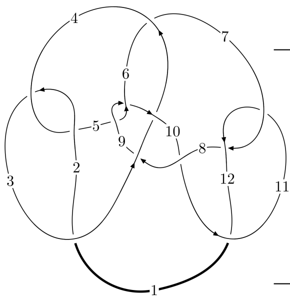
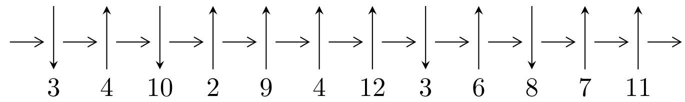
$12n_{0272}$ ($K12n_{0272}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 6.07284 \times 10^{41} u^{54} + 1.52970 \times 10^{42} u^{53} + \cdots + 1.46698 \times 10^{41} b - 3.05374 \times 10^{42}, \\
& -2.49859 \times 10^{42} u^{54} - 5.62187 \times 10^{42} u^{53} + \cdots + 3.66745 \times 10^{41} a + 2.92087 \times 10^{42}, \\
& u^{55} + 2u^{54} + \cdots + 16u - 5\rangle \\
I_2^u = \langle & b^4 - 8b^3u + 4b^3 - 2b^2u - 18b^2 + 28bu - 20b + 8u + 7,\ a + u - 1,\ u^2 - u + 1\rangle \\
I_3^u = \langle & b^3 + 6b^2u + 3b^2 - 9b - 6u - 3,\ a - u - 1,\ u^2 + u + 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 69 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. $\boldsymbol{I^u_1 = \langle 6.07 \times 10^{41} u^{54} + 1.53 \times 10^{42} u^{53} + \cdots + 1.47 \times 10^{41} b - 3.05 \times 10^{42},\ -2.50 \times 10^{42} u^{54} - 5.62 \times 10^{42} u^{53} + \cdots + 3.67 \times 10^{41} a + 2.92 \times 10^{42},\ u^{55} + 2u^{54} + \cdots + 16u - 5\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 6.81288u^{54} + 15.3291u^{53} + \cdots - 80.3573u - 7.96431 \\ -4.13969u^{54} - 10.4275u^{53} + \cdots + 5.97193u + 20.8165 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 4.56016u^{54} + 9.52527u^{53} + \cdots - 81.1963u + 4.33551 \\ -3.61239u^{54} - 8.85323u^{53} + \cdots + 15.4827u + 14.3245 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.831512u^{54} + 0.329358u^{53} + \cdots - 66.1006u + 20.4585 \\ 1.43416u^{54} + 0.946480u^{53} + \cdots - 115.254u + 34.1944 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 2.26567u^{54} + 1.27584u^{53} + \cdots - 181.354u + 54.6529 \\ 1.43416u^{54} + 0.946480u^{53} + \cdots - 115.254u + 34.1944 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.582714u^{54} - 5.23624u^{53} + \cdots - 155.359u + 60.0525 \\ -3.07932u^{54} - 5.89630u^{53} + \cdots + 75.6665u - 11.5791 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 3.31418u^{54} + 2.60263u^{53} + \cdots - 230.938u + 66.8664 \\ -4.10335u^{54} - 10.8910u^{53} + \cdots - 23.6437u + 30.3804 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 2.38419u^{54} + 9.98480u^{53} + \cdots + 165.359u - 64.6148$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{55} + 62u^{54} + \cdots + 72966u - 625$
c_2, c_4	$u^{55} - 14u^{54} + \cdots - 254u + 25$
c_3	$u^{55} + 2u^{54} + \cdots + 16u - 5$
c_5, c_9	$u^{55} - 3u^{54} + \cdots - 9u - 1$
c_6	$u^{55} + 6u^{54} + \cdots + 856224u - 220279$
c_7, c_{11}	$u^{55} - u^{54} + \cdots + 12u - 4$
c_8	$u^{55} - 25u^{53} + \cdots + 116957786u - 39721487$
c_{10}	$u^{55} - 3u^{54} + \cdots + 3164u - 748$
c_{12}	$u^{55} - 25u^{54} + \cdots + 80u - 16$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{55} - 130y^{54} + \cdots + 3614843406y - 390625$
c_2, c_4	$y^{55} + 62y^{54} + \cdots + 72966y - 625$
c_3	$y^{55} + 14y^{54} + \cdots - 254y - 25$
c_5, c_9	$y^{55} - 15y^{54} + \cdots + 43y - 1$
c_6	$y^{55} + 46y^{54} + \cdots - 1179952912654y - 48522837841$
c_7, c_{11}	$y^{55} - 25y^{54} + \cdots + 80y - 16$
c_8	$y^{55} - 50y^{54} + \cdots + 12865645844702842y - 1577796529491169$
c_{10}	$y^{55} - 5y^{54} + \cdots + 5379280y - 559504$
c_{12}	$y^{55} + 15y^{54} + \cdots - 2816y - 256$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.643133 + 0.772247I$ $a = 0.073099 + 0.590591I$ $b = 0.874696 - 0.160448I$	$2.22767 - 6.23387I$	$3.64860 + 7.74824I$
$u = 0.643133 - 0.772247I$ $a = 0.073099 - 0.590591I$ $b = 0.874696 + 0.160448I$	$2.22767 + 6.23387I$	$3.64860 - 7.74824I$
$u = 0.541644 + 0.828095I$ $a = -0.038556 + 0.200004I$ $b = 0.699024 + 0.702967I$	$2.49097 + 1.59610I$	$3.71601 - 0.32055I$
$u = 0.541644 - 0.828095I$ $a = -0.038556 - 0.200004I$ $b = 0.699024 - 0.702967I$	$2.49097 - 1.59610I$	$3.71601 + 0.32055I$
$u = 0.255352 + 0.947684I$ $a = 0.566764 - 0.140113I$ $b = -0.528106 + 0.715239I$	$2.15852 + 1.39769I$	$6.44233 - 2.55277I$
$u = 0.255352 - 0.947684I$ $a = 0.566764 + 0.140113I$ $b = -0.528106 - 0.715239I$	$2.15852 - 1.39769I$	$6.44233 + 2.55277I$
$u = -0.733192 + 0.713911I$ $a = 0.798061 + 1.026100I$ $b = 0.52397 - 1.64587I$	$1.34086 + 4.85814I$	$3.75921 - 6.24399I$
$u = -0.733192 - 0.713911I$ $a = 0.798061 - 1.026100I$ $b = 0.52397 + 1.64587I$	$1.34086 - 4.85814I$	$3.75921 + 6.24399I$
$u = 0.245931 + 1.003490I$ $a = -0.180150 - 0.972673I$ $b = 0.19661 + 2.31761I$	$3.99628 - 2.15960I$	$12.20326 + 3.54467I$
$u = 0.245931 - 1.003490I$ $a = -0.180150 + 0.972673I$ $b = 0.19661 - 2.31761I$	$3.99628 + 2.15960I$	$12.20326 - 3.54467I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.455933 + 0.952453I$ $a = -0.015920 + 0.377752I$ $b = 0.410151 - 1.298800I$	$0.26235 + 2.25660I$	$0. - 4.04903I$
$u = -0.455933 - 0.952453I$ $a = -0.015920 - 0.377752I$ $b = 0.410151 + 1.298800I$	$0.26235 - 2.25660I$	$0. + 4.04903I$
$u = -0.613118 + 0.670633I$ $a = 0.285325 - 0.526308I$ $b = 0.430171 - 0.004191I$	$-0.67943 + 1.91424I$	$-0.34235 - 3.72747I$
$u = -0.613118 - 0.670633I$ $a = 0.285325 + 0.526308I$ $b = 0.430171 + 0.004191I$	$-0.67943 - 1.91424I$	$-0.34235 + 3.72747I$
$u = -0.629710 + 0.956216I$ $a = 0.732740 + 0.781573I$ $b = 0.00414 - 2.05580I$	$2.14605 + 0.34842I$	0
$u = -0.629710 - 0.956216I$ $a = 0.732740 - 0.781573I$ $b = 0.00414 + 2.05580I$	$2.14605 - 0.34842I$	0
$u = -0.778599 + 0.329602I$ $a = 0.678856 - 0.803797I$ $b = 0.168770 - 0.052346I$	$-2.66054 + 0.76259I$	$-1.67387 - 1.84877I$
$u = -0.778599 - 0.329602I$ $a = 0.678856 + 0.803797I$ $b = 0.168770 + 0.052346I$	$-2.66054 - 0.76259I$	$-1.67387 + 1.84877I$
$u = 0.516920 + 1.032630I$ $a = 0.675627 - 0.596738I$ $b = -0.38124 + 1.87533I$	$2.33972 - 3.94259I$	0
$u = 0.516920 - 1.032630I$ $a = 0.675627 + 0.596738I$ $b = -0.38124 - 1.87533I$	$2.33972 + 3.94259I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.826976 + 0.174508I$ $a = 0.793904 + 0.895765I$ $b = 0.301796 + 0.056023I$	$-1.77909 + 4.14857I$	$0.53786 - 4.76792I$
$u = 0.826976 - 0.174508I$ $a = 0.793904 - 0.895765I$ $b = 0.301796 - 0.056023I$	$-1.77909 - 4.14857I$	$0.53786 + 4.76792I$
$u = -0.403926 + 1.086140I$ $a = -0.301206 + 0.696568I$ $b = 0.84782 - 1.88492I$	$-0.05616 + 3.61985I$	0
$u = -0.403926 - 1.086140I$ $a = -0.301206 - 0.696568I$ $b = 0.84782 + 1.88492I$	$-0.05616 - 3.61985I$	0
$u = 0.635290 + 0.539955I$ $a = 0.80977 - 1.17532I$ $b = 0.335753 + 1.218400I$	$0.699297 - 0.586817I$	$2.30186 - 0.73142I$
$u = 0.635290 - 0.539955I$ $a = 0.80977 + 1.17532I$ $b = 0.335753 - 1.218400I$	$0.699297 + 0.586817I$	$2.30186 + 0.73142I$
$u = 0.357804 + 1.146380I$ $a = -0.371516 - 0.795743I$ $b = 0.99860 + 2.21220I$	$1.55711 - 8.45299I$	0
$u = 0.357804 - 1.146380I$ $a = -0.371516 + 0.795743I$ $b = 0.99860 - 2.21220I$	$1.55711 + 8.45299I$	0
$u = -0.889584 + 0.849382I$ $a = -1.053920 + 0.046965I$ $b = 0.026656 + 0.258349I$	$-3.64967 - 0.17207I$	0
$u = -0.889584 - 0.849382I$ $a = -1.053920 - 0.046965I$ $b = 0.026656 - 0.258349I$	$-3.64967 + 0.17207I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.031113 + 0.765896I$ $a = -0.25903 + 1.40965I$ $b = -1.01707 - 2.10431I$	$5.48181 + 3.63285I$	$13.5953 - 4.3642I$
$u = -0.031113 - 0.765896I$ $a = -0.25903 - 1.40965I$ $b = -1.01707 + 2.10431I$	$5.48181 - 3.63285I$	$13.5953 + 4.3642I$
$u = -0.980350 + 0.786429I$ $a = -1.188620 + 0.046193I$ $b = -0.330725 + 0.677000I$	$-7.75967 - 8.08659I$	0
$u = -0.980350 - 0.786429I$ $a = -1.188620 - 0.046193I$ $b = -0.330725 - 0.677000I$	$-7.75967 + 8.08659I$	0
$u = 0.973285 + 0.826962I$ $a = -1.156140 - 0.078168I$ $b = -0.129976 - 0.669159I$	$-9.70239 + 2.43605I$	0
$u = 0.973285 - 0.826962I$ $a = -1.156140 + 0.078168I$ $b = -0.129976 + 0.669159I$	$-9.70239 - 2.43605I$	0
$u = -0.834739 + 0.982712I$ $a = 0.003646 - 1.048060I$ $b = -0.34032 + 2.13272I$	$-3.22528 + 6.57102I$	0
$u = -0.834739 - 0.982712I$ $a = 0.003646 + 1.048060I$ $b = -0.34032 - 2.13272I$	$-3.22528 - 6.57102I$	0
$u = -0.941255 + 0.925932I$ $a = 0.118357 - 1.083720I$ $b = -0.82877 + 1.42918I$	$-8.54383 - 0.44596I$	0
$u = -0.941255 - 0.925932I$ $a = 0.118357 + 1.083720I$ $b = -0.82877 - 1.42918I$	$-8.54383 + 0.44596I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.939126 + 0.931067I$ $a = -1.066090 - 0.168051I$ $b = 0.426943 - 0.559972I$	$-10.06640 - 1.58825I$	0
$u = 0.939126 - 0.931067I$ $a = -1.066090 + 0.168051I$ $b = 0.426943 + 0.559972I$	$-10.06640 + 1.58825I$	0
$u = -0.917840 + 0.968985I$ $a = -1.027200 + 0.203661I$ $b = 0.641384 + 0.467628I$	$-8.40289 + 7.27332I$	0
$u = -0.917840 - 0.968985I$ $a = -1.027200 - 0.203661I$ $b = 0.641384 - 0.467628I$	$-8.40289 - 7.27332I$	0
$u = 0.921796 + 0.966607I$ $a = 0.077249 + 1.095330I$ $b = -0.84619 - 1.72543I$	$-9.95240 - 5.24724I$	0
$u = 0.921796 - 0.966607I$ $a = 0.077249 - 1.095330I$ $b = -0.84619 + 1.72543I$	$-9.95240 + 5.24724I$	0
$u = 0.861727 + 1.038620I$ $a = -0.009790 + 1.107290I$ $b = -0.74617 - 2.39826I$	$-9.01329 - 9.17083I$	0
$u = 0.861727 - 1.038620I$ $a = -0.009790 - 1.107290I$ $b = -0.74617 + 2.39826I$	$-9.01329 + 9.17083I$	0
$u = -0.840461 + 1.058680I$ $a = -0.036507 - 1.110470I$ $b = -0.69938 + 2.61952I$	$-6.8786 + 14.7636I$	0
$u = -0.840461 - 1.058680I$ $a = -0.036507 + 1.110470I$ $b = -0.69938 - 2.61952I$	$-6.8786 - 14.7636I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.076743 + 0.576649I$ $a = -0.56089 + 1.77985I$ $b = -1.50038 - 1.35769I$	$4.70804 - 3.84497I$	$11.03034 + 2.81257I$
$u = 0.076743 - 0.576649I$ $a = -0.56089 - 1.77985I$ $b = -1.50038 + 1.35769I$	$4.70804 + 3.84497I$	$11.03034 - 2.81257I$
$u = 0.094139 + 0.557159I$ $a = -0.04524 - 1.86661I$ $b = -0.91864 + 1.34124I$	$2.17167 - 0.44148I$	$7.35335 + 0.00703I$
$u = 0.094139 - 0.557159I$ $a = -0.04524 + 1.86661I$ $b = -0.91864 - 1.34124I$	$2.17167 + 0.44148I$	$7.35335 - 0.00703I$
$u = 0.319907$ $a = 2.19474$ $b = -0.239033$	1.23747	7.46610

II. $\boldsymbol{I_2^u = \langle -8b^3u - 2b^2u + \cdots - 20b + 7,\ a + u - 1,\ u^2 - u + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 1 \\ u - 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u + 1 \\ b \end{pmatrix}$$

$$a_7 = \begin{pmatrix} b - 2u + 1 \\ bu + 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u \\ -u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0 \\ -u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u - 1 \\ -b + u \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} -b^2u + 2bu - 4b + 3u \\ -b^2u + 2bu - 3b + 2u + 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -2b^2u + 4bu - 8b + 8u - 2 \\ -b^3u + b^3 - 5b^2u - 2b^2 + 9bu - 15b + 10u - 2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4b^2u - 4b^2 + 8bu + 8b - 8u + 24$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_4	$(u^2 - u + 1)^4$
c_2	$(u^2 + u + 1)^4$
c_5	$(u - 1)^8$
c_6	$u^8 - 4u^7 + 8u^6 - 16u^5 + 27u^4 - 24u^3 + 24u^2 - 40u + 25$
c_7, c_{11}	$(u^4 - 2u^2 + 2)^2$
c_8	$u^8 + 4u^7 + 8u^6 + 16u^5 + 27u^4 + 24u^3 + 24u^2 + 40u + 25$
c_9	$(u + 1)^8$
c_{10}	$(u^4 + 2u^2 + 2)^2$
c_{12}	$(u^2 - 2u + 2)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_4	$(y^2 + y + 1)^4$
c_5, c_9	$(y-1)^8$
c_6, c_8	$y^8 - 10y^6 + 32y^5 + 75y^4 - 160y^3 + 6y^2 - 400y + 625$
c_7, c_{11}	$(y^2 - 2y + 2)^4$
c_{10}	$(y^2 + 2y + 2)^4$
c_{12}	$(y^2 + 4)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$ $a = 0.500000 - 0.866025I$ $b = -0.723943 + 0.788589I$	$4.11234 + 1.63398I$	$10.00000 - 0.53590I$
$u = 0.500000 + 0.866025I$ $a = 0.500000 - 0.866025I$ $b = -1.17903 + 1.57683I$	$4.11234 - 5.69375I$	$10.00000 + 7.46410I$
$u = 0.500000 + 0.866025I$ $a = 0.500000 - 0.866025I$ $b = 1.17903 + 1.88727I$	$4.11234 - 5.69375I$	$10.00000 + 7.46410I$
$u = 0.500000 + 0.866025I$ $a = 0.500000 - 0.866025I$ $b = 0.72394 + 2.67551I$	$4.11234 + 1.63398I$	$10.00000 - 0.53590I$
$u = 0.500000 - 0.866025I$ $a = 0.500000 + 0.866025I$ $b = -0.723943 - 0.788589I$	$4.11234 - 1.63398I$	$10.00000 + 0.53590I$
$u = 0.500000 - 0.866025I$ $a = 0.500000 + 0.866025I$ $b = -1.17903 - 1.57683I$	$4.11234 + 5.69375I$	$10.00000 - 7.46410I$
$u = 0.500000 - 0.866025I$ $a = 0.500000 + 0.866025I$ $b = 1.17903 - 1.88727I$	$4.11234 + 5.69375I$	$10.00000 - 7.46410I$
$u = 0.500000 - 0.866025I$ $a = 0.500000 + 0.866025I$ $b = 0.72394 - 2.67551I$	$4.11234 - 1.63398I$	$10.00000 + 0.53590I$

III. $\boldsymbol{I_3^u = \langle b^3 + 6b^2u + 3b^2 - 9b - 6u - 3,\ a - u - 1,\ u^2 + u + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -u-1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u+1 \\ b \end{pmatrix}$$
$$a_7 = \begin{pmatrix} b+2u+1 \\ -bu+1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u+1 \\ b+u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ -u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} b+2u+1 \\ b+u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -b^2u + 2bu + 4b + 3u \\ -b^2u + 2bu + 3b + 2u - 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ b^2 + 4bu + 2b + u - 3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -2b^2u - 2b^2 - 4bu + 4b + 2u + 10$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = 0.500000 + 0.866025I$ $b = -1.73205I$	$1.64493 + 2.02988I$	$6.00000 - 3.46410I$
$u = -0.500000 + 0.866025I$ $a = 0.500000 + 0.866025I$ $b = -1.73205I$	$1.64493 + 2.02988I$	$6.00000 - 3.46410I$
$u = -0.500000 + 0.866025I$ $a = 0.500000 + 0.866025I$ $b = -1.73205I$	$1.64493 + 2.02988I$	$6.00000 - 3.46410I$
$u = -0.500000 - 0.866025I$ $a = 0.500000 - 0.866025I$ $b = 1.73205I$	$1.64493 - 2.02988I$	$6.00000 + 3.46410I$
$u = -0.500000 - 0.866025I$ $a = 0.500000 - 0.866025I$ $b = 1.73205I$	$1.64493 - 2.02988I$	$6.00000 + 3.46410I$
$u = -0.500000 - 0.866025I$ $a = 0.500000 - 0.866025I$ $b = 1.73205I$	$1.64493 - 2.02988I$	$6.00000 + 3.46410I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^7)(u^{55}+62u^{54}+\cdots+72966u-625)$
c_2	$((u^2+u+1)^7)(u^{55}-14u^{54}+\cdots-254u+25)$
c_3	$((u^2-u+1)^4)(u^2+u+1)^3(u^{55}+2u^{54}+\cdots+16u-5)$
c_4	$((u^2-u+1)^7)(u^{55}-14u^{54}+\cdots-254u+25)$
c_5	$((u-1)^8)(u+1)^6(u^{55}-3u^{54}+\cdots-9u-1)$
c_6	$((u^2-u+1)^3)(u^8-4u^7+\cdots-40u+25)$ $\cdot(u^{55}+6u^{54}+\cdots+856224u-220279)$
c_7, c_{11}	$u^6(u^4-2u^2+2)^2(u^{55}-u^{54}+\cdots+12u-4)$
c_8	$((u^2-u+1)^3)(u^8+4u^7+\cdots+40u+25)$ $\cdot(u^{55}-25u^{53}+\cdots+116957786u-39721487)$
c_9	$((u-1)^6)(u+1)^8(u^{55}-3u^{54}+\cdots-9u-1)$
c_{10}	$u^6(u^4+2u^2+2)^2(u^{55}-3u^{54}+\cdots+3164u-748)$
c_{12}	$u^6(u^2-2u+2)^4(u^{55}-25u^{54}+\cdots+80u-16)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^7)(y^{55}-130y^{54}+\cdots+3.61484\times10^9y-390625)$
c_2, c_4	$((y^2+y+1)^7)(y^{55}+62y^{54}+\cdots+72966y-625)$
c_3	$((y^2+y+1)^7)(y^{55}+14y^{54}+\cdots-254y-25)$
c_5, c_9	$((y-1)^{14})(y^{55}-15y^{54}+\cdots+43y-1)$
c_6	$((y^2+y+1)^3)(y^8-10y^6+\cdots-400y+625)$ $\cdot(y^{55}+46y^{54}+\cdots-1179952912654y-48522837841)$
c_7, c_{11}	$y^6(y^2-2y+2)^4(y^{55}-25y^{54}+\cdots+80y-16)$
c_8	$((y^2+y+1)^3)(y^8-10y^6+\cdots-400y+625)$ $\cdot(y^{55}-50y^{54}+\cdots+12865645844702842y-1577796529491169)$
c_{10}	$y^6(y^2+2y+2)^4(y^{55}-5y^{54}+\cdots+5379280y-559504)$
c_{12}	$y^6(y^2+4)^4(y^{55}+15y^{54}+\cdots-2816y-256)$