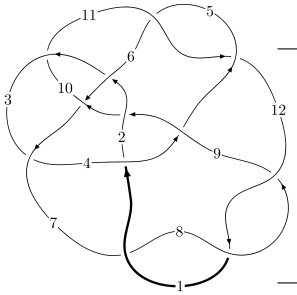
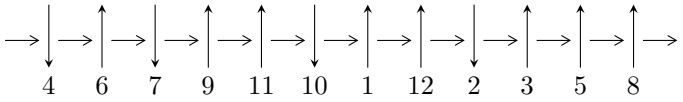
$12a_{0872}$ $(K12a_{0872})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 1.30286 \times 10^{835} u^{127} + 6.91127 \times 10^{835} u^{126} + \cdots + 1.24523 \times 10^{836} b + 3.82455 \times 10^{835},$$
$$- 2.22805 \times 10^{837} u^{127} - 3.94170 \times 10^{837} u^{126} + \cdots + 1.24523 \times 10^{836} a + 1.79835 \times 10^{836},$$
$$5u^{128} + 6u^{127} + \cdots + 3u - 1\rangle$$
$$I_2^u = \langle -2.14762 \times 10^{46} u^{29} - 1.35976 \times 10^{47} u^{28} + \cdots + 8.51286 \times 10^{45} b - 1.05226 \times 10^{46},$$
$$3.44982 \times 10^{46} u^{29} + 2.00343 \times 10^{47} u^{28} + \cdots + 8.51286 \times 10^{45} a + 1.52741 \times 10^{46},\ 5u^{30} + 33u^{29} + \cdots + 2u +$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 158 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. $\boldsymbol{I_1^u = \langle 1.30 \times 10^{835} u^{127} + 6.91 \times 10^{835} u^{126} + \cdots + 1.25 \times 10^{836} b + 3.82 \times 10^{835},\ -2.23 \times 10^{837} u^{127} - 3.94 \times 10^{837} u^{126} + \cdots + 1.25 \times 10^{836} a + 1.80 \times 10^{836},\ 5u^{128} + 6u^{127} + \cdots + 3u - 1 \rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 17.8927u^{127} + 31.6544u^{126} + \cdots - 38.4932u - 1.44419 \\ -0.104628u^{127} - 0.555020u^{126} + \cdots + 3.04440u - 0.307136 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 23.8766u^{127} + 42.3995u^{126} + \cdots - 44.0690u + 0.899592 \\ 2.07893u^{127} + 3.35288u^{126} + \cdots + 2.10257u + 0.405735 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 56.8012u^{127} + 102.085u^{126} + \cdots + 21.2724u + 9.74949 \\ 4.66762u^{127} + 7.89060u^{126} + \cdots + 5.94744u + 1.35955 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 17.9973u^{127} + 32.2095u^{126} + \cdots - 41.5376u - 1.13705 \\ -0.104628u^{127} - 0.555020u^{126} + \cdots + 3.04440u - 0.307136 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -9.39015u^{127} - 13.4013u^{126} + \cdots - 13.6158u - 9.85715 \\ 2.28571u^{127} + 4.94598u^{126} + \cdots + 2.20477u - 0.129018 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -51.8393u^{127} - 102.851u^{126} + \cdots - 104.441u - 18.1579 \\ -8.81590u^{127} - 16.5949u^{126} + \cdots + 0.826844u - 3.72755 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1.88284u^{127} + 10.1744u^{126} + \cdots + 6.94980u + 3.35617 \\ 4.22223u^{127} + 8.39879u^{126} + \cdots - 7.69204u + 0.894113 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 47.4844u^{127} + 86.0915u^{126} + \cdots + 11.9416u + 7.09790 \\ 4.64910u^{127} + 8.10242u^{126} + \cdots + 5.38331u + 1.29204 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -33.4742u^{127} - 65.6211u^{126} + \cdots + 36.3065u - 9.46504 \\ -12.7668u^{127} - 24.5715u^{126} + \cdots + 11.3679u - 3.58033 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4.75828u^{127} - 9.80991u^{126} + \cdots + 10.3737u + 5.73316$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$5(5u^{128}+44u^{127}+\cdots+774818u-401483)$
c_2	$u^{128}-u^{127}+\cdots+181885u+12725$
c_3	$u^{128}-4u^{127}+\cdots-11825779033u+7211692781$
c_4	$u^{128}+u^{127}+\cdots+1190911161u+121993295$
c_5, c_{11}	$5(5u^{128}-6u^{127}+\cdots+40667u+8021)$
c_6	$5(5u^{128}-6u^{127}+\cdots-3u-1)$
c_7, c_8, c_{12}	$u^{128}+69u^{126}+\cdots+3101u+335$
c_9	$u^{128}-u^{127}+\cdots+109650874u+30512188$
c_{10}	$u^{128}+u^{127}+\cdots-86689u+15995$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$25(25y^{128} - 1586y^{127} + \cdots - 2.34182 \times 10^{13}y + 1.61189 \times 10^{11})$
c_2	$y^{128} + 29y^{127} + \cdots + 3815485825y + 161925625$
c_3	$y^{128} - 86y^{127} + \cdots - 2.57 \times 10^{21}y + 5.20 \times 10^{19}$
c_4	$y^{128} + 75y^{127} + \cdots + 38410155386297739y + 14882364024957025$
c_5, c_{11}	$25(25y^{128} + 2864y^{127} + \cdots - 1.96260 \times 10^{9}y + 6.43364 \times 10^{7})$
c_6	$25(25y^{128} - 636y^{127} + \cdots + 95y + 1)$
c_7, c_8, c_{12}	$y^{128} + 138y^{127} + \cdots + 4645419y + 112225$
c_9	$y^{128} - 41y^{127} + \cdots - 25209093297032220y + 930993616547344$
c_{10}	$y^{128} + 49y^{127} + \cdots + 19150857599y + 255840025$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.670057 + 0.755540I$ $a = -0.517959 - 1.274930I$ $b = 0.935974 - 0.837483I$	$-0.87146 - 4.99280I$	0
$u = 0.670057 - 0.755540I$ $a = -0.517959 + 1.274930I$ $b = 0.935974 + 0.837483I$	$-0.87146 + 4.99280I$	0
$u = -0.624462 + 0.755002I$ $a = 0.21457 - 1.66795I$ $b = -0.444985 - 0.450731I$	$-5.92544 + 6.29206I$	0
$u = -0.624462 - 0.755002I$ $a = 0.21457 + 1.66795I$ $b = -0.444985 + 0.450731I$	$-5.92544 - 6.29206I$	0
$u = -0.295858 + 0.985279I$ $a = 0.194219 - 0.597321I$ $b = -0.621681 - 0.280206I$	$1.70199 - 1.51235I$	0
$u = -0.295858 - 0.985279I$ $a = 0.194219 + 0.597321I$ $b = -0.621681 + 0.280206I$	$1.70199 + 1.51235I$	0
$u = -1.021420 + 0.130859I$ $a = 0.349460 - 0.779220I$ $b = 1.25324 - 1.28329I$	$-14.3831 - 5.4142I$	0
$u = -1.021420 - 0.130859I$ $a = 0.349460 + 0.779220I$ $b = 1.25324 + 1.28329I$	$-14.3831 + 5.4142I$	0
$u = 0.579786 + 0.772511I$ $a = 0.031052 + 1.173600I$ $b = -0.88407 + 1.68599I$	$-3.52416 - 6.28630I$	0
$u = 0.579786 - 0.772511I$ $a = 0.031052 - 1.173600I$ $b = -0.88407 - 1.68599I$	$-3.52416 + 6.28630I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.522546 + 0.810984I$ $a = -0.122581 - 0.663920I$ $b = 0.891034 - 0.999173I$	$1.01866 - 3.82875I$	0
$u = 0.522546 - 0.810984I$ $a = -0.122581 + 0.663920I$ $b = 0.891034 + 0.999173I$	$1.01866 + 3.82875I$	0
$u = 0.207432 + 0.930829I$ $a = -2.05658 - 0.82303I$ $b = 1.057120 - 0.241819I$	$-3.19236 - 3.86848I$	0
$u = 0.207432 - 0.930829I$ $a = -2.05658 + 0.82303I$ $b = 1.057120 + 0.241819I$	$-3.19236 + 3.86848I$	0
$u = 0.366467 + 0.870051I$ $a = 0.867940 + 1.015360I$ $b = -0.529045 + 0.284996I$	$0.95783 - 2.81467I$	0
$u = 0.366467 - 0.870051I$ $a = 0.867940 - 1.015360I$ $b = -0.529045 - 0.284996I$	$0.95783 + 2.81467I$	0
$u = 0.910977 + 0.022794I$ $a = -1.31716 - 1.54295I$ $b = -0.281869 - 0.748018I$	$-6.02235 + 2.51292I$	0
$u = 0.910977 - 0.022794I$ $a = -1.31716 + 1.54295I$ $b = -0.281869 + 0.748018I$	$-6.02235 - 2.51292I$	0
$u = 0.505895 + 0.753974I$ $a = -0.384177 - 0.535723I$ $b = -0.876631 - 0.195413I$	$-2.88825 - 1.05818I$	0
$u = 0.505895 - 0.753974I$ $a = -0.384177 + 0.535723I$ $b = -0.876631 + 0.195413I$	$-2.88825 + 1.05818I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.590777+0.655533I$ $a=-0.096733+1.240630I$ $b=\ \ 0.831556+0.810539I$	$1.69935+2.52168I$	0
$u=-0.590777-0.655533I$ $a=-0.096733-1.240630I$ $b=\ \ 0.831556-0.810539I$	$1.69935-2.52168I$	0
$u=\ \ 0.438393+1.029680I$ $a=\ \ 0.681582+0.508978I$ $b=-0.656703+0.349296I$	$0.86418-2.79224I$	0
$u=\ \ 0.438393-1.029680I$ $a=\ \ 0.681582-0.508978I$ $b=-0.656703-0.349296I$	$0.86418+2.79224I$	0
$u=\ \ 0.874260+0.063412I$ $a=\ \ 0.286911+0.810060I$ $b=\ \ 1.39969+1.48971I$	$-6.86492+0.90423I$	0
$u=\ \ 0.874260-0.063412I$ $a=\ \ 0.286911-0.810060I$ $b=\ \ 1.39969-1.48971I$	$-6.86492-0.90423I$	0
$u=\ \ 0.870242+0.081325I$ $a=\ \ 0.372337-0.669473I$ $b=-0.453377-0.627533I$	$-2.10764-0.31019I$	0
$u=\ \ 0.870242-0.081325I$ $a=\ \ 0.372337+0.669473I$ $b=-0.453377+0.627533I$	$-2.10764+0.31019I$	0
$u=-0.444130+0.751283I$ $a=-1.42413+2.16142I$ $b=\ \ 0.827220+0.523416I$	$-11.6274+9.0855I$	0
$u=-0.444130-0.751283I$ $a=-1.42413-2.16142I$ $b=\ \ 0.827220-0.523416I$	$-11.6274-9.0855I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.198236 + 1.123340I$ $a = -0.054559 + 0.576961I$ $b = -0.717832 + 0.266524I$	$-4.53083 + 4.28786I$	0
$u = 0.198236 - 1.123340I$ $a = -0.054559 - 0.576961I$ $b = -0.717832 - 0.266524I$	$-4.53083 - 4.28786I$	0
$u = -1.182480 + 0.015473I$ $a = -0.98519 + 1.35709I$ $b = -0.301076 + 0.771095I$	$-12.80370 - 3.50278I$	0
$u = -1.182480 - 0.015473I$ $a = -0.98519 - 1.35709I$ $b = -0.301076 - 0.771095I$	$-12.80370 + 3.50278I$	0
$u = 0.797207 + 0.152198I$ $a = 0.010654 + 1.374330I$ $b = -1.24385 + 1.28644I$	$-13.72010 - 0.71134I$	0
$u = 0.797207 - 0.152198I$ $a = 0.010654 - 1.374330I$ $b = -1.24385 - 1.28644I$	$-13.72010 + 0.71134I$	0
$u = 0.244448 + 0.764340I$ $a = 0.256468 - 1.357240I$ $b = -0.213982 + 0.538057I$	$-3.51522 - 1.36195I$	0
$u = 0.244448 - 0.764340I$ $a = 0.256468 + 1.357240I$ $b = -0.213982 - 0.538057I$	$-3.51522 + 1.36195I$	0
$u = -0.614296 + 1.031930I$ $a = 0.049824 + 0.701578I$ $b = 0.837621 + 1.089450I$	$-4.35521 + 5.20841I$	0
$u = -0.614296 - 1.031930I$ $a = 0.049824 - 0.701578I$ $b = 0.837621 - 1.089450I$	$-4.35521 - 5.20841I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.758094 + 0.068527I$ $a = 0.547819 - 0.754908I$ $b = 0.388808 - 0.978146I$	$-2.35008 - 1.38862I$	0
$u = 0.758094 - 0.068527I$ $a = 0.547819 + 0.754908I$ $b = 0.388808 + 0.978146I$	$-2.35008 + 1.38862I$	0
$u = -0.570739 + 1.100260I$ $a = -0.345455 + 0.400912I$ $b = -0.853665 + 0.129254I$	$-9.10526 + 1.63756I$	0
$u = -0.570739 - 1.100260I$ $a = -0.345455 - 0.400912I$ $b = -0.853665 - 0.129254I$	$-9.10526 - 1.63756I$	0
$u = -0.645405 + 1.078470I$ $a = 0.000837 - 1.151600I$ $b = -0.66228 - 1.56907I$	$-9.02052 + 9.15715I$	0
$u = -0.645405 - 1.078470I$ $a = 0.000837 + 1.151600I$ $b = -0.66228 + 1.56907I$	$-9.02052 - 9.15715I$	0
$u = 0.681254 + 0.286021I$ $a = 0.276682 + 0.912346I$ $b = 1.76338 + 1.19579I$	$-14.1256 - 9.6013I$	0
$u = 0.681254 - 0.286021I$ $a = 0.276682 - 0.912346I$ $b = 1.76338 - 1.19579I$	$-14.1256 + 9.6013I$	0
$u = -0.718832 + 0.147556I$ $a = 0.270402 - 0.863795I$ $b = 1.69870 - 1.43831I$	$-6.84689 + 5.14006I$	0
$u = -0.718832 - 0.147556I$ $a = 0.270402 + 0.863795I$ $b = 1.69870 + 1.43831I$	$-6.84689 - 5.14006I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.715567 + 0.101178I$ $a = -1.41896 - 1.71183I$ $b = 0.490263 - 0.767901I$	$-9.22915 - 5.13764I$	0
$u = 0.715567 - 0.101178I$ $a = -1.41896 + 1.71183I$ $b = 0.490263 + 0.767901I$	$-9.22915 + 5.13764I$	0
$u = -0.551613 + 0.419613I$ $a = 0.079826 - 1.258760I$ $b = -1.30518 - 1.65890I$	$-5.26385 + 2.17447I$	$0. - 6.45953I$
$u = -0.551613 - 0.419613I$ $a = 0.079826 + 1.258760I$ $b = -1.30518 + 1.65890I$	$-5.26385 - 2.17447I$	$0. + 6.45953I$
$u = 0.646911 + 0.234998I$ $a = 0.49123 - 1.43624I$ $b = -0.821114 - 1.137430I$	$-8.85813 - 5.71260I$	$-5.31590 + 5.77023I$
$u = 0.646911 - 0.234998I$ $a = 0.49123 + 1.43624I$ $b = -0.821114 + 1.137430I$	$-8.85813 + 5.71260I$	$-5.31590 - 5.77023I$
$u = 0.381787 + 0.548878I$ $a = 0.24918 - 1.52440I$ $b = 0.835516 - 0.649500I$	$-3.03550 - 1.02076I$	$4.00000 + 1.36709I$
$u = 0.381787 - 0.548878I$ $a = 0.24918 + 1.52440I$ $b = 0.835516 + 0.649500I$	$-3.03550 + 1.02076I$	$4.00000 - 1.36709I$
$u = -0.647217 + 0.166673I$ $a = 0.528516 + 1.159790I$ $b = -0.696240 + 1.031700I$	$-2.17972 + 3.31427I$	$-1.58239 - 8.50857I$
$u = -0.647217 - 0.166673I$ $a = 0.528516 - 1.159790I$ $b = -0.696240 - 1.031700I$	$-2.17972 - 3.31427I$	$-1.58239 + 8.50857I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.615583 + 0.251330I$ $a = -1.34050 + 2.75620I$ $b = -0.175714 + 0.930951I$	$-12.85860 - 1.12265I$	$-8.29711 + 2.79143I$
$u = \quad 0.615583 - 0.251330I$ $a = -1.34050 - 2.75620I$ $b = -0.175714 - 0.930951I$	$-12.85860 + 1.12265I$	$-8.29711 - 2.79143I$
$u = -0.632472 + 0.150674I$ $a = -1.58365 - 2.46115I$ $b = -0.235162 - 0.823879I$	$-5.95201 + 1.33725I$	$-10.32087 - 4.41817I$
$u = -0.632472 - 0.150674I$ $a = -1.58365 + 2.46115I$ $b = -0.235162 + 0.823879I$	$-5.95201 - 1.33725I$	$-10.32087 + 4.41817I$
$u = \quad 0.639803 + 0.067007I$ $a = \quad 3.38721 + 2.28456I$ $b = \quad 0.064049 + 0.603580I$	$-14.0527 - 8.5972I$	$-12.9862 + 7.4232I$
$u = \quad 0.639803 - 0.067007I$ $a = \quad 3.38721 - 2.28456I$ $b = \quad 0.064049 - 0.603580I$	$-14.0527 + 8.5972I$	$-12.9862 - 7.4232I$
$u = -1.123890 + 0.784186I$ $a = -0.070071 - 1.122360I$ $b = -0.91195 - 1.25838I$	$-7.06870 + 7.42280I$	0
$u = -1.123890 - 0.784186I$ $a = -0.070071 + 1.122360I$ $b = -0.91195 + 1.25838I$	$-7.06870 - 7.42280I$	0
$u = \quad 1.227420 + 0.668163I$ $a = -0.149805 + 1.140580I$ $b = -1.00939 + 1.22247I$	$-14.3901 - 8.1482I$	0
$u = \quad 1.227420 - 0.668163I$ $a = -0.149805 - 1.140580I$ $b = -1.00939 - 1.22247I$	$-14.3901 + 8.1482I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.279680+0.523860I$ $a=-0.418095+0.037545I$ $b=\ \ 1.25432+0.85715I$	$-1.57984+2.50684I$	$7.10135+2.74151I$
$u=-0.279680-0.523860I$ $a=-0.418095-0.037545I$ $b=\ \ 1.25432-0.85715I$	$-1.57984-2.50684I$	$7.10135-2.74151I$
$u=-0.506778+0.252997I$ $a=\ \ 4.01838+0.09631I$ $b=-0.056855-0.537864I$	$-5.83710+5.47018I$	$-6.5706-14.3078I$
$u=-0.506778-0.252997I$ $a=\ \ 4.01838-0.09631I$ $b=-0.056855+0.537864I$	$-5.83710-5.47018I$	$-6.5706+14.3078I$
$u=-1.09221+0.96601I$ $a=-0.312852+1.071050I$ $b=\ \ 1.06807+1.19719I$	$-14.8073+3.4229I$	0
$u=-1.09221-0.96601I$ $a=-0.312852-1.071050I$ $b=\ \ 1.06807-1.19719I$	$-14.8073-3.4229I$	0
$u=-0.505308+0.187338I$ $a=-1.92448+0.93721I$ $b=\ \ 0.666295+0.531321I$	$-1.63986+3.32589I$	$0.57738-8.11329I$
$u=-0.505308-0.187338I$ $a=-1.92448-0.93721I$ $b=\ \ 0.666295-0.531321I$	$-1.63986-3.32589I$	$0.57738+8.11329I$
$u=-1.14072+0.91523I$ $a=\ \ 0.375350-0.863865I$ $b=-0.569570-0.902551I$	$-9.31994+2.57145I$	0
$u=-1.14072-0.91523I$ $a=\ \ 0.375350+0.863865I$ $b=-0.569570+0.902551I$	$-9.31994-2.57145I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.98163 + 1.11752I$ $a = -0.653006 - 0.326756I$ $b = -0.077346 - 0.697415I$	$-5.82983 - 0.92605I$	0
$u = 0.98163 - 1.11752I$ $a = -0.653006 + 0.326756I$ $b = -0.077346 + 0.697415I$	$-5.82983 + 0.92605I$	0
$u = 1.10777 + 1.02567I$ $a = 0.033171 + 1.133390I$ $b = -0.69881 + 1.27112I$	$-6.09605 - 6.88619I$	0
$u = 1.10777 - 1.02567I$ $a = 0.033171 - 1.133390I$ $b = -0.69881 - 1.27112I$	$-6.09605 + 6.88619I$	0
$u = 1.13485 + 1.02315I$ $a = -0.198966 - 1.003110I$ $b = 1.06301 - 1.29040I$	$-7.59653 - 8.63921I$	0
$u = 1.13485 - 1.02315I$ $a = -0.198966 + 1.003110I$ $b = 1.06301 + 1.29040I$	$-7.59653 + 8.63921I$	0
$u = -0.98455 + 1.18920I$ $a = 0.398469 - 0.329050I$ $b = 0.350678 - 1.128770I$	$-14.1479 + 4.2835I$	0
$u = -0.98455 - 1.18920I$ $a = 0.398469 + 0.329050I$ $b = 0.350678 + 1.128770I$	$-14.1479 - 4.2835I$	0
$u = -1.16189 + 1.04296I$ $a = -0.121335 + 1.033250I$ $b = 1.01373 + 1.30169I$	$-8.1926 + 14.6819I$	0
$u = -1.16189 - 1.04296I$ $a = -0.121335 - 1.033250I$ $b = 1.01373 - 1.30169I$	$-8.1926 - 14.6819I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.20161 + 1.01467I$ $a = -0.029505 - 0.653759I$ $b = 0.431105 - 0.931376I$	$-2.18056 - 3.50543I$	0
$u = 1.20161 - 1.01467I$ $a = -0.029505 + 0.653759I$ $b = 0.431105 + 0.931376I$	$-2.18056 + 3.50543I$	0
$u = -1.57696 + 0.02299I$ $a = 0.274018 + 0.289044I$ $b = -0.266637 + 0.314402I$	$-7.96524 - 0.86429I$	0
$u = -1.57696 - 0.02299I$ $a = 0.274018 - 0.289044I$ $b = -0.266637 - 0.314402I$	$-7.96524 + 0.86429I$	0
$u = 1.19446 + 1.04198I$ $a = 0.140629 + 0.733429I$ $b = -0.733077 + 0.886255I$	$-2.11721 - 5.16334I$	0
$u = 1.19446 - 1.04198I$ $a = 0.140629 - 0.733429I$ $b = -0.733077 - 0.886255I$	$-2.11721 + 5.16334I$	0
$u = -0.411280 + 0.052511I$ $a = 0.01973 + 1.56875I$ $b = -1.68869 + 0.64449I$	$-4.59765 - 1.10126I$	$-10.42322 - 0.28122I$
$u = -0.411280 - 0.052511I$ $a = 0.01973 - 1.56875I$ $b = -1.68869 - 0.64449I$	$-4.59765 + 1.10126I$	$-10.42322 + 0.28122I$
$u = 1.19148 + 1.05599I$ $a = -0.086033 - 1.072940I$ $b = 0.99364 - 1.29215I$	$-15.7178 - 18.8406I$	0
$u = 1.19148 - 1.05599I$ $a = -0.086033 + 1.072940I$ $b = 0.99364 + 1.29215I$	$-15.7178 + 18.8406I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.28775+0.95888I$ $a=-0.654482+0.669236I$ $b=-0.110160+0.822231I$	$-12.98490+1.73745I$	0
$u=-1.28775-0.95888I$ $a=-0.654482-0.669236I$ $b=-0.110160-0.822231I$	$-12.98490-1.73745I$	0
$u=-1.17113+1.12107I$ $a=0.060923-1.173020I$ $b=-0.614574-1.269150I$	$-12.5200+6.9562I$	0
$u=-1.17113-1.12107I$ $a=0.060923+1.173020I$ $b=-0.614574+1.269150I$	$-12.5200-6.9562I$	0
$u=1.15319+1.18101I$ $a=0.389296+0.304205I$ $b=0.207194+1.078660I$	$-7.20819+0.38745I$	0
$u=1.15319-1.18101I$ $a=0.389296-0.304205I$ $b=0.207194-1.078660I$	$-7.20819-0.38745I$	0
$u=-1.28089+1.04401I$ $a=-0.019449-0.753778I$ $b=-0.830707-0.907008I$	$-1.85528+9.47621I$	0
$u=-1.28089-1.04401I$ $a=-0.019449+0.753778I$ $b=-0.830707+0.907008I$	$-1.85528-9.47621I$	0
$u=-1.12744+1.20924I$ $a=-0.134245+0.738002I$ $b=0.269905+1.069070I$	$-8.42042+5.63254I$	0
$u=-1.12744-1.20924I$ $a=-0.134245-0.738002I$ $b=0.269905-1.069070I$	$-8.42042-5.63254I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 1.34657 + 1.02291I$ $a = -0.121299 + 0.785666I$ $b = -0.904184 + 0.923989I$	$-8.4020 - 12.4881I$	0
$u = \ 1.34657 - 1.02291I$ $a = -0.121299 - 0.785666I$ $b = -0.904184 - 0.923989I$	$-8.4020 + 12.4881I$	0
$u = -1.24191 + 1.26092I$ $a = \ 0.406986 - 0.282466I$ $b = \ 0.191166 - 0.941284I$	$-7.75939 - 6.10036I$	0
$u = -1.24191 - 1.26092I$ $a = \ 0.406986 + 0.282466I$ $b = \ 0.191166 + 0.941284I$	$-7.75939 + 6.10036I$	0
$u = \ 0.219734$ $a = -4.40302$ $b = \ 0.735094$	0.649355	12.2090
$u = -0.218333$ $a = \ 2.56125$ $b = \ 0.489078$	0.832454	11.9890
$u = -1.58238 + 0.85084I$ $a = \ 0.093494 + 0.469590I$ $b = \ 0.518979 + 0.676438I$	$-1.93470 + 0.48286I$	0
$u = -1.58238 - 0.85084I$ $a = \ 0.093494 - 0.469590I$ $b = \ 0.518979 - 0.676438I$	$-1.93470 - 0.48286I$	0
$u = \ 0.127676 + 0.133067I$ $a = -1.77453 + 7.62553I$ $b = -0.644227 + 0.919311I$	$-9.39443 - 4.84683I$	$-0.04219 + 3.79481I$
$u = \ 0.127676 - 0.133067I$ $a = -1.77453 - 7.62553I$ $b = -0.644227 - 0.919311I$	$-9.39443 + 4.84683I$	$-0.04219 - 3.79481I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.27921 + 1.34533I$ $a = 0.426301 + 0.280019I$ $b = 0.244576 + 0.871817I$	$-15.1777 + 10.0042I$	0
$u = 1.27921 - 1.34533I$ $a = 0.426301 - 0.280019I$ $b = 0.244576 - 0.871817I$	$-15.1777 - 10.0042I$	0
$u = -0.0172012 + 0.0998655I$ $a = -11.26940 - 5.79803I$ $b = -0.799171 + 0.498445I$	$-3.34476 - 2.07319I$	$3.70739 + 2.71432I$
$u = -0.0172012 - 0.0998655I$ $a = -11.26940 + 5.79803I$ $b = -0.799171 - 0.498445I$	$-3.34476 + 2.07319I$	$3.70739 - 2.71432I$
$u = -1.18269 + 1.59050I$ $a = -0.0167657 + 0.0717750I$ $b = -0.423828 - 0.327854I$	$-7.77740 - 0.58428I$	0
$u = -1.18269 - 1.59050I$ $a = -0.0167657 - 0.0717750I$ $b = -0.423828 + 0.327854I$	$-7.77740 + 0.58428I$	0
$u = 2.04283 + 0.56784I$ $a = 0.239373 - 0.303133I$ $b = 0.654694 - 0.434222I$	$-7.94720 + 1.25723I$	0
$u = 2.04283 - 0.56784I$ $a = 0.239373 + 0.303133I$ $b = 0.654694 + 0.434222I$	$-7.94720 - 1.25723I$	0

II. $I_2^u = \langle -2.15 \times 10^{46} u^{29} - 1.36 \times 10^{47} u^{28} + \cdots + 8.51 \times 10^{45} b - 1.05 \times 10^{46},\ 3.45 \times 10^{46} u^{29} + 2.00 \times 10^{47} u^{28} + \cdots + 8.51 \times 10^{45} a + 1.53 \times 10^{46},\ 5u^{30} + 33u^{29} + \cdots + 2u + 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -4.05248u^{29} - 23.5341u^{28} + \cdots + 0.376398u - 1.79423 \\ 2.52279u^{29} + 15.9730u^{28} + \cdots + 2.07229u + 1.23609 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -6.94058u^{29} - 41.5444u^{28} + \cdots - 2.17028u - 3.67276 \\ 2.95865u^{29} + 18.3735u^{28} + \cdots + 2.22942u + 1.02584 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -5.84802u^{29} - 35.8644u^{28} + \cdots - 8.02089u - 3.17187 \\ 1.12877u^{29} + 7.33254u^{28} + \cdots + 2.23703u + 0.342491 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -6.57527u^{29} - 39.5071u^{28} + \cdots - 1.69589u - 3.03032 \\ 2.52279u^{29} + 15.9730u^{28} + \cdots + 2.07229u + 1.23609 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.0226501u^{29} - 1.39650u^{28} + \cdots - 0.953621u - 1.94678 \\ 2.09667u^{29} + 13.2323u^{28} + \cdots + 0.942778u + 0.905006 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1.68798u^{29} + 8.92987u^{28} + \cdots - 3.68313u + 5.56772 \\ -0.482655u^{29} - 2.28074u^{28} + \cdots - 0.583407u - 1.86820 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1.28627u^{29} + 5.55865u^{28} + \cdots + 10.3938u + 2.11451 \\ -0.0898216u^{29} - 0.368168u^{28} + \cdots - 3.43140u - 0.247052 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -8.19129u^{29} - 51.0181u^{28} + \cdots - 10.0302u - 3.64065 \\ 1.21450u^{29} + 7.82126u^{28} + \cdots + 1.77229u + 0.126294 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 2.11707u^{29} + 16.6926u^{28} + \cdots - 3.02830u - 0.257242 \\ -1.88799u^{29} - 12.7841u^{28} + \cdots + 1.20749u + 0.210246 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -1.01805u^{29} - 13.0484u^{28} + \cdots - 1.40845u - 3.85011$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$5(5u^{30} - 33u^{29} + \cdots - 13u + 1)$
c_2	$u^{30} - 4u^{29} + \cdots + 22u + 5$
c_3	$u^{30} + 5u^{29} + \cdots - 38u + 11$
c_4	$u^{30} + 7u^{28} + \cdots + 18u + 5$
c_5	$5(5u^{30} + 23u^{29} + \cdots - 14u + 1)$
c_6	$5(5u^{30} + 33u^{29} + \cdots + 2u + 1)$
c_7, c_8	$u^{30} - u^{29} + \cdots + 16u + 5$
c_9	$u^{30} + 5u^{28} + \cdots + 14u + 4$
c_{10}	$u^{30} + 10u^{28} + \cdots - 28u + 5$
c_{11}	$5(5u^{30} - 23u^{29} + \cdots + 14u + 1)$
c_{12}	$u^{30} + u^{29} + \cdots - 16u + 5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$25(25y^{30} - 439y^{29} + \cdots - 17y + 1)$
c_2	$y^{30} + 4y^{29} + \cdots + 56y + 25$
c_3	$y^{30} - 23y^{29} + \cdots + 2494y + 121$
c_4	$y^{30} + 14y^{29} + \cdots + 526y + 25$
c_5, c_{11}	$25(25y^{30} + 611y^{29} + \cdots + 244y^2 + 1)$
c_6	$25(25y^{30} - 189y^{29} + \cdots - 6y + 1)$
c_7, c_8, c_{12}	$y^{30} + 33y^{29} + \cdots + 314y + 25$
c_9	$y^{30} + 10y^{29} + \cdots - 44y + 16$
c_{10}	$y^{30} + 20y^{29} + \cdots + 606y + 25$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.569199 + 0.796831I$ $a = -0.416997 - 0.786658I$ $b = 0.720912 - 0.845806I$	$0.35841 - 3.58053I$	$1.95909 + 5.79681I$
$u = 0.569199 - 0.796831I$ $a = -0.416997 + 0.786658I$ $b = 0.720912 + 0.845806I$	$0.35841 + 3.58053I$	$1.95909 - 5.79681I$
$u = -0.548523 + 0.916219I$ $a = -0.515954 + 1.011370I$ $b = 0.183547 + 0.858650I$	$-6.74443 + 5.52946I$	$-1.66846 - 5.08278I$
$u = -0.548523 - 0.916219I$ $a = -0.515954 - 1.011370I$ $b = 0.183547 - 0.858650I$	$-6.74443 - 5.52946I$	$-1.66846 + 5.08278I$
$u = -1.029480 + 0.351847I$ $a = -0.717416 + 1.110250I$ $b = -0.382393 + 0.940448I$	$-12.21410 + 0.77384I$	$-5.49839 + 0.47751I$
$u = -1.029480 - 0.351847I$ $a = -0.717416 - 1.110250I$ $b = -0.382393 - 0.940448I$	$-12.21410 - 0.77384I$	$-5.49839 - 0.47751I$
$u = 0.321066 + 1.049190I$ $a = -0.896432 - 0.467798I$ $b = 0.614822 - 0.328859I$	$0.72579 - 2.96470I$	$-12.5986 + 18.3028I$
$u = 0.321066 - 1.049190I$ $a = -0.896432 + 0.467798I$ $b = 0.614822 + 0.328859I$	$0.72579 + 2.96470I$	$-12.5986 - 18.3028I$
$u = 0.351856 + 0.814791I$ $a = 1.88936 + 1.39790I$ $b = -0.961444 + 0.378370I$	$-2.86934 - 3.44062I$	$5.83200 + 0.99629I$
$u = 0.351856 - 0.814791I$ $a = 1.88936 - 1.39790I$ $b = -0.961444 - 0.378370I$	$-2.86934 + 3.44062I$	$5.83200 - 0.99629I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.781091 + 0.395019I$ $a = -0.384993 - 0.714168I$ $b = -0.860550 - 0.920414I$	$-3.84586 + 0.18432I$	$-4.14156 + 1.50496I$
$u = \ 0.781091 - 0.395019I$ $a = -0.384993 + 0.714168I$ $b = -0.860550 + 0.920414I$	$-3.84586 - 0.18432I$	$-4.14156 - 1.50496I$
$u = \ 0.653623 + 0.309207I$ $a = -1.39552 - 0.58081I$ $b = -0.267290 - 1.008370I$	$-5.01891 + 0.72670I$	$-2.38759 + 0.50812I$
$u = \ 0.653623 - 0.309207I$ $a = -1.39552 + 0.58081I$ $b = -0.267290 + 1.008370I$	$-5.01891 - 0.72670I$	$-2.38759 - 0.50812I$
$u = -1.098530 + 0.773706I$ $a = \ 0.038400 - 1.397940I$ $b = -0.711510 - 1.057740I$	$-12.53450 + 5.60449I$	$-5.42250 - 3.95249I$
$u = -1.098530 - 0.773706I$ $a = \ 0.038400 + 1.397940I$ $b = -0.711510 + 1.057740I$	$-12.53450 - 5.60449I$	$-5.42250 + 3.95249I$
$u = -0.440725 + 0.466443I$ $a = -0.307751 + 0.910156I$ $b = \ 1.30016 + 1.09128I$	$-1.82886 + 2.86634I$	$-3.21917 - 11.76445I$
$u = -0.440725 - 0.466443I$ $a = -0.307751 - 0.910156I$ $b = \ 1.30016 - 1.09128I$	$-1.82886 - 2.86634I$	$-3.21917 + 11.76445I$
$u = \ 1.06291 + 0.95318I$ $a = \ 0.046619 + 1.115740I$ $b = -0.79757 + 1.28034I$	$-5.66490 - 6.69873I$	$4.19860 + 3.07617I$
$u = \ 1.06291 - 0.95318I$ $a = \ 0.046619 - 1.115740I$ $b = -0.79757 - 1.28034I$	$-5.66490 + 6.69873I$	$4.19860 - 3.07617I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.274917+0.498694I$ $a=-0.431932+0.569688I$ $b=-1.57440-0.40294I$	$-4.12489+1.43960I$	$1.63216-6.49833I$
$u=-0.274917-0.498694I$ $a=-0.431932-0.569688I$ $b=-1.57440+0.40294I$	$-4.12489-1.43960I$	$1.63216+6.49833I$
$u=-1.02394+1.02607I$ $a=-0.072132-1.067560I$ $b=-0.68299-1.38636I$	$-9.90852+8.39660I$	$-5.82890-6.07911I$
$u=-1.02394-1.02607I$ $a=-0.072132+1.067560I$ $b=-0.68299+1.38636I$	$-9.90852-8.39660I$	$-5.82890+6.07911I$
$u=0.373533+0.295071I$ $a=0.23966+2.94764I$ $b=0.701814-0.395561I$	$-13.2830+8.4783I$	$-1.68666-4.27120I$
$u=0.373533-0.295071I$ $a=0.23966-2.94764I$ $b=0.701814+0.395561I$	$-13.2830-8.4783I$	$-1.68666+4.27120I$
$u=-0.361283+0.198894I$ $a=-2.07534-2.23336I$ $b=0.434005+0.794969I$	$-5.54819-4.83112I$	$-0.54326+3.53292I$
$u=-0.361283-0.198894I$ $a=-2.07534+2.23336I$ $b=0.434005-0.794969I$	$-5.54819+4.83112I$	$-0.54326-3.53292I$
$u=-2.63588+1.80949I$ $a=0.0004245+0.1240620I$ $b=0.282881+0.280638I$	$-7.97011-0.42223I$	0
$u=-2.63588-1.80949I$ $a=0.0004245-0.1240620I$ $b=0.282881-0.280638I$	$-7.97011+0.42223I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$25(5u^{30}-33u^{29}+\cdots-13u+1)$ $\cdot(5u^{128}+44u^{127}+\cdots+774818u-401483)$
c_2	$(u^{30}-4u^{29}+\cdots+22u+5)(u^{128}-u^{127}+\cdots+181885u+12725)$
c_3	$(u^{30}+5u^{29}+\cdots-38u+11)$ $\cdot(u^{128}-4u^{127}+\cdots-11825779033u+7211692781)$
c_4	$(u^{30}+7u^{28}+\cdots+18u+5)$ $\cdot(u^{128}+u^{127}+\cdots+1190911161u+121993295)$
c_5	$25(5u^{30}+23u^{29}+\cdots-14u+1)$ $\cdot(5u^{128}-6u^{127}+\cdots+40667u+8021)$
c_6	$25(5u^{30}+33u^{29}+\cdots+2u+1)(5u^{128}-6u^{127}+\cdots-3u-1)$
c_7, c_8	$(u^{30}-u^{29}+\cdots+16u+5)(u^{128}+69u^{126}+\cdots+3101u+335)$
c_9	$(u^{30}+5u^{28}+\cdots+14u+4)$ $\cdot(u^{128}-u^{127}+\cdots+109650874u+30512188)$
c_{10}	$(u^{30}+10u^{28}+\cdots-28u+5)(u^{128}+u^{127}+\cdots-86689u+15995)$
c_{11}	$25(5u^{30}-23u^{29}+\cdots+14u+1)$ $\cdot(5u^{128}-6u^{127}+\cdots+40667u+8021)$
c_{12}	$(u^{30}+u^{29}+\cdots-16u+5)(u^{128}+69u^{126}+\cdots+3101u+335)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$625(25y^{30} - 439y^{29} + \cdots - 17y + 1)$ $\cdot (25y^{128} - 1586y^{127} + \cdots - 23418200454280y + 161188599289)$
c_2	$(y^{30} + 4y^{29} + \cdots + 56y + 25)$ $\cdot (y^{128} + 29y^{127} + \cdots + 3815485825y + 161925625)$
c_3	$(y^{30} - 23y^{29} + \cdots + 2494y + 121)$ $\cdot (y^{128} - 86y^{127} + \cdots - 2.57 \times 10^{21}y + 5.20 \times 10^{19})$
c_4	$(y^{30} + 14y^{29} + \cdots + 526y + 25)$ $\cdot (y^{128} + 75y^{127} + \cdots + 38410155386297739y + 14882364024957025)$
c_5, c_{11}	$625(25y^{30} + 611y^{29} + \cdots + 244y^2 + 1)$ $\cdot (25y^{128} + 2864y^{127} + \cdots - 1962597347y + 64336441)$
c_6	$625(25y^{30} - 189y^{29} + \cdots - 6y + 1)(25y^{128} - 636y^{127} + \cdots + 95y + 1)$
c_7, c_8, c_{12}	$(y^{30} + 33y^{29} + \cdots + 314y + 25)$ $\cdot (y^{128} + 138y^{127} + \cdots + 4645419y + 112225)$
c_9	$(y^{30} + 10y^{29} + \cdots - 44y + 16)$ $\cdot (y^{128} - 41y^{127} + \cdots - 25209093297032220y + 930993616547344)$
c_{10}	$(y^{30} + 20y^{29} + \cdots + 606y + 25)$ $\cdot (y^{128} + 49y^{127} + \cdots + 19150857599y + 255840025)$