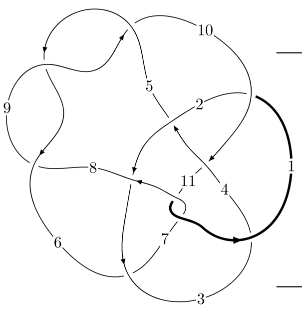
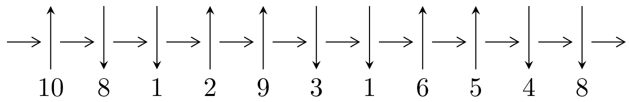
$11n_{155}$ ($K11n_{155}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle u^{17} + 5u^{16} + \cdots + b + 1,\ u^{17} + 7u^{16} + \cdots + 2a + 17,\ u^{18} + 5u^{17} + \cdots + 13u + 2\rangle \\
I_2^u &= \langle u^5 + u^4 + 3u^3 + 2u^2 + b + 2u,\ u^5 + 2u^4 + 4u^3 + 5u^2 + a + 4u + 2, \\
&\quad u^9 + 2u^8 + 7u^7 + 10u^6 + 16u^5 + 15u^4 + 12u^3 + 5u^2 - 1\rangle \\
I_3^u &= \langle u^7a + 4u^7 + 5u^5a - 7u^6 + u^4a + 20u^5 + 8u^3a - 24u^4 + 4u^2a + 25u^3 + 6au - 19u^2 + 7b - a + 3u + 3, \\
&\quad u^6a + u^7 - 2u^5a + 5u^4a + 4u^5 - 6u^3a - u^4 + 6u^2a + 5u^3 + a^2 - 4au - 3u^2 + a + u + 2, \\
&\quad u^8 - u^7 + 5u^6 - 4u^5 + 7u^4 - 4u^3 + 2u^2 + 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 43 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.

$\boldsymbol{I_1^u = \langle u^{17}+5u^{16}+\cdots+b+1,\ u^{17}+7u^{16}+\cdots+2a+17,\ u^{18}+5u^{17}+\cdots+13u+2\rangle}$

(i) Arc colorings

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

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

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

$$a_2 = \begin{pmatrix} -\frac{1}{2}u^{17} - \frac{7}{2}u^{16} + \cdots - 42u - \frac{17}{2} \\ -u^{17} - 5u^{16} + \cdots - 14u - 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{1}{2}u^{17} - \frac{7}{2}u^{16} + \cdots - 30u - \frac{13}{2} \\ -u^{17} - 5u^{16} + \cdots - 2u + 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} \frac{1}{2}u^{17} + \frac{3}{2}u^{16} + \cdots - 10u - \frac{5}{2} \\ -u^{17} - 5u^{16} + \cdots - 20u - 3 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -\frac{3}{2}u^{17} - \frac{15}{2}u^{16} + \cdots - 45u - \frac{17}{2} \\ -u^{17} - 4u^{16} + \cdots - 2u^2 + 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -\frac{1}{2}u^{17} - \frac{5}{2}u^{16} + \cdots - 6u - \frac{1}{2} \\ -u^{16} - 4u^{15} + \cdots - 6u - 1 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} -\frac{1}{2}u^{17} - \frac{7}{2}u^{16} + \cdots - 29u - \frac{13}{2} \\ -u^{17} - 5u^{16} + \cdots - 3u + 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -\frac{1}{2}u^{17} - \frac{7}{2}u^{16} + \cdots - 29u - \frac{13}{2} \\ -u^{17} - 5u^{16} + \cdots - 3u + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= 4u^{17} + 19u^{16} + 83u^{15} + 236u^{14} + 583u^{13} + 1152u^{12} + 1976u^{11} + 2870u^{10} + 3638u^9 + 3961u^8 + 3775u^7 + 3072u^6 + 2159u^5 + 1248u^4 + 580u^3 + 175u^2 + 39u - 4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{18} + u^{17} + \cdots - 6u + 1$
c_2	$u^{18} - 10u^{16} + \cdots - u + 23$
c_3	$u^{18} - 11u^{17} + \cdots - 17u + 24$
c_5, c_8, c_9	$u^{18} + 5u^{17} + \cdots + 13u + 2$
c_6, c_7, c_{11}	$u^{18} + u^{17} + \cdots + u + 1$
c_{10}	$u^{18} + 16u^{17} + \cdots + 1792u + 256$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{18} + 11y^{17} + \cdots - 8y + 1$
c_2	$y^{18} - 20y^{17} + \cdots + 597y + 529$
c_3	$y^{18} - 23y^{17} + \cdots - 433y + 576$
c_5, c_8, c_9	$y^{18} + 19y^{17} + \cdots + 47y + 4$
c_6, c_7, c_{11}	$y^{18} - 27y^{17} + \cdots - 7y + 1$
c_{10}	$y^{18} + 70y^{16} + \cdots + 262144y + 65536$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.792060 + 0.657087I$ $a = 0.537685 + 0.783791I$ $b = -0.78194 + 1.18447I$	$-8.36952 - 8.49029I$	$-4.40486 + 6.13776I$
$u = -0.792060 - 0.657087I$ $a = 0.537685 - 0.783791I$ $b = -0.78194 - 1.18447I$	$-8.36952 + 8.49029I$	$-4.40486 - 6.13776I$
$u = 0.298470 + 0.918902I$ $a = 0.477719 - 0.191775I$ $b = 0.302221 + 0.080115I$	$-0.45845 + 1.47133I$	$-0.00849 - 6.64687I$
$u = 0.298470 - 0.918902I$ $a = 0.477719 + 0.191775I$ $b = 0.302221 - 0.080115I$	$-0.45845 - 1.47133I$	$-0.00849 + 6.64687I$
$u = -0.921919 + 0.489220I$ $a = -0.516597 + 0.056157I$ $b = -0.464186 - 0.991439I$	$-7.77265 + 2.85464I$	$-5.54920 - 2.31741I$
$u = -0.921919 - 0.489220I$ $a = -0.516597 - 0.056157I$ $b = -0.464186 + 0.991439I$	$-7.77265 - 2.85464I$	$-5.54920 + 2.31741I$
$u = -0.02005 + 1.48615I$ $a = 0.164479 + 1.268870I$ $b = -0.481449 + 0.953626I$	$-6.93662 + 0.90661I$	$-5.69894 - 2.68686I$
$u = -0.02005 - 1.48615I$ $a = 0.164479 - 1.268870I$ $b = -0.481449 - 0.953626I$	$-6.93662 - 0.90661I$	$-5.69894 + 2.68686I$
$u = -0.07899 + 1.48902I$ $a = 0.12260 - 1.85492I$ $b = 0.98678 - 1.23806I$	$-5.88062 - 4.16437I$	$-5.71584 + 1.90881I$
$u = -0.07899 - 1.48902I$ $a = 0.12260 + 1.85492I$ $b = 0.98678 + 1.23806I$	$-5.88062 + 4.16437I$	$-5.71584 - 1.90881I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.055529+0.496915I$ $a=\ 1.262720+0.103006I$ $b=\ 0.170673+0.568505I$	$-0.543265+1.120070I$	$-3.86919-5.32416I$
$u=-0.055529-0.496915I$ $a=\ 1.262720-0.103006I$ $b=\ 0.170673-0.568505I$	$-0.543265-1.120070I$	$-3.86919+5.32416I$
$u=-0.324172+0.337864I$ $a=-1.69010-0.72509I$ $b=\ 0.739762-0.866952I$	$0.25135-2.82287I$	$-6.88072+3.05587I$
$u=-0.324172-0.337864I$ $a=-1.69010+0.72509I$ $b=\ 0.739762+0.866952I$	$0.25135+2.82287I$	$-6.88072-3.05587I$
$u=-0.25901+1.58887I$ $a=\ 0.03925+1.88256I$ $b=-0.94339+1.44899I$	$-15.7704-12.3848I$	$-6.66577+5.56864I$
$u=-0.25901-1.58887I$ $a=\ 0.03925-1.88256I$ $b=-0.94339-1.44899I$	$-15.7704+12.3848I$	$-6.66577-5.56864I$
$u=-0.34675+1.59425I$ $a=-0.647761-0.887645I$ $b=-0.028471-1.040200I$	$-14.5599-1.9312I$	$-9.20699+1.03940I$
$u=-0.34675-1.59425I$ $a=-0.647761+0.887645I$ $b=-0.028471+1.040200I$	$-14.5599+1.9312I$	$-9.20699-1.03940I$

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

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^5 - 2u^4 - 4u^3 - 5u^2 - 4u - 2 \\ -u^5 - u^4 - 3u^3 - 2u^2 - 2u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^6 - 2u^5 - 5u^4 - 6u^3 - 7u^2 - 4u - 2 \\ -u^6 - 2u^5 - 4u^4 - 5u^3 - 4u^2 - 2u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^6 + 2u^5 + 5u^4 + 7u^3 + 7u^2 + 5u + 2 \\ u^6 + u^5 + 4u^4 + 3u^3 + 4u^2 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^7 - 2u^6 - 6u^5 - 8u^4 - 10u^3 - 8u^2 - 4u - 1 \\ -u^7 - 2u^6 - 6u^5 - 7u^4 - 9u^3 - 5u^2 - 2u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^8 + 2u^7 + 6u^6 + 9u^5 + 13u^4 + 14u^3 + 12u^2 + 7u + 3 \\ u^8 + u^7 + 4u^6 + 3u^5 + 5u^4 + 4u^3 + 3u^2 + 3u + 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^6 - 2u^5 - 6u^4 - 7u^3 - 9u^2 - 5u - 2 \\ -u^5 - u^4 - 3u^3 - 2u^2 - u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^6 - 2u^5 - 6u^4 - 7u^3 - 9u^2 - 5u - 2 \\ -u^5 - u^4 - 3u^3 - 2u^2 - u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4u^8 - 5u^7 - 26u^6 - 25u^5 - 52u^4 - 35u^3 - 29u^2 - 7u + 1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^9 - u^8 + 3u^6 - 2u^4 + 3u^3 + u^2 - u + 1$
c_2	$u^9 - 4u^7 + 2u^6 + 9u^5 + 2u^4 - u^3 + u^2 + 1$
c_3	$u^9 + 8u^8 + 28u^7 + 59u^6 + 88u^5 + 99u^4 + 83u^3 + 51u^2 + 21u + 5$
c_5	$u^9 + 2u^8 + 7u^7 + 10u^6 + 16u^5 + 15u^4 + 12u^3 + 5u^2 - 1$
c_6, c_{11}	$u^9 - u^8 - 3u^7 + 2u^6 + 2u^4 + 3u^2 + 1$
c_7	$u^9 + u^8 - 3u^7 - 2u^6 - 2u^4 - 3u^2 - 1$
c_8, c_9	$u^9 - 2u^8 + 7u^7 - 10u^6 + 16u^5 - 15u^4 + 12u^3 - 5u^2 + 1$
c_{10}	$u^9 - u^8 + u^7 + 3u^6 - 2u^5 + 3u^3 - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^9 - y^8 + 6y^7 - 7y^6 + 12y^5 - 8y^4 + 7y^3 - 3y^2 - y - 1$
c_2	$y^9 - 8y^8 + 34y^7 - 78y^6 + 81y^5 - 26y^4 - 7y^3 - 5y^2 - 2y - 1$
c_3	$y^9 - 8y^8 + 16y^7 + 29y^6 - 64y^5 - 115y^4 - 103y^3 - 105y^2 - 69y - 25$
c_5, c_8, c_9	$y^9 + 10y^8 + 41y^7 + 88y^6 + 104y^5 + 63y^4 + 14y^3 + 5y^2 + 10y - 1$
c_6, c_7, c_{11}	$y^9 - 7y^8 + 13y^7 - 2y^5 - 14y^4 - 16y^3 - 13y^2 - 6y - 1$
c_{10}	$y^9 + y^8 + 3y^7 - 7y^6 + 8y^5 - 12y^4 + 7y^3 - 6y^2 + y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.472195 + 1.057080I$ $a = 0.638591 + 0.138962I$ $b = 0.291926 + 0.569978I$	$-0.857058 - 0.898737I$	$-7.48049 - 2.86554I$
$u = -0.472195 - 1.057080I$ $a = 0.638591 - 0.138962I$ $b = 0.291926 - 0.569978I$	$-0.857058 + 0.898737I$	$-7.48049 + 2.86554I$
$u = -0.604705 + 0.345427I$ $a = -0.706537 - 0.317251I$ $b = 0.704599 - 0.747798I$	$1.13540 - 3.06246I$	$3.40537 + 6.53342I$
$u = -0.604705 - 0.345427I$ $a = -0.706537 + 0.317251I$ $b = 0.704599 + 0.747798I$	$1.13540 + 3.06246I$	$3.40537 - 6.53342I$
$u = 0.10064 + 1.48635I$ $a = -0.669727 + 1.221890I$ $b = -0.985174 + 0.537720I$	$-11.81420 + 1.53593I$	$-5.20172 - 0.08744I$
$u = 0.10064 - 1.48635I$ $a = -0.669727 - 1.221890I$ $b = -0.985174 - 0.537720I$	$-11.81420 - 1.53593I$	$-5.20172 + 0.08744I$
$u = -0.17693 + 1.49366I$ $a = 0.15276 - 1.61277I$ $b = 0.93778 - 1.07792I$	$-4.99677 - 5.78819I$	$-2.01216 + 5.60852I$
$u = -0.17693 - 1.49366I$ $a = 0.15276 + 1.61277I$ $b = 0.93778 + 1.07792I$	$-4.99677 + 5.78819I$	$-2.01216 - 5.60852I$
$u = 0.306375$ $a = -3.83018$ $b = -0.898266$	-6.41317	-5.42200

III. $\boldsymbol{I^u_3 = \langle u^7a + 4u^7 + \cdots - a + 3,\ u^6a + u^7 + \cdots + a + 2,\ u^8 - u^7 + 5u^6 - 4u^5 + 7u^4 - 4u^3 + 2u^2 + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^6 + 4u^5 - 16u^4 + 12u^3 - 16u^2 + 8u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{16} + 7u^{15} + \cdots + 26u + 7$
c_2	$u^{16} - u^{15} + \cdots - 244u + 263$
c_3	$(u^8 + 7u^7 + 17u^6 + 14u^5 - u^4 + 2u^3 + 6u^2 - 4u + 1)^2$
c_5, c_8, c_9	$(u^8 - u^7 + 5u^6 - 4u^5 + 7u^4 - 4u^3 + 2u^2 + 1)^2$
c_6, c_7, c_{11}	$u^{16} - u^{15} + \cdots + 54u + 43$
c_{10}	$(u - 1)^{16}$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{16} - y^{15} + \cdots + 472y + 49$
c_2	$y^{16} - 17y^{15} + \cdots - 326744y + 69169$
c_3	$(y^8 - 15y^7 + 91y^6 - 246y^5 + 207y^4 + 130y^3 + 50y^2 - 4y + 1)^2$
c_5, c_8, c_9	$(y^8 + 9y^7 + 31y^6 + 50y^5 + 39y^4 + 22y^3 + 18y^2 + 4y + 1)^2$
c_6, c_7, c_{11}	$y^{16} - 21y^{15} + \cdots - 8076y + 1849$
c_{10}	$(y - 1)^{16}$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.647085 + 0.502738I$ $a = 0.872903 - 0.232256I$ $b = -0.232467 - 0.600007I$	$0.02985 + 2.18536I$	$-4.41681 - 3.14055I$
$u = 0.647085 + 0.502738I$ $a = -0.142877 + 0.389508I$ $b = 0.530385 + 0.793677I$	$0.02985 + 2.18536I$	$-4.41681 - 3.14055I$
$u = 0.647085 - 0.502738I$ $a = 0.872903 + 0.232256I$ $b = -0.232467 + 0.600007I$	$0.02985 - 2.18536I$	$-4.41681 + 3.14055I$
$u = 0.647085 - 0.502738I$ $a = -0.142877 - 0.389508I$ $b = 0.530385 - 0.793677I$	$0.02985 - 2.18536I$	$-4.41681 + 3.14055I$
$u = -0.283060 + 0.443755I$ $a = 0.178958 - 0.761216I$ $b = -1.37934 - 0.90268I$	$-6.57974 - 1.04600I$	$-8.00000 + 6.68545I$
$u = -0.283060 + 0.443755I$ $a = -0.54044 + 3.78312I$ $b = -0.503866 + 0.651460I$	$-6.57974 - 1.04600I$	$-8.00000 + 6.68545I$
$u = -0.283060 - 0.443755I$ $a = 0.178958 + 0.761216I$ $b = -1.37934 + 0.90268I$	$-6.57974 + 1.04600I$	$-8.00000 - 6.68545I$
$u = -0.283060 - 0.443755I$ $a = -0.54044 - 3.78312I$ $b = -0.503866 - 0.651460I$	$-6.57974 + 1.04600I$	$-8.00000 - 6.68545I$
$u = -0.06382 + 1.51723I$ $a = -1.65804 - 1.38014I$ $b = -2.13775 - 1.37856I$	$-13.18930 - 2.18536I$	$-11.58319 + 3.14055I$
$u = -0.06382 + 1.51723I$ $a = -0.87605 + 2.17258I$ $b = -0.028221 + 0.727930I$	$-13.18930 - 2.18536I$	$-11.58319 + 3.14055I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.06382-1.51723I$ $a=-1.65804+1.38014I$ $b=-2.13775+1.37856I$	$-13.18930+2.18536I$	$-11.58319-3.14055I$
$u=-0.06382-1.51723I$ $a=-0.87605-2.17258I$ $b=-0.028221-0.727930I$	$-13.18930+2.18536I$	$-11.58319-3.14055I$
$u=\ \ 0.19980+1.51366I$ $a=\ \ 0.459450-1.258690I$ $b=-0.559608-0.857499I$	$-6.57974+5.23868I$	$-8.00000-3.04258I$
$u=\ \ 0.19980+1.51366I$ $a=\ \ 0.20610+1.75223I$ $b=\ \ 0.81087+1.46236I$	$-6.57974+5.23868I$	$-8.00000-3.04258I$
$u=\ \ 0.19980-1.51366I$ $a=\ \ 0.459450+1.258690I$ $b=-0.559608+0.857499I$	$-6.57974-5.23868I$	$-8.00000+3.04258I$
$u=\ \ 0.19980-1.51366I$ $a=\ \ 0.20610-1.75223I$ $b=\ \ 0.81087-1.46236I$	$-6.57974-5.23868I$	$-8.00000+3.04258I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_4	$(u^9 - u^8 + \cdots - u + 1)(u^{16} + 7u^{15} + \cdots + 26u + 7)$ $\cdot (u^{18} + u^{17} + \cdots - 6u + 1)$
c_2	$(u^9 - 4u^7 + \cdots + u^2 + 1)(u^{16} - u^{15} + \cdots - 244u + 263)$ $\cdot (u^{18} - 10u^{16} + \cdots - u + 23)$
c_3	$(u^8 + 7u^7 + 17u^6 + 14u^5 - u^4 + 2u^3 + 6u^2 - 4u + 1)^2$ $\cdot (u^9 + 8u^8 + 28u^7 + 59u^6 + 88u^5 + 99u^4 + 83u^3 + 51u^2 + 21u + 5)$ $\cdot (u^{18} - 11u^{17} + \cdots - 17u + 24)$
c_5	$(u^8 - u^7 + 5u^6 - 4u^5 + 7u^4 - 4u^3 + 2u^2 + 1)^2$ $\cdot (u^9 + 2u^8 + 7u^7 + 10u^6 + 16u^5 + 15u^4 + 12u^3 + 5u^2 - 1)$ $\cdot (u^{18} + 5u^{17} + \cdots + 13u + 2)$
c_6, c_{11}	$(u^9 - u^8 + \cdots + 3u^2 + 1)(u^{16} - u^{15} + \cdots + 54u + 43)$ $\cdot (u^{18} + u^{17} + \cdots + u + 1)$
c_7	$(u^9 + u^8 + \cdots - 3u^2 - 1)(u^{16} - u^{15} + \cdots + 54u + 43)$ $\cdot (u^{18} + u^{17} + \cdots + u + 1)$
c_8, c_9	$(u^8 - u^7 + 5u^6 - 4u^5 + 7u^4 - 4u^3 + 2u^2 + 1)^2$ $\cdot (u^9 - 2u^8 + 7u^7 - 10u^6 + 16u^5 - 15u^4 + 12u^3 - 5u^2 + 1)$ $\cdot (u^{18} + 5u^{17} + \cdots + 13u + 2)$
c_{10}	$(u - 1)^{16}(u^9 - u^8 + u^7 + 3u^6 - 2u^5 + 3u^3 - u + 1)$ $\cdot (u^{18} + 16u^{17} + \cdots + 1792u + 256)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y^9 - y^8 + 6y^7 - 7y^6 + 12y^5 - 8y^4 + 7y^3 - 3y^2 - y - 1)$ $\cdot (y^{16} - y^{15} + \cdots + 472y + 49)(y^{18} + 11y^{17} + \cdots - 8y + 1)$
c_2	$(y^9 - 8y^8 + 34y^7 - 78y^6 + 81y^5 - 26y^4 - 7y^3 - 5y^2 - 2y - 1)$ $\cdot (y^{16} - 17y^{15} + \cdots - 326744y + 69169)$ $\cdot (y^{18} - 20y^{17} + \cdots + 597y + 529)$
c_3	$(y^8 - 15y^7 + 91y^6 - 246y^5 + 207y^4 + 130y^3 + 50y^2 - 4y + 1)^2$ $\cdot (y^9 - 8y^8 + 16y^7 + 29y^6 - 64y^5 - 115y^4 - 103y^3 - 105y^2 - 69y - 25)$ $\cdot (y^{18} - 23y^{17} + \cdots - 433y + 576)$
c_5, c_8, c_9	$(y^8 + 9y^7 + 31y^6 + 50y^5 + 39y^4 + 22y^3 + 18y^2 + 4y + 1)^2$ $\cdot (y^9 + 10y^8 + 41y^7 + 88y^6 + 104y^5 + 63y^4 + 14y^3 + 5y^2 + 10y - 1)$ $\cdot (y^{18} + 19y^{17} + \cdots + 47y + 4)$
c_6, c_7, c_{11}	$(y^9 - 7y^8 + 13y^7 - 2y^5 - 14y^4 - 16y^3 - 13y^2 - 6y - 1)$ $\cdot (y^{16} - 21y^{15} + \cdots - 8076y + 1849)(y^{18} - 27y^{17} + \cdots - 7y + 1)$
c_{10}	$(y - 1)^{16}(y^9 + y^8 + 3y^7 - 7y^6 + 8y^5 - 12y^4 + 7y^3 - 6y^2 + y - 1)$ $\cdot (y^{18} + 70y^{16} + \cdots + 262144y + 65536)$