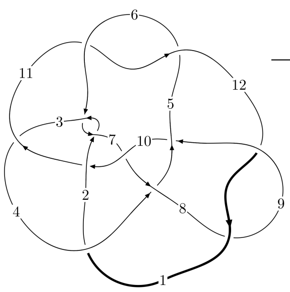
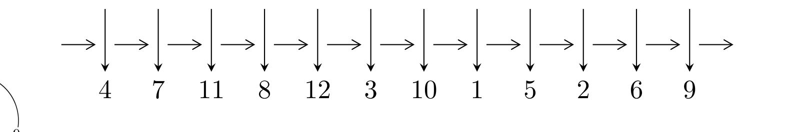
$12a_{1097}$ ($K12a_{1097}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -3102178454u^{24} - 15488927339u^{23} + \cdots + 126671695426b - 3208274034,$$
$$-109125500312u^{24} + 169518693654u^{23} + \cdots + 126671695426a + 248511754619,$$
$$u^{25} - u^{24} + \cdots - 4u - 1\rangle$$
$$I_2^u = \langle -3.64244 \times 10^{488}u^{119} - 1.96796 \times 10^{488}u^{118} + \cdots + 1.15571 \times 10^{490}b - 2.23233 \times 10^{491},$$
$$2.53470 \times 10^{491}u^{119} + 1.70055 \times 10^{491}u^{118} + \cdots + 4.31080 \times 10^{492}a + 3.08118 \times 10^{494},$$
$$u^{120} + u^{119} + \cdots + 3274u + 373\rangle$$
$$I_3^u = \langle -1.26770 \times 10^{32}u^{33} - 6.32813 \times 10^{32}u^{32} + \cdots + 1.13470 \times 10^{33}b - 1.22256 \times 10^{33},$$
$$8.99358 \times 10^{32}u^{33} + 2.58920 \times 10^{33}u^{32} + \cdots + 7.94293 \times 10^{33}a - 1.81454 \times 10^{34},\ u^{34} + 4u^{33} + \cdots + 10u +$$
$$I_4^u = \langle u^2 + b - u + 1,\ a + u,\ u^3 - u^2 + 2u - 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 182 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.
$\boldsymbol{I_1^u = \langle -3.10\times 10^9 u^{24} - 1.55\times 10^{10} u^{23} + \cdots + 1.27\times 10^{11} b - 3.21\times 10^9,\ -1.09\times 10^{11} u^{24} + 1.70\times 10^{11} u^{23} + \cdots + 1.27\times 10^{11} a + 2.49\times 10^{11},\ u^{25} - u^{24} + \cdots - 4u - 1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.861483u^{24} - 1.33825u^{23} + \cdots - 10.2790u - 1.96186 \\ 0.0244899u^{24} + 0.122276u^{23} + \cdots + 1.96923u + 0.0253275 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -1.24527u^{24} + 1.18630u^{23} + \cdots + 4.94727u + 5.83862 \\ 0.330003u^{24} - 0.336309u^{23} + \cdots - 1.60736u - 0.885973 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1.04759u^{24} + 1.71210u^{23} + \cdots + 8.80196u + 2.26840 \\ 0.0958880u^{24} - 0.387211u^{23} + \cdots - 0.961789u + 0.417723 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1.20401u^{24} - 1.61811u^{23} + \cdots - 11.3742u - 2.51518 \\ 0.0593353u^{24} + 0.0734059u^{23} + \cdots + 1.46726u - 0.465323 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.889942u^{24} + 0.849149u^{23} + \cdots - 1.21154u + 5.82056 \\ 0.166699u^{24} - 0.468616u^{23} + \cdots - 0.00571945u - 1.23391 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.885973u^{24} - 1.21598u^{23} + \cdots - 8.30975u - 1.93653 \\ 0.0244899u^{24} + 0.122276u^{23} + \cdots + 1.96923u + 0.0253275 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.417723u^{24} - 0.321835u^{23} + \cdots + 1.89594u - 2.63268 \\ -0.338923u^{24} + 0.558319u^{23} + \cdots + 0.971046u + 0.791762 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.246780u^{24} + 0.403197u^{23} + \cdots + 3.81792u - 1.58508 \\ -0.0476005u^{24} + 0.202824u^{23} + \cdots + 0.169772u + 0.695874 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{584563145 20}{63335847713}u^{24} - \frac{118830395739}{63335847713}u^{23} + \cdots - \frac{1160180780406}{63335847713}u - \frac{761638158750}{63335847713}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{25} - u^{24} + \cdots + 28u + 13$
c_2, c_6, c_8 c_{12}	$u^{25} + u^{24} + \cdots - 4u + 1$
c_3, c_9	$u^{25} - u^{24} + \cdots + 24u + 8$
c_4, c_{10}	$4(4u^{25} - 4u^{24} + \cdots + 4u + 1)$
c_5, c_{11}	$4(4u^{25} - 12u^{24} + \cdots - 344u + 40)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{25} + 21y^{24} + \cdots + 4112y - 169$
c_2, c_6, c_8 c_{12}	$y^{25} + 17y^{24} + \cdots + 20y - 1$
c_3, c_9	$y^{25} + 9y^{24} + \cdots + 256y - 64$
c_4, c_{10}	$16(16y^{25} + 336y^{24} + \cdots - 4y - 1)$
c_5, c_{11}	$16(16y^{25} + 304y^{24} + \cdots + 27776y - 1600)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.211687 + 0.985151I$ $a = 0.054135 - 1.103940I$ $b = -0.144638 + 0.502780I$	$2.32892 - 2.20108I$	$-10.08383 + 3.97912I$
$u = 0.211687 - 0.985151I$ $a = 0.054135 + 1.103940I$ $b = -0.144638 - 0.502780I$	$2.32892 + 2.20108I$	$-10.08383 - 3.97912I$
$u = 0.531651 + 0.812171I$ $a = -0.650095 - 0.103642I$ $b = -0.575312 - 0.511008I$	$1.67097 - 3.94275I$	$-14.2459 + 7.3928I$
$u = 0.531651 - 0.812171I$ $a = -0.650095 + 0.103642I$ $b = -0.575312 + 0.511008I$	$1.67097 + 3.94275I$	$-14.2459 - 7.3928I$
$u = -0.090278 + 1.083730I$ $a = 0.34542 + 2.11090I$ $b = 0.55243 - 1.97550I$	$6.61385 + 1.08919I$	$-3.90952 + 2.05372I$
$u = -0.090278 - 1.083730I$ $a = 0.34542 - 2.11090I$ $b = 0.55243 + 1.97550I$	$6.61385 - 1.08919I$	$-3.90952 - 2.05372I$
$u = -0.759076 + 0.841792I$ $a = 0.983474 - 0.029586I$ $b = 0.082128 - 0.598891I$	$4.59853 + 2.71316I$	$-3.58633 - 2.16462I$
$u = -0.759076 - 0.841792I$ $a = 0.983474 + 0.029586I$ $b = 0.082128 + 0.598891I$	$4.59853 - 2.71316I$	$-3.58633 + 2.16462I$
$u = -0.795867 + 0.037941I$ $a = -0.090425 + 0.410318I$ $b = 0.678970 + 0.915805I$	$0.07267 - 4.35672I$	$-13.6982 + 5.9671I$
$u = -0.795867 - 0.037941I$ $a = -0.090425 - 0.410318I$ $b = 0.678970 - 0.915805I$	$0.07267 + 4.35672I$	$-13.6982 - 5.9671I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.130652+1.262320I$ $a=-0.36503+2.00469I$ $b=-0.262641-1.153140I$	$11.96210+3.79673I$	$0.99019-1.08851I$
$u=-0.130652-1.262320I$ $a=-0.36503-2.00469I$ $b=-0.262641+1.153140I$	$11.96210-3.79673I$	$0.99019+1.08851I$
$u=1.283170+0.138278I$ $a=-0.1264500+0.0272136I$ $b=-0.609786-1.030790I$	$5.09693-7.29373I$	$-6.53712+7.10526I$
$u=1.283170-0.138278I$ $a=-0.1264500-0.0272136I$ $b=-0.609786+1.030790I$	$5.09693+7.29373I$	$-6.53712-7.10526I$
$u=-0.324609+1.255330I$ $a=0.174379-1.064750I$ $b=0.205309+0.235499I$	$8.79693+5.43785I$	$-7.61088-4.32634I$
$u=-0.324609-1.255330I$ $a=0.174379+1.064750I$ $b=0.205309-0.235499I$	$8.79693-5.43785I$	$-7.61088+4.32634I$
$u=-0.420644+1.280190I$ $a=-0.04988-1.77342I$ $b=-1.01226+1.62483I$	$7.8259+13.3271I$	$-5.74524-10.07551I$
$u=-0.420644-1.280190I$ $a=-0.04988+1.77342I$ $b=-1.01226-1.62483I$	$7.8259-13.3271I$	$-5.74524+10.07551I$
$u=0.50923+1.46306I$ $a=0.08105-1.50897I$ $b=1.07565+1.36286I$	$15.4595-19.6209I$	$-4.50944+9.03245I$
$u=0.50923-1.46306I$ $a=0.08105+1.50897I$ $b=1.07565-1.36286I$	$15.4595+19.6209I$	$-4.50944-9.03245I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.56756 + 1.47388I$ $a = -0.495606 + 0.843370I$ $b = -0.002290 - 1.336230I$	$14.1477 - 6.4090I$	$-0.73994 + 3.70265I$
$u = 0.56756 - 1.47388I$ $a = -0.495606 - 0.843370I$ $b = -0.002290 + 1.336230I$	$14.1477 + 6.4090I$	$-0.73994 - 3.70265I$
$u = 0.303142$ $a = -0.873492$ $b = 0.266168$	-0.553708	-17.9600
$u = -0.233731 + 0.135219I$ $a = 1.57579 - 3.69840I$ $b = -0.620642 + 0.604636I$	$3.94965 + 0.82098I$	$-7.34374 - 4.35501I$
$u = -0.233731 - 0.135219I$ $a = 1.57579 + 3.69840I$ $b = -0.620642 - 0.604636I$	$3.94965 - 0.82098I$	$-7.34374 + 4.35501I$

II. $\boldsymbol{I^u_2 = \langle -3.64 \times 10^{488} u^{119} - 1.97 \times 10^{488} u^{118} + \cdots + 1.16 \times 10^{490} b - 2.23 \times 10^{491},\ 2.53 \times 10^{491} u^{119} + 1.70 \times 10^{491} u^{118} + \cdots + 4.31 \times 10^{492} a + 3.08 \times 10^{494},\ u^{120} + u^{119} + \cdots + 3274u + 373 \rangle}$

(i) Arc colorings

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

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

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

$$a_{11} = \begin{pmatrix} -0.0587990u^{119} - 0.0394486u^{118} + \cdots - 331.889u - 71.4760 \\ 0.0315169u^{119} + 0.0170282u^{118} + \cdots + 82.3482u + 19.3157 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.00530998u^{119} - 0.0270182u^{118} + \cdots - 221.501u - 36.6777 \\ 0.0182302u^{119} + 0.0140764u^{118} + \cdots + 116.691u + 21.9513 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.160110u^{119} - 0.129560u^{118} + \cdots - 888.759u - 170.800 \\ 0.0324386u^{119} + 0.0221919u^{118} + \cdots + 236.973u + 50.2961 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0431920u^{119} - 0.0375647u^{118} + \cdots - 393.968u - 82.1957 \\ 0.0191721u^{119} + 0.0140410u^{118} + \cdots + 59.3771u + 13.7147 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.00557811u^{119} + 0.0117214u^{118} + \cdots - 16.7458u + 0.784071 \\ -0.00709475u^{119} - 0.0228846u^{118} + \cdots + 16.8580u + 7.18962 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0272820u^{119} - 0.0224204u^{118} + \cdots - 249.541u - 52.1603 \\ 0.0315169u^{119} + 0.0170282u^{118} + \cdots + 82.3482u + 19.3157 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.0200896u^{119} + 0.0432169u^{118} + \cdots + 49.2589u - 5.99909 \\ -0.00989759u^{119} - 0.0141728u^{118} + \cdots - 7.10394u - 1.44063 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0982715u^{119} + 0.0637556u^{118} + \cdots + 617.329u + 129.828 \\ -0.00409398u^{119} - 0.00734538u^{118} + \cdots - 21.4414u - 3.91955 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0416181u^{119} + 0.115712u^{118} + \cdots + 275.820u + 38.7552$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{120} - 11u^{119} + \cdots - 7076832991u + 1201214753$
c_2, c_6, c_8 c_{12}	$u^{120} - u^{119} + \cdots - 3274u + 373$
c_3, c_9	$u^{120} - u^{119} + \cdots + 40633750u + 2972977$
c_4, c_{10}	$u^{120} + 5u^{119} + \cdots - 257509u + 235151$
c_5, c_{11}	$(u^{60} + 6u^{59} + \cdots + 58u + 13)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{120} + 55y^{119} + \cdots + 4.74 \times 10^{19}y + 1.44 \times 10^{18}$
c_2, c_6, c_8 c_{12}	$y^{120} + 89y^{119} + \cdots - 413086y + 139129$
c_3, c_9	$y^{120} + 71y^{119} + \cdots + 487658353656878y + 8838592242529$
c_4, c_{10}	$y^{120} + 71y^{119} + \cdots + 3045613958149y + 55295992801$
c_5, c_{11}	$(y^{60} + 38y^{59} + \cdots - 2298y + 169)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.176278 + 1.003150I$ $a = -0.26302 + 1.69210I$ $b = 0.702847 - 0.582113I$	$-0.45517 + 1.61974I$	0
$u = -0.176278 - 1.003150I$ $a = -0.26302 - 1.69210I$ $b = 0.702847 + 0.582113I$	$-0.45517 - 1.61974I$	0
$u = 0.668703 + 0.773478I$ $a = -1.38571 + 0.91884I$ $b = -1.082060 + 0.140425I$	$2.66044 - 2.58613I$	0
$u = 0.668703 - 0.773478I$ $a = -1.38571 - 0.91884I$ $b = -1.082060 - 0.140425I$	$2.66044 + 2.58613I$	0
$u = 0.109634 + 1.023630I$ $a = -0.33741 + 5.27176I$ $b = -0.63155 - 5.30275I$	6.56424	0
$u = 0.109634 - 1.023630I$ $a = -0.33741 - 5.27176I$ $b = -0.63155 + 5.30275I$	6.56424	0
$u = -0.333875 + 0.882085I$ $a = 0.39883 + 1.37895I$ $b = 1.152120 - 0.113139I$	$-1.10643 + 1.49905I$	0
$u = -0.333875 - 0.882085I$ $a = 0.39883 - 1.37895I$ $b = 1.152120 + 0.113139I$	$-1.10643 - 1.49905I$	0
$u = -0.982492 + 0.426289I$ $a = 0.0810181 - 0.1157020I$ $b = -0.598200 + 0.684462I$	$3.68720 + 3.23259I$	0
$u = -0.982492 - 0.426289I$ $a = 0.0810181 + 0.1157020I$ $b = -0.598200 - 0.684462I$	$3.68720 - 3.23259I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.369669 + 1.016010I$ $a = 0.952924 + 0.891255I$ $b = -0.494773 - 0.424758I$	$4.55693 + 1.81266I$	0
$u = -0.369669 - 1.016010I$ $a = 0.952924 - 0.891255I$ $b = -0.494773 + 0.424758I$	$4.55693 - 1.81266I$	0
$u = -0.177852 + 1.071520I$ $a = 0.49349 - 2.16617I$ $b = -0.548919 + 0.678340I$	$4.36703 + 6.35969I$	0
$u = -0.177852 - 1.071520I$ $a = 0.49349 + 2.16617I$ $b = -0.548919 - 0.678340I$	$4.36703 - 6.35969I$	0
$u = -0.907570 + 0.044954I$ $a = 0.263905 - 0.230766I$ $b = -0.690296 - 0.984161I$	$3.94962 - 8.58069I$	0
$u = -0.907570 - 0.044954I$ $a = 0.263905 + 0.230766I$ $b = -0.690296 + 0.984161I$	$3.94962 + 8.58069I$	0
$u = 0.889684 + 0.126509I$ $a = -0.272775 - 0.158542I$ $b = -0.561692 + 0.349545I$	$-1.90732 + 0.96795I$	0
$u = 0.889684 - 0.126509I$ $a = -0.272775 + 0.158542I$ $b = -0.561692 - 0.349545I$	$-1.90732 - 0.96795I$	0
$u = -0.739097 + 0.452145I$ $a = -0.065041 + 0.389516I$ $b = 0.953305 - 0.774577I$	$6.35339 + 3.89468I$	0
$u = -0.739097 - 0.452145I$ $a = -0.065041 - 0.389516I$ $b = 0.953305 + 0.774577I$	$6.35339 - 3.89468I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.358267 + 1.083930I$ $a = 0.60263 - 2.41653I$ $b = 0.594241 + 0.396300I$	$9.77900 - 9.75690I$	0
$u = 0.358267 - 1.083930I$ $a = 0.60263 + 2.41653I$ $b = 0.594241 - 0.396300I$	$9.77900 + 9.75690I$	0
$u = 0.839850 + 0.176934I$ $a = 0.012982 + 0.295674I$ $b = 0.674555 + 0.059784I$	$-0.45517 - 1.61974I$	0
$u = 0.839850 - 0.176934I$ $a = 0.012982 - 0.295674I$ $b = 0.674555 - 0.059784I$	$-0.45517 + 1.61974I$	0
$u = -0.246958 + 0.808765I$ $a = 0.620936 - 1.199770I$ $b = -0.810037 + 0.310511I$	$2.63550 - 2.44024I$	0
$u = -0.246958 - 0.808765I$ $a = 0.620936 + 1.199770I$ $b = -0.810037 - 0.310511I$	$2.63550 + 2.44024I$	0
$u = -0.027998 + 1.185840I$ $a = 0.907181 + 0.669202I$ $b = -1.98408 - 0.46062I$	$6.84022 - 0.18821I$	0
$u = -0.027998 - 1.185840I$ $a = 0.907181 - 0.669202I$ $b = -1.98408 + 0.46062I$	$6.84022 + 0.18821I$	0
$u = 0.726256 + 0.351007I$ $a = 1.289320 + 0.319498I$ $b = 0.991531 - 0.524952I$	$7.61643 + 5.63059I$	0
$u = 0.726256 - 0.351007I$ $a = 1.289320 - 0.319498I$ $b = 0.991531 + 0.524952I$	$7.61643 - 5.63059I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.187870 + 0.114986I$ $a = -0.103231 + 0.124022I$ $b = 0.317569 - 0.956913I$	$9.31651 + 3.72518I$	0
$u = -1.187870 - 0.114986I$ $a = -0.103231 - 0.124022I$ $b = 0.317569 + 0.956913I$	$9.31651 - 3.72518I$	0
$u = -0.051145 + 1.193110I$ $a = 1.022770 + 0.623977I$ $b = 0.768749 - 0.460343I$	$6.35339 + 3.89468I$	0
$u = -0.051145 - 1.193110I$ $a = 1.022770 - 0.623977I$ $b = 0.768749 + 0.460343I$	$6.35339 - 3.89468I$	0
$u = 1.204050 + 0.043115I$ $a = 0.251057 - 0.053187I$ $b = 0.628299 + 1.077040I$	$9.59442 - 0.08130I$	0
$u = 1.204050 - 0.043115I$ $a = 0.251057 + 0.053187I$ $b = 0.628299 - 1.077040I$	$9.59442 + 0.08130I$	0
$u = 0.001071 + 1.211090I$ $a = -1.61401 - 1.61052I$ $b = -0.374800 + 0.609659I$	$12.5974 + 7.9743I$	0
$u = 0.001071 - 1.211090I$ $a = -1.61401 + 1.61052I$ $b = -0.374800 - 0.609659I$	$12.5974 - 7.9743I$	0
$u = 0.259400 + 1.210870I$ $a = 1.09120 - 1.20780I$ $b = 0.354610 + 0.770780I$	$8.15494 - 5.72051I$	0
$u = 0.259400 - 1.210870I$ $a = 1.09120 + 1.20780I$ $b = 0.354610 - 0.770780I$	$8.15494 + 5.72051I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.235330 + 0.186358I$ $a = 0.0735251 - 0.0756817I$ $b = 0.682199 + 1.003610I$	$10.2333 - 13.5581I$	0
$u = 1.235330 - 0.186358I$ $a = 0.0735251 + 0.0756817I$ $b = 0.682199 - 1.003610I$	$10.2333 + 13.5581I$	0
$u = 0.322888 + 1.213660I$ $a = 0.036213 - 1.280870I$ $b = 0.284724 + 0.891677I$	$2.63550 - 2.44024I$	0
$u = 0.322888 - 1.213660I$ $a = 0.036213 + 1.280870I$ $b = 0.284724 - 0.891677I$	$2.63550 + 2.44024I$	0
$u = -0.116284 + 1.252440I$ $a = 0.61299 - 1.76585I$ $b = 0.177748 + 0.791027I$	$8.04886 + 2.24498I$	0
$u = -0.116284 - 1.252440I$ $a = 0.61299 + 1.76585I$ $b = 0.177748 - 0.791027I$	$8.04886 - 2.24498I$	0
$u = -0.221334 + 1.239270I$ $a = -0.598567 - 1.051570I$ $b = -0.140914 + 0.987940I$	$4.28902 - 0.81320I$	0
$u = -0.221334 - 1.239270I$ $a = -0.598567 + 1.051570I$ $b = -0.140914 - 0.987940I$	$4.28902 + 0.81320I$	0
$u = 0.234651 + 1.254290I$ $a = -0.15584 - 1.79885I$ $b = 0.86984 + 1.77853I$	$4.23041 - 2.90929I$	0
$u = 0.234651 - 1.254290I$ $a = -0.15584 + 1.79885I$ $b = 0.86984 - 1.77853I$	$4.23041 + 2.90929I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.510980 + 0.507008I$ $a = 0.282339 - 0.343044I$ $b = -1.184830 + 0.020121I$	$1.54983 + 5.59559I$	$-11.4093 - 9.5168I$
$u = -0.510980 - 0.507008I$ $a = 0.282339 + 0.343044I$ $b = -1.184830 - 0.020121I$	$1.54983 - 5.59559I$	$-11.4093 + 9.5168I$
$u = 0.410538 + 1.224760I$ $a = -0.20877 + 1.45788I$ $b = -0.626455 - 0.761944I$	$1.54983 - 5.59559I$	0
$u = 0.410538 - 1.224760I$ $a = -0.20877 - 1.45788I$ $b = -0.626455 + 0.761944I$	$1.54983 + 5.59559I$	0
$u = -0.026828 + 1.293420I$ $a = -0.48040 - 1.72666I$ $b = 1.23127 + 1.35058I$	$12.17540 - 1.45489I$	0
$u = -0.026828 - 1.293420I$ $a = -0.48040 + 1.72666I$ $b = 1.23127 - 1.35058I$	$12.17540 + 1.45489I$	0
$u = -0.087316 + 1.306490I$ $a = -0.88730 + 1.57846I$ $b = -0.017811 - 0.658565I$	$12.17540 + 1.45489I$	0
$u = -0.087316 - 1.306490I$ $a = -0.88730 - 1.57846I$ $b = -0.017811 + 0.658565I$	$12.17540 - 1.45489I$	0
$u = 0.466149 + 1.229610I$ $a = -0.337611 + 0.820388I$ $b = -0.686404 - 0.707875I$	$2.28986 - 4.46331I$	0
$u = 0.466149 - 1.229610I$ $a = -0.337611 - 0.820388I$ $b = -0.686404 + 0.707875I$	$2.28986 + 4.46331I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.107992 + 1.313110I$ $a = -0.92179 + 1.26531I$ $b = 1.69594 - 1.45548I$	$14.2470 - 9.6079I$	0
$u = 0.107992 - 1.313110I$ $a = -0.92179 - 1.26531I$ $b = 1.69594 + 1.45548I$	$14.2470 + 9.6079I$	0
$u = -0.367619 + 1.275400I$ $a = -0.00263 + 1.75334I$ $b = 1.10339 - 1.54209I$	$3.94962 + 8.58069I$	0
$u = -0.367619 - 1.275400I$ $a = -0.00263 - 1.75334I$ $b = 1.10339 + 1.54209I$	$3.94962 - 8.58069I$	0
$u = -0.292279 + 1.296470I$ $a = -0.03064 - 1.73167I$ $b = -1.06249 + 1.34745I$	$8.55784 + 4.02774I$	0
$u = -0.292279 - 1.296470I$ $a = -0.03064 + 1.73167I$ $b = -1.06249 - 1.34745I$	$8.55784 - 4.02774I$	0
$u = -0.368618 + 0.550927I$ $a = -1.90762 + 1.20740I$ $b = 1.199840 - 0.119486I$	$6.84022 + 0.18821I$	$-6.49782 + 0.44070I$
$u = -0.368618 - 0.550927I$ $a = -1.90762 - 1.20740I$ $b = 1.199840 + 0.119486I$	$6.84022 - 0.18821I$	$-6.49782 - 0.44070I$
$u = -0.420287 + 0.511386I$ $a = -0.055452 + 0.560232I$ $b = 1.072910 + 0.178946I$	$-1.90732 + 0.96795I$	$-12.6888 - 7.3089I$
$u = -0.420287 - 0.511386I$ $a = -0.055452 - 0.560232I$ $b = 1.072910 - 0.178946I$	$-1.90732 - 0.96795I$	$-12.6888 + 7.3089I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.084057 + 1.359270I$ $a = 0.75428 - 1.19759I$ $b = -1.54353 + 1.46157I$	$9.31651 - 3.72518I$	0
$u = 0.084057 - 1.359270I$ $a = 0.75428 + 1.19759I$ $b = -1.54353 - 1.46157I$	$9.31651 + 3.72518I$	0
$u = 1.319240 + 0.347086I$ $a = 0.014559 + 0.179753I$ $b = -0.019197 + 0.232157I$	$-1.10643 - 1.49905I$	0
$u = 1.319240 - 0.347086I$ $a = 0.014559 - 0.179753I$ $b = -0.019197 - 0.232157I$	$-1.10643 + 1.49905I$	0
$u = -0.602231 + 0.187253I$ $a = 0.65282 - 1.57560I$ $b = -0.530286 - 0.309338I$	$4.55693 + 1.81266I$	$-10.23887 - 3.85340I$
$u = -0.602231 - 0.187253I$ $a = 0.65282 + 1.57560I$ $b = -0.530286 + 0.309338I$	$4.55693 - 1.81266I$	$-10.23887 + 3.85340I$
$u = 0.178252 + 1.383970I$ $a = 0.53018 + 1.49720I$ $b = -1.20877 - 1.41432I$	$8.15494 - 5.72051I$	0
$u = 0.178252 - 1.383970I$ $a = 0.53018 - 1.49720I$ $b = -1.20877 + 1.41432I$	$8.15494 + 5.72051I$	0
$u = -0.321741 + 1.370860I$ $a = 0.672543 + 0.754862I$ $b = 0.068428 - 0.834427I$	$8.55784 - 4.02774I$	0
$u = -0.321741 - 1.370860I$ $a = 0.672543 - 0.754862I$ $b = 0.068428 + 0.834427I$	$8.55784 + 4.02774I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.562722 + 0.173882I$		
$a = -0.382918 + 0.811402I$	0.0322866	$-14.4116 + 0.I$
$b = 0.401456 + 0.643541I$		
$u = 0.562722 - 0.173882I$		
$a = -0.382918 - 0.811402I$	0.0322866	$-14.4116 + 0.I$
$b = 0.401456 - 0.643541I$		
$u = 0.135642 + 1.405890I$		
$a = -0.718454 + 0.962174I$	$13.56410 + 2.81403I$	0
$b = 1.39554 - 1.24527I$		
$u = 0.135642 - 1.405890I$		
$a = -0.718454 - 0.962174I$	$13.56410 - 2.81403I$	0
$b = 1.39554 + 1.24527I$		
$u = 0.43667 + 1.35342I$		
$a = -0.161677 - 1.000140I$	$4.36703 - 6.35969I$	0
$b = 0.964347 + 0.876399I$		
$u = 0.43667 - 1.35342I$		
$a = -0.161677 + 1.000140I$	$4.36703 + 6.35969I$	0
$b = 0.964347 - 0.876399I$		
$u = 0.546337 + 0.150299I$		
$a = 1.43208 + 0.34210I$	$4.23041 - 2.90929I$	$-7.65574 + 4.38595I$
$b = -0.394330 + 1.050910I$		
$u = 0.546337 - 0.150299I$		
$a = 1.43208 - 0.34210I$	$4.23041 + 2.90929I$	$-7.65574 - 4.38595I$
$b = -0.394330 - 1.050910I$		
$u = -0.533272 + 0.106929I$		
$a = -0.726783 + 0.418703I$	$4.28902 + 0.81320I$	$-6.84059 - 3.44170I$
$b = -0.542752 + 0.957663I$		
$u = -0.533272 - 0.106929I$		
$a = -0.726783 - 0.418703I$	$4.28902 - 0.81320I$	$-6.84059 + 3.44170I$
$b = -0.542752 - 0.957663I$		

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.50137 + 1.42810I$ $a = 0.22487 + 1.45201I$ $b = 0.66035 - 1.40498I$	$14.2470 + 9.6079I$	0
$u = -0.50137 - 1.42810I$ $a = 0.22487 - 1.45201I$ $b = 0.66035 + 1.40498I$	$14.2470 - 9.6079I$	0
$u = 0.54952 + 1.42526I$ $a = 0.28606 - 1.42124I$ $b = 1.08934 + 1.23901I$	$14.2455 - 6.2396I$	0
$u = 0.54952 - 1.42526I$ $a = 0.28606 + 1.42124I$ $b = 1.08934 - 1.23901I$	$14.2455 + 6.2396I$	0
$u = -0.42935 + 1.46747I$ $a = 0.05138 - 1.42612I$ $b = -0.86569 + 1.29089I$	$9.55514 + 8.37100I$	0
$u = -0.42935 - 1.46747I$ $a = 0.05138 + 1.42612I$ $b = -0.86569 - 1.29089I$	$9.55514 - 8.37100I$	0
$u = -0.33933 + 1.49221I$ $a = -0.33204 + 1.57954I$ $b = 1.07078 - 1.32636I$	$12.5974 + 7.9743I$	0
$u = -0.33933 - 1.49221I$ $a = -0.33204 - 1.57954I$ $b = 1.07078 + 1.32636I$	$12.5974 - 7.9743I$	0
$u = 0.52512 + 1.46653I$ $a = -0.13016 + 1.42578I$ $b = -1.08764 - 1.33570I$	$10.2333 - 13.5581I$	0
$u = 0.52512 - 1.46653I$ $a = -0.13016 - 1.42578I$ $b = -1.08764 + 1.33570I$	$10.2333 + 13.5581I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.58916+1.44525I$ $a=-0.482233-0.888641I$ $b=-0.315692+0.988998I$	$13.56410+2.81403I$	0
$u=-0.58916-1.44525I$ $a=-0.482233+0.888641I$ $b=-0.315692-0.988998I$	$13.56410-2.81403I$	0
$u=-0.156662+0.381632I$ $a=-1.318340-0.199824I$ $b=-0.994983-0.538798I$	$2.28986-4.46331I$	$-13.54848-2.38688I$
$u=-0.156662-0.381632I$ $a=-1.318340+0.199824I$ $b=-0.994983+0.538798I$	$2.28986+4.46331I$	$-13.54848+2.38688I$
$u=-0.099408+0.344856I$ $a=-3.93423+2.15008I$ $b=-0.273283+0.641463I$	$3.68720-3.23259I$	$-8.57639+0.86367I$
$u=-0.099408-0.344856I$ $a=-3.93423-2.15008I$ $b=-0.273283-0.641463I$	$3.68720+3.23259I$	$-8.57639-0.86367I$
$u=\ \ 0.61596+1.56625I$ $a=\ \ 0.358532-0.694252I$ $b=\ \ 0.159081+1.150580I$	$9.59442+0.08130I$	0
$u=\ \ 0.61596-1.56625I$ $a=\ \ 0.358532+0.694252I$ $b=\ \ 0.159081-1.150580I$	$9.59442-0.08130I$	0
$u=-0.44050+1.62570I$ $a=\ \ 0.296034-0.959490I$ $b=-0.947266+0.887890I$	$9.77900+9.75690I$	0
$u=-0.44050-1.62570I$ $a=\ \ 0.296034+0.959490I$ $b=-0.947266-0.887890I$	$9.77900-9.75690I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.59552+1.58631I$ $a=0.081772+0.797386I$ $b=0.609949-0.840431I$	$7.61643+5.63059I$	0
$u=-0.59552-1.58631I$ $a=0.081772-0.797386I$ $b=0.609949+0.840431I$	$7.61643-5.63059I$	0
$u=0.71220+1.56274I$ $a=-0.411575+0.527033I$ $b=-0.054412-0.972081I$	$14.2455+6.2396I$	0
$u=0.71220-1.56274I$ $a=-0.411575-0.527033I$ $b=-0.054412+0.972081I$	$14.2455-6.2396I$	0
$u=-1.70848+0.30086I$ $a=0.0273666-0.0484215I$ $b=-0.126892+0.538178I$	$2.66044+2.58613I$	0
$u=-1.70848-0.30086I$ $a=0.0273666+0.0484215I$ $b=-0.126892-0.538178I$	$2.66044-2.58613I$	0
$u=0.182838+0.191283I$ $a=5.65215+1.56451I$ $b=0.561663-0.789668I$	$9.55514-8.37100I$	$-7.19441+2.95709I$
$u=0.182838-0.191283I$ $a=5.65215-1.56451I$ $b=0.561663+0.789668I$	$9.55514+8.37100I$	$-7.19441-2.95709I$
$u=-0.253635+0.005888I$ $a=0.16209-3.79438I$ $b=0.463401+1.070820I$	$8.04886-2.24498I$	$2.89013+0.81084I$
$u=-0.253635-0.005888I$ $a=0.16209+3.79438I$ $b=0.463401-1.070820I$	$8.04886+2.24498I$	$2.89013-0.81084I$

III. $I_3^u = \langle -1.27\times10^{32}u^{33} - 6.33\times10^{32}u^{32} + \cdots + 1.13\times10^{33}b - 1.22\times10^{33},\ 8.99\times10^{32}u^{33} + 2.59\times10^{33}u^{32} + \cdots + 7.94\times10^{33}a - 1.81\times10^{34},\ u^{34} + 4u^{33} + \cdots + 10u + 7\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_7 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-0.113227u^{33} - 0.325975u^{32} + \cdots + 5.78776u + 2.28447\\ 0.111720u^{33} + 0.557690u^{32} + \cdots + 0.856688u + 1.07742\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-0.114547u^{33} - 0.658603u^{32} + \cdots - 2.86982u + 0.759352\\ -0.0602019u^{33} - 0.0962396u^{32} + \cdots + 0.526391u + 1.75711\end{pmatrix}$$
$$a_1 = \begin{pmatrix}0.565117u^{33} + 2.32758u^{32} + \cdots + 7.38638u + 0.651814\\ 0.168583u^{33} + 0.611282u^{32} + \cdots + 3.52947u - 0.296108\end{pmatrix}$$
$$a_6 = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0.00527349u^{33} + 0.145841u^{32} + \cdots + 5.46296u + 1.68028\\ 0.137611u^{33} + 0.660271u^{32} + \cdots - 0.275746u + 0.488551\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-0.265154u^{33} - 1.05878u^{32} + \cdots + 3.68551u + 3.35256\\ 0.00230147u^{33} + 0.0964240u^{32} + \cdots + 5.31222u + 1.30808\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-0.00150704u^{33} + 0.231715u^{32} + \cdots + 6.64445u + 3.36189\\ 0.111720u^{33} + 0.557690u^{32} + \cdots + 0.856688u + 1.07742\end{pmatrix}$$
$$a_8 = \begin{pmatrix}0.198698u^{33} + 0.696739u^{32} + \cdots - 12.8673u - 6.17754\\ -0.182505u^{33} - 0.773985u^{32} + \cdots - 4.39149u - 0.844624\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-0.0195368u^{33} + 0.210586u^{32} + \cdots - 2.65608u + 1.48406\\ 0.0313226u^{33} + 0.152659u^{32} + \cdots + 2.75030u + 2.52166\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -0.985932u^{33} - 3.78082u^{32} + \cdots - 10.9183u + 4.21228$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{34} - 4u^{33} + \cdots + 159u + 119$
c_2, c_8	$u^{34} + 4u^{33} + \cdots + 10u + 7$
c_3, c_9	$u^{34} + 10u^{32} + \cdots - 272u + 136$
c_4, c_{10}	$68(68u^{34} + 136u^{33} + \cdots + u + 1)$
c_5, c_{11}	$68(68u^{34} + 1472u^{32} + \cdots + 9742u^2 + 569)$
c_6, c_{12}	$u^{34} - 4u^{33} + \cdots - 10u + 7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{34} + 12y^{33} + \cdots + 154409y + 14161$
c_2, c_6, c_8 c_{12}	$y^{34} + 18y^{33} + \cdots + 866y + 49$
c_3, c_9	$y^{34} + 20y^{33} + \cdots + 580992y + 18496$
c_4, c_{10}	$4624(4624y^{34} + 12512y^{33} + \cdots + 45y + 1)$
c_5, c_{11}	$4624(68y^{17} + 1472y^{16} + \cdots + 9742y + 569)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.279146 + 0.955951I$ $a = 1.90621 - 1.87545I$ $b = -0.131148 + 0.660855I$	$10.55050 - 9.11260I$	$-1.11963 + 6.52496I$
$u = 0.279146 - 0.955951I$ $a = 1.90621 + 1.87545I$ $b = -0.131148 - 0.660855I$	$10.55050 + 9.11260I$	$-1.11963 - 6.52496I$
$u = -0.593710 + 0.821733I$ $a = 1.47281 + 1.09599I$ $b = 0.981736 + 0.011259I$	$2.41238 + 2.35691I$	$-17.3898 + 5.2155I$
$u = -0.593710 - 0.821733I$ $a = 1.47281 - 1.09599I$ $b = 0.981736 - 0.011259I$	$2.41238 - 2.35691I$	$-17.3898 - 5.2155I$
$u = 0.343978 + 0.900440I$ $a = -0.294188 + 1.352930I$ $b = -1.232430 - 0.094462I$	$-0.98061 - 1.49267I$	$23.0743 - 0.6160I$
$u = 0.343978 - 0.900440I$ $a = -0.294188 - 1.352930I$ $b = -1.232430 + 0.094462I$	$-0.98061 + 1.49267I$	$23.0743 + 0.6160I$
$u = -0.306899 + 1.095080I$ $a = -1.13557 - 1.08940I$ $b = 0.594073 + 1.163390I$	$4.94935 + 0.89260I$	$-5.81523 + 1.42063I$
$u = -0.306899 - 1.095080I$ $a = -1.13557 + 1.08940I$ $b = 0.594073 - 1.163390I$	$4.94935 - 0.89260I$	$-5.81523 - 1.42063I$
$u = -0.989294 + 0.605595I$ $a = -0.0155157 + 0.0835609I$ $b = 0.654990 - 0.644786I$	$3.81228 + 4.06379I$	$-7.84851 - 10.27207I$
$u = -0.989294 - 0.605595I$ $a = -0.0155157 - 0.0835609I$ $b = 0.654990 + 0.644786I$	$3.81228 - 4.06379I$	$-7.84851 + 10.27207I$

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.354624 + 0.653162I$ $a = -2.46500 - 0.10060I$ $b = -0.269932 - 0.586777I$	$3.81228 - 4.06379I$	$-7.84851 + 10.27207I$
$u = \ \ 0.354624 - 0.653162I$ $a = -2.46500 + 0.10060I$ $b = -0.269932 + 0.586777I$	$3.81228 + 4.06379I$	$-7.84851 - 10.27207I$
$u = -0.691845 + 0.086261I$ $a = -0.060198 - 0.728424I$ $b = -0.625518 + 0.856147I$	$7.27964 + 2.76701I$	$-6.07911 - 3.96251I$
$u = -0.691845 - 0.086261I$ $a = -0.060198 + 0.728424I$ $b = -0.625518 - 0.856147I$	$7.27964 - 2.76701I$	$-6.07911 + 3.96251I$
$u = -0.075854 + 1.321820I$ $a = \ \ 0.366840 - 0.801091I$ $b = \ \ 0.604903 + 0.571060I$	$7.27964 + 2.76701I$	$-6.07911 - 3.96251I$
$u = -0.075854 - 1.321820I$ $a = \ \ 0.366840 + 0.801091I$ $b = \ \ 0.604903 - 0.571060I$	$7.27964 - 2.76701I$	$-6.07911 + 3.96251I$
$u = -0.141564 + 1.316630I$ $a = \ \ 0.22064 + 1.65081I$ $b = -0.433215 - 1.164250I$	11.5292	$-6 - 1.314595 + 0.10I$
$u = -0.141564 - 1.316630I$ $a = \ \ 0.22064 - 1.65081I$ $b = -0.433215 + 1.164250I$	11.5292	$-6 - 1.314595 + 0.10I$
$u = \ \ 0.118646 + 1.325500I$ $a = -0.574016 - 0.251782I$ $b = -0.559703 - 0.248060I$	$12.11980 + 6.93734I$	$-3.36551 - 3.27150I$
$u = \ \ 0.118646 - 1.325500I$ $a = -0.574016 + 0.251782I$ $b = -0.559703 + 0.248060I$	$12.11980 - 6.93734I$	$-3.36551 + 3.27150I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.503608 + 1.244920I$ $a = -0.386127 + 0.913401I$ $b = -0.590167 - 0.765565I$	$2.61769 - 4.83354I$	$-2.88744 + 9.00278I$
$u = 0.503608 - 1.244920I$ $a = -0.386127 - 0.913401I$ $b = -0.590167 + 0.765565I$	$2.61769 + 4.83354I$	$-2.88744 - 9.00278I$
$u = 1.38107 + 0.34886I$ $a = 0.0250048 + 0.0273904I$ $b = -0.020337 + 0.396343I$	$-0.98061 - 1.49267I$	$23.0743 - 0.6160I$
$u = 1.38107 - 0.34886I$ $a = 0.0250048 - 0.0273904I$ $b = -0.020337 - 0.396343I$	$-0.98061 + 1.49267I$	$23.0743 + 0.6160I$
$u = -0.39794 + 1.40404I$ $a = 0.00217 - 1.63828I$ $b = -0.84215 + 1.19906I$	$12.11980 + 6.93734I$	$-3.36551 - 3.27150I$
$u = -0.39794 - 1.40404I$ $a = 0.00217 + 1.63828I$ $b = -0.84215 - 1.19906I$	$12.11980 - 6.93734I$	$-3.36551 + 3.27150I$
$u = -0.059587 + 0.533224I$ $a = 0.076841 - 0.954083I$ $b = 1.049650 - 0.367339I$	$2.61769 + 4.83354I$	$-2.88744 - 9.00278I$
$u = -0.059587 - 0.533224I$ $a = 0.076841 + 0.954083I$ $b = 1.049650 + 0.367339I$	$2.61769 - 4.83354I$	$-2.88744 + 9.00278I$
$u = 0.239828 + 0.374110I$ $a = -2.68633 - 0.65658I$ $b = 0.820885 - 0.880167I$	$4.94935 - 0.89260I$	$-5.81523 - 1.42063I$
$u = 0.239828 - 0.374110I$ $a = -2.68633 + 0.65658I$ $b = 0.820885 + 0.880167I$	$4.94935 + 0.89260I$	$-5.81523 + 1.42063I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.40691 + 1.53091I$ $a = -0.218047 + 1.281380I$ $b = 0.94449 - 1.22938I$	$10.55050 + 9.11260I$	0
$u = -0.40691 - 1.53091I$ $a = -0.218047 - 1.281380I$ $b = 0.94449 + 1.22938I$	$10.55050 - 9.11260I$	0
$u = -1.55731 + 0.43444I$ $a = -0.164089 + 0.243091I$ $b = 0.053877 + 0.238446I$	$2.41238 + 2.35691I$	0
$u = -1.55731 - 0.43444I$ $a = -0.164089 - 0.243091I$ $b = 0.053877 - 0.238446I$	$2.41238 - 2.35691I$	0

IV. $\boldsymbol{I_4^u = \langle u^2 + b - u + 1,\ a + u,\ u^3 - u^2 + 2u - 1\rangle}$

(i) Arc colorings

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

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

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

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

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

$$a_1 = \begin{pmatrix} 0 \\ -u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u^2 - u + 1 \end{pmatrix}$$

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

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

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

$$a_8 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1 \\ -u^2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8u^2 + 8u - 20$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.215080 + 1.307140I$ $a = -0.215080 - 1.307140I$ $b = 0.877439 + 0.744862I$	$6.04826 - 5.65624I$	$-4.98049 + 5.95889I$
$u = 0.215080 - 1.307140I$ $a = -0.215080 + 1.307140I$ $b = 0.877439 - 0.744862I$	$6.04826 + 5.65624I$	$-4.98049 - 5.95889I$
$u = 0.569840$ $a = -0.569840$ $b = -0.754878$	-2.22691	-18.0390

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7	$(u^3+u^2-1)(u^{25}-u^{24}+\cdots+28u+13)(u^{34}-4u^{33}+\cdots+159u+119)$ $\cdot(u^{120}-11u^{119}+\cdots-7076832991u+1201214753)$
c_2, c_8	$(u^3-u^2+2u-1)(u^{25}+u^{24}+\cdots-4u+1)(u^{34}+4u^{33}+\cdots+10u+7)$ $\cdot(u^{120}-u^{119}+\cdots-3274u+373)$
c_3, c_9	$(u^3+u^2+2u+1)(u^{25}-u^{24}+\cdots+24u+8)$ $\cdot(u^{34}+10u^{32}+\cdots-272u+136)$ $\cdot(u^{120}-u^{119}+\cdots+40633750u+2972977)$
c_4, c_{10}	$272(u^3+u^2-1)(4u^{25}-4u^{24}+\cdots+4u+1)$ $\cdot(68u^{34}+136u^{33}+\cdots+u+1)$ $\cdot(u^{120}+5u^{119}+\cdots-257509u+235151)$
c_5, c_{11}	$272u^3(4u^{25}-12u^{24}+\cdots-344u+40)$ $\cdot(68u^{34}+1472u^{32}+\cdots+9742u^2+569)$ $\cdot(u^{60}+6u^{59}+\cdots+58u+13)^2$
c_6, c_{12}	$(u^3+u^2+2u+1)(u^{25}+u^{24}+\cdots-4u+1)(u^{34}-4u^{33}+\cdots-10u+7)$ $\cdot(u^{120}-u^{119}+\cdots-3274u+373)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$(y^3 - y^2 + 2y - 1)(y^{25} + 21y^{24} + \cdots + 4112y - 169)$ $\cdot\, (y^{34} + 12y^{33} + \cdots + 154409y + 14161)$ $\cdot\, (y^{120} + 55y^{119} + \cdots + 4.74 \times 10^{19} y + 1.44 \times 10^{18})$
c_2, c_6, c_8 c_{12}	$(y^3 + 3y^2 + 2y - 1)(y^{25} + 17y^{24} + \cdots + 20y - 1)$ $\cdot\, (y^{34} + 18y^{33} + \cdots + 866y + 49)$ $\cdot\, (y^{120} + 89y^{119} + \cdots - 413086y + 139129)$
c_3, c_9	$(y^3 + 3y^2 + 2y - 1)(y^{25} + 9y^{24} + \cdots + 256y - 64)$ $\cdot\, (y^{34} + 20y^{33} + \cdots + 580992y + 18496)$ $\cdot\, (y^{120} + 71y^{119} + \cdots + 487658353656878y + 8838592242529)$
c_4, c_{10}	$73984(y^3 - y^2 + 2y - 1)(16y^{25} + 336y^{24} + \cdots - 4y - 1)$ $\cdot\, (4624y^{34} + 12512y^{33} + \cdots + 45y + 1)$ $\cdot\, (y^{120} + 71y^{119} + \cdots + 3045613958149y + 55295992801)$
c_5, c_{11}	$73984y^3(68y^{17} + 1472y^{16} + \cdots + 9742y + 569)^2$ $\cdot\, (16y^{25} + 304y^{24} + \cdots + 27776y - 1600)$ $\cdot\, (y^{60} + 38y^{59} + \cdots - 2298y + 169)^2$