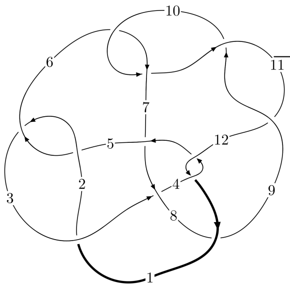
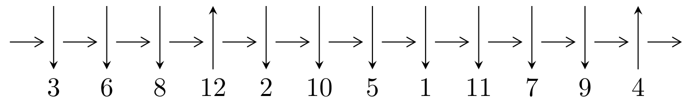
$12a_{0336}$ $(K12a_{0336})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -7.41051 \times 10^{147} u^{109} + 3.15130 \times 10^{148} u^{108} + \cdots + 1.10390 \times 10^{146} b - 1.00649 \times 10^{148}, \\ & -2.27130 \times 10^{149} u^{109} + 9.67001 \times 10^{149} u^{108} + \cdots + 1.10390 \times 10^{146} a - 3.03972 \times 10^{149}, \\ & u^{110} - 5u^{109} + \cdots + 21u - 1 \rangle \\ I_2^u = \langle & a^3 - 4a^2 + 15b - 5a + 9,\ a^4 - 2a^3 - 3a^2 + 4a + 13,\ u - 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 114 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. $\boldsymbol{I_1^u = \langle -7.41 \times 10^{147} u^{109} + 3.15 \times 10^{148} u^{108} + \cdots + 1.10 \times 10^{146} b - 1.01 \times 10^{148},\ -2.27 \times 10^{149} u^{109} + 9.67 \times 10^{149} u^{108} + \cdots + 1.10 \times 10^{146} a - 3.04 \times 10^{149},\ u^{110} - 5u^{109} + \cdots + 21u - 1 \rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 2057.53u^{109} - 8759.90u^{108} + \cdots - 54177.9u + 2753.63 \\ 67.1306u^{109} - 285.471u^{108} + \cdots - 1791.59u + 91.1766 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 2124.67u^{109} - 9045.37u^{108} + \cdots - 55969.5u + 2844.81 \\ 67.1306u^{109} - 285.471u^{108} + \cdots - 1791.59u + 91.1766 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 2965.90u^{109} - 12627.4u^{108} + \cdots - 78707.9u + 4024.00 \\ -70.4088u^{109} + 299.167u^{108} + \cdots + 1873.07u - 97.4129 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -810.769u^{109} + 3459.40u^{108} + \cdots + 22092.2u - 1136.72 \\ -115.246u^{109} + 490.899u^{108} + \cdots + 3011.85u - 152.033 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 15726.1u^{109} - 66994.2u^{108} + \cdots - 418011.u + 21301.1 \\ 1274.16u^{109} - 5422.15u^{108} + \cdots - 33586.8u + 1705.78 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^5 - u \\ -u^7 + u^5 - 2u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -675.156u^{109} + 2881.24u^{108} + \cdots + 18481.2u - 952.732 \\ -118.945u^{109} + 506.489u^{108} + \cdots + 3109.35u - 157.208 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -1639.99u^{109} + 6951.33u^{108} + \cdots + 42540.4u - 2173.88$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{110} + 41u^{109} + \cdots + 233u + 4$
c_2, c_5	$u^{110} + 7u^{109} + \cdots + 27u + 2$
c_3	$u^{110} + u^{109} + \cdots + 17u - 1$
c_4, c_{12}	$u^{110} + 7u^{109} + \cdots + 27u + 1$
c_6, c_{10}	$u^{110} + 5u^{109} + \cdots - 21u - 1$
c_7	$u^{110} + 25u^{109} + \cdots + 376147u - 1476493$
c_8	$u^{110} + 5u^{109} + \cdots - 101u + 41$
c_9, c_{11}	$u^{110} + 35u^{109} + \cdots + 127u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{110} + 59y^{109} + \cdots - 9873y + 16$
c_2, c_5	$y^{110} - 41y^{109} + \cdots - 233y + 4$
c_3	$y^{110} - 3y^{109} + \cdots - 79y + 1$
c_4, c_{12}	$y^{110} + 65y^{109} + \cdots - 175y + 1$
c_6, c_{10}	$y^{110} - 35y^{109} + \cdots - 127y + 1$
c_7	$y^{110} - 145y^{109} + \cdots + 12275866812167y + 2180031579049$
c_8	$y^{110} + 155y^{109} + \cdots + 197587y + 1681$
c_9, c_{11}	$y^{110} + 85y^{109} + \cdots - 2511y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.990959 + 0.098136I$ $a = 1.275900 - 0.543178I$ $b = 0.892858 - 0.506092I$	$-1.69575 + 2.02020I$	0
$u = 0.990959 - 0.098136I$ $a = 1.275900 + 0.543178I$ $b = 0.892858 + 0.506092I$	$-1.69575 - 2.02020I$	0
$u = 0.996189 + 0.199368I$ $a = -0.337539 + 1.135930I$ $b = -0.212986 - 0.116839I$	$-3.59787 - 0.10583I$	0
$u = 0.996189 - 0.199368I$ $a = -0.337539 - 1.135930I$ $b = -0.212986 + 0.116839I$	$-3.59787 + 0.10583I$	0
$u = -0.774665 + 0.664449I$ $a = -1.25947 - 0.88402I$ $b = -0.926563 - 0.223291I$	$-0.205553 - 0.307982I$	0
$u = -0.774665 - 0.664449I$ $a = -1.25947 + 0.88402I$ $b = -0.926563 + 0.223291I$	$-0.205553 + 0.307982I$	0
$u = -0.993094 + 0.295258I$ $a = 1.55343 + 1.20146I$ $b = 1.079160 - 0.620858I$	$-0.75551 + 7.78682I$	0
$u = -0.993094 - 0.295258I$ $a = 1.55343 - 1.20146I$ $b = 1.079160 + 0.620858I$	$-0.75551 - 7.78682I$	0
$u = 0.697332 + 0.792742I$ $a = -0.246586 - 0.264787I$ $b = 1.220130 - 0.142302I$	$-2.44609 + 5.13634I$	0
$u = 0.697332 - 0.792742I$ $a = -0.246586 + 0.264787I$ $b = 1.220130 + 0.142302I$	$-2.44609 - 5.13634I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.062770 + 0.148015I$ $a = 1.58044 + 0.11499I$ $b = 1.175380 + 0.017061I$	$-8.83330 + 5.21023I$	0
$u = -1.062770 - 0.148015I$ $a = 1.58044 - 0.11499I$ $b = 1.175380 - 0.017061I$	$-8.83330 - 5.21023I$	0
$u = -0.843116 + 0.333311I$ $a = -0.284924 + 0.220862I$ $b = 0.392082 + 0.747113I$	$1.15133 + 2.61903I$	0
$u = -0.843116 - 0.333311I$ $a = -0.284924 - 0.220862I$ $b = 0.392082 - 0.747113I$	$1.15133 - 2.61903I$	0
$u = -0.622477 + 0.901671I$ $a = -0.341590 - 1.224490I$ $b = 0.916045 + 0.686391I$	$4.73684 - 3.99325I$	0
$u = -0.622477 - 0.901671I$ $a = -0.341590 + 1.224490I$ $b = 0.916045 - 0.686391I$	$4.73684 + 3.99325I$	0
$u = -0.902097$ $a = -1.76787$ $b = -1.24916$	-4.50976	0
$u = 0.835064 + 0.721373I$ $a = 1.47161 - 1.06013I$ $b = -1.002620 + 0.908716I$	$0.330530 + 0.796888I$	0
$u = 0.835064 - 0.721373I$ $a = 1.47161 + 1.06013I$ $b = -1.002620 - 0.908716I$	$0.330530 - 0.796888I$	0
$u = 0.867770 + 0.692580I$ $a = 0.634138 + 0.236501I$ $b = -1.313380 + 0.439862I$	$-0.77993 - 1.27179I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.867770 - 0.692580I$ $a = 0.634138 - 0.236501I$ $b = -1.313380 - 0.439862I$	$-0.77993 + 1.27179I$	0
$u = -0.878182 + 0.681537I$ $a = 0.533325 + 0.497799I$ $b = 0.686950 + 0.106206I$	$2.03663 + 2.63082I$	0
$u = -0.878182 - 0.681537I$ $a = 0.533325 - 0.497799I$ $b = 0.686950 - 0.106206I$	$2.03663 - 2.63082I$	0
$u = 0.813749 + 0.768223I$ $a = 0.99853 - 1.18681I$ $b = -0.290691 + 1.035300I$	$3.09414 + 1.62165I$	0
$u = 0.813749 - 0.768223I$ $a = 0.99853 + 1.18681I$ $b = -0.290691 - 1.035300I$	$3.09414 - 1.62165I$	0
$u = 0.081059 + 0.876379I$ $a = 0.42575 + 1.39611I$ $b = -1.013040 - 0.658910I$	$-0.50846 - 8.74088I$	0
$u = 0.081059 - 0.876379I$ $a = 0.42575 - 1.39611I$ $b = -1.013040 + 0.658910I$	$-0.50846 + 8.74088I$	0
$u = 0.885644 + 0.691977I$ $a = -0.05764 + 1.73251I$ $b = -1.333450 - 0.331323I$	$-0.83704 - 4.05265I$	0
$u = 0.885644 - 0.691977I$ $a = -0.05764 - 1.73251I$ $b = -1.333450 + 0.331323I$	$-0.83704 + 4.05265I$	0
$u = -1.092140 + 0.284265I$ $a = 0.240713 - 0.003212I$ $b = -0.495383 - 0.799993I$	$-3.02604 + 7.06344I$	0

Solutions to I^u_1	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.092140-0.284265I$ $a=\ \ 0.240713+0.003212I$ $b=-0.495383+0.799993I$	$-3.02604-7.06344I$	0
$u=-0.867655+0.040937I$ $a=-1.51760-0.61667I$ $b=-1.151050+0.669665I$	$-4.17559+2.45296I$	0
$u=-0.867655-0.040937I$ $a=-1.51760+0.61667I$ $b=-1.151050-0.669665I$	$-4.17559-2.45296I$	0
$u=-0.828091+0.780039I$ $a=-0.185197+0.072379I$ $b=\ \ 0.117195+0.402603I$	$2.64336+1.65504I$	0
$u=-0.828091-0.780039I$ $a=-0.185197-0.072379I$ $b=\ \ 0.117195-0.402603I$	$2.64336-1.65504I$	0
$u=-0.697509+0.900889I$ $a=-0.369911+1.319140I$ $b=\ \ 0.772510-0.700845I$	$5.16781+1.33455I$	0
$u=-0.697509-0.900889I$ $a=-0.369911-1.319140I$ $b=\ \ 0.772510+0.700845I$	$5.16781-1.33455I$	0
$u=-0.872826+0.738046I$ $a=\ \ 1.13776-5.90790I$ $b=\ \ 0.894681+0.537347I$	$1.29270+0.75901I$	0
$u=-0.872826-0.738046I$ $a=\ \ 1.13776+5.90790I$ $b=\ \ 0.894681-0.537347I$	$1.29270-0.75901I$	0
$u=-0.877187+0.735804I$ $a=\ \ 4.12267+5.29001I$ $b=\ \ 0.910898-0.520689I$	$1.27829+4.84714I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.877187 - 0.735804I$ $a = 4.12267 - 5.29001I$ $b = 0.910898 + 0.520689I$	$1.27829 - 4.84714I$	0
$u = 0.770569 + 0.856471I$ $a = -0.75952 + 1.22815I$ $b = 1.094710 - 0.747854I$	$6.67136 + 6.50363I$	0
$u = 0.770569 - 0.856471I$ $a = -0.75952 - 1.22815I$ $b = 1.094710 + 0.747854I$	$6.67136 - 6.50363I$	0
$u = 0.736971 + 0.887786I$ $a = 0.40009 + 1.53796I$ $b = -0.588057 - 0.913960I$	$4.79934 + 6.61268I$	0
$u = 0.736971 - 0.887786I$ $a = 0.40009 - 1.53796I$ $b = -0.588057 + 0.913960I$	$4.79934 - 6.61268I$	0
$u = 0.712081 + 0.909440I$ $a = 0.55860 - 1.38226I$ $b = -1.089970 + 0.717795I$	$3.25044 + 12.62120I$	0
$u = 0.712081 - 0.909440I$ $a = 0.55860 + 1.38226I$ $b = -1.089970 - 0.717795I$	$3.25044 - 12.62120I$	0
$u = -0.831776 + 0.144488I$ $a = -0.239608 - 0.113887I$ $b = -0.614202 + 0.872721I$	$-2.44902 + 3.63797I$	0
$u = -0.831776 - 0.144488I$ $a = -0.239608 + 0.113887I$ $b = -0.614202 - 0.872721I$	$-2.44902 - 3.63797I$	0
$u = 1.051500 + 0.482675I$ $a = 0.79964 - 1.65316I$ $b = 1.009650 + 0.153910I$	$-6.86902 - 1.41545I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.051500 - 0.482675I$ $a = 0.79964 + 1.65316I$ $b = 1.009650 - 0.153910I$	$-6.86902 + 1.41545I$	0
$u = 0.908591 + 0.716880I$ $a = -0.12317 + 2.53742I$ $b = -1.074790 - 0.887097I$	$0.10246 - 6.29605I$	0
$u = 0.908591 - 0.716880I$ $a = -0.12317 - 2.53742I$ $b = -1.074790 + 0.887097I$	$0.10246 + 6.29605I$	0
$u = 0.809732 + 0.833377I$ $a = -0.19331 - 1.71805I$ $b = 0.614409 + 0.971864I$	$8.17677 + 0.24318I$	0
$u = 0.809732 - 0.833377I$ $a = -0.19331 + 1.71805I$ $b = 0.614409 - 0.971864I$	$8.17677 - 0.24318I$	0
$u = -0.960649 + 0.654756I$ $a = -1.130610 - 0.112359I$ $b = -0.894555 + 0.088679I$	$-0.80311 + 5.44115I$	0
$u = -0.960649 - 0.654756I$ $a = -1.130610 + 0.112359I$ $b = -0.894555 - 0.088679I$	$-0.80311 - 5.44115I$	0
$u = 0.778635 + 0.277338I$ $a = -1.33414 + 2.80799I$ $b = -0.942986 - 0.438315I$	$-1.96405 - 2.91621I$	0
$u = 0.778635 - 0.277338I$ $a = -1.33414 - 2.80799I$ $b = -0.942986 + 0.438315I$	$-1.96405 + 2.91621I$	0
$u = -1.152970 + 0.265802I$ $a = -1.30202 - 1.16410I$ $b = -1.075150 + 0.649293I$	$-4.73120 + 12.50000I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.152970 - 0.265802I$ $a = -1.30202 + 1.16410I$ $b = -1.075150 - 0.649293I$	$-4.73120 - 12.50000I$	0
$u = 0.007248 + 0.810052I$ $a = 0.37732 - 1.38238I$ $b = -0.618881 + 0.726901I$	$0.65865 - 3.42633I$	0
$u = 0.007248 - 0.810052I$ $a = 0.37732 + 1.38238I$ $b = -0.618881 - 0.726901I$	$0.65865 + 3.42633I$	0
$u = 0.931716 + 0.744804I$ $a = -0.48784 + 1.54283I$ $b = -0.365752 - 1.068560I$	$2.73350 - 7.34740I$	0
$u = 0.931716 - 0.744804I$ $a = -0.48784 - 1.54283I$ $b = -0.365752 + 1.068560I$	$2.73350 + 7.34740I$	0
$u = -0.800702 + 0.893151I$ $a = 0.66551 + 1.27924I$ $b = -0.866053 - 0.674686I$	$5.61155 + 0.14050I$	0
$u = -0.800702 - 0.893151I$ $a = 0.66551 - 1.27924I$ $b = -0.866053 + 0.674686I$	$5.61155 - 0.14050I$	0
$u = -0.927118 + 0.763957I$ $a = 0.1000390 + 0.0172765I$ $b = 0.221052 - 0.379085I$	$2.34244 + 4.16755I$	0
$u = -0.927118 - 0.763957I$ $a = 0.1000390 - 0.0172765I$ $b = 0.221052 + 0.379085I$	$2.34244 - 4.16755I$	0
$u = 1.182250 + 0.265329I$ $a = -0.845000 + 0.942118I$ $b = -0.675555 - 0.540568I$	$-3.25800 - 0.36532I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.182250 - 0.265329I$ $a = -0.845000 - 0.942118I$ $b = -0.675555 + 0.540568I$	$-3.25800 + 0.36532I$	0
$u = 1.001380 + 0.722993I$ $a = 0.317622 - 1.284450I$ $b = 1.267730 + 0.111185I$	$-3.35621 - 10.85530I$	0
$u = 1.001380 - 0.722993I$ $a = 0.317622 + 1.284450I$ $b = 1.267730 - 0.111185I$	$-3.35621 + 10.85530I$	0
$u = 0.958427 + 0.782280I$ $a = -1.31241 + 0.78086I$ $b = 0.571194 - 1.000510I$	$7.71445 - 6.27796I$	0
$u = 0.958427 - 0.782280I$ $a = -1.31241 - 0.78086I$ $b = 0.571194 + 1.000510I$	$7.71445 + 6.27796I$	0
$u = 1.238090 + 0.023214I$ $a = 0.836611 + 0.344859I$ $b = 0.847431 - 0.588895I$	$-2.03804 + 2.33452I$	0
$u = 1.238090 - 0.023214I$ $a = 0.836611 - 0.344859I$ $b = 0.847431 + 0.588895I$	$-2.03804 - 2.33452I$	0
$u = -0.858642 + 0.897188I$ $a = 0.34642 - 1.72422I$ $b = -0.834452 + 0.677799I$	$5.70786 + 5.35963I$	0
$u = -0.858642 - 0.897188I$ $a = 0.34642 + 1.72422I$ $b = -0.834452 - 0.677799I$	$5.70786 - 5.35963I$	0
$u = 0.743069 + 0.001373I$ $a = -15.7688 + 14.3067I$ $b = 0.853529 + 0.493943I$	$-2.73468 - 2.03121I$	$-155.856 - 14.904I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.743069 - 0.001373I$ $a = -15.7688 - 14.3067I$ $b = 0.853529 - 0.493943I$	$-2.73468 + 2.03121I$	$-155.856 + 14.904I$
$u = 1.204310 + 0.367220I$ $a = -0.293140 - 0.037779I$ $b = -0.979382 + 0.596671I$	$-4.22594 + 4.29044I$	0
$u = 1.204310 - 0.367220I$ $a = -0.293140 + 0.037779I$ $b = -0.979382 - 0.596671I$	$-4.22594 - 4.29044I$	0
$u = 0.991910 + 0.777202I$ $a = 0.45402 - 2.37267I$ $b = 1.124230 + 0.740932I$	$5.98378 - 12.58750I$	0
$u = 0.991910 - 0.777202I$ $a = 0.45402 + 2.37267I$ $b = 1.124230 - 0.740932I$	$5.98378 + 12.58750I$	0
$u = -0.945626 + 0.842407I$ $a = 1.095890 + 0.776380I$ $b = -0.783570 - 0.663137I$	$5.42222 + 1.04774I$	0
$u = -0.945626 - 0.842407I$ $a = 1.095890 - 0.776380I$ $b = -0.783570 + 0.663137I$	$5.42222 - 1.04774I$	0
$u = -0.982963 + 0.809149I$ $a = -0.26329 - 2.24551I$ $b = -0.909073 + 0.649568I$	$5.03632 + 6.14721I$	0
$u = -0.982963 - 0.809149I$ $a = -0.26329 + 2.24551I$ $b = -0.909073 - 0.649568I$	$5.03632 - 6.14721I$	0
$u = 0.270523 + 0.671458I$ $a = -0.265968 + 0.602362I$ $b = 1.011230 + 0.007454I$	$-4.61086 - 2.90503I$	$-12.49793 + 3.69733I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.270523 - 0.671458I$ $a = -0.265968 - 0.602362I$ $b = 1.011230 - 0.007454I$	$-4.61086 + 2.90503I$	$-12.49793 - 3.69733I$
$u = 1.022780 + 0.776946I$ $a = 1.29581 - 0.59941I$ $b = -0.561805 + 0.937083I$	$3.90906 - 12.78220I$	0
$u = 1.022780 - 0.776946I$ $a = 1.29581 + 0.59941I$ $b = -0.561805 - 0.937083I$	$3.90906 + 12.78220I$	0
$u = 1.043820 + 0.774874I$ $a = -0.61529 + 2.37605I$ $b = -1.109610 - 0.715503I$	$2.2152 - 18.8423I$	0
$u = 1.043820 - 0.774874I$ $a = -0.61529 - 2.37605I$ $b = -1.109610 + 0.715503I$	$2.2152 + 18.8423I$	0
$u = -1.047620 + 0.776065I$ $a = -0.853316 - 0.334340I$ $b = 0.704704 + 0.687845I$	$4.09281 + 4.86690I$	0
$u = -1.047620 - 0.776065I$ $a = -0.853316 + 0.334340I$ $b = 0.704704 - 0.687845I$	$4.09281 - 4.86690I$	0
$u = -0.100887 + 0.688381I$ $a = -0.590605 - 1.104800I$ $b = 0.974180 + 0.650665I$	$2.13203 - 4.43463I$	$-2.57446 + 3.83971I$
$u = -0.100887 - 0.688381I$ $a = -0.590605 + 1.104800I$ $b = 0.974180 - 0.650665I$	$2.13203 + 4.43463I$	$-2.57446 - 3.83971I$
$u = -1.084390 + 0.743508I$ $a = 0.73136 + 1.93639I$ $b = 0.960216 - 0.661111I$	$3.32750 + 10.08480I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.084390 - 0.743508I$ $a = 0.73136 - 1.93639I$ $b = 0.960216 + 0.661111I$	$3.32750 - 10.08480I$	0
$u = -0.256784 + 0.629269I$ $a = -0.044618 + 1.366300I$ $b = 0.682292 - 0.695782I$	$3.00663 + 0.76455I$	$-0.54792 - 2.58754I$
$u = -0.256784 - 0.629269I$ $a = -0.044618 - 1.366300I$ $b = 0.682292 + 0.695782I$	$3.00663 - 0.76455I$	$-0.54792 + 2.58754I$
$u = 0.641311$ $a = 0.790484$ $b = -0.183300$	-0.880286	-11.3800
$u = 0.448085 + 0.335521I$ $a = 1.45691 - 0.25060I$ $b = -0.806520 + 0.211746I$	$-1.146060 + 0.195025I$	$-7.25511 + 1.21678I$
$u = 0.448085 - 0.335521I$ $a = 1.45691 + 0.25060I$ $b = -0.806520 - 0.211746I$	$-1.146060 - 0.195025I$	$-7.25511 - 1.21678I$
$u = -0.098547 + 0.384410I$ $a = 1.36102 - 0.55314I$ $b = -0.325264 - 0.515852I$	$-0.53012 - 1.77215I$	$-3.82058 + 3.25832I$
$u = -0.098547 - 0.384410I$ $a = 1.36102 + 0.55314I$ $b = -0.325264 + 0.515852I$	$-0.53012 + 1.77215I$	$-3.82058 - 3.25832I$
$u = 0.1093310 + 0.0382620I$ $a = 8.24072 + 6.41030I$ $b = -0.923434 - 0.544845I$	$-1.80988 - 2.06434I$	$-8.30188 + 2.61051I$
$u = 0.1093310 - 0.0382620I$ $a = 8.24072 - 6.41030I$ $b = -0.923434 + 0.544845I$	$-1.80988 + 2.06434I$	$-8.30188 - 2.61051I$

II. $\boldsymbol{I_2^u = \langle a^3 - 4a^2 + 15b - 5a + 9,\ a^4 - 2a^3 - 3a^2 + 4a + 13,\ u - 1 \rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} a \\ -\frac{1}{15}a^3 + \frac{4}{15}a^2 + \frac{1}{3}a - \frac{3}{5} \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -\frac{1}{15}a^3 + \frac{4}{15}a^2 + \frac{4}{3}a - \frac{3}{5} \\ -\frac{1}{15}a^3 + \frac{4}{15}a^2 + \frac{1}{3}a - \frac{3}{5} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{2}{15}a^3 - \frac{2}{15}a^2 + \frac{4}{3}a + \frac{17}{15} \\ -\frac{1}{15}a^3 - \frac{1}{15}a^2 + \frac{2}{3}a + \frac{1}{15} \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{4}{15}a^3 + \frac{1}{15}a^2 + \frac{1}{3}a - \frac{2}{5} \\ -\frac{2}{15}a^3 + \frac{1}{5}a^2 - \frac{8}{15} \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -\frac{7}{15}a^3 + \frac{1}{5}a^2 + 2a + \frac{47}{15} \\ -\frac{1}{5}a^3 + \frac{2}{15}a^2 + \frac{2}{3}a + \frac{23}{15} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -\frac{4}{15}a^3 - \frac{3}{5}a^2 + a + \frac{14}{15} \\ -\frac{2}{15}a^3 - \frac{2}{15}a^2 + \frac{1}{3}a + \frac{2}{15} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{8}{15}a^3 - \frac{4}{5}a^2 - \frac{208}{15}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u+1)^2$
c_2, c_5	u^4-u^2+1
c_3, c_4, c_{12}	$(u^2+1)^2$
c_6, c_9	$(u-1)^4$
c_7	$u^4-2u^3+5u^2-4u+1$
c_8	$u^4+4u^3+5u^2+2u+1$
c_{10}, c_{11}	$(u+1)^4$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -1.23205 + 0.86603I$ $b = -0.866025 - 0.500000I$	$-3.28987 - 2.02988I$	$-14.0000 + 3.4641I$
$u = 1.00000$ $a = -1.23205 - 0.86603I$ $b = -0.866025 + 0.500000I$	$-3.28987 + 2.02988I$	$-14.0000 - 3.4641I$
$u = 1.00000$ $a = 2.23205 + 0.86603I$ $b = 0.866025 + 0.500000I$	$-3.28987 - 2.02988I$	$-14.0000 + 3.4641I$
$u = 1.00000$ $a = 2.23205 - 0.86603I$ $b = 0.866025 - 0.500000I$	$-3.28987 + 2.02988I$	$-14.0000 - 3.4641I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^2)(u^{110}+41u^{109}+\cdots+233u+4)$
c_2, c_5	$(u^4-u^2+1)(u^{110}+7u^{109}+\cdots+27u+2)$
c_3	$((u^2+1)^2)(u^{110}+u^{109}+\cdots+17u-1)$
c_4, c_{12}	$((u^2+1)^2)(u^{110}+7u^{109}+\cdots+27u+1)$
c_6	$((u-1)^4)(u^{110}+5u^{109}+\cdots-21u-1)$
c_7	$(u^4-2u^3+5u^2-4u+1)(u^{110}+25u^{109}+\cdots+376147u-1476493)$
c_8	$(u^4+4u^3+5u^2+2u+1)(u^{110}+5u^{109}+\cdots-101u+41)$
c_9	$((u-1)^4)(u^{110}+35u^{109}+\cdots+127u+1)$
c_{10}	$((u+1)^4)(u^{110}+5u^{109}+\cdots-21u-1)$
c_{11}	$((u+1)^4)(u^{110}+35u^{109}+\cdots+127u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^2)(y^{110}+59y^{109}+\cdots-9873y+16)$
c_2, c_5	$((y^2-y+1)^2)(y^{110}-41y^{109}+\cdots-233y+4)$
c_3	$((y+1)^4)(y^{110}-3y^{109}+\cdots-79y+1)$
c_4, c_{12}	$((y+1)^4)(y^{110}+65y^{109}+\cdots-175y+1)$
c_6, c_{10}	$((y-1)^4)(y^{110}-35y^{109}+\cdots-127y+1)$
c_7	$(y^4+6y^3+11y^2-6y+1)$ $\cdot(y^{110}-145y^{109}+\cdots+12275866812167y+2180031579049)$
c_8	$(y^4-6y^3+11y^2+6y+1)(y^{110}+155y^{109}+\cdots+197587y+1681)$
c_9, c_{11}	$((y-1)^4)(y^{110}+85y^{109}+\cdots-2511y+1)$