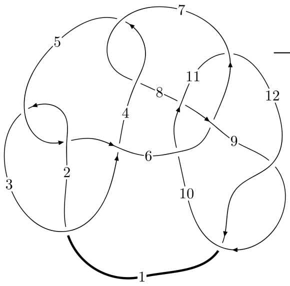
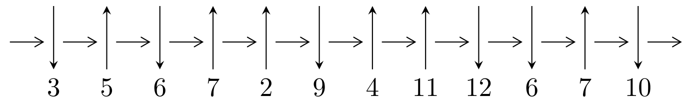
$12n_{0031}$ ($K12n_{0031}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$
\begin{aligned}
I^u_1 = \langle & 1.28889 \times 10^{59} u^{23} - 1.73916 \times 10^{59} u^{22} + \cdots + 2.88300 \times 10^{61} b - 2.28440 \times 10^{62}, \\
& 7.35803 \times 10^{59} u^{23} - 1.22890 \times 10^{60} u^{22} + \cdots + 5.76599 \times 10^{61} a - 1.59769 \times 10^{63}, \\
& u^{24} - 2u^{23} + \cdots - 7168u + 1024 \rangle \\
I^u_2 = \langle & u^2 + b - u + 1,\ u^2 + a - u + 1,\ u^4 + u^2 + u + 1 \rangle \\
I^u_3 = \langle & -2u^5 - 3u^3 + u^2 + b - 2u + 2,\ -2u^5 - 3u^3 + u^2 + a - 2u + 2,\ u^6 - u^5 + 2u^4 - 2u^3 + 2u^2 - 2u + 1 \rangle
\end{aligned}
$$

$$
\begin{aligned}
I^v_1 = \langle & a,\ 1523v^9 + 2050v^8 + \cdots + 3335b + 8448, \\
& v^{10} + v^9 - 7v^8 + 2v^7 + 58v^6 + 19v^5 - 16v^4 - 7v^3 + 6v^2 + 3v + 1 \rangle
\end{aligned}
$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 44 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. $\boldsymbol{I_1^u =}$
$\boldsymbol{\langle 1.29\times10^{59}u^{23}-1.74\times10^{59}u^{22}+\cdots+2.88\times10^{61}b-2.28\times10^{62},\ 7.36\times10^{59}u^{23}-1.23\times10^{60}u^{22}+\cdots+5.77\times10^{61}a-1.60\times10^{63},\ u^{24}-2u^{23}+\cdots-7168u+1024\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0127611u^{23} + 0.0213129u^{22} + \cdots - 146.902u + 27.7088 \\ -0.00447065u^{23} + 0.00603249u^{22} + \cdots - 37.8270u + 7.92371 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0127611u^{23} + 0.0213129u^{22} + \cdots - 146.902u + 27.7088 \\ -0.00460868u^{23} + 0.00759863u^{22} + \cdots - 54.9313u + 12.2340 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0184954u^{23} - 0.0271361u^{22} + \cdots + 171.538u - 29.5518 \\ 0.00880936u^{23} - 0.00909508u^{22} + \cdots + 38.6739u - 3.95155 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.00328632u^{23} - 0.00596273u^{22} + \cdots + 41.3269u - 7.17877 \\ -0.00508827u^{23} + 0.00785301u^{22} + \cdots - 54.7848u + 10.3149 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0000553993u^{23} + 0.0000911467u^{22} + \cdots + 0.275591u + 0.984609 \\ -0.000298497u^{23} + 0.00144194u^{22} + \cdots - 10.6087u + 2.48202 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.000353896u^{23} - 0.00135079u^{22} + \cdots + 10.8843u - 1.49741 \\ -0.000298497u^{23} + 0.00144194u^{22} + \cdots - 10.6087u + 2.48202 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.00774850u^{23} - 0.0135211u^{22} + \cdots + 97.1183u - 18.1182 \\ 0.00446218u^{23} - 0.00755839u^{22} + \cdots + 55.7915u - 10.9394 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.00105139u^{23} + 0.00330070u^{22} + \cdots - 27.5679u + 6.56444 \\ 0.00223494u^{23} - 0.00266203u^{22} + \cdots + 13.7590u - 0.614331 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.0413329u^{23} + 0.0683918u^{22} + \cdots - 470.295u + 85.7076$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{24} + 3u^{23} + \cdots - 8u + 1$
c_2, c_5	$u^{24} + 7u^{23} + \cdots + 4u + 1$
c_3	$u^{24} - 7u^{23} + \cdots + 155372u + 47236$
c_4, c_7	$u^{24} + 2u^{23} + \cdots + 7168u + 1024$
c_6	$u^{24} - 4u^{23} + \cdots - 3u + 1$
c_8	$u^{24} + u^{23} + \cdots - 5120u + 1024$
c_9, c_{12}	$u^{24} - 13u^{23} + \cdots - 2u + 1$
c_{10}	$u^{24} + 4u^{23} + \cdots - 3009503u + 1672193$
c_{11}	$u^{24} - 2u^{23} + \cdots + 2185u + 1831$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{24} + 43y^{23} + \cdots + 60y + 1$
c_2, c_5	$y^{24} + 3y^{23} + \cdots - 8y + 1$
c_3	$y^{24} + 107y^{23} + \cdots - 359116296y + 2231239696$
c_4, c_7	$y^{24} - 30y^{23} + \cdots - 3145728y + 1048576$
c_6	$y^{24} + 30y^{22} + \cdots + y + 1$
c_8	$y^{24} - 57y^{23} + \cdots - 1572864y + 1048576$
c_9, c_{12}	$y^{24} - 27y^{23} + \cdots - 198y + 1$
c_{10}	$y^{24} + 132y^{23} + \cdots + 20945455419869y + 2796229429249$
c_{11}	$y^{24} + 20y^{23} + \cdots + 72680737y + 3352561$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.028680 + 0.626726I$ $a = -0.533680 - 0.903018I$ $b = 0.034700 + 0.150384I$	$-5.30004 + 7.06597I$	$-3.39619 - 6.37751I$
$u = 1.028680 - 0.626726I$ $a = -0.533680 + 0.903018I$ $b = 0.034700 - 0.150384I$	$-5.30004 - 7.06597I$	$-3.39619 + 6.37751I$
$u = -0.497474 + 0.507669I$ $a = -0.361926 + 0.349425I$ $b = -0.008032 + 0.687395I$	$0.84077 - 1.37467I$	$5.35239 + 4.26754I$
$u = -0.497474 - 0.507669I$ $a = -0.361926 - 0.349425I$ $b = -0.008032 - 0.687395I$	$0.84077 + 1.37467I$	$5.35239 - 4.26754I$
$u = 0.551207 + 0.395512I$ $a = 0.685914 + 0.546768I$ $b = 0.865249 + 1.020670I$	$-0.14272 - 2.78886I$	$1.24898 + 0.91559I$
$u = 0.551207 - 0.395512I$ $a = 0.685914 - 0.546768I$ $b = 0.865249 - 1.020670I$	$-0.14272 + 2.78886I$	$1.24898 - 0.91559I$
$u = 0.534930 + 0.187354I$ $a = 1.80358 + 1.02511I$ $b = 2.21805 - 0.06958I$	$-2.26240 + 2.45863I$	$-0.58956 - 2.80745I$
$u = 0.534930 - 0.187354I$ $a = 1.80358 - 1.02511I$ $b = 2.21805 + 0.06958I$	$-2.26240 - 2.45863I$	$-0.58956 + 2.80745I$
$u = -0.53073 + 1.35148I$ $a = -0.444245 + 1.037430I$ $b = -0.185137 + 0.065890I$	$-5.91731 + 1.32680I$	$-4.55064 - 0.68264I$
$u = -0.53073 - 1.35148I$ $a = -0.444245 - 1.037430I$ $b = -0.185137 - 0.065890I$	$-5.91731 - 1.32680I$	$-4.55064 + 0.68264I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.099117+0.535999I$ $a=-1.273020-0.388430I$ $b=\ \ 0.037166+0.328529I$	$0.00212-1.46917I$	$0.28384+4.39333I$
$u=-0.099117-0.535999I$ $a=-1.273020+0.388430I$ $b=\ \ 0.037166-0.328529I$	$0.00212+1.46917I$	$0.28384-4.39333I$
$u=\ \ 0.465375+0.278294I$ $a=-0.377175+0.887793I$ $b=\ \ 1.55399+0.43926I$	$-2.60162-0.06406I$	$-5.33602-1.30009I$
$u=\ \ 0.465375-0.278294I$ $a=-0.377175-0.887793I$ $b=\ \ 1.55399-0.43926I$	$-2.60162+0.06406I$	$-5.33602+1.30009I$
$u=-0.48281+2.18987I$ $a=\ \ 1.45037-0.79279I$ $b=\ \ 2.00018-0.40996I$	$0.03963-1.93559I$	$3.24137+4.51519I$
$u=-0.48281-2.18987I$ $a=\ \ 1.45037+0.79279I$ $b=\ \ 2.00018+0.40996I$	$0.03963+1.93559I$	$3.24137-4.51519I$
$u=-2.10598+1.47278I$ $a=\ \ 0.737984-0.025578I$ $b=\ \ 1.81967-0.11260I$	$13.6003-6.5164I$	0
$u=-2.10598-1.47278I$ $a=\ \ 0.737984+0.025578I$ $b=\ \ 1.81967+0.11260I$	$13.6003+6.5164I$	0
$u=\ \ 2.04936+1.71103I$ $a=\ \ 1.027290+0.232987I$ $b=\ \ 2.09607+0.15606I$	$13.5215+14.1664I$	0
$u=\ \ 2.04936-1.71103I$ $a=\ \ 1.027290-0.232987I$ $b=\ \ 2.09607-0.15606I$	$13.5215-14.1664I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 3.44120 + 1.32166I$ $a = -0.751676 + 0.034514I$ $b = -1.93632 - 0.01972I$	$15.2941 - 1.5620I$	0
$u = 3.44120 - 1.32166I$ $a = -0.751676 - 0.034514I$ $b = -1.93632 + 0.01972I$	$15.2941 + 1.5620I$	0
$u = -3.35464 + 2.16681I$ $a = -0.963420 + 0.242424I$ $b = -1.99558 + 0.06976I$	$15.6939 - 6.0170I$	0
$u = -3.35464 - 2.16681I$ $a = -0.963420 - 0.242424I$ $b = -1.99558 - 0.06976I$	$15.6939 + 6.0170I$	0

II. $I_2^u = \langle u^2 + b - u + 1,\ u^2 + a - u + 1,\ u^4 + u^2 + u + 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

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

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

$$a_9 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^3 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^3 + u^2 + 1 \\ -u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^3 + u^2 + u + 1 \\ -u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u \\ -u^3 - u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^2 + 2u - 1 \\ u^3 - u^2 + 2u - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -u^3 - 6u^2 - 2u - 7$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^4 + 2y^3 + 7y^2 + 5y + 1$
c_2, c_4, c_5 c_7	$y^4 + 2y^3 + 3y^2 + y + 1$
c_3	$y^4 - y^3 + 2y^2 + 7y + 4$
c_8	y^4
c_9, c_{12}	$(y-1)^4$
c_{10}, c_{11}	$y^4 + 5y^3 + 7y^2 + 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.547424 + 0.585652I$ $a = -1.50411 + 1.22685I$ $b = -1.50411 + 1.22685I$	$-0.66484 - 1.39709I$	$-6.04449 + 2.35025I$
$u = -0.547424 - 0.585652I$ $a = -1.50411 - 1.22685I$ $b = -1.50411 - 1.22685I$	$-0.66484 + 1.39709I$	$-6.04449 - 2.35025I$
$u = 0.547424 + 1.120870I$ $a = 0.504108 - 0.106312I$ $b = 0.504108 - 0.106312I$	$-4.26996 + 7.64338I$	$-0.45551 - 9.20433I$
$u = 0.547424 - 1.120870I$ $a = 0.504108 + 0.106312I$ $b = 0.504108 + 0.106312I$	$-4.26996 - 7.64338I$	$-0.45551 + 9.20433I$

III. $\boldsymbol{I_3^u = \langle -2u^5 - 3u^3 + u^2 + b - 2u + 2,\ -2u^5 - 3u^3 + u^2 + a - 2u + 2,\ u^6 - u^5 + 2u^4 - 2u^3 + 2u^2 - 2u + 1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 2u^5 + 3u^3 - u^2 + 2u - 2 \\ 2u^5 + 3u^3 - u^2 + 2u - 2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 2u^5 + 3u^3 - u^2 + 2u - 2 \\ 3u^5 - u^4 + 5u^3 - 3u^2 + 4u - 4 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^5 + u^4 - 2u^3 + 2u^2 - 2u + 2 \\ -u^5 - 2u^3 + u^2 - u + 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^4 + u^2 - u + 1 \\ -u^5 - 2u^3 + u^2 - u + 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u \\ -u^3 - u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 2u^5 + 3u^3 - u^2 + 3u - 2 \\ 2u^5 + 4u^3 - u^2 + 3u - 2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -3u^5 + u^4 + 4u^2 + 3u + 1$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.498832 + 1.001300I$ $a = -0.702221 - 0.130845I$ $b = -0.702221 - 0.130845I$	$-1.91067 - 2.82812I$	$-0.06063 + 4.05868I$
$u = -0.498832 - 1.001300I$ $a = -0.702221 + 0.130845I$ $b = -0.702221 + 0.130845I$	$-1.91067 + 2.82812I$	$-0.06063 - 4.05868I$
$u = 0.284920 + 1.115140I$ $a = 0.447279 - 0.479689I$ $b = 0.447279 - 0.479689I$	-6.04826	$-7.59911 + 2.50363I$
$u = 0.284920 - 1.115140I$ $a = 0.447279 + 0.479689I$ $b = 0.447279 + 0.479689I$	-6.04826	$-7.59911 - 2.50363I$
$u = 0.713912 + 0.305839I$ $a = -0.74506 + 2.00027I$ $b = -0.74506 + 2.00027I$	$-1.91067 - 2.82812I$	$5.15973 + 2.26538I$
$u = 0.713912 - 0.305839I$ $a = -0.74506 - 2.00027I$ $b = -0.74506 - 2.00027I$	$-1.91067 + 2.82812I$	$5.15973 - 2.26538I$

IV. $\boldsymbol{I_1^v = \langle a,\ 1523v^9 + 2050v^8 + \cdots + 3335b + 8448,\ v^{10} + v^9 + \cdots + 3v + 1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ -0.456672v^9 - 0.614693v^8 + \cdots - 5.06627v - 2.53313 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.158021v^9 - 0.0569715v^8 + \cdots - 0.930735v - 0.158021 \\ -0.456672v^9 - 0.614693v^8 + \cdots - 5.06627v - 2.53313 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.117241v^9 + 0.133433v^8 + \cdots + 1.47736v + 0.117241 \\ 0.125637v^9 + 0.242879v^8 + \cdots + 2.66207v + 1.33103 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.178111v^9 + 0.133433v^8 + \cdots + 1.94693v + 0.178111 \\ 0.286957v^9 + 0.347826v^8 + \cdots + 2.57391v + 1.28696 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0932534v^9 + 0.700750v^7 + \cdots - 0.700750v + 1.44498 \\ -0.286957v^9 - 0.347826v^8 + \cdots - 2.57391v - 0.286957 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.193703v^9 + 0.347826v^8 + \cdots + 1.87316v + 1.73193 \\ -0.286957v^9 - 0.347826v^8 + \cdots - 2.57391v - 0.286957 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.178111v^9 - 0.133433v^8 + \cdots - 1.94693v - 0.178111 \\ -0.286957v^9 - 0.347826v^8 + \cdots - 2.57391v - 1.28696 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.117241v^9 + 0.133433v^8 + \cdots + 1.47736v + 0.117241 \\ -0.286957v^9 - 0.347826v^8 + \cdots - 2.57391v - 1.28696 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= -\frac{6289}{3335}v^9 - \frac{14}{23}v^8 + \frac{46278}{3335}v^7 - \frac{43091}{3335}v^6 - \frac{341636}{3335}v^5 + \frac{22875}{667}v^4 + \frac{72729}{3335}v^3 + \frac{5464}{3335}v^2 - \frac{48743}{3335}v - \frac{1839}{3335}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_5	$(u^2 - u + 1)^5$
c_2	$(u^2 + u + 1)^5$
c_4, 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_3 c_5	$(y^2 + y + 1)^5$
c_4, 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
$v = 0.540263 + 0.316514I$ $a = 0$ $b = -1.13119 - 0.85946I$	$-0.329100 - 0.499304I$	$-1.95395 + 0.91636I$
$v = 0.540263 - 0.316514I$ $a = 0$ $b = -1.13119 + 0.85946I$	$-0.329100 + 0.499304I$	$-1.95395 - 0.91636I$
$v = -0.544240 + 0.309625I$ $a = 0$ $b = -0.17872 + 1.40938I$	$-0.32910 + 3.56046I$	$-2.01870 - 9.75023I$
$v = -0.544240 - 0.309625I$ $a = 0$ $b = -0.17872 - 1.40938I$	$-0.32910 - 3.56046I$	$-2.01870 + 9.75023I$
$v = -0.172885 + 0.299445I$ $a = 0$ $b = -1.10887 - 1.92062I$	$-2.40108 - 2.02988I$	$2.76075 - 3.67600I$
$v = -0.172885 - 0.299445I$ $a = 0$ $b = -1.10887 + 1.92062I$	$-2.40108 + 2.02988I$	$2.76075 + 3.67600I$
$v = 2.17384 + 1.62819I$ $a = 0$ $b = 0.399195 + 0.253095I$	$-5.87256 + 2.37095I$	$-6.85700 - 6.98324I$
$v = 2.17384 - 1.62819I$ $a = 0$ $b = 0.399195 - 0.253095I$	$-5.87256 - 2.37095I$	$-6.85700 + 6.98324I$
$v = -2.49698 + 1.06850I$ $a = 0$ $b = 0.019589 - 0.472260I$	$-5.87256 + 6.43072I$	$-9.93110 - 1.72471I$
$v = -2.49698 - 1.06850I$ $a = 0$ $b = 0.019589 + 0.472260I$	$-5.87256 - 6.43072I$	$-9.93110 + 1.72471I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u+1)^5(u^4-2u^3+3u^2-u+1)(u^6-3u^5+4u^4-2u^3+1)$ $\cdot(u^{24}+3u^{23}+\cdots-8u+1)$
c_2	$(u^2+u+1)^5(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{24}+7u^{23}+\cdots+4u+1)$
c_3	$(u^2-u+1)^5(u^3-u^2+1)^2(u^4+3u^3+4u^2+3u+2)$ $\cdot(u^{24}-7u^{23}+\cdots+155372u+47236)$
c_4	$u^{10}(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{24}+2u^{23}+\cdots+7168u+1024)$
c_5	$(u^2-u+1)^5(u^4+u^2-u+1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{24}+7u^{23}+\cdots+4u+1)$
c_6	$(u^4-2u^3+3u^2-u+1)(u^5-3u^4+4u^3-u^2-u+1)^2$ $\cdot(u^6-3u^5+4u^4-2u^3+1)(u^{24}-4u^{23}+\cdots-3u+1)$
c_7	$u^{10}(u^4+u^2-u+1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{24}+2u^{23}+\cdots+7168u+1024)$
c_8	$u^{10}(u^5-u^4+\cdots+u-1)^2(u^{24}+u^{23}+\cdots-5120u+1024)$
c_9	$((u-1)^{10})(u^5+u^4+\cdots+u-1)^2(u^{24}-13u^{23}+\cdots-2u+1)$
c_{10}	$(u^4-u^3+3u^2-2u+1)(u^5-u^4-2u^3+u^2+u+1)^2$ $\cdot(u^6-2u^3+4u^2-3u+1)(u^{24}+4u^{23}+\cdots-3009503u+1672193)$
c_{11}	$(u^4-u^3+3u^2-2u+1)(u^5+u^4+2u^3+u^2+u+1)^2$ $\cdot(u^6-2u^3+4u^2-3u+1)(u^{24}-2u^{23}+\cdots+2185u+1831)$
c_{12}	$((u+1)^{10})(u^5-u^4+\cdots+u+1)^2(u^{24}-13u^{23}+\cdots-2u+1)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^5)(y^4+2y^3+\cdots+5y+1)(y^6-y^5+\cdots+8y^2+1)$ $\cdot(y^{24}+43y^{23}+\cdots+60y+1)$
c_2, c_5	$(y^2+y+1)^5(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{24}+3y^{23}+\cdots-8y+1)$
c_3	$(y^2+y+1)^5(y^3-y^2+2y-1)^2(y^4-y^3+2y^2+7y+4)$ $\cdot(y^{24}+107y^{23}+\cdots-359116296y+2231239696)$
c_4, c_7	$y^{10}(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{24}-30y^{23}+\cdots-3145728y+1048576)$
c_6	$(y^4+2y^3+7y^2+5y+1)(y^5-y^4+8y^3-3y^2+3y-1)^2$ $\cdot(y^6-y^5+4y^4-2y^3+8y^2+1)(y^{24}+30y^{22}+\cdots+y+1)$
c_8	$y^{10}(y^5+3y^4+4y^3+y^2-y-1)^2$ $\cdot(y^{24}-57y^{23}+\cdots-1572864y+1048576)$
c_9, c_{12}	$(y-1)^{10}(y^5-5y^4+8y^3-3y^2-y-1)^2$ $\cdot(y^{24}-27y^{23}+\cdots-198y+1)$
c_{10}	$(y^4+5y^3+7y^2+2y+1)(y^5-5y^4+8y^3-3y^2-y-1)^2$ $\cdot(y^6+8y^4-2y^3+4y^2-y+1)$ $\cdot(y^{24}+132y^{23}+\cdots+20945455419869y+2796229429249)$
c_{11}	$(y^4+5y^3+7y^2+2y+1)(y^5+3y^4+4y^3+y^2-y-1)^2$ $\cdot(y^6+8y^4-2y^3+4y^2-y+1)$ $\cdot(y^{24}+20y^{23}+\cdots+72680737y+3352561)$