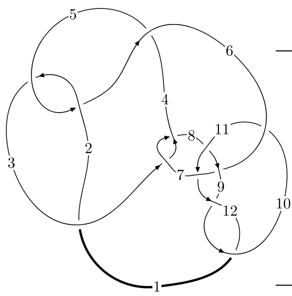
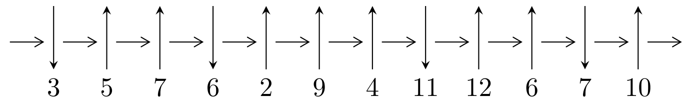
$12n_{0232}$ ($K12n_{0232}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle &-1.48632 \times 10^{99} u^{33} - 5.79126 \times 10^{99} u^{32} + \cdots + 9.25530 \times 10^{102} b - 2.38605 \times 10^{103}, \\
&- 3.67965 \times 10^{100} u^{33} - 2.13068 \times 10^{101} u^{32} + \cdots + 3.70212 \times 10^{103} a - 8.18316 \times 10^{104}, \\
&u^{34} + 2u^{33} + \cdots - 3072u + 1024 \rangle \\
I_2^u = \langle &u^8 - 3u^6 - u^5 + 4u^4 + 2u^3 - u^2 + b - 2u - 1,\ u^8 + 2u^7 - 2u^6 - 5u^5 + u^4 + 5u^3 + u^2 + a, \\
&u^9 + u^8 - 2u^7 - 3u^6 + u^5 + 3u^4 + 2u^3 - u - 1 \rangle
\end{aligned}$$

$$\begin{aligned}
I_1^v = \langle &a,\ 1728v^9 - 4936v^8 + 9872v^7 + 12908v^6 - 24680v^5 - 34552v^4 + 91527v^3 + 4936v^2 + 3335b - 613, \\
&v^{10} - 3v^9 + 6v^8 + 7v^7 - 16v^6 - 19v^5 + 58v^4 - 2v^3 - 7v^2 - v + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 53 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. $I^u_1 = \langle -1.49 \times 10^{99} u^{33} - 5.79 \times 10^{99} u^{32} + \cdots + 9.26 \times 10^{102} b - 2.39 \times 10^{103},\ -3.68 \times 10^{100} u^{33} - 2.13 \times 10^{101} u^{32} + \cdots + 3.70 \times 10^{103} a - 8.18 \times 10^{104},\ u^{34} + 2u^{33} + \cdots - 3072u + 1024 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} 0.000993930u^{33} + 0.00575530u^{32} + \cdots - 34.8075u + 22.1040 \\ 0.000160592u^{33} + 0.000625724u^{32} + \cdots - 5.64954u + 2.57803 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.00135334u^{33} - 0.00441762u^{32} + \cdots + 6.87137u - 7.96186 \\ 0.000582441u^{33} + 0.00154725u^{32} + \cdots + 2.00787u - 0.0842617 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.000833338u^{33} + 0.00512957u^{32} + \cdots - 29.1579u + 19.5259 \\ 0.000160592u^{33} + 0.000625724u^{32} + \cdots - 5.64954u + 2.57803 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.00199895u^{33} + 0.00538241u^{32} + \cdots - 0.684374u + 3.58838 \\ -0.00147460u^{33} - 0.00388109u^{32} + \cdots - 4.51110u + 1.52261 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.000983560u^{33} - 0.00100646u^{32} + \cdots - 17.7146u + 4.94069 \\ -0.000685051u^{33} - 0.00177065u^{32} + \cdots - 1.78423u + 1.03576 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.000524358u^{33} - 0.00150131u^{32} + \cdots + 5.19547u - 5.11099 \\ -0.00147460u^{33} - 0.00388109u^{32} + \cdots - 4.51110u + 1.52261 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.000790332u^{33} - 0.00216412u^{32} + \cdots + 2.98921u - 3.69326 \\ -0.00120862u^{33} - 0.00321829u^{32} + \cdots - 2.30484u + 0.104878 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.000643181u^{33} + 0.000310006u^{32} + \cdots - 24.6133u + 14.9301 \\ 0.000927418u^{33} + 0.00308742u^{32} + \cdots - 3.88840u + 1.37424 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0110768u^{33} + 0.0125415u^{32} + \cdots + 188.174u - 59.8533$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{34} + 23u^{33} + \cdots - 148u + 1$
c_2, c_5	$u^{34} + 7u^{33} + \cdots - 74u^2 + 1$
c_3, c_7	$u^{34} + 2u^{33} + \cdots - 3072u + 1024$
c_6	$u^{34} + 4u^{33} + \cdots - 3u - 1$
c_8	$u^{34} - 3u^{33} + \cdots - 5632u + 512$
c_9, c_{12}	$u^{34} + 12u^{33} + \cdots - 11u - 1$
c_{10}	$u^{34} - 4u^{33} + \cdots - 666199u + 339173$
c_{11}	$u^{34} + 2u^{33} + \cdots - 10595u + 25489$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{34} - 17y^{33} + \cdots - 14096y + 1$
c_2, c_5	$y^{34} + 23y^{33} + \cdots - 148y + 1$
c_3, c_7	$y^{34} + 50y^{33} + \cdots + 1048576y + 1048576$
c_6	$y^{34} - 4y^{33} + \cdots - 19y + 1$
c_8	$y^{34} - 51y^{33} + \cdots - 3407872y + 262144$
c_9, c_{12}	$y^{34} - 4y^{33} + \cdots + 65y + 1$
c_{10}	$y^{34} + 60y^{33} + \cdots - 783443850999y + 115038323929$
c_{11}	$y^{34} - 36y^{33} + \cdots + 7287355609y + 649689121$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.01886$ $a = 0.402417$ $b = -0.825508$	1.38631	7.11490
$u = 0.946524 + 0.004818I$ $a = 0.0881160 - 0.0882313I$ $b = -0.622736 + 0.920702I$	$6.54075 + 2.05806I$	$13.8961 - 2.8397I$
$u = 0.946524 - 0.004818I$ $a = 0.0881160 + 0.0882313I$ $b = -0.622736 - 0.920702I$	$6.54075 - 2.05806I$	$13.8961 + 2.8397I$
$u = -0.764707 + 0.536808I$ $a = 0.0835054 + 0.0924226I$ $b = -0.236214 - 0.979802I$	$6.07730 - 7.11588I$	$12.1179 + 9.6630I$
$u = -0.764707 - 0.536808I$ $a = 0.0835054 - 0.0924226I$ $b = -0.236214 + 0.979802I$	$6.07730 + 7.11588I$	$12.1179 - 9.6630I$
$u = -0.305197 + 0.863434I$ $a = 1.356410 - 0.154788I$ $b = 0.691749 + 0.367275I$	$0.62542 + 2.57137I$	$3.17282 - 2.86214I$
$u = -0.305197 - 0.863434I$ $a = 1.356410 + 0.154788I$ $b = 0.691749 - 0.367275I$	$0.62542 - 2.57137I$	$3.17282 + 2.86214I$
$u = -0.642836 + 0.443818I$ $a = 0.488581 + 0.467682I$ $b = 0.115474 + 0.349761I$	$-1.59132 - 1.76956I$	$-2.73476 + 4.21364I$
$u = -0.642836 - 0.443818I$ $a = 0.488581 - 0.467682I$ $b = 0.115474 - 0.349761I$	$-1.59132 + 1.76956I$	$-2.73476 - 4.21364I$
$u = -0.732513 + 0.269955I$ $a = 2.27941 - 2.52971I$ $b = -0.05782 + 1.46259I$	$0.72250 + 2.82980I$	$10.05148 - 3.22591I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.732513 - 0.269955I$ $a = 2.27941 + 2.52971I$ $b = -0.05782 - 1.46259I$	$0.72250 - 2.82980I$	$10.05148 + 3.22591I$
$u = 0.678106 + 0.349109I$ $a = 2.13499 + 2.18985I$ $b = -0.369797 - 0.819998I$	$1.56878 + 0.34703I$	$8.40786 - 0.51532I$
$u = 0.678106 - 0.349109I$ $a = 2.13499 - 2.18985I$ $b = -0.369797 + 0.819998I$	$1.56878 - 0.34703I$	$8.40786 + 0.51532I$
$u = 0.062735 + 0.467390I$ $a = 0.893723 + 0.003916I$ $b = 0.331665 - 0.940404I$	$0.61291 + 1.48611I$	$4.79533 - 4.74523I$
$u = 0.062735 - 0.467390I$ $a = 0.893723 - 0.003916I$ $b = 0.331665 + 0.940404I$	$0.61291 - 1.48611I$	$4.79533 + 4.74523I$
$u = 0.074045 + 0.443473I$ $a = 8.71021 + 1.02714I$ $b = 1.33192 - 0.57161I$	$2.15188 + 2.20308I$	$-18.1536 + 5.4483I$
$u = 0.074045 - 0.443473I$ $a = 8.71021 - 1.02714I$ $b = 1.33192 + 0.57161I$	$2.15188 - 2.20308I$	$-18.1536 - 5.4483I$
$u = 1.12191 + 1.21427I$ $a = 0.292658 - 0.148357I$ $b = 0.94260 + 1.15777I$	$-2.99715 - 2.34695I$	$4.00000 + 3.07511I$
$u = 1.12191 - 1.21427I$ $a = 0.292658 + 0.148357I$ $b = 0.94260 - 1.15777I$	$-2.99715 + 2.34695I$	$4.00000 - 3.07511I$
$u = 0.305756$ $a = 4.77767$ $b = -1.04203$	2.29528	1.25710

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.56509+2.04215I$ $a=-0.773555+0.263179I$ $b=-1.39864-0.29584I$	$-7.72558-0.90268I$	0
$u=-0.56509-2.04215I$ $a=-0.773555-0.263179I$ $b=-1.39864+0.29584I$	$-7.72558+0.90268I$	0
$u=\ \ 1.02869+1.89861I$ $a=-0.706865-0.350243I$ $b=-1.26804+0.74707I$	$-11.18750+7.23815I$	0
$u=\ \ 1.02869-1.89861I$ $a=-0.706865+0.350243I$ $b=-1.26804-0.74707I$	$-11.18750-7.23815I$	0
$u=-1.91642+1.10283I$ $a=\ \ 0.054061+0.259519I$ $b=-2.33781+0.73216I$	$-3.63061-2.77360I$	0
$u=-1.91642-1.10283I$ $a=\ \ 0.054061-0.259519I$ $b=-2.33781-0.73216I$	$-3.63061+2.77360I$	0
$u=-1.19908+1.98984I$ $a=\ \ 0.816613-0.366169I$ $b=\ \ 1.73482+1.78350I$	$-10.8926-14.7212I$	0
$u=-1.19908-1.98984I$ $a=\ \ 0.816613+0.366169I$ $b=\ \ 1.73482-1.78350I$	$-10.8926+14.7212I$	0
$u=\ \ 0.77518+2.27315I$ $a=\ \ 0.803096+0.162714I$ $b=\ \ 2.06341-1.43354I$	$-7.46169+8.00267I$	0
$u=\ \ 0.77518-2.27315I$ $a=\ \ 0.803096-0.162714I$ $b=\ \ 2.06341+1.43354I$	$-7.46169-8.00267I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.04194 + 2.58121I$ $a = -0.741302 - 0.045471I$ $b = -1.88206 - 0.20245I$	$-13.09350 - 4.80207I$	0
$u = -0.04194 - 2.58121I$ $a = -0.741302 + 0.045471I$ $b = -1.88206 + 0.20245I$	$-13.09350 + 4.80207I$	0
$u = -0.18171 + 2.97411I$ $a = 0.630299 + 0.012157I$ $b = 2.89525 + 1.03267I$	$-13.37580 - 1.94532I$	0
$u = -0.18171 - 2.97411I$ $a = 0.630299 - 0.012157I$ $b = 2.89525 - 1.03267I$	$-13.37580 + 1.94532I$	0

II. $\boldsymbol{I_2^u = \langle u^8 - 3u^6 - u^5 + 4u^4 + 2u^3 - u^2 + b - 2u - 1,\ u^8 + 2u^7 - 2u^6 - 5u^5 + u^4 + 5u^3 + u^2 + a,\ u^9 + u^8 - 2u^7 - 3u^6 + u^5 + 3u^4 + 2u^3 - u - 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} -u^8 - 2u^7 + 2u^6 + 5u^5 - u^4 - 5u^3 - u^2 \\ -u^8 + 3u^6 + u^5 - 4u^4 - 2u^3 + u^2 + 2u + 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -2u^7 - u^6 + 4u^5 + 3u^4 - 3u^3 - 2u^2 - 2u - 1 \\ -u^8 + 3u^6 + u^5 - 4u^4 - 2u^3 + u^2 + 2u + 1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^5 + 2u^3 - u \\ u^7 - u^5 + u \end{pmatrix}$$

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

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

$$a_{10} = \begin{pmatrix} -2u^7 - u^6 + 4u^5 + 3u^4 - 3u^3 - 2u^2 - 2u \\ -u^8 + 3u^6 + u^5 - 4u^4 - 2u^3 + 2u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 5u^8 + 9u^7 - 7u^6 - 22u^5 - 2u^4 + 23u^3 + 13u^2 + u + 3$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^9 - 3u^8 + 8u^7 - 13u^6 + 17u^5 - 17u^4 + 12u^3 - 6u^2 + u + 1$
c_2	$u^9 - u^8 + 2u^7 - u^6 + 3u^5 - u^4 + 2u^3 + u + 1$
c_3	$u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1$
c_5	$u^9 + u^8 + 2u^7 + u^6 + 3u^5 + u^4 + 2u^3 + u - 1$
c_6	$u^9 + 5u^8 + 12u^7 + 15u^6 + 9u^5 - u^4 - 4u^3 - 2u^2 + u + 1$
c_7	$u^9 + u^8 - 2u^7 - 3u^6 + u^5 + 3u^4 + 2u^3 - u - 1$
c_8	u^9
c_9	$(u + 1)^9$
c_{10}, c_{11}	$u^9 + u^8 - 2u^7 - 4u^6 - u^5 + 9u^4 + 15u^3 + 12u^2 + 5u + 1$
c_{12}	$(u - 1)^9$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1$
c_2, c_5	$y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1$
c_3, c_7	$y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1$
c_6	$y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1$
c_8	y^9
c_9, c_{12}	$(y-1)^9$
c_{10}, c_{11}	$y^9 - 5y^8 + 10y^7 - y^5 - 37y^4 + 7y^3 - 12y^2 + y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.772920 + 0.510351I$ $a = 0.939568 - 0.981640I$ $b = 0.457852 + 1.072010I$	$-0.13850 - 2.09337I$	$3.38047 + 2.85927I$
$u = -0.772920 - 0.510351I$ $a = 0.939568 + 0.981640I$ $b = 0.457852 - 1.072010I$	$-0.13850 + 2.09337I$	$3.38047 - 2.85927I$
$u = 0.825933$ $a = -2.14893$ $b = 1.46592$	2.84338	17.4870
$u = 1.173910 + 0.391555I$ $a = -0.119081 + 0.409451I$ $b = 0.522253 - 0.392004I$	$6.01628 + 1.33617I$	$6.48878 + 2.15019I$
$u = 1.173910 - 0.391555I$ $a = -0.119081 - 0.409451I$ $b = 0.522253 + 0.392004I$	$6.01628 - 1.33617I$	$6.48878 - 2.15019I$
$u = -0.141484 + 0.739668I$ $a = -2.26219 + 2.13290I$ $b = -1.63880 + 0.65075I$	$2.26187 + 2.45442I$	$6.9022 - 12.4598I$
$u = -0.141484 - 0.739668I$ $a = -2.26219 - 2.13290I$ $b = -1.63880 - 0.65075I$	$2.26187 - 2.45442I$	$6.9022 + 12.4598I$
$u = -1.172470 + 0.500383I$ $a = 0.016164 - 0.378317I$ $b = 0.425734 + 0.444312I$	$5.24306 - 7.08493I$	$2.48514 + 6.49599I$
$u = -1.172470 - 0.500383I$ $a = 0.016164 + 0.378317I$ $b = 0.425734 - 0.444312I$	$5.24306 + 7.08493I$	$2.48514 - 6.49599I$

III. $\boldsymbol{I_1^v = \langle a,\ 1728v^9 - 4936v^8 + \cdots + 3335b - 613,\ v^{10} - 3v^9 + \cdots - v + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ -0.518141v^9 + 1.48006v^8 + \cdots - 1.48006v^2 + 0.183808 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0.462969v^9 - 1.33373v^8 + \cdots + 1.33373v^2 - 1.81379 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0.518141v^9 - 1.48006v^8 + \cdots + 1.48006v^2 - 0.183808 \\ -0.518141v^9 + 1.48006v^8 + \cdots - 1.48006v^2 + 0.183808 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.462969v^9 - 1.33373v^8 + \cdots + 1.33373v^2 - 0.813793 \\ -1.14783v^9 + 3.29565v^8 + \cdots - 3.29565v^2 + 1.75652 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.0740630v^9 - 0.148126v^8 + \cdots + 3.77811v - 0.424888 \\ -0.147826v^9 + 0.295652v^8 + \cdots - 7v + 0.756522 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.610795v^9 + 1.75982v^8 + \cdots + v + 0.961619 \\ 1.14783v^9 - 3.29565v^8 + \cdots + 3.29565v^2 - 1.75652 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.462969v^9 + 1.33373v^8 + \cdots - 1.33373v^2 + 0.813793 \\ 1.14783v^9 - 3.29565v^8 + \cdots + 3.29565v^2 - 1.75652 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.684858v^9 + 1.96192v^8 + \cdots - 1.96192v^2 + 0.942729 \\ 1.14783v^9 - 3.29565v^8 + \cdots + 3.29565v^2 - 1.75652 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= \tfrac{1259}{667}v^9 - \tfrac{146}{29}v^8 + \tfrac{6397}{667}v^7 + \tfrac{11075}{667}v^6 - \tfrac{16703}{667}v^5 - \tfrac{29857}{667}v^4 + \tfrac{2799}{29}v^3 + \tfrac{18061}{667}v^2 - \tfrac{151}{23}v + \tfrac{990}{667}$$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = 1.38814 + 0.78973I$ $a = 0$ $b = 0.339110 + 0.822375I$	$0.329100 + 0.499304I$	$3.01153 - 0.88894I$
$v = 1.38814 - 0.78973I$ $a = 0$ $b = 0.339110 - 0.822375I$	$0.329100 - 0.499304I$	$3.01153 + 0.88894I$
$v = -1.37799 + 0.80730I$ $a = 0$ $b = 0.339110 + 0.822375I$	$0.32910 - 3.56046I$	$3.07628 + 9.77765I$
$v = -1.37799 - 0.80730I$ $a = 0$ $b = 0.339110 - 0.822375I$	$0.32910 + 3.56046I$	$3.07628 - 9.77765I$
$v = -0.294694 + 0.220725I$ $a = 0$ $b = -0.455697 - 1.200150I$	$5.87256 - 6.43072I$	$6.63163 + 0.01393I$
$v = -0.294694 - 0.220725I$ $a = 0$ $b = -0.455697 + 1.200150I$	$5.87256 + 6.43072I$	$6.63163 - 0.01393I$
$v = 0.338500 + 0.144851I$ $a = 0$ $b = -0.455697 - 1.200150I$	$5.87256 - 2.37095I$	$3.55752 + 5.27247I$
$v = 0.338500 - 0.144851I$ $a = 0$ $b = -0.455697 + 1.200150I$	$5.87256 + 2.37095I$	$3.55752 - 5.27247I$
$v = 1.44605 + 2.50463I$ $a = 0$ $b = -0.766826$	$2.40108 - 2.02988I$	$9.72304 - 3.67600I$
$v = 1.44605 - 2.50463I$ $a = 0$ $b = -0.766826$	$2.40108 + 2.02988I$	$9.72304 + 3.67600I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_4	$(u^2 - u + 1)^5$ $\cdot (u^9 - 3u^8 + 8u^7 - 13u^6 + 17u^5 - 17u^4 + 12u^3 - 6u^2 + u + 1)$ $\cdot (u^{34} + 23u^{33} + \cdots - 148u + 1)$
c_2	$(u^2 + u + 1)^5(u^9 - u^8 + 2u^7 - u^6 + 3u^5 - u^4 + 2u^3 + u + 1)$ $\cdot (u^{34} + 7u^{33} + \cdots - 74u^2 + 1)$
c_3	$u^{10}(u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1)$ $\cdot (u^{34} + 2u^{33} + \cdots - 3072u + 1024)$
c_5	$(u^2 - u + 1)^5(u^9 + u^8 + 2u^7 + u^6 + 3u^5 + u^4 + 2u^3 + u - 1)$ $\cdot (u^{34} + 7u^{33} + \cdots - 74u^2 + 1)$
c_6	$(u^5 + 3u^4 + 4u^3 + u^2 - u - 1)^2$ $\cdot (u^9 + 5u^8 + 12u^7 + 15u^6 + 9u^5 - u^4 - 4u^3 - 2u^2 + u + 1)$ $\cdot (u^{34} + 4u^{33} + \cdots - 3u - 1)$
c_7	$u^{10}(u^9 + u^8 - 2u^7 - 3u^6 + u^5 + 3u^4 + 2u^3 - u - 1)$ $\cdot (u^{34} + 2u^{33} + \cdots - 3072u + 1024)$
c_8	$u^9(u^5 + u^4 + \cdots + u + 1)^2(u^{34} - 3u^{33} + \cdots - 5632u + 512)$
c_9	$((u + 1)^9)(u^5 - u^4 + \cdots + u + 1)^2(u^{34} + 12u^{33} + \cdots - 11u - 1)$
c_{10}	$(u^5 + u^4 - 2u^3 - u^2 + u - 1)^2$ $\cdot (u^9 + u^8 - 2u^7 - 4u^6 - u^5 + 9u^4 + 15u^3 + 12u^2 + 5u + 1)$ $\cdot (u^{34} - 4u^{33} + \cdots - 666199u + 339173)$
c_{11}	$(u^5 - u^4 + 2u^3 - u^2 + u - 1)^2$ $\cdot (u^9 + u^8 - 2u^7 - 4u^6 - u^5 + 9u^4 + 15u^3 + 12u^2 + 5u + 1)$ $\cdot (u^{34} + 2u^{33} + \cdots - 10595u + 25489)$
c_{12}	$((u - 1)^9)(u^5 + u^4 + \cdots + u - 1)^2(u^{34} + 12u^{33} + \cdots - 11u - 1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$((y^2+y+1)^5)(y^9+7y^8+\cdots+13y-1)$ $\cdot(y^{34}-17y^{33}+\cdots-14096y+1)$
c_2, c_5	$(y^2+y+1)^5$ $\cdot(y^9+3y^8+8y^7+13y^6+17y^5+17y^4+12y^3+6y^2+y-1)$ $\cdot(y^{34}+23y^{33}+\cdots-148y+1)$
c_3, c_7	$y^{10}(y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1)$ $\cdot(y^{34}+50y^{33}+\cdots+1048576y+1048576)$
c_6	$(y^5-y^4+8y^3-3y^2+3y-1)^2$ $\cdot(y^9-y^8+12y^7-7y^6+37y^5+y^4-10y^2+5y-1)$ $\cdot(y^{34}-4y^{33}+\cdots-19y+1)$
c_8	$y^9(y^5+3y^4+4y^3+y^2-y-1)^2$ $\cdot(y^{34}-51y^{33}+\cdots-3407872y+262144)$
c_9, c_{12}	$((y-1)^9)(y^5-5y^4+\cdots-y-1)^2(y^{34}-4y^{33}+\cdots+65y+1)$
c_{10}	$(y^5-5y^4+8y^3-3y^2-y-1)^2$ $\cdot(y^9-5y^8+10y^7-y^5-37y^4+7y^3-12y^2+y-1)$ $\cdot(y^{34}+60y^{33}+\cdots-783443850999y+115038323929)$
c_{11}	$(y^5+3y^4+4y^3+y^2-y-1)^2$ $\cdot(y^9-5y^8+10y^7-y^5-37y^4+7y^3-12y^2+y-1)$ $\cdot(y^{34}-36y^{33}+\cdots+7287355609y+649689121)$