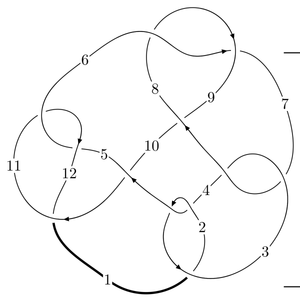
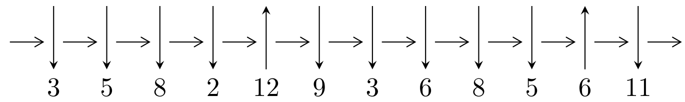
$12n_{0220}$ ($K12n_{0220}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 2281u^{12} + 1307u^{11} + \cdots + 44956d + 11490,\ 1947u^{12} + 1293u^{11} + \cdots + 22478c + 16277, \\
& 573u^{12} + 2043u^{11} + \cdots + 44956b + 16722,\ -1947u^{12} - 1293u^{11} + \cdots + 22478a - 16277, \\
& u^{13} + u^{12} + 2u^{11} + u^{10} + 5u^9 + u^8 + 4u^7 + u^6 + 15u^5 + 5u^4 + 16u^3 + 5u^2 + 12u + 4\rangle \\
I_2^u = \langle & -u^4 + u^2a - 2u^3 + au - u^2 + d + 2u + 2,\ u^4 + 3u^3 + 5u^2 + c - a + 3u + 1,\ u^4 + 2u^3 - au + 2u^2 + b, \\
& -u^4a - 3u^3a + 2u^4 - 5u^2a + 4u^3 + a^2 - 3au + 3u^2 - a - 2u - 1,\ u^5 + 2u^4 + 2u^3 + u + 1\rangle \\
I_3^u = \langle & d,\ c + u,\ b,\ a - 1,\ u^2 - u + 1\rangle \\
I_4^u = \langle & d - u - 1,\ c - 1,\ b + 1,\ a - u,\ u^2 + u + 1\rangle \\
I_5^u = \langle & -cu + d - c + 1,\ ca - cu + au,\ b + 1,\ u^2 + u + 1\rangle
\end{aligned}$$

$$I_1^v = \langle a,\ d - 1,\ c + a,\ b + 1,\ v + 1\rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 28 representations.
* 1 irreducible components of $\dim_{\mathbb{C}} = 1$

[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.

$\boldsymbol{I_1^u = \langle 2281u^{12} + 1307u^{11} + \cdots + 4.50 \times 10^4 d + 1.15 \times 10^4,\ 1947u^{12} + 1293u^{11} + \cdots + 2.25 \times 10^4 c + 1.63 \times 10^4,\ 573u^{12} + 2043u^{11} + \cdots + 4.50 \times 10^4 b + 1.67 \times 10^4,\ -1947u^{12} - 1293u^{11} + \cdots + 2.25 \times 10^4 a - 1.63 \times 10^4,\ u^{13} + u^{12} + \cdots + 12u + 4 \rangle}$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} 0.0866180u^{12} + 0.0575229u^{11} + \cdots + 0.482205u + 0.724130 \\ -0.0127458u^{12} - 0.0454444u^{11} + \cdots + 0.294221u - 0.371964 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 0.0738722u^{12} + 0.0120785u^{11} + \cdots + 0.776426u + 0.352167 \\ -0.0127458u^{12} - 0.0454444u^{11} + \cdots + 0.294221u - 0.371964 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 0.0683446u^{12} - 0.0285724u^{11} + \cdots - 0.389169u + 0.832214 \\ -0.00298069u^{12} - 0.0420411u^{11} + \cdots - 0.370985u - 0.374944 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0866180u^{12} - 0.0575229u^{11} + \cdots - 0.482205u - 0.724130 \\ -0.0507385u^{12} - 0.0290729u^{11} + \cdots + 0.296890u - 0.255583 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.0683446u^{12} + 0.0285724u^{11} + \cdots + 0.389169u - 0.832214 \\ 0.0180176u^{12} - 0.119005u^{11} + \cdots + 0.518640u + 0.0127236 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} u^3 \\ u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.0738722u^{12} - 0.0120785u^{11} + \cdots - 0.776426u - 0.352167 \\ -0.0613266u^{12} + 0.0902438u^{11} + \cdots + 0.740257u - 0.124789 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{2015}{11239}u^{12} - \frac{4290}{11239}u^{11} + \cdots + \frac{6386}{11239}u - \frac{108192}{11239}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_9	$u^{13} - u^{12} + \cdots + 16u + 1$
c_2, c_4, c_6 c_8	$u^{13} - 5u^{12} + \cdots - 4u + 1$
c_3, c_7	$u^{13} - 3u^{12} + \cdots - 32u + 32$
c_5, c_{11}	$u^{13} + u^{12} + \cdots + 12u + 4$
c_{10}	$u^{13} - u^{12} + \cdots + 1508u + 548$
c_{12}	$u^{13} + 3u^{12} + \cdots + 104u - 16$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_9	$y^{13} + 25y^{12} + \cdots - 260y - 1$
c_2, c_4, c_6 c_8	$y^{13} + y^{12} + \cdots + 16y - 1$
c_3, c_7	$y^{13} + 15y^{12} + \cdots + 15616y^2 - 1024$
c_5, c_{11}	$y^{13} + 3y^{12} + \cdots + 104y - 16$
c_{10}	$y^{13} + 27y^{12} + \cdots + 1970472y - 300304$
c_{12}	$y^{13} + 15y^{12} + \cdots + 21024y - 256$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.386403 + 0.917053I$ $a = -0.849710 + 0.767631I$ $b = -0.801603 - 0.173700I$ $c = 0.849710 - 0.767631I$ $d = 0.330147 - 0.102461I$	$-2.92013 - 2.62586I$	$-15.8235 + 5.3570I$
$u = -0.386403 - 0.917053I$ $a = -0.849710 - 0.767631I$ $b = -0.801603 + 0.173700I$ $c = 0.849710 + 0.767631I$ $d = 0.330147 + 0.102461I$	$-2.92013 + 2.62586I$	$-15.8235 - 5.3570I$
$u = 0.416573 + 0.881458I$ $a = 0.686659 + 0.124521I$ $b = 0.221947 + 0.150698I$ $c = -0.686659 - 0.124521I$ $d = -0.283854 + 0.579828I$	$-0.33676 + 1.74909I$	$-2.22256 - 3.20069I$
$u = 0.416573 - 0.881458I$ $a = 0.686659 - 0.124521I$ $b = 0.221947 - 0.150698I$ $c = -0.686659 + 0.124521I$ $d = -0.283854 - 0.579828I$	$-0.33676 - 1.74909I$	$-2.22256 + 3.20069I$
$u = 1.124080 + 0.602862I$ $a = -0.176205 - 1.075190I$ $b = -0.16802 + 1.50582I$ $c = 0.176205 + 1.075190I$ $d = 1.130610 + 0.299207I$	$4.55733 + 1.91344I$	$-6.23694 - 1.74226I$
$u = 1.124080 - 0.602862I$ $a = -0.176205 + 1.075190I$ $b = -0.16802 - 1.50582I$ $c = 0.176205 - 1.075190I$ $d = 1.130610 - 0.299207I$	$4.55733 - 1.91344I$	$-6.23694 + 1.74226I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.543511 + 1.275200I$ $a = 1.113650 + 0.332769I$ $b = 0.536277 - 1.193890I$ $c = -1.113650 - 0.332769I$ $d = -1.406970 - 0.093004I$	$1.88235 + 4.50009I$	$-8.08386 - 3.64476I$
$u = 0.543511 - 1.275200I$ $a = 1.113650 - 0.332769I$ $b = 0.536277 + 1.193890I$ $c = -1.113650 + 0.332769I$ $d = -1.406970 + 0.093004I$	$1.88235 - 4.50009I$	$-8.08386 + 3.64476I$
$u = -1.173290 + 0.753740I$ $a = -0.464126 + 0.518194I$ $b = 1.48175 - 1.16585I$ $c = 0.464126 - 0.518194I$ $d = 2.02304 + 0.07401I$	$13.3607 + 6.1261I$	$-8.08998 - 1.87384I$
$u = -1.173290 - 0.753740I$ $a = -0.464126 - 0.518194I$ $b = 1.48175 + 1.16585I$ $c = 0.464126 + 0.518194I$ $d = 2.02304 - 0.07401I$	$13.3607 - 6.1261I$	$-8.08998 + 1.87384I$
$u = -0.85913 + 1.17284I$ $a = 0.84945 - 1.49776I$ $b = 1.47195 + 0.93931I$ $c = -0.84945 + 1.49776I$ $d = -2.08790 + 0.18218I$	$11.8885 - 13.4346I$	$-9.57192 + 6.10692I$
$u = -0.85913 - 1.17284I$ $a = 0.84945 + 1.49776I$ $b = 1.47195 - 0.93931I$ $c = -0.84945 - 1.49776I$ $d = -2.08790 - 0.18218I$	$11.8885 + 13.4346I$	$-9.57192 - 6.10692I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.330680$ $a = 0.680555$ $b = -0.484585$ $c = -0.680555$ $d = -0.410167$	-0.936151	-9.94250

II. $I_2^u = \langle -u^4 - 2u^3 + \cdots + d + 2,\ u^4 + 3u^3 + \cdots - a + 1,\ u^4 + 2u^3 - au + 2u^2 + b,\ -u^4a + 2u^4 + \cdots - a - 1,\ u^5 + 2u^4 + 2u^3 + u + 1\rangle$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} a \\ -u^4 - 2u^3 + au - 2u^2 \end{pmatrix}$$

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

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

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

$$a_4 = \begin{pmatrix} -u^4a - 2u^3a - u^2a - u^2 - 3u - 1 \\ -u^4a - u^3a + u^3 + u^2 - a \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -u^4a - 2u^3a - u^4 - u^2a - 3u^3 - 5u^2 - 3u - 1 \\ u^3a + u^4 - u^2a + u^3 - au + a - 3u - 2 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} u^3 \\ u^3 + u \end{pmatrix}$$

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= u^4 + u^3 - 2u^2 - 5u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_9	$u^{10} - u^9 + \cdots + 800u + 256$
c_2, c_4, c_6 c_8	$u^{10} - 3u^9 + 5u^8 + 3u^7 - 12u^6 + 10u^5 + 17u^4 - 18u^3 - 23u^2 + 8u + 16$
c_3, c_7	$(u^5 + u^4 + 8u^3 + u^2 - 4u + 4)^2$
c_5, c_{11}	$(u^5 + 2u^4 + 2u^3 + u + 1)^2$
c_{10}	$(u^5 - 2u^4 + 14u^3 + 16u^2 + 9u + 9)^2$
c_{12}	$(u^5 + 6u^3 + u - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_9	$y^{10} + 37y^9 + \cdots + 56832y + 65536$
c_2, c_4, c_6 c_8	$y^{10} + y^9 + \cdots - 800y + 256$
c_3, c_7	$(y^5 + 15y^4 + 54y^3 - 73y^2 + 8y - 16)^2$
c_5, c_{11}	$(y^5 + 6y^3 + y - 1)^2$
c_{10}	$(y^5 + 24y^4 + 278y^3 + 32y^2 - 207y - 81)^2$
c_{12}	$(y^5 + 12y^4 + 38y^3 + 12y^2 + y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.436447 + 0.655029I$ $a = 0.445445 + 1.296420I$ $b = 1.049680 - 0.199668I$ $c = 1.03494 - 3.53452I$ $d = -2.83647 - 1.62756I$	$-3.34738 + 1.37362I$	$-12.45374 - 4.59823I$
$u = 0.436447 + 0.655029I$ $a = -1.03494 + 3.53452I$ $b = -1.062450 - 0.192555I$ $c = -0.445445 - 1.296420I$ $d = 0.202150 - 0.254271I$	$-3.34738 + 1.37362I$	$-12.45374 - 4.59823I$
$u = 0.436447 - 0.655029I$ $a = 0.445445 - 1.296420I$ $b = 1.049680 + 0.199668I$ $c = 1.03494 + 3.53452I$ $d = -2.83647 + 1.62756I$	$-3.34738 - 1.37362I$	$-12.45374 + 4.59823I$
$u = 0.436447 - 0.655029I$ $a = -1.03494 - 3.53452I$ $b = -1.062450 + 0.192555I$ $c = -0.445445 + 1.296420I$ $d = 0.202150 + 0.254271I$	$-3.34738 - 1.37362I$	$-12.45374 + 4.59823I$
$u = -0.668466$ $a = 0.266201 + 0.900637I$ $b = -0.673909 - 0.602045I$ $c = -0.266201 + 0.900637I$ $d = -0.554957 + 0.199598I$	-0.737094	-7.65040
$u = -0.668466$ $a = 0.266201 - 0.900637I$ $b = -0.673909 + 0.602045I$ $c = -0.266201 - 0.900637I$ $d = -0.554957 - 0.199598I$	-0.737094	-7.65040

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.10221 + 1.09532I$ $a = -0.730929 + 0.410318I$ $b = 0.89973 - 1.70648I$ $c = -0.554227 + 1.236440I$ $d = -1.69011 + 0.15931I$	$14.4080 - 4.0569I$	$-7.72106 + 1.95729I$
$u = -1.10221 + 1.09532I$ $a = 0.554227 - 1.236440I$ $b = 1.28694 + 1.51626I$ $c = 0.730929 - 0.410318I$ $d = 1.87939 + 0.06460I$	$14.4080 - 4.0569I$	$-7.72106 + 1.95729I$
$u = -1.10221 - 1.09532I$ $a = -0.730929 - 0.410318I$ $b = 0.89973 + 1.70648I$ $c = -0.554227 - 1.236440I$ $d = -1.69011 - 0.15931I$	$14.4080 + 4.0569I$	$-7.72106 - 1.95729I$
$u = -1.10221 - 1.09532I$ $a = 0.554227 + 1.236440I$ $b = 1.28694 - 1.51626I$ $c = 0.730929 + 0.410318I$ $d = 1.87939 - 0.06460I$	$14.4080 + 4.0569I$	$-7.72106 - 1.95729I$

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4u-7$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$ $a = 1.00000$ $b = 0$ $c = -0.500000 - 0.866025I$ $d = 0$	$-1.64493 + 2.02988I$	$-9.00000 - 3.46410I$
$u = 0.500000 - 0.866025I$ $a = 1.00000$ $b = 0$ $c = -0.500000 + 0.866025I$ $d = 0$	$-1.64493 - 2.02988I$	$-9.00000 + 3.46410I$

IV. $\boldsymbol{I_4^u = \langle d - u - 1,\ c - 1,\ b + 1,\ a - u,\ u^2 + u + 1\rangle}$

(i) Arc colorings

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

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

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

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

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

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

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

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

$$a_7 = \begin{pmatrix} 1 \\ u + 1 \end{pmatrix}$$

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

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4u - 7$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = -0.500000 + 0.866025I$ $b = -1.00000$ $c = 1.00000$ $d = 0.500000 + 0.866025I$	$-1.64493 - 2.02988I$	$-9.00000 + 3.46410I$
$u = -0.500000 - 0.866025I$ $a = -0.500000 - 0.866025I$ $b = -1.00000$ $c = 1.00000$ $d = 0.500000 - 0.866025I$	$-1.64493 + 2.02988I$	$-9.00000 - 3.46410I$

V. $I^u_5 = \langle -cu + d - c + 1,\ ca - cu + au,\ b + 1,\ u^2 + u + 1\rangle$

(i) Arc colorings

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

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

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

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

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

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

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

$$a_8 = \begin{pmatrix} c \\ cu+c-1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} c \\ cu+c-1 \end{pmatrix}$$

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

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

$$a_9 = \begin{pmatrix} c+1 \\ cu+c+u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= c^2u + a^2u - 2cu + 2au - 2c + 2a + 4u - 10$

(iv) u-Polynomials at the component : It cannot be defined for a positive dimension component.

(v) Riley Polynomials at the component : It cannot be defined for a positive dimension component.

(iv) Complex Volumes and Cusp Shapes

Solution to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \cdots$		
$a = \cdots$		
$b = \cdots$	$-3.28987 + 2.02988I$	$-13.6251 - 6.4182I$
$c = \cdots$		
$d = \cdots$		

VI. $\boldsymbol{I_1^v = \langle a,\ d-1,\ c+a,\ b+1,\ v+1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$ $a = 0$ $b = -1.00000$ $c = 0$ $d = 1.00000$	-3.28987	-12.0000

VII. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^2(u-1)^3(u^{10}-u^9+\cdots+800u+256)(u^{13}-u^{12}+\cdots+16u+1)$
c_2, c_6	$u^2(u-1)^3$ $\cdot(u^{10}-3u^9+5u^8+3u^7-12u^6+10u^5+17u^4-18u^3-23u^2+8u+16)$ $\cdot(u^{13}-5u^{12}+\cdots-4u+1)$
c_3, c_7	$u^5(u^5+u^4+\cdots-4u+4)^2(u^{13}-3u^{12}+\cdots-32u+32)$
c_4, c_8	$u^2(u+1)^3$ $\cdot(u^{10}-3u^9+5u^8+3u^7-12u^6+10u^5+17u^4-18u^3-23u^2+8u+16)$ $\cdot(u^{13}-5u^{12}+\cdots-4u+1)$
c_5, c_{11}	$u(u^2-u+1)(u^2+u+1)(u^5+2u^4+2u^3+u+1)^2$ $\cdot(u^{13}+u^{12}+\cdots+12u+4)$
c_9	$u^2(u+1)^3(u^{10}-u^9+\cdots+800u+256)(u^{13}-u^{12}+\cdots+16u+1)$
c_{10}	$u(u^2-u+1)(u^2+u+1)(u^5-2u^4+14u^3+16u^2+9u+9)^2$ $\cdot(u^{13}-u^{12}+\cdots+1508u+548)$
c_{12}	$u(u^2+u+1)^2(u^5+6u^3+u-1)^2(u^{13}+3u^{12}+\cdots+104u-16)$

VIII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_9	$y^2(y-1)^3(y^{10}+37y^9+\cdots+56832y+65536)$ $\cdot(y^{13}+25y^{12}+\cdots-260y-1)$
c_2, c_4, c_6 c_8	$y^2(y-1)^3(y^{10}+y^9+\cdots-800y+256)(y^{13}+y^{12}+\cdots+16y-1)$
c_3, c_7	$y^5(y^5+15y^4+54y^3-73y^2+8y-16)^2$ $\cdot(y^{13}+15y^{12}+\cdots+15616y^2-1024)$
c_5, c_{11}	$y(y^2+y+1)^2(y^5+6y^3+y-1)^2(y^{13}+3y^{12}+\cdots+104y-16)$
c_{10}	$y(y^2+y+1)^2(y^5+24y^4+278y^3+32y^2-207y-81)^2$ $\cdot(y^{13}+27y^{12}+\cdots+1970472y-300304)$
c_{12}	$y(y^2+y+1)^2(y^5+12y^4+38y^3+12y^2+y-1)^2$ $\cdot(y^{13}+15y^{12}+\cdots+21024y-256)$