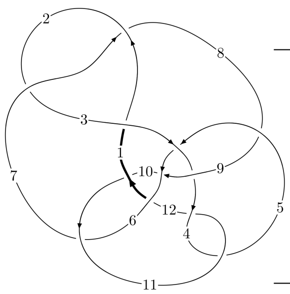
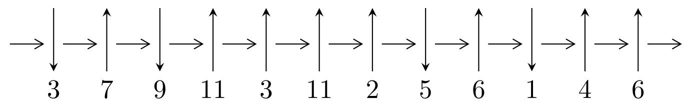
$12n_{0629}$ ($K12n_{0629}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle 979u^{17} - 284u^{16} + \cdots + 2700b - 1352,\ -3937u^{17} - 1528u^{16} + \cdots + 2700a - 754, \\
&\quad u^{18} + 8u^{16} + \cdots - u + 2\rangle \\
I_2^u &= \langle u^4 - u^3 + b - u - 1,\ -u^4 + a + u,\ u^5 - u^4 + u^3 - 2u^2 + u - 1\rangle \\
I_3^u &= \langle 44u^{11} + 41u^{10} + \cdots + 211b + 343,\ 516u^{11} + 711u^{10} + \cdots + 1055a + 1970, \\
&\quad u^{12} + u^{11} + 8u^{10} + 8u^9 + 26u^8 + 23u^7 + 44u^6 + 30u^5 + 41u^4 + 18u^3 + 19u^2 + 5u + 5\rangle \\
I_4^u &= \langle -43712u^{11} - 79401u^{10} + \cdots + 207893b - 981135, \\
&\quad -365996832u^{11} - 669919369u^{10} + \cdots + 1070441057a - 7841083848, \\
&\quad u^{12} + u^{11} - 4u^{10} - 2u^9 + 16u^8 + 3u^7 - 26u^6 + 4u^5 + 5u^4 - 10u^3 + 3u^2 + 29u - 19\rangle
\end{aligned}$$

* 4 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. $I_1^u = \langle 979u^{17} - 284u^{16} + \cdots + 2700b - 1352,\ -3937u^{17} - 1528u^{16} + \cdots + 2700a - 754,\ u^{18} + 8u^{16} + \cdots - u + 2\rangle$

(i) Arc colorings

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

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

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

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

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

$$a_{11} = \begin{pmatrix} 1.45815u^{17} + 0.565926u^{16} + \cdots + 9.00519u + 0.279259 \\ -0.362593u^{17} + 0.105185u^{16} + \cdots - 1.51407u + 0.500741 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.813333u^{17} + 0.0700000u^{16} + \cdots + 3.31000u - 1.44000 \\ 0.565926u^{17} - 0.386296u^{16} + \cdots + 1.73741u - 2.91630 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.247407u^{17} + 0.456296u^{16} + \cdots + 1.57259u + 1.47630 \\ 0.565926u^{17} - 0.386296u^{16} + \cdots + 1.73741u - 2.91630 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.312222u^{17} + 0.356667u^{16} + \cdots - 3.17444u + 1.40889 \\ 0.396667u^{17} + 0.258889u^{16} + \cdots + 5.39333u + 0.604444 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.318519u^{17} + 0.842593u^{16} + \cdots - 0.164815u + 4.39259 \\ 0.460741u^{17} - 0.529259u^{16} + \cdots + 1.59926u - 3.64148 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.64704u^{17} + 0.910370u^{16} + \cdots + 10.6330u + 1.11259 \\ -0.340370u^{17} + 0.155185u^{16} + \cdots - 1.55296u - 0.0881481 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.615556u^{17} + 0.228889u^{16} + \cdots + 4.93111u - 0.357778 \\ \frac{1}{6}u^{17} + \frac{53}{180}u^{16} + \cdots + \frac{5}{3}u + \frac{64}{45} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{157}{27}u^{17} + \frac{70}{27}u^{16} + \cdots + \frac{1184}{27}u + \frac{34}{27}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{18}+16u^{17}+\cdots+59u+4$
c_2, c_4, c_7 c_{11}	$u^{18}+8u^{16}+\cdots+u+2$
c_3	$u^{18}-5u^{17}+\cdots-27u+9$
c_5, c_6	$u^{18}+u^{17}+\cdots-u+1$
c_8	$u^{18}-3u^{17}+\cdots-25u+125$
c_9	$u^{18}-5u^{17}+\cdots-125u+46$
c_{10}	$u^{18}-2u^{17}+\cdots+4u+1$
c_{12}	$u^{18}+u^{17}+\cdots-160u+32$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{18} + 12y^{17} + \cdots + 159y + 16$
c_2, c_4, c_7 c_{11}	$y^{18} + 16y^{17} + \cdots + 59y + 4$
c_3	$y^{18} - 5y^{17} + \cdots - 117y + 81$
c_5, c_6	$y^{18} - 7y^{17} + \cdots - 11y + 1$
c_8	$y^{18} + 11y^{17} + \cdots + 194375y + 15625$
c_9	$y^{18} + 5y^{17} + \cdots + 21911y + 2116$
c_{10}	$y^{18} - 8y^{17} + \cdots + 16y + 1$
c_{12}	$y^{18} + 55y^{17} + \cdots + 10752y + 1024$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.215825 + 1.055720I$ $a = -0.734208 - 0.778679I$ $b = -1.64100 + 0.67983I$	$-2.40740 - 4.93155I$	$-0.09123 + 5.12585I$
$u = -0.215825 - 1.055720I$ $a = -0.734208 + 0.778679I$ $b = -1.64100 - 0.67983I$	$-2.40740 + 4.93155I$	$-0.09123 - 5.12585I$
$u = 0.478183 + 1.019630I$ $a = 0.317066 - 0.189944I$ $b = 1.32096 + 1.39042I$	$-2.57674 + 6.69706I$	$-4.74227 - 7.81204I$
$u = 0.478183 - 1.019630I$ $a = 0.317066 + 0.189944I$ $b = 1.32096 - 1.39042I$	$-2.57674 - 6.69706I$	$-4.74227 + 7.81204I$
$u = -0.190193 + 1.174750I$ $a = 1.023770 - 0.233990I$ $b = -0.071711 + 0.212167I$	$-10.20590 - 2.87633I$	$-5.03342 + 3.27746I$
$u = -0.190193 - 1.174750I$ $a = 1.023770 + 0.233990I$ $b = -0.071711 - 0.212167I$	$-10.20590 + 2.87633I$	$-5.03342 - 3.27746I$
$u = 0.306395 + 0.502489I$ $a = -1.54759 - 1.06420I$ $b = -1.43872 + 0.30168I$	$-5.29960 + 1.10158I$	$-0.68390 - 6.02655I$
$u = 0.306395 - 0.502489I$ $a = -1.54759 + 1.06420I$ $b = -1.43872 - 0.30168I$	$-5.29960 - 1.10158I$	$-0.68390 + 6.02655I$
$u = -0.361458 + 0.449248I$ $a = 0.610707 + 0.324621I$ $b = 0.276717 - 0.678638I$	$0.735931 - 0.874748I$	$7.31455 + 6.56056I$
$u = -0.361458 - 0.449248I$ $a = 0.610707 - 0.324621I$ $b = 0.276717 + 0.678638I$	$0.735931 + 0.874748I$	$7.31455 - 6.56056I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.106479 + 0.548573I$ $a = 0.36979 + 1.39973I$ $b = -0.823575 - 0.667813I$	$0.97688 - 1.19294I$	$6.66369 + 7.49944I$
$u = 0.106479 - 0.548573I$ $a = 0.36979 - 1.39973I$ $b = -0.823575 + 0.667813I$	$0.97688 + 1.19294I$	$6.66369 - 7.49944I$
$u = 1.06422 + 1.22609I$ $a = -1.204040 + 0.574237I$ $b = -1.67663 - 0.32270I$	$8.00245 + 5.89453I$	$4.19834 - 2.56372I$
$u = 1.06422 - 1.22609I$ $a = -1.204040 - 0.574237I$ $b = -1.67663 + 0.32270I$	$8.00245 - 5.89453I$	$4.19834 + 2.56372I$
$u = -0.07359 + 1.71354I$ $a = 0.542354 - 0.090003I$ $b = 0.794398 + 0.297779I$	$-13.22560 + 1.02068I$	$-1.08623 - 7.18728I$
$u = -0.07359 - 1.71354I$ $a = 0.542354 + 0.090003I$ $b = 0.794398 - 0.297779I$	$-13.22560 - 1.02068I$	$-1.08623 + 7.18728I$
$u = -1.11421 + 1.48248I$ $a = -1.127850 - 0.501165I$ $b = -1.74044 + 0.32902I$	$6.7281 - 12.7161I$	$2.96048 + 6.03348I$
$u = -1.11421 - 1.48248I$ $a = -1.127850 + 0.501165I$ $b = -1.74044 - 0.32902I$	$6.7281 + 12.7161I$	$2.96048 - 6.03348I$

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^5 - 3y^4 + 3y^3 - 8y^2 + y - 1$
c_2, c_4, c_7 c_{11}	$y^5 + y^4 - y^3 - 4y^2 - 3y - 1$
c_3	$y^5 + 4y^3 + 7y^2 + 18y - 1$
c_5, c_6, c_9	$y^5 - 6y^4 + 9y^3 - 8y^2 + 4y - 1$
c_8	$y^5 - 4y^3 - 5y^2 - 2y - 1$
c_{12}	y^5

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.428550 + 1.039280I$ $a = 0.438694 + 0.557752I$ $b = 1.87122 - 1.10766I$	$-1.91329 - 6.77491I$	$7.14260 + 9.74210I$
$u = -0.428550 - 1.039280I$ $a = 0.438694 - 0.557752I$ $b = 1.87122 + 1.10766I$	$-1.91329 + 6.77491I$	$7.14260 - 9.74210I$
$u = 0.276511 + 0.728237I$ $a = -0.232705 - 1.093810I$ $b = 0.813922 + 0.874646I$	$0.789751 - 0.607163I$	$1.60701 - 3.91429I$
$u = 0.276511 - 0.728237I$ $a = -0.232705 + 1.093810I$ $b = 0.813922 - 0.874646I$	$0.789751 + 0.607163I$	$1.60701 + 3.91429I$
$u = 1.30408$ $a = 1.58802$ $b = 1.62971$	5.53695	7.50080

III. $\boldsymbol{I_3^u = \langle 44u^{11} + 41u^{10} + \cdots + 211b + 343,\ 516u^{11} + 711u^{10} + \cdots + 1055a + 1970,\ u^{12} + u^{11} + \cdots + 5u + 5\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.489100u^{11} - 0.673934u^{10} + \cdots - 2.94692u - 1.86730 \\ -0.208531u^{11} - 0.194313u^{10} + \cdots - 2.45024u - 1.62559 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.0796209u^{11} + 0.0530806u^{10} + \cdots - 7.73555u - 1.83886 \\ -0.00473934u^{11} + 0.336493u^{10} + \cdots - 1.80569u + 0.985782 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.0748815u^{11} - 0.283412u^{10} + \cdots - 5.92986u - 2.82464 \\ -0.00473934u^{11} + 0.336493u^{10} + \cdots - 1.80569u + 0.985782 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.176303u^{11} + 0.882464u^{10} + \cdots + 9.77156u + 3.92891 \\ 0.374408u^{11} + 0.417062u^{10} + \cdots + 3.64929u + 2.12322 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.249289u^{11} - 0.499526u^{10} + \cdots - 9.22085u - 6.05213 \\ 0.199052u^{11} - 0.132701u^{10} + \cdots - 1.16114u - 1.40284 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.863507u^{11} - 1.09100u^{10} + \cdots - 4.59621u - 3.99052 \\ -0.0426540u^{11} + 0.0284360u^{10} + \cdots + 0.748815u - 1.12796 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0.367773u^{11} + 1.08815u^{10} + \cdots + 5.92133u - 1.69668 \\ -0.341232u^{11} + 0.227488u^{10} + \cdots - 1.00948u - 1.02370 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{316}{211}u^{11} - \frac{352}{211}u^{10} - \frac{2504}{211}u^9 - \frac{2856}{211}u^8 - \frac{7676}{211}u^7 - \frac{8260}{211}u^6 - \frac{11672}{211}u^5 - \frac{10564}{211}u^4 - \frac{9416}{211}u^3 - \frac{6312}{211}u^2 - \frac{3080}{211}u - \frac{1581}{211}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{12} - 15u^{11} + \cdots - 165u + 25$
c_2, c_4	$u^{12} + u^{11} + \cdots + 5u + 5$
c_3	$(u^3 + u^2 - 1)^4$
c_5	$u^{12} + u^{11} + \cdots + 2u + 1$
c_6	$u^{12} - u^{11} + \cdots - 2u + 1$
c_7, c_{11}	$u^{12} - u^{11} + \cdots - 5u + 5$
c_8	$u^{12} - 3u^{11} + \cdots - 54u + 121$
c_9	$u^{12} - u^{11} + \cdots + 965u + 475$
c_{10}	$u^{12} - 3u^{11} + \cdots + 6u + 1$
c_{12}	$u^{12} + 21u^{10} + 135u^8 + 300u^6 - 65u^4 - 214u^2 + 661$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{12} - 25y^{11} + \cdots + 2325y + 625$
c_2, c_4, c_7 c_{11}	$y^{12} + 15y^{11} + \cdots + 165y + 25$
c_3	$(y^3 - y^2 + 2y - 1)^4$
c_5, c_6	$y^{12} + 9y^{11} + \cdots + 2y + 1$
c_8	$y^{12} - 19y^{11} + \cdots + 15718y + 14641$
c_9	$y^{12} + 5y^{11} + \cdots + 820575y + 225625$
c_{10}	$y^{12} - 13y^{11} + \cdots + 24y + 1$
c_{12}	$(y^6 + 21y^5 + 135y^4 + 300y^3 - 65y^2 - 214y + 661)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_3	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.656577 + 0.856222I$ $a = -0.535394 - 0.579005I$ $b = -1.61803$	$-1.25270 + 2.82812I$	$4.50976 - 2.97945I$
$u = -0.656577 - 0.856222I$ $a = -0.535394 + 0.579005I$ $b = -1.61803$	$-1.25270 - 2.82812I$	$4.50976 + 2.97945I$
$u = -0.461010 + 0.702960I$ $a = -1.246290 + 0.566838I$ $b = -1.61803$	-5.39028	$-2.01951 + 0.I$
$u = -0.461010 - 0.702960I$ $a = -1.246290 - 0.566838I$ $b = -1.61803$	-5.39028	$-2.01951 + 0.I$
$u = \quad 0.301588 + 0.677598I$ $a = \quad 2.11023 + 0.98157I$ $b = \quad 0.618034$	$-9.14838 + 2.82812I$	$4.50976 - 2.97945I$
$u = \quad 0.301588 - 0.677598I$ $a = \quad 2.11023 - 0.98157I$ $b = \quad 0.618034$	$-9.14838 - 2.82812I$	$4.50976 + 2.97945I$
$u = \quad 0.308571 + 1.258780I$ $a = -0.677986 + 0.401303I$ $b = -1.61803$	$-1.25270 + 2.82812I$	$4.50976 - 2.97945I$
$u = \quad 0.308571 - 1.258780I$ $a = -0.677986 - 0.401303I$ $b = -1.61803$	$-1.25270 - 2.82812I$	$4.50976 + 2.97945I$
$u = -0.16866 + 1.48546I$ $a = -0.234496 + 0.241588I$ $b = \quad 0.618034$	$-9.14838 - 2.82812I$	$4.50976 + 2.97945I$
$u = -0.16866 - 1.48546I$ $a = -0.234496 - 0.241588I$ $b = \quad 0.618034$	$-9.14838 + 2.82812I$	$4.50976 - 2.97945I$

	Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.17609 + 1.70638I$		
$a =$	$0.583936 + 0.330427I$	-13.2860	$-2.01951 + 0.I$
$b =$	0.618034		
$u =$	$0.17609 - 1.70638I$		
$a =$	$0.583936 - 0.330427I$	-13.2860	$-2.01951 + 0.I$
$b =$	0.618034		

IV.

$\boldsymbol{I_4^u = \langle -4.37\times 10^4 u^{11} - 7.94\times 10^4 u^{10} + \cdots + 2.08\times 10^5 b - 9.81\times 10^5,\ -3.66\times 10^8 u^{11} - 6.70\times 10^8 u^{10} + \cdots + 1.07\times 10^9 a - 7.84\times 10^9,\ u^{12} + u^{11} + \cdots + 29u - 19\rangle}$

(i) Arc colorings

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

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

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

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

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

$$a_{11} = \begin{pmatrix} 0.341912u^{11} + 0.625835u^{10} + \cdots - 2.65709u + 7.32510 \\ 0.210262u^{11} + 0.381932u^{10} + \cdots - 1.21740u + 4.71942 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.467649u^{11} - 0.798651u^{10} + \cdots + 2.93801u - 11.4944 \\ -0.219258u^{11} - 0.339998u^{10} + \cdots + 1.34725u - 5.50844 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.248391u^{11} - 0.458653u^{10} + \cdots + 1.59076u - 5.98593 \\ -0.219258u^{11} - 0.339998u^{10} + \cdots + 1.34725u - 5.50844 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.141181u^{11} - 0.201538u^{10} + \cdots + 1.25160u - 3.49743 \\ -0.0951718u^{11} - 0.139896u^{10} + \cdots + 0.138622u - 2.31389 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.164884u^{11} + 0.311952u^{10} + \cdots - 1.05429u + 4.02767 \\ 0.112253u^{11} + 0.259321u^{10} + \cdots - 1.21218u + 2.50135 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.353204u^{11} + 0.612703u^{10} + \cdots - 3.01116u + 10.6267 \\ 0.158360u^{11} + 0.267974u^{10} + \cdots - 1.10804u + 5.43443 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.511091u^{11} + 0.907271u^{10} + \cdots - 2.97620u + 12.2196 \\ 0.299785u^{11} + 0.536124u^{10} + \cdots - 1.58475u + 6.27294 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{1261620}{3314059}u^{11} - \frac{264928}{473437}u^{10} + \cdots + \frac{1837608}{3314059}u - \frac{27359429}{3314059}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{12} - 9u^{11} + \cdots - 955u + 361$
c_2, c_4, c_7 c_{11}	$u^{12} - u^{11} + \cdots - 29u - 19$
c_3	$(u^3 + u^2 - 1)^4$
c_5, c_6	$u^{12} + u^{11} + \cdots - 424u - 181$
c_8	$u^{12} + 3u^{11} + \cdots + 1122u + 289$
c_9	$u^{12} + u^{11} + \cdots - 33u - 19$
c_{10}	$u^{12} - 3u^{11} + \cdots + 30u + 101$
c_{12}	$(u^6 - u^5 + 5u^4 - 2u^3 + u^2 - 2u - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{12} + 23y^{11} + \cdots - 623947y + 130321$
c_2, c_4, c_7 c_{11}	$y^{12} - 9y^{11} + \cdots - 955y + 361$
c_3	$(y^3 - y^2 + 2y - 1)^4$
c_5, c_6	$y^{12} - 27y^{11} + \cdots + 27650y + 32761$
c_8	$y^{12} + 25y^{11} + \cdots - 261834y + 83521$
c_9	$y^{12} - 15y^{11} + \cdots - 481y + 361$
c_{10}	$y^{12} + 11y^{11} + \cdots + 12836y + 10201$
c_{12}	$(y^6 + 9y^5 + 23y^4 - 17y^2 - 6y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.176090 + 0.954853I$ $a = -0.511597 - 0.577155I$ $b = -0.618034$	-3.41636	$-2.01951 + 0.I$
$u = 0.176090 - 0.954853I$ $a = -0.511597 + 0.577155I$ $b = -0.618034$	-3.41636	$-2.01951 + 0.I$
$u = 1.042890 + 0.143496I$ $a = -0.246377 + 1.202250I$ $b = -0.618034$	$0.72122 - 2.82812I$	$4.50976 + 2.97945I$
$u = 1.042890 - 0.143496I$ $a = -0.246377 - 1.202250I$ $b = -0.618034$	$0.72122 + 2.82812I$	$4.50976 - 2.97945I$
$u = -0.909963 + 0.664361I$ $a = -0.088103 - 1.049580I$ $b = -0.618034$	$0.72122 - 2.82812I$	$4.50976 + 2.97945I$
$u = -0.909963 - 0.664361I$ $a = -0.088103 + 1.049580I$ $b = -0.618034$	$0.72122 + 2.82812I$	$4.50976 - 2.97945I$
$u = 0.766119$ $a = 2.36184$ $b = 1.61803$	4.47932	-2.01950
$u = -1.68814$ $a = 1.28048$ $b = 1.61803$	4.47932	-2.01950
$u = 1.30811 + 1.12304I$ $a = 1.218820 - 0.656524I$ $b = 1.61803$	$8.61690 + 2.82812I$	$4.50976 - 2.97945I$
$u = 1.30811 - 1.12304I$ $a = 1.218820 + 0.656524I$ $b = 1.61803$	$8.61690 - 2.82812I$	$4.50976 + 2.97945I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.65612 + 0.99196I$ $a = \quad 1.174520 + 0.523632I$ $b = \quad 1.61803$	$8.61690 + 2.82812I$	$4.50976 - 2.97945I$
$u = -1.65612 - 0.99196I$ $a = \quad 1.174520 - 0.523632I$ $b = \quad 1.61803$	$8.61690 - 2.82812I$	$4.50976 + 2.97945I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^5 - u^4 - u^3 + 4u^2 - 3u + 1)(u^{12} - 15u^{11} + \cdots - 165u + 25)$ $\cdot (u^{12} - 9u^{11} + \cdots - 955u + 361)(u^{18} + 16u^{17} + \cdots + 59u + 4)$
c_2, c_4	$(u^5 - u^4 + u^3 - 2u^2 + u - 1)(u^{12} - u^{11} + \cdots - 29u - 19)$ $\cdot (u^{12} + u^{11} + \cdots + 5u + 5)(u^{18} + 8u^{16} + \cdots + u + 2)$
c_3	$(u^3 + u^2 - 1)^8(u^5 - 4u^4 + 8u^3 - 9u^2 + 6u - 1)$ $\cdot (u^{18} - 5u^{17} + \cdots - 27u + 9)$
c_5	$(u^5 - 2u^4 - u^3 + 2u^2 - 1)(u^{12} + u^{11} + \cdots - 424u - 181)$ $\cdot (u^{12} + u^{11} + \cdots + 2u + 1)(u^{18} + u^{17} + \cdots - u + 1)$
c_6	$(u^5 + 2u^4 - u^3 - 2u^2 + 1)(u^{12} - u^{11} + \cdots - 2u + 1)$ $\cdot (u^{12} + u^{11} + \cdots - 424u - 181)(u^{18} + u^{17} + \cdots - u + 1)$
c_7, c_{11}	$(u^5 + u^4 + u^3 + 2u^2 + u + 1)(u^{12} - u^{11} + \cdots - 29u - 19)$ $\cdot (u^{12} - u^{11} + \cdots - 5u + 5)(u^{18} + 8u^{16} + \cdots + u + 2)$
c_8	$(u^5 - 2u^4 + 2u^3 - 3u^2 + 2u - 1)(u^{12} - 3u^{11} + \cdots - 54u + 121)$ $\cdot (u^{12} + 3u^{11} + \cdots + 1122u + 289)(u^{18} - 3u^{17} + \cdots - 25u + 125)$
c_9	$(u^5 - 2u^4 - u^3 + 2u^2 - 1)(u^{12} - u^{11} + \cdots + 965u + 475)$ $\cdot (u^{12} + u^{11} + \cdots - 33u - 19)(u^{18} - 5u^{17} + \cdots - 125u + 46)$
c_{10}	$(u^5 - u^4 - u^3 + 4u^2 - 3u + 1)(u^{12} - 3u^{11} + \cdots + 6u + 1)$ $\cdot (u^{12} - 3u^{11} + \cdots + 30u + 101)(u^{18} - 2u^{17} + \cdots + 4u + 1)$
c_{12}	$u^5(u^6 - u^5 + 5u^4 - 2u^3 + u^2 - 2u - 1)^2$ $\cdot (u^{12} + 21u^{10} + 135u^8 + 300u^6 - 65u^4 - 214u^2 + 661)$ $\cdot (u^{18} + u^{17} + \cdots - 160u + 32)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^5-3y^4+3y^3-8y^2+y-1)(y^{12}-25y^{11}+\cdots+2325y+625)$ $\cdot\,(y^{12}+23y^{11}+\cdots-623947y+130321)$ $\cdot\,(y^{18}+12y^{17}+\cdots+159y+16)$
c_2, c_4, c_7 c_{11}	$(y^5+y^4-y^3-4y^2-3y-1)(y^{12}-9y^{11}+\cdots-955y+361)$ $\cdot\,(y^{12}+15y^{11}+\cdots+165y+25)(y^{18}+16y^{17}+\cdots+59y+4)$
c_3	$(y^3-y^2+2y-1)^8(y^5+4y^3+7y^2+18y-1)$ $\cdot\,(y^{18}-5y^{17}+\cdots-117y+81)$
c_5, c_6	$(y^5-6y^4+9y^3-8y^2+4y-1)(y^{12}-27y^{11}+\cdots+27650y+32761)$ $\cdot\,(y^{12}+9y^{11}+\cdots+2y+1)(y^{18}-7y^{17}+\cdots-11y+1)$
c_8	$(y^5-4y^3-5y^2-2y-1)(y^{12}-19y^{11}+\cdots+15718y+14641)$ $\cdot\,(y^{12}+25y^{11}+\cdots-261834y+83521)$ $\cdot\,(y^{18}+11y^{17}+\cdots+194375y+15625)$
c_9	$(y^5-6y^4+9y^3-8y^2+4y-1)(y^{12}-15y^{11}+\cdots-481y+361)$ $\cdot\,(y^{12}+5y^{11}+\cdots+820575y+225625)$ $\cdot\,(y^{18}+5y^{17}+\cdots+21911y+2116)$
c_{10}	$(y^5-3y^4+3y^3-8y^2+y-1)(y^{12}-13y^{11}+\cdots+24y+1)$ $\cdot\,(y^{12}+11y^{11}+\cdots+12836y+10201)(y^{18}-8y^{17}+\cdots+16y+1)$
c_{12}	$y^5(y^6+9y^5+23y^4-17y^2-6y+1)^2$ $\cdot\,(y^6+21y^5+135y^4+300y^3-65y^2-214y+661)^2$ $\cdot\,(y^{18}+55y^{17}+\cdots+10752y+1024)$