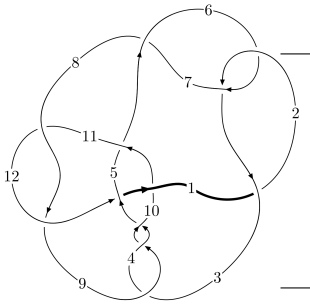
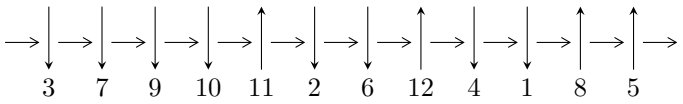
$12a_{0572}$ $(K12a_{0572})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle 2.15099 \times 10^{151} u^{95} + 6.01892 \times 10^{150} u^{94} + \cdots + 4.57032 \times 10^{151} b - 4.06184 \times 10^{152}, \\
&\quad 9.03162 \times 10^{152} u^{95} + 5.47605 \times 10^{150} u^{94} + \cdots + 1.32539 \times 10^{153} a - 1.93189 \times 10^{154}, \\
&\quad u^{96} + u^{95} + \cdots - 254u - 29 \rangle \\
I_2^u &= \langle 6u^{22} - 63u^{20} + \cdots + b - 7,\ -5u^{22} + 8u^{21} + \cdots + a + 1,\ u^{24} - 12u^{22} + \cdots - 2u + 1 \rangle \\
I_3^u &= \langle -u^{10} + 2u^8 + u^6 - u^5 - 2u^4 + u^3 - u^2 + b + u - 1,\ u^{13} - 2u^{11} - u^9 + 2u^7 + 2u^5 + a - u, \\
&\quad u^{15} - 3u^{13} + u^{10} + 5u^9 - 2u^8 - u^6 - u^5 + 2u^4 - 3u^3 + u^2 - 2u + 1 \rangle
\end{aligned}$$

* 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. $\boldsymbol{I_1^u = \langle 2.15 \times 10^{151} u^{95} + 6.02 \times 10^{150} u^{94} + \cdots + 4.57 \times 10^{151} b - 4.06 \times 10^{152},\ 9.03 \times 10^{152} u^{95} + 5.48 \times 10^{150} u^{94} + \cdots + 1.33 \times 10^{153} a - 1.93 \times 10^{154},\ u^{96} + u^{95} + \cdots - 254u - 29 \rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.681430u^{95} - 0.00413165u^{94} + \cdots + 99.7765u + 14.5760 \\ -0.470644u^{95} - 0.131696u^{94} + \cdots + 59.7808u + 8.88743 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.65395u^{95} + 0.429407u^{94} + \cdots + 386.874u + 50.3558 \\ 1.07387u^{95} - 0.384746u^{94} + \cdots - 206.119u - 26.2557 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.580085u^{95} + 0.0446613u^{94} + \cdots + 180.755u + 24.1002 \\ 1.07387u^{95} - 0.384746u^{94} + \cdots - 206.119u - 26.2557 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.454721u^{95} + 0.151308u^{94} + \cdots + 126.982u + 19.7118 \\ -0.351241u^{95} + 0.320756u^{94} + \cdots + 93.4406u + 11.4080 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.308554u^{95} + 0.0963542u^{94} + \cdots + 42.1533u + 2.60418 \\ -1.17149u^{95} - 0.204140u^{94} + \cdots + 153.030u + 21.0519 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.888517u^{95} + 0.0913258u^{94} + \cdots + 249.933u + 33.1094 \\ 1.29641u^{95} - 0.491042u^{94} + \cdots - 246.556u - 30.8209 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.922646u^{95} - 0.276868u^{94} + \cdots - 54.9860u - 3.07145 \\ 0.00159182u^{95} - 0.299162u^{94} + \cdots - 85.6322u - 10.7903 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4.21551u^{95} + 2.24153u^{94} + \cdots + 978.183u + 121.935$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{96} + 30u^{95} + \cdots + 140u + 16$
c_2, c_6	$u^{96} + 4u^{95} + \cdots - 14u + 4$
c_3, c_4, c_9	$u^{96} - u^{95} + \cdots + 254u - 29$
c_5	$u^{96} + u^{95} + \cdots - 128495u - 83681$
c_8, c_{11}	$u^{96} - 5u^{95} + \cdots + 50782u + 9913$
c_{10}	$u^{96} - 11u^{95} + \cdots + 3726u - 783$
c_{12}	$u^{96} - 4u^{95} + \cdots + 994u - 121$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{96} + 78y^{95} + \cdots - 64624y + 256$
c_2, c_6	$y^{96} - 30y^{95} + \cdots - 140y + 16$
c_3, c_4, c_9	$y^{96} - 99y^{95} + \cdots + 618y + 841$
c_5	$y^{96} - 43y^{95} + \cdots - 297276786777y + 7002509761$
c_8, c_{11}	$y^{96} - 67y^{95} + \cdots - 2596436838y + 98267569$
c_{10}	$y^{96} + 5y^{95} + \cdots - 16105230y + 613089$
c_{12}	$y^{96} + 14y^{95} + \cdots + 401770y + 14641$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.385743 + 0.920287I$ $a = -0.26339 - 2.22738I$ $b = 1.018312 + 0.780274I$	$7.3635 - 13.1198I$	0
$u = 0.385743 - 0.920287I$ $a = -0.26339 + 2.22738I$ $b = 1.018312 - 0.780274I$	$7.3635 + 13.1198I$	0
$u = 0.663242 + 0.767263I$ $a = -0.093897 - 0.238168I$ $b = 0.979786 - 0.185667I$	$-0.04698 + 2.47024I$	0
$u = 0.663242 - 0.767263I$ $a = -0.093897 + 0.238168I$ $b = 0.979786 + 0.185667I$	$-0.04698 - 2.47024I$	0
$u = -0.354084 + 0.893077I$ $a = -1.21039 - 1.32767I$ $b = 0.746214 + 0.886048I$	$8.21230 + 6.94201I$	0
$u = -0.354084 - 0.893077I$ $a = -1.21039 + 1.32767I$ $b = 0.746214 - 0.886048I$	$8.21230 - 6.94201I$	0
$u = 0.135681 + 0.893536I$ $a = 0.68169 + 1.79557I$ $b = -0.865194 - 0.590369I$	$1.68985 - 2.34367I$	0
$u = 0.135681 - 0.893536I$ $a = 0.68169 - 1.79557I$ $b = -0.865194 + 0.590369I$	$1.68985 + 2.34367I$	0
$u = 0.471081 + 0.760470I$ $a = -0.013155 + 1.084280I$ $b = -1.075187 - 0.289861I$	$0.38982 - 7.56346I$	0
$u = 0.471081 - 0.760470I$ $a = -0.013155 - 1.084280I$ $b = -1.075187 + 0.289861I$	$0.38982 + 7.56346I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.935682+0.714738I$ $a=\ \ 0.04944-1.74878I$ $b=-0.760190+0.824141I$	$6.56134-1.43456I$	0
$u=-0.935682-0.714738I$ $a=\ \ 0.04944+1.74878I$ $b=-0.760190-0.824141I$	$6.56134+1.43456I$	0
$u=-0.468471+0.659668I$ $a=\ \ 0.40771+2.35136I$ $b=\ \ 0.943827-0.759298I$	$2.98434+7.28558I$	0
$u=-0.468471-0.659668I$ $a=\ \ 0.40771-2.35136I$ $b=\ \ 0.943827+0.759298I$	$2.98434-7.28558I$	0
$u=\ \ 0.924493+0.776710I$ $a=\ \ 0.657518-1.023712I$ $b=-0.986223+0.755241I$	$5.86427+7.35566I$	0
$u=\ \ 0.924493-0.776710I$ $a=\ \ 0.657518+1.023712I$ $b=-0.986223-0.755241I$	$5.86427-7.35566I$	0
$u=\ \ 0.412450+0.664332I$ $a=-1.38768+0.63963I$ $b=\ \ 0.809782-0.789448I$	$3.39395-1.44923I$	0
$u=\ \ 0.412450-0.664332I$ $a=-1.38768-0.63963I$ $b=\ \ 0.809782+0.789448I$	$3.39395+1.44923I$	0
$u=-0.334080+0.660105I$ $a=\ \ 0.066401+1.330555I$ $b=-0.025158-0.783113I$	$3.89051+3.95952I$	$2.70271-5.67794I$
$u=-0.334080-0.660105I$ $a=\ \ 0.066401-1.330555I$ $b=-0.025158+0.783113I$	$3.89051-3.95952I$	$2.70271+5.67794I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.265687+0.164608I$ $a=-0.305186+0.194936I$ $b=\ \ 0.618688+0.905355I$	$4.18322+1.97592I$	0
$u=-1.265687-0.164608I$ $a=-0.305186-0.194936I$ $b=\ \ 0.618688-0.905355I$	$4.18322-1.97592I$	0
$u=-1.270790+0.120676I$ $a=-0.100143-0.807864I$ $b=\ \ 0.999396+0.869415I$	$3.52668-3.66382I$	0
$u=-1.270790-0.120676I$ $a=-0.100143+0.807864I$ $b=\ \ 0.999396-0.869415I$	$3.52668+3.66382I$	0
$u=-0.609687+0.366846I$ $a=\ \ 1.58577+0.87904I$ $b=\ \ 0.007089-0.413591I$	$2.89097-0.23399I$	$2.30056-1.02334I$
$u=-0.609687-0.366846I$ $a=\ \ 1.58577-0.87904I$ $b=\ \ 0.007089+0.413591I$	$2.89097+0.23399I$	$2.30056+1.02334I$
$u=\ \ 1.29120$ $a=-1.61139$ $b=-1.30175$	-2.81463	0
$u=\ \ 1.295518+0.112046I$ $a=\ \ 1.12403-1.32519I$ $b=-0.867065+0.855609I$	$3.57768-1.08471I$	0
$u=\ \ 1.295518-0.112046I$ $a=\ \ 1.12403+1.32519I$ $b=-0.867065-0.855609I$	$3.57768+1.08471I$	0
$u=-1.294278+0.128891I$ $a=\ \ 0.27458-2.17732I$ $b=-0.938756+0.826704I$	$3.35105+7.33768I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.294278-0.128891I$ $a=\ \ 0.27458+2.17732I$ $b=-0.938756-0.826704I$	$3.35105-7.33768I$	0
$u=\ \ 1.294428+0.156264I$ $a=\ \ 0.096525-1.097000I$ $b=\ \ 0.834667+0.951948I$	$4.05073-2.99694I$	0
$u=\ \ 1.294428-0.156264I$ $a=\ \ 0.096525+1.097000I$ $b=\ \ 0.834667-0.951948I$	$4.05073+2.99694I$	0
$u=\ \ 1.331300+0.160981I$ $a=\ \ 1.30482-1.22682I$ $b=\ \ 1.084050+0.751190I$	$2.77719-8.10147I$	0
$u=\ \ 1.331300-0.160981I$ $a=\ \ 1.30482+1.22682I$ $b=\ \ 1.084050-0.751190I$	$2.77719+8.10147I$	0
$u=-0.460716+0.424248I$ $a=-1.31371-0.93039I$ $b=-0.910181+0.209562I$	$-2.75688+3.28834I$	$-10.53288-7.33652I$
$u=-0.460716-0.424248I$ $a=-1.31371+0.93039I$ $b=-0.910181-0.209562I$	$-2.75688-3.28834I$	$-10.53288+7.33652I$
$u=-1.352914+0.252649I$ $a=-0.120568+0.331321I$ $b=-6-0.394137-6.10I$	$-4.97451+3.66414I$	0
$u=-1.352914-0.252649I$ $a=-0.120568-0.331321I$ $b=-6-0.394137+6.10I$	$-4.97451-3.66414I$	0
$u=-1.368542+0.152756I$ $a=-0.0128781-0.1160252I$ $b=-0.309216+0.563548I$	$-5.22850+3.47859I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.368542-0.152756I$ $a=-0.0128781+0.1160252I$ $b=-0.309216-0.563548I$	$-5.22850-3.47859I$	0
$u=\ \ 0.193262+0.570422I$ $a=\ \ 1.32752+1.93198I$ $b=-0.784388-0.291616I$	$1.13940-2.20728I$	$-0.01228+7.32813I$
$u=\ \ 0.193262-0.570422I$ $a=\ \ 1.32752-1.93198I$ $b=-0.784388+0.291616I$	$1.13940+2.20728I$	$-0.01228-7.32813I$
$u=\ \ 1.381065+0.233970I$ $a=-0.576924+0.538644I$ $b=\ \ 0.559104-0.738166I$	$-2.50654-1.42565I$	0
$u=\ \ 1.381065-0.233970I$ $a=-0.576924-0.538644I$ $b=\ \ 0.559104+0.738166I$	$-2.50654+1.42565I$	0
$u=-1.395635+0.184655I$ $a=\ \ 0.127249+1.274073I$ $b=\ \ 0.723765-0.418716I$	$-3.90744+4.87063I$	0
$u=-1.395635-0.184655I$ $a=\ \ 0.127249-1.274073I$ $b=\ \ 0.723765+0.418716I$	$-3.90744-4.87063I$	0
$u=\ \ 1.409053+0.067170I$ $a=-1.28444-0.74008I$ $b=-1.025047+0.466204I$	$-7.26522+0.62596I$	0
$u=\ \ 1.409053-0.067170I$ $a=-1.28444+0.74008I$ $b=-1.025047-0.466204I$	$-7.26522-0.62596I$	0
$u=\ \ 1.411271+0.017367I$ $a=-0.206449+0.766721I$ $b=\ \ 0.419657-0.629449I$	$-3.05064-0.91419I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.411271 - 0.017367I$ $a = -0.206449 - 0.766721I$ $b = 0.419657 + 0.629449I$	$-3.05064 + 0.91419I$	0
$u = -1.37464 + 0.44446I$ $a = -0.914447 - 0.786391I$ $b = 0.823552 + 0.765190I$	$-1.32824 + 2.49262I$	0
$u = -1.37464 - 0.44446I$ $a = -0.914447 + 0.786391I$ $b = 0.823552 - 0.765190I$	$-1.32824 - 2.49262I$	0
$u = -1.43821 + 0.17375I$ $a = -0.726188 + 0.114938I$ $b = -1.239035 - 0.341309I$	$-5.83118 + 2.77682I$	0
$u = -1.43821 - 0.17375I$ $a = -0.726188 - 0.114938I$ $b = -1.239035 + 0.341309I$	$-5.83118 - 2.77682I$	0
$u = 1.43393 + 0.24614I$ $a = -0.332589 + 0.576994I$ $b = -0.041356 - 0.913366I$	$-1.78579 - 7.25616I$	0
$u = 1.43393 - 0.24614I$ $a = -0.332589 - 0.576994I$ $b = -0.041356 + 0.913366I$	$-1.78579 + 7.25616I$	0
$u = 0.366601 + 0.388801I$ $a = -0.438408 + 0.713928I$ $b = 1.123777 - 0.216649I$	$-0.005958 - 0.537835I$	$-2.51261 + 8.87589I$
$u = 0.366601 - 0.388801I$ $a = -0.438408 - 0.713928I$ $b = 1.123777 + 0.216649I$	$-0.005958 + 0.537835I$	$-2.51261 - 8.87589I$
$u = -0.003669 + 0.531412I$ $a = 1.52604 - 1.37366I$ $b = -0.751294 + 0.914167I$	$8.07625 + 0.55686I$	$5.81445 - 0.47058I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.003669-0.531412I$ $a=1.52604+1.37366I$ $b=-0.751294-0.914167I$	$8.07625-0.55686I$	$5.81445+0.47058I$
$u=1.46464+0.16428I$ $a=1.64834-0.63689I$ $b=1.016207+0.168687I$	$-8.98408-5.52910I$	0
$u=1.46464-0.16428I$ $a=1.64834+0.63689I$ $b=1.016207-0.168687I$	$-8.98408+5.52910I$	0
$u=-1.45673+0.24384I$ $a=0.662498-0.031069I$ $b=-0.756340-0.799979I$	$-2.60853+4.75653I$	0
$u=-1.45673-0.24384I$ $a=0.662498+0.031069I$ $b=-0.756340+0.799979I$	$-2.60853-4.75653I$	0
$u=0.242107+0.457342I$ $a=0.346810-0.285860I$ $b=0.029135+0.383175I$	$-0.180616-1.192610I$	$-2.62815+5.38719I$
$u=0.242107-0.457342I$ $a=0.346810+0.285860I$ $b=0.029135-0.383175I$	$-0.180616+1.192610I$	$-2.62815-5.38719I$
$u=1.41615+0.44982I$ $a=0.37692-2.00054I$ $b=0.926604+0.743757I$	$-1.64583-8.20716I$	0
$u=1.41615-0.44982I$ $a=0.37692+2.00054I$ $b=0.926604-0.743757I$	$-1.64583+8.20716I$	0
$u=1.47921+0.24044I$ $a=-1.18070+1.68873I$ $b=-0.980661-0.745233I$	$-3.29263-10.57900I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.47921 - 0.24044I$ $a = -1.18070 - 1.68873I$ $b = -0.980661 + 0.745233I$	$-3.29263 + 10.57900I$	0
$u = -1.47057 + 0.30015I$ $a = 0.63167 + 1.55832I$ $b = 1.032637 - 0.650837I$	$-3.88087 + 6.72339I$	0
$u = -1.47057 - 0.30015I$ $a = 0.63167 - 1.55832I$ $b = 1.032637 + 0.650837I$	$-3.88087 - 6.72339I$	0
$u = 1.46946 + 0.34201I$ $a = 0.833509 - 0.383063I$ $b = -0.723681 + 0.925712I$	$2.37021 - 11.38420I$	0
$u = 1.46946 - 0.34201I$ $a = 0.833509 + 0.383063I$ $b = -0.723681 - 0.925712I$	$2.37021 + 11.38420I$	0
$u = -0.037275 + 0.487405I$ $a = -3.41330 - 1.79895I$ $b = 0.925692 + 0.789261I$	$7.25080 - 5.19343I$	$5.91357 + 5.53961I$
$u = -0.037275 - 0.487405I$ $a = -3.41330 + 1.79895I$ $b = 0.925692 - 0.789261I$	$7.25080 + 5.19343I$	$5.91357 - 5.53961I$
$u = -0.067495 + 0.481964I$ $a = 0.27248 - 2.68237I$ $b = -1.028324 + 0.803320I$	$7.21452 + 5.77752I$	$4.21585 - 6.14634I$
$u = -0.067495 - 0.481964I$ $a = 0.27248 + 2.68237I$ $b = -1.028324 - 0.803320I$	$7.21452 - 5.77752I$	$4.21585 + 6.14634I$
$u = 1.47665 + 0.33190I$ $a = -1.11324 + 0.88392I$ $b = -0.860610 - 0.096616I$	$-6.57609 - 4.45340I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.47665 - 0.33190I$ $a = -1.11324 - 0.88392I$ $b = -0.860610 + 0.096616I$	$-6.57609 + 4.45340I$	0
$u = -1.49158 + 0.27180I$ $a = 0.963012 + 0.994212I$ $b = 1.166353 - 0.296461I$	$-5.94258 + 11.30370I$	0
$u = -1.49158 - 0.27180I$ $a = 0.963012 - 0.994212I$ $b = 1.166353 + 0.296461I$	$-5.94258 - 11.30370I$	0
$u = -1.52409 + 0.10872I$ $a = -1.003222 - 0.242752I$ $b = -1.076996 + 0.004087I$	$-7.97132 + 0.35100I$	0
$u = -1.52409 - 0.10872I$ $a = -1.003222 + 0.242752I$ $b = -1.076996 - 0.004087I$	$-7.97132 - 0.35100I$	0
$u = -1.48800 + 0.35029I$ $a = -0.76078 - 1.82949I$ $b = -1.046910 + 0.786981I$	$1.3548 + 17.6950I$	0
$u = -1.48800 - 0.35029I$ $a = -0.76078 + 1.82949I$ $b = -1.046910 - 0.786981I$	$1.3548 - 17.6950I$	0
$u = 1.53649 + 0.18899I$ $a = 0.307601 + 0.690125I$ $b = 0.842267 - 0.634755I$	$-3.81769 - 0.61012I$	0
$u = 1.53649 - 0.18899I$ $a = 0.307601 - 0.690125I$ $b = 0.842267 + 0.634755I$	$-3.81769 + 0.61012I$	0
$u = -1.55102 + 0.07225I$ $a = 0.550455 + 0.954771I$ $b = 0.955630 - 0.640179I$	$-4.21474 + 5.49448I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.55102-0.07225I$ $a=\ 0.550455-0.954771I$ $b=\ 0.955630+0.640179I$	$-4.21474-5.49448I$	0
$u=\ 0.048709+0.427693I$ $a=-0.64547-5.01194I$ $b=\ 0.851952+0.811537I$	$7.48000-0.80563I$	$7.00203+0.00027I$
$u=\ 0.048709-0.427693I$ $a=-0.64547+5.01194I$ $b=\ 0.851952-0.811537I$	$7.48000+0.80563I$	$7.00203-0.00027I$
$u=-0.280585$ $a=\ 8.03312$ $b=-0.424011$	2.75406	10.2700
$u=-0.234009+0.143150I$ $a=\ 2.34923-1.26936I$ $b=\ 0.870682+0.397620I$	$-1.89063-1.44912I$	$-11.79295+4.30313I$
$u=-0.234009-0.143150I$ $a=\ 2.34923+1.26936I$ $b=\ 0.870682-0.397620I$	$-1.89063+1.44912I$	$-11.79295-4.30313I$

II. $I_2^u =$
$\langle 6u^{22}-63u^{20}+\cdots+b-7,\ -5u^{22}+8u^{21}+\cdots+a+1,\ u^{24}-12u^{22}+\cdots-2u+1\rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u \\ -u^3+u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^2+1 \\ -u^4+2u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 5u^{22}-8u^{21}+\cdots-17u-1 \\ -6u^{22}+63u^{20}+\cdots-12u+7 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -3u^{23}+33u^{21}+\cdots+12u+2 \\ u^{23}-11u^{21}+\cdots-4u-1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -2u^{23}+22u^{21}+\cdots+8u+1 \\ u^{23}-11u^{21}+\cdots-4u-1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 6u^{23}-u^{22}+\cdots-10u+1 \\ -4u^{23}+2u^{22}+\cdots+4u-1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^{23}+5u^{22}+\cdots+9u^2+1 \\ 5u^{23}-6u^{22}+\cdots-17u+6 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -2u^{23}+23u^{21}+\cdots+12u+2 \\ u^{23}-11u^{21}+\cdots-3u-1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -2u^{21}+21u^{19}+\cdots-12u-2 \\ 4u^{23}-u^{22}+\cdots-2u+2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -29u^{23}+5u^{22}+318u^{21}-90u^{20}-1450u^{19}+599u^{18}+3346u^{17}-2009u^{16}-3368u^{15}+3585u^{14}-1230u^{13}-2820u^{12}+6649u^{11}-769u^{10}-6023u^9+3223u^8+1245u^7-2244u^6+1017u^5+536u^4-588u^3-6u^2+101u-16$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{24} - 10u^{23} + \cdots - 17u + 1$
c_2	$u^{24} - 5u^{22} + \cdots + u + 1$
c_3, c_4	$u^{24} - 12u^{22} + \cdots - 2u + 1$
c_5	$u^{24} + 2u^{22} + \cdots + u + 1$
c_6	$u^{24} - 5u^{22} + \cdots - u + 1$
c_7	$u^{24} + 10u^{23} + \cdots + 17u + 1$
c_8	$u^{24} - 4u^{23} + \cdots - 10u^2 + 1$
c_9	$u^{24} - 12u^{22} + \cdots + 2u + 1$
c_{10}	$u^{24} - 2u^{22} + \cdots - 2u + 1$
c_{11}	$u^{24} + 4u^{23} + \cdots - 10u^2 + 1$
c_{12}	$u^{24} + u^{23} + \cdots + 2u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{24} + 18y^{23} + \cdots - 21y + 1$
c_2, c_6	$y^{24} - 10y^{23} + \cdots - 17y + 1$
c_3, c_4, c_9	$y^{24} - 24y^{23} + \cdots - 24y + 1$
c_5	$y^{24} + 4y^{23} + \cdots - 3y + 1$
c_8, c_{11}	$y^{24} - 24y^{23} + \cdots - 20y + 1$
c_{10}	$y^{24} - 4y^{23} + \cdots - 28y + 1$
c_{12}	$y^{24} - 3y^{23} + \cdots + 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.069435 + 1.036046I$ $a = 0.66638 + 1.80021I$ $b = -0.860609 - 0.627483I$	$1.15922 - 2.45672I$	$-11.76507 + 4.05548I$
$u = 0.069435 - 1.036046I$ $a = 0.66638 - 1.80021I$ $b = -0.860609 + 0.627483I$	$1.15922 + 2.45672I$	$-11.76507 - 4.05548I$
$u = -1.26306$ $a = 2.58666$ $b = -0.487477$	-0.321029	3.90020
$u = -1.269120 + 0.063695I$ $a = -1.094285 - 0.360186I$ $b = 0.813850 + 0.867940I$	$3.72041 - 0.09960I$	$-1.49510 + 1.82581I$
$u = -1.269120 - 0.063695I$ $a = -1.094285 + 0.360186I$ $b = 0.813850 - 0.867940I$	$3.72041 + 0.09960I$	$-1.49510 - 1.82581I$
$u = 1.276910 + 0.085066I$ $a = 0.59170 - 1.89272I$ $b = 0.981897 + 0.822707I$	$3.20923 - 6.17817I$	$-2.91423 + 3.11588I$
$u = 1.276910 - 0.085066I$ $a = 0.59170 + 1.89272I$ $b = 0.981897 - 0.822707I$	$3.20923 + 6.17817I$	$-2.91423 - 3.11588I$
$u = 0.175388 + 0.682644I$ $a = 0.0032504 + 0.1060193I$ $b = 0.815552 - 0.258376I$	$-0.861346 + 1.121530I$	$-4.71985 - 4.56886I$
$u = 0.175388 - 0.682644I$ $a = 0.0032504 - 0.1060193I$ $b = 0.815552 + 0.258376I$	$-0.861346 - 1.121530I$	$-4.71985 + 4.56886I$
$u = 1.32213$ $a = -1.90954$ $b = -1.19053$	-3.32254	-13.3090

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.359653 + 0.243941I$ $a = -0.214460 + 0.497603I$ $b = -0.619154 - 0.305928I$	$-4.95628 - 4.46849I$	$-8.98806 + 8.25419I$
$u = 1.359653 - 0.243941I$ $a = -0.214460 - 0.497603I$ $b = -0.619154 + 0.305928I$	$-4.95628 + 4.46849I$	$-8.98806 - 8.25419I$
$u = 0.549549 + 0.222442I$ $a = 1.280952 - 0.200355I$ $b = -0.960666 + 0.781636I$	$6.01195 + 5.07639I$	$-2.15298 - 3.37252I$
$u = 0.549549 - 0.222442I$ $a = 1.280952 + 0.200355I$ $b = -0.960666 - 0.781636I$	$6.01195 - 5.07639I$	$-2.15298 + 3.37252I$
$u = -0.557552 + 0.168075I$ $a = -1.11190 - 2.42975I$ $b = -0.816870 + 0.818962I$	$6.45585 + 0.92731I$	$-1.82788 - 1.97146I$
$u = -0.557552 - 0.168075I$ $a = -1.11190 + 2.42975I$ $b = -0.816870 - 0.818962I$	$6.45585 - 0.92731I$	$-1.82788 + 1.97146I$
$u = -1.45171 + 0.18695I$ $a = -0.907638 + 0.094328I$ $b = -1.044657 - 0.280230I$	$-6.58300 + 1.87441I$	$-9.74769 + 0.34982I$
$u = -1.45171 - 0.18695I$ $a = -0.907638 - 0.094328I$ $b = -1.044657 + 0.280230I$	$-6.58300 - 1.87441I$	$-9.74769 - 0.34982I$
$u = 1.42146 + 0.35631I$ $a = -0.581803 + 0.538929I$ $b = 0.732013 - 0.646391I$	$-3.46309 - 2.54519I$	$-7.17375 + 1.89556I$
$u = 1.42146 - 0.35631I$ $a = -0.581803 - 0.538929I$ $b = 0.732013 + 0.646391I$	$-3.46309 + 2.54519I$	$-7.17375 - 1.89556I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.533598$ $a=\ \ 4.89543$ $b=\ \ 0.561007$	2.43421	-16.1970
$u=-1.49694+0.35016I$ $a=\ \ 0.65568+1.58456I$ $b=\ \ 0.974519-0.627765I$	$-4.23792+7.53826I$	$-7.73528-9.46189I$
$u=-1.49694-0.35016I$ $a=\ \ 0.65568-1.58456I$ $b=\ \ 0.974519+0.627765I$	$-4.23792-7.53826I$	$-7.73528+9.46189I$
$u=\ \ 0.320367$ $a=-2.14829$ $b=\ \ 1.08525$	0.299325	3.64630

III. $I_3^u = \langle -u^{10} + 2u^8 + \cdots + b - 1,\ u^{13} - 2u^{11} - u^9 + 2u^7 + 2u^5 + a - u,\ u^{15} - 3u^{13} + \cdots - 2u + 1 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^{13} + 2u^{11} + u^9 - 2u^7 - 2u^5 + u \\ u^{10} - 2u^8 - u^6 + u^5 + 2u^4 - u^3 + u^2 - u + 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^5 + 2u^3 + u \\ u^5 - u^3 - u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5 - u^3 - u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^5 - u \\ u^7 - u^5 - 2u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^8 - u^6 - u^4 + 1 \\ u^{10} - 2u^8 - u^6 + 2u^4 + u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u \\ u^3 - u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^3 \\ -u^5 + u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{10} + 8u^8 + 4u^6 - 4u^5 - 8u^4 + 4u^3 - 4u^2 + 4u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$(u^3+u^2+2u+1)^5$
c_2, c_6	$(u^3-u^2+1)^5$
c_3, c_4, c_9 c_{12}	$u^{15}-3u^{13}-u^{10}+5u^9+2u^8+u^6-u^5-2u^4-3u^3-u^2-2u-1$
c_5	$u^{15}+3u^{13}+\cdots-6u-5$
c_8, c_{11}	$u^{15}+6u^{14}+\cdots+2u+1$
c_{10}	$u^{15}-6u^{14}+\cdots+2u-1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$(y^3+3y^2+2y-1)^5$
c_2, c_6	$(y^3-y^2+2y-1)^5$
c_3, c_4, c_9 c_{12}	$y^{15}-6y^{14}+\cdots+2y-1$
c_5	$y^{15}+6y^{14}+\cdots+386y-25$
c_8, c_{10}, c_{11}	$y^{15}-18y^{14}+\cdots+18y-1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.026418+1.041933I$ $a=\ 0.90685-2.00655I$ $b=-0.877439+0.744862I$	$3.02413+2.82812I$	$-2.49024-2.97945I$
$u=-0.026418-1.041933I$ $a=\ 0.90685+2.00655I$ $b=-0.877439-0.744862I$	$3.02413-2.82812I$	$-2.49024+2.97945I$
$u=-0.157973+0.852017I$ $a=\ 0.119316+0.734848I$ $b=\ 0.754878$	-1.11345	$-9.01951+0.I$
$u=-0.157973-0.852017I$ $a=\ 0.119316-0.734848I$ $b=\ 0.754878$	-1.11345	$-9.01951+0.I$
$u=-0.481476+0.711290I$ $a=\ 0.700991+1.048286I$ $b=-0.877439-0.744862I$	$3.02413-2.82812I$	$-2.49024+2.97945I$
$u=-0.481476-0.711290I$ $a=\ 0.700991-1.048286I$ $b=-0.877439+0.744862I$	$3.02413+2.82812I$	$-2.49024-2.97945I$
$u=\ 0.543595+0.631377I$ $a=\ 0.06407+1.78637I$ $b=-0.877439-0.744862I$	$3.02413-2.82812I$	$-2.49024+2.97945I$
$u=\ 0.543595-0.631377I$ $a=\ 0.06407-1.78637I$ $b=-0.877439+0.744862I$	$3.02413+2.82812I$	$-2.49024-2.97945I$
$u=\ 1.17217$ $a=-1.56369$ $b=\ 0.754878$	-1.11345	-9.01950
$u=\ 1.306364+0.163068I$ $a=\ 1.155741+0.437932I$ $b=-0.877439+0.744862I$	$3.02413+2.82812I$	$-2.49024-2.97945I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 1.306364 - 0.163068I$ $a = \ 1.155741 - 0.437932I$ $b = -0.877439 - 0.744862I$	$3.02413 - 2.82812I$	$-2.49024 + 2.97945I$
$u = -1.33954$ $a = \ 3.75398$ $b = \ 0.754878$	-1.11345	-9.01950
$u = -1.342065 + 0.137666I$ $a = -1.75226 - 2.13243I$ $b = -0.877439 + 0.744862I$	$3.02413 + 2.82812I$	$-2.49024 - 2.97945I$
$u = -1.342065 - 0.137666I$ $a = -1.75226 + 2.13243I$ $b = -0.877439 - 0.744862I$	$3.02413 - 2.82812I$	$-2.49024 + 2.97945I$
$u = \ 0.483314$ $a = \ 0.420282$ $b = \ 0.754878$	-1.11345	-9.01950

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^3+u^2+2u+1)^5)(u^{24}-10u^{23}+\cdots-17u+1)$ $\cdot(u^{96}+30u^{95}+\cdots+140u+16)$
c_2	$((u^3-u^2+1)^5)(u^{24}-5u^{22}+\cdots+u+1)(u^{96}+4u^{95}+\cdots-14u+4)$
c_3, c_4	$(u^{15}-3u^{13}-u^{10}+5u^9+2u^8+u^6-u^5-2u^4-3u^3-u^2-2u-1)$ $\cdot(u^{24}-12u^{22}+\cdots-2u+1)(u^{96}-u^{95}+\cdots+254u-29)$
c_5	$(u^{15}+3u^{13}+\cdots-6u-5)(u^{24}+2u^{22}+\cdots+u+1)$ $\cdot(u^{96}+u^{95}+\cdots-128495u-83681)$
c_6	$((u^3-u^2+1)^5)(u^{24}-5u^{22}+\cdots-u+1)(u^{96}+4u^{95}+\cdots-14u+4)$
c_7	$((u^3+u^2+2u+1)^5)(u^{24}+10u^{23}+\cdots+17u+1)$ $\cdot(u^{96}+30u^{95}+\cdots+140u+16)$
c_8	$(u^{15}+6u^{14}+\cdots+2u+1)(u^{24}-4u^{23}+\cdots-10u^2+1)$ $\cdot(u^{96}-5u^{95}+\cdots+50782u+9913)$
c_9	$(u^{15}-3u^{13}-u^{10}+5u^9+2u^8+u^6-u^5-2u^4-3u^3-u^2-2u-1)$ $\cdot(u^{24}-12u^{22}+\cdots+2u+1)(u^{96}-u^{95}+\cdots+254u-29)$
c_{10}	$(u^{15}-6u^{14}+\cdots+2u-1)(u^{24}-2u^{22}+\cdots-2u+1)$ $\cdot(u^{96}-11u^{95}+\cdots+3726u-783)$
c_{11}	$(u^{15}+6u^{14}+\cdots+2u+1)(u^{24}+4u^{23}+\cdots-10u^2+1)$ $\cdot(u^{96}-5u^{95}+\cdots+50782u+9913)$
c_{12}	$(u^{15}-3u^{13}-u^{10}+5u^9+2u^8+u^6-u^5-2u^4-3u^3-u^2-2u-1)$ $\cdot(u^{24}+u^{23}+\cdots+2u^2+1)(u^{96}-4u^{95}+\cdots+994u-121)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$((y^3+3y^2+2y-1)^5)(y^{24}+18y^{23}+\cdots-21y+1)$ $\cdot(y^{96}+78y^{95}+\cdots-64624y+256)$
c_2, c_6	$((y^3-y^2+2y-1)^5)(y^{24}-10y^{23}+\cdots-17y+1)$ $\cdot(y^{96}-30y^{95}+\cdots-140y+16)$
c_3, c_4, c_9	$(y^{15}-6y^{14}+\cdots+2y-1)(y^{24}-24y^{23}+\cdots-24y+1)$ $\cdot(y^{96}-99y^{95}+\cdots+618y+841)$
c_5	$(y^{15}+6y^{14}+\cdots+386y-25)(y^{24}+4y^{23}+\cdots-3y+1)$ $\cdot(y^{96}-43y^{95}+\cdots-297276786777y+7002509761)$
c_8, c_{11}	$(y^{15}-18y^{14}+\cdots+18y-1)(y^{24}-24y^{23}+\cdots-20y+1)$ $\cdot(y^{96}-67y^{95}+\cdots-2596436838y+98267569)$
c_{10}	$(y^{15}-18y^{14}+\cdots+18y-1)(y^{24}-4y^{23}+\cdots-28y+1)$ $\cdot(y^{96}+5y^{95}+\cdots-16105230y+613089)$
c_{12}	$(y^{15}-6y^{14}+\cdots+2y-1)(y^{24}-3y^{23}+\cdots+4y+1)$ $\cdot(y^{96}+14y^{95}+\cdots+401770y+14641)$