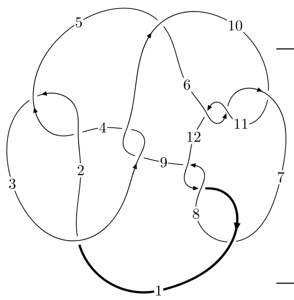
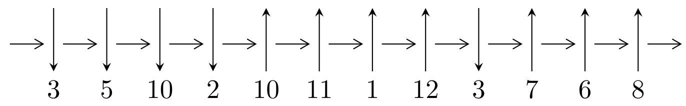
$12n_{0246}$ ($K12n_{0246}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & u^{14} + u^{13} + 6u^{12} + 6u^{11} + 15u^{10} + 14u^9 + 19u^8 + 13u^7 + 9u^6 + 3u^5 - 5u^4 - 2u^3 - 5u^2 + 2b + 1, \\
& u^{14} - 3u^{13} + \cdots + 8a + 19, \\
& u^{15} + 7u^{13} + 2u^{12} + 19u^{11} + 13u^{10} + 23u^9 + 30u^8 + 10u^7 + 26u^6 - u^4 + 3u^3 - 9u^2 + 3u + 1\rangle \\
I_2^u = \langle & -716717u^{25} + 780792u^{24} + \cdots + 963947b + 791849, \\
& 1775750u^{25} - 1897723u^{24} + \cdots + 963947a - 1845988,\ u^{26} - 2u^{25} + \cdots - 2u + 1\rangle \\
I_3^u = \langle & b,\ -u^2 + 2a - u - 3,\ u^3 + 2u - 1\rangle \\
I_4^u = \langle & b,\ u^3 + a + u + 1,\ u^4 + u^3 + 2u^2 + 2u + 1\rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 48 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.

$$I_1^u = \langle u^{14}+u^{13}+\cdots+2b+1,\ u^{14}-3u^{13}+\cdots+8a+19,\ u^{15}+7u^{13}+\cdots+3u+1\rangle$$

(i) Arc colorings

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

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

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

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

$$a_{12} = \begin{pmatrix} u^2+1 \\ -u^4-2u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -\frac{1}{8}u^{14}+\frac{3}{8}u^{13}+\cdots+5u-\frac{19}{8} \\ -\frac{1}{2}u^{14}-\frac{1}{2}u^{13}+\cdots+\frac{5}{2}u^2-\frac{1}{2} \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -\frac{3}{8}u^{14}+\frac{1}{8}u^{13}+\cdots+4u-\frac{25}{8} \\ u^3+u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1 \\ u^{13}+6u^{11}+2u^{10}+13u^9+11u^8+10u^7+19u^6+7u^4-7u^2+3u+1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} \frac{3}{8}u^{14}+\frac{7}{8}u^{13}+\cdots+5u-\frac{15}{8} \\ -\frac{1}{2}u^{14}-\frac{1}{2}u^{13}+\cdots+\frac{5}{2}u^2-\frac{1}{2} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^3+2u \\ -u^{14}-6u^{12}-2u^{11}-13u^{10}-11u^9-10u^8-19u^7-8u^5+5u^3-3u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u \\ -u^{14}-6u^{12}-2u^{11}-13u^{10}-11u^9-10u^8-19u^7-7u^5+7u^3-3u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{49}{16}u^{14}-\frac{45}{16}u^{13}-22u^{12}-\frac{177}{8}u^{11}-\frac{1069}{16}u^{10}-\frac{579}{8}u^9-\frac{1701}{16}u^8-\frac{1839}{16}u^7-\frac{1341}{16}u^6-\frac{1299}{16}u^5-\frac{199}{16}u^4-\frac{29}{8}u^3+\frac{267}{16}u^2+\frac{37}{2}u-\frac{123}{16}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{15} + 4u^{14} + \cdots - 127u + 16$
c_2, c_4	$u^{15} - 2u^{14} + \cdots - 11u + 4$
c_3, c_9	$u^{15} - 3u^{14} + \cdots + 8u + 32$
c_5	$u^{15} + 6u^{14} + \cdots + 16u + 4$
c_6, c_7, c_8 c_{10}, c_{11}, c_{12}	$u^{15} + 7u^{13} + \cdots + 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{15} + 16y^{14} + \cdots + 15841y - 256$
c_2, c_4	$y^{15} - 4y^{14} + \cdots - 127y - 16$
c_3, c_9	$y^{15} + 15y^{14} + \cdots + 320y - 1024$
c_5	$y^{15} - 16y^{14} + \cdots + 408y - 16$
c_6, c_7, c_8 c_{10}, c_{11}, c_{12}	$y^{15} + 14y^{14} + \cdots + 27y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.939067 + 0.076154I$ $a = 0.11949 - 2.06723I$ $b = 0.27318 + 1.76916I$	$9.05174 - 3.68246I$	$5.44943 + 2.70726I$
$u = -0.939067 - 0.076154I$ $a = 0.11949 + 2.06723I$ $b = 0.27318 - 1.76916I$	$9.05174 + 3.68246I$	$5.44943 - 2.70726I$
$u = -0.231015 + 1.209380I$ $a = 0.202894 - 0.516586I$ $b = 1.71816 + 0.21702I$	$-5.39974 - 5.30636I$	$-4.44673 + 7.07969I$
$u = -0.231015 - 1.209380I$ $a = 0.202894 + 0.516586I$ $b = 1.71816 - 0.21702I$	$-5.39974 + 5.30636I$	$-4.44673 - 7.07969I$
$u = 0.072090 + 1.233060I$ $a = -0.067666 + 0.756607I$ $b = -0.93944 - 1.48122I$	$-8.55605 + 1.99221I$	$-8.96301 - 2.93013I$
$u = 0.072090 - 1.233060I$ $a = -0.067666 - 0.756607I$ $b = -0.93944 + 1.48122I$	$-8.55605 - 1.99221I$	$-8.96301 + 2.93013I$
$u = 0.446281 + 1.234210I$ $a = -0.890631 - 0.905985I$ $b = -0.39141 + 1.88678I$	$1.89371 + 6.18917I$	$-0.33163 - 4.59933I$
$u = 0.446281 - 1.234210I$ $a = -0.890631 + 0.905985I$ $b = -0.39141 - 1.88678I$	$1.89371 - 6.18917I$	$-0.33163 + 4.59933I$
$u = 0.45365 + 1.36129I$ $a = 1.09428 + 1.03938I$ $b = 0.73653 - 1.65036I$	$0.04752 + 13.68620I$	$-2.00699 - 7.52630I$
$u = 0.45365 - 1.36129I$ $a = 1.09428 - 1.03938I$ $b = 0.73653 + 1.65036I$	$0.04752 - 13.68620I$	$-2.00699 + 7.52630I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.511100 + 0.177219I$ $a = -0.649618 - 0.329498I$ $b = 0.434596 + 0.530398I$	$1.055330 + 0.384583I$	$8.52259 - 2.33147I$
$u = 0.511100 - 0.177219I$ $a = -0.649618 + 0.329498I$ $b = 0.434596 - 0.530398I$	$1.055330 - 0.384583I$	$8.52259 + 2.33147I$
$u = -0.21189 + 1.50842I$ $a = -0.299323 - 0.077409I$ $b = -0.130865 - 0.674935I$	$-10.59470 - 5.64919I$	$0.00874 + 7.25798I$
$u = -0.21189 - 1.50842I$ $a = -0.299323 + 0.077409I$ $b = -0.130865 + 0.674935I$	$-10.59470 + 5.64919I$	$0.00874 - 7.25798I$
$u = -0.202297$ $a = -3.51885$ $b = -0.401516$	-1.31450	-10.7150

II.

$\boldsymbol{I_2^u = \langle -7.17\times 10^5 u^{25} + 7.81\times 10^5 u^{24} + \cdots + 9.64\times 10^5 b + 7.92\times 10^5,\ 1.78\times 10^6 u^{25} - 1.90\times 10^6 u^{24} + \cdots + 9.64\times 10^5 a - 1.85\times 10^6,\ u^{26} - 2u^{25} + \cdots - 2u + 1\rangle}$

(i) Arc colorings

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

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

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

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

$$a_{12} = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -1.84217u^{25} + 1.96870u^{24} + \cdots - 7.48746u + 1.91503 \\ 0.743523u^{25} - 0.809995u^{24} + \cdots + 3.02101u - 0.821465 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -0.800732u^{25} + 0.943263u^{24} + \cdots - 3.90828u + 0.652479 \\ u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.679349u^{25} + 0.982915u^{24} + \cdots + 5.45700u + 1.72423 \\ 0.456267u^{25} - 0.655675u^{24} + \cdots + 0.0722156u - 1.37578 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -2.58569u^{25} + 2.77870u^{24} + \cdots - 10.5085u + 2.73650 \\ 0.743523u^{25} - 0.809995u^{24} + \cdots + 3.02101u - 0.821465 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1.25686u^{25} - 1.88879u^{24} + \cdots + 1.53675u - 2.45627 \\ -0.476873u^{25} + 0.609237u^{24} + \cdots + 0.104718u + 0.401848 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.624218u^{25} - 1.70470u^{24} + \cdots + 1.36553u - 1.32065 \\ 0.632641u^{25} - 0.184085u^{24} + \cdots + 2.17122u - 1.13562 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{1918707}{963947}u^{25} - \frac{2455152}{963947}u^{24} + \cdots - \frac{5103125}{963947}u + \frac{1698759}{963947}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{13}+3u^{12}+\cdots+8u+1)^2$
c_2, c_4	$(u^{13}-3u^{12}+\cdots-2u+1)^2$
c_3, c_9	$(u^{13}+u^{12}+\cdots+4u-4)^2$
c_5	$(u^{13}-2u^{12}+\cdots+3u-1)^2$
c_6, c_7, c_8 c_{10}, c_{11}, c_{12}	$u^{26}-2u^{25}+\cdots-2u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{13} + 17y^{12} + \cdots + 8y - 1)^2$
c_2, c_4	$(y^{13} - 3y^{12} + \cdots + 8y - 1)^2$
c_3, c_9	$(y^{13} + 15y^{12} + \cdots - 56y - 16)^2$
c_5	$(y^{13} - 16y^{12} + \cdots + 5y - 1)^2$
c_6, c_7, c_8 c_{10}, c_{11}, c_{12}	$y^{26} + 18y^{25} + \cdots + 30y^2 + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.971054 + 0.087562I$ $a = 0.20122 - 1.96513I$ $b = -0.50699 + 1.66583I$	$4.58598 + 8.60203I$	$1.58542 - 5.32797I$
$u = 0.971054 - 0.087562I$ $a = 0.20122 + 1.96513I$ $b = -0.50699 - 1.66583I$	$4.58598 - 8.60203I$	$1.58542 + 5.32797I$
$u = -0.166889 + 1.040940I$ $a = 1.41794 - 1.71859I$ $b = 0.612460$	-4.29290	$-6.11820 + 0.I$
$u = -0.166889 - 1.040940I$ $a = 1.41794 + 1.71859I$ $b = 0.612460$	-4.29290	$-6.11820 + 0.I$
$u = 0.898765 + 0.068276I$ $a = -0.51103 - 2.01532I$ $b = 0.02169 + 1.76519I$	$5.49041 - 1.38297I$	$2.93425 + 0.71622I$
$u = 0.898765 - 0.068276I$ $a = -0.51103 + 2.01532I$ $b = 0.02169 - 1.76519I$	$5.49041 + 1.38297I$	$2.93425 - 0.71622I$
$u = -0.705153 + 0.526357I$ $a = 0.314624 - 0.599897I$ $b = -0.032142 + 0.650070I$	$-3.89003 - 2.36301I$	$2.56487 + 4.19898I$
$u = -0.705153 - 0.526357I$ $a = 0.314624 + 0.599897I$ $b = -0.032142 - 0.650070I$	$-3.89003 + 2.36301I$	$2.56487 - 4.19898I$
$u = -0.063428 + 1.135530I$ $a = 0.99806 + 1.21295I$ $b = 0.452299 - 0.637242I$	$-4.25522 - 0.99909I$	$0.456384 - 0.581912I$
$u = -0.063428 - 1.135530I$ $a = 0.99806 - 1.21295I$ $b = 0.452299 + 0.637242I$	$-4.25522 + 0.99909I$	$0.456384 + 0.581912I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.239526 + 1.122350I$ $a = -0.582484 - 0.652382I$ $b = -0.997974 + 0.288600I$	$-1.68175 + 2.52293I$	$2.35428 - 4.38707I$
$u = 0.239526 - 1.122350I$ $a = -0.582484 + 0.652382I$ $b = -0.997974 - 0.288600I$	$-1.68175 - 2.52293I$	$2.35428 + 4.38707I$
$u = -0.485725 + 1.232220I$ $a = 0.968192 - 0.729255I$ $b = 0.02169 + 1.76519I$	$5.49041 - 1.38297I$	$2.93425 + 0.71622I$
$u = -0.485725 - 1.232220I$ $a = 0.968192 + 0.729255I$ $b = 0.02169 - 1.76519I$	$5.49041 + 1.38297I$	$2.93425 - 0.71622I$
$u = 0.527181 + 1.230800I$ $a = -0.968929 - 0.539477I$ $b = 0.25689 + 1.55234I$	$1.07459 - 3.30324I$	$-0.83610 + 2.39821I$
$u = 0.527181 - 1.230800I$ $a = -0.968929 + 0.539477I$ $b = 0.25689 - 1.55234I$	$1.07459 + 3.30324I$	$-0.83610 - 2.39821I$
$u = 0.101397 + 1.371440I$ $a = 0.241803 - 0.465532I$ $b = -0.032142 - 0.650070I$	$-3.89003 + 2.36301I$	$2.56487 - 4.19898I$
$u = 0.101397 - 1.371440I$ $a = 0.241803 + 0.465532I$ $b = -0.032142 + 0.650070I$	$-3.89003 - 2.36301I$	$2.56487 + 4.19898I$
$u = 0.408597 + 1.339370I$ $a = 1.32284 + 0.50744I$ $b = 0.25689 - 1.55234I$	$1.07459 + 3.30324I$	$-0.83610 - 2.39821I$
$u = 0.408597 - 1.339370I$ $a = 1.32284 - 0.50744I$ $b = 0.25689 + 1.55234I$	$1.07459 - 3.30324I$	$-0.83610 + 2.39821I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.43667 + 1.34910I$ $a = -1.26249 + 0.83530I$ $b = -0.50699 - 1.66583I$	$4.58598 - 8.60203I$	$1.58542 + 5.32797I$
$u = -0.43667 - 1.34910I$ $a = -1.26249 - 0.83530I$ $b = -0.50699 + 1.66583I$	$4.58598 + 8.60203I$	$1.58542 - 5.32797I$
$u = -0.517741 + 0.054555I$ $a = 1.276610 - 0.533825I$ $b = -0.997974 - 0.288600I$	$-1.68175 - 2.52293I$	$2.35428 + 4.38707I$
$u = -0.517741 - 0.054555I$ $a = 1.276610 + 0.533825I$ $b = -0.997974 + 0.288600I$	$-1.68175 + 2.52293I$	$2.35428 - 4.38707I$
$u = 0.229089 + 0.294081I$ $a = 0.08363 - 4.21290I$ $b = 0.452299 + 0.637242I$	$-4.25522 + 0.99909I$	$0.456384 + 0.581912I$
$u = 0.229089 - 0.294081I$ $a = 0.08363 + 4.21290I$ $b = 0.452299 - 0.637242I$	$-4.25522 - 0.99909I$	$0.456384 - 0.581912I$

III. $I_3^u = \langle b,\ -u^2 + 2a - u - 3,\ u^3 + 2u - 1\rangle$

(i) Arc colorings

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

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

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

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

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

$$a_3 = \begin{pmatrix} \frac{1}{2}u^2 + \frac{1}{2}u + \frac{3}{2} \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -1 \\ -u+1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{1}{2}u^2 + \frac{1}{2}u + \frac{5}{2} \\ u-1 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} \frac{1}{2}u^2 + \frac{1}{2}u + \frac{3}{2} \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{25}{4}u^2 + \frac{11}{4}u + \frac{23}{4}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^3$
c_3, c_9	y^3
c_5	$y^3 + y^2 + 13y - 4$
c_6, c_7, c_8 c_{10}, c_{11}, c_{12}	$y^3 + 4y^2 + 4y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.22670 + 1.46771I$ $a = 0.335258 + 0.401127I$ $b = 0$	$-11.08570 - 5.13794I$	$-8.01583 - 0.12290I$
$u = -0.22670 - 1.46771I$ $a = 0.335258 - 0.401127I$ $b = 0$	$-11.08570 + 5.13794I$	$-8.01583 + 0.12290I$
$u = 0.453398$ $a = 1.82948$ $b = 0$	-0.857735	8.28170

IV. $I_4^u = \langle b,\ u^3 + a + u + 1,\ u^4 + u^3 + 2u^2 + 2u + 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.621744 + 0.440597I$ $a = -0.500000 - 0.866025I$ $b = 0$	$-4.93480 - 2.02988I$	$-5.00000 + 3.46410I$
$u = -0.621744 - 0.440597I$ $a = -0.500000 + 0.866025I$ $b = 0$	$-4.93480 + 2.02988I$	$-5.00000 - 3.46410I$
$u = 0.121744 + 1.306620I$ $a = -0.500000 + 0.866025I$ $b = 0$	$-4.93480 + 2.02988I$	$-5.00000 - 3.46410I$
$u = 0.121744 - 1.306620I$ $a = -0.500000 - 0.866025I$ $b = 0$	$-4.93480 - 2.02988I$	$-5.00000 + 3.46410I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^7)(u^{13}+3u^{12}+\cdots+8u+1)^2(u^{15}+4u^{14}+\cdots-127u+16)$
c_2	$((u-1)^7)(u^{13}-3u^{12}+\cdots-2u+1)^2(u^{15}-2u^{14}+\cdots-11u+4)$
c_3, c_9	$u^7(u^{13}+u^{12}+\cdots+4u-4)^2(u^{15}-3u^{14}+\cdots+8u+32)$
c_4	$((u+1)^7)(u^{13}-3u^{12}+\cdots-2u+1)^2(u^{15}-2u^{14}+\cdots-11u+4)$
c_5	$((u^2-u+1)^2)(u^3+3u^2+5u+2)(u^{13}-2u^{12}+\cdots+3u-1)^2$ $\cdot(u^{15}+6u^{14}+\cdots+16u+4)$
c_6, c_7, c_8	$(u^3+2u+1)(u^4-u^3+2u^2-2u+1)(u^{15}+7u^{13}+\cdots+3u+1)$ $\cdot(u^{26}-2u^{25}+\cdots-2u+1)$
c_{10}, c_{11}, c_{12}	$(u^3+2u-1)(u^4+u^3+2u^2+2u+1)(u^{15}+7u^{13}+\cdots+3u+1)$ $\cdot(u^{26}-2u^{25}+\cdots-2u+1)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^7)(y^{13}+17y^{12}+\cdots+8y-1)^2$ $\cdot(y^{15}+16y^{14}+\cdots+15841y-256)$
c_2, c_4	$((y-1)^7)(y^{13}-3y^{12}+\cdots+8y-1)^2(y^{15}-4y^{14}+\cdots-127y-16)$
c_3, c_9	$y^7(y^{13}+15y^{12}+\cdots-56y-16)^2(y^{15}+15y^{14}+\cdots+320y-1024)$
c_5	$((y^2+y+1)^2)(y^3+y^2+13y-4)(y^{13}-16y^{12}+\cdots+5y-1)^2$ $\cdot(y^{15}-16y^{14}+\cdots+408y-16)$
c_6, c_7, c_8 c_{10}, c_{11}, c_{12}	$(y^3+4y^2+4y-1)(y^4+3y^3+2y^2+1)(y^{15}+14y^{14}+\cdots+27y-1)$ $\cdot(y^{26}+18y^{25}+\cdots+30y^2+1)$