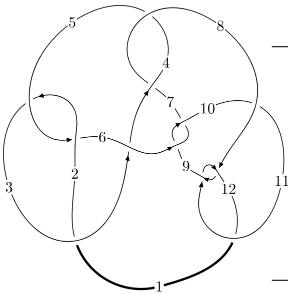
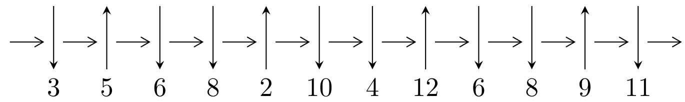
$12n_{0016}$ ($K12n_{0016}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle b+u,\ 224074u^9 + 244456u^8 + \cdots + 85463a + 346296,\\ u^{10} + u^9 - 7u^8 - 14u^7 + 16u^6 + 17u^5 - 3u^4 - 10u^3 - 3u^2 + u - 1\rangle$$

$$I_2^u = \langle 5.86389 \times 10^{37}u^{19} + 1.09059 \times 10^{38}u^{18} + \cdots + 1.52045 \times 10^{41}b - 1.97465 \times 10^{40},\\ -1.68947 \times 10^{39}u^{19} - 3.22641 \times 10^{39}u^{18} + \cdots + 1.21636 \times 10^{42}a - 1.00257 \times 10^{42},\\ u^{20} + 2u^{19} + \cdots - 2048u + 1024\rangle$$

$$I_3^u = \langle b,\ u^4a - 2u^3a - 3u^4 - u^2a + 3u^3 + a^2 + 3au + 7u^2 - 5u - 4,\ u^5 - u^4 - 2u^3 + u^2 + u + 1\rangle$$

$$I_1^v = \langle a,\ 8286v^9 - 14092v^8 + \cdots + 8095b + 12581,\\ v^{10} - v^9 - 2v^8 - 19v^7 + 12v^6 + 35v^5 + 50v^4 + 34v^3 + 17v^2 + 5v + 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 50 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.

$$\boldsymbol{I_1^u = \langle b+u,\ 224074u^9+244456u^8+\cdots+85463a+346296,\ u^{10}+u^9+\cdots+u-1\rangle}$$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ -u^3+u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2.62188u^9 - 2.86037u^8 + \cdots + 12.1063u - 4.05200 \\ -u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -2.43179u^9 - 2.58767u^8 + \cdots + 10.7229u - 4.29049 \\ 0.0122626u^9 - 0.0607046u^8 + \cdots - 0.892515u + 0.0826088 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.238489u^9 - 0.0483952u^8 + \cdots - 1.43012u - 1.62188 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.367925u^9 - 0.606110u^8 + \cdots + 3.87427u + 0.559587 \\ -0.0122626u^9 + 0.0607046u^8 + \cdots + 0.892515u - 0.0826088 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.404257u^9 - 0.758316u^8 + \cdots + 4.08826u + 0.692697 \\ -0.122310u^9 - 0.00902145u^8 + \cdots + 0.758071u - 0.331594 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.238489u^9 + 0.0483952u^8 + \cdots + 1.43012u + 1.62188 \\ -0.0826088u^9 - 0.0948715u^8 + \cdots + 0.428583u - 0.190094 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -2.81198u^9 - 3.13308u^8 + \cdots + 13.4897u - 3.81351 \\ u^3 - u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -1.14164u^9 - 0.462949u^8 + \cdots - 5.42663u - 7.69845 \\ 0.122310u^9 + 0.00902145u^8 + \cdots - 0.758071u + 0.331594 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{765256}{85463}u^9 - \frac{1261184}{85463}u^8 + \frac{4740376}{85463}u^7 + \frac{14048256}{85463}u^6 - \frac{4533392}{85463}u^5 - \frac{19248384}{85463}u^4 - \frac{7535280}{85463}u^3 + \frac{7955648}{85463}u^2 + \frac{7424384}{85463}u + \frac{490522}{85463}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{12}	$u^{10}+5u^9+13u^8+12u^7-12u^6-51u^5-65u^4-44u^3-13u^2+u+1$
c_2, c_5, c_8 c_{11}	$u^{10}+3u^9+7u^8+10u^7+12u^6+13u^5+11u^4+10u^3+5u^2+3u+1$
c_3, c_{10}	$u^{10}-3u^9-9u^8+36u^7-12u^6-7u^5-23u^4+13u^3+16u^2+3u+2$
c_4, c_6, c_7 c_9	$u^{10}+u^9-7u^8-14u^7+16u^6+17u^5-3u^4-10u^3-3u^2+u-1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{12}	$y^{10} + y^9 + \cdots - 27y + 1$
c_2, c_5, c_8 c_{11}	$y^{10} + 5y^9 + 13y^8 + 12y^7 - 12y^6 - 51y^5 - 65y^4 - 44y^3 - 13y^2 + y + 1$
c_3, c_{10}	$y^{10} - 27y^9 + \cdots + 55y + 4$
c_4, c_6, c_7 c_9	$y^{10} - 15y^9 + \cdots + 5y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.051110 + 0.169733I$ $a = 0.075124 + 0.218323I$ $b = -1.051110 - 0.169733I$	$-6.66754 - 7.26680I$	$-14.1481 + 8.5135I$
$u = 1.051110 - 0.169733I$ $a = 0.075124 - 0.218323I$ $b = -1.051110 + 0.169733I$	$-6.66754 + 7.26680I$	$-14.1481 - 8.5135I$
$u = -0.766019$ $a = 0.342395$ $b = 0.766019$	-1.35955	-6.41950
$u = -0.505971 + 0.548673I$ $a = 0.308348 + 0.874136I$ $b = 0.505971 - 0.548673I$	$-1.23733 + 1.36545I$	$-9.59143 - 3.61875I$
$u = -0.505971 - 0.548673I$ $a = 0.308348 - 0.874136I$ $b = 0.505971 + 0.548673I$	$-1.23733 - 1.36545I$	$-9.59143 + 3.61875I$
$u = 0.171353 + 0.321669I$ $a = -4.31436 + 8.42917I$ $b = -0.171353 - 0.321669I$	$-0.16069 - 3.80568I$	$19.6494 + 42.7056I$
$u = 0.171353 - 0.321669I$ $a = -4.31436 - 8.42917I$ $b = -0.171353 + 0.321669I$	$-0.16069 + 3.80568I$	$19.6494 - 42.7056I$
$u = -2.11995 + 1.24678I$ $a = 0.704601 + 0.550226I$ $b = 2.11995 - 1.24678I$	$17.3702 + 13.6949I$	$-8.24581 - 5.79353I$
$u = -2.11995 - 1.24678I$ $a = 0.704601 - 0.550226I$ $b = 2.11995 + 1.24678I$	$17.3702 - 13.6949I$	$-8.24581 + 5.79353I$
$u = 2.57293$ $a = -0.889824$ $b = -2.57293$	-13.9598	-4.90870

II. $\boldsymbol{I_2^u = \langle 5.86 \times 10^{37}u^{19} + 1.09 \times 10^{38}u^{18} + \cdots + 1.52 \times 10^{41}b - 1.97 \times 10^{40},\ -1.69 \times 10^{39}u^{19} - 3.23 \times 10^{39}u^{18} + \cdots + 1.22 \times 10^{42}a - 1.00 \times 10^{42},\ u^{20} + 2u^{19} + \cdots - 2048u + 1024\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.00138896u^{19} + 0.00265251u^{18} + \cdots + 3.64638u + 0.824235 \\ -0.000385667u^{19} - 0.000717282u^{18} + \cdots - 1.18247u + 0.129872 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.00151255u^{19} + 0.00313681u^{18} + \cdots + 3.14973u + 0.822778 \\ -0.000451559u^{19} - 0.000899794u^{18} + \cdots - 0.823414u - 0.112935 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.000295502u^{19} + 0.000835151u^{18} + \cdots - 2.41530u + 0.836394 \\ -1.74761 \times 10^{-6}u^{19} - 0.0000459509u^{18} + \cdots + 0.619191u + 0.0512561 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.000175793u^{19} - 0.000736748u^{18} + \cdots + 3.47292u - 1.24551 \\ 0.000101127u^{19} + 0.000225173u^{18} + \cdots + 0.697375u + 0.189635 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.000515937u^{19} - 0.00143281u^{18} + \cdots + 3.99150u - 1.66721 \\ 0.000576429u^{19} + 0.00110414u^{18} + \cdots + 0.494790u + 0.627482 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.000293754u^{19} - 0.000789200u^{18} + \cdots + 1.79611u - 0.887650 \\ 0.000158683u^{19} + 0.000288930u^{18} + \cdots + 0.506931u + 0.257788 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.00144125u^{19} + 0.00289745u^{18} + \cdots + 2.51554u + 1.04162 \\ -0.000525250u^{19} - 0.000988354u^{18} + \cdots - 1.00784u + 0.125174 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0.000756916u^{19} + 0.00212323u^{18} + \cdots - 1.07571u + 3.13147 \\ -0.000291771u^{19} - 0.000735805u^{18} + \cdots - 0.338968u - 0.810783 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.00176167u^{19} - 0.00309564u^{18} + \cdots - 12.6991u - 1.09946$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{12}	$u^{20} + 19u^{19} + \cdots + 175u + 1$
c_2, c_5, c_8 c_{11}	$u^{20} + 5u^{19} + \cdots + 5u + 1$
c_3, c_{10}	$u^{20} - 5u^{19} + \cdots + 2619u + 641$
c_4, c_6, c_7 c_9	$u^{20} + 2u^{19} + \cdots - 2048u + 1024$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{12}	$y^{20} - 29y^{19} + \cdots - 13889y + 1$
c_2, c_5, c_8 c_{11}	$y^{20} + 19y^{19} + \cdots + 175y + 1$
c_3, c_{10}	$y^{20} - 53y^{19} + \cdots + 71819743y + 410881$
c_4, c_6, c_7 c_9	$y^{20} - 50y^{19} + \cdots + 4194304y + 1048576$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.804594 + 0.696559I$ $a = -0.002315 - 0.280709I$ $b = -1.396170 - 0.196408I$	$-4.73849 + 3.00338I$	$-7.64371 - 3.35763I$
$u = -0.804594 - 0.696559I$ $a = -0.002315 + 0.280709I$ $b = -1.396170 + 0.196408I$	$-4.73849 - 3.00338I$	$-7.64371 + 3.35763I$
$u = -0.257283 + 0.651285I$ $a = -1.12449 - 2.84653I$ $b = 0.257283 + 0.651285I$	-0.537213	$-6 - 1.350198 + 0.10I$
$u = -0.257283 - 0.651285I$ $a = -1.12449 + 2.84653I$ $b = 0.257283 - 0.651285I$	-0.537213	$-6 - 1.350198 + 0.10I$
$u = 1.396170 + 0.196408I$ $a = 0.160795 + 0.137994I$ $b = 0.804594 - 0.696559I$	$-4.73849 + 3.00338I$	$-7.64371 - 3.35763I$
$u = 1.396170 - 0.196408I$ $a = 0.160795 - 0.137994I$ $b = 0.804594 + 0.696559I$	$-4.73849 - 3.00338I$	$-7.64371 + 3.35763I$
$u = -0.204722 + 0.532348I$ $a = 1.241470 + 0.214157I$ $b = -0.241836 - 0.217250I$	$-0.35106 + 1.66079I$	$-2.53678 - 3.96410I$
$u = -0.204722 - 0.532348I$ $a = 1.241470 - 0.214157I$ $b = -0.241836 + 0.217250I$	$-0.35106 - 1.66079I$	$-2.53678 + 3.96410I$
$u = 0.241836 + 0.217250I$ $a = 0.42599 + 2.16885I$ $b = 0.204722 - 0.532348I$	$-0.35106 + 1.66079I$	$-2.53678 - 3.96410I$
$u = 0.241836 - 0.217250I$ $a = 0.42599 - 2.16885I$ $b = 0.204722 + 0.532348I$	$-0.35106 - 1.66079I$	$-2.53678 + 3.96410I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.55408 + 2.01462I$ $a = -0.191665 - 0.696885I$ $b = 0.55408 + 2.01462I$	-4.58401	$-9.53898 + 0.I$
$u = -0.55408 - 2.01462I$ $a = -0.191665 + 0.696885I$ $b = 0.55408 - 2.01462I$	-4.58401	$-9.53898 + 0.I$
$u = 2.55394 + 0.67960I$ $a = 0.797707 - 0.266076I$ $b = 2.56756 + 0.95364I$	$-18.4617 - 6.7670I$	$-6.82707 + 2.49268I$
$u = 2.55394 - 0.67960I$ $a = 0.797707 + 0.266076I$ $b = 2.56756 - 0.95364I$	$-18.4617 + 6.7670I$	$-6.82707 - 2.49268I$
$u = -2.56756 + 0.95364I$ $a = -0.741704 - 0.329004I$ $b = -2.55394 + 0.67960I$	$-18.4617 + 6.7670I$	$-6.82707 - 2.49268I$
$u = -2.56756 - 0.95364I$ $a = -0.741704 + 0.329004I$ $b = -2.55394 - 0.67960I$	$-18.4617 - 6.7670I$	$-6.82707 + 2.49268I$
$u = 2.62678 + 1.73277I$ $a = -0.171297 + 0.112997I$ $b = -2.62678 + 1.73277I$	-12.4152	$-9.95005 + 0.I$
$u = 2.62678 - 1.73277I$ $a = -0.171297 - 0.112997I$ $b = -2.62678 - 1.73277I$	-12.4152	$-9.95005 + 0.I$
$u = -3.43049 + 0.37740I$ $a = 0.605506 + 0.066614I$ $b = 3.43049 + 0.37740I$	15.2909	$-9.14565 + 0.I$
$u = -3.43049 - 0.37740I$ $a = 0.605506 - 0.066614I$ $b = 3.43049 - 0.37740I$	15.2909	$-9.14565 + 0.I$

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.21774$ $a = -0.337181 + 0.584015I$ $b = 0$	$-2.40108 + 2.02988I$	$-6.80799 - 1.95361I$
$u = -1.21774$ $a = -0.337181 - 0.584015I$ $b = 0$	$-2.40108 - 2.02988I$	$-6.80799 + 1.95361I$
$u = -0.309916 + 0.549911I$ $a = 2.50919 + 0.05217I$ $b = 0$	$-0.32910 + 3.56046I$	$-7.97351 - 2.70956I$
$u = -0.309916 + 0.549911I$ $a = -1.20942 - 2.19910I$ $b = 0$	$-0.329100 - 0.499304I$	$1.93681 - 0.71136I$
$u = -0.309916 - 0.549911I$ $a = 2.50919 - 0.05217I$ $b = 0$	$-0.32910 - 3.56046I$	$-7.97351 + 2.70956I$
$u = -0.309916 - 0.549911I$ $a = -1.20942 + 2.19910I$ $b = 0$	$-0.329100 + 0.499304I$	$1.93681 + 0.71136I$
$u = 1.41878 + 0.21917I$ $a = -0.358089 - 0.327409I$ $b = 0$	$-5.87256 - 6.43072I$	$-8.34383 + 2.96651I$
$u = 1.41878 + 0.21917I$ $a = -0.104500 + 0.473819I$ $b = 0$	$-5.87256 - 2.37095I$	$-12.81148 + 1.72217I$
$u = 1.41878 - 0.21917I$ $a = -0.358089 + 0.327409I$ $b = 0$	$-5.87256 + 6.43072I$	$-8.34383 - 2.96651I$
$u = 1.41878 - 0.21917I$ $a = -0.104500 - 0.473819I$ $b = 0$	$-5.87256 + 2.37095I$	$-12.81148 - 1.72217I$

IV. $\boldsymbol{I_1^v = \langle a,\ 8286v^9 - 14092v^8 + \cdots + 8095b + 12581,\ v^{10} - v^9 + \cdots + 5v + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} 0 \\ -1.02359v^9 + 1.74083v^8 + \cdots - 2.14256v - 1.55417 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.02359v^9 - 1.74083v^8 + \cdots + 2.14256v + 1.55417 \\ -1.02359v^9 + 1.74083v^8 + \cdots - 2.14256v - 1.55417 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ 0.566770v^9 - 0.910562v^8 + \cdots + 1.12069v - 2.46844 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.343792v^9 - 0.433107v^8 + \cdots + 6.30229v + 0.566770 \\ -1.56677v^9 + 1.91056v^8 + \cdots - 18.1207v - 2.53156 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.433107v^9 - 0.556763v^8 + \cdots + 6.45448v + 0.910562 \\ -1.56677v^9 + 1.91056v^8 + \cdots - 18.1207v - 2.53156 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1 \\ -0.566770v^9 + 0.910562v^8 + \cdots - 1.12069v + 2.46844 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1.02359v^9 + 1.74083v^8 + \cdots - 2.14256v - 1.55417 \\ -0.515256v^9 + 0.785300v^8 + \cdots - 0.966523v + 2.10241 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -1.96479v^9 + 3.18777v^8 + \cdots - 3.92341v + 1.99444 \\ 1.39802v^9 - 2.27721v^8 + \cdots + 2.80272v - 0.526004 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= -\frac{4097}{1619}v^9 + \frac{9450}{1619}v^8 + \frac{1665}{1619}v^7 + \frac{67341}{1619}v^6 - \frac{147227}{1619}v^5 - \frac{55323}{1619}v^4 - \frac{14483}{1619}v^3 + \frac{69031}{1619}v^2 + \frac{28097}{1619}v - \frac{3358}{1619}$$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = -0.337181 + 0.584015I$ $a = 0$ $b = 1.21774$	$-2.40108 + 2.02988I$	$-6.80799 - 1.95361I$
$v = -0.337181 - 0.584015I$ $a = 0$ $b = 1.21774$	$-2.40108 - 2.02988I$	$-6.80799 + 1.95361I$
$v = -0.104500 + 0.473819I$ $a = 0$ $b = -1.41878 - 0.21917I$	$-5.87256 - 2.37095I$	$-12.81148 + 1.72217I$
$v = -0.104500 - 0.473819I$ $a = 0$ $b = -1.41878 + 0.21917I$	$-5.87256 + 2.37095I$	$-12.81148 - 1.72217I$
$v = -0.358089 + 0.327409I$ $a = 0$ $b = -1.41878 + 0.21917I$	$-5.87256 + 6.43072I$	$-8.34383 - 2.96651I$
$v = -0.358089 - 0.327409I$ $a = 0$ $b = -1.41878 - 0.21917I$	$-5.87256 - 6.43072I$	$-8.34383 + 2.96651I$
$v = -1.20942 + 2.19910I$ $a = 0$ $b = 0.309916 + 0.549911I$	$-0.32910 - 3.56046I$	$-7.97351 + 2.70956I$
$v = -1.20942 - 2.19910I$ $a = 0$ $b = 0.309916 - 0.549911I$	$-0.32910 + 3.56046I$	$-7.97351 - 2.70956I$
$v = 2.50919 + 0.05217I$ $a = 0$ $b = 0.309916 - 0.549911I$	$-0.329100 - 0.499304I$	$1.93681 - 0.71136I$
$v = 2.50919 - 0.05217I$ $a = 0$ $b = 0.309916 + 0.549911I$	$-0.329100 + 0.499304I$	$1.93681 + 0.71136I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u+1)^5(u^5-3u^4+4u^3-u^2-u+1)^2$ $\cdot(u^{10}+5u^9+13u^8+12u^7-12u^6-51u^5-65u^4-44u^3-13u^2+u+1)$ $\cdot(u^{20}+19u^{19}+\cdots+175u+1)$
c_2, c_8	$(u^2+u+1)^5(u^5-u^4+2u^3-u^2+u-1)^2$ $\cdot(u^{10}+3u^9+7u^8+10u^7+12u^6+13u^5+11u^4+10u^3+5u^2+3u+1)$ $\cdot(u^{20}+5u^{19}+\cdots+5u+1)$
c_3	$(u^2-u+1)^5(u^5+u^4-2u^3-u^2+u-1)^2$ $\cdot(u^{10}-3u^9-9u^8+36u^7-12u^6-7u^5-23u^4+13u^3+16u^2+3u+2)$ $\cdot(u^{20}-5u^{19}+\cdots+2619u+641)$
c_4, c_6	$u^{10}(u^5+u^4-2u^3-u^2+u-1)^2$ $\cdot(u^{10}+u^9-7u^8-14u^7+16u^6+17u^5-3u^4-10u^3-3u^2+u-1)$ $\cdot(u^{20}+2u^{19}+\cdots-2048u+1024)$
c_5, c_{11}	$(u^2-u+1)^5(u^5+u^4+2u^3+u^2+u+1)^2$ $\cdot(u^{10}+3u^9+7u^8+10u^7+12u^6+13u^5+11u^4+10u^3+5u^2+3u+1)$ $\cdot(u^{20}+5u^{19}+\cdots+5u+1)$
c_7, c_9	$u^{10}(u^5-u^4-2u^3+u^2+u+1)^2$ $\cdot(u^{10}+u^9-7u^8-14u^7+16u^6+17u^5-3u^4-10u^3-3u^2+u-1)$ $\cdot(u^{20}+2u^{19}+\cdots-2048u+1024)$
c_{10}	$(u^2+u+1)^5(u^5-u^4-2u^3+u^2+u+1)^2$ $\cdot(u^{10}-3u^9-9u^8+36u^7-12u^6-7u^5-23u^4+13u^3+16u^2+3u+2)$ $\cdot(u^{20}-5u^{19}+\cdots+2619u+641)$
c_{12}	$(u^2+u+1)^5(u^5+3u^4+4u^3+u^2-u-1)^2$ $\cdot(u^{10}+5u^9+13u^8+12u^7-12u^6-51u^5-65u^4-44u^3-13u^2+u+1)$ $\cdot(u^{20}+19u^{19}+\cdots+175u+1)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{12}	$(y^2+y+1)^5(y^5-y^4+8y^3-3y^2+3y-1)^2$ $\cdot\,(y^{10}+y^9+\cdots-27y+1)(y^{20}-29y^{19}+\cdots-13889y+1)$
c_2, c_5, c_8 c_{11}	$(y^2+y+1)^5(y^5+3y^4+4y^3+y^2-y-1)^2$ $\cdot\,(y^{10}+5y^9+13y^8+12y^7-12y^6-51y^5-65y^4-44y^3-13y^2+y+1)$ $\cdot\,(y^{20}+19y^{19}+\cdots+175y+1)$
c_3, c_{10}	$(y^2+y+1)^5(y^5-5y^4+8y^3-3y^2-y-1)^2$ $\cdot\,(y^{10}-27y^9+\cdots+55y+4)$ $\cdot\,(y^{20}-53y^{19}+\cdots+71819743y+410881)$
c_4, c_6, c_7 c_9	$y^{10}(y^5-5y^4+\cdots-y-1)^2(y^{10}-15y^9+\cdots+5y+1)$ $\cdot\,(y^{20}-50y^{19}+\cdots+4194304y+1048576)$