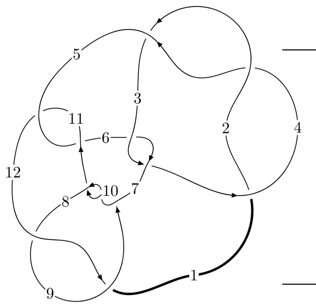
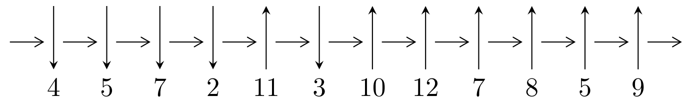
$12n_{0681}$ ($K12n_{0681}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -1.29319 \times 10^{25} u^{26} - 8.14562 \times 10^{25} u^{25} + \cdots + 2.10275 \times 10^{26} b + 1.50746 \times 10^{26},$$
$$9.51680 \times 10^{25} u^{26} + 6.52825 \times 10^{26} u^{25} + \cdots + 2.10275 \times 10^{26} a - 7.67512 \times 10^{27},\ u^{27} + 7u^{26} + \cdots - 65u +$$
$$I_2^u = \langle -u^7 - 2u^6 + 2u^5 + 4u^4 - 2u^3 - u^2 + b + u - 3,\ 2u^7 + 2u^6 - 5u^5 - 4u^4 + 3u^3 + a + u + 3,$$
$$u^8 + u^7 - 3u^6 - 2u^5 + 3u^4 + 2u - 1 \rangle$$
$$I_3^u = \langle 4a^2 + 23b - 33a + 3,\ a^3 - 8a^2 + 3a - 7,\ u - 1 \rangle$$
$$I_4^u = \langle b - 2u + 1,\ a + u + 4,\ u^2 + u - 1 \rangle$$
$$I_5^u = \langle b + u,\ a - u - 2,\ u^2 + u - 1 \rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 42 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. $I^u_1 = \langle -1.29 \times 10^{25}u^{26} - 8.15 \times 10^{25}u^{25} + \cdots + 2.10 \times 10^{26}b + 1.51 \times 10^{26},\ 9.52 \times 10^{25}u^{26} + 6.53 \times 10^{26}u^{25} + \cdots + 2.10 \times 10^{26}a - 7.68 \times 10^{27},\ u^{27} + 7u^{26} + \cdots - 65u + 1 \rangle$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.452588u^{26} - 3.10462u^{25} + \cdots - 55.6935u + 36.5004 \\ 0.0614998u^{26} + 0.387379u^{25} + \cdots + 3.33121u - 0.716900 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -0.486093u^{26} - 3.57968u^{25} + \cdots - 55.8612u + 20.4963 \\ 0.0646653u^{26} + 0.428826u^{25} + \cdots + 0.403387u - 0.357433 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.550758u^{26} - 4.00850u^{25} + \cdots - 56.2646u + 20.8537 \\ 0.0646653u^{26} + 0.428826u^{25} + \cdots + 0.403387u - 0.357433 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0697411u^{26} - 0.446921u^{25} + \cdots - 5.57659u + 8.05416 \\ -0.0811376u^{26} - 0.484277u^{25} + \cdots + 5.23091u - 0.200858 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.478778u^{26} - 3.47699u^{25} + \cdots - 53.7199u + 20.8543 \\ 0.0459720u^{26} + 0.264293u^{25} + \cdots - 0.415707u - 0.385704 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.514677u^{26} - 3.50894u^{25} + \cdots - 55.7920u + 36.4942 \\ 0.0496659u^{26} + 0.333051u^{25} + \cdots + 5.46117u - 0.741054 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0759051u^{26} + 0.518888u^{25} + \cdots + 8.57256u - 7.97571 \\ 0.100287u^{26} + 0.631138u^{25} + \cdots - 2.83878u + 0.163326 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{12822191249106914343216 6825}{210275241869650933749294956}u^{26} - \frac{106901275323421765963096 4039}{210275241869650933749294956}u^{25} + \cdots - \frac{141328760073421103865469 79695}{210275241869650933749294956}u - \frac{18023652301297492811141 04905}{210275241869650933749294956}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4	$u^{27} - 12u^{26} + \cdots - 82u - 1$
c_3, c_6	$u^{27} + 4u^{26} + \cdots + 640u - 256$
c_5, c_{11}	$u^{27} + 3u^{26} + \cdots - 112u + 16$
c_7, c_9, c_{10}	$u^{27} + 7u^{26} + \cdots - 65u + 1$
c_8, c_{12}	$u^{27} - 4u^{26} + \cdots - 36u + 8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^{27} - 46y^{26} + \cdots + 6314y - 1$
c_3, c_6	$y^{27} - 54y^{26} + \cdots + 5095424y - 65536$
c_5, c_{11}	$y^{27} + 25y^{26} + \cdots + 12928y - 256$
c_7, c_9, c_{10}	$y^{27} - 15y^{26} + \cdots + 4023y - 1$
c_8, c_{12}	$y^{27} + 12y^{26} + \cdots + 7696y - 64$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.989617$ $a = 9.38049$ $b = 0.408460$	0.561362	203.500
$u = -1.035410 + 0.203452I$ $a = -0.415320 + 0.863420I$ $b = -0.33969 + 1.38997I$	$4.69512 + 2.40532I$	$3.41247 + 6.32084I$
$u = -1.035410 - 0.203452I$ $a = -0.415320 - 0.863420I$ $b = -0.33969 - 1.38997I$	$4.69512 - 2.40532I$	$3.41247 - 6.32084I$
$u = 1.035950 + 0.225932I$ $a = -0.376658 + 0.725229I$ $b = -0.061105 - 0.490914I$	$1.156740 + 0.801856I$	$6.71973 + 0.16728I$
$u = 1.035950 - 0.225932I$ $a = -0.376658 - 0.725229I$ $b = -0.061105 + 0.490914I$	$1.156740 - 0.801856I$	$6.71973 - 0.16728I$
$u = -0.231476 + 0.812947I$ $a = -1.010650 - 0.337430I$ $b = 0.147510 + 0.585443I$	$-2.46734 + 1.28188I$	$0.019660 - 0.966602I$
$u = -0.231476 - 0.812947I$ $a = -1.010650 + 0.337430I$ $b = 0.147510 - 0.585443I$	$-2.46734 - 1.28188I$	$0.019660 + 0.966602I$
$u = 0.707396$ $a = -4.75513$ $b = 0.0513464$	-7.81649	57.8300
$u = -1.305580 + 0.386979I$ $a = -0.110314 - 0.122910I$ $b = 0.073018 - 0.478334I$	$1.16826 - 5.86191I$	$6.68570 + 1.60407I$
$u = -1.305580 - 0.386979I$ $a = -0.110314 + 0.122910I$ $b = 0.073018 + 0.478334I$	$1.16826 + 5.86191I$	$6.68570 - 1.60407I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.836004 + 1.095460I$ $a = -0.0688478 + 0.0584922I$ $b = -0.25035 + 1.73182I$	$-7.44159 - 1.29405I$	$-1.37770 + 1.27497I$
$u = -0.836004 - 1.095460I$ $a = -0.0688478 - 0.0584922I$ $b = -0.25035 - 1.73182I$	$-7.44159 + 1.29405I$	$-1.37770 - 1.27497I$
$u = 0.558394 + 0.255485I$ $a = 0.39540 + 1.82247I$ $b = -0.99845 - 1.93414I$	$-0.834252 + 0.150815I$	$17.5464 - 6.6365I$
$u = 0.558394 - 0.255485I$ $a = 0.39540 - 1.82247I$ $b = -0.99845 + 1.93414I$	$-0.834252 - 0.150815I$	$17.5464 + 6.6365I$
$u = -1.016510 + 0.945163I$ $a = 1.046130 - 0.262688I$ $b = -0.340400 - 0.098336I$	$-13.16990 - 3.53439I$	$-0.41212 + 2.09406I$
$u = -1.016510 - 0.945163I$ $a = 1.046130 + 0.262688I$ $b = -0.340400 + 0.098336I$	$-13.16990 + 3.53439I$	$-0.41212 - 2.09406I$
$u = -1.16800 + 0.91505I$ $a = 1.271790 - 0.556686I$ $b = -0.35535 - 1.77081I$	$-6.34499 - 6.08931I$	$-0.21731 + 3.73020I$
$u = -1.16800 - 0.91505I$ $a = 1.271790 + 0.556686I$ $b = -0.35535 + 1.77081I$	$-6.34499 + 6.08931I$	$-0.21731 - 3.73020I$
$u = 0.491518$ $a = -0.797650$ $b = 0.376982$	0.859867	11.9670
$u = 0.06761 + 1.51979I$ $a = -0.239446 + 0.151266I$ $b = 0.28102 - 2.41058I$	$18.5782 + 5.9421I$	$-1.31050 - 2.20591I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.06761 - 1.51979I$ $a = -0.239446 - 0.151266I$ $b = 0.28102 + 2.41058I$	$18.5782 - 5.9421I$	$-1.31050 + 2.20591I$
$u = -1.60127$ $a = 2.03965$ $b = 3.57318$	7.98804	43.0640
$u = -1.55855 + 0.65683I$ $a = -1.03603 + 1.21486I$ $b = 0.57720 + 2.23959I$	$-15.7574 - 13.5083I$	$0.77209 + 5.37939I$
$u = -1.55855 - 0.65683I$ $a = -1.03603 - 1.21486I$ $b = 0.57720 - 2.23959I$	$-15.7574 + 13.5083I$	$0.77209 - 5.37939I$
$u = 1.68805 + 0.77291I$ $a = 0.823135 + 0.943566I$ $b = -0.10758 + 2.58327I$	$-16.0044 + 2.3695I$	0
$u = 1.68805 - 0.77291I$ $a = 0.823135 - 0.943566I$ $b = -0.10758 - 2.58327I$	$-16.0044 - 2.3695I$	0
$u = 0.0157914$ $a = 35.5742$ $b = -0.661597$	-1.12664	-9.59770

II. $\boldsymbol{I_2^u = \langle -u^7 - 2u^6 + 2u^5 + 4u^4 - 2u^3 - u^2 + b + u - 3,\ 2u^7 + 2u^6 - 5u^5 - 4u^4 + 3u^3 + a + u + 3,\ u^8 + u^7 - 3u^6 - 2u^5 + 3u^4 + 2u - 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 21u^7 + 38u^6 - 48u^5 - 85u^4 + 39u^3 + 27u^2 - 5u + 58$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^8$
c_3, c_6	y^8
c_5, c_{11}	$y^8 + 5y^7 + 11y^6 + 6y^5 - 17y^4 - 34y^3 - 22y^2 - 4y + 1$
c_7, c_9, c_{10}	$y^8 - 7y^7 + 19y^6 - 22y^5 + 3y^4 + 14y^3 - 6y^2 - 4y + 1$
c_8, c_{12}	$y^8 - 3y^7 + 7y^6 - 10y^5 + 11y^4 - 10y^3 + 6y^2 - 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.180120 + 0.268597I$ $a = 1.23903 + 1.07030I$ $b = -0.281371 + 1.128550I$	$-0.604279 + 1.131230I$	$0.744211 + 0.553382I$
$u = 1.180120 - 0.268597I$ $a = 1.23903 - 1.07030I$ $b = -0.281371 - 1.128550I$	$-0.604279 - 1.131230I$	$0.744211 - 0.553382I$
$u = 0.108090 + 0.747508I$ $a = -0.188536 + 0.513699I$ $b = 0.208670 - 0.825203I$	$-3.80435 + 2.57849I$	$-2.39106 - 4.72239I$
$u = 0.108090 - 0.747508I$ $a = -0.188536 - 0.513699I$ $b = 0.208670 + 0.825203I$	$-3.80435 - 2.57849I$	$-2.39106 + 4.72239I$
$u = -1.37100$ $a = 0.942639$ $b = 0.829189$	4.85780	8.45210
$u = -1.334530 + 0.318930I$ $a = -0.271933 + 0.551071I$ $b = 0.284386 + 0.605794I$	$0.73474 - 6.44354I$	$0.47538 + 9.99765I$
$u = -1.334530 - 0.318930I$ $a = -0.271933 - 0.551071I$ $b = 0.284386 - 0.605794I$	$0.73474 + 6.44354I$	$0.47538 - 9.99765I$
$u = 0.463640$ $a = -3.49976$ $b = 2.74744$	-0.799899	60.8910

III. $\boldsymbol{I_3^u = \langle 4a^2 + 23b - 33a + 3,\ a^3 - 8a^2 + 3a - 7,\ u - 1\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ -\frac{4}{23}a^2 + \frac{33}{23}a - \frac{3}{23} \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} \frac{1}{23}a^2 + \frac{9}{23}a - \frac{51}{23} \\ -\frac{1}{23}a^2 + \frac{14}{23}a - \frac{41}{23} \end{pmatrix}$$
$$a_5 = \begin{pmatrix} \frac{2}{23}a^2 - \frac{5}{23}a - \frac{10}{23} \\ -\frac{1}{23}a^2 + \frac{14}{23}a - \frac{41}{23} \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ -\frac{5}{23}a^2 + \frac{47}{23}a - \frac{67}{23} \end{pmatrix}$$
$$a_2 = \begin{pmatrix} \frac{1}{23}a^2 + \frac{9}{23}a - \frac{5}{23} \\ -\frac{1}{23}a^2 + \frac{14}{23}a - \frac{41}{23} \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{4}{23}a^2 - \frac{10}{23}a + \frac{3}{23} \\ -\frac{4}{23}a^2 + \frac{33}{23}a - \frac{3}{23} \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0 \\ -\frac{5}{23}a^2 + \frac{47}{23}a - \frac{67}{23} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{75}{23}a^2 + \frac{314}{23}a - \frac{39}{23}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^3 - y^2 + 2y - 1$
c_3, c_6	$y^3 + 3y^2 + 2y - 1$
c_5, c_{11}	$y^3 - 5y^2 + 10y - 1$
c_7, c_9, c_{10}	$(y-1)^3$
c_8, c_{12}	y^3

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	1.00000		
$a =$	$0.135484 + 0.941977I$	$4.66906 - 2.82812I$	$2.98758 + 12.02771I$
$b =$	$0.215080 + 1.307140I$		
$u =$	1.00000		
$a =$	$0.135484 - 0.941977I$	$4.66906 + 2.82812I$	$2.98758 - 12.02771I$
$b =$	$0.215080 - 1.307140I$		
$u =$	1.00000		
$a =$	7.72903	0.531480	-90.9750
$b =$	0.569840		

IV. $I_4^u = \langle b - 2u + 1,\ a + u + 4,\ u^2 + u - 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -45$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = -4.61803$ $b = 0.236068$	-7.89568	-45.0000
$u = -1.61803$ $a = -2.38197$ $b = -4.23607$	7.89568	-45.0000

V. $I_5^u = \langle b+u,\ a-u-2,\ u^2+u-1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = 2.61803$ $b = -0.618034$	0	0
$u = -1.61803$ $a = 0.381966$ $b = 1.61803$	0	0

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2	$((u-1)^8)(u^2+u-1)^2(u^3+u^2-1)(u^{27}-12u^{26}+\cdots-82u-1)$
c_3	$u^8(u^2+u-1)^2(u^3-u^2+2u-1)(u^{27}+4u^{26}+\cdots+640u-256)$
c_4	$((u+1)^8)(u^2-u-1)^2(u^3-u^2+1)(u^{27}-12u^{26}+\cdots-82u-1)$
c_5	$u^4(u^3-3u^2+2u+1)$ $\cdot(u^8+3u^7+7u^6+10u^5+11u^4+10u^3+6u^2+4u+1)$ $\cdot(u^{27}+3u^{26}+\cdots-112u+16)$
c_6	$u^8(u^2-u-1)^2(u^3+u^2+2u+1)(u^{27}+4u^{26}+\cdots+640u-256)$
c_7	$(u+1)^3(u^2-u-1)^2(u^8-u^7-3u^6+2u^5+3u^4-2u-1)$ $\cdot(u^{27}+7u^{26}+\cdots-65u+1)$
c_8	$u^3(u^2-u-1)^2(u^8+u^7-u^6-2u^5+u^4+2u^3-2u-1)$ $\cdot(u^{27}-4u^{26}+\cdots-36u+8)$
c_9, c_{10}	$(u-1)^3(u^2+u-1)^2(u^8+u^7-3u^6-2u^5+3u^4+2u-1)$ $\cdot(u^{27}+7u^{26}+\cdots-65u+1)$
c_{11}	$u^4(u^3+3u^2+2u-1)$ $\cdot(u^8-3u^7+7u^6-10u^5+11u^4-10u^3+6u^2-4u+1)$ $\cdot(u^{27}+3u^{26}+\cdots-112u+16)$
c_{12}	$u^3(u^2+u-1)^2(u^8-u^7-u^6+2u^5+u^4-2u^3+2u-1)$ $\cdot(u^{27}-4u^{26}+\cdots-36u+8)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^8(y^2-3y+1)^2(y^3-y^2+2y-1)$ $\cdot(y^{27}-46y^{26}+\cdots+6314y-1)$
c_3, c_6	$y^8(y^2-3y+1)^2(y^3+3y^2+2y-1)$ $\cdot(y^{27}-54y^{26}+\cdots+5095424y-65536)$
c_5, c_{11}	$y^4(y^3-5y^2+10y-1)$ $\cdot(y^8+5y^7+11y^6+6y^5-17y^4-34y^3-22y^2-4y+1)$ $\cdot(y^{27}+25y^{26}+\cdots+12928y-256)$
c_7, c_9, c_{10}	$(y-1)^3(y^2-3y+1)^2$ $\cdot(y^8-7y^7+19y^6-22y^5+3y^4+14y^3-6y^2-4y+1)$ $\cdot(y^{27}-15y^{26}+\cdots+4023y-1)$
c_8, c_{12}	$y^3(y^2-3y+1)^2(y^8-3y^7+\cdots-4y+1)$ $\cdot(y^{27}+12y^{26}+\cdots+7696y-64)$