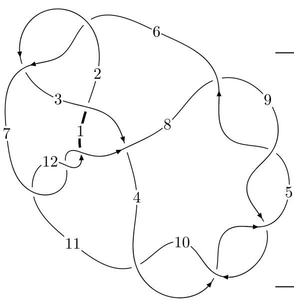
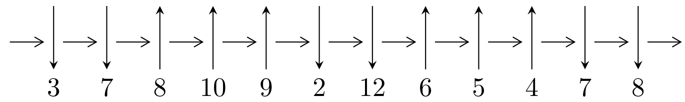
$12n_{0583}$ ($K12n_{0583}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle &-u^{14} + u^{13} + u^{12} - 2u^{11} - 5u^{10} + 6u^9 - 6u^7 - 7u^6 + 8u^5 - 2u^4 - 4u^3 - 7u^2 + 4b + u + 1,\\
&- u^{14} + u^{13} + u^{12} - 2u^{11} - 5u^{10} + 6u^9 - 6u^7 - 7u^6 + 8u^5 - 4u^4 - 4u^3 - 5u^2 + 2a + u - 1,\\
&u^{16} - u^{15} - 2u^{14} + 3u^{13} + 6u^{12} - 8u^{11} - 5u^{10} + 12u^9 + 7u^8 - 14u^7 - u^6 + 12u^5 + u^4 - 5u^3 + u + 1\rangle\\
I_2^u = \langle &-1094u^{19} + 352u^{18} + \cdots + 10214b - 24990,\ -4277u^{19} - 4179u^{18} + \cdots + 40856a + 46007,\\
&u^{20} - u^{19} + \cdots + 9u - 8\rangle\\
I_3^u = \langle &2b - a - 1,\ a^2 + 2a + 13,\ u + 1\rangle\\
I_4^u = \langle &2b - a - 1,\ a^2 + 2a + 5,\ u - 1\rangle\\
I_5^u = \langle &b,\ a + 1,\ u + 1\rangle
\end{aligned}$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 41 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.

$$\boldsymbol{I_1^u = \langle -u^{14}+u^{13}+\cdots+4b+1,\ -u^{14}+u^{13}+\cdots+2a-1,\ u^{16}-u^{15}+\cdots+u+1\rangle}$$

(i) Arc colorings

$$a_2 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_6 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_1 = \begin{pmatrix}u^3\\u^5-u^3+u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}\frac{1}{2}u^{14}-\frac{1}{2}u^{13}+\cdots-\frac{1}{2}u+\frac{1}{2}\\\frac{1}{4}u^{14}-\frac{1}{4}u^{13}+\cdots-\frac{1}{4}u-\frac{1}{4}\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-\frac{1}{2}u^{15}+\frac{7}{4}u^{14}+\cdots-\frac{7}{4}u-\frac{5}{4}\\-\frac{1}{4}u^{15}+\frac{3}{4}u^{14}+\cdots-\frac{3}{4}u-1\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-\frac{1}{4}u^{15}+\frac{1}{2}u^{14}+\cdots-\frac{1}{2}u-\frac{3}{4}\\\frac{1}{2}u^{13}-u^{12}+\cdots+\frac{1}{2}u^2-\frac{1}{2}\end{pmatrix}$$
$$a_4 = \begin{pmatrix}\frac{5}{4}u^{15}-\frac{3}{2}u^{14}+\cdots-\frac{3}{2}u+\frac{1}{4}\\u^{15}-\frac{5}{4}u^{14}+\cdots-\frac{1}{4}u+\frac{1}{4}\end{pmatrix}$$
$$a_8 = \begin{pmatrix}\frac{1}{4}u^{14}-\frac{1}{4}u^{13}+\cdots-\frac{1}{4}u+\frac{3}{4}\\\frac{1}{4}u^{14}-\frac{1}{4}u^{13}+\cdots-\frac{1}{4}u-\frac{1}{4}\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}\frac{1}{4}u^{15}-\frac{1}{4}u^{14}+\cdots-\frac{1}{4}u^2+\frac{3}{4}u\\\frac{1}{4}u^{15}-\frac{1}{4}u^{14}+\cdots-\frac{1}{4}u^2+\frac{3}{4}u\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}\frac{1}{4}u^{15}-\frac{1}{4}u^{14}+\cdots-\frac{1}{4}u^2+\frac{7}{4}u\\\frac{1}{4}u^{15}-\frac{1}{4}u^{14}+\cdots-\frac{1}{4}u^2+\frac{3}{4}u\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{3}{2}u^{15}+\frac{9}{2}u^{14}-\frac{1}{2}u^{13}-10u^{12}-\frac{1}{2}u^{11}+29u^{10}-16u^9-31u^8+\frac{39}{2}u^7+41u^6-36u^5-21u^4+\frac{53}{2}u^3+\frac{27}{2}u^2-\frac{23}{2}u-6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{16} + 5u^{15} + \cdots + u + 1$
c_2, c_6, c_7 c_{11}, c_{12}	$u^{16} - u^{15} + \cdots + u + 1$
c_3	$u^{16} + 3u^{15} + \cdots + 146u + 58$
c_4, c_5, c_8 c_9, c_{10}	$u^{16} + 3u^{15} + \cdots + 6u + 2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{16}+19y^{15}+\cdots+23y+1$
c_2, c_6, c_7 c_{11}, c_{12}	$y^{16}-5y^{15}+\cdots-y+1$
c_3	$y^{16}-3y^{15}+\cdots+33320y+3364$
c_4, c_5, c_8 c_9, c_{10}	$y^{16}+21y^{15}+\cdots+24y+4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.652641 + 0.896529I$ $a = 0.291031 + 1.146470I$ $b = 0.06994 + 1.60049I$	$-6.22844 - 0.56003I$	$-3.20504 + 2.03342I$
$u = 0.652641 - 0.896529I$ $a = 0.291031 - 1.146470I$ $b = 0.06994 - 1.60049I$	$-6.22844 + 0.56003I$	$-3.20504 - 2.03342I$
$u = -0.806656 + 0.293377I$ $a = 0.55147 - 3.56996I$ $b = 0.01066 - 1.75439I$	$-15.5290 + 1.2535I$	$-5.93594 - 5.78561I$
$u = -0.806656 - 0.293377I$ $a = 0.55147 + 3.56996I$ $b = 0.01066 + 1.75439I$	$-15.5290 - 1.2535I$	$-5.93594 + 5.78561I$
$u = -0.863049 + 0.777771I$ $a = -0.003821 - 0.394263I$ $b = 0.459429 - 0.680536I$	$1.40791 + 2.31178I$	$-2.22810 - 1.02238I$
$u = -0.863049 - 0.777771I$ $a = -0.003821 + 0.394263I$ $b = 0.459429 + 0.680536I$	$1.40791 - 2.31178I$	$-2.22810 + 1.02238I$
$u = 0.699263 + 0.372224I$ $a = 0.54747 + 2.11955I$ $b = 0.023041 + 1.137640I$	$-5.08177 - 1.44001I$	$-5.73865 + 4.77821I$
$u = 0.699263 - 0.372224I$ $a = 0.54747 - 2.11955I$ $b = 0.023041 - 1.137640I$	$-5.08177 + 1.44001I$	$-5.73865 - 4.77821I$
$u = 1.000520 + 0.770635I$ $a = -0.326142 - 0.537879I$ $b = 0.646604 - 0.125765I$	$3.08984 - 6.02737I$	$0.18925 + 5.84414I$
$u = 1.000520 - 0.770635I$ $a = -0.326142 + 0.537879I$ $b = 0.646604 + 0.125765I$	$3.08984 + 6.02737I$	$0.18925 - 5.84414I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.097620+0.735783I$ $a=-0.99995+1.38493I$ $b=\ 0.416151+0.956386I$	$-0.22230+9.61368I$	$-4.84554-8.00895I$
$u=-1.097620-0.735783I$ $a=-0.99995-1.38493I$ $b=\ 0.416151-0.956386I$	$-0.22230-9.61368I$	$-4.84554+8.00895I$
$u=\ 1.172200+0.710728I$ $a=-1.65989-2.17594I$ $b=\ 0.11516-1.70265I$	$-9.5315-11.7377I$	$-6.63835+6.61183I$
$u=\ 1.172200-0.710728I$ $a=-1.65989+2.17594I$ $b=\ 0.11516+1.70265I$	$-9.5315+11.7377I$	$-6.63835-6.61183I$
$u=-0.257289+0.427551I$ $a=\ 0.599831-0.510753I$ $b=-0.240981-0.391034I$	$0.019028+0.937186I$	$0.40237-7.45995I$
$u=-0.257289-0.427551I$ $a=\ 0.599831+0.510753I$ $b=-0.240981+0.391034I$	$0.019028-0.937186I$	$0.40237+7.45995I$

II. $\boldsymbol{I_2^u = \langle -1094u^{19} + 352u^{18} + \cdots + 10214b - 24990,\ -4277u^{19} - 4179u^{18} + \cdots + 40856a + 46007,\ u^{20} - u^{19} + \cdots + 9u - 8\rangle}$

(i) Arc colorings

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

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

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

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

$$a_9 = \begin{pmatrix} 0.104685u^{19} + 0.102286u^{18} + \cdots - 0.766717u - 1.12608 \\ 0.107108u^{19} - 0.0344625u^{18} + \cdots - 0.680537u + 2.44664 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.0908312u^{19} + 0.201757u^{18} + \cdots - 0.154714u - 1.48343 \\ 0.265126u^{19} + 0.108479u^{18} + \cdots - 1.49990u + 1.58273 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.466370u^{19} - 0.00396515u^{18} + \cdots + 1.09002u - 2.43014 \\ -0.122968u^{19} + 0.202271u^{18} + \cdots - 0.110828u - 1.64989 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.305830u^{19} - 0.198722u^{18} + \cdots - 0.0623409u + 2.07194 \\ -0.154690u^{19} + 0.0378892u^{18} + \cdots + 1.80644u - 1.05639 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.00242314u^{19} + 0.136749u^{18} + \cdots - 0.0861807u - 3.57272 \\ 0.107108u^{19} - 0.0344625u^{18} + \cdots - 0.680537u + 2.44664 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.171505u^{19} - 0.289872u^{18} + \cdots + 4.48857u + 2.09132 \\ -0.227335u^{19} + 0.238594u^{18} + \cdots + 0.323771u - 1.91326 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} \frac{1}{8}u^{19} - \frac{1}{8}u^{18} + \cdots + \frac{19}{8}u + \frac{9}{8} \\ -0.0465048u^{19} + 0.164872u^{18} + \cdots - 1.11357u - 0.966321 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{6596}{5107}u^{19} + \frac{828}{5107}u^{18} + \cdots + \frac{15248}{5107}u + \frac{25134}{5107}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{20}+9u^{19}+\cdots+385u+64$
c_2, c_6, c_7 c_{11}, c_{12}	$u^{20}-u^{19}+\cdots+9u-8$
c_3	$(u^{10}-u^9-5u^8+4u^7+8u^6-3u^5-5u^4-2u^3+3u^2-u-1)^2$
c_4, c_5, c_8 c_9, c_{10}	$(u^{10}-u^9+7u^8-6u^7+16u^6-11u^5+13u^4-6u^3+3u^2-u-1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{20} + 3y^{19} + \cdots + 2431y + 4096$
c_2, c_6, c_7 c_{11}, c_{12}	$y^{20} - 9y^{19} + \cdots - 385y + 64$
c_3	$(y^{10} - 11y^9 + \cdots - 7y + 1)^2$
c_4, c_5, c_8 c_9, c_{10}	$(y^{10} + 13y^9 + \cdots - 7y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.844382 + 0.577422I$ $a = -1.82553 - 0.56071I$ $b = 0.03425 - 1.67211I$	$-14.0102 - 2.2863I$	$-7.60221 + 2.91176I$
$u = 0.844382 - 0.577422I$ $a = -1.82553 + 0.56071I$ $b = 0.03425 + 1.67211I$	$-14.0102 + 2.2863I$	$-7.60221 - 2.91176I$
$u = -0.598296 + 0.894963I$ $a = 0.237969 + 0.532497I$ $b = -0.420834 + 0.842935I$	$1.29172 - 3.55946I$	$-2.35774 + 4.06361I$
$u = -0.598296 - 0.894963I$ $a = 0.237969 - 0.532497I$ $b = -0.420834 - 0.842935I$	$1.29172 + 3.55946I$	$-2.35774 - 4.06361I$
$u = 0.471623 + 0.985477I$ $a = 0.169899 - 1.229670I$ $b = -0.10787 - 1.66265I$	$-7.38803 + 5.55652I$	$-4.20810 - 2.88175I$
$u = 0.471623 - 0.985477I$ $a = 0.169899 + 1.229670I$ $b = -0.10787 + 1.66265I$	$-7.38803 - 5.55652I$	$-4.20810 + 2.88175I$
$u = -0.789879 + 0.382389I$ $a = -1.61085 - 0.05163I$ $b = 0.153406 + 0.833677I$	$-5.14913 + 1.60532I$	$-7.05654 - 5.03395I$
$u = -0.789879 - 0.382389I$ $a = -1.61085 + 0.05163I$ $b = 0.153406 - 0.833677I$	$-5.14913 - 1.60532I$	$-7.05654 + 5.03395I$
$u = 0.754802 + 0.842126I$ $a = 0.394821 + 0.277239I$ $b = -0.635590$	3.84350	$2.04859 + 0.I$
$u = 0.754802 - 0.842126I$ $a = 0.394821 - 0.277239I$ $b = -0.635590$	3.84350	$2.04859 + 0.I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.14103$ $a=\ \ 0.159161$ $b=\ \ 0.317683$	-2.68035	4.40060
$u=-0.902493+0.781683I$ $a=\ \ 0.910195-1.019170I$ $b=-0.420834-0.842935I$	$1.29172+3.55946I$	$-2.35774-4.06361I$
$u=-0.902493-0.781683I$ $a=\ \ 0.910195+1.019170I$ $b=-0.420834+0.842935I$	$1.29172-3.55946I$	$-2.35774+4.06361I$
$u=\ \ 1.239710+0.076961I$ $a=\ \ 0.06009+1.78443I$ $b=\ \ 0.153406+0.833677I$	$-5.14913+1.60532I$	$-7.05654-5.03395I$
$u=\ \ 1.239710-0.076961I$ $a=\ \ 0.06009-1.78443I$ $b=\ \ 0.153406-0.833677I$	$-5.14913-1.60532I$	$-7.05654+5.03395I$
$u=\ \ 0.723928$ $a=-1.56044$ $b=\ \ 0.317683$	-2.68035	4.40060
$u=\ \ 1.043190+0.765280I$ $a=\ \ 1.48424+1.76241I$ $b=-0.10787+1.66265I$	$-7.38803-5.55652I$	$-4.20810+2.88175I$
$u=\ \ 1.043190-0.765280I$ $a=\ \ 1.48424-1.76241I$ $b=-0.10787-1.66265I$	$-7.38803+5.55652I$	$-4.20810-2.88175I$
$u=-1.354480+0.103519I$ $a=\ \ 0.06730-3.11843I$ $b=\ \ 0.03425-1.67211I$	$-14.0102-2.2863I$	$-7.60221+2.91176I$
$u=-1.354480-0.103519I$ $a=\ \ 0.06730+3.11843I$ $b=\ \ 0.03425+1.67211I$	$-14.0102+2.2863I$	$-7.60221-2.91176I$

III. $I^u_3 = \langle 2b - a - 1,\ a^2 + 2a + 13,\ u + 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} a \\ \frac{1}{2}a + \frac{1}{2} \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -\frac{1}{2}a - \frac{11}{2} \\ -3 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -\frac{3}{2}a + \frac{1}{2} \\ -a - 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{1}{2}a + \frac{9}{2} \\ 3 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} \frac{1}{2}a - \frac{1}{2} \\ \frac{1}{2}a + \frac{1}{2} \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} \frac{1}{2}a - \frac{3}{2} \\ \frac{1}{2}a - \frac{1}{2} \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} \frac{1}{2}a - \frac{1}{2} \\ \frac{1}{2}a + \frac{1}{2} \end{pmatrix}$$

(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_7	$(u-1)^2$
c_3, c_4, c_5 c_8, c_9, c_{10}	u^2+3
c_6, c_{11}, c_{12}	$(u+1)^2$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = -1.00000 + 3.46410I$ $b = 1.73205I$	-16.4493	-12.0000
$u = -1.00000$ $a = -1.00000 - 3.46410I$ $b = -1.73205I$	-16.4493	-12.0000

IV. $\boldsymbol{I^u_4 = \langle 2b - a - 1,\ a^2 + 2a + 5,\ u - 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -1.00000 + 2.00000I$ $b = 1.000000I$	-6.57974	-12.0000
$u = 1.00000$ $a = -1.00000 - 2.00000I$ $b = -1.000000I$	-6.57974	-12.0000

V. $I^{u}_{5} = \langle b,\ a+1,\ u+1 \rangle$

(i) Arc colorings

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

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

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

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

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

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

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

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

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

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

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

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

(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_7	$u-1$
c_3, c_4, c_5 c_8, c_9, c_{10}	u
c_6, c_{11}, c_{12}	$u+1$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = -1.00000$ $b = 0$	-3.28987	-12.0000

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^5)(u^{16}+5u^{15}+\cdots+u+1)(u^{20}+9u^{19}+\cdots+385u+64)$
c_2, c_7	$((u-1)^3)(u+1)^2(u^{16}-u^{15}+\cdots+u+1)(u^{20}-u^{19}+\cdots+9u-8)$
c_3	$u(u^2+1)(u^2+3)$ $\cdot(u^{10}-u^9-5u^8+4u^7+8u^6-3u^5-5u^4-2u^3+3u^2-u-1)^2$ $\cdot(u^{16}+3u^{15}+\cdots+146u+58)$
c_4, c_5, c_8 c_9, c_{10}	$u(u^2+1)(u^2+3)$ $\cdot(u^{10}-u^9+7u^8-6u^7+16u^6-11u^5+13u^4-6u^3+3u^2-u-1)^2$ $\cdot(u^{16}+3u^{15}+\cdots+6u+2)$
c_6, c_{11}, c_{12}	$((u-1)^2)(u+1)^3(u^{16}-u^{15}+\cdots+u+1)(u^{20}-u^{19}+\cdots+9u-8)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^5)(y^{16}+19y^{15}+\cdots+23y+1)$ $\cdot(y^{20}+3y^{19}+\cdots+2431y+4096)$
c_2, c_6, c_7 c_{11}, c_{12}	$((y-1)^5)(y^{16}-5y^{15}+\cdots-y+1)(y^{20}-9y^{19}+\cdots-385y+64)$
c_3	$y(y+1)^2(y+3)^2(y^{10}-11y^9+\cdots-7y+1)^2$ $\cdot(y^{16}-3y^{15}+\cdots+33320y+3364)$
c_4, c_5, c_8 c_9, c_{10}	$y(y+1)^2(y+3)^2(y^{10}+13y^9+\cdots-7y+1)^2$ $\cdot(y^{16}+21y^{15}+\cdots+24y+4)$