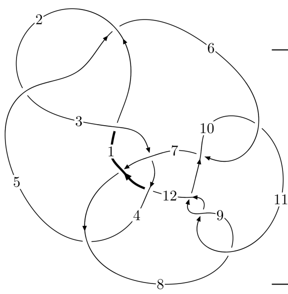
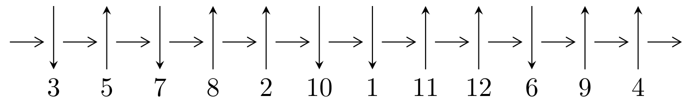
$12a_{0067}$ ($K12a_{0067}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle &-4.38800 \times 10^{265} u^{118} + 3.02980 \times 10^{267} u^{117} + \cdots + 1.78088 \times 10^{268} b - 1.33871 \times 10^{268}, \\
&- 3.99262 \times 10^{266} u^{118} - 9.19047 \times 10^{266} u^{117} + \cdots + 4.68652 \times 10^{266} a - 9.37332 \times 10^{266}, \\
&u^{119} + 2u^{118} + \cdots + 10u - 1\rangle \\
I_2^u = \langle &b,\ -u^3 + a + 2,\ u^4 + u^2 - u + 1\rangle \\
I_3^u = \langle &b,\ -u^3 - u^2 + a - 2u - 1,\ u^6 + u^5 + 2u^4 + 2u^3 + 2u^2 + 2u + 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 129 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. $\boldsymbol{I^u_1 = \langle -4.39 \times 10^{265} u^{118} + 3.03 \times 10^{267} u^{117} + \cdots + 1.78 \times 10^{268} b - 1.34 \times 10^{268},\ -3.99 \times 10^{266} u^{118} - 9.19 \times 10^{266} u^{117} + \cdots + 4.69 \times 10^{266} a - 9.37 \times 10^{266},\ u^{119} + 2u^{118} + \cdots + 10u - 1 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.851939u^{118} + 1.96105u^{117} + \cdots + 5.50935u + 2.00006 \\ 0.00246395u^{118} - 0.170130u^{117} + \cdots - 6.39561u + 0.751713 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.854403u^{118} + 1.79092u^{117} + \cdots - 0.886258u + 2.75177 \\ 0.00246395u^{118} - 0.170130u^{117} + \cdots - 6.39561u + 0.751713 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -1.38396u^{118} - 2.75797u^{117} + \cdots + 1.94382u + 0.347631 \\ 0.656679u^{118} + 1.41118u^{117} + \cdots - 19.9698u + 2.06499 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.330028u^{118} + 1.31635u^{117} + \cdots + 19.6110u - 6.37259 \\ -0.517151u^{118} - 0.974647u^{117} + \cdots + 15.4648u - 0.903539 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -1.41875u^{118} - 2.80068u^{117} + \cdots + 1.91552u + 0.343327 \\ 0.587614u^{118} + 1.30438u^{117} + \cdots - 17.5478u + 1.69309 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.151740u^{118} - 0.172258u^{117} + \cdots + 0.396525u - 1.04773 \\ -0.132957u^{118} - 0.203298u^{117} + \cdots + 7.68780u - 0.734713 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.448776u^{118} + 1.21621u^{117} + \cdots - 5.54442u + 2.77419 \\ 0.132957u^{118} + 0.203298u^{117} + \cdots - 7.68780u + 0.734713 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.699441u^{118} - 1.36103u^{117} + \cdots - 108.370u + 12.9128$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{119} + 48u^{118} + \cdots + 10u - 1$
c_2, c_5	$u^{119} + 2u^{118} + \cdots + 10u - 1$
c_3	$u^{119} + 2u^{118} + \cdots - 140120u + 18392$
c_4	$u^{119} - 2u^{118} + \cdots + 83530u + 30653$
c_6, c_{10}	$u^{119} + u^{118} + \cdots + 8192u - 1024$
c_7	$u^{119} - 10u^{118} + \cdots - 2u + 1$
c_8, c_9, c_{11}	$u^{119} + 11u^{118} + \cdots - 5u - 1$
c_{12}	$u^{119} + 12u^{118} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{119} + 48y^{118} + \cdots + 2322y - 1$
c_2, c_5	$y^{119} + 48y^{118} + \cdots + 10y - 1$
c_3	$y^{119} + 132y^{118} + \cdots - 23236923728y - 338265664$
c_4	$y^{119} + 108y^{118} + \cdots - 59171729182y - 939606409$
c_6, c_{10}	$y^{119} + 63y^{118} + \cdots - 16252928y - 1048576$
c_7	$y^{119} + 12y^{118} + \cdots - 10y - 1$
c_8, c_9, c_{11}	$y^{119} - 111y^{118} + \cdots + 61y - 1$
c_{12}	$y^{119} + 120y^{117} + \cdots + 10y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.838953 + 0.544196I$ $a = 0.109175 - 0.804084I$ $b = 0.227389 - 1.188850I$	$4.58267 + 3.41945I$	0
$u = -0.838953 - 0.544196I$ $a = 0.109175 + 0.804084I$ $b = 0.227389 + 1.188850I$	$4.58267 - 3.41945I$	0
$u = -0.566709 + 0.823835I$ $a = 1.41781 - 0.98974I$ $b = -1.49166 - 0.40339I$	$4.10120 - 1.40763I$	0
$u = -0.566709 - 0.823835I$ $a = 1.41781 + 0.98974I$ $b = -1.49166 + 0.40339I$	$4.10120 + 1.40763I$	0
$u = 0.929890 + 0.372568I$ $a = 0.494702 - 0.637233I$ $b = -0.186613 - 0.978134I$	$3.57632 - 0.41841I$	0
$u = 0.929890 - 0.372568I$ $a = 0.494702 + 0.637233I$ $b = -0.186613 + 0.978134I$	$3.57632 + 0.41841I$	0
$u = 0.528551 + 0.860721I$ $a = -1.65774 + 2.41316I$ $b = -0.856075 - 0.055946I$	$2.60459 + 2.12994I$	0
$u = 0.528551 - 0.860721I$ $a = -1.65774 - 2.41316I$ $b = -0.856075 + 0.055946I$	$2.60459 - 2.12994I$	0
$u = 0.429351 + 0.877830I$ $a = -0.87746 - 3.07903I$ $b = 0.391668 + 0.704858I$	$-0.147900 + 0.561296I$	0
$u = 0.429351 - 0.877830I$ $a = -0.87746 + 3.07903I$ $b = 0.391668 - 0.704858I$	$-0.147900 - 0.561296I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.595363 + 0.770782I$ $a = -0.47331 - 1.67093I$ $b = -0.426559 - 1.254360I$	$6.60297 - 2.40686I$	0
$u = 0.595363 - 0.770782I$ $a = -0.47331 + 1.67093I$ $b = -0.426559 + 1.254360I$	$6.60297 + 2.40686I$	0
$u = -0.886727 + 0.528667I$ $a = -0.901289 + 0.300957I$ $b = 1.234610 + 0.383617I$	$5.90606 + 6.30718I$	0
$u = -0.886727 - 0.528667I$ $a = -0.901289 - 0.300957I$ $b = 1.234610 - 0.383617I$	$5.90606 - 6.30718I$	0
$u = 0.518493 + 0.815351I$ $a = 0.25894 + 3.45551I$ $b = 0.260712 + 0.872493I$	$0.677780 + 0.375001I$	0
$u = 0.518493 - 0.815351I$ $a = 0.25894 - 3.45551I$ $b = 0.260712 - 0.872493I$	$0.677780 - 0.375001I$	0
$u = 0.356864 + 0.974923I$ $a = 0.19087 + 3.03439I$ $b = -0.382865 - 1.138070I$	$4.96842 - 1.91691I$	0
$u = 0.356864 - 0.974923I$ $a = 0.19087 - 3.03439I$ $b = -0.382865 + 1.138070I$	$4.96842 + 1.91691I$	0
$u = -0.575407 + 0.865942I$ $a = 0.67706 - 1.41907I$ $b = -1.38391 + 0.66586I$	$3.96253 - 3.15795I$	0
$u = -0.575407 - 0.865942I$ $a = 0.67706 + 1.41907I$ $b = -1.38391 - 0.66586I$	$3.96253 + 3.15795I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.526299 + 0.896866I$ $a = -4.03635 - 2.50678I$ $b = 0.356301 - 0.893080I$	$0.40789 + 3.85492I$	0
$u = 0.526299 - 0.896866I$ $a = -4.03635 + 2.50678I$ $b = 0.356301 + 0.893080I$	$0.40789 - 3.85492I$	0
$u = -0.913451 + 0.496996I$ $a = 0.431272 + 0.500496I$ $b = -0.520481 + 1.196970I$	$3.03897 + 8.76012I$	0
$u = -0.913451 - 0.496996I$ $a = 0.431272 - 0.500496I$ $b = -0.520481 - 1.196970I$	$3.03897 - 8.76012I$	0
$u = -0.555202 + 0.776269I$ $a = 1.94351 - 0.74037I$ $b = -0.651991 - 1.218550I$	$3.14030 + 0.25233I$	0
$u = -0.555202 - 0.776269I$ $a = 1.94351 + 0.74037I$ $b = -0.651991 + 1.218550I$	$3.14030 - 0.25233I$	0
$u = -0.311297 + 1.010080I$ $a = -0.730790 + 0.796137I$ $b = 0.720782 - 0.097822I$	$-3.66803 - 0.76142I$	0
$u = -0.311297 - 1.010080I$ $a = -0.730790 - 0.796137I$ $b = 0.720782 + 0.097822I$	$-3.66803 + 0.76142I$	0
$u = 0.494555 + 0.800584I$ $a = 4.89193 - 0.43239I$ $b = -0.486675 + 0.231669I$	$2.15098 + 1.56600I$	0
$u = 0.494555 - 0.800584I$ $a = 4.89193 + 0.43239I$ $b = -0.486675 - 0.231669I$	$2.15098 - 1.56600I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.442347 + 0.967147I$ $a = 0.187163 + 0.721442I$ $b = 0.203483 - 0.360440I$	$-0.42288 + 2.75298I$	0
$u = 0.442347 - 0.967147I$ $a = 0.187163 - 0.721442I$ $b = 0.203483 + 0.360440I$	$-0.42288 - 2.75298I$	0
$u = -0.098695 + 0.931045I$ $a = 0.77161 - 1.97635I$ $b = -0.628406 + 1.083000I$	$3.41353 + 5.41155I$	0
$u = -0.098695 - 0.931045I$ $a = 0.77161 + 1.97635I$ $b = -0.628406 - 1.083000I$	$3.41353 - 5.41155I$	0
$u = 0.951835 + 0.487655I$ $a = -1.263630 + 0.008890I$ $b = 1.025210 + 0.046098I$	$5.49536 + 1.71804I$	0
$u = 0.951835 - 0.487655I$ $a = -1.263630 - 0.008890I$ $b = 1.025210 - 0.046098I$	$5.49536 - 1.71804I$	0
$u = -0.578907 + 0.899689I$ $a = -0.491377 - 0.195288I$ $b = -0.40200 + 1.40800I$	$2.74244 - 4.81471I$	0
$u = -0.578907 - 0.899689I$ $a = -0.491377 + 0.195288I$ $b = -0.40200 - 1.40800I$	$2.74244 + 4.81471I$	0
$u = 0.557211 + 0.926119I$ $a = 2.25509 - 2.77223I$ $b = -0.148264 - 0.425639I$	$1.67285 + 2.69563I$	0
$u = 0.557211 - 0.926119I$ $a = 2.25509 + 2.77223I$ $b = -0.148264 + 0.425639I$	$1.67285 - 2.69563I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.561845 + 0.934937I$ $a = -2.05105 + 0.47513I$ $b = 0.64960 + 1.35081I$	$0.66033 - 5.93367I$	0
$u = -0.561845 - 0.934937I$ $a = -2.05105 - 0.47513I$ $b = 0.64960 - 1.35081I$	$0.66033 + 5.93367I$	0
$u = 0.567410 + 0.933478I$ $a = 3.34553 + 1.33510I$ $b = -0.498602 + 1.231420I$	$6.08874 + 7.00877I$	0
$u = 0.567410 - 0.933478I$ $a = 3.34553 - 1.33510I$ $b = -0.498602 - 1.231420I$	$6.08874 - 7.00877I$	0
$u = -0.976182 + 0.493516I$ $a = -0.586235 - 0.134004I$ $b = 0.71252 - 1.31592I$	$8.9345 + 13.2205I$	0
$u = -0.976182 - 0.493516I$ $a = -0.586235 + 0.134004I$ $b = 0.71252 + 1.31592I$	$8.9345 - 13.2205I$	0
$u = -0.837165 + 0.713055I$ $a = -0.907014 + 0.200119I$ $b = 0.10091 + 1.56443I$	$13.31560 + 1.26216I$	0
$u = -0.837165 - 0.713055I$ $a = -0.907014 - 0.200119I$ $b = 0.10091 - 1.56443I$	$13.31560 - 1.26216I$	0
$u = -0.511882 + 0.735751I$ $a = 0.633141 - 0.149979I$ $b = 0.39152 - 1.36600I$	$1.31767 + 1.52824I$	0
$u = -0.511882 - 0.735751I$ $a = 0.633141 + 0.149979I$ $b = 0.39152 + 1.36600I$	$1.31767 - 1.52824I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.783521 + 0.422905I$ $a = 0.486131 - 0.247012I$ $b = -0.755611 - 0.251969I$	$0.15512 + 3.88915I$	0
$u = -0.783521 - 0.422905I$ $a = 0.486131 + 0.247012I$ $b = -0.755611 + 0.251969I$	$0.15512 - 3.88915I$	0
$u = -0.652570 + 0.596164I$ $a = -0.0981409 + 0.0613103I$ $b = -0.68690 + 1.37885I$	$7.74142 + 6.02428I$	0
$u = -0.652570 - 0.596164I$ $a = -0.0981409 - 0.0613103I$ $b = -0.68690 - 1.37885I$	$7.74142 - 6.02428I$	0
$u = 0.952391 + 0.588335I$ $a = 0.591023 + 0.694941I$ $b = -0.270109 + 1.002650I$	$3.36143 + 3.82787I$	0
$u = 0.952391 - 0.588335I$ $a = 0.591023 - 0.694941I$ $b = -0.270109 - 1.002650I$	$3.36143 - 3.82787I$	0
$u = 0.017038 + 1.121140I$ $a = -0.763804 + 0.103402I$ $b = 0.392618 - 0.845484I$	$-1.51868 + 2.01224I$	0
$u = 0.017038 - 1.121140I$ $a = -0.763804 - 0.103402I$ $b = 0.392618 + 0.845484I$	$-1.51868 - 2.01224I$	0
$u = -0.522097 + 1.002300I$ $a = -1.43550 + 0.42911I$ $b = 1.002750 + 0.439220I$	$-2.32372 - 5.35556I$	0
$u = -0.522097 - 1.002300I$ $a = -1.43550 - 0.42911I$ $b = 1.002750 - 0.439220I$	$-2.32372 + 5.35556I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.109750 + 0.291509I$ $a = -0.578286 - 0.115750I$ $b = 0.431413 + 1.312020I$	$9.92813 - 3.32978I$	0
$u = 1.109750 - 0.291509I$ $a = -0.578286 + 0.115750I$ $b = 0.431413 - 1.312020I$	$9.92813 + 3.32978I$	0
$u = 0.618376 + 0.563906I$ $a = 0.730085 - 0.169336I$ $b = -0.337347 - 0.043445I$	$1.11265 + 1.43327I$	0
$u = 0.618376 - 0.563906I$ $a = 0.730085 + 0.169336I$ $b = -0.337347 + 0.043445I$	$1.11265 - 1.43327I$	0
$u = -0.615027 + 1.005040I$ $a = 2.23322 - 0.35155I$ $b = -0.81135 - 1.33905I$	$6.53771 - 10.99580I$	0
$u = -0.615027 - 1.005040I$ $a = 2.23322 + 0.35155I$ $b = -0.81135 + 1.33905I$	$6.53771 + 10.99580I$	0
$u = -0.106450 + 1.175170I$ $a = 1.60470 + 0.24304I$ $b = -0.708952 - 0.522934I$	$-5.13196 + 1.58072I$	0
$u = -0.106450 - 1.175170I$ $a = 1.60470 - 0.24304I$ $b = -0.708952 + 0.522934I$	$-5.13196 - 1.58072I$	0
$u = -0.322092 + 0.754108I$ $a = -0.39118 + 1.39798I$ $b = 0.803778 - 0.818065I$	$-1.06689 + 1.52634I$	0
$u = -0.322092 - 0.754108I$ $a = -0.39118 - 1.39798I$ $b = 0.803778 + 0.818065I$	$-1.06689 - 1.52634I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.803859+0.148657I$ $a=-0.225213-0.234367I$ $b=-0.064271+0.891155I$	$2.46591+3.13553I$	0
$u=-0.803859-0.148657I$ $a=-0.225213+0.234367I$ $b=-0.064271-0.891155I$	$2.46591-3.13553I$	0
$u=0.520708+1.090110I$ $a=0.693612+0.589861I$ $b=-0.366092-0.404737I$	$-0.47565+2.99344I$	0
$u=0.520708-1.090110I$ $a=0.693612-0.589861I$ $b=-0.366092+0.404737I$	$-0.47565-2.99344I$	0
$u=0.058363+1.216070I$ $a=-2.32308-0.15998I$ $b=0.971579+0.429480I$	$-0.70650+4.43937I$	0
$u=0.058363-1.216070I$ $a=-2.32308+0.15998I$ $b=0.971579-0.429480I$	$-0.70650-4.43937I$	0
$u=-0.727403+0.981872I$ $a=1.071830+0.200891I$ $b=-0.01760-1.62299I$	$12.4827-7.0839I$	0
$u=-0.727403-0.981872I$ $a=1.071830-0.200891I$ $b=-0.01760+1.62299I$	$12.4827+7.0839I$	0
$u=-0.612589+1.094200I$ $a=0.767693-0.894702I$ $b=-0.892482+0.262426I$	$-1.81583-9.13295I$	0
$u=-0.612589-1.094200I$ $a=0.767693+0.894702I$ $b=-0.892482-0.262426I$	$-1.81583+9.13295I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.735041 + 1.019170I$ $a = -0.316372 - 0.656191I$ $b = -0.077697 - 0.865759I$	$2.05334 + 2.32542I$	0
$u = 0.735041 - 1.019170I$ $a = -0.316372 + 0.656191I$ $b = -0.077697 + 0.865759I$	$2.05334 - 2.32542I$	0
$u = -0.518341 + 1.151770I$ $a = 0.645899 + 0.752822I$ $b = -0.126191 - 0.699313I$	$-0.44007 - 7.88693I$	0
$u = -0.518341 - 1.151770I$ $a = 0.645899 - 0.752822I$ $b = -0.126191 + 0.699313I$	$-0.44007 + 7.88693I$	0
$u = 1.082210 + 0.653636I$ $a = -0.837140 - 0.100407I$ $b = 0.485630 - 1.303600I$	$9.53931 + 7.04970I$	0
$u = 1.082210 - 0.653636I$ $a = -0.837140 + 0.100407I$ $b = 0.485630 + 1.303600I$	$9.53931 - 7.04970I$	0
$u = -0.285135 + 1.235900I$ $a = -0.837715 - 1.017010I$ $b = 0.191982 + 0.843692I$	$-1.96720 - 0.65100I$	0
$u = -0.285135 - 1.235900I$ $a = -0.837715 + 1.017010I$ $b = 0.191982 - 0.843692I$	$-1.96720 + 0.65100I$	0
$u = -0.670191 + 1.077940I$ $a = -1.54529 + 0.46264I$ $b = 0.332562 + 1.244600I$	$2.96632 - 9.05048I$	0
$u = -0.670191 - 1.077940I$ $a = -1.54529 - 0.46264I$ $b = 0.332562 - 1.244600I$	$2.96632 + 9.05048I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.022366 + 1.275070I$ $a = 1.23684 - 0.76817I$ $b = -0.545853 + 1.021420I$	$-3.60584 + 6.39853I$	0
$u = 0.022366 - 1.275070I$ $a = 1.23684 + 0.76817I$ $b = -0.545853 - 1.021420I$	$-3.60584 - 6.39853I$	0
$u = -0.683411 + 1.099690I$ $a = -1.00098 + 1.27401I$ $b = 1.272770 - 0.469310I$	$4.16552 - 12.10780I$	0
$u = -0.683411 - 1.099690I$ $a = -1.00098 - 1.27401I$ $b = 1.272770 + 0.469310I$	$4.16552 + 12.10780I$	0
$u = -0.681332 + 1.121330I$ $a = 1.99277 - 0.41746I$ $b = -0.585302 - 1.226580I$	$1.1322 - 14.6195I$	0
$u = -0.681332 - 1.121330I$ $a = 1.99277 + 0.41746I$ $b = -0.585302 + 1.226580I$	$1.1322 + 14.6195I$	0
$u = 0.720492 + 1.113940I$ $a = -1.51475 - 0.74596I$ $b = 0.982362 + 0.178327I$	$3.61125 + 4.38522I$	0
$u = 0.720492 - 1.113940I$ $a = -1.51475 + 0.74596I$ $b = 0.982362 - 0.178327I$	$3.61125 - 4.38522I$	0
$u = -0.701138 + 1.147870I$ $a = -2.22521 + 0.22453I$ $b = 0.76422 + 1.30680I$	$6.9107 - 19.3213I$	0
$u = -0.701138 - 1.147870I$ $a = -2.22521 - 0.22453I$ $b = 0.76422 - 1.30680I$	$6.9107 + 19.3213I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.693659 + 1.171160I$ $a = 1.59038 + 0.32423I$ $b = -0.382587 + 1.003640I$	$1.19440 + 6.39011I$	0
$u = 0.693659 - 1.171160I$ $a = 1.59038 - 0.32423I$ $b = -0.382587 - 1.003640I$	$1.19440 - 6.39011I$	0
$u = 0.035679 + 1.363720I$ $a = -1.36652 + 1.22183I$ $b = 0.638039 - 1.211900I$	$1.81121 + 10.37090I$	0
$u = 0.035679 - 1.363720I$ $a = -1.36652 - 1.22183I$ $b = 0.638039 + 1.211900I$	$1.81121 - 10.37090I$	0
$u = 0.388544 + 1.308910I$ $a = -0.21975 - 1.45578I$ $b = 0.271184 + 1.181390I$	$4.63253 + 1.58055I$	0
$u = 0.388544 - 1.308910I$ $a = -0.21975 + 1.45578I$ $b = 0.271184 - 1.181390I$	$4.63253 - 1.58055I$	0
$u = 0.906319 + 1.043070I$ $a = 0.150159 - 0.428837I$ $b = 0.364395 + 1.282450I$	$8.37474 - 0.01682I$	0
$u = 0.906319 - 1.043070I$ $a = 0.150159 + 0.428837I$ $b = 0.364395 - 1.282450I$	$8.37474 + 0.01682I$	0
$u = 0.73537 + 1.25030I$ $a = -1.76430 + 0.25295I$ $b = 0.545981 - 1.269200I$	$7.05259 + 9.90887I$	0
$u = 0.73537 - 1.25030I$ $a = -1.76430 - 0.25295I$ $b = 0.545981 + 1.269200I$	$7.05259 - 9.90887I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.412631 + 0.283829I$ $a = -0.447411 - 0.881091I$ $b = -0.455410 + 1.286190I$	$6.81704 + 5.01481I$	$2.95424 - 4.27680I$
$u = 0.412631 - 0.283829I$ $a = -0.447411 + 0.881091I$ $b = -0.455410 - 1.286190I$	$6.81704 - 5.01481I$	$2.95424 + 4.27680I$
$u = -0.332585 + 0.209939I$ $a = 1.001600 + 0.735256I$ $b = 0.599999 - 0.527709I$	$-0.78514 + 1.51036I$	$-1.09782 - 4.16173I$
$u = -0.332585 - 0.209939I$ $a = 1.001600 - 0.735256I$ $b = 0.599999 + 0.527709I$	$-0.78514 - 1.51036I$	$-1.09782 + 4.16173I$
$u = 0.144570 + 0.213517I$ $a = 5.52126 - 0.96142I$ $b = -0.480746 - 0.462220I$	$2.12966 + 0.82300I$	$5.18127 + 1.42411I$
$u = 0.144570 - 0.213517I$ $a = 5.52126 + 0.96142I$ $b = -0.480746 + 0.462220I$	$2.12966 - 0.82300I$	$5.18127 - 1.42411I$
$u = 0.111732 + 0.194107I$ $a = 2.24806 + 1.10571I$ $b = 0.275565 - 0.965943I$	$0.69537 + 1.96234I$	$0.92100 - 4.57588I$
$u = 0.111732 - 0.194107I$ $a = 2.24806 - 1.10571I$ $b = 0.275565 + 0.965943I$	$0.69537 - 1.96234I$	$0.92100 + 4.57588I$
$u = 0.133516$ $a = 6.38767$ $b = -0.945861$	2.76788	1.73080

II. $I_2^u = \langle b,\ -u^3 + a + 2,\ u^4 + u^2 - u + 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -9u^3 - 2u^2 - 2u + 11$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.547424 + 0.585652I$ $a = -2.39923 + 0.32564I$ $b = 0$	$2.62503 + 1.39709I$	$13.5849 - 5.3845I$
$u = 0.547424 - 0.585652I$ $a = -2.39923 - 0.32564I$ $b = 0$	$2.62503 - 1.39709I$	$13.5849 + 5.3845I$
$u = -0.547424 + 1.120870I$ $a = -0.100768 - 0.400532I$ $b = 0$	$-0.98010 - 7.64338I$	$-3.08487 + 3.81741I$
$u = -0.547424 - 1.120870I$ $a = -0.100768 + 0.400532I$ $b = 0$	$-0.98010 + 7.64338I$	$-3.08487 - 3.81741I$

III. $I_3^u = \langle b,\ -u^3 - u^2 + a - 2u - 1,\ u^6 + u^5 + 2u^4 + 2u^3 + 2u^2 + 2u + 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= u^5 + u^4 + 2u^2 - 3u$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.498832 + 1.001300I$ $a = -0.13238 + 2.74513I$ $b = 0$	$1.37919 + 2.82812I$	$-2.14022 - 3.69351I$
$u = 0.498832 - 1.001300I$ $a = -0.13238 - 2.74513I$ $b = 0$	$1.37919 - 2.82812I$	$-2.14022 + 3.69351I$
$u = -0.284920 + 1.115140I$ $a = 0.307599 + 0.479689I$ $b = 0$	-2.75839	$-2.43992 - 2.50363I$
$u = -0.284920 - 1.115140I$ $a = 0.307599 - 0.479689I$ $b = 0$	-2.75839	$-2.43992 + 2.50363I$
$u = -0.713912 + 0.305839I$ $a = -0.175218 + 0.614017I$ $b = 0$	$1.37919 + 2.82812I$	$3.08014 - 1.90022I$
$u = -0.713912 - 0.305839I$ $a = -0.175218 - 0.614017I$ $b = 0$	$1.37919 - 2.82812I$	$3.08014 + 1.90022I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^4-2u^3+3u^2-u+1)(u^6-3u^5+4u^4-2u^3+1)$ $\cdot(u^{119}+48u^{118}+\cdots+10u-1)$
c_2	$(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{119}+2u^{118}+\cdots+10u-1)$
c_3	$(u^3-u^2+1)^2(u^4+3u^3+4u^2+3u+2)$ $\cdot(u^{119}+2u^{118}+\cdots-140120u+18392)$
c_4	$(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{119}-2u^{118}+\cdots+83530u+30653)$
c_5	$(u^4+u^2-u+1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{119}+2u^{118}+\cdots+10u-1)$
c_6, c_{10}	$u^{10}(u^{119}+u^{118}+\cdots+8192u-1024)$
c_7	$(u^4+2u^3+3u^2+u+1)(u^6+3u^5+4u^4+2u^3+1)$ $\cdot(u^{119}-10u^{118}+\cdots-2u+1)$
c_8, c_9	$((u+1)^{10})(u^{119}+11u^{118}+\cdots-5u-1)$
c_{11}	$((u-1)^{10})(u^{119}+11u^{118}+\cdots-5u-1)$
c_{12}	$(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{119}+12u^{118}+\cdots+2u+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^4+2y^3+7y^2+5y+1)(y^6-y^5+4y^4-2y^3+8y^2+1)$ $\cdot(y^{119}+48y^{118}+\cdots+2322y-1)$
c_2, c_5	$(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{119}+48y^{118}+\cdots+10y-1)$
c_3	$(y^3-y^2+2y-1)^2(y^4-y^3+2y^2+7y+4)$ $\cdot(y^{119}+132y^{118}+\cdots-23236923728y-338265664)$
c_4	$(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{119}+108y^{118}+\cdots-59171729182y-939606409)$
c_6, c_{10}	$y^{10}(y^{119}+63y^{118}+\cdots-1.62529\times10^7y-1048576)$
c_7	$(y^4+2y^3+7y^2+5y+1)(y^6-y^5+4y^4-2y^3+8y^2+1)$ $\cdot(y^{119}+12y^{118}+\cdots-10y-1)$
c_8, c_9, c_{11}	$((y-1)^{10})(y^{119}-111y^{118}+\cdots+61y-1)$
c_{12}	$(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{119}+120y^{117}+\cdots+10y-1)$