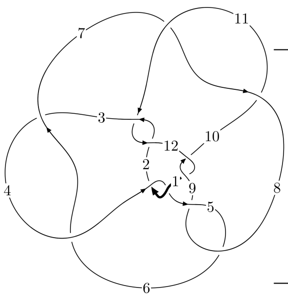
$12n_{0881}$ ($K12n_{0881}$)



A knot diagram[1]

Linearized knot diagam

$\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow$

4 12 7 1 8 4 11 5 12 8 3 9

Solving Sequence

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

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

$$I_1^u = \langle b-u,\ a+1,\ u^3+u^2+2u-1\rangle$$
$$I_2^u = \langle b-u,\ -2u^{15}+4u^{14}+\cdots+2a+5,$$
$$u^{16}-u^{15}+6u^{14}-3u^{13}+17u^{12}-5u^{11}+30u^{10}-4u^9+33u^8-3u^7+22u^6-4u^5+8u^4-5u^3+3u^2-3u$$
$$I_3^u = \langle -2u^{15}-8u^{13}-5u^{12}-20u^{11}-14u^{10}-28u^9-24u^8-22u^7-14u^6-u^4+6u^3+2u^2+2b+u-2,\ a+1,$$
$$u^{16}-u^{15}+6u^{14}-3u^{13}+17u^{12}-5u^{11}+30u^{10}-4u^9+33u^8-3u^7+22u^6-4u^5+8u^4-5u^3+3u^2-3u$$
$$I_4^u = \langle 14971u^{15}+114227u^{14}+\cdots+20848b+188080,\ 11755u^{15}+75853u^{14}+\cdots+41696a-119840,$$
$$u^{16}+9u^{15}+\cdots+64u+32\rangle$$
$$I_5^u = \langle b+u,\ a+1,\ u^4+u^2+2u+1\rangle$$
$$I_6^u = \langle b-2u-1,\ a+1,\ u^2+u+1\rangle$$
$$I_7^u = \langle b+u,\ a+u-1,\ u^2+u+1\rangle$$
$$I_8^u = \langle 2b-u-1,\ 6a+u-3,\ u^2+3\rangle$$
$$I_9^u = \langle b+1,\ a+1,\ u^2-u+1\rangle$$
$$I_{10}^u = \langle b-u,\ a+u-1,\ u^2-u+1\rangle$$

[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`).

$$
\begin{aligned}
I^u_{11} &= \langle b-a,\ a^2-a+1,\ u+1\rangle\\
I^u_{12} &= \langle u^3-au-u^2+b+3u-2,\ 2u^4a-2u^3a+7u^2a+u^3+a^2-5au+3a+3u,\ u^5-u^4+4u^3-3u^2+3u-1\rangle\\
I^u_{13} &= \langle u^8-2u^7+2u^6-4u^5+6u^4-3u^3+4u^2+2b-3u,\\
&\quad -2u^9+3u^8-4u^7+10u^6-12u^5+10u^4-17u^3+10u^2+2a-9u+4,\\
&\quad u^{10}-2u^9+3u^8-6u^7+8u^6-8u^5+11u^4-8u^3+7u^2-4u+1\rangle\\
I^u_{14} &= \langle u^9-2u^8+2u^7-4u^6+6u^5-5u^4+6u^3-5u^2+2b+4u-2,\\
&\quad -u^7+2u^6-2u^5+4u^4-6u^3+3u^2+2a-4u+3,\\
&\quad u^{10}-2u^9+3u^8-6u^7+8u^6-8u^5+11u^4-8u^3+7u^2-4u+1\rangle\\
I^u_{15} &= \langle b+u,\ a+1,\ u^3-u^2+2u-1\rangle\\
I^u_{16} &= \langle b+u,\ 2u^5+5u^3-3u^2+a+3u-2,\ u^6-u^5+3u^4-4u^3+4u^2-3u+1\rangle\\
I^u_{17} &= \langle -u^5+u^4+b-u,\ -u^4+u^3+a-1,\ u^6-2u^5+2u^4-2u^3+2u^2-u+1\rangle\\
I^u_{18} &= \langle 2u^5-u^4+5u^3-5u^2+b+4u-2,\ a+1,\ u^6-u^5+3u^4-4u^3+4u^2-3u+1\rangle\\
I^u_{19} &= \langle b-u,\ a+1,\ u^4+2u^3+3u^2+2u+1\rangle
\end{aligned}
$$

* 19 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 122 representations.

[2] All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I. $I_1^u = \langle b-u,\ a+1,\ u^3+u^2+2u-1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6u-9$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.69632 + 1.43595I$ $a = -1.00000$ $b = -0.69632 + 1.43595I$	$8.6715 + 17.0103I$	$-4.82206 - 8.61570I$
$u = -0.69632 - 1.43595I$ $a = -1.00000$ $b = -0.69632 - 1.43595I$	$8.6715 - 17.0103I$	$-4.82206 + 8.61570I$
$u = 0.392647$ $a = -1.00000$ $b = 0.392647$	-0.893590	-11.3560

II. $I_2^u = \langle b - u,\ -2u^{15} + 4u^{14} + \cdots + 2a + 5,\ u^{16} - u^{15} + \cdots - 3u + 1 \rangle$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^{15} - 2u^{14} + \cdots + 4u - \frac{5}{2} \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{15} + 2u^{14} + \cdots - 5u + 2 \\ u^{15} - 2u^{14} + \cdots + 5u - 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^{15} - 2u^{14} + \cdots + 3u - \frac{5}{2} \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^{15} + 4u^{13} + \cdots - \frac{1}{2}u + 2 \\ -u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 2u^{15} + \frac{1}{2}u^{14} + \cdots - \frac{5}{2}u + 3 \\ -\frac{1}{2}u^{15} - u^{14} + \cdots + \frac{7}{2}u - \frac{3}{2} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{1}{2}u^{15} + \frac{5}{2}u^{14} + \cdots - \frac{9}{2}u + 2 \\ u^{15} - u^{14} + \cdots + \frac{5}{2}u - \frac{1}{2} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{3}{2}u^{15} - 6u^{13} + \cdots + u - \frac{5}{2} \\ \frac{1}{2}u^{15} + u^{14} + \cdots - 3u + 2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{3}{2}u^{15} + 2u^{14} + \cdots - 5u + \frac{1}{2} \\ u^{15} - \frac{1}{2}u^{14} + \cdots + u + \frac{1}{2} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 3u^{15} + 14u^{13} + 8u^{12} + 38u^{11} + 28u^{10} + 64u^9 + 54u^8 + 68u^7 + 48u^6 + 35u^5 + 12u^4 + 2u^3 - 10u^2 - 5u - 8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_7 c_{10}	$u^{16} - 9u^{15} + \cdots - 64u + 32$
c_2, c_3, c_5 c_6, c_8, c_9 c_{11}, c_{12}	$u^{16} + u^{15} + \cdots + 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_7 c_{10}	$y^{16} + 11y^{15} + \cdots - 2560y + 1024$
c_2, c_3, c_5 c_6, c_8, c_9 c_{11}, c_{12}	$y^{16} + 11y^{15} + \cdots - 3y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.155071 + 0.982491I$ $a = 1.85344 - 0.16488I$ $b = 0.155071 + 0.982491I$	$11.07300 + 2.11324I$	$-4.13579 - 3.29911I$
$u = 0.155071 - 0.982491I$ $a = 1.85344 + 0.16488I$ $b = 0.155071 - 0.982491I$	$11.07300 - 2.11324I$	$-4.13579 + 3.29911I$
$u = 0.263127 + 0.911584I$ $a = -0.593560 - 1.154310I$ $b = 0.263127 + 0.911584I$	1.97235	$-2.75019 + 0.I$
$u = 0.263127 - 0.911584I$ $a = -0.593560 + 1.154310I$ $b = 0.263127 - 0.911584I$	1.97235	$-2.75019 + 0.I$
$u = -0.415478 + 1.074820I$ $a = -0.325650 - 1.226660I$ $b = -0.415478 + 1.074820I$	$4.56396 + 9.62189I$	$-5.35347 - 7.22561I$
$u = -0.415478 - 1.074820I$ $a = -0.325650 + 1.226660I$ $b = -0.415478 - 1.074820I$	$4.56396 - 9.62189I$	$-5.35347 + 7.22561I$
$u = -0.635797 + 0.475943I$ $a = -0.30659 - 1.45911I$ $b = -0.635797 + 0.475943I$	$2.73466 - 5.62392I$	$-7.83043 + 1.63381I$
$u = -0.635797 - 0.475943I$ $a = -0.30659 + 1.45911I$ $b = -0.635797 - 0.475943I$	$2.73466 + 5.62392I$	$-7.83043 - 1.63381I$
$u = -0.640425 + 1.031810I$ $a = -1.163390 + 0.606464I$ $b = -0.640425 + 1.031810I$	$11.07300 + 2.11324I$	$-4.13579 - 3.29911I$
$u = -0.640425 - 1.031810I$ $a = -1.163390 - 0.606464I$ $b = -0.640425 - 1.031810I$	$11.07300 - 2.11324I$	$-4.13579 + 3.29911I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.59989 + 1.32302I$ $a = 0.816913 - 0.091000I$ $b = 0.59989 + 1.32302I$	$2.73466 - 5.62392I$	$-7.83043 + 1.63381I$
$u = 0.59989 - 1.32302I$ $a = 0.816913 + 0.091000I$ $b = 0.59989 - 1.32302I$	$2.73466 + 5.62392I$	$-7.83043 - 1.63381I$
$u = 0.75412 + 1.29455I$ $a = 0.993241 + 0.183480I$ $b = 0.75412 + 1.29455I$	$4.56396 - 9.62189I$	$-5.35347 + 7.22561I$
$u = 0.75412 - 1.29455I$ $a = 0.993241 - 0.183480I$ $b = 0.75412 - 1.29455I$	$4.56396 + 9.62189I$	$-5.35347 - 7.22561I$
$u = 0.419493 + 0.126250I$ $a = -0.774408 + 0.831625I$ $b = 0.419493 + 0.126250I$	-0.882161	$-11.61043 + 0.I$
$u = 0.419493 - 0.126250I$ $a = -0.774408 - 0.831625I$ $b = 0.419493 - 0.126250I$	-0.882161	$-11.61043 + 0.I$

III. $\boldsymbol{I_3^u = \langle -2u^{15} - 8u^{13} + \cdots + 2b - 2,\ a + 1,\ u^{16} - u^{15} + \cdots - 3u + 1 \rangle}$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -1 \\ u^{15} + 4u^{13} + \cdots - \frac{1}{2}u + 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u \\ u^{15} - 2u^{14} + \cdots + 5u - 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^{15} - 4u^{13} + \cdots + \frac{1}{2}u - 2 \\ u^{15} + 4u^{13} + \cdots - \frac{1}{2}u + 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2u^{15} + \frac{5}{2}u^{14} + \cdots - \frac{11}{2}u + 3 \\ 3u^{15} - \frac{5}{2}u^{14} + \cdots + 5u - 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{1}{2}u^{15} + \frac{3}{2}u^{14} + \cdots - 4u + \frac{5}{2} \\ 2u^{15} - \frac{5}{2}u^{14} + \cdots + 5u - \frac{3}{2} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{3}{2}u^{15} + 2u^{14} + \cdots - 3u + 1 \\ \frac{3}{2}u^{15} - u^{14} + \cdots - 4u^2 + 2u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^2 - 1 \\ -\frac{1}{2}u^{14} - \frac{5}{2}u^{12} + \cdots + u^2 + \frac{3}{2}u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{1}{2}u^{15} - \frac{1}{2}u^{14} + \cdots + \frac{3}{2}u - 1 \\ -u^{15} + u^{14} + \cdots - \frac{3}{2}u + \frac{1}{2} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 3u^{15} + 14u^{13} + 8u^{12} + 38u^{11} + 28u^{10} + 64u^9 + 54u^8 + 68u^7 + 48u^6 + 35u^5 + 12u^4 + 2u^3 - 10u^2 - 5u - 8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_4 c_6, c_7, c_9 c_{10}, c_{12}	$u^{16} + u^{15} + \cdots + 3u + 1$
c_2, c_5, c_8 c_{11}	$u^{16} - 9u^{15} + \cdots - 64u + 32$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_4 c_6, c_7, c_9 c_{10}, c_{12}	$y^{16} + 11y^{15} + \cdots - 3y + 1$
c_2, c_5, c_8 c_{11}	$y^{16} + 11y^{15} + \cdots - 2560y + 1024$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.155071 + 0.982491I$ $a = -1.00000$ $b = -0.44941 - 1.79542I$	$11.07300 + 2.11324I$	$-4.13579 - 3.29911I$
$u = 0.155071 - 0.982491I$ $a = -1.00000$ $b = -0.44941 + 1.79542I$	$11.07300 - 2.11324I$	$-4.13579 + 3.29911I$
$u = 0.263127 + 0.911584I$ $a = -1.00000$ $b = -0.896070 + 0.844811I$	1.97235	$-2.75019 + 0.I$
$u = 0.263127 - 0.911584I$ $a = -1.00000$ $b = -0.896070 - 0.844811I$	1.97235	$-2.75019 + 0.I$
$u = -0.415478 + 1.074820I$ $a = -1.00000$ $b = -1.45373 - 0.15964I$	$4.56396 + 9.62189I$	$-5.35347 - 7.22561I$
$u = -0.415478 - 1.074820I$ $a = -1.00000$ $b = -1.45373 + 0.15964I$	$4.56396 - 9.62189I$	$-5.35347 + 7.22561I$
$u = -0.635797 + 0.475943I$ $a = -1.00000$ $b = -0.889379 - 0.781779I$	$2.73466 - 5.62392I$	$-7.83043 + 1.63381I$
$u = -0.635797 - 0.475943I$ $a = -1.00000$ $b = -0.889379 + 0.781779I$	$2.73466 + 5.62392I$	$-7.83043 - 1.63381I$
$u = -0.640425 + 1.031810I$ $a = -1.00000$ $b = -0.11931 + 1.58879I$	$11.07300 + 2.11324I$	$-4.13579 - 3.29911I$
$u = -0.640425 - 1.031810I$ $a = -1.00000$ $b = -0.11931 - 1.58879I$	$11.07300 - 2.11324I$	$-4.13579 + 3.29911I$

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.59989 + 1.32302I$ $a = -1.00000$ $b = -0.610454 - 1.026200I$	$2.73466 - 5.62392I$	$-7.83043 + 1.63381I$
$u = 0.59989 - 1.32302I$ $a = -1.00000$ $b = -0.610454 + 1.026200I$	$2.73466 + 5.62392I$	$-7.83043 - 1.63381I$
$u = 0.75412 + 1.29455I$ $a = -1.00000$ $b = -0.51150 - 1.42416I$	$4.56396 - 9.62189I$	$-5.35347 + 7.22561I$
$u = 0.75412 - 1.29455I$ $a = -1.00000$ $b = -0.51150 + 1.42416I$	$4.56396 + 9.62189I$	$-5.35347 - 7.22561I$
$u = 0.419493 + 0.126250I$ $a = -1.00000$ $b = 0.429851 - 0.251093I$	-0.882161	$-11.61043 + 0.I$
$u = 0.419493 - 0.126250I$ $a = -1.00000$ $b = 0.429851 + 0.251093I$	-0.882161	$-11.61043 + 0.I$

IV. $\boldsymbol{I^u_4 = \langle 14971u^{15} + 114227u^{14} + \cdots + 20848b + 188080,\ 11755u^{15} + 75853u^{14} + \cdots + 41696a - 119840,\ u^{16} + 9u^{15} + \cdots + 64u + 32\rangle}$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.281922u^{15} - 1.81919u^{14} + \cdots - 4.33596u + 2.87414 \\ -0.718102u^{15} - 5.47904u^{14} + \cdots - 20.9171u - 9.02149 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.706255u^{15} + 5.65340u^{14} + \cdots + 24.6506u + 9.22947 \\ 0.702897u^{15} + 6.15119u^{14} + \cdots + 36.9708u + 22.6002 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.436181u^{15} + 3.65985u^{14} + \cdots + 16.5812u + 11.8956 \\ -0.718102u^{15} - 5.47904u^{14} + \cdots - 20.9171u - 9.02149 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.00335764u^{15} + 0.497794u^{14} + \cdots + 11.3202u + 14.3707 \\ -0.702897u^{15} - 6.15119u^{14} + \cdots - 35.9708u - 22.6002 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0881619u^{15} + 0.918649u^{14} + \cdots + 9.03473u + 8.66692 \\ -0.149367u^{15} - 1.50173u^{14} + \cdots - 13.1190u - 9.70990 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.321901u^{15} - 3.03118u^{14} + \cdots - 19.7034u - 16.2621 \\ -0.268755u^{15} - 2.46590u^{14} + \cdots - 14.9006u - 13.2295 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.141045u^{15} + 1.82840u^{14} + \cdots + 17.8037u + 16.0787 \\ 0.424885u^{15} + 4.19350u^{14} + \cdots + 29.8853u + 27.4927 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.333245u^{15} + 3.21899u^{14} + \cdots + 19.1554u + 15.4597 \\ 0.333941u^{15} + 3.80516u^{14} + \cdots + 33.7444u + 30.7329 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{16065}{5212}u^{15} - \frac{133039}{5212}u^{14} + \cdots - \frac{159664}{1303}u - \frac{98654}{1303}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4 c_5, c_7, c_8 c_{10}, c_{11}	$u^{16} + u^{15} + \cdots + 3u + 1$
c_3, c_6, c_9 c_{12}	$u^{16} - 9u^{15} + \cdots - 64u + 32$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5, c_7, c_8 c_{10}, c_{11}	$y^{16} + 11y^{15} + \cdots - 3y + 1$
c_3, c_6, c_9 c_{12}	$y^{16} + 11y^{15} + \cdots - 2560y + 1024$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.889379+0.781779I$ $a=-0.137916-0.656371I$ $b=-0.635797-0.475943I$	$2.73466+5.62392I$	$-7.83043-1.63381I$
$u=-0.889379-0.781779I$ $a=-0.137916+0.656371I$ $b=-0.635797+0.475943I$	$2.73466-5.62392I$	$-7.83043+1.63381I$
$u=-0.610454+1.026200I$ $a=\ \ 1.209120-0.134690I$ $b=\ \ 0.59989-1.32302I$	$2.73466+5.62392I$	$-7.83043-1.63381I$
$u=-0.610454-1.026200I$ $a=\ \ 1.209120+0.134690I$ $b=\ \ 0.59989+1.32302I$	$2.73466-5.62392I$	$-7.83043+1.63381I$
$u=-0.896070+0.844811I$ $a=-0.352314+0.685153I$ $b=\ \ 0.263127+0.911584I$	1.97235	$-2.75019+0.I$
$u=-0.896070-0.844811I$ $a=-0.352314-0.685153I$ $b=\ \ 0.263127-0.911584I$	1.97235	$-2.75019+0.I$
$u=-1.45373+0.15964I$ $a=-0.202173-0.761549I$ $b=-0.415478-1.074820I$	$4.56396-9.62189I$	$-5.35347+7.22561I$
$u=-1.45373-0.15964I$ $a=-0.202173+0.761549I$ $b=-0.415478+1.074820I$	$4.56396+9.62189I$	$-5.35347-7.22561I$
$u=\ \ 0.429851+0.251093I$ $a=-0.599708+0.644017I$ $b=\ \ 0.419493-0.126250I$	-0.882161	$-11.61043+0.I$
$u=\ \ 0.429851-0.251093I$ $a=-0.599708-0.644017I$ $b=\ \ 0.419493+0.126250I$	-0.882161	$-11.61043+0.I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.51150 + 1.42416I$ $a = 0.973582 + 0.179848I$ $b = 0.75412 - 1.29455I$	$4.56396 + 9.62189I$	$-5.35347 - 7.22561I$
$u = -0.51150 - 1.42416I$ $a = 0.973582 - 0.179848I$ $b = 0.75412 + 1.29455I$	$4.56396 - 9.62189I$	$-5.35347 + 7.22561I$
$u = -0.11931 + 1.58879I$ $a = -0.675889 - 0.352334I$ $b = -0.640425 + 1.031810I$	$11.07300 + 2.11324I$	$-4.13579 - 3.29911I$
$u = -0.11931 - 1.58879I$ $a = -0.675889 + 0.352334I$ $b = -0.640425 - 1.031810I$	$11.07300 - 2.11324I$	$-4.13579 + 3.29911I$
$u = -0.44941 + 1.79542I$ $a = 0.535301 - 0.047620I$ $b = 0.155071 - 0.982491I$	$11.07300 - 2.11324I$	$-4.13579 + 3.29911I$
$u = -0.44941 - 1.79542I$ $a = 0.535301 + 0.047620I$ $b = 0.155071 + 0.982491I$	$11.07300 + 2.11324I$	$-4.13579 - 3.29911I$

V. $I_5^u = \langle b+u,\ a+1,\ u^4+u^2+2u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -6u^3+6u^2-6u-12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.624811 + 0.300243I$ $a = -1.00000$ $b = 0.624811 - 0.300243I$	$3.28987 + 7.32772I$	$-6.00000 - 6.00000I$
$u = -0.624811 - 0.300243I$ $a = -1.00000$ $b = 0.624811 + 0.300243I$	$3.28987 - 7.32772I$	$-6.00000 + 6.00000I$
$u = 0.62481 + 1.30024I$ $a = -1.00000$ $b = -0.62481 - 1.30024I$	$3.28987 - 7.32772I$	$-6.00000 + 6.00000I$
$u = 0.62481 - 1.30024I$ $a = -1.00000$ $b = -0.62481 + 1.30024I$	$3.28987 + 7.32772I$	$-6.00000 - 6.00000I$

VI. $I_6^u = \langle b - 2u - 1,\ a + 1,\ u^2 + u + 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8u - 13$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_6^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = -1.00000$ $b = \quad 1.73205I$	$9.86960 + 4.05977I$	$-9.00000 - 6.92820I$
$u = -0.500000 - 0.866025I$ $a = -1.00000$ $b = \quad -1.73205I$	$9.86960 - 4.05977I$	$-9.00000 + 6.92820I$

VII. $I_7^u = \langle b+u,\ a+u-1,\ u^2+u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8u-13$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_7^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = \quad 1.50000 - 0.86603I$ $b = \quad 0.500000 - 0.866025I$	$9.86960 + 4.05977I$	$-9.00000 - 6.92820I$
$u = -0.500000 - 0.866025I$ $a = \quad 1.50000 + 0.86603I$ $b = \quad 0.500000 + 0.866025I$	$9.86960 - 4.05977I$	$-9.00000 + 6.92820I$

VIII. $I_8^u = \langle 2b - u - 1,\ 6a + u - 3,\ u^2 + 3 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4u - 9$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_8^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$1.73205I$		
$a =$	$0.500000 - 0.288675I$	$9.86960 - 4.05977I$	$-9.00000 + 6.92820I$
$b =$	$0.500000 + 0.866025I$		
$u =$	$-1.73205I$		
$a =$	$0.500000 + 0.288675I$	$9.86960 + 4.05977I$	$-9.00000 - 6.92820I$
$b =$	$0.500000 - 0.866025I$		

IX. $I_9^u = \langle b+1,\ a+1,\ u^2-u+1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 8u - 13$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_9^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.500000 + 0.866025I$ $a = -1.00000$ $b = -1.00000$	$-\ 4.05977I$	$-9.00000 + 6.92820I$
$u = \quad 0.500000 - 0.866025I$ $a = -1.00000$ $b = -1.00000$	$4.05977I$	$-9.00000 - 6.92820I$

X. $I_{10}^u = \langle b - u,\ a + u - 1,\ u^2 - u + 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 8u - 13$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

	Solutions to I^u_{10}	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.500000 + 0.866025I$		
$a =$	$0.500000 - 0.866025I$	$-\ 4.05977I$	$-9.00000 + 6.92820I$
$b =$	$0.500000 + 0.866025I$		
$u =$	$0.500000 - 0.866025I$		
$a =$	$0.500000 + 0.866025I$	$4.05977I$	$-9.00000 - 6.92820I$
$b =$	$0.500000 - 0.866025I$		

XI. $I^u_{11} = \langle b - a,\ a^2 - a + 1,\ u + 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 8a - 13$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_{11}	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = \quad 0.500000 + 0.866025I$ $b = \quad 0.500000 + 0.866025I$	$-\ 4.05977I$	$-9.00000 + 6.92820I$
$u = -1.00000$ $a = \quad 0.500000 - 0.866025I$ $b = \quad 0.500000 - 0.866025I$	$4.05977I$	$-9.00000 - 6.92820I$

XII. $I^u_{12} = \langle u^3 - au - u^2 + b + 3u - 2,\ 2u^4a - 2u^3a + \cdots + a^2 + 3a,\ u^5 - u^4 + 4u^3 - 3u^2 + 3u - 1\rangle$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} a \\ -u^3 + au + u^2 - 3u + 2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^3a + u^4 + u^2a - 3au + 3u^2 + 2a \\ u^4 - u^3 + 3u^2 - 2u + 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^3 - au - u^2 + a + 3u - 2 \\ -u^3 + au + u^2 - 3u + 2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^4a + u^3a + 2u^4 - 3u^2a - 2u^3 + 2au + 7u^2 - 5u + 3 \\ u^4a - u^3a - u^4 + 3u^2a + 2u^3 - 2au - 4u^2 + 5u - 2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^4a + u^3a + 2u^4 - 3u^2a - u^3 + au + 6u^2 - 2u + 1 \\ u^4a - 2u^3a - u^4 + 3u^2a + u^3 - 2au - 3u^2 + 2u - 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^4a + 2u^3a - 4u^2a - 2u^3 + 5au + u^2 - 2a - 5u + 2 \\ -u^3a + u^2a + u^3 - 2au + a + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^4a - 2u^3a + 4u^2a + 2u^3 - 5au - u^2 + 3a + 6u - 2 \\ u^3a - u^2a - u^3 + 3au + u^2 - a - 3u + 2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^4a - 2u^3a - u^4 + 5u^2a + 3u^3 - 6au - 4u^2 + 3a + 8u - 2 \\ u^3a + u^4 - 2u^2a - 2u^3 + 3au + 4u^2 - a - 5u + 2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^4 + 4u^3 - 16u^2 + 12u - 14$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5, c_7, c_8 c_{10}, c_{11}	$y^{10} + 2y^9 + y^8 + 2y^7 + 16y^6 + 44y^5 + 63y^4 + 42y^3 + 7y^2 - 2y + 1$
c_3, c_6, c_9 c_{12}	$(y^5 + 7y^4 + 16y^3 + 13y^2 + 3y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_{12}	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.233677 + 0.885557I$ $a = 1.310210 + 0.036071I$ $b = 1.38058 - 0.52471I$	$1.81981 - 2.21397I$	$-3.11432 + 4.22289I$
$u = 0.233677 + 0.885557I$ $a = 0.16935 + 1.60369I$ $b = -0.274223 - 1.168700I$	$1.81981 - 2.21397I$	$-3.11432 + 4.22289I$
$u = 0.233677 - 0.885557I$ $a = 1.310210 - 0.036071I$ $b = 1.38058 + 0.52471I$	$1.81981 + 2.21397I$	$-3.11432 - 4.22289I$
$u = 0.233677 - 0.885557I$ $a = 0.16935 - 1.60369I$ $b = -0.274223 + 1.168700I$	$1.81981 + 2.21397I$	$-3.11432 - 4.22289I$
$u = 0.416284$ $a = -1.023710 + 0.522511I$ $b = 0.426151 + 0.217513I$	-0.882183	-11.6090
$u = 0.416284$ $a = -1.023710 - 0.522511I$ $b = 0.426151 - 0.217513I$	-0.882183	-11.6090
$u = 0.05818 + 1.69128I$ $a = 0.612800 - 0.376865I$ $b = 0.140527 + 0.958055I$	$10.95830 - 3.33174I$	$-2.08126 + 2.36228I$
$u = 0.05818 + 1.69128I$ $a = -0.568653 + 0.063527I$ $b = -0.673038 - 1.014490I$	$10.95830 - 3.33174I$	$-2.08126 + 2.36228I$
$u = 0.05818 - 1.69128I$ $a = 0.612800 + 0.376865I$ $b = 0.140527 - 0.958055I$	$10.95830 + 3.33174I$	$-2.08126 - 2.36228I$
$u = 0.05818 - 1.69128I$ $a = -0.568653 - 0.063527I$ $b = -0.673038 + 1.014490I$	$10.95830 + 3.33174I$	$-2.08126 - 2.36228I$

XIII.

$$I^u_{13} = \langle u^8 - 2u^7 + \cdots + 2b - 3u,\ -2u^9 + 3u^8 + \cdots + 2a + 4,\ u^{10} - 2u^9 + \cdots - 4u + 1 \rangle$$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^9 - \frac{3}{2}u^8 + \cdots + \frac{9}{2}u - 2 \\ -\frac{1}{2}u^8 + u^7 + \cdots - 2u^2 + \frac{3}{2}u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{1}{2}u^8 - \frac{1}{2}u^7 + \cdots + \frac{1}{2}u - \frac{1}{2} \\ \frac{1}{2}u^9 - u^8 + \cdots + \frac{1}{2}u + \frac{1}{2} \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^9 - u^8 + u^7 - 4u^6 + 4u^5 - 2u^4 + 7u^3 - 3u^2 + 3u - 2 \\ -\frac{1}{2}u^8 + u^7 + \cdots - 2u^2 + \frac{3}{2}u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^9 + \frac{5}{2}u^8 + \cdots - \frac{13}{2}u + 3 \\ \frac{1}{2}u^9 - u^8 + \cdots + 2u - \frac{1}{2} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^9 + \frac{5}{2}u^8 + \cdots - \frac{15}{2}u + 3 \\ \frac{1}{2}u^9 - u^8 + \cdots + 2u - \frac{1}{2} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{1}{2}u^9 + \frac{1}{2}u^8 + \cdots + \frac{1}{2}u^2 + u \\ \frac{1}{2}u^8 - \frac{1}{2}u^7 + \cdots - \frac{3}{2}u + \frac{1}{2} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^9 - \frac{3}{2}u^8 + \cdots + 6u - \frac{5}{2} \\ -\frac{1}{2}u^9 + u^8 + \cdots - \frac{3}{2}u + 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{3}{2}u^9 - 3u^8 + \cdots + 5u - \frac{3}{2} \\ -u^9 + 2u^8 + \cdots - u + \frac{1}{2} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 2u^9 - 6u^8 + 8u^7 - 14u^6 + 22u^5 - 22u^4 + 24u^3 - 24u^2 + 12u - 14$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_4 c_6, c_7, c_9 c_{10}, c_{12}	$y^{10} + 2y^9 + y^8 + 2y^7 + 16y^6 + 44y^5 + 63y^4 + 42y^3 + 7y^2 - 2y + 1$
c_2, c_5, c_8 c_{11}	$(y^5 + 7y^4 + 16y^3 + 13y^2 + 3y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_{13}	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.140527 + 0.958055I$ $a = 1.137480 - 0.535660I$ $b = 0.05818 + 1.69128I$	$10.95830 - 3.33174I$	$-2.08126 + 2.36228I$
$u = 0.140527 - 0.958055I$ $a = 1.137480 + 0.535660I$ $b = 0.05818 - 1.69128I$	$10.95830 + 3.33174I$	$-2.08126 - 2.36228I$
$u = -0.274223 + 1.168700I$ $a = -0.162827 + 1.219510I$ $b = 0.233677 - 0.885557I$	$1.81981 + 2.21397I$	$-3.11432 - 4.22289I$
$u = -0.274223 - 1.168700I$ $a = -0.162827 - 1.219510I$ $b = 0.233677 + 0.885557I$	$1.81981 - 2.21397I$	$-3.11432 + 4.22289I$
$u = -0.673038 + 1.014490I$ $a = 0.719565 - 0.338858I$ $b = 0.05818 - 1.69128I$	$10.95830 + 3.33174I$	$-2.08126 - 2.36228I$
$u = -0.673038 - 1.014490I$ $a = 0.719565 + 0.338858I$ $b = 0.05818 + 1.69128I$	$10.95830 - 3.33174I$	$-2.08126 + 2.36228I$
$u = 1.38058 + 0.52471I$ $a = -0.107568 - 0.805640I$ $b = 0.233677 - 0.885557I$	$1.81981 + 2.21397I$	$-3.11432 - 4.22289I$
$u = 1.38058 - 0.52471I$ $a = -0.107568 + 0.805640I$ $b = 0.233677 + 0.885557I$	$1.81981 - 2.21397I$	$-3.11432 + 4.22289I$
$u = 0.426151 + 0.217513I$ $a = -0.586646 + 0.809843I$ $b = 0.416284$	-0.882183	$-11.60884 + 0.I$
$u = 0.426151 - 0.217513I$ $a = -0.586646 - 0.809843I$ $b = 0.416284$	-0.882183	$-11.60884 + 0.I$

XIV.

$\boldsymbol{I^u_{14} = \langle u^9 - 2u^8 + \cdots + 2b - 2,\ -u^7 + 2u^6 + \cdots + 2a + 3,\ u^{10} - 2u^9 + \cdots - 4u + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 2u^9 - 6u^8 + 8u^7 - 14u^6 + 22u^5 - 22u^4 + 24u^3 - 24u^2 + 12u - 14$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_7 c_{10}	$(y^5 + 7y^4 + 16y^3 + 13y^2 + 3y - 1)^2$
c_2, c_3, c_5 c_6, c_8, c_9 c_{11}, c_{12}	$y^{10} + 2y^9 + y^8 + 2y^7 + 16y^6 + 44y^5 + 63y^4 + 42y^3 + 7y^2 - 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_{14}	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.140527 + 0.958055I$ $a = -1.73686 - 0.19403I$ $b = -0.673038 - 1.014490I$	$10.95830 - 3.33174I$	$-2.08126 + 2.36228I$
$u = 0.140527 - 0.958055I$ $a = -1.73686 + 0.19403I$ $b = -0.673038 + 1.014490I$	$10.95830 + 3.33174I$	$-2.08126 - 2.36228I$
$u = -0.274223 + 1.168700I$ $a = 0.762658 + 0.020997I$ $b = 1.38058 + 0.52471I$	$1.81981 + 2.21397I$	$-3.11432 - 4.22289I$
$u = -0.274223 - 1.168700I$ $a = 0.762658 - 0.020997I$ $b = 1.38058 - 0.52471I$	$1.81981 - 2.21397I$	$-3.11432 + 4.22289I$
$u = -0.673038 + 1.014490I$ $a = 1.184040 - 0.728171I$ $b = 0.140527 - 0.958055I$	$10.95830 + 3.33174I$	$-2.08126 - 2.36228I$
$u = -0.673038 - 1.014490I$ $a = 1.184040 + 0.728171I$ $b = 0.140527 + 0.958055I$	$10.95830 - 3.33174I$	$-2.08126 + 2.36228I$
$u = 1.38058 + 0.52471I$ $a = 0.065122 + 0.616687I$ $b = -0.274223 + 1.168700I$	$1.81981 + 2.21397I$	$-3.11432 - 4.22289I$
$u = 1.38058 - 0.52471I$ $a = 0.065122 - 0.616687I$ $b = -0.274223 - 1.168700I$	$1.81981 - 2.21397I$	$-3.11432 + 4.22289I$
$u = 0.426151 + 0.217513I$ $a = -0.774953 + 0.395545I$ $b = 0.426151 - 0.217513I$	-0.882183	$-11.60884 + 0.I$
$u = 0.426151 - 0.217513I$ $a = -0.774953 - 0.395545I$ $b = 0.426151 + 0.217513I$	-0.882183	$-11.60884 + 0.I$

XV. $I^u_{15} = \langle b+u,\ a+1,\ u^3-u^2+2u-1\rangle$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -1 \\ -u \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} u-1 \\ -u \end{pmatrix}$$

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

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

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

$$a_5 = \begin{pmatrix} u^2+u \\ u^2-3u+2 \end{pmatrix}$$

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12u^2+6u-21$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_{15}	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.215080 + 1.307140I$ $a = -1.00000$ $b = -0.215080 - 1.307140I$	$14.0789 - 1.8854I$	$0.238787 + 1.095494I$
$u = 0.215080 - 1.307140I$ $a = -1.00000$ $b = -0.215080 + 1.307140I$	$14.0789 + 1.8854I$	$0.238787 - 1.095494I$
$u = 0.569840$ $a = -1.00000$ $b = -0.569840$	-1.83893	-21.4780

XVI.

$$I^u_{16} = \langle b+u,\ 2u^5+5u^3-3u^2+a+3u-2,\ u^6-u^5+3u^4-4u^3+4u^2-3u+1\rangle$$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -2u^5-5u^3+3u^2-3u+2 \\ -u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^5-u^4+3u^3-3u^2+4u-1 \\ -u^5+u^4-3u^3+4u^2-3u+2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -2u^5-5u^3+3u^2-2u+2 \\ -u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2u^5+u^4-5u^3+6u^2-4u+3 \\ -u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -2u^5-5u^3+4u^2-3u+2 \\ -u^5+u^4-3u^3+2u^2-3u+1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u^3+u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^5+3u^3-2u^2+3u-2 \\ 2u^5-u^4+6u^3-4u^2+5u-2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2u^4-4u^2+3u-1 \\ u^5+3u^3-2u^2+2u-2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^5-u^4+2u^3-3u^2+3u-1 \\ u^3-u^2+u-1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_{16}	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.232606 + 0.943705I$ $a = 0.215080 + 1.307140I$ $b = -0.232606 - 0.943705I$	$0.459731 - 0.942707I$	$-6.98708 + 1.68684I$
$u = 0.232606 - 0.943705I$ $a = 0.215080 - 1.307140I$ $b = -0.232606 + 0.943705I$	$0.459731 + 0.942707I$	$-6.98708 - 1.68684I$
$u = 0.644833 + 0.198843I$ $a = 0.215080 - 1.307140I$ $b = -0.644833 - 0.198843I$	$0.459731 + 0.942707I$	$-6.98708 - 1.68684I$
$u = 0.644833 - 0.198843I$ $a = 0.215080 + 1.307140I$ $b = -0.644833 + 0.198843I$	$0.459731 - 0.942707I$	$-6.98708 + 1.68684I$
$u = -0.37744 + 1.47725I$ $a = 0.569840$ $b = 0.37744 - 1.47725I$	12.2400	$-6 - 1.025846 + 0.10I$
$u = -0.37744 - 1.47725I$ $a = 0.569840$ $b = 0.37744 + 1.47725I$	12.2400	$-6 - 1.025846 + 0.10I$

XVII.

$$\boldsymbol{I^u_{17} = \langle -u^5+u^4+b-u,\ -u^4+u^3+a-1,\ u^6-2u^5+2u^4-2u^3+2u^2-u+1\rangle}$$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^4-u^3+1 \\ u^5-u^4+u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -2u^5+3u^4-u^3+u^2-2u \\ -u^5+3u^4-3u^3+2u^2-u+2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^5+2u^4-u^3-u+1 \\ u^5-u^4+u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^5+2u^3-u^2-1 \\ -u^5+3u^4-3u^3+2u^2-2u+2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -2u^5+2u^4+u^3-u^2-u-1 \\ u^4-2u^3+u^2-u+2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u^3+u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -2u^4+3u^3-u^2+2u-3 \\ -2u^5+4u^4-2u^3+2u^2-3u+1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^5-3u^4+3u^3-2u^2+3u-2 \\ -2u^5+3u^4-2u^3+2u^2-2u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2u^5-4u^4+2u^3-u^2+3u-1 \\ -2u^5+2u^4+u^2-u-1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_{17}	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.398606 + 0.800120I$ $a = 0.122561 + 0.744862I$ $b = -0.644833 - 0.198843I$	$0.459731 + 0.942707I$	$-6.98708 - 1.68684I$
$u = -0.398606 - 0.800120I$ $a = 0.122561 - 0.744862I$ $b = -0.644833 + 0.198843I$	$0.459731 - 0.942707I$	$-6.98708 + 1.68684I$
$u = 0.215080 + 0.841795I$ $a = 1.75488$ $b = 0.37744 + 1.47725I$	12.2400	$-6 - 1.025846 + 0.10I$
$u = 0.215080 - 0.841795I$ $a = 1.75488$ $b = 0.37744 - 1.47725I$	12.2400	$-6 - 1.025846 + 0.10I$
$u = 1.183530 + 0.507021I$ $a = 0.122561 + 0.744862I$ $b = -0.232606 + 0.943705I$	$0.459731 + 0.942707I$	$-6.98708 - 1.68684I$
$u = 1.183530 - 0.507021I$ $a = 0.122561 - 0.744862I$ $b = -0.232606 - 0.943705I$	$0.459731 - 0.942707I$	$-6.98708 + 1.68684I$

XVIII.

$$\boldsymbol{I^u_{18} = \langle 2u^5-u^4+5u^3-5u^2+b+4u-2,\ a+1,\ u^6-u^5+3u^4-4u^3+4u^2-3u+1\rangle}$$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_{18}	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.232606 + 0.943705I$ $a = -1.00000$ $b = -1.183530 + 0.507021I$	$0.459731 - 0.942707I$	$-6.98708 + 1.68684I$
$u = \ \ 0.232606 - 0.943705I$ $a = -1.00000$ $b = -1.183530 - 0.507021I$	$0.459731 + 0.942707I$	$-6.98708 - 1.68684I$
$u = \ \ 0.644833 + 0.198843I$ $a = -1.00000$ $b = \ \ 0.398606 - 0.800120I$	$0.459731 + 0.942707I$	$-6.98708 - 1.68684I$
$u = \ \ 0.644833 - 0.198843I$ $a = -1.00000$ $b = \ \ 0.398606 + 0.800120I$	$0.459731 - 0.942707I$	$-6.98708 + 1.68684I$
$u = -0.37744 + 1.47725I$ $a = -1.00000$ $b = -0.215080 + 0.841795I$	12.2400	$-6 - 1.025846 + 0.10I$
$u = -0.37744 - 1.47725I$ $a = -1.00000$ $b = -0.215080 - 0.841795I$	12.2400	$-6 - 1.025846 + 0.10I$

XIX. $\boldsymbol{I^u_{19} = \langle b - u,\ a + 1,\ u^4 + 2u^3 + 3u^2 + 2u + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6u^3 - 6u^2 - 6u - 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_{19}^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = -1.00000$ $b = -0.500000 + 0.866025I$	3.28987	$-6.00000 + 0.I$
$u = -0.500000 + 0.866025I$ $a = -1.00000$ $b = -0.500000 + 0.866025I$	3.28987	$-6.00000 + 0.I$
$u = -0.500000 - 0.866025I$ $a = -1.00000$ $b = -0.500000 - 0.866025I$	3.28987	$-6.00000 + 0.I$
$u = -0.500000 - 0.866025I$ $a = -1.00000$ $b = -0.500000 - 0.866025I$	3.28987	$-6.00000 + 0.I$

XX. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_3, c_5 c_7, c_9, c_{11}	$(u-1)^2(u^2+3)(u^2-u+1)^2(u^2+u+1)^4(u^3-u^2+2u-1)$ $\cdot(u^3-u^2+2u+1)(u^4+u^2+2u+1)(u^5+u^4+\cdots+3u+1)^2$ $\cdot(u^6-2u^5+2u^4-2u^3+2u^2-u+1)$ $\cdot(u^6-u^5+3u^4-4u^3+4u^2-3u+1)^2$ $\cdot(u^{10}+2u^9+3u^8+6u^7+8u^6+8u^5+11u^4+8u^3+7u^2+4u+1)^2$ $\cdot(u^{16}-9u^{15}+\cdots-64u+32)(u^{16}+u^{15}+\cdots+3u+1)^2$
c_2, c_4, c_6 c_8, c_{10}, c_{12}	$(u-1)^2(u^2+3)(u^2-u+1)^4(u^2+u+1)^2(u^3-u^2+2u+1)$ $\cdot(u^3+u^2+2u+1)(u^4+u^2-2u+1)(u^5+u^4+\cdots+3u+1)^2$ $\cdot(u^6+u^5+3u^4+4u^3+4u^2+3u+1)^2$ $\cdot(u^6+2u^5+2u^4+2u^3+2u^2+u+1)$ $\cdot(u^{10}+2u^9+3u^8+6u^7+8u^6+8u^5+11u^4+8u^3+7u^2+4u+1)^2$ $\cdot(u^{16}-9u^{15}+\cdots-64u+32)(u^{16}+u^{15}+\cdots+3u+1)^2$

XXI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3	$((y-1)^2)(y+3)^2(y^2+y+1)^6(y^3+3y^2+2y-1)(y^3+3y^2+6y-1)$
c_4, c_5, c_6	$\cdot\,(y^4+2y^3+3y^2-2y+1)(y^5+7y^4+16y^3+13y^2+3y-1)^2$
c_7, c_8, c_9	$\cdot\,(y^6+2y^3+4y^2+3y+1)(y^6+5y^5+9y^4+4y^3-2y^2-y+1)^2$
c_{10}, c_{11}, c_{12}	$\cdot\,(y^{10}+2y^9+y^8+2y^7+16y^6+44y^5+63y^4+42y^3+7y^2-2y+1)^2$
	$\cdot\,(y^{16}+11y^{15}+\cdots-2560y+1024)(y^{16}+11y^{15}+\cdots-3y+1)^2$