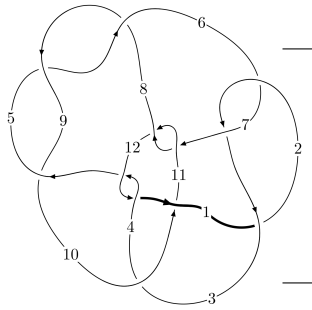
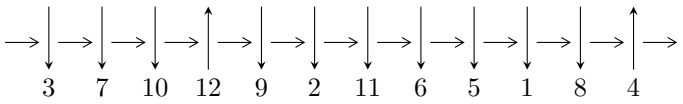
$12a_{0661}$ $(K12a_{0661})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 1.59089 \times 10^{353} u^{123} - 1.96420 \times 10^{353} u^{122} + \cdots + 7.82191 \times 10^{352} b - 4.85657 \times 10^{355}, \\ & - 2.33244 \times 10^{354} u^{123} + 5.54408 \times 10^{354} u^{122} + \cdots + 1.31326 \times 10^{354} a + 2.61506 \times 10^{356}, \\ & u^{124} - 3u^{123} + \cdots + 4171u - 319 \rangle \\ I_2^u = \langle & 32u^{27} - 63u^{26} + \cdots + 22b + 65,\ -17u^{27} + 40u^{26} + \cdots + 22a + 49,\ u^{28} - 2u^{27} + \cdots + u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 152 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. $\boldsymbol{I_1^u = \langle 1.59 \times 10^{353} u^{123} - 1.96 \times 10^{353} u^{122} + \cdots + 7.82 \times 10^{352} b - 4.86 \times 10^{355},\ -2.33 \times 10^{354} u^{123} + 5.54 \times 10^{354} u^{122} + \cdots + 1.31 \times 10^{354} a + 2.62 \times 10^{356},\ u^{124} - 3u^{123} + \cdots + 4171u - 319 \rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

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

$$a_{12} = \begin{pmatrix} 1.77607u^{123} - 4.22163u^{122} + \cdots + 2217.05u - 199.128 \\ -2.03388u^{123} + 2.51115u^{122} + \cdots - 7748.62u + 620.894 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -1.23259u^{123} + 8.43210u^{122} + \cdots + 12260.0u - 932.343 \\ 0.0162502u^{123} - 3.39877u^{122} + \cdots - 8118.89u + 620.437 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -4.98442u^{123} + 11.2275u^{122} + \cdots - 6449.73u + 557.288 \\ 5.43166u^{123} - 10.8386u^{122} + \cdots + 11192.9u - 944.221 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.895133u^{123} - 0.148738u^{122} + \cdots + 6098.03u - 490.749 \\ -2.11147u^{123} + 5.18207u^{122} + \cdots - 1956.92u + 178.843 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} 3.01341u^{123} - 3.45919u^{122} + \cdots + 12483.9u - 1004.07 \\ -2.56402u^{123} + 0.714711u^{122} + \cdots - 15750.0u + 1243.31 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.792892u^{123} + 6.91093u^{122} + \cdots + 11727.3u - 896.399 \\ -0.0882374u^{123} - 6.99881u^{122} + \cdots - 17800.5u + 1367.38 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.642959u^{123} - 5.37935u^{122} + \cdots - 8165.53u + 603.004 \\ -0.669866u^{123} + 8.55200u^{122} + \cdots + 16249.6u - 1239.38 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 5.71275u^{123} - 19.2191u^{122} + \cdots - 9360.80u + 669.914$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{124} + 53u^{123} + \cdots + 1650235u + 58081$
c_2, c_6	$u^{124} - 3u^{123} + \cdots + 95u + 241$
c_3	$u^{124} + u^{123} + \cdots - 408u - 55$
c_4, c_{12}	$u^{124} + 7u^{123} + \cdots + 7155u + 259$
c_5, c_8, c_9	$u^{124} - 3u^{123} + \cdots + 4171u - 319$
c_7, c_{11}	$u^{124} - 3u^{123} + \cdots + 19246u - 26113$
c_{10}	$u^{124} - 2u^{123} + \cdots - 2298u + 527$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{124} + 51y^{123} + \cdots - 72457205119y + 3373402561$
c_2, c_6	$y^{124} - 53y^{123} + \cdots - 1650235y + 58081$
c_3	$y^{124} + 17y^{123} + \cdots + 165626y + 3025$
c_4, c_{12}	$y^{124} + 85y^{123} + \cdots - 5023131y + 67081$
c_5, c_8, c_9	$y^{124} + 119y^{123} + \cdots - 1789209y + 101761$
c_7, c_{11}	$y^{124} - 79y^{123} + \cdots - 23009909482y + 681888769$
c_{10}	$y^{124} - 22y^{123} + \cdots - 29497508y + 277729$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.504282 + 0.902735I$ $a = -0.388663 + 0.724722I$ $b = -0.234266 - 1.313250I$	$-7.97101 + 0.79758I$	0
$u = 0.504282 - 0.902735I$ $a = -0.388663 - 0.724722I$ $b = -0.234266 + 1.313250I$	$-7.97101 - 0.79758I$	0
$u = -0.947892 + 0.452882I$ $a = -0.644349 + 0.387865I$ $b = 0.459402 + 1.284200I$	$-3.24896 + 7.73036I$	0
$u = -0.947892 - 0.452882I$ $a = -0.644349 - 0.387865I$ $b = 0.459402 - 1.284200I$	$-3.24896 - 7.73036I$	0
$u = 0.900733 + 0.289936I$ $a = -0.097473 + 0.619378I$ $b = 0.487317 + 0.871281I$	$-1.79193 - 0.08524I$	0
$u = 0.900733 - 0.289936I$ $a = -0.097473 - 0.619378I$ $b = 0.487317 - 0.871281I$	$-1.79193 + 0.08524I$	0
$u = 1.002870 + 0.401166I$ $a = 0.638222 + 0.448627I$ $b = -0.487194 + 1.282810I$	$-5.1392 - 13.5247I$	0
$u = 1.002870 - 0.401166I$ $a = 0.638222 - 0.448627I$ $b = -0.487194 - 1.282810I$	$-5.1392 + 13.5247I$	0
$u = -0.896422 + 0.179606I$ $a = 0.258572 + 0.780564I$ $b = 0.022835 + 0.622639I$	$-0.393906 + 0.302555I$	0
$u = -0.896422 - 0.179606I$ $a = 0.258572 - 0.780564I$ $b = 0.022835 - 0.622639I$	$-0.393906 - 0.302555I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.909648 + 0.043217I$ $a = -0.285133 + 0.622969I$ $b = 0.458642 + 0.592270I$	$-1.07158 + 4.12928I$	0
$u = 0.909648 - 0.043217I$ $a = -0.285133 - 0.622969I$ $b = 0.458642 - 0.592270I$	$-1.07158 - 4.12928I$	0
$u = -0.796957 + 0.421910I$ $a = -0.010145 + 0.600230I$ $b = -0.443302 + 0.965747I$	$-2.03802 - 3.71379I$	0
$u = -0.796957 - 0.421910I$ $a = -0.010145 - 0.600230I$ $b = -0.443302 - 0.965747I$	$-2.03802 + 3.71379I$	0
$u = 0.117259 + 1.113920I$ $a = 0.055084 + 0.158443I$ $b = 0.02660 + 1.46337I$	$-3.48714 + 2.18174I$	0
$u = 0.117259 - 1.113920I$ $a = 0.055084 - 0.158443I$ $b = 0.02660 - 1.46337I$	$-3.48714 - 2.18174I$	0
$u = 0.807862 + 0.325208I$ $a = 0.823787 + 0.381386I$ $b = -0.46573 + 1.34417I$	$-9.66366 - 5.49117I$	0
$u = 0.807862 - 0.325208I$ $a = 0.823787 - 0.381386I$ $b = -0.46573 - 1.34417I$	$-9.66366 + 5.49117I$	0
$u = 0.745149 + 0.419234I$ $a = -0.124235 + 1.113360I$ $b = -0.216959 + 0.372234I$	$-1.30994 + 4.47965I$	0
$u = 0.745149 - 0.419234I$ $a = -0.124235 - 1.113360I$ $b = -0.216959 - 0.372234I$	$-1.30994 - 4.47965I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.104485+1.148760I$ $a=\ \ 2.19169+0.27765I$ $b=-0.665752-1.000520I$	$-0.34726+7.02419I$	0
$u=-0.104485-1.148760I$ $a=\ \ 2.19169-0.27765I$ $b=-0.665752+1.000520I$	$-0.34726-7.02419I$	0
$u=-0.430582+0.684588I$ $a=\ \ 0.375412-0.538398I$ $b=-0.642590+0.173830I$	$1.38631+3.84395I$	0
$u=-0.430582-0.684588I$ $a=\ \ 0.375412+0.538398I$ $b=-0.642590-0.173830I$	$1.38631-3.84395I$	0
$u=-0.712947+0.359366I$ $a=\ \ 1.202130-0.257704I$ $b=\ \ 0.019519-1.155380I$	$-3.93027+0.75546I$	0
$u=-0.712947-0.359366I$ $a=\ \ 1.202130+0.257704I$ $b=\ \ 0.019519+1.155380I$	$-3.93027-0.75546I$	0
$u=\ \ 0.030322+1.204310I$ $a=-2.02526-0.30899I$ $b=\ \ 0.100756+0.779464I$	$0.26881-6.67008I$	0
$u=\ \ 0.030322-1.204310I$ $a=-2.02526+0.30899I$ $b=\ \ 0.100756-0.779464I$	$0.26881+6.67008I$	0
$u=-0.067198+1.203350I$ $a=-1.37448+0.37769I$ $b=\ \ 0.157333+0.910151I$	$-1.38517+0.70482I$	0
$u=-0.067198-1.203350I$ $a=-1.37448-0.37769I$ $b=\ \ 0.157333-0.910151I$	$-1.38517-0.70482I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.520172+0.535108I$ $a=-0.714713-0.008125I$ $b=\ \ 0.34669+1.41996I$	$-3.11709+3.34793I$	0
$u=-0.520172-0.535108I$ $a=-0.714713+0.008125I$ $b=\ \ 0.34669-1.41996I$	$-3.11709-3.34793I$	0
$u=-0.022941+1.257170I$ $a=\ \ 1.51304-0.28977I$ $b=-0.196338+0.761079I$	$2.56225+2.07639I$	0
$u=-0.022941-1.257170I$ $a=\ \ 1.51304+0.28977I$ $b=-0.196338-0.761079I$	$2.56225-2.07639I$	0
$u=\ \ 0.616998+0.409583I$ $a=\ \ 0.453826-0.370339I$ $b=-0.916220+0.055975I$	$-1.13619-8.54756I$	0
$u=\ \ 0.616998-0.409583I$ $a=\ \ 0.453826+0.370339I$ $b=-0.916220-0.055975I$	$-1.13619+8.54756I$	0
$u=\ \ 0.151254+0.711841I$ $a=-0.309803-0.662722I$ $b=\ \ 0.592611+0.280560I$	$2.39918+0.77305I$	0
$u=\ \ 0.151254-0.711841I$ $a=-0.309803+0.662722I$ $b=\ \ 0.592611-0.280560I$	$2.39918-0.77305I$	0
$u=-0.940187+0.860928I$ $a=\ \ 0.383824+0.163093I$ $b=\ \ 0.252477-1.092460I$	$-2.21455-1.50809I$	0
$u=-0.940187-0.860928I$ $a=\ \ 0.383824-0.163093I$ $b=\ \ 0.252477+1.092460I$	$-2.21455+1.50809I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.678385+0.203441I$ $a=\ \ 0.83068-1.31041I$ $b=-0.242725-1.106060I$	$-3.78635+1.93964I$	$-15.4912-3.6171I$
$u=-0.678385-0.203441I$ $a=\ \ 0.83068+1.31041I$ $b=-0.242725+1.106060I$	$-3.78635-1.93964I$	$-15.4912+3.6171I$
$u=\ \ 0.228702+1.278140I$ $a=-0.767641-0.584509I$ $b=\ \ 0.710329+0.468045I$	$2.93412+0.26963I$	0
$u=\ \ 0.228702-1.278140I$ $a=-0.767641+0.584509I$ $b=\ \ 0.710329-0.468045I$	$2.93412-0.26963I$	0
$u=\ \ 0.117928+1.295930I$ $a=\ \ 1.97704+0.77611I$ $b=-1.30936-0.75163I$	$-1.19950-2.15348I$	0
$u=\ \ 0.117928-1.295930I$ $a=\ \ 1.97704-0.77611I$ $b=-1.30936+0.75163I$	$-1.19950+2.15348I$	0
$u=\ \ 0.385636+1.243190I$ $a=-1.60490-0.21718I$ $b=\ \ 0.566228-1.047800I$	$1.24012-4.61231I$	0
$u=\ \ 0.385636-1.243190I$ $a=-1.60490+0.21718I$ $b=\ \ 0.566228+1.047800I$	$1.24012+4.61231I$	0
$u=-0.694381+0.063734I$ $a=\ \ 0.478395-0.576036I$ $b=-0.342338-0.269747I$	$-0.475457-0.163530I$	$-8.00000+0.I$
$u=-0.694381-0.063734I$ $a=\ \ 0.478395+0.576036I$ $b=-0.342338+0.269747I$	$-0.475457+0.163530I$	$-8.00000+0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.031703 + 1.303800I$ $a = -1.75239 + 0.59787I$ $b = 0.85630 - 1.20445I$	$3.28375 - 2.87621I$	0
$u = 0.031703 - 1.303800I$ $a = -1.75239 - 0.59787I$ $b = 0.85630 + 1.20445I$	$3.28375 + 2.87621I$	0
$u = 0.056567 + 1.305550I$ $a = 0.59729 + 1.66988I$ $b = -0.51023 - 2.15585I$	$-1.31237 - 4.02163I$	0
$u = 0.056567 - 1.305550I$ $a = 0.59729 - 1.66988I$ $b = -0.51023 + 2.15585I$	$-1.31237 + 4.02163I$	0
$u = -0.358190 + 0.592334I$ $a = -0.237523 + 0.440505I$ $b = -0.224983 + 0.989083I$	$-2.23416 + 1.35912I$	$-10.39246 - 3.66826I$
$u = -0.358190 - 0.592334I$ $a = -0.237523 - 0.440505I$ $b = -0.224983 - 0.989083I$	$-2.23416 - 1.35912I$	$-10.39246 + 3.66826I$
$u = 0.039852 + 1.309440I$ $a = 0.008779 + 0.212177I$ $b = 0.01595 + 1.53551I$	$-3.78139 - 1.96855I$	0
$u = 0.039852 - 1.309440I$ $a = 0.008779 - 0.212177I$ $b = 0.01595 - 1.53551I$	$-3.78139 + 1.96855I$	0
$u = -0.544286 + 0.415050I$ $a = 1.16305 - 1.68151I$ $b = -0.388049 - 1.133720I$	$-1.41055 + 7.76478I$	$-10.06194 - 9.01309I$
$u = -0.544286 - 0.415050I$ $a = 1.16305 + 1.68151I$ $b = -0.388049 + 1.133720I$	$-1.41055 - 7.76478I$	$-10.06194 + 9.01309I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.900943 + 0.995750I$ $a = -0.275334 + 0.223540I$ $b = -0.320610 - 1.103600I$	$-3.54723 + 7.13827I$	0
$u = \quad 0.900943 - 0.995750I$ $a = -0.275334 - 0.223540I$ $b = -0.320610 + 1.103600I$	$-3.54723 - 7.13827I$	0
$u = \quad 0.623610 + 0.203731I$ $a = -1.87691 - 0.86027I$ $b = \quad 0.046437 - 1.233880I$	$-5.97175 - 4.98863I$	$-16.5066 + 6.8379I$
$u = \quad 0.623610 - 0.203731I$ $a = -1.87691 + 0.86027I$ $b = \quad 0.046437 + 1.233880I$	$-5.97175 + 4.98863I$	$-16.5066 - 6.8379I$
$u = -0.137884 + 1.346450I$ $a = \quad 0.993595 - 0.530091I$ $b = -0.450750 + 0.471679I$	$3.49429 + 1.97776I$	0
$u = -0.137884 - 1.346450I$ $a = \quad 0.993595 + 0.530091I$ $b = -0.450750 - 0.471679I$	$3.49429 - 1.97776I$	0
$u = \quad 0.149302 + 1.382170I$ $a = \quad 1.73513 - 0.96625I$ $b = -1.01688 + 1.00728I$	$0.204948 + 0.798549I$	0
$u = \quad 0.149302 - 1.382170I$ $a = \quad 1.73513 + 0.96625I$ $b = -1.01688 - 1.00728I$	$0.204948 - 0.798549I$	0
$u = -0.444232 + 0.417608I$ $a = -0.494420 - 0.554229I$ $b = \quad 0.877959 + 0.175876I$	$1.00789 + 3.02626I$	$-5.24811 - 6.49636I$
$u = -0.444232 - 0.417608I$ $a = -0.494420 + 0.554229I$ $b = \quad 0.877959 - 0.175876I$	$1.00789 - 3.02626I$	$-5.24811 + 6.49636I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.242539 + 1.384710I$ $a = -1.82170 + 0.65347I$ $b = 0.204281 - 1.058920I$	$-0.89855 - 8.15019I$	0
$u = 0.242539 - 1.384710I$ $a = -1.82170 - 0.65347I$ $b = 0.204281 + 1.058920I$	$-0.89855 + 8.15019I$	0
$u = -0.280586 + 1.382860I$ $a = 1.64430 + 0.09415I$ $b = -0.386956 - 1.161700I$	$1.24837 + 5.46311I$	0
$u = -0.280586 - 1.382860I$ $a = 1.64430 - 0.09415I$ $b = -0.386956 + 1.161700I$	$1.24837 - 5.46311I$	0
$u = 0.18183 + 1.43369I$ $a = -1.45458 + 0.15252I$ $b = 0.53993 - 1.33073I$	$5.79641 - 5.39823I$	0
$u = 0.18183 - 1.43369I$ $a = -1.45458 - 0.15252I$ $b = 0.53993 + 1.33073I$	$5.79641 + 5.39823I$	0
$u = 0.16541 + 1.45041I$ $a = -1.13211 + 1.19035I$ $b = 0.122509 - 0.956774I$	$-1.43371 - 0.56609I$	0
$u = 0.16541 - 1.45041I$ $a = -1.13211 - 1.19035I$ $b = 0.122509 + 0.956774I$	$-1.43371 + 0.56609I$	0
$u = -0.18515 + 1.45139I$ $a = -1.65451 + 0.21380I$ $b = 1.386840 - 0.091908I$	$7.02450 + 5.46071I$	0
$u = -0.18515 - 1.45139I$ $a = -1.65451 - 0.21380I$ $b = 1.386840 + 0.091908I$	$7.02450 - 5.46071I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.222202 + 0.485662I$ $a = -0.22456 + 2.61671I$ $b = -0.1200250 - 0.0458072I$	$-3.28127 - 1.12229I$	$-4.47243 + 8.54784I$
$u = 0.222202 - 0.485662I$ $a = -0.22456 - 2.61671I$ $b = -0.1200250 + 0.0458072I$	$-3.28127 + 1.12229I$	$-4.47243 - 8.54784I$
$u = -0.22214 + 1.45283I$ $a = 1.44751 + 0.05543I$ $b = -0.47886 - 1.34270I$	$4.58118 + 10.67500I$	0
$u = -0.22214 - 1.45283I$ $a = 1.44751 - 0.05543I$ $b = -0.47886 + 1.34270I$	$4.58118 - 10.67500I$	0
$u = 0.422208 + 0.315122I$ $a = -0.98607 - 2.05854I$ $b = 0.390370 - 1.083910I$	$0.09412 - 3.05257I$	$-6.04524 + 3.72690I$
$u = 0.422208 - 0.315122I$ $a = -0.98607 + 2.05854I$ $b = 0.390370 + 1.083910I$	$0.09412 + 3.05257I$	$-6.04524 - 3.72690I$
$u = -0.25832 + 1.45044I$ $a = 1.285920 + 0.570968I$ $b = -0.241611 - 0.942390I$	$1.91061 + 4.29181I$	0
$u = -0.25832 - 1.45044I$ $a = 1.285920 - 0.570968I$ $b = -0.241611 + 0.942390I$	$1.91061 - 4.29181I$	0
$u = 0.23902 + 1.45735I$ $a = 1.53178 + 0.32946I$ $b = -1.309600 - 0.124461I$	$4.86325 - 11.72350I$	0
$u = 0.23902 - 1.45735I$ $a = 1.53178 - 0.32946I$ $b = -1.309600 + 0.124461I$	$4.86325 + 11.72350I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.31214 + 1.45107I$ $a = \quad 1.66306 - 0.57839I$ $b = -0.70620 + 1.32951I$	$-3.95949 - 9.54259I$	0
$u = \quad 0.31214 - 1.45107I$ $a = \quad 1.66306 + 0.57839I$ $b = -0.70620 - 1.32951I$	$-3.95949 + 9.54259I$	0
$u = \quad 0.47484 + 1.40869I$ $a = -1.257530 - 0.186443I$ $b = \quad 0.607209 - 0.930486I$	$3.28428 - 9.39538I$	0
$u = \quad 0.47484 - 1.40869I$ $a = -1.257530 + 0.186443I$ $b = \quad 0.607209 + 0.930486I$	$3.28428 + 9.39538I$	0
$u = -0.19439 + 1.48451I$ $a = -1.50499 - 0.99050I$ $b = \quad 0.90836 + 1.47161I$	$3.36459 + 6.00347I$	0
$u = -0.19439 - 1.48451I$ $a = -1.50499 + 0.99050I$ $b = \quad 0.90836 - 1.47161I$	$3.36459 - 6.00347I$	0
$u = \quad 0.27349 + 1.47462I$ $a = -0.775570 - 0.386956I$ $b = \quad 0.779505 + 0.630906I$	$4.18908 - 4.20047I$	0
$u = \quad 0.27349 - 1.47462I$ $a = -0.775570 + 0.386956I$ $b = \quad 0.779505 - 0.630906I$	$4.18908 + 4.20047I$	0
$u = \quad 0.498827$ $a = \quad 0.902018$ $b = -1.15687$	-5.13361	-21.5670
$u = -0.41823 + 1.44551I$ $a = \quad 1.209760 - 0.071430I$ $b = -0.544467 - 0.872405I$	$4.15703 + 4.63775I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.41823-1.44551I$ $a=\ \ 1.209760+0.071430I$ $b=-0.544467+0.872405I$	$4.15703-4.63775I$	0
$u=\ \ 0.17219+1.49960I$ $a=\ \ 0.870630-0.142226I$ $b=-0.456490+1.064680I$	$5.50862+1.19833I$	0
$u=\ \ 0.17219-1.49960I$ $a=\ \ 0.870630+0.142226I$ $b=-0.456490-1.064680I$	$5.50862-1.19833I$	0
$u=-0.27875+1.49014I$ $a=-0.775333-0.121682I$ $b=\ \ 0.387214+1.144860I$	$5.49665+4.57399I$	0
$u=-0.27875-1.49014I$ $a=-0.775333+0.121682I$ $b=\ \ 0.387214-1.144860I$	$5.49665-4.57399I$	0
$u=-0.19547+1.50356I$ $a=\ \ 0.828673-0.351238I$ $b=-0.723606+0.701469I$	$4.66193-0.21936I$	0
$u=-0.19547-1.50356I$ $a=\ \ 0.828673+0.351238I$ $b=-0.723606-0.701469I$	$4.66193+0.21936I$	0
$u=\ \ 0.02579+1.51861I$ $a=-1.230880-0.301812I$ $b=\ \ 1.001380+0.078330I$	$9.71135+0.14472I$	0
$u=\ \ 0.02579-1.51861I$ $a=-1.230880+0.301812I$ $b=\ \ 1.001380-0.078330I$	$9.71135-0.14472I$	0
$u=-0.08781+1.53843I$ $a=\ \ 1.127180-0.293212I$ $b=-0.905624-0.008097I$	$8.78533+5.62093I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.08781-1.53843I$ $a=\ \ 1.127180+0.293212I$ $b=-0.905624+0.008097I$	$8.78533-5.62093I$	0
$u=-0.35359+1.51281I$ $a=-1.49152-0.39856I$ $b=\ \ 0.66794+1.37357I$	$3.04994+12.42370I$	0
$u=-0.35359-1.51281I$ $a=-1.49152+0.39856I$ $b=\ \ 0.66794-1.37357I$	$3.04994-12.42370I$	0
$u=\ \ 0.38284+1.50608I$ $a=\ \ 1.53232-0.31534I$ $b=-0.65510+1.36948I$	$0.9574-18.4962I$	0
$u=\ \ 0.38284-1.50608I$ $a=\ \ 1.53232+0.31534I$ $b=-0.65510-1.36948I$	$0.9574+18.4962I$	0
$u=-0.445092$ $a=\ \ 0.760913$ $b=-0.213653$	-0.767850	-12.4900
$u=\ \ 0.370066+0.186586I$ $a=\ \ 1.54119-0.27398I$ $b=-0.59049+1.47944I$	$-4.86685+2.82154I$	$-25.1217-2.2501I$
$u=\ \ 0.370066-0.186586I$ $a=\ \ 1.54119+0.27398I$ $b=-0.59049-1.47944I$	$-4.86685-2.82154I$	$-25.1217+2.2501I$
$u=\ \ 0.221253+0.281737I$ $a=-3.25658+2.69055I$ $b=-0.012966-1.296560I$	$-7.33463+1.25650I$	$-21.3205+0.2961I$
$u=\ \ 0.221253-0.281737I$ $a=-3.25658-2.69055I$ $b=-0.012966+1.296560I$	$-7.33463-1.25650I$	$-21.3205-0.2961I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.295730 + 0.067229I$ $a = 1.05636 + 1.66278I$ $b = 0.407383 + 0.943902I$	$-0.42494 + 1.86336I$	$-2.72169 - 2.56590I$
$u = 0.295730 - 0.067229I$ $a = 1.05636 - 1.66278I$ $b = 0.407383 - 0.943902I$	$-0.42494 - 1.86336I$	$-2.72169 + 2.56590I$
$u = -0.07744 + 1.85606I$ $a = 0.083305 + 0.465229I$ $b = -0.008774 - 0.792016I$	$7.87320 + 3.16787I$	0
$u = -0.07744 - 1.85606I$ $a = 0.083305 - 0.465229I$ $b = -0.008774 + 0.792016I$	$7.87320 - 3.16787I$	0

II. $I_2^u = \langle 32u^{27} - 63u^{26} + \cdots + 22b + 65,\ -17u^{27} + 40u^{26} + \cdots + 22a + 49,\ u^{28} - 2u^{27} + \cdots + u + 1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

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

$$a_{12} = \begin{pmatrix} 0.772727u^{27} - 1.81818u^{26} + \cdots + 6.50000u - 2.22727 \\ -1.45455u^{27} + 2.86364u^{26} + \cdots - 4u - 2.95455 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -3.54545u^{27} + 3.63636u^{26} + \cdots - 16u - 0.545455 \\ 3.13636u^{27} - 5.40909u^{26} + \cdots + 9.50000u - 0.363636 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -3.09091u^{27} + 11.7727u^{26} + \cdots - 21.4091u^2 - 5.59091 \\ \frac{31}{22}u^{27} - \frac{96}{11}u^{26} + \cdots + \frac{1}{2}u + \frac{9}{22} \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -3.45455u^{27} + 6.86364u^{26} + \cdots - 13u + 2.04545 \\ 3.04545u^{27} - 8.63636u^{26} + \cdots + 6.50000u - 2.95455 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} -0.227273u^{27} + 0.181818u^{26} + \cdots + 6.50000u - 2.22727 \\ -1.45455u^{27} + 2.86364u^{26} + \cdots - 3u - 2.95455 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 2.86364u^{27} - 5.59091u^{26} + \cdots - 2.50000u + 2.36364 \\ 2.22727u^{27} - 4.18182u^{26} + \cdots + 6.50000u + 3.22727 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 7.90909u^{27} - 15.2273u^{26} + \cdots + 14u - 1.59091 \\ -9.77273u^{27} + 15.3182u^{26} + \cdots - 13.5000u - 6.27273 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{91}{22}u^{27} - \frac{295}{22}u^{26} + \cdots + \frac{29}{2}u - \frac{81}{11}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{28} - 14u^{27} + \cdots - 15u + 1$
c_2	$u^{28} - 7u^{26} + \cdots - u + 1$
c_3	$u^{28} + 6u^{26} + \cdots + 6u + 1$
c_4	$u^{28} + 14u^{26} + \cdots + 3u + 3$
c_5	$u^{28} - 2u^{27} + \cdots + u + 1$
c_6	$u^{28} - 7u^{26} + \cdots + u + 1$
c_7	$u^{28} + 4u^{27} + \cdots + 2u + 1$
c_8, c_9	$u^{28} + 2u^{27} + \cdots - u + 1$
c_{10}	$u^{28} - 9u^{27} + \cdots - 10u^3 + 1$
c_{11}	$u^{28} - 4u^{27} + \cdots - 2u + 1$
c_{12}	$u^{28} + 14u^{26} + \cdots - 3u + 3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{28} + 14y^{27} + \cdots + 9y + 1$
c_2, c_6	$y^{28} - 14y^{27} + \cdots - 15y + 1$
c_3	$y^{28} + 12y^{27} + \cdots - 6y + 1$
c_4, c_{12}	$y^{28} + 28y^{27} + \cdots + 177y + 9$
c_5, c_8, c_9	$y^{28} + 30y^{27} + \cdots + 19y + 1$
c_7, c_{11}	$y^{28} - 28y^{27} + \cdots - 26y + 1$
c_{10}	$y^{28} - 7y^{27} + \cdots + 68y^2 + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.804478 + 0.472868I$ $a = 0.375522 + 0.787255I$ $b = 0.281831 + 0.839942I$	$-0.734153 + 0.905338I$	$-6.91720 - 2.72610I$
$u = 0.804478 - 0.472868I$ $a = 0.375522 - 0.787255I$ $b = 0.281831 - 0.839942I$	$-0.734153 - 0.905338I$	$-6.91720 + 2.72610I$
$u = -0.580547 + 0.584804I$ $a = -0.88150 + 1.19650I$ $b = -0.247940 + 0.798534I$	$-2.12904 - 5.53949I$	$-12.64091 + 5.98852I$
$u = -0.580547 - 0.584804I$ $a = -0.88150 - 1.19650I$ $b = -0.247940 - 0.798534I$	$-2.12904 + 5.53949I$	$-12.64091 - 5.98852I$
$u = -0.011069 + 1.215740I$ $a = 0.370642 + 0.549559I$ $b = -0.05011 + 1.44205I$	$-4.61591 - 1.39014I$	$-15.8779 - 0.7762I$
$u = -0.011069 - 1.215740I$ $a = 0.370642 - 0.549559I$ $b = -0.05011 - 1.44205I$	$-4.61591 + 1.39014I$	$-15.8779 + 0.7762I$
$u = 0.738809 + 0.020463I$ $a = -0.308628 - 0.562536I$ $b = 0.414400 - 0.920033I$	$-1.36028 - 2.10650I$	$-11.09704 + 3.28649I$
$u = 0.738809 - 0.020463I$ $a = -0.308628 + 0.562536I$ $b = 0.414400 + 0.920033I$	$-1.36028 + 2.10650I$	$-11.09704 - 3.28649I$
$u = -0.045826 + 1.295270I$ $a = 0.96289 - 1.27451I$ $b = -0.56816 + 1.84700I$	$-1.31998 + 3.69354I$	$-10.96772 + 4.40456I$
$u = -0.045826 - 1.295270I$ $a = 0.96289 + 1.27451I$ $b = -0.56816 - 1.84700I$	$-1.31998 - 3.69354I$	$-10.96772 - 4.40456I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.235995+1.280910I$ $a=\ \ 2.20073+0.13780I$ $b=-0.444278-0.905839I$	$0.55796+8.46690I$	$-7.04639-10.34121I$
$u=-0.235995-1.280910I$ $a=\ \ 2.20073-0.13780I$ $b=-0.444278+0.905839I$	$0.55796-8.46690I$	$-7.04639+10.34121I$
$u=\ \ 0.328453+1.295300I$ $a=-1.64606-0.21409I$ $b=\ \ 0.431824-1.033670I$	$2.27964-4.99742I$	$-4.10228+3.81516I$
$u=\ \ 0.328453-1.295300I$ $a=-1.64606+0.21409I$ $b=\ \ 0.431824+1.033670I$	$2.27964+4.99742I$	$-4.10228-3.81516I$
$u=-0.027569+0.652001I$ $a=-0.28745+2.30760I$ $b=-0.029084-1.317530I$	$-6.78004+1.52867I$	$-8.26698-5.66051I$
$u=-0.027569-0.652001I$ $a=-0.28745-2.30760I$ $b=-0.029084+1.317530I$	$-6.78004-1.52867I$	$-8.26698+5.66051I$
$u=-0.121195+1.363620I$ $a=\ \ 1.48577+0.72554I$ $b=-0.656690-0.383032I$	$0.251713+0.544639I$	$-8.30088-1.57925I$
$u=-0.121195-1.363620I$ $a=\ \ 1.48577-0.72554I$ $b=-0.656690+0.383032I$	$0.251713-0.544639I$	$-8.30088+1.57925I$
$u=\ \ 0.202719+1.374900I$ $a=-0.746580-0.674941I$ $b=\ \ 0.539395+0.686147I$	$3.35075-1.13997I$	$-8.00000-1.34059I$
$u=\ \ 0.202719-1.374900I$ $a=-0.746580+0.674941I$ $b=\ \ 0.539395-0.686147I$	$3.35075+1.13997I$	$-8.00000+1.34059I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.23157 + 1.45507I$ $a = -1.42061 + 0.61641I$ $b = 0.73908 - 1.20862I$	$3.84154 - 5.62197I$	$-3.44034 + 3.31186I$
$u = 0.23157 - 1.45507I$ $a = -1.42061 - 0.61641I$ $b = 0.73908 + 1.20862I$	$3.84154 + 5.62197I$	$-3.44034 - 3.31186I$
$u = -0.132838 + 0.465619I$ $a = -0.085985 + 1.255370I$ $b = -0.23045 - 1.51287I$	$-4.45222 - 3.07364I$	$-11.2636 + 8.9173I$
$u = -0.132838 - 0.465619I$ $a = -0.085985 - 1.255370I$ $b = -0.23045 + 1.51287I$	$-4.45222 + 3.07364I$	$-11.2636 - 8.9173I$
$u = -0.238553 + 0.323922I$ $a = 0.49736 + 3.09828I$ $b = -0.223792 + 0.579168I$	$-3.69779 + 0.84739I$	$-19.4814 + 0.4340I$
$u = -0.238553 - 0.323922I$ $a = 0.49736 - 3.09828I$ $b = -0.223792 - 0.579168I$	$-3.69779 - 0.84739I$	$-19.4814 - 0.4340I$
$u = 0.08756 + 1.79835I$ $a = -0.016112 - 0.173187I$ $b = 0.043967 + 0.623109I$	$8.22808 - 3.06818I$	0
$u = 0.08756 - 1.79835I$ $a = -0.016112 + 0.173187I$ $b = 0.043967 - 0.623109I$	$8.22808 + 3.06818I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{28}-14u^{27}+\cdots-15u+1)$ $\cdot(u^{124}+53u^{123}+\cdots+1650235u+58081)$
c_2	$(u^{28}-7u^{26}+\cdots-u+1)(u^{124}-3u^{123}+\cdots+95u+241)$
c_3	$(u^{28}+6u^{26}+\cdots+6u+1)(u^{124}+u^{123}+\cdots-408u-55)$
c_4	$(u^{28}+14u^{26}+\cdots+3u+3)(u^{124}+7u^{123}+\cdots+7155u+259)$
c_5	$(u^{28}-2u^{27}+\cdots+u+1)(u^{124}-3u^{123}+\cdots+4171u-319)$
c_6	$(u^{28}-7u^{26}+\cdots+u+1)(u^{124}-3u^{123}+\cdots+95u+241)$
c_7	$(u^{28}+4u^{27}+\cdots+2u+1)(u^{124}-3u^{123}+\cdots+19246u-26113)$
c_8, c_9	$(u^{28}+2u^{27}+\cdots-u+1)(u^{124}-3u^{123}+\cdots+4171u-319)$
c_{10}	$(u^{28}-9u^{27}+\cdots-10u^3+1)(u^{124}-2u^{123}+\cdots-2298u+527)$
c_{11}	$(u^{28}-4u^{27}+\cdots-2u+1)(u^{124}-3u^{123}+\cdots+19246u-26113)$
c_{12}	$(u^{28}+14u^{26}+\cdots-3u+3)(u^{124}+7u^{123}+\cdots+7155u+259)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{28}+14y^{27}+\cdots+9y+1)$ $\cdot(y^{124}+51y^{123}+\cdots-72457205119y+3373402561)$
c_2, c_6	$(y^{28}-14y^{27}+\cdots-15y+1)$ $\cdot(y^{124}-53y^{123}+\cdots-1650235y+58081)$
c_3	$(y^{28}+12y^{27}+\cdots-6y+1)(y^{124}+17y^{123}+\cdots+165626y+3025)$
c_4, c_{12}	$(y^{28}+28y^{27}+\cdots+177y+9)$ $\cdot(y^{124}+85y^{123}+\cdots-5023131y+67081)$
c_5, c_8, c_9	$(y^{28}+30y^{27}+\cdots+19y+1)$ $\cdot(y^{124}+119y^{123}+\cdots-1789209y+101761)$
c_7, c_{11}	$(y^{28}-28y^{27}+\cdots-26y+1)$ $\cdot(y^{124}-79y^{123}+\cdots-23009909482y+681888769)$
c_{10}	$(y^{28}-7y^{27}+\cdots+68y^2+1)$ $\cdot(y^{124}-22y^{123}+\cdots-29497508y+277729)$