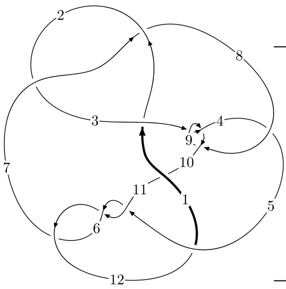
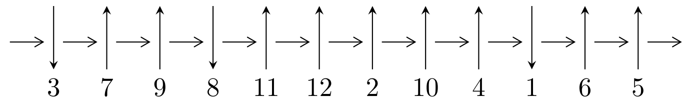
$12a_{0565}$ $(K12a_{0565})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 1.32158 \times 10^{56} u^{107} + 3.27224 \times 10^{55} u^{106} + \cdots + 4.96026 \times 10^{55} b - 4.27420 \times 10^{55},$$
$$-1.26324 \times 10^{55} u^{107} - 5.20004 \times 10^{54} u^{106} + \cdots + 4.96026 \times 10^{55} a + 2.69630 \times 10^{55},\ u^{108} + u^{107} + \cdots + 4$$
$$I_2^u = \langle -u^4 + u^2 a + 2u^2 + b - a - 1,\ 4u^4 a + u^5 + u^3 a - 2u^4 - 6u^2 a - 2u^3 + a^2 - au + u^2 - 2a - u,$$
$$u^6 - 3u^4 + 2u^2 + 1\rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 120 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. $I_1^u = \langle 1.32 \times 10^{56} u^{107} + 3.27 \times 10^{55} u^{106} + \cdots + 4.96 \times 10^{55} b - 4.27 \times 10^{55},\ -1.26 \times 10^{55} u^{107} - 5.20 \times 10^{54} u^{106} + \cdots + 4.96 \times 10^{55} a + 2.70 \times 10^{55},\ u^{108} + u^{107} + \cdots + 4u - 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.254671u^{107} + 0.104834u^{106} + \cdots + 14.4074u - 0.543580 \\ -2.66434u^{107} - 0.659690u^{106} + \cdots - 2.76765u + 0.861688 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.915359u^{107} - 1.08630u^{106} + \cdots + 14.1070u - 0.0176901 \\ -1.60412u^{107} - 0.998446u^{106} + \cdots - 1.98244u + 1.40868 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -1.55496u^{107} - 1.18445u^{106} + \cdots + 10.3009u - 2.64846 \\ -0.0712391u^{107} - 0.373281u^{106} + \cdots + 10.1195u - 2.22072 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^4 + u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.557394u^{107} + 0.518033u^{106} + \cdots - 21.2085u + 4.62222 \\ 3.34901u^{107} + 0.543398u^{106} + \cdots - 5.93596u + 1.29539 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^8 - 3u^6 + u^4 + 2u^2 + 1 \\ -u^8 + 4u^6 - 4u^4 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -1.38003u^{107} + 0.953232u^{106} + \cdots + 9.29014u - 2.70352 \\ -0.149367u^{107} - 1.02014u^{106} + \cdots + 12.1445u - 2.89736 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.876716u^{107} + 1.14842u^{106} + \cdots - 33.0770u + 17.3306$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{108} + 53u^{107} + \cdots + 24u + 1$
c_2, c_7	$u^{108} + u^{107} + \cdots - 6u - 1$
c_3, c_9	$u^{108} + u^{107} + \cdots + 21u^2 - 5$
c_4	$u^{108} + 3u^{107} + \cdots - 461530u - 25545$
c_5, c_6, c_{11}	$u^{108} + u^{107} + \cdots + 4u - 1$
c_8	$u^{108} - 53u^{107} + \cdots - 210u + 25$
c_{10}	$u^{108} - 23u^{107} + \cdots - 841432u + 42793$
c_{12}	$u^{108} - 3u^{107} + \cdots - 334u + 99$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{108} + 17y^{107} + \cdots - 324y + 1$
c_2, c_7	$y^{108} + 53y^{107} + \cdots + 24y + 1$
c_3, c_9	$y^{108} - 53y^{107} + \cdots - 210y + 25$
c_4	$y^{108} + 31y^{107} + \cdots - 307924380910y + 652547025$
c_5, c_6, c_{11}	$y^{108} - 99y^{107} + \cdots + 4y + 1$
c_8	$y^{108} + 11y^{107} + \cdots + 17950y + 625$
c_{10}	$y^{108} + 37y^{107} + \cdots + 17887794312y + 1831240849$
c_{12}	$y^{108} - 7y^{107} + \cdots - 323416y + 9801$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.078510 + 0.066384I$ $a = 0.74913 + 2.91711I$ $b = -0.159122 - 1.375640I$	$-1.75904 - 2.65358I$	0
$u = -1.078510 - 0.066384I$ $a = 0.74913 - 2.91711I$ $b = -0.159122 + 1.375640I$	$-1.75904 + 2.65358I$	0
$u = -1.091430 + 0.244782I$ $a = 0.49231 + 2.62431I$ $b = -0.860462 - 0.916898I$	$-0.96511 - 4.47596I$	0
$u = -1.091430 - 0.244782I$ $a = 0.49231 - 2.62431I$ $b = -0.860462 + 0.916898I$	$-0.96511 + 4.47596I$	0
$u = 1.133480 + 0.015855I$ $a = 1.05659 + 3.14794I$ $b = 0.06419 - 1.93882I$	$-0.45128 + 2.17405I$	0
$u = 1.133480 - 0.015855I$ $a = 1.05659 - 3.14794I$ $b = 0.06419 + 1.93882I$	$-0.45128 - 2.17405I$	0
$u = 1.099430 + 0.302544I$ $a = 0.38080 - 2.61193I$ $b = -1.083300 + 0.814934I$	$1.19055 + 9.20491I$	0
$u = 1.099430 - 0.302544I$ $a = 0.38080 + 2.61193I$ $b = -1.083300 - 0.814934I$	$1.19055 - 9.20491I$	0
$u = 1.164780 + 0.108311I$ $a = 0.637076 - 0.329305I$ $b = -0.785331 + 0.058134I$	$1.56546 + 0.67321I$	0
$u = 1.164780 - 0.108311I$ $a = 0.637076 + 0.329305I$ $b = -0.785331 - 0.058134I$	$1.56546 - 0.67321I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.691156 + 0.445702I$ $a = -0.57421 + 2.25405I$ $b = 0.881318 + 0.430710I$	$2.28872 - 9.22034I$	$8.40055 + 5.38134I$
$u = 0.691156 - 0.445702I$ $a = -0.57421 - 2.25405I$ $b = 0.881318 - 0.430710I$	$2.28872 + 9.22034I$	$8.40055 - 5.38134I$
$u = 0.312027 + 0.742416I$ $a = -0.599810 - 0.003658I$ $b = -2.50501 + 0.43469I$	$0.94501 + 13.40950I$	$5.88106 - 10.27839I$
$u = 0.312027 - 0.742416I$ $a = -0.599810 + 0.003658I$ $b = -2.50501 - 0.43469I$	$0.94501 - 13.40950I$	$5.88106 + 10.27839I$
$u = -0.304870 + 0.721074I$ $a = -0.533307 + 0.121712I$ $b = -2.43367 - 0.20539I$	$-1.48238 - 8.19805I$	$2.90543 + 6.87933I$
$u = -0.304870 - 0.721074I$ $a = -0.533307 - 0.121712I$ $b = -2.43367 + 0.20539I$	$-1.48238 + 8.19805I$	$2.90543 - 6.87933I$
$u = 0.345057 + 0.699162I$ $a = -0.286884 - 0.018001I$ $b = -1.97972 + 0.27664I$	$3.40555 + 5.22912I$	$9.21272 - 5.28491I$
$u = 0.345057 - 0.699162I$ $a = -0.286884 + 0.018001I$ $b = -1.97972 - 0.27664I$	$3.40555 - 5.22912I$	$9.21272 + 5.28491I$
$u = -0.338529 + 0.700114I$ $a = -0.176477 - 0.453278I$ $b = 0.044291 + 0.534112I$	$3.32780 - 7.81069I$	$9.09509 + 6.82204I$
$u = -0.338529 - 0.700114I$ $a = -0.176477 + 0.453278I$ $b = 0.044291 - 0.534112I$	$3.32780 + 7.81069I$	$9.09509 - 6.82204I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.651351+0.404173I$ $a=-0.34954-2.24628I$ $b=\ \ 0.828682-0.267745I$	$-0.17377+4.20459I$	$5.40595-1.84900I$
$u=-0.651351-0.404173I$ $a=-0.34954+2.24628I$ $b=\ \ 0.828682+0.267745I$	$-0.17377-4.20459I$	$5.40595+1.84900I$
$u=\ \ 0.098301+0.756192I$ $a=\ \ 0.582497-0.315067I$ $b=\ \ 2.05472+0.23854I$	$-1.85912-5.30654I$	$4.29467+5.82125I$
$u=\ \ 0.098301-0.756192I$ $a=\ \ 0.582497+0.315067I$ $b=\ \ 2.05472-0.23854I$	$-1.85912+5.30654I$	$4.29467-5.82125I$
$u=\ \ 1.209590+0.269103I$ $a=\ \ 0.44287-2.25971I$ $b=-1.16164+1.17315I$	$2.86997+2.24160I$	0
$u=\ \ 1.209590-0.269103I$ $a=\ \ 0.44287+2.25971I$ $b=-1.16164-1.17315I$	$2.86997-2.24160I$	0
$u=\ \ 0.583376+0.482300I$ $a=-0.37395+1.83053I$ $b=\ \ 0.557650+0.305960I$	$4.32970-1.18610I$	$11.36506-0.65831I$
$u=\ \ 0.583376-0.482300I$ $a=-0.37395-1.83053I$ $b=\ \ 0.557650-0.305960I$	$4.32970+1.18610I$	$11.36506+0.65831I$
$u=-0.584735+0.471879I$ $a=\ \ 0.824618-0.223152I$ $b=-0.381146+0.027264I$	$4.29184+3.79474I$	$11.40196-0.85477I$
$u=-0.584735-0.471879I$ $a=\ \ 0.824618+0.223152I$ $b=-0.381146-0.027264I$	$4.29184-3.79474I$	$11.40196+0.85477I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.395123 + 0.635568I$ $a = -0.198792 - 0.793432I$ $b = 0.094136 + 0.219436I$	$4.88640 + 0.26560I$	$11.56392 + 0.30422I$
$u = -0.395123 - 0.635568I$ $a = -0.198792 + 0.793432I$ $b = 0.094136 - 0.219436I$	$4.88640 - 0.26560I$	$11.56392 - 0.30422I$
$u = -1.229210 + 0.242947I$ $a = 0.896086 + 1.028220I$ $b = -1.278550 - 0.286411I$	$3.00417 - 4.91856I$	0
$u = -1.229210 - 0.242947I$ $a = 0.896086 - 1.028220I$ $b = -1.278550 + 0.286411I$	$3.00417 + 4.91856I$	0
$u = -0.486434 + 0.557533I$ $a = 0.532437 - 0.172628I$ $b = -0.699156 - 0.094278I$	$5.23596 - 4.22319I$	$11.96155 + 6.69488I$
$u = -0.486434 - 0.557533I$ $a = 0.532437 + 0.172628I$ $b = -0.699156 + 0.094278I$	$5.23596 + 4.22319I$	$11.96155 - 6.69488I$
$u = 0.321740 + 0.658812I$ $a = -0.033716 + 0.539334I$ $b = 0.190501 - 0.454927I$	$0.71793 + 2.99181I$	$5.99049 - 3.37437I$
$u = 0.321740 - 0.658812I$ $a = -0.033716 - 0.539334I$ $b = 0.190501 + 0.454927I$	$0.71793 - 2.99181I$	$5.99049 + 3.37437I$
$u = -0.116202 + 0.710518I$ $a = 0.459041 + 0.428398I$ $b = 1.92755 - 0.02931I$	$-3.89427 + 0.88977I$	$-0.482474 - 1.035537I$
$u = -0.116202 - 0.710518I$ $a = 0.459041 - 0.428398I$ $b = 1.92755 + 0.02931I$	$-3.89427 - 0.88977I$	$-0.482474 + 1.035537I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.010129 + 0.719466I$ $a = 0.417716 - 0.122153I$ $b = 1.55361 + 0.38676I$	$-0.79600 + 1.37844I$	$6.81642 - 0.64656I$
$u = 0.010129 - 0.719466I$ $a = 0.417716 + 0.122153I$ $b = 1.55361 - 0.38676I$	$-0.79600 - 1.37844I$	$6.81642 + 0.64656I$
$u = -0.263626 + 0.654252I$ $a = -0.325800 + 0.611267I$ $b = -2.25097 + 0.64555I$	$-3.32605 - 5.48665I$	$1.87864 + 8.65808I$
$u = -0.263626 - 0.654252I$ $a = -0.325800 - 0.611267I$ $b = -2.25097 - 0.64555I$	$-3.32605 + 5.48665I$	$1.87864 - 8.65808I$
$u = -1.280520 + 0.227409I$ $a = 0.454469 + 1.305840I$ $b = -1.051990 - 0.686908I$	$2.98007 - 4.88539I$	0
$u = -1.280520 - 0.227409I$ $a = 0.454469 - 1.305840I$ $b = -1.051990 + 0.686908I$	$2.98007 + 4.88539I$	0
$u = 1.309160 + 0.119036I$ $a = 1.13476 - 2.30065I$ $b = -1.28347 + 2.10489I$	$2.32381 + 3.02952I$	0
$u = 1.309160 - 0.119036I$ $a = 1.13476 + 2.30065I$ $b = -1.28347 - 2.10489I$	$2.32381 - 3.02952I$	0
$u = 0.268902 + 0.619610I$ $a = 0.347657 - 1.143590I$ $b = 1.69801 - 0.61561I$	$-2.24602 + 4.56963I$	$4.51511 - 7.48692I$
$u = 0.268902 - 0.619610I$ $a = 0.347657 + 1.143590I$ $b = 1.69801 + 0.61561I$	$-2.24602 - 4.56963I$	$4.51511 + 7.48692I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.194915+0.638039I$ $a=\ \ 0.292126+0.821408I$ $b=\ \ 1.77808+0.35167I$	$-4.08493-0.24577I$	$-0.63553+2.29038I$
$u=-0.194915-0.638039I$ $a=\ \ 0.292126-0.821408I$ $b=\ \ 1.77808-0.35167I$	$-4.08493+0.24577I$	$-0.63553-2.29038I$
$u=-1.33579$ $a=-0.0187117$ $b=-0.474558$	5.83646	0
$u=-1.305020+0.308818I$ $a=\ \ 1.51515+1.58378I$ $b=-2.37848-0.48598I$	$2.51934+1.46324I$	0
$u=-1.305020-0.308818I$ $a=\ \ 1.51515-1.58378I$ $b=-2.37848+0.48598I$	$2.51934-1.46324I$	0
$u=\ \ 0.485149+0.445066I$ $a=\ \ 0.763623+0.056116I$ $b=-0.504700-0.143811I$	$1.53101+0.65365I$	$8.18643-3.61177I$
$u=\ \ 0.485149-0.445066I$ $a=\ \ 0.763623-0.056116I$ $b=-0.504700+0.143811I$	$1.53101-0.65365I$	$8.18643+3.61177I$
$u=\ \ 0.245646+0.610621I$ $a=-0.053515-0.881772I$ $b=-1.91700-1.11447I$	$-2.50666+0.26869I$	$3.56195-3.97481I$
$u=\ \ 0.245646-0.610621I$ $a=-0.053515+0.881772I$ $b=-1.91700+1.11447I$	$-2.50666-0.26869I$	$3.56195+3.97481I$
$u=\ \ 1.327250+0.276931I$ $a=\ \ 1.40522-1.82470I$ $b=-2.37206+0.99248I$	$0.62962+2.67287I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.327250 - 0.276931I$ $a = 1.40522 + 1.82470I$ $b = -2.37206 - 0.99248I$	$0.62962 - 2.67287I$	0
$u = 1.373750 + 0.243039I$ $a = 1.40305 - 2.13535I$ $b = -2.56082 + 1.71267I$	$0.89903 + 3.44486I$	0
$u = 1.373750 - 0.243039I$ $a = 1.40305 + 2.13535I$ $b = -2.56082 - 1.71267I$	$0.89903 - 3.44486I$	0
$u = -1.380940 + 0.198807I$ $a = 0.708088 + 0.977587I$ $b = -0.892045 - 0.010544I$	$3.39614 - 4.59399I$	0
$u = -1.380940 - 0.198807I$ $a = 0.708088 - 0.977587I$ $b = -0.892045 + 0.010544I$	$3.39614 + 4.59399I$	0
$u = 0.119251 + 0.591860I$ $a = 0.493502 + 0.220355I$ $b = 0.685302 - 0.330415I$	$-1.34471 + 1.97131I$	$4.36318 - 4.94300I$
$u = 0.119251 - 0.591860I$ $a = 0.493502 - 0.220355I$ $b = 0.685302 + 0.330415I$	$-1.34471 - 1.97131I$	$4.36318 + 4.94300I$
$u = 1.387350 + 0.167078I$ $a = 1.219680 - 0.388168I$ $b = -1.009460 - 0.799919I$	$3.31742 - 0.59461I$	0
$u = 1.387350 - 0.167078I$ $a = 1.219680 + 0.388168I$ $b = -1.009460 + 0.799919I$	$3.31742 + 0.59461I$	0
$u = -1.400760 + 0.187653I$ $a = 1.26496 + 2.30774I$ $b = -2.25958 - 2.39901I$	$3.93453 - 0.63802I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.400760 - 0.187653I$ $a = 1.26496 - 2.30774I$ $b = -2.25958 + 2.39901I$	$3.93453 + 0.63802I$	0
$u = -1.39769 + 0.23851I$ $a = -2.84149 - 0.84830I$ $b = 2.65758 - 0.54537I$	$2.74784 - 3.38218I$	0
$u = -1.39769 - 0.23851I$ $a = -2.84149 + 0.84830I$ $b = 2.65758 + 0.54537I$	$2.74784 + 3.38218I$	0
$u = -1.40662 + 0.24260I$ $a = 1.46311 + 2.26771I$ $b = -2.85804 - 2.03183I$	$3.11491 - 7.73415I$	0
$u = -1.40662 - 0.24260I$ $a = 1.46311 - 2.26771I$ $b = -2.85804 + 2.03183I$	$3.11491 + 7.73415I$	0
$u = 1.40477 + 0.25503I$ $a = -2.81208 + 1.44750I$ $b = 3.09899 + 0.06696I$	$2.00366 + 8.80571I$	0
$u = 1.40477 - 0.25503I$ $a = -2.81208 - 1.44750I$ $b = 3.09899 - 0.06696I$	$2.00366 - 8.80571I$	0
$u = -1.42740 + 0.25561I$ $a = -0.265370 + 0.774547I$ $b = 0.230532 - 0.576712I$	$6.31895 - 6.33913I$	0
$u = -1.42740 - 0.25561I$ $a = -0.265370 - 0.774547I$ $b = 0.230532 + 0.576712I$	$6.31895 + 6.33913I$	0
$u = -1.44137 + 0.16472I$ $a = -0.917777 - 0.491847I$ $b = 0.614103 + 0.432152I$	$7.63096 - 2.89779I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.44137 - 0.16472I$ $a = -0.917777 + 0.491847I$ $b = 0.614103 - 0.432152I$	$7.63096 + 2.89779I$	0
$u = 1.44903 + 0.11745I$ $a = 0.605643 + 0.825539I$ $b = 0.01844 - 1.83441I$	$6.39373 - 2.52928I$	0
$u = 1.44903 - 0.11745I$ $a = 0.605643 - 0.825539I$ $b = 0.01844 + 1.83441I$	$6.39373 + 2.52928I$	0
$u = 1.42656 + 0.28196I$ $a = -2.35252 + 2.19395I$ $b = 3.43850 - 0.89248I$	$4.05548 + 11.84760I$	0
$u = 1.42656 - 0.28196I$ $a = -2.35252 - 2.19395I$ $b = 3.43850 + 0.89248I$	$4.05548 - 11.84760I$	0
$u = -1.43204 + 0.29068I$ $a = -2.24646 - 2.37108I$ $b = 3.54962 + 1.12717I$	$6.5247 - 17.1645I$	0
$u = -1.43204 - 0.29068I$ $a = -2.24646 + 2.37108I$ $b = 3.54962 - 1.12717I$	$6.5247 + 17.1645I$	0
$u = 1.43777 + 0.26929I$ $a = -0.443434 - 0.787351I$ $b = 0.425283 + 0.761627I$	$9.0213 + 11.3443I$	0
$u = 1.43777 - 0.26929I$ $a = -0.443434 + 0.787351I$ $b = 0.425283 - 0.761627I$	$9.0213 - 11.3443I$	0
$u = -1.44010 + 0.26769I$ $a = -2.03984 - 1.94093I$ $b = 2.94110 + 1.01445I$	$9.12994 - 8.75266I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.44010 - 0.26769I$ $a = -2.03984 + 1.94093I$ $b = 2.94110 - 1.01445I$	$9.12994 + 8.75266I$	0
$u = 1.44751 + 0.23678I$ $a = -0.258180 - 0.468103I$ $b = 0.490091 + 0.204809I$	$10.79720 + 2.91953I$	0
$u = 1.44751 - 0.23678I$ $a = -0.258180 + 0.468103I$ $b = 0.490091 - 0.204809I$	$10.79720 - 2.91953I$	0
$u = 1.46243 + 0.14469I$ $a = -0.587301 + 0.574641I$ $b = 0.255699 - 0.699484I$	$10.81440 - 1.67028I$	0
$u = 1.46243 - 0.14469I$ $a = -0.587301 - 0.574641I$ $b = 0.255699 + 0.699484I$	$10.81440 + 1.67028I$	0
$u = -1.46406 + 0.14706I$ $a = 0.276285 - 0.558000I$ $b = 0.37933 + 1.43135I$	$10.86460 - 0.98163I$	0
$u = -1.46406 - 0.14706I$ $a = 0.276285 + 0.558000I$ $b = 0.37933 - 1.43135I$	$10.86460 + 0.98163I$	0
$u = -1.46834 + 0.10526I$ $a = 0.438230 - 1.041400I$ $b = 0.24048 + 2.09534I$	$9.17034 + 7.53278I$	0
$u = -1.46834 - 0.10526I$ $a = 0.438230 + 1.041400I$ $b = 0.24048 - 2.09534I$	$9.17034 - 7.53278I$	0
$u = 1.46153 + 0.18829I$ $a = -1.008240 + 0.914479I$ $b = 0.978642 - 0.870160I$	$11.49880 + 6.90459I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.46153 - 0.18829I$ $a = -1.008240 - 0.914479I$ $b = 0.978642 + 0.870160I$	$11.49880 - 6.90459I$	0
$u = -0.447001 + 0.170577I$ $a = 0.60361 - 2.65934I$ $b = 0.763007 + 0.045905I$	$-1.99045 + 2.33467I$	$4.94783 - 3.24934I$
$u = -0.447001 - 0.170577I$ $a = 0.60361 + 2.65934I$ $b = 0.763007 - 0.045905I$	$-1.99045 - 2.33467I$	$4.94783 + 3.24934I$
$u = 0.271412 + 0.385217I$ $a = -0.55786 - 1.78537I$ $b = 1.127460 - 0.377063I$	$-1.42196 - 1.69809I$	$8.03714 - 0.07727I$
$u = 0.271412 - 0.385217I$ $a = -0.55786 + 1.78537I$ $b = 1.127460 + 0.377063I$	$-1.42196 + 1.69809I$	$8.03714 + 0.07727I$
$u = 0.378359$ $a = 0.988497$ $b = -0.211165$	0.761657	13.7450
$u = 0.158976 + 0.327036I$ $a = 2.49132 + 0.81649I$ $b = 0.941699 - 0.463379I$	$-1.56493 + 2.24938I$	$7.49091 - 5.30893I$
$u = 0.158976 - 0.327036I$ $a = 2.49132 - 0.81649I$ $b = 0.941699 + 0.463379I$	$-1.56493 - 2.24938I$	$7.49091 + 5.30893I$

II.

$$\boldsymbol{I_2^u = \langle -u^4+u^2a+2u^2+b-a-1,\ 4u^4a+u^5+\cdots+a^2-2a,\ u^6-3u^4+2u^2+1\rangle}$$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} a \\ u^4 - u^2a - 2u^2 + a + 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^4 - u^2 + a - 1 \\ -u^2a + a + 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^5a + 2u^3a - au + u \\ -u^5 + u^3a + 2u^3 - 2au - u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^4 + u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^5a - 2u^3a + 2u^4 + au - 3u^2 + a - 2u - 1 \\ -u^5a - u^5 + 2u^3a - u^4 - u^2a + 3u^3 - au + 2u^2 + a + 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^4 + u^2 + 1 \\ u^4 - u^2 - 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^5a + u^5 + 3u^3a - 2u^3 - 2au \\ -2u^5 + 4u^3 - au \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4u^5 - 4u^3a - 4u^4 - 4u^3 + 8au + 8u^2 + 4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^{12}$
c_2, c_7	$(u^2+1)^6$
c_3, c_4, c_9	$(u^4-u^2+1)^3$
c_5, c_6, c_{11}	$(u^6-3u^4+2u^2+1)^2$
c_8	$(u^2+u+1)^6$
c_{10}	$(u^3+u^2-1)^4$
c_{12}	$(u^6+u^4+2u^2+1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^{12}$
c_2, c_7	$(y+1)^{12}$
c_3, c_4, c_9	$(y^2-y+1)^6$
c_5, c_6, c_{11}	$(y^3-3y^2+2y+1)^4$
c_8	$(y^2+y+1)^6$
c_{10}	$(y^3-y^2+2y-1)^4$
c_{12}	$(y^3+y^2+2y+1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.307140 + 0.215080I$ $a = -0.03980 - 1.84565I$ $b = -0.88885 + 1.98972I$	$1.37919 + 0.79824I$	$5.50976 + 0.48465I$
$u = 1.307140 + 0.215080I$ $a = 1.47997 - 3.13579I$ $b = -2.62090 + 1.98972I$	$1.37919 + 4.85801I$	$5.50976 - 6.44355I$
$u = 1.307140 - 0.215080I$ $a = -0.03980 + 1.84565I$ $b = -0.88885 - 1.98972I$	$1.37919 - 0.79824I$	$5.50976 - 0.48465I$
$u = 1.307140 - 0.215080I$ $a = 1.47997 + 3.13579I$ $b = -2.62090 - 1.98972I$	$1.37919 - 4.85801I$	$5.50976 + 6.44355I$
$u = -1.307140 + 0.215080I$ $a = 0.705065 + 0.968214I$ $b = -0.888852 - 0.989724I$	$1.37919 - 4.85801I$	$5.50976 + 6.44355I$
$u = -1.307140 + 0.215080I$ $a = 2.22483 + 2.25835I$ $b = -2.62090 - 0.98972I$	$1.37919 - 0.79824I$	$5.50976 - 0.48465I$
$u = -1.307140 - 0.215080I$ $a = 0.705065 - 0.968214I$ $b = -0.888852 + 0.989724I$	$1.37919 + 4.85801I$	$5.50976 - 6.44355I$
$u = -1.307140 - 0.215080I$ $a = 2.22483 - 2.25835I$ $b = -2.62090 + 0.98972I$	$1.37919 + 0.79824I$	$5.50976 + 0.48465I$
$u = 0.569840I$ $a = -0.838781 + 0.377439I$ $b = 0.643730 + 0.500000I$	$-2.75839 + 2.02988I$	$-1.01951 - 3.46410I$
$u = 0.569840I$ $a = 0.468706 + 0.377439I$ $b = 2.37578 + 0.50000I$	$-2.75839 - 2.02988I$	$-1.01951 + 3.46410I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.569840I$ $a = -0.838781 - 0.377439I$ $b = 0.643730 - 0.500000I$	$-2.75839 - 2.02988I$	$-1.01951 + 3.46410I$
$u = -0.569840I$ $a = 0.468706 - 0.377439I$ $b = 2.37578 - 0.50000I$	$-2.75839 + 2.02988I$	$-1.01951 - 3.46410I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^{12})(u^{108}+53u^{107}+\cdots+24u+1)$
c_2, c_7	$((u^2+1)^6)(u^{108}+u^{107}+\cdots-6u-1)$
c_3, c_9	$((u^4-u^2+1)^3)(u^{108}+u^{107}+\cdots+21u^2-5)$
c_4	$((u^4-u^2+1)^3)(u^{108}+3u^{107}+\cdots-461530u-25545)$
c_5, c_6, c_{11}	$((u^6-3u^4+2u^2+1)^2)(u^{108}+u^{107}+\cdots+4u-1)$
c_8	$((u^2+u+1)^6)(u^{108}-53u^{107}+\cdots-210u+25)$
c_{10}	$((u^3+u^2-1)^4)(u^{108}-23u^{107}+\cdots-841432u+42793)$
c_{12}	$((u^6+u^4+2u^2+1)^2)(u^{108}-3u^{107}+\cdots-334u+99)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^{12})(y^{108}+17y^{107}+\cdots-324y+1)$
c_2, c_7	$((y+1)^{12})(y^{108}+53y^{107}+\cdots+24y+1)$
c_3, c_9	$((y^2-y+1)^6)(y^{108}-53y^{107}+\cdots-210y+25)$
c_4	$((y^2-y+1)^6)(y^{108}+31y^{107}+\cdots-3.07924\times10^{11}y+6.52547\times10^8)$
c_5, c_6, c_{11}	$((y^3-3y^2+2y+1)^4)(y^{108}-99y^{107}+\cdots+4y+1)$
c_8	$((y^2+y+1)^6)(y^{108}+11y^{107}+\cdots+17950y+625)$
c_{10}	$(y^3-y^2+2y-1)^4$ $\cdot\,(y^{108}+37y^{107}+\cdots+17887794312y+1831240849)$
c_{12}	$((y^3+y^2+2y+1)^4)(y^{108}-7y^{107}+\cdots-323416y+9801)$