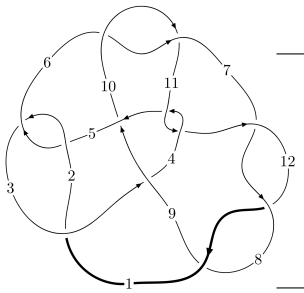
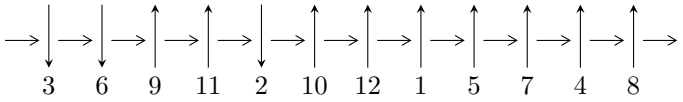
$12a_{0394}$ $(K12a_{0394})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -2.00278 \times 10^{313} u^{114} + 8.20350 \times 10^{313} u^{113} + \cdots + 2.57348 \times 10^{314} b + 1.42070 \times 10^{315}, \\ & 8.24259 \times 10^{314} u^{114} - 1.69226 \times 10^{315} u^{113} + \cdots + 2.57348 \times 10^{314} a - 9.87325 \times 10^{315}, \\ & u^{115} - 2u^{114} + \cdots - 28u + 1 \rangle \\ I_2^u = \langle & u^{24} - 14u^{22} + \cdots + b + 2,\ u^{24} + u^{23} + \cdots + a + u,\ u^{25} + u^{24} + \cdots + u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 140 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. $\boldsymbol{I_1^u = \langle -2.00 \times 10^{313} u^{114} + 8.20 \times 10^{313} u^{113} + \cdots + 2.57 \times 10^{314} b + 1.42 \times 10^{315},\ 8.24 \times 10^{314} u^{114} - 1.69 \times 10^{315} u^{113} + \cdots + 2.57 \times 10^{314} a - 9.87 \times 10^{315},\ u^{115} - 2u^{114} + \cdots - 28u + 1 \rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -3.20290u^{114} + 6.57577u^{113} + \cdots - 705.319u + 38.3654 \\ 0.0778241u^{114} - 0.318771u^{113} + \cdots + 56.3225u - 5.52054 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -3.38717u^{114} + 7.04311u^{113} + \cdots - 764.082u + 43.7198 \\ 0.0236815u^{114} - 0.267953u^{113} + \cdots + 53.7249u - 5.44079 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -3.85922u^{114} + 7.71029u^{113} + \cdots - 891.654u + 57.0291 \\ -0.559786u^{114} + 0.840056u^{113} + \cdots - 68.2350u + 2.71601 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -3.04090u^{114} + 4.84465u^{113} + \cdots - 648.834u + 44.1418 \\ 0.0779924u^{114} + 0.105782u^{113} + \cdots - 11.6253u - 0.201228 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -3.29943u^{114} + 6.87024u^{113} + \cdots - 823.419u + 54.3131 \\ -0.559786u^{114} + 0.840056u^{113} + \cdots - 68.2350u + 2.71601 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 2.09218u^{114} - 4.51224u^{113} + \cdots + 462.352u - 45.9770 \\ 1.33271u^{114} - 2.35933u^{113} + \cdots + 187.582u - 9.48403 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2.61490u^{114} + 4.63695u^{113} + \cdots - 629.293u + 45.1624 \\ -0.985977u^{114} + 1.87369u^{113} + \cdots - 139.022u + 6.55447 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -3.86736u^{114} + 7.91239u^{113} + \cdots - 545.310u + 42.5006$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{115} + 42u^{114} + \cdots + 430u + 1$
c_2, c_5	$u^{115} + 6u^{114} + \cdots + 34u + 1$
c_3	$u^{115} - u^{114} + \cdots + 382316u - 23801$
c_4, c_{11}	$u^{115} - 3u^{114} + \cdots + 2u - 1$
c_6, c_{10}	$u^{115} + 3u^{114} + \cdots + 416u + 649$
c_7, c_8, c_{12}	$u^{115} + 2u^{114} + \cdots - 28u - 1$
c_9	$u^{115} + u^{114} + \cdots - 1504u - 71$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{115} + 74y^{114} + \cdots - 137646y - 1$
c_2, c_5	$y^{115} - 42y^{114} + \cdots + 430y - 1$
c_3	$y^{115} - 35y^{114} + \cdots + 165406395062y - 566487601$
c_4, c_{11}	$y^{115} + 65y^{114} + \cdots - 6y - 1$
c_6, c_{10}	$y^{115} - 91y^{114} + \cdots + 19697572y - 421201$
c_7, c_8, c_{12}	$y^{115} - 120y^{114} + \cdots + 232y - 1$
c_9	$y^{115} - 23y^{114} + \cdots + 3132476y - 5041$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.018240 + 0.185716I$ $a = -0.157187 - 1.384820I$ $b = -0.224318 + 1.063560I$	$-4.54218 + 1.04428I$	0
$u = 1.018240 - 0.185716I$ $a = -0.157187 + 1.384820I$ $b = -0.224318 - 1.063560I$	$-4.54218 - 1.04428I$	0
$u = -0.605009 + 0.839926I$ $a = -1.257980 + 0.199905I$ $b = -1.54849 - 0.88534I$	$2.94287 - 7.58492I$	0
$u = -0.605009 - 0.839926I$ $a = -1.257980 - 0.199905I$ $b = -1.54849 + 0.88534I$	$2.94287 + 7.58492I$	0
$u = 0.110734 + 1.038700I$ $a = -0.804178 + 0.323589I$ $b = -1.62068 + 0.68689I$	$3.09318 + 2.07281I$	0
$u = 0.110734 - 1.038700I$ $a = -0.804178 - 0.323589I$ $b = -1.62068 - 0.68689I$	$3.09318 - 2.07281I$	0
$u = 0.275186 + 1.040870I$ $a = 0.794196 - 0.193683I$ $b = 1.62388 - 0.79412I$	$2.42939 - 3.12525I$	0
$u = 0.275186 - 1.040870I$ $a = 0.794196 + 0.193683I$ $b = 1.62388 + 0.79412I$	$2.42939 + 3.12525I$	0
$u = -0.585102 + 0.950055I$ $a = 1.170430 - 0.104503I$ $b = 1.67909 + 0.83613I$	$1.56496 - 13.32550I$	0
$u = -0.585102 - 0.950055I$ $a = 1.170430 + 0.104503I$ $b = 1.67909 - 0.83613I$	$1.56496 + 13.32550I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.875304+0.010082I$ $a=-0.482427+0.797072I$ $b=-0.208353+0.555462I$	$2.28782+2.70515I$	0
$u=-0.875304-0.010082I$ $a=-0.482427-0.797072I$ $b=-0.208353-0.555462I$	$2.28782-2.70515I$	0
$u=0.678698+0.545869I$ $a=-0.636932+0.805126I$ $b=0.612781-0.051539I$	$4.36100+8.04330I$	0
$u=0.678698-0.545869I$ $a=-0.636932-0.805126I$ $b=0.612781+0.051539I$	$4.36100-8.04330I$	0
$u=-0.305379+0.810200I$ $a=1.47601+0.19019I$ $b=1.43158+0.51265I$	$-3.63406-6.53388I$	0
$u=-0.305379-0.810200I$ $a=1.47601-0.19019I$ $b=1.43158-0.51265I$	$-3.63406+6.53388I$	0
$u=-0.929618+0.653649I$ $a=0.204466-0.892515I$ $b=0.963248+0.154542I$	$-1.85464+1.48845I$	0
$u=-0.929618-0.653649I$ $a=0.204466+0.892515I$ $b=0.963248-0.154542I$	$-1.85464-1.48845I$	0
$u=0.652482+0.542736I$ $a=-0.745445-1.183410I$ $b=-0.868838+0.692560I$	$-2.35658-3.07713I$	0
$u=0.652482-0.542736I$ $a=-0.745445+1.183410I$ $b=-0.868838-0.692560I$	$-2.35658+3.07713I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.488617 + 0.692095I$ $a = -1.313310 - 0.468315I$ $b = -1.60980 - 0.02547I$	$-2.80354 + 7.46099I$	0
$u = 0.488617 - 0.692095I$ $a = -1.313310 + 0.468315I$ $b = -1.60980 + 0.02547I$	$-2.80354 - 7.46099I$	0
$u = -0.636844 + 1.013560I$ $a = -0.439819 + 0.712756I$ $b = -1.46937 + 0.06518I$	$2.75509 + 1.57727I$	0
$u = -0.636844 - 1.013560I$ $a = -0.439819 - 0.712756I$ $b = -1.46937 - 0.06518I$	$2.75509 - 1.57727I$	0
$u = 0.697646 + 0.385481I$ $a = 0.897484 - 0.735922I$ $b = -0.577128 + 0.043803I$	$5.81339 + 2.21028I$	0
$u = 0.697646 - 0.385481I$ $a = 0.897484 + 0.735922I$ $b = -0.577128 - 0.043803I$	$5.81339 - 2.21028I$	0
$u = 0.516034 + 0.600339I$ $a = 1.27874 + 0.61859I$ $b = 1.49364 - 0.17840I$	$-1.59675 + 2.50323I$	0
$u = 0.516034 - 0.600339I$ $a = 1.27874 - 0.61859I$ $b = 1.49364 + 0.17840I$	$-1.59675 - 2.50323I$	0
$u = 1.271320 + 0.050169I$ $a = 0.411686 + 0.322353I$ $b = 1.73294 - 0.45796I$	$1.070530 + 0.175208I$	0
$u = 1.271320 - 0.050169I$ $a = 0.411686 - 0.322353I$ $b = 1.73294 + 0.45796I$	$1.070530 - 0.175208I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.498264 + 0.497941I$ $a = 1.016200 + 0.976841I$ $b = 1.017610 - 0.496622I$	$-1.66106 + 1.37436I$	0
$u = 0.498264 - 0.497941I$ $a = 1.016200 - 0.976841I$ $b = 1.017610 + 0.496622I$	$-1.66106 - 1.37436I$	0
$u = -0.789711 + 1.027930I$ $a = 0.351565 - 0.708003I$ $b = 1.45014 + 0.10270I$	$1.92862 + 6.79274I$	0
$u = -0.789711 - 1.027930I$ $a = 0.351565 + 0.708003I$ $b = 1.45014 - 0.10270I$	$1.92862 - 6.79274I$	0
$u = 1.29832$ $a = 1.04923$ $b = 1.40950$	1.43686	0
$u = -0.323095 + 0.615709I$ $a = 0.461147 + 0.706059I$ $b = 0.419162 + 0.114693I$	$0.61372 - 4.18682I$	0
$u = -0.323095 - 0.615709I$ $a = 0.461147 - 0.706059I$ $b = 0.419162 - 0.114693I$	$0.61372 + 4.18682I$	0
$u = -0.508419 + 0.472877I$ $a = -0.503800 - 0.581500I$ $b = -0.332541 - 0.142272I$	$1.291470 + 0.512565I$	0
$u = -0.508419 - 0.472877I$ $a = -0.503800 + 0.581500I$ $b = -0.332541 + 0.142272I$	$1.291470 - 0.512565I$	0
$u = -0.691075 + 0.008162I$ $a = 0.503183 - 1.159190I$ $b = -0.202881 - 0.749571I$	$2.81155 - 2.16819I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.691075-0.008162I$ $a=\ \ 0.503183+1.159190I$ $b=-0.202881+0.749571I$	$2.81155+2.16819I$	0
$u=\ \ 0.404482+0.553410I$ $a=\ \ 1.232900+0.332174I$ $b=\ \ 1.39428-0.78774I$	$-1.21336+1.54147I$	0
$u=\ \ 0.404482-0.553410I$ $a=\ \ 1.232900-0.332174I$ $b=\ \ 1.39428+0.78774I$	$-1.21336-1.54147I$	0
$u=-1.330080+0.134554I$ $a=-0.182284-1.009940I$ $b=\ \ 0.024693+0.436211I$	$3.17278-3.33556I$	0
$u=-1.330080-0.134554I$ $a=-0.182284+1.009940I$ $b=\ \ 0.024693-0.436211I$	$3.17278+3.33556I$	0
$u=-1.319720+0.218573I$ $a=-0.533328+0.810389I$ $b=-1.27843-1.67952I$	$4.59691-4.51548I$	0
$u=-1.319720-0.218573I$ $a=-0.533328-0.810389I$ $b=-1.27843+1.67952I$	$4.59691+4.51548I$	0
$u=\ \ 0.328499+0.563619I$ $a=-1.78017-0.62506I$ $b=-1.129840-0.196835I$	$-6.26920+1.55197I$	0
$u=\ \ 0.328499-0.563619I$ $a=-1.78017+0.62506I$ $b=-1.129840+0.196835I$	$-6.26920-1.55197I$	0
$u=-1.352080+0.055142I$ $a=-0.660200-0.792131I$ $b=-0.406617+0.087523I$	$2.93578-2.96211I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.352080-0.055142I$ $a=-0.660200+0.792131I$ $b=-0.406617-0.087523I$	$2.93578+2.96211I$	0
$u=-0.285481+0.553910I$ $a=-0.94736+1.17382I$ $b=-1.190160+0.562522I$	$1.30137+1.64548I$	$6.00000+1.95387I$
$u=-0.285481-0.553910I$ $a=-0.94736-1.17382I$ $b=-1.190160-0.562522I$	$1.30137-1.64548I$	$6.00000-1.95387I$
$u=1.377400+0.112468I$ $a=0.235643-0.389792I$ $b=1.75504+0.00095I$	$5.67734+6.92704I$	0
$u=1.377400-0.112468I$ $a=0.235643+0.389792I$ $b=1.75504-0.00095I$	$5.67734-6.92704I$	0
$u=1.41551+0.05574I$ $a=-0.249296+0.336866I$ $b=-1.54864-0.04612I$	$7.15767+1.38994I$	0
$u=1.41551-0.05574I$ $a=-0.249296-0.336866I$ $b=-1.54864+0.04612I$	$7.15767-1.38994I$	0
$u=1.42040+0.02638I$ $a=0.12259-1.43678I$ $b=0.094743+1.207000I$	$4.01824+3.75134I$	0
$u=1.42040-0.02638I$ $a=0.12259+1.43678I$ $b=0.094743-1.207000I$	$4.01824-3.75134I$	0
$u=-1.43115+0.00636I$ $a=-0.342602+0.821484I$ $b=-1.48878-1.90769I$	$7.97719-1.10739I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.43115-0.00636I$ $a=-0.342602-0.821484I$ $b=-1.48878+1.90769I$	$7.97719+1.10739I$	0
$u=1.42538+0.13458I$ $a=-0.887686-0.837109I$ $b=-1.14358+0.89620I$	$7.13739+5.87227I$	0
$u=1.42538-0.13458I$ $a=-0.887686+0.837109I$ $b=-1.14358-0.89620I$	$7.13739-5.87227I$	0
$u=1.39669+0.31721I$ $a=0.364316+0.211138I$ $b=1.28444-0.91618I$	$5.83758+7.50527I$	0
$u=1.39669-0.31721I$ $a=0.364316-0.211138I$ $b=1.28444+0.91618I$	$5.83758-7.50527I$	0
$u=-1.42555+0.19539I$ $a=-0.471933+0.660900I$ $b=-1.39717-0.25537I$	$-0.61246-4.33479I$	0
$u=-1.42555-0.19539I$ $a=-0.471933-0.660900I$ $b=-1.39717+0.25537I$	$-0.61246+4.33479I$	0
$u=1.42457+0.27958I$ $a=0.734432+0.699953I$ $b=1.51640-1.08330I$	$1.88870+10.41200I$	0
$u=1.42457-0.27958I$ $a=0.734432-0.699953I$ $b=1.51640+1.08330I$	$1.88870-10.41200I$	0
$u=1.43635+0.21406I$ $a=-0.341682-0.222471I$ $b=-1.25038+0.72200I$	$7.27814+1.83894I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.43635 - 0.21406I$ $a = -0.341682 + 0.222471I$ $b = -1.25038 - 0.72200I$	$7.27814 - 1.83894I$	0
$u = -1.47021 + 0.03880I$ $a = 0.431408 - 0.752415I$ $b = 0.751331 + 0.624823I$	$4.94397 - 2.66854I$	0
$u = -1.47021 - 0.03880I$ $a = 0.431408 + 0.752415I$ $b = 0.751331 - 0.624823I$	$4.94397 + 2.66854I$	0
$u = 1.47981$ $a = 0.430171$ $b = -0.102083$	7.68909	0
$u = -0.284851 + 0.429526I$ $a = -2.70467 + 0.11196I$ $b = -0.916650 - 0.616764I$	$1.60459 - 3.84172I$	$8.84200 + 10.85813I$
$u = -0.284851 - 0.429526I$ $a = -2.70467 - 0.11196I$ $b = -0.916650 + 0.616764I$	$1.60459 + 3.84172I$	$8.84200 - 10.85813I$
$u = -1.48438 + 0.03284I$ $a = 0.343307 - 0.777614I$ $b = 1.60424 + 1.82962I$	$8.16254 - 6.34416I$	0
$u = -1.48438 - 0.03284I$ $a = 0.343307 + 0.777614I$ $b = 1.60424 - 1.82962I$	$8.16254 + 6.34416I$	0
$u = 0.218770 + 0.450408I$ $a = 0.73303 + 1.25721I$ $b = 0.697553 - 0.256568I$	$-1.60581 + 1.06805I$	$-0.56189 - 2.30198I$
$u = 0.218770 - 0.450408I$ $a = 0.73303 - 1.25721I$ $b = 0.697553 + 0.256568I$	$-1.60581 - 1.06805I$	$-0.56189 + 2.30198I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.171797 + 0.464235I$ $a = 0.62471 + 1.85083I$ $b = 0.701346 - 0.001848I$	$-1.57573 + 1.11003I$	$-1.82221 - 3.85918I$
$u = 0.171797 - 0.464235I$ $a = 0.62471 - 1.85083I$ $b = 0.701346 + 0.001848I$	$-1.57573 - 1.11003I$	$-1.82221 + 3.85918I$
$u = -1.52617 + 0.17115I$ $a = 0.422183 - 0.701863I$ $b = 1.35404 + 1.44231I$	$5.33523 - 4.21971I$	0
$u = -1.52617 - 0.17115I$ $a = 0.422183 + 0.701863I$ $b = 1.35404 - 1.44231I$	$5.33523 + 4.21971I$	0
$u = -0.459350$ $a = -0.616527$ $b = -0.196835$	0.646841	15.6940
$u = -1.52857 + 0.19712I$ $a = 0.416577 - 0.652874I$ $b = 1.73061 + 0.73350I$	$5.16134 - 5.41994I$	0
$u = -1.52857 - 0.19712I$ $a = 0.416577 + 0.652874I$ $b = 1.73061 - 0.73350I$	$5.16134 + 5.41994I$	0
$u = -1.54013 + 0.13822I$ $a = 0.901321 + 0.306423I$ $b = 0.153566 + 0.050367I$	$13.13020 - 4.23147I$	0
$u = -1.54013 - 0.13822I$ $a = 0.901321 - 0.306423I$ $b = 0.153566 - 0.050367I$	$13.13020 + 4.23147I$	0
$u = -1.52843 + 0.23524I$ $a = -0.421757 + 0.632040I$ $b = -1.89537 - 0.56177I$	$3.83848 - 10.84980I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.52843-0.23524I$ $a=-0.421757-0.632040I$ $b=-1.89537+0.56177I$	$3.83848+10.84980I$	0
$u=-1.55259+0.18914I$ $a=-0.816437-0.313853I$ $b=-0.151088-0.077565I$	$11.6728-10.8282I$	0
$u=-1.55259-0.18914I$ $a=-0.816437+0.313853I$ $b=-0.151088+0.077565I$	$11.6728+10.8282I$	0
$u=\ \ 1.56319+0.28705I$ $a=-0.630557-0.732829I$ $b=-1.45401+1.40123I$	$10.0027+11.7199I$	0
$u=\ \ 1.56319-0.28705I$ $a=-0.630557+0.732829I$ $b=-1.45401-1.40123I$	$10.0027-11.7199I$	0
$u=-1.53087+0.44466I$ $a=-0.538677+0.605984I$ $b=-1.27237-1.73794I$	$8.51430-7.66393I$	0
$u=-1.53087-0.44466I$ $a=-0.538677-0.605984I$ $b=-1.27237+1.73794I$	$8.51430+7.66393I$	0
$u=\ \ 1.60635+0.00240I$ $a=-0.194839+0.106575I$ $b=-0.461684+0.006920I$	$7.99022-0.01147I$	0
$u=\ \ 1.60635-0.00240I$ $a=-0.194839-0.106575I$ $b=-0.461684-0.006920I$	$7.99022+0.01147I$	0
$u=\ \ 1.57491+0.32730I$ $a=\ \ 0.620503+0.703580I$ $b=\ \ 1.54320-1.43840I$	$8.5741+17.9836I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.57491 - 0.32730I$ $a = 0.620503 - 0.703580I$ $b = 1.54320 + 1.43840I$	$8.5741 - 17.9836I$	0
$u = -1.59105 + 0.38347I$ $a = 0.495046 - 0.610111I$ $b = 1.19813 + 1.73205I$	$8.66822 - 2.28109I$	0
$u = -1.59105 - 0.38347I$ $a = 0.495046 + 0.610111I$ $b = 1.19813 - 1.73205I$	$8.66822 + 2.28109I$	0
$u = 1.65004 + 0.15658I$ $a = 0.362370 - 0.138439I$ $b = -0.032142 + 0.428821I$	$11.24740 + 2.95138I$	0
$u = 1.65004 - 0.15658I$ $a = 0.362370 + 0.138439I$ $b = -0.032142 - 0.428821I$	$11.24740 - 2.95138I$	0
$u = 1.65934 + 0.01198I$ $a = -0.016372 + 0.209351I$ $b = -0.132580 + 0.856158I$	$11.19400 + 2.62330I$	0
$u = 1.65934 - 0.01198I$ $a = -0.016372 - 0.209351I$ $b = -0.132580 - 0.856158I$	$11.19400 - 2.62330I$	0
$u = 1.68849 + 0.10230I$ $a = -0.339496 + 0.135960I$ $b = -0.087733 - 0.475697I$	$11.33020 - 2.37820I$	0
$u = 1.68849 - 0.10230I$ $a = -0.339496 - 0.135960I$ $b = -0.087733 + 0.475697I$	$11.33020 + 2.37820I$	0
$u = 0.265823 + 0.008631I$ $a = 1.48171 + 3.11119I$ $b = 1.51242 - 1.11418I$	$2.11539 + 6.04579I$	$10.4529 - 10.3544I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.265823 - 0.008631I$ $a = 1.48171 - 3.11119I$ $b = 1.51242 + 1.11418I$	$2.11539 - 6.04579I$	$10.4529 + 10.3544I$
$u = -0.0385713 + 0.1129770I$ $a = -12.06090 + 6.19371I$ $b = -0.090997 - 0.588756I$	$-1.02861 - 3.32635I$	$-5.1015 + 16.5830I$
$u = -0.0385713 - 0.1129770I$ $a = -12.06090 - 6.19371I$ $b = -0.090997 + 0.588756I$	$-1.02861 + 3.32635I$	$-5.1015 - 16.5830I$
$u = 0.0748363 + 0.0173615I$ $a = -7.05729 - 9.61172I$ $b = -1.30476 + 1.14378I$	$2.76607 + 1.01915I$	$12.89262 - 4.58125I$
$u = 0.0748363 - 0.0173615I$ $a = -7.05729 + 9.61172I$ $b = -1.30476 - 1.14378I$	$2.76607 - 1.01915I$	$12.89262 + 4.58125I$

II.

$\boldsymbol{I_2^u = \langle u^{24} - 14u^{22} + \cdots + b + 2,\ u^{24} + u^{23} + \cdots + a + u,\ u^{25} + u^{24} + \cdots + u + 1 \rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -u^{24} - u^{23} + \cdots - 3u^2 - u \\ -u^{24} + 14u^{22} + \cdots - u - 2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^{23} - u^{22} + \cdots - u + 1 \\ -u^{24} + 14u^{22} + \cdots + 8u^2 - 2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{23} + 14u^{21} + \cdots + 8u + 2 \\ u^2 - 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^{23} + u^{22} + \cdots + 8u^2 + u \\ -2u^{24} + 28u^{22} + \cdots - u - 2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{23} + 14u^{21} + \cdots + 8u + 3 \\ u^2 - 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^{24} + u^{23} + \cdots - 7u - 1 \\ u^4 - 2u^2 + 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{24} - u^{23} + \cdots + 7u + 2 \\ -u^{24} + 14u^{22} + \cdots + 4u^2 - 2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 2u^{24} - 3u^{23} - 27u^{22} + 34u^{21} + 163u^{20} - 154u^{19} - 572u^{18} + 325u^{17} + 1266u^{16} - 185u^{15} - 1790u^{14} - 561u^{13} + 1547u^{12} + 1312u^{11} - 660u^{10} - 1220u^9 - 117u^8 + 571u^7 + 326u^6 - 108u^5 - 144u^4 - 31u^3 + 15u^2 + 11u + 9$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{25} - 11u^{24} + \cdots + 11u - 1$
c_2	$u^{25} - u^{24} + \cdots + u - 1$
c_3	$u^{25} - 2u^{23} + \cdots - u + 1$
c_4	$u^{25} + 12u^{23} + \cdots - 3u - 1$
c_5	$u^{25} + u^{24} + \cdots + u + 1$
c_6	$u^{25} - 4u^{24} + \cdots - 7u - 3$
c_7, c_8	$u^{25} + u^{24} + \cdots + u + 1$
c_9	$u^{25} - 2u^{23} + \cdots - 3u - 1$
c_{10}	$u^{25} + 4u^{24} + \cdots - 7u + 3$
c_{11}	$u^{25} + 12u^{23} + \cdots - 3u + 1$
c_{12}	$u^{25} - u^{24} + \cdots + u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{25} + 17y^{24} + \cdots - 9y - 1$
c_2, c_5	$y^{25} - 11y^{24} + \cdots + 11y - 1$
c_3	$y^{25} - 4y^{24} + \cdots + 7y - 1$
c_4, c_{11}	$y^{25} + 24y^{24} + \cdots - 21y - 1$
c_6, c_{10}	$y^{25} - 28y^{24} + \cdots + 109y - 9$
c_7, c_8, c_{12}	$y^{25} - 29y^{24} + \cdots + 9y - 1$
c_9	$y^{25} - 4y^{24} + \cdots + 5y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.899524 + 0.143935I$ $a = -0.22000 - 1.49116I$ $b = 0.093617 + 0.808110I$	$-4.77060 + 0.53467I$	$1.18210 + 3.54286I$
$u = 0.899524 - 0.143935I$ $a = -0.22000 + 1.49116I$ $b = 0.093617 - 0.808110I$	$-4.77060 - 0.53467I$	$1.18210 - 3.54286I$
$u = -0.461491 + 0.651874I$ $a = -0.650192 + 0.796845I$ $b = -1.71465 + 0.47286I$	$1.61103 + 5.13748I$	$5.49787 - 3.27489I$
$u = -0.461491 - 0.651874I$ $a = -0.650192 - 0.796845I$ $b = -1.71465 - 0.47286I$	$1.61103 - 5.13748I$	$5.49787 + 3.27489I$
$u = -0.345068 + 0.672227I$ $a = 0.843939 - 0.815283I$ $b = 1.54914 - 0.69507I$	$2.25062 + 0.31902I$	$6.04160 + 3.85521I$
$u = -0.345068 - 0.672227I$ $a = 0.843939 + 0.815283I$ $b = 1.54914 + 0.69507I$	$2.25062 - 0.31902I$	$6.04160 - 3.85521I$
$u = -1.29243$ $a = -0.898087$ $b = -1.69102$	1.68877	24.9680
$u = 1.336760 + 0.062255I$ $a = 0.25063 - 1.39537I$ $b = 0.118444 + 0.272340I$	$2.76548 + 3.95750I$	$1.26642 - 10.15772I$
$u = 1.336760 - 0.062255I$ $a = 0.25063 + 1.39537I$ $b = 0.118444 - 0.272340I$	$2.76548 - 3.95750I$	$1.26642 + 10.15772I$
$u = -0.604763 + 0.232407I$ $a = 0.094492 + 0.709624I$ $b = -1.058210 - 0.372015I$	$-0.894995 - 0.310970I$	$4.26361 - 1.77333I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.604763-0.232407I$ $a=\ \ 0.094492-0.709624I$ $b=-1.058210+0.372015I$	$-0.894995+0.310970I$	$4.26361+1.77333I$
$u=-1.365210+0.285994I$ $a=-0.440687+0.557939I$ $b=-1.92813-1.45861I$	$5.02864-8.59211I$	$8.28724+9.01089I$
$u=-1.365210-0.285994I$ $a=-0.440687-0.557939I$ $b=-1.92813+1.45861I$	$5.02864+8.59211I$	$8.28724-9.01089I$
$u=-1.44588+0.24349I$ $a=\ \ 0.427346-0.651047I$ $b=\ \ 1.63249+1.65225I$	$6.46764-3.71317I$	$11.06101+1.99584I$
$u=-1.44588-0.24349I$ $a=\ \ 0.427346+0.651047I$ $b=\ \ 1.63249-1.65225I$	$6.46764+3.71317I$	$11.06101-1.99584I$
$u=-1.46192+0.13002I$ $a=\ \ 0.506435-0.863405I$ $b=\ \ 1.06541+1.44046I$	$6.56506-4.68100I$	$11.18703+4.24370I$
$u=-1.46192-0.13002I$ $a=\ \ 0.506435+0.863405I$ $b=\ \ 1.06541-1.44046I$	$6.56506+4.68100I$	$11.18703-4.24370I$
$u=-0.117385+0.504417I$ $a=\ \ 1.63922-1.22564I$ $b=\ \ 0.963769-0.734389I$	$1.42552+2.47811I$	$5.45262-6.08221I$
$u=-0.117385-0.504417I$ $a=\ \ 1.63922+1.22564I$ $b=\ \ 0.963769+0.734389I$	$1.42552-2.47811I$	$5.45262+6.08221I$
$u=\ \ 0.392045+0.179102I$ $a=-1.72754-2.97371I$ $b=-0.109614+0.850417I$	$-0.81902-3.09615I$	$13.37035-2.81210I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.392045 - 0.179102I$ $a = -1.72754 + 2.97371I$ $b = -0.109614 - 0.850417I$	$-0.81902 + 3.09615I$	$13.37035 + 2.81210I$
$u = 1.60164 + 0.06657I$ $a = -0.254836 + 0.308818I$ $b = -0.212542 + 0.105314I$	$8.22124 - 0.33216I$	$14.7793 + 12.1565I$
$u = 1.60164 - 0.06657I$ $a = -0.254836 - 0.308818I$ $b = -0.212542 - 0.105314I$	$8.22124 + 0.33216I$	$14.7793 - 12.1565I$
$u = 1.71797 + 0.02033I$ $a = -0.019762 + 0.365389I$ $b = -0.054207 + 0.375046I$	$10.78340 + 2.55543I$	$-60.10 - 1.178635I$
$u = 1.71797 - 0.02033I$ $a = -0.019762 - 0.365389I$ $b = -0.054207 - 0.375046I$	$10.78340 - 2.55543I$	$-60.10 + 1.178635I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{25}-11u^{24}+\cdots+11u-1)(u^{115}+42u^{114}+\cdots+430u+1)$
c_2	$(u^{25}-u^{24}+\cdots+u-1)(u^{115}+6u^{114}+\cdots+34u+1)$
c_3	$(u^{25}-2u^{23}+\cdots-u+1)(u^{115}-u^{114}+\cdots+382316u-23801)$
c_4	$(u^{25}+12u^{23}+\cdots-3u-1)(u^{115}-3u^{114}+\cdots+2u-1)$
c_5	$(u^{25}+u^{24}+\cdots+u+1)(u^{115}+6u^{114}+\cdots+34u+1)$
c_6	$(u^{25}-4u^{24}+\cdots-7u-3)(u^{115}+3u^{114}+\cdots+416u+649)$
c_7, c_8	$(u^{25}+u^{24}+\cdots+u+1)(u^{115}+2u^{114}+\cdots-28u-1)$
c_9	$(u^{25}-2u^{23}+\cdots-3u-1)(u^{115}+u^{114}+\cdots-1504u-71)$
c_{10}	$(u^{25}+4u^{24}+\cdots-7u+3)(u^{115}+3u^{114}+\cdots+416u+649)$
c_{11}	$(u^{25}+12u^{23}+\cdots-3u+1)(u^{115}-3u^{114}+\cdots+2u-1)$
c_{12}	$(u^{25}-u^{24}+\cdots+u-1)(u^{115}+2u^{114}+\cdots-28u-1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{25}+17y^{24}+\cdots-9y-1)(y^{115}+74y^{114}+\cdots-137646y-1)$
c_2, c_5	$(y^{25}-11y^{24}+\cdots+11y-1)(y^{115}-42y^{114}+\cdots+430y-1)$
c_3	$(y^{25}-4y^{24}+\cdots+7y-1)$ $\cdot(y^{115}-35y^{114}+\cdots+165406395062y-566487601)$
c_4, c_{11}	$(y^{25}+24y^{24}+\cdots-21y-1)(y^{115}+65y^{114}+\cdots-6y-1)$
c_6, c_{10}	$(y^{25}-28y^{24}+\cdots+109y-9)$ $\cdot(y^{115}-91y^{114}+\cdots+19697572y-421201)$
c_7, c_8, c_{12}	$(y^{25}-29y^{24}+\cdots+9y-1)(y^{115}-120y^{114}+\cdots+232y-1)$
c_9	$(y^{25}-4y^{24}+\cdots+5y-1)(y^{115}-23y^{114}+\cdots+3132476y-5041)$