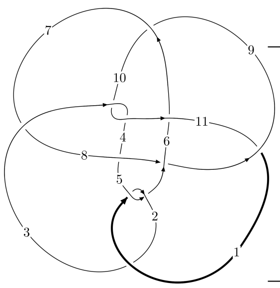
$11n_{119}$ ($K11n_{119}$)



A knot diagram[1]

Linearized knot diagam

$$\rightarrow \downarrow \rightarrow \downarrow \rightarrow \uparrow \rightarrow \uparrow \rightarrow \downarrow \rightarrow \downarrow \rightarrow \uparrow \rightarrow \uparrow \rightarrow \downarrow \rightarrow \uparrow \rightarrow \uparrow \rightarrow$$

$$5 \quad 1 \quad 11 \quad 8 \quad 2 \quad 11 \quad 3 \quad 6 \quad 7 \quad 3 \quad 9$$

Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle 2u^{21} - 8u^{20} + \cdots + b + 1,\ -25u^{21} + 124u^{20} + \cdots + 2a + 34,\ u^{22} - 6u^{21} + \cdots - 10u + 2\rangle \\
I_2^u &= \langle u^9 - 3u^7 - u^6 + 5u^5 + 3u^4 - 5u^3 - 5u^2 + b + u + 3, \\
&\quad - u^9 - 3u^8 + 4u^7 + 5u^6 - 5u^5 - 12u^4 + 4u^3 + 8u^2 + 2a + 3u - 6, \\
&\quad u^{10} + u^9 - 2u^8 - 3u^7 + 3u^6 + 6u^5 - 6u^3 - 3u^2 + 2u + 2\rangle \\
I_3^u &= \langle u^{10} + u^9 - u^8 - 2u^7 + u^5 + u^4 - u^2a - au - u^2 + b - u - 1,\ u^{10}a - u^{10} + \cdots + a + 1, \\
&\quad u^{11} + u^{10} - 2u^9 - 3u^8 + 2u^7 + 4u^6 - 3u^4 - u^3 + u^2 - 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 54 representations.

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[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. $I^u_1 = \langle 2u^{21} - 8u^{20} + \cdots + b + 1,\ -25u^{21} + 124u^{20} + \cdots + 2a + 34,\ u^{22} - 6u^{21} + \cdots - 10u + 2\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} \frac{25}{2}u^{21} - 62u^{20} + \cdots + 82u - 17 \\ -2u^{21} + 8u^{20} + \cdots - 3u - 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} \frac{17}{2}u^{21} - 44u^{20} + \cdots + 61u - 13 \\ -6u^{21} + 29u^{20} + \cdots - 34u + 7 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -\frac{1}{2}u^{21} + 5u^{20} + \cdots - 18u + 5 \\ u^{21} - 6u^{20} + \cdots + 13u - 3 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} \frac{21}{2}u^{21} - 54u^{20} + \cdots + 76u - 16 \\ -5u^{21} + 23u^{20} + \cdots - 20u + 3 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -\frac{5}{2}u^{21} + 12u^{20} + \cdots - 18u + 5 \\ -u^{21} + 5u^{20} + \cdots - 4u + 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -\frac{9}{2}u^{21} + 22u^{20} + \cdots - 33u + 8 \\ -2u^{21} + 11u^{20} + \cdots - 18u + 5 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -\frac{9}{2}u^{21} + 22u^{20} + \cdots - 33u + 8 \\ -2u^{21} + 11u^{20} + \cdots - 18u + 5 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 14u^{21} - 71u^{20} + 112u^{19} + 92u^{18} - 557u^{17} + 596u^{16} + 457u^{15} - 1669u^{14} + 1075u^{13} + 1272u^{12} - 2511u^{11} + 829u^{10} + 1721u^9 - 2088u^8 + 347u^7 + 1061u^6 - 920u^5 + 128u^4 + 294u^3 - 268u^2 + 118u - 26$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{22} + 6u^{21} + \cdots + 10u + 2$
c_2	$u^{22} + 10u^{21} + \cdots - 12u + 4$
c_3, c_7, c_{10}	$u^{22} + u^{21} + \cdots - 2u + 1$
c_4	$u^{22} - u^{21} + \cdots - 2u + 7$
c_6	$u^{22} + 24u^{21} + \cdots + 22528u + 2048$
c_8, c_{11}	$u^{22} + 2u^{21} + \cdots + 2u + 1$
c_9	$u^{22} - 11u^{21} + \cdots + 122u + 26$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{22} - 10y^{21} + \cdots + 12y + 4$
c_2	$y^{22} + 10y^{21} + \cdots - 304y + 16$
c_3, c_7, c_{10}	$y^{22} + 35y^{21} + \cdots + 4y + 1$
c_4	$y^{22} + 11y^{21} + \cdots + 276y + 49$
c_6	$y^{22} - 4y^{21} + \cdots + 6291456y + 4194304$
c_8, c_{11}	$y^{22} + 6y^{21} + \cdots + 10y + 1$
c_9	$y^{22} - 19y^{21} + \cdots - 13636y + 676$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.415944 + 0.915063I$ $a = -1.072660 - 0.878457I$ $b = 1.02363 + 1.11399I$	$-5.47166 + 8.64336I$	$0.86416 - 4.17929I$
$u = 0.415944 - 0.915063I$ $a = -1.072660 + 0.878457I$ $b = 1.02363 - 1.11399I$	$-5.47166 - 8.64336I$	$0.86416 + 4.17929I$
$u = -0.905217 + 0.345552I$ $a = -0.583392 + 0.385060I$ $b = -0.562525 + 1.184670I$	$-1.27214 - 0.90119I$	$0.90722 - 4.11146I$
$u = -0.905217 - 0.345552I$ $a = -0.583392 - 0.385060I$ $b = -0.562525 - 1.184670I$	$-1.27214 + 0.90119I$	$0.90722 + 4.11146I$
$u = 0.938475 + 0.452741I$ $a = -1.211750 - 0.402886I$ $b = 0.478302 - 0.375259I$	$-1.47927 - 1.70785I$	$-2.03135 + 1.38197I$
$u = 0.938475 - 0.452741I$ $a = -1.211750 + 0.402886I$ $b = 0.478302 + 0.375259I$	$-1.47927 + 1.70785I$	$-2.03135 - 1.38197I$
$u = -0.961052 + 0.415714I$ $a = 0.289661 - 0.427398I$ $b = -0.023327 - 1.083510I$	$-1.68977 + 3.84529I$	$0.76962 - 7.11396I$
$u = -0.961052 - 0.415714I$ $a = 0.289661 + 0.427398I$ $b = -0.023327 + 1.083510I$	$-1.68977 - 3.84529I$	$0.76962 + 7.11396I$
$u = 1.006010 + 0.554191I$ $a = 2.06591 + 0.80886I$ $b = -1.075660 + 0.915138I$	$0.29997 - 6.36774I$	$-0.69331 + 5.66304I$
$u = 1.006010 - 0.554191I$ $a = 2.06591 - 0.80886I$ $b = -1.075660 - 0.915138I$	$0.29997 + 6.36774I$	$-0.69331 - 5.66304I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.574081 + 0.572331I$ $a = 1.42670 + 1.36654I$ $b = -0.932058 - 0.660781I$	$1.59219 + 1.82500I$	$1.63588 - 1.17331I$
$u = 0.574081 - 0.572331I$ $a = 1.42670 - 1.36654I$ $b = -0.932058 + 0.660781I$	$1.59219 - 1.82500I$	$1.63588 + 1.17331I$
$u = 0.699271 + 0.989399I$ $a = -0.599352 + 0.221705I$ $b = 0.625328 - 0.499987I$	$-3.87629 - 3.75640I$	$1.54792 + 9.99919I$
$u = 0.699271 - 0.989399I$ $a = -0.599352 - 0.221705I$ $b = 0.625328 + 0.499987I$	$-3.87629 + 3.75640I$	$1.54792 - 9.99919I$
$u = -1.286580 + 0.073564I$ $a = 0.264997 - 0.359215I$ $b = 0.683728 - 1.124470I$	$-11.60060 - 5.70915I$	$-5.06976 + 3.70908I$
$u = -1.286580 - 0.073564I$ $a = 0.264997 + 0.359215I$ $b = 0.683728 + 1.124470I$	$-11.60060 + 5.70915I$	$-5.06976 - 3.70908I$
$u = 1.149220 + 0.647666I$ $a = -1.73202 - 0.77137I$ $b = 1.07821 - 1.26524I$	$-7.7036 - 14.3682I$	$-1.51520 + 7.73205I$
$u = 1.149220 - 0.647666I$ $a = -1.73202 + 0.77137I$ $b = 1.07821 + 1.26524I$	$-7.7036 + 14.3682I$	$-1.51520 - 7.73205I$
$u = 1.26179 + 0.79306I$ $a = 0.366388 - 0.137263I$ $b = 0.056443 + 0.483696I$	$-5.45392 - 3.28389I$	$-19.7402 + 5.4613I$
$u = 1.26179 - 0.79306I$ $a = 0.366388 + 0.137263I$ $b = 0.056443 - 0.483696I$	$-5.45392 + 3.28389I$	$-19.7402 - 5.4613I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.108057 + 0.452974I$ $a = -0.214492 - 1.173680I$ $b = -0.352068 + 0.430105I$	$0.466609 - 1.223850I$	$4.32498 + 5.87640I$
$u = 0.108057 - 0.452974I$ $a = -0.214492 + 1.173680I$ $b = -0.352068 - 0.430105I$	$0.466609 + 1.223850I$	$4.32498 - 5.87640I$

II.

$\boldsymbol{I^u_2 = \langle u^9 - 3u^7 + \cdots + b + 3,\ -u^9 - 3u^8 + \cdots + 2a - 6,\ u^{10} + u^9 + \cdots + 2u + 2\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} \frac{1}{2}u^9 + \frac{3}{2}u^8 + \cdots - \frac{3}{2}u + 3 \\ -u^9 + 3u^7 + u^6 - 5u^5 - 3u^4 + 5u^3 + 5u^2 - u - 3 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -\frac{1}{2}u^9 + \frac{1}{2}u^8 + \cdots - \frac{1}{2}u + 1 \\ u^7 - u^5 + 2u^3 + u^2 - 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -\frac{7}{2}u^9 - \frac{1}{2}u^8 + \cdots - \frac{3}{2}u - 7 \\ u^9 - 2u^7 - u^6 + 4u^5 + 2u^4 - 2u^3 - 3u^2 + u + 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -\frac{1}{2}u^9 + \frac{1}{2}u^8 + \cdots - \frac{3}{2}u + 2 \\ -u^9 + 3u^7 + u^6 - 5u^5 - 3u^4 + 4u^3 + 5u^2 - 3 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} \frac{1}{2}u^9 - \frac{1}{2}u^8 + \cdots + \frac{3}{2}u - 1 \\ u^9 + u^8 - 2u^7 - 2u^6 + 3u^5 + 4u^4 - 3u^2 - 2u + 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} \frac{1}{2}u^9 - \frac{1}{2}u^8 + \cdots + \frac{5}{2}u - 2 \\ 2u^9 + u^8 - 4u^7 - 3u^6 + 7u^5 + 7u^4 - 2u^3 - 7u^2 - 2u + 3 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} \frac{1}{2}u^9 - \frac{1}{2}u^8 + \cdots + \frac{5}{2}u - 2 \\ 2u^9 + u^8 - 4u^7 - 3u^6 + 7u^5 + 7u^4 - 2u^3 - 7u^2 - 2u + 3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -6u^9 - 4u^8 + 12u^7 + 8u^6 - 22u^5 - 18u^4 + 9u^3 + 16u^2 - 2u - 4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{10} + u^9 - 2u^8 - 3u^7 + 3u^6 + 6u^5 - 6u^3 - 3u^2 + 2u + 2$
c_2	$u^{10} + 5u^9 + \cdots + 16u + 4$
c_3, c_7	$u^{10} + u^9 + 5u^8 + 3u^7 + 2u^6 - 2u^5 - 11u^4 - 5u^3 + 4u^2 + 3u + 1$
c_4	$u^{10} - u^9 + 5u^8 - u^7 + 2u^6 + 4u^5 + 5u^4 - u^3 + 4u^2 + u + 1$
c_5	$u^{10} - u^9 - 2u^8 + 3u^7 + 3u^6 - 6u^5 + 6u^3 - 3u^2 - 2u + 2$
c_6	$u^{10} + u^9 - u^8 - 3u^7 + 6u^6 - u^5 - 5u^4 + 5u^3 - 2u + 1$
c_8, c_{11}	$u^{10} - 2u^9 + 5u^7 - 5u^6 - u^5 + 6u^4 - 3u^3 - u^2 + u + 1$
c_9	$u^{10} + 8u^9 + \cdots + 6u + 2$
c_{10}	$u^{10} - u^9 + 5u^8 - 3u^7 + 2u^6 + 2u^5 - 11u^4 + 5u^3 + 4u^2 - 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{10} - 5y^9 + \cdots - 16y + 4$
c_2	$y^{10} + 7y^9 + \cdots + 8y + 16$
c_3, c_7, c_{10}	$y^{10} + 9y^9 + 23y^8 - 7y^7 - 76y^6 + 18y^5 + 109y^4 - 97y^3 + 24y^2 - y + 1$
c_4	$y^{10} + 9y^9 + \cdots + 7y + 1$
c_6	$y^{10} - 3y^9 + \cdots - 4y + 1$
c_8, c_{11}	$y^{10} - 4y^9 + \cdots - 3y + 1$
c_9	$y^{10} - 10y^9 + \cdots + 40y + 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.549591 + 0.807648I$ $a = -1.022010 + 0.680670I$ $b = 0.974163 - 0.530625I$	$3.57479 - 2.04304I$	$8.10074 + 2.61766I$
$u = -0.549591 - 0.807648I$ $a = -1.022010 - 0.680670I$ $b = 0.974163 + 0.530625I$	$3.57479 + 2.04304I$	$8.10074 - 2.61766I$
$u = -0.894446 + 0.383624I$ $a = 2.23680 - 2.15542I$ $b = -1.192680 - 0.156235I$	$-7.31599 + 1.59319I$	$1.11325 - 4.59194I$
$u = -0.894446 - 0.383624I$ $a = 2.23680 + 2.15542I$ $b = -1.192680 + 0.156235I$	$-7.31599 - 1.59319I$	$1.11325 + 4.59194I$
$u = 0.901394 + 0.162248I$ $a = 0.435559 + 0.459277I$ $b = 0.526185 + 0.973137I$	$-1.44150 + 1.63856I$	$-1.63913 - 5.81422I$
$u = 0.901394 - 0.162248I$ $a = 0.435559 - 0.459277I$ $b = 0.526185 - 0.973137I$	$-1.44150 - 1.63856I$	$-1.63913 + 5.81422I$
$u = -1.058430 + 0.638913I$ $a = -1.47976 + 0.79682I$ $b = 1.081130 + 0.779940I$	$2.02348 + 7.46141I$	$4.83399 - 7.19259I$
$u = -1.058430 - 0.638913I$ $a = -1.47976 - 0.79682I$ $b = 1.081130 - 0.779940I$	$2.02348 - 7.46141I$	$4.83399 + 7.19259I$
$u = 1.101080 + 0.716410I$ $a = -0.170585 + 0.035619I$ $b = -0.388800 - 0.327209I$	$-5.06545 - 3.26803I$	$2.59117 + 3.48613I$
$u = 1.101080 - 0.716410I$ $a = -0.170585 - 0.035619I$ $b = -0.388800 + 0.327209I$	$-5.06545 + 3.26803I$	$2.59117 - 3.48613I$

III.

$$\boldsymbol{I_3^u = \langle u^{10} + u^9 + \cdots + b - 1,\ u^{10}a - u^{10} + \cdots + a + 1,\ u^{11} + u^{10} + \cdots + u^2 - 1\rangle}$$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} a \\ -u^{10} - u^9 + u^8 + 2u^7 - u^5 - u^4 + u^2a + au + u^2 + u + 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^{10} + u^9 - 2u^8 - 3u^7 + u^6 + 3u^5 - u^3a - u^2a - 2u^3 - u^2 + a + u \\ -2u^{10} - 2u^9 + \cdots + u + 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 3u^{10} - u^9 + \cdots + a - 1 \\ -2u^{10}a - 2u^9a + \cdots + 4u - 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^9a + u^{10} + \cdots + a - 1 \\ -u^9a - 2u^{10} + \cdots + u + 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^9a + u^{10} + \cdots + a - 1 \\ -u^9a - 2u^{10} + \cdots + au + 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 2u^9a + u^{10} + \cdots + a - 2 \\ -2u^9a - 2u^{10} + \cdots + au + 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 2u^9a + u^{10} + \cdots + a - 2 \\ -2u^9a - 2u^{10} + \cdots + au + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{10} - 12u^8 - 4u^7 + 16u^6 + 8u^5 - 8u^4 - 8u^3 + 4u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u^{11} - u^{10} - 2u^9 + 3u^8 + 2u^7 - 4u^6 + 3u^4 - u^3 - u^2 + 1)^2$
c_2	$(u^{11} + 5u^{10} + \cdots + 2u + 1)^2$
c_3, c_7, c_{10}	$u^{22} + u^{21} + \cdots - 18u + 59$
c_4	$u^{22} - u^{21} + \cdots + 1546u + 409$
c_6	$(u-1)^{22}$
c_8, c_{11}	$u^{22} + 9u^{21} + \cdots + 56u + 7$
c_9	$(u^{11} + 9u^{10} + \cdots + 10u - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^{11} - 5y^{10} + \cdots + 2y - 1)^2$
c_2	$(y^{11} + 3y^{10} + \cdots - 10y - 1)^2$
c_3, c_7, c_{10}	$y^{22} + 27y^{21} + \cdots + 23040y + 3481$
c_4	$y^{22} + 15y^{21} + \cdots + 1253256y + 167281$
c_6	$(y - 1)^{22}$
c_8, c_{11}	$y^{22} - 5y^{21} + \cdots + 504y + 49$
c_9	$(y^{11} - 21y^{10} + \cdots + 66y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.959860+0.351396I$ $a=-1.82613+2.04832I$ $b=\ \ 2.03404+0.57190I$	$-8.21600+1.27541I$	$-9.47945-0.80097I$
$u=-0.959860+0.351396I$ $a=\ \ 2.70937-1.39830I$ $b=\ \ 0.185361-0.335527I$	$-8.21600+1.27541I$	$-9.47945-0.80097I$
$u=-0.959860-0.351396I$ $a=-1.82613-2.04832I$ $b=\ \ 2.03404-0.57190I$	$-8.21600-1.27541I$	$-9.47945+0.80097I$
$u=-0.959860-0.351396I$ $a=\ \ 2.70937+1.39830I$ $b=\ \ 0.185361+0.335527I$	$-8.21600-1.27541I$	$-9.47945+0.80097I$
$u=-0.488025+0.800566I$ $a=-0.986224+0.386436I$ $b=\ \ 0.522658-0.388649I$	$2.45893-1.64593I$	$0.049877+0.244807I$
$u=-0.488025+0.800566I$ $a=\ \ 0.816032-0.717910I$ $b=-1.061550+0.629616I$	$2.45893-1.64593I$	$0.049877+0.244807I$
$u=-0.488025-0.800566I$ $a=-0.986224-0.386436I$ $b=\ \ 0.522658+0.388649I$	$2.45893+1.64593I$	$0.049877-0.244807I$
$u=-0.488025-0.800566I$ $a=\ \ 0.816032+0.717910I$ $b=-1.061550-0.629616I$	$2.45893+1.64593I$	$0.049877-0.244807I$
$u=\ \ 1.11640$ $a=-0.497001+0.359330I$ $b=-0.064584+0.849005I$	-3.19716	-5.81430
$u=\ \ 1.11640$ $a=-0.497001-0.359330I$ $b=-0.064584-0.849005I$	-3.19716	-5.81430

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.031510 + 0.521913I$ $a = 0.42458 - 1.36387I$ $b = 1.53814 + 1.53725I$	$-6.95642 - 4.75030I$	$-5.35891 + 6.77690I$
$u = 1.031510 + 0.521913I$ $a = -0.63779 - 1.77107I$ $b = 0.252273 - 0.903481I$	$-6.95642 - 4.75030I$	$-5.35891 + 6.77690I$
$u = 1.031510 - 0.521913I$ $a = 0.42458 + 1.36387I$ $b = 1.53814 - 1.53725I$	$-6.95642 + 4.75030I$	$-5.35891 - 6.77690I$
$u = 1.031510 - 0.521913I$ $a = -0.63779 + 1.77107I$ $b = 0.252273 + 0.903481I$	$-6.95642 + 4.75030I$	$-5.35891 - 6.77690I$
$u = -1.081080 + 0.631709I$ $a = -1.37876 + 0.50428I$ $b = 0.630247 + 0.593092I$	$0.68511 + 7.02220I$	$-2.49946 - 4.88619I$
$u = -1.081080 + 0.631709I$ $a = 1.36761 - 0.75322I$ $b = -1.14816 - 1.03156I$	$0.68511 + 7.02220I$	$-2.49946 - 4.88619I$
$u = -1.081080 - 0.631709I$ $a = -1.37876 - 0.50428I$ $b = 0.630247 - 0.593092I$	$0.68511 - 7.02220I$	$-2.49946 + 4.88619I$
$u = -1.081080 - 0.631709I$ $a = 1.36761 + 0.75322I$ $b = -1.14816 + 1.03156I$	$0.68511 - 7.02220I$	$-2.49946 + 4.88619I$
$u = 0.439259 + 0.522038I$ $a = -0.618011 + 1.074030I$ $b = 0.527375 + 0.930749I$	$-5.28977 + 0.45477I$	$-0.80492 - 1.36957I$
$u = 0.439259 + 0.522038I$ $a = -2.37368 - 0.13772I$ $b = 1.08420 - 1.22681I$	$-5.28977 + 0.45477I$	$-0.80492 - 1.36957I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.439259 - 0.522038I$ $a = -0.618011 - 1.074030I$ $b = 0.527375 - 0.930749I$	$-5.28977 - 0.45477I$	$-0.80492 + 1.36957I$
$u = 0.439259 - 0.522038I$ $a = -2.37368 + 0.13772I$ $b = 1.08420 + 1.22681I$	$-5.28977 - 0.45477I$	$-0.80492 + 1.36957I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{10}+u^9-2u^8-3u^7+3u^6+6u^5-6u^3-3u^2+2u+2)$ $\cdot(u^{11}-u^{10}-2u^9+3u^8+2u^7-4u^6+3u^4-u^3-u^2+1)^2$ $\cdot(u^{22}+6u^{21}+\cdots+10u+2)$
c_2	$(u^{10}+5u^9+\cdots+16u+4)(u^{11}+5u^{10}+\cdots+2u+1)^2$ $\cdot(u^{22}+10u^{21}+\cdots-12u+4)$
c_3, c_7	$(u^{10}+u^9+5u^8+3u^7+2u^6-2u^5-11u^4-5u^3+4u^2+3u+1)$ $\cdot(u^{22}+u^{21}+\cdots-18u+59)(u^{22}+u^{21}+\cdots-2u+1)$
c_4	$(u^{10}-u^9+5u^8-u^7+2u^6+4u^5+5u^4-u^3+4u^2+u+1)$ $\cdot(u^{22}-u^{21}+\cdots-2u+7)(u^{22}-u^{21}+\cdots+1546u+409)$
c_5	$(u^{10}-u^9-2u^8+3u^7+3u^6-6u^5+6u^3-3u^2-2u+2)$ $\cdot(u^{11}-u^{10}-2u^9+3u^8+2u^7-4u^6+3u^4-u^3-u^2+1)^2$ $\cdot(u^{22}+6u^{21}+\cdots+10u+2)$
c_6	$(u-1)^{22}(u^{10}+u^9-u^8-3u^7+6u^6-u^5-5u^4+5u^3-2u+1)$ $\cdot(u^{22}+24u^{21}+\cdots+22528u+2048)$
c_8, c_{11}	$(u^{10}-2u^9+5u^7-5u^6-u^5+6u^4-3u^3-u^2+u+1)$ $\cdot(u^{22}+2u^{21}+\cdots+2u+1)(u^{22}+9u^{21}+\cdots+56u+7)$
c_9	$(u^{10}+8u^9+\cdots+6u+2)(u^{11}+9u^{10}+\cdots+10u-1)^2$ $\cdot(u^{22}-11u^{21}+\cdots+122u+26)$
c_{10}	$(u^{10}-u^9+5u^8-3u^7+2u^6+2u^5-11u^4+5u^3+4u^2-3u+1)$ $\cdot(u^{22}+u^{21}+\cdots-18u+59)(u^{22}+u^{21}+\cdots-2u+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^{10} - 5y^9 + \cdots - 16y + 4)(y^{11} - 5y^{10} + \cdots + 2y - 1)^2$ $\cdot (y^{22} - 10y^{21} + \cdots + 12y + 4)$
c_2	$(y^{10} + 7y^9 + \cdots + 8y + 16)(y^{11} + 3y^{10} + \cdots - 10y - 1)^2$ $\cdot (y^{22} + 10y^{21} + \cdots - 304y + 16)$
c_3, c_7, c_{10}	$(y^{10} + 9y^9 + 23y^8 - 7y^7 - 76y^6 + 18y^5 + 109y^4 - 97y^3 + 24y^2 - y + 1)$ $\cdot (y^{22} + 27y^{21} + \cdots + 23040y + 3481)(y^{22} + 35y^{21} + \cdots + 4y + 1)$
c_4	$(y^{10} + 9y^9 + \cdots + 7y + 1)(y^{22} + 11y^{21} + \cdots + 276y + 49)$ $\cdot (y^{22} + 15y^{21} + \cdots + 1253256y + 167281)$
c_6	$((y-1)^{22})(y^{10} - 3y^9 + \cdots - 4y + 1)$ $\cdot (y^{22} - 4y^{21} + \cdots + 6291456y + 4194304)$
c_8, c_{11}	$(y^{10} - 4y^9 + \cdots - 3y + 1)(y^{22} - 5y^{21} + \cdots + 504y + 49)$ $\cdot (y^{22} + 6y^{21} + \cdots + 10y + 1)$
c_9	$(y^{10} - 10y^9 + \cdots + 40y + 4)(y^{11} - 21y^{10} + \cdots + 66y - 1)^2$ $\cdot (y^{22} - 19y^{21} + \cdots - 13636y + 676)$