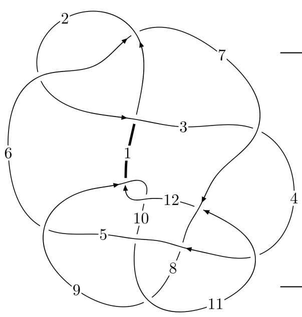
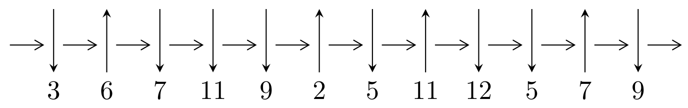
$12n_{0280}$ $(K12n_{0280})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -u^{18} + 4u^{17} + \cdots + b - 1,\ -u^{19} + 5u^{18} + \cdots + 2a + 4,\ u^{20} - 5u^{19} + \cdots - 10u + 2\rangle$$

$$\begin{aligned} I_2^u = \langle & u^9 + 2u^8 + 4u^7 + 4u^6 + 5u^5 + 4u^4 + 4u^3 + 2u^2 + b + u + 1, \\ & - u^{10} - 4u^9 - 7u^8 - 10u^7 - 9u^6 - 11u^5 - 10u^4 - 8u^3 - 4u^2 + 2a - 3u - 4, \\ & u^{11} + 2u^{10} + 5u^9 + 6u^8 + 9u^7 + 9u^6 + 10u^5 + 8u^4 + 6u^3 + 5u^2 + 2u + 2\rangle \end{aligned}$$

$$\begin{aligned} I_3^u = \langle & -u^7a - 3u^5a - u^6 + u^4a - 4u^3a - 2u^4 + u^2a + u^3 - 2au - u^2 + b + a + u + 1, \\ & - 2u^7a + 5u^7 + \cdots - a - 4,\ u^8 + u^7 + 3u^6 + 2u^5 + 3u^4 + 2u^3 - 1\rangle \end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 47 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. $\boldsymbol{I_1^u =}$
$$\langle -u^{18}+4u^{17}+\cdots+b-1,\ -u^{19}+5u^{18}+\cdots+2a+4,\ u^{20}-5u^{19}+\cdots-10u+2\rangle$$

(i) Arc colorings

$$a_2 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_6 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_3 = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-u^3\\u^3+u\end{pmatrix}$$
$$a_1 = \begin{pmatrix}u^3\\u^5+u^3+u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}\frac{1}{2}u^{19}-\frac{5}{2}u^{18}+\cdots+10u-2\\u^{18}-4u^{17}+\cdots-3u+1\end{pmatrix}$$
$$a_5 = \begin{pmatrix}\frac{3}{2}u^{19}-\frac{13}{2}u^{18}+\cdots+u+1\\-u^{18}+5u^{17}+\cdots+11u-3\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-\frac{3}{2}u^{19}+\frac{13}{2}u^{18}+\cdots-7u+1\\u^{19}-4u^{18}+\cdots+5u-1\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}2u^{19}-10u^{18}+\cdots+13u-2\\-2u^{19}+8u^{18}+\cdots-9u+2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-\frac{5}{2}u^{19}+\frac{21}{2}u^{18}+\cdots-12u+2\\u^{19}-4u^{18}+\cdots+5u-1\end{pmatrix}$$
$$a_8 = \begin{pmatrix}\frac{1}{2}u^{19}-\frac{1}{2}u^{18}+\cdots-u+1\\u^{19}-4u^{18}+\cdots+4u-1\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -3u^{19}+14u^{18}-49u^{17}+118u^{16}-238u^{15}+405u^{14}-622u^{13}+886u^{12}-1180u^{11}+1475u^{10}-1689u^9+1761u^8-1647u^7+1374u^6-1015u^5+655u^4-363u^3+170u^2-66u+12$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{20} + 11u^{19} + \cdots + 36u + 4$
c_2, c_6	$u^{20} - 5u^{19} + \cdots - 10u + 2$
c_3	$u^{20} + 5u^{19} + \cdots - 10u + 10$
c_4, c_7, c_{10}	$u^{20} + 15u^{18} + \cdots + 2u + 1$
c_5	$u^{20} + u^{19} + \cdots + u + 1$
c_8	$u^{20} + 11u^{19} + \cdots + 10u + 10$
c_9, c_{12}	$u^{20} - 3u^{19} + \cdots + 3u + 1$
c_{11}	$u^{20} - 19u^{19} + \cdots - 2304u + 256$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{20} - y^{19} + \cdots - 208y + 16$
c_2, c_6	$y^{20} + 11y^{19} + \cdots + 36y + 4$
c_3	$y^{20} - 13y^{19} + \cdots + 1940y + 100$
c_4, c_7, c_{10}	$y^{20} + 30y^{19} + \cdots + 4y + 1$
c_5	$y^{20} - 19y^{19} + \cdots + 7y + 1$
c_8	$y^{20} - 3y^{19} + \cdots + 1460y + 100$
c_9, c_{12}	$y^{20} - 11y^{19} + \cdots + 11y + 1$
c_{11}	$y^{20} - 9y^{19} + \cdots + 524288y + 65536$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.988466 + 0.164208I$ $a = 0.083650 - 0.252088I$ $b = -1.31829 - 0.86406I$	$3.16459 - 7.53851I$	$-1.81526 + 4.10532I$
$u = 0.988466 - 0.164208I$ $a = 0.083650 + 0.252088I$ $b = -1.31829 + 0.86406I$	$3.16459 + 7.53851I$	$-1.81526 - 4.10532I$
$u = -0.230979 + 0.893127I$ $a = -1.51428 + 0.24987I$ $b = 0.618322 + 1.140400I$	$-0.82008 - 3.37374I$	$-7.04529 + 0.08324I$
$u = -0.230979 - 0.893127I$ $a = -1.51428 - 0.24987I$ $b = 0.618322 - 1.140400I$	$-0.82008 + 3.37374I$	$-7.04529 - 0.08324I$
$u = 0.743178 + 0.313816I$ $a = 0.040715 + 0.499230I$ $b = 0.715480 - 0.112619I$	$-0.854263 + 0.828569I$	$-4.29561 - 2.11881I$
$u = 0.743178 - 0.313816I$ $a = 0.040715 - 0.499230I$ $b = 0.715480 + 0.112619I$	$-0.854263 - 0.828569I$	$-4.29561 + 2.11881I$
$u = 0.348476 + 1.207610I$ $a = -1.77185 - 0.05613I$ $b = 1.221280 - 0.316490I$	$-5.09486 + 4.27767I$	$-6.93870 - 3.93528I$
$u = 0.348476 - 1.207610I$ $a = -1.77185 + 0.05613I$ $b = 1.221280 + 0.316490I$	$-5.09486 - 4.27767I$	$-6.93870 + 3.93528I$
$u = -0.904379 + 0.906046I$ $a = -0.071879 - 0.437712I$ $b = -0.847385 - 0.116530I$	$8.73338 - 3.30325I$	$-7.62069 + 4.42366I$
$u = -0.904379 - 0.906046I$ $a = -0.071879 + 0.437712I$ $b = -0.847385 + 0.116530I$	$8.73338 + 3.30325I$	$-7.62069 - 4.42366I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.130781 + 0.697014I$ $a = 1.214520 + 0.459557I$ $b = 0.132234 - 0.751539I$	$-0.259969 + 1.114940I$	$-6.76006 - 5.17901I$
$u = -0.130781 - 0.697014I$ $a = 1.214520 - 0.459557I$ $b = 0.132234 + 0.751539I$	$-0.259969 - 1.114940I$	$-6.76006 + 5.17901I$
$u = 0.590387 + 1.171510I$ $a = -0.831475 - 0.979178I$ $b = 0.850680 - 0.233951I$	$-3.33496 + 4.34846I$	$-6.57341 - 3.74600I$
$u = 0.590387 - 1.171510I$ $a = -0.831475 + 0.979178I$ $b = 0.850680 + 0.233951I$	$-3.33496 - 4.34846I$	$-6.57341 + 3.74600I$
$u = 0.181642 + 0.634443I$ $a = 0.754937 + 0.401077I$ $b = 0.044656 - 0.325945I$	$-0.338993 + 1.073370I$	$-4.95066 - 6.25444I$
$u = 0.181642 - 0.634443I$ $a = 0.754937 - 0.401077I$ $b = 0.044656 + 0.325945I$	$-0.338993 - 1.073370I$	$-4.95066 + 6.25444I$
$u = 0.564854 + 1.265020I$ $a = 1.91175 + 0.60844I$ $b = -1.44189 + 1.06169I$	$-0.23167 + 13.11790I$	$-4.38679 - 6.82889I$
$u = 0.564854 - 1.265020I$ $a = 1.91175 - 0.60844I$ $b = -1.44189 - 1.06169I$	$-0.23167 - 13.11790I$	$-4.38679 + 6.82889I$
$u = 0.349135 + 1.341000I$ $a = 1.18393 + 0.98393I$ $b = -1.47508 - 0.55967I$	$-1.78563 - 2.89136I$	$-6.11353 + 1.76882I$
$u = 0.349135 - 1.341000I$ $a = 1.18393 - 0.98393I$ $b = -1.47508 + 0.55967I$	$-1.78563 + 2.89136I$	$-6.11353 - 1.76882I$

II.

$\boldsymbol{I_2^u = \langle u^9+2u^8+\cdots+b+1,\ -u^{10}-4u^9+\cdots+2a-4,\ u^{11}+2u^{10}+\cdots+2u+2\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3+u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^3 \\ u^3+u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5+u^3+u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} \frac{1}{2}u^{10}+2u^9+\cdots+\frac{3}{2}u+2 \\ -u^9-2u^8-4u^7-4u^6-5u^5-4u^4-4u^3-2u^2-u-1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -\frac{5}{2}u^{10}-4u^9+\cdots-\frac{11}{2}u+1 \\ u^{10}+2u^9+4u^8+5u^7+6u^6+7u^5+6u^4+5u^3+3u^2+3u+1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -\frac{1}{2}u^{10}-2u^9+\cdots-\frac{5}{2}u-3 \\ u^5+u^4+2u^3+u^2+u+1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{10}+5u^9+9u^8+15u^7+15u^6+19u^5+17u^4+15u^3+9u^2+6u+6 \\ -u^9-2u^8-4u^7-4u^6-5u^5-4u^4-4u^3-2u^2-u-2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -\frac{1}{2}u^{10}-2u^9+\cdots-\frac{7}{2}u-4 \\ u^5+u^4+2u^3+u^2+u+1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} \frac{3}{2}u^{10}+7u^9+\cdots+\frac{19}{2}u+11 \\ -u^9-2u^8-4u^7-4u^6-6u^5-5u^4-6u^3-3u^2-2u-3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= -u^{10}-6u^9-12u^8-23u^7-27u^6-31u^5-30u^4-25u^3-20u^2-10u-12$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{11} - 6u^{10} + \cdots - 16u + 4$
c_2	$u^{11} - 2u^{10} + 5u^9 - 6u^8 + 9u^7 - 9u^6 + 10u^5 - 8u^4 + 6u^3 - 5u^2 + 2u - 2$
c_3	$u^{11} + 2u^{10} + u^9 - 3u^8 - 15u^7 - 6u^6 + u^5 - 17u^4 + 8u^3 - 7u^2 - 6u - 2$
c_4, c_7	$u^{11} + 5u^9 - u^8 + u^7 - 4u^6 - 14u^5 - u^4 + 4u^3 + 7u^2 + 3u + 1$
c_5	$u^{11} + u^{10} + u^9 + 5u^8 - 4u^7 - 14u^6 + u^5 - 11u^4 + u^3 + 2u^2 + 2u - 1$
c_6	$u^{11} + 2u^{10} + 5u^9 + 6u^8 + 9u^7 + 9u^6 + 10u^5 + 8u^4 + 6u^3 + 5u^2 + 2u + 2$
c_8	$u^{11} + 8u^{10} + \cdots + 2u - 2$
c_9	$u^{11} - 3u^{10} + u^9 + 5u^8 - 7u^7 + 2u^6 + 7u^5 - 7u^4 + 2u^2 - 2u - 1$
c_{10}	$u^{11} + 5u^9 + u^8 + u^7 + 4u^6 - 14u^5 + u^4 + 4u^3 - 7u^2 + 3u - 1$
c_{11}	$u^{11} + 2u^{10} - 2u^9 + 7u^7 - 7u^6 - 2u^5 + 7u^4 - 5u^3 - u^2 + 3u - 1$
c_{12}	$u^{11} + 3u^{10} + u^9 - 5u^8 - 7u^7 - 2u^6 + 7u^5 + 7u^4 - 2u^2 - 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{11} + 2y^{10} + \cdots - 8y - 16$
c_2, c_6	$y^{11} + 6y^{10} + \cdots - 16y - 4$
c_3	$y^{11} - 2y^{10} + \cdots + 8y - 4$
c_4, c_7, c_{10}	$y^{11} + 10y^{10} + \cdots - 5y - 1$
c_5	$y^{11} + y^{10} + \cdots + 8y - 1$
c_8	$y^{11} - 12y^{10} + \cdots + 40y - 4$
c_9, c_{12}	$y^{11} - 7y^{10} + \cdots + 8y - 1$
c_{11}	$y^{11} - 8y^{10} + \cdots + 7y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.952070$ $a = -0.0720390$ $b = 1.36568$	-4.80947	-8.08890
$u = 0.403355 + 0.969097I$ $a = -0.951198 - 0.161815I$ $b = 0.426727 - 1.018660I$	$-0.52666 + 4.17339I$	$-3.41102 - 8.36050I$
$u = 0.403355 - 0.969097I$ $a = -0.951198 + 0.161815I$ $b = 0.426727 + 1.018660I$	$-0.52666 - 4.17339I$	$-3.41102 + 8.36050I$
$u = -0.186482 + 0.923547I$ $a = 2.30424 + 1.12564I$ $b = -1.117110 + 0.211347I$	$5.27605 - 0.83166I$	$-7.37066 - 0.42439I$
$u = -0.186482 - 0.923547I$ $a = 2.30424 - 1.12564I$ $b = -1.117110 - 0.211347I$	$5.27605 + 0.83166I$	$-7.37066 + 0.42439I$
$u = 0.525451 + 0.714735I$ $a = 0.807343 - 0.228094I$ $b = 0.412616 + 0.757804I$	$0.321119 - 0.386062I$	$-0.453787 - 0.883807I$
$u = 0.525451 - 0.714735I$ $a = 0.807343 + 0.228094I$ $b = 0.412616 - 0.757804I$	$0.321119 + 0.386062I$	$-0.453787 + 0.883807I$
$u = -0.794887 + 0.904829I$ $a = -0.518512 - 0.481273I$ $b = -0.484466 - 0.075834I$	$9.44423 - 2.99337I$	$2.32422 + 0.94995I$
$u = -0.794887 - 0.904829I$ $a = -0.518512 + 0.481273I$ $b = -0.484466 + 0.075834I$	$9.44423 + 2.99337I$	$2.32422 - 0.94995I$
$u = -0.471402 + 1.288100I$ $a = -1.60586 + 0.79965I$ $b = 1.57940 + 0.31572I$	$-8.82013 - 5.04219I$	$-10.54429 + 3.49363I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.471402 - 1.288100I$ $a = -1.60586 - 0.79965I$ $b = \quad 1.57940 - 0.31572I$	$-8.82013 + 5.04219I$	$-10.54429 - 3.49363I$

III. $\boldsymbol{I_3^u = \langle -u^7a - u^6 + \cdots + a + 1,\ -2u^7a + 5u^7 + \cdots - a - 4,\ u^8 + u^7 + 3u^6 + 2u^5 + 3u^4 + 2u^3 - 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^7 - 4u^6 - 8u^5 - 4u^4 - 4u^3 - 4u^2 + 4u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^8 + 5u^7 + 11u^6 + 10u^5 - u^4 - 10u^3 - 6u^2 + 1)^2$
c_2, c_6	$(u^8 + u^7 + 3u^6 + 2u^5 + 3u^4 + 2u^3 - 1)^2$
c_3	$(u^8 - u^7 - 5u^6 + 4u^5 + 7u^4 - 4u^3 - 2u^2 + 2u - 1)^2$
c_4, c_7, c_{10}	$u^{16} - u^{15} + \cdots + 8u + 1$
c_5	$u^{16} + u^{15} + \cdots - 550u - 131$
c_8	$(u^8 - 5u^7 + 5u^6 + 10u^5 - 17u^4 - 6u^3 + 18u^2 - 7)^2$
c_9, c_{12}	$u^{16} - 5u^{15} + \cdots + 290u - 41$
c_{11}	$(u + 1)^{16}$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^8 - 3y^7 + 19y^6 - 34y^5 + 71y^4 - 66y^3 + 34y^2 - 12y + 1)^2$
c_2, c_6	$(y^8 + 5y^7 + 11y^6 + 10y^5 - y^4 - 10y^3 - 6y^2 + 1)^2$
c_3	$(y^8 - 11y^7 + 47y^6 - 98y^5 + 103y^4 - 50y^3 + 6y^2 + 1)^2$
c_4, c_7, c_{10}	$y^{16} + 15y^{15} + \cdots + 36y + 1$
c_5	$y^{16} - 5y^{15} + \cdots - 254292y + 17161$
c_8	$(y^8 - 15y^7 + 91y^6 - 294y^5 + 575y^4 - 718y^3 + 562y^2 - 252y + 49)^2$
c_9, c_{12}	$y^{16} - 9y^{15} + \cdots - 2920y + 1681$
c_{11}	$(y - 1)^{16}$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.914675$ $a = 0.436222$ $b = -0.809231$	-3.59615	0.177900
$u = -0.914675$ $a = 0.189279$ $b = 1.63136$	-3.59615	0.177900
$u = -0.252896 + 0.819281I$ $a = 2.65515 - 0.52400I$ $b = -1.80316 + 0.56016I$	$6.08846 - 1.27532I$	$2.81947 + 5.08518I$
$u = -0.252896 + 0.819281I$ $a = -2.35083 - 2.13459I$ $b = -0.321107 - 0.355262I$	$6.08846 - 1.27532I$	$2.81947 + 5.08518I$
$u = -0.252896 - 0.819281I$ $a = 2.65515 + 0.52400I$ $b = -1.80316 - 0.56016I$	$6.08846 + 1.27532I$	$2.81947 - 5.08518I$
$u = -0.252896 - 0.819281I$ $a = -2.35083 + 2.13459I$ $b = -0.321107 + 0.355262I$	$6.08846 + 1.27532I$	$2.81947 - 5.08518I$
$u = 0.394459 + 1.112500I$ $a = -0.171959 + 1.373110I$ $b = -0.63430 - 1.69466I$	$2.23454 + 3.63283I$	$-2.42240 - 4.51802I$
$u = 0.394459 + 1.112500I$ $a = 1.74900 + 0.37851I$ $b = -0.413053 + 1.180340I$	$2.23454 + 3.63283I$	$-2.42240 - 4.51802I$
$u = 0.394459 - 1.112500I$ $a = -0.171959 - 1.373110I$ $b = -0.63430 + 1.69466I$	$2.23454 - 3.63283I$	$-2.42240 + 4.51802I$
$u = 0.394459 - 1.112500I$ $a = 1.74900 - 0.37851I$ $b = -0.413053 - 1.180340I$	$2.23454 - 3.63283I$	$-2.42240 + 4.51802I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.473514 + 1.273020I$ $a = 1.39433 - 0.52484I$ $b = -0.980224 - 0.230007I$	$-7.49271 - 4.93524I$	$-2.98443 + 2.99422I$
$u = -0.473514 + 1.273020I$ $a = -1.76444 + 0.96072I$ $b = 1.94259 + 0.45832I$	$-7.49271 - 4.93524I$	$-2.98443 + 2.99422I$
$u = -0.473514 - 1.273020I$ $a = 1.39433 + 0.52484I$ $b = -0.980224 + 0.230007I$	$-7.49271 + 4.93524I$	$-2.98443 - 2.99422I$
$u = -0.473514 - 1.273020I$ $a = -1.76444 - 0.96072I$ $b = 1.94259 - 0.45832I$	$-7.49271 + 4.93524I$	$-2.98443 - 2.99422I$
$u = 0.578577$ $a = 0.67601 + 1.65350I$ $b = -0.701810 + 1.159550I$	5.22545	0.996810
$u = 0.578577$ $a = 0.67601 - 1.65350I$ $b = -0.701810 - 1.159550I$	5.22545	0.996810

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^8+5u^7+11u^6+10u^5-u^4-10u^3-6u^2+1)^2$ $\cdot(u^{11}-6u^{10}+\cdots-16u+4)(u^{20}+11u^{19}+\cdots+36u+4)$
c_2	$(u^8+u^7+3u^6+2u^5+3u^4+2u^3-1)^2$ $\cdot(u^{11}-2u^{10}+5u^9-6u^8+9u^7-9u^6+10u^5-8u^4+6u^3-5u^2+2u-2)$ $\cdot(u^{20}-5u^{19}+\cdots-10u+2)$
c_3	$(u^8-u^7-5u^6+4u^5+7u^4-4u^3-2u^2+2u-1)^2$ $\cdot(u^{11}+2u^{10}+u^9-3u^8-15u^7-6u^6+u^5-17u^4+8u^3-7u^2-6u-2)$ $\cdot(u^{20}+5u^{19}+\cdots-10u+10)$
c_4, c_7	$(u^{11}+5u^9-u^8+u^7-4u^6-14u^5-u^4+4u^3+7u^2+3u+1)$ $\cdot(u^{16}-u^{15}+\cdots+8u+1)(u^{20}+15u^{18}+\cdots+2u+1)$
c_5	$(u^{11}+u^{10}+u^9+5u^8-4u^7-14u^6+u^5-11u^4+u^3+2u^2+2u-1)$ $\cdot(u^{16}+u^{15}+\cdots-550u-131)(u^{20}+u^{19}+\cdots+u+1)$
c_6	$(u^8+u^7+3u^6+2u^5+3u^4+2u^3-1)^2$ $\cdot(u^{11}+2u^{10}+5u^9+6u^8+9u^7+9u^6+10u^5+8u^4+6u^3+5u^2+2u+2)$ $\cdot(u^{20}-5u^{19}+\cdots-10u+2)$
c_8	$(u^8-5u^7+5u^6+10u^5-17u^4-6u^3+18u^2-7)^2$ $\cdot(u^{11}+8u^{10}+\cdots+2u-2)(u^{20}+11u^{19}+\cdots+10u+10)$
c_9	$(u^{11}-3u^{10}+u^9+5u^8-7u^7+2u^6+7u^5-7u^4+2u^2-2u-1)$ $\cdot(u^{16}-5u^{15}+\cdots+290u-41)(u^{20}-3u^{19}+\cdots+3u+1)$
c_{10}	$(u^{11}+5u^9+u^8+u^7+4u^6-14u^5+u^4+4u^3-7u^2+3u-1)$ $\cdot(u^{16}-u^{15}+\cdots+8u+1)(u^{20}+15u^{18}+\cdots+2u+1)$
c_{11}	$((u+1)^{16})(u^{11}+2u^{10}+\cdots+3u-1)$ $\cdot(u^{20}-19u^{19}+\cdots-2304u+256)$
c_{12}	$(u^{11}+3u^{10}+u^9-5u^8-7u^7-2u^6+7u^5+7u^4-2u^2-2u+1)$ $\cdot(u^{16}-5u^{15}+\cdots+290u-41)(u^{20}-3u^{19}+\cdots+3u+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^8 - 3y^7 + 19y^6 - 34y^5 + 71y^4 - 66y^3 + 34y^2 - 12y + 1)^2$ $\cdot (y^{11} + 2y^{10} + \cdots - 8y - 16)(y^{20} - y^{19} + \cdots - 208y + 16)$
c_2, c_6	$(y^8 + 5y^7 + 11y^6 + 10y^5 - y^4 - 10y^3 - 6y^2 + 1)^2$ $\cdot (y^{11} + 6y^{10} + \cdots - 16y - 4)(y^{20} + 11y^{19} + \cdots + 36y + 4)$
c_3	$(y^8 - 11y^7 + 47y^6 - 98y^5 + 103y^4 - 50y^3 + 6y^2 + 1)^2$ $\cdot (y^{11} - 2y^{10} + \cdots + 8y - 4)(y^{20} - 13y^{19} + \cdots + 1940y + 100)$
c_4, c_7, c_{10}	$(y^{11} + 10y^{10} + \cdots - 5y - 1)(y^{16} + 15y^{15} + \cdots + 36y + 1)$ $\cdot (y^{20} + 30y^{19} + \cdots + 4y + 1)$
c_5	$(y^{11} + y^{10} + \cdots + 8y - 1)(y^{16} - 5y^{15} + \cdots - 254292y + 17161)$ $\cdot (y^{20} - 19y^{19} + \cdots + 7y + 1)$
c_8	$(y^8 - 15y^7 + 91y^6 - 294y^5 + 575y^4 - 718y^3 + 562y^2 - 252y + 49)^2$ $\cdot (y^{11} - 12y^{10} + \cdots + 40y - 4)(y^{20} - 3y^{19} + \cdots + 1460y + 100)$
c_9, c_{12}	$(y^{11} - 7y^{10} + \cdots + 8y - 1)(y^{16} - 9y^{15} + \cdots - 2920y + 1681)$ $\cdot (y^{20} - 11y^{19} + \cdots + 11y + 1)$
c_{11}	$((y-1)^{16})(y^{11} - 8y^{10} + \cdots + 7y - 1)$ $\cdot (y^{20} - 9y^{19} + \cdots + 524288y + 65536)$