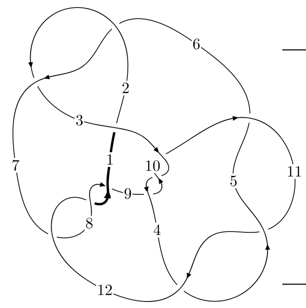
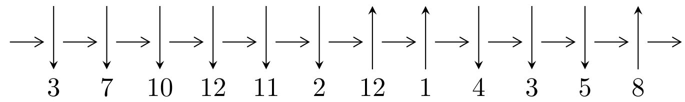
$12n_{0601}$ $(K12n_{0601})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I^u_1 = \langle & u^{12} - u^{11} - 3u^{10} - 18u^9 - 28u^8 - 82u^7 - 102u^6 - 220u^5 - 203u^4 - 209u^3 + 9u^2 + 16b - 46u + 22, \\
& -3u^{12} - 2u^{11} - 7u^{10} + 6u^9 - 6u^8 + 54u^7 + 28u^6 + 198u^5 + 151u^4 + 188u^3 - 133u^2 + 32a + 12u - 54, \\
& u^{13} + 3u^{12} + 9u^{11} + 17u^{10} + 36u^9 + 52u^8 + 86u^7 + 86u^6 + 81u^5 + 27u^4 + 25u^3 - 7u^2 + 2u - 2\rangle \\
I^u_2 = \langle & -5u^9 + 25u^8 - 15u^7 + 23u^6 - 165u^5 + 221u^4 - 167u^3 + 423u^2 + 144b - 112u + 44, \\
& 73u^9 - 23u^8 + 3u^7 - 433u^6 + 465u^5 - 307u^4 + 1531u^3 + 63u^2 + 288a + 584u - 52, \\
& u^{10} - u^9 + u^8 - 7u^7 + 11u^6 - 13u^5 + 33u^4 - 23u^3 + 26u^2 - 20u + 8\rangle \\
I^u_3 = \langle & a^3u + a^3 - a^2u + 2a^2 - 3au + b - 3a - u - 3,\ 2a^4 - 3a^3u + a^3 - 6a^2 + 3au - 5a + u - 1,\ u^2 + 1\rangle \\
I^u_4 = \langle & b + 1,\ 6a - u - 3,\ u^2 + 3\rangle \\
I^u_5 = \langle & 2a^2 + b - 2a + 2,\ 2a^3 - 2a^2 + 3a - 1,\ u - 1\rangle
\end{aligned}$$

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

* 6 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 37 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. $I^u_1 =$ $\langle u^{12}-u^{11}+\cdots+16b+22,\ -3u^{12}-2u^{11}+\cdots+32a-54,\ u^{13}+3u^{12}+\cdots+2u-2\rangle$

(i) Arc colorings

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

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

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

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

$$a_1 = \begin{pmatrix} \frac{3}{32}u^{12} + \frac{1}{16}u^{11} + \cdots - \frac{3}{8}u + \frac{27}{16} \\ -0.0625000u^{12} + 0.0625000u^{11} + \cdots + 2.87500u - 1.37500 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} \frac{3}{32}u^{12} + \frac{1}{16}u^{11} + \cdots - \frac{3}{8}u + \frac{27}{16} \\ \frac{3}{16}u^{12} + \frac{3}{4}u^{11} + \cdots - \frac{1}{2}u - \frac{5}{8} \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ -\frac{1}{8}u^{11} - \frac{3}{8}u^{10} + \cdots - \frac{1}{4}u + \frac{1}{4} \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ \frac{1}{8}u^{12} + \frac{3}{8}u^{11} + \cdots + \frac{1}{4}u^2 + \frac{3}{4}u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^3 - 2u \\ \frac{1}{8}u^{12} + \frac{3}{8}u^{11} + \cdots + \frac{1}{4}u^2 + \frac{3}{4}u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{1}{32}u^{12} + \frac{1}{8}u^{11} + \cdots + \frac{5}{2}u + \frac{5}{16} \\ \frac{1}{8}u^{12} + \frac{1}{8}u^{11} + \cdots - 3u + \frac{13}{8} \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{3}{32}u^{12} + \frac{1}{4}u^{11} + \cdots + \frac{3}{4}u + \frac{15}{16} \\ -\frac{1}{8}u^{12} + \frac{1}{16}u^{11} + \cdots + \frac{29}{8}u - \frac{7}{4} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{17}{8}u^{12} - \frac{27}{4}u^{11} - \frac{159}{8}u^{10} - \frac{153}{4}u^9 - \frac{317}{4}u^8 - \frac{469}{4}u^7 - \frac{377}{2}u^6 - \frac{781}{4}u^5 - \frac{1383}{8}u^4 - 58u^3 - \frac{309}{8}u^2 + \frac{9}{2}u - \frac{15}{4}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{13} + 10u^{12} + \cdots + 651u + 169$
c_2, c_6	$u^{13} - 6u^{12} + \cdots - 27u + 13$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$u^{13} - 3u^{12} + \cdots + 2u + 2$
c_7, c_8, c_{12}	$u^{13} + 6u^{12} + \cdots + 33u + 13$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{13} - 10y^{12} + \cdots - 63933y - 28561$
c_2, c_6	$y^{13} - 10y^{12} + \cdots + 651y - 169$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$y^{13} + 9y^{12} + \cdots - 24y - 4$
c_7, c_8, c_{12}	$y^{13} - 10y^{12} + \cdots + 1531y - 169$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.052333 + 0.714648I$ $a = -1.60779 + 0.26845I$ $b = 1.60510 + 0.10103I$	$8.97858 + 3.36382I$	$-4.98253 - 3.88513I$
$u = -0.052333 - 0.714648I$ $a = -1.60779 - 0.26845I$ $b = 1.60510 - 0.10103I$	$8.97858 - 3.36382I$	$-4.98253 + 3.88513I$
$u = -0.962101 + 0.964907I$ $a = -0.415380 + 1.110690I$ $b = 1.29540 + 0.78987I$	$0.19846 + 6.55527I$	$-1.94504 - 5.19831I$
$u = -0.962101 - 0.964907I$ $a = -0.415380 - 1.110690I$ $b = 1.29540 - 0.78987I$	$0.19846 - 6.55527I$	$-1.94504 + 5.19831I$
$u = -0.024468 + 0.460540I$ $a = 0.557073 + 0.142637I$ $b = -0.684651 + 0.431349I$	$1.04755 - 1.45507I$	$-1.76075 + 3.94050I$
$u = -0.024468 - 0.460540I$ $a = 0.557073 - 0.142637I$ $b = -0.684651 - 0.431349I$	$1.04755 + 1.45507I$	$-1.76075 - 3.94050I$
$u = 0.351244$ $a = 1.70634$ $b = 0.413951$	-0.867716	-13.5770
$u = -0.19008 + 1.69584I$ $a = 0.448130 + 0.064643I$ $b = -1.186010 + 0.315331I$	$13.21680 - 1.39421I$	$0.43458 + 4.61417I$
$u = -0.19008 - 1.69584I$ $a = 0.448130 - 0.064643I$ $b = -1.186010 - 0.315331I$	$13.21680 + 1.39421I$	$0.43458 - 4.61417I$
$u = 0.89659 + 1.48771I$ $a = -0.615979 - 1.008550I$ $b = 1.44106 - 0.72214I$	$-5.5396 - 13.0547I$	$-2.53712 + 6.01217I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.89659 - 1.48771I$ $a = -0.615979 + 1.008550I$ $b = 1.44106 + 0.72214I$	$-5.5396 + 13.0547I$	$-2.53712 - 6.01217I$
$u = -1.34323 + 1.17979I$ $a = 0.280776 - 0.579108I$ $b = 0.32213 - 1.39813I$	$-9.24321 + 5.55521I$	$-5.42087 - 2.60784I$
$u = -1.34323 - 1.17979I$ $a = 0.280776 + 0.579108I$ $b = 0.32213 + 1.39813I$	$-9.24321 - 5.55521I$	$-5.42087 + 2.60784I$

II. $I^u_2 = \langle -5u^9 + 25u^8 + \cdots + 144b + 44,\ 73u^9 - 23u^8 + \cdots + 288a - 52,\ u^{10} - u^9 + \cdots - 20u + 8\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.253472u^9 + 0.0798611u^8 + \cdots - 2.02778u + 0.180556 \\ 0.0347222u^9 - 0.173611u^8 + \cdots + 0.777778u - 0.305556 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.0104167u^9 + 0.0104167u^8 + \cdots + 2.95833u - 1.29167 \\ 0.0486111u^9 - 0.118056u^8 + \cdots + 2.13889u - 1.02778 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.201389u^9 + 0.131944u^8 + \cdots - 3.11111u - 0.0277778 \\ \frac{1}{36}u^9 - \frac{5}{36}u^8 + \cdots + \frac{2}{9}u - \frac{4}{9} \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.194444u^9 + 0.222222u^8 + \cdots - 6.30556u + 4.11111 \\ -0.180556u^9 + 0.152778u^8 + \cdots - 0.944444u + 1.38889 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.0138889u^9 + 0.0694444u^8 + \cdots - 3.36111u + 2.72222 \\ -0.180556u^9 + 0.152778u^8 + \cdots - 2.94444u + 1.38889 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.0833333u^9 + 0.0833333u^8 + \cdots + 4.29167u - 2.58333 \\ 0.0555556u^9 - 0.152778u^8 + \cdots + 3.69444u - 1.88889 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.253472u^9 - 0.0451389u^8 + \cdots - 1.52778u + 0.680556 \\ -0.0902778u^9 - 0.0486111u^8 + \cdots - 1.22222u + 1.19444 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{5}{12}u^9 - \frac{19}{12}u^8 + \frac{5}{4}u^7 - \frac{29}{12}u^6 + \frac{43}{4}u^5 - \frac{191}{12}u^4 + \frac{215}{12}u^3 - \frac{111}{4}u^2 + \frac{43}{3}u - \frac{29}{3}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^5 + 8u^4 + 22u^3 + 25u^2 + 15u + 1)^2$
c_2, c_6	$(u^5 + 2u^4 - 2u^3 - 3u^2 + 3u + 1)^2$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$u^{10} + u^9 + u^8 + 7u^7 + 11u^6 + 13u^5 + 33u^4 + 23u^3 + 26u^2 + 20u + 8$
c_7, c_8, c_{12}	$(u^5 - 2u^4 + 2u^3 + u^2 - u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^5 - 20y^4 + 114y^3 + 19y^2 + 175y - 1)^2$
c_2, c_6	$(y^5 - 8y^4 + 22y^3 - 25y^2 + 15y - 1)^2$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$y^{10} + y^9 + \cdots + 16y + 64$
c_7, c_8, c_{12}	$(y^5 + 6y^3 - y^2 - y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.252054 + 1.091140I$ $a = -0.21289 + 1.43906I$ $b = 0.833800$	4.49352	$4.94304 + 0.I$
$u = -0.252054 - 1.091140I$ $a = -0.21289 - 1.43906I$ $b = 0.833800$	4.49352	$4.94304 + 0.I$
$u = -0.131365 + 1.228810I$ $a = -0.400425 + 0.309301I$ $b = -0.317129 + 0.618084I$	$1.43849 - 1.10891I$	$-6.36548 + 2.04112I$
$u = -0.131365 - 1.228810I$ $a = -0.400425 - 0.309301I$ $b = -0.317129 - 0.618084I$	$1.43849 + 1.10891I$	$-6.36548 - 2.04112I$
$u = 0.507034 + 0.340097I$ $a = -0.68020 - 1.90126I$ $b = -0.317129 - 0.618084I$	$1.43849 + 1.10891I$	$-6.36548 - 2.04112I$
$u = 0.507034 - 0.340097I$ $a = -0.68020 + 1.90126I$ $b = -0.317129 + 0.618084I$	$1.43849 - 1.10891I$	$-6.36548 + 2.04112I$
$u = 1.65017 + 0.62297I$ $a = -0.174325 - 0.526449I$ $b = -1.09977 - 1.12945I$	$-8.62005 + 4.12490I$	$-5.10604 - 2.15443I$
$u = 1.65017 - 0.62297I$ $a = -0.174325 + 0.526449I$ $b = -1.09977 + 1.12945I$	$-8.62005 - 4.12490I$	$-5.10604 + 2.15443I$
$u = -1.27379 + 1.40682I$ $a = 0.467845 - 0.780449I$ $b = -1.09977 - 1.12945I$	$-8.62005 + 4.12490I$	$-5.10604 - 2.15443I$
$u = -1.27379 - 1.40682I$ $a = 0.467845 + 0.780449I$ $b = -1.09977 + 1.12945I$	$-8.62005 - 4.12490I$	$-5.10604 + 2.15443I$

III. $\boldsymbol{I^u_3 = \langle a^3u + a^3 - a^2u + 2a^2 - 3au + b - 3a - u - 3,\ 2a^4 - 3a^3u + a^3 - 6a^2 + 3au - 5a + u - 1,\ u^2 + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4a^3u + 4a^3 - 4a^2u - 8a^2 + 16au - 4a + 4u + 4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.000000I$ $a = -0.620943 + 0.162823I$ $b = 0.506844 + 0.395123I$	$3.07886 + 1.41510I$	$0.17326 - 4.90874I$
$u = 1.000000I$ $a = -1.23497 + 0.98948I$ $b = -0.506844 + 0.395123I$	$3.07886 - 1.41510I$	$0.17326 + 4.90874I$
$u = 1.000000I$ $a = -0.391114 + 0.016070I$ $b = 1.55249 + 0.10488I$	$10.08060 + 3.16396I$	$3.82674 - 2.56480I$
$u = 1.000000I$ $a = 1.74703 + 0.33163I$ $b = -1.55249 + 0.10488I$	$10.08060 - 3.16396I$	$3.82674 + 2.56480I$
$u = -1.000000I$ $a = -0.620943 - 0.162823I$ $b = 0.506844 - 0.395123I$	$3.07886 - 1.41510I$	$0.17326 + 4.90874I$
$u = -1.000000I$ $a = -1.23497 - 0.98948I$ $b = -0.506844 - 0.395123I$	$3.07886 + 1.41510I$	$0.17326 - 4.90874I$
$u = -1.000000I$ $a = -0.391114 - 0.016070I$ $b = 1.55249 - 0.10488I$	$10.08060 - 3.16396I$	$3.82674 + 2.56480I$
$u = -1.000000I$ $a = 1.74703 - 0.33163I$ $b = -1.55249 - 0.10488I$	$10.08060 + 3.16396I$	$3.82674 - 2.56480I$

IV. $I_4^u = \langle b+1,\ 6a-u-3,\ u^2+3\rangle$

(i) Arc colorings

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

(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_{12}	$(u-1)^2$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	u^2+3
c_6, c_7, c_8	$(u+1)^2$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.73205I$ $a = 0.500000 + 0.288675I$ $b = -1.00000$	13.1595	0
$u = -1.73205I$ $a = 0.500000 - 0.288675I$ $b = -1.00000$	13.1595	0

V. $I_5^u = \langle 2a^2 + b - 2a + 2,\ 2a^3 - 2a^2 + 3a - 1,\ u - 1\rangle$

(i) Arc colorings

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

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

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

$$a_3 = \begin{pmatrix} 1 \\ 2 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} 2 \\ 3 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} 1 \\ 2 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -3 \\ -4 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -2a^2 + 3a - 2 \\ -2a^2 + 4a - 2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 2a^2 + a + 2 \\ 2a^2 + 2a + 2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^3 - 2y^2 - 15y - 16$
c_2, c_6, c_7 c_8, c_{12}	$y^3 - 2y^2 + y - 4$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$(y-1)^3$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = 0.301696 + 1.081510I$ $b = 0.760690 + 0.857874I$	-1.64493	-6.00000
$u = 1.00000$ $a = 0.301696 - 1.081510I$ $b = 0.760690 - 0.857874I$	-1.64493	-6.00000
$u = 1.00000$ $a = 0.396608$ $b = -1.52138$	-1.64493	-6.00000

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

(i) Arc colorings

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

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

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

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

$a_1 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

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

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

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

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

$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

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

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

(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_{12}	$u-1$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	u
c_6, c_7, c_8	$u+1$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

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

VII. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^3(u^3+2u^2+u+4)(u^4-u^3+3u^2-2u+1)^2$ $\cdot((u^5+8u^4+22u^3+25u^2+15u+1)^2)(u^{13}+10u^{12}+\cdots+651u+169)$
c_2	$(u-1)^3(u^3-u-2)(u^5+2u^4-2u^3-3u^2+3u+1)^2$ $\cdot(u^8-u^6+3u^4-2u^2+1)(u^{13}-6u^{12}+\cdots-27u+13)$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$u(u+1)^3(u^2+1)^4(u^2+3)$ $\cdot(u^{10}+u^9+u^8+7u^7+11u^6+13u^5+33u^4+23u^3+26u^2+20u+8)$ $\cdot(u^{13}-3u^{12}+\cdots+2u+2)$
c_6	$(u+1)^3(u^3-u-2)(u^5+2u^4-2u^3-3u^2+3u+1)^2$ $\cdot(u^8-u^6+3u^4-2u^2+1)(u^{13}-6u^{12}+\cdots-27u+13)$
c_7, c_8	$(u+1)^3(u^3-u-2)(u^5-2u^4+2u^3+u^2-u+1)^2$ $\cdot(u^8-5u^6+7u^4-2u^2+1)(u^{13}+6u^{12}+\cdots+33u+13)$
c_{12}	$(u-1)^3(u^3-u-2)(u^5-2u^4+2u^3+u^2-u+1)^2$ $\cdot(u^8-5u^6+7u^4-2u^2+1)(u^{13}+6u^{12}+\cdots+33u+13)$

VIII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^3(y^3-2y^2-15y-16)(y^4+5y^3+7y^2+2y+1)^2$ $\cdot(y^5-20y^4+114y^3+19y^2+175y-1)^2$ $\cdot(y^{13}-10y^{12}+\cdots-63933y-28561)$
c_2, c_6	$(y-1)^3(y^3-2y^2+y-4)(y^4-y^3+3y^2-2y+1)^2$ $\cdot((y^5-8y^4+22y^3-25y^2+15y-1)^2)(y^{13}-10y^{12}+\cdots+651y-169)$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$y(y-1)^3(y+1)^8(y+3)^2(y^{10}+y^9+\cdots+16y+64)$ $\cdot(y^{13}+9y^{12}+\cdots-24y-4)$
c_7, c_8, c_{12}	$(y-1)^3(y^3-2y^2+y-4)(y^4-5y^3+7y^2-2y+1)^2$ $\cdot((y^5+6y^3-y^2-y-1)^2)(y^{13}-10y^{12}+\cdots+1531y-169)$