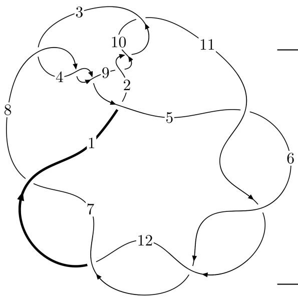
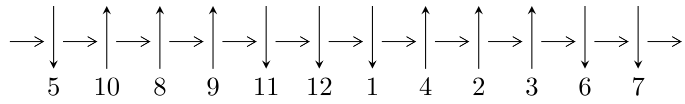
$12a_{1283}$ $(K12a_{1283})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I^u_1 &= \langle b-u,\ -u^{18}+u^{17}+\cdots+4a-13u,\ u^{19}-u^{18}+\cdots-u-1\rangle \\
I^u_2 &= \langle 538u^{23}+1753u^{22}+\cdots+3334b+10456,\ 432u^{23}+12271u^{22}+\cdots+23338a+126536, \\
&\quad u^{24}-10u^{22}+\cdots-16u-7\rangle \\
I^u_3 &= \langle b-1,\ a^2-3,\ u+1\rangle \\
I^u_4 &= \langle b-1,\ a,\ u+1\rangle \\
I^u_5 &= \langle b,\ a-1,\ u-1\rangle \\
I^u_6 &= \langle b+1,\ a-1,\ u-1\rangle \\
I^u_7 &= \langle b+1,\ a+1,\ u-1\rangle
\end{aligned}$$

$$I^v_1 = \langle a,\ b-1,\ v+1\rangle$$

* 8 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 50 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. $I^u_1 = \langle b - u,\ -u^{18} + u^{17} + \cdots + 4a - 13u,\ u^{19} - u^{18} + \cdots - u - 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{1}{4}u^{18} - \frac{1}{4}u^{17} + \cdots + \frac{1}{4}u^2 + \frac{13}{4}u \\ u \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} \frac{1}{4}u^{18} - \frac{1}{4}u^{17} + \cdots + \frac{1}{4}u^2 + \frac{9}{4}u \\ \frac{1}{4}u^{18} - \frac{1}{4}u^{17} + \cdots + \frac{1}{4}u^2 + \frac{5}{4}u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{1}{4}u^{17} - \frac{1}{4}u^{16} + \cdots + \frac{1}{4}u - \frac{1}{4} \\ \frac{1}{4}u^{18} - \frac{1}{4}u^{17} + \cdots + \frac{1}{4}u^2 + \frac{5}{4}u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} \frac{1}{4}u^{18} - \frac{1}{4}u^{17} + \cdots + \frac{1}{4}u^2 + \frac{9}{4}u \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{1}{4}u^{17} - \frac{1}{4}u^{16} + \cdots + \frac{1}{4}u + \frac{5}{4} \\ u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{1}{2}u^{18} - \frac{3}{2}u^{17} + \cdots - \frac{1}{2}u - \frac{1}{2} \\ \frac{1}{4}u^{18} - \frac{11}{4}u^{16} + \cdots - \frac{1}{2}u^2 - \frac{1}{4} \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -\frac{1}{4}u^{18} - \frac{1}{4}u^{17} + \cdots - \frac{1}{4}u + 1 \\ -\frac{1}{4}u^{18} + \frac{1}{2}u^{17} + \cdots + \frac{1}{2}u + \frac{3}{4} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{3}{2}u^{18} + \frac{5}{2}u^{17} + 17u^{16} - \frac{51}{2}u^{15} - 81u^{14} + 104u^{13} + 206u^{12} - \frac{411}{2}u^{11} - \frac{583}{2}u^{10} + \frac{351}{2}u^9 + 215u^8 - \frac{9}{2}u^7 - \frac{149}{2}u^6 - \frac{103}{2}u^5 + 36u^4 - \frac{29}{2}u^3 - \frac{59}{2}u^2 + \frac{15}{2}u$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{19} + 15u^{18} + \cdots + 1586u + 218$
c_2, c_3, c_4 c_8, c_9, c_{10}	$u^{19} + u^{18} + \cdots - u + 1$
c_5, c_6, c_7 c_{11}, c_{12}	$u^{19} + 3u^{18} + \cdots - 6u - 2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{19} - y^{18} + \cdots + 65512y - 47524$
c_2, c_3, c_4 c_8, c_9, c_{10}	$y^{19} - 23y^{18} + \cdots + y - 1$
c_5, c_6, c_7 c_{11}, c_{12}	$y^{19} - 25y^{18} + \cdots - 24y - 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.310639+0.700279I$ $a=-0.43101+1.74263I$ $b=-0.310639+0.700279I$	$-12.66640-3.70859I$	$-6.97096+4.51080I$
$u=-0.310639-0.700279I$ $a=-0.43101-1.74263I$ $b=-0.310639-0.700279I$	$-12.66640+3.70859I$	$-6.97096-4.51080I$
$u=-1.34431$ $a=\ \ 1.98662$ $b=-1.34431$	-7.55334	2.37220
$u=\ \ 0.264676+0.585091I$ $a=\ \ 0.44609+1.54901I$ $b=\ \ 0.264676+0.585091I$	$-3.30479+2.71809I$	$-7.05035-6.50802I$
$u=\ \ 0.264676-0.585091I$ $a=\ \ 0.44609-1.54901I$ $b=\ \ 0.264676-0.585091I$	$-3.30479-2.71809I$	$-7.05035+6.50802I$
$u=-0.583241$ $a=-2.35110$ $b=-0.583241$	-11.3004	-5.80070
$u=\ \ 1.47018$ $a=-1.06148$ $b=\ \ 1.47018$	3.59702	2.15400
$u=\ \ 1.48891+0.35458I$ $a=-0.245253+1.382770I$ $b=\ \ 1.48891+0.35458I$	$-1.12008+11.80290I$	$0.70242-5.53182I$
$u=\ \ 1.48891-0.35458I$ $a=-0.245253-1.382770I$ $b=\ \ 1.48891-0.35458I$	$-1.12008-11.80290I$	$0.70242+5.53182I$
$u=-1.52435+0.16917I$ $a=\ \ 0.597354+0.752907I$ $b=-1.52435+0.16917I$	$10.36490-2.09930I$	$4.61522-0.98931I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.52435 - 0.16917I$ $a = 0.597354 - 0.752907I$ $b = -1.52435 - 0.16917I$	$10.36490 + 2.09930I$	$4.61522 + 0.98931I$
$u = -1.50399 + 0.30349I$ $a = 0.345723 + 1.228060I$ $b = -1.50399 + 0.30349I$	$8.30594 - 9.64872I$	$2.30074 + 6.54307I$
$u = -1.50399 - 0.30349I$ $a = 0.345723 - 1.228060I$ $b = -1.50399 - 0.30349I$	$8.30594 + 9.64872I$	$2.30074 - 6.54307I$
$u = 1.54004$ $a = -0.705382$ $b = 1.54004$	3.55474	2.45220
$u = 1.52397 + 0.24269I$ $a = -0.439996 + 1.008280I$ $b = 1.52397 + 0.24269I$	$11.80370 + 6.00675I$	$6.85446 - 4.30060I$
$u = 1.52397 - 0.24269I$ $a = -0.439996 - 1.008280I$ $b = 1.52397 - 0.24269I$	$11.80370 - 6.00675I$	$6.85446 + 4.30060I$
$u = 0.440690$ $a = 1.53450$ $b = 0.440690$	-1.88440	-3.40050
$u = -0.200256 + 0.361761I$ $a = -0.474490 + 1.061500I$ $b = -0.200256 + 0.361761I$	$-0.010314 - 0.815704I$	$-0.34015 + 8.34541I$
$u = -0.200256 - 0.361761I$ $a = -0.474490 - 1.061500I$ $b = -0.200256 - 0.361761I$	$-0.010314 + 0.815704I$	$-0.34015 - 8.34541I$

II. $\boldsymbol{I_2^u = \langle 538u^{23} + 1753u^{22} + \cdots + 3334b + 10456,\ 432u^{23} + 12271u^{22} + \cdots + 23338a + 126536,\ u^{24} - 10u^{22} + \cdots - 16u - 7\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.0185106u^{23} - 0.525795u^{22} + \cdots - 3.14153u - 5.42189 \\ -0.161368u^{23} - 0.525795u^{22} + \cdots - 5.71296u - 3.13617 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.0101123u^{23} - 0.227055u^{22} + \cdots - 0.0356500u - 2.14714 \\ -0.155369u^{23} - 0.0266947u^{22} + \cdots - 0.708758u - 1.08278 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.166252u^{23} + 0.0464907u^{22} + \cdots + 1.68781u - 4.87750 \\ 0.184763u^{23} + 0.572286u^{22} + \cdots + 5.82933u + 0.544391 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{1}{7}u^{23} - \frac{10}{7}u^{21} + \cdots + \frac{18}{7}u - \frac{16}{7} \\ -0.161368u^{23} - 0.525795u^{22} + \cdots - 5.71296u - 3.13617 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.448025u^{23} - 0.161368u^{22} + \cdots - 3.84219u + 2.45544 \\ 0.525795u^{23} + 0.346131u^{22} + \cdots + 5.71806u + 2.12957 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.0533893u^{23} - 0.0419916u^{22} + \cdots + 0.862627u - 5.17516 \\ -0.0929814u^{23} + 0.263947u^{22} + \cdots + 4.43491u - 0.327534 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.268960u^{23} - 0.363227u^{22} + \cdots - 3.56684u + 3.09911 \\ 0.134673u^{23} + 0.00479904u^{22} + \cdots - 2.85573u + 0.548590 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{654}{1667}u^{23} - \frac{3736}{1667}u^{22} + \cdots - \frac{38132}{1667}u - \frac{26158}{1667}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{12} - 4u^{11} + \cdots - 6u + 1)^2$
c_2, c_3, c_4 c_8, c_9, c_{10}	$u^{24} - 10u^{22} + \cdots + 16u - 7$
c_5, c_6, c_7 c_{11}, c_{12}	$(u^{12} - 2u^{11} + \cdots - 4u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{12}+8y^{11}+\cdots-14y+1)^2$
c_2, c_3, c_4 c_8, c_9, c_{10}	$y^{24}-20y^{23}+\cdots-508y+49$
c_5, c_6, c_7 c_{11}, c_{12}	$(y^{12}-16y^{11}+\cdots-6y+1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.358425 + 0.917120I$ $a = 1.06378 - 1.20789I$ $b = 1.43345 - 0.26200I$	$-7.05914 - 7.20360I$	$-2.08749 + 4.71657I$
$u = -0.358425 - 0.917120I$ $a = 1.06378 + 1.20789I$ $b = 1.43345 + 0.26200I$	$-7.05914 + 7.20360I$	$-2.08749 - 4.71657I$
$u = 0.726659 + 0.612159I$ $a = -0.556760 - 0.649993I$ $b = -1.361680 + 0.028095I$	$3.08210 - 0.49850I$	$1.36863 + 1.38008I$
$u = 0.726659 - 0.612159I$ $a = -0.556760 + 0.649993I$ $b = -1.361680 - 0.028095I$	$3.08210 + 0.49850I$	$1.36863 - 1.38008I$
$u = 0.421897 + 0.830088I$ $a = -0.92080 - 1.15289I$ $b = -1.40739 - 0.19551I$	$2.05779 + 5.52285I$	$-0.56374 - 6.48307I$
$u = 0.421897 - 0.830088I$ $a = -0.92080 + 1.15289I$ $b = -1.40739 + 0.19551I$	$2.05779 - 5.52285I$	$-0.56374 + 6.48307I$
$u = -0.539453 + 0.732545I$ $a = 0.737853 - 0.986740I$ $b = 1.389660 - 0.101631I$	$5.05906 - 2.46907I$	$5.52253 + 3.95252I$
$u = -0.539453 - 0.732545I$ $a = 0.737853 + 0.986740I$ $b = 1.389660 + 0.101631I$	$5.05906 + 2.46907I$	$5.52253 - 3.95252I$
$u = -0.914759 + 0.672614I$ $a = 0.716633 - 0.381724I$ $b = 1.42619 + 0.14001I$	$-5.38423 + 1.70959I$	$0.128193 - 0.167200I$
$u = -0.914759 - 0.672614I$ $a = 0.716633 + 0.381724I$ $b = 1.42619 - 0.14001I$	$-5.38423 - 1.70959I$	$0.128193 + 0.167200I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.14845$ $a = -0.192638$ $b = 0.678097$	2.62918	-3.06920
$u = 0.678097$ $a = 0.326261$ $b = -1.14845$	2.62918	-3.06920
$u = -1.361680 + 0.028095I$ $a = -0.007416 + 0.597014I$ $b = 0.726659 + 0.612159I$	$3.08210 - 0.49850I$	$1.36863 + 1.38008I$
$u = -1.361680 - 0.028095I$ $a = -0.007416 - 0.597014I$ $b = 0.726659 - 0.612159I$	$3.08210 + 0.49850I$	$1.36863 - 1.38008I$
$u = 1.389660 + 0.101631I$ $a = 0.176320 - 0.784892I$ $b = -0.539453 - 0.732545I$	$5.05906 + 2.46907I$	$5.52253 - 3.95252I$
$u = 1.389660 - 0.101631I$ $a = 0.176320 + 0.784892I$ $b = -0.539453 + 0.732545I$	$5.05906 - 2.46907I$	$5.52253 + 3.95252I$
$u = -0.580967 + 0.112101I$ $a = -2.24045 - 0.43231I$ $b = -0.580967 - 0.112101I$	-11.2998	$-5.66710 + 0.I$
$u = -0.580967 - 0.112101I$ $a = -2.24045 + 0.43231I$ $b = -0.580967 + 0.112101I$	-11.2998	$-5.66710 + 0.I$
$u = -1.40739 + 0.19551I$ $a = -0.275184 - 0.926925I$ $b = 0.421897 - 0.830088I$	$2.05779 - 5.52285I$	$-0.56374 + 6.48307I$
$u = -1.40739 - 0.19551I$ $a = -0.275184 + 0.926925I$ $b = 0.421897 + 0.830088I$	$2.05779 + 5.52285I$	$-0.56374 - 6.48307I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.42619 + 0.14001I$ $a = -0.220284 + 0.604438I$ $b = -0.914759 + 0.672614I$	$-5.38423 + 1.70959I$	$0.128193 - 0.167200I$
$u = 1.42619 - 0.14001I$ $a = -0.220284 - 0.604438I$ $b = -0.914759 - 0.672614I$	$-5.38423 - 1.70959I$	$0.128193 + 0.167200I$
$u = 1.43345 + 0.26200I$ $a = 0.316640 - 1.040500I$ $b = -0.358425 - 0.917120I$	$-7.05914 + 7.20360I$	$-2.08749 - 4.71657I$
$u = 1.43345 - 0.26200I$ $a = 0.316640 + 1.040500I$ $b = -0.358425 + 0.917120I$	$-7.05914 - 7.20360I$	$-2.08749 + 4.71657I$

III. $I_3^u = \langle b-1,\ a^2-3,\ u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = 1.73205$ $b = 1.00000$	-9.86960	0
$u = -1.00000$ $a = -1.73205$ $b = 1.00000$	-9.86960	0

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = \quad 0$ $b = \quad 1.00000$	3.28987	12.0000

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

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u		$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	1.00000		
$a =$	1.00000	-1.64493	-6.00000
$b =$	0		

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

(i) Arc colorings

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

(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_5 c_6, c_7, c_8	$u + 1$
c_3, c_4, c_9 c_{10}, c_{11}, c_{12}	$u - 1$

(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}	$y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_6^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 1.00000$ $a = \quad 1.00000$ $b = -1.00000$	0	0

VII. $I^u_7 = \langle b+1,\ a+1,\ u-1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(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}	$y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_7^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.00000$		
$a = -1.00000$	0	0
$b = -1.00000$		

VIII. $I_1^v = \langle a,\ b-1,\ v+1\rangle$

(i) Arc colorings

$a_2 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$

$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

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

$a_5 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$

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

$a_6 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$

$a_1 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$

$a_4 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$

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

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

$a_{12} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$ $a = 0$ $b = 1.00000$	-1.64493	-6.00000

IX. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u(u-1)^3(u+1)(u^2-3)(u^{12}-4u^{11}+\cdots-6u+1)^2$ $\cdot\,(u^{19}+15u^{18}+\cdots+1586u+218)$
c_2, c_8	$u(u-1)^3(u+1)^3(u^{19}+u^{18}+\cdots-u+1)$ $\cdot\,(u^{24}-10u^{22}+\cdots+16u-7)$
c_3, c_4, c_9 c_{10}	$u(u-1)^2(u+1)^4(u^{19}+u^{18}+\cdots-u+1)$ $\cdot\,(u^{24}-10u^{22}+\cdots+16u-7)$
c_5, c_6, c_7 c_{11}, c_{12}	$u(u-1)(u+1)^3(u^2-3)(u^{12}-2u^{11}+\cdots-4u+1)^2$ $\cdot\,(u^{19}+3u^{18}+\cdots-6u-2)$

X. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y(y-3)^2(y-1)^4(y^{12}+8y^{11}+\cdots-14y+1)^2$ $\cdot\,(y^{19}-y^{18}+\cdots+65512y-47524)$
c_2, c_3, c_4 c_8, c_9, c_{10}	$y(y-1)^6(y^{19}-23y^{18}+\cdots+y-1)(y^{24}-20y^{23}+\cdots-508y+49)$
c_5, c_6, c_7 c_{11}, c_{12}	$y(y-3)^2(y-1)^4(y^{12}-16y^{11}+\cdots-6y+1)^2$ $\cdot\,(y^{19}-25y^{18}+\cdots-24y-4)$