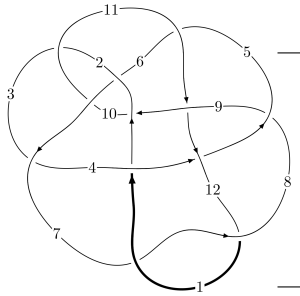
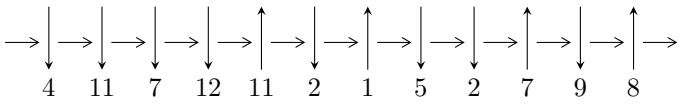
$12n_{0732}$ $(K12n_{0732})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -3.49919 \times 10^{429} u^{82} - 9.68214 \times 10^{429} u^{81} + \cdots + 4.60228 \times 10^{434} b + 1.01773 \times 10^{436}, \\
& 2.05304 \times 10^{436} u^{82} - 7.13618 \times 10^{435} u^{81} + \cdots + 1.09384 \times 10^{440} a - 4.44613 \times 10^{441}, \\
& u^{83} - u^{82} + \cdots + 2048046u - 237673 \rangle \\
I_2^u = \langle & 3.26221 \times 10^{19} u^{23} + 2.15398 \times 10^{19} u^{22} + \cdots + 1.24108 \times 10^{19} b + 9.39258 \times 10^{19}, \\
& - 4.34127 \times 10^{20} u^{23} - 2.45018 \times 10^{20} u^{22} + \cdots + 1.24108 \times 10^{19} a - 9.98705 \times 10^{20}, \ u^{24} + u^{23} + \cdots + 4u + \\
I_3^u = \langle & b - u + 1, \ a - 1, \ u^2 - u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 109 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. $\boldsymbol{I_1^u = \langle -3.50 \times 10^{429} u^{82} - 9.68 \times 10^{429} u^{81} + \cdots + 4.60 \times 10^{434} b + 1.02 \times 10^{436},\ 2.05 \times 10^{436} u^{82} - 7.14 \times 10^{435} u^{81} + \cdots + 1.09 \times 10^{440} a - 4.45 \times 10^{441},\ u^{83} - u^{82} + \cdots + 2048046u - 237673 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -0.000187692u^{82} + 0.0000652399u^{81} + \cdots - 103.466u + 40.6470 \\ 7.60316 \times 10^{-6} u^{82} + 0.0000210377u^{81} + \cdots + 147.358u - 22.1135 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.000163705u^{82} + 0.000162742u^{81} + \cdots + 585.451u - 61.5724 \\ 0.0000442704u^{82} - 0.0000260632u^{81} + \cdots - 70.3579u + 4.73710 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.000166790u^{82} + 0.0000820861u^{81} + \cdots + 162.358u - 3.41475 \\ -0.0000300517u^{82} + 0.0000474903u^{81} + \cdots + 260.800u - 37.0113 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.000180088u^{82} + 0.0000862776u^{81} + \cdots + 43.8924u + 18.5335 \\ 7.60316 \times 10^{-6} u^{82} + 0.0000210377u^{81} + \cdots + 147.358u - 22.1135 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.000180088u^{82} + 0.0000862776u^{81} + \cdots + 43.8924u + 18.5335 \\ 0.0000152790u^{82} + 0.0000407085u^{81} + \cdots + 296.685u - 44.4098 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.000281266u^{82} + 0.000174152u^{81} + \cdots + 380.064u - 13.2873 \\ 0.0000201427u^{82} - 0.0000310990u^{81} + \cdots - 119.176u + 13.4499 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.000261124u^{82} + 0.000143053u^{81} + \cdots + 260.888u + 0.162624 \\ 0.0000201427u^{82} - 0.0000310990u^{81} + \cdots - 119.176u + 13.4499 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.000334705u^{82} - 0.000159389u^{81} + \cdots - 166.178u - 24.0662 \\ -0.0000280200u^{82} - 0.0000248455u^{81} + \cdots - 290.374u + 47.0998 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.000362649u^{82} + 0.000164944u^{81} + \cdots + 185.086u + 25.2579 \\ -0.0000348471u^{82} + 0.0000542533u^{81} + \cdots + 337.625u - 45.7974 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.000301960u^{82} + 0.000391858u^{81} + \cdots + 1897.38u - 240.107$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{83} - 11u^{82} + \cdots - 3341u + 203$
c_2	$u^{83} + u^{82} + \cdots + 2048046u + 237673$
c_3	$u^{83} + u^{82} + \cdots - 15388u + 2108$
c_4	$u^{83} + 3u^{82} + \cdots - 16u + 1$
c_5	$u^{83} - 15u^{81} + \cdots - 663559u + 83839$
c_6	$u^{83} + 5u^{82} + \cdots + 97593u + 5351$
c_7, c_{12}	$u^{83} - 3u^{82} + \cdots + 1495u + 103$
c_8	$u^{83} + 6u^{82} + \cdots + 322u + 29$
c_9	$u^{83} - 3u^{82} + \cdots + 23642902u + 6207563$
c_{10}	$u^{83} - 2u^{82} + \cdots + 130300u + 11257$
c_{11}	$u^{83} - 12u^{82} + \cdots - 12u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{83} + 5y^{82} + \cdots - 397351y - 41209$
c_2	$y^{83} + 93y^{82} + \cdots - 1365124926432y - 56488454929$
c_3	$y^{83} + 15y^{82} + \cdots - 56398528y - 4443664$
c_4	$y^{83} - 11y^{82} + \cdots + 50y - 1$
c_5	$y^{83} - 30y^{82} + \cdots + 63722693959y - 7028977921$
c_6	$y^{83} + 97y^{82} + \cdots - 743094449y - 28633201$
c_7, c_{12}	$y^{83} + 59y^{82} + \cdots - 208547y - 10609$
c_8	$y^{83} - 12y^{82} + \cdots + 29850y - 841$
c_9	$y^{83} + 53y^{82} + \cdots - 759411803692702y - 38533838398969$
c_{10}	$y^{83} - 98y^{82} + \cdots + 5637157808y - 126720049$
c_{11}	$y^{83} + 22y^{82} + \cdots + 68y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.414352 + 0.904844I$ $a = 0.818742 - 0.835049I$ $b = -0.234982 + 1.126650I$	$-0.50253 - 2.71042I$	0
$u = 0.414352 - 0.904844I$ $a = 0.818742 + 0.835049I$ $b = -0.234982 - 1.126650I$	$-0.50253 + 2.71042I$	0
$u = -1.028260 + 0.017055I$ $a = 0.537212 + 0.257597I$ $b = 1.340570 - 0.138864I$	$-4.09989 + 1.06646I$	0
$u = -1.028260 - 0.017055I$ $a = 0.537212 - 0.257597I$ $b = 1.340570 + 0.138864I$	$-4.09989 - 1.06646I$	0
$u = 0.417263 + 0.866402I$ $a = 0.318885 - 0.410092I$ $b = -1.098590 + 0.129272I$	$-3.34845 - 4.34438I$	$0. + 7.77500I$
$u = 0.417263 - 0.866402I$ $a = 0.318885 + 0.410092I$ $b = -1.098590 - 0.129272I$	$-3.34845 + 4.34438I$	$0. - 7.77500I$
$u = -0.572659 + 0.744013I$ $a = 0.505280 - 0.031757I$ $b = 1.191840 + 0.333632I$	$-4.39495 - 1.29965I$	$-4.00000 + 3.00721I$
$u = -0.572659 - 0.744013I$ $a = 0.505280 + 0.031757I$ $b = 1.191840 - 0.333632I$	$-4.39495 + 1.29965I$	$-4.00000 - 3.00721I$
$u = -1.040930 + 0.307428I$ $a = -0.273096 - 0.755471I$ $b = 0.451724 + 0.662973I$	$-3.60574 - 2.70826I$	0
$u = -1.040930 - 0.307428I$ $a = -0.273096 + 0.755471I$ $b = 0.451724 - 0.662973I$	$-3.60574 + 2.70826I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.637570 + 0.910156I$ $a = 1.063740 + 0.356958I$ $b = 0.347803 - 0.186767I$	$-4.05843 + 0.77081I$	0
$u = 0.637570 - 0.910156I$ $a = 1.063740 - 0.356958I$ $b = 0.347803 + 0.186767I$	$-4.05843 - 0.77081I$	0
$u = 0.177985 + 1.106920I$ $a = 0.489709 - 1.232370I$ $b = -0.21437 + 1.49408I$	$-0.48146 - 2.63965I$	0
$u = 0.177985 - 1.106920I$ $a = 0.489709 + 1.232370I$ $b = -0.21437 - 1.49408I$	$-0.48146 + 2.63965I$	0
$u = 0.671577 + 0.559435I$ $a = -0.79653 - 1.25063I$ $b = 0.100737 + 0.378624I$	$-4.38490 + 1.02535I$	$-8.49512 + 1.62379I$
$u = 0.671577 - 0.559435I$ $a = -0.79653 + 1.25063I$ $b = 0.100737 - 0.378624I$	$-4.38490 - 1.02535I$	$-8.49512 - 1.62379I$
$u = -0.345440 + 0.798324I$ $a = -1.81170 - 0.41097I$ $b = 1.42764 + 1.03205I$	$-0.93031 + 4.30963I$	$-10.3870 - 14.3250I$
$u = -0.345440 - 0.798324I$ $a = -1.81170 + 0.41097I$ $b = 1.42764 - 1.03205I$	$-0.93031 - 4.30963I$	$-10.3870 + 14.3250I$
$u = -0.301371 + 0.752449I$ $a = -1.98642 + 0.02905I$ $b = 0.321899 - 0.106934I$	$-3.76643 - 9.37621I$	$-3.18784 + 5.46497I$
$u = -0.301371 - 0.752449I$ $a = -1.98642 - 0.02905I$ $b = 0.321899 + 0.106934I$	$-3.76643 + 9.37621I$	$-3.18784 - 5.46497I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.773390 + 0.175831I$ $a = 0.369949 - 0.128530I$ $b = 0.794235 - 0.233534I$	$-1.178940 - 0.026902I$	$-2.24486 - 0.66294I$
$u = 0.773390 - 0.175831I$ $a = 0.369949 + 0.128530I$ $b = 0.794235 + 0.233534I$	$-1.178940 + 0.026902I$	$-2.24486 + 0.66294I$
$u = 0.379090 + 0.679111I$ $a = 0.310084 + 0.343934I$ $b = -1.53351 + 0.59005I$	$-4.03656 + 9.14747I$	$-3.08929 - 4.48071I$
$u = 0.379090 - 0.679111I$ $a = 0.310084 - 0.343934I$ $b = -1.53351 - 0.59005I$	$-4.03656 - 9.14747I$	$-3.08929 + 4.48071I$
$u = -0.585406 + 1.076470I$ $a = 0.769362 - 0.107344I$ $b = 0.067450 - 0.608539I$	$-1.13069 + 3.60924I$	0
$u = -0.585406 - 1.076470I$ $a = 0.769362 + 0.107344I$ $b = 0.067450 + 0.608539I$	$-1.13069 - 3.60924I$	0
$u = -0.608231 + 0.426041I$ $a = 0.659662 + 0.542829I$ $b = -0.184618 + 0.399153I$	$2.56481 + 0.56873I$	$1.41112 - 2.57174I$
$u = -0.608231 - 0.426041I$ $a = 0.659662 - 0.542829I$ $b = -0.184618 - 0.399153I$	$2.56481 - 0.56873I$	$1.41112 + 2.57174I$
$u = 1.064550 + 0.709606I$ $a = 0.526848 - 0.134656I$ $b = 0.134105 + 0.347107I$	$-2.03220 - 2.79313I$	0
$u = 1.064550 - 0.709606I$ $a = 0.526848 + 0.134656I$ $b = 0.134105 - 0.347107I$	$-2.03220 + 2.79313I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.166100+0.526433I$ $a=-0.305083+0.019879I$ $b=-0.220833-0.594073I$	$1.82630+4.81831I$	0
$u=-1.166100-0.526433I$ $a=-0.305083-0.019879I$ $b=-0.220833+0.594073I$	$1.82630-4.81831I$	0
$u=-0.205221+0.687069I$ $a=\ \ 0.768610-0.379877I$ $b=-1.303500-0.456175I$	$1.29077-3.56733I$	$1.02756+5.38922I$
$u=-0.205221-0.687069I$ $a=\ \ 0.768610+0.379877I$ $b=-1.303500+0.456175I$	$1.29077+3.56733I$	$1.02756-5.38922I$
$u=-1.239500+0.371890I$ $a=\ \ 0.651770-0.371480I$ $b=\ \ 0.435731+0.296635I$	$-3.67543-1.63059I$	0
$u=-1.239500-0.371890I$ $a=\ \ 0.651770+0.371480I$ $b=\ \ 0.435731-0.296635I$	$-3.67543+1.63059I$	0
$u=\ \ 0.692399+0.077190I$ $a=\ \ 1.163320-0.065011I$ $b=\ \ 0.158615-0.881612I$	$-0.69388+3.26055I$	$-4.25295-4.21550I$
$u=\ \ 0.692399-0.077190I$ $a=\ \ 1.163320+0.065011I$ $b=\ \ 0.158615+0.881612I$	$-0.69388-3.26055I$	$-4.25295+4.21550I$
$u=\ \ 0.422423+1.314500I$ $a=-0.553764+1.137490I$ $b=-0.34607-1.85608I$	$4.09935-1.72757I$	0
$u=\ \ 0.422423-1.314500I$ $a=-0.553764-1.137490I$ $b=-0.34607+1.85608I$	$4.09935+1.72757I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.591218$ $a = 0.492574$ $b = 0.792557$	-1.19065	-5.17470
$u = 0.46810 + 1.33998I$ $a = 0.109017 - 1.294080I$ $b = -0.29965 + 1.64714I$	$5.93412 - 1.92291I$	0
$u = 0.46810 - 1.33998I$ $a = 0.109017 + 1.294080I$ $b = -0.29965 - 1.64714I$	$5.93412 + 1.92291I$	0
$u = -0.039654 + 0.574075I$ $a = 1.55657 + 0.40480I$ $b = -0.354654 + 0.415931I$	$0.25628 - 1.95793I$	$0.76700 + 3.94410I$
$u = -0.039654 - 0.574075I$ $a = 1.55657 - 0.40480I$ $b = -0.354654 - 0.415931I$	$0.25628 + 1.95793I$	$0.76700 - 3.94410I$
$u = 0.09161 + 1.49038I$ $a = 0.157174 + 1.324810I$ $b = -0.70464 - 1.82638I$	$5.65852 - 3.30039I$	0
$u = 0.09161 - 1.49038I$ $a = 0.157174 - 1.324810I$ $b = -0.70464 + 1.82638I$	$5.65852 + 3.30039I$	0
$u = 0.202641 + 0.448566I$ $a = -2.95926 - 0.10425I$ $b = 0.689201 + 0.115151I$	$0.45787 + 3.68682I$	$1.09725 - 1.38698I$
$u = 0.202641 - 0.448566I$ $a = -2.95926 + 0.10425I$ $b = 0.689201 - 0.115151I$	$0.45787 - 3.68682I$	$1.09725 + 1.38698I$
$u = 0.330652 + 0.359921I$ $a = 1.81179 - 0.11132I$ $b = 1.141310 + 0.719359I$	$-2.58496 - 1.33025I$	$-4.54267 + 0.24463I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.330652 - 0.359921I$ $a = 1.81179 + 0.11132I$ $b = 1.141310 - 0.719359I$	$-2.58496 + 1.33025I$	$-4.54267 - 0.24463I$
$u = 1.47401 + 0.34353I$ $a = -0.530455 - 0.057065I$ $b = -0.327942 + 0.676870I$	$-2.11190 - 9.30846I$	0
$u = 1.47401 - 0.34353I$ $a = -0.530455 + 0.057065I$ $b = -0.327942 - 0.676870I$	$-2.11190 + 9.30846I$	0
$u = 0.236925 + 0.417535I$ $a = 1.25133 + 1.31707I$ $b = 0.011013 + 0.527287I$	$-0.39541 - 2.01429I$	$-2.84666 + 4.46361I$
$u = 0.236925 - 0.417535I$ $a = 1.25133 - 1.31707I$ $b = 0.011013 - 0.527287I$	$-0.39541 + 2.01429I$	$-2.84666 - 4.46361I$
$u = -0.21429 + 1.55945I$ $a = -0.084526 + 1.258460I$ $b = 0.28263 - 2.02678I$	$8.82612 + 3.64300I$	0
$u = -0.21429 - 1.55945I$ $a = -0.084526 - 1.258460I$ $b = 0.28263 + 2.02678I$	$8.82612 - 3.64300I$	0
$u = -0.32416 + 1.63100I$ $a = 0.089654 + 1.094170I$ $b = -0.26089 - 1.69470I$	$6.91762 + 0.07901I$	0
$u = -0.32416 - 1.63100I$ $a = 0.089654 - 1.094170I$ $b = -0.26089 + 1.69470I$	$6.91762 - 0.07901I$	0
$u = 0.06848 + 1.67430I$ $a = 0.135743 + 1.110070I$ $b = -0.22960 - 1.48707I$	$5.24143 - 2.04516I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.06848 - 1.67430I$ $a = 0.135743 - 1.110070I$ $b = -0.22960 + 1.48707I$	$5.24143 + 2.04516I$	0
$u = -0.43500 + 1.67959I$ $a = 0.032353 - 1.130650I$ $b = -0.15356 + 1.52921I$	$1.75253 + 8.69397I$	0
$u = -0.43500 - 1.67959I$ $a = 0.032353 + 1.130650I$ $b = -0.15356 - 1.52921I$	$1.75253 - 8.69397I$	0
$u = -0.38585 + 1.74072I$ $a = 0.098702 + 0.779884I$ $b = 0.56146 - 1.98339I$	$2.44247 + 7.16275I$	0
$u = -0.38585 - 1.74072I$ $a = 0.098702 - 0.779884I$ $b = 0.56146 + 1.98339I$	$2.44247 - 7.16275I$	0
$u = -0.19041 + 1.78225I$ $a = -0.262423 - 0.898122I$ $b = -0.34219 + 1.82899I$	$9.74534 - 1.33402I$	0
$u = -0.19041 - 1.78225I$ $a = -0.262423 + 0.898122I$ $b = -0.34219 - 1.82899I$	$9.74534 + 1.33402I$	0
$u = -0.41279 + 1.75000I$ $a = -0.056811 - 1.110350I$ $b = -0.45263 + 1.93300I$	$9.4871 + 10.9918I$	0
$u = -0.41279 - 1.75000I$ $a = -0.056811 + 1.110350I$ $b = -0.45263 - 1.93300I$	$9.4871 - 10.9918I$	0
$u = 0.21850 + 1.80286I$ $a = 0.150227 + 0.988006I$ $b = 0.37037 - 1.50853I$	$8.03484 + 1.01421I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.21850 - 1.80286I$ $a = 0.150227 - 0.988006I$ $b = 0.37037 + 1.50853I$	$8.03484 - 1.01421I$	0
$u = 0.26361 + 1.80476I$ $a = -0.127641 - 0.996713I$ $b = 0.29776 + 1.98890I$	$7.10818 - 8.02637I$	0
$u = 0.26361 - 1.80476I$ $a = -0.127641 + 0.996713I$ $b = 0.29776 - 1.98890I$	$7.10818 + 8.02637I$	0
$u = 0.58577 + 1.80045I$ $a = -0.096228 + 1.043080I$ $b = -0.42567 - 1.97742I$	$4.7687 - 17.1701I$	0
$u = 0.58577 - 1.80045I$ $a = -0.096228 - 1.043080I$ $b = -0.42567 + 1.97742I$	$4.7687 + 17.1701I$	0
$u = 0.39418 + 1.91028I$ $a = 0.097542 - 0.907782I$ $b = 0.34950 + 1.88034I$	$6.81458 - 5.87576I$	0
$u = 0.39418 - 1.91028I$ $a = 0.097542 + 0.907782I$ $b = 0.34950 - 1.88034I$	$6.81458 + 5.87576I$	0
$u = 0.10550 + 2.05313I$ $a = 0.113249 - 0.915035I$ $b = 0.32092 + 1.73513I$	$7.40347 - 6.14595I$	0
$u = 0.10550 - 2.05313I$ $a = 0.113249 + 0.915035I$ $b = 0.32092 - 1.73513I$	$7.40347 + 6.14595I$	0
$u = -0.02637 + 2.06647I$ $a = -0.139226 + 0.783931I$ $b = -0.28831 - 1.90761I$	$6.56568 + 5.36669I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.02637-2.06647I$ $a=-0.139226-0.783931I$ $b=-0.28831+1.90761I$	$6.56568-5.36669I$	0
$u=-0.76454+1.92604I$ $a=\ \ 0.178371+0.912927I$ $b=\ \ 0.28342-1.88805I$	$4.14225+7.38613I$	0
$u=-0.76454-1.92604I$ $a=\ \ 0.178371-0.912927I$ $b=\ \ 0.28342+1.88805I$	$4.14225-7.38613I$	0

II.

$\boldsymbol{I_2^u = \langle 3.26\times10^{19}u^{23}+2.15\times10^{19}u^{22}+\cdots+1.24\times10^{19}b+9.39\times10^{19},\ -4.34\times10^{20}u^{23}-2.45\times10^{20}u^{22}+\cdots+1.24\times10^{19}a-9.99\times10^{20},\ u^{24}+u^{23}+\cdots+4u+1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix}1\\0\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}0\\u\end{pmatrix}$$

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

$$a_7 = \begin{pmatrix}34.9798u^{23}+19.7424u^{22}+\cdots+137.849u+80.4708\\-2.62853u^{23}-1.73557u^{22}+\cdots-10.2826u-7.56808\end{pmatrix}$$

$$a_4 = \begin{pmatrix}-28.5351u^{23}-15.9884u^{22}+\cdots-112.157u-63.1806\\13.4031u^{23}+7.72081u^{22}+\cdots+51.6847u+31.9247\end{pmatrix}$$

$$a_1 = \begin{pmatrix}-7.56905u^{23}-4.96424u^{22}+\cdots-27.4653u-21.4742\\-31.2811u^{23}-17.8433u^{22}+\cdots-121.217u-72.6535\end{pmatrix}$$

$$a_6 = \begin{pmatrix}32.3513u^{23}+18.0068u^{22}+\cdots+127.567u+72.9027\\-2.62853u^{23}-1.73557u^{22}+\cdots-10.2826u-7.56808\end{pmatrix}$$

$$a_5 = \begin{pmatrix}32.3513u^{23}+18.0068u^{22}+\cdots+127.567u+72.9027\\3.82260u^{23}+1.83181u^{22}+\cdots+14.7442u+6.77644\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}-19.0402u^{23}-11.4933u^{22}+\cdots-72.3152u-45.7048\\-15.6774u^{23}-8.75510u^{22}+\cdots-60.1068u-36.0819\end{pmatrix}$$

$$a_9 = \begin{pmatrix}-34.7175u^{23}-20.2484u^{22}+\cdots-132.422u-81.7867\\-15.6774u^{23}-8.75510u^{22}+\cdots-60.1068u-36.0819\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}61.4214u^{23}+35.0090u^{22}+\cdots+237.201u+141.518\\13.4378u^{23}+7.40964u^{22}+\cdots+53.9669u+30.4043\end{pmatrix}$$

$$a_8 = \begin{pmatrix}-52.6961u^{23}-29.7451u^{22}+\cdots-204.711u-119.875\\-1.22123u^{23}-0.360132u^{22}+\cdots-6.61842u-1.30809\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{1428788128592264638684}{1241077358700832954 3}u^{23}+\frac{81222388401534188 4174}{1241077358700832954 3}u^{22}+\cdots+\frac{562279852210710894 7686}{1241077358700832954 3}u+\frac{319487014051362740 5289}{1241077358700832954 3}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{24} - 11u^{23} + \cdots - 5u + 1$
c_2	$u^{24} + u^{23} + \cdots + 4u + 1$
c_3	$u^{24} - 5u^{21} + \cdots - 97u + 31$
c_4	$u^{24} - 3u^{23} + \cdots - 12u + 1$
c_5	$u^{24} - 2u^{23} + \cdots - 77u + 29$
c_6	$u^{24} + 7u^{23} + \cdots + 143u + 37$
c_7	$u^{24} + u^{23} + \cdots + 9u + 1$
c_8	$u^{24} - 4u^{23} + \cdots - 4u + 1$
c_9	$u^{24} - 3u^{23} + \cdots + 2u + 1$
c_{10}	$u^{24} - 5u^{22} + \cdots - 2u + 1$
c_{11}	$u^{24} + 6u^{23} + \cdots + 2u + 1$
c_{12}	$u^{24} - u^{23} + \cdots - 9u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{24} - 7y^{23} + \cdots + 19y + 1$
c_2	$y^{24} + 13y^{23} + \cdots - 12y + 1$
c_3	$y^{24} + 22y^{22} + \cdots - 9533y + 961$
c_4	$y^{24} - 11y^{23} + \cdots - 38y + 1$
c_5	$y^{24} - 10y^{23} + \cdots + 8513y + 841$
c_6	$y^{24} + 5y^{23} + \cdots - 7203y + 1369$
c_7, c_{12}	$y^{24} + 19y^{23} + \cdots + 3y + 1$
c_8	$y^{24} + 14y^{22} + \cdots - 6y + 1$
c_9	$y^{24} + 5y^{23} + \cdots - 2y + 1$
c_{10}	$y^{24} - 10y^{23} + \cdots + 24y + 1$
c_{11}	$y^{24} + 2y^{23} + \cdots - 16y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.809576+0.779992I$ $a=\ 0.174326-0.051460I$ $b=\ 0.902583-0.266585I$	$-3.14838+2.72704I$	$-10.71163-4.00203I$
$u=-0.809576-0.779992I$ $a=\ 0.174326+0.051460I$ $b=\ 0.902583+0.266585I$	$-3.14838-2.72704I$	$-10.71163+4.00203I$
$u=\ 0.635711+0.928589I$ $a=\ 0.709241+0.295340I$ $b=\ 0.977518-0.338543I$	$-4.90398+1.25886I$	$-19.4212-3.3032I$
$u=\ 0.635711-0.928589I$ $a=\ 0.709241-0.295340I$ $b=\ 0.977518+0.338543I$	$-4.90398-1.25886I$	$-19.4212+3.3032I$
$u=\ 1.141450+0.070256I$ $a=\ 0.439053-0.129771I$ $b=\ 1.39180-0.55196I$	$-4.05739+0.32269I$	$-8.19576+3.10648I$
$u=\ 1.141450-0.070256I$ $a=\ 0.439053+0.129771I$ $b=\ 1.39180+0.55196I$	$-4.05739-0.32269I$	$-8.19576-3.10648I$
$u=-1.080930+0.419496I$ $a=\ 0.528614-0.722136I$ $b=\ 0.218156+0.631342I$	$-2.71433-1.83987I$	$-0.92922+3.25332I$
$u=-1.080930-0.419496I$ $a=\ 0.528614+0.722136I$ $b=\ 0.218156-0.631342I$	$-2.71433+1.83987I$	$-0.92922-3.25332I$
$u=-0.291317+0.760773I$ $a=-1.68250-0.80233I$ $b=\ 1.22598+0.77029I$	$-0.84760+3.74018I$	$-4.99835-2.41418I$
$u=-0.291317-0.760773I$ $a=-1.68250+0.80233I$ $b=\ 1.22598-0.77029I$	$-0.84760-3.74018I$	$-4.99835+2.41418I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.711004+0.229664I$ $a=\ 0.784779-0.421989I$ $b=\ 0.819804-0.313488I$	$-1.41771-0.70280I$	$-5.39059+6.53110I$
$u=-0.711004-0.229664I$ $a=\ 0.784779+0.421989I$ $b=\ 0.819804+0.313488I$	$-1.41771+0.70280I$	$-5.39059-6.53110I$
$u=\ 0.672936+0.306989I$ $a=\ 0.19918-1.75721I$ $b=-0.568537+0.491944I$	$-4.68331+2.09852I$	$-11.02976-3.59872I$
$u=\ 0.672936-0.306989I$ $a=\ 0.19918+1.75721I$ $b=-0.568537-0.491944I$	$-4.68331-2.09852I$	$-11.02976+3.59872I$
$u=\ 0.348106+0.501012I$ $a=\ 1.65826+1.15366I$ $b=-0.961006+0.120617I$	$0.04901-4.35938I$	$-4.33045+10.29410I$
$u=\ 0.348106-0.501012I$ $a=\ 1.65826-1.15366I$ $b=-0.961006-0.120617I$	$0.04901+4.35938I$	$-4.33045-10.29410I$
$u=-0.26256+1.52051I$ $a=-0.050281+1.172670I$ $b=-0.25452-1.65974I$	$7.65033+1.09732I$	$0.55669-1.40274I$
$u=-0.26256-1.52051I$ $a=-0.050281-1.172670I$ $b=-0.25452+1.65974I$	$7.65033-1.09732I$	$0.55669+1.40274I$
$u=-0.09913+1.54901I$ $a=-0.107671+1.228790I$ $b=\ 0.61069-1.75130I$	$5.46672+3.23345I$	$-16.5379-0.7498I$
$u=-0.09913-1.54901I$ $a=-0.107671-1.228790I$ $b=\ 0.61069+1.75130I$	$5.46672-3.23345I$	$-16.5379+0.7498I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.430895+0.011507I$ $a=-0.66609+2.28354I$ $b=-1.102640-0.193314I$	$-5.18556-9.79729I$	$-10.06078+7.60329I$
$u=-0.430895-0.011507I$ $a=-0.66609-2.28354I$ $b=-1.102640+0.193314I$	$-5.18556+9.79729I$	$-10.06078-7.60329I$
$u=\ 0.38721+2.06635I$ $a=\ 0.013086-0.855197I$ $b=\ 0.24017+1.92138I$	$5.56755-7.24275I$	0
$u=\ 0.38721-2.06635I$ $a=\ 0.013086+0.855197I$ $b=\ 0.24017-1.92138I$	$5.56755+7.24275I$	0

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 8u - 4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5, c_6, c_7 c_{10}, c_{11}, c_{12}	$y^2 + y + 1$
c_3	y^2
c_8, c_9	$y^2 - 3y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$		
$a = 1.00000$	$-4.05977I$	$0. + 6.92820I$
$b = -0.500000 + 0.866025I$		
$u = 0.500000 - 0.866025I$		
$a = 1.00000$	$4.05977I$	$0. - 6.92820I$
$b = -0.500000 - 0.866025I$		

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2+u+1)(u^{24}-11u^{23}+\cdots-5u+1)$ $\cdot(u^{83}-11u^{82}+\cdots-3341u+203)$
c_2	$(u^2-u+1)(u^{24}+u^{23}+\cdots+4u+1)$ $\cdot(u^{83}+u^{82}+\cdots+2048046u+237673)$
c_3	$u^2(u^{24}-5u^{21}+\cdots-97u+31)(u^{83}+u^{82}+\cdots-15388u+2108)$
c_4	$(u^2+u+1)(u^{24}-3u^{23}+\cdots-12u+1)(u^{83}+3u^{82}+\cdots-16u+1)$
c_5	$(u^2+u+1)(u^{24}-2u^{23}+\cdots-77u+29)$ $\cdot(u^{83}-15u^{81}+\cdots-663559u+83839)$
c_6	$(u^2-u+1)(u^{24}+7u^{23}+\cdots+143u+37)$ $\cdot(u^{83}+5u^{82}+\cdots+97593u+5351)$
c_7	$(u^2-u+1)(u^{24}+u^{23}+\cdots+9u+1)(u^{83}-3u^{82}+\cdots+1495u+103)$
c_8	$(u^2+3u+3)(u^{24}-4u^{23}+\cdots-4u+1)(u^{83}+6u^{82}+\cdots+322u+29)$
c_9	$(u^2+3u+3)(u^{24}-3u^{23}+\cdots+2u+1)$ $\cdot(u^{83}-3u^{82}+\cdots+23642902u+6207563)$
c_{10}	$(u^2+u+1)(u^{24}-5u^{22}+\cdots-2u+1)$ $\cdot(u^{83}-2u^{82}+\cdots+130300u+11257)$
c_{11}	$(u^2+u+1)(u^{24}+6u^{23}+\cdots+2u+1)(u^{83}-12u^{82}+\cdots-12u+1)$
c_{12}	$(u^2+u+1)(u^{24}-u^{23}+\cdots-9u+1)(u^{83}-3u^{82}+\cdots+1495u+103)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^2+y+1)(y^{24}-7y^{23}+\cdots+19y+1)$ $\cdot(y^{83}+5y^{82}+\cdots-397351y-41209)$
c_2	$(y^2+y+1)(y^{24}+13y^{23}+\cdots-12y+1)$ $\cdot(y^{83}+93y^{82}+\cdots-1365124926432y-56488454929)$
c_3	$y^2(y^{24}+22y^{22}+\cdots-9533y+961)$ $\cdot(y^{83}+15y^{82}+\cdots-56398528y-4443664)$
c_4	$(y^2+y+1)(y^{24}-11y^{23}+\cdots-38y+1)(y^{83}-11y^{82}+\cdots+50y-1)$
c_5	$(y^2+y+1)(y^{24}-10y^{23}+\cdots+8513y+841)$ $\cdot(y^{83}-30y^{82}+\cdots+63722693959y-7028977921)$
c_6	$(y^2+y+1)(y^{24}+5y^{23}+\cdots-7203y+1369)$ $\cdot(y^{83}+97y^{82}+\cdots-743094449y-28633201)$
c_7, c_{12}	$(y^2+y+1)(y^{24}+19y^{23}+\cdots+3y+1)$ $\cdot(y^{83}+59y^{82}+\cdots-208547y-10609)$
c_8	$(y^2-3y+9)(y^{24}+14y^{22}+\cdots-6y+1)$ $\cdot(y^{83}-12y^{82}+\cdots+29850y-841)$
c_9	$(y^2-3y+9)(y^{24}+5y^{23}+\cdots-2y+1)$ $\cdot(y^{83}+53y^{82}+\cdots-759411803692702y-38533838398969)$
c_{10}	$(y^2+y+1)(y^{24}-10y^{23}+\cdots+24y+1)$ $\cdot(y^{83}-98y^{82}+\cdots+5637157808y-126720049)$
c_{11}	$(y^2+y+1)(y^{24}+2y^{23}+\cdots-16y+1)(y^{83}+22y^{82}+\cdots+68y-1)$