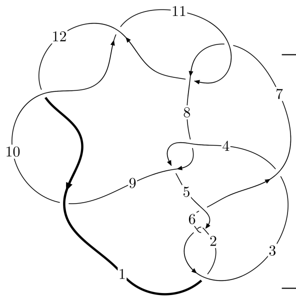
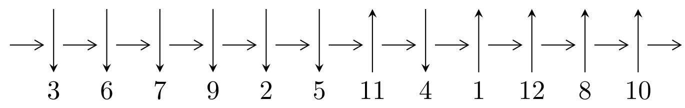
$12a_{0212}$ $(K12a_{0212})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$I_1^u = \langle 13u^{74} - 40u^{73} + \cdots + 2b + 9,\ 15u^{74} - 62u^{73} + \cdots + 4a + 33,\ u^{75} - 4u^{74} + \cdots + 2u - 1\rangle$
$I_2^u = \langle b,\ a^2 - au + 2u^2 + 3u + 2,\ u^3 + u^2 - 1\rangle$
$I_3^u = \langle b,\ a + 1,\ u^6 - u^5 + 2u^2 - 2u + 1\rangle$
$I_4^u = \langle b,\ a + 1,\ u + 1\rangle$
$I_5^u = \langle b,\ a - 1,\ u^3 + u^2 - 1\rangle$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 91 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. $I_1^u =$
$\langle 13u^{74}-40u^{73}+\cdots+2b+9,\ 15u^{74}-62u^{73}+\cdots+4a+33,\ u^{75}-4u^{74}+\cdots+2u-1\rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u^2+1\\-u^2\end{pmatrix}$$
$$a_5 = \begin{pmatrix}u\\-u^3+u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-u^3\\u^5-u^3+u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-u^8+u^6-u^4+1\\u^{10}-2u^8+3u^6-2u^4+u^2\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-3.75000u^{74}+15.5000u^{73}+\cdots+10.2500u-8.25000\\-\frac{13}{2}u^{74}+20u^{73}+\cdots+\frac{17}{2}u-\frac{9}{2}\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-8u^{74}+\frac{115}{4}u^{73}+\cdots+\frac{57}{4}u-\frac{41}{4}\\-\frac{17}{2}u^{74}+\frac{97}{4}u^{73}+\cdots+\frac{43}{4}u-\frac{9}{2}\end{pmatrix}$$
$$a_8 = \begin{pmatrix}4u^{74}-\frac{67}{4}u^{73}+\cdots-\frac{17}{4}u+\frac{17}{4}\\\frac{9}{2}u^{74}-\frac{65}{4}u^{73}+\cdots-\frac{19}{4}u+\frac{9}{2}\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-\frac{1}{4}u^{72}+\frac{3}{4}u^{71}+\cdots+\frac{7}{2}u+\frac{1}{4}\\u^{19}-3u^{17}+\cdots-4u^2+u\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}\frac{9}{4}u^{73}-\frac{23}{4}u^{72}+\cdots+\frac{21}{2}u^2-\frac{35}{4}u\\-\frac{7}{2}u^{74}+\frac{51}{4}u^{73}+\cdots+\frac{9}{4}u-\frac{7}{2}\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{31}{4}u^{74}-\frac{3}{2}u^{73}+\cdots+\frac{3}{4}u-\frac{37}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{75} + 26u^{74} + \cdots - 6u + 1$
c_2, c_5	$u^{75} + 4u^{74} + \cdots + 2u + 1$
c_3	$u^{75} - 4u^{74} + \cdots + 3428u + 673$
c_4, c_8	$u^{75} - 6u^{74} + \cdots - 2048u + 512$
c_7, c_{11}	$u^{75} - 4u^{74} + \cdots + 2u + 1$
c_9, c_{10}, c_{12}	$u^{75} - 18u^{74} + \cdots + 42u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{75} + 50y^{74} + \cdots + 338y - 1$
c_2, c_5	$y^{75} - 26y^{74} + \cdots - 6y - 1$
c_3	$y^{75} - 34y^{74} + \cdots + 20450382y - 452929$
c_4, c_8	$y^{75} - 42y^{74} + \cdots + 2228224y - 262144$
c_7, c_{11}	$y^{75} - 18y^{74} + \cdots + 42y - 1$
c_9, c_{10}, c_{12}	$y^{75} + 82y^{74} + \cdots + 898y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.701208 + 0.720685I$ $a = 0.271979 - 0.246067I$ $b = -0.579346 - 0.610917I$	$3.38308 - 0.01973I$	0
$u = 0.701208 - 0.720685I$ $a = 0.271979 + 0.246067I$ $b = -0.579346 + 0.610917I$	$3.38308 + 0.01973I$	0
$u = 0.627949 + 0.758720I$ $a = -0.575313 + 1.104250I$ $b = 0.241056 + 1.106360I$	$-0.61116 + 1.98602I$	0
$u = 0.627949 - 0.758720I$ $a = -0.575313 - 1.104250I$ $b = 0.241056 - 1.106360I$	$-0.61116 - 1.98602I$	0
$u = 0.797274 + 0.636830I$ $a = 1.023330 + 0.109881I$ $b = -0.383426 - 0.229792I$	$-1.24153 - 4.89896I$	0
$u = 0.797274 - 0.636830I$ $a = 1.023330 - 0.109881I$ $b = -0.383426 + 0.229792I$	$-1.24153 + 4.89896I$	0
$u = 0.663944 + 0.796185I$ $a = -0.228762 - 1.369140I$ $b = -0.75083 - 1.34544I$	$1.75797 + 5.85887I$	0
$u = 0.663944 - 0.796185I$ $a = -0.228762 + 1.369140I$ $b = -0.75083 + 1.34544I$	$1.75797 - 5.85887I$	0
$u = 0.809697 + 0.500286I$ $a = -1.101780 + 0.206259I$ $b = 0.331049 + 0.357019I$	$-1.80504 + 0.21281I$	0
$u = 0.809697 - 0.500286I$ $a = -1.101780 - 0.206259I$ $b = 0.331049 - 0.357019I$	$-1.80504 - 0.21281I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.746204+0.738382I$ $a=-1.06503+1.47927I$ $b=-1.32562+0.86777I$	$3.84873-0.66860I$	0
$u=-0.746204-0.738382I$ $a=-1.06503-1.47927I$ $b=-1.32562-0.86777I$	$3.84873+0.66860I$	0
$u=-0.628281+0.711921I$ $a=-1.12592+3.33671I$ $b=-1.41795+1.94907I$	$-3.10213-3.84461I$	0
$u=-0.628281-0.711921I$ $a=-1.12592-3.33671I$ $b=-1.41795-1.94907I$	$-3.10213+3.84461I$	0
$u=0.627365+0.846180I$ $a=-0.14858+2.83753I$ $b=0.46848+2.31286I$	$-6.70348+3.72129I$	0
$u=0.627365-0.846180I$ $a=-0.14858-2.83753I$ $b=0.46848-2.31286I$	$-6.70348-3.72129I$	0
$u=-1.051230+0.097083I$ $a=-0.311756-0.810124I$ $b=0.066769+1.046900I$	$-4.37588+5.64662I$	0
$u=-1.051230-0.097083I$ $a=-0.311756+0.810124I$ $b=0.066769-1.046900I$	$-4.37588-5.64662I$	0
$u=-0.812700+0.676974I$ $a=-0.188335-1.356770I$ $b=0.615066-1.037800I$	$2.12142+2.26372I$	0
$u=-0.812700-0.676974I$ $a=-0.188335+1.356770I$ $b=0.615066+1.037800I$	$2.12142-2.26372I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.060630 + 0.009927I$ $a = 0.004661 + 1.039530I$ $b = 0.20878 - 3.03992I$	$-8.40746 - 3.15444I$	0
$u = 1.060630 - 0.009927I$ $a = 0.004661 - 1.039530I$ $b = 0.20878 + 3.03992I$	$-8.40746 + 3.15444I$	0
$u = 0.638608 + 0.850784I$ $a = -0.21667 - 2.89559I$ $b = -0.71638 - 2.35011I$	$-6.21701 + 10.10530I$	0
$u = 0.638608 - 0.850784I$ $a = -0.21667 + 2.89559I$ $b = -0.71638 + 2.35011I$	$-6.21701 - 10.10530I$	0
$u = 0.932954 + 0.071441I$ $a = -0.193432 + 0.886433I$ $b = 0.625448 - 1.099660I$	$-1.44111 - 1.48666I$	$-6.77628 + 4.80712I$
$u = 0.932954 - 0.071441I$ $a = -0.193432 - 0.886433I$ $b = 0.625448 + 1.099660I$	$-1.44111 + 1.48666I$	$-6.77628 - 4.80712I$
$u = -1.071330 + 0.046708I$ $a = 0.314563 + 0.332337I$ $b = 0.600863 - 0.674517I$	$-6.34634 + 1.36308I$	0
$u = -1.071330 - 0.046708I$ $a = 0.314563 - 0.332337I$ $b = 0.600863 + 0.674517I$	$-6.34634 - 1.36308I$	0
$u = -0.619084 + 0.677506I$ $a = 0.66146 - 3.38346I$ $b = 1.12813 - 1.94943I$	$-3.32990 + 2.33530I$	$-2.00000 - 3.24885I$
$u = -0.619084 - 0.677506I$ $a = 0.66146 + 3.38346I$ $b = 1.12813 + 1.94943I$	$-3.32990 - 2.33530I$	$-2.00000 + 3.24885I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.911078+0.665908I$ $a=-1.46979-0.72717I$ $b=-0.265473-1.359370I$	$1.81337+2.92907I$	0
$u=-0.911078-0.665908I$ $a=-1.46979+0.72717I$ $b=-0.265473+1.359370I$	$1.81337-2.92907I$	0
$u=-1.126690+0.126000I$ $a=\ \ 0.492982-0.635491I$ $b=-0.24597+2.58837I$	$-12.9589+9.4189I$	0
$u=-1.126690-0.126000I$ $a=\ \ 0.492982+0.635491I$ $b=-0.24597-2.58837I$	$-12.9589-9.4189I$	0
$u=-1.129400+0.113156I$ $a=-0.413730+0.513608I$ $b=\ \ 0.57600-2.46752I$	$-13.35070+2.93555I$	0
$u=-1.129400-0.113156I$ $a=-0.413730-0.513608I$ $b=\ \ 0.57600+2.46752I$	$-13.35070-2.93555I$	0
$u=-0.831632+0.781731I$ $a=-0.405448+0.090942I$ $b=-0.717939+0.023903I$	$4.49518+3.61543I$	0
$u=-0.831632-0.781731I$ $a=-0.405448-0.090942I$ $b=-0.717939-0.023903I$	$4.49518-3.61543I$	0
$u=\ \ 1.054410+0.511172I$ $a=-2.54504-0.47126I$ $b=-1.17837+1.55125I$	$-10.59020+2.33640I$	0
$u=\ \ 1.054410-0.511172I$ $a=-2.54504+0.47126I$ $b=-1.17837-1.55125I$	$-10.59020-2.33640I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.996108 + 0.618806I$ $a = 0.657831 + 0.669598I$ $b = 0.536812 + 0.383150I$	$-2.90368 - 4.76352I$	0
$u = 0.996108 - 0.618806I$ $a = 0.657831 - 0.669598I$ $b = 0.536812 - 0.383150I$	$-2.90368 + 4.76352I$	0
$u = 1.056010 + 0.527223I$ $a = 2.46210 + 0.75720I$ $b = 1.41911 - 1.29282I$	$-10.79530 - 4.15159I$	0
$u = 1.056010 - 0.527223I$ $a = 2.46210 - 0.75720I$ $b = 1.41911 + 1.29282I$	$-10.79530 + 4.15159I$	0
$u = -0.959804 + 0.703274I$ $a = 2.06554 - 0.50300I$ $b = 1.26162 + 1.12681I$	$3.20109 + 6.17050I$	0
$u = -0.959804 - 0.703274I$ $a = 2.06554 + 0.50300I$ $b = 1.26162 - 1.12681I$	$3.20109 - 6.17050I$	0
$u = -0.915099 + 0.761150I$ $a = 0.276923 - 0.700562I$ $b = 0.598686 + 0.067274I$	$4.24134 + 2.19377I$	0
$u = -0.915099 - 0.761150I$ $a = 0.276923 + 0.700562I$ $b = 0.598686 - 0.067274I$	$4.24134 - 2.19377I$	0
$u = 0.292739 + 0.750663I$ $a = -1.32844 - 2.03101I$ $b = -0.57813 - 1.46945I$	$-8.54207 - 0.47640I$	$-5.31082 + 0.38811I$
$u = 0.292739 - 0.750663I$ $a = -1.32844 + 2.03101I$ $b = -0.57813 + 1.46945I$	$-8.54207 + 0.47640I$	$-5.31082 - 0.38811I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.983291 + 0.679379I$ $a = 0.326271 + 0.217290I$ $b = 0.269460 - 0.782508I$	$2.52825 - 5.35908I$	0
$u = 0.983291 - 0.679379I$ $a = 0.326271 - 0.217290I$ $b = 0.269460 + 0.782508I$	$2.52825 + 5.35908I$	0
$u = -1.005430 + 0.652614I$ $a = -3.71899 - 0.62315I$ $b = -1.43602 - 2.72402I$	$-4.45485 + 2.85370I$	0
$u = -1.005430 - 0.652614I$ $a = -3.71899 + 0.62315I$ $b = -1.43602 + 2.72402I$	$-4.45485 - 2.85370I$	0
$u = 0.267962 + 0.749469I$ $a = 0.96458 + 2.24772I$ $b = 0.33863 + 1.65527I$	$-8.25339 - 6.87058I$	$-4.66942 + 5.31459I$
$u = 0.267962 - 0.749469I$ $a = 0.96458 - 2.24772I$ $b = 0.33863 - 1.65527I$	$-8.25339 + 6.87058I$	$-4.66942 - 5.31459I$
$u = -1.009510 + 0.664597I$ $a = 3.84862 + 0.23046I$ $b = 1.76093 + 2.58718I$	$-4.22333 + 9.15433I$	0
$u = -1.009510 - 0.664597I$ $a = 3.84862 - 0.23046I$ $b = 1.76093 - 2.58718I$	$-4.22333 - 9.15433I$	0
$u = -0.884174 + 0.827701I$ $a = 0.858746 - 0.332274I$ $b = -0.020477 - 0.186379I$	$-1.61016 + 6.14153I$	0
$u = -0.884174 - 0.827701I$ $a = 0.858746 + 0.332274I$ $b = -0.020477 + 0.186379I$	$-1.61016 - 6.14153I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.020350 + 0.680346I$ $a = -1.026190 + 0.714206I$ $b = -0.02211 + 1.47609I$	$-1.77547 - 7.46274I$	0
$u = 1.020350 - 0.680346I$ $a = -1.026190 - 0.714206I$ $b = -0.02211 - 1.47609I$	$-1.77547 + 7.46274I$	0
$u = 1.018070 + 0.704584I$ $a = 1.78244 - 0.14154I$ $b = 0.63403 - 1.61362I$	$0.68795 - 11.52010I$	0
$u = 1.018070 - 0.704584I$ $a = 1.78244 + 0.14154I$ $b = 0.63403 + 1.61362I$	$0.68795 + 11.52010I$	0
$u = 1.050580 + 0.711144I$ $a = -2.84228 + 1.32579I$ $b = -0.58040 + 2.70950I$	$-7.99110 - 9.53376I$	0
$u = 1.050580 - 0.711144I$ $a = -2.84228 - 1.32579I$ $b = -0.58040 - 2.70950I$	$-7.99110 + 9.53376I$	0
$u = 1.048440 + 0.717583I$ $a = 3.10399 - 1.06144I$ $b = 0.84917 - 2.69538I$	$-7.4670 - 15.9552I$	0
$u = 1.048440 - 0.717583I$ $a = 3.10399 + 1.06144I$ $b = 0.84917 + 2.69538I$	$-7.4670 + 15.9552I$	0
$u = 0.649139$ $a = -0.546045$ $b = 0.341478$	-0.884135	-11.8620
$u = 0.233494 + 0.573241I$ $a = 0.058819 + 0.473224I$ $b = -0.477292 + 0.578592I$	$-0.29565 - 3.74527I$	$-0.52170 + 7.33925I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.233494 - 0.573241I$ $a = 0.058819 - 0.473224I$ $b = -0.477292 - 0.578592I$	$-0.29565 + 3.74527I$	$-0.52170 - 7.33925I$
$u = -0.475208 + 0.051931I$ $a = -0.18074 - 3.75063I$ $b = 0.015921 - 0.686883I$	$-3.67022 + 2.91113I$	$3.44925 - 3.93604I$
$u = -0.475208 - 0.051931I$ $a = -0.18074 + 3.75063I$ $b = 0.015921 + 0.686883I$	$-3.67022 - 2.91113I$	$3.44925 + 3.93604I$
$u = -0.028799 + 0.274080I$ $a = 0.18442 - 1.93169I$ $b = -0.520994 - 0.325782I$	$1.326270 + 0.342139I$	$6.30252 - 0.67770I$
$u = -0.028799 - 0.274080I$ $a = 0.18442 + 1.93169I$ $b = -0.520994 + 0.325782I$	$1.326270 - 0.342139I$	$6.30252 + 0.67770I$

II. $I^u_2 = \langle b,\ a^2 - au + 2u^2 + 3u + 2,\ u^3 + u^2 - 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -u^2a - u^2 - 8u - 7$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.877439 + 0.744862I$ $a = -0.947279 + 0.320410I$ $b = 0$	$5.65624I$	$-0.41065 - 5.95889I$
$u = -0.877439 + 0.744862I$ $a = 0.069840 + 0.424452I$ $b = 0$	$4.13758 + 2.82812I$	$-0.76541 - 4.65175I$
$u = -0.877439 - 0.744862I$ $a = -0.947279 - 0.320410I$ $b = 0$	$-5.65624I$	$-0.41065 + 5.95889I$
$u = -0.877439 - 0.744862I$ $a = 0.069840 - 0.424452I$ $b = 0$	$4.13758 - 2.82812I$	$-0.76541 + 4.65175I$
$u = 0.754878$ $a = 0.37744 + 2.29387I$ $b = 0$	$-4.13758 + 2.82812I$	$-13.82394 - 1.30714I$
$u = 0.754878$ $a = 0.37744 - 2.29387I$ $b = 0$	$-4.13758 - 2.82812I$	$-13.82394 + 1.30714I$

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_9 c_{10}, c_{12}	$y^6 + 7y^5 + 20y^4 + 30y^3 + 24y^2 + 8y + 1$
c_2, c_5, c_7 c_{11}	$y^6 - y^5 + 4y^4 - 2y^3 + 4y^2 + 1$
c_3	$y^6 + 7y^5 + 8y^4 - 18y^3 + 12y^2 - 4y + 1$
c_4, c_8	$(y-1)^6$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.929638 + 0.614235I$ $a = -1.00000$ $b = 0$	-1.64493	-6.00000
$u = 0.929638 - 0.614235I$ $a = -1.00000$ $b = 0$	-1.64493	-6.00000
$u = -0.895432 + 0.823751I$ $a = -1.00000$ $b = 0$	-1.64493	-6.00000
$u = -0.895432 - 0.823751I$ $a = -1.00000$ $b = 0$	-1.64493	-6.00000
$u = 0.465794 + 0.571960I$ $a = -1.00000$ $b = 0$	-1.64493	-6.00000
$u = 0.465794 - 0.571960I$ $a = -1.00000$ $b = 0$	-1.64493	-6.00000

IV. $I_4^u = \langle b,\ a+1,\ u+1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_6 c_7, c_8, c_9 c_{10}, c_{11}, c_{12}	$y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = -1.00000$ $b = 0$	-1.64493	-6.00000

V. $\boldsymbol{I_5^u = \langle b,\ a-1,\ u^3+u^2-1 \rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.877439 + 0.744862I$ $a = 1.00000$ $b = 0$	0	0
$u = -0.877439 - 0.744862I$ $a = 1.00000$ $b = 0$	0	0
$u = 0.754878$ $a = 1.00000$ $b = 0$	0	0

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u+1)(u^3-u^2+2u-1)^3(u^6+u^5+4u^4+2u^3+4u^2+1)$ $\cdot(u^{75}+26u^{74}+\cdots-6u+1)$
c_2	$(u-1)(u^3+u^2-1)^3(u^6+u^5+\cdots+2u+1)(u^{75}+4u^{74}+\cdots+2u+1)$
c_3	$(u-1)(u^3-u^2+2u-1)^3(u^6+u^5+4u^4+2u^3-2u^2+1)$ $\cdot(u^{75}-4u^{74}+\cdots+3428u+673)$
c_4, c_8	$u^9(u+1)^7(u^{75}-6u^{74}+\cdots-2048u+512)$
c_5	$(u-1)(u^3-u^2+1)^3(u^6+u^5+\cdots+2u+1)(u^{75}+4u^{74}+\cdots+2u+1)$
c_6	$(u+1)(u^3+u^2+2u+1)^3(u^6+u^5+4u^4+2u^3+4u^2+1)$ $\cdot(u^{75}+26u^{74}+\cdots-6u+1)$
c_7	$(u-1)(u^3-u^2+1)^3(u^6+u^5+\cdots+2u+1)(u^{75}-4u^{74}+\cdots+2u+1)$
c_9, c_{10}	$(u-1)(u^3+u^2+2u+1)^3(u^6-u^5+4u^4-2u^3+4u^2+1)$ $\cdot(u^{75}-18u^{74}+\cdots+42u-1)$
c_{11}	$(u-1)(u^3+u^2-1)^3(u^6+u^5+\cdots+2u+1)(u^{75}-4u^{74}+\cdots+2u+1)$
c_{12}	$(u-1)(u^3-u^2+2u-1)^3(u^6-u^5+4u^4-2u^3+4u^2+1)$ $\cdot(u^{75}-18u^{74}+\cdots+42u-1)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y-1)(y^3+3y^2+2y-1)^3(y^6+7y^5+\cdots+8y+1)$ $\cdot(y^{75}+50y^{74}+\cdots+338y-1)$
c_2, c_5	$(y-1)(y^3-y^2+2y-1)^3(y^6-y^5+4y^4-2y^3+4y^2+1)$ $\cdot(y^{75}-26y^{74}+\cdots-6y-1)$
c_3	$(y-1)(y^3+3y^2+2y-1)^3(y^6+7y^5+\cdots-4y+1)$ $\cdot(y^{75}-34y^{74}+\cdots+20450382y-452929)$
c_4, c_8	$y^9(y-1)^7(y^{75}-42y^{74}+\cdots+2228224y-262144)$
c_7, c_{11}	$(y-1)(y^3-y^2+2y-1)^3(y^6-y^5+4y^4-2y^3+4y^2+1)$ $\cdot(y^{75}-18y^{74}+\cdots+42y-1)$
c_9, c_{10}, c_{12}	$(y-1)(y^3+3y^2+2y-1)^3(y^6+7y^5+\cdots+8y+1)$ $\cdot(y^{75}+82y^{74}+\cdots+898y-1)$