a = 0.824442 - 0.083550I$ $b = 0.727801 + 0.763902I$	$-0.72189 - 2.74860I$	0
$u = 1.272250 + 0.106081I$ $a = 0.98579 + 1.17507I$ $b = -0.362733 + 0.158221I$	$-4.76982 + 0.36186I$	0
$u = 1.272250 - 0.106081I$ $a = 0.98579 - 1.17507I$ $b = -0.362733 - 0.158221I$	$-4.76982 - 0.36186I$	0
$u = 0.451827 + 0.536220I$ $a = -0.943034 - 0.499437I$ $b = -1.144990 + 0.140910I$	$-2.97691 - 0.95326I$	0
$u = 0.451827 - 0.536220I$ $a = -0.943034 + 0.499437I$ $b = -1.144990 - 0.140910I$	$-2.97691 + 0.95326I$	0
$u = 1.302530 + 0.041153I$ $a = -3.09240 + 1.07743I$ $b = -1.110650 - 0.240588I$	$-4.79638 - 0.98699I$	0
$u = 1.302530 - 0.041153I$ $a = -3.09240 - 1.07743I$ $b = -1.110650 + 0.240588I$	$-4.79638 + 0.98699I$	0
$u = 1.299920 + 0.168546I$ $a = -0.107981 - 0.443207I$ $b = 0.000911 - 0.644871I$	$-1.66924 - 1.97469I$	0
$u = 1.299920 - 0.168546I$ $a = -0.107981 + 0.443207I$ $b = 0.000911 + 0.644871I$	$-1.66924 + 1.97469I$	0
$u = -1.313370 + 0.054285I$ $a = 0.854577 + 0.008414I$ $b = 0.476146 - 0.988851I$	$-3.84509 - 1.95256I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.313370-0.054285I$ $a=\ 0.854577-0.008414I$ $b=\ 0.476146+0.988851I$	$-3.84509+1.95256I$	0
$u=-0.408891+0.536151I$ $a=\ 1.21817+1.32334I$ $b=\ 1.308990-0.468518I$	$-4.39157+8.45275I$	0
$u=-0.408891-0.536151I$ $a=\ 1.21817-1.32334I$ $b=\ 1.308990+0.468518I$	$-4.39157-8.45275I$	0
$u=-0.509411+0.390374I$ $a=\ 1.43737+0.68564I$ $b=\ 0.906539-0.320701I$	$0.99398+2.92097I$	$-2.14055-8.38546I$
$u=-0.509411-0.390374I$ $a=\ 1.43737-0.68564I$ $b=\ 0.906539+0.320701I$	$0.99398-2.92097I$	$-2.14055+8.38546I$
$u=\ 1.352810+0.144917I$ $a=-0.889798-1.006880I$ $b=-0.249790-1.218930I$	$-5.05564-5.39819I$	0
$u=\ 1.352810-0.144917I$ $a=-0.889798+1.006880I$ $b=-0.249790+1.218930I$	$-5.05564+5.39819I$	0
$u=\ 1.361330+0.043746I$ $a=-2.95745-0.20957I$ $b=-1.62298-0.62301I$	$-9.17182-2.19773I$	0
$u=\ 1.361330-0.043746I$ $a=-2.95745+0.20957I$ $b=-1.62298+0.62301I$	$-9.17182+2.19773I$	0
$u=-1.42504+0.19094I$ $a=-0.67013+2.22749I$ $b=-0.879710-0.127697I$	$-8.99268+4.16407I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.42504 - 0.19094I$ $a = -0.67013 - 2.22749I$ $b = -0.879710 + 0.127697I$	$-8.99268 - 4.16407I$	0
$u = -1.43432 + 0.14706I$ $a = -0.0676959 + 0.0171999I$ $b = -0.587535 - 0.726567I$	$-6.76847 + 1.51759I$	0
$u = -1.43432 - 0.14706I$ $a = -0.0676959 - 0.0171999I$ $b = -0.587535 + 0.726567I$	$-6.76847 - 1.51759I$	0
$u = -1.42121 + 0.25982I$ $a = 0.411496 - 0.593144I$ $b = -0.216513 + 0.240799I$	$-7.84058 + 4.80609I$	0
$u = -1.42121 - 0.25982I$ $a = 0.411496 + 0.593144I$ $b = -0.216513 - 0.240799I$	$-7.84058 - 4.80609I$	0
$u = -0.086365 + 0.547685I$ $a = -0.300133 - 0.166796I$ $b = 0.372416 + 0.585011I$	$2.60177 - 0.62792I$	$-0.78766 + 2.26745I$
$u = -0.086365 - 0.547685I$ $a = -0.300133 + 0.166796I$ $b = 0.372416 - 0.585011I$	$2.60177 + 0.62792I$	$-0.78766 - 2.26745I$
$u = 0.233580 + 0.482684I$ $a = 5.29654 - 3.52833I$ $b = -0.967668 - 0.083362I$	$-3.50386 - 1.66896I$	$-16.6348 - 15.7652I$
$u = 0.233580 - 0.482684I$ $a = 5.29654 + 3.52833I$ $b = -0.967668 + 0.083362I$	$-3.50386 + 1.66896I$	$-16.6348 + 15.7652I$
$u = -1.43555 + 0.29816I$ $a = -0.355414 + 0.224137I$ $b = 0.037878 + 0.954929I$	$-4.44227 + 7.78550I$	0

Solutions to I^u_1	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.43555-0.29816I$ $a=-0.355414-0.224137I$ $b=\ 0.037878-0.954929I$	$-4.44227-7.78550I$	0
$u=-1.45576+0.20589I$ $a=-2.32395-0.20632I$ $b=-1.280390-0.132160I$	$-9.07128+3.71874I$	0
$u=-1.45576-0.20589I$ $a=-2.32395+0.20632I$ $b=-1.280390+0.132160I$	$-9.07128-3.71874I$	0
$u=\ 1.45585+0.21194I$ $a=\ 2.40050-0.71952I$ $b=\ 1.45479+0.48867I$	$-10.4011-11.2730I$	0
$u=\ 1.45585-0.21194I$ $a=\ 2.40050+0.71952I$ $b=\ 1.45479-0.48867I$	$-10.4011+11.2730I$	0
$u=-1.47174+0.12909I$ $a=-0.150092-0.748850I$ $b=-0.77291-1.28610I$	$-10.74750-1.26365I$	0
$u=-1.47174-0.12909I$ $a=-0.150092+0.748850I$ $b=-0.77291+1.28610I$	$-10.74750+1.26365I$	0
$u=-1.45743+0.24242I$ $a=-1.77794-1.17322I$ $b=-1.167620+0.444078I$	$-8.52536+6.22901I$	0
$u=-1.45743-0.24242I$ $a=-1.77794+1.17322I$ $b=-1.167620-0.444078I$	$-8.52536-6.22901I$	0
$u=-1.45823+0.30150I$ $a=-0.881779+0.470057I$ $b=-0.12006+1.46337I$	$-8.16809+11.50410I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.45823-0.30150I$ $a=-0.881779-0.470057I$ $b=-0.12006-1.46337I$	$-8.16809-11.50410I$	0
$u=\ 0.504337$ $a=\ 1.43138$ $b=-0.210755$	-0.940432	-9.73200
$u=\ 1.48188+0.20581I$ $a=\ 2.10311-0.59020I$ $b=\ 1.254090+0.304222I$	$-5.51395-5.51248I$	0
$u=\ 1.48188-0.20581I$ $a=\ 2.10311+0.59020I$ $b=\ 1.254090-0.304222I$	$-5.51395+5.51248I$	0
$u=\ 1.47936+0.26591I$ $a=\ 1.67705-0.89970I$ $b=\ 1.297930-0.061100I$	$-9.67010+1.15397I$	0
$u=\ 1.47936-0.26591I$ $a=\ 1.67705+0.89970I$ $b=\ 1.297930+0.061100I$	$-9.67010-1.15397I$	0
$u=-1.49131+0.19909I$ $a=-1.75436-0.92513I$ $b=-1.93070-0.42961I$	$-13.9537+2.9601I$	0
$u=-1.49131-0.19909I$ $a=-1.75436+0.92513I$ $b=-1.93070+0.42961I$	$-13.9537-2.9601I$	0
$u=-1.48365+0.25153I$ $a=-1.99125-0.58447I$ $b=-1.65104+0.93298I$	$-13.1732+7.9062I$	0
$u=-1.48365-0.25153I$ $a=-1.99125+0.58447I$ $b=-1.65104-0.93298I$	$-13.1732-7.9062I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.48073 + 0.36508I$ $a = 1.89059 + 1.05321I$ $b = 1.48999 - 0.59218I$	$-13.2708 + 18.4610I$	0
$u = -1.48073 - 0.36508I$ $a = 1.89059 - 1.05321I$ $b = 1.48999 + 0.59218I$	$-13.2708 - 18.4610I$	0
$u = -1.49228 + 0.36576I$ $a = 1.76452 + 0.89817I$ $b = 1.323930 - 0.458029I$	$-8.5253 + 12.8531I$	0
$u = -1.49228 - 0.36576I$ $a = 1.76452 - 0.89817I$ $b = 1.323930 + 0.458029I$	$-8.5253 - 12.8531I$	0
$u = -0.141853 + 0.427499I$ $a = -0.992142 - 0.604973I$ $b = 0.018620 + 0.994580I$	$-0.31883 + 3.28324I$	$-5.60431 - 3.66597I$
$u = -0.141853 - 0.427499I$ $a = -0.992142 + 0.604973I$ $b = 0.018620 - 0.994580I$	$-0.31883 - 3.28324I$	$-5.60431 + 3.66597I$
$u = -1.50018 + 0.39366I$ $a = 1.45021 + 0.85922I$ $b = 1.286570 - 0.159205I$	$-12.32240 + 6.52710I$	0
$u = -1.50018 - 0.39366I$ $a = 1.45021 - 0.85922I$ $b = 1.286570 + 0.159205I$	$-12.32240 - 6.52710I$	0
$u = -1.61494 + 0.01702I$ $a = 1.95092 + 0.17895I$ $b = 1.53493 + 0.27322I$	$-18.4193 - 6.1353I$	0
$u = -1.61494 - 0.01702I$ $a = 1.95092 - 0.17895I$ $b = 1.53493 - 0.27322I$	$-18.4193 + 6.1353I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.63726$ $a=\ \ 1.84814$ $b=\ \ 1.39245$	-13.8071	0
$u=-0.135094+0.280440I$ $a=\ \ 2.45235+0.17022I$ $b=\ \ 0.086578-0.492792I$	$-0.62747-1.89102I$	$-3.97049+2.88595I$
$u=-0.135094-0.280440I$ $a=\ \ 2.45235-0.17022I$ $b=\ \ 0.086578+0.492792I$	$-0.62747+1.89102I$	$-3.97049-2.88595I$
$u=\ \ 0.105881+0.172003I$ $a=\ \ 3.05499-3.81158I$ $b=-0.742474+0.130120I$	$-1.063250+0.043134I$	$-7.94611+1.24147I$
$u=\ \ 0.105881-0.172003I$ $a=\ \ 3.05499+3.81158I$ $b=-0.742474-0.130120I$	$-1.063250-0.043134I$	$-7.94611-1.24147I$
$u=-0.131323+0.122858I$ $a=-4.47970-3.36732I$ $b=-1.242240+0.474353I$	$-4.49140+1.51008I$	$-9.81598-1.55694I$
$u=-0.131323-0.122858I$ $a=-4.47970+3.36732I$ $b=-1.242240-0.474353I$	$-4.49140-1.51008I$	$-9.81598+1.55694I$

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= b^8 - b^7 + 2b^6 - b^5 - 3b^4 + 5b^3 + 2b^2 - 3b - 5$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^9$
c_3, c_7	y^9
c_5	$y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1$
c_6, c_9	$y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1$
c_8, c_{11}	$y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1$
c_{10}, c_{12}	$y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = 1.00000$ $b = 0.772920 + 0.510351I$	$0.13850 - 2.09337I$	$-6.02684 + 1.69698I$
$u = 1.00000$ $a = 1.00000$ $b = 0.772920 - 0.510351I$	$0.13850 + 2.09337I$	$-6.02684 - 1.69698I$
$u = 1.00000$ $a = 1.00000$ $b = -0.825933$	-2.84338	-3.87310
$u = 1.00000$ $a = 1.00000$ $b = -1.173910 + 0.391555I$	$-6.01628 + 1.33617I$	$-16.4774 - 4.4812I$
$u = 1.00000$ $a = 1.00000$ $b = -1.173910 - 0.391555I$	$-6.01628 - 1.33617I$	$-16.4774 + 4.4812I$
$u = 1.00000$ $a = 1.00000$ $b = 0.141484 + 0.739668I$	$-2.26187 + 2.45442I$	$-8.53903 - 2.82066I$
$u = 1.00000$ $a = 1.00000$ $b = 0.141484 - 0.739668I$	$-2.26187 - 2.45442I$	$-8.53903 + 2.82066I$
$u = 1.00000$ $a = 1.00000$ $b = 1.172470 + 0.500383I$	$-5.24306 - 7.08493I$	$-9.02021 + 2.94778I$
$u = 1.00000$ $a = 1.00000$ $b = 1.172470 - 0.500383I$	$-5.24306 + 7.08493I$	$-9.02021 - 2.94778I$

III. $\boldsymbol{I^u_3 = \langle b+1,\ -12u^2+17a-11u+8,\ u^3+u^2-1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u^2+u-1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^2+1 \\ u^2-u+1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} \frac{12}{17}u^2+\frac{11}{17}u-\frac{8}{17} \\ -1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} \frac{12}{17}u^2+\frac{11}{17}u+\frac{9}{17} \\ -1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.00346021u^2-0.733564u+0.217993 \\ \frac{14}{17}u^2+\frac{10}{17}u-\frac{15}{17} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.484429u^2-0.301038u+0.480969 \\ \frac{29}{17}u^2+\frac{11}{17}u-\frac{42}{17} \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -2u+1 \\ 5u^2+2u-4 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u \\ 2u^2+u-2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} \frac{12}{17}u^2+\frac{11}{17}u+\frac{9}{17} \\ -1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{8258}{289}u^2+\frac{2667}{289}u+\frac{54}{289}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$u^3 + u^2 - 1$
c_3	$u^3 - u^2 + 2u - 1$
c_4	$u^3 - u^2 + 1$
c_5	$17(17u^3 + 10u^2 - u - 1)$
c_6	$u^3 + 3u^2 + 2u - 1$
c_7	$u^3 + u^2 + 2u + 1$
c_8	$17(17u^3 - 23u^2 + 8u - 1)$
c_9	$u^3 - 3u^2 + 2u + 1$
c_{10}	$(u - 1)^3$
c_{11}	u^3
c_{12}	$(u + 1)^3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^3 - y^2 + 2y - 1$
c_3, c_7	$y^3 + 3y^2 + 2y - 1$
c_5	$289(289y^3 - 134y^2 + 21y - 1)$
c_6, c_9	$y^3 - 5y^2 + 10y - 1$
c_8	$289(289y^3 - 257y^2 + 18y - 1)$
c_{10}, c_{12}	$(y-1)^3$
c_{11}	y^3

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.877439 + 0.744862I$ $a = -0.886522 - 0.440719I$ $b = -1.00000$	$1.37919 + 2.82812I$	$-14.0563 + 44.2246I$
$u = -0.877439 - 0.744862I$ $a = -0.886522 + 0.440719I$ $b = -1.00000$	$1.37919 - 2.82812I$	$-14.0563 - 44.2246I$
$u = \quad 0.754878$ $a = \quad 0.420102$ $b = -1.00000$	-2.75839	-9.12970

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2	$((u-1)^9)(u^3+u^2-1)(u^{107}-11u^{106}+\cdots-u-1)$
c_3	$u^9(u^3-u^2+2u-1)(u^{107}-2u^{106}+\cdots-512u+512)$
c_4	$((u+1)^9)(u^3-u^2+1)(u^{107}-11u^{106}+\cdots-u-1)$
c_5	$289(17u^3+10u^2-u-1)$ $\cdot(u^9-5u^8+12u^7-15u^6+9u^5+u^4-4u^3+2u^2+u-1)$ $\cdot(17u^{107}+96u^{106}+\cdots-267194040u+43532959)$
c_6	(u^3+3u^2+2u-1) $\cdot(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot(u^{107}+3u^{106}+\cdots-3u-1)$
c_7	$u^9(u^3+u^2+2u+1)(u^{107}-2u^{106}+\cdots-512u+512)$
c_8	$289(17u^3-23u^2+8u-1)(u^9+u^8+\cdots+u-1)$ $\cdot(17u^{107}+61u^{106}+\cdots+49840983u-2813417)$
c_9	(u^3-3u^2+2u+1) $\cdot(u^9-3u^8+8u^7-13u^6+17u^5-17u^4+12u^3-6u^2+u+1)$ $\cdot(u^{107}+3u^{106}+\cdots-3u-1)$
c_{10}	$(u-1)^3(u^9+u^8-2u^7-3u^6+u^5+3u^4+2u^3-u-1)$ $\cdot(u^{107}-5u^{106}+\cdots-5466u-289)$
c_{11}	$u^3(u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1)$ $\cdot(u^{107}+2u^{106}+\cdots-10404u+2312)$
c_{12}	$(u+1)^3(u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1)$ $\cdot(u^{107}-5u^{106}+\cdots-5466u-289)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$((y-1)^9)(y^3 - y^2 + 2y - 1)(y^{107} - 99y^{106} + \cdots - 29y - 1)$
c_3, c_7	$y^9(y^3 + 3y^2 + 2y - 1)(y^{107} - 54y^{106} + \cdots + 7340032y - 262144)$
c_5	$83521(289y^3 - 134y^2 + 21y - 1)$ $\cdot (y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1)$ $\cdot (289y^{107} - 1.91 \times 10^4 y^{106} + \cdots + 8.77 \times 10^{16} y - 1.90 \times 10^{15})$
c_6, c_9	$(y^3 - 5y^2 + 10y - 1)$ $\cdot (y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1)$ $\cdot (y^{107} + 73y^{106} + \cdots + 55y - 1)$
c_8	$83521(289y^3 - 257y^2 + 18y - 1)$ $\cdot (y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1)$ $\cdot (289y^{107} - 7971y^{106} + \cdots + 1153422073109755y - 7915315215889)$
c_{10}, c_{12}	$(y-1)^3(y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1)$ $\cdot (y^{107} - 81y^{106} + \cdots + 6093612y - 83521)$
c_{11}	$y^3(y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1)$ $\cdot (y^{107} - 18y^{106} + \cdots + 277740560y - 5345344)$