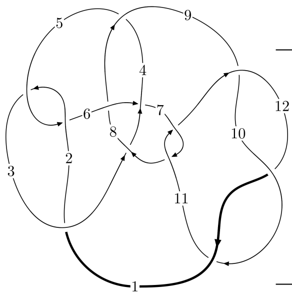
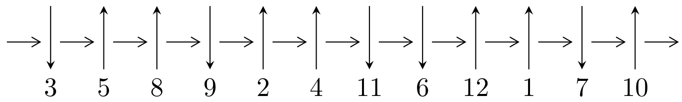
$12a_{0136}$ ($K12a_{0136}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 1.92138 \times 10^{1091} u^{118} + 4.64324 \times 10^{1091} u^{117} + \cdots + 1.00650 \times 10^{1094} b + 1.39253 \times 10^{1096}, \\
& - 1.61183 \times 10^{1095} u^{118} - 4.22365 \times 10^{1095} u^{117} + \cdots + 3.08521 \times 10^{1098} a - 6.78233 \times 10^{1099}, \\
& u^{119} + 2u^{118} + \cdots + 83530u - 30653 \rangle \\
I_2^u = \langle & -u^2 + b + u - 1,\ a,\ u^4 + u^2 + u + 1 \rangle \\
I_3^u = \langle & 2u^5 + 3u^3 - u^2 + b + 2u - 2,\ a,\ u^6 - u^5 + 2u^4 - 2u^3 + 2u^2 - 2u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 129 representations.

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[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. $\boldsymbol{I^u_1 = \langle 1.92 \times 10^{1091}u^{118} + 4.64 \times 10^{1091}u^{117} + \cdots + 1.01 \times 10^{1094}b + 1.39 \times 10^{1096},\ -1.61 \times 10^{1095}u^{118} - 4.22 \times 10^{1095}u^{117} + \cdots + 3.09 \times 10^{1098}a - 6.78 \times 10^{1099},\ u^{119} + 2u^{118} + \cdots + 83530u - 30653\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_8 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0.000522436u^{118} + 0.00136900u^{117} + \cdots + 6.20057u + 21.9834\\ -0.00190898u^{118} - 0.00461328u^{117} + \cdots + 48.5697u - 138.354\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-0.00200655u^{118} - 0.00486829u^{117} + \cdots + 55.9628u - 133.379\\ -0.00152654u^{118} - 0.00376370u^{117} + \cdots + 65.0969u - 99.4643\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-0.00285140u^{118} - 0.00709019u^{117} + \cdots + 151.015u - 185.338\\ -0.00192121u^{118} - 0.00470284u^{117} + \cdots + 64.2476u - 130.571\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-0.000480013u^{118} - 0.00110460u^{117} + \cdots - 9.13415u - 33.9147\\ -0.00152654u^{118} - 0.00376370u^{117} + \cdots + 65.0969u - 99.4643\end{pmatrix}$$
$$a_9 = \begin{pmatrix}0.00245573u^{118} + 0.00629867u^{117} + \cdots - 225.013u + 121.139\\ -0.00168112u^{118} - 0.00408093u^{117} + \cdots + 55.9312u - 118.865\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-0.00412868u^{118} - 0.0102821u^{117} + \cdots + 131.372u - 247.767\\ -0.00103999u^{118} - 0.00252566u^{117} + \cdots + 35.1546u - 74.9025\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-0.00467142u^{118} - 0.0112071u^{117} + \cdots + 116.802u - 339.632\\ 0.00104931u^{118} + 0.00255345u^{117} + \cdots - 31.3528u + 73.5724\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-0.00289772u^{118} - 0.00693478u^{117} + \cdots + 72.9161u - 208.913\\ 0.00133844u^{118} + 0.00324465u^{117} + \cdots - 37.5398u + 95.7947\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-0.00225121u^{118} - 0.00540515u^{117} + \cdots + 56.8808u - 167.552\\ -0.00193168u^{118} - 0.00471512u^{117} + \cdots + 65.4873u - 133.140\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.00773579u^{118} + 0.0192693u^{117} + \cdots - 357.195u + 464.026$

(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	$u^{119} - 2u^{118} + \cdots + 83530u + 30653$
c_4	$u^{119} + 2u^{118} + \cdots - 140120u + 18392$
c_6	$u^{119} + 12u^{118} + \cdots + 2u + 1$
c_7, c_{11}	$u^{119} + u^{118} + \cdots + 8192u - 1024$
c_8	$u^{119} - 10u^{118} + \cdots - 2u + 1$
c_9, c_{10}, c_{12}	$u^{119} + 11u^{118} + \cdots - 5u - 1$

(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	$y^{119} + 108y^{118} + \cdots - 59171729182y - 939606409$
c_4	$y^{119} + 132y^{118} + \cdots - 23236923728y - 338265664$
c_6	$y^{119} + 120y^{117} + \cdots + 10y - 1$
c_7, c_{11}	$y^{119} + 63y^{118} + \cdots - 16252928y - 1048576$
c_8	$y^{119} + 12y^{118} + \cdots - 10y - 1$
c_9, c_{10}, c_{12}	$y^{119} - 111y^{118} + \cdots + 61y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.227226 + 0.970712I$ $a = -0.069245 + 0.726320I$ $b = -0.003345 + 0.144442I$	$-3.66803 - 0.76142I$	0
$u = 0.227226 - 0.970712I$ $a = -0.069245 - 0.726320I$ $b = -0.003345 - 0.144442I$	$-3.66803 + 0.76142I$	0
$u = -0.458534 + 0.875185I$ $a = -0.573576 + 0.749123I$ $b = 1.05671 + 2.08096I$	$-1.51868 - 2.01224I$	0
$u = -0.458534 - 0.875185I$ $a = -0.573576 - 0.749123I$ $b = 1.05671 - 2.08096I$	$-1.51868 + 2.01224I$	0
$u = -0.871485 + 0.537431I$ $a = -0.266119 + 0.944276I$ $b = 0.39942 + 1.42963I$	$0.69537 - 1.96234I$	0
$u = -0.871485 - 0.537431I$ $a = -0.266119 - 0.944276I$ $b = 0.39942 - 1.42963I$	$0.69537 + 1.96234I$	0
$u = 0.570079 + 0.787703I$ $a = -0.943640 + 0.550499I$ $b = -0.518404 + 0.107984I$	$-0.70650 + 4.43937I$	0
$u = 0.570079 - 0.787703I$ $a = -0.943640 - 0.550499I$ $b = -0.518404 - 0.107984I$	$-0.70650 - 4.43937I$	0
$u = -0.843856 + 0.434969I$ $a = -0.490567 + 0.773091I$ $b = -0.74992 + 1.76092I$	$2.05334 - 2.32542I$	0
$u = -0.843856 - 0.434969I$ $a = -0.490567 - 0.773091I$ $b = -0.74992 - 1.76092I$	$2.05334 + 2.32542I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.578503 + 0.878040I$ $a = -0.63889 - 1.34499I$ $b = 0.393897 - 1.228490I$	$6.53771 + 10.99580I$	0
$u = 0.578503 - 0.878040I$ $a = -0.63889 + 1.34499I$ $b = 0.393897 + 1.228490I$	$6.53771 - 10.99580I$	0
$u = 0.647414 + 0.685423I$ $a = -0.426111 - 0.105610I$ $b = 1.25322 + 0.74492I$	$-0.42288 - 2.75298I$	0
$u = 0.647414 - 0.685423I$ $a = -0.426111 + 0.105610I$ $b = 1.25322 - 0.74492I$	$-0.42288 + 2.75298I$	0
$u = -0.682886 + 0.836097I$ $a = 0.412953 - 0.990140I$ $b = -0.70679 - 2.20076I$	$-3.60584 - 6.39853I$	0
$u = -0.682886 - 0.836097I$ $a = 0.412953 + 0.990140I$ $b = -0.70679 + 2.20076I$	$-3.60584 + 6.39853I$	0
$u = 0.905424 + 0.062884I$ $a = 0.220350 - 1.122690I$ $b = 0.82535 - 2.10816I$	$3.36143 + 3.82787I$	0
$u = 0.905424 - 0.062884I$ $a = 0.220350 + 1.122690I$ $b = 0.82535 + 2.10816I$	$3.36143 - 3.82787I$	0
$u = 0.891680$ $a = 1.06076$ $b = -0.552916$	2.76788	0
$u = -0.412585 + 0.786762I$ $a = -0.97982 + 1.20779I$ $b = -0.96051 + 1.16770I$	$7.05259 - 9.90887I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.412585 - 0.786762I$ $a = -0.97982 - 1.20779I$ $b = -0.96051 - 1.16770I$	$7.05259 + 9.90887I$	0
$u = 0.506568 + 1.016050I$ $a = 0.690828 - 0.353328I$ $b = 0.279387 - 0.079858I$	$-5.13196 + 1.58072I$	0
$u = 0.506568 - 1.016050I$ $a = 0.690828 + 0.353328I$ $b = 0.279387 + 0.079858I$	$-5.13196 - 1.58072I$	0
$u = 1.143980 + 0.022473I$ $a = -0.446724 - 1.130760I$ $b = -0.62739 - 1.96638I$	$9.53931 - 7.04970I$	0
$u = 1.143980 - 0.022473I$ $a = -0.446724 + 1.130760I$ $b = -0.62739 + 1.96638I$	$9.53931 + 7.04970I$	0
$u = -0.628999 + 0.563193I$ $a = -0.73378 + 1.51469I$ $b = 0.395937 + 0.936020I$	$1.31767 - 1.52824I$	0
$u = -0.628999 - 0.563193I$ $a = -0.73378 - 1.51469I$ $b = 0.395937 - 0.936020I$	$1.31767 + 1.52824I$	0
$u = 0.661309 + 0.513777I$ $a = -1.056990 + 0.551531I$ $b = -0.03459 + 1.78175I$	$3.61125 + 4.38522I$	0
$u = 0.661309 - 0.513777I$ $a = -1.056990 - 0.551531I$ $b = -0.03459 - 1.78175I$	$3.61125 - 4.38522I$	0
$u = -0.871425 + 0.799162I$ $a = -0.295055 + 1.120120I$ $b = 0.54242 + 2.17142I$	$1.81121 - 10.37090I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.871425 - 0.799162I$ $a = -0.295055 - 1.120120I$ $b = 0.54242 - 2.17142I$	$1.81121 + 10.37090I$	0
$u = -0.795944 + 0.896828I$ $a = -0.575449 - 0.331820I$ $b = 0.0216863 + 0.1208320I$	$0.15512 - 3.88915I$	0
$u = -0.795944 - 0.896828I$ $a = -0.575449 + 0.331820I$ $b = 0.0216863 - 0.1208320I$	$0.15512 + 3.88915I$	0
$u = -1.201230 + 0.003094I$ $a = -0.122513 - 0.354651I$ $b = 0.15746 - 3.63081I$	$1.67285 + 2.69563I$	0
$u = -1.201230 - 0.003094I$ $a = -0.122513 + 0.354651I$ $b = 0.15746 + 3.63081I$	$1.67285 - 2.69563I$	0
$u = -1.035290 + 0.645706I$ $a = 0.809624 - 0.733776I$ $b = 0.60332 - 1.40085I$	$8.37474 + 0.01682I$	0
$u = -1.035290 - 0.645706I$ $a = 0.809624 + 0.733776I$ $b = 0.60332 + 1.40085I$	$8.37474 - 0.01682I$	0
$u = -0.770287 + 0.033210I$ $a = 1.325900 + 0.117010I$ $b = 0.455580 + 1.112010I$	$5.49536 + 1.71804I$	0
$u = -0.770287 - 0.033210I$ $a = 1.325900 - 0.117010I$ $b = 0.455580 - 1.112010I$	$5.49536 - 1.71804I$	0
$u = -0.595551 + 0.465148I$ $a = -0.387214 - 0.229479I$ $b = -0.109374 + 0.599273I$	$1.11265 - 1.43327I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.595551-0.465148I$ $a=-0.387214+0.229479I$ $b=-0.109374-0.599273I$	$1.11265+1.43327I$	0
$u=-0.915922+0.849986I$ $a=\ \ 0.347678-1.182770I$ $b=-0.34821-1.37810I$	$7.74142-6.02428I$	0
$u=-0.915922-0.849986I$ $a=\ \ 0.347678+1.182770I$ $b=-0.34821+1.37810I$	$7.74142+6.02428I$	0
$u=-0.501801+0.547946I$ $a=\ \ 0.64841-1.29203I$ $b=\ \ 1.11076-1.33870I$	$1.19440-6.39011I$	0
$u=-0.501801-0.547946I$ $a=\ \ 0.64841+1.29203I$ $b=\ \ 1.11076+1.33870I$	$1.19440+6.39011I$	0
$u=\ \ 0.480917+0.563864I$ $a=-0.42711+1.41408I$ $b=\ \ 0.124535-0.079324I$	$-2.32372+5.35556I$	0
$u=\ \ 0.480917-0.563864I$ $a=-0.42711-1.41408I$ $b=\ \ 0.124535+0.079324I$	$-2.32372-5.35556I$	0
$u=\ \ 0.576442+0.455993I$ $a=\ \ 0.64713+1.76416I$ $b=\ \ 0.83734+1.59170I$	$9.92813+3.32978I$	0
$u=\ \ 0.576442-0.455993I$ $a=\ \ 0.64713-1.76416I$ $b=\ \ 0.83734-1.59170I$	$9.92813-3.32978I$	0
$u=\ \ 0.690310+0.238601I$ $a=\ \ 2.11068-0.14518I$ $b=-0.129854-0.082411I$	$4.10120-1.40763I$	$18.7311+0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.690310 - 0.238601I$ $a = 2.11068 + 0.14518I$ $b = -0.129854 + 0.082411I$	$4.10120 + 1.40763I$	$18.7311 + 0.I$
$u = 0.384533 + 0.620392I$ $a = 1.10415 + 1.73146I$ $b = -0.360742 + 0.823418I$	$0.66033 + 5.93367I$	$0. - 14.7806I$
$u = 0.384533 - 0.620392I$ $a = 1.10415 - 1.73146I$ $b = -0.360742 - 0.823418I$	$0.66033 - 5.93367I$	$0. + 14.7806I$
$u = -0.717868 + 0.102867I$ $a = -0.82413 + 1.84327I$ $b = 0.466437 + 0.767007I$	$2.74244 - 4.81471I$	$12.3271 + 12.8956I$
$u = -0.717868 - 0.102867I$ $a = -0.82413 - 1.84327I$ $b = 0.466437 - 0.767007I$	$2.74244 + 4.81471I$	$12.3271 - 12.8956I$
$u = 1.097930 + 0.692029I$ $a = 0.340225 + 0.868364I$ $b = -0.94296 + 1.96509I$	$4.58267 + 3.41945I$	0
$u = 1.097930 - 0.692029I$ $a = 0.340225 - 0.868364I$ $b = -0.94296 - 1.96509I$	$4.58267 - 3.41945I$	0
$u = 1.284090 + 0.193684I$ $a = -0.256513 - 1.179630I$ $b = 0.54214 - 1.59105I$	$13.31560 + 1.26216I$	0
$u = 1.284090 - 0.193684I$ $a = -0.256513 + 1.179630I$ $b = 0.54214 + 1.59105I$	$13.31560 - 1.26216I$	0
$u = 0.376935 + 1.251730I$ $a = -0.484394 - 0.246679I$ $b = 0.0295176 + 0.0943329I$	$-0.44007 + 7.88693I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.376935 - 1.251730I$ $a = -0.484394 + 0.246679I$ $b = 0.0295176 - 0.0943329I$	$-0.44007 - 7.88693I$	0
$u = -0.008429 + 0.688830I$ $a = -0.755322 + 0.880283I$ $b = 0.272395 - 0.101671I$	$-0.78514 - 1.51036I$	$-1.09782 + 4.16173I$
$u = -0.008429 - 0.688830I$ $a = -0.755322 - 0.880283I$ $b = 0.272395 + 0.101671I$	$-0.78514 + 1.51036I$	$-1.09782 - 4.16173I$
$u = 0.887268 + 1.013340I$ $a = 0.583096 - 0.370180I$ $b = -0.1102590 + 0.0091720I$	$-1.81583 + 9.13295I$	0
$u = 0.887268 - 1.013340I$ $a = 0.583096 + 0.370180I$ $b = -0.1102590 - 0.0091720I$	$-1.81583 - 9.13295I$	0
$u = 0.397514 + 1.298860I$ $a = -0.635295 - 0.046623I$ $b = -0.160822 - 0.083225I$	$-1.96720 - 0.65100I$	0
$u = 0.397514 - 1.298860I$ $a = -0.635295 + 0.046623I$ $b = -0.160822 + 0.083225I$	$-1.96720 + 0.65100I$	0
$u = 0.592037 + 0.189421I$ $a = 1.49379 + 1.35134I$ $b = -0.096927 + 0.993633I$	$3.41353 - 5.41155I$	$3.18534 + 4.54525I$
$u = 0.592037 - 0.189421I$ $a = 1.49379 - 1.35134I$ $b = -0.096927 - 0.993633I$	$3.41353 + 5.41155I$	$3.18534 - 4.54525I$
$u = 0.584711 + 0.094811I$ $a = 0.04667 - 1.68042I$ $b = -1.10281 - 1.73501I$	$3.57632 + 0.41841I$	$13.20113 - 1.07744I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.584711 - 0.094811I$ $a = 0.04667 + 1.68042I$ $b = -1.10281 + 1.73501I$	$3.57632 - 0.41841I$	$13.20113 + 1.07744I$
$u = -0.338083 + 1.368750I$ $a = 0.602705 - 0.195825I$ $b = -0.1226270 - 0.0651669I$	$2.46591 - 3.13553I$	0
$u = -0.338083 - 1.368750I$ $a = 0.602705 + 0.195825I$ $b = -0.1226270 + 0.0651669I$	$2.46591 + 3.13553I$	0
$u = -0.456225 + 0.354720I$ $a = -2.59775 - 0.56029I$ $b = 0.024019 - 0.169501I$	$3.96253 - 3.15795I$	$17.5033 + 8.3260I$
$u = -0.456225 - 0.354720I$ $a = -2.59775 + 0.56029I$ $b = 0.024019 + 0.169501I$	$3.96253 + 3.15795I$	$17.5033 - 8.3260I$
$u = -1.20227 + 0.80391I$ $a = 0.857055 + 0.254004I$ $b = -0.043208 - 0.159734I$	$5.90606 - 6.30718I$	0
$u = -1.20227 - 0.80391I$ $a = 0.857055 - 0.254004I$ $b = -0.043208 + 0.159734I$	$5.90606 + 6.30718I$	0
$u = -1.42725 + 0.42121I$ $a = 0.297357 - 1.049380I$ $b = -0.54083 - 1.60196I$	$12.4827 - 7.0839I$	0
$u = -1.42725 - 0.42121I$ $a = 0.297357 + 1.049380I$ $b = -0.54083 + 1.60196I$	$12.4827 + 7.0839I$	0
$u = -1.18458 + 0.92935I$ $a = -0.336460 + 0.786705I$ $b = 0.93173 + 2.00817I$	$2.96632 - 9.05048I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.18458 - 0.92935I$ $a = -0.336460 - 0.786705I$ $b = 0.93173 - 2.00817I$	$2.96632 + 9.05048I$	0
$u = 0.017922 + 0.468594I$ $a = 1.02414 - 0.98676I$ $b = -1.234810 - 0.303579I$	$2.12966 + 0.82300I$	$5.18127 + 1.42411I$
$u = 0.017922 - 0.468594I$ $a = 1.02414 + 0.98676I$ $b = -1.234810 + 0.303579I$	$2.12966 - 0.82300I$	$5.18127 - 1.42411I$
$u = 0.459841 + 0.060954I$ $a = 1.04819 - 2.78887I$ $b = -0.441558 - 0.586635I$	$3.14030 - 0.25233I$	$14.2606 + 5.7419I$
$u = 0.459841 - 0.060954I$ $a = 1.04819 + 2.78887I$ $b = -0.441558 + 0.586635I$	$3.14030 + 0.25233I$	$14.2606 - 5.7419I$
$u = 1.22053 + 0.93339I$ $a = -0.204150 - 0.824578I$ $b = 0.72089 - 2.23369I$	$3.03897 + 8.76012I$	0
$u = 1.22053 - 0.93339I$ $a = -0.204150 + 0.824578I$ $b = 0.72089 + 2.23369I$	$3.03897 - 8.76012I$	0
$u = 0.433059 + 0.036880I$ $a = 0.760255 - 0.999346I$ $b = 0.172856 + 1.286630I$	$-0.47565 - 2.99344I$	$-0.91688 + 4.95906I$
$u = 0.433059 - 0.036880I$ $a = 0.760255 + 0.999346I$ $b = 0.172856 - 1.286630I$	$-0.47565 + 2.99344I$	$-0.91688 - 4.95906I$
$u = -0.400882 + 0.024145I$ $a = 0.49717 + 2.97691I$ $b = -0.44269 + 1.74289I$	$4.63253 + 1.58055I$	$6.19334 - 4.35640I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.400882 - 0.024145I$ $a = 0.49717 - 2.97691I$ $b = -0.44269 - 1.74289I$	$4.63253 - 1.58055I$	$6.19334 + 4.35640I$
$u = 1.05514 + 1.24476I$ $a = 0.084551 - 0.319307I$ $b = -0.91842 - 3.74214I$	$2.15098 + 1.56600I$	0
$u = 1.05514 - 1.24476I$ $a = 0.084551 + 0.319307I$ $b = -0.91842 + 3.74214I$	$2.15098 - 1.56600I$	0
$u = 1.25865 + 1.04197I$ $a = -0.783169 + 0.275475I$ $b = 0.146558 - 0.003419I$	$4.16552 + 12.10780I$	0
$u = 1.25865 - 1.04197I$ $a = -0.783169 - 0.275475I$ $b = 0.146558 + 0.003419I$	$4.16552 - 12.10780I$	0
$u = -1.25071 + 1.15986I$ $a = 0.237364 - 0.760587I$ $b = -0.74169 - 2.24934I$	$1.1322 - 14.6195I$	0
$u = -1.25071 - 1.15986I$ $a = 0.237364 + 0.760587I$ $b = -0.74169 + 2.24934I$	$1.1322 + 14.6195I$	0
$u = 1.38453 + 1.06187I$ $a = 0.134943 + 0.846950I$ $b = -0.52790 + 2.23828I$	$8.9345 + 13.2205I$	0
$u = 1.38453 - 1.06187I$ $a = 0.134943 - 0.846950I$ $b = -0.52790 - 2.23828I$	$8.9345 - 13.2205I$	0
$u = -0.0246772 + 0.1316340I$ $a = -4.89784 + 7.02433I$ $b = -0.033463 - 0.462669I$	$-1.06689 - 1.52634I$	$-1.89715 + 6.60245I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.0246772-0.1316340I$ $a=-4.89784-7.02433I$ $b=-0.033463+0.462669I$	$-1.06689+1.52634I$	$-1.89715-6.60245I$
$u=-1.59527+0.97067I$ $a=\ \ 0.149683-0.715174I$ $b=-0.32902-1.87611I$	$6.81704-5.01481I$	0
$u=-1.59527-0.97067I$ $a=\ \ 0.149683+0.715174I$ $b=-0.32902+1.87611I$	$6.81704+5.01481I$	0
$u=-1.36534+1.30604I$ $a=-0.185809+0.779388I$ $b=\ \ 0.56365+2.26985I$	$6.9107-19.3213I$	0
$u=-1.36534-1.30604I$ $a=-0.185809-0.779388I$ $b=\ \ 0.56365-2.26985I$	$6.9107+19.3213I$	0
$u=\ \ 0.70604+1.99947I$ $a=-0.445963-0.348961I$ $b=\ \ 1.08401-1.65863I$	$4.96842+1.91691I$	0
$u=\ \ 0.70604-1.99947I$ $a=-0.445963+0.348961I$ $b=\ \ 1.08401+1.65863I$	$4.96842-1.91691I$	0
$u=-0.26533+2.14842I$ $a=\ \ 0.345330+0.139656I$ $b=-2.08231+1.43058I$	$-0.147900-0.561296I$	0
$u=-0.26533-2.14842I$ $a=\ \ 0.345330-0.139656I$ $b=-2.08231-1.43058I$	$-0.147900+0.561296I$	0
$u=-0.19121+2.90584I$ $a=-0.293083+0.109006I$ $b=\ \ 2.54042+1.17016I$	$0.677780+0.375001I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.19121-2.90584I$ $a=-0.293083-0.109006I$ $b=\ \ 2.54042-1.17016I$	$0.677780-0.375001I$	0
$u=\ \ 0.50055+3.13901I$ $a=\ \ 0.410827-0.070379I$ $b=-1.84960-0.39242I$	$6.60297-2.40686I$	0
$u=\ \ 0.50055-3.13901I$ $a=\ \ 0.410827+0.070379I$ $b=-1.84960+0.39242I$	$6.60297+2.40686I$	0
$u=-0.03777+3.43353I$ $a=\ \ 0.261216+0.100898I$ $b=-2.94136+1.41454I$	$0.40789+3.85492I$	0
$u=-0.03777-3.43353I$ $a=\ \ 0.261216-0.100898I$ $b=-2.94136-1.41454I$	$0.40789-3.85492I$	0
$u=\ \ 0.22635+3.47214I$ $a=-0.000040-0.246558I$ $b=-0.02704-4.43203I$	$2.60459-2.12994I$	0
$u=\ \ 0.22635-3.47214I$ $a=-0.000040+0.246558I$ $b=-0.02704+4.43203I$	$2.60459+2.12994I$	0
$u=-0.24994+3.53203I$ $a=-0.356846-0.115914I$ $b=\ \ 2.06428-0.95141I$	$6.08874+7.00877I$	0
$u=-0.24994-3.53203I$ $a=-0.356846+0.115914I$ $b=\ \ 2.06428+0.95141I$	$6.08874-7.00877I$	0

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

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u^2 - u + 1 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} 0 \\ u^2 - u + 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^3 \\ u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^3 + u^2 + 1 \\ -u^3 - u^2 - u - 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^3 - u^2 \\ -u^3 + u^2 + 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ -u^3 - u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^3 \\ u^3 + u^2 + 1 \end{pmatrix}$$

(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_3	$u^4 + u^2 + u + 1$
c_4	$u^4 + 3u^3 + 4u^2 + 3u + 2$
c_5, c_6	$u^4 + u^2 - u + 1$
c_7, c_{11}	u^4
c_8	$u^4 + 2u^3 + 3u^2 + u + 1$
c_9, c_{10}	$(u + 1)^4$
c_{12}	$(u - 1)^4$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.547424 + 0.585652I$ $a = 0$ $b = 1.50411 - 1.22685I$	$2.62503 - 1.39709I$	$13.5849 + 5.3845I$
$u = -0.547424 - 0.585652I$ $a = 0$ $b = 1.50411 + 1.22685I$	$2.62503 + 1.39709I$	$13.5849 - 5.3845I$
$u = 0.547424 + 1.120870I$ $a = 0$ $b = -0.504108 + 0.106312I$	$-0.98010 + 7.64338I$	$-3.08487 - 3.81741I$
$u = 0.547424 - 1.120870I$ $a = 0$ $b = -0.504108 - 0.106312I$	$-0.98010 - 7.64338I$	$-3.08487 + 3.81741I$

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3u^5-u^4+8u^3-4u^2+5u-5$

(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_3	$u^6 - u^5 + 2u^4 - 2u^3 + 2u^2 - 2u + 1$
c_4	$(u^3 - u^2 + 1)^2$
c_5, c_6	$u^6 + u^5 + 2u^4 + 2u^3 + 2u^2 + 2u + 1$
c_7, c_{11}	u^6
c_8	$u^6 + 3u^5 + 4u^4 + 2u^3 + 1$
c_9, c_{10}	$(u + 1)^6$
c_{12}	$(u - 1)^6$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.498832 + 1.001300I$ $a = 0$ $b = 0.702221 + 0.130845I$	$1.37919 - 2.82812I$	$3.08014 + 1.90022I$
$u = -0.498832 - 1.001300I$ $a = 0$ $b = 0.702221 - 0.130845I$	$1.37919 + 2.82812I$	$3.08014 - 1.90022I$
$u = 0.284920 + 1.115140I$ $a = 0$ $b = -0.447279 + 0.479689I$	-2.75839	$-2.43992 - 2.50363I$
$u = 0.284920 - 1.115140I$ $a = 0$ $b = -0.447279 - 0.479689I$	-2.75839	$-2.43992 + 2.50363I$
$u = 0.713912 + 0.305839I$ $a = 0$ $b = 0.74506 - 2.00027I$	$1.37919 - 2.82812I$	$-2.14022 + 3.69351I$
$u = 0.713912 - 0.305839I$ $a = 0$ $b = 0.74506 + 2.00027I$	$1.37919 + 2.82812I$	$-2.14022 - 3.69351I$

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	$(u^4 + u^2 + u + 1)(u^6 - u^5 + 2u^4 - 2u^3 + 2u^2 - 2u + 1)$ $\cdot (u^{119} - 2u^{118} + \cdots + 83530u + 30653)$
c_4	$(u^3 - u^2 + 1)^2(u^4 + 3u^3 + 4u^2 + 3u + 2)$ $\cdot (u^{119} + 2u^{118} + \cdots - 140120u + 18392)$
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	$(u^4 + u^2 - u + 1)(u^6 + u^5 + 2u^4 + 2u^3 + 2u^2 + 2u + 1)$ $\cdot (u^{119} + 12u^{118} + \cdots + 2u + 1)$
c_7, c_{11}	$u^{10}(u^{119} + u^{118} + \cdots + 8192u - 1024)$
c_8	$(u^4 + 2u^3 + 3u^2 + u + 1)(u^6 + 3u^5 + 4u^4 + 2u^3 + 1)$ $\cdot (u^{119} - 10u^{118} + \cdots - 2u + 1)$
c_9, c_{10}	$((u + 1)^{10})(u^{119} + 11u^{118} + \cdots - 5u - 1)$
c_{12}	$((u - 1)^{10})(u^{119} + 11u^{118} + \cdots - 5u - 1)$

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	$(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{119}+108y^{118}+\cdots-59171729182y-939606409)$
c_4	$(y^3-y^2+2y-1)^2(y^4-y^3+2y^2+7y+4)$ $\cdot(y^{119}+132y^{118}+\cdots-23236923728y-338265664)$
c_6	$(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{119}+120y^{117}+\cdots+10y-1)$
c_7, c_{11}	$y^{10}(y^{119}+63y^{118}+\cdots-1.62529\times 10^7y-1048576)$
c_8	$(y^4+2y^3+7y^2+5y+1)(y^6-y^5+4y^4-2y^3+8y^2+1)$ $\cdot(y^{119}+12y^{118}+\cdots-10y-1)$
c_9, c_{10}, c_{12}	$((y-1)^{10})(y^{119}-111y^{118}+\cdots+61y-1)$