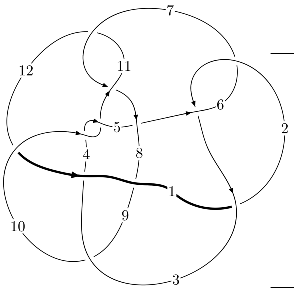
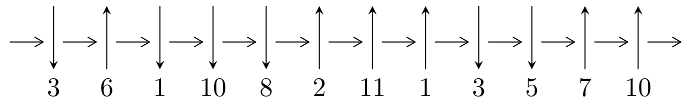
$12n_{0481}$ ($K12n_{0481}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{23} + 2u^{22} + \cdots + 2b + 2,\ u^{23} + 4u^{22} + \cdots + 4a + 12,\ u^{24} + 6u^{23} + \cdots + 14u + 4\rangle$$

$$\begin{aligned} I_2^u = \langle & u^{14} - u^{13} + 2u^{12} - 2u^{11} + 6u^{10} - 5u^9 + 7u^8 - 7u^7 + 9u^6 - 8u^5 + 7u^4 - 7u^3 + 4u^2 + b - 3u + 2, \\ & - 2u^{15} + 2u^{14} + \cdots + a - 1, \\ & u^{16} - u^{15} + 3u^{14} - 2u^{13} + 8u^{12} - 5u^{11} + 13u^{10} - 6u^9 + 17u^8 - 7u^7 + 17u^6 - 6u^5 + 12u^4 - 3u^3 + 6u^2 - u + \end{aligned}$$

$$I_3^u = \langle -59u^5a^3 + 81u^5a^2 + \cdots - 15a + 343,\ u^5a^3 + 4u^5a^2 + \cdots - 4a + 8,\ u^6 - u^5 + u^4 + 2u^2 - u + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 64 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.

$$I_1^u = \langle u^{23}+2u^{22}+\cdots+2b+2,\ u^{23}+4u^{22}+\cdots+4a+12,\ u^{24}+6u^{23}+\cdots+14u+4\rangle$$

(i) Arc colorings

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

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

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

$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{1}{4}u^{23} - u^{22} + \cdots - \frac{31}{4}u - 3 \\ -\frac{1}{2}u^{23} - u^{22} + \cdots - \frac{1}{2}u - 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{3}{4}u^{23} - 2u^{22} + \cdots - \frac{33}{4}u - 4 \\ -\frac{1}{2}u^{23} - u^{22} + \cdots - \frac{1}{2}u - 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{3}{4}u^{23} - u^{22} + \cdots - \frac{87}{4}u - 9 \\ \frac{5}{2}u^{23} + 8u^{22} + \cdots - \frac{17}{2}u - 5 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{1}{2}u^{23} - \frac{5}{2}u^{22} + \cdots - \frac{7}{2}u - \frac{1}{2} \\ -\frac{1}{2}u^{23} - 3u^{22} + \cdots - \frac{11}{2}u - 2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^{23} - \frac{3}{2}u^{22} + \cdots - 34u - \frac{29}{2} \\ \frac{15}{2}u^{23} + 34u^{22} + \cdots + \frac{59}{2}u + 4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -\frac{1}{2}u^{22} - 2u^{21} + \cdots - 3u - \frac{1}{2} \\ -\frac{7}{2}u^{23} - 19u^{22} + \cdots - \frac{67}{2}u - 10 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 3u^{23} + 16u^{22} + 53u^{21} + 118u^{20} + 215u^{19} + 322u^{18} + 436u^{17} + 502u^{16} + 531u^{15} + 480u^{14} + 441u^{13} + 369u^{12} + 374u^{11} + 355u^{10} + 392u^9 + 344u^8 + 324u^7 + 245u^6 + 196u^5 + 117u^4 + 92u^3 + 68u^2 + 48u + 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3	$u^{24} + 6u^{23} + \cdots + 52u + 16$
c_2, c_6	$u^{24} - 6u^{23} + \cdots - 14u + 4$
c_4, c_5, c_{10}	$u^{24} - u^{23} + \cdots + 2u + 1$
c_7, c_{11}	$u^{24} - 15u^{23} + \cdots - 544u + 64$
c_8	$u^{24} - 2u^{23} + \cdots - 99u + 41$
c_9	$u^{24} + 29u^{22} + \cdots + 4u + 1$
c_{12}	$u^{24} + 3u^{23} + \cdots + 16u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3	$y^{24} + 26y^{23} + \cdots + 5520y + 256$
c_2, c_6	$y^{24} + 6y^{23} + \cdots + 52y + 16$
c_4, c_5, c_{10}	$y^{24} - 11y^{23} + \cdots - 6y + 1$
c_7, c_{11}	$y^{24} + 7y^{23} + \cdots + 48128y + 4096$
c_8	$y^{24} - 54y^{23} + \cdots + 14635y + 1681$
c_9	$y^{24} + 58y^{23} + \cdots + 8y + 1$
c_{12}	$y^{24} - 45y^{23} + \cdots - 10y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.386803 + 0.939568I$ $a = 0.546906 + 0.473576I$ $b = 0.233412 - 0.697036I$	$1.14776 + 2.44837I$	$-4.92674 - 7.51322I$
$u = 0.386803 - 0.939568I$ $a = 0.546906 - 0.473576I$ $b = 0.233412 + 0.697036I$	$1.14776 - 2.44837I$	$-4.92674 + 7.51322I$
$u = 0.848616 + 0.384852I$ $a = 0.386852 - 0.278466I$ $b = -0.435457 + 0.087430I$	$-0.11794 - 4.13281I$	$1.46214 + 3.63821I$
$u = 0.848616 - 0.384852I$ $a = 0.386852 + 0.278466I$ $b = -0.435457 - 0.087430I$	$-0.11794 + 4.13281I$	$1.46214 - 3.63821I$
$u = 0.040508 + 1.108090I$ $a = -0.488177 + 0.024616I$ $b = 0.047052 + 0.539945I$	$-5.52346 - 2.09827I$	$-4.00959 + 3.29797I$
$u = 0.040508 - 1.108090I$ $a = -0.488177 - 0.024616I$ $b = 0.047052 - 0.539945I$	$-5.52346 + 2.09827I$	$-4.00959 - 3.29797I$
$u = -0.655613 + 0.578423I$ $a = 0.092968 - 0.792314I$ $b = -0.397342 - 0.573226I$	$-0.030667 - 0.985462I$	$0.04895 + 2.32635I$
$u = -0.655613 - 0.578423I$ $a = 0.092968 + 0.792314I$ $b = -0.397342 + 0.573226I$	$-0.030667 + 0.985462I$	$0.04895 - 2.32635I$
$u = 0.520277 + 1.085810I$ $a = -0.285416 - 0.342185I$ $b = -0.223052 + 0.487939I$	$-2.45634 + 9.15615I$	$-2.49184 - 8.31719I$
$u = 0.520277 - 1.085810I$ $a = -0.285416 + 0.342185I$ $b = -0.223052 - 0.487939I$	$-2.45634 - 9.15615I$	$-2.49184 + 8.31719I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.658406+1.013050I$ $a=0.733469-0.062319I$ $b=0.419788-0.784073I$	$-1.23495-4.21264I$	$-0.00163+4.38379I$
$u=-0.658406-1.013050I$ $a=0.733469+0.062319I$ $b=0.419788+0.784073I$	$-1.23495+4.21264I$	$-0.00163-4.38379I$
$u=0.581550+0.531676I$ $a=-0.473776+0.623048I$ $b=0.606784-0.110438I$	$2.58155+1.28427I$	$4.89493+0.75788I$
$u=0.581550-0.531676I$ $a=-0.473776-0.623048I$ $b=0.606784+0.110438I$	$2.58155-1.28427I$	$4.89493-0.75788I$
$u=-0.932185+0.856145I$ $a=-0.97723+1.89200I$ $b=0.70887+2.60034I$	$10.05900-0.11341I$	$1.099246+0.004662I$
$u=-0.932185-0.856145I$ $a=-0.97723-1.89200I$ $b=0.70887-2.60034I$	$10.05900+0.11341I$	$1.099246-0.004662I$
$u=-0.973395+0.865459I$ $a=1.26433-1.54946I$ $b=-0.11030-2.60246I$	$8.07660+7.22190I$	$0.55503-3.04448I$
$u=-0.973395-0.865459I$ $a=1.26433+1.54946I$ $b=-0.11030+2.60246I$	$8.07660-7.22190I$	$0.55503+3.04448I$
$u=-0.858450+1.000080I$ $a=-1.68242+1.24146I$ $b=-0.20271+2.74829I$	$9.58925-6.48997I$	$0.12796+4.63982I$
$u=-0.858450-1.000080I$ $a=-1.68242-1.24146I$ $b=-0.20271-2.74829I$	$9.58925+6.48997I$	$0.12796-4.63982I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.886343+1.020850I$ $a=\ \ 1.33428-1.55406I$ $b=-0.40384-2.73953I$	$7.5650-14.0430I$	$-0.21532+7.35996I$
$u=-0.886343-1.020850I$ $a=\ \ 1.33428+1.55406I$ $b=-0.40384+2.73953I$	$7.5650+14.0430I$	$-0.21532-7.35996I$
$u=-0.413363+0.497922I$ $a=\ \ 0.298212-0.736016I$ $b=-0.243208-0.452728I$	$-0.046922-1.057330I$	$-0.54314+5.53414I$
$u=-0.413363-0.497922I$ $a=\ \ 0.298212+0.736016I$ $b=-0.243208+0.452728I$	$-0.046922+1.057330I$	$-0.54314-5.53414I$

II.

$$\boldsymbol{I_2^u = \langle u^{14} - u^{13} + \cdots + b + 2,\ -2u^{15} + 2u^{14} + \cdots + a - 1,\ u^{16} - u^{15} + \cdots - u + 1\rangle}$$

(i) Arc colorings

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

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

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

$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2u^{15} - 2u^{14} + \cdots + 8u + 1 \\ -u^{14} + u^{13} + \cdots + 3u - 2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2u^{15} - 3u^{14} + \cdots + 11u - 1 \\ -u^{14} + u^{13} + \cdots + 3u - 2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 2u^{15} - 2u^{14} + \cdots - u^2 + 8u \\ u^{15} - 2u^{14} + \cdots + 5u - 3 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -2u^{15} + u^{14} + \cdots - 9u - 2 \\ -u^{15} + u^{14} + \cdots - 5u + 2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^{14} + u^{13} + \cdots - u - 4 \\ -u^{15} + u^{14} + \cdots - 11u^3 - 5u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{15} - 2u^{13} + \cdots - 3u - 3 \\ -2u^{15} + 2u^{14} + \cdots - 6u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= -2u^{14} + u^{13} - 7u^{12} + 2u^{11} - 15u^{10} + 3u^9 - 28u^8 + 3u^7 - 29u^6 + 2u^5 - 32u^4 + 3u^3 - 18u^2 + u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{16} - 5u^{15} + \cdots - 11u + 1$
c_2	$u^{16} - u^{15} + \cdots - u + 1$
c_3	$u^{16} + 5u^{15} + \cdots + 11u + 1$
c_4	$u^{16} + u^{15} + \cdots + 4u + 1$
c_5, c_{10}	$u^{16} - u^{15} + \cdots - 4u + 1$
c_6	$u^{16} + u^{15} + \cdots + u + 1$
c_7	$u^{16} - 2u^{15} + \cdots + 3u + 1$
c_8	$u^{16} - 2u^{15} + \cdots + 63u + 47$
c_9	$u^{16} - 2u^{14} + \cdots + 2u + 1$
c_{11}	$u^{16} + 2u^{15} + \cdots - 3u + 1$
c_{12}	$u^{16} - 3u^{15} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3	$y^{16} + 17y^{15} + \cdots - 13y + 1$
c_2, c_6	$y^{16} + 5y^{15} + \cdots + 11y + 1$
c_4, c_5, c_{10}	$y^{16} - 13y^{15} + \cdots + 2y + 1$
c_7, c_{11}	$y^{16} + 6y^{15} + \cdots - 3y + 1$
c_8	$y^{16} - 14y^{14} + \cdots + 10319y + 2209$
c_9	$y^{16} - 4y^{15} + \cdots - 8y + 1$
c_{12}	$y^{16} - 3y^{15} + \cdots + 6y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.711929 + 0.760358I$ $a = -1.02576 + 1.48549I$ $b = -1.85977 + 0.27762I$	$-2.76244 - 0.95558I$	$-1.206885 + 0.230523I$
$u = 0.711929 - 0.760358I$ $a = -1.02576 - 1.48549I$ $b = -1.85977 - 0.27762I$	$-2.76244 + 0.95558I$	$-1.206885 - 0.230523I$
$u = 0.053541 + 0.950247I$ $a = -0.292929 - 0.930103I$ $b = 0.868144 - 0.328154I$	$-7.15170 - 1.53675I$	$-10.75515 + 0.98813I$
$u = 0.053541 - 0.950247I$ $a = -0.292929 + 0.930103I$ $b = 0.868144 + 0.328154I$	$-7.15170 + 1.53675I$	$-10.75515 - 0.98813I$
$u = -0.435996 + 0.803743I$ $a = 0.254017 - 0.569932I$ $b = 0.347329 + 0.452652I$	$1.53953 - 1.76071I$	$0.705761 + 0.775767I$
$u = -0.435996 - 0.803743I$ $a = 0.254017 + 0.569932I$ $b = 0.347329 - 0.452652I$	$1.53953 + 1.76071I$	$0.705761 - 0.775767I$
$u = -0.825406 + 0.738696I$ $a = -0.382034 - 0.004020I$ $b = 0.318303 - 0.278889I$	$-1.33661 - 2.36299I$	$-2.87352 + 3.64592I$
$u = -0.825406 - 0.738696I$ $a = -0.382034 + 0.004020I$ $b = 0.318303 + 0.278889I$	$-1.33661 + 2.36299I$	$-2.87352 - 3.64592I$
$u = 0.682235 + 0.952556I$ $a = 1.22003 - 0.92717I$ $b = 1.71553 + 0.52960I$	$-3.35855 + 6.31371I$	$-2.68318 - 5.80907I$
$u = 0.682235 - 0.952556I$ $a = 1.22003 + 0.92717I$ $b = 1.71553 - 0.52960I$	$-3.35855 - 6.31371I$	$-2.68318 + 5.80907I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.724914 + 1.000500I$ $a = 0.270608 + 0.089531I$ $b = -0.285742 + 0.205840I$	$-2.17699 - 3.46039I$	$-4.93993 + 0.90325I$
$u = -0.724914 - 1.000500I$ $a = 0.270608 - 0.089531I$ $b = -0.285742 - 0.205840I$	$-2.17699 + 3.46039I$	$-4.93993 - 0.90325I$
$u = 0.922397 + 0.947682I$ $a = -1.20870 - 1.44097I$ $b = 0.25067 - 2.47461I$	$10.66490 + 3.39525I$	$0.77812 - 2.38843I$
$u = 0.922397 - 0.947682I$ $a = -1.20870 + 1.44097I$ $b = 0.25067 + 2.47461I$	$10.66490 - 3.39525I$	$0.77812 + 2.38843I$
$u = 0.116214 + 0.507066I$ $a = 0.66477 + 2.82354I$ $b = -1.35447 + 0.66522I$	$-5.28775 + 2.24439I$	$-7.02522 - 0.50668I$
$u = 0.116214 - 0.507066I$ $a = 0.66477 - 2.82354I$ $b = -1.35447 - 0.66522I$	$-5.28775 - 2.24439I$	$-7.02522 + 0.50668I$

III. $\boldsymbol{I_3^u = \langle -59u^5a^3 + 81u^5a^2 + \cdots - 15a + 343,\ u^5a^3 + 4u^5a^2 + \cdots - 4a + 8,\ u^6 - u^5 + u^4 + 2u^2 - u + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} a \\ 0.337143a^3u^5 - 0.462857a^2u^5 + \cdots + 0.0857143a - 1.96000 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.337143a^3u^5 - 0.462857a^2u^5 + \cdots + 1.08571a - 1.96000 \\ 0.337143a^3u^5 - 0.462857a^2u^5 + \cdots + 0.0857143a - 1.96000 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.177143a^3u^5 + 0.0228571a^2u^5 + \cdots + 0.514286a - 1.36000 \\ 0.160000a^3u^5 - 0.440000a^2u^5 + \cdots - 0.400000a - 3.32000 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.0971429a^3u^5 + 0.697143a^2u^5 + \cdots + 0.685714a + 1.52000 \\ \frac{3}{35}u^5a^3 + \frac{3}{35}u^5a^2 + \cdots + \frac{3}{7}a + \frac{12}{5} \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.0285714a^3u^5 - 0.0285714a^2u^5 + \cdots + 0.857143a + 3.20000 \\ 0.0685714a^3u^5 + 0.668571a^2u^5 + \cdots + 1.54286a + 2.72000 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.0742857a^3u^5 - 0.474286a^2u^5 + \cdots + 0.828571a + 2.72000 \\ -0.102857a^3u^5 - 0.502857a^2u^5 + \cdots + 1.68571a + 1.92000 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{144}{175}u^5a^3 - \frac{4}{175}u^5a^2 + \cdots + \frac{52}{35}a - \frac{66}{25}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3	$(u^6 + u^5 + 5u^4 + 4u^3 + 6u^2 + 3u + 1)^4$
c_2, c_6	$(u^6 + u^5 + u^4 + 2u^2 + u + 1)^4$
c_4, c_5, c_{10}	$u^{24} + u^{23} + \cdots - 60u + 49$
c_7, c_{11}	$(u^2 + u + 1)^{12}$
c_8	$u^{24} - u^{23} + \cdots - 13006u + 1333$
c_9	$u^{24} + u^{23} + \cdots - 31002u + 7693$
c_{12}	$u^{24} + 3u^{23} + \cdots + 1484u + 193$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3	$(y^6 + 9y^5 + 29y^4 + 40y^3 + 22y^2 + 3y + 1)^4$
c_2, c_6	$(y^6 + y^5 + 5y^4 + 4y^3 + 6y^2 + 3y + 1)^4$
c_4, c_5, c_{10}	$y^{24} - 9y^{23} + \cdots + 6984y + 2401$
c_7, c_{11}	$(y^2 + y + 1)^{12}$
c_8	$y^{24} - 29y^{23} + \cdots - 9462636y + 1776889$
c_9	$y^{24} + 31y^{23} + \cdots - 496651436y + 59182249$
c_{12}	$y^{24} - 21y^{23} + \cdots + 485848y + 37249$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.716019+0.809696I$ $a=\ \ 0.176965-0.992700I$ $b=-0.974499-0.266636I$	$-0.291980-0.626084I$	$-0.418854-0.066014I$
$u=-0.716019+0.809696I$ $a=-0.412453-0.838801I$ $b=-0.677074-0.854080I$	$-0.291980-0.626084I$	$-0.418854-0.066014I$
$u=-0.716019+0.809696I$ $a=\ \ 1.168780+0.614777I$ $b=\ \ 0.461703-0.363781I$	$-0.29198-4.68585I$	$-0.41885+6.86219I$
$u=-0.716019+0.809696I$ $a=\ \ 0.535089+0.097035I$ $b=\ \ 1.33465-0.50617I$	$-0.29198-4.68585I$	$-0.41885+6.86219I$
$u=-0.716019-0.809696I$ $a=\ \ 0.176965+0.992700I$ $b=-0.974499+0.266636I$	$-0.291980+0.626084I$	$-0.418854+0.066014I$
$u=-0.716019-0.809696I$ $a=-0.412453+0.838801I$ $b=-0.677074+0.854080I$	$-0.291980+0.626084I$	$-0.418854+0.066014I$
$u=-0.716019-0.809696I$ $a=\ \ 1.168780-0.614777I$ $b=\ \ 0.461703+0.363781I$	$-0.29198+4.68585I$	$-0.41885-6.86219I$
$u=-0.716019-0.809696I$ $a=\ \ 0.535089-0.097035I$ $b=\ \ 1.33465+0.50617I$	$-0.29198+4.68585I$	$-0.41885-6.86219I$
$u=\ \ 0.283231+0.633899I$ $a=-0.168030+0.836853I$ $b=-2.00423-0.05495I$	$-5.19289-0.92118I$	$-5.53615-2.71707I$
$u=\ \ 0.283231+0.633899I$ $a=-0.78124+1.88064I$ $b=-0.86094+1.36524I$	$-5.19289+3.13859I$	$-5.53615-9.64527I$

Solutions to I_3^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=\ \ 0.283231+0.633899I$ $a=-1.28946-1.93430I$ $b=\ \ 1.413410-0.037425I$	$-5.19289+3.13859I$	$-5.53615-9.64527I$
$u=\ \ 0.283231+0.633899I$ $a=\ \ 1.24986-2.60330I$ $b=\ \ 0.578072-0.130508I$	$-5.19289-0.92118I$	$-5.53615-2.71707I$
$u=\ \ 0.283231-0.633899I$ $a=-0.168030-0.836853I$ $b=-2.00423+0.05495I$	$-5.19289+0.92118I$	$-5.53615+2.71707I$
$u=\ \ 0.283231-0.633899I$ $a=-0.78124-1.88064I$ $b=-0.86094-1.36524I$	$-5.19289-3.13859I$	$-5.53615+9.64527I$
$u=\ \ 0.283231-0.633899I$ $a=-1.28946+1.93430I$ $b=\ \ 1.413410+0.037425I$	$-5.19289-3.13859I$	$-5.53615+9.64527I$
$u=\ \ 0.283231-0.633899I$ $a=\ \ 1.24986+2.60330I$ $b=\ \ 0.578072+0.130508I$	$-5.19289+0.92118I$	$-5.53615+2.71707I$
$u=\ \ 0.932789+0.951611I$ $a=-0.96648-1.44906I$ $b=\ \ 0.36444-2.60092I$	$10.41970+5.45709I$	$-0.04500-5.71634I$
$u=\ \ 0.932789+0.951611I$ $a=\ \ 1.13707+1.36590I$ $b=\ \ 0.10273+2.42307I$	$10.41970+1.39732I$	$-0.044996+1.211865I$
$u=\ \ 0.932789+0.951611I$ $a=-1.35254-1.21783I$ $b=\ \ 0.23916-2.35614I$	$10.41970+1.39732I$	$-0.044996+1.211865I$
$u=\ \ 0.932789+0.951611I$ $a=\ \ 1.20244+1.56163I$ $b=-0.47742+2.27137I$	$10.41970+5.45709I$	$-0.04500-5.71634I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.932789 - 0.951611I$ $a = -0.96648 + 1.44906I$ $b = 0.36444 + 2.60092I$	$10.41970 - 5.45709I$	$-0.04500 + 5.71634I$
$u = 0.932789 - 0.951611I$ $a = 1.13707 - 1.36590I$ $b = 0.10273 - 2.42307I$	$10.41970 - 1.39732I$	$-0.044996 - 1.211865I$
$u = 0.932789 - 0.951611I$ $a = -1.35254 + 1.21783I$ $b = 0.23916 + 2.35614I$	$10.41970 - 1.39732I$	$-0.044996 - 1.211865I$
$u = 0.932789 - 0.951611I$ $a = 1.20244 - 1.56163I$ $b = -0.47742 - 2.27137I$	$10.41970 - 5.45709I$	$-0.04500 + 5.71634I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^6+u^5+5u^4+4u^3+6u^2+3u+1)^4)(u^{16}-5u^{15}+\cdots-11u+1)$ $\cdot(u^{24}+6u^{23}+\cdots+52u+16)$
c_2	$((u^6+u^5+u^4+2u^2+u+1)^4)(u^{16}-u^{15}+\cdots-u+1)$ $\cdot(u^{24}-6u^{23}+\cdots-14u+4)$
c_3	$((u^6+u^5+5u^4+4u^3+6u^2+3u+1)^4)(u^{16}+5u^{15}+\cdots+11u+1)$ $\cdot(u^{24}+6u^{23}+\cdots+52u+16)$
c_4	$(u^{16}+u^{15}+\cdots+4u+1)(u^{24}-u^{23}+\cdots+2u+1)$ $\cdot(u^{24}+u^{23}+\cdots-60u+49)$
c_5, c_{10}	$(u^{16}-u^{15}+\cdots-4u+1)(u^{24}-u^{23}+\cdots+2u+1)$ $\cdot(u^{24}+u^{23}+\cdots-60u+49)$
c_6	$((u^6+u^5+u^4+2u^2+u+1)^4)(u^{16}+u^{15}+\cdots+u+1)$ $\cdot(u^{24}-6u^{23}+\cdots-14u+4)$
c_7	$((u^2+u+1)^{12})(u^{16}-2u^{15}+\cdots+3u+1)$ $\cdot(u^{24}-15u^{23}+\cdots-544u+64)$
c_8	$(u^{16}-2u^{15}+\cdots+63u+47)(u^{24}-2u^{23}+\cdots-99u+41)$ $\cdot(u^{24}-u^{23}+\cdots-13006u+1333)$
c_9	$(u^{16}-2u^{14}+\cdots+2u+1)(u^{24}+29u^{22}+\cdots+4u+1)$ $\cdot(u^{24}+u^{23}+\cdots-31002u+7693)$
c_{11}	$((u^2+u+1)^{12})(u^{16}+2u^{15}+\cdots-3u+1)$ $\cdot(u^{24}-15u^{23}+\cdots-544u+64)$
c_{12}	$(u^{16}-3u^{15}+\cdots+2u+1)(u^{24}+3u^{23}+\cdots+16u+1)$ $\cdot(u^{24}+3u^{23}+\cdots+1484u+193)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_3	$(y^6+9y^5+29y^4+40y^3+22y^2+3y+1)^4$ $\cdot(y^{16}+17y^{15}+\cdots-13y+1)(y^{24}+26y^{23}+\cdots+5520y+256)$
c_2, c_6	$((y^6+y^5+5y^4+4y^3+6y^2+3y+1)^4)(y^{16}+5y^{15}+\cdots+11y+1)$ $\cdot(y^{24}+6y^{23}+\cdots+52y+16)$
c_4, c_5, c_{10}	$(y^{16}-13y^{15}+\cdots+2y+1)(y^{24}-11y^{23}+\cdots-6y+1)$ $\cdot(y^{24}-9y^{23}+\cdots+6984y+2401)$
c_7, c_{11}	$((y^2+y+1)^{12})(y^{16}+6y^{15}+\cdots-3y+1)$ $\cdot(y^{24}+7y^{23}+\cdots+48128y+4096)$
c_8	$(y^{16}-14y^{14}+\cdots+10319y+2209)$ $\cdot(y^{24}-54y^{23}+\cdots+14635y+1681)$ $\cdot(y^{24}-29y^{23}+\cdots-9462636y+1776889)$
c_9	$(y^{16}-4y^{15}+\cdots-8y+1)$ $\cdot(y^{24}+31y^{23}+\cdots-496651436y+59182249)$ $\cdot(y^{24}+58y^{23}+\cdots+8y+1)$
c_{12}	$(y^{16}-3y^{15}+\cdots+6y+1)(y^{24}-45y^{23}+\cdots-10y+1)$ $\cdot(y^{24}-21y^{23}+\cdots+485848y+37249)$